

MOULE & POLYZOIDES
ARCHITECTS AND URBANISTS



Buildings in Context

CNU/EPA Fire Safety Workshop
2 April 2008

Conventional Suburban Development

- **Land Use Pattern** – All uses separated into “zones”. Neighborhoods lack parks, schools and shops within walking distance of residences, so that every new activity of daily life requires a car trip.
- **Street Network Design** - Neighborhoods lack an interconnected network of streets and convenient transit options - private automobiles are the only viable way to move from neighborhood to neighborhood, and walking is not supported within the neighborhood.
- **Streetscape Design** - Neighborhoods with wide streets, narrow sidewalks and boring facades that encourage fast driving and discourage walking and biking. So everyone drives everywhere.
- **Building Design** - Parking in front yards, garages face the street, all activity happens in back yards.

B 7/94

Better Homes

READ BY MORE THAN 3,100,000 FAMILIES
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and Gardens



Places to Live



Places to Live



Places to Shop



Places to Work



Mixed-Use?

- Uses may be adjacent but are not well connected.
- Public spaces and buildings not located as focal points.
- No discernable neighborhood center.
- Housing types segregated in separate walled areas.
- Shops located in strip centers.
- Buildings front streets with parking lots and garages.



Auto-Oriented Interior Streetscape



Pedestrian “Connection”



Auto-Oriented Exterior Streetscape



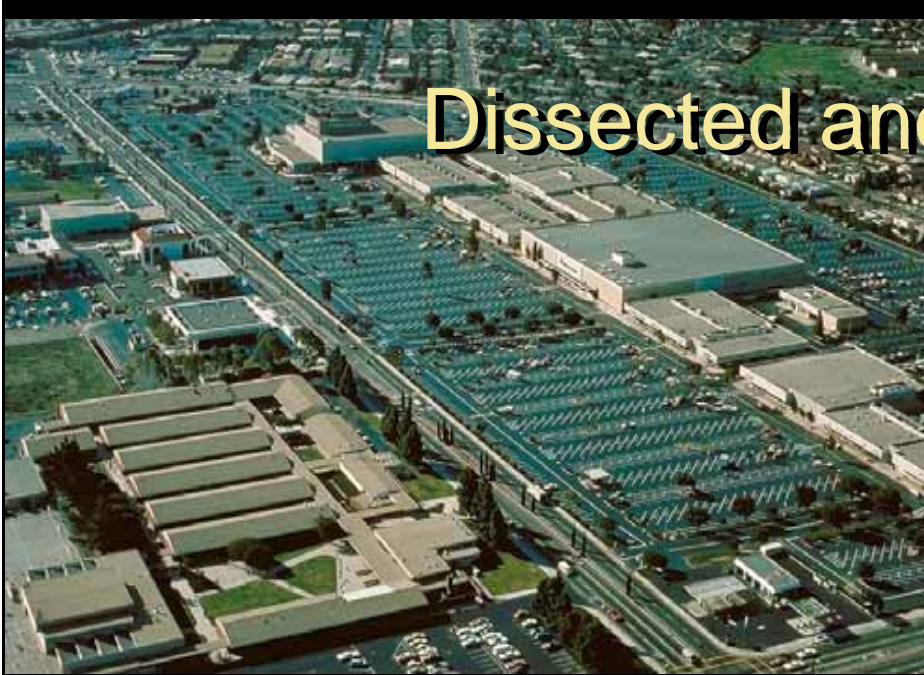






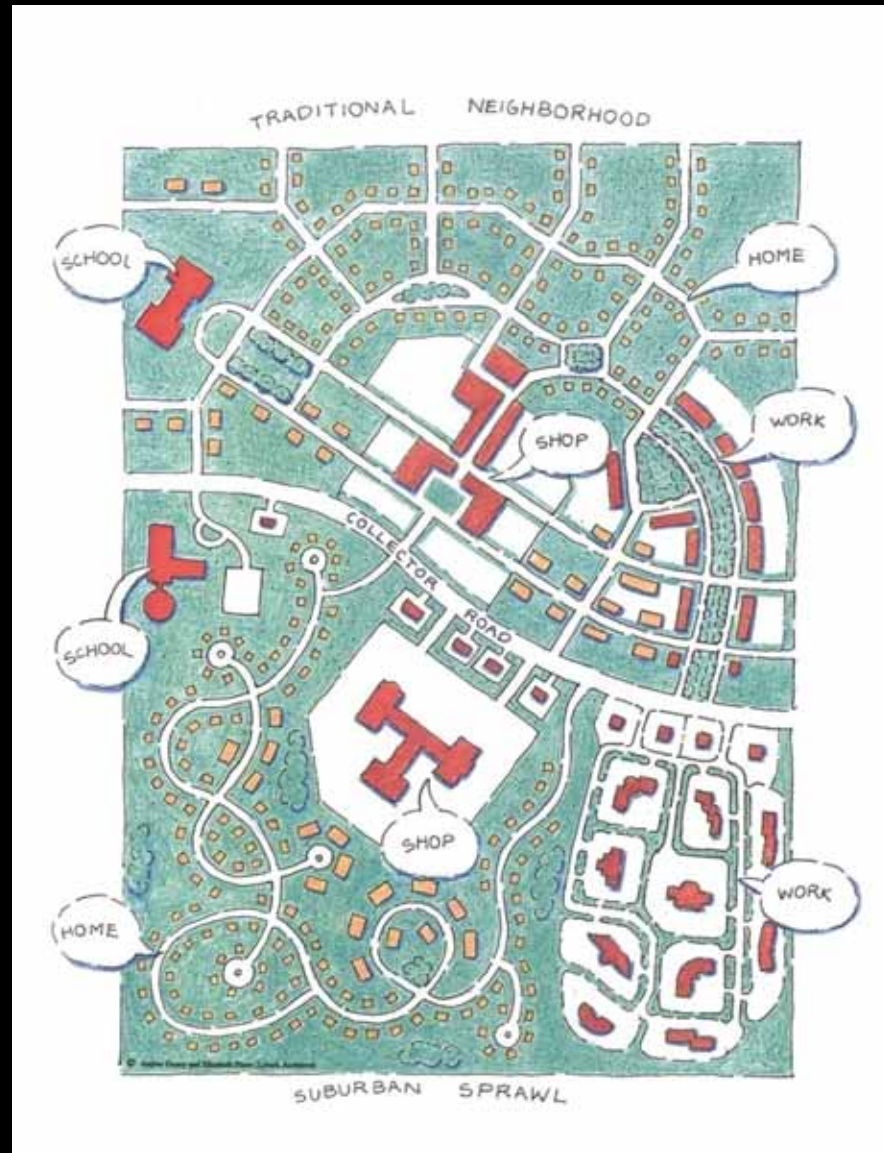


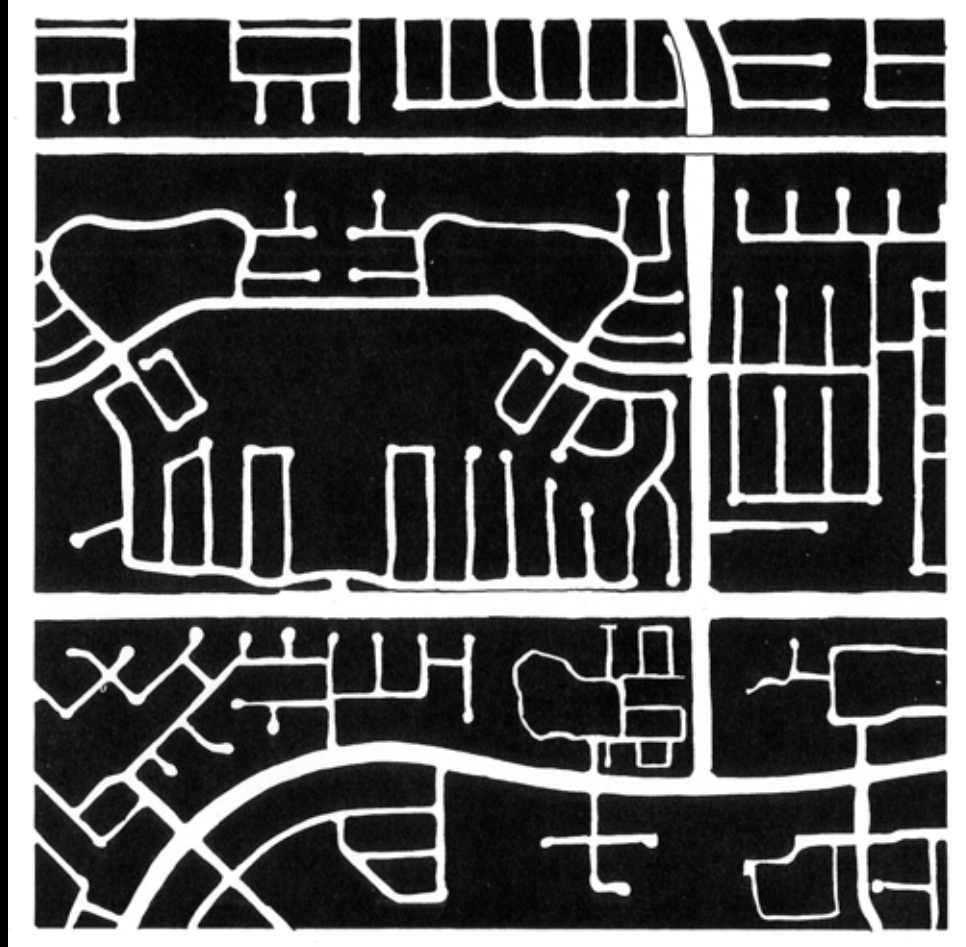
Dissected and Disconnected



Traditional Neighborhood

Conventional Suburban Development





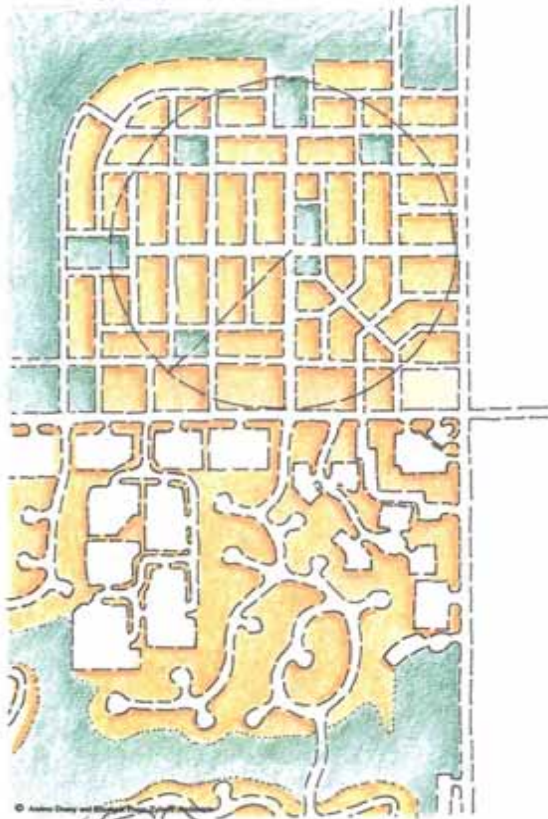
Connected and Integrated



Traditional Neighborhood Development

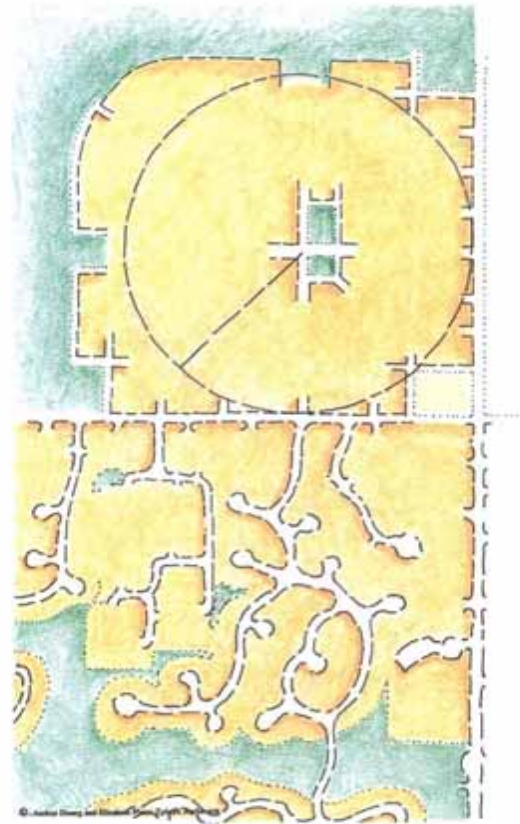
- **Land Use Pattern** - Neighborhoods with parks, schools and shops within walking distance of residences, so that walking is pleasant and easy.
- **Network Design** - Neighborhoods with an interconnected network of streets and convenient transit options - private automobiles are one of several viable ways to move from neighborhood to neighborhood, and walking is supported within the neighborhood.
- **Streetscape Design** - Neighborhoods with narrow streets, wide sidewalks and welcoming facades that encourage slow driving and encourage walking and biking. So all modes of transport are equally possible.
- **Building Design** - Parking in the rear, porches and storefronts face the street, public life happens in the streets and parks.

IN THE TRADITIONAL NEIGHBORHOOD PEDESTRIANS AND CARS
SHARE A VARIETY OF ROUTES.



SUBURBAN SPRAWL IS CHARACTERIZED BY ITS CONVENIENCE FOR
THE CAR AT THE EXPENSE OF THE PEDESTRIAN.

IN THE TRADITIONAL NEIGHBORHOOD IT IS A FIVE MINUTE WALK
FROM THE EDGE TO THE CENTER.



IN SUBURBAN SPRAWL THERE IS NO CENTER,
EDGE, OR WALKING ORIENTATION.

Places to Live



Places to Shop (and Live)



Places to Work (and Live)



Anatomy of a Walkable Street



Pedestrian Oriented District



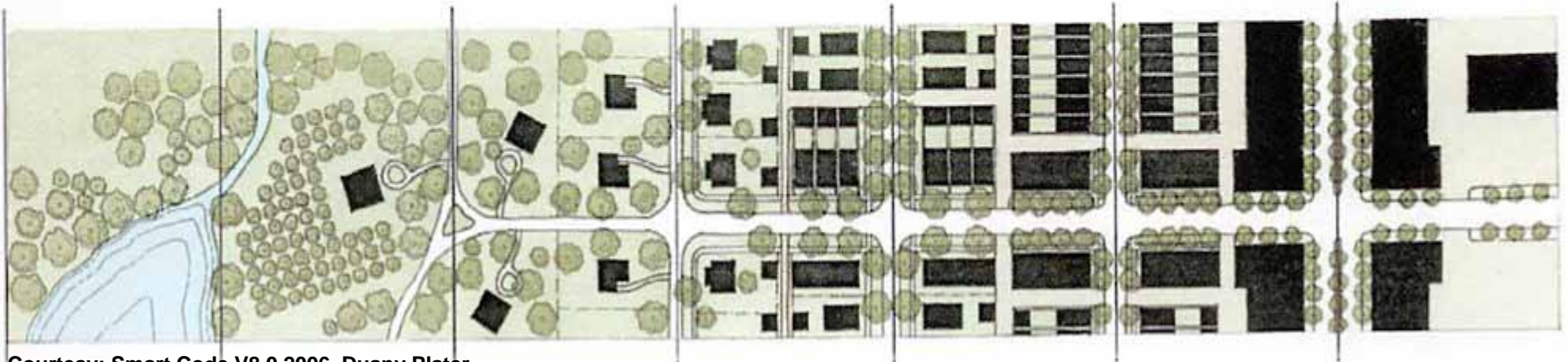
Pedestrian Oriented Neighborhood







The Transect

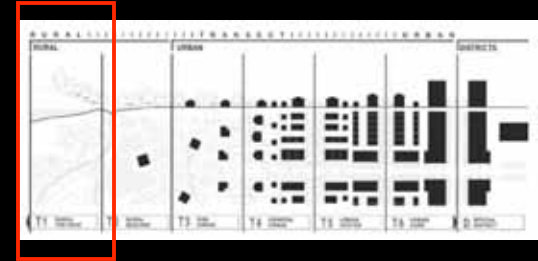


Courtesy: Smart Code V8.0 2006, Duany Plater-

RURAL | TRANSECT | URBAN



T-1: Natural



1. Fires are pretty much my definition wildfires.
2. Very few private buildings.
3. Buildings generally limited to house-type structures and agricultural support buildings such as barns and sheds.
4. Mostly 1-story with some 2-story
5. Mostly Type V construction.
6. Rural roads 20 to 24 feet wide with dirt or grass shoulders are the dominant roadway type.

T-@2: Rural



1. Issues are generally similar to those noted for T1.
2. Fire suppression systems in buildings important, to slow the progress of the fire and give the occupants time to get out.
3. Buildings still 1- and 2-story and generally Type V.
4. Roads generally two lanes with unpaved shoulders.
5. Roadways are not generally networked to form small blocks.
6. Distance rather than connectivity limits response time.
7. Buildings typically set back from roadways 20 to 100 feet or more.
8. Buildings widely spaced so setup room not limited.
9. Vehicular access to buildings is generally provided by private roads or driveways from the public road.

RURAL | TRANSECT | URBAN



T1 NATURAL ZONE | T2 RURAL ZONE | T3 SUBURBAN ZONE | T4 GENERAL URBAN ZONE | T5 URBAN CENTER ZONE | T6 URBAN CORE ZONE | DA ASSIGNED DISTRICT



Fire-Safe Construction

1. Roof: Ignition-resistant “Class A” and non-combustible
2. Vents: Standard quarter-inch mesh cannot stop embers and flames during wildfires.
3. Vegetation: Well watered smaller shrubs near building to reduce fuel, larger shrubs and trees away from building to buffer from radiant heat.
4. Windows: Most important factor in determining the vulnerability of windows in a wildfire is the glass, not the frame. Tempered glass is much stronger.
5. Decking: Thicker fire resistant boards, with small spaces.
6. Siding: Non-combustible siding over sheathing.

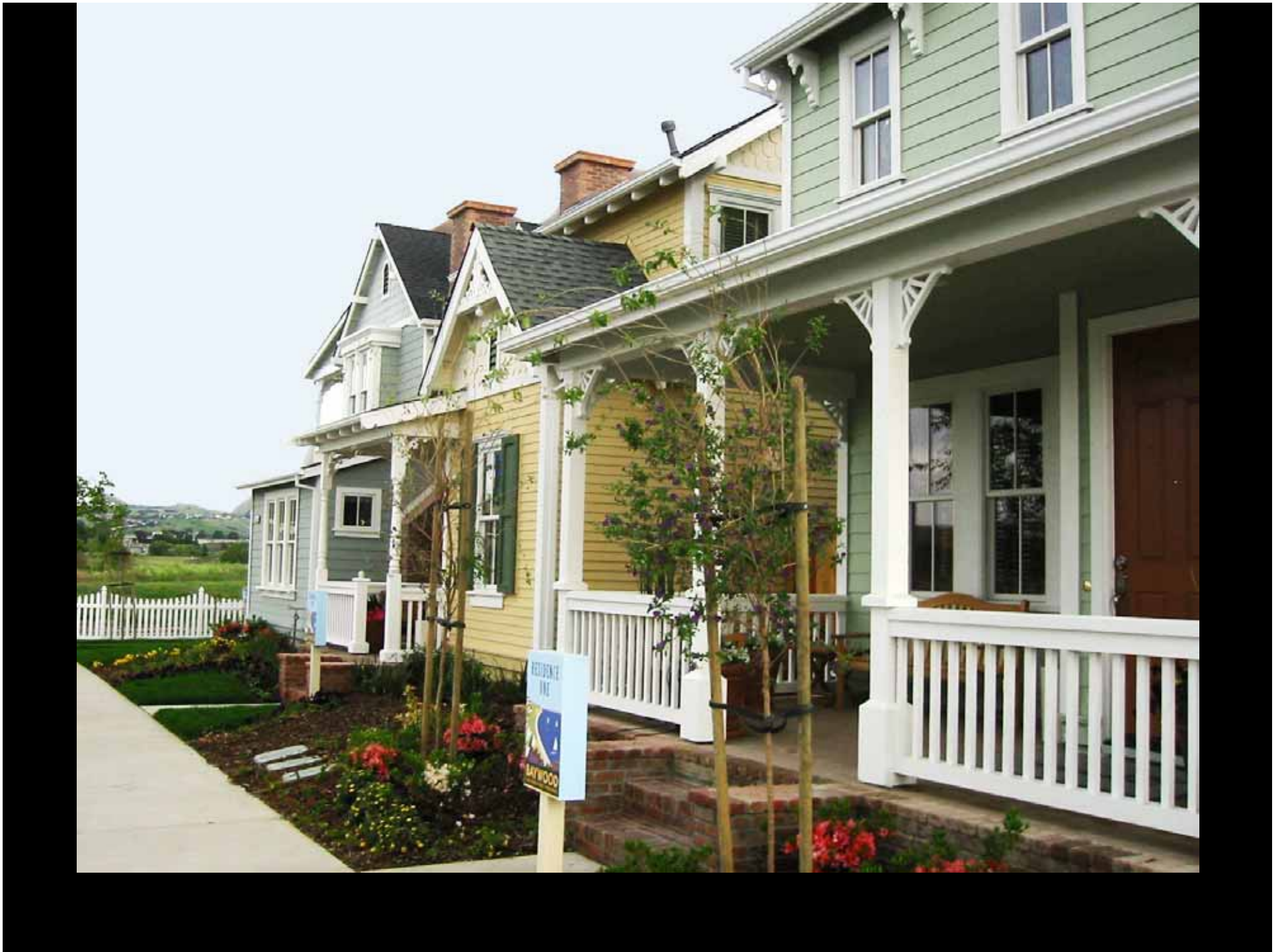
T-@3: Suburban



1. Mostly Type V buildings, 1 and 2 stories
2. Most buildings are detached types.
3. Residential streets* are generally one (yield) or two travel lanes with parking both sides along the curbs.
4. Buildings are typically set back 15 to 40 feet from back of walk.
5. Vehicular access to buildings is generally provided by driveways between 8 and 18 feet wide.
6. Networks and moderately sized blocks are important for walkability, and shorter and redundant routes.











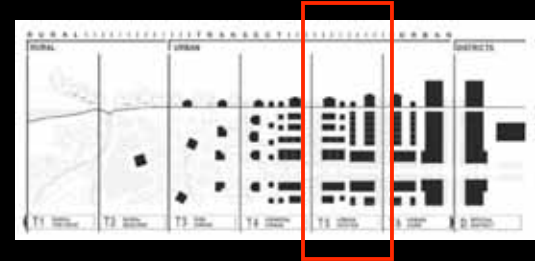
RURAL | TRANSECT | URBAN



T1 NATURAL ZONE T2 RURAL ZONE T3 SUBURBAN ZONE T4 GENERAL URBAN ZONE T5 URBAN CENTER ZONE T6 URBAN CORE ZONE DA ASSIGNED DISTRICT



T-@4: Neighborhood



1. Buildings are closer together than in T3, and may be up to 3 or even 4 stories in height.
2. Many buildings are Type V-1-hour or Type III, and some have Type I or II ground floors with Type V on the 2nd through 4th floors.
3. Single family residences are common, as are attached, multi-family and courtyard types.
4. Residential streets* are generally one (yield) or two travel lanes with parking both sides along the curbs.
5. Buildings are typically set back 10 to 20 feet from back of walk.
6. Vehicular access to buildings is generally provided by rear alleys and/or by private driveways between 8 and 12 feet.





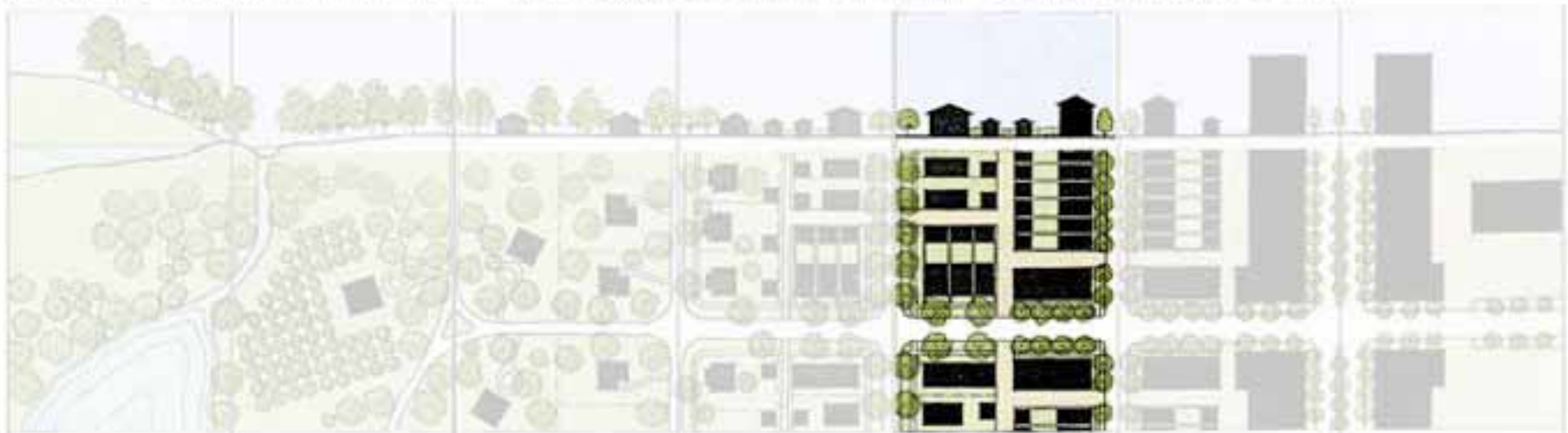








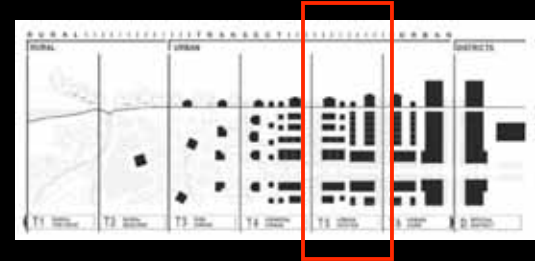
RURAL | TRANSECT | URBAN



T1 NATURAL ZONE T2 RURAL ZONE T3 SUBURBAN ZONE T4 GENERAL URBAN ZONE T5 URBAN CENTER ZONE T6 URBAN CORE ZONE DA ASSIGNED DISTRICT



T-@5: Urban Center



1. Buildings are significantly taller and closer together - range from 2 to 8 or 10 or 12 stories, depending on the context.
2. Most buildings are Type V-1-hour or Type III, and some are entirely Type I or II.
3. Single family detached residences are uncommon, and most residences are in the form of rowhouses or live-work, and multifamily and mixed-use buildings in a number of forms including courtyard housing.
4. Residential streets** are generally two travel lanes with parking both sides along the curbs.
5. Vehicular access to buildings is provided by rear alleys and parking garage entrances.



Fire Safe Construction Cost Comparison Study



Executive Summary Report

Fire Safe Construction Cost Comparison Study

Executive Summary Report

Commission Number 05119

Prepared By:

Haas Architects Engineers
1301 North Atherton Street
State College, Pennsylvania

Sponsored By:

Pennsylvania Fire Safe Construction Advisory Council
New England/New York Fire Safety Construction Advisory Council
Mid-Atlantic Fire Safety Construction Advisory Council
Northeast Cement Shippers Association

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Introduction

With the phasing out of the three predominate model codes, BOCA National Building Code, SBCCI Standard Building Code, and ICBO Uniform Building Code, and implementation of the new International Building Code and associated family of codes, there has been a shift in the approach to fire safety in the built environment. This shift has been characterized as a shift away from the use of passive construction techniques, such as compartmentalization and the use of fireproof construction materials, in favor of an increased reliance on active fire control techniques such as sprinkler systems, allowing for construction to occur using materials that are more susceptible to fire damage.

In conjunction with this shift, there are also reservations with the current ASTM (American Society for Testing and Materials) methodology for testing fire assemblies ASTM E119, Standard Test Methods for Fire Tests of Building Construction and Materials. This test allows for the removal and replacement of the fire tested specimen prior to the initiation of the hose stream test. This test combination is intended to model the effects of the application of a fire suppression water stream immediately after the intense heat from a compartment fire. The effect of this provision is that the specimen is a virgin test specimen when the fire suppression stream is applied, theoretically allowing certain materials to artificially perform at a higher level than would be expected in the field.

In addition, it has long been the opinion of legislators, code-officials, and design professionals that non-combustible concrete construction solutions are more costly than other alternatives such as gypsum fire walls with sprinklers.

Due to the perception of elevated cost, and the aforementioned code and testing issues, the acceptance of a balanced design approach incorporating both passive and active protection systems has met with resistance. Passive design incorporates the compartmentalization of the fire, limiting fire spread and protecting both the building occupants and the responding firefighters. This system is in place at all times and is not subject to failure due to the loss of utility service. An example of this is the incorporation of non-consumable materials in the construction of floors and walls used for fire control. The active portion of the design uses a combination of detection systems to warn occupants, and sprinklers to control fire spread until the fire department arrives.

Currently, there is no reliable published documentation available to refute the perception regarding the increased building cost associated with this approach. Based on this lack of information, the design of a comparative study was undertaken to accurately document the perceived increased cost associated with the use of balanced design in a common multi-family residential building. It is our pleasure to present the outcomes of this study.



Objectives

The objective of this study was to develop a construction cost model to accurately evaluate the relative construction cost of a multi-family building constructed using five different construction materials. The concept of multi-family would include traditional apartment type buildings, condominium style buildings, student housing, elderly housing, and others.



Methodology

Introduction

To accurately evaluate the relative construction cost between each of the five building systems, it was determined that a multi-family residential structure should be schematically designed meeting all of the requirements of the International Building Code 2003 edition. Once designed, the building would be reviewed for code compliance, and cost estimates would be prepared for the building using each of the different building systems.

The design team assembled included:

ARCHITECT & ENGINEER: Haas Architects Engineers

CODE OFFICIAL: Tim E. Knisely

COST ESTIMATION: Poole Anderson Construction

Haas Architects Engineers is a multi-disciplinary architectural and engineering firm located in State College, Pennsylvania with a thirty year history of client centered service including commercial, single and multi-family residential, retail, and sports based projects. Some projects include the Bryce Jordan Center and 2001 Beaver Stadium Expansion, both at The Pennsylvania State University.

Tim E. Knisely is a senior fire and commercial housing inspector for the Centre Region Code Administration, in State College, Pennsylvania. Mr. Knisely currently holds a certification as a registered Building Code Official in the Commonwealth of Pennsylvania and holds more than eight certifications from the International Code Council. In addition, Mr. Knisely has been involved in the fire service for more than 20 years.

Poole Anderson Construction is one of the largest building contractors in Central Pennsylvania with a 75 year history and an annual construction volume exceeding 60,000,000 dollars.

Building Model

The building model chosen for the project was a 4 story multi-family residential structure encompassing approximately 25,000 gross square feet of building area per floor. Based on the proposed target building types, it was decided that to better evaluate the relative construction costs, two different floor layouts would be used. The first model is a building comprised exclusively of single bedroom dwelling units. The second model is assembled using a typical mix of one and two bedroom dwelling units.

The combination of the two different layout considerations would more realistically address the variety of construction configurations commonly found in the multi-family dwelling marketplace. Schematic floor plans, elevations and detailed wall sections for a typical building model are provided.



Construction Types

The following construction types and alternates were evaluated:

- Conventional wood framing with wood floor system (Type 5B Construction)
Alternate: Conventional wood framing with fire-rated wood floor system (Type VA Construction)
- Light Gauge Steel Framing with cast-in-place concrete floor system on metal form deck.
- Load bearing concrete masonry construction with precast concrete plank floor system
Alternate: Cast-in-place concrete floor system
- Precast concrete walls and precast concrete floor system
- Insulated Concrete Form (ICF) walls and precast concrete plank floor system
Alternate: Cast-in-place concrete floor system
Alternate: Interior bearing walls constructed of concrete masonry units (CMU)

With respect to the conventional wood framing system presented, the primary system is an un-protected construction Type VB with an alternate of protected construction Type VA. The additional construction type was presented since the Type VB construction is not permitted to be used for a non-sprinklered building of this type that is four stories tall. For the proposed use and construction height using conventional wood frame Type VA would need to be used. Both systems are presented since the remaining systems are presented as un-protected framing systems.

For all systems other than the conventional wood frame systems, it was assumed that the partition walls within the dwelling unit would be constructed using metal stud finished with gypsum board.

Code Review

Once design was completed on each of the buildings, Mr. Knisely performed a detailed code review following the requirements of the International Building Code 2003 edition. This review was conducted following the plan review forms provided by the International Code Council. This review was in addition to the review performed internally by the professionals at Haas Architects Engineers.

The reader is alerted to the fact that there are a number of items that are common to all of the buildings that were not addressed in this study and that are missing from the code review forms. These items are typically dealing with site issues, soils information, etc. All of these items are common to each of the buildings and would add identical cost to each project. This was verified with the cost estimation personnel at Poole Anderson Construction.

Cost Estimation

To increase the direct applicability of the cost study, a decision was made to complete the original study in three different locations. The locations were chosen by each of the contributing groups, feeling that they represented the construction climate in their respective area. The locations chosen are as follows:

- Framingham, Massachusetts
- Harrisburg, Pennsylvania
- Towson, Maryland

To allow for a fair and uniform comparison of the construction costs between trades it was determined that the cost study would use accepted prevailing wage rates published for each of the locations. These labor rates would be typical for a publicly funded project and will allow for a fair labor comparison, eliminating potential undercutting by any of the trades.

The cost estimate for each building model included the complete fit out of each building with the exception of movable appliances and furniture.

Results and Discussion

The results of the construction cost study for each geographic location are presented in the following tables. The relative cost presented is a percentage of the minimum cost system presented.

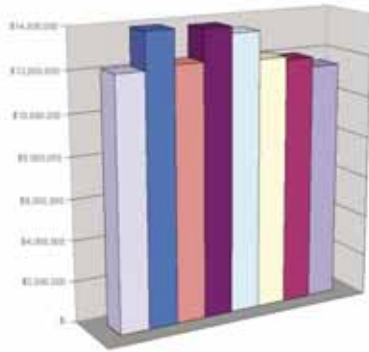
Harrisburg, PENNSYLVANIA

Building System	Cost	Relative Cost %
Conventional Wood Framing Single Bedroom Scheme	\$11,536,117.00	100
Type SB 3 Stories Only	\$ 9,323,705.00	
Conventional Wood Framing Mixed Bedroom Scheme	\$11,993,226.00	100
Type SB 3 Stories Only	\$ 9,585,726.00	
Light Gauge Steel Framing Single Bedroom Scheme	\$11,991,669.00	104
Light Gauge Steel Framing Mixed Bedroom Scheme	\$12,297,143.00	103
Masonry & Precast Single Bedroom Scheme	\$12,140,211.00	105
Masonry & Precast Mixed Bedroom Scheme	\$12,276,406.00	102
Form In Place Concrete Floor Alternate (Single)	\$13,463,378.00	117
Form In Place Concrete Floor Alternate (Mixed)	\$13,667,826.00	114
Precast Construction Single Bedroom Scheme	\$13,780,169.00	120
Precast Construction Mixed Bedroom Scheme	\$13,851,510.00	116
ICF Walls & Precast Plank Single Bedroom Scheme	\$12,279,484.00	106
ICF Walls & Precast Plank Mixed Bedroom Scheme	\$12,445,030.00	104
Form In Place Concrete Floor Alternate (Single)	\$13,901,442.00	121
Form In Place Concrete Floor Alternate (Mixed)	\$14,154,962.00	118
Interior CMU Walls Alternate (Single)	\$12,141,508.00	105
Interior CMU Walls Alternate (Mixed)	\$12,262,224.00	102

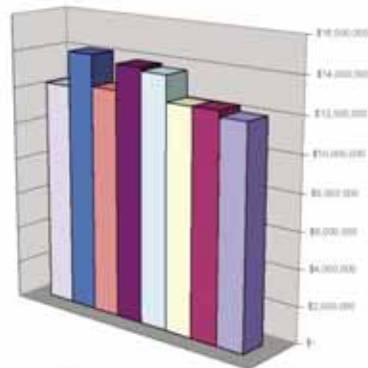
City in Original Study

The least expensive system for both building models is the conventional wood framing system. The relative cost of the most expensive framing system, the insulated concrete form system with cast-in-place concrete floor is 21 percent and 18 percent higher for the single bedroom model and mixed bedroom model respectively. The load bearing masonry wall system with precast concrete plank floor system and insulated concrete form wall system with precast concrete plank floor system both compare very favorably with both the conventional wood frame system and the light gauge steel framing system, with an increased cost of less than 5 percent over the conventional wood frame system.

Harrisburg, Pennsylvania Single Bedroom



Harrisburg, Pennsylvania Mixed Bedroom



Conventional Wood Frame
 Masonry/Precast Plank
 Precast
 ICF/Cast-in-place

 Light Gauge Steel
 Masonry/Cast-in-place
 ICF/Precast
 ICF/Masonry

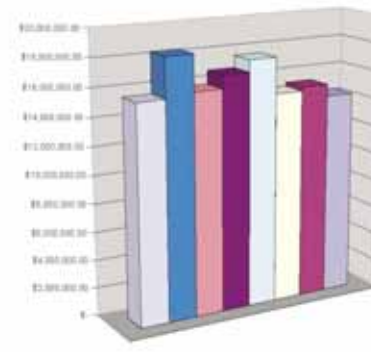
Delaware Co. & Greater Philadelphia, PENNSYLVANIA

Building System	Cost	Relative Cost %
Conventional Wood Framing Single Bedroom Scheme	\$14,408,296.00	100
Type SB 3 Story Only	\$11,149,829.00	
Conventional Wood Framing Mixed Bedroom Scheme	\$15,778,935.00	100
Type SB 3 Story Only	\$12,106,191.00	
Light Gauge Steel Framing Single Bedroom Scheme	\$15,251,094.00	106
Light Gauge Steel Framing Mixed Bedroom Scheme	\$15,550,326.00	99
Masonry & Precast Single Bedroom Scheme	\$15,004,260.00	104
Masonry & Precast Mixed Bedroom Scheme	\$15,137,073.00	96
Form In Place Concrete Floor Alternate (Single)	\$17,548,412.00	122
Form In Place Concrete Floor Alternate (Mixed)	\$17,761,405.00	113
Precast Construction Single Bedroom Scheme	\$16,701,947.00	116
Precast Construction Mixed Bedroom Scheme	\$16,785,089.00	106
ICF Walls & Precast Plank Single Bedroom Scheme	\$15,768,357.00	109
ICF Walls & Precast Plank Mixed Bedroom Scheme	\$15,880,613.00	101
Form In Place Concrete Floor Alternate (Single)	\$18,312,455.00	127
Form In Place Concrete Floor Alternate (Mixed)	\$18,504,945.00	117
Interior CMU Walls Alternate (Single)	\$15,499,225.00	108
Interior CMU Walls Alternate (Mixed)	\$15,615,919.00	99

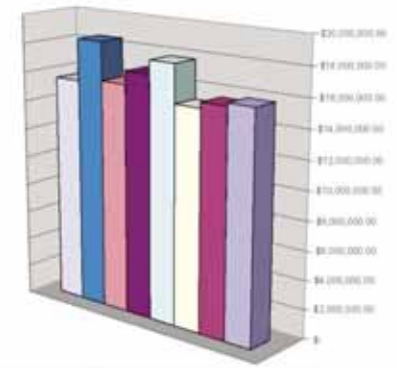
City Studies After Original Report

The least expensive system is Masonry & Precast Mixed Bedroom Scheme with a cost of 4 percent less than the base system, wood framing. The ICF Walls with interior CMU Walls system is also less than the base system by 1 percent.

Delaware County & Greater Philadelphia, Pennsylvania Single Bedroom



Delaware County & Greater Philadelphia, Pennsylvania Mixed Bedroom



Conventional Wood Frame
 Masonry/Precast Plank
 Precast
 ICF/Cast-in-place

 Light Gauge Steel
 Masonry/Cast-in-place
 ICF/Precast
 ICF/Masonry

PITTSBURGH, PA

Building System	Cost	Relative Cost %
Conventional Wood Framing Single Bedroom Scheme	\$12,791,935.00	100
Type SB 3 Story Only	\$9,820,854.00	
Conventional Wood Framing Mixed Bedroom Scheme	\$13,902,770.00	100
Type SB 3 Story Only	\$10,668,464.00	
Light Gauge Steel Framing Single Bedroom Scheme	\$13,610,987.00	106
Light Gauge Steel Framing Mixed Bedroom Scheme	\$13,858,747.00	100
Masonry & Precast Single Bedroom Scheme	\$13,519,834.00	106
Masonry & Precast Mixed Bedroom Scheme	\$13,655,083.00	98
Form In Place Concrete Floor Alternate (Single)	\$15,347,148.00	120
Form In Place Concrete Floor Alternate (Mixed)	\$15,526,499.00	112
Precast Construction Single Bedroom Scheme	\$15,108,724.00	118
Precast Construction Mixed Bedroom Scheme	\$15,184,075.00	109
ICF Walls & Precast Plank Single Bedroom Scheme	\$14,038,284.00	110
ICF Walls & Precast Plank Mixed Bedroom Scheme	\$14,150,391.00	102
Form In Place Concrete Floor Alternate (Single)	\$15,865,548.00	124
Form In Place Concrete Floor Alternate (Mixed)	\$16,034,920.00	115
Interior CMU Walls Alternate (Single)	\$13,869,550.00	108
Interior CMU Walls Alternate (Mixed)	\$13,982,882.00	101

City Studies After Original Report

The least expensive system is Masonry and Precast Mixed Bedroom Scheme with a cost of 2 percent less than the base system, conventional wood framing. ICF Walls and Precast Mixed Bedroom scheme is only 2 percent higher and ICF Walls with Interior CMU Walls is only 1 percent higher. Most options for concrete based systems are within a reasonably increased cost while providing fire safe construction.

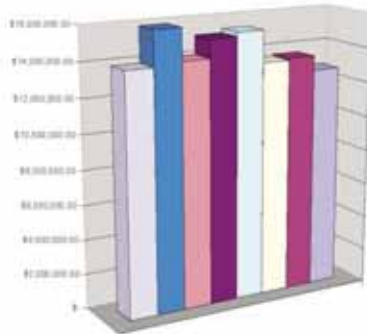
Conclusion

Based on the construction cost estimates the cost associated with a compartmentalized construction method utilizing a concrete based material was generally less than 5 percent of the overall construction cost. Comparatively speaking this amount is less than the contingency budget typically recommended for the owner to carry for unanticipated expenditures during the project.

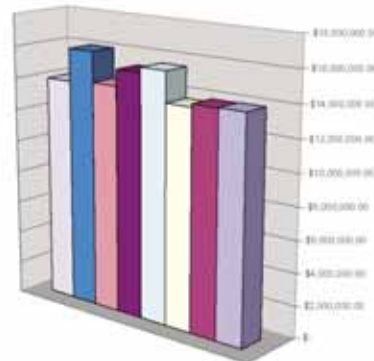


The minimal increase in construction cost can be paid for over the life of the structure. Materials like concrete masonry, precast concrete, and cast-in-place concrete have many other advantages beyond their inherent fire performance including resistance to mold growth, resistance to damage from vandalism, and minimal damage caused by water and fire in the event of a fire in the building. In many cases, with this type of construction the damage outside of the fire compartment is minimal. This provides for reduced cleanup costs and quicker reoccupation of the structure.

Pittsburgh, Pennsylvania Single Bedroom



Pittsburgh, Pennsylvania Mixed Bedroom



- Conventional Wood Frame
- Masonry/Precast Plank
- Precast
- ICF/Cast-in-place
- Light Gauge Steel
- Masonry/Cast-in-place
- ICF/Precast
- ICF/Masonry

Containment Example: Dormitory Fire Contained

On October 13, 2001, fire engulfed the **Rees Hall Dormitory** at Hobart and William Smith Colleges in Geneva, New York. Temperatures soared as high as 1800°F resulting in melted plastic picture frames, light fixtures, smoke detectors, metal hinges and the steel door of the room where the fire began. Within 20 minutes, the raging fire had caused approximately \$100,000 in damages. This small repair bill was attributed to the fact that concrete construction contained the fire and saved the building from being completely destroyed.

Originally constructed in 1969 with concrete masonry and hollow-core floor planks, the building is **"durable and fire resistant,"** says Christopher J. Button, Senior Project Manager, HWS. **"and has much lower maintenance and insurance costs."** Replacing the entire structure would have cost at least \$5 million.

Button says he'd always believed any building with a smoke detector and non-combustible materials would withstand similar catastrophes, but after seeing how concrete stood up to the intense fire, he's **"a believer in concrete construction."**





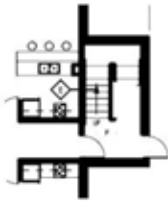
1 ENLARGED WOOD CONSTRUCTION PLAN
SCALE: 1/8" = 1'-0"



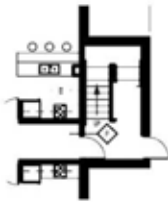
2 ENLARGED METAL STUD CONSTRUCTION PLAN
SCALE: 1/8" = 1'-0"



3 ENLARGED MASONRY / PRECAST CONSTRUCTION PLAN
SCALE: 1/8" = 1'-0"



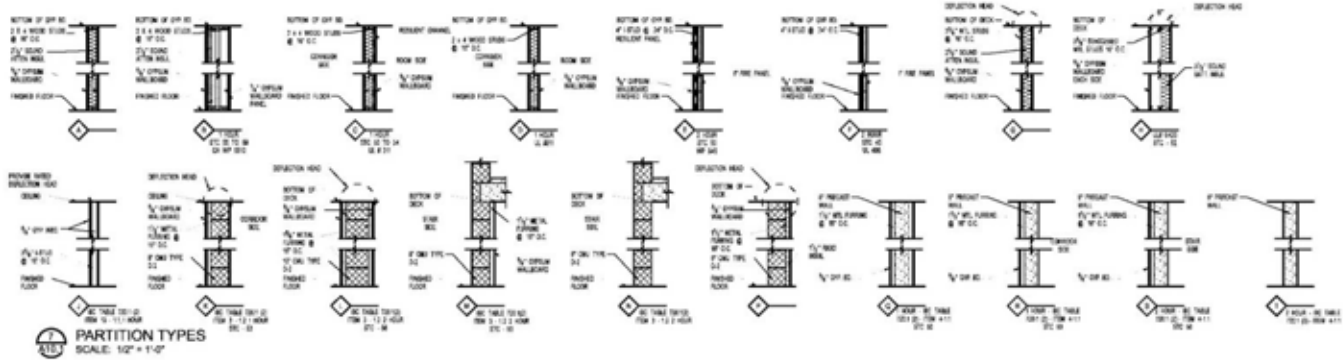
4 ENLARGED WOOD CONSTRUCTION PLAN
SCALE: 1/8" = 1'-0"



5 ENLARGED METAL STUD CONSTRUCTION PLAN
SCALE: 1/8" = 1'-0"



6 ENLARGED MASONRY / PRECAST CONSTRUCTION PLAN
SCALE: 1/8" = 1'-0"



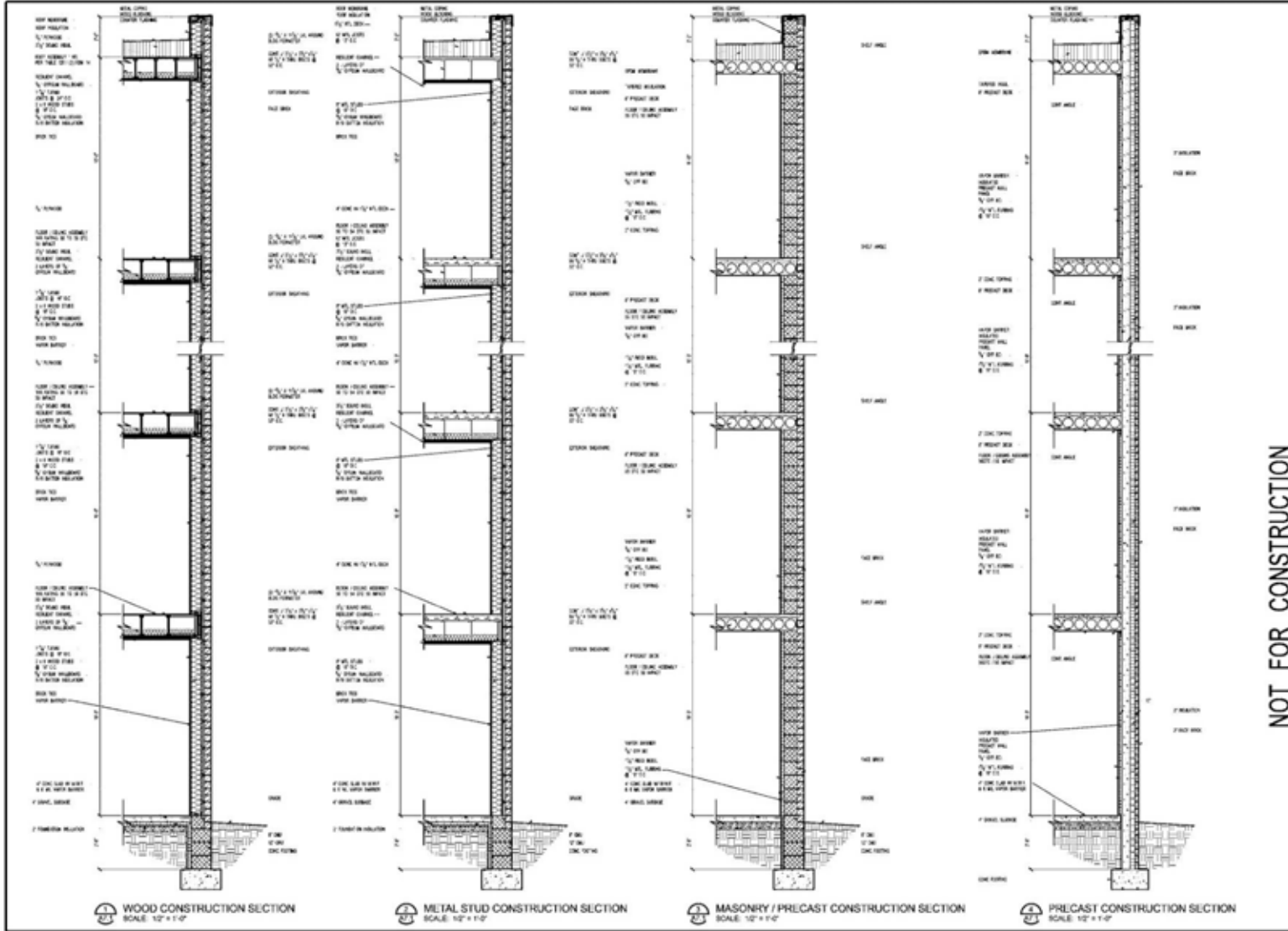
7 PARTITION TYPES
SCALE: 1/2" = 1'-0"

NOT FOR CONSTRUCTION



BUILDING COST
COMPARISON STUDY

DATE: OCTOBER 16, 2013
DRAWN BY: CMC
CHECKED BY: [blank]
SCALE: AS SHOWN
PROJECT: [blank]
SHEET: A10.1



NOT FOR CONSTRUCTION

BUILDING COST
COMPARISON STUDY



HAAS ARCHITECTS ENGINEERS
1111 14TH AVENUE, SUITE 100
DENVER, CO 80202
303.733.1111

DATE	10/10/2006
BY	JK
CHECKED	JK
SCALE	AS SHOWN
SECTION	WALL SECTION

A7.1



1 FRONT ELEVATION - ONE BEDROOM SCHEME
SCALE: 1/16" = 1'-0"



2 SIDE ELEVATION
SCALE: 1/16" = 1'-0"



3 FRONT ELEVATION - TWO BEDROOM SCHEME
SCALE: 1/16" = 1'-0"

NOT FOR CONSTRUCTION



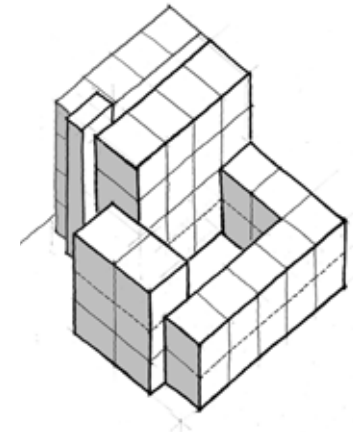
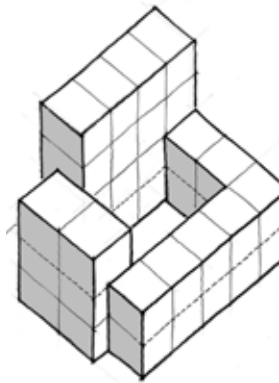
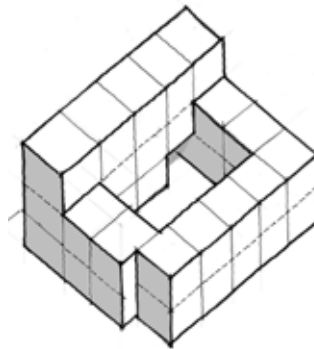
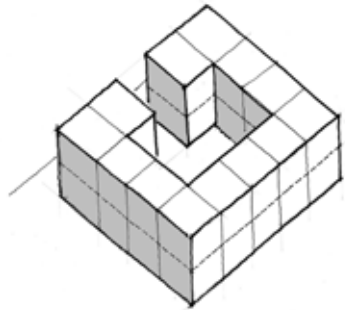
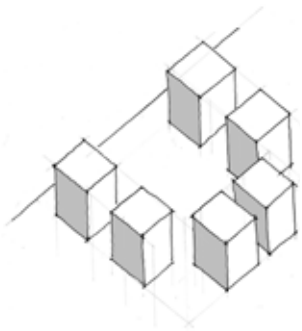
HAAS ARCHITECTS ENGINEERS
1440 15th Street, Suite 1000, San Francisco, CA 94103
Tel: 415.774.2800 Fax: 415.774.2801
www.haasarchitects.com

**BUILDING COST
COMPARISON STUDY**

DATE	OCTOBER 16, 2008
PROJECT	
NO.	0079
REVISIONS	

A5.1

Composite Court Types



Bungalow
Court

Attached
Court

Attached + Stacked
Court

Hybrid
Court
(Single-Loaded)

Hybrid
Court
(Double-Loaded)

12 Dwellings/ Acre

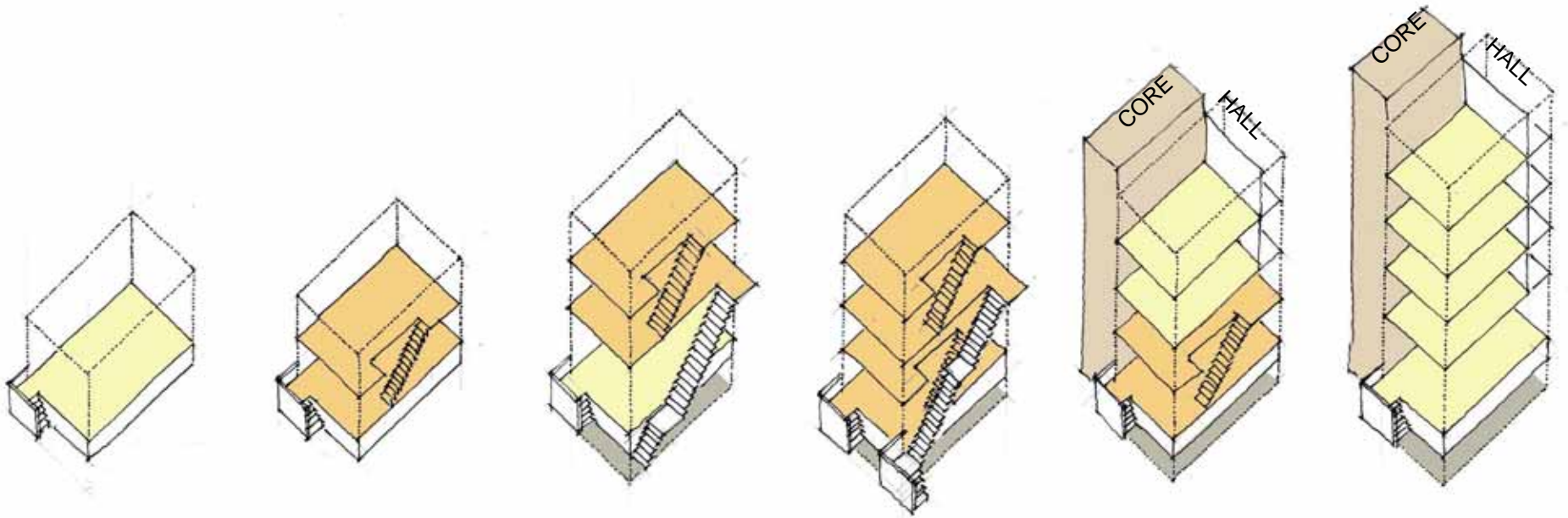
25 Dwellings/ Acre

35 Dwellings/ Acre

50 Dwellings/ Acre

60 Dwellings/ Acre

Composite Stacked Types



Flat/Loft

Townhouse

Townhouse over
Flat/Loft

Townhouse over
Townhouse

Flats over
Townhouse

Flats over
Flat/Loft







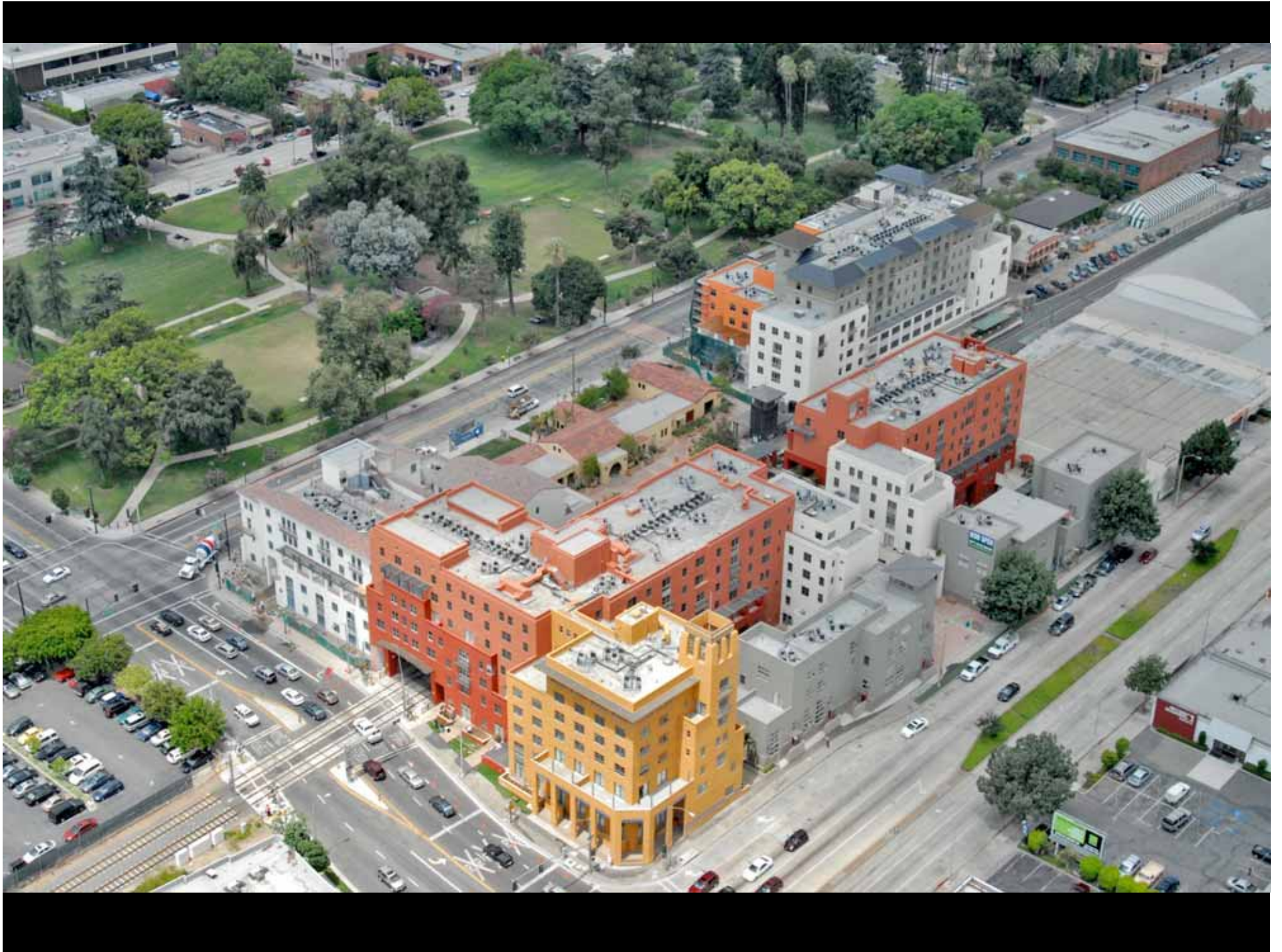


Villa











RURAL | TRANSECT | URBAN



T1 NATURAL ZONE T2 RURAL ZONE T3 SUBURBAN ZONE T4 GENERAL URBAN ZONE T5 URBAN CENTER ZONE T6 URBAN CORE ZONE DA ASSIGNED DISTRICT



T-@6: Urban Core



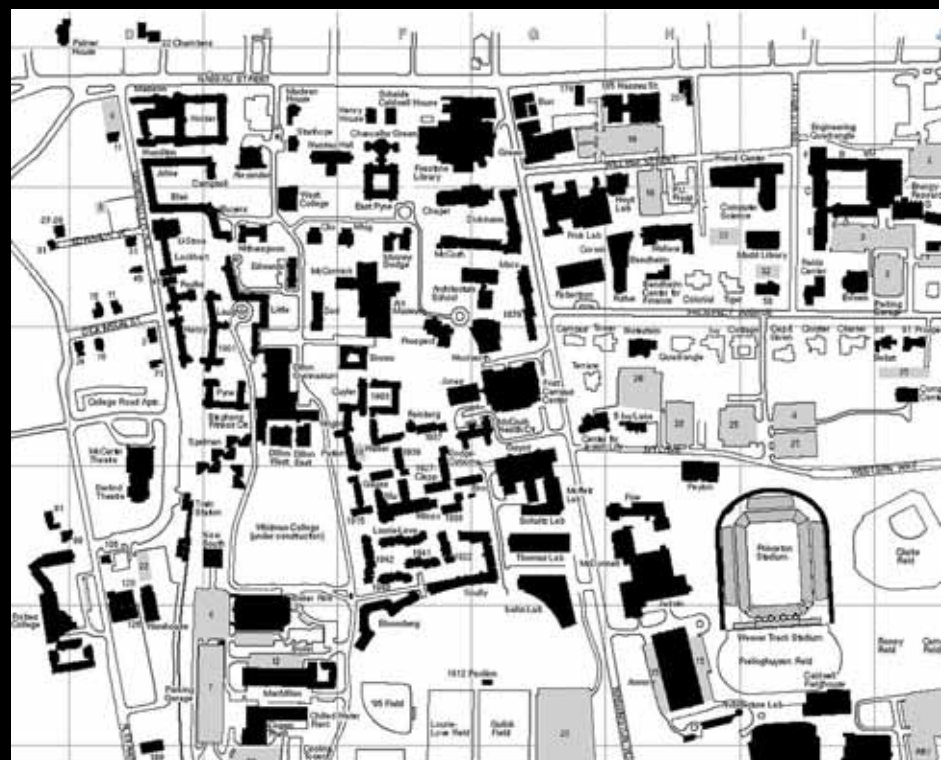
1. Buildings are taller still and more intense than T5 - heights may range from 10 to 40 stories and more.
2. Buildings are almost entirely Type I or II,.
3. Single family residences, whether detached or attached are uncommon. Most buildings are mixed-use blocks or towers, some with courtyard elements near the base.
4. Residential streets per se are uncommon, but when present would be similar to those in T5, often with more than one travel lane in each direction, or in some cases one-way travel.
5. Buildings typically not set back from street rights-of-way, but may be up to 10 feet or so in certain cases.
6. Vehicular access to buildings is provided by rear alleys. Parking garage entrances from streets minimized.







RURAL | TRANSECT | URBAN



MOULE & POLYZOIDES
ARCHITECTS AND URBANISTS



River North Master Plan

San Antonio, Texas



PRE CHARRETTE CATALOG



AERIAL

















A.C.

FINE LINES
AUTOMOTIVE
271-7306

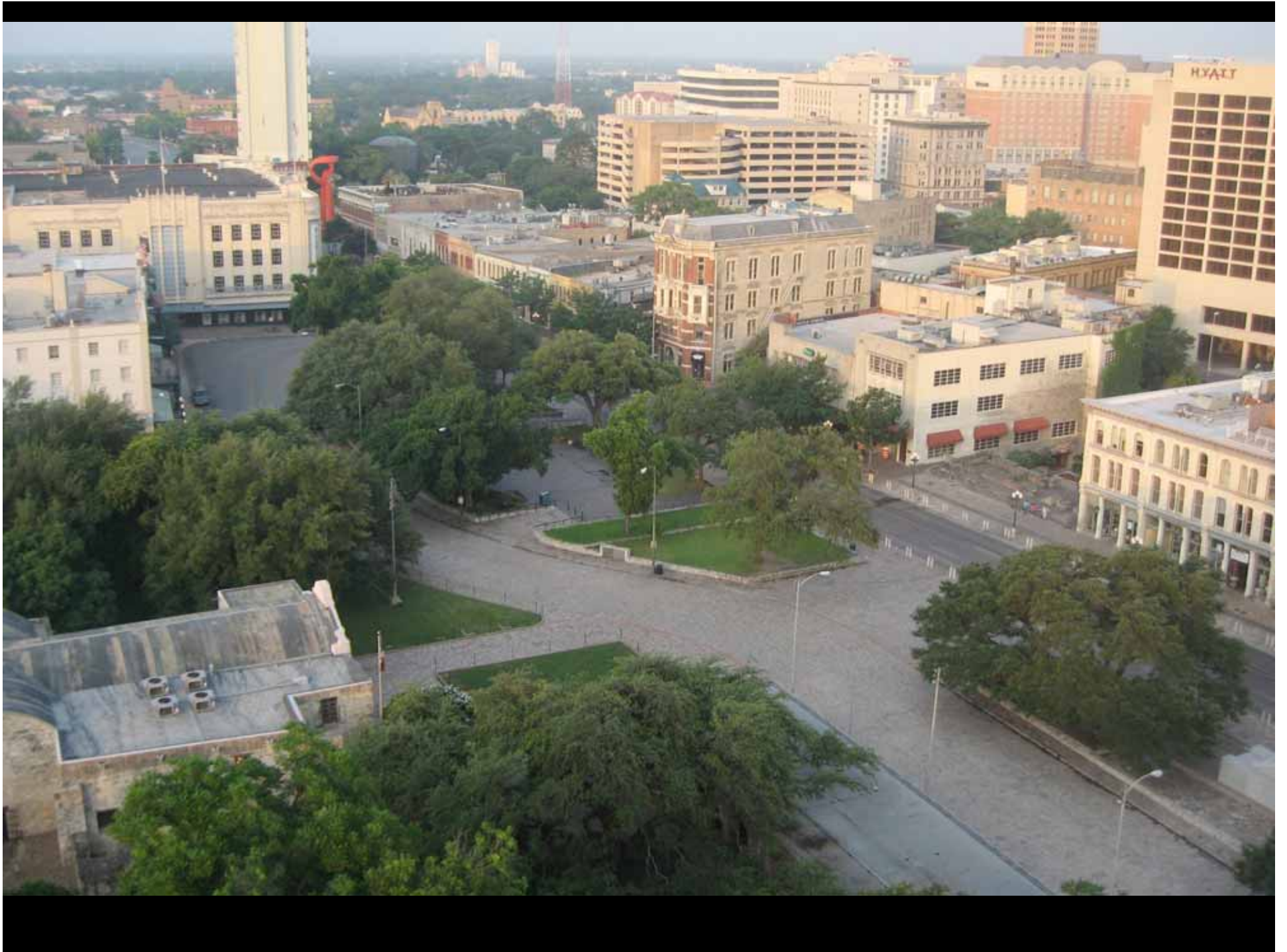
NO
PARKING
ANYTIME

STOP

N ALAMO

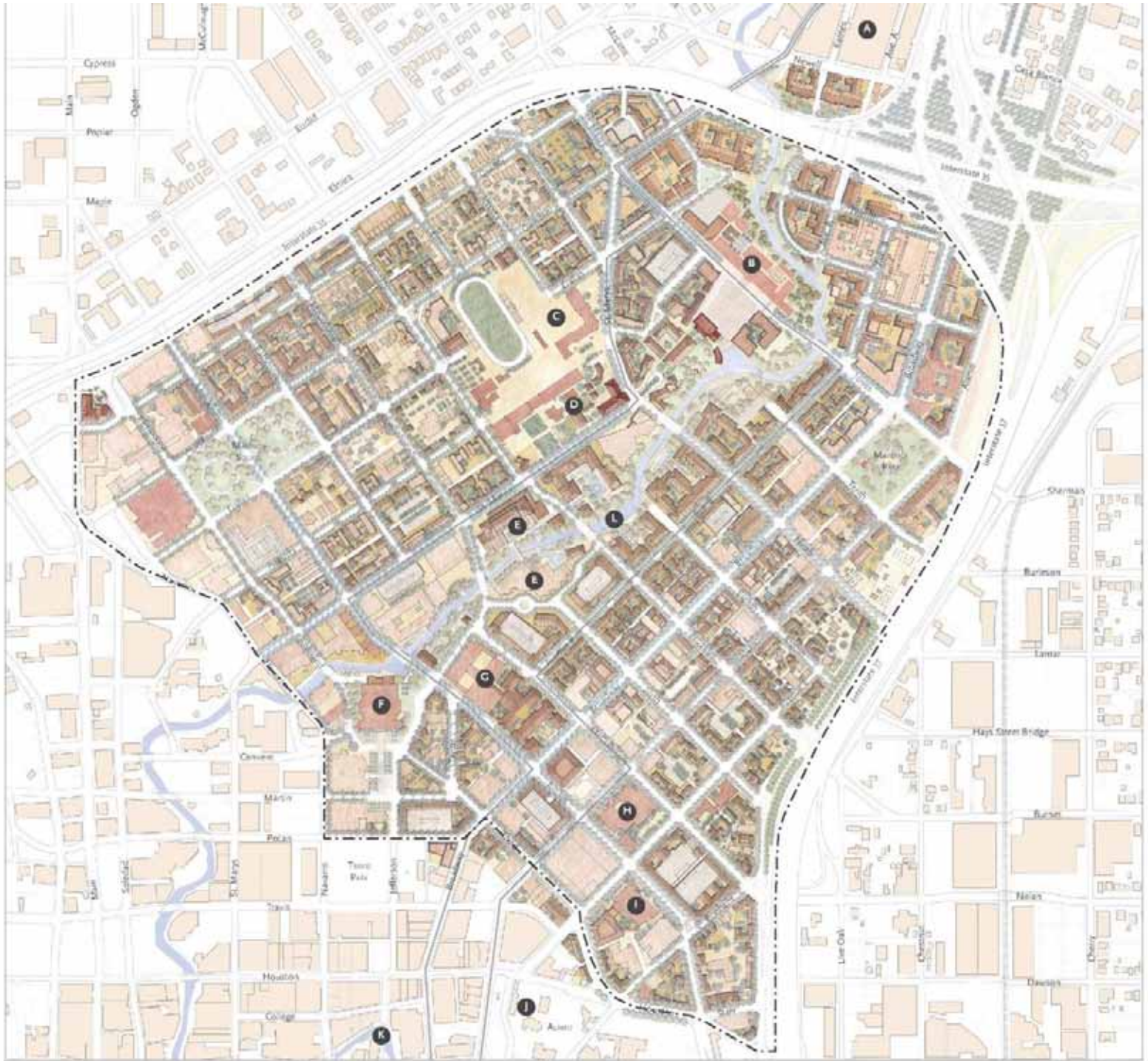
AUTOMOTIVE PAINT
MINOR DENTS - HAIR

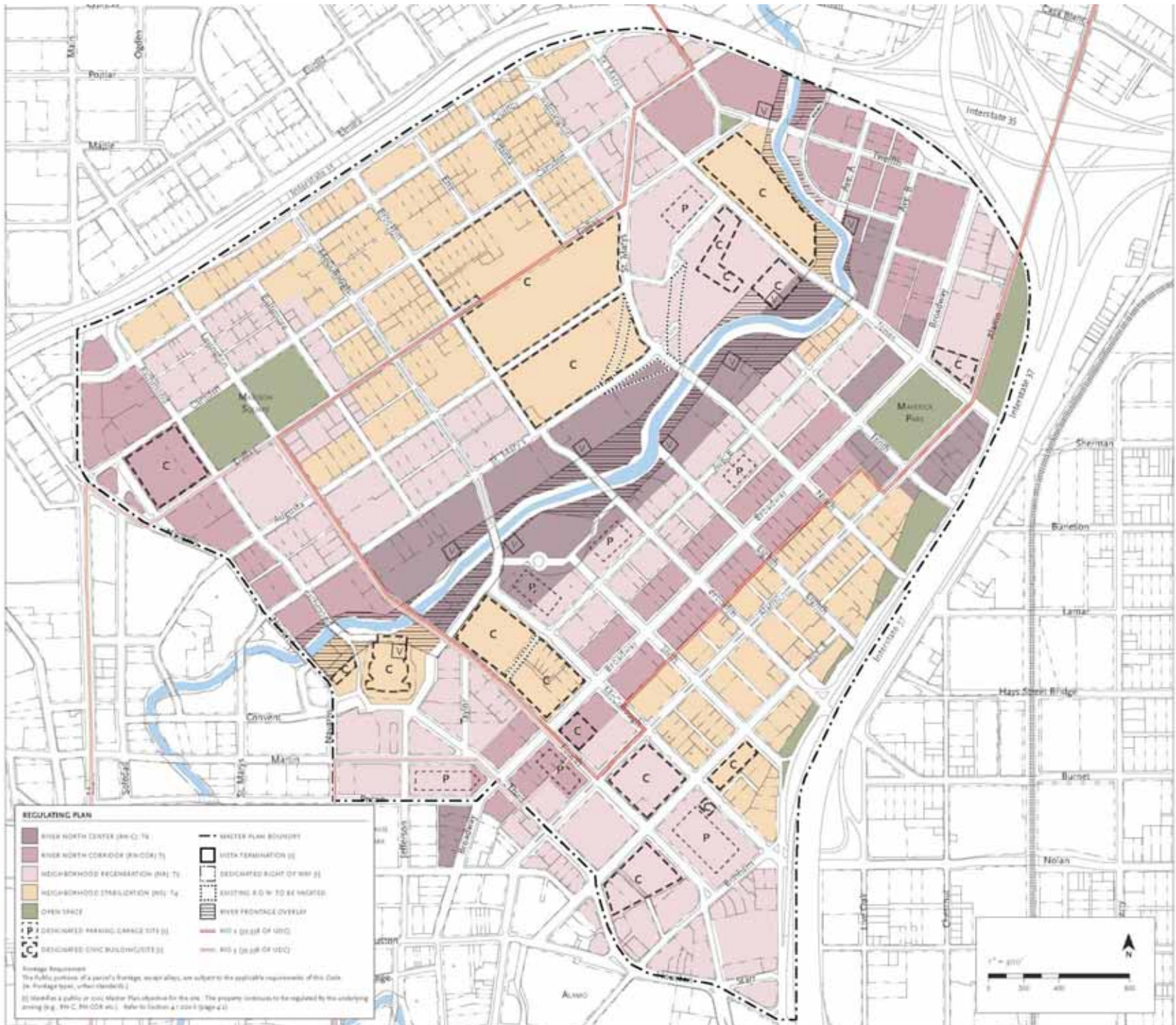
438-MVC



1.6 VISION FOR REVITALIZATION







2.1 VISION AND PLAN

2.1.2 PERFORMING ARTS STRATEGY

The seam that stitches the Broadway Corridor to the existing Downtown is a new – or reconceived – Performing Arts District. The District extends along both sides of 3rd Street and 4th Street, from the River on the west to the 37 Expressway on the east, and builds on the remarkable existing assembly buildings to create a high-intensity urban place focused on nightlife and the performing arts.

This two-street district is strategically located on what is now the ragged north edge of Downtown, within easy walking distance of thousands of hotel rooms and parking spaces Downtown, of thousands of future residences in River North, and of the RiverWalk and the new River Improvements. The District spans both Broadway and Alamo Street, making it highly visible to daily and casual commuters, and is anchored at one end by the Municipal Auditorium and at the other by the Scottish Rite Temple, both exceptionally distinguished civic buildings with the potential to become world-class performing arts venues.

This District contains a number of very large parcels of land currently used for surface parking. Recycling some of that land for high-density structured parking, lined with commercial and residential uses to encapsulate the parking within block interiors, has the potential to provide a reservoir of daytime parking for offices and shops and nighttime parking for the performing arts and residents. This shared parking supply will also facilitate the development of new buildings on some of the many smaller parcels nearby, which would be very difficult and awkward to develop if parking had to be provided on each individual lot.

Unlike the Broadway Corridor, the Museum Neighborhood and the Madison Square Neighborhood, the Performing Arts District is both a planning sub-area and a catalytic project. This dual role is reflective of both its relatively small area and its relatively large role in the successful revitalization of River North.



Once Third Street is extended the Municipal Auditorium in the foreground will have a visible presence in the Performing Arts District

*Below:
A Third Street extension is proposed to the Municipal Auditorium that creates an interconnected, coherent Performing Arts District for River North*



Chapter 2: Form and Character

2.1 VISION AND PLAN

2.1.5 BROADWAY CORRIDOR

Next to the River, by far the most significant urban corridor in River North is Broadway. Broadway is the historic highway to Austin to the north, the original streetcar line connecting from Downtown to the 1920's suburbs of Alamo Heights, Olmos Park and Terrell Hills, the route of the annual Fiesta parades, and the primary north-south avenue by which many commute to downtown from the north each day.

Broadway is the most public face of River North. More visitors and passersby experience River North by driving on Broadway – or by seeing Broadway from the expressways – than from any other viewpoint. As currently designed – including the roadway itself and the haphazard pattern of buildings that abut it – Broadway is a gash cut through River North, not the urban spine that holds it together. If River North is going to become a desirable urban address, Broadway must be transformed, and a key vision of this Master Plan is that through a concerted program of street reconstruction and new building construction this auto-oriented strip will be transformed to an elegant urban avenue.



Left:
Typical street view of the mixed-use scale on Broadway

2.1.5 BROADWAY CORRIDOR

Improvements planned for Broadway itself are focused on achieving the following primary objectives:

1. Make Broadway a place that pedestrians are just as comfortable walking as drivers are driving, starting with widening the existing sidewalks and planting street trees to shade the sidewalks and green the streetscape.
2. Ensure that Broadway can still accommodate traffic flows that allow visitors and commuters to drive comfortably and conveniently through River North, but at speeds that are consistent with an urban pedestrian environment. To balance the need for traffic capacity with the need for curbside parking, it is expected that parking would be prohibited on the southbound side at morning rush hour and on the northbound side at the afternoon rush.
3. Require that new buildings and businesses face Broadway, with shopfronts, awnings, and galleries at the ground level to activate the street with pedestrian activity.

RIVER NORTH DISTRICT MASTER PLAN SAN ANTONIO, TEXAS

2-35



Chapter 2: Form and Character

2.1 VISION AND PLAN

2.1.6 AVENUE B

Avenue B begins and ends within River North and flanks the east edge of the River, and unlike Broadway carries virtually no through traffic. These two characteristics make Avenue B ideally suited for transformation from a minor industrial street to an important residential address. The potential amenity of living on a relatively quiet urban street, one block from new restaurants and service businesses on a transformed Broadway, and a half block from the newly improved River creates unprecedented opportunity and value for urban living.

Avenue B currently terminates unceremoniously at an apartment building on Fourth Street. In order to facilitate a unified Master Plan for the historic First Baptist Church, and to enable the development of a new Performing Arts Academy, it is proposed that Avenue B terminate at McCullough Street, one block north of Fourth. This will allow the reconfiguration of parcels south of McCullough, and will also allow the construction of a courtyard, plaza and/or church-related civic building that terminates Avenue B at a strong civic landmark.

2.1.6 AVENUE B

While Avenue B is envisioned principally as a residential address, it is also planned that certain neighborhood- and visitor-serving businesses be located within the ground floors of mixed-use buildings, particularly at street corners or near the River. These businesses would serve – and be supported by – a mix of residents, visitors, office workers, and those who frequent River North from nearby neighborhoods. Thus a key goal is to facilitate thecomings and goings of a large number of people without filling the street up with traffic and parking congestion.

To achieve this goal, a coordinated series of street design and transit improvement actions are defined in this Plan. It would be ideal if the existing sidewalks were widened by several feet... Large street trees are to be planted to help strongly define the public space of the street and to begin to transform the bleak industrial environment into a shaded comfortable space next to the River. Visitor and customer parking is provided along both sides of the street, and off-street parking facilities are located behind or below the buildings, allowing continuous residential or commercial frontages on the street.



Left:
Typical street view down Avenue B showing the Street Trolley, scale, and character

RIVER NORTH OF
SAN ANTONIO, TEXAS



2.16
77

TABLE 4-1: ALLOWED LAND USES AND PERMIT REQUIREMENTS FOR ZONES

LAND USE TYPE	PERMIT REQUIRED BY ZONE					
	RN-C	RN-COR	NR	NS	OS	RF-O
Retail						
Antique or collectible store	P	P	P	—	—	—
Bar, tavern and night club	CUP	CUP	—	—	—	—
General retail, except w/any of the following features:	P	P	P	P	—	—
Alcoholic beverage sales	CUP	CUP	—	—	—	—
Auto or motor vehicle service	—	CUP	—	—	—	—
Auto or motor vehicle repair	—	CUP	—	—	—	—
Drive-through facilities	—	—	—	—	—	—
Floor area over 20,000 (per business)	CUP	CUP	—	—	—	—
On-site production of items sold	P	P	P	—	—	—
Operating between 12 and 7 a.m.	CUP	CUP	—	—	—	—
Used merchandise	—	CUP	CUP	CUP	—	—
Neighborhood market/convenience store	—	P	P	P	—	—
Eating establishments, except drive-through	CUP	CUP	CUP	—	—	—
Outdoor vending	P(4)	—	—	—	—	P(4)
Service General						
Banquet facility / catering	CUP	CUP	—	—	—	—
Child day care, more than 8 and up to 14 children	CUP	CUP	CUP	—	—	—
Day care center, child or adult	CUP	CUP	CUP	—	—	—
Drive-through service	—	—	—	—	—	—
Equipment rental, indoor only	—	CUP	CUP	—	—	—
Lodging, bed and breakfast inn	P	P	P	—	—	—
Lodging - hotel or motel	CUP	CUP	—	—	—	—
Mortuary, funeral home	—	CUP	—	—	—	—
Personal services	P	P	P	P	—	—
Personal services - restricted	—	—	—	—	—	—
Businesses operating between 12 and 7am	CUP	CUP	—	—	—	—
Services: Business, Financial, Professional						
Bank, financial services	P	P	CUP	—	—	—
Business support service	P(1)	P	P	—	—	—
Medical services: clinic, urgent care	CUP(1)	CUP	—	—	—	—
Medical services: doctor, dentist, chiropractor, etc. office	CUP(1)	P	P	P	—	—
Medical services: extended care	—	—	—	—	—	—
Office service	P	P	P	—	—	—
Businesses operating between 12 and 5am	CUP	CUP	—	—	—	—
Transportation, Communication, Infrastructure						
Parking facility - public or commercial	CUP	CUP	—	—	—	—
Transit station or terminal	CUP	CUP	—	—	CUP	CUP
Public utility structures	CUP	CUP	CUP	CUP	—	—
Industry, Manufacturing and Processing, Warehousing and Distribution						
Artisan/craft product manufacturing	CUP	P	P	P	—	—
Furniture and fixture manufacturing, cabinet shop	—	CUP	CUP	—	—	—
Laboratory: medical, analytical	—	CUP	—	—	—	—
Media production, office or storefront type (no sound stage)	—	P	—	—	—	—
Printing and publishing	—	CUP	—	—	—	—
Research and development	P(1)	P	P	—	—	—
Outdoor storage (max stacking height 10 feet)	—	CUP	—	—	—	—
Businesses operating between 12 and 5am	CUP	CUP	—	—	—	—
Recreation, Education and Public Assembly						
Adult business	See ch. 33.05B of the San Antonio UDC					
Community assembly (Synagogue, Church, Mosque, place of worship)	CUP	CUP	CUP	CUP	CUP	CUP
CUP	CUP	CUP	—	—	—	—
Health/fitness facility	CUP(1)	CUP	—	—	—	—
Indoor recreation facility: commercial	CUP	CUP	—	—	—	—
Library, museum	CUP	CUP	—	—	CUP	CUP
School - public or private	—	P	P	—	—	—
Studio - art, dance, martial arts, etc.	P(1)	P	P	—	—	—
Theater, cinema or performing arts	CUP	CUP	—	—	—	—
Residential Uses						
Emergency / Transitional Shelter	—	CUP	—	—	—	—
Home Occupation	P	P	P	P	—	—
Live/Work Use / Joint living-working quarters	—	P	P	P	—	—
Residential Component of Mixed Use	P(2)	P(2)	P	P	—	—
Ground floor Residential	P(1)	P(1)	P	P	—	—
Residential Care Facility for the elderly (RCFE)	CUP	CUP	CUP	CUP	—	—
Residential Care Facility for 7 or more clients	CUP	CUP	CUP	—	—	—
Caretaker Residential Use	—	P	P	P	—	—
Garage House/Second Dwelling, Single Dwelling	—	—	P	P	—	—
Multi-Family Building (as allowed on page 4.14)	P	P	P	P	—	—
Mixed-Use Building (as allowed on page 4.14)	P	P	P	P	—	CUP

KEY TO TABLE

Permit Types

- P Permitted Use, Use-Clearance required
- CUP Conditional Use Permit required
- Use not allowed

Zone Symbols

- RN-C River North Center
- RN-COR River North Corridor
- NR Neighborhood Regeneration
- NS Neighborhood Stabilization
- OS Open Space
- RF-O River Frontage Overlay

Notes

- (1) Use allowed only on second or upper floor, or behind ground floor street frontage use.
- (2) Allowed only as part of a vertical mixed use project, with upper floor residential
- (3) See Regulating Plan for additional requirements
- (4) Please refer to SA UDC 35-675(h)

A definition of each listed use type is in section 4.9

TABLE 4-1: ALLOWED LAND USES AND PERMIT REQUIREMENTS FOR ZONES

LAND USE TYPE	PERMIT REQUIRED BY ZONE					
	RN-C	RN-COR	NR	NS	OS	RF-O
Retail						
Antique or collectible store	P	P	P	---	---	---
Bar, tavern and night club	CUP	CUP	---	---	---	---
General retail, except w/any of the following features	P	P	P	P	---	---
Alcoholic beverage sales	CUP	CUP	---	---	---	---
Auto or motor vehicle service	---	CUP	---	---	---	---
Auto or motor vehicle repair	---	CUP	---	---	---	---
Drive-through facilities	---	---	---	---	---	---
Floor area over 20,000 (per business)	CUP	CUP	---	---	---	---
On-site production of items sold	P	P	P	---	---	---
Operating between 12 and 7 a.m.	CUP	CUP	---	---	---	---
Used merchandise	---	CUP	CUP	CUP	---	---
Neighborhood market/convenience store	---	P	P	P	---	---
Eating establishments, except drive-through	CUP	CUP	CUP	---	---	---
Outdoor vending	P(4)	---	---	---	---	P(4)
Service General						
Banquet facility / catering	CUP	CUP	---	---	---	---
Child day care, more than 8 and up to 14 children	CUP	CUP	CUP	---	---	---
Day care center, child or adult	CUP	CUP	CUP	---	---	---
Drive-through service	---	---	---	---	---	---
Equipment rental, indoor only	---	CUP	CUP	---	---	---
Lodging, bed and breakfast inn	P	P	P	---	---	---
Lodging - hotel or motel	CUP	CUP	---	---	---	---
Mortuary, funeral home	---	CUP	---	---	---	---
Personal services	P	P	P	P	---	---
Personal services - restricted	---	---	---	---	---	---
Businesses operating between 12 and 7am	CUP	CUP	---	---	---	---
Services: Business, Financial, Professional						
Bank, financial services	P	P	CUP	---	---	---
Business support service	P(1)	P	P	---	---	---
Medical services: clinic, urgent care	CUP(1)	CUP	---	---	---	---
Medical services: doctor, dentist, chiropractor, etc, office	CUP(1)	P	P	P	---	---
Medical services: extended care	---	---	---	---	---	---
Office: service	P	P	P	---	---	---
Businesses operating between 12 and 5am	CUP	CUP	---	---	---	---
Transportation, Communication, Infrastructure						
Parking facility - public or commercial	CUP	CUP	---	---	---	---
Transit station or terminal	CUP	CUP	---	---	CUP	CUP
Public utility structure	CUP	CUP	CUP	CUP	---	---

LAND USE TYPE	PERMIT REQUIRED BY ZONE					
	RN-C	RN-COR	NR	NS	OS	RF-O
Industry, Manufacturing and Processing, Warehousing and Distribution						
Artisan/craft product manufacturing	CUP	P	P	---	---	---
Furniture and fixture manufacturing, cabinet shop	---	CUP	CUP	---	---	---
Laboratory: medical, analytical	---	CUP	---	---	---	---
Media production, office or storefront type (no sound stage)	---	P	---	---	---	---
Printing and publishing	---	CUP	---	---	---	---
Research and development	P(1)	P	P	---	---	---
Outdoor storage (max stacking height 10 feet)	---	CUP	---	---	---	---
Businesses operating between 12 and 5am	CUP	CUP	---	---	---	---
Recreation, Education and Public Assembly						
Adult business	See ch. 35.388 of the San Antonio UDC					
Community assembly (Lodge, Church, Mosque, place of worship)	CUP	CUP	CUP	CUP	CUP	CUP
CUP						
Health/fitness facility	CUP(1)	CUP	---	---	---	---
Indoor recreation facility: commercial	CUP	CUP	---	---	---	---
Library, museum	CUP	CUP	---	---	CUP	CUP
School - public or private	---	P	P	---	---	---
Studio - art, dance, martial arts, etc	P(1)	P	P	---	---	---
Theater, cinema or performing arts	CUP	CUP	---	---	---	---
Residential Uses						
Emergency / Transitional Shelter	---	CUP	---	---	---	---
Home Occupation	P	P	P	P	---	---
Live-Work Use / Joint living-working quarters	---	P	P	P	---	---
Residential Component of Mixed-Use	P(2)	P(2)	P	P	---	---
Ground Floor Residential	P(3)	P(3)	P	P	---	---
Residential Care Facility for the elderly (RCFE)	CUP	CUP	CUP	CUP	---	---
Residential Care Facility for 7 or more clients	CUP	CUP	CUP	---	---	---
Caretaker Residential Use	---	P	P	P	---	---
Carriage House/Second Dwelling, Single Dwelling	---	---	P	P	---	---
Multi-Family Building (as allowed on page 4:14)	P	P	P	P	---	---
Mixed-Use Building (as allowed on page 4:14)	P	P	P	P	---	CUP

4.4 URBAN STANDARDS

4.4.010 BUILDING AND PARKING PLACEMENT, BUILDING HEIGHT, PROFILE, ENCRoACHMENTS AND PARKING

A. REQUIREMENTS

- Purpose.** This Chapter identifies the standards and requirements for new buildings or buildings to be modified, for each zone within the Master Plan area to ensure that proposed development is consistent with the City's goals for building form, character, and quality within the Master Plan area. The zones are organized by intensity from the most intense (RN-C) to the least intense (NS). Unless stated otherwise, all requirements are expressed as "minimums".
- Applicability.** Each proposed improvement and building shall be designed in compliance with the standards of this Chapter for the applicable zone, except for public and institutional buildings, which because of their unique disposition and application are not required to comply with these requirements and are reviewed by a special permit and procedures.
- Requirements by zone.** Each proposed building shall be designed according to the urban standards identified per the zone in which the property is located.

ZONE SUMMARY

RIVER NORTH CENTER (RN-C)
Up to 20 stories



Intent and Character of RN-C Zone

BUILDING TYPES	MAX IN RN-C
Town-on-Podium	20
Loft	4
Commercial Block	5
Student Dwelling	5
Hybrid Court	5
Courtyard Housing	5
Live-Work	5
Rowhouse	5
Bungalow Court	not allowed
Duplex/Duplex/Quadplex	not allowed
House	not allowed
Old Buildings	2 (per 405)

FRONTAGE TYPES	
Arcade	allowed
Gallery	allowed
Shopfront	allowed
Forescourt	allowed
Stoop	allowed
Terrace	allowed
Porch	allowed
Common Yard	not allowed

BUILDING SETBACKS	IN FEET
Front yard	0' - 20'
Side Street	0' - 10'
Side yard min	0' - 5'
Rear yard min	—
Alley rear yard	5'

PARKING	DU/SQ FT	GUEST
Residential	1/2000	10/acre
Live-Work	2/2000	no min
Non-Residential	1/200	—
In-Lieu Fee	—	—

DEVELOPMENT PROGRAM	
Acres	Residential
Residential	Residential
Commercial	Commercial
Industrial	Industrial
Lodging	Lodging

RIVER NORTH CORRIDOR (RN-COR)
Up to 6 stories



Intent and Character of RN-COR Zone

BUILDING TYPES	MAX IN RN-COR
Town-on-Podium	not allowed
Loft	6
Commercial Block	6
Student Dwelling	10
Hybrid Court	5
Courtyard Housing	5
Live-Work	5
Rowhouse	not allowed
Bungalow Court	not allowed
Duplex/Duplex/Quadplex	not allowed
House	not allowed
Old Buildings	2 (per 405)

FRONTAGE TYPES	
Arcade	not allowed
Gallery	allowed
Shopfront	allowed
Forescourt	allowed
Stoop	allowed
Terrace	allowed
Porch	allowed
Common Yard	not allowed

BUILDING SETBACKS	IN FEET
Front yard	0'-15'
Side Street	0'-5'
Side yard min	0'
Rear yard min	10'
Alley rear yard	5'

PARKING	DU/SQ FT	GUEST
Residential	1.25/2000	20/2/acre
Live-Work	2/2000	—
Non-Residential	1/200	—
In-Lieu Fee	—	—

DEVELOPMENT PROGRAM	
Acres	Residential
Residential	Residential
Commercial	Commercial
Industrial	Industrial
Lodging	Lodging

NEIGHBORHOOD REGENERATION (NR)
Up to 4 stories



Intent and Character of NR Zone

BUILDING TYPES	MAX IN NR
Town-on-Podium	not allowed
Loft	4
Commercial Block	not allowed
Student Dwelling	4
Hybrid Court	not allowed
Courtyard Housing	5
Live-Work	5
Rowhouse	5
Bungalow Court	not allowed
Duplex/Duplex/Quadplex	not allowed
House	not allowed
Old Buildings	2 (per 405)

FRONTAGE TYPES	
Arcade	not allowed
Gallery	allowed
Shopfront	allowed
Forescourt	allowed
Stoop	allowed
Terrace	allowed
Porch	allowed
Common Yard	not allowed

BUILDING SETBACKS	IN FEET
Front yard	5'-15'
Side Street	5'-10'
Side yard min	0'
Rear yard min	10'
Alley rear yard	5'

PARKING	DU/SQ FT	GUEST
Residential	1.5/2000	25/2/acre
Live-Work	2/2000	—
Non-Residential	1/200	—
In-Lieu Fee	—	—

DEVELOPMENT PROGRAM	
Acres	Residential
Residential	Residential
Commercial	Commercial
Industrial	Industrial
Lodging	Lodging

NEIGHBORHOOD STABILIZATION (NS)
Up to 3 stories



Intent and Character of NS Zone

BUILDING TYPES	MAX IN NS
Town-on-Podium	not allowed
Loft	3
Commercial Block	5
Student Dwelling	5
Hybrid Court	5
Courtyard Housing	5
Live-Work	5
Rowhouse	5
Bungalow Court	5
Duplex/Duplex/Quadplex	5
House	2
Old Buildings	2 (per 405)

FRONTAGE TYPES	
Arcade	not allowed
Gallery	not allowed
Shopfront	allowed
Forescourt	allowed
Stoop	allowed
Terrace	allowed
Porch	allowed
Common Yard	allowed

BUILDING SETBACKS	IN FEET
Front yard	10'-15'
Side Street	5'-10'
Side yard min	0'-5'
Rear yard min	5'-15'
Alley rear yard	5'

PARKING	DU/SQ FT	GUEST
Residential	1.5/2000	25/2/acre
Live-Work	2/2000	—
Non-Residential	1/200	—
In-Lieu Fee	—	—

DEVELOPMENT PROGRAM	
Acres	Residential
Residential	Residential
Commercial	Commercial
Industrial	Industrial
Lodging	Lodging

OPEN SPACE (OS)
Up to 2 stories



Intent and Character of OS Zone

BUILDING TYPES	MAX IN OS
Town-on-Podium	not allowed
Loft	not allowed
Commercial Block	not allowed
Student Dwelling	not allowed
Hybrid Court	not allowed
Courtyard Housing	not allowed
Live-Work	not allowed
Rowhouse	not allowed
Bungalow Court	not allowed
Duplex/Duplex/Quadplex	not allowed
House	not allowed
Old Buildings	2 (per 405)

FRONTAGE TYPES	
Arcade	not allowed
Gallery	not allowed
Shopfront	allowed
Forescourt	not allowed
Stoop	not allowed
Terrace	not allowed
Porch	not allowed
Common Yard	not allowed

BUILDING SETBACKS	IN FEET
Front yard	—
Side Street	—
Side yard min	—
Rear yard min	—
Alley rear yard	—

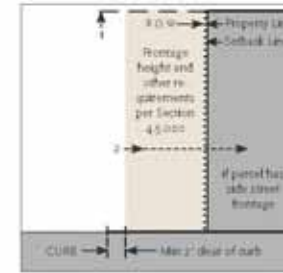
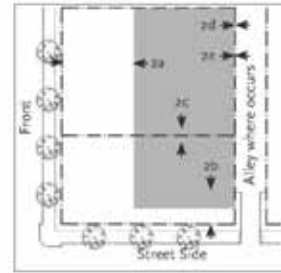
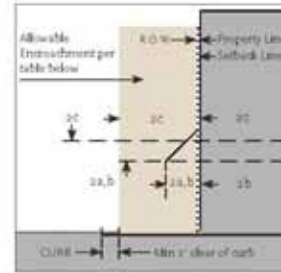
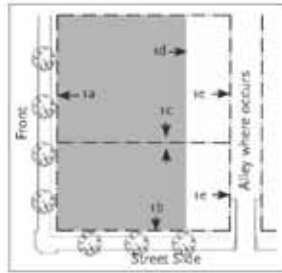
PARKING	DU/SQ FT	GUEST
Residential	—	—
Live-Work	—	—
Non-Residential	—	—
In-Lieu Fee	—	—

DEVELOPMENT PROGRAM	
Acres	Residential
Residential	Residential
Commercial	Commercial
Industrial	Industrial
Lodging	Lodging

The range of uses and their allowed components used in the Master Plan is summarized on this page. The zones are arranged on a continuum of intensity with the most intense at left and the least intense at right. Each zone is aimed at generating or maintaining a distinct character through the allocation of appropriate building and frontage types and the placement of those types on parcels.

Note: This is a summary. Please refer to the following chapters of this code for the full requirements per zone.

4.4.020 RIVER NORTH CENTER (RN-C) ZONE



The following requirements apply to all property within the RN-C Zone.

A. ZONE REQUIREMENTS

1. **Building Types Allowed** The following building types and their particular maximum height are allowed in the RN-C Zone subject to compliance with all applicable requirements, including the requirements for each building type. (See Chapter 4.5.010 for individual design standards and definitions).

BUILDING TYPES	MAX STORIES IN RN-C
Tower or Podium	20 stories
Loft	4
Commercial Block	3 [a]
Stacked Dwelling	3 [b]
Hybrid Court	4-5
Courtyard Housing	3
Live-Work	3
Rowhouse	3

[a] In RF overlay, up to 12 stories between Brooklyn and Richmond.

[b] Up to 3 stories directly across from Maverick Park.

B. BUILDING PLACEMENT

1. **Setbacks.** Minimum setbacks required and, where noted, maximum setbacks allowed; except where a frontage type standard allows exceptions or establishes different requirements. All setbacks to be landscaped.

SETBACK	MIN.	MAX.
(1a) Front yard	0-10'	20'
(1b) Street Side	0-5'	10'
(1c) Sideyard	0-5'	—
(1d) Rear yard	—	—
(1e) Alley rear yard	3'	—

C. ENCROACHMENTS

1. **Outdoor Dining**

2. **Awnings, Signage, Balconies, Bay Windows and Galleries** Per table below

ENCROACHMENT	HORIZ.	VERTICAL
(2a) awnings	w/in 2' of curb (K.O.W.)	max 8' clear
(2b) awnings	min 14"	min 12' clear
(2c) galleries	w/in 2' of curb	min 12' clear
Side yard	10'	—
Rear yard	5'	—
Alley rear yard	3'	—

D. PARKING PLACEMENT

1. **Parking Access** Vehicular access is permitted only from an alley or side street.

2. **Parking Placement** Per table below; setbacks apply to all stories of a building.

SETBACK	ABOVE GRADE	SURBER
(2a) front yard	40% lot depth	10' min
(2b) Street side	40' min	3' min
(2c) Side yard	5' min	—
(2d) Rear yard	5' min	—
(2e) Alley rear yard	3' min	3' min

E. REQUIRED PARKING

1. **Driveway Requirements, per table below.**

TYPE	MIN	MAX
1-way	8'	12'
2-way	12'	20'
Parking	not allowed	allowed one side

2. **Parking Requirements, per table below**
 Parking Calculations: all fractions shall be rounded up to the next whole number.

USE TYPE	PKG	GUEST PKG	IN LIEU [c]
Residential	1/unit	10/unit	—
Live-Work	1/unit	no min	—
Hotels	1/300	—	Yes

[c] They park once district

F. BUILDING HEIGHT AND PROFILE

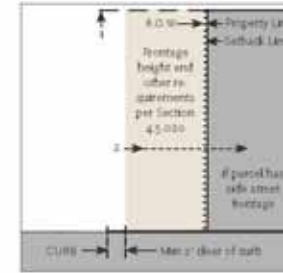
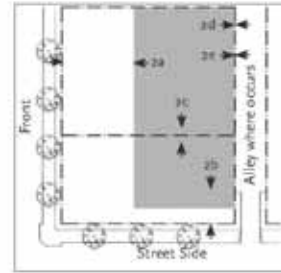
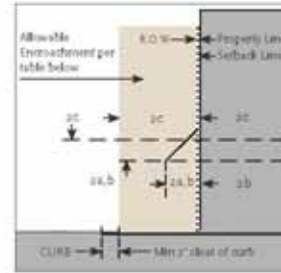
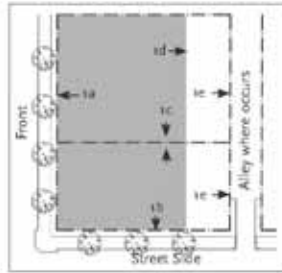
1. **Building Height:** maximum 20 stories [a], minimum 2 stories, and as allowed by individual building type requirements (Section 4.5.010)

[a] only allowed in combination with RF Overlay at specified vista-termination areas (see regulating plan).

2. **Frontage Requirement**
 The ground floor fronting a street or other t.o.w. shall comply with the requirements for a frontage type per the table below.

TYPES ALLOWED	% OF FRONTAGE
Gallery	min 50
Shopfront	min 75
Porchfront	max 25
Store	max 50
Terrace	min 50
Porch	min 50

4.4.030. RIVER NORTH CORRIDOR (RN-COR) ZONE



The following requirements apply to all property within the RN-COR Zone.

A. ZONE REQUIREMENTS

1. **Building Types Allowed** The following building types and their particular maximum height are allowed in the RN-COR Zone subject to compliance with all applicable requirements, including the requirements for each building type. (See Chapter 4.5.010 for individual design standards and definitions).

BUILDING TYPES	MAX STORIES IN RN-COR
Loft	6
Commercial Block	6
Stacked Dwelling	8 [4]
Hybrid Court	4.5
Courtyard Housing	3
Live-Work	3

[4] Up to 9 stories between I-35, Richmond, St. Mary's and Navarro

B. BUILDING PLACEMENT

1. **Setbacks.** Minimum setbacks required and, where noted, maximum setbacks allowed; except where a frontage type standard allows exceptions or establishes different requirements. All setbacks to be landscaped.

SETBACK	MIN.	MAX.
(1a) Front yard	5'	15'
Broadway	0'	5'
(1b) Street Side	0-5'	—
(1c) Sideyard	5'	—
Patios fronting Broadway	0'	—
(1d) Rear yard	10'	—
(1e) Alley rear yard	5'	—

C. ENCROACHMENTS

1. **Outdoor Dining**
2. **Awnings, Signage, Balconies, Bay Windows and Galleries** Per table below

ENCROACHMENT	HORIZ.	VERTICAL
(2a) awnings, signage, galleries	w/16 2' of curb	max 3' clear
(2b) awnings, signage, galleries	max 24'	min 10' clear
(2c) galleries	w/16 2' of curb	max 10' clear
Side yard	0'	—
Rear yard	5'	—
Alley rear yard	5'	—

D. PARKING PLACEMENT

1. **Parking Access** Vehicular access is permitted only from an alley or side street.

2. **Parking Placement** Per table below; setbacks apply to all stories of a building.

SETBACK	ABOVE GRADE	SUBTERR.
(2a) Front yard	40% lot depth	per built ing. setback
(2b) Street side	40' min	per built ing. setback
(2c) Side yard	5' min	0' min
(2d) Rear yard	5' min	3' min
(2e) Alley rear yard	5' min	3' min

E. REQUIRED PARKING

1. **Driveway Requirements, per table below**

TYPE	MIN	MAX
1-way	8'	12'
2-way	12'	20'
Parking	not allowed	allowed one side

2. **Parking Requirements, per table below**
Parking Calculations; all fractions shall be rounded up to the next whole number.

USE TYPE	PKG	GUEST PKG	IN LIEU [4]
Residential	1.25/unit	0.25/unit	—
Live-Work	2/unit	—	—
Hotels/Res.	1/400	—	Yes

[4] Three park-once allowed

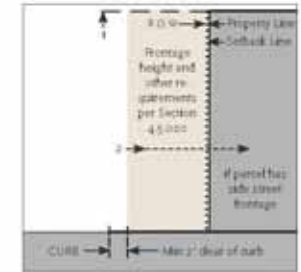
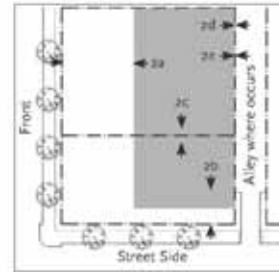
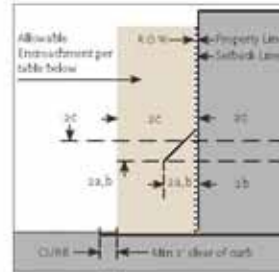
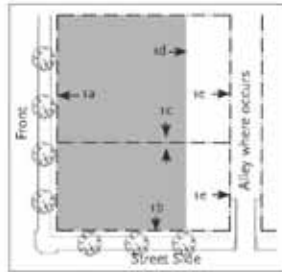
F. BUILDING HEIGHT AND PROFILE

1. **Building Height:**
a. maximum 9 stories, minimum 3 stories, and as allowed by individual building type requirements (Section 4.5.010)

2. **Frontage Requirement**
a. The ground floor fronting a street or other r.o.w. shall comply with the requirements for a frontage type per the table below.

Types Allowed	% of Frontage
Arcade	min 10
Gallery	min 50
Shopfront	min 25
Forecourt	max 25
Stoop	min 25
Terrace	min 50
Porch	min 25

4-4-049 NEIGHBORHOOD REGENERATION (NR) ZONE



The following requirements apply to all property within the NR Zone.

A. ZONE REQUIREMENTS

1. **Building Types Allowed** The following building types and their particular maximum height are allowed in the NR Zone subject to compliance with all applicable requirements, including the requirements for each building type. (See Chapter 4.5.010 for individual design standards and definitions).

BUILDING TYPES	MAX STORIES IN NR
Student Dwelling	4
Citywide Housing	3
Live-Work	3
Rowhouse	3

B. BUILDING PLACEMENT

1. **Setbacks.** Minimum setbacks required and, where noted, maximum setbacks allowed; except where a frontage type standard allows exceptions or establishes different requirements. All setbacks to be landscaped.

SETBACK	MIN.	MAX.
(1a) Front yard	5'	10'
(1b) Street Side	5'	10'
(1c) Sideyard	0'	—
(1d) Rear yard	10'	—
(1e) Alley rear yard	5'	—

C. ENCRDACHMENTS

1. **Outdoor Dining**

2. **Awnings, Signage, Balconies, Bay Windows and Galleries** Per table below

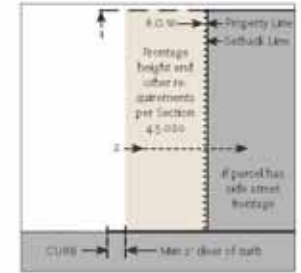
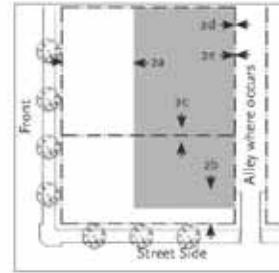
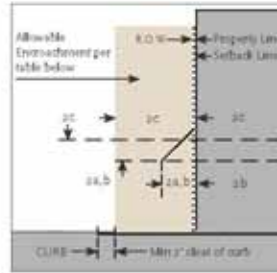
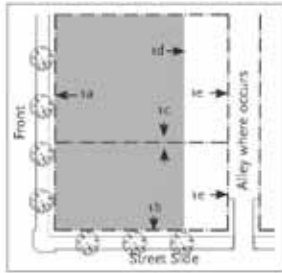
ENCROACHMENT	HORIZ.	VERTICAL
(2a) awnings, signage	w/10 2' of curb	min 8' clear of curb
(2b) galleries	w/10 2' of curb	min 12' clear of curb
(2c) wall awnings, signage, galleries	max 24" of curb	min 10' clear of curb
(2d) Side yard	0'	—
(2e) Rear yard	5'	—
(2f) Alley rear yard	5'	—

D. PARKING PLACEMENT

1. **Parking Access** Vehicular access is permitted only from an alley or side street.

2. **Parking Placement** Per table below; setbacks apply to all stories of a building.

4.4.050 NEIGHBORHOOD STABILIZATION (NS) ZONE



The following requirements apply to all property within the NS Zone.

A. ZONE REQUIREMENTS

1. Building Types Allowed The following building types and their particular maximum height are allowed in the NS Zone subject to compliance with all applicable requirements, including the requirements for each building type. (See Chapter 4.5.010 for individual design standards and definitions).

BUILDING TYPES	MAX STORES IN NS
Live-Work	3
Buildings Court	3
Duplex/Triplex/Quadplex	3
Hotels	3

B. BUILDING PLACEMENT

1. Setbacks. Minimum setbacks required and, where noted, maximum setbacks allowed; except where a frontage type standard allows exceptions or establishes different requirements. All setbacks to be landscaped.

SETBACK	MIN.	MAX.
(1a) front yard	10'	15'
(1b) Street Side	5'	10'
(1c) Sideyard	0'	3'
(1d) Rear yard	5'	10'
(1e) Alley rear yard	3'	—

C. ENCROACHMENTS

1. Outdoor Dining

2. Awnings, Signage, Balconies, Bay Windows and Galleries Per table below

ENCROACHMENT	HORIZ.	VERTICAL
(2a) awnings, signage of curb	w/in 2'	max 3' clear
(2b) galleries	w/in 2'	min 10' clear of curb
(2c) awl awnings, signage galleries	max 24"	min 10' clear
Side yard	0'	—
Rear yard	5'	—
Alley rear yard	3'	—

D. PARKING PLACEMENT

1. Parking Access Vehicular access is permitted only from an alley or side street.

2. Parking Placement Per table below; setbacks apply to all stories of a building.

SETBACK	ABOVE GRADE	SUBTERR.
(2a) Front yard	30' min	per building setback
(2b) Street side	10'	per building setback
(2c) Side yard	5'	—
(2d) Rear yard	5'	—
(2e) Alley rear yard	5'	—

E. REQUIRED PARKING

1. Driveway Requirements, per table below

TYPE	MIN	MAX
1-way	8'	10'
2-way	12'	16'
Parking	not allowed	allowed one side

2. Parking Requirements, per table below

Parking Calculations; all fractions shall be rounded up to the next whole number.

USE TYPE	PKG	GUEST PKG	IN LIEU
Residential	1.5/2000	0.25/2000	—
Live-Work	2/2000	—	—
Non-Res.	1/400	—	—

F. BUILDING HEIGHT AND PROFILE

1. Building Height:

a. maximum 3 stories, minimum 2 stories, and as allowed by individual building type requirements (Section 4.5.010)

2. Frontage Requirement

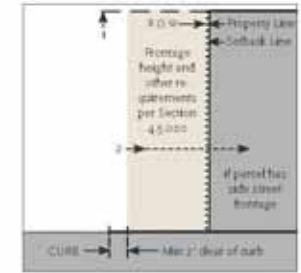
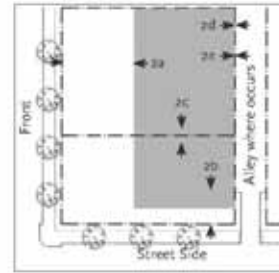
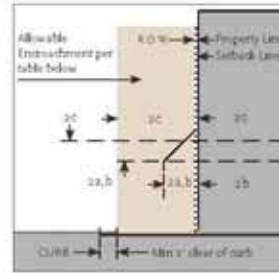
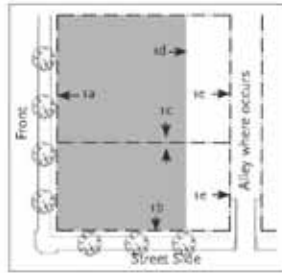
a. The ground floor fronting a street or other r.o.w. shall comply with the requirements for a frontage type per the table below.

Types Allowed	% of Frontage
Shopfront	min 25
Forecourt	Max 25
Stoop	min 25
Porch	min 25
Common Yard	min 25

4-4.060 OPEN SPACE (OS) ZONE



The following requirements apply to all property within the OS Zone.



A. ZONE REQUIREMENTS

1. Building Types Allowed The following building types and their particular maximum height are allowed in the OS Zone subject to compliance with all applicable requirements, including the requirements for each building type. (See Chapter 4-5.010 for individual design standards and definitions).

BUILDING TYPES	MAX STORIES IN OS
Store on Podium	—
Loft	—
Commercial Block	—
Stacked Dwelling	—
Courtyard Housing	—
Industrial Shed	—
Live/Work	—
Rowhouse	—
Bungalow Court	—
Duplex/Triplex/Quadplex	—
House	—

B. BUILDING PLACEMENT

1. Setbacks. Minimum setbacks required and, where noted, maximum setbacks allowed; except where a frontage type standard allows exceptions or establishes different requirements. All setbacks to be landscaped.

SETBACK	MIN.	MAX.
(1a) Front yard	10'	20'
(1b) Street Side	10'	—
(1c) Sideyard	20'	—
(1d) Rear yard	10'	—
(1e) Alley rear yard	5'	—

C. ENCROACHMENTS

1. Outdoor Dining

2. Awnings, Signage, Balconies, Bay Windows and Galleries Per table below

ENCROACHMENT	HORIZ.	VERTICAL
(2a) ext. awnings, galleries	max 10'	min 8' clear
(2b) ext. awnings, galleries	max 14'	min 12' clear
(2c) awnings and galleries of curb	w/in 2'	min 10' clear
Side yard	0'	—
Rear yard	0'	—
Alley rear yard	5'	—

D. PARKING PLACEMENT

1. Parking Access Vehicular access is permitted only from an alley or side street.

2. Parking Placement Per table below; setbacks apply to all stories of a building.

SETBACK	ABOVE GRADE	SUBTERR.
(2a) front yard	Not Allowed	—
(2b) Street side	Not Allowed	—
(2c) Side yard	Not Allowed	—
(2d) Rear yard	Not Allowed	—
(2e) Alley rear yard	Not Allowed	—

E. REQUIRED PARKING

1. Driveway Requirements, per table below.

TYPE	MIN.	MAX.
1-way	8'	12'
2-way	20'	25'
Parking	not allowed	not allowed

2. Parking Requirements, per table below

Parking Calculations: all fractions shall be rounded up to the next whole number.

USE TYPE	PKG	GUEST PKG.	IN LIEU (4)
Residential	—	—	—
Live/Work	—	—	—
Non-Res.	1/200	—	Yes

F. BUILDING HEIGHT AND PROFILE

1. Building Height:

a. maximum 2 stories, and as allowed by individual building type requirements (Section 4-5.010)

2. Frontage Requirement

a. The ground floor fronting a street or other r.o.w. shall comply with the requirements for a frontage type per the table below.

Types Allowed	% of Frontage
Shopfront	75 to 100
Forecourt	max 25
Stoop	—
Terrace	min 50
Porch	min 25
Common Yard	min 25

4.5 ARCHITECTURAL STANDARDS

4.5.010 BUILDING TYPES

A. Requirements

1. **Purpose.** This Chapter identifies the building types allowed within the Master Plan area, and provides design standards for each type, to ensure that proposed development is consistent with the City's goals for building form, character, and quality within the Master Plan area. The types are organized by intensity from most intense (Tower-on-Podium) to least intense (House).

2. **Applicability.** Each proposed building shall be designed in compliance with the standards of this Chapter for the applicable building type, except for public and institutional buildings, which because of their unique disposition and application are not required to comply with building type requirements. Buildings to be constructed on a parcel identified on the federal, state or local list of significant historic resources shall not be placed or constructed so as to result in a modification of the historic resource, unless alterations conform to the United States Secretary of Interior's official Standards for Treatment of Historic Properties.

3. **Allowable building types by zone.** Each proposed building shall be designed as one of the types allowed by the following table for the zone applicable to the site. Each type is subject to the requirements of the applicable zone.

A. TOWER-ON-PODIUM



B. LINER



C. COMMERCIAL BLOCK



D. STACKED DWELLING



E. HYBRID COURT



F. COURTYARD HOUSING



G. LIVE-WORK



H. ROWHOUSE



I. BUNGALOW COURT

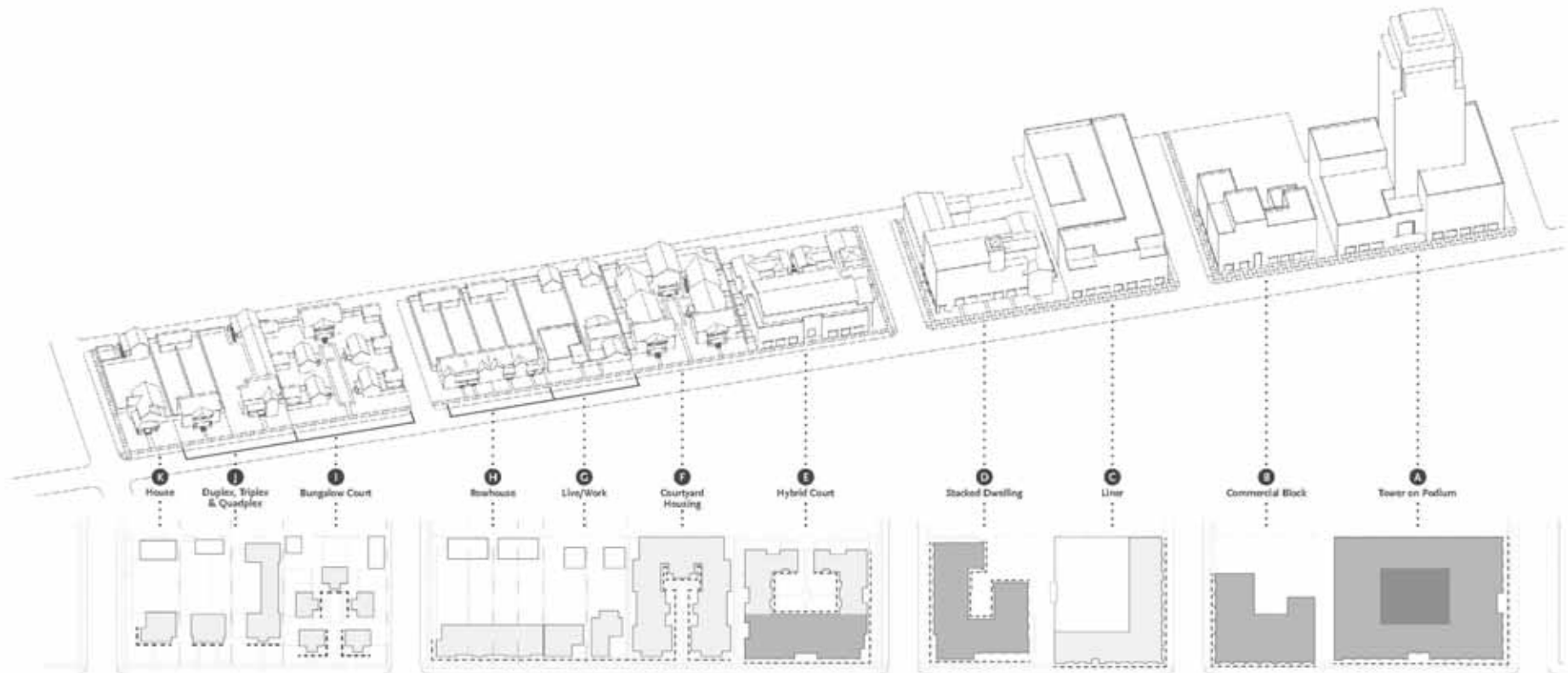


J. DUPLEX/TRIPLEX/QUADPLEX



K. HOUSE





BUILDING TYPES AND ADJACENCIES

This diagram identifies the range of building types allowed in the Master Plan area. The individual types are arranged on a continuum of intensity with the least intense at left and the most intense at right. Each type is allowed as identified (in Table 4.5-1) and its requirements are described on the following pages.

TABLE 4.5-1 BUILDING TYPES ALLOWED BY ZONE

Building Type	Max		Lot Width [i] (MIN-MAX)	Building Types Allowed by Zone [j]					
	Stories [k]	Density Range [l]		BN-C	BN-COR	NR	NS	OE	PO
A. Tower on Podium	20	90+	300'-400'	Y	—	—	—	—	Y
B. Commercial Block	6	45-50	125'-250'	Y	Y	Y	—	—	Y
C. Linear	6	30-70	75'-250'	Y	Y	—	—	—	Y
D. Stacked Dwelling	10	40-60	125'-200'	Y	Y	Y	—	—	Y
E. Hybrid Court	5	40-50	150'-250'	Y	Y	Y	—	—	Y
F. Courtyard Housing	3	10-15	125'-250'	Y	Y	Y	—	—	—
G. Live/Work	3	12-15	25'-150'	—	Y	Y	Y	—	—
H. Rowhouse	3	7-15	25'-150'	Y	Y	Y	—	—	—
I. Bungalow Court	2	10-15	100'-150'	—	Y	Y	—	—	—
J. Duplex/Triplex/Quadplex	3	10-15	50'-100'	—	—	Y	—	—	—
K. House	2	6-10	40'-60'	—	—	Y	—	—	—

Y = Allowed — = Not Allowed

[i] Density ranges represent the typical range of each building type and the range of dwellings that can accommodate while maintaining the particular characteristics for the type as described in this chapter. These figures are derived through the combination of each type's operational characteristics as to configuration in plan and section.

[j] Each type is subject to the maximum stories allowed in each zone.

[k] Measured along the front of the lot.



4-5.010 ARCHITECTURAL STANDARDS: BUILDING TYPES

A. Tower-on-Podium: A multi-level building organized around a central core with the first five floors expressed as a Podium building.

1: **Lot Width:** Minimum: 150 ft (3 acres); Maximum: 400 ft.

2: **Access Standards**

- a. Entrance to the tower is through a street level lobby.
- b. The entrance to each ground floor tower unit is directly from the street every 50 feet at a minimum. The entrance to each podium floor unit is directly from the podium.
- c. Access to all other units is through a lobby and elevator.
- d. Interior circulation to each above the third level is through a central corridor of at least 6 feet in width with recessed doors or seating alcoves/offsets at every 100 feet at a minimum.
- e. Where an alley is present, parking may be accessed through the alley.
- f. Where an alley is not present, parking is accessed from the street through the building.
- g. For corner lots without alley access, parking is accessed from the side street through the building.
- h. Elevator access is provided between the garage, and every one of the levels of the tower.

3: **Parking Standards**

- a. Required parking shall be in a completely concealed garage. If the garage is partially or wholly on the ground, then it shall be lined by commercial or residential units.
- b. Dwellings shall have indirect access to their parking stall(s).
- c. Entrances to garages and/or driveways are located as close as possible to the side/rear of each lot.
- d. Driveways to parking shall be between 12 and 25 feet in width.

4: **Service Standards**

- a. Services, including all utility access and above ground equipment and trash are located on alleys.
- b. Where alleys don't exist, utility access, above ground equipment and trash are located as provided under the urban regulations for each zone.

5: **Open Space Standards**

- a. A quadrangle-sized space shall be located on the ground, on a podium or on a roof garden of a size of at least 20% of the lot.
- b. Minimum dimensions for such a space shall be 60 feet. Frontages and architectural projections allowed within each urban zone are permitted on the sides of the quad.
- c. Private patios may be provided at side yards, rear yards and balconies.

6: **Landscape Standards**

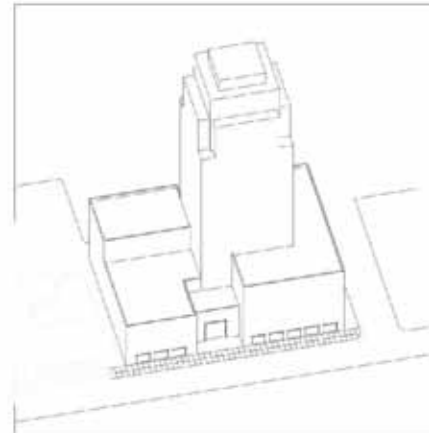
- a. All yards shall be landscaped.
- b. Four 36-inch box canopy trees per quad.
- c. One 36-inch box canopy tree in each rear yard for shade and privacy.
- d. When side yards are present, one 24-inch box tree per 30 linear feet to protect privacy of neighbors. The trees can be placed in groups in order to achieve a particular design.
- e. Quads shall be designed as inviting outdoor rooms.
- f. Smaller quads in interior courtyards will require shade tolerant plant materials.
- g. Six, five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
- h. In the RIO 2 and 3 overlay districts, no more than 25% of the landscaping materials, including plants, shall be the same as those on adjacent properties (18-118 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 673.2 of UDC).

7: **Frontage Standards**

- a. Entrance doors, public rooms, such as living rooms and dining rooms are oriented, to the degree possible, fronting toward the courtyard(s) and street. Service rooms are oriented to the degree possible backing to corridors.
- b. No frontage types may encroach into the required minimum width of a quad.
- c. The applicable frontage requirements apply per Chapter 4-5.040.
- d. See the requirements of the applicable zone for allowed encroachments into required setbacks.

8: **Building Size and Massing Standards**

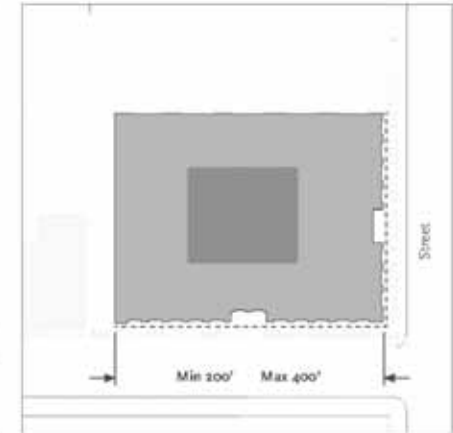
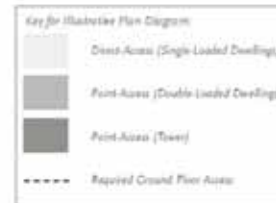
- a. Buildings shall be composed of bases and towers. Bases shall be 2 to 5 stories, designed to house scale, and not necessarily representing in their massing a single dwelling. Towers shall be composed as bundles of different heights and they shall enrich the skyline of the City.
- b. The base relates to the pedestrian scale, connecting the large building to its surroundings.
- c. Buildings may contain any of three types of dwellings: flats, townhouses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume, flanked by secondary ones.
- f. Refer to SA UDC 35-673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.



Illustrative Axonometric Diagram

Scenario (in stories)	1-5	6-10	11-15	16-20
T1	100%	80%	—	—
T2	100%	80%	40%	—
T3	100%	50%	40%	30%

9: **Accessory Dwellings**
Not Allowed



Illustrative Plan Diagram



Illustrative Photo: Tower with stoop frontages

B. Commercial Block: A building designed for occupancy by retail, service, and/or office uses on the ground floor, with upper floors also configured for those uses or for residences.

1. **Lot Width:** Minimum: 125 ft; maximum: 250 ft.

2. Access Standards

- a. The main entrance to each ground floor storefront is directly from the street.
- b. Entrance to the residential portions of the building is through a street level lobby or through a podium lobby accessible from the street or through a side yard.
- c. Interior circulation to each dwelling is through a corridor.
- d. For corner lots without alley access, parking is from the side street through the building.
- e. Where an alley is not present, parking is accessed from the street through the building.
- f. Elevator access should be provided between the garage, and each level of the building.
- g. Where an alley is present, parking may be accessed through alley.

3. Parking Standards

- a. Required parking is accommodated in an underground or above-grade garage, tuck-under parking, or a combination of any of the above.
- b. Dwellings shall have indirect access to their parking stall(s).
- c. Parking entrances to subterranean garages and/or drive-ways located as close as possible to side or rear of each lot.

4. Service Standards

- a. Services (incl. all utility access, above ground equipment and trash) are located on alleys.
- b. Where alleys don't exist, utility access, above ground equipment and trash are located as provided under the urban regulations for each zone.

5. Open Space Standards

- a. The primary shared open space is the rear or side yard designed as a courtyard. Courtyards can be located on ground or on a podium. Side yards may also be formed to provide out door patios connected to ground floor commercial uses.
- b. Minimum courtyard dimension shall be 20 feet when the long axis of the courtyard is oriented EW and 15 feet for a NS orientation. Courtyard proportions may not be less than 1:1 between its width and height for at least 2/3 of the court's perimeter. Shifts in upper floors adjacent to a court may not exceed 1/2 the height of the upper floor(s).
- c. In 20-foot-wide courtyards, frontages and architectural projections allowed within each urban zone are permitted on two sides of the courtyard. Such projections are permitted on one side of 15 foot wide courtyards.
- d. Private patios may be provided at side yards and rear yards.

6. Landscape Standards

- a. All yards shall be landscaped.
- b. When front yard is present, one 15 gallon or 24" box size tree per 25 lineal feet shall be provided. Trees shall be of small scale that do not exceed 12-15' height at maturity and are suitable for built-in concrete planters or containers with a 36" minimum width. The trees can be placed in groups in order to achieve a particular design.
- c. Six five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
- d. Courtyards located over garages shall be designed to avoid the sensation of forced podium hardscape.
- e. In the RIO 2 and 3 overlay districts, no more than 75% of the landscaping materials, including plants, shall be the same as those on adjacent properties (35-336 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 673-2 of UDC).

7. Frontage Standards

- a. Entrance doors, public rooms, such as living rooms and dining rooms are oriented, to the degree possible, fronting toward the courtyard(s) and street. Service rooms are oriented to the degree possible backing to corridors.
- b. Applicable frontage requirements apply per Chapter 4.5.000.

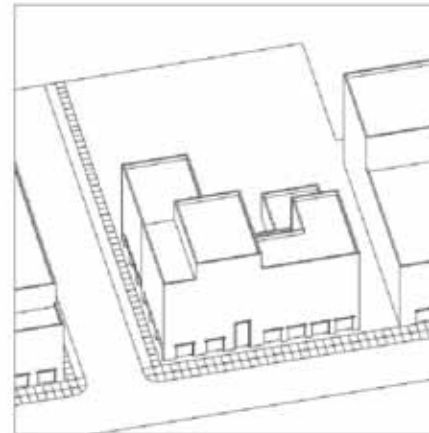
8. Building Size and Massing Standards

- a. Height ratios for various liners are as follows:

Scenario (#n stories)	Ratio of each story (see page 433 for height definition)					
	1	2	3	4	5	6
2.0	100%	80%	—	—	—	—
3.0	100%	75%	40%	—	—	—
4.0	100%	75%	35%	10%	—	—
5.0	100%	100%	25%	5.5%	10%	—
6.0	100%	100%	25%	15%	45%	10%

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume.
- f. Refer to SA UDC 35-673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.

g. **Accessory Dwellings.** Not Allowed



Illustrative Axonometric Diagram



Illustrative Plan Diagram

Key for Illustrative Plan Diagram

- Dead-Axons (Single Loaded Dwellings)
- Front-Axons (Double Loaded Dwellings)
- Front-Axons (Tower)
- Required Ground Floor Axons



Liner with shopfront frontage

C. Liner: A building that conceals a public (Park-Once) garage, designed for occupancy by retail, service, and/or office uses on the ground floor, with upper floors also configured for such uses or residences.

1. **Lot Width:** Minimum: 75 ft; maximum: 250 ft.

2. Access Standards

- a. The main entrance to each ground floor storefront is directly from the street.
- b. Entrance to the residential portions of the building is through a street level lobby, or through a podium lobby accessible from the street or through a side yard.
- c. Interior circulation to each dwelling is through a corridor.
- d. For corner lots without alley access, parking is from the side street through the building.
- e. Where an alley is not present, parking is accessed from the street through the building.
- f. Elevator access should be provided between the garage, and each level of the building.
- g. Where an alley is present, parking may be accessed through alley.

3. Parking Standards

- a. Required parking is accommodated in an underground or above-grade garage, truck under parking, or a combination of any of the above.
- b. Dwellings have indirect access to their parking stall(s).
- c. Parking entrances to subterranean garages and/or driveways located as close as possible to side or rear of each lot.

4. Service Standards

- a. Services (incl. all utility access, above ground equipment and trash) are located on alleys.
- b. Where alleys don't exist, utility access, above ground equipment and trash are located as provided under the urban regulations for each zone.

5. Open Space Standards

- a. The primary shared open space is the rear or side yard designed as a courtyard. Courtyards can be located on ground or on a podium. Side yards may also be formed to provide out door patios connected to ground floor commercial uses.
- b. Minimum courtyard dimension shall be 30 feet when the long axis of the courtyard is oriented EW and 35 feet for a NS orientation. Courtyard proportions may not be less than 1:1 between its width and height for at least 2/3 of the court's perimeter. Shifts in upper floors adjacent to a court may not exceed 1/2 the height of the upper floor(s).
- c. In 20-foot-wide courtyards, frontages and architectural projections allowed within each urban zone are permitted on two sides of the courtyard. Such projections are permitted on one side of 15 foot wide courtyards.
- d. Private patios may be provided at side yards and rear yards.

6. Landscape Standards

- a. All yards shall be landscaped.
- b. When front yard is present, one 15 gallon or 24" box size tree per 25 lineal feet shall be provided. Trees shall be of small scale that do not exceed 12-15' height at maturity and are suitable for built-in concrete planters or containers with a 36" minimum width. The trees can be placed in groups in order to achieve a particular design.
- c. Six five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
- d. Courtyards located over garages shall be designed to avoid the sensation of forced podium landscape.
- e. In the RIO 2 and 3 overlay districts, no more than 75% of the landscaping materials, including plants, shall be the same as those on adjacent properties (35-336 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 673.2 of UDC).

7. Frontage Standards

- a. Entrance doors, public rooms, such as living rooms and dining rooms are oriented, to the degree possible, fronting toward the courtyard(s) and street. Service rooms are oriented to the degree possible backing to corridors.
- b. Applicable frontage requirements apply per Chapter 4.5.000.

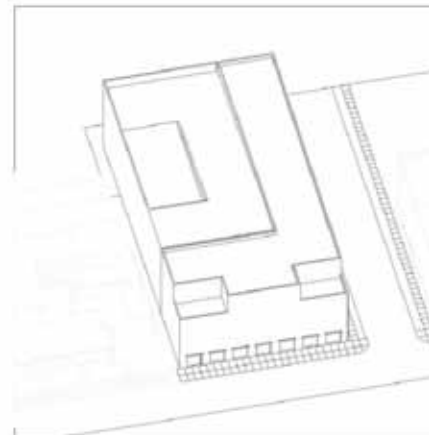
8. Building Size and Massing Standards

- a. Height ratios for various Tiers are as follows:

Scenario (in stories)	Ratio of each story (see page 433 for height definition)					
	1	2	3	4	5	6
2-3	100%	80%	—	—	—	—
3-6	100%	75%	40%	—	—	—
4-6	100%	75%	55%	10%	—	—
5-6	100%	100%	85%	65%	50%	—

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume.
- f. Refer to SA UDC 35-673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.

- g. **Accessory Dwellings, Not Allowed**



Illustrative Axonometric Diagram



Illustrative Plan Diagram

Key for Illustrative Plan Diagram:

- Dent Access (Single Loaded Dwellings)
- Point Access (Double Loaded Dwellings)
- Point Access (Tower)
- Required Ground Point Access



Liner with shopfront frontage

D. Stacked Dwelling: A structure of single-floor and/or multi-floor dwellings of similar configuration either above or below.

1. **Lot Width:** Minimum: 125 ft; maximum: 200 ft.

2. Access Standards

- a. The main entrance to each ground floor storefront is directly from the street.
- b. Entrance to the residential portions of the building is through a street level lobby, or through a podium lobby accessible from the street or through a side yard.
- c. Interior circulation to each dwelling is through a corridor.
- d. For corner lots without alley access, parking is from the side street through the building.
- e. Where an alley is not present, parking is accessed from the street through the building.
- f. Elevator access should be provided between the garage, and each level of the building.
- g. Where an alley is present, parking may be accessed through alley.

3. Parking Standards

- a. Required parking is accommodated in an underground or above-grade garage, tuck under parking, or a combination of any of the above.
- b. Dwellings have indirect access to their parking stall(s).
- c. Parking entrances to subterranean garages and/or drive ways located as close as possible to side or rear of each lot.

4. Service Standards

- a. Services (incl. all utility access, above ground equipment and trash) are located on alleys.
- b. Where alleys don't exist, utility access, above ground equipment and trash are located as provided under the urban regulations for each zone.

5. Open Space Standards

- a. The primary shared open space is the rear or side yard designed as a courtyard. Courtyards can be located on ground or on a podium. Side yards may also be formed to provide out door patios connected to ground floor commercial uses.
- b. Minimum courtyard dimension shall be 20 feet when the long axis of the courtyard is oriented EW and 15 feet for a NS orientation. Courtyard proportions may not be less than 1:1 between its width and height for at least 2/3 of the court's perimeter. Shifts in upper floors adjacent to a court may not exceed 1/3 the height of the upper floor(s).
- c. In 20-foot wide courtyards, frontages and architectural projections allowed within each urban zone are permitted on two sides of the courtyard. Such projections are permitted on one side of 15 foot wide courtyards.
- d. Private patios may be provided at side yards and rear yards.

6. Landscape Standards

- a. All yards shall be landscaped.
- b. When front yard is present, one 15 gallon or 24" box size tree per 25 lineal feet shall be provided. Trees shall be of small scale that do not exceed 12-15' height at maturity and are suitable for built-in concrete planters or containers with a 36" minimum width. The trees can be placed in groups in order to achieve a particular design.
- c. Six five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
- d. Courtyards located over garages shall be designed to avoid the sensation of forced podium hardscape.
- e. In the RIO 2 and 3 overlay districts, no more than 75% of the landscaping materials, including plants, shall be the same as those on adjacent properties (35-336 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 673-2 of UDC).

7. Frontage Standards

- a. Entrance doors, public rooms, such as living rooms and dining rooms are oriented, to the degree possible, fronting toward the courtyard(s) and street. Service rooms are oriented to the degree possible backing to corridors.
- b. Applicable frontage requirements apply per Chapter 4.5.000.

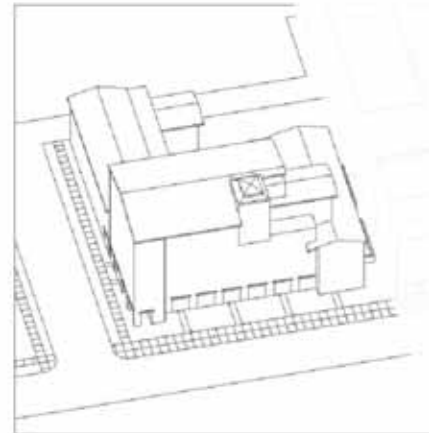
8. Building Size and Massing Standards

- a. Height ratios for various liners are as follows:

Scenario (#n stories)	Ratio of each story (see page 433 for height definition)					
	1	2	3	4	5	6-10
2.0	100%	80%	—	—	—	—
3.0	100%	75%	40%	—	—	—
4.0	100%	75%	35%	10%	—	—
5.0	100%	100%	25%	5%	10%	—
6.0	100%	100%	25%	15%	50%	40%

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume.
- f. Refer to SA UDC 35-673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.

9: **Accessory Dwellings.** Not Allowed



Illustrative Axonometric Diagram



Illustrative Plan Diagram

Key for Illustrative Plan Diagram

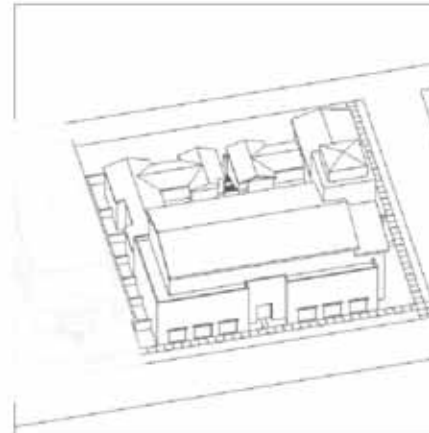
- Dead-Axons (Single Loaded Dwellings)
- Front-Axons (Double Loaded Dwellings)
- Front-Axons (Tower)
- Required Ground Floor Axons



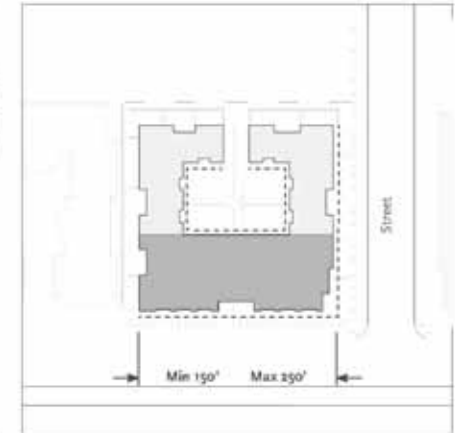
Stacked dwelling

- E. Hybrid Court:** A building designed for occupancy by retail, service, and/or office uses on the ground floor, with upper floors also configured for those uses or for residences that combines a double-loaded corridor element of stacked dwellings with the courtyard housing type.
1. **Lot Width:** Minimum: 150 ft; maximum: 250 ft.
2. **Access Standards**
- The main entrance to each ground floor storefront is directly from the street.
 - Entrance to the residential portions of the building is through a street level lobby or through a podium lobby accessible from the street or through a side yard.
 - Interior circulation to each dwelling is through a corridor.
 - For corner lots without alley access, parking is from the side street through the building.
 - Where an alley is not present, parking is accessed from the street through the building.
 - Elevator access should be provided between the garage, and each level of the building.
 - Where an alley is present, parking may be accessed through alley.
3. **Parking Standards**
- Required parking is accommodated in an underground or above-grade garage, tuck under parking, or a combination of any of the above.
 - Dwellings have indirect access to their parking stall(s).
 - Parking entrances to subterranean garages and/or drive ways located as close as possible to side or rear of each lot.
4. **Service Standards**
- Services (incl. all utility access, above ground equipment and trash) are located on alleys.
 - Where alleys don't exist, utility access, above ground equipment and trash are located as provided under the urban regulations for each zone.
5. **Open Space Standards**
- The primary shared open space is the rear or side yard designed as a courtyard. Courtyards can be located on ground or on a podium. Side yards may also be formed to provide out door patios connected to ground floor commercial uses.
 - Minimum courtyard dimension shall be 20 feet when the long axis of the courtyard is oriented EW and 35 feet for a NS orientation. Courtyard proportions may not be less than 1:1 between its width and height for at least 2/3 of the court's perimeter. Shifts in upper floors adjacent to a court may not exceed 1/2 the height of the upper floor(s).
 - In 20-foot-wide courtyards, frontages and architectural projections allowed within each urban zone are permitted on two sides of the courtyard. Such projections are permitted on one side of 35 foot wide courtyards.
 - Private patios may be provided at side yards and rear yards.

6. **Landscape Standards**
- All yards shall be landscaped.
 - When front yard is present, one 15 gallon or 24" box size tree per 25 lineal feet shall be provided. Trees shall be of small scale that do not exceed 12-15' height at maturity and are suitable for built-in concrete planters or containers with a 36" minimum width. The trees can be placed in groups in order to achieve a particular design.
 - Six five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
 - Courtyards located over garages shall be designed to avoid the sensation of forced podium landscape.
 - In the RIO 2 and 3 overlay districts, no more than 25% of the landscaping materials, including plants, shall be the same as those on adjacent properties (35-336 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 673.2 of UDC).
7. **Frontage Standards**
- Entrance doors, public rooms, such as living rooms and dining rooms are oriented, to the degree possible, fronting toward the courtyard(s) and street. Service rooms are oriented to the degree possible backing to corridors.
 - Applicable frontage requirements apply per Chapter 4.5.000.
8. **Building Size and Massing Standards**
- Height ratios for various tiers are as follows:
- | Scenario (in stories) | Ratio of each story (see page 433 for height definition) | 1 | 2 | 3 | 4 | 5 |
|-----------------------|--|------|------|-----|-----|-----|
| 3.0 | | 100% | 100% | 65% | — | — |
| 4.0 | | 100% | 100% | 65% | 40% | — |
| 5.0 | | 100% | 100% | 65% | 50% | 30% |
- Each dwelling may have only one side exposed to outdoors with direct access to at least a courtyard, patio, terrace or balcony.
 - Buildings may contain any of three types of dwellings; flats, town houses and lofts.
 - Dwellings may be as repetitive or unique as deemed by individual designs.
 - Buildings may be composed of one dominant volume.
 - Refer to SA UDC 35-673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.
9. **Accessory Dwellings:** Not Allowed



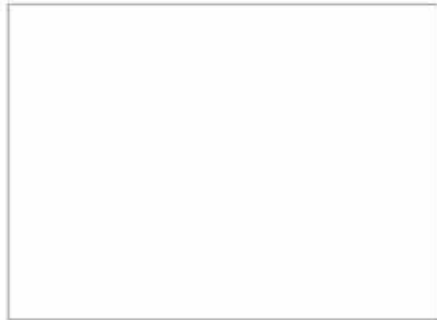
Illustrative Axonometric Diagram



Illustrative Plan Diagram



Illustrative Photo: Hybrid Court

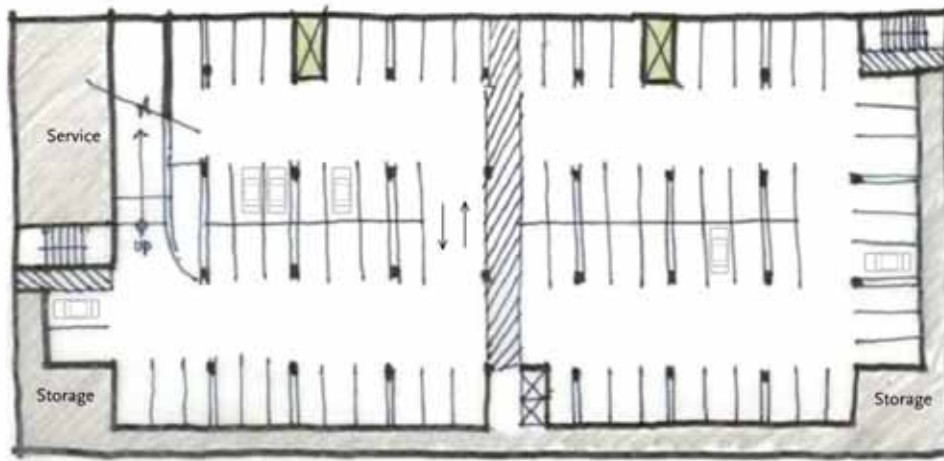


Right:
View looking west on Sixth
Street to AT&T that shows
mixed-use liner buildings that
front Sixth and Avenue B



Below:
Typical section view from the
RiverWalk through Avenue B
showing the scale of the street
and courtyard housing





Plan garage level

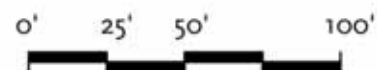
Total Units: +/- 92 Units
 Total Parking Provided: +/- 130

Parking & Unit Type Break Down

	Unit Type "A" - 728 SF	Unit Type "B" - 840 SF	Unit Type "C" - 1,200 SF	Parking
Garage Level	-	-	-	84
Street Level	14	-	-	46
Level 2	6	14	6	-
Level 3	6	14	6	-
level 4	6	14	6	-
Total	32	42	18	130



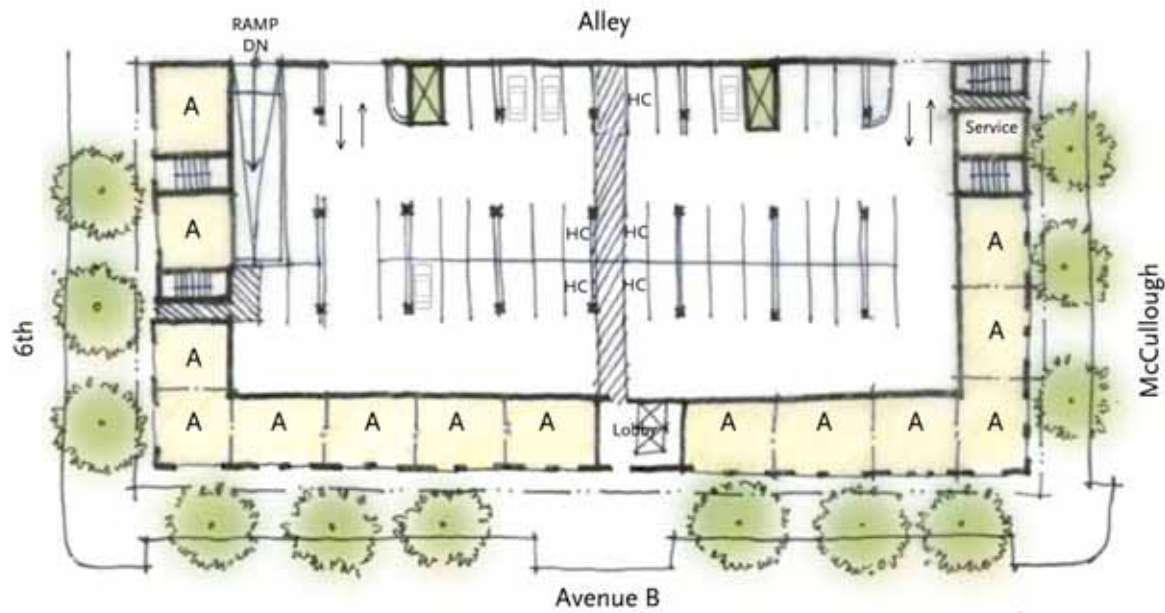
River North District Master Plan
 San Antonio, Texas
 Half Block Building on Avenue B



Moule and Polyzoides
 Architects & Urbanists
 April 1, 2008

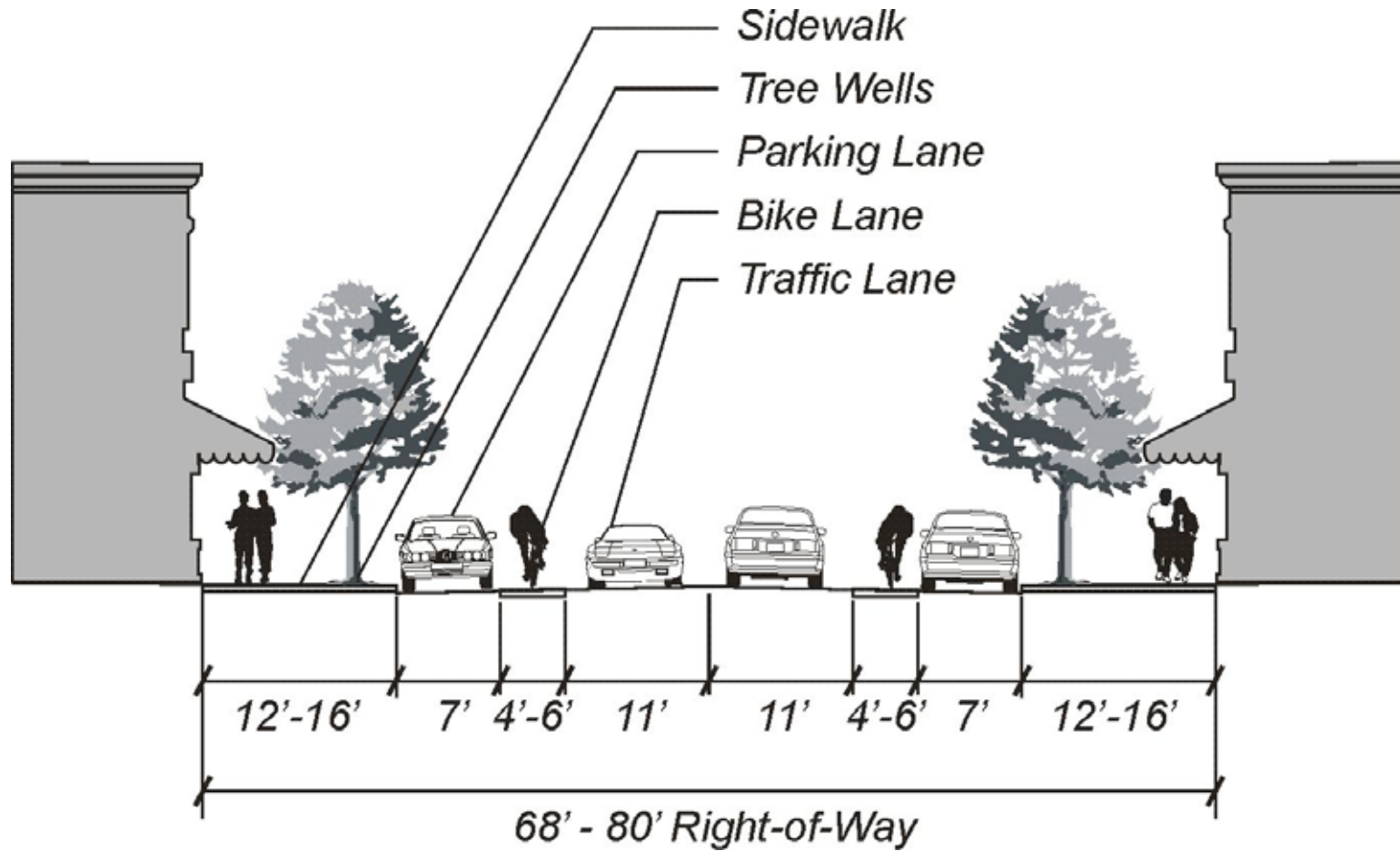


Plan at levels 2, 3 & 4



Plan at street level

Composite Street Types



F. Courtyard Housing: A structure type consisting of residences that can be arranged in four possible configurations: townhouses, townhouses over flats, flats, and flats over flats. These are arrayed next to each other, on one or more courts, to form a shared type that is partly or wholly open to the street.

1. Lot Width: Minimum: 125 ft; maximum: 250 ft.

2. Access Standards

- a. The main entrance to each ground floor storefront is directly from the street.
- b. Access to second story dwellings shall be through an open or roofed stair, serving up to 2 dwellings.
- c. Elevator access, if any, is provided between the garage and courtyard/podium only.
- d. For corner lots without alley access, parking is from the side street through the building.
- e. Where an alley is not present, parking is accessed from the street through the building.
- f. Elevator access should be provided between the garage, and each level of the building.
- g. Where an alley is present, parking may be accessed through alley.

3. Parking Standards

- a. Required parking is accommodated in an underground or above-grade garage, tuck under parking, or a combination of any of the above.
- b. Dwellings have indirect access to their parking stall(s).
- c. Parking entrances to subterranean garages and/or driveways located as close as possible to side or rear of each lot.

4. Service Standards

- a. Services (incl. all utility access, above ground equipment and trash) are located on alleys.
- b. Where alleys don't exist, utility access, above ground equipment and trash are located as provided under the urban regulations for each zone.

5. Open Space Standards

- a. The primary shared open space is the rear or side yard designed as a courtyard. Courtyards can be located on ground or on a podium. Side yards may also be formed to provide out door patios connected to ground floor commercial uses.
- b. Minimum courtyard dimension shall be 30 feet when the long axis of the courtyard is oriented EW and 15 feet for a NS orientation. Courtyard proportions may not be less than 1:1 between its width and height for at least 2/3 of the court's perimeter. Shifts in upper floors adjacent to a court may not exceed 1/2 the height of the upper floor(s).
- c. In 20-foot wide courtyards, frontages and architectural projections allowed within each urban zone are permitted on two sides of the courtyard. Such projections are permitted on one side of 15 foot wide courtyards.
- d. Private patios may be provided at side yards and rear yards.

6. Landscape Standards

- a. All yards shall be landscaped.
- b. When front yard is present, one 15 gallon or 24" box size tree per 25 lineal feet shall be provided. Trees shall be of small scale that do not exceed 12-15' height at maturity and are suitable for built-in concrete planters or containers with a 36" minimum width. The trees can be placed in groups in order to achieve a particular design.
- c. Six five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
- d. Courtyards located over garages shall be designed to avoid the sensation of forced podium hardscape.
- e. In the RIO 2 and 3 overlay districts, no more than 75% of the landscaping materials, including plants, shall be the same as those on adjacent properties (35-336 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 673-2 of UDC).

7. Frontage Standards

- a. Entrance doors, public rooms, such as living rooms and dining rooms are oriented, to the degree possible, fronting toward the courtyard(s) and street. Service rooms are oriented to the degree possible backing to corridors.
- b. Applicable frontage requirements apply per Chapter 4.5.000.

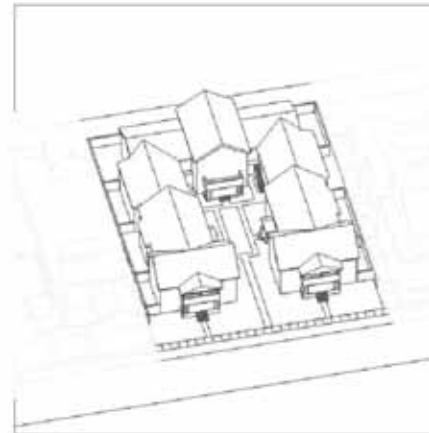
8. Building Size and Massing Standards

- a. Height ratios for various liners are as follows:

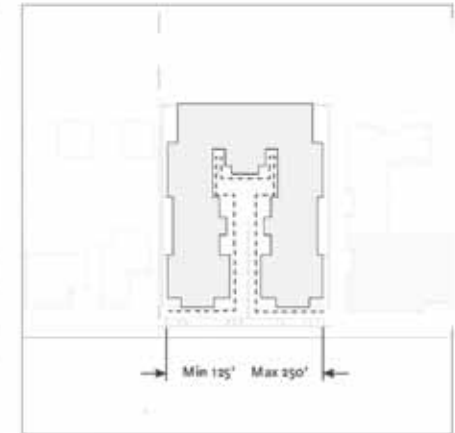
Scenario (in stories)	Ratio of each story (see page 433 for height definition)			
	1	2	3	4
3 or less	100%	80%	20%	—
4 or more	100%	90%	80%	20%

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume.
- f. Refer to SA UDC 35-673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.

9. Accessory Dwellings. Not Allowed



Illustrative Axonometric Diagram



Illustrative Floor Diagram

Key for Illustrative Floor Diagram

- Dead-Axons (Single Loaded Dwellings)
- Foot-Axons (Double Loaded Dwellings)
- Foot-Axons (Tower)
- Required Ground Floor Axons



Illustrative Photo: Courtyard housing

H. Live/Work: An integrated residence and working space located on the ground floor, occupied and utilized by a single household that has been designed or structurally modified to accommodate joint residential occupancy and work activity.

1. Lot Width: Minimum: 25 ft; maximum: 150 ft. (6 Live/Work)

2. Access Standards

- a. The main entrance to the ground floor flex space shall be accessed directly from and face the street.
- b. The upstairs dwelling shall be accessed by a separate entrance, and by a stair.
- c. For existing or new lots with alleys, garages and services shall be accessed from an alley. For existing lots without alleys, garages and services shall be accessed by a driveway (12 feet max width).

3. Parking Standards

- a. At least one required parking space shall be in a garage, attached to or detached from the dwelling.
- b. Additional required parking spaces can be enclosed, covered or open.

4. Service Standards

- a. Services (incl. all utility access, aboveground equipment, trash containers) shall be located on an alley when present, or in the rear of the lot for those lots without alley access as specified for the zone.

5. Open Space Standards

- a. Rear yards shall be no less than 15% of the area of each lot and of a regular geometry.
- b. Front yards are defined by the applicable setback and frontage type requirements.
- c. Private patios are allowed in any yard (front, side, rear).
- d. Balconies are allowed in any yard (front, side, rear) in compliance with the encroachment requirements of the applicable zone.

6. Landscape Standards

- a. All yards shall be landscaped.
- b. Landscape shall not obscure front yards on adjacent lots or the shopfront of ground floor flex space. Front yards trees shall not exceed 1.5 times the height of the porch at maturity, except at the margins of the lot, where they may be no more than 1.5 times the height of building at maturity. Trees shall be planted at the rate of one 36-inch box tree per 25 lineal feet of front yard. Trees can be placed in groups in order to achieve a particular design.
- c. At least one 24-inch canopy tree shall be provided in the rear yard for shade and privacy.
- d. Side yards trees shall be placed at a rate of one 24-inch box tree per 30 lineal feet to protect the privacy of neighbors.
- e. Six, five-gallon size shrubs, ten one-gallon size herbaceous

perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.

- f. Surface parking areas shall be landscaped per the City's Commercial Area Landscape Standards.
- g. All plant material shall be maintained per section 41-609 of the SAMC.
- h. All plant material shall be irrigated by an automatic irrigation system.
- i. In the RIO 2 and 3 overlay districts, no more than 25% of the landscaping materials, including plants, shall be the same as those on adjacent properties (35.338 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 623-2 of UDC).

7. Frontage Standards

- a. Each livework unit shall be designed so that living areas (e.g., living room, family room, dining room, etc.), rather than sleeping and service rooms, are oriented toward the fronting street and/or to the courtyard.
- b. Applicable frontage requirements apply per Chapter 4.5.020.

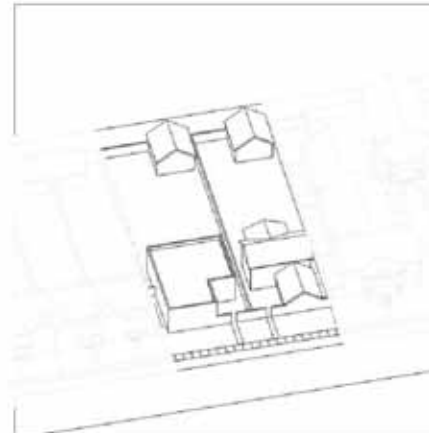
8. Building Size and Massing Standards

- a. Height ratios for various liners are as follows:

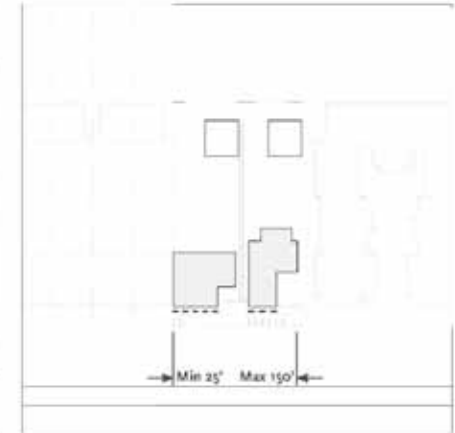
Scenario (in stories)	Ratio of each story (see page 433 for height definition)		
	1	2	3
2.0	100%	80%	—
3.0	100%	80%	40%

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume.
- f. Refer to SA UDC 35.673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.

9. Accessory Dwellings. Not Allowed



Illustrative Axonometric Diagram



Illustrative Plan Diagram

Key for Illustrative Plan Diagram:

- Direct Access (Single Loaded Dwellings)
- Point Access (Double Loaded Dwellings)
- Point Access (Towers)
- Required Ground Point Access



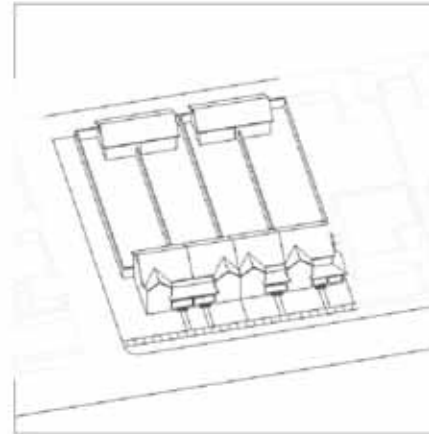
Live/Work type with shopfront frontage

- H. **Rowhouse:** An individual structure on a parcel with a rear yard and individual garage accessed from an alley, occupied by one primary residence in an array of at least 3 such structures or a structure of 3 multiple townhouse unit types arrayed side by side along the primary frontage.
- I. **Lot Width:** Minimum: 75 ft; maximum: 150 ft (6 rowhouses)
- 2. **Access Standards**
 - a. The main entrance to each unit shall be accessed directly from and face the street.
 - b. Garages and services shall be accessed from an alley.
- 3. **Parking Standards**
 - a. Required parking shall be in a garage, which may be attached to or detached from the dwelling.
- 4. **Service Standards**
 - a. Services (incl. all utility access, above ground equipment, trash containers) shall be located on an alley or on the rear of the lot for those without alley access, as specified for the zone.
- 5. **Open Space Standards**
 - a. Rear yards shall be no less than 15% of the area of each lot and of a regular geometry.
 - b. Front yards are defined by the applicable setback and frontage type requirements.
 - c. Private patios are allowed in any yard (front, side, rear).
 - d. Balconies are allowed in any yard (front, side, rear) in compliance with the encroachment requirements of the applicable zone.
- 6. **Landscape Standards**
 - a. All yards shall be landscaped.
 - b. Landscape shall not obscure front yards on adjacent lots or the shopfront of ground floor flex space. Front yards trees shall not exceed 1.5 times the height of the porch at maturity, except at the margins of the lot, where they may be no more than 1.5 times the height of building at maturity. Trees shall be planted at the rate of one 36-inch box tree per 25 lineal feet of front yard. Trees can be placed in groups in order to achieve a particular design.
 - c. At least one 24-inch canopy tree shall be provided in the rear yard for shade and privacy.
 - d. Side yards trees shall be placed at rate of one 24-inch box tree per 30 lineal feet to protect the privacy of neighbors.
 - e. Six, five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
 - f. Surface parking areas shall be landscaped per the City's Commercial Area Landscape Standards.

- g. All plant material shall be maintained per section 41-609 of the SAMC.
- h. All plant material shall be irrigated by an automatic irrigation system.
- i. In the RIO 2 and 3 overlay districts, no more than 25% of the landscaping materials, including plants, shall be the same as those on adjacent properties (35-338 of UDC). In RIO 2, a minimum of 50% of the open space shall be planted and in RIO 3, a minimum of 25% of the open space shall be planted (Table 673-a of UDC).
- 7. **Frontage Standards**
 - a. Each rowhouse ground level shall be designed so that living areas (e.g., living room, family room, dining room, etc.), rather than sleeping and service rooms, are oriented toward the fronting street and/or to the courtyard to the degree possible.
 - b. Applicable frontage requirements apply per Chapter 4-5.000.
- 8. **Building Size and Massing Standards**
 - a. Height ratios for various liners are as follows:

Scenario (in stories)	Ratio of each story (see page 433 for height definition)		
	1	2	3
2.0	100%	20%	--
3.0	100%	30%	40%

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designers.
- e. Buildings may be composed of one dominant volume.
- f. Refer to SA UDC 35-673 (solar access) for further massing requirements to provide direct sunlight to vegetation in the River Channel.
- g. **Accessory Dwellings. Not Allowed**



Illustrative Axonometric Diagram



Illustrative Floor Diagram

Key for Illustrative Floor Diagram

- Direct Access (Single Loaded Dwellings)
- Front Access (Double Loaded Dwellings)
- Front Access (Tower)
- Required Ground Floor Access

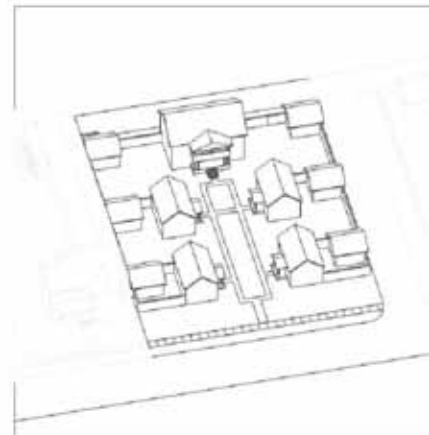


Rowhouse building with front yard and porch frontage

1. **Bungalow Court:** A configuration of freestanding single-family residences arranged around a common, shared courtyard. The individual buildings are arrayed next to each other to form a shared type that is wholly open to the street.
 1. **Lot Width:** Minimum: 100 ft; maximum: 180 ft
 2. **Access Standards**
 - a. Entrances to dwellings shall be directly from the front yard or from the courtyard. Access to second floor dwellings shall be by a stair, which may be open or enclosed.
 - b. Where an alley is present, parking and services shall be accessed through the alley.
 - c. Where an alley is not present, parking and services shall be accessed by of a driveway 7 to 10 feet wide, and with 2-foot planters on each side.
 - d. On a corner lot without access to an alley, parking and services are accessed from the side street.
 3. **Parking Standards**
 - a. Required parking shall be in individual garages, which shall contain up to four cars.
 - b. Garages on corner lots without alleys can front onto the side street only if provided with 1-car garage doors, and with driveways no more than 8 feet wide that are separated by planters at least 2 feet wide.
 4. **Service Standards**
 - a. Services (incl. all utility access, aboveground equipment, trash containers) shall be located on an alley or on the rear of the lot for those without alley access, as specified for the zone.
 - b. Where an alley is present, services, including all utility access and above ground equipment and trash container areas shall be located on the alley.
 - c. Where an alley is not present, utility access, above ground equipment and trash container areas shall be located in a side or rear yard, at least 10 feet behind the front of the house, and be screened from view from the street with a hedge or fence.
 5. **Open Space Standards**
 - a. A central courtyard shall comprise at least 15% of the lot area.
 - b. Minimum courtyard dimensions are 40 feet when the long axis of the courtyard is oriented East/West and 30 feet when the courtyard is oriented North/South.
 - c. In 40-foot wide courtyards, the frontages and architectural projections allowed are permitted on two sides of the courtyard and on one side of 30-foot wide courtyards.
 - d. Each ground floor dwelling shall have a private or semi-private yard of at least 150 square feet, which can be located in a side yard, the rear yard, or the courtyard.

- e. The private or semi-private required yards shall be at least 8 feet wide, and enclosed by a fence, wall or hedge.
- f. Each dwelling shall be separated from the adjacent dwelling by at least 10 feet.
- g. Front yards are defined by the setback and frontage type requirements of the applicable zone.
- h. Porches, stoops and dooryards may encroach into required yards as allowed.
- i. Private patios are allowed in any yard (front, side, rear)
- j. Balconies are allowed in any yard (front, side, rear) in compliance with the encroachment requirements of the applicable zone.
6. **Landscape Standards**
 - a. All yards shall be landscaped.
 - b. Landscape shall not obscure front yards on adjacent lots. Front yard trees shall not exceed 1.5 times the height of the porch at maturity, except at the margins of the lot, where they may be no more than 1.5 times the height of building at maturity. The trees shall be planted at the rate of one 36-inch box tree per 25 lineal feet of front yard. The trees can be placed in groups in order to achieve a particular design.
 - c. At least one 24-inch canopy tree shall be provided in the rear yard for shade and privacy.
 - d. Side yard trees shall be placed at rate of one 24-inch box tree per 30 lineal feet to protect the privacy of neighbors.
 - e. Six, five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
 - f. All plant material shall be maintained per section 41-609 of the SAMC. All plant material shall be irrigated by an automatic irrigation system.
7. **Frontage Standards**
 - a. Buildings shall be designed so that living areas (e.g., living room, family room, dining room, etc.), rather than sleeping and service rooms, are oriented toward the fronting street and/or to the courtyard.
 - b. The applicable frontage requirements apply per Section 4.5.020.
 - c. See the requirements of the applicable zone for allowed encroachments into required setbacks.
8. **Building Size and Massing Standards**
 - a. Height ratios for various lotners are as follows:

Scenario (in stories)	Ratio of each story (see page 433 for height definition)				
	1	2	3	4	5
2.0	100%	80%	—	—	—



Illustrative Axonometric Diagram



Illustrative Plan Diagram

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designers.
- e. Buildings may be composed of one dominant volume.
9. **Accessory Dwellings. Not Allowed**



Linear with shopfront frontages

- j. **Duplex, Triplex, Quadplex:** Duplexes, triplexes, and quadplexes are multiple dwelling types that are architecturally presented as large single-family houses in their typical neighborhood setting.
- 1. **Lot Width:** Minimum: 50 ft; maximum: 100 ft.
- 2. **Access Standards**
 - a. The main entrance to each dwelling shall be accessed directly from and face the street. Access to second floor dwellings shall be by a stair, which may be open or enclosed.
 - b. Where an alley is present, parking and services shall be accessed through the alley.
 - c. Where an alley is not present, parking and services shall be accessed by of a driveway 8 to 10 feet wide, and with 2-foot planters on each side.
 - d. On a corner lot without access to an alley, parking and services shall be accessed by driveways up to 8 feet wide, and 2-foot planters on each side.
- 3. **Parking Standards**
 - a. Required parking shall be within individual garages, which shall contain up to four cars.
 - b. Garages on corner lots without alleys can front onto the side street only if provided with 1-car garage doors, and with driveways up to 8 feet wide that are separated by planters at least 2 feet wide.
- 4. **Service Standards**
 - a. Where an alley is present, services, including all utility access and above ground equipment and trash container areas shall be located on the alley.
 - b. Where an alley is not present, utility access, above ground equipment and trash container areas shall be located at least 10 feet behind the front of the house, and be screened from view from the street with a hedge or fence, as specified for the zone.
- 5. **Open Space Standards**
 - a. Each ground floor dwelling shall have a private or semi-private yard of at least 150 square feet.
 - b. Required yards shall be at least 8 feet wide, and enclosed by a fence, wall or hedge.
 - c. Front yards are defined by the applicable setback and frontage type requirements.
 - d. Porches, stoops and dooryards may encroach into a required yard, as specified for the zone.
- 6. **Landscape Standards**
 - a. All yards shall be landscaped.
 - b. Landscape shall not obscure front yards on adjacent lots. Front yards trees shall not exceed 1.5 times the height of the porch at maturity, except at the margins of the lot, where they may be no more than 1.5 times the height of building at maturity. The trees shall be planted at the rate

of one 36-inch box tree per 25 lineal feet of front yard. The trees can be placed in groups in order to achieve a particular design.

- c. At least one 24-inch canopy tree shall be provided in the rear yard for shade and privacy.
- d. Side yards trees shall be placed at a rate of one 24-inch box tree per 30 lineal feet to protect the privacy of neighbors.
- e. Six, five-gallon size shrubs, ten one-gallon size herbaceous perennials/shrubs and turf or acceptable dry climate ground cover is required for every required tree.
- f. All plant material shall be maintained per section 41-609 of the SAMC. All plant material shall be irrigated by an automatic irrigation system.

7. **Frontage Standards**

- a. Dwellings abutting front yards shall be designed so that living areas (e.g., living room, family room, dining room, etc.), rather than bedrooms and service rooms, are oriented toward the fronting street to the extent possible.
- b. The applicable frontage requirements apply per Chapter 4.5.020.
- c. On corner lots, entrances to triplex and quadplex dwellings on both frontages is required.
- d. See requirements of applicable zone for allowed encroachments into required setbacks.

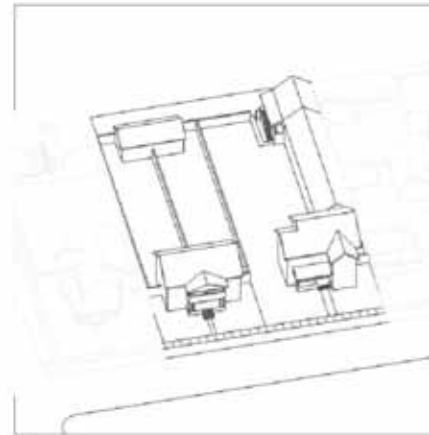
8. **Building Size and Massing Standards**

- a. Height ratios for various liners are as follows:

Scenario (in stories)	Ratio of each story (see page 433 for height definition)					
	1	2	3	4	5	6
1-2	100%	80%	—	—	—	—
3-6	100%	80%	40%	—	—	—

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume.

g. **Accessory Dwellings. Not Allowed**



Illustrative Axonometric Diagram



Illustrative Floor Diagram

Key for Illustrative Floor Diagram

- Dead-Axons (Single-Loaded Dwellings)
- Front-Axons (Double-Loaded Dwellings)
- Front-Axons (Trees)
- Required Ground Floor Axons



Liner with shopfront frontage

K. **House:** A structure occupied by one primary residence that also accommodates commercial uses as allowed.

1. **Lot Width:** Minimum: 40 ft; maximum: 60 ft.

2. **Access Standards**

- a. The main entrance to the house shall be accessed directly from and face the street.
- b. Where an alley is present, parking and services shall be accessed through the alley.
- c. Where an alley is not present, parking and services shall be accessed by of a driveway 8 to 10 feet wide, and with 2-foot planters on each side.
- d. On a corner lot without access to an alley, parking and services shall be accessed by a driveway up to 12 feet wide as specified in the zone, and 2-foot planters on each side.

3. **Parking Standards**

- a. Required parking shall be within a garage.
- b. A non-alley-accessed garage may accommodate no more than 2 cars. A street-facing garage shall have 1-car garage doors.
- c. An alley-accessed garage can accommodate up to three cars.

4. **Service Standards**

- a. Where an alley is present, services, including all utility access and above ground equipment and trash container areas shall be located on the alley.
- b. Where an alley is not present, utility access, above ground equipment and trash container areas shall be located at least 10 feet behind the front of the house and be screened from view from the street with a hedge or fence, as specified for the zone.

5. **Open Space Standards**

- a. At least one side yard shall be designed to provide an open area no less than 10 by 10 feet.
- b. Rear yards shall be no less than 15% of the area of each lot and of a regular geometry.
- c. Front yards are defined by the setback and frontage type requirements of the applicable zone.
- d. Private patios are allowed in any yard (front, side, rear)
- e. Balconies are allowed in any yard (front, side, rear) in compliance with the encroachment requirements of the applicable zone.

6. **Landscape Standards**

- a. All yards shall be landscaped.
- b. Landscape shall not obscure front yards on adjacent lots. Front yards trees shall not exceed 1.5 times the height of the porch at maturity, except at the margins of the lot, where they may be no more than 1.5 times the height of building at maturity. Trees shall be planted at the rate of one 36-inch

box tree per 25 lineal feet of front yard. Trees can be placed in groups in order to achieve a particular design.

- c. At least one 24-inch canopy tree shall be provided in the rear yard for shade and privacy.
- d. Side yard trees shall be placed in required yards at a rate of one 24-inch box tree per 25 lineal feet to protect the privacy of neighbors.
- e. All plant material shall be maintained per section 41-609 of the SAMC. All plant material shall be irrigated by an automatic irrigation system.

7. **Frontage Standards**

- a. A house's ground level shall be designed so that living areas (e.g., living room, family room, dining room, etc.), rather than sleeping and service rooms, are oriented toward the fronting street.
- b. The applicable frontage requirements apply per Chapter 4.5.020.

8. **Building Size and Massing Standards**

- a. Height ratios for various tiers are as follows:

Scenario (in stories)	Ratio of each story (see page 433 for height definition)		
	1	2	3
2.0	100%	80%	—
3	100%	80%	40%

- b. Each dwelling may have only one side exposed to outdoors with direct access to at least a dooryard, patio, terrace or balcony.
- c. Buildings may contain any of three types of dwellings: flats, town houses and lofts.
- d. Dwellings may be as repetitive or unique as deemed by individual designs.
- e. Buildings may be composed of one dominant volume.

g. **Accessory Dwellings. Not Allowed**



Illustrative Axonometric Diagram



Illustrative Plan Diagram

Key for Illustrative Plan Diagram:

- Dead Access (Single Loaded Dwellings)
- Point Access (Double Loaded Dwellings)
- Point Access (Towers)
- Required Ground Point Access



Linear shopfront frontage

4.5 ARCHITECTURAL STANDARDS

4.5.020 FRONTAGE TYPES

Requirements

- Purpose.** This Chapter identifies the frontage types allowed within the Master Plan area, and for each type, provides a description, a statement as to the type's intent and, design standards, to ensure that proposed development is consistent with the City's goals for building form, character, and quality within the plan area. The types are organized by intensity from most (Arcade) to least (Common Yard) intense.
- Applicability.** The provisions of this Chapter work in combination with the underlying Zone as identified on the Regulating Plan.
- Allowable Frontage types by zone.** Each Zone identifies the Frontage Types allowed and refers to this Chapter for the appropriate information.

A. ARCADE



Illustrative Photo

B. GALLERY



Illustrative Photo

C. SHOPFRONT



Illustrative Photo

D. FORECOURT



Illustrative Photo

Frontage Types Allowed by Zone

Frontage Type	RN-C	RN-COR	NE	NS	DS
A. Arcade	—	Y	—	—	—
B. Gallery	Y	Y	—	—	—
C. Shopfront	Y	Y	Y	Y	—
D. Forecourt	Y	Y	Y	—	—
E. Terrace	Y	Y	—	—	—
F. Light Court	—	—	—	—	—
G. Stoop	Y	Y	Y	Y	—
H. Porch	Y	—	Y	Y	—



Illustrative Photo



Illustrative Photo



Illustrative Photo



Illustrative Photo

Frontage Types Allowed by Building Type

Building Type	Arcade	Gallery	Shopfront	Forecourt	Terrace	Light Court	Stoop	Porch
Town-on-Podium	Y	Y	Y	Y	Y	—	—	—
Commercial Block	Y	Y	Y	Y	Y	Y	—	—
Loft	Y	Y	Y	Y	Y	—	—	—
Stacked Dwelling	Y	Y	—	Y	Y	Y	Y	Y
Hybrid Court	Y	Y	Y	Y	Y	—	Y	—
Courtyard Housing	Y	Y	—	Y	Y	Y	Y	Y
Loft/Work	—	—	Y	Y	Y	Y	Y	Y
Rowhouse	—	—	Y	—	Y	Y	Y	Y
Bungalow Court	—	Y	Y	—	Y	—	Y	Y
Duplex, Triplex & Quadplex	—	Y	Y	—	Y	—	Y	Y
House	—	—	Y	—	Y	—	Y	Y

Y = allowed
— = not allowed



Section Diagram



Section Diagram



Section Diagram



Section Diagram

E. TERRACE



Illustrative Photo

F. LIGHT COURT



Illustrative Photo

G. STOOP



Illustrative Photo

H. PORCH



Illustrative Photo



Illustrative Photo



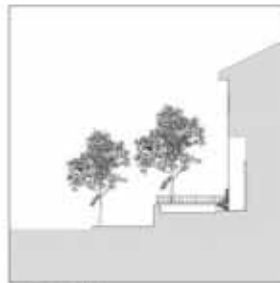
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Illustrative Photo



Illustrative Photo



Section Diagram



Section Diagram



Section Diagram



Section Diagram

4.5.020 ARCHITECTURAL STANDARDS: FRONTAGE TYPES

A. Arcade

Arcades are facades with an attached colonnade, that is covered by upper stories. This type is ideal for retail use, but only when the sidewalk is fully absorbed within the arcade so that a pedestrian cannot bypass it.

1. Configuration

A great variety of arcade designs are possible, but the following apply:

- a. The height and the proportions of the arcade shall correspond to the facade consistent with the architectural style of the building.
- b. Min 12 ft clear [1] in all directions. Soffits, columns/arches shall be treated consistent with the architecture of the building.
- c. Along primary frontages, the arcade shall correspond to storefront openings and:
 - i. spacing between openings along the right-of-way shall be 10 feet;
 - ii. primary frontage storefront openings shall be at least 10 feet tall and comprise 65% of the 1st floor wall area facing the street and not have opaque or reflective glazing;
 - iii. storefronts shall be min 10 ft to max 16 ft tall.
- d. A bulkhead is to transition between the opening(s) and the adjacent grade. The bulkhead shall be between 24 inches and 36 inches tall (aluminum storefront or spandrel panel may not substitute for a bulkhead).
- e. Max 4' sidewalk between curb and face of arcade (except at curb extensions for intersections).

2. Elements

- f. Awnings, signs, etc. shall be located 8 feet above the adjacent sidewalk and may project for the width of the sidewalk at a rate of 6 inches per each foot above 8 feet to a maximum encroachment of 4 feet.

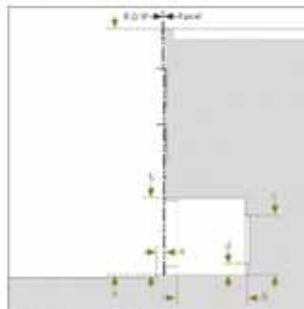
[1] The term "clear" means that the identified area is free of any encroachments.



Illustrative Photo: Arcade



Axonometric Diagram: Arcade



Section Diagram: Arcade

B. Gallery

Galleries are attached cantilevered shed or a lightweight colonnade overlapping the sidewalk.

1. Configuration

A great variety of gallery designs are possible, but the following apply:

- a. The height and the proportions of the gallery shall correspond to the facade consistent with the architectural style of the building.
- b. min 12 feet wide clear [1] in all directions. Soffits, columns/arches shall be treated consistent with the architecture of the building.
- c. Along primary frontages, the arcade shall correspond to storefront openings and:
 - i. spacing between openings along the right-of-way shall be min 10 feet.
 - ii. primary frontage storefront openings shall be at least 10 feet tall and comprise 65% of the 1st floor wall area facing the street and not have opaque or reflective glazing.
 - iii. storefronts shall be min 10 ft to max 16 ft tall.
- d. A bulkhead is to transition between the opening(s) and the adjacent grade. The bulkhead shall be between 24 inches and 36 inches tall (aluminum storefront or spandrel panel may not substitute for a bulkhead).
- e. Min 2 ft and max 4 ft clearance from curb and face of arcade (except at curb extensions for intersections).

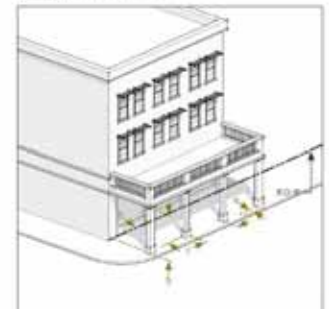
2. Elements

- f. Awnings, signs, etc. shall be located at least 8 feet above the adjacent sidewalk and may project for the width of the sidewalk at a rate of 6 inches per each foot above 8 feet to a maximum encroachment of 4 feet (see applicable zone for "encroachments").

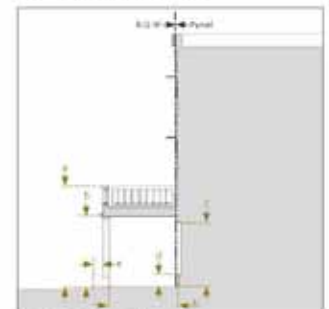
[1] The term "clear" means that the identified area is free of any encroachments.



Illustrative Photo: Gallery



Axonometric Diagram: Gallery



Section Diagram: Gallery

C. Shopfront

Shopfronts are facades placed at or close to the right-of-way line, with the entrance at sidewalk grade. This type is conventional for retail frontage and is commonly equipped with cantilevered shed roof(s) or awning(s). Recessed storefronts are also acceptable. The absence of a raised ground floor precludes residential use on the ground floor facing the street, although such use is appropriate above.

1. Configuration

A great variety of shopfront designs are possible, but the following apply:

- min 10 feet clear [1] to max 18 feet tall, as measured from the adjacent sidewalk.
- The corresponding storefront(s) opening(s) along the primary frontage shall comprise at least 65% of the 1st floor wall area facing the street and not have opaque or reflective glazing.
- Storefronts may be recessed from the frontage line by up to 10 feet.
- A bulkhead is to transition between the opening(s) and the adjacent grade. The bulkhead shall be between 24 inches and 36 inches tall (aluminum storefront or spandrel panel may not substitute for a bulkhead).

2. Elements

- Awnings, signs, etc. shall be located at least 8 feet above the adjacent sidewalk and may project for the width of the sidewalk at a rate of 6 inches per each foot; above 8 feet to a maximum encroachment of 4 feet.
- Signage shall not project within 2 ft. of the adjacent curb face(s).
- Awnings shall only cover storefronts and openings so as to not cover the entire facade.

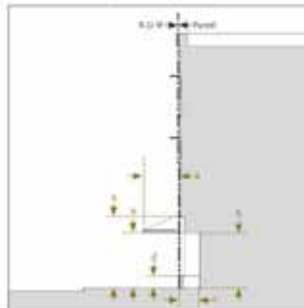
[1] The term "clear" means that the identified area is free of any encroachments excluding awnings.



Illustrative Photo: Shopfront



Axonometric Diagram: Shopfront



Section Diagram: Shopfront

D. Forecourt

Forecourts are a recessed court within a shopfront, gallery or arcade frontage. The forecourt is suitable for gardens and vehicular drop-offs.

1. Configuration

A great variety of forecourt designs are possible, but the following apply:

- min 10 feet deep (clear [1]), max 40 feet deep (clear [1])
- min 20' wide; max 40'
- The court may also be raised from the sidewalk, creating a small retaining wall at the property line with entry steps to the court, but should not exceed 3 feet from the adjacent sidewalk grade.
- Storefronts shall be between 10 feet and 16 feet tall, as measured from the adjacent sidewalk.
- The corresponding storefront(s) opening(s) along the primary frontage shall be at least 65% of the 1st floor wall area and not have opaque or reflective glazing.
- Bulkhead: 24 inches min, 36 inches max (aluminum store front or spandrel panel may not be substituted for a bulkhead).

2. Elements

- Minimum clearances for signs, awnings, etc: vertical: 8' from sidewalk; horizontal: width of sidewalk.

[1] The term "clear" means that the identified area is free of any encroachments.



Illustrative Photo: Forecourt



Axonometric Diagram: Forecourt



Section Diagram: Forecourt

E. Terrace

An elevated terrace separates the facade from the sidewalk which is set back from the street. This type buffers residential use from urban sidewalks and removes the private yard from the public encroachment. Terraces are suitable for conversion to outdoor cafes.

1. Configuration

A great variety of terrace designs are possible, but the following apply:

- a. min 12 feet clear [1] to max 18 feet tall, as measured from the adjacent sidewalk.
- b. The corresponding storefront(s) opening(s) along the primary frontage shall comprise at least 65% of the 1st floor wall area facing the street and not have opaque or reflective glazing.
- c. Storefronts may be recessed from the frontage line by up to 10 feet.
- d. A bulkhead is to transition between the opening(s) and the adjacent grade. The bulkhead shall be between 24 inches and 36 inches tall (aluminum storefront or spandrel panel may not substitute for a bulkhead)

2. Elements

- e. Awnings, signs, etc. shall be located at least 8 feet above the adjacent sidewalk and may project for the width of the sidewalk at a rate of 6 inches per each foot above 8 feet to a maximum encroachment of 4 feet.
- f. Signage shall not project within 2 ft of the adjacent curb face(s).
- g. Awnings shall only cover storefronts and openings so as to not cover the entire facade.

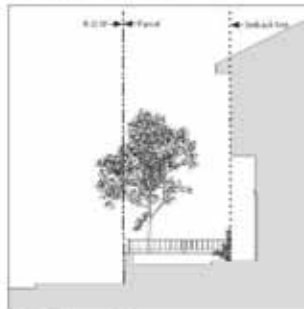
[1] The term "clear" means that the identified area is free of any encroachments.



Illustrative Photo: Terrace



Anisometric Diagram: Terrace



Section Diagram: Terrace

F. Light Court

They will write

Frontyards are a common frontage primarily associated with single family houses, but used with other building types depending on the context in all cases, where the facade is set back from the right of way with a front yard. An encroaching porch may also be appended to the facade. A fence or wall at the property line may be used to define the private space of the yard. The front yard may also be raised from the sidewalk, creating a small retaining wall at the property line with entry steps to the yard.

1. Configuration

A great variety of porch designs are possible, but the following apply:

- a. min 6 ft deep (clear [1]);
- b. min 12 ft wide (clear [1]) for centered entry; min 10 ft for asymmetrical entry and;
- c. min 10 ft tall (clear [1]).
- d. Porches may be at grade or raised to transition into the building. In no case shall porches be raised more than 3 feet from the adjacent grade.

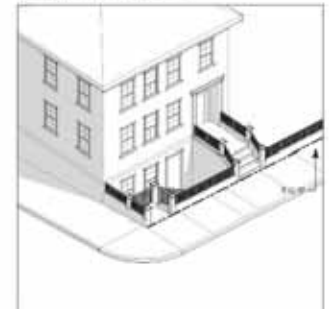
2. Elements

- e. Fences or walls defining and/or retaining the front yard shall not exceed 3 feet in height from the adjacent sidewalk.
- f. Fences and walls within the front yard shall comply with

[1] The term "clear" means that the identified area is free of any encroachments of 4 feet.



Illustrative Photo: Light Court



Anisometric Diagram: Light Court



Section Diagram: Light Court

G. Stoop

Stoops are elevated entry porches/stairs placed close to the frontage line with the ground story elevated from the sidewalk, securing privacy for the windows and front rooms. This type is suitable for ground-floor residential uses with short setbacks. This type may be interspersed with the shopfront frontage type. A porch or shed roof may also cover the stoop.

1. Configuration

A great variety of stoop designs are possible, but the following apply:

- min 4 feet deep (clear [1])
- min 4 feet wide (clear [1])
- Stoops may be at grade or raised to transition into the building. In no case shall the ground story be elevated more than 3 feet above the adjacent sidewalk.
- Stoops must correspond directly to the building entry(s).

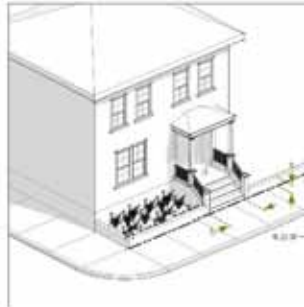
2. Elements

- Fences or walls defining the stoop or front setback shall not exceed 30" from the highest adjacent finished grade.

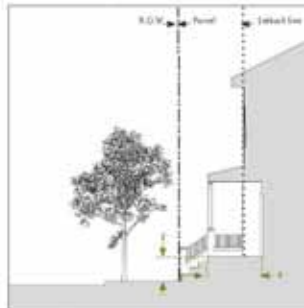
[1] The term "clear" means that the identified area is free of any encroachments.



Illustrative Photo: Stoop



Axonometric Diagram: Stoop



Section Diagram: Stoop

H. Porch

Tony will write

Frontyards are a common frontage primarily associated with single family houses, but used with other building types depending on the context in all cases, where the facade is set back from the right of way with a front yard. An encroaching porch may also be appended to the facade. A fence or wall at the property line may be used to define the private space of the yard. The front yard may also be raised from the sidewalk, creating a small retaining wall at the property line with entry steps to the yard.

1. Configuration

A great variety of porch designs are possible, but the following apply:

- min 7 ft deep (clear [1]);
- min 12 ft wide (clear [1]) for centered entry; min 10 ft for asymmetrical entry and;
- min 10 ft tall (clear [1]).
- Porches may be at grade or raised to transition into the building. In no case shall porches be raised more than 3 feet from the adjacent grade.

2. Elements

- Fences or walls defining and/or retaining the front yard shall not exceed 3 feet in height from the adjacent sidewalk.
- Fences and walls within the front yard shall comply with

[1] The term "clear" means that the identified area is free of any encroachments of 4 feet.



Illustrative Photo: Porch



Axonometric Diagram: Porch



Section Diagram: Porch

4-7 STREET AND NETWORK STANDARDS

This chapter identifies the various street types deployed to assemble the street network for the plan area.

- These requirements work with the subdivision and open space standards to:
- provide the information with which to modify existing streets,
 - provide the information with which to maintain existing streets not proposed to change,
 - produce new, variable blocks and streets,
 - provide connection from street level to riverwalk level.

The diagram at right identifies the proposed improvements to the existing thoroughfare network for the Master Plan area.

CIRCULATION ELEMENT REFERENCE	KEY	PLAN STREET TYPE	R.O.W.	DESIGN SPEED (1)
	A	AVENUE	VARIABLE	35
	M	MAIN STREET	VARIABLE	35
	U1	URBAN STREET 1	VARIABLE	30
	U2	URBAN STREET 2	VARIABLE	30
	R1	RESIDENTIAL STREET 1	VARIABLE	20-25
	R2	RESIDENTIAL STREET 2	VARIABLE	20-25
	AL	ALLEY (WHERE OCCURS)	20'	30-35
	RB	RIVER BRIDGE	VARIABLE	25
	P	PASEO	VARIABLE	N/A



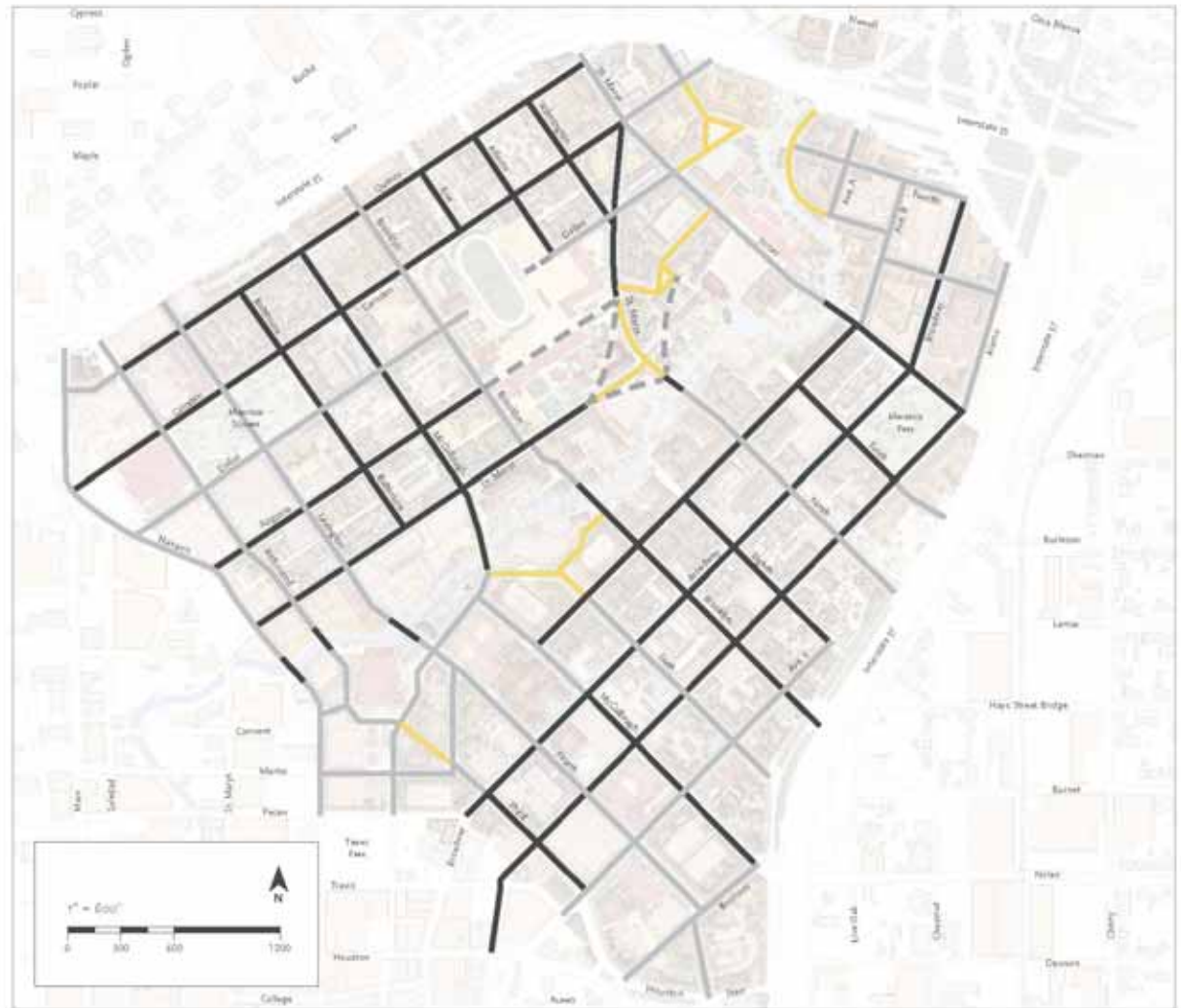
(1) The speed for which the street is intended and which informs the characteristics, design and details. It is recognized that over the plan's 20-year planning horizon, the City is subject to necessary periodic adjustments to posted speed limits.

CONDITION/DIRECTION	R.O.W.	DESIGN SPEED (1)
EXISTING - REMAIN	VARIABLE	VARIABLE
EXISTING - REMOVE	VARIABLE	VARIABLE
EXISTING - REVISE	VARIABLE	VARIABLE
NEW	VARIABLE	VARIABLE
BEGIN 1-WAY	VARIABLE	VARIABLE
END 1-WAY	VARIABLE	VARIABLE

Above: The list of street types to be used in the plan area and their cross reference to the Circulation Element.

Right: The circulation system with the planned improvements and connections to both implement the Circulation Element and respond to the needs and desired contexts throughout the plan area.

STREET NETWORK PLAN



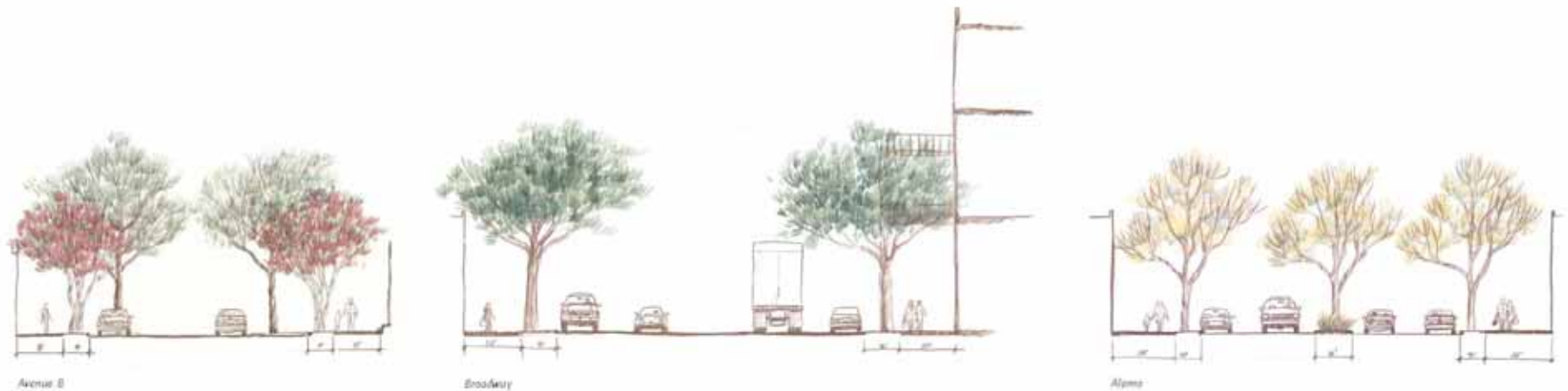
2.2. OPEN SPACE AND STREETScape PLAN

2.2.2. STREET TREES AND STREETSAPES

Street trees are one of the most prominent design elements capable of linking together diverse uses and architectural types within an entire city. The quality of spatial coherence and order, which comes from repetition and ordered spacing of trees, is the ability of this organization to define a sense of place. The reinforcement of the street grid with patterned rows of liked specie trees on both sides of the streets achieves continuity of pedestrian and vehicular zones, improves scale, reduces vehicular speed, reduces "heat island" effects and achieves a greater aesthetic integrity for both the pedestrian and vehicular experiences. Yet these important principals of spatial order and coherence must be balanced with the need for specie diversity within the street tree system. Balancing spatial coherence and organization with diversity for the health of the urban forest can be accomplished in regional and local block contexts. The River North Street Tree Plan uses the regional context where the diversity of species can be set to the arrangement of the street grid. Tree selections are set to the scale and prominence of each individual street, setting up a network of diverse plantings at regional level. Additionally the strategy at block level diversification has been achieved by highly structured patterns of alternating species or rows of liked specie trees on both sides of the street interrupted by a common differing species at the intersections and mid-block bulb outs.

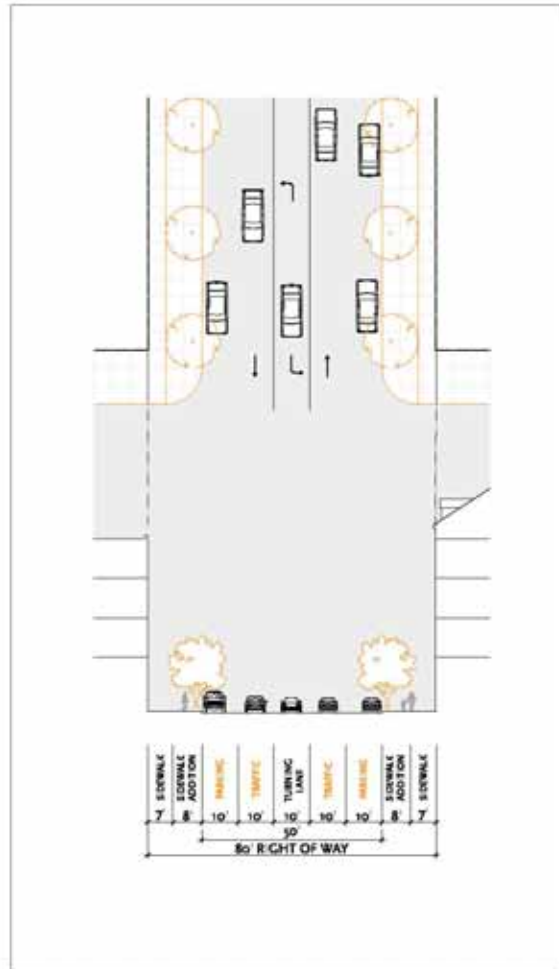
Goals of River North Street Tree Program:

- Balance spatial coherence with specie diversity
- Develop a sense of community and place for the River North District
- Reinforce the traffic calming criteria by providing enclosure of tree canopies and a pleasant division from the vehicular movement.
- Encourage pedestrian friendly street through shaded and safe streets
- Encourage use of large canopy trees for improved visibility and canopy effect
- Encourage deciduous tree plantings because of their ability to adjust to seasonal light and temperatures.
- Plant street trees no further than 30 feet apart
- Provide at least 4 feet of prepared topsoil depth and 200 cubic feet of prepared topsoil at 80-85% compaction for trees in narrow right of ways and 500 cubic feet for reconstructed streets with broad right ways and walkways



Note: street types are in typological and numerical order.

4.1 **Broadway: North of Third St.**



Movement	free
Speed	35mph
Pedestrian Crossing Time	10 seconds
Row Width	80'
Pavement Width	50'
Median	none
Traffic Lanes	1, 1 each way
Parking	North side, [4]
Curb Type	vertical
• Actual Curb Radius (r1)	+/- 15' on north side, +/- 20' on south side
• Effective Curb Radius (r2)	+/- 23' on north side, +/- 28' on south side
Sidewalk Width	10' [4]
Planter Size	4' x 4'
Planter Type	walls at 30" on center
Planting	one tree at 30" from curb
Tree Species	see page 100
Street Lighting	Street Tree Flare

* Modifications are shown in orange

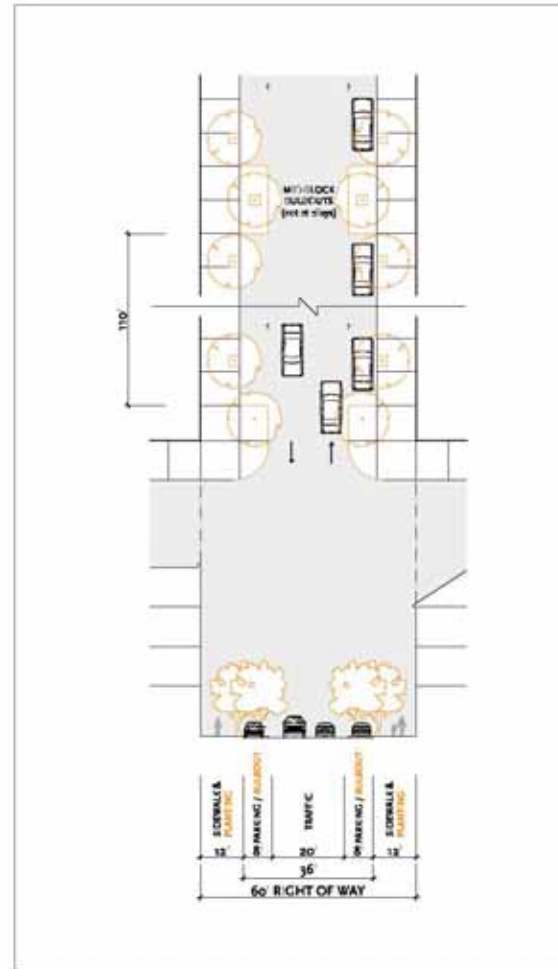
- [4] No parking South Bound 7 AM - 9 AM
No parking North Bound 4 PM - 7 PM

[4] At McCullough, sidewalks become 14' wide

Above: Existing photo prior to change

Left: Plan/Section Diagram

4.2 **Avenue B: Fourth to Jones**



Movement	free
Speed	35mph
Pedestrian Crossing Time	10 seconds
Row Width	80'
Pavement Width	35'
Bulbouts	not used on this
Median	none
Traffic Lanes	1, 1 each way
Parking	both sides
Curb Type	vertical
• Actual Curb Radius (r1)	+/- 15' on north side, +/- 20' on south side
• Effective Curb Radius (r2)	+/- 23' on north side, +/- 28' on south side
Sidewalk Width	12'
Planter Size	4' x 4'
Planter Type	walls at 30" on center
Planting	one tree at 30" from curb
Tree Species	see page 100
Street Lighting	Street Tree Flare

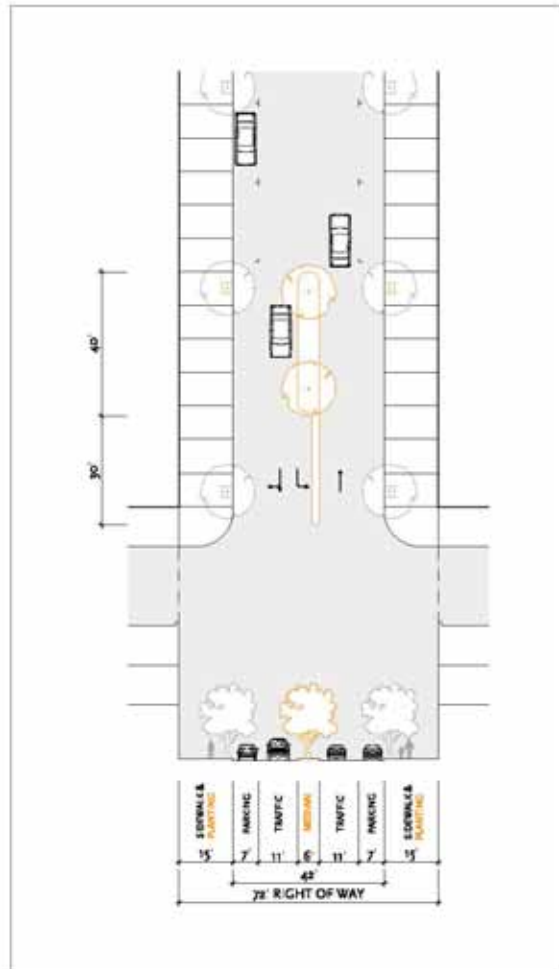
* Modifications are shown in orange

Above: Existing photo prior to change

Left: Plan/Section Diagram

Note: street types are in typological and numerical order

4.7.1 Alamo Street: Houston to Jones



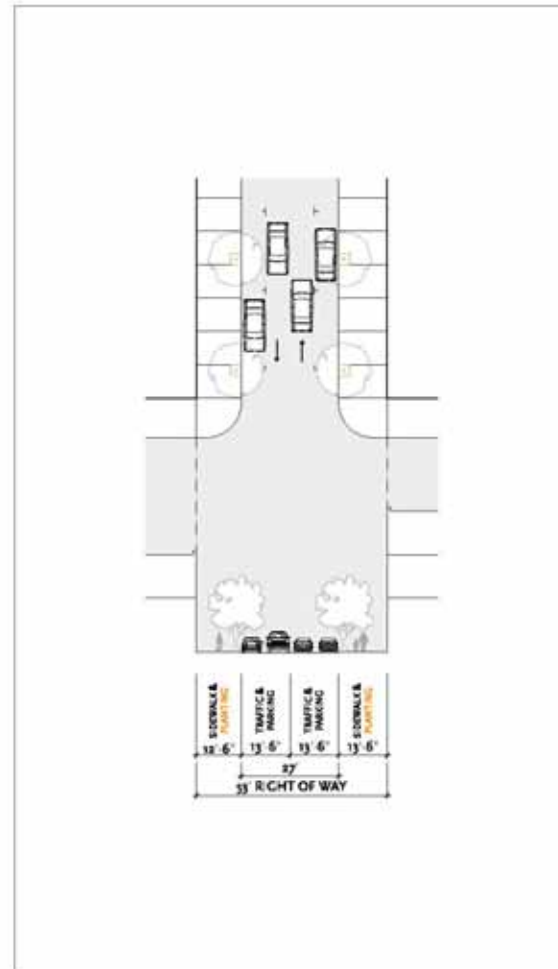
Movement	free
Speed	35mph
Pedestrian Crossing Time	10.5 seconds
Road Width	72'
Pavement Width	42'
Median	6' planted
Traffic Lanes	2, 11' each way
Parking	both sides
Curb Type	vertical
Actual Curb Radius (ft)	+/- 15' on north side, +/- 20' on south side
Effective Curb Radius (ft)	+/- 23' on north side, +/- 28' on south side
Sidewalk Width	15'
Planter Size	4' x 4'
Planter Type	walks at 20' from center
Planting	same trees as 20' from center
Tree Species	same as 20' from center
Street Lighting	Street Tree Planting 15' to 20' poles at 20' o.c.

* All modifications are shown in orange

Above: Existing photo prior to change

Left: Plan/Section Diagram

4.7.2 Erie: Quincy to Camden



Movement	free
Speed	35mph
Pedestrian Crossing Time	8.75 seconds
Road Width	53'
Pavement Width	27'
Median	none
Traffic Lanes	2, 13' each way
Parking	both sides
Curb Type	vertical
Actual Curb Radius (ft)	+/- 15' on north side, +/- 20' on south side
Effective Curb Radius (ft)	+/- 23' on north side, +/- 28' on south side
Sidewalk Width	13'
Planter Size	4' x 4'
Planter Type	walks at 20' from center
Planting	same trees as 20' from center
Tree Species	same as 20' from center
Street Lighting	Street Tree Planting 15' to 20' poles at 20' o.c.

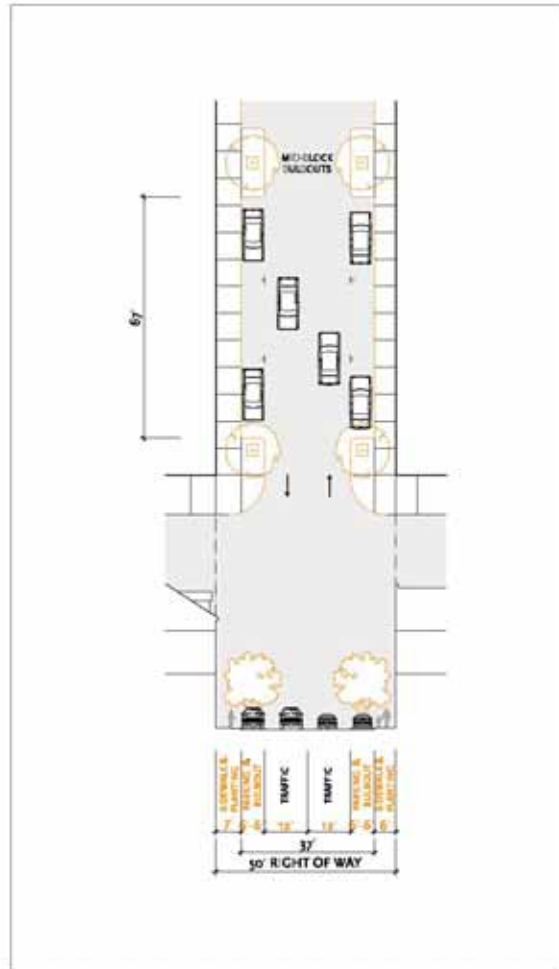
* All modifications are shown in orange

Above: Existing photo prior to change

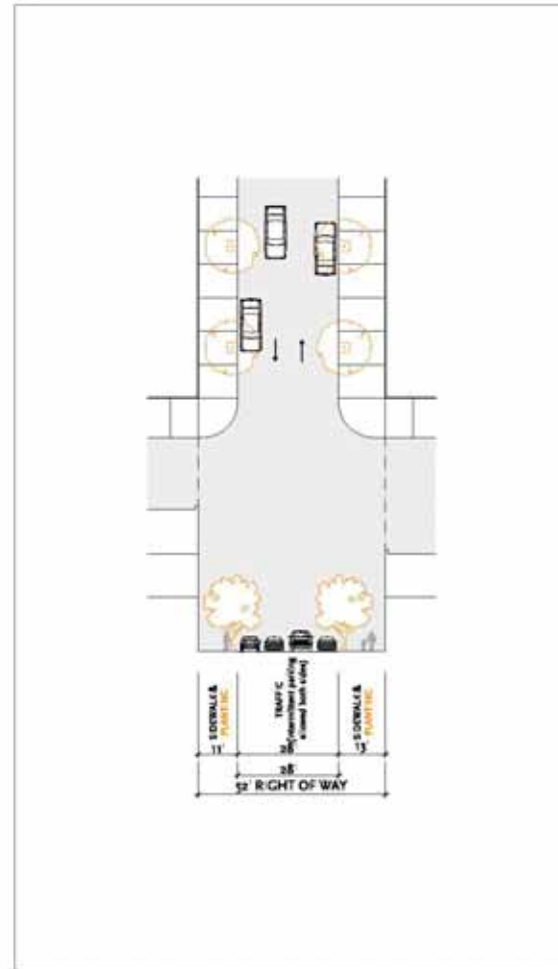
Left: Plan/Section Diagram

Note: street types are in typological and numerical order.

4.1 Camden: Navarro to Baltimore

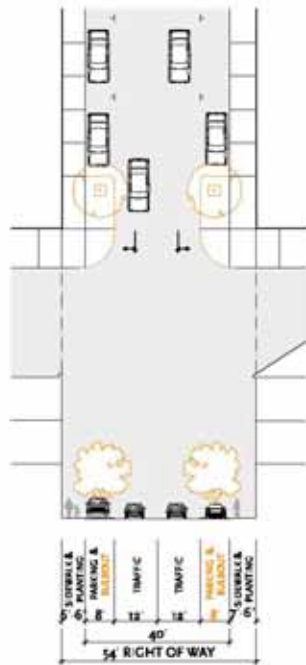


4.2 Camden: Baltimore to St. Mary's



Note: street types are in typological and numerical order

4.7.1 Quincy: Richmond to St. Mary's



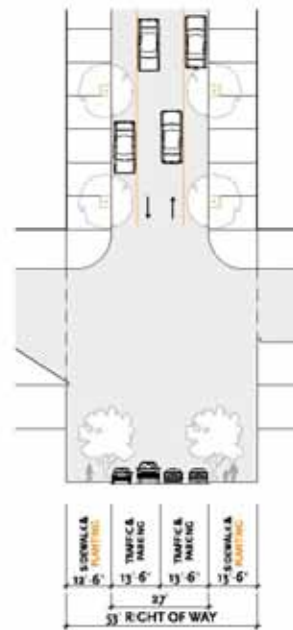
Movement	free
Speed	35mph
Pedestrian Crossing Time	5 seconds
Row Width	34'
Pavement Width	40'
Bulbouts	end of block
Median	none
Traffic Lanes	2 one-way
Parking	both sides
Curb Type	vertical
Actual Curb Radius (ft)	+/- 15 on north side, +/- 20 on south side
Effective Curb Radius (ft)	+/- 23 on north side, +/- 28 on south side
Sidewalk Width	6' 0" and 6' 6"
Planter Size	4' x 4'
Planter Type	walls at building
Planting	tree, grass (2" tree size)
Tree Species	see page 4.7.2
Street Lighting	14' to 18' poles at 20' o.c.

* Modifications are shown in orange

Above: Illustrative Photo

Left: Plan/Section Diagram

4.7.2 Atlanta: Quincy to Dallas



Movement	free
Speed	35mph
Pedestrian Crossing Time	6.75 seconds
Row Width	33'
Pavement Width	27'
Median	none
Traffic Lanes	2, 1 each way
Parking	both sides
Curb Type	vertical
Actual Curb Radius (ft)	+/- 15 on north side, +/- 20 on south side
Effective Curb Radius (ft)	+/- 23 on north side, +/- 28 on south side
Sidewalk Width	6' 0" and 6' 6"
Planter Size	4' x 4'
Planter Type	walls at 20' o.c. center
Planting	tree, grass (2" tree size)
Tree Species	see page 4.7.2
Street Lighting	14' to 18' poles at 20' o.c.

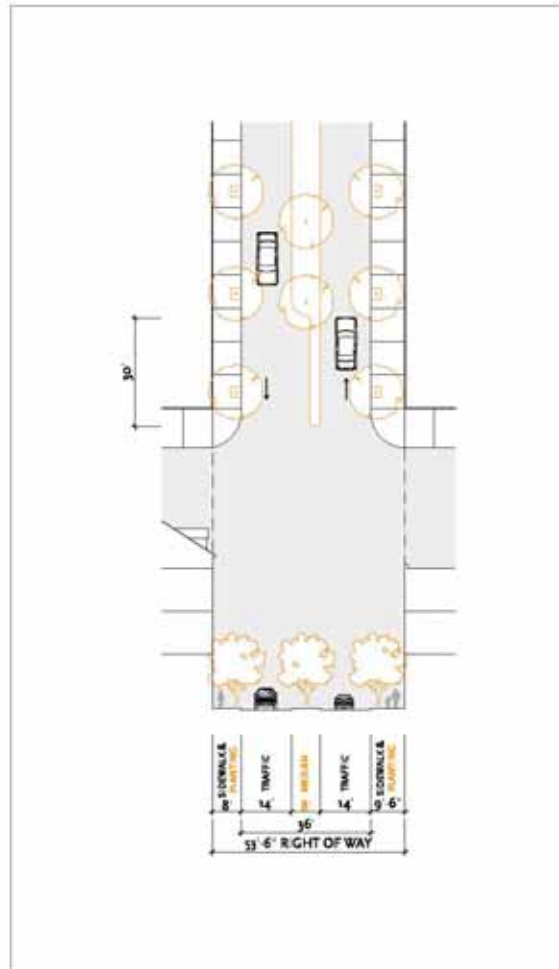
* Modifications are shown in orange

Above: Existing photo prior to change

Left: Plan/Section Diagram

Note: street types are in typological and numerical codes

4.7.1 McCullough: Quincy to St. Mary's



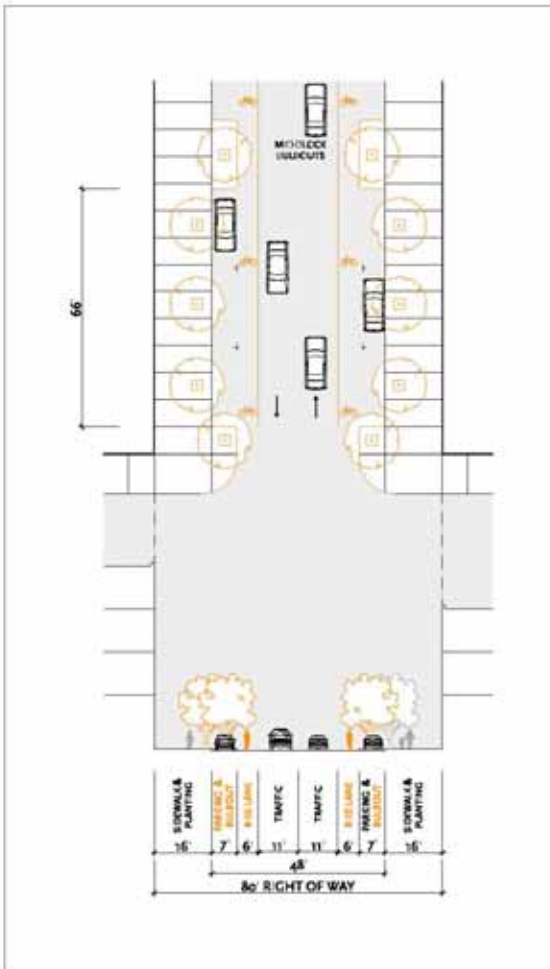
Movement	free
Speed	35mph
Pedestrian Crossing Time	9 seconds
Road Width	33'-6"
Pavement Width	18'
Median	2' planted
Traffic Lanes	2, 11' each way
Parking	none
Curb Type	vertical
• Actual Curb Radius (ft)	+/- 15' on north side, +/- 20' on south side
• Effective Curb Radius (ft)	+/- 23' on north side, +/- 28' on south side
Sidewalk Width	14' and 14'
Planter Size	4' x 4'
Planter Type	walls at 20' on corners
Planting	none (from 10' box site)
Tree Species	see page 4.12
Street Lighting	Direct Tree (H&L)

* All modifications are shown in orange

Above: Illustrative Photo

Left: Plan/Section Diagram

4.7.2 McCullough: East of Broadway



Movement	free
Speed	35mph
Pedestrian Crossing Time	9.5 seconds
Road Width	80'
Pavement Width	48'
Median	2' and 2' not block
Median	none
Traffic Lanes	2, 11' each way
Bike Lanes	2, 6' each way
Planting	both sides
Curb Type	vertical
• Actual Curb Radius (ft)	+/- 15' on north side, +/- 20' on south side
• Effective Curb Radius (ft)	+/- 23' on north side, +/- 28' on south side
Sidewalk Width	16'
Planter Size	4' x 4'
Planter Type	walls at 20' on corners and at both ends
Planting	tree (from 10' box site)
Tree Species	see page 4.12
Street Lighting	Direct Tree (H&L)

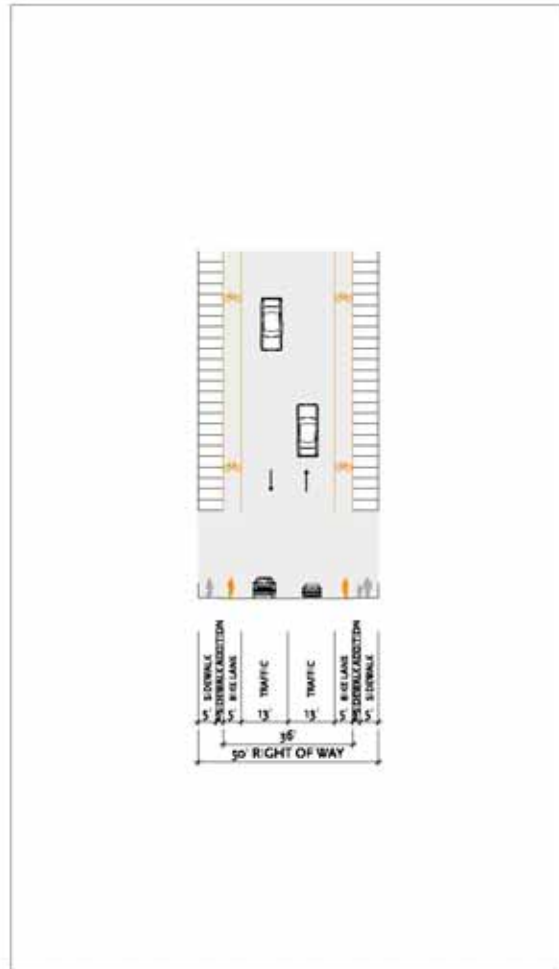
* All modifications are shown in orange

Above: Illustrative Photo

Left: Plan/Section Diagram

Note: street types are in typological and numerical order.

4.1 River Bridges



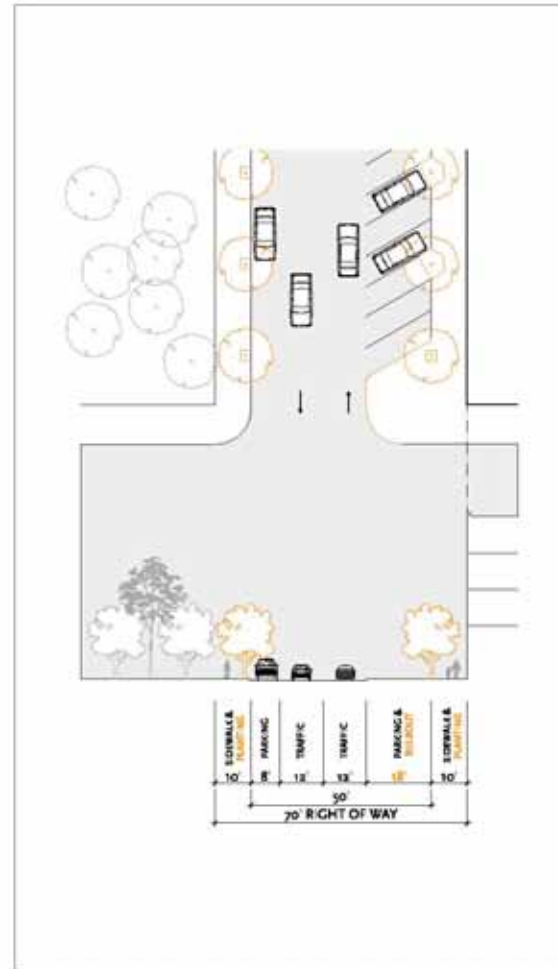
Movement	free
Speed	35mph
Pedestrian Crossing Time	9 seconds
Row Width	50'
Pavement Width	38'
Median	none
Traffic Lanes	2, 1 each way
Bike Lanes	0, 0 each way
Parking	none
Curb Type	vertical
+ Actual Curb Radius (r1)	+/- 15' on north side, +/-20' on south side
+ Effective Curb Radius (r2)	+/- 25' on north side, +/-28' on south side
Sidewalk Width	5'
Planter Width	5'
Planter Type	none
Planting	none
Tree Species	none
Street Lighting	14 ft tall poles at 90' o.c.

+ Modifications are shown in orange

Above: Existing photo prior to change

Left: Plan/Section Diagram

4.2 Jones: Avenue B to Alamo



Movement	free
Speed	35mph
Pedestrian Crossing Time	9 seconds
Row Width	70'
Pavement Width	50'
Median	10' of block
Traffic Lanes	2, 1 each way
Parking	both sides
Curb Type	vertical
+ Actual Curb Radius (r1)	+/- 15' on north side, +/-20' on south side
+ Effective Curb Radius (r2)	+/- 25' on north side, +/-28' on south side
Sidewalk Width	10'
Planter Size	0'
Planter Type	10' x 10' x 10' concrete
Planting	none, trees 10' x 10' x 10'
Tree Species	see page 100
Street Lighting	14 ft tall poles at 90' o.c.

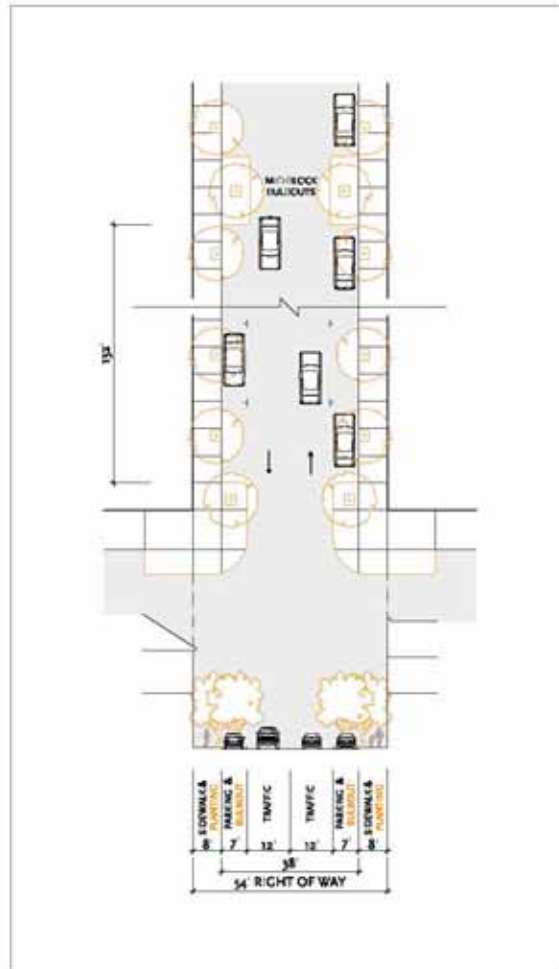
+ Modifications are shown in orange

Above: Illustrative Photo

Left: Plan/Section Diagram

Note: street types are in typographical and numerical codes

43 Eighth Avenue B to Avenue E



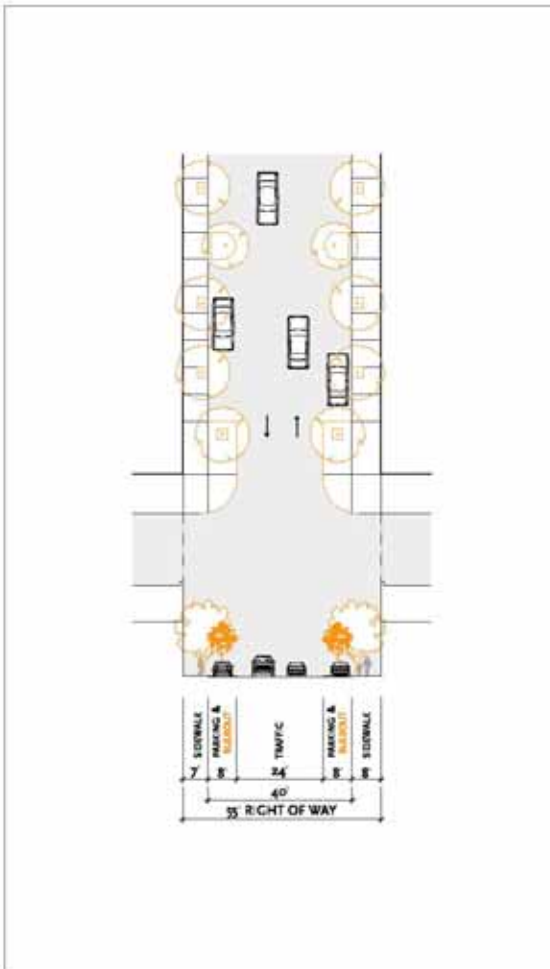
Movement	free
Speed	30mph
Pedestrian Crossing Time	5 seconds
Row Width	24'
Pavement Width	35'
Shoulders	and curb radii
Median	none
Traffic Lanes	2, 1 each way
Parking	both sides
Curb Type	vertical
• Actual Curb Radius (R1)	+/- 15' on north side, +/- 20' on south side
• Effective Curb Radius (R2)	+/- 21' on north side, +/- 28' on south side
Sidewalk Width	3'
Planter Size	3'
Planter Type	walls at 2'-4" on center and at 4'-0"
Planting	none (max 24" low plant)
Tree Species	see page 4-26
Street Lighting	14' tall poles at 30' o.c.

* Modifications are shown in orange

Above: Existing photo prior to change

Left: Plan/Section Diagram

44 St. Mary's Navaro to Wilmington



Movement	free
Speed	30mph
Pedestrian Crossing Time	5 seconds
Row Width	35'
Pavement Width	40'
Shoulders	and curb radii
Median	none
Traffic Lanes	2, 1 each way
Parking	both sides
Curb Type	vertical
• Actual Curb Radius (R1)	+/- 15' on north side, +/- 20' on south side
• Effective Curb Radius (R2)	+/- 21' on north side, +/- 28' on south side
Sidewalk Width	7' and 8'
Planter Size	3'
Planter Type	walls at 2' on center
Planting	none (max 24" low plant)
Tree Species	see page 4-26
Street Lighting	14' tall poles at 30' o.c.

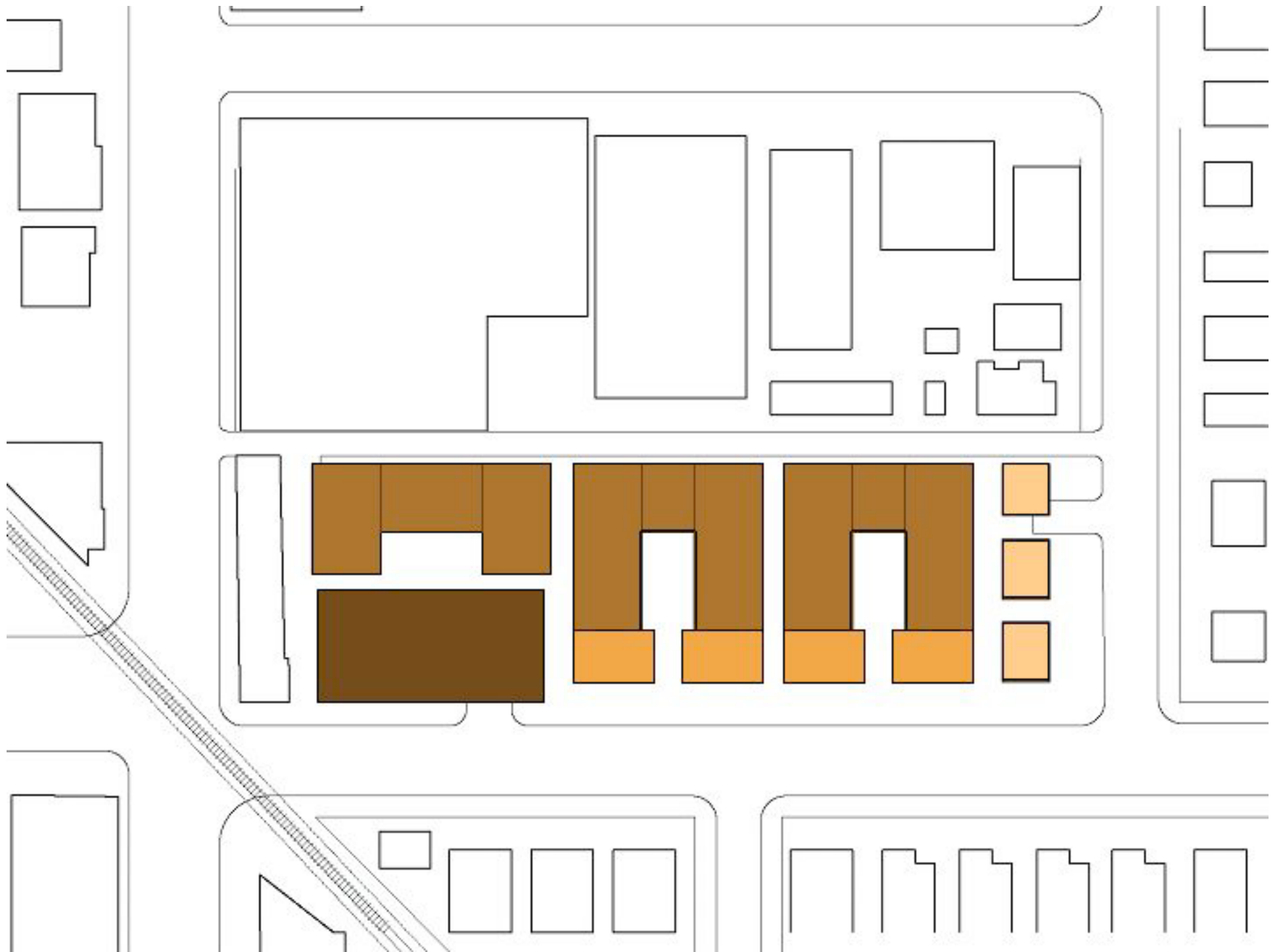
* Modifications are shown in orange

Above: Illustrative Photo

Left: Plan/Section Diagram

End





















Neighborhood Development
Sargent Town Planning



















