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Suburban Adaptability: Urban Context

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SUBURBAN ADAPTABILITY: URBAN CONTEXT

Creating an Architecture that Permits Flexibility within a System of Controls through the Design of an Urban Mixed-use Building.

Hoboken New Jersey

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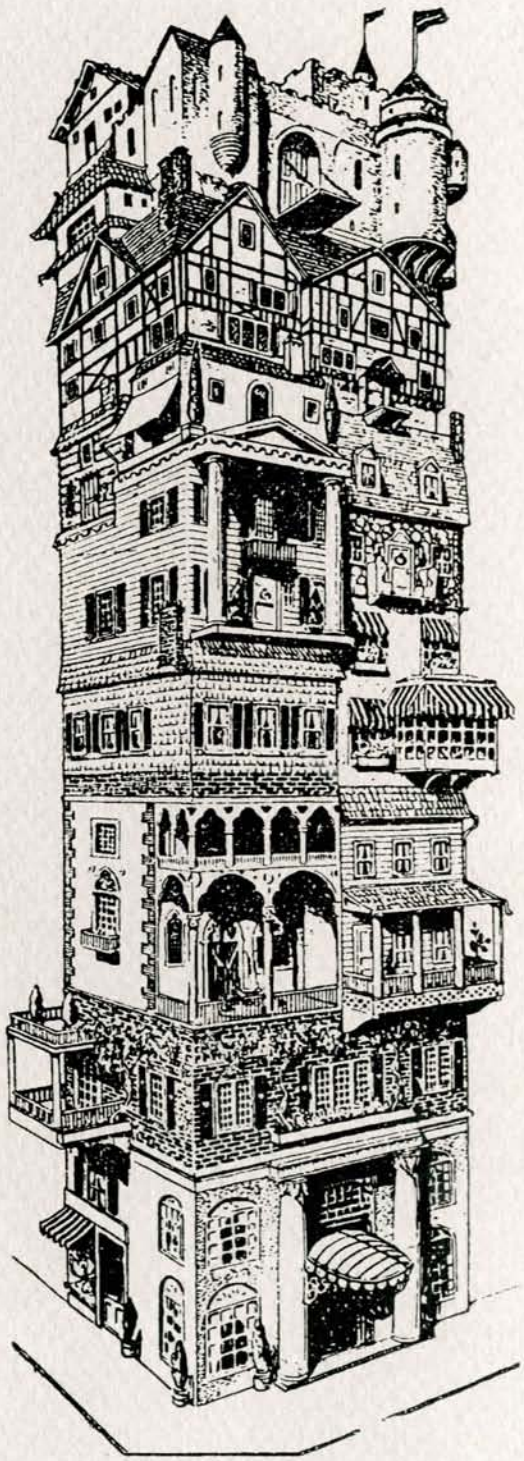


The urban environment historically fosters anonymity among urbanites denying individual expression, user flexibility, and family adaptability. The result is the draw to the suburban house model which inherently concedes ones' expression of individual identity.

The urban landscape has historically formed with the core and periphery. Over the last sixty years the periphery has harbored the creation of suburbia. Traditionally, the urban landscape has, and continues to suppress individualism and flexibility to create uniformity and homogeneity. This suppression has been attributed to one of the reasons for the creation of suburbia. Suburbia inherently fosters the formation of individualism over time as the house grows with the family. Suburbia allows the occupant to externalize their individuality as the urban condition denies flexibility and fosters anonymity. When individualism is admissible in the urban condition, a collage of disorder and uncontrolled expression develops.

Locally, the Willow Terrace section in the city of Hoboken, New Jersey, exemplifies this uniformity turned disorder through five rows of attached houses which face cobblestone mews. Built in 1880 there was one uniform prototype for the twelve feet wide brick houses, including wooden trim, stone sills, metal roofs, and one small third floor dormer. This area remained virtually unaltered until the 1960s when homeowners began a variety of architectural and decorative modifications. Full third floors were raised, window and door shapes and styles were revised, and various sidings and details were added. An obvious and intentional uniform housing ensemble evolved into a collage of materials and variations reflective of individuals' tastes and sensibilities. The traditional uniformity and homogeneity has been overturned in an uncontrolled ad-hoc form of development.*

Contrary to urban housing, suburban housing is typically delivered to a suburbanite by choosing their desired lot from a subdivision and choosing their desired home from a few developer offered models. Although the suburban house may be born with the same basic plan and elevation as its neighbors, it is often altered, remodeled, added to, updated, and personalized. Arguably by default, suburbia creates a basic template which the end-user can customize. On the contrary, the urban environment does not foster the ability to personalize the housing template. My intent is to create an architecture that permits individual expression and flexibility within a system of controls through the design of an urban mixed-use building.

"We shape our buildings, our buildings shape us." –Winston Churchill

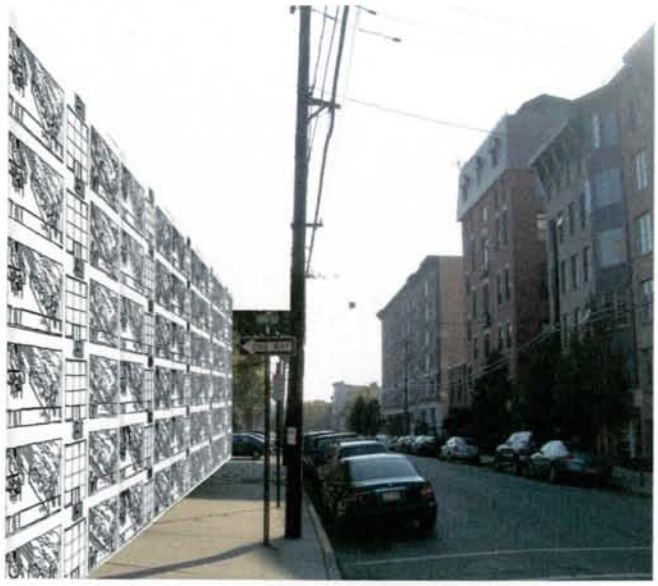
Topic: Urban adaptable building in which the end user is influential in the design and has the ability to alter, remodel, added to, update, and personalize his/her space within a system of controls.

Site: Hoboken, New Jersey

Program: Mixed-use: Commercial/Residential

Method: Through the lens of the end user, where the end user acts as architect or influential to the architect. My proposed method is similar to the aims of advocacy architecture, a concept introduced by Paul Davidoff in 1965. This concept states an architect should design for the individual from the architect's impartial point of view; the aim is to act as a lawyer for peoples' interests. Advocacy architecture rejects the notion of the architect as a technician and supports the architect being an advocate for individual sensibility.*

To create a mixed-use (commercial/residential) building that fosters the flexibility for alterations, remodeling, additions, updating, and personalization within a system of controls in the urban condition. Specific to Hoboken block 91, which interrupts the urban fabric with the existence of two large cross-shaped Corbusian buildings centered on the block, I intend to conform to the typical appearance of twenty-five foot building widths, and reinstate the urban fabric and street wall.



II. Architectural Issues

- A. Flexibility
- B. Adaptability
- C. Individuality
- D. Urbanization
- E. Community
- F. Kit of Parts
- G. Pre-Engineering

Flexibility: flex·i·bil·i·ty n: The quality of being adaptable or variable.

Generally apartments are designed and urbanites are forced to choose from the existing. It is building first; occupant second. Urbanites match themselves to an apartment, rather than an architect designing an apartment around the urbanite. Flexibility initially, and over time, is rarely permitted. Flexibility, governed by the occupant, could be allowed to influence spatial layout and façade.

Adaptability: a·dapt·a·bil·i·ty n: The ability to change or be changed to fit changed circumstances.

Overtime, change is inevitable. People change, families grow, technology improves, needs expand, life alters. The urban environment has historically denied the home the ability to adapt to change. With exception to expanding into a neighboring apartment, (one must displace their neighbor to do so) urbanites have been limited in adaptability.

Individuality: in·di·vid·u·al·i·ty n: The aggregate of qualities and characteristics that distinguish one person or thing from others; character: *choices that were intended to express his individuality; monotonous towns lacking in individuality.*

Urbanites are not the same, yet their homes are. The

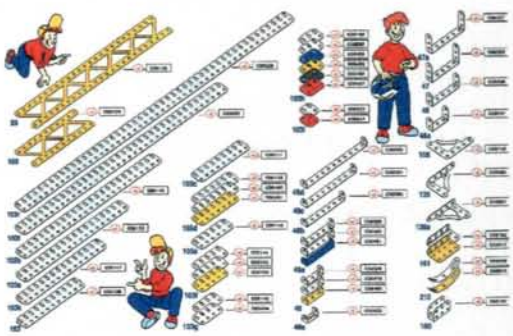
urban condition lends itself to mirrored floor plans with repetitive facades that lack occupant expression. Urbanites' individuality is oppressed.

Urbanization: ur·ban·i·za·tion n: The social process whereby cities grow and societies become more urban.

Urbanization is not just physical; it is also social. Society is created through physical and sociological relationships. The physical environment can taint the urban fabric, as in the case with block 91 of Hoboken, and the social environment can be deurbanized through denial of collective construction.

Community: com·mu·ni·ty n: An interacting population of various kinds of individuals in a common location.

The collective is an essential piece to the community. Creation of common elements, i.e. fitness centers, recreation facilities, playgrounds, parks, etc., become fundamentally important. Community also requires interaction, which can be created through pedestrian traffic. Pedestrian traffic can be constructed through retail allocation, especially on the street level.



Kit of Parts: kit · of · parts v: A portion, division, piece, or segment that can be arranged to form a whole, usually in multiple arrangements.

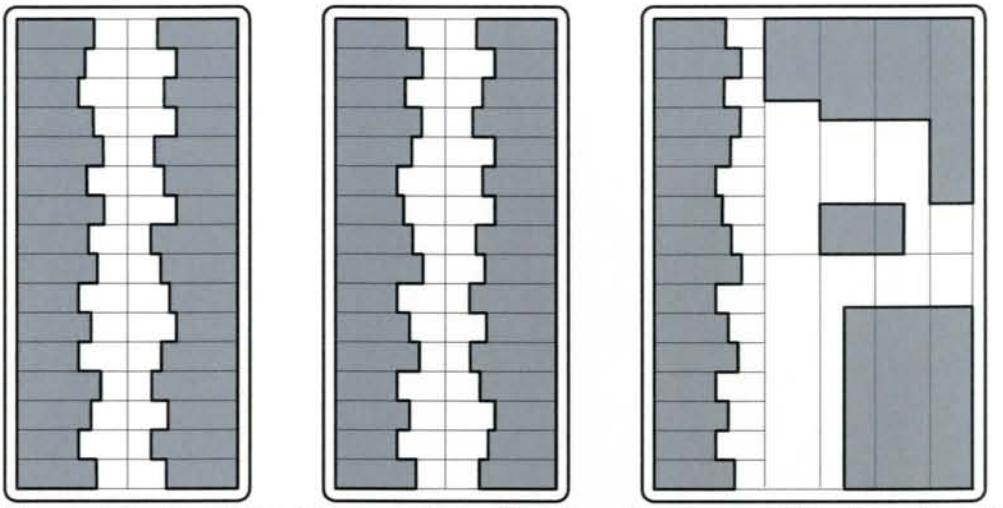
Through a kit of parts, an urbanite can influence the design

of his or her space around them. The assembly of the parts can further foster the creation of individuality.

Pre-Engineering: pre-en-gi-neer-ing v: Built of or using prefabricated sections or parts: *a pre-engineered building.*

To build before (pre) seems to undermine my intentions. However, my objective is not to prefabricate the whole. How does one predict the whole without knowing the owner of the whole? Prefabrication of parts is necessary as a starting point in which the urbanite can begin to adapt his or her template. I propose the creation of individualism through the standardization of prefabrication.

III. Case Study



Plan depicting the Willow Terrace section of Hoboken, New Jersey. Notice the uniformity at the street compared to the varying rear façades.

The collage façades as they exist today.

Original façade unaltered from 1880.

The Willow Terrace section of Hoboken, New Jersey was built with one uniform prototype in 1880. During the 1960s, homeowners began an uncontrolled ad-hoc personalization which has destroyed the uniformity and homogeneity of the façades. Lacking a system of controls, this individualization has created a collage of materials.

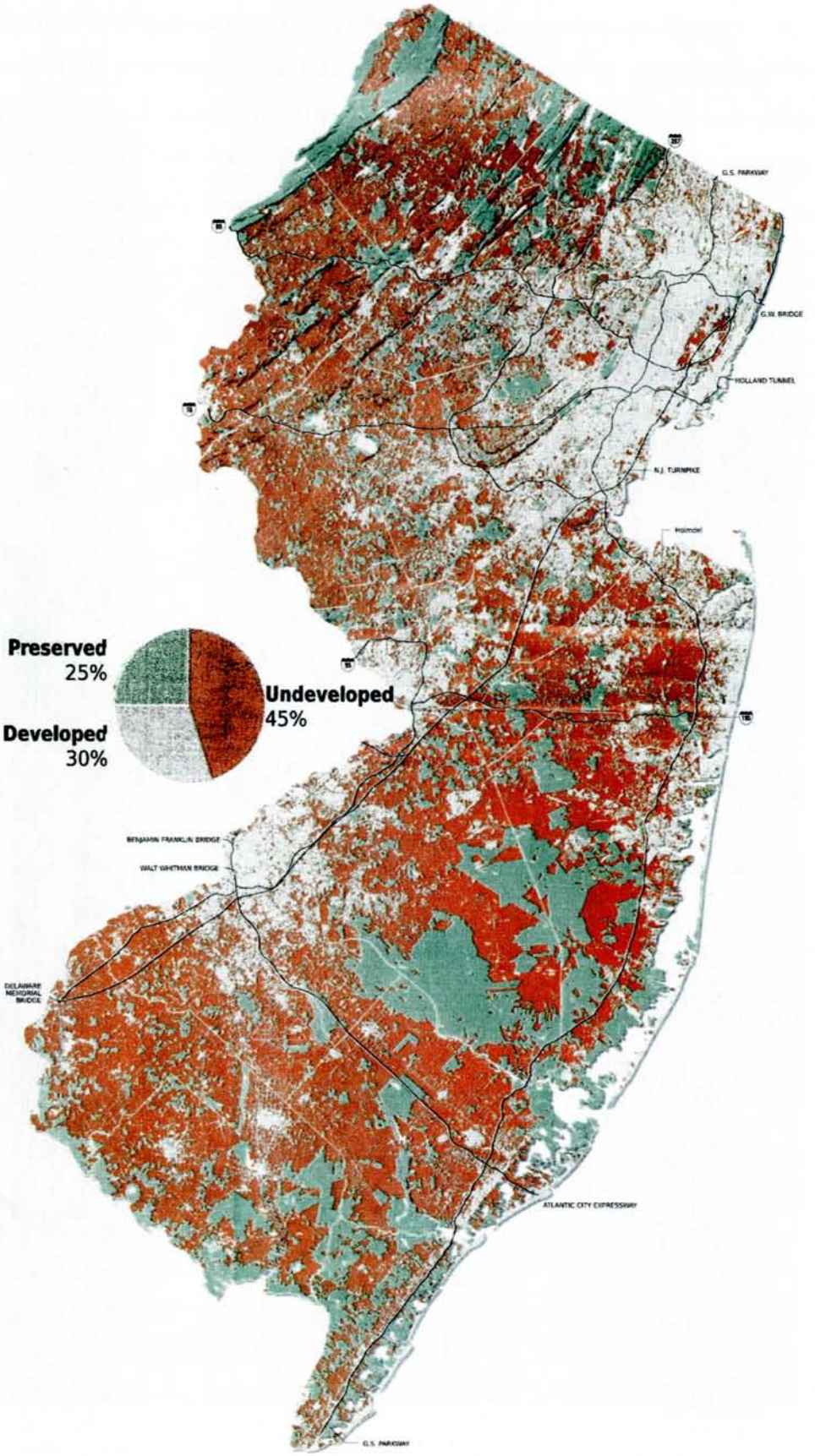
Altered façades as they exist today.

Altered façades as they existed during the 1980s.

IV. Site Selection and Analysis

- A. Site Statement
- B. Site Location
- C. Historic Maps
- D. Typical Hoboken Block Diagrams
- E. City Diagrams
- F. Site Diagrams
- G. Site Facades and Analysis
- H. Site Photographs
- I. Three Dimensional Analysis

Location of an adaptable building in an urban context is critical and I intend to implement the building design on the edge of the city (core), before the suburban (periphery). If we accept the notion of core as Manhattan and periphery as New Jersey suburbs, an indistinguishable area is created in between. Cities such as, Bayonne, Elizabeth, Hoboken, Jersey City, Linden, Newark, Rahway, Union City, and Union, etc. lie in a world between urban (Manhattan) and suburban (Alpine, East Brunswick, Edison, Livingston, Mountainside, Springfield, Westfield, Woodbridge, etc.) The site I anticipate locating my thesis project is the area housing New York City commuters, which is the threshold between million dollar single family homes and million dollar apartments, the city edge.



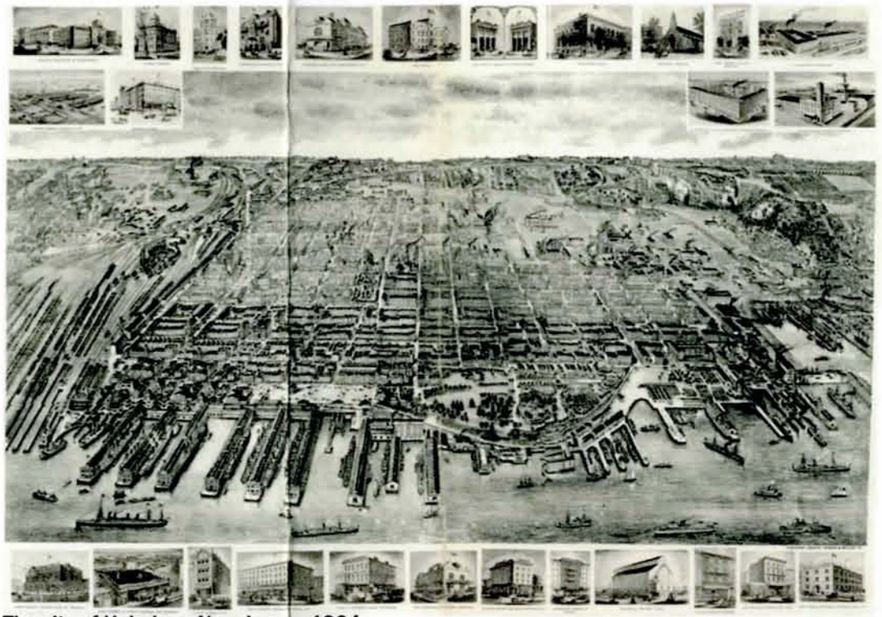
Hoboken, with its close proximity to Manhattan and rich sense of community, is the proposed design location. The specific site is block 91 which currently interrupts the urban fabric with the existence of two large cross-shaped Corbusian buildings. These buildings disrupt the urban street wall by acting as building in a park, rather than building in a city. They harbor anonymity among their occupants, deny any expression of individualism, and reject any notion of flexibility.

The city of Hoboken, New Jersey, 1881.

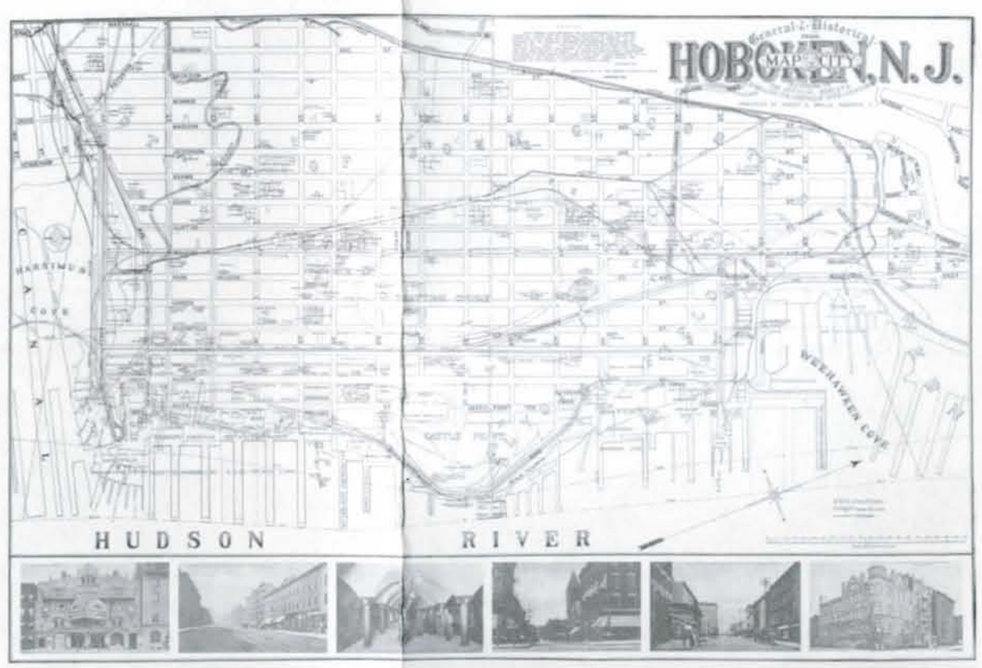
The City of Hoboken was incorporated March 28th, 1855, with a population of 6,727. The development of the city over the next 50 years was continuous and rapid. During the early history of the city, growth occurred due to commercial and manufacturing advantages of its location. For twenty-five years after its incorporation, Hoboken was a popular resort for residents of Manhattan, who spent Sundays in the Elysian Fields in the northern end of the city. This was a kind of picnic ground where thousands of pleasure seekers enjoyed themselves at the summer gardens under the shady trees which lined the River Walk.

John Stevens, the founder of the city, bought the whole estate which included all the lands within the present limits of the city. In 1838, when the Hoboken Land & Improvement Co. owned by the heirs of John Stevens was incorporated, it gained power to develop Hoboken land for the purpose of creating a modern street grid and modern blocks. Hoboken Land & Improvement Co. erected brick or stone buildings no less than three stories in height. As a result of the location of Hoboken, its proximity to New York City, and accessibility from all parts of the country, its growth was steady and rapid. The Elysian Fields pleasure ground soon disappeared and made way for building sites. The city contained 270 acres of upland and 450 acres of meadow.

In 1885 two hundred acres were built upon. At that time less than 150 acres of meadow remained, but this land was rapidly being filled in and made available for industrial sites. The rapid development of the city was due to the great trans-Atlantic steamship companies which were located on its river front. Other important factors to advance the growth of the city were a good and adequate water supply, ample banking facilities, good street railway service and other public utilities, including the telegraph and telephone. Important factors were also the educational institutions, both private and public, which have been maintained at a high standard. The city is especially proud of its school of mechanical engineering, the Stevens Institute of Technology, which has acquired a world-wide reputation and ranks with the best technical schools of the country. The Stevens Institute was founded by Mr. Edwin A. Stevens, then incorporated in 1870, and opened its doors for the admission of students in 1871.*

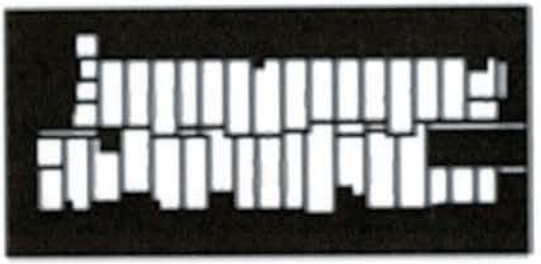


The city of Hoboken, New Jersey, 1904.

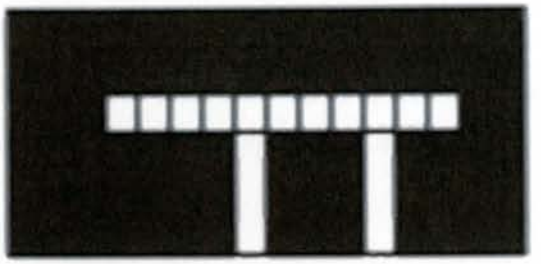


The city of Hoboken, New Jersey, 1904.

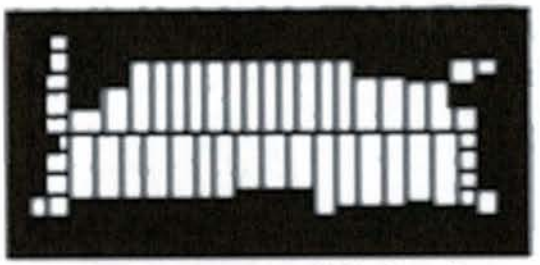
Hoboken has several different Block typologies. Typical block dimensions are 200' x 400'.



Perimeter Block built by individual row houses.

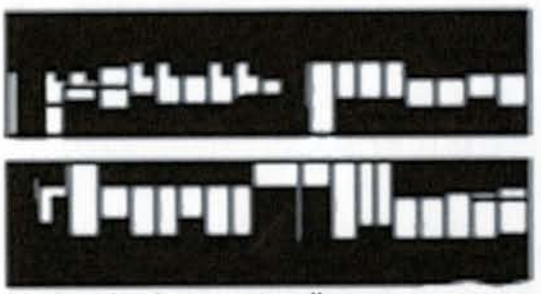


Perimeter Block Building.

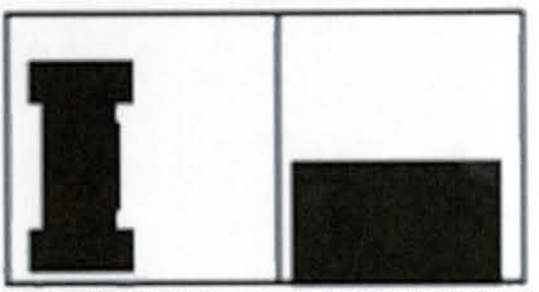


Perimeter Block built by individual row houses.

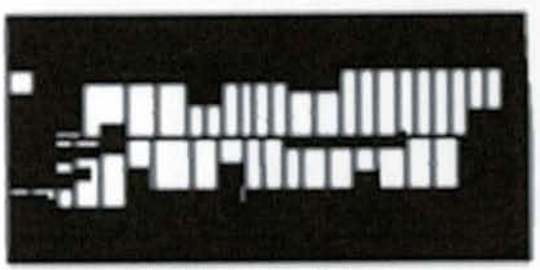
Perimeter Block built by individual townhouses.



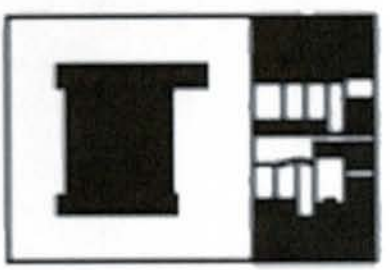
Block with private center alleyway.



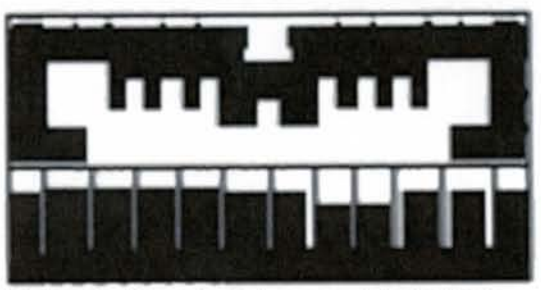
Center Block Building, typical of Public Institutions.



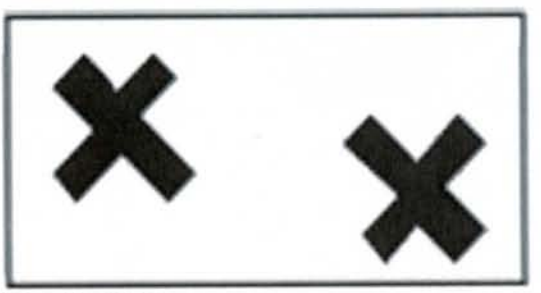
Perimeter Block built by individual row houses.



Center Block Building, typical of Public Institutions.

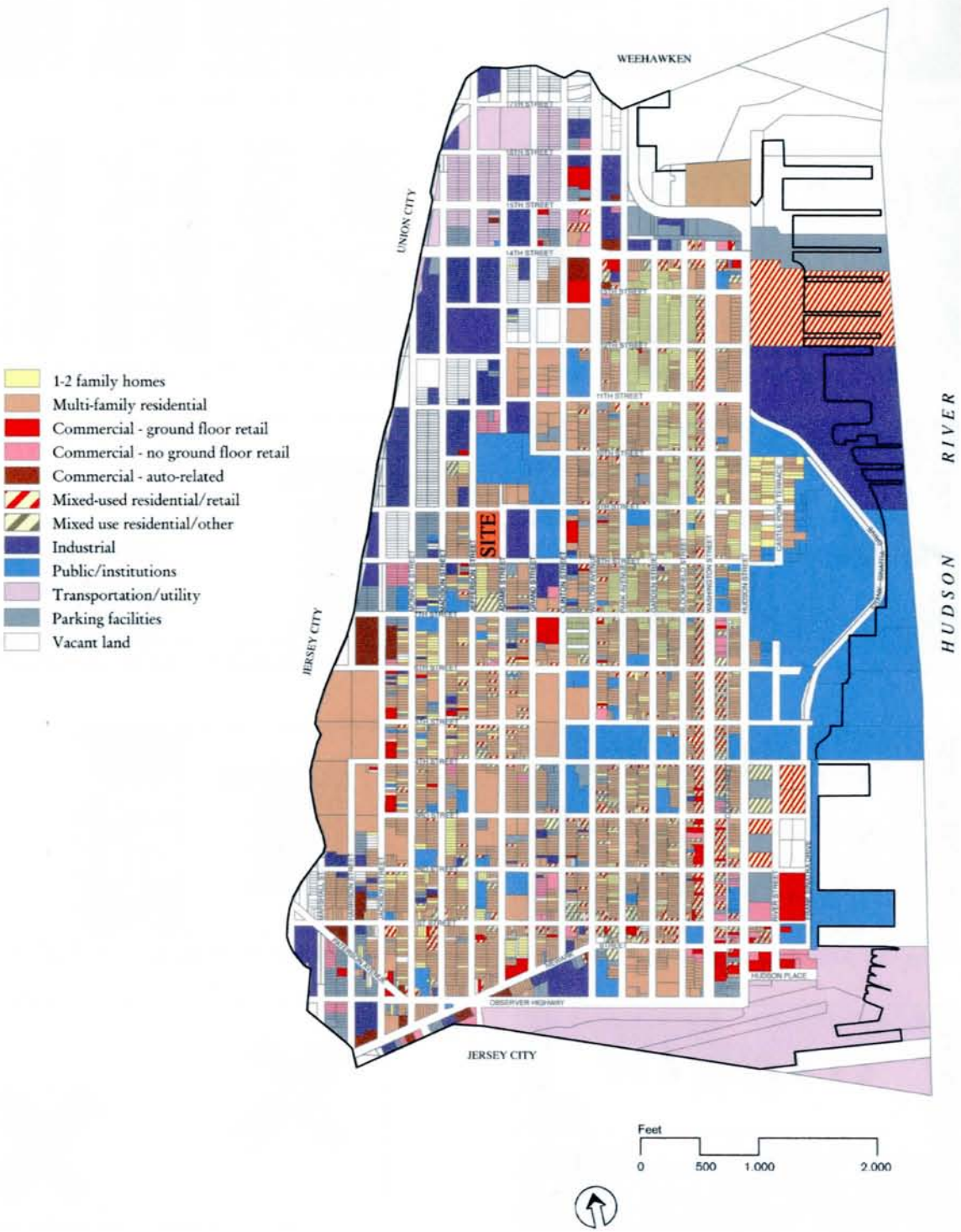


Perimeter Block built by assemblage of lots.



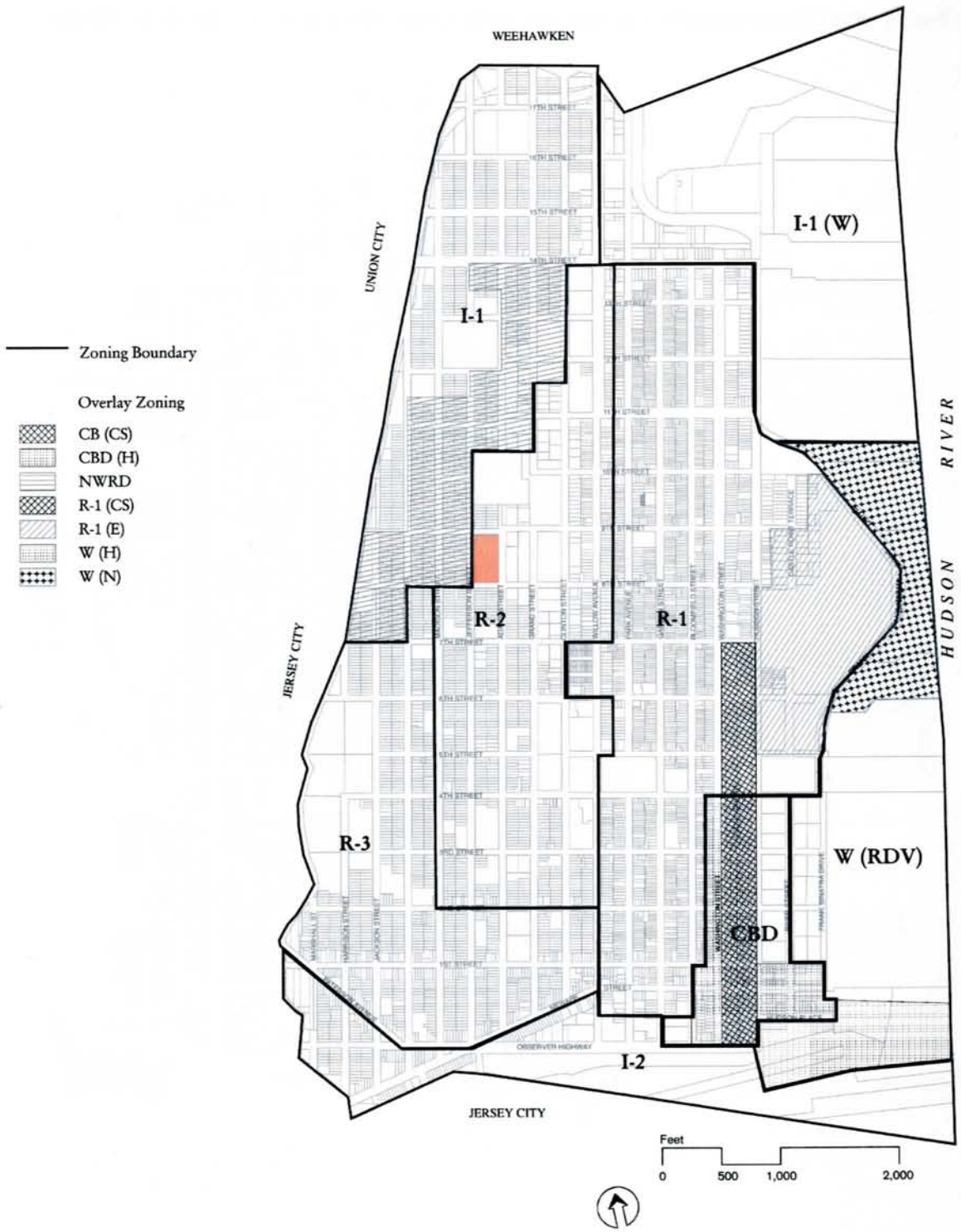
Proposed Site.

The Existing Color Coded Land Uses demonstrate that the majority of the city is currently used as multi-family residential. Notice the amount of Public/Institutional land use and the concentration of Industrial land use in the Northwest corner.



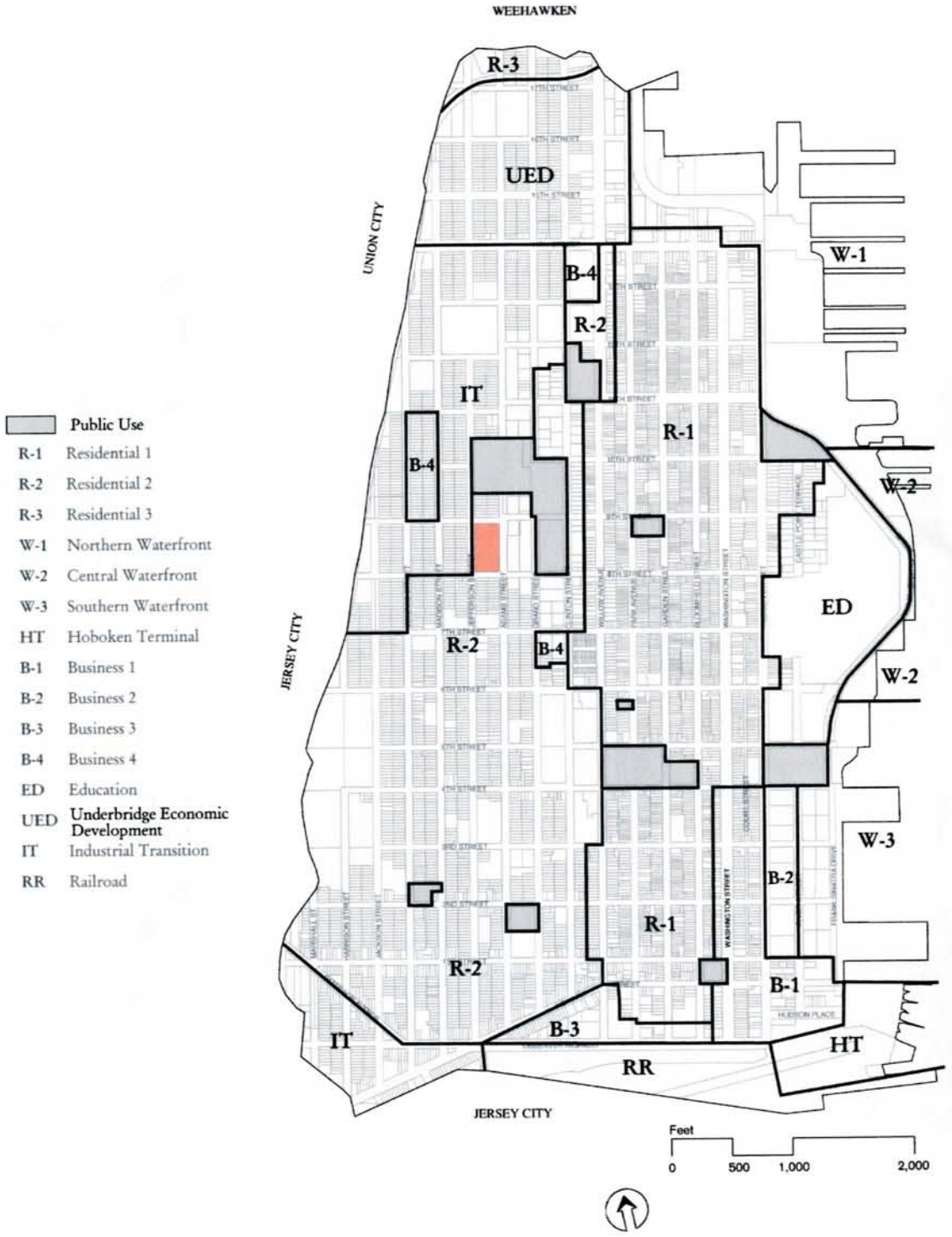
The Figure-Ground diagram displays the apparent difference between the Eastern and Western sections of the city. The Eastern section developed first with residential perimeter block typology created through individual twenty-five feet wide row houses. The Western section developed scarcely with mixed programs. Today, the Western section continues to develop with perimeter block buildings.

The Existing Zoning promotes the redevelopment of the Northwest former industrial section shown in the shading of the overlay zoning. The majority of the city is zoned residential with an emphasis on ground floor commercial/retail.



Building heights vary from one story to ten stories in the city of Hoboken. Most buildings average around three to four stories. The taller buildings are concentrated towards the Southern section of the city. This concentration allows Hoboken to blend with the tall Jersey City buildings on the Southern border.

The Hoboken Land Use Plan aims to divide the city into sections of Residential, Waterfront, Business, Education and Public districts. The Business district is mainly focused towards the Southern edge of the city. This concentration is in response to the extensive Jersey City Business district located not far from the Southern Hoboken-Jersey City border.

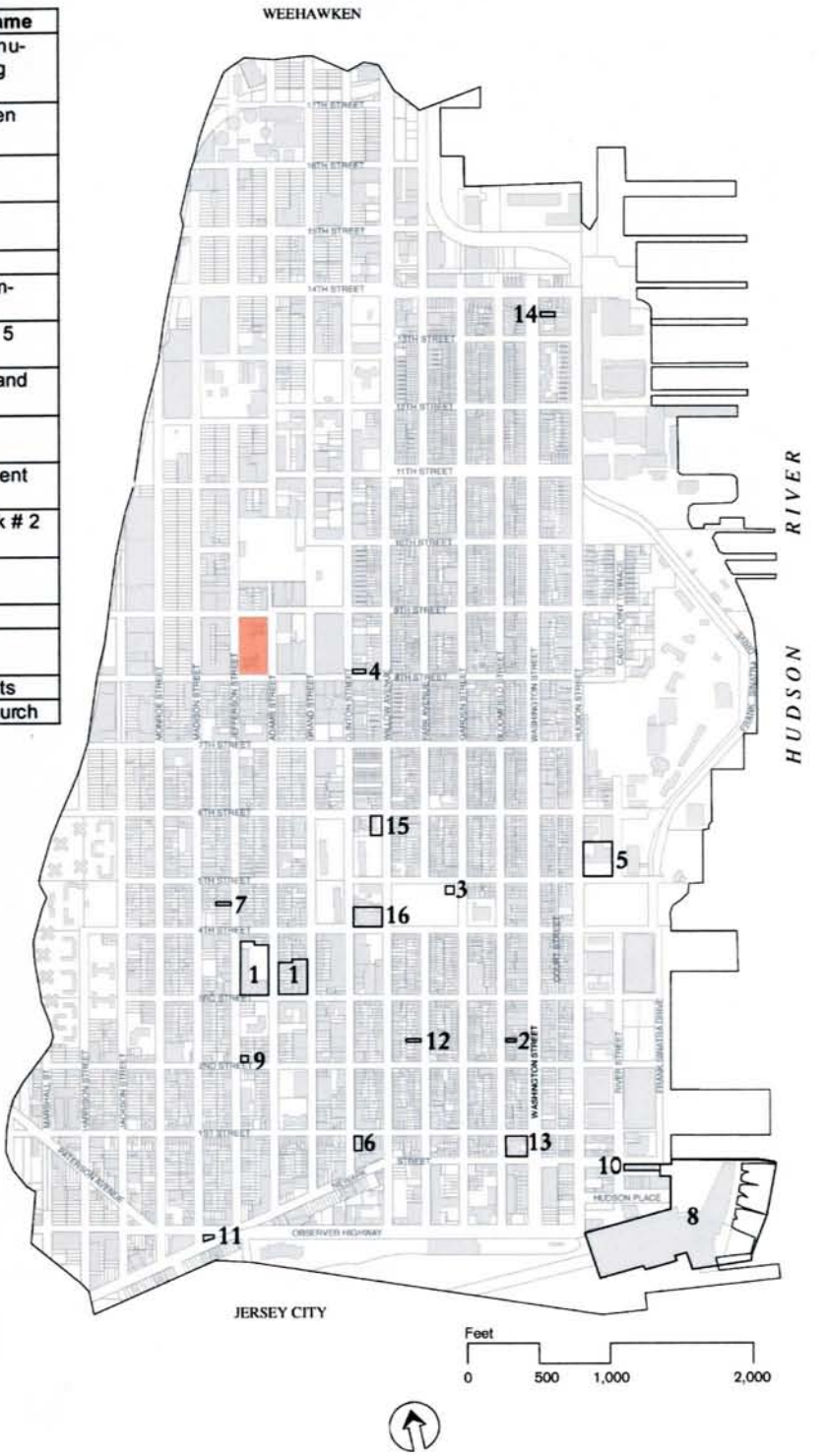


The Overlay Districts depict the Retail, Court Street, Willow Terrace, Redevelopment, and Historic sections of Hoboken. Notice the intended plan to redevelop the Northwest Industrial Zone. It is also important to notice the retail section is mainly focused around lower Washington Street which is in close proximity to the Lower Manhattan Path Train. The entire East side is overlaid as an Historic District.

The Hoboken Proposed Historical Districts mainly focus around the commercial corridor of Washington Street. The Southern Historical District Extension continues north on Washington Street along the Hudson River. This district is a reflection of the Industry which once lined the Hoboken Coast.

Celebrating its 150th year since incorporation, Hoboken has sixteen listed state and nationally registered properties. Many of the properties were erected as Fire Engine Companies and Firehouses. Numerous Hoboken Historic Properties still remain in use as today's firehouses.

	Name and/or Historic Name
1	Former Keuffel & Esser Manufacturing Complex (including Clock Tower Apartments)
2	Assembly of Exempt Firemen
3	Firemen's Monument
4	Engine Company # 6
5	Edwin A. Stevens Hall
6	Former Jefferson Trust Company
7	Former Engine Company # 5
8	Erie Lackawanna Railroad and Ferry Terminal
9	Engine Company # 3
10	Hoboken Land & Improvement Company Building
11	Engine Company # 3, Truck # 2
12	Engine Company # 4
13	Hoboken City Hall
14	Engine Company # 2
15	Church of the Holy Innocents
16	Our Lady of Grace R.C. Church



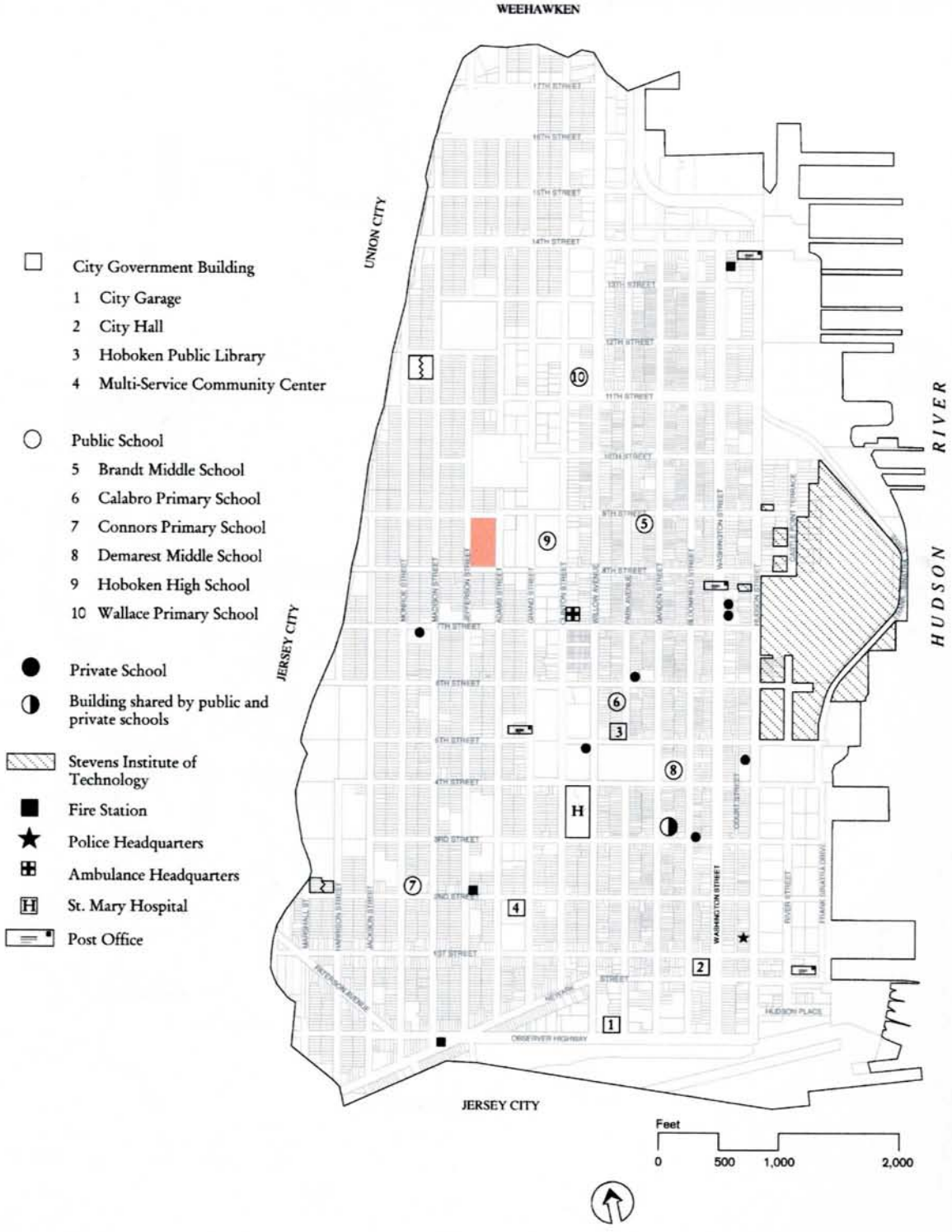
Due to its geographic location, the city is mainly accessed from the West side on the Northern and Southern tip. The city is set below a forty foot cliff on the West side. The Southern access points are from the Jersey City area and the Northern access points are from the Weehawken area.

Hoboken takes advantage of its location by providing two Ferry Stations to Manhattan, the Hoboken Path Terminal to Manhattan, two light rail stations on the West side, and several Bus stops to allow the movement of people along the Washington Corridor from the North and South. Currently, Hoboken lacks an appropriate Taxi system, however, several Taxi Stands are being proposed.

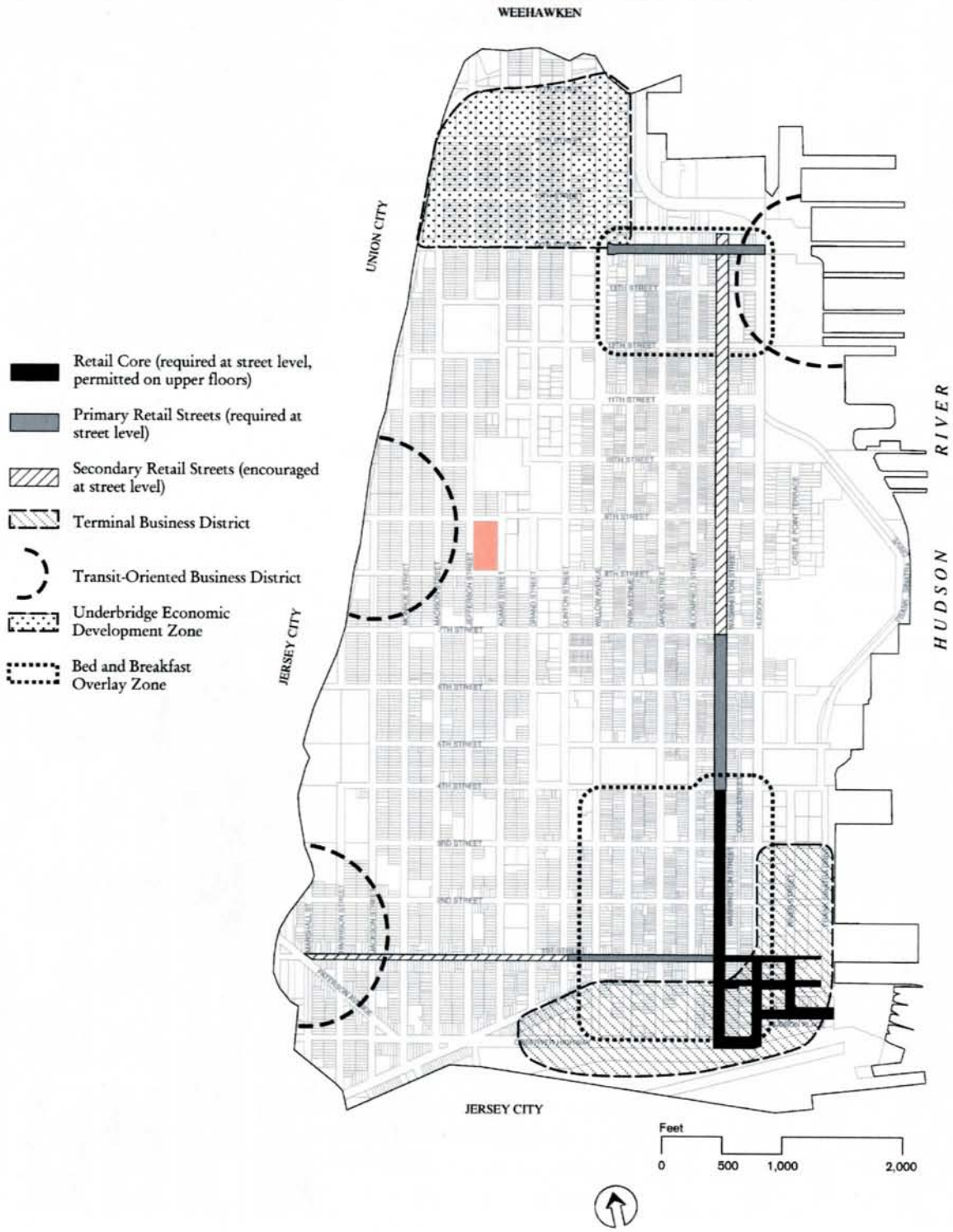
The Existing Open Space is generally concentrated in larger full block spaces. The largest open space is just north of the proposed site, John F. Kennedy Stadium and Columbus Park. The most active Open Space is in the Southeastern corner. This park has recreation facilities, picnic areas, bike routes, and beautiful views of the Manhattan skyline. Notice the disconnect of the Waterfront Walkway.

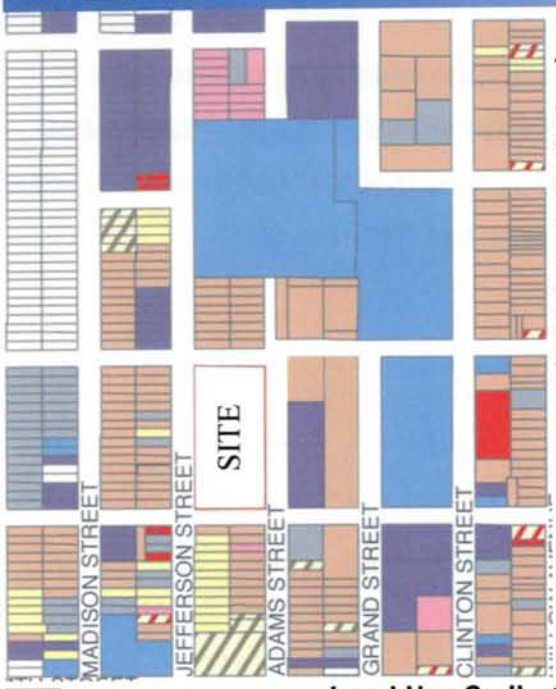
The Open Space concept attempts to connect the Waterfront Walkway not only within Hoboken, but also creates a connection with Weehawken to the North and Jersey City to the South. Many new parks are proposed on the West side of the city. An Urban Trail and Green Circuit is anticipated to promote the movement of people from the West to the East.

The Existing Community Facilities foster the interaction among urbanites through everyday errands such as frequenting post office, and common amenities, such as the Hoboken Public Library. Notice the lack of Community Facilities in the Northern half of the city.



The Economic Development Plan maintains its focuses around the creation of a Retail Core, a Business District, and a Residential Region. The Residential Region is generally promoted in all zones above the ground floor. There is an effort to utilize the transportation advantages the city has to offer by emphasizing development around the Light Rail Stations, Ferry Stops, and Path Terminal.



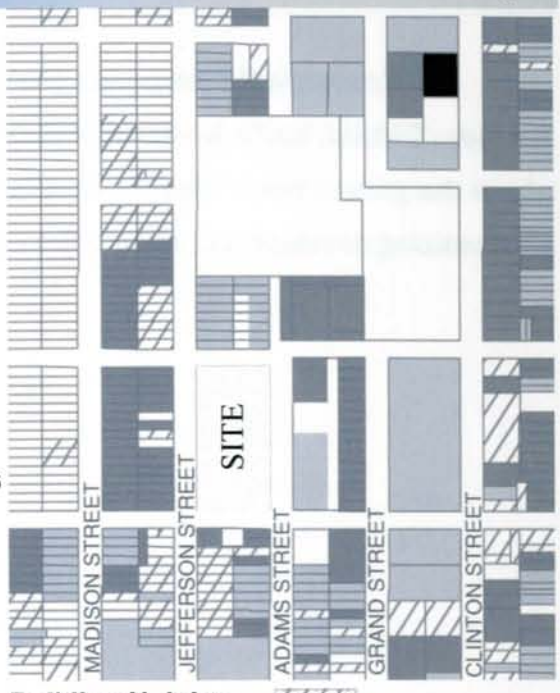


The Land Use Coding displays the amount of Multi-Family Residential Buildings around the site. Notice the relationship of the site to the Public/Institutional Space as well.

Land Use Coding

- 1-2 family homes
- Multi-family residential
- Commercial - ground floor retail
- Commercial - no ground floor reta
- Commercial - auto-related
- Mixed-used residential/retail
- Mixed use residential/other
- Industrial
- Public/institutions
- Transportation/utility
- Parking facilities

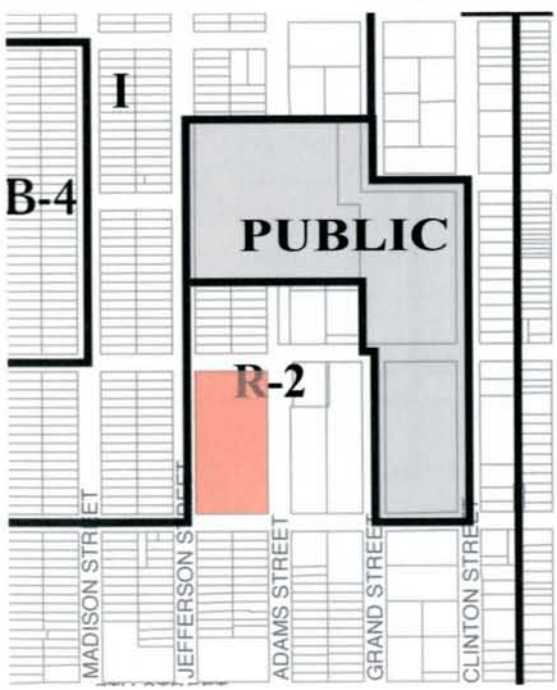
The Building Heights around the site are generally around 5 stories. Although the R-2 Zoning code only permits a maximum of five stories, there are several taller buildings in the area.



Building Heights

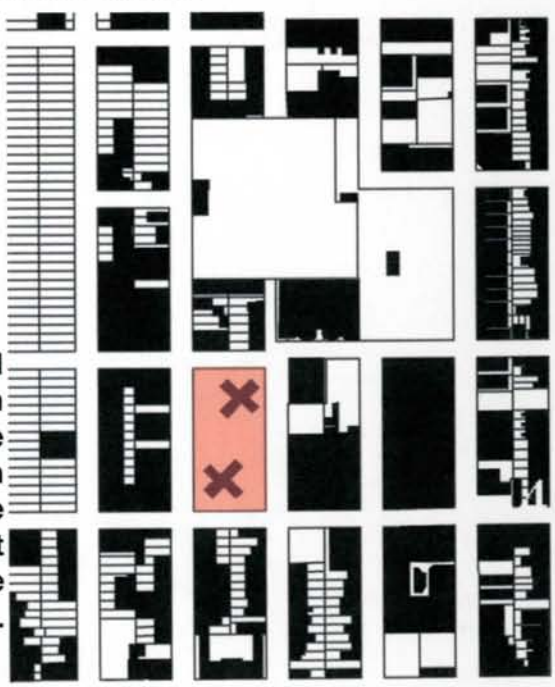
- 1 - 2.5 Stories
- 3 - 4.5 Stories
- 5 - 7.5 Stories
- 8 Stories and Over

Land Use Plan



The Land Use Plan emphasizes the mix of zoning within a three block radius of the site.

Figure Ground



The Figure Ground Diagram demonstrates how the current buildings on the proposed site break up the street wall and disrupt the urban fabric.

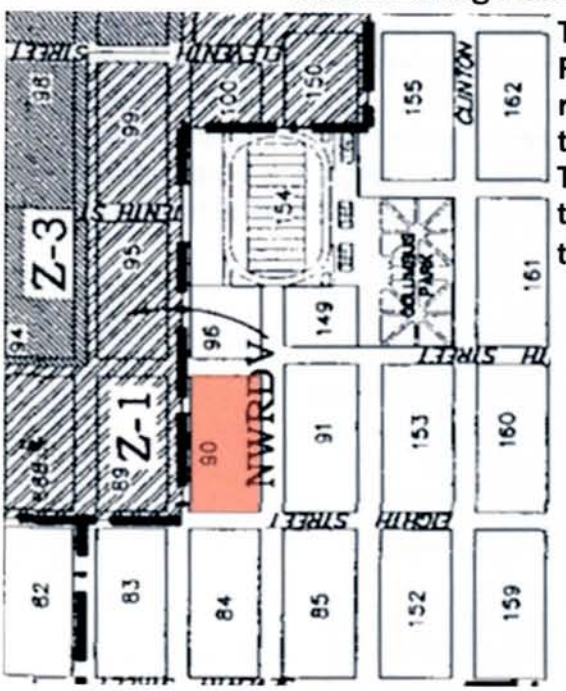
Aerial

The Aerial highlights the building typology in the area. Notice the emphasis on the continuation of the street wall by building to the lot line on the surrounding blocks.

Existing Open Space

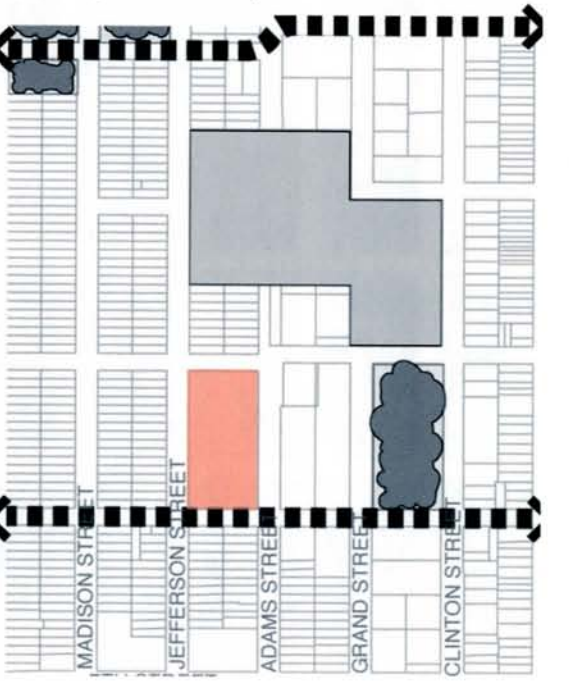
The Open Space highlighted above displays public (grey) and private (black) space. Notice how many blocks create an interior courtyard which becomes private collective space for the entire block, or individual backyards.

Current Zoning Plan



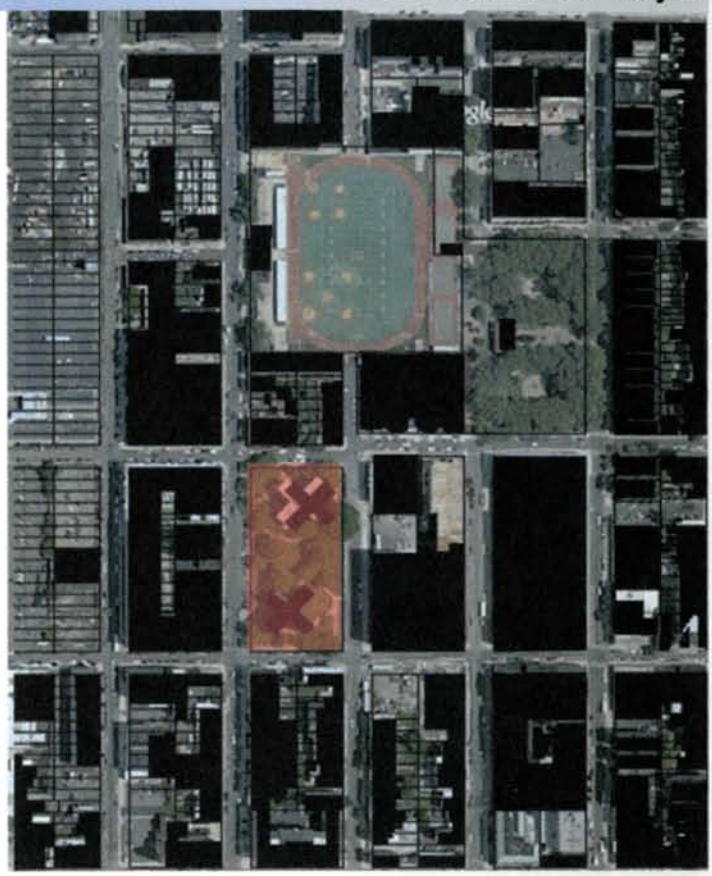
The Current Zoning Plan shades the redevelop-ment area towards the West. This area was formerly the Industrial Zone of the City.

Open Space Concept



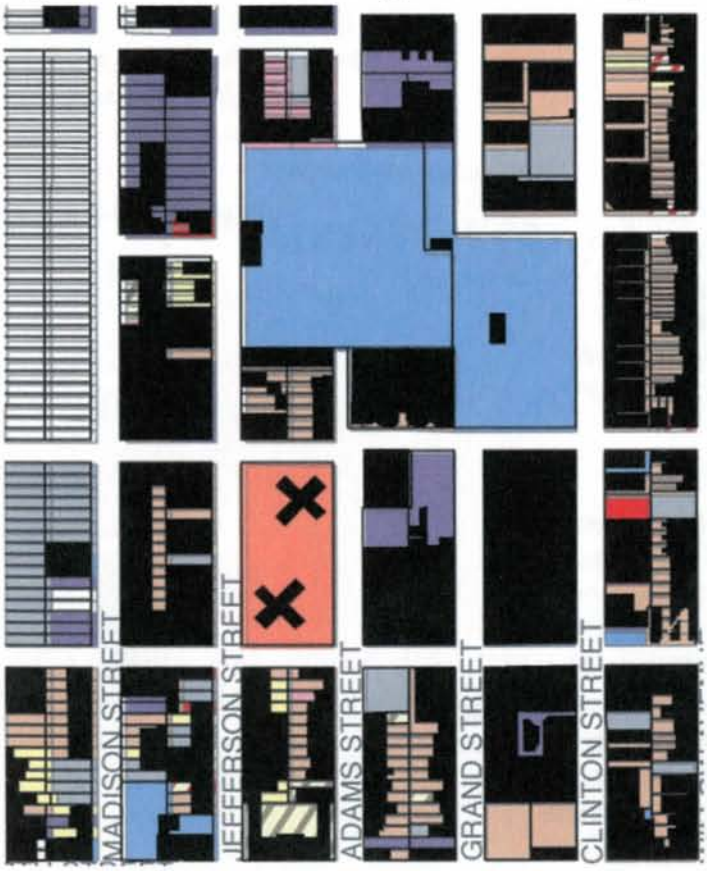
The Open Space Concept attempts to alter the Institutional space into additional Open Space. The dashed lines indicate the Urban Pedestrian Trails which encourage movement from the West to the East.

The Overlay diagram of the Aerial and Figure Ground Unstanding demonstrates the amount of green space the city has to offer. Not only is there green space present in public parks, but there is a concentration of green space in the center of the blocks as well. Notice the lack of development that is present in the West. This area has been rezoned to increase expansion. However, little consideration has been given to individual flexibility in the new developments proposed and built. Many proposals are perimeter block developments with collective courtyards.



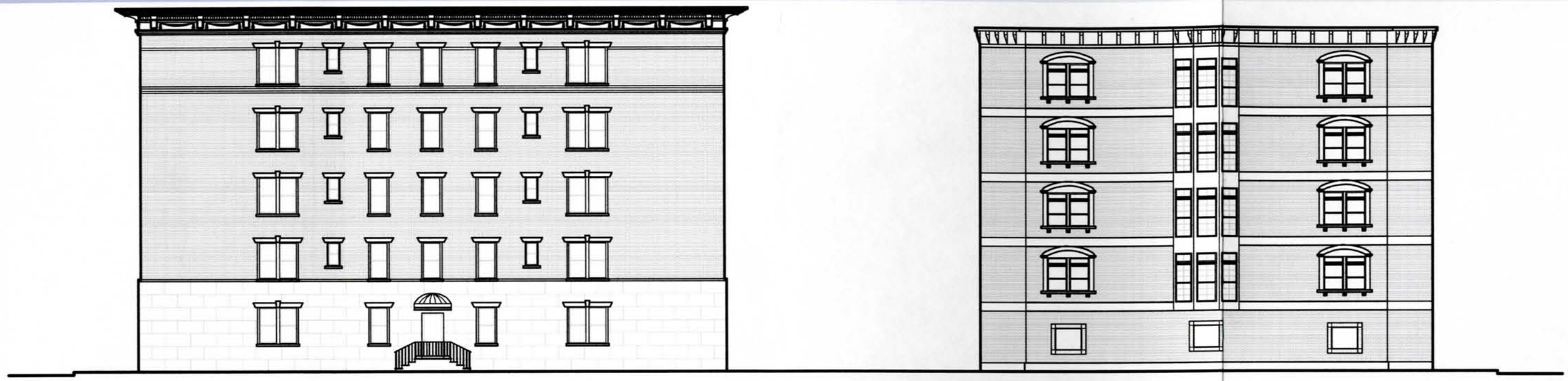
Aerial/Figure Ground Understanding

Figure Ground Understanding/Land Use Coding



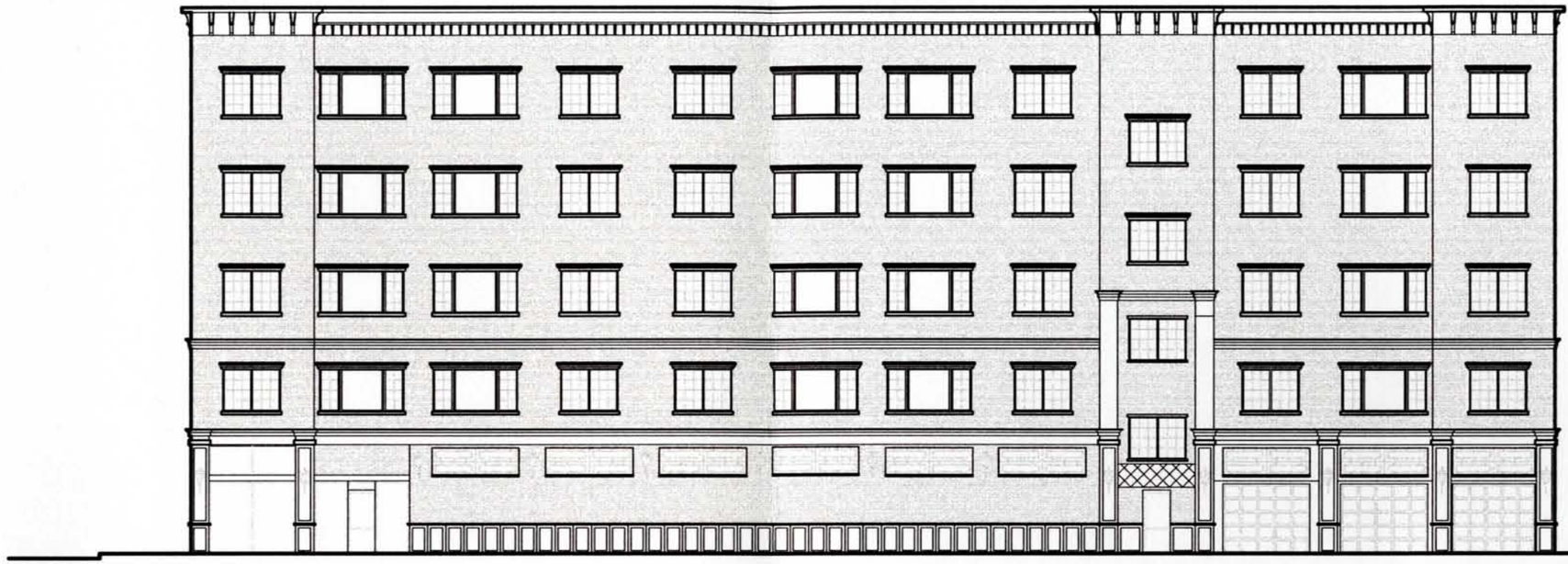
The Overlay Diagram of Land Use Coding and Figure Ground Understanding conveys the logical conclusion that most of the center block courtyards are found on residential blocks. However, most of the courtyard spaces are consumed by private backyards rather than a private collective space. This is due to development in the area over time rather than development of a perimeter block building typology.

- 1-2 family homes
- Multi-family residential
- Commercial - ground floor retail
- Commercial - no ground floor reta
- Commercial - auto-related
- Mixed-used residential/retail
- Mixed use residential/other
- Industrial
- Public/institutions
- Transportation/utility
- Parking facilities



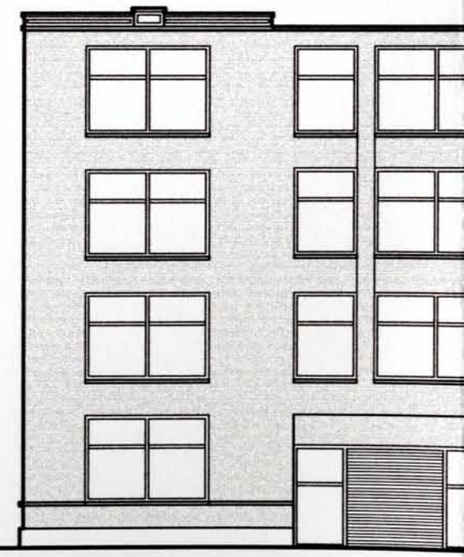
Eighth Street South

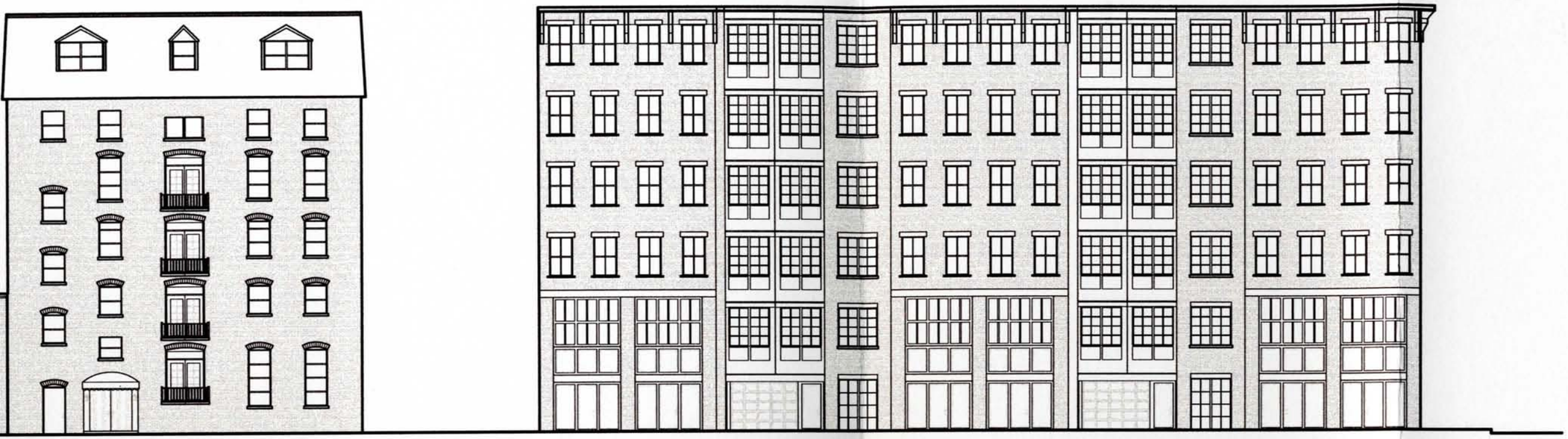
Ninth Street North

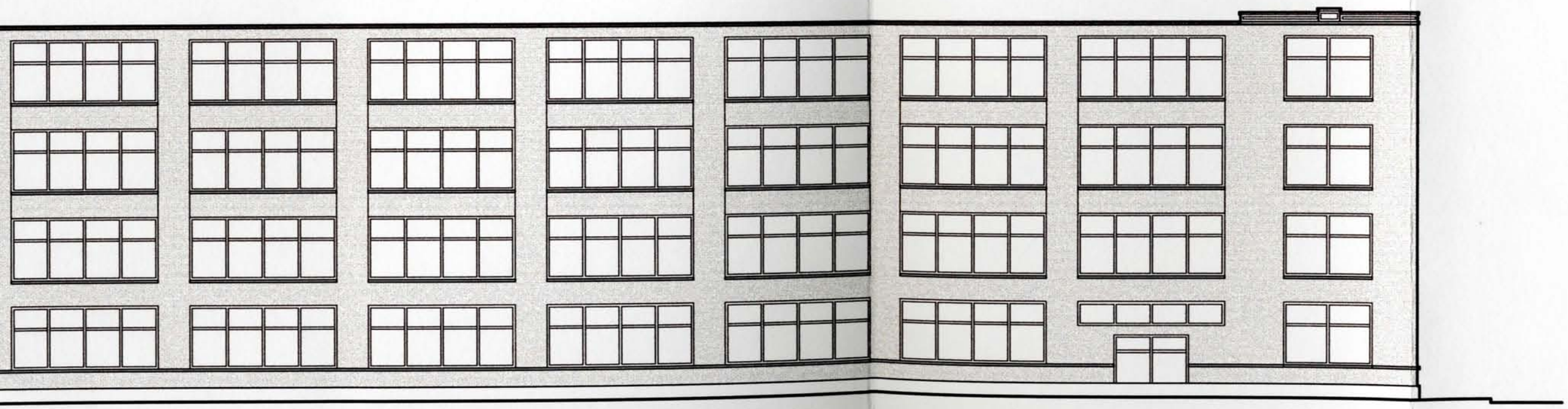


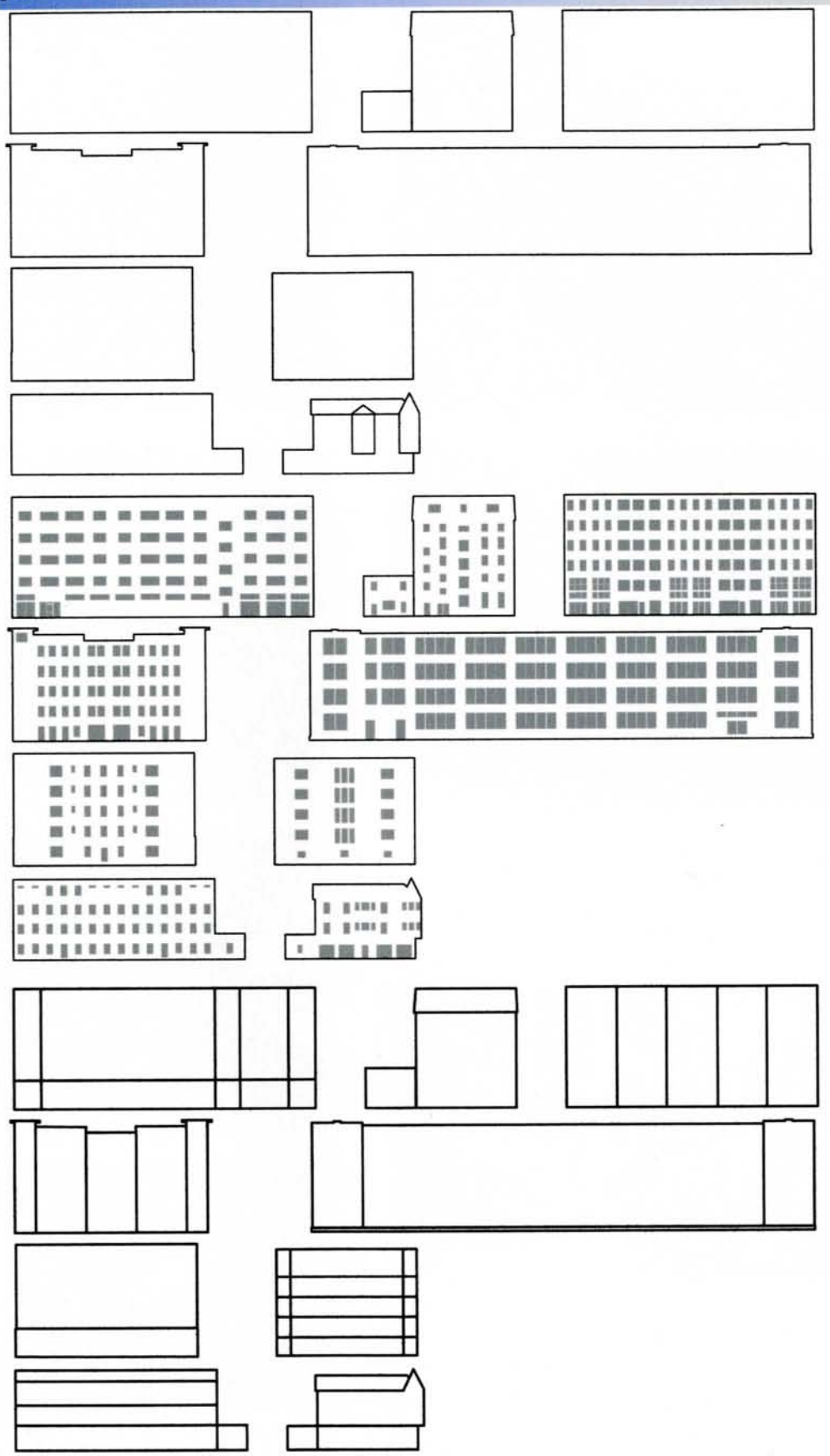
Jefferson Street West

Adams Street East









Jefferson Street West

Adams Street East

Eighth Street South

Ninth Street North

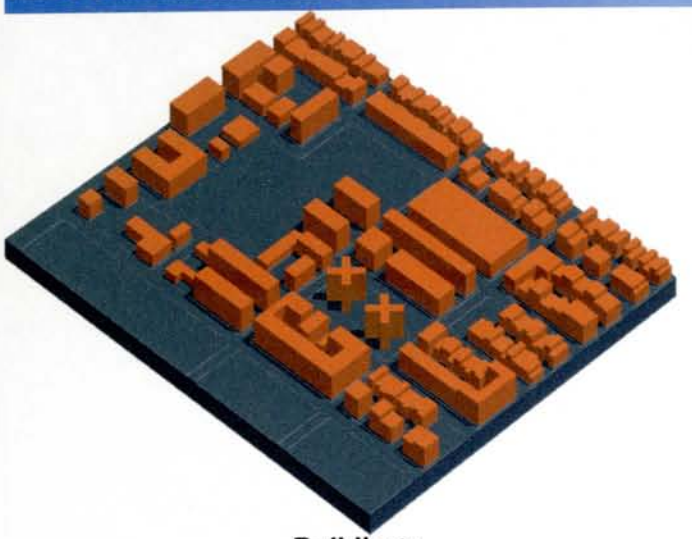
Ninth Street and Jefferson Street

Ninth Street and Adams Street

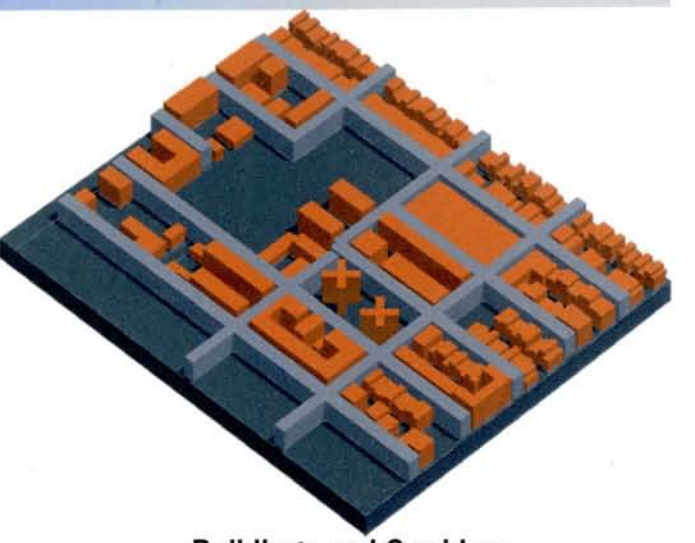
Eighth Street and Adams Street

Center of Block looking towards Adams Street East

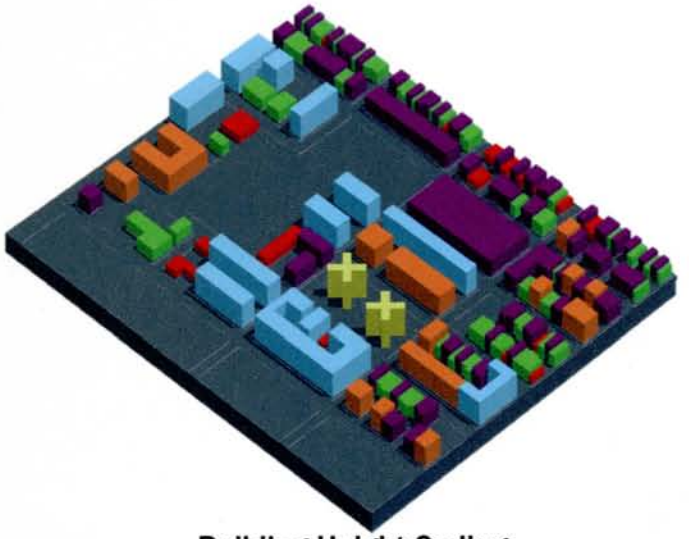
Eighth Street and Jefferson Street



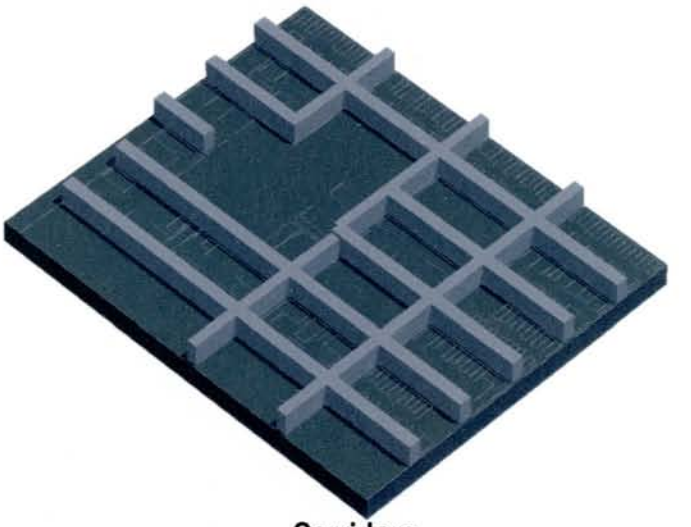
Buildings



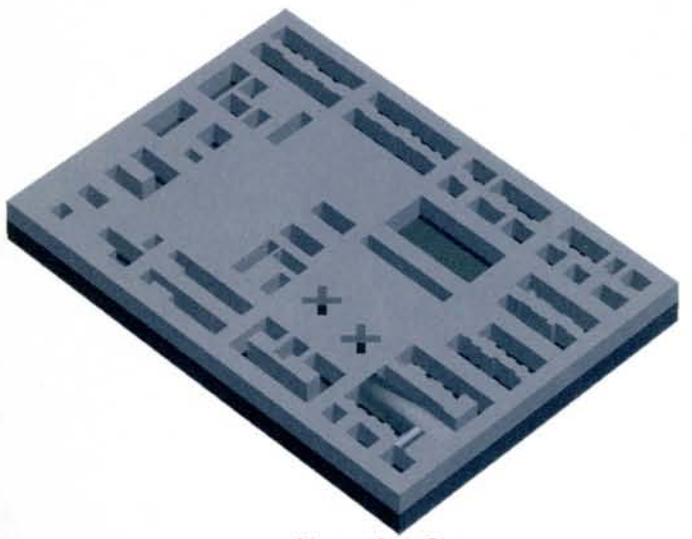
Buildings and Corridors



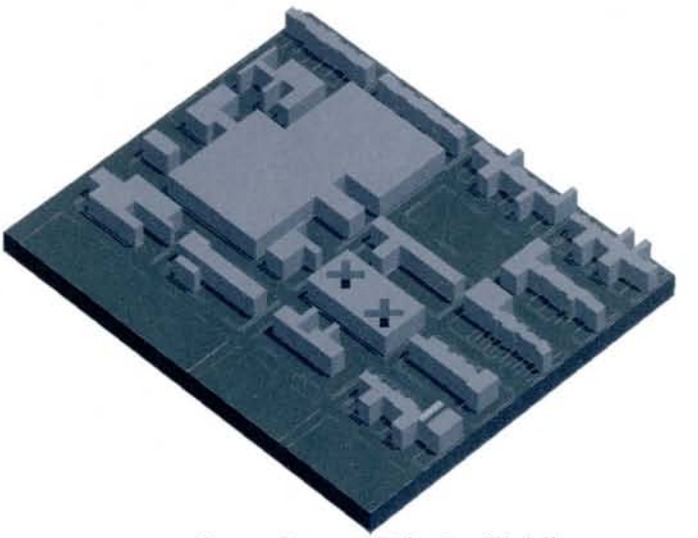
Building Height Coding



Corridors



Negative Space



Open Space- Private/Public

V. Program Selection and Analysis

- A. Permitted/Proposed Program
- B. Program Calculations
- C. Proposed Program Square Footage
- D. Program Description
- E. Building Envelope Studies

Allowable Building Size Calculations:

Lot Size: 200' x 400' = 80,000sf

Stories: Ground floor Commercial, 4 floors Residential Above

F.A.R.: Total Floor Area/Lot Area = 3

Y / 80,000sf = 3 Y = 240,000 Square Feet Maximum

Lot Coverage: 70% residential use, 100% ground floor when 70% coverage is provided above

80,000sf ground floor maximum w/ 56,000sf coverage above

Maximum Units: 1 Unit / 660sf of lot area

80,000sf / 660sf = 121 Residential Units Maximum with no commercial space

121 Units/ 5 Stories: 24.2 Units/ story

97 Residential Units Maximum with 48,000sf of commercial space

Approximate Unit Maximum Size: 5 Stories

240,000sf / 5 = 48,000sf/story

4 Stories Residential = 192,000sf

192,000sf / 97 Units = 1,980sf/unit

1,980sf – 20% common = 1,584sf/unit

Proposed:

Residential:

80 Residential Units @ 2,400sf each (including common/mechanical/circulation etc sf)

Each Unit at 25' x 48' x 2 stories= 192,000sf

Residential Minimum Square Footage: ***(Per IRBC R304.1-R304.4)***

Minimum One Room:	**120sf**
Minimum Other Rooms:	**70sf**
Minimum Kitchen:	**50sf**
All Habitable Rooms:	**Not less that 7' in one dimension (exception: Kitchen)**

Total: 192,000sf

Communal Space on Ground Floor:

Circulation/Common:	**9,600sf**
Building Lobby:	**1000sf**
Gym/Fitness Center:	**4,000sf**
Retail Shops:	**27,400sf**
Community Recreation Room:	**5,000sf**
Café:	**1,000sf**
Parking Facility:	**32,000sf**

Total: 48,000sf

Grand Total Square Footage: 240,000sf

Outdoor Space:

Green Space/ Park/Courtyard: 32,000sf

Residential Units:

The residential units are not being regarded as typical residential apartments. Instead, they are being thought of as residential lots without a strict building envelope. Each lot is twenty-five feet wide by forty-eight feet deep. The twenty-five feet width are established to remain true to the Hoboken typology where many buildings can be found to show their individuality among the block at this measurement. Although each unit has a generous allowance of 2,400 square feet, rarely do I anticipate all 2,400 square feet devoted to living space. This generous square footage will promote space allocation for open terraces and balconies to give a sense of green space in the urban environment. It will also promote flexibility within the design by allowing the living space to grow or shrink toward the sides or rear as the family size increases. The urban street wall will be maintained with the ability to build out within a three foot maximum. The sides and rear will have much more room for individual expression and flexibility.

Communal Space on Ground Floor:

Circulation/Common:

This square foot allocation will be devoted to access and supply services for the commercial facilities and residential floors above. It will consist of elevators, fire stairs, and mechanical space for the residential lots. It will also provide common janitorial facilities, common bathroom facilities, delivery access, and secondary means of egress for the communal facilities.

Building Lobby:

Typical of residential apartment buildings, this design must allocate space for a grand lobby. The lobby will act as a fundamental point of entry and exit, but also have the possibility of including amenities such as a door-person, concierge service, valet, etc.

Gym/Fitness Center:

The Hoboken housing market today has become accustomed to expect a state of the art Gym/Fitness Center within the building. This facility will also promote interaction among the residents. The Gym/Fitness Center will have the possibility of housing exercise equipment, steam rooms, saunas, whirl pools, and locker rooms In addition, providing an indoor communal pool here is a feasible option.

Retail Shops:

The majority of the ground floor will be allocated to Retail Shops. The Retail Shops will be open to the general public. This space will encourage interaction among the building occupants as well as other Hoboken residents. The Retail Shops will vary from local coffee houses to national franchises. The types of establishments will be food eateries, small grocery stores, specialty shops, beauty salons, day spas, pharmacies, and convenience stores. Space will not be allocated to *big box stores* as these tenants demand too much space and will undermine the intention of creating a variety of smaller retail shops in an effort to provide a variety of onsite amenities.

Community Recreation Room:

Per IBC1003.2.2.2, fifteen square feet per occupant is the minimum space allocated for an assembly use. If the average residential unit houses four occupants, an average occupant load of 320 people is expected. A Community Recreation Room for assembly-use would need to be a minimum of 4,800 square feet. I am proposing a 5,000 square foot facility for the purpose of Home Owner Association meetings, general communal gatherings, and indoor recreational activities.

Café:

It is important to provide a space exclusive to the building occupants in order to encourage interaction within a facility in which one can identify. This Café will serve as a local starting and ending point to the building occupants' day. It will serve morning coffee and continental breakfast, as well as serve afternoon tea and snacks.

Parking Facility:

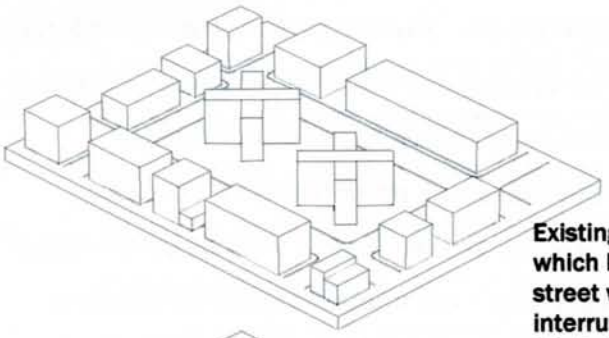
The Parking facility will provide a minimum of one space per unit. At eighty units, eighty spaces are required. Each space consists of approximately 320 square feet given the parking space is ten feet by twenty feet with a double loaded twenty-four feet wide drive. The parking facility will be in the center of the block behind the Communal Space on the ground floor.

Outdoor Space:

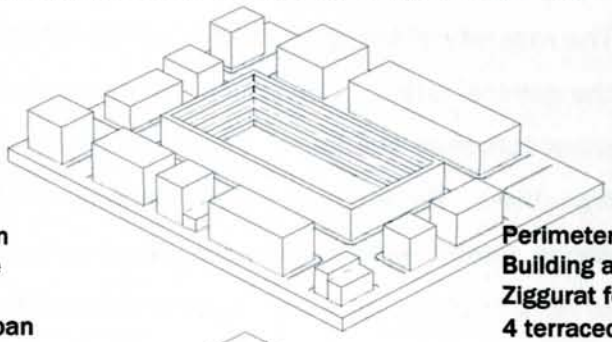
Green Space/ Park/Courtyard:

The Green Space will be located above the parking facility. This space will provide recreation facilities such as picnic areas, children's playgrounds, gazebos, and small sporting facilities. In addition, providing an outdoor communal pool here is a feasible option.

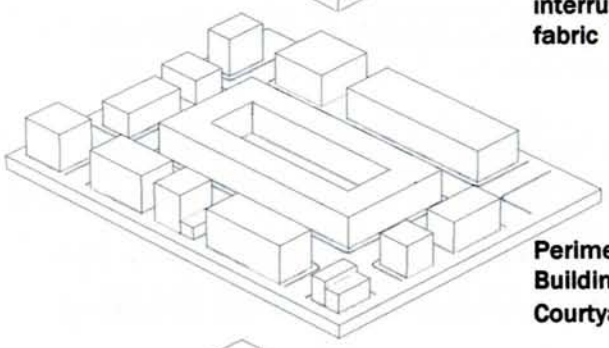
These studies show the relationship betweeb the Proposed Building Typology and the site.



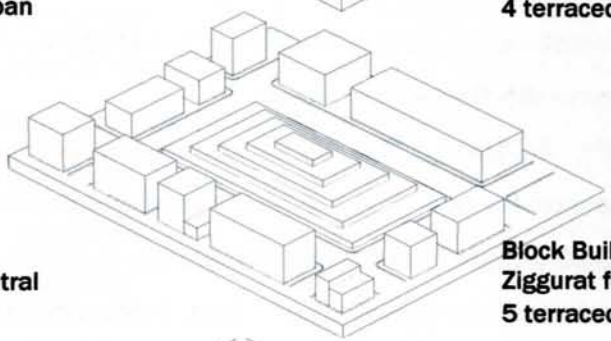
Existing Condition which breaks the street wall and interrupts the urban fabric



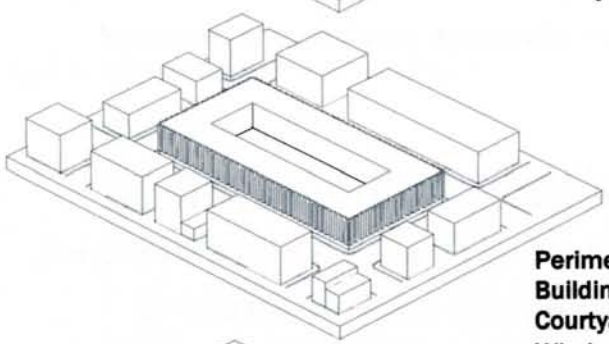
Perimeter Block Building as inverse Ziggurat form with 4 terraced levels



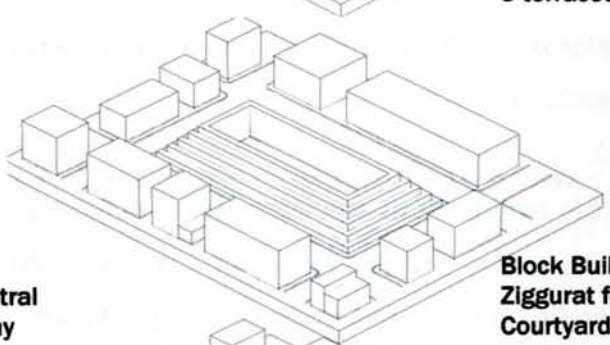
Perimeter Block Building with central Courtyard



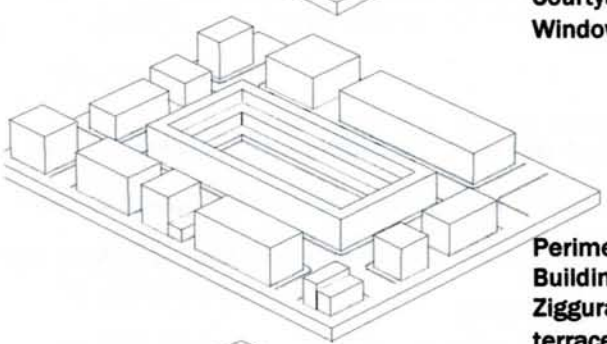
Block Building as Ziggurat form with 5 terraced levels



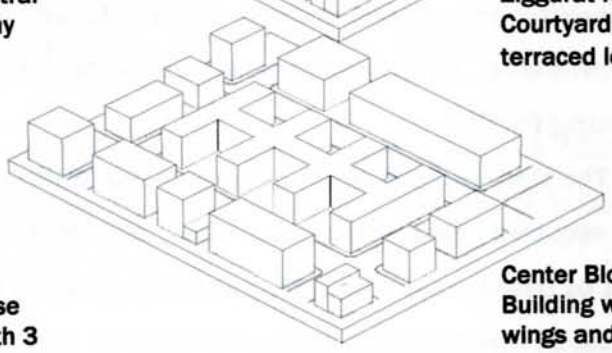
Perimeter Block Building with central Courtyard and Bay Windows



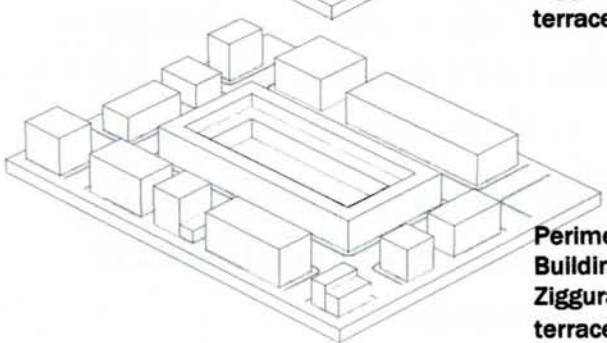
Block Building as Ziggurat form with Courtyard and 5 terraced levels



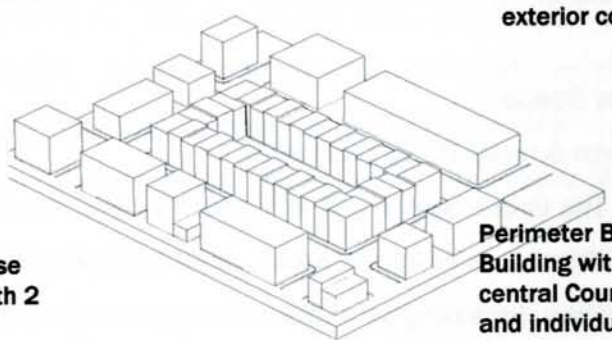
Perimeter Block Building as inverse Ziggurat form with 3 terraced levels



Center Block Building with 8 wings and 6 exterior courtyards



Perimeter Block Building as inverse Ziggurat form with 2 terraced levels



Perimeter Block Building with central Courtyard and individual RowHouses

VI. Precedents and Analysis

A. Bedford Square, Robert Grews/William Scott

B. Habitat Montreal, Moshe Safdie

C. Highrise of Homes, James Wines

D. Immeuble Villas, Le Corbusier

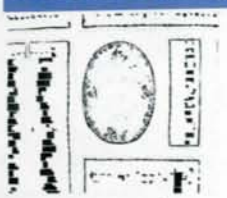
E. Quartier Achutzenstrasse, Aldo Rossi

F. Residential House, Sir John Soane

G. Unite, Le Corbusier

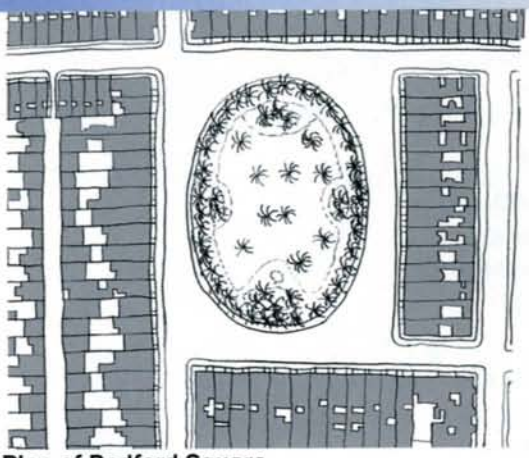
H. WoZoCo Apartments, MVRDV

Bedford Square, Robert Grews/William Scott, London, England, 1773

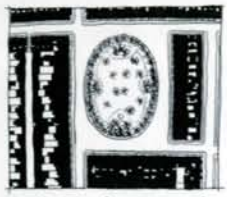


Private Open Space

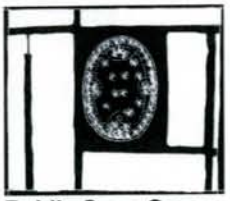
Line Drawing



Plan of Bedford Square



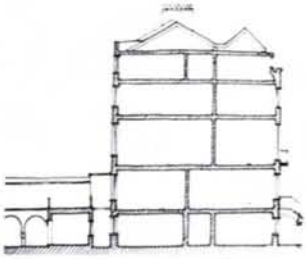
Built Environment



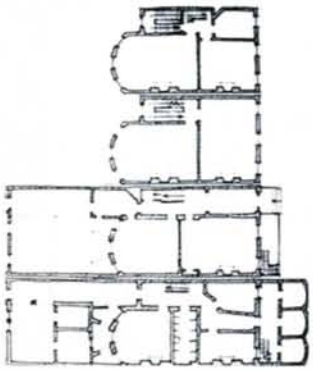
Public Open Space

Bedford Square is one of the only complete Georgian squares in London. All the elegant brick houses have uniform façades decorated with brick and stone. This uniformity is contrasted by an extensive variation of form on the rear façades expressing the occupant's individuality. However, the front façade keeps true to a standard as it is the public face and responds to the Urban condition. Some owners occupied several units and created a unique floor plan behind a homogeneous façade. The fine buildings once inhabited the aristocracy but today are mostly used as offices.*

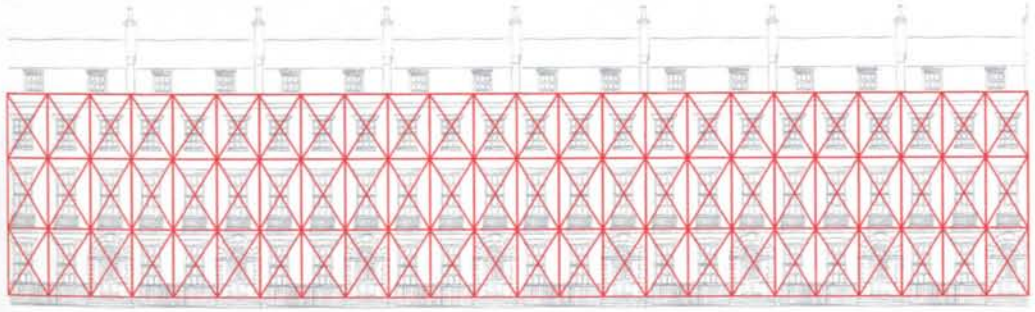
Individual Unit Façade



Individual Unit Section

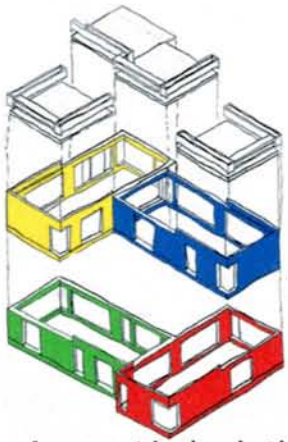


Individual Unit Plans



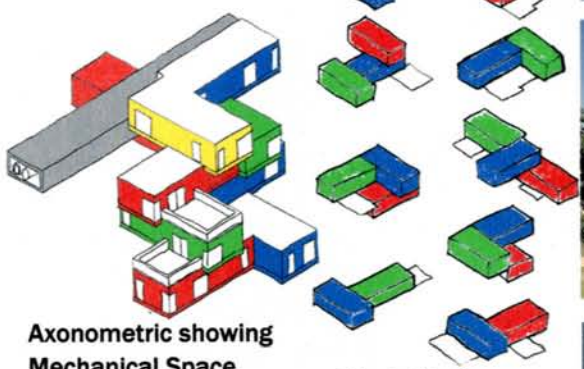
Collective Façade showing Geometries

Although it can be argued that this site is not very *urban,* Habitat was designed to give privacy, fresh air, sunlight and suburban amenities in an urban location. The project was intented to create affordable housing within close but private quarters each equipped with a garden. The building consists of 158 dwellings, but was intended to provide 1,000 units. The resulting ziggurat form was made up of a kit of parts from independent pre-engineered boxes with fifteen different arrangements. Pedestrian streets serve as horizontal circulation throughout the entire complex. Habitat resulted in a cost of twice what was anticipated and did not become the affordable housing it was intended to be. The theory was that it could become affordable as more are built with the same typology.*



Axonometric showing kit of parts configuration

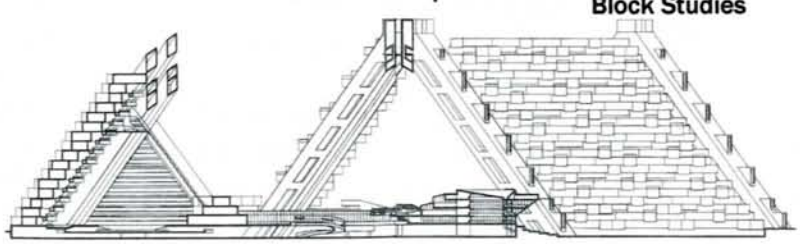
Building Section



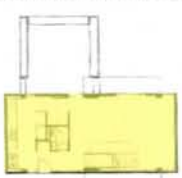
Axonometric showing Mechanical Space

Block Studies

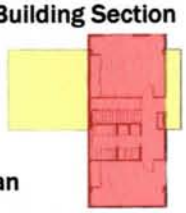
One Bedroom Unit

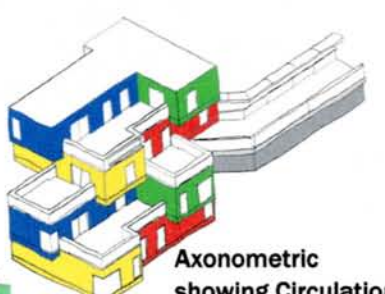


Building Section

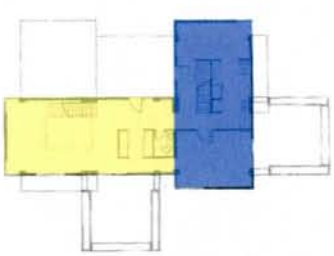


Two Bedroom Unit Plan

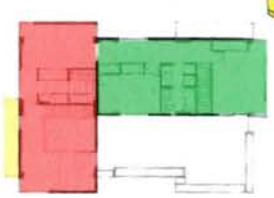




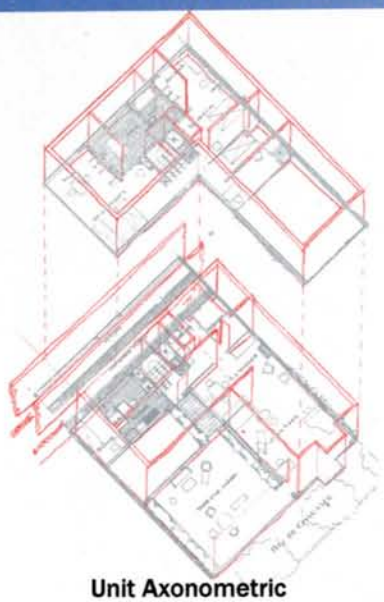
Axonometric showing Circulation



Four Bedroom Unit Plan

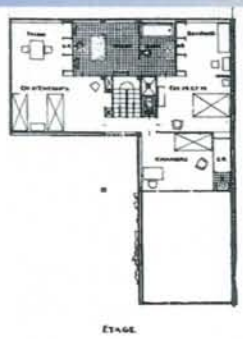


Unit Section



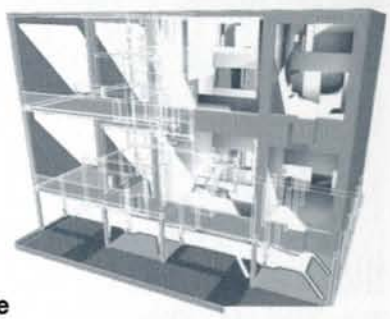
Unit Axonometric

First Floor Unit Plan

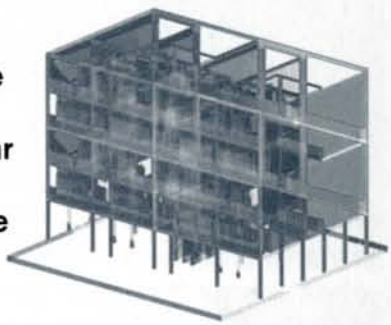


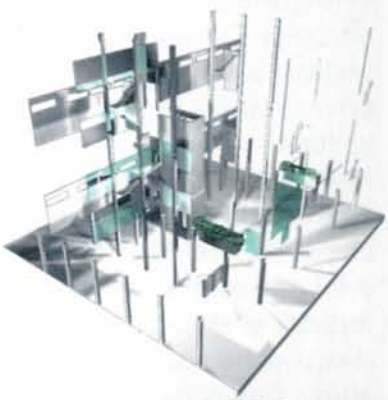
Second Floor Unit Plan

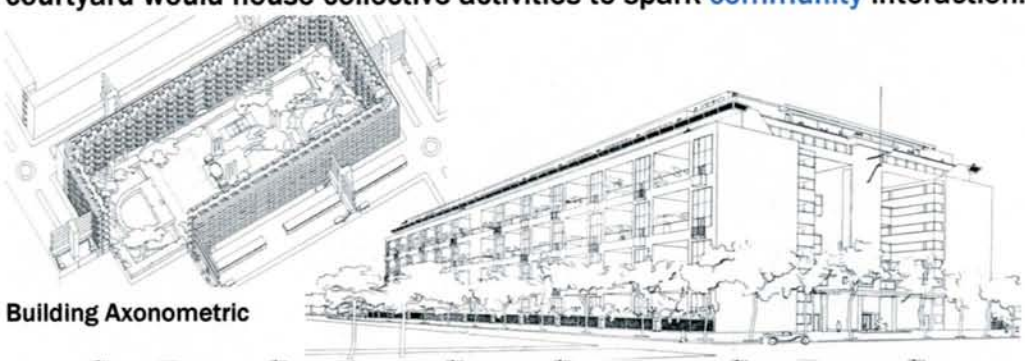
Live/Work/Play Space Garden vs. Living Space



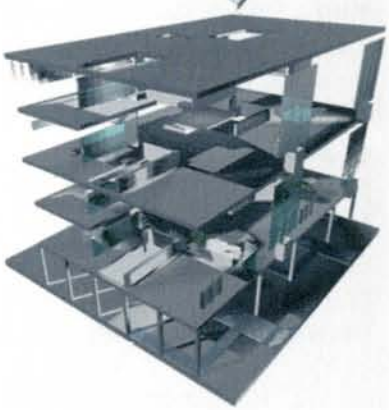
Le Corbusier accredits the parti of the theoretical project, Immeuble Villas to his observations of the Carthusian monastery Certosa di Ema. These two story units form an L-shape around an outdoor garden creating a cube intended to be perceived as an urban villa. The overall configuration is similar to Certosa di Ema in the way that identical units are arranged around the block's periphery with a center communal courtyard. However, the Immeuble Villas are placed in an urban condition. The identical units are almost 4,000 square feet, with only 2,500 square feet of living space. The lack of living space is a result of the double height living room and garden. The center courtyard would house collective activities to spark community interaction.*



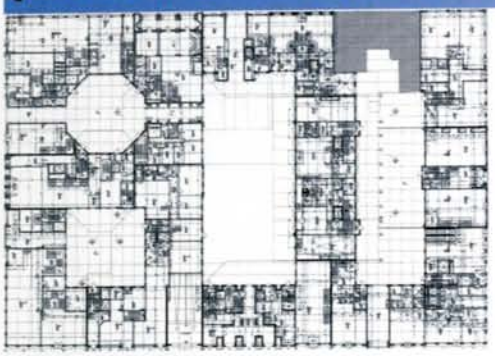




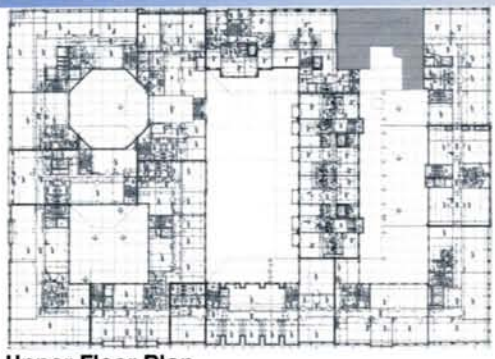
Building Axonometric



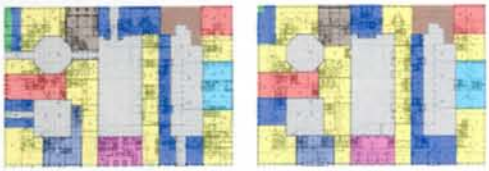
Building Façade showing collective Garden Spaces



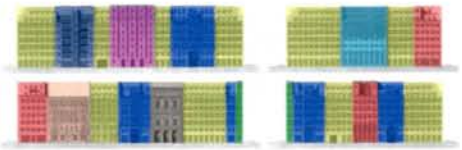
Ground Floor Plan



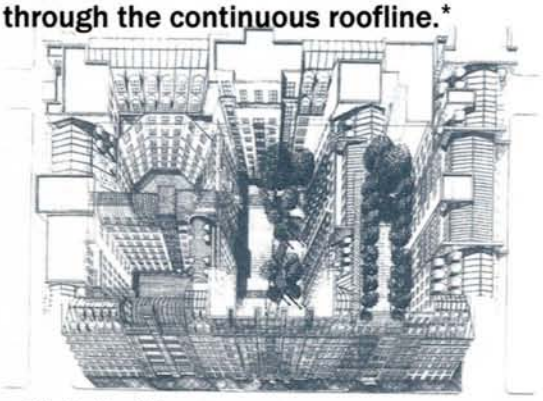
Upper Floor Plan



Building Plans Color Coded in relationship to Building Façades showing Individuality

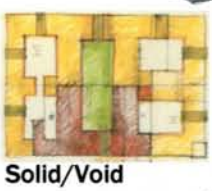


Aldo Rossi used the historical urban typology of the dividing the blocks into small lots. This resulted with individuality and variation in architecture as a basic parti. He merged twelve individual buildings to form an architectural collage which stands out against the surrounding urban environment through the bright use of color. The most striking feature is the copy of the façade from the 16th century Palazzo Farnese in Rome. The courtyard façade also copies three of the centre line of windows from the Palazzo Farnese. While the buildings provide for a mixture of residential and commercial use, two of them are reserved exclusively for residential apartments. When analyzed closely, one can see this is a single building through the continuous roofline.*



Bird's Eye View

Axonometric



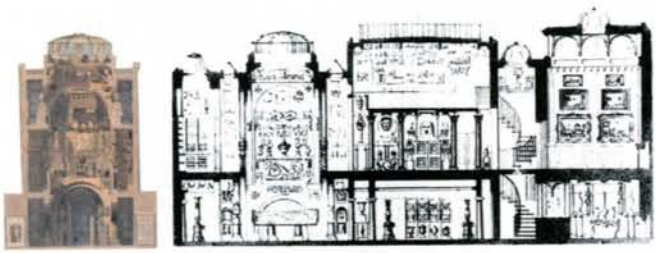
Solid/Void

Shadow Diagram

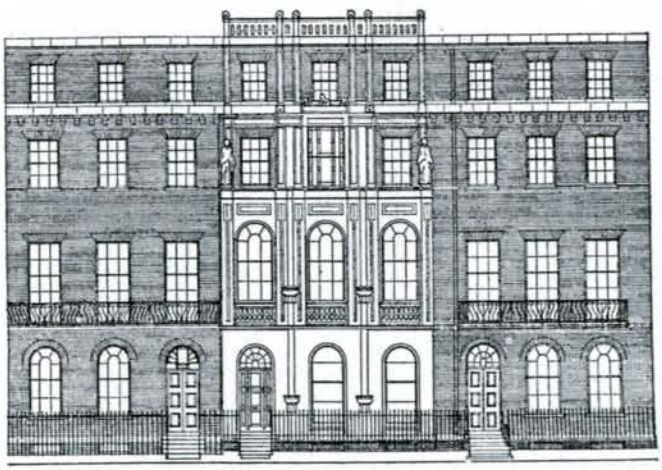
Rendered Façades

Annexing of neighboring units

Behind a regular façade, the Soane House originated with only house number 13. Sir John Soane redesigned the exterior façade to work with the existing urban context, while it set itself apart with white stone. Soane soon continued his individualization when he expanded into the neighboring units with intent to incorporate his art collection. Behind a repetitive façade, Soane redesigned the three units to house living quarters, an office, and a museum. From the exterior, the extent of the individual urban house is unknown to the public.

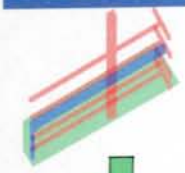


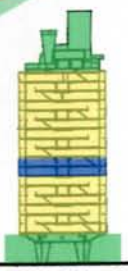
Sections showing extent of the art collection



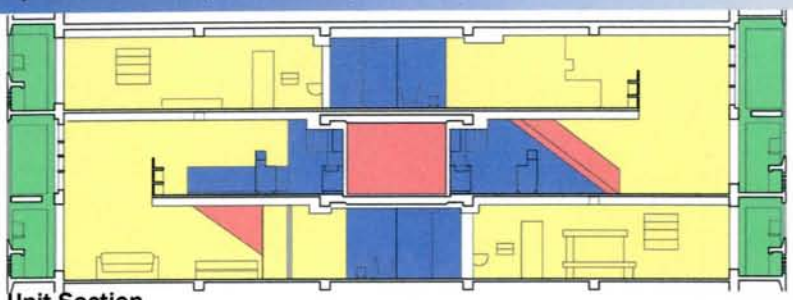
Sir John Soane personalized façade among the uniformity

Unite d' Habitation, Le Corbusier, Marseille, France, 1945-52

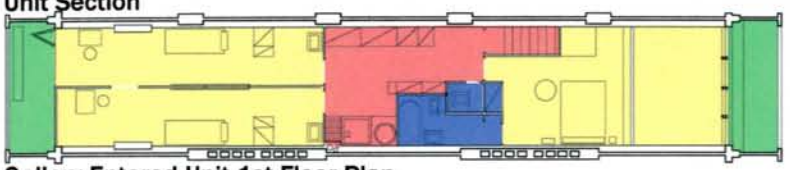




Live/Work/Play Section

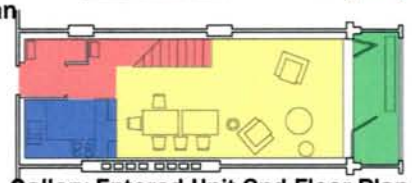


Unit Section

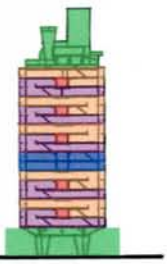


Gallery Entered Unit 1st Floor Plan

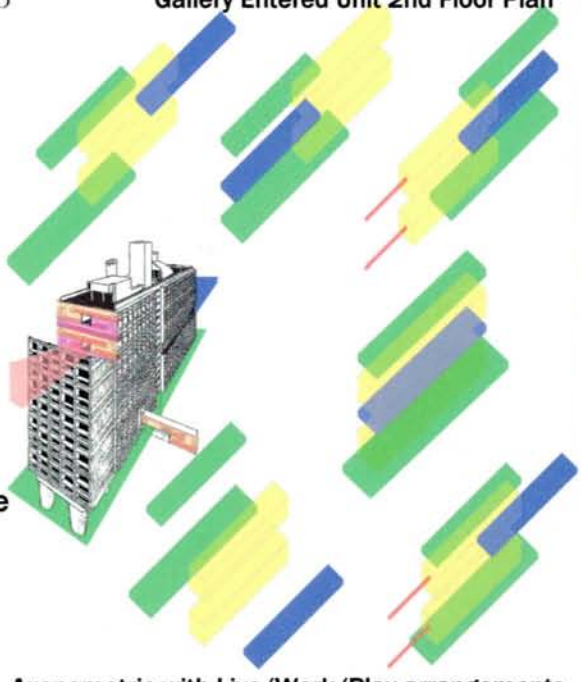
- PRIVATE CIRCULATION
- WORK
- LIVE
- PLAY
- TERRACE ENTERED APARTMENT
- GALLERY ENTERED APARTMENT



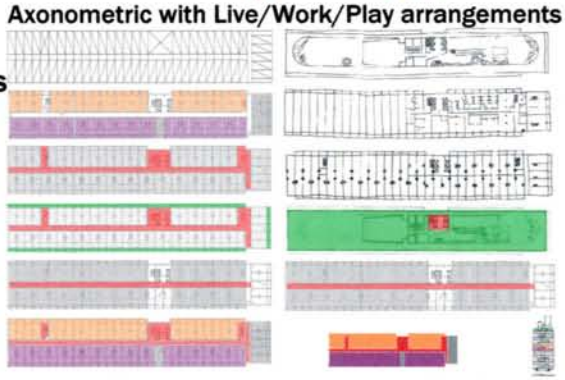
Gallery Entered Unit 2nd Floor Plan



Building Section



Axonometric with Live/Work/Play arrangements



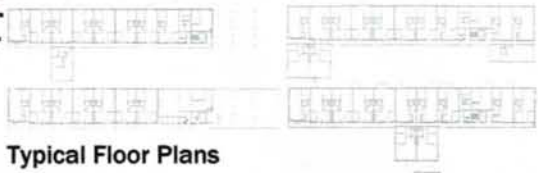
Diagrammatic Floor Plans

Unite d' Habitation addresses the issues of having living space, working space and recreation space in one building. Le Corbusier attempted to incorporate all three spaces in the design to create a close knit community within one building. Communal spaces occur in three major zones: the ground floor, the mid-story commercial strip and the rooftop garden. The building is elevated on pilotis to create recreation space on the ground floor. The fifth floor commercial strip was intended for housing shops, restaurants, and convenience stores. Because of its separation from the street, it now mostly houses architect's offices. The most noteworthy amenity is the rooftop garden which has a gymnasium, 300m track, outdoor stage, and children's play area. The design also features a communal daycare center for the residents' children.

Due to zoning regulations regarding adequate sunlight, only 87 of the 100 units in the WoZoCo Apartments could fit in the restricted footprint. To respect the open space on the rest of the site, the remaining units were cantilevered onto the north façade in a seemingly impossible manner. The structure of these floating boxes is buried behind the wood sheathing within the main block. This creates a sense of instability in their connection to the thin wall of the north façade. The cantilever allows for the ground plain to be open and become greener as the space can be used for communal recreational activities. The façade is activated with individual brightly colored balconies which are positioned differently for each unit. Some balconies are off the master bedroom, as others are off the living room creating a varying collaged façade.*

Unit Diagrams showing varied balcony location

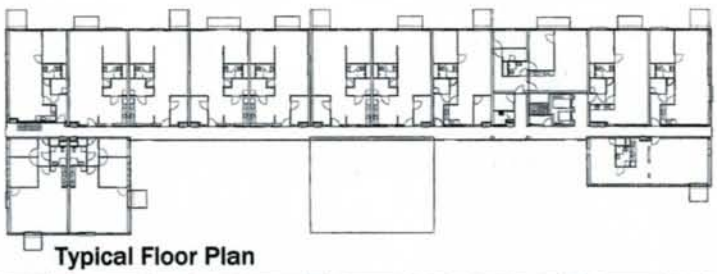
Building Frame



Typical Floor Plans

Building Sections

Site Plan



Typical Floor Plan

Building Façade as a collage

VII. Site/Program Fit

VIII. Works Cited

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