

OMGIVING

Adaptive Reuse: Office/Commercial to Residential

Large Floor Plates



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Adaptive Reuse *Sustainability. Housing. Community.*

Amid the ongoing housing, climate, and public health crises facing our world today, the spaces affecting our lives are undergoing tectonic and likely irreversible shifts.

Since our founding in 2009, we at Omgivning have been committed to exploring the design needs of this new era and becoming increasingly convinced of the importance and urgency of reusing existing buildings.

Adaptive reuse architecture breathes new life into existing structures by repurposing them for new use. And as Omgivning knows, and so many more are now learning, adaptive reuse makes for more sustainable construction, more thriving communities, and more creative solutions to the pressing issues found in cities everywhere.

A recent AIA Firm Survey found that almost half (48%) of all projects currently being pursued by U.S. firms involve the renovation, rehabilitation, extension, or preservation of existing buildings. In fact, according to Bloomberg, for the first time in 20 years, renovations have overtaken new construction in architectural billings in the U.S.

Omgivning's focus on the creative reuse of commercial spaces allows us to help clients navigate this unprecedented landscape with innovative and cost-effective solutions.

As with all of our work, the goal of this design report is to inspire people to take a closer look at the potential of an existing space or property. Together, we can reveal and attain a site's highest and best use, even under challenging conditions.

Design Ideas

While developing these ideas, we chose to be fueled – and not deterred – by the challenges adaptive reuse projects present. For instance, many professionals think large floor plate office buildings can't be converted to residential. However, with the high number of these sorts of buildings available and underused, Omgivning knows they are ripe for potential.

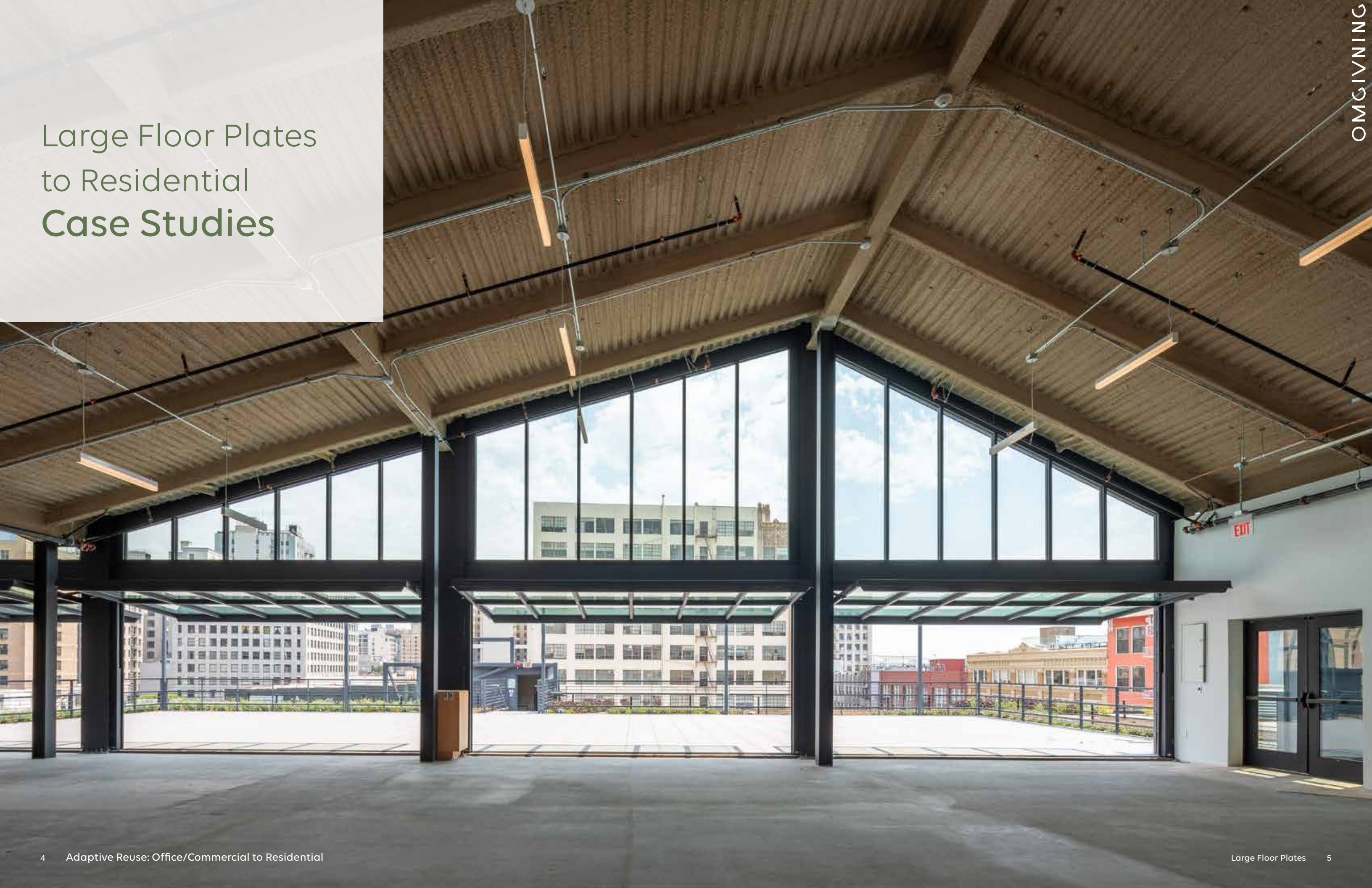
To make our case, we analyzed existing conditions at three specific commercial sites in Los Angeles, Philadelphia, and Memphis and developed case studies for their conversion to housing. Our vision incorporates new operational models along with recommendations for their adaptive reuse.

While remaining committed to human-centered design, we feel we can help clients achieve efficiency and higher rent- or lease-ability, while also directly appealing to tenant needs with unique unit layouts and amenities.

Important take-aways from these case studies and our other project experience include:

- Creative design opportunities with long, deep units
- Better design solutions for indoor and outdoor connections
- More unique amenities utilizing extra space at the "belly" of the building
- Innovative options to combine building amenities for office tenants and new residential tenants

Large Floor Plates to Residential Case Studies



Case Study #1 1980s Office Building

With a less in-demand location, a somewhat dated style, and a high vacancy rate, this 1980s-era high-rise office building in Pasadena, California, would make a perfect candidate for conversion to housing.

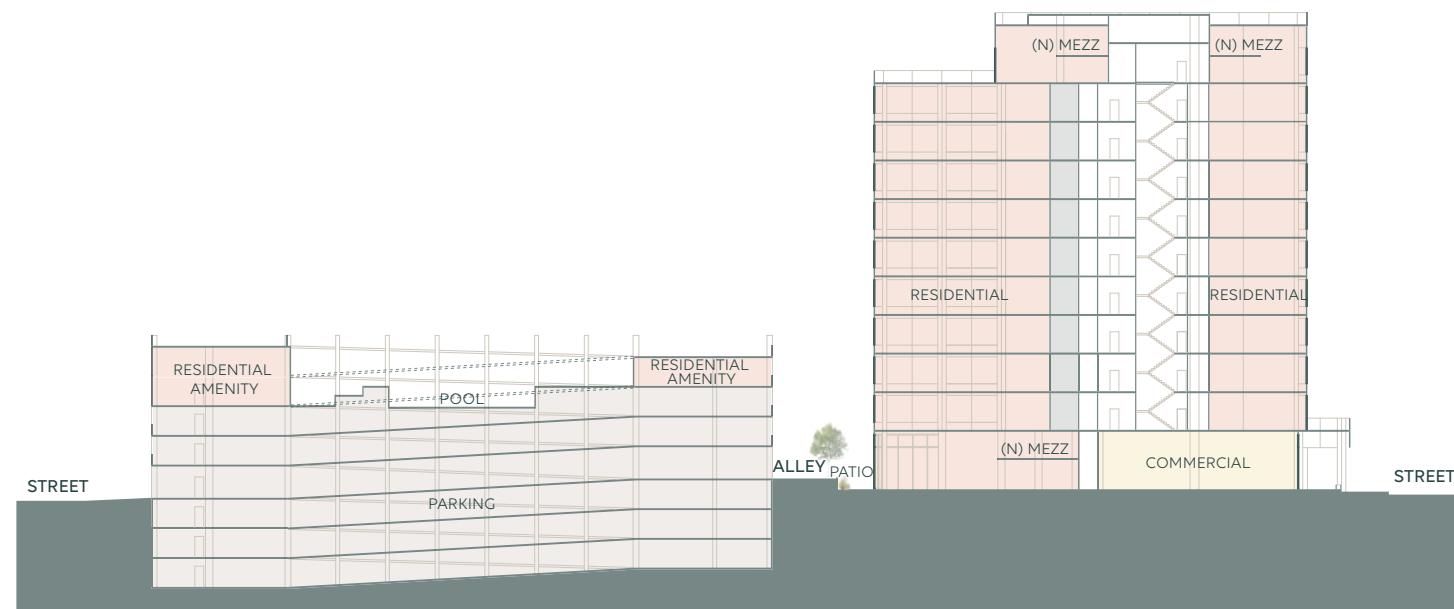
While most developers, landlords, and corporations are flocking to Class A office buildings – what many are calling “the flight to quality” – to entice employees to come into the office, many Class B and C buildings like this one are being left underutilized.

While not located in a business district, this building is not entirely suburban either, sitting just a few miles from both downtown Pasadena and Los Angeles. As a more recent building, it's in great shape with little to no structural or access upgrades necessary and has a large adjacent parking structure.

The inside of the office building could easily be converted into residential units. Interior walls on each office floor would be removed, leaving just some stairwells and elevators to suit the reduced amount of traffic. Units would be designed in sync with existing windows. Additionally, the side or back of the double-height ground floor commercial space could be converted into 2-level units with private or shared outdoor space on the alley or side yard.

On the roof of the building, to avoid triggering seismic upgrades or other costly improvements, we wouldn't build a new construction penthouse or add new occupancy on a roof that was formerly just used for mechanical units. Instead, the roof of the parking structure would be a perfect location for a large number of new residential amenities. Re-purposing the existing mechanical penthouse on the roof of the tower would be a great location for a unique two-level or swanky double-height penthouse unit with an amazing outdoor terrace. This would create a high-rent unit and likely keep code upgrades to a minimum.

With significantly more parking than would be necessary for residential, this allows for more space to work with. If it weren't sloped, we would turn the parking garage into housing. By adding or removing a floor or two, we would remove mass and then rebuild a bevy of residential amenities such as a pool, lounge, or fitness areas. The new roof addition could also be used as commercial space, perhaps as a big restaurant with ample outdoor dining. Another option could be keeping the parking garage as is and sharing parking with adjacent restaurants, retail, or the surrounding neighborhood.



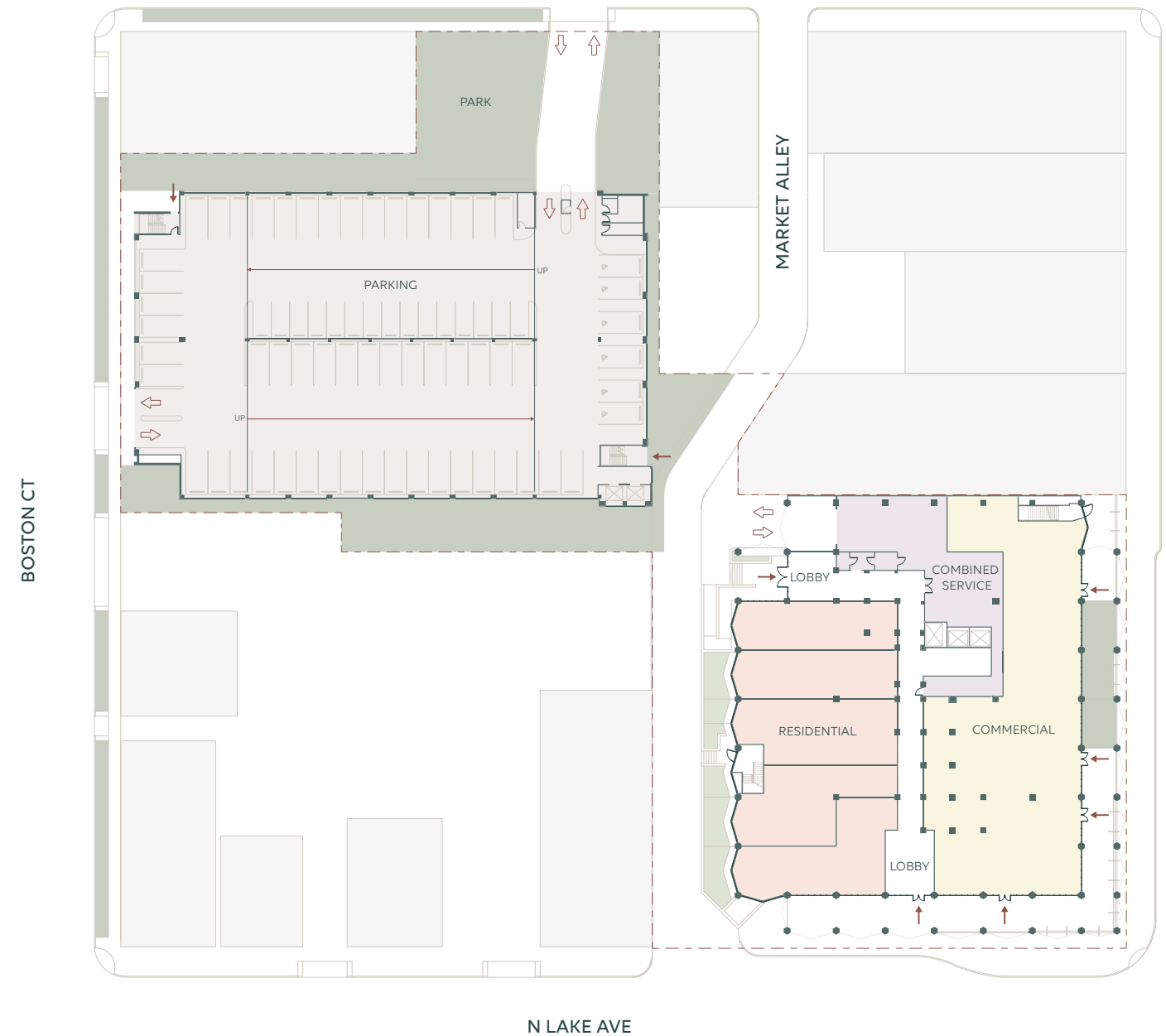
Building Section



View from Street



Aerial View



Concept Ground Floor Plan

Case Study #2

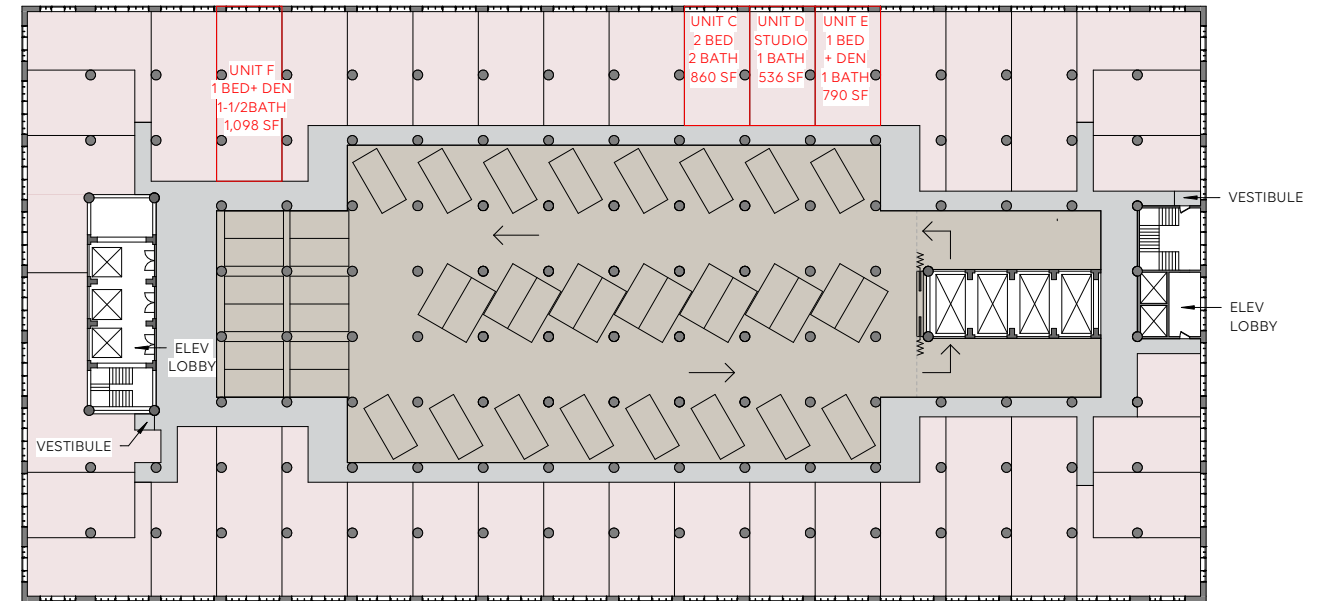
Large Industrial Building

Located in Philadelphia, Pennsylvania, this large industrial building is located in a former Navy yard and measures over 500,000 square feet. Originally used as a manufacturing facility for tanks, the building was designed to hold a great deal of weight.

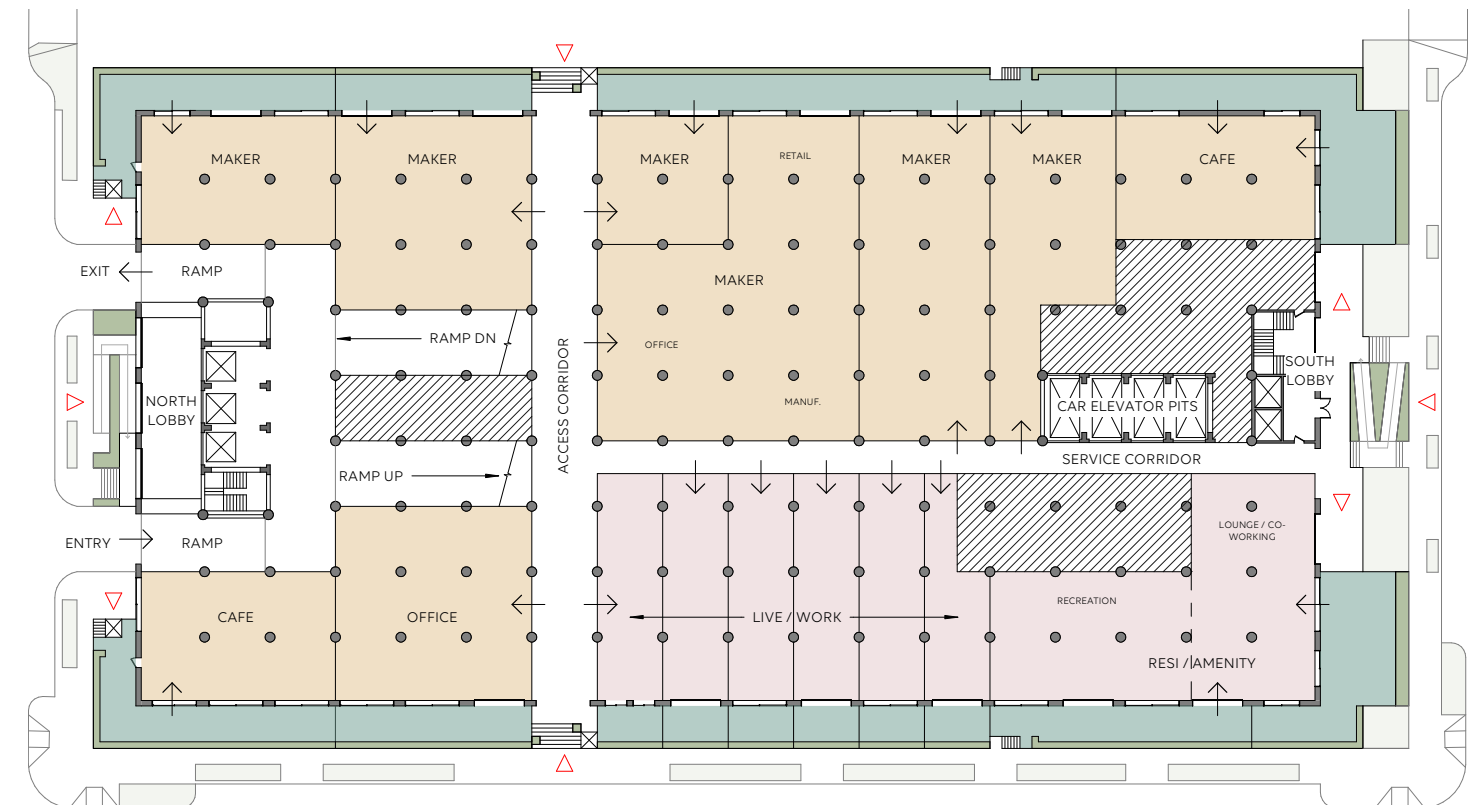
Since modifying a large concrete building can be prohibitively expensive, we would start by listening to the building. Our first consideration would be that the building was over-designed for gravity loads so that it could easily house cars on any floor, and since this building is located in a new district with a lot of new construction, there is a need for parking on-site. The shortest depth of the building at 182 feet would allow ample room for parking to be created in the center of the building, allowing residents to park on the floors where they live and the existing freight elevators reutilized as car elevators, creating a unique and attractive amenity.

Many architects' first thought would be to carve out a big light court, however, any significant modification to the structure would require an extremely expensive full structural upgrade, which would not be necessary if the existing structure was reused as is. Our design would provide units all along the perimeter of the building to maximize the expansive windows. It would also focus on a mix of units each with ample daylight flooding into the space.

The ground floor is intended to be flexible for makerspaces, as well as residential space - essentially a blend of true live/work. The loading dock would be reused for either private patios or semi-private circulation.



Typical Concept Plan



Concept Ground Floor Plan

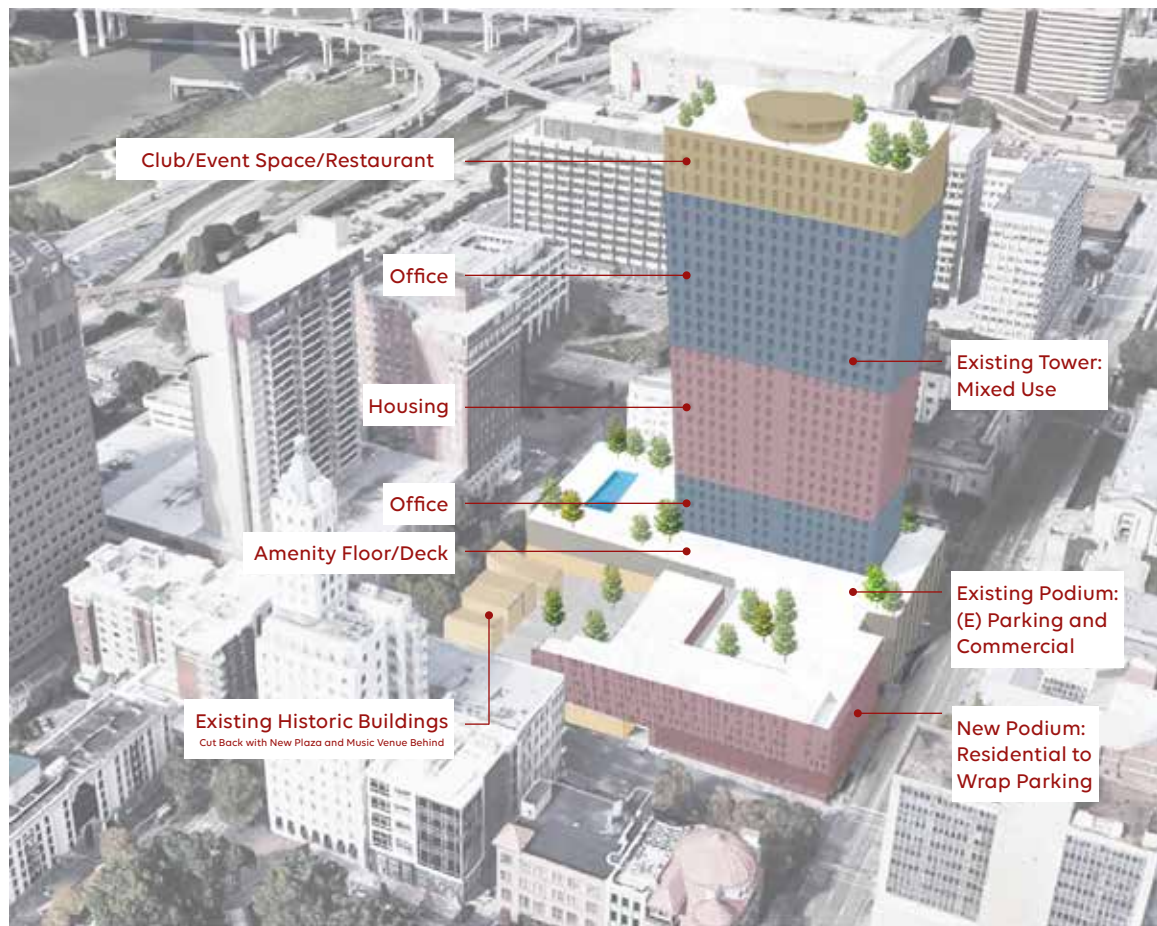
Case Study #3 Phasing Office and Residential

In the center of downtown Memphis, Tennessee, the 100 North Main site – dubbed Memphis Main – is a prime location for mixed-use redevelopment and phased, flexible residential conversion. Originally built in 1965, the 37-story office building is one the city's tallest at 579,000 square feet, including adjacent parcels covering more than two acres including some small, but long, brick buildings and a large surface parking lot.

Located in a neighborhood that isn't fully revitalized, but adjacent to a pedestrian-friendly entertainment district that is gaining traction, the site would easily meet the larger need for housing in the area. We would start with the area surrounding the tower and phase housing into the building itself over time.

By designing a public plaza and opening the corners of the site up, Memphis Main would connect to the burgeoning Main Street, increasing pedestrian engagement and making the area more attractive for both potential residential and office tenants. We would populate the plaza with program-specific uses such as a music venue, so as not to add too much additional commercial space which could be at high risk for vacancy. The existing revolving restaurant at the top of 100 North Main – with incredible views of the city – deserves to be a destination for locals as well as those coming into town. The core/shell of the top iconic floors would be flexible for a variety of large occupancy uses such as the city's hottest club, restaurant, or event space.

An existing surface parking lot would be a prime site for new construction to add even more housing, installing townhomes on the site's side streets and, yet again, activating the ground floor without leaning on high-risk commercial spaces.



Program Diagram



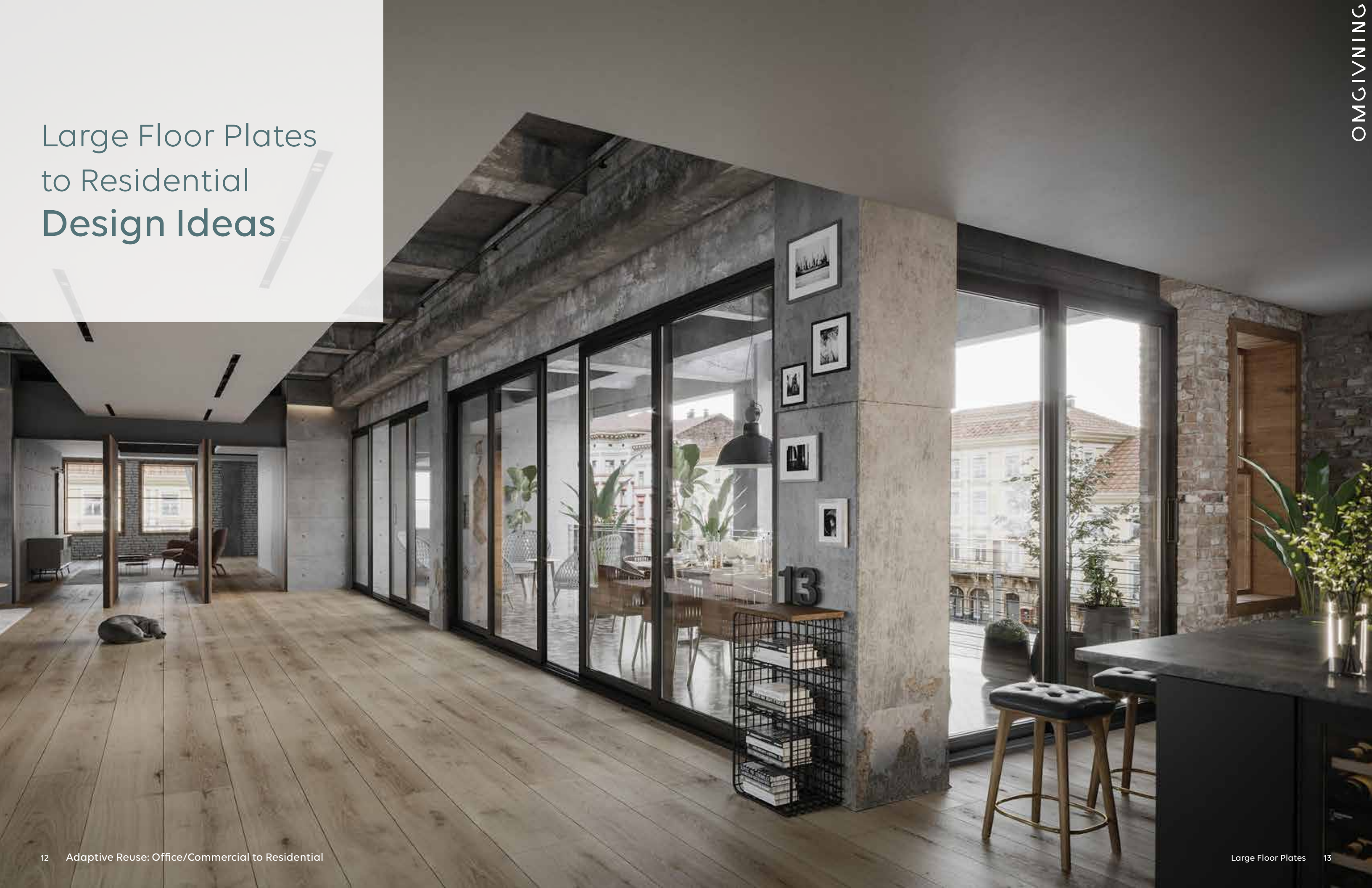
Before

Map data: Google ©2023, Imagery ©2014



After

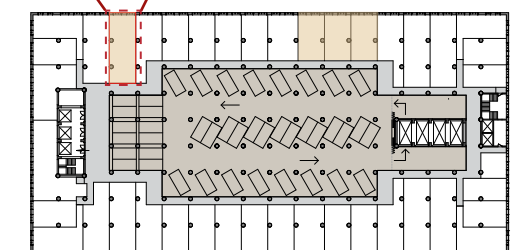
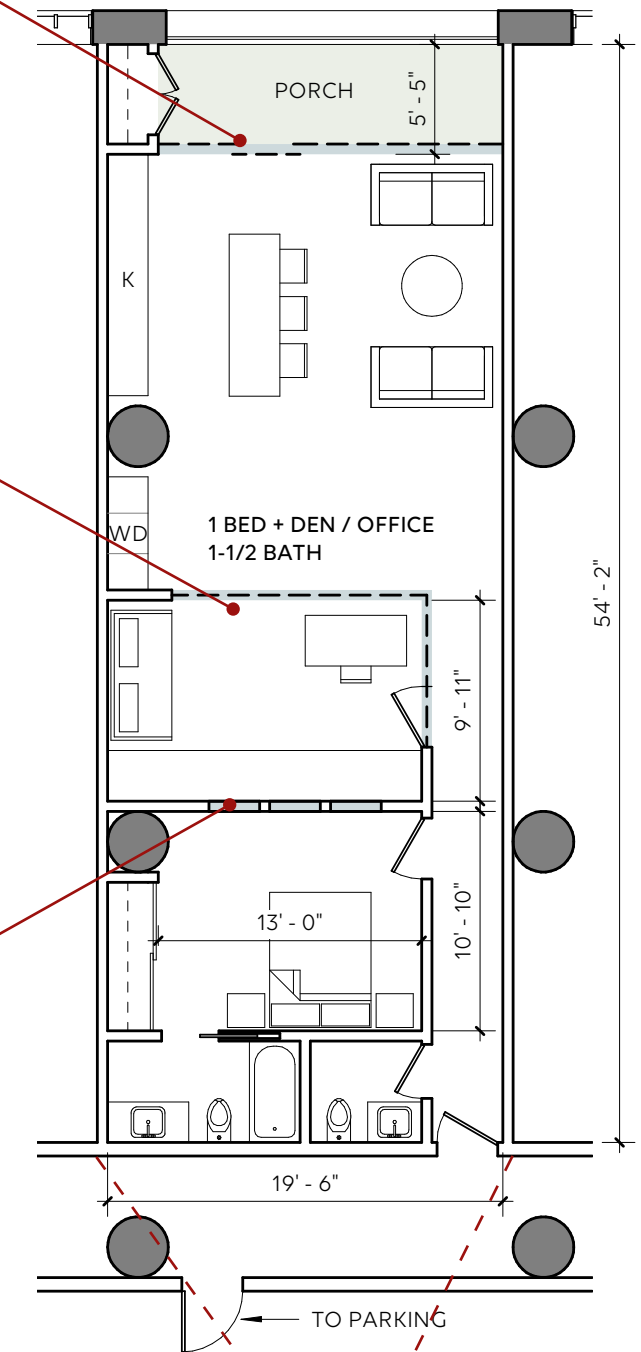
Large Floor Plates to Residential Design Ideas



Design Ideas Opportunities for Long Deep Unit

In each case study, there would be some units that would be over 50' deep, with light coming from only one side. Popular thought assumes that units like these aren't liveable. We believe this isn't true. It just requires a vision and a focus on human-centered design, which could include ideas such as:

- Creating a porch with an operable wall would both bring in more light and ventilation, as well as create an indoor/outdoor connection with private outdoor space for tenants.
- Main living spaces would be located towards the exterior. With tall ceilings, they would feel open and expansive, with extensive glazing and potentially even a private patio.
- Bedrooms would then be placed in the rear of the unit with glazing to bring in borrowed light and allow for sleep to take place in darker parts of each unit. Science proves that sleeping in darker, quieter spaces – tucked away from city lights and noise – is best for maximizing rest. It also allows for more privacy and sound separation from the main living space.
- A secondary room off the main room could then be used as a guest room, TV room, or home office, allowing for sound separation but interconnected visually with borrowed light, glass, design elements. An enclosed home office, in particular, is best in a space that is separated both physically and mentally from the distractions of the rest of the household, be it family members, chores, or more.
- Typical layouts in new construction buildings can be extremely tight and efficient to maximize every square inch. However, an existing oversized building can provide extra space and odd conditions that naturally reduce overall efficiency. These residual spaces can also open up unique amenities that you would not find in new construction.



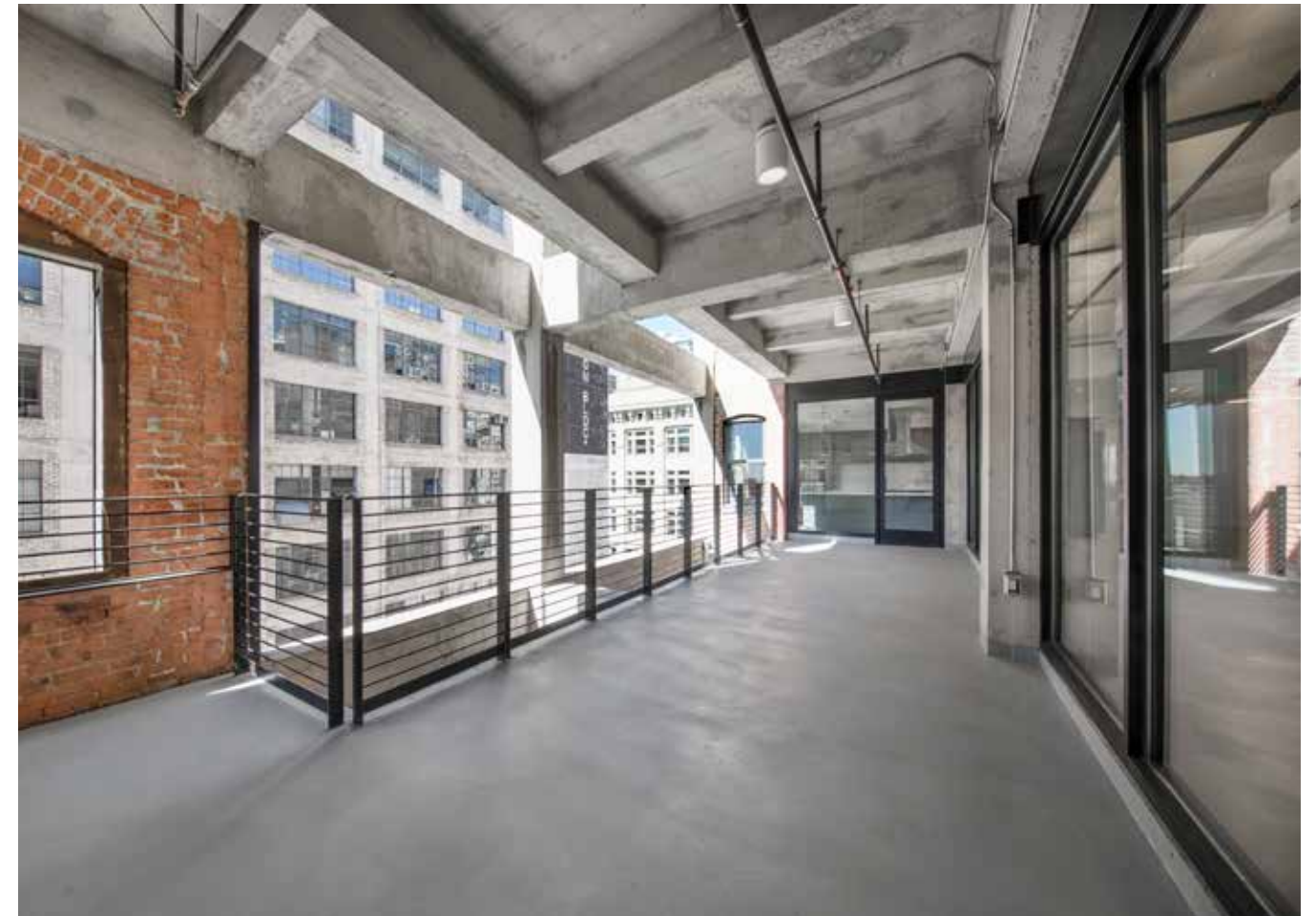
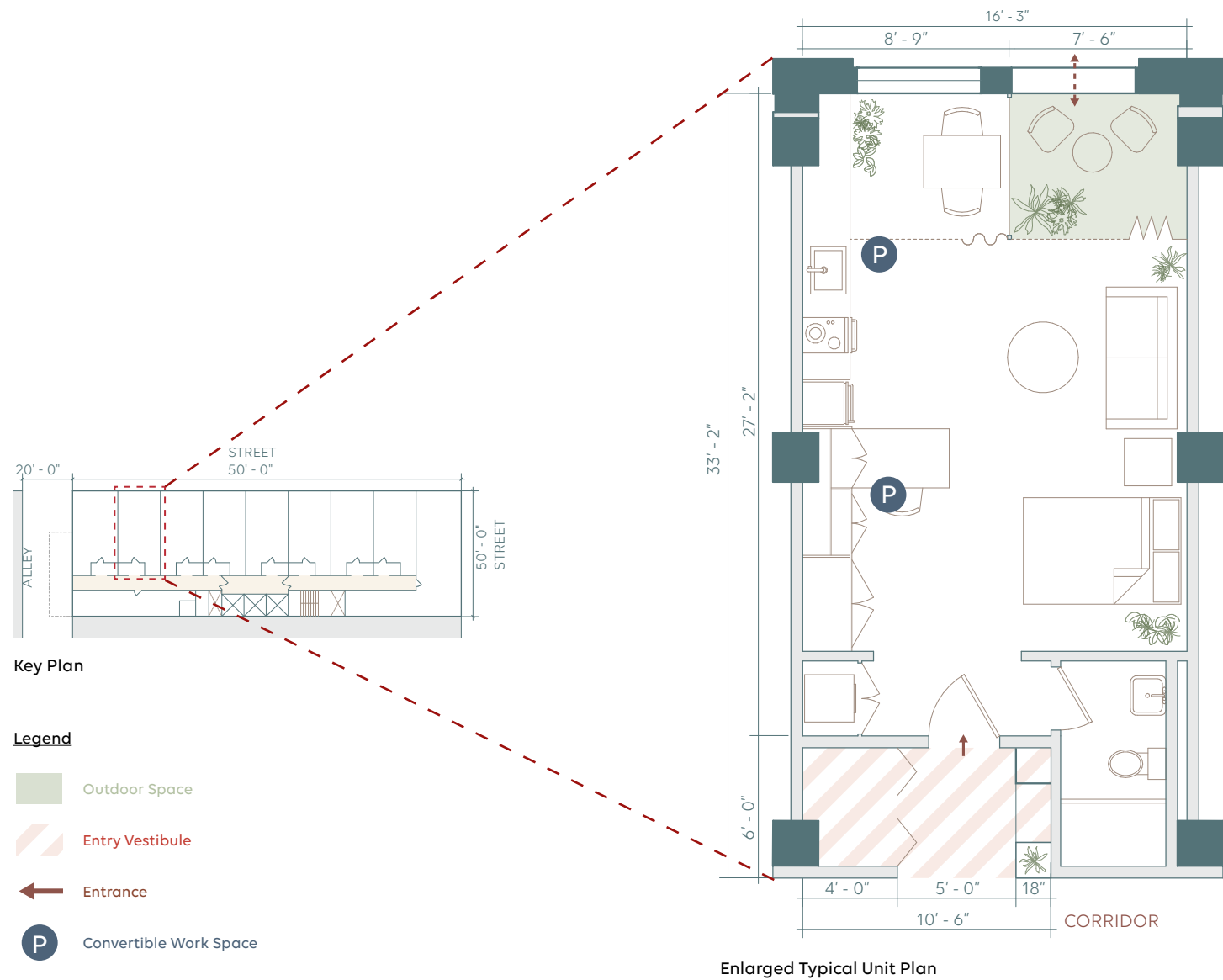
Key Plan

Design Ideas Indoor to Outdoor Connection

As cities continue to densify, the future of multifamily housing depends even more on finding the right balance between indoor and outdoor spaces. This balance is critical to the health of urban residents and the success of the places they call home. Where viable, existing buildings should also plan for open space to pave the way for a more porous city that includes spaces for increased access to natural light, landscape, and human-centered places.

Creative ways to do this in large floor plate buildings include:

- An advantage of non-historic buildings is the freedom for facade renovations such as inset patios. New construction buildings often tack patios onto the outside of a building, creating awkward appendages that are rarely used. However, with a long deep unit, in-setting a covered patio within the building can make an outdoor space more comfortable and more connected to indoor space.
- Even in an existing building, we can enable outdoor connections on a very small scale of an individual unit by carving out a small area for a private porch. By removing a window and installing an operable glass wall around a corner niche, this porch space would act as a transition between inside and outside where the tenant can connect with sunlight, city views, plants, and fresh air.



Design Ideas

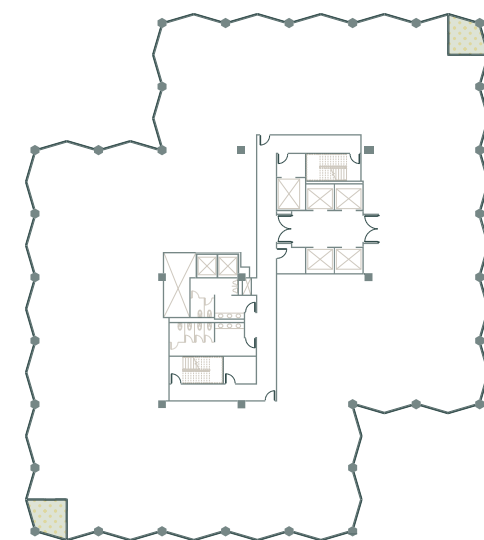
Getting Into the Belly of the Building

While most designers might think it challenging to re-program the core – or belly – of a large office building, there are endless options, such as co-working space, private offices, lounges, community rooms, shared kitchens, workout/yoga rooms, and more. These and many other amenities that don't require abundant natural light can be programmed into the belly of the building:

- An office building's original core can take up quite a bit of space for vertical circulation, mechanical systems, and common restrooms. When converted to residential, much of this can be removed. With less occupancy, this space can be opened up for greater square footage by reducing the number of elevators, reusing some for mechanical shafts to make for more efficient conduit connections, and repurposing common restrooms and back-of-house areas for other uses.
- Within the residential units, spaces that don't require natural light, such as bathrooms and storage, can be moved to the rear of the unit to provide maximum daylight to the living areas.
- Redesigning deep floor plates allows for rethinking how to give tenants more personal storage space at the belly of the building, thus providing an amenity new construction rarely provides. Rather than having personal storage located in the basement or far off in a separate storage facility, residents would have their belongings right at hand.
- Deep entry vestibules can provide more articulation and interest to a long corridor. The vestibule also acts as a transitional entry space, offering residents and visitors a place to remove outerwear, stow away a bike or scooter, or leave shoes before proceeding into the home.
- This vestibule space would also act as a secure package drop-off location, with a built-in lockable closet for the storage of bulky items.
- The building itself creates its own brand and identity and the units are flexible for the varied needs of the tenants.



Sears Landmark Building Rendering © Binyan



Existing Floor Plan



Proposed Floor Plan



Vestibule - Tenant #1



Vestibule - Tenant #2



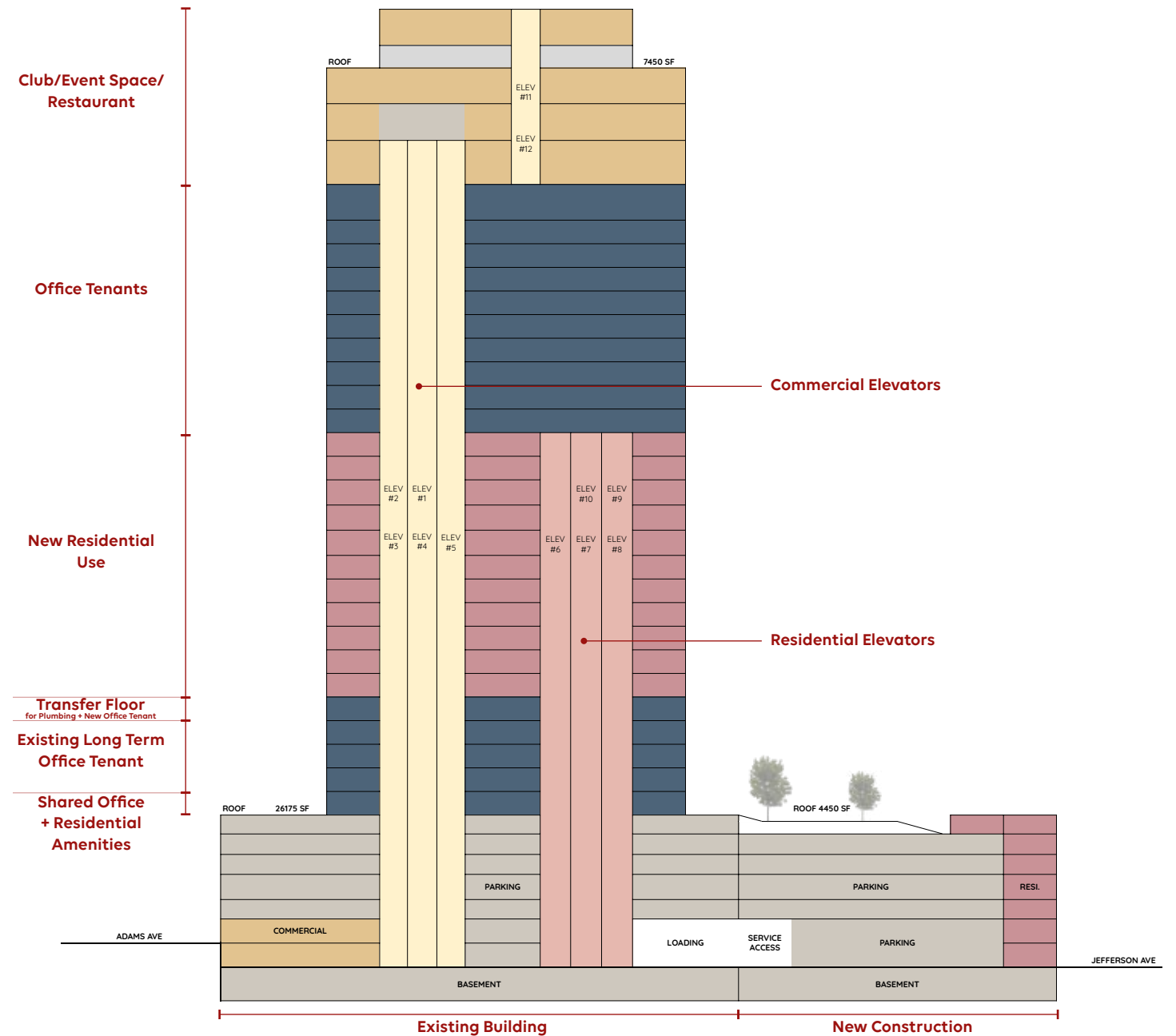
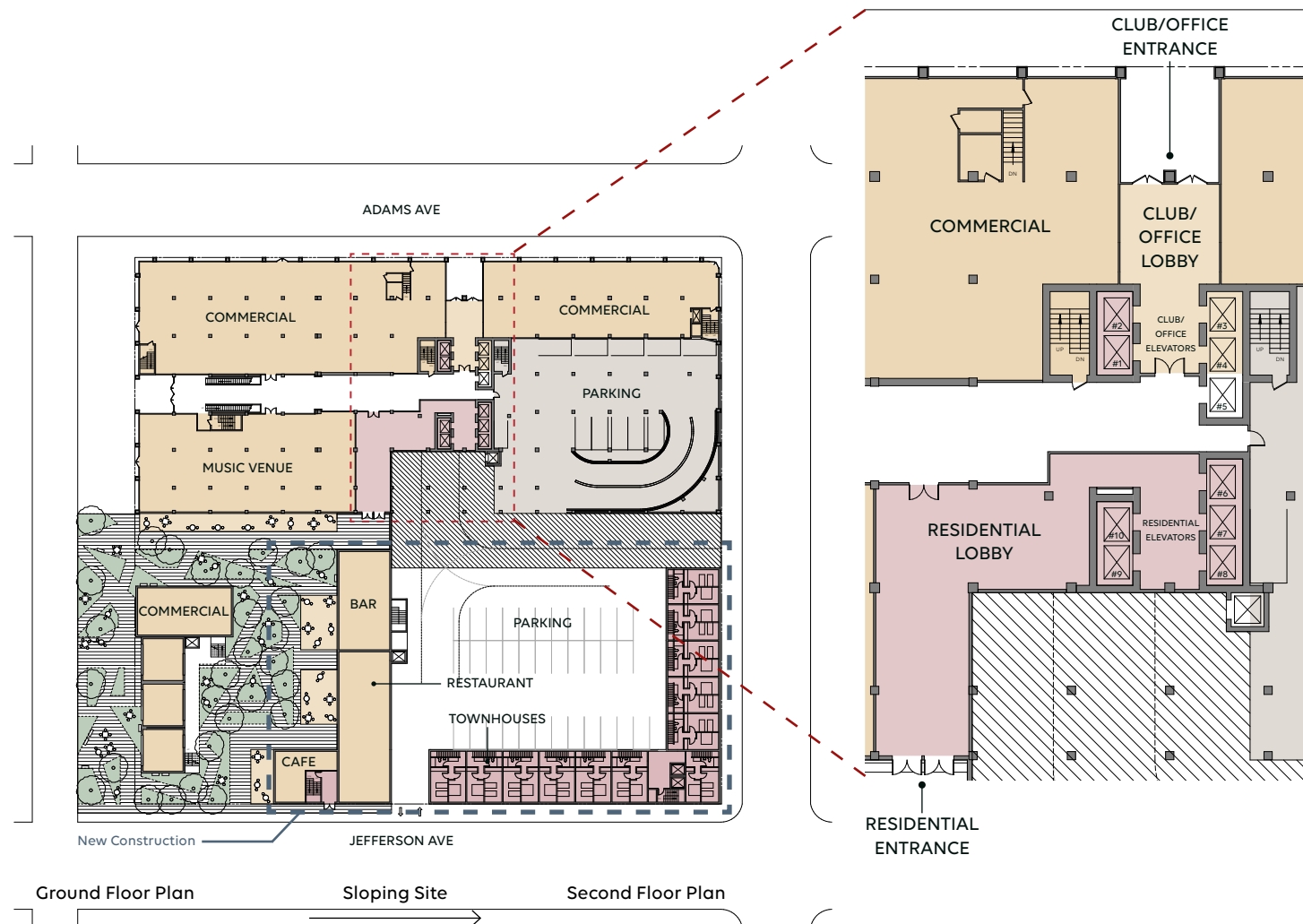
Vestibule - Tenant #3

Design Ideas

Integrating New Residential with Existing Office

While redeveloping large towers can seem like a massive undertaking, partial conversion or redeveloping in phases can make the project more manageable. And while many might not realize it, combining business and residential uses would also build in greater flexibility and opportunity:

- Super large towers are sometimes better suited for a true mixed-use building that would keep existing office tenants and build in new residential floors and units.
- There can be advantages to combining building amenities. The cost and removal of leasable square footage by providing high-end amenities for either an office or residential building would be significant. "Live and Work" continue to get blended while work continues to get more casual. By sharing amenities for both office and residential, there would be significant savings while greater amenities attract tenants on all sides.
- Even a pool could be shared by both residents and office tenants. For example, an office user that wants to bring their kids for a swim after school could work seamlessly on their laptop.
- Separating elevators is key to not mixing tenants and maintaining security between uses. This would be easily done by creating separate lobbies and designated elevators for each use. Commercial spaces have many more visitors that will need to be controlled. The reduction of overall occupancy by shifting many floors to residential would decrease the number of elevators needed. Elevator technology would be easy to modify for flexibility of use in the future.
- If a stack of residential floors were to be created, one floor beneath the stack would collect all the plumbing lines and consolidate them at the ceiling. Once construction was completed on the stack, this floor could then be leased as office or other use.



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