BENSALEM 2018

REGULATING CODE

RIVER RENNAISSANCE IN NEW BENSALEM

INTRODUCTION

NARRATIVE AND INTENT

INTRODUCTION

For two decades the Mayor and Council have looked toward the riverfront and recognized its potential for economic development. Over the years, the Township participated in an array of studies involving its riverfront and in April of 2014, the Mayor and Council partnered with the Township's Economic Development Corporation. The purpose of the partnership was to create a tool to develop the riverfront. To be successful, this tool must be sensitive to its context, responsive to regional needs, and effective in securing the relevance of Bensalem Township for the future. The result is the *BENSALEM 2018- RIVER RENNAISSANCE IN NEW BENSALEM MASTER PLAN AND REGULATING CODE.*

THE SITE

The study area is approximately 675 acres, located between I-95 and the Delaware River, extending from Station Avenue to Street Road, and is primarily an industrial site. It is additionally located between SEPTA's Cornwells Heights and Eddington stations (see fig.1)

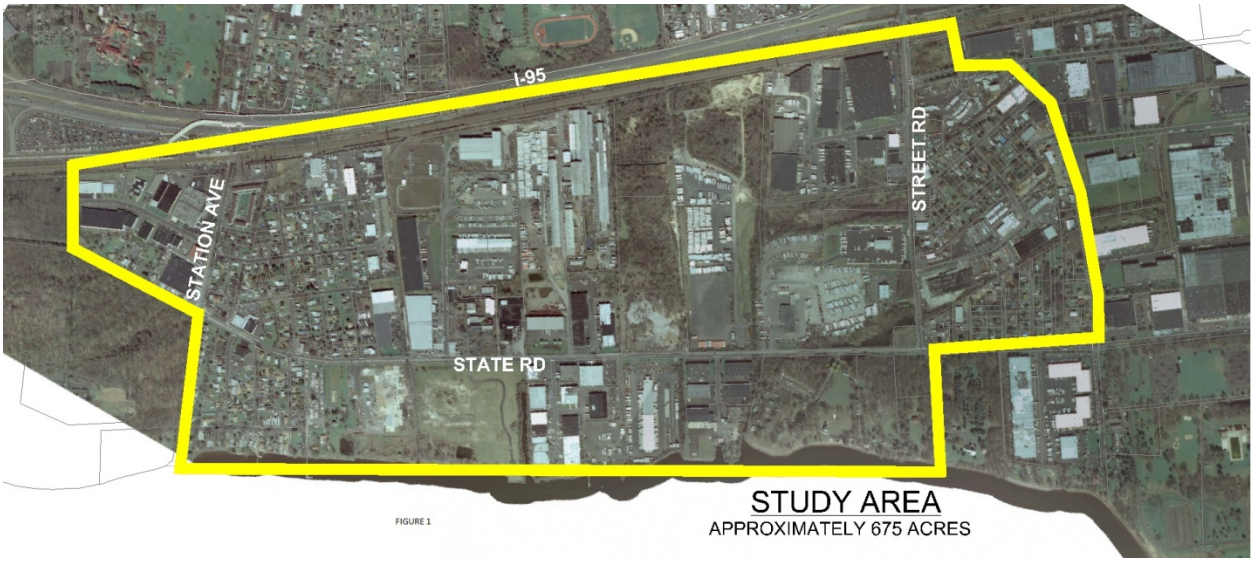


Figure 1

The study area was visited and existing surveys were compiled. Grades and drainage patterns were documented. Existing site features with an effect on the site's redevelopment were mapped out. These features include rail and water access points, cell tower sites, approximately 25 acres of wetlands, and approximately 72 acres of floodplain. (see fig 2)

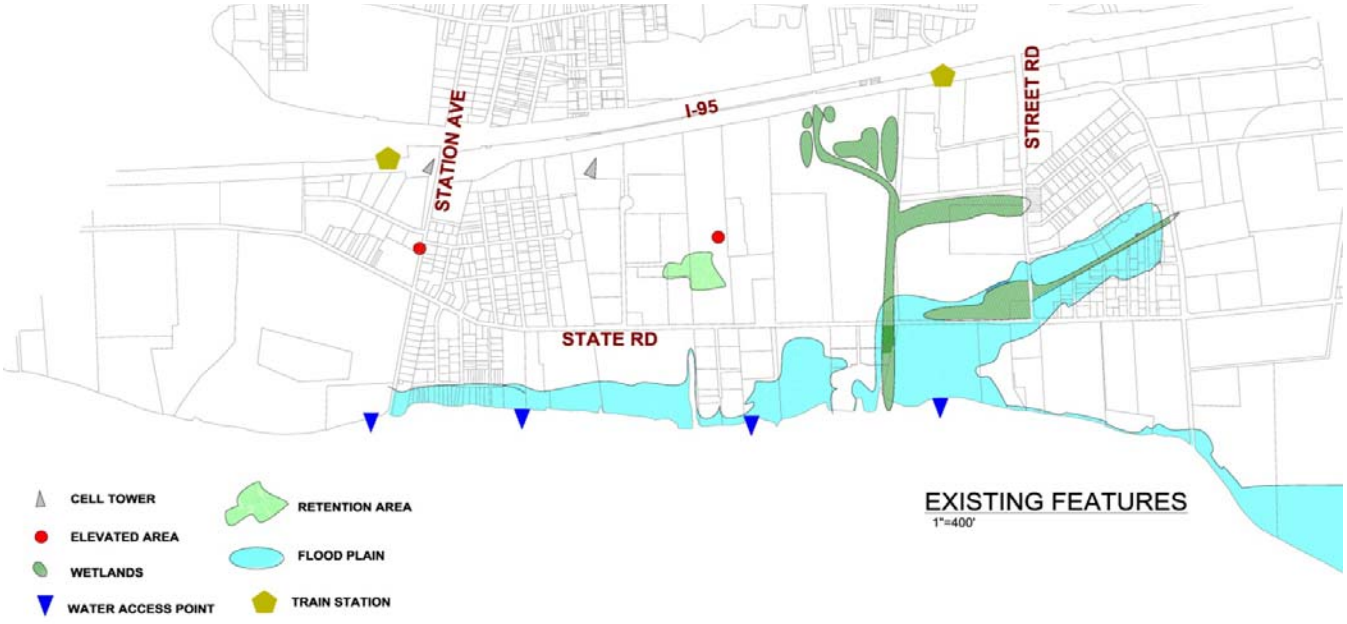


Figure 2

PLAN DEVELOPMENT- THEORY AND METHODOLGY

This is not an "if" plan. It is a *how* and *when* plan.

HOW: Through the use of a form-based code and a regulating plan which differs from conventional practice, providing greater predictability of the final product and facilitating smart growth.

WHEN: Plan implementation is to be realized as the norm for riverfront development and the standard for Bensalem growth over the next 4 years.

The plan is based on 7 core principles:

1. The region should retain its visual character derived from the natural infrastructure
2. Green corridors define and connect urbanized areas
3. Development is compact, pedestrian-oriented, and mixed use
4. Ordinary activities of daily living are within walking distance
5. Appropriate densities and land uses are within walking distance of transit stops
6. Buildings and landscaping contribute to the physical definition of the community
7. A range of housing types and price levels for diverse ages and income are provided

After the site assessment was completed, Growth Boundaries were generally defined and established based around existing features (see figure 3). They are defined as follows:

PRESERVED OPEN SPACE: land already protected from development
RESERVED OPEN SPACE: land not intended for development, for preservation of wetlands, floodplain drainage sheds
CONTROLLED GROWTH DISTRICT: land to be developed as traditional neighborhood developments
INTENDED GROWTH DISTRICT: land to be developed with the intensity suitable for a town center
INFILL GROWTH DISTRICT: land already developed but to be restructured over time to fit the new standard

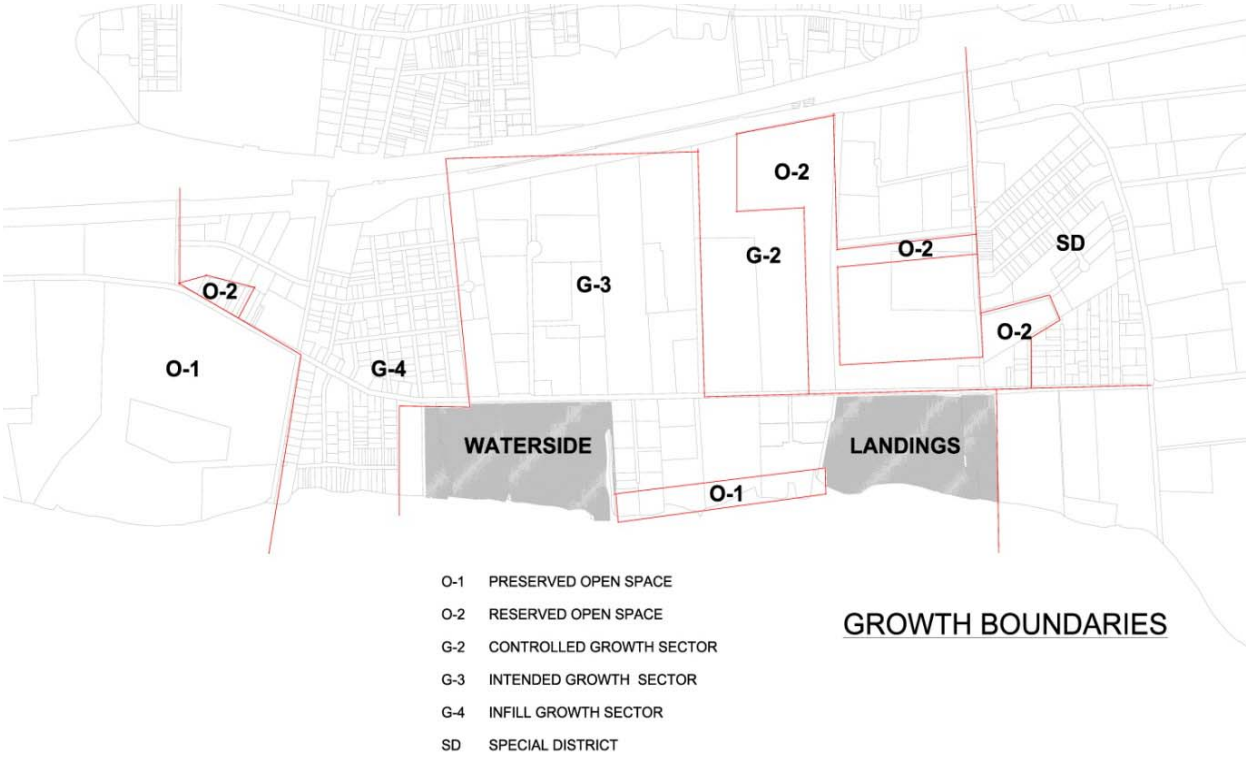


Figure 3

Pedestrian Sheds were roughly established to determine neighborhood size, ensuring that neighborhoods are based on walkability not density. Densities are structured on the neighborhood pattern. Each shed is equivalent to a 5 minute walk from edge to center. Primary sheds are oriented over mixed use centers (MUC) and points of interest. Where these catchment areas overlap, they start to compete with each other and potentially affect the viability of the MUC design. Therefore, these overlaps are to be developed with functions complementing the abutting MUC's (see figure 4)

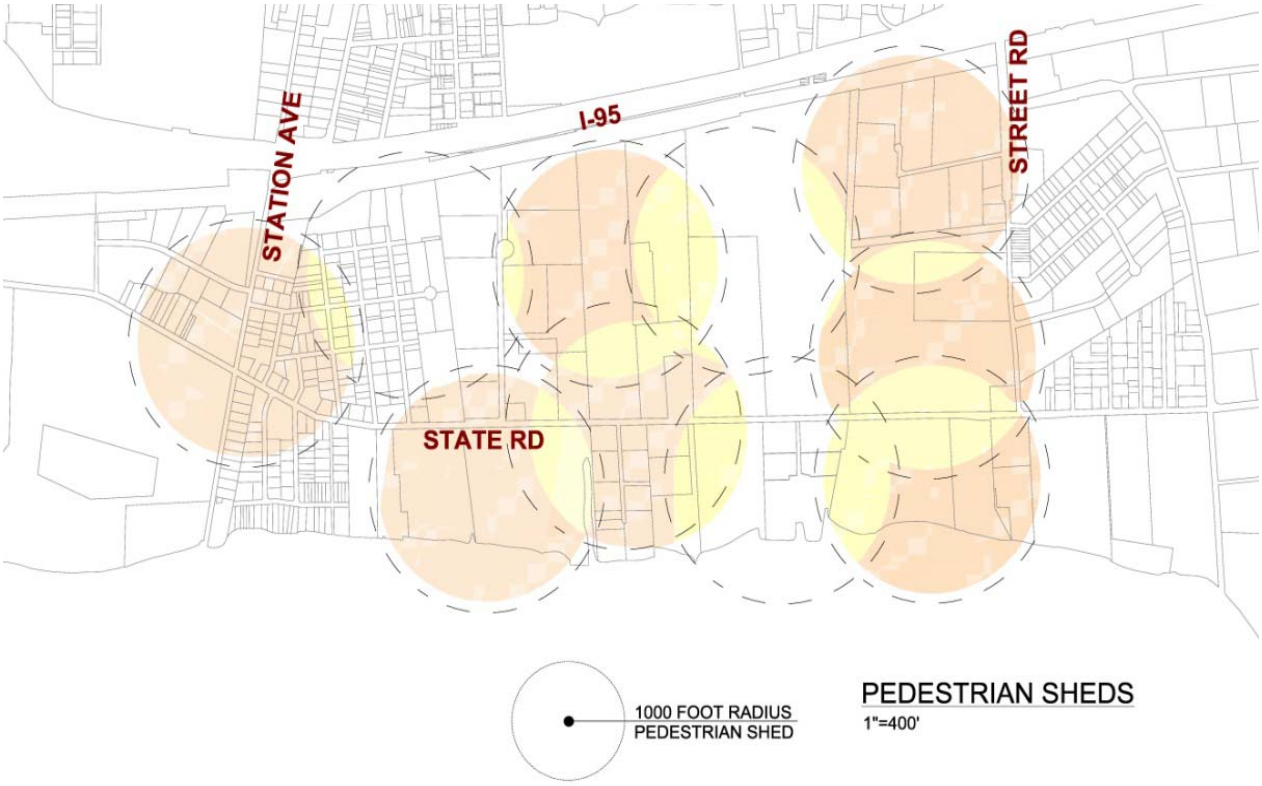


Figure 4

Pedestrian Sheds were accurately refined and further defined in the form of Community Units. Coinciding with the existing features of the site, they will be used to introduce public spaces or special interest locations (see figure 5)

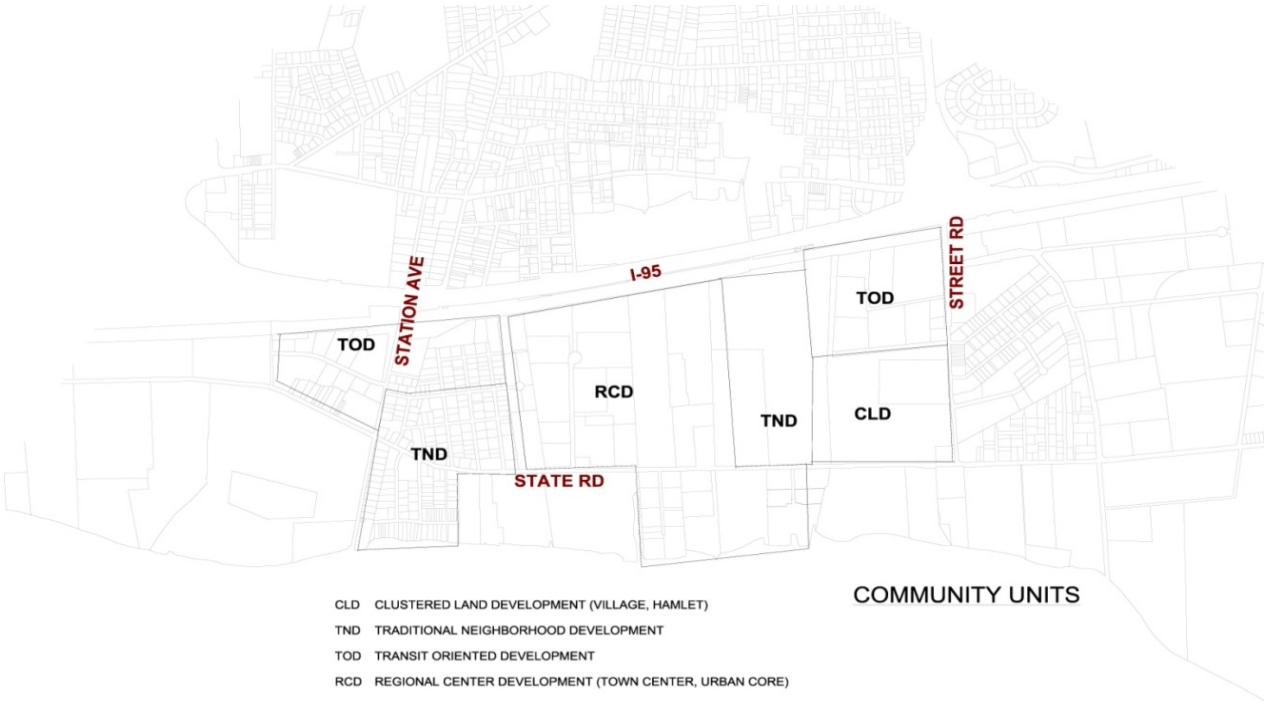


Figure 5

Community Units should be connected with a large thoroughfare. While State Road could serve as this main connector, industrial truck traffic must be diverted to facilitate commercial and residential growth along that corridor. A secondary road is proposed, running parallel to State Road, to divert truck traffic from State Road. This phase I road will also serve as a transitional border for residential, mixed use communities from relocated industrial facilities (see figure 6).

Areas between the phase I road and State Road will contain secondary routes (streets, roads) in a network pattern (see figure 7). Block patterns will be based on an optimum size of 200' x 400' to create a high level of connectivity. This allows for higher densities by promoting pedestrian activity and by spreading the traffic over a grid instead of concentrating it into one street. The street network will be adjusted to become more permeable, close to the center and larger as you move out. Ratio of nature to building becomes greater at the edges.

This is the beginning of a transect.

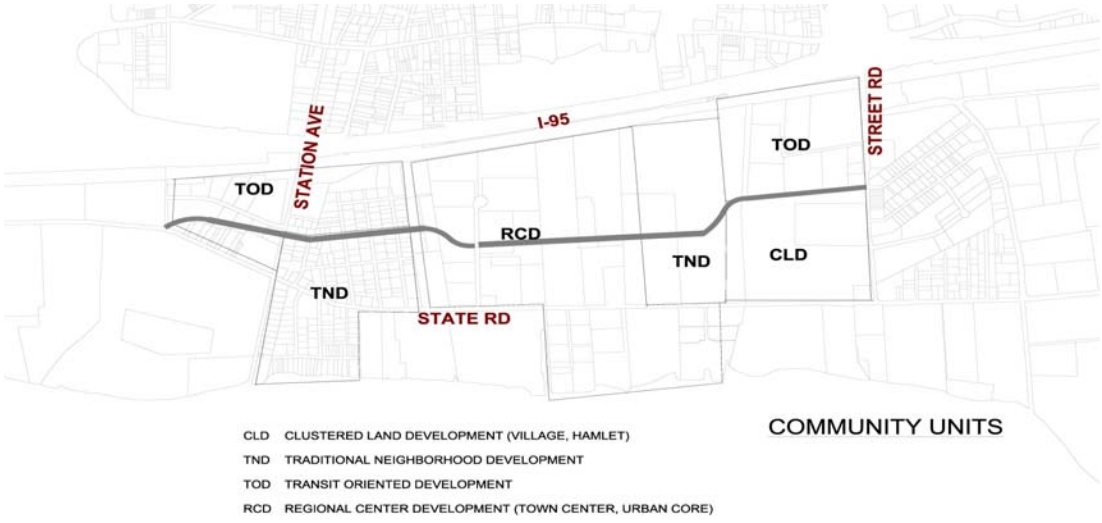


Figure 6

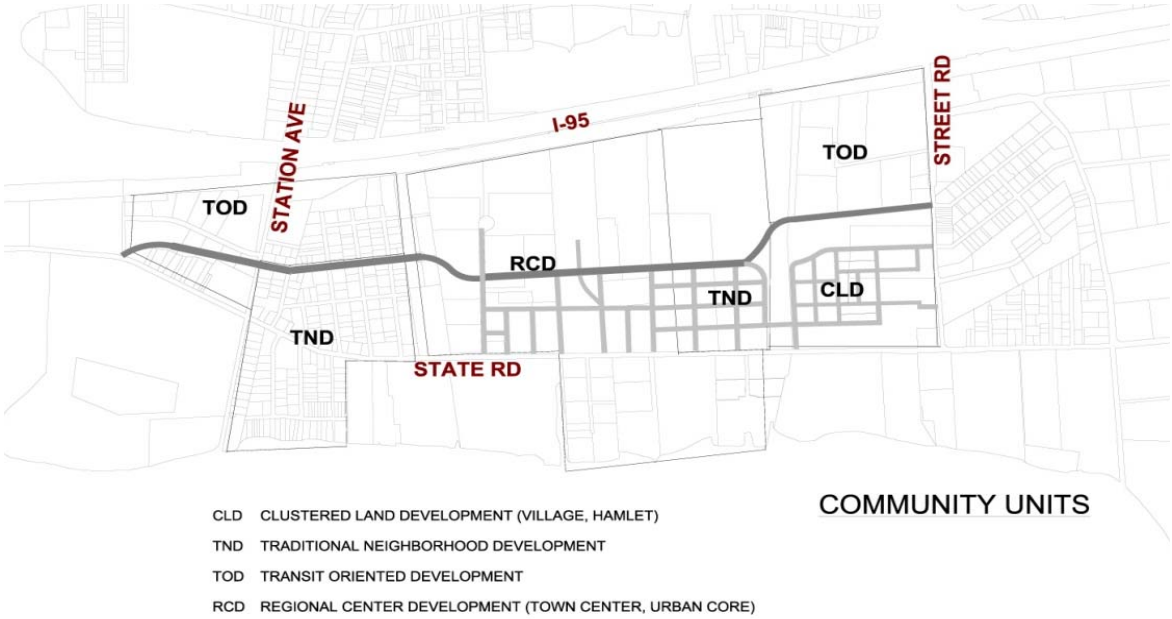
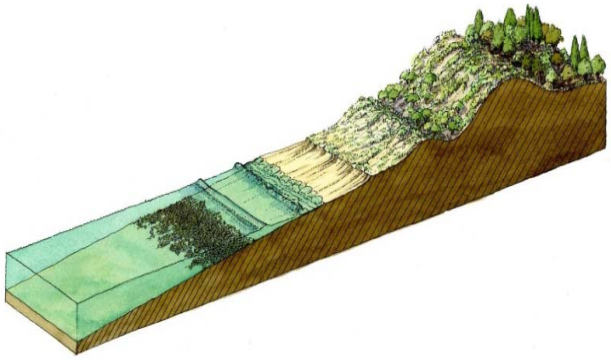


Figure 7

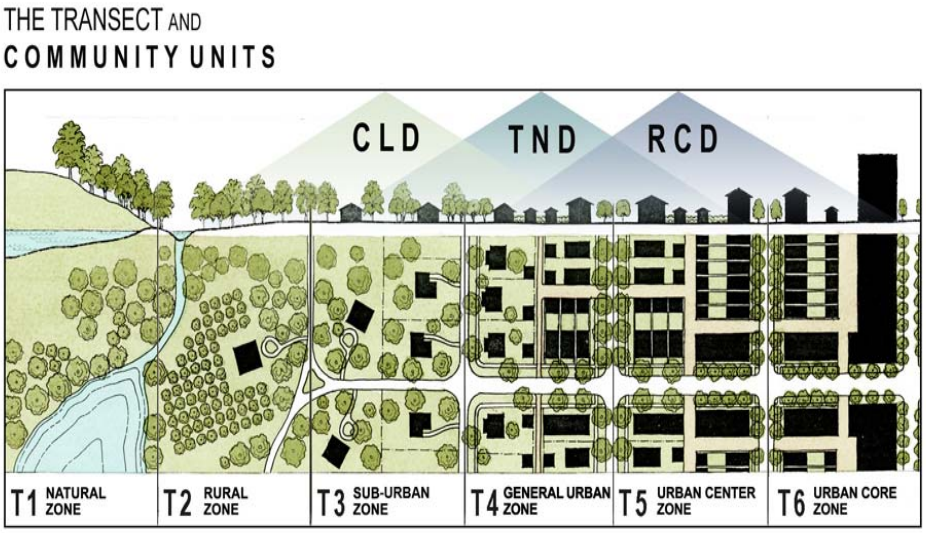
WHAT IS A TRANSECT?



Duany Plater-Zyberk & Company

FIGURE 8

The transect comes from nature and describes the character and transition of one ecosystem to another (see figure 8)



Sandy Sorlien / Smartcode Local

Figure 9

It translates into the built environment as a means of arranging the elements of urbanism into classifications ranging from rural to urban (see figure 9).

Guided by the nature of the transect, we create a framework establishing the character of the neighborhoods. The transect is the organizing principle of the form-based code. This is not just a master plan. It is a regulating plan. It is a tool to be used with and as part of the form-based code (see figure 10)

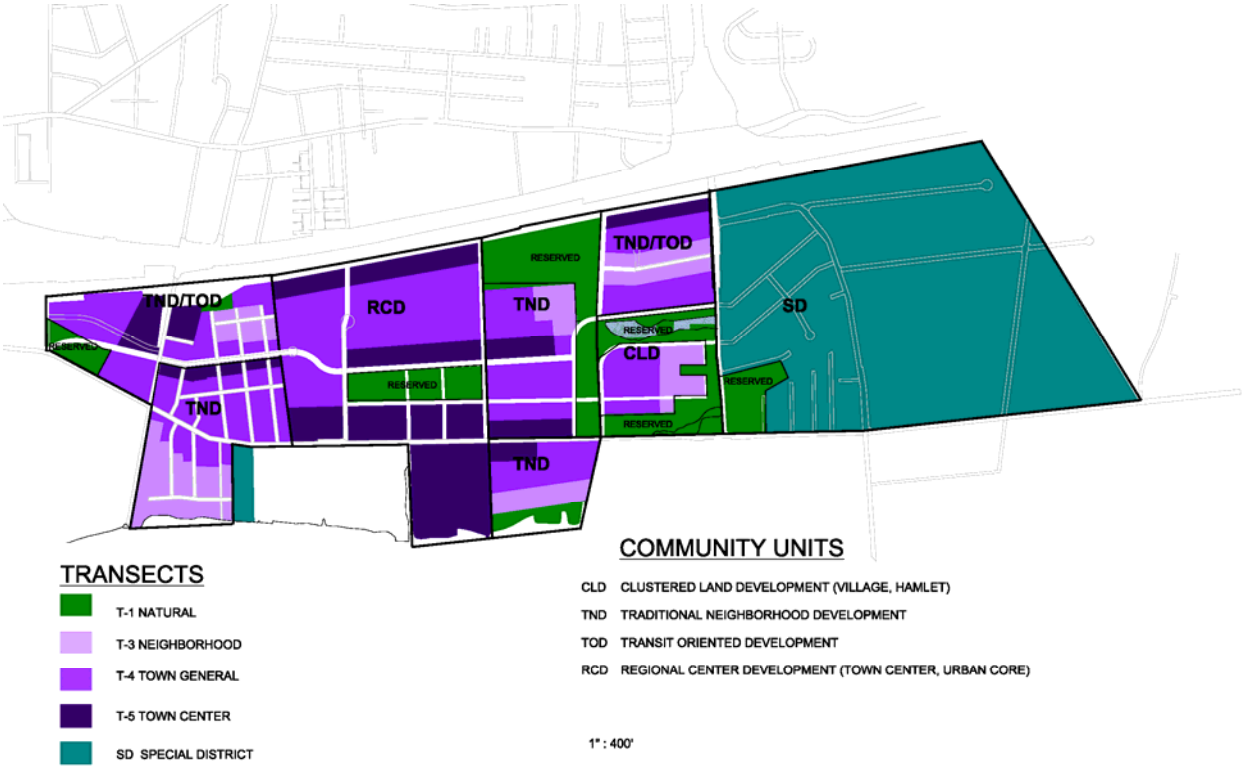


FIGURE 10

Unlike the traditional Euclidean zoning ordinance which currently regulates development, the proposed form-based code focuses on site design and building form and promotes their roles in defining public spaces to create a sense of place. It de-emphasizes the regulation of land uses. It encourages a mix of land uses reducing the need to travel by car. It promotes a mix of housing types. It is easier to understand and it is easier to navigate through requirements because it is more concise and emphasizes illustrations over text.

The form-based code will also promote a streamlined approval process. Since the form-based code is geared to ensuring predictability in quality and character, it is very specific and comprehensive. Administrative review and approval is possible for all projects. Form-based codes reduce uncertainty and risk for the developer and encourage them to develop in accordance with the code.

Figure 11 is an illustrative example of the difference in the final product when development is regulated under traditional zoning to a form-based code.

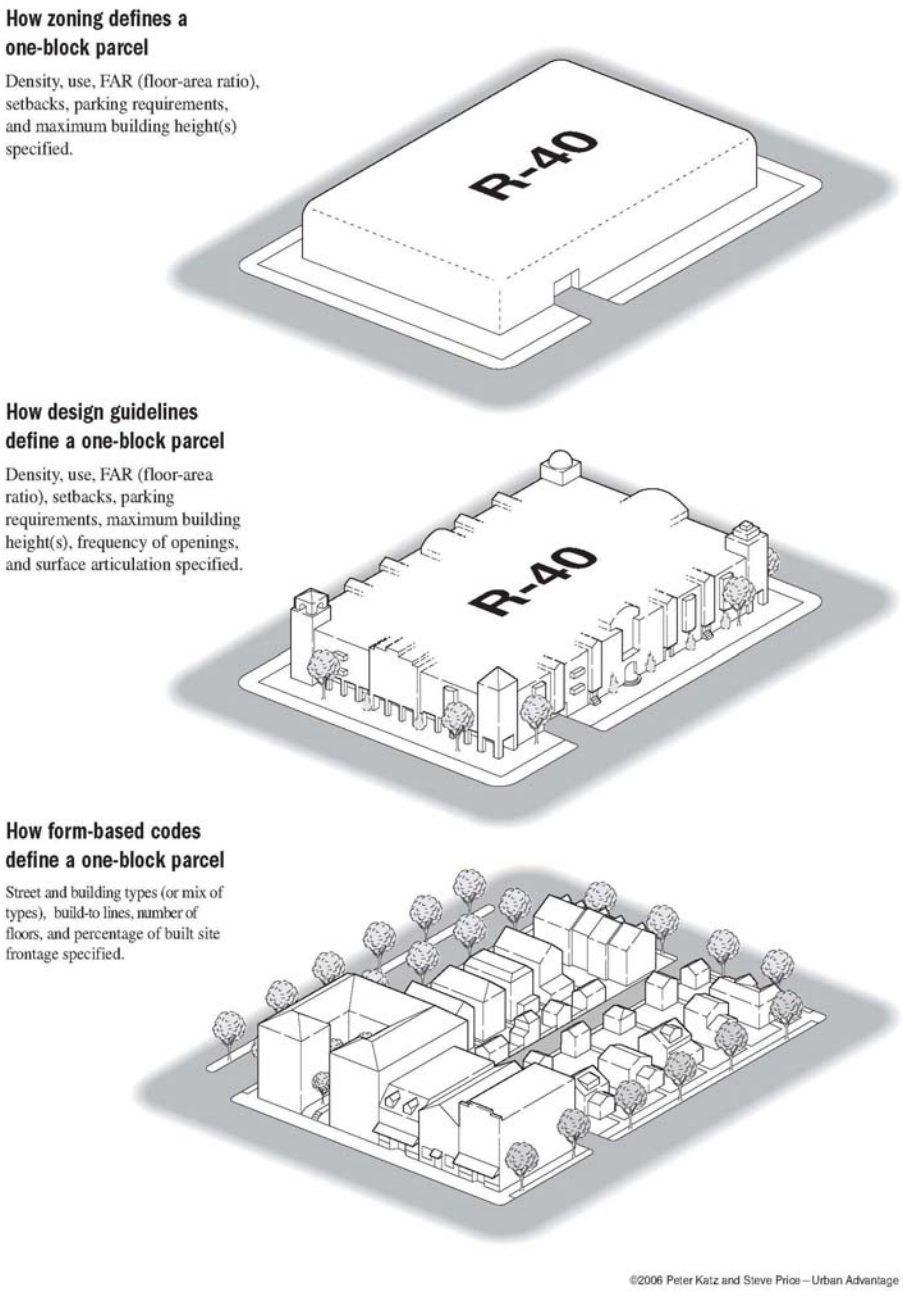
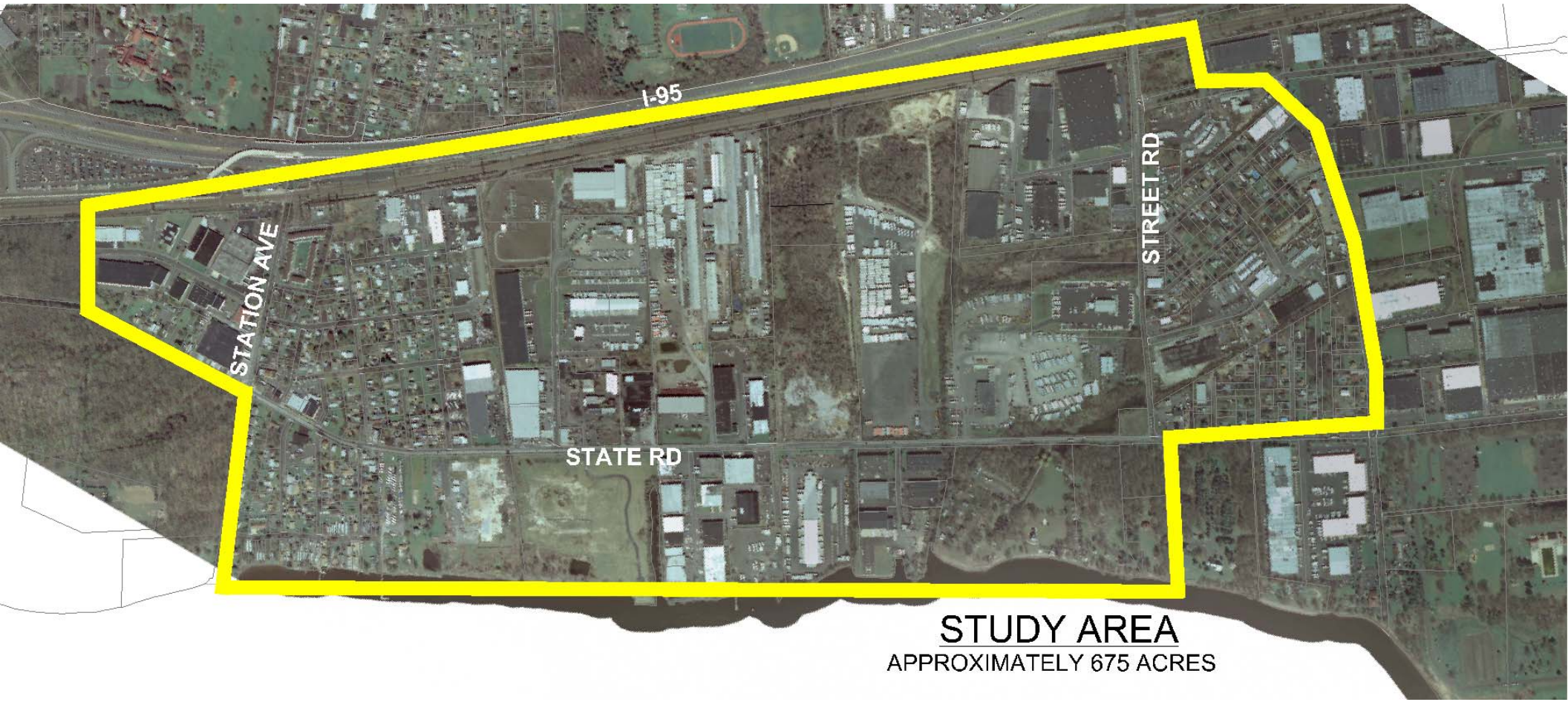


Figure 11

THE CODE IS AN OVERLAY TO THE EXISTING ZONING. AS SUCH, USE OF THESE PROVISIONS IS PURELY OPTIONAL.

Appendix ‘A’ contains a site plan outlined to show the study area . Appendix ‘B’ contains the existing zoning of the study area. Appendix ‘C’ contains the official regulating plans. Appendix ‘d’ contains samples of thoroughfare assemblies that are designated on the regulating plan with performance data tables

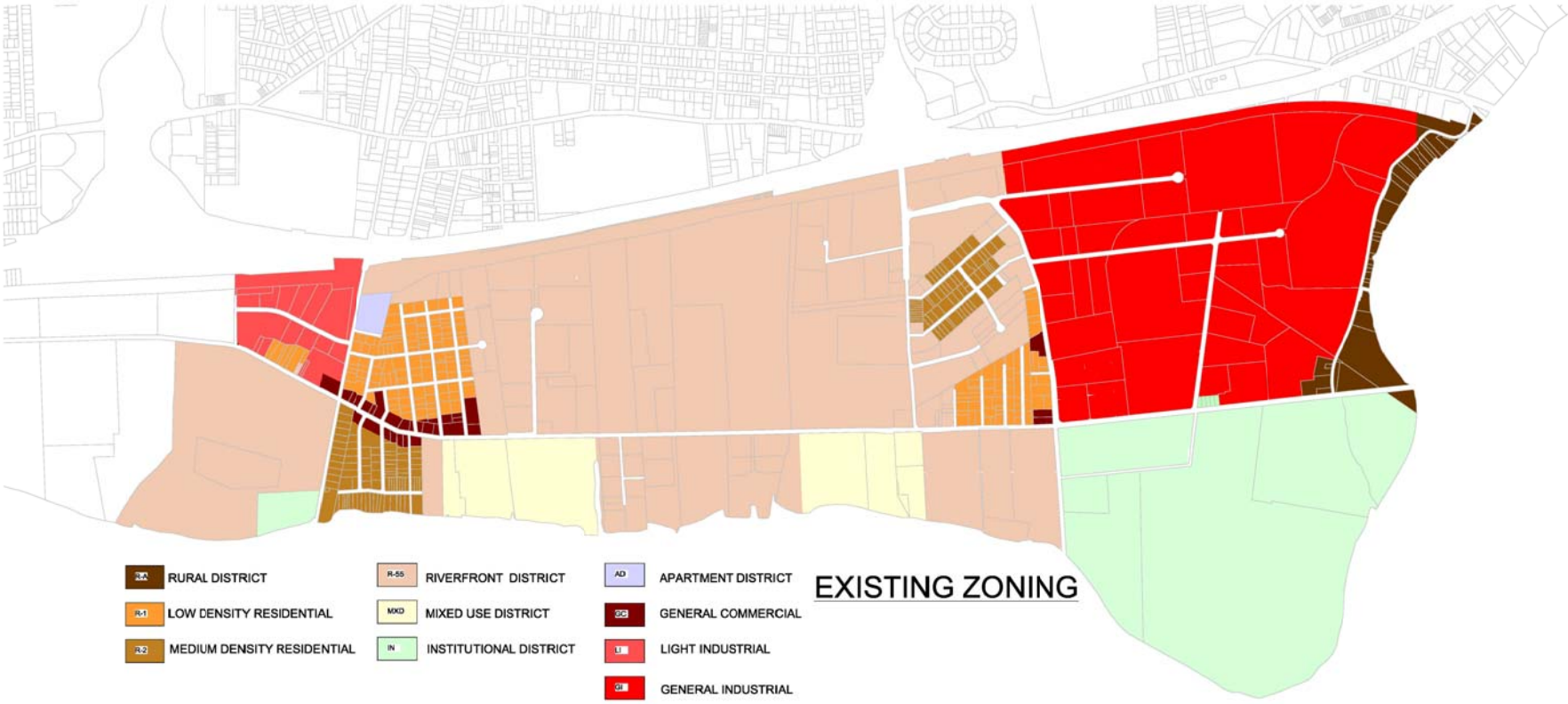
APPENDIX ‘A’



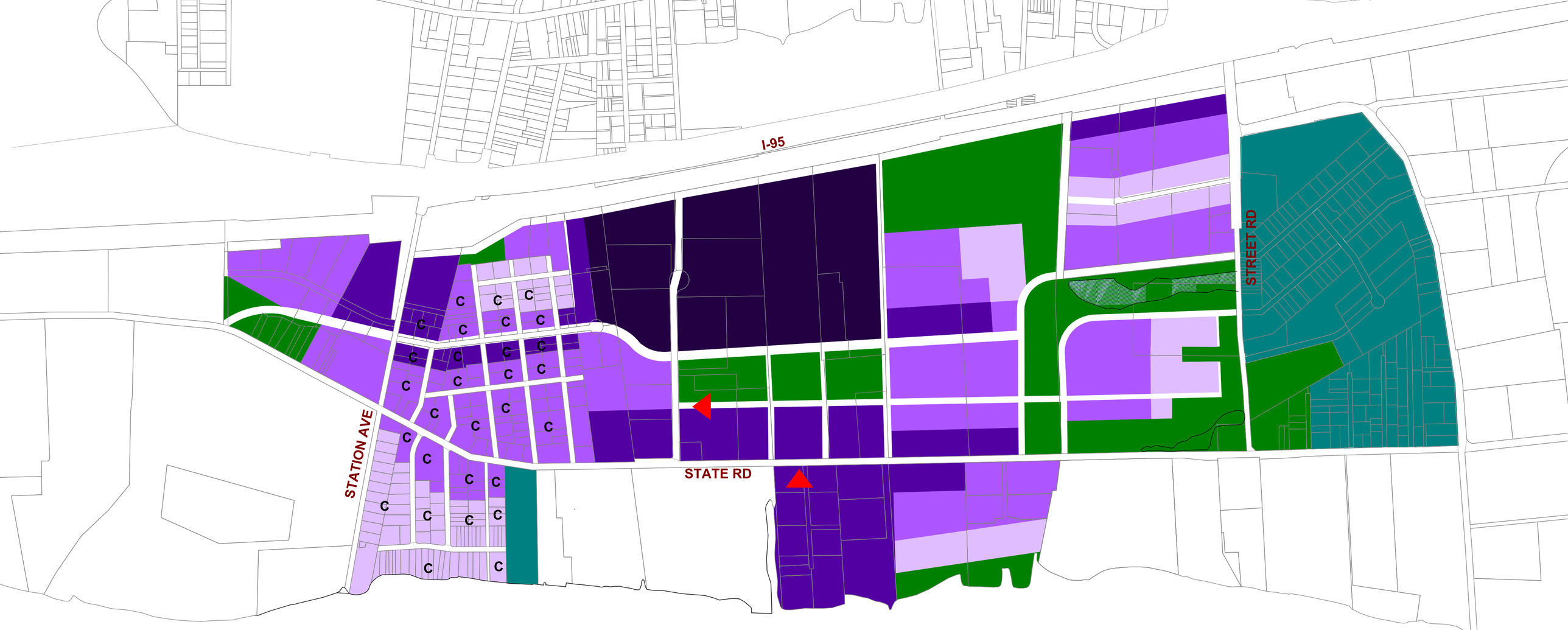
STUDY AREA

APPROXIMATELY 675 ACRES

APPENDIX ‘B’


R-A
RURAL DISTRICT
R-1
LOW DENSITY RESIDENTIAL
R-2
MEDIUM DENSITY RESIDENTIAL
R-55
RIVERFRONT DISTRICT
MXD
MIXED USE DISTRICT
IN
INSTITUTIONAL DISTRICT
AD
APARTMENT DISTRICT
GC
GENERAL COMMERCIAL
LI
LIGHT INDUSTRIAL
GI
GENERAL INDUSTRIAL
EXISTING ZONING

APPENDIX ‘C’



TRANSECTS

- T-1 RESERVED
- T-3 NEIGHBORHOOD
- T-4 TOWN GENERAL
- T-5 TOWN CENTER
- T-6 URBAN CENTER (RTC)
- SD SPECIAL DISTRICT

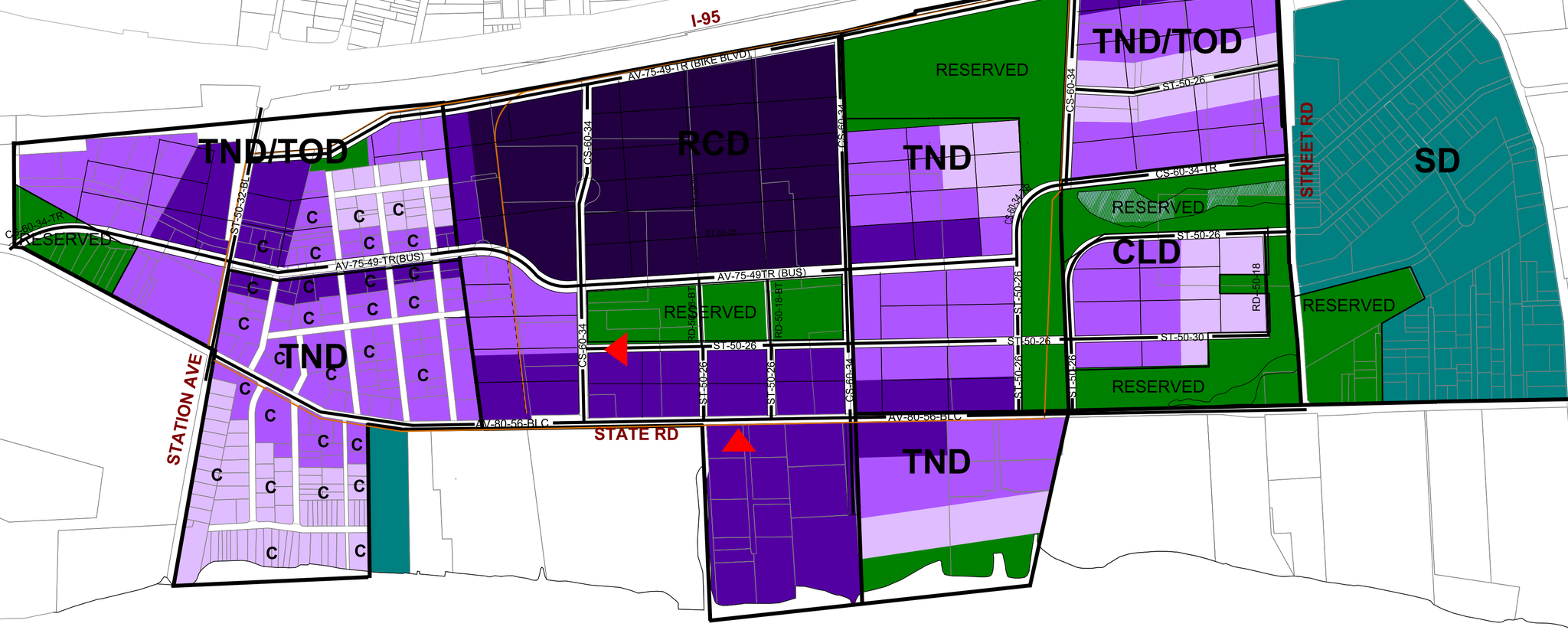
TERMINATED VISTA

B-GRID

A-GRID

TRANSECT MAP

1":500'



TRANSECTS

- T-1 RESERVED
- T-3 NEIGHBORHOOD
- T-4 TOWN GENERAL
- T-5 TOWN CENTER
- T-6 URBAN CENTER (RTC)
- SD SPECIAL DISTRICT

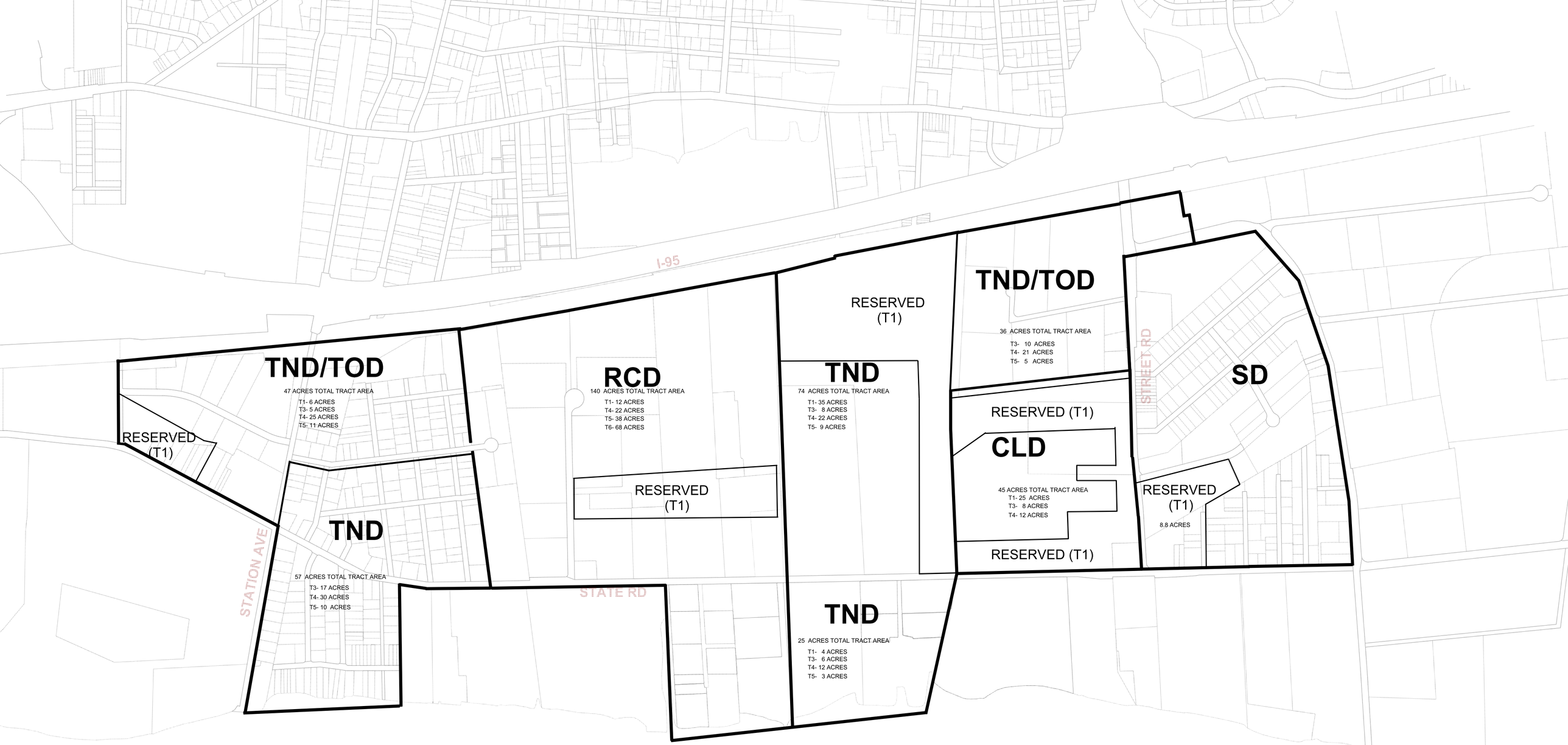
TERMINATED VISTA

B-GRID

A-GRID

TRANSECTS WITH COMMUNITY UNITS

1":500'



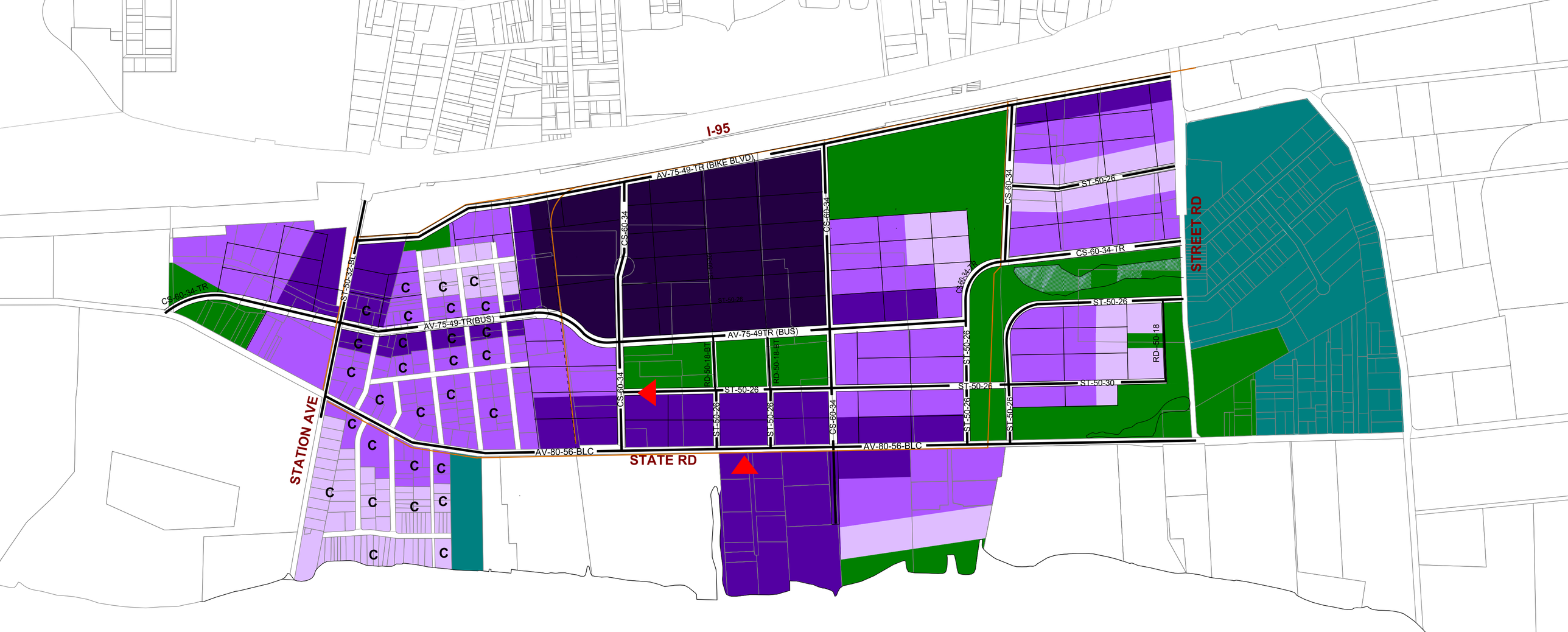
COMMUNITY UNITS

CLD CLUSTERED LAND DEVELOPMENT (VILLAGE, HAMLET)

TND TRADITIONAL NEIGHBORHOOD DEVELOPMENT

TOD TRANSIT ORIENTED DEVELOPMENT

RCD REGIONAL CENTER DEVELOPMENT (TOWN CENTER, URBAN CORE)



TRANSECTS

- T-1 RESERVED
- T-3 NEIGHBORHOOD
- T-4 TOWN GENERAL
- T-5 TOWN CENTER
- T-6 URBAN CENTER (RTC)
- SD SPECIAL DISTRICT

TERMINATED VISTA

BIKE ROUTES

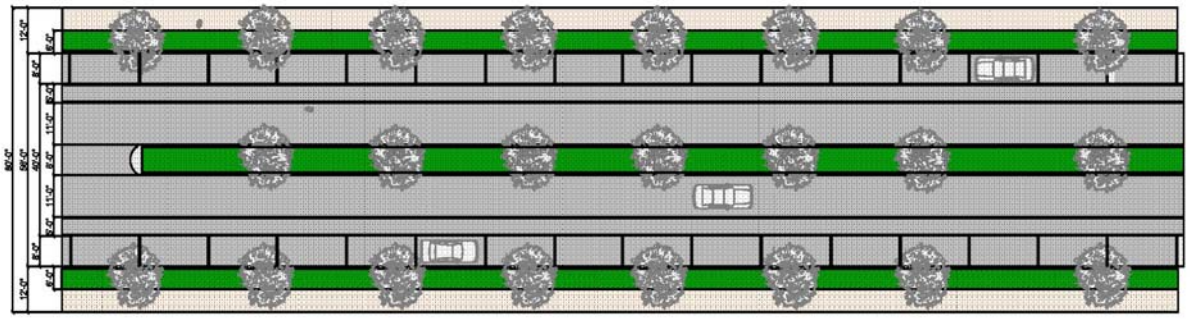
B-GRID

A-GRID

TRANSECTS WITH ROAD DESIGNATONS

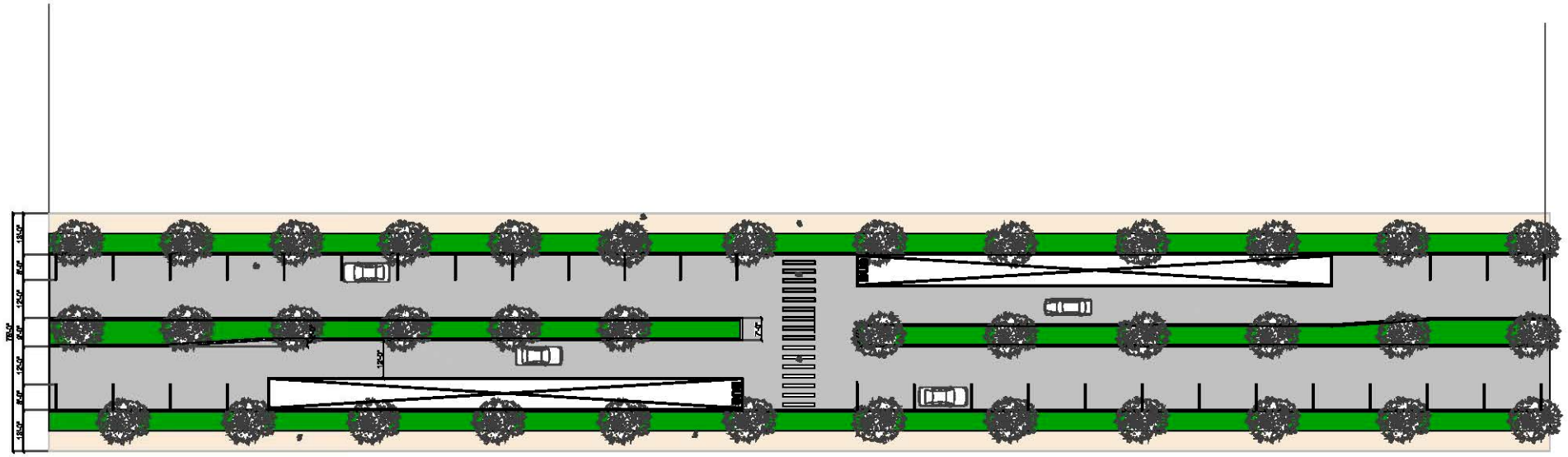
1":500'

APPENDIX ‘D’



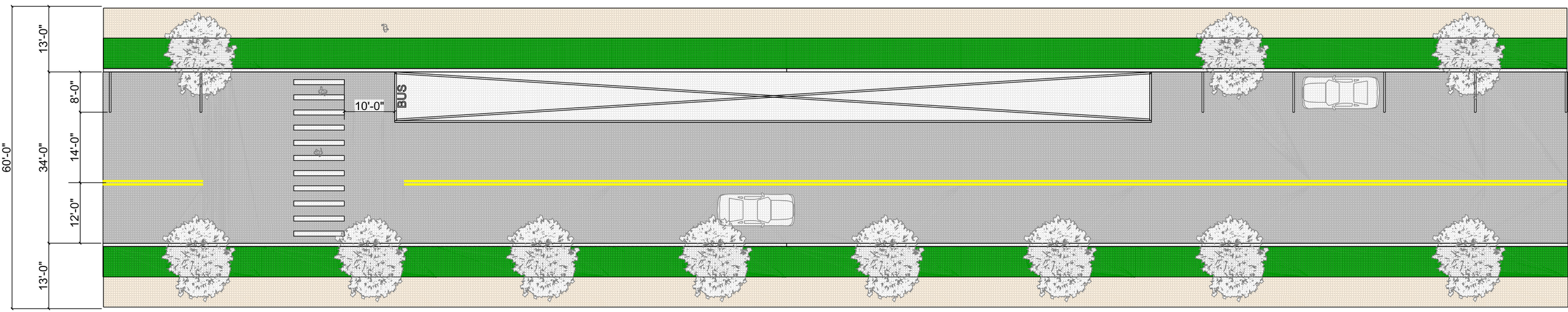
AV-80-56-BLC

THOROUGHFARE TYPE	AVENUE
RIGHT OF WAY WIDTH	80'
PAVEMENT WIDTH	56'
MOVEMENT	SLOW MOVEMENT
DESIGN SPEED	25 MPH
PEDESTRIAN CROSSING TIME	5.7 SECONDS-5.7 SECONDS
TRAFFIC LANES	2 LANES
PARKING LANES	BOTH SIDES @ 8 FEET MARKED
CURB RADIUS	10 FEET
WALKWAY TYPE	6 FOOT SIDEWALK
PLANTER TYPE	6 FOOT CONTINUOUS PLANTER
CURB TYPE	CURB OR SWALE
LANDSCAPE TYPE	TREES @ +/- 30' O.C.
TRANSPORTATION OPPORUTNITIES	BIKE LANE-CONVENTIONAL



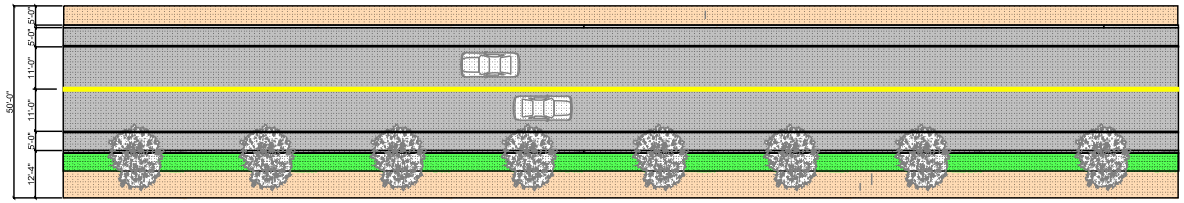
AV-75-49-TR (BUS)

THOROUGHFARE TYPE	AVENUE
RIGHT OF WAY WIDTH	75'
PAVEMENT WIDTH	49'
MOVEMENT	SLOW MOVEMENT
DESIGN SPEED	25 MPH
PEDESTRIAN CROSSING TIME	5.7 SECONDS-5.7 SECONDS
TRAFFIC LANES	2 LANES
PARKING LANES	BOTH SIDES @ 8 FEET MARKED
CURB RADIUS	10 FEET
WALKWAY TYPE	7 FOOT SIDEWALK
PLANTER TYPE	6 FOOT CONTINUOUS PLANTER
CURB TYPE	CURB OR SWALE
LANDSCAPE TYPE	TREES @ +/- 30' O.C.
TRANSPORTATION OPPORUTNITIES	BUS LANE-CURBSIDE/MIDBLOCK



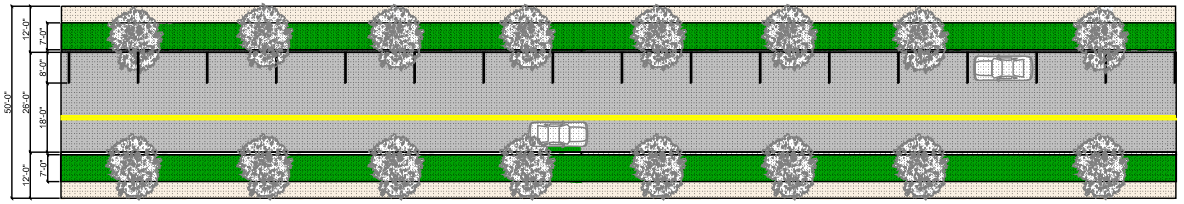
CS-60-34-TR

THOROUGHFARE TYPE	COMMERCIAL STREET
RIGHT OF WAY WIDTH	60'
PAVEMENT WIDTH	34'
MOVEMENT	SLOW MOVEMENT
DESIGN SPEED	20 MPH
PEDESTRIAN CROSSING TIME	9.7 SECONDS
TRAFFIC LANES	2 LANES
PARKING LANES	ONE SIDE @ 8 FEET MARKED
CURB RADIUS	10 FEET
WALKWAY TYPE	7 FOOT SIDEWALK
PLANTER TYPE	6 FOOT CONTINUOUS PLANTER
CURB TYPE	CURB OR SWALE
LANDSCAPE TYPE	TREES @ +/- 30' O.C.
TRANSPORTATION OPPORUTNITIES	BUS LANE-CURBSIDE/MIDBLOCK



ST-50-32-BIKE

THOROUGHFARE TYPE	STREET
RIGHT OF WAY WIDTH	50'
PAVEMENT WIDTH	12'
MOVEMENT	FREE MOVEMENT
DESIGN SPEED	20 MPH
PEDESTRIAN CROSSING TIME	7.4 SECONDS
TRAFFIC LANES	2 LANES
PARKING LANES	NONE
CURB RADIUS	10 FEET
WALKWAY TYPE	5' / 7' FOOT SIDEWALK
PLANTER TYPE	5 FOOT CONTINUOUS PLANTER ONE SIDE
CURB TYPE	CURB
LANDSCAPE TYPE	TREES @ +/- 30' O.C.
TRANSPORTATION OPPORUTNITIES	BIKE LANE



ST-50-26

THOROUGHFARE TYPE	STREET
RIGHT OF WAY WIDTH	50'
PAVEMENT WIDTH	26'
MOVEMENT	FREE MOVEMENT
DESIGN SPEED	20 MPH
PEDESTRIAN CROSSING TIME	7.4 SECONDS
TRAFFIC LANES	2 LANES
PARKING LANES	ONE SIDE @ 8 FEET MARKED
CURB RADIUS	10 FEET
WALKWAY TYPE	5 FOOT SIDEWALK
PLANTER TYPE	7 FOOT CONTINUOUS PLANTER
CURB TYPE	CURB
LANDSCAPE TYPE	TREES @ +/- 30' O.C.
TRANSPORTATION OPPORUTNITIES	NONE

THIS CODE IS STRUCTURED TO FACILITATE USE BY DESIGN PROFESSIONALS AND MUNICIPAL OFFICIALS. ACCOMPANYING THE STANDARD CODE TEXT ARE ILLUSTRATIONS, DIAGRAMS OR PICTURES TO FURTHER CONVEY THE INTENT OF THE REQUIREMENT. TOPICS CONTAINING GREATER DETAIL AND WHICH ARE EXPECTED TO BE UTILIZED CONSISTENTLY THROUGH THE DESIGN AND REVIEW OF A PROJECT ARE HIGHLIGHTED WITH THEIR OWN ILLUSTRATED COVER PAGE. THEY ARE FORMATTED TO REDUCE THE NEED FOR CROSS REFERENCING THE REMAINING BODY OF THE CODE . DIAGRAMS AND TABLES ARE LOCATED DIRECTLY BELOW OR ABOVE THE APPLICABLE CODE TEXT. THESE SECTIONS CAN BE REMOVED OR RECOPIED FOR DISTRIBUTION AMONG STAFF FOR DESIGN OR REVIEW OF THAT SPECIFIC SUBJECT MATTER. SUPPLEMENTAL STANDARDS ARE PROVIDED, IN THE SAME MANNER, TO FURTHER THE INTENT OF THE CODE AND APPLY TO SUBJECT MATTER THAT MAY BE COINCIDENT TO ANY TRANSECT.

ARTICLE 1

GENERAL TO ALL PLANS

1.1 APPLICABILITY

1.1.1 Within the provisions of this Regulating Code, the following terms have the following meaning: "SHALL" is used when a provision is required; "SHOULD" is used when a provision is recommended; "MAY" is used when a provision is optional. A recommended provision is mandatory unless an alternative is approved by the Consolidated Review Committee

1.1.2 The provisions of this Regulating Code, when in conflict other codes, ordinances, regulations, and standards of the Township of Bensalem, shall take precedence over other codes, ordinances, regulations and standards of the Township of Bensalem.

1.1.3 The existing codes, ordinances, regulations and standards of the Township of Bensalem, applicable to issues not covered by this Regulating Code shall remain in full force and effect except where these would be in conflict or contradict the provisions of Section 1.3 intent of this Regulating Code.

1.1.4 The Subdivision and Land Development Ordinance of the Township [Chapter 201] of Bensalem shall remain in full force and effect to the extent not in conflict with this Regulating Code. The process and procedures for review and approval of a subdivision and land development plan shall be in accordance with Chapter 201.

1.1.5 **RESERVED**

1.1.6 **RESERVED**

1.2 **RESERVED**

1.3 INTENT

The intent and purpose of this Regulating Code is to enable, encourage and qualify the implementation of the following policies:

1.3.1 THE AREA

a. That the area shall retain its natural infrastructure and visual character derived from topography, woodlands, farmlands, riparian corridors and coastlines.
b. That growth strategies shall encourage Infill and redevelopment in parity with New Communities.
c. That development contiguous to urban areas shall be structured in the pattern of Infill TND or Infill RCD and be integrated with the existing urban pattern.
d. That development non-contiguous to urban areas shall be organized in the pattern of CLD, TND, or RCD.
e.
e. That transportation Corridors shall be planned and reserved in coordination with land use and the major street network in this transect map.
f. That green corridors, floodplains and wetlands, shall be used to define and connect the neighborhoods within the transect map and surrounding urbanized areas.
g. That the region shall include a framework of transit, pedestrian, and bicycle systems that provide alternatives to the automobile.

1.3.2 THE COMMUNITY

a. That neighborhoods and Regional Centers shall be compact, pedestrian-oriented and mixed use.
b. That neighborhoods and Regional Centers shall be the preferred pattern of development and that districts specializing in a single use should be the exception.
c. That ordinary activities of daily living shall occur within walking distance of most dwellings, allowing independence to those who do not drive.
d. That interconnected networks of Thoroughfares shall be designed to disperse traffic and reduce the length of automobile trips.
e. That within neighborhoods, a range of housing types and price levels shall be provided to accommodate diverse ages and incomes.
f. That appropriate building Densities and land uses shall be provided within walking distance of transit stops.
g. That Civic, institutional, and Commercial activity should be embedded in downtowns, not isolated in remote single-use complexes.
h. That schools should be sized and located to enable children to walk or bicycle to them.
i. That a range of Open Space including Parks, Squares, and playgrounds shall be distributed within neighborhoods and town centers.
j. That the riverfront area be accessible to the general public.

1.3.3 **THE BLOCK AND THE BUILDING**

a. That buildings and landscaping shall contribute to the physical definition of Thoroughfares as Civic places.
b. That development shall adequately accommodate automobiles while respecting the pedestrian and the spatial form of public areas.
c. That the design of streets and buildings shall reinforce safe environments, and preserve accessibility.
d. That architecture and landscape design shall grow from local climate, topography, history, and building practice.
e. That buildings shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
f. That Civic Buildings and public gathering places shall be provided as locations that reinforce community identity and support self-government.
g. That Civic Buildings shall be distinctive and appropriate to a role more important than the other buildings that constitute the fabric of the city.
h. That the preservation and renewal of historic buildings shall be facilitated, to affirm the continuity and evolution of society.
i. That the harmonious and orderly development and redevelopment of urban areas shall be secured through the guidance of form based codes.

1.3.4 **THE TRANSECT**

That the Transect Zone descriptions in this Regulating Code shall constitute the intent of this Regulating Code with regard to the general character of each of these environments.

1.4 PROCESS

1.4.1 Applications and plans submitted pursuant to this Regulating Code shall be processed in accordance with Part I, Chapter 25 of the Code.

1.5 RESERVED

1.6 INCENTIVES

1.6.1 To encourage the use of this Regulating Code, Bensalem Township provides the following incentives, to the extent authorized by the laws of the Commonwealth of Pennsylvania:

a. Applications under this Regulating Code shall be processed on an expedited basis, as set forth in Part I, Chapter 25 of the Code, subject to the recommendation of the CRC.

b. The Township may waive or reduce review fees.

c. The Township may permit increased Density through the use of Transferable Development Rights, conveyed by deed duly recorded in the Office of the Bucks County Recorder of Deeds.

d. The Township may waive the requirement that the applicant submit a traffic impact report, subject to the applicant's demonstrating that such a report is unnecessary.

e. The Township may, within its sole discretion, construct and maintain those internal Thoroughfares that through-connect to adjacent sites.

f. The Township, to the extent permitted by law, shall maintain property taxes at the level prior to the approval of an application submitted pursuant to the Regulating Code, until such time as a certificate of occupancy has been issued for each building.

g. The Township may provide tax relief to first-time buyers of dwellings and newly created businesses within Zones T4, T5 and T6.

h. The Township may provide architectural and engineering services for the preliminary planning of Community Development Plans.

i. The Township will facilitate developers' participation in economic development programs available through the Commonwealth of Pennsylvania, Bucks County and/or the Federal government.

ARTICLE 2

RESERVED

2.1 RESERVED

ARTICLE 3

COMMUNITY DEVELOPMENT PLANS

3.1 PREPARATION OF PLANS

3.1.1 Within the Growth Boundaries as shown on the Growth Boundaries Plan and as set forth In Article 3, the provisions of Article 3 shall be available by Conditional Use, where applicable.

3.1.2 Community Development Plans shall be consistent with the Growth Boundaries Plan and the Regulating Plan for approval by the Township Council. Community Development Plans shall contain Community Units consistent with the Growth Boundaries plan and the Regulating Plan.

3.1.3 Once a Community Development Plan is approved, the parcel(s) shall become a New Community Area and shall be marked as such on the Regulating Plan of Bensalem Township. Within the New Community Area, this Regulating Code shall be the exclusive and mandatory zoning regulation, and its provisions shall be applied in their entirety.

3.1.4 Community Development Plans submitted in accordance with the provisions of this Regulating Code, for the appropriate section of the Growth Boundaries Plan shall be approved be Township Council, subject to any reasonable conditions Council may impose, consistent with the intent of the Regulating Code.

3.1.5 Community Development Plans may be prepared by an owner or by the Township of Bensalem, Building and Planning Department. Preparation of the plan shall be at the discretion of the Township of Bensalem.

3.1.6 Community Development Plans shall include one or more maps showing the following for each Community Unit in the plan area, in compliance with the standards described in Article 3:

a. Transect Zones
b. Civic Zones
c. Thoroughfare network
d. Special Districts, if any
e. Special Requirements, if any

3.1.7 Community Development Plans shall include one set of preliminary site plans for each Transect Zone, as described in 5.1.3a.

3.1.8 Community Development Plans shall include, for properties adjacent to the Delaware River waterfront, a plan for public access to the waterfront. The plan shall incorporate the following elements in its design: provision for the preservation of suitable existing vegetation in this area as features of this space, a pedestrian walkway and/or riverwalk (which shall run along the entire length of the Delaware River waterfront and shall be open and accessible to the general public), benches and trash receptacles, landscaping (including lawn, trees and shrubs), and lighting that creates a warm inviting evening ambiance. Maintenance of the open space shall be assumed by the entity in ownership. Open space must be available for public use and access and shall be limited only by posted hours as approved by the Township in accordance with the requirements of the Township and the subdivision and land development ordinance. Open space may be offered for dedication to the Township or held in ownership by a property owners' association.

3.1.9 Where a plan includes subsidized housing units, such units shall not be clustered but shall be interspersed within the planned housing development.

3.2 SEQUENCE OF COMMUNITY DEVELOPMENT PLAN DESIGN

3.2.1 The site shall be structured using one or several Pedestrian Sheds as delineated on the Regulating Plan. The site or any Community Unit within it may be smaller or larger than its Pedestrian Shed.

3.2.2 The Pedestrian Sheds may be adjusted to include land falling between or outside them according to existing conditions, such as traffic intersections, adjacent developments, and natural features, but the extent of each shall not exceed the acreage limit specified in Section 3.3 for the applicable Community Unit type. An Adjusted Pedestrian Shed becomes the boundary of a Community Unit.

3.2.3 Areas of Transect Zones (Section 3.4) shall be allocated within the boundaries of each Community Unit as appropriate to its type. See Section 3.3 and the Community Development Summary Table

3.2.4 Civic Zones shall be assigned according to Section 3.5.

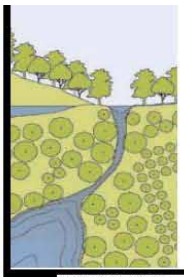
3.2.5 RESERVED.

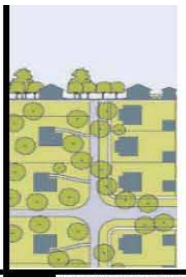
3.2.6 The Thoroughfare network shall be laid out according to Section 3.7.

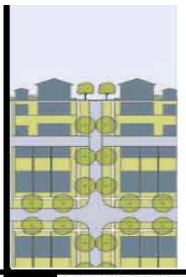
3.2.7 Density shall be calculated according to Section 3.8.

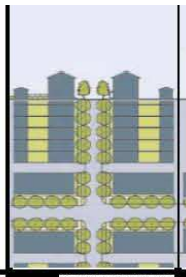
3.2.8 Remnants of the site outside the Adjusted Pedestrian Shed(s) shall be assigned to Transect Zones, Special District or Civic Space by Conditional Use.

COMMUNITY DEVELOPMENT SUMMARY TABLE









	T1 NATURAL ZONE	T3 NEIGHBORHOOD	T4 TOWN GENERAL	T5 TOWN CENTER	T6 REGIONAL TECH/MFR CENTER
a. ALLOCATION OF ZONES per Pedestrian Shed (applicable to Article 3 only)					
CLD requires	minimum 50%	10 - 30%	20 - 40%	not permitted	not permitted
TND requires	no minimum	10 - 30%	30 - 60%	10 - 30%	not permitted
RCD requires	no minimum	not permitted	10 - 30%	10 - 30%	40 - 80%
b. BASE RESIDENTIAL DENSITY (See Section 3.8 & 5.7)					
By Right	not applicable	5 units / ac. Gross	6 units / ac. Gross	7 units / ac. Gross	8 units / ac. Gross
By TDR	by Conditional Use	6 units / ac. Gross	8 units / ac. Gross	9 units / ac. Gross	10 units / ac. Gross
Other Functions	by Conditional Use	10 - 20%	20 - 30%	30 - 50%	50 - 70%
c. BLOCK SIZE					
Block Perimeter	no maximum	2,400 ft. max.	2,200 ft. max.	2,000 ft. max.	1,800 ft. max. *
d. THOROUGHFARES (See Section 3.7)					* 3,000 ft. max. with parking structures
HW	permitted	permitted	not permitted	not permitted	not permitted
BV	not permitted	permitted	permitted	permitted	permitted
AV	not permitted	permitted	permitted	permitted	permitted
CS	not permitted	not permitted	not permitted	permitted	permitted
DR	not permitted	permitted	permitted	permitted	permitted
ST	not permitted	permitted	permitted	permitted	not permitted
RD	permitted	permitted	not permitted	not permitted	not permitted
Rear Lane	permitted	permitted	permitted	not permitted	not permitted
Rear Alley	not permitted	permitted	required	required	required
Path	permitted	permitted	permitted	not permitted	not permitted
Passage	not permitted	permitted	permitted	permitted	permitted
Bicycle Trail/ Path	both permitted	both permitted	path permitted*	path permitted*	not permitted
Bicycle Lane	permitted	permitted	permitted	permitted	permitted
Shared Vehicular Lanes (Bike)	permitted	permitted	permitted	permitted	permitted
e. CIVIC SPACES (See Section 3.5)					*permitted as Path with Open Spaces
Park	permitted	permitted	by Conditional Use	by Conditional Use	by Conditional Use
Green	not permitted	permitted	permitted	permitted	not permitted
Square	not permitted	not permitted	permitted	permitted	permitted
Plaza	not permitted	not permitted	not permitted	permitted	permitted
Playground	permitted	permitted	permitted	permitted	permitted
f. LOT OCCUPATION					
Lot Width	not applicable	72 ft. min 120 ft. max.	18 ft. min 96 ft. max.	18 ft. min 180 ft. max.	18 ft. min 700 ft. max.
Lot Coverage	not applicable	60% max.	70% max.	80% max.	90% max.
g. SETBACKS - PRINCIPAL BUILDING (See Section 5.7)					
(g.1) Front Setback Principal	not applicable	24 ft. min.	6 ft. min. 18 ft. max.	2 ft. min. 12 ft. max.	2 ft. min. 12 ft. max.
(g.2) Front Setback Secondary	not applicable	12 ft. min.	6 ft. min. 18 ft. max.	2 ft. min. 12 ft. max.	2 ft. min. 12 ft. max.
(g.3) Side Setback	not applicable	12 ft. min.	0 ft. min.	0 ft. min. 24 ft. max.	0 ft. min. 24 ft. max.
(g.4) Rear Setback	not applicable	12 ft. min. or 15 ft from c/l alley	3 ft. min. *	3 ft. min. *	0 ft. min.
Frontage Buildout	not applicable	40% min. at setback	60% min.	80% min.	80% min.
h. SETBACKS - OUTBUILDING (See Section 5.7)					
Front Setback Principal	not applicable	20 ft. min. + bldg. setback	20 ft. min. + bldg. setback	40 ft. max. from rear prop	not applicable
Front Setback Secondary	not applicable	3 ft. or 6 ft.at corner	0 ft. min. or 3 ft.at corner	0 ft. min. at corner	not applicable
Side Setback	not applicable	3 ft. min.	3 ft.	3 ft. max.	not applicable
i. BUILDING DISPOSITION (See Section 5.7)					
Edgeyard	permitted	permitted	permitted	not permitted	not permitted
Sideyard	not permitted	not permitted	permitted	permitted	not permitted
Rearyard	not permitted	not permitted	permitted	permitted	permitted
Courtyard	not permitted	not permitted	not permitted	permitted	permitted
j. PRIVATE FRONTAGES (See Section 5.7)					
Common Yard	not applicable	permitted	not permitted	not permitted	not permitted
Porch & Fence	not applicable	permitted	permitted	not permitted	not permitted
Terrace, Dooryard	not applicable	not permitted	permitted	permitted	not permitted
Forecourt	not applicable	not permitted	permitted	permitted	permitted
Stoop	not applicable	not permitted	permitted	permitted	permitted
Shopfront	not applicable	not permitted	permitted	permitted	permitted
Gallery	not applicable	not permitted	permitted	permitted	permitted
Arcade	not applicable	not permitted	permitted	permitted	permitted
Parking Lot	not applicable	not permitted	not permitted	permitted	permitted
k. BUILDING CONFIGURATION (See Section 5.7)					
Principal Building	not applicable	2 stories max.	3 stories max. 2 min.	5 stories max. 2 min.	8 stories max. 2 min.
Outbuilding	not applicable	2 stories max.	2 stories max.	2 stories max.	not applicable
l. BUILDING FUNCTION (See See Section 5.7)					
Residential	not applicable	restricted use	limited use	open use	open use
Lodging	not applicable	restricted use	limited use	open use	open use
Office	not applicable	restricted use	limited use	open use	open use
Retail	not applicable	restricted use	limited use	open use	open use

3.3 COMMUNITY UNIT TYPES

3.3.1 CLUSTERED LAND DEVELOPMENT (CLD)

a. A Clustered Land Development (CLD) shall be permitted within the G-2 Controlled Growth Sector as set forth on the Growth Boundaries Plan.

b. A CLD shall be structured by one Standard Pedestrian Shed and shall consist of no fewer than 30 acres and no more than 80 acres.

c. A CLD shall include Transect Zones as allocated on the Community Development Summary Table in Article 3. A minimum of 50% of the Community Unit shall be permanently allocated to a T1 Natural Zone.

3.3.2 TRADITIONAL NEIGHBORHOOD DEVELOPMENT (TND)

a. A Traditional Neighborhood Development (TND) shall be permitted within the G-2 Controlled Growth Sector, the G-3 Intended Growth Sector, and the G-4 Infill Growth Sector as set forth on the Growth Boundaries Plan..

b. A TND within the G-2 Controlled Growth Sector and the G-3 Intended Growth Sector shall be structured by one Standard or Linear Pedestrian Shed and shall be no fewer than 80 acres and no more than 160 acres.

c. A TND shall include Transect Zones as allocated on the Community Development Summary Table in Article 3.

d. Large sites shall be designed and developed as multiple Communities, each subject to the individual Transect Zone requirements for its type as allocated on the Community Development Summary Table in Article 3. The simultaneous planning of adjacent parcels is encouraged.

e. In the T-4 Town General, a minimum Residential mix of three Building Disposition types (none less than 20%) shall be required, selected from Table T4.

3.3.3 REGIONAL CENTER DEVELOPMENT (RCD)

a. A Regional Center Development (RCD) shall be permitted within the G-3 Intended Growth Sector and the G-4 Infill Growth Sector as set forth on the Growth Boundaries Plan.

b. An RCD within the G-3 Intended Growth Sector shall be structured by one Long Pedestrian Shed or Linear Pedestrian Shed and shall consist of no fewer than 80 acres and no more than 640 acres.

c. An RCD shall include Transect Zones as allocated on the Community Development Summary Table in Article 3.

d. For large sites, an RCD may be adjoined without buffer by one or more TNDs, each subject to the individual Transect Zone requirements for TND as allocated on the Community Development Summary Table in Article 3. The simultaneous planning of adjacent parcels is required.

3.3.4 SPECIAL DISTRICT (SD)

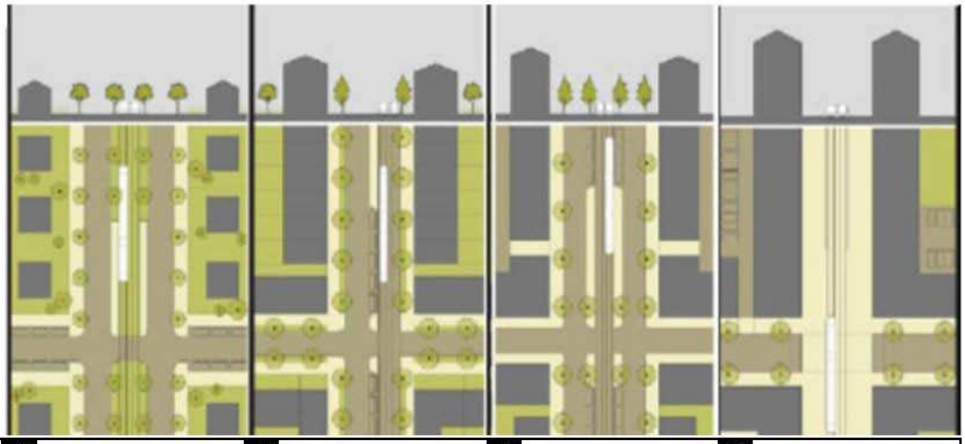
a. A Special District (SD) shall be permitted within the SD, Special District Growth Sector as set forth on the Growth Boundaries Plan.

b. A Special District (SD) development shall be subject to the existing zoning regulations set forth in Article XI, Division 2, G-I General Industrial Districts, of the Zoning Ordinance of Bensalem Township (Chapter 232), and the Subdivision and Land Development Ordinance of Bensalem Township (Chapter 201).

3.3.5 **TRANSIT ORIENTED DEVELOPMENT (TOD)**

a. Any TND or RCD on an existing or projected rail or Bus Rapid Transit (BRT) network may be redesignated in whole or in part as TOD and permitted the higher Density represented by the Effective Parking allowance in the individual transect regulations.

b. The use of a TOD overlay not on the Regulating Plan requires approval by Conditional Use.



	T3	T4	T5	T6
Land Use Mix	Residential SFD Retail at stop/station	Residential mix Local Serving Retail Local Serving Office	Multifamily Housing Retail Primary Office Center	Multifamily Housing Retail Primary Office Center Urban Entertainment
Minimum Housing Density	>8 Units / acre (>20 Units / Ha)	>12 Units / acre (>30 Units / Ha)	>50 Units / acre (>123 Units / Ha)	>60 Units / acre (>148 Units / Ha)
Housing Types	Detached Semi-Detached	Detached Semi-Detached Apartment Building Rowhouse	Apartment Building Rowhouse Loft Building	Apartment Building Loft Building
Examples	Crossings (Mountain View, CA) Ohlone-Chynoweth (San Jose, CA) Decines Centre (Lyon, France)	Prairie Crossing (Illinois) Suisun City (California) El Campello (Alicante, Spain) Pessac Center (Bordeaux France)	Arlington County (Virginia, USA) Addison Circle (Dallas, USA) Ettlingen (Karlsruhe, Germany) Avenue 8 du Mai (Grenoble, France)	Pioneer Square (Portland,Oregon USA) Rue de la Division Leclerc (Strasbourg, France) Printers Row (Chicago, IL USA) Bahnhofstrasse (Zurich,Switzerland) LoDo (Denver, USA)

3.4 TRANSECT ZONES

3.4.1 Transect Zones shall be assigned and mapped on each Community Development Plan according to the percentages allocated on the Regulating Plan. Transect Zone areas may be adjusted in response to existing conditions and market trends.

3.4.2 A Transect Zone may include any of the elements indicated for its T-zone number throughout this Regulating Code, in accordance with Intent described in section 1.3 and the metric standards summarized in the Community Development Summary Table, as set forth in Article 3.

3.5

CIVIC SPACE

3.5 CIVIC ZONES

3.5.1 GENERAL

a. Civic Zones dedicated for public use shall be required for each Community Unit and designated on the New Community Plan as Civic Space (CS) and Civic Building (CB).

b. Civic Space Zones are public sites permanently dedicated to Open Space.

c. Civic Building Zones are sites dedicated for buildings generally operated by not-for-profit organizations dedicated to culture, education, religion, government, transit and municipal parking, or for a use approved by Bensalem Township Council.

d. A Civic Zone may be permitted by Conditional Use if it occupies more than 20% of a Pedestrian Shed, otherwise it is subject to the creation of a Special District.

e. Parking for Civic Zones shall be determined by Conditional Use. Civic parking lots may remain unpaved if graded, compacted and landscaped.

f. Civic Space should be designed and sited to provide clear sight lines to the Delaware River or other Civic Space.

3.5.2 RESERVED

3.5.3 CIVIC SPACE (CS) SPECIFIC TO T3-T6 ZONES

a. Each Pedestrian Shed shall assign at least 5% of its Urbanized area to Civic Space.

b. Civic Spaces shall be designed as generally described in the Civic Space Summary Table, approved by Conditional Use, and distributed throughout Transect Zones as described in the Community Development Plan Summary line e.

c. Those portions of the T1 Natural Zone that occur within a development parcel shall be part of the Civic Space allocation and shall conform to the Civic Space types specified in the Civic Space Summary Table.

d. Each Pedestrian Shed shall contain at least one Main Civic Space. The Main Civic Space shall be within 800 feet of the geographic center of each Pedestrian Shed, unless topographic conditions, pre-existing Thoroughfare alignments or other circumstances prevent such location. A Main Civic Space shall conform to one of the types specified in the Civic Space Summary Table.

e. Within 800 feet of every Lot in Residential use, a Civic Space designed and equipped as a playground shall be provided. A playground shall conform to the Civic Space Summary Table .

f. Each Civic Space shall have a minimum of 50% of its perimeter fronting a Thoroughfare, except for playgrounds.

g. Civic Spaces may be permitted within Special Districts by Conditional Use.

h. Parks may be permitted in Transect Zones T4, T5 and T6 by Conditional Use.

3.5.4 CIVIC BUILDINGS (CB) SPECIFIC TO T3-T6 ZONES

a. The owner shall covenant to construct a Meeting Hall or a Third Place in proximity to the Main Civic Space of each Pedestrian Shed. Its corresponding Public Frontage shall be equipped with a shelter and bench for a transit stop.

b. One Civic Building Lot suitable for a childcare building shall be reserved within each Pedestrian Shed. The owner or a homeowners' association or other community council may organize, fund and construct an appropriate building as the need arises.

c. Civic Building sites shall not occupy more than 20% of the area of each Pedestrian Shed.

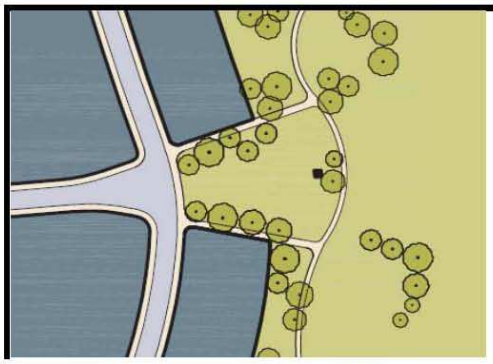
d. Civic Building sites should be located within or adjacent to a Civic Space, or at the axial termination of a significant Thoroughfare.

e. Civic Buildings shall not be subject to the standards of Article 5. The particulars of their design shall be determined by Conditional Use.

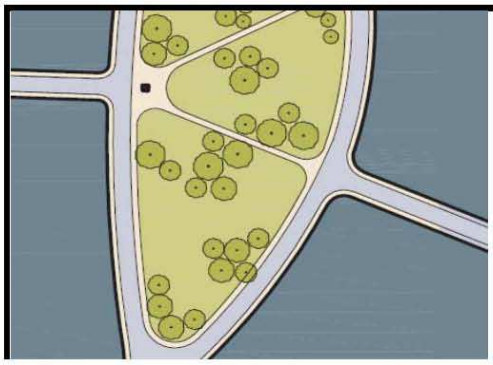
f. Civic Buildings may be permitted within Special Districts by Conditional Use.

CIVIC SPACE SUMMARY TABLE

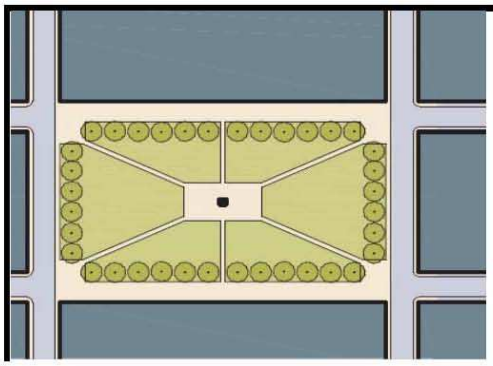
a. **Park:** A natural preserve available for unstructured recreation. A park may be independent of surrounding building Frontages. Its landscape shall consist of Paths and trails, meadows, water bodies, woodland and open shelters, all naturalistically disposed. Parks may be lineal, following the trajectories of natural corridors. The minimum size shall be 8 acres. Larger parks may be approved by conditional use as Special Districts in all zones.



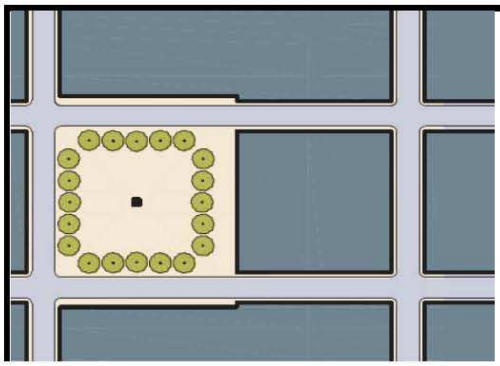
b. **Green:** An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size shall be 1/2 acre and the maximum shall be 8 acres.



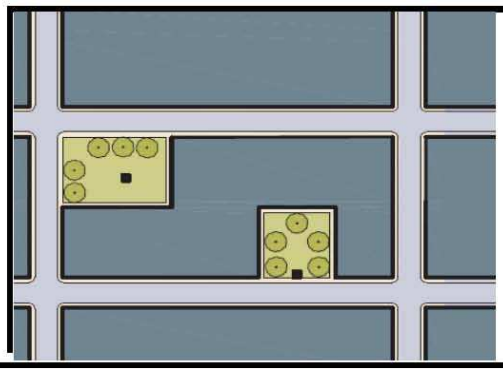
c. **Square:** An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size shall be 1/2 acre and the maximum shall be 5 acres.



d. **Plaza:** An Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas should be located at the intersection of important streets. The minimum size shall be 1/2 acre and the maximum shall be 2 acres.



e. **Playground:** An Open Space designed and equipped for the recreation of children. A Playground should be fenced and may include an open shelter. Playgrounds shall be interspersed within Residential areas and may be placed within a Block. Playgrounds may be included within parks and greens. There shall be no minimum or maximum size.



3.7

THOROUGHFARE DESIGN STANDARDS

3.7 THOROUGHFARE STANDARDS

3.7.1 GENERAL

a. Thoroughfares are intended for use by vehicular and pedestrian traffic and to provide access to Lots and Open Spaces.

b. Thoroughfares shall generally consist of vehicular lanes and Public Frontages.

c. Thoroughfares shall be designed in context with the urban form and desired design speed of the Transect Zones through which they pass. Public Frontages passing from one Transect Zone to another shall be adjusted accordingly or, alternatively, the Transect Zone may follow the alignment of the Thoroughfare to the depth of one Lot, retaining a single Public Frontage along its length.

d. Within the most rural Transect Zone (T1) pedestrian comfort shall be a secondary consideration of the Thoroughfare. Design conflict between vehicular and pedestrian generally shall be decided in favor of the vehicle. Within the more urban Transect Zones (T3 through T6) pedestrian comfort shall be a primary consideration of the Thoroughfare. Design conflict between vehicular and pedestrian movement generally shall be decided in favor of the pedestrian.

e. The Thoroughfare network shall be designed to define Blocks not exceeding the size prescribed in the Community Development Summary Table, line 'c', as set for in Article 3. The perimeter shall be measured as the sum of Lot Frontage Lines. Block perimeter at the edge of the development parcel shall be subject to approval by Conditional Use.

f. All Thoroughfares shall terminate at other Thoroughfares, forming a network. Internal Thoroughfares shall connect wherever possible to those on adjacent sites. Cul-de-sacs shall be subject to approval by Conditional Use to accommodate specific site conditions only and shall be designed such that future connection to the street network is expected, continuous and uniform.

g. Each Lot shall front a vehicular Thoroughfare, except that 20% of the Lots within each Transect Zone may front a Passage.

h. Thoroughfares along a designated B-Grid may be exempted by Conditional Use from one or more of the Public Frontage or Private Frontage requirements specified for each Transect Zone.

i. Alternate standards for Paths and Bicycle Trails shall be approved by Conditional Use.

j. The standards for Thoroughfares within Special Districts shall be determined by Conditional Use.

3.7.2 **VEHICULAR LANES**

a. Thoroughfares shall include vehicular lanes in a variety of widths for parked and for moving vehicles, including bicycles. The standards for vehicular lanes shall be as shown in the Table below:

DESIGN SPEED	TRAVEL LANE WIDTH	T1	T3	T4	T5	T6
Below 20 mph	10 feet	■	■	□		
20-25 mph	10 feet	■	■	■	□	□
25-35 mph	10 feet	■	■	■	■	■
25-35 mph	11 feet	■			■	■
Above 35 mph	12 feet	■			■	■

■ BY RIGHT

□ CONDITIONAL USE

DESIGN SPEED	PARKING LANE WIDTH					
20-25 mph	(Angle 18 feet)				■	■
20-25 mph	(Parallel) 8 feet			■		
25-35 mph	(Parallel) 8 feet		■	■	■	■
Above 35 mph	(Parallel) 9 feet				■	■

DESIGN SPEED	CURB RETURN RADIUS					
Below 20 mph	5-10 feet		■	■	■	■
20-25 mph	10-15 feet	■	■	■	■	■
25-35 mph	15-20 feet	■	■	■	■	■
Above 35 mph	20-30 feet	■			□	□

b. Thoroughfares shall be curbed in zones T3 thru T6.

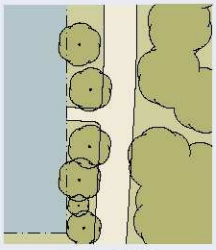
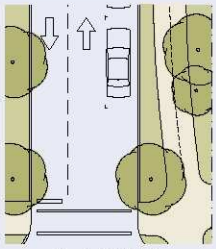
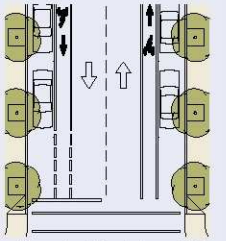
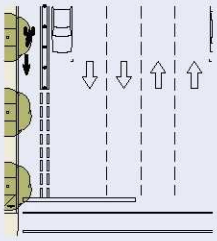
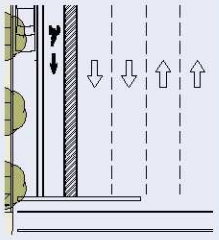
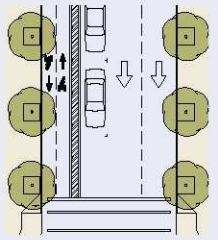
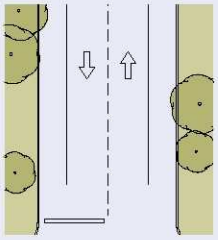
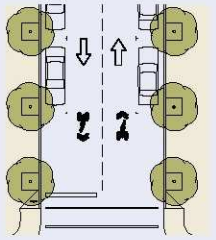
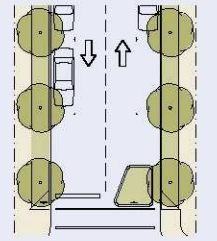
c. Angled parking width may vary depending upon the angle of the parking. Designers shall reference the ULI document "The Dimensions of Parking", latest edition.

d. A minimum effective turning radius of 30' shall be provided.

d. A traffic study shall be provided depicting the effective turning radii for intersections.

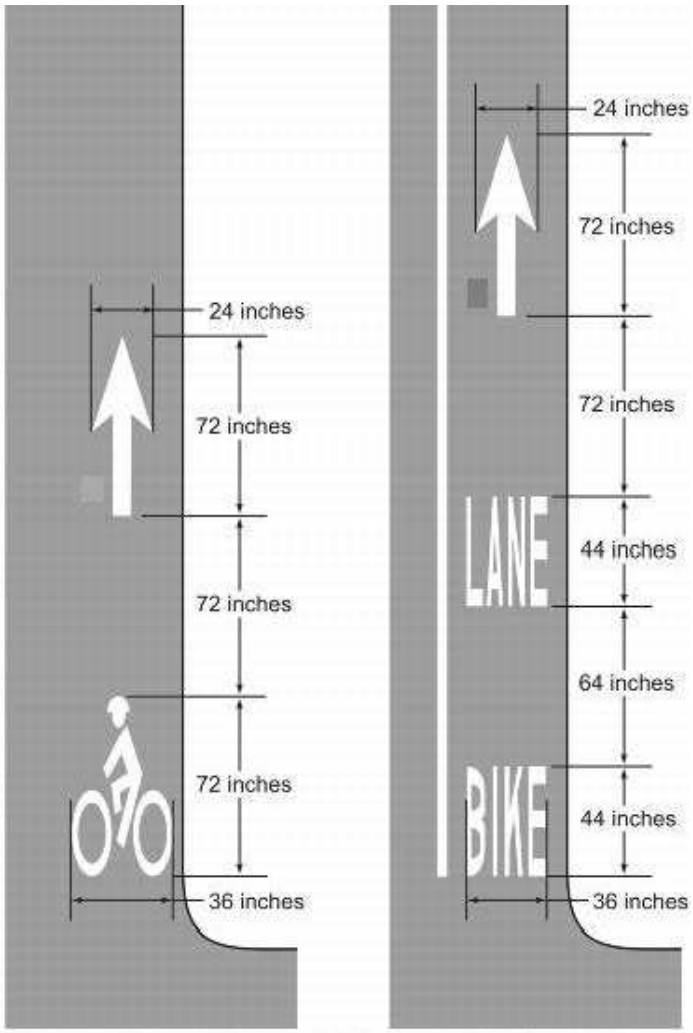
3.7.3 **BICYCLE NETWORK**

a. A bicycle network consisting of Bicycle Trails, Bicycle Routes and Bicycle Lanes (as defined in Article 7 Definitions) shall be provided throughout and allocated as specified in the Community Development Summary, Table, line 'd', as set forth in Article 3, and in the Table below. Bicycle Routes shall be marked with Sharrows. The community bicycle network shall be connected to existing or proposed regional networks wherever possible.

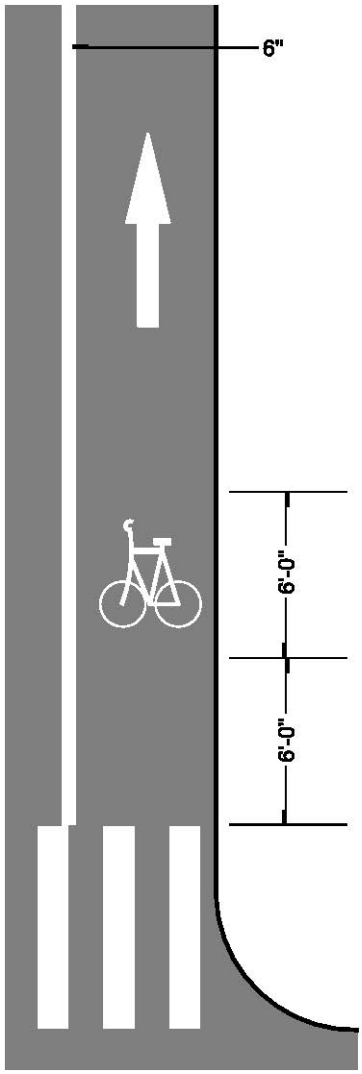
a. (SHARED USE) BICYCLE TRAIL AND BICYCLE PATH	**T1 T3** 	**T3 T4 T5** 			
Bikeway Type	Bicycle Trail (BT)	Bicycle Path (BP)			
Riding Surface Width	8 - 12 ft	10 - 14 ft			
Movement	dual direction	dual direction			
Intersection Detailing	signed	signed, signalized			
Bicycle Parking	rack, Bicycle Shelter	rack, Bicycle Shelter, Bicycle Locker			
b. BICYCLE LANE	**T3 T4 T5 T6** 	**T3 T4 T5 T6** 	**T3 T4 T5 T6** 	**T3 T4 T5 T6** 	**T3 T4 T5 T6** 
Bikeway Type	Conventional Bicycle Lane (BLC)	Bicycle Lane with Bicycle Box (BLX)	Physically Sep. Bicycle Lane (BLP)	Buffered Bicycle Lane (BLB)	2-way Buffered Bicycle Lane (BLB2)
Riding Surface Width	5 ft min. w/parking, 4ft min. w/o parking	5 ft min each way, box depth 14 ft	5 ft min/2 ft min barrier	5 ft min each way/2 ft min striped buffer	5 ft min each way/3 ft min striped buffer
Movement	with traffic or Contra-flow	with traffic	with traffic or dual direction	with traffic	dual direction
Intersection Detailing	signalized, dashed, Peg-a-Track, colored, Bicycle Box	signalized, dashed, Peg-a-Track, colored, Bicycle Box	signalized, dashed, Peg-a-Track, colored, Bicycle Box	signalized, Peg-a-Track, colored, Bicycle Box	signalized, Peg-a-Track, colored, Bicycle Box
Bicycle Parking	rack, Bicycle Shelter, Bicycle Station	rack, Bicycle Shelter, Bicycle Station	rack, Bicycle Shelter, Bicycle Station	rack, Bicycle Shelter, Bicycle Station	rack, Bicycle Shelter, Bicycle Station
c. SHARED VEHICULAR LANES	**T1 T3** 	**T3 T4 T5 T6** 	**T3 T4** 		
Bikeway Type	Shoulder (BLS)	Shared Vehicular Lane w/ Sharrow (SL)	Bicycle Boulevard (BB)		
Riding Surface Width	6 ft min	same as Vehicular Lane	same as Vehicular Lane		
Movement	with traffic	with traffic	with traffic		
Intersection Detailing	signed, signalized	signed, signalized	signed, signalized		
Bicycle Parking	opportunistic, rack, Bicycle Shelter	opportunistic, rack, Bicycle Shelter	opportunistic, rack, Bicycle Shelter		

b. Bicycle facilities shall be developed in accordance with guidance and standards as presented in the most recent version of the Association of State Highway and Transportation Officials' (AASHTO) Guide for the Development of Bicycle Facilities, the Manual on Uniform Traffic Control Devices, and the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide.

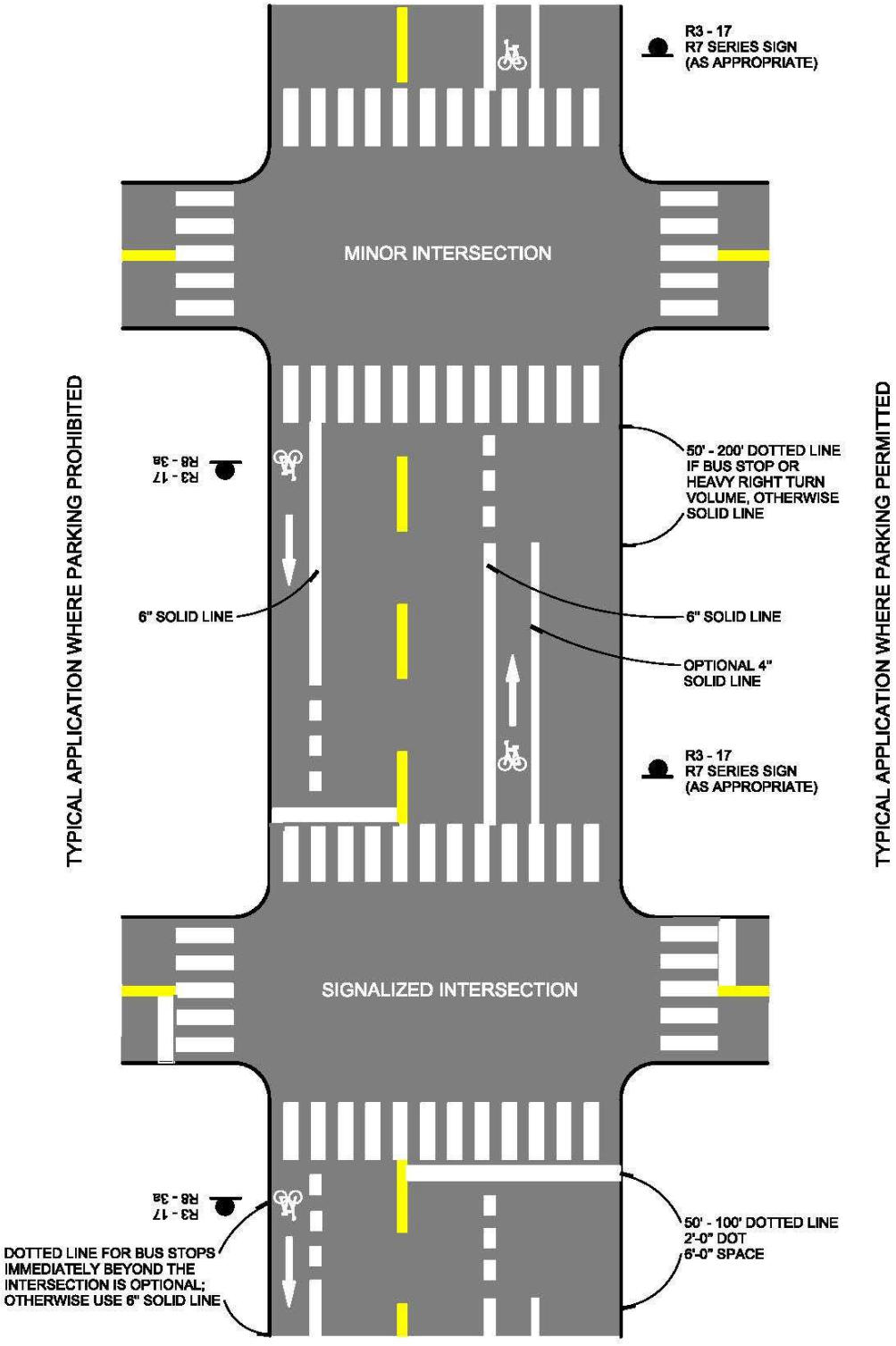
b. Bike lanes shall be painted with standard pavement symbols to inform bicyclists and motorists of the presence of the bike lane. The standard pavement bicycle symbols or the words “BIKE LANE” and a directional arrow are shown below. Additional stencils shall be placed on long, uninterrupted sections of roadway. All pavement markings are to be white and reflectorized.



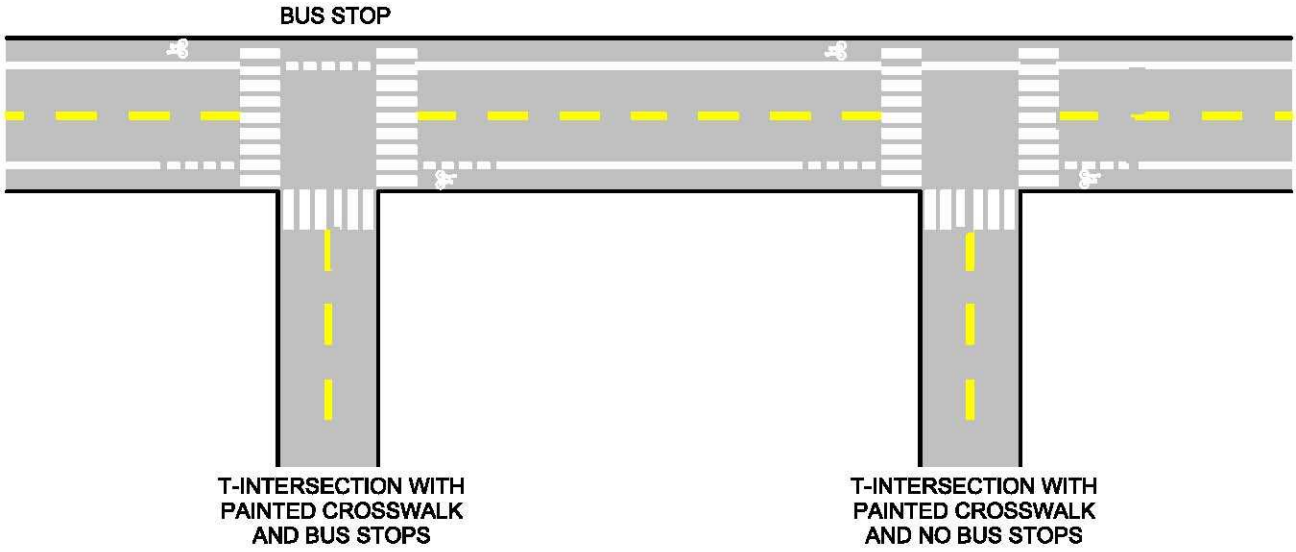
c. These symbols shall be painted on the far side of each intersection measured 6 feet from the spring line of the curb.

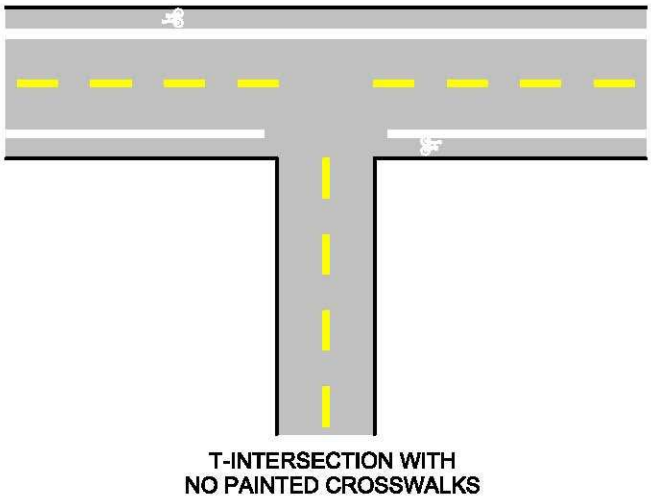


d. At signalized or stop-controlled intersections with right-turning motor vehicles, the solid striping to the approach shall be replaced with a broken line with 2-foot dots and 6-foot spaces. The typical length of the broken line section shall be between 50 feet to 200 feet. At non-signalized minor intersections with no stop controls, solid bike lane striping may continue all the way to the crosswalk on the near side of the intersection. Where there is a bus stop or high right-turn volume, the 6-inch solid line shall be replaced with a broken line with 2-foot dots and 6-foot spaces for the length of the bus stop. The bike lane striping shall resume at the outside line of the crosswalk on the far side of the intersection. The diagram below illustrates typical bike lane striping at intersections without bus stops, at intersections with near side bus stops (right-hand side of the figure) and at intersections with far side bus stops (left-hand side of the figure).



e. At T-intersections with no painted crosswalks, the bike lane striping on the side across from the T-intersection shall continue through the intersection area with no break. If there are painted crosswalks, the bike lane striping on the side across from the T-intersection shall be discontinued only at the crosswalks. See figures below:

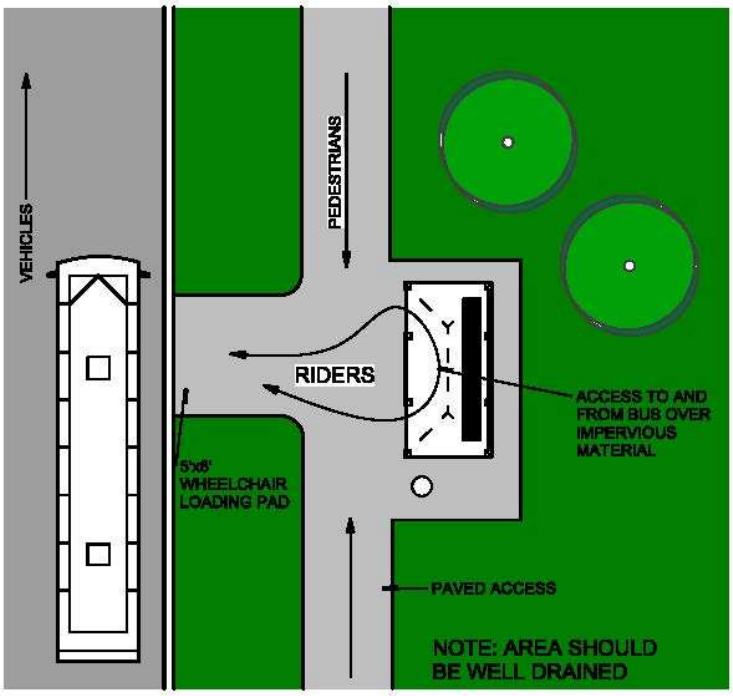




3.7.4 **BUS FACIILITIES-PASSENGER BOARDING AREAS**

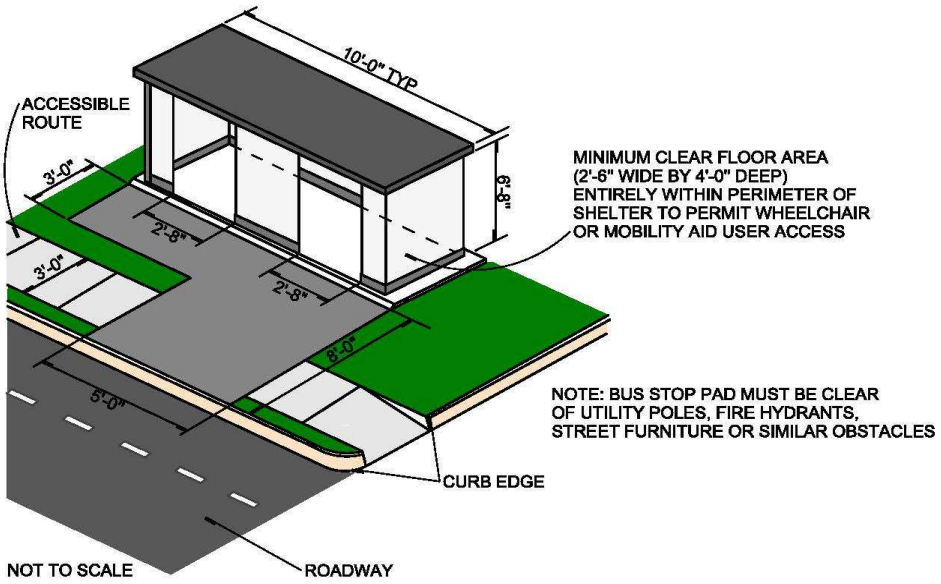
a. The bus stop passenger boarding area shall be designed in accordance with SEPTA 's " Bus Stop Design Guidelines", latest edition. Boarding areas shall be a firm, solid platform free of obstacles for deployment of wheelchair lifts and for other bus stop features, such as shelters, and benches Boarding areas shall meet the following minimum requirements:

• Door clearance: minimum of 5 feet wide along the curb by 8 feet deep (from face of curb to back of boarding area);

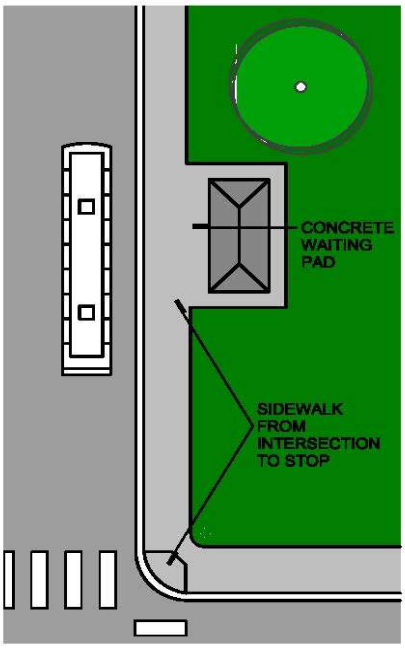


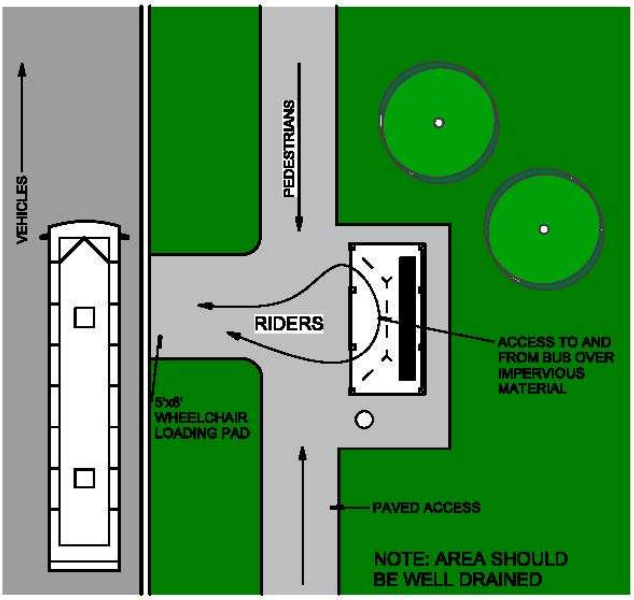
• Distance between front and rear boarding area shall be 18 feet;
• Surface material is stable, firm and slip resistant;
• Slope shall not exceed 1 foot vertical over 20 feet horizontal (5 percent);
• Cross slope shall not exceed 1 foot vertical over 50 feet horizontal (2 percent);

• Below is a diagram of typical minimum dimensions for a shelter:



• Clear throughway width of 48 inches maintained in boarding area;
• Vertical clearance of 84 inches maintained in boarding area.
• Street sides with a planting strip between curb and sidewalk a landing area shall be provided adjacent to the curb for a minimum distance of 34 feet in length and a minimum of 8 feet in depth (from face of curb) with a connecting pathway from pedestrian throughway to landing area.

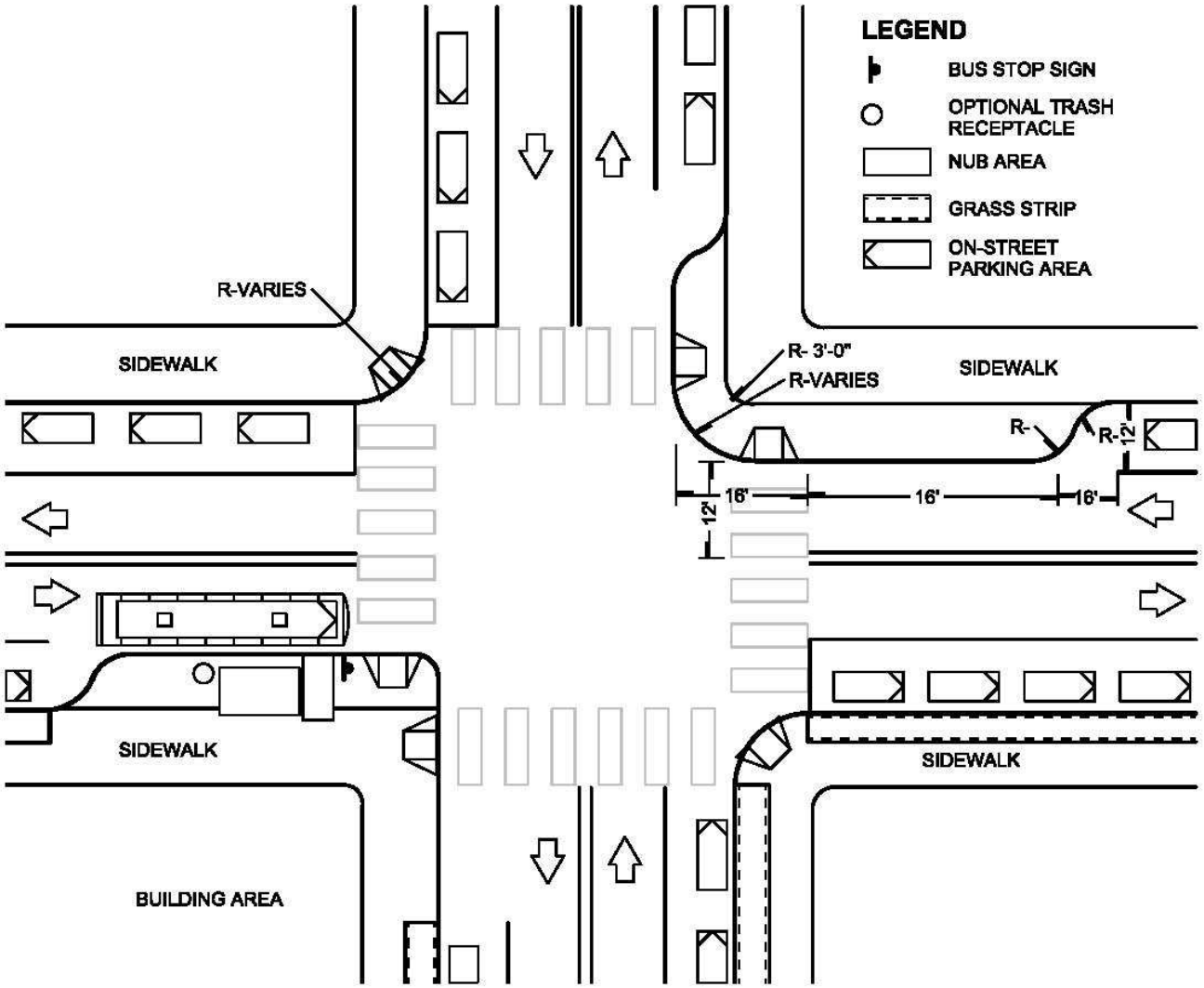




• Locate street furniture more than 2.5-feet tall in such a way as to provide motorists exiting nearby driveways clear visibility of the street.
• Landscaping near the passenger boarding area shall be placed far enough back from the curb face to not interfere with the bus or passenger visibility. All landscaping shall be located so as not to obstruct the shelter canopy or obscure sight lines at the bus stop. Shade trees are encouraged and the preferred location is at the back of the sidewalk.

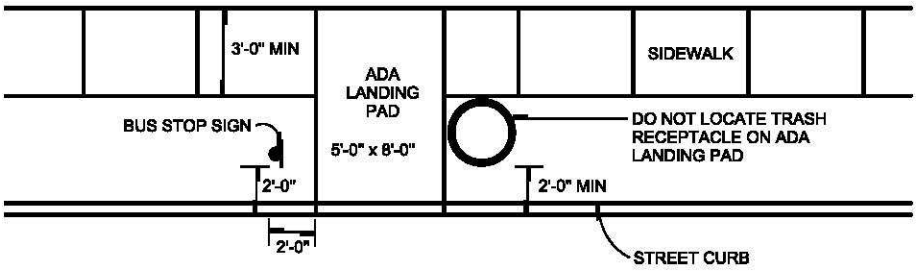
b. Bus stops locations shall be provided with 2 to 5 lumens of illumination within the bus stop area.
c. Adjacent landscaping shall be plants that are open and do not form solid hedges of vegetation so passengers can view over and behind.
d. Pedestrian circulation routes through bus stops and waiting areas shall not be blocked from view by walls or other structures.
e. To the extent feasible, provide multiple exits from bus shelter.

f. Curb extensions along streets with lower traffic speeds and/or low traffic volumes are acceptable for bus stops in the travel lane. Collector streets in neighborhoods and designated pedestrian districts are good candidates for this type of bus stop. Curb extensions shall be designed to accommodate vehicle turning movements to and from side streets. The diagram below depicts typical dimensions for this manner of curb extension.

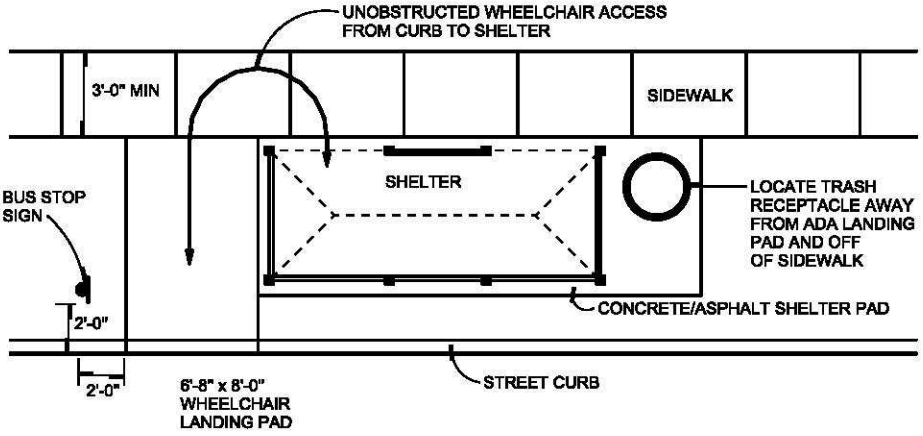


g. Trash receptacles shall be located a minimum of 2 feet from the back of the curb.
h. Locate the receptacle away from wheelchair landing pad areas and provide at least a 3-foot separation from other street furniture.
i. Anchor the receptacle securely to the ground to reduce unauthorized movement.
j. The receptacle, when adjacent to the roadway, shall not visually obstruct nearby driveways or land uses.
k. Receptacles with ledges or other design features that permit liquids to pool or remain near the receptacle are prohibited.
l. Avoid locating the receptacle in direct sunlight. The heat may encourage foul odors to develop.

WITHOUT BUS SHELTER



WITH BUS SHELTER

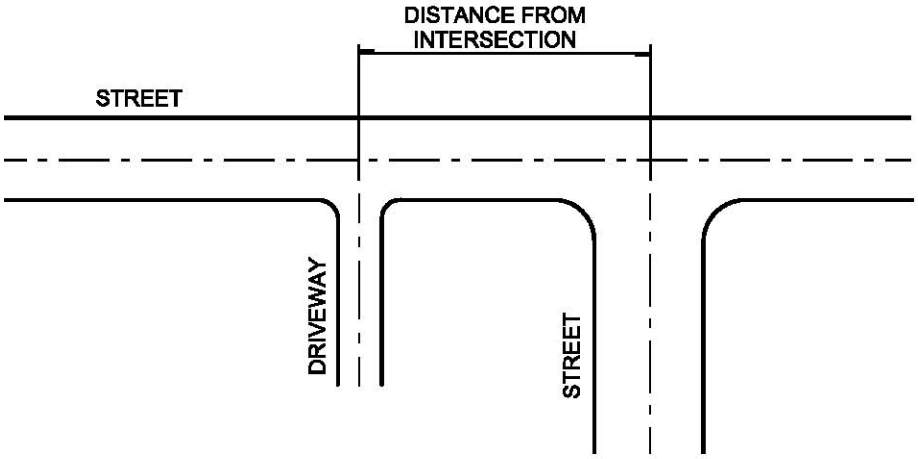


3.7.5 **INTERSECTIONS**

a. Streets shall intersect at right angles whenever practicable. The angle of intersection shall not be less than 75 degrees.

b. Multiple intersections involving the junction of more than two streets is prohibited.

c. The centerline of an access road or driveway at the point of intersection with a street shall not be located closer than 80' on thoroughfares designated AV, BV, CS to the centerline of an adjacent intersecting street. The minimum distance on thoroughfares designated DR, RD and ST is 65'.



c. To reduce conflict along corridors having several parcels with limited roadway frontage, joint driveways shall be provided in order to achieve the following driveway spacing standards that are desirable for arterial and major collector roads:

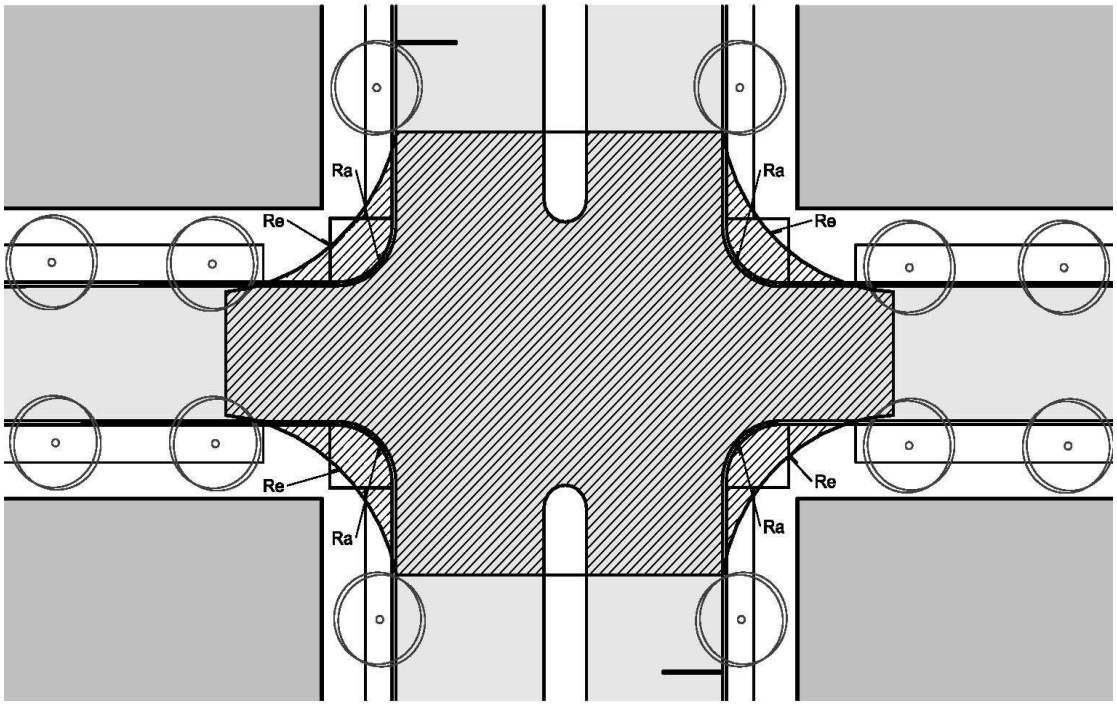
i) Principal arterial: 600 ft
ii) Minor arterial: 400 ft
iii) Major collector: 200 ft

The property owners along a joint or cross access driveway shall:

i) Record an easement with the deed allowing cross access to and from other properties served by the driveway.
ii) Record an agreement with the Township granting access rights along the driveway at the discretion of the Township and the design shall be approved by the Township engineer.
iii) Record a joint agreement with the deed defining the maintenance responsibilities of each of the property owners located along the driveway.

d. Curbs shall be designed with the smallest practical curb return radii. Alternative solutions shall be explored before lengthening a curb radius.

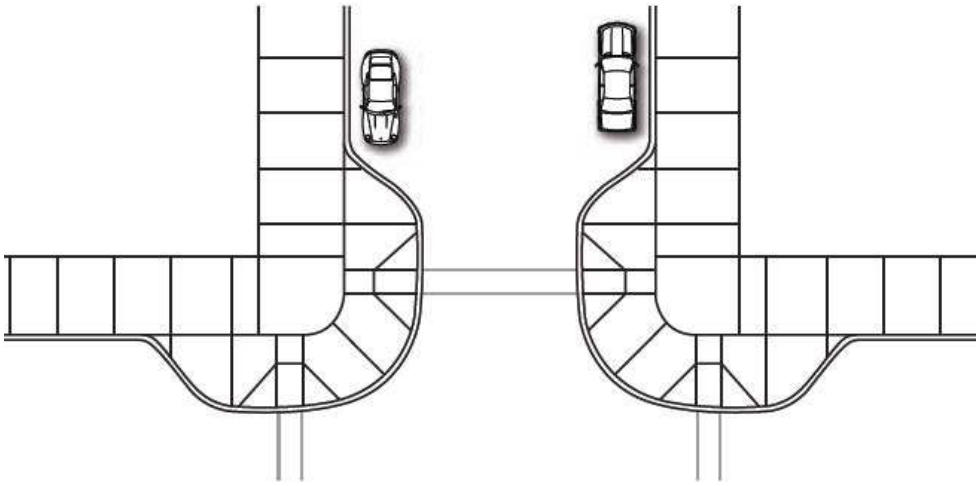
e. Curb return radii shall be designed to reflect an effective turning radius for the corner in accordance with section 3.7.2. A minimum unobstructed radius of 30' shall also be provided. This area (hatched in diagram below) shall remain clear of all obstructions (parked vehicles, trees, street furniture, signage, etc). A traffic study shall be provided depicting the effective and unobstructed radii for intersections.



Re: EFFECTIVE TURNING RADIUS

Ra: ACTUAL TURNING RADIUS

f. Use of curb extensions as a means of reducing pedestrian crossing distance and providing for an effective turning radius is permissible. Minimum curb radii for curb extensions shall be 15' to allow for street cleaning and storm water drainage.



3.7.6 **MEDIANS**

a. Where medians are provided at intersections as refuge, they shall be wide enough to accommodate groups of pedestrians, wheelchair users, bicyclists and people pushing strollers. To keep streets compact and pedestrian-scaled, median width shall not exceed 18 feet.
b. On thoroughfares more than 60 feet where median dimensions need to remain continuous and left turn lanes are provided, medians shall be 16–18 feet, to allow for a turn lane plus pedestrian refuge.
c. Median width for medians used to allow for single left turn lanes shall be 11-12 feet.
d. For medians used only for pedestrian crossings, a minimum median width of 6-10 feet is required. Narrow medians (4 feet or less) shall only be used to restrict turning movements, to separate opposing directions of traffic and to provide space for traffic control devices.

e. Median width may vary to accommodate a pedestrian refuge and/or turn lane. A continuous dimension for the median is preferred.
f. Street sides of appropriate width shall take higher priority over wide medians without compromising the safety, operational and pedestrian needs of the street.
g. Medians shall be at least 6 feet wide for small-caliper trees provided a critical root area is provided. A 10-foot-wide median is recommended for larger trees. Consult an urban forester for guidance on health requirements for trees in medians. Consider the safety issues of large-caliper trees. A 4-foot median may be landscaped with shrubs.
h. Landscaping on medians shall be designed in a manner that does not obstruct sight-distance triangles.
i. Medians that are not landscaped shall use alternative contrasting materials to differentiate it from the vehicle travel lane.

j. Raised medians in low-speed thoroughfares shall be constructed with vertical curbs to provide refuge for pedestrians, access management and a place to install signs, utilities and landscaping. In special locations where emergency access is a concern, mountable curbs shall be provided. Mountable medians shall be reinforced with grass-crete pavers or concrete with added reinforcing bar.

k. In constrained rights of way, consider narrower medians with attractive hardscape and urban design features in lieu of planting.

l. Flush medians shall use textured or colored paving or stamped concrete for the median lane interspersed with raised landscaped islands to channelize turning traffic, divide opposing lanes of traffic and provide pedestrian refuge where appropriate (such as midblock and intersection crossings).

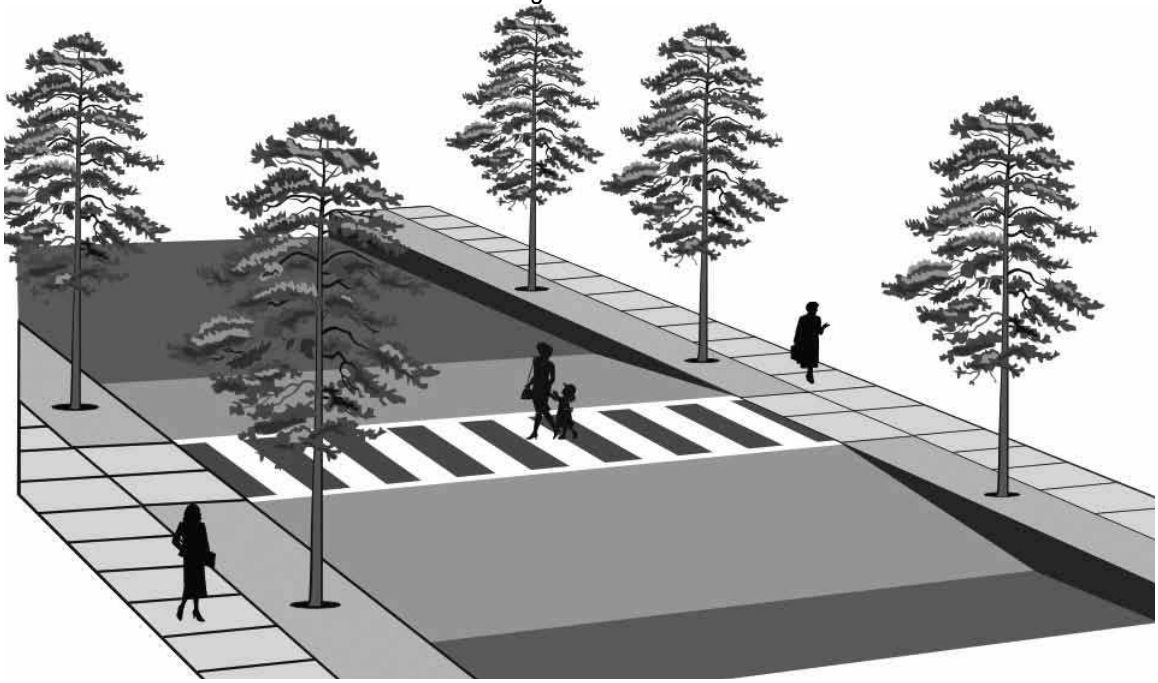
m. Design of the median nose, median turn lanes, tapers and transitions shall be in accordance with the appropriate state or AASHTO guidelines, ensuring proper end treatments to guide vehicles away from the median and pedestrian refuges.

3.7.7 **PEDESTRIAN CROSSINGS**

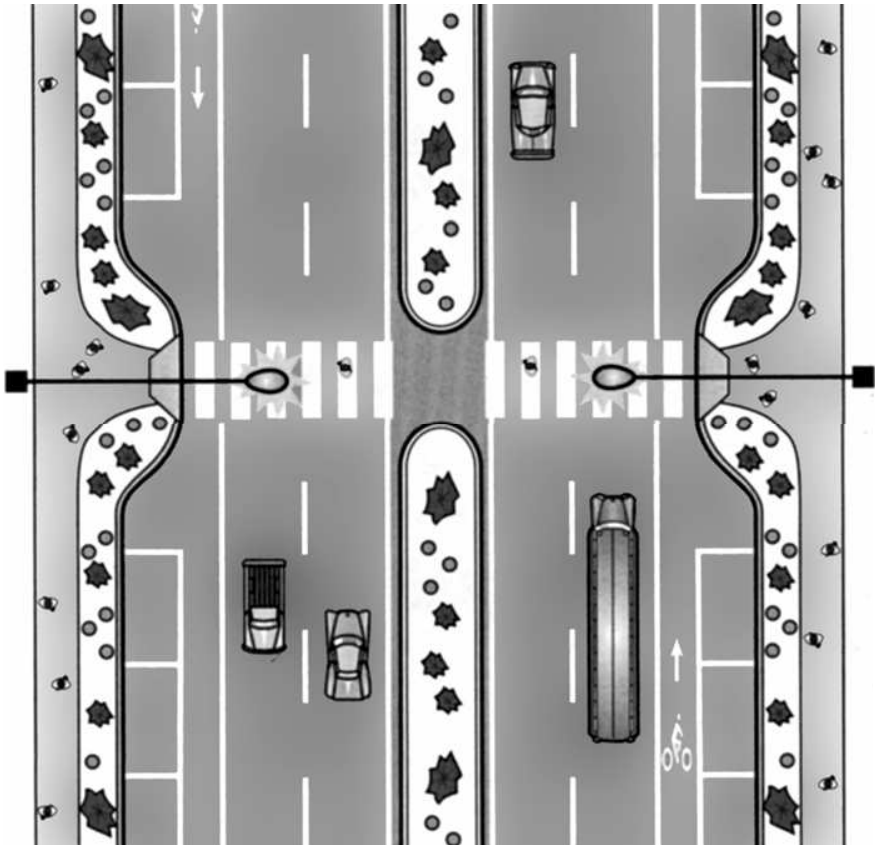
a. Midblock crossings shall be identifiable to pedestrians with vision impairments. Where there is a signal, a locator tone at the pedestrian detector shall be provided along with a tactile strip across the width of the sidewalk at the curbline and for the disabled and visually impaired.
b. Unsignalized midblock crosswalks are not permitted on streets where traffic volumes do not have gaps in the traffic stream long enough for a pedestrian to walk to the other side or to a median refuge. Provide overhead safety lighting on the approach sides of both ends of midblock crosswalks.
c. Provide wheelchair ramps or at-grade channels at midblock crosswalks with curbs and medians.
d. Provide raised median pedestrian refuge island at midblock crossings where the total crossing width is greater than 60 feet, and on any unsignalized multi-lane thoroughfare crossing.
e. For pedestrian crossings with uncontrolled vehicular approaches, designs must incorporate standards and guidance per the most recent version of the "Manual on Uniform Traffic Control Devices" (MUTCD), Chapter 3B.18: Crossing Markings and the FHWA Report "Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations" (2005).

1. Refuge islands shall be sufficiently large to command attention. For pedestrian refuge, islands shall have an area at least 120 square feet with minimum dimensions of 6 feet wide and 20 feet long.
2. Medians expected to be used as pedestrian refuges shall have vertical curbs to delineate the pedestrian refuge from the surrounding roadway.
3. If part of a designated multi-use trail system, refuge islands shall be a minimum of 8 feet wide.
4. Crossing through pedestrian refuges shall be accessible with channels at street grade, detectable warnings and audio and visual output at signalized crossings.
5. The preferred pedestrian refuge island design shall include offset pedestrian entrances and physical guidance (landscaping or fencing) to encourage pedestrians to turn to face on-coming vehicles and separate the crossing into two separate movements.

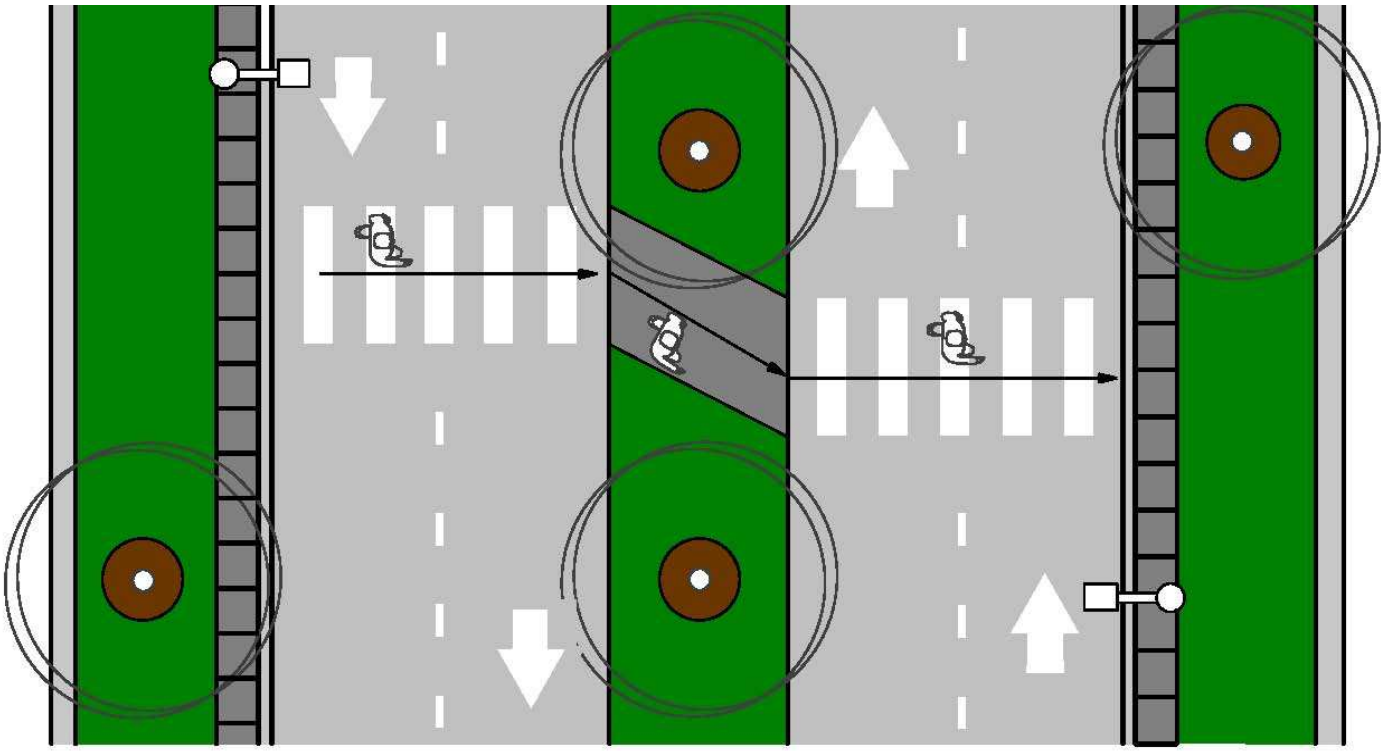
f. High-visibility (ladder-style) crosswalk markings, to increase visibility, shall be used in combination with other traffic calming devices such as a raised crosswalk.



g. Provide advance stop or yield lines.
h. Provide advance crosswalk warning signs for vehicle traffic.
i. Where feasible, provide curb extensions at midblock crosswalks with illumination and signing to increase pedestrian and driver visibility.



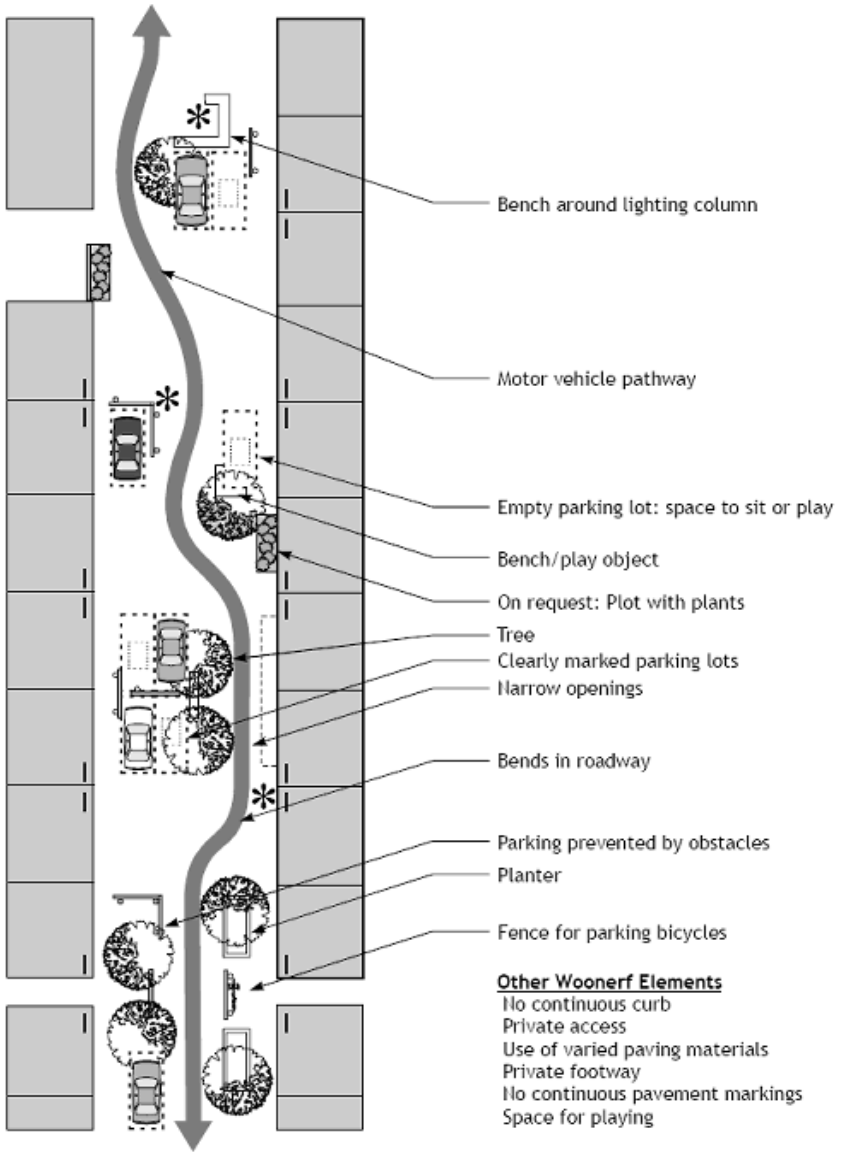
j. For midblock pedestrian crossings and intersection crossings with uncontrolled vehicular approaches, pedestrian refuge islands should be designed to provide two-stage crossings as a safety feature, to the extent feasible. This involves construction of offset pedestrian entrances to the island and physical barriers (i.e. landscaping and/or fencing) in order to encourage pedestrians to turn to face on-coming vehicles and to separate the crossing into two separate crossing movements. (See figures below)



3.7.8 **SHARED STREETS (WOONERF)**

a. Roads within the shared street area (erf) shall be geared to traffic terminating or originating from it. The intensity of traffic shall not conflict with conditions which are for walking, playing, shopping, etc. Shared streets shall have traffic flows below 100 vehicles per hour.

b. The nature and condition of the roads and road segment shall stress the need to drive slowly. Utilize the most effective and appropriate speed reduction methods.



c. The entrances and exits of shared streets shall be recognizable from their construction. They may be located at an intersection with a major road (preferable) or a maximum of 60 feet from such an intersection.

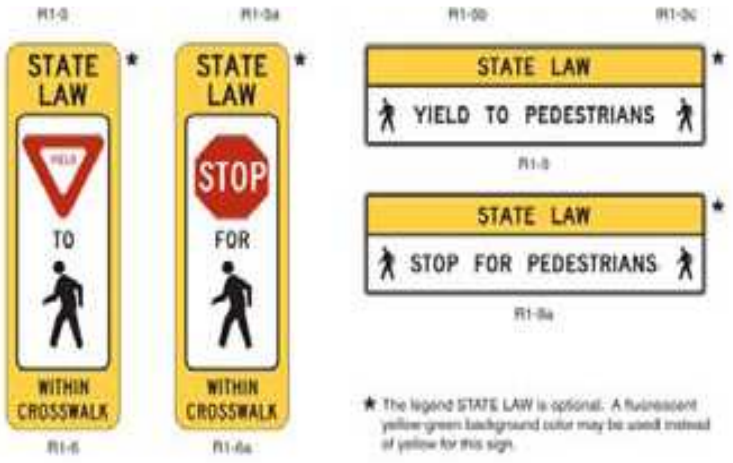
d. Textured pavements shall be used that are flush with the curb to reinforce the pedestrian-priority nature of the street. The impression shall not be created that the road is divided into a roadway and sidewalk.

e. There shall be no continuous height differences in the cross-section of a road within a shared street. Protective measure may be provided for pedestrian spaces by use of bollards and/or trees.

f. Selection of snowplow-compatible materials is recommended for colder climates. Drainage channels shall be provided either at the center of the street or along the flush curb, depending on underground utilities and other existing conditions. Use of bioswales, infiltration planters or other green infrastructure is encouraged.

g. The area of the road surface intended for parking one or more vehicles shall be marked at least at the corners. The marking and the letter “P” shall be clearly distinguishable from the rest of the road surface. In shopping street (winkelerven), special loading spaces shall be provided.

h. A shared street sign shall be used at the entrance to a shared street. A modified YIELD TO PEDESTRIANS sign (MUTCD 2B-2) shall be added beneath the shared street sign.



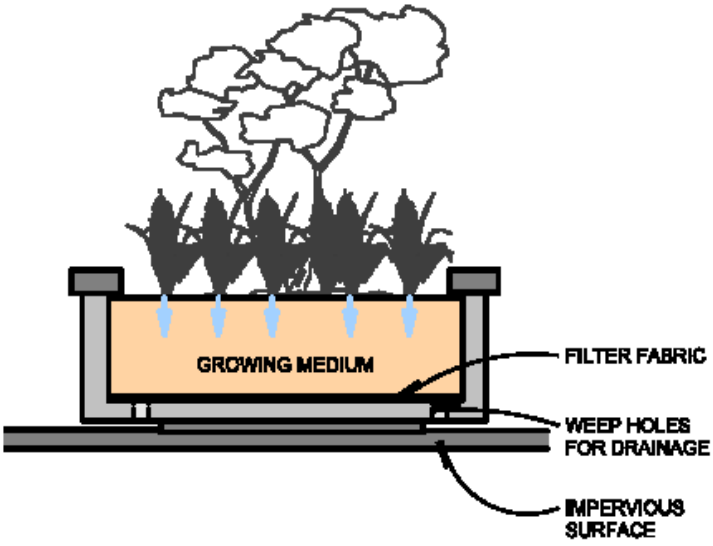
3.7.9 **THOROUGHFARE STORMWATER MANAGEMENT**

a. To the greatest extent practical, Thoroughfare assemblies, which includes Public Frontages, shall be integrated with green infrastructure techniques to provide source control of stormwater, limit its transport and pollutant conveyance to the collection system, restore predevelopment hydrology to the maximum extent possible, and provide environmentally enhanced thoroughfares.

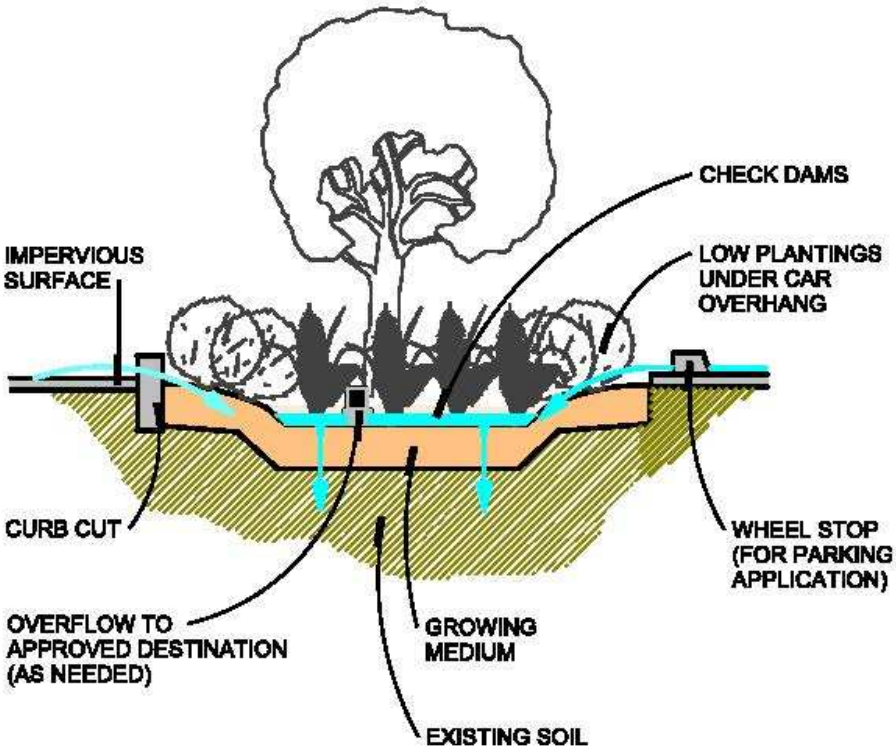
b. Green infrastructure shall be interconnected to the greatest extent practical to provide a network.

c. Green infrastructure shall include but is not limited to:

Contained Planter Boxes/Contained Planters



Bioswales



1. Swales shall not be located within15 feet from building foundations and 6 feet from property lines.
2. Site shall be graded to drain water to the swale. Grade the site so that water drains to the swale, or provide some other form of conveyance.
3. Parking lot planting islands with curb cuts may serve in this capacity. Islands shall be connected to form a network.

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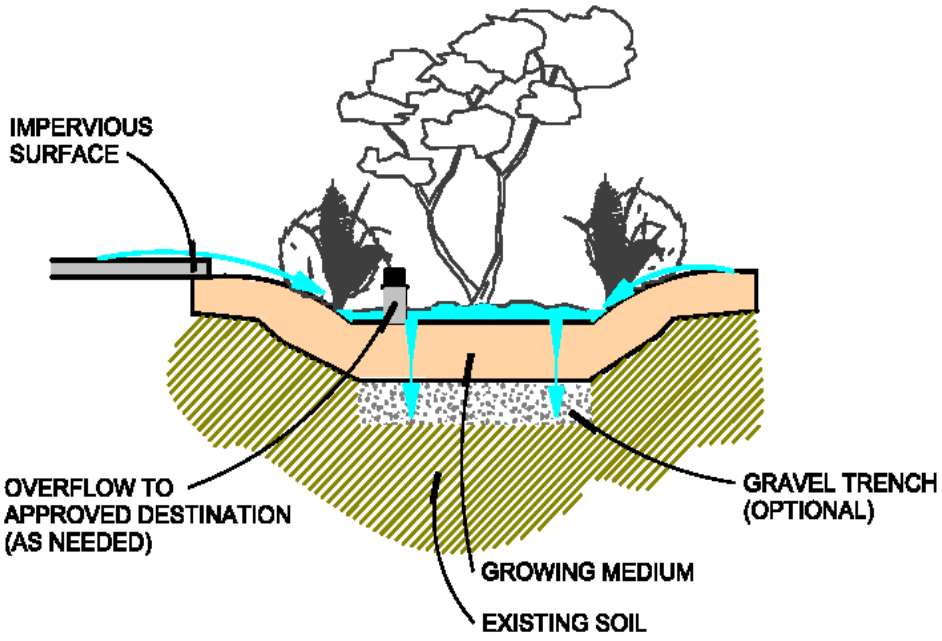
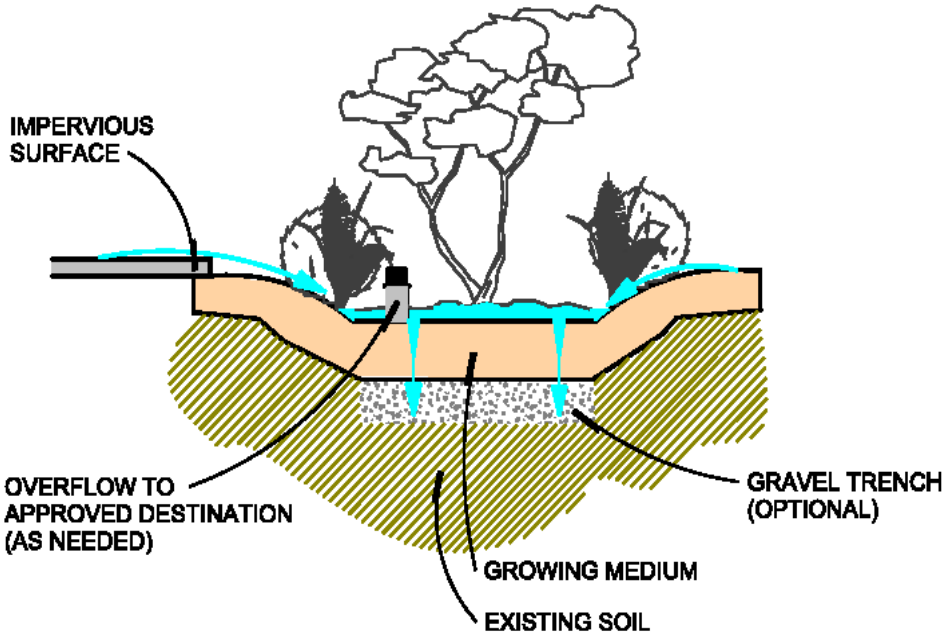


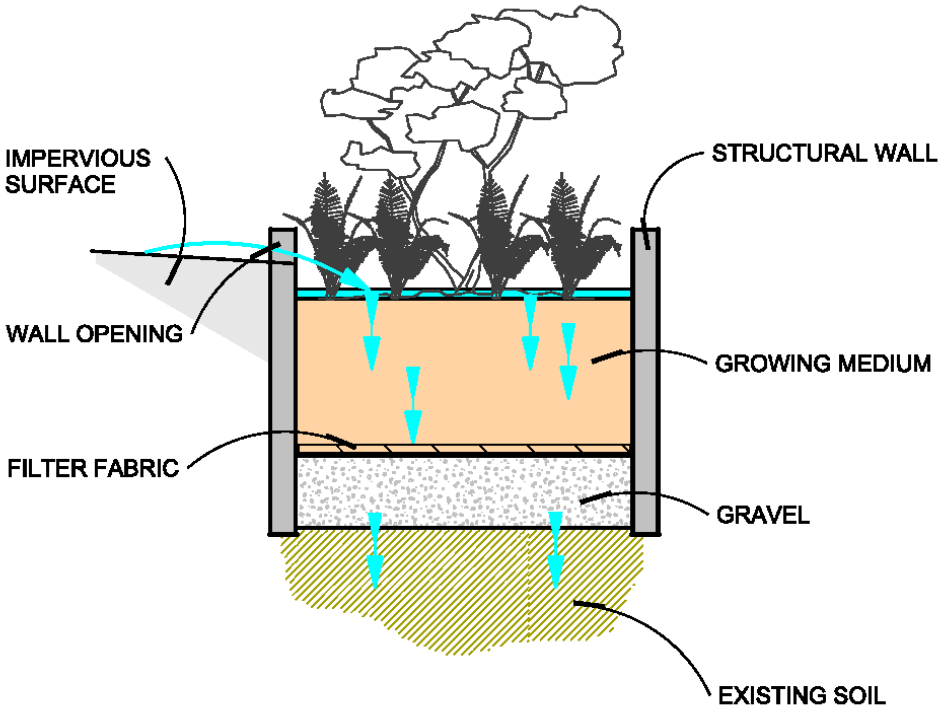
1. Rain gardens shall only be used in areas that drain relatively shallow slopes of less than 5%. Runoff from steeper slopes may be piped into the basin with proper erosion control measures in place.
2. Rain gardens shall not be located within15 feet from building foundations and 6 feet from property lines.
3. Underlying soils shall have a minimum infiltration rate of two inches per hour and shall not be compacted.
4. An emergency overflow system to a drywell or to the storm sewer system shall be provided.
5. In areas with high water tables the garden shall not be designed as a pond, and should drain a storm event within 24 hours.

Flow through Planter



1. An approved overflow to a proper destination disposal point shall be provided.

Infiltration Planters



1. Infiltration Planters shall not be located within15 feet from building foundations and 6 feet from property lines.
2. Infiltration planters are only suitable for soil types that drain well.
3. Planters shall be constructed flush to the ground or above it.
4. An emergency overflow system to a drywell or to the storm sewer system shall be provided.

3.8 DENSITY CALCULATIONS

3.8.1 All areas of the New Community Area site that are not part of the O-1 Preserved Open Space as set forth on Growth Boundaries Plan in Article 3, shall be considered cumulatively the Net Site Area. The Net Site Area shall be allocated to the various Transect Zones according to the parameters specified in the Community Development Summary Table line 'a', as set forth in Article 3.

3.8.2 Density shall be expressed in terms of housing units per acre as specified for the area of each Transect Zone by the Community Development Summary Table line '1b' as set forth in Article 3. For purposes of Density calculation, the Transect Zones include the Thoroughfares but not land assigned to Civic Zones.

3.8.3 The Base Density of the Community Unit may be increased by the Transfer of Development Rights (TDR) up to the amount specified for each Transect Zone by the Community Development Summary Table line 'b', as set forth in Article 3; however, TDRs may not be used to increase density for the Apartment use.

3.8.4 Within the percentage range shown on the Community Development Summary table line 'b' as set forth in Article 3 for Other Functions, the housing units specified on the Community Development Summary Table, line 'b' shall be exchanged at the following rates:

a. For Lodging: 2 bedrooms for each unit of Net Site Area Density.

b. For Office or Retail: 1000 square feet for each unit of Net Site Area Density.

c. The number of units exchanged shall be subject to approval by Conditional Use.

3.8.5 The housing and other Functions for each Transect Zone shall be subject to further adjustment at the building scale as limited by each Individual Transect Zone's permitted uses and parking/density requirements.

3.9 SPECIAL REQUIREMENTS

3.9.1 A New Community Plan may designate any of the following Special Requirements:

a. Differentiation of the Thoroughfares as A-Grid and B-Grid. Buildings along the A-Grid shall be held to the highest standard of this Regulating Code in support of pedestrian activity. Buildings along the B-Grid may be more readily considered for Conditional Use allowing automobile-oriented standards. The Frontages assigned to the B-Grid shall not exceed 30% of the total length of Frontages within a Pedestrian Shed.

b. Designations for Mandatory and/or Recommended Retail Frontage requiring or advising that a building provide a Shopfront at Sidewalk level along the entire length of its Private Frontage. The Shopfront shall be no less than 70% glazed in clear glass and shaded by an awning overlapping the Sidewalk as generally illustrated in the Public Frontage section of each Transect Zone regulation and specified in Article 5. The first floor shall be confined to Retail use through the depth of the second Layer.

c. Designations for Mandatory and/or Recommended Gallery Frontage, requiring or advising that a building provide a permanent cover over the Sidewalk, either cantilevered or supported by columns. The Gallery Frontage designation may be combined with a Retail Frontage designation.

d. Designations for Mandatory and/or Recommended Arcade Frontage, requiring or advising that a building overlap the Sidewalk such that the first floor is a colonnade. The Arcade Frontage designation may be combined with a Retail Frontage designation.

e. A designation for Coordinated Frontage, requiring that the Public Frontage and Private Frontage be coordinated as a single, coherent landscape and paving design.

f. Designations for Mandatory and/or Recommended Terminated Vista locations, requiring or advising that the building be provided with architectural articulation of a type and character that responds visually to the location, as approved by the Township.

g. A designation for cross-block Passages, requiring that a minimum 8-foot-wide pedestrian access be reserved between buildings.

h. A designation for historic buildings, requiring that such buildings and structures may be altered or demolished only in accordance with Bensalem Township Historic Preservation Ordinance.

3.10 RIPARIAN AND WETLAND BUFFERS

3.10.1 GENERAL

a. Transect Zones manifest a range of natural and urban conditions. In case of conflict, the natural environment shall have priority in the more rural zones (T1-T3) and the built environment shall have priority in the more urban zones (T4-T6).

b. There shall be three classes of Streams: Class I Perennial, Class II Intermittent, and Class III Ephemeral, each generating a Stream Buffer subject to a standard for crossing and protection of its riparian condition as specified below for each Transect Zone.

c. There shall be three classes of Wetlands: Class I Connected, Class II Isolated, and Class III Xeric, each subject to a standard of restoration, retention, and mitigation as specified below for each Transect Zone.

3.10.2 SPECIFIC TO ZONES T1

a. Within T1 Zones, encroachment and modification of natural conditions shall be limited according to applicable local, state and federal law.

b. The Stream Buffers for Class I and Class II Streams shall be 200 feet in width each side, and for Class III Streams shall be 100 feet in width each side. Stream Buffers shall be maintained free of structures or other modifications to the natural landscape, including agriculture. Thoroughfare crossings shall be permitted by Conditional Use only.

c. Class I, Class II, and Class III Wetlands shall be retained (and restored if in degraded condition). Additional Buffers shall be maintained at 100 feet for Class I and II. Wetland Buffers shall be maintained free of structures or other modifications to the natural landscape, including agriculture. Thoroughfare crossings shall be permitted only by Conditional Use.

3.10.3 RESERVED

3.10.4 SPECIFIC TO ZONE T3

a. Within T3 Zones, the continuity of the urbanized areas shall be subject to the precedence of the natural environmental conditions. The alteration of such conditions shall be limited according to local, state and federal law.

b. The Stream Buffers for Class I and Class II Streams shall be 100 feet in width each side. Stream Buffers shall be maintained free of structures, except that Thoroughfare crossings may be permitted by Conditional Use. Class III Streams may be modified by Conditional Use.

c. Class I, Class II, and Class III Wetlands shall be retained (and restored if in degraded condition). Additional Buffers shall be maintained at 50 feet for Class II and Class III Wetlands. Buffers shall be free of structures or other modifications to the natural landscape. Thoroughfare crossings shall be permitted only by Conditional Use.

d. Stormwater management on Thoroughfares shall be primarily through retention and percolation, channeled by curbside Swales.

3.10.5 SPECIFIC TO ZONE T4

a. Within T4 Zones, the continuity of the urbanized areas shall take precedence over the natural environmental conditions. The alteration of such conditions shall be mitigated off-site, and the determination for modification and mitigation shall be made by Conditional Use.

b. The Stream Buffers for Class I and Class II Streams shall be 50 feet in width each side. Stream Buffers and Streams of all classes may be crossed by Thoroughfares as required by the Thoroughfare network.

c. Class I and Class II Wetlands shall be retained and maintained free of structures or other modifications to the natural landscape [and restored if in degraded condition. Thoroughfare crossings may be permitted by Conditional Use.

3.10.6 **SPECIFIC TO ZONES T5, T6**

a. Within T5 and T6 Zones, the continuity of the urbanized areas shall take precedence over the natural environmental conditions. The alteration of such conditions should be mitigated off-site, and the determination for modification and mitigation shall be made by Conditional Use.

b. The Stream Buffers for Class I and Class II Streams shall be 25 feet in width each side, with the exception that Stream Buffers and Streams of all classes may be embanked and crossed by Thoroughfares as required by the Thoroughfare network.

c. Class I and Class II Wetlands may be modified if mitigated off-site at a two to one ratio. Class III Wetlands may be modified, not requiring off-site mitigation. Thoroughfare crossings shall be permitted By Right.

3.10.7 **RESERVED**

3.10.8 **RESERVED**

ARTICLE 4

RESERVED

4. 1 RESERVED

ARTICLE 5

DETAILED DEVELOPMENT PLANS

5.1 GENERAL

5.1.1 Lots and buildings located within the area of the Community Plan governed by this Regulating Code and previously approved by the Bensalem Township Council shall be subject to the requirements of this Article 5.

5.1.2 Owners and developers may submit design plans required under this Article for approval In accordance with Part I, Chapter 25 of the Code.

5.1.3 Building and site plans shall be submitted and shall show the following:

a. For preliminary site and building approval:

- **Transect Zones**
- **Civic Zones**
- **Thoroughfare network**
- **Building Location**
- **Building Footprint**
- **Building Use**
- **Parking Location Standards**

b. For final approval, in addition to the above:

- **Landscape Standards**
- **Signage Standards**
- **Special Requirements, if any**
- **Hazard Mitigation Standards**
- **Natural Drainage Standards**
- **Architectural Standards with renderings of the final product**
- **Lighting Standards**
- **Accessibility Standards**

5.1.4 The plans and drawings submitted shall demonstrate compliance with the standards set forth in this Article.

5.1.5 Special Districts shall be governed by the standards of the underlying zoning rather than by the Regulating Code Overlay regulations.

5.1.6 Utility easements, where provided, shall be a minimum of 20’ in width. To the greatest extent possible, locate the easements within the public right -of-way but not in the paved portion.

5.1.7 To the greatest extent possible, easements for all utilities shall be arranged parallel to each other to form a utility corridor.

5.1.8 Where a development is traversed by a watercourse, a drainage easement conforming substantially with the line of such watercourse and of adequate width to preserve natural drainage but in no case less than 30 feet in width shall be conveyed to the Township.

5.1.9 All electric utility distribution lines shall be installed underground.

5.1.10 Telephone and cable TV utilities shall be installed underground.

5.1.11 Trenches through utility easements shall be occupied jointly by electric, gas and communication utilities.

5.1.12 A plan for providing all utility services to the proposed development shall be prepared by the developer in cooperation with the appropriate public utility and governmental agencies and submitted to the Township in accordance with Part I, Chapter 25 of the Code.

5.1.13 All exterior lighting shall conform to the shielding brightness and curfew standards defined in the Table below.

	T1	T3	T4	T5	T6
Ambient Light Levels	None	Very Low	Low	Medium	High

STANDARDS

Maximum Lighting Standards	Minimal electric lighting; should be turned off most of the time	Minimal lighting, all full cutoff, controlled with motion sensors	Full Control lighting, controlled with dimmer, time switch or motion sensors	Full Cutoff lighting, some low wattage non-Full Cutoff lighting; controlled with dimmers, time switch or motion	Full Cutoff lighting, some non-Full Cutoff lighting; controlled with dimmers, time switch or motion
Maximum Allowed Initial Lamp Lumens/sf	1.25 – 1.6 lu/sf	2.5 -3.2 lu/sf	3.3 – 4.2 lu/sf	7.6 – 9.7 lu/sf	10.9 – 13.9 lu/sf
Maximum Lamp Allowance (Lumens)	6500 lu	17,000 lu	24,000 lu	44,000 lu	60,000 lu
Required Shielding	Fully shielded Luminaire with no uplight or better	Fully shielded Luminaire with no uplight or better	Shielded Luminaire or better	Partially shielded Luminaire or better	For best practice. Do not exceed T-5 requirements
Lighting Curfew for Non-Residential	8 pm or close of business whichever is later	10 pm or close of business whichever is later	10 pm or close of business whichever is later	12 am or close of business whichever is later	12 am or close of business whichever is later

5.1.14 A District Stormwater System shall manage stormwater on site to serve all or a portion of the community. The system shall meet the standards of the Township Stormwater Management Plan.

a. Lots shall meet the standards for Lot Level runoff volume and Runoff Release Rate as listed in the Township Stormwater Management Plan, unless such standards are waived due to District Stormwater system accomplishing the district goal. Methods for achieving these levels shall utilize BMP's as specified in the Township Stormwater Management Plan.

5.1.15 A Bikeway network consisting of shared use Bicycle Trails, shared use Bicycle Paths, Bicycle Routes, and/or Bicycle Lanes shall be provided throughout the community, as defined in Article 7 Definitions and allocated in accordance with Section 3.7.

a. All Thoroughfares shall permit bicycling, with the exception of limited-access Highways.
b. All Bikeway and Countermeasure pavement markings and safety and wayfinding signing shall adhere to the same standards as automobile Vehicular Lane markings and signing.

5.1.16 Main Street Shops and Downtown Shopping Districts shall, unless justified by intervening circumstances consistent with the Intent of this Code, be located at the seams between Community Units, and along Thoroughfares that provide the maximum visibility and access relative to the provisions of this Regulating Code.

5.1.17 There shall be one zero step entrance to each building from an accessible path at the front, side or rear of each building.

5.1.18 Detailed Development Plans shall include, for properties adjacent to the Delaware River waterfront, a plan for public access to the waterfront. The plan shall incorporate the following elements in its design: provision for the preservation of suitable existing vegetation in this area as features of this space, a pedestrian walkway and/or riverwalk (which shall run along the entire length of the Delaware River waterfront and shall be open and accessible to the general public), benches and trash receptacles, landscaping (including lawn, trees and shrubs), and lighting that creates a warm inviting evening ambiance. Maintenance of the open space shall be assumed by the entity in ownership. Open space must be available for public use and access and shall be limited only by posted hours as approved by the Township in accordance with the requirements of the Township and the subdivision and land development ordinance. Open space may be offered for dedication to the Township or held in ownership by a property owners' association.

5.1.19 Where a plan includes subsidized housing units, such units shall not be clustered in one area but interspersed within the planned housing development.

5.2 EXISTING CONDITIONS

5.2.1 Existing buildings and appurtenances that do not conform to the provisions of this Regulating Code may continue until a Substantial Modification is requested. The CRC shall Include in its recommendation to Township Council, in accordance with Part 1, Chapter 25 of the Code, the provisions of this section that should apply.

5.2.2 **RESERVED**

5.2.3 The modification of existing buildings is permitted By Right if such changes result in greater conformance with the specifications of this Regulating Code.

5.2.4 **RESERVED**

5.2.5 **RESERVED**

5.2.6 **RESERVED**

5.3 STREET NETWORK REQUIREMENTS

5.3.1 The following Street Network standards shall be applied as follows:

a. Buildings along the A-Grid (roads running generally parallel to State Road on the Regulating plan) shall be held to the highest standard of this Regulating Code in support of pedestrian activity. Buildings along the B-Grid (roads running generally perpendicular to State Road on the Regulating plan) shall be subject to Conditional Use allowing automobile-oriented standards.

b. a Mandatory or Recommended Terminated Vista designation requires the building be provided with architectural articulation of a type and character that responds visually to its axial location, as approved by the Township.

c. a cross-block Passage designation requires a minimum 8-foot-wide pedestrian access be reserved between buildings.

d. an historic building designation requires that the building or structure may be altered or demolished only in accordance with the Bensalem Township Historic Preservation Plan.

5.4 CIVIC ZONES

5.4.1 **GENERAL**

a. Civic Zones are designated on Regulating Plan as Civic Space (CS) or Civic Building (CB).

b. Parking provisions for Civic Zones shall be determined by Conditional Use.

5.4.2 **CIVIC SPACES (CS)**

a. Civic Spaces shall be generally designed as described in the Civic Space Summary Table in Section 3.5.

b. Civic Spaces should be located to be visible from one or more of the windows of the buildings in that space.

c. Civic Space should be designed and sited to provide clear sight lines to the Delaware River or other Civic Space.

d. Civic Space shall be designed to create value to adjacent land. Complementary uses shall frame the space with active ground floor uses and destinations.

e. Trees in Greens, Squares, Pocket Parks, and Plazas shall be trimmed to create a six feet minimum clear area above ground.

f. Trees in Parks within 20 feet of a walkway or bikeway shall be trimmed to create a six feet minimum clear area above ground.

5.4.3 **CIVIC BUILDINGS (CB)**

a. Civic Buildings shall not be subject to the requirements of this Article 5. The particulars of their design shall be determined by Conditional Use.

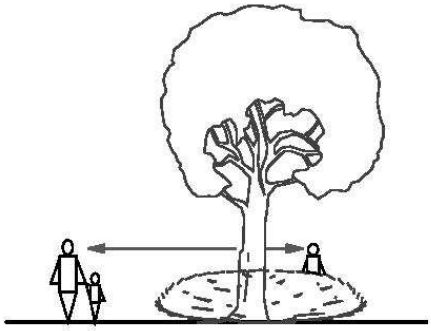
5.5

PUBLIC SAFETY (CPTED)

5.5 PUBLIC SAFETY

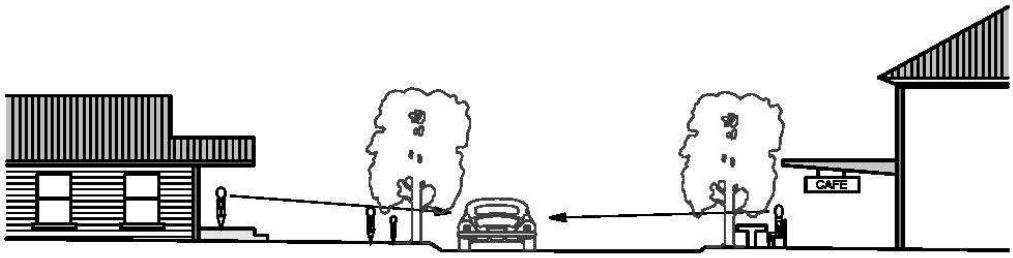
a. New Community areas and their buildings, Private Frontages, Thoroughfares and Civic Spaces shall be designed and constructed using CPTED principles and techniques. CPTED involves the balanced application of these five principles:

Natural Surveillance. Provide designs that allow people engaged in their normal activity to easily observe the space around them, eliminating hiding places for people engaged in criminal activity.



Natural surveillance can be achieved by the use of appropriate lighting, low or see-through fencing or landscaping.

Remove areas offering concealment. Place windows, doors, and walkways to provide the opportunity for easy observation of surrounding areas by responsible users of property.



Areas designed for people to congregate shall be located where there is good natural surveillance and good access control to support positive activity.

Locate vulnerable activities in safe locations with good natural surveillance and street-level activity, such as along mixed-use streets or retail plazas.

Territoriality. Clearly define boundaries to increase recognition of public versus private space.Territoriality communicates a sense of active "ownership" of an area discouraging illegal acts that may otherwise be committed in the area without notice or consequences.

Provide see-through screening, low fencing, gates, signage, different pavement textures, or other landscaping elements that visually show the transition between areas intended for different uses

Access Control. Provide access control, which includes but is not limited to highly visible entry way through which all users of a property must enter, signage, door and window locks, or fencing to areas where a person with criminal intent would not easily be seen by others.

The picture below is a good example of both territoriality and access control:

Activity Support. Activity support involves both passive and active efforts to promote the presence of responsible pedestrian users in a given area, thus increasing the community value of the area, while discouraging actions by would-be offenders who desire anonymity for their actions. Passive examples are design elements that make an area appealing to appropriate pedestrian use, such as attractive landscaping, safety from car traffic, and public art.

Active examples involve scheduling events for an area to attract appropriate users, such as picnics, concerts, children's play groups, or sports events.

Management and Maintenance (Image) Proper maintenance of landscaping, lighting and other features is vital to ensuring that CPTED elements serve their intended purpose. Design and detailing shall be such that damage and the need for undue maintenance, are minimized without undermining the aesthetic and functional qualities that make the places attractive to the community.

b. CPTED principles shall be utilized in each Transect Zone as provided in the Tables below:

This table is for multi-tenant residential and mixed use commercial. The cells below the Transect Zones are marked with the CPTED principles supported by the methods. At the community site plan level, some interventions in T2 and T3 may support crime prevention for the higher T-zones. Risk Assessment is essential for all multi-unit sites to determine whether CPTED techniques are necessary.

CPTED PRINCIPLES
T Territoriality
AC Access Control
NS Natural Surveillance
AS Activity Support
I Image

COMMUNITY SCALE SITE PLANNING	T3	T4	T5	T6	SD
Site Lighting	T - NS - AS - I	T - NS - AS - I	T - NS - AS - I	T - NS - AS - I	T - NS - AS - I
Access Control for Vehicles		T - AC	T - AC	T - AC	T - AC
Boundary Definition - (plantings, fences)	T - AC - I	T - AC - I	T - AC - I	T - AC - I	T - AC - I
Wayfinding & Signage	T - AS - I	T - AS - I	T - AS - I	T - AS - I	T - AS - I
Building Frontage on Thoroughfares		T - NS - AS - I	T - NS - AS - I	T - NS - AS - I	T - NS - AS - I
Building Frontage on Civic Spaces		T - NS - AS - I	T - NS - AS - I	T - NS - AS - I	T - NS - AS - I
CPTED Landscaping & Plantings		All Principles	All Principles	All Principles	All Principles
BUILDING EXTERIOR					
Doors - Burglary Resistance		AC	AC	AC	AC
Windows - Burglary Resistance		AC	AC	AC	AC
Shutters - Forced Entry Protection		AC	AC	AC	AC
Access Control System		AC	AC	AC	AC
Perimeter Protection - Vehicle Barriers		AC	AC	AC	AC
CCTV Formal Surveillance Systems		T - AC	T - AC	T - AC	T - AC
Restricted Access to Roof (from exterior)		AC	AC	AC	AC
CPTED Landscaping & Plantings		T - AC - NS - I	T - AC - NS - I	T - AC - NS - I	T - AC - NS - I
BUILDING INTERIOR					
Alarm Systems - Intrusion Detection		AC	AC	AC	AC
CCTV Control Room		AC	AC	AC	AC
Building Security Lighting		T - AC - AS	T - AC - AS	T - AC - AS	T - AC - AS
Restricted Access to Roof (from interior)		AC	AC	AC	AC
CRITICAL INFRASTRUCTURE					
Protection of Mechanicals Spaces		AC	AC	AC	AC
Protection Against CBRNE* Attack	AC - NS	AC - NS	AC - NS	AC - NS	AC - NS
Protection Against Blasts		AC - NS	AC - NS	AC - NS	AC - NS
Protection of Utilities	AC - NS	AC - NS	T - AC - NS	T - AC - NS	T - AC - NS
CCTV Formal Surveillance (for any above)	T - AC	T - AC	T - AC	T - AC	T - AC

This table is for Civic Spaces and Thoroughfares. The cells below the Transect Zones are marked with the CPTED principles supported by the methods. At the community site plan level, some interventions inT3 may support crime prevention for the higher T-zones. Risk Assessment is essential for all public areas to determine whether CPTED techniques are necessary.

CPTED PRINCIPLES

T Territoriality
AC Access Control
NS Natural Surveillance
AS Activity Support
I Image

CIVIC SPACES	T3	T4	T5	T6	SD
Lighting	T - NS - AS -	T - NS - AS -	T - NS - AS -	T - NS - AS -	T - NS - AS - I
Boundary Definition - plantings,	T - AC - I	T - AC - I	T - AC - I	T - AC - I	T - AC - I
Wayfinding & Signage -	T - AS - I	T - AS - I	T - AS - I	T - AS - I	T - AS - I
Limited Hours (gated at night)	T - AC	T - AC	T - AC	T - AC	T - AC
Civic Space Frontage on	T - AS - I	T - AS - I	T - AS - I	T - AS - I	T - AS - I
Building Frontage on Civic	T - NS - AS -	T - NS - AS -	T - NS - AS -	T - NS - AS -	T - NS - AS - I
Facilities: Water & Restrooms	AS	AS	AS	AS	AS
Seating (benches, picnic/game	AS - I	AS - I	AS - I	AS - I	AS - I
CPTED Landscaping &	All	All	All	All	All Principles
GREENWAYS (LINEAR PARKS)					
Lighting (1)	AS - I	AS - I	AS - I	AS - I	AS - I
Wayfinding & Signage -	T - AS - I	T - AS - I	T - AS - I	T - AS - I	T - AS - I
Emergency Call Boxes	T - AS	T - AS	T - AS	T - AS	T - AS
Access to Greenway Visible	NS	NS	NS	NS	NS
Access to Buildings Limited	T - AC	T - AC			
CCTV Formal Surveillance		T - AC	T - AC	T - AC	T - AC
Facilities: Water & Restrooms	AS	AS	AS	AS	AS
Maintenance of	AS - I	AS - I	AS - I	AS - I	AS - I
CPTED Landscaping &	All	All	All	All	All Principles
THOROUGHFARES (INCLUDING PASSAGES & BRIDGES)					
Lighting (1)	AS - I	AS - I	AS - I	AS - I	AS - I
Wayfinding & Signage (3)	T - AS - I	T - AS - I	T - AS - I	T - AS - I	T - AS - I
Buildings Enfronting	T - NS - AS -	T - NS - AS -	T - NS - AS -	T - NS - AS -	T - NS - AS - I
Pedestrian-Oriented Design	AS - I	AS - I	AS - I	AS - I	AS - I
BRIDGES (CRITICAL INFRASTRUCTURE)					
Protection of Structural	T - AC - NS	T - AC - NS	T - AC - NS	T - AC - NS	T - AC - NS
Protection Against CBRNE*	AC - NS	AC - NS	AC - NS	AC - NS	AC - NS
Protection Against Blasts	AC - NS	AC - NS	AC - NS	AC - NS	AC - NS
Protection of Mechanicals	AC - NS	AC - NS	AC - NS	AC - NS	AC - NS
CCTV Formal Surveillance (for	T - AC	T - AC	T - AC	T - AC	T - AC

c. Crime prevention methods should not conflict with Section 1.3 Intent.
d. Closed Circuit Television (CCTV)- In areas of outbuildings and alleys, in the event of an incident that involves or jeopardizes public safety, the Police department shall be provided with remote access to camera systems. Cameras shall be installed in areas such as main thoroughfares, parks, bike and walk paths. Along with the cameras, signs shall be provided stating specific areas are under electronic surveillance.
e. If water retention areas, including swales, are fenced for child safety or habitat protection, fencing shall be visually permeable.
f. A block should be designed for rapid future adaptation to a securable perimeter using barriers that seal gaps between buildings at or near their Façades. Such barriers may include, but are not limited to, fences, gates, or Barrier Plants.
g. Rear Alleys and Rear Lanes shall be potentially securable at both ends.

5.6 SPECIFIC TO T1 NATURAL ZONE

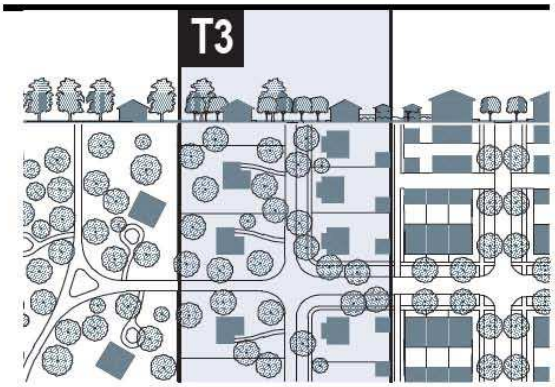
5.6.1 Buildings in the T1 Natural Zone are not permitted.

5.7

TRANSECT DEVELOPMENT STANDARDS

T-3
NEIGHBORHOOD DISTRICT

TABLE T3



I. BUILDING FUNCTION

Residential	restricted use
Lodging	restricted use
Office	restricted use
Retail	restricted use

k. BUILDING CONFIGURATION

Principal Building	2 stories max.
Outbuilding	2 stories max.

f. LOT OCCUPATION

Lot Width	72 ft. min. 120 ft. max.
Lot Coverage	60% max.

i. BUILDING DISPOSITION

Edgeyard	permitted
Sideyard	not permitted
Rearyard	not permitted
Courtyard	not permitted

g. SETBACKS - PRINCIPAL BUILDING

(g.1) Front Setback Principal	24 ft. min.
(g.2) Front Setback Secondary	12 ft. min.
(g.3) Side Setback	12 ft. min.
(g.4) Rear Setback	12 ft. min. *
Frontage Buildout	40% min. at setback

h. SETBACKS - OUTBUILDING

(h.1) Front Setback Principal	20 ft. min. + bldg. setback
(h.2) Front Setback Secondary	3 ft. min. or 6 ft. at corner
(h.3) Side Setback	3 ft. min.

j. PRIVATE FRONTAGES

Common Lawn	permitted
Porch & Fence	permitted
Terrace or Lightwell	not permitted
Forecourt	not permitted
Stoop	not permitted
Shopfront & Awning	not permitted
Gallery	not permitted
Arcade	not permitted

PARKING PROVISIONS

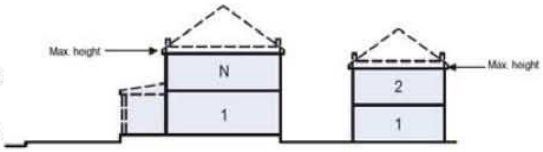
(See Parking section for Transect)

* or 15 feet from center line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

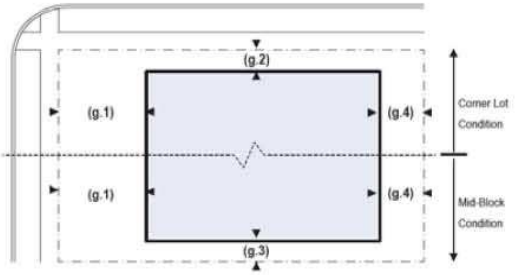
BUILDING CONFIGURATION

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minumum of 11 ft with a maximum of 25 feet.
3. Height shall be measured to the eave or roof deck



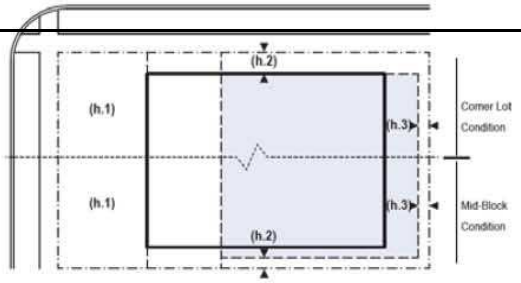
SETBACKS - PRINCIPAL BLDG.

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



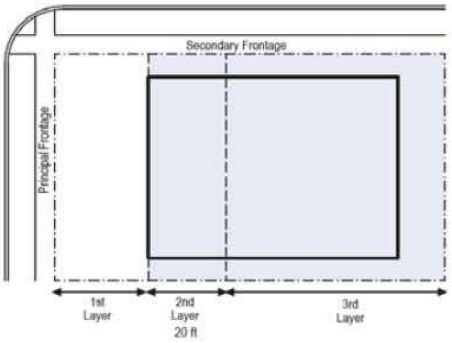
SETBACKS - OUTBUILDING

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.



PARKING PLACEMENT

1. Uncovered parking spaces may be provided within the second and third Layer as shown in the diagram.
2. Covered parking shall be provided within the third Layer as shown in the diagram. Side- or rear-entry garages may be allowed in the first or second Layer by Conditional Use.
3. Trash containers shall be stored within the third Layer.



BUILDING DISPOSITION

a. Lot width and coverage shall be according to the Table T3 item 'f '.

b. Buildings shall be located in relation to the boundaries of their Lots according to Table T3 items 'g' and 'h'. In the case of an Infill Lot, Setbacks shall match one of the existing adjacent Setbacks. Setbacks may otherwise be adjusted by Conditional Use.

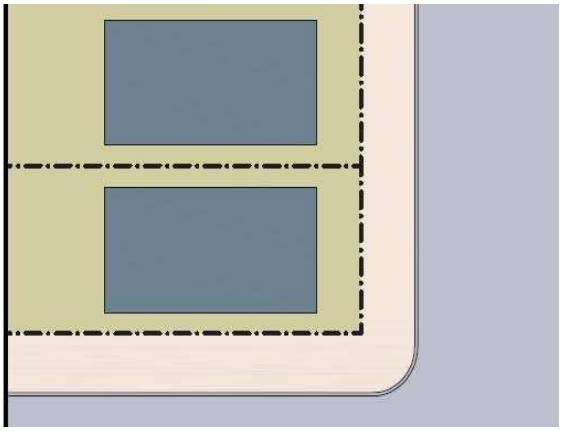
c. Facades shall be built parallel to a rectilinear Principal Frontage Line or to the tangent of a curved Principal Frontage Line, and along a minimum percentage of the Frontage width at the Setback, as specified as Frontage Build-out on Table T3 item 'g'.

d. Rear Setbacks for Outbuildings shall be a minimum of 12 feet measured from the centerline of the Rear Alley or Rear Lane easement. In the absence of Rear Alley or Rear Lane, the rear Setback shall be as shown in TableT3 item 'h'.

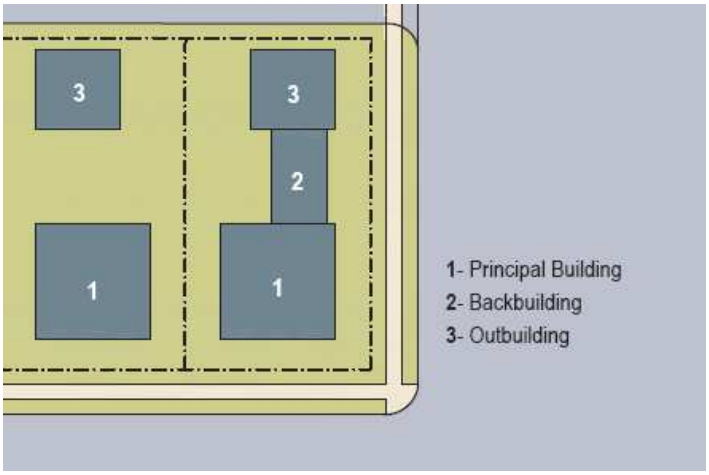
e. To accommodate slopes over ten percent, relief from front Setback requirements is available by Conditional Use.

f. Building Disposition types shall be as shown below. This diagram approximates the location of the structure relative to the boundaries of each Individual lot, establishing suitable basic building types.

a. Edgeyard: A building that occupies the center of its Lot with Setbacks on all sides. This is the least urban of types as the front yard sets it back from the Frontage, while the side yards weaken the spatial definition of the public Thoroughfare space. The front yard is intended to be visually continuous with the yards of adjacent buildings. The rear yard can be secured for privacy by fences and a well placed Backbuilding and/or Outbuilding.



g. One Principal Building at the Frontage, and one Outbuilding to the rear of the Principal Building, may be built on each Lot as shown below

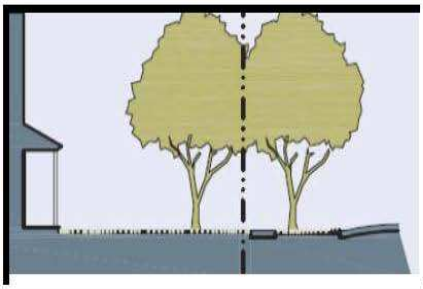
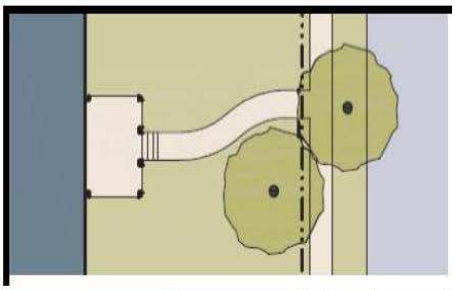
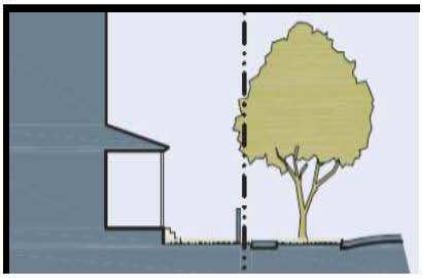
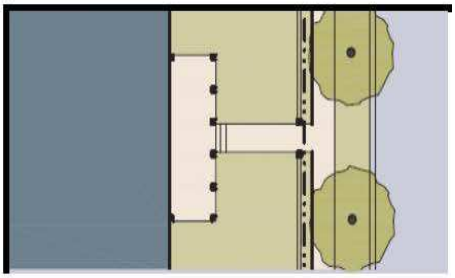


h. **Specific to Multi-Unit Residential and Mixed-use buildings**

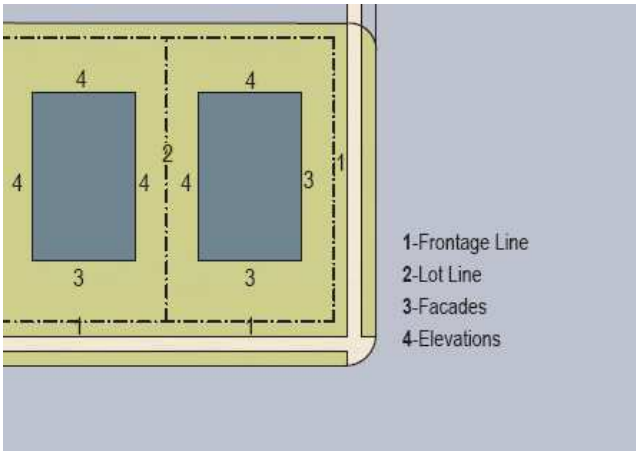
1. Property owners shall address Territoriality, Access Control, Natural Surveillance, Activity Support, and Image, as provided in Section 5.5 Public Safety.
2. Crime prevention methods should not conflict with Section 1.3 Intent.
3. Recreation areas such as pools, tennis courts, clubhouses and playgrounds shall be visible from one or more of the windows of the buildings

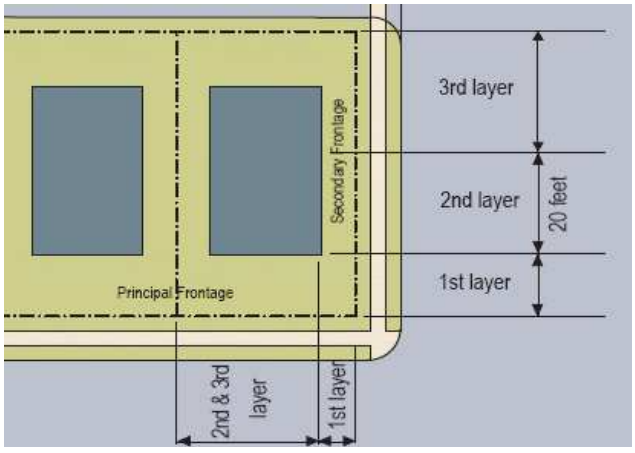
BUILDING CONFIGURATION

a. The Private Frontage of buildings shall conform to and be allocated in accordance with Table T3 item 'j' and the diagram below

a. Common Yard: a planted Frontage wherein the Façade is set back substantially from the Frontage Line. The front yard created remains unfenced and is visually continuous with adjacent yards, supporting a common landscape. The deep Setback provides a buffer from the higher speed Thoroughfares.		
b. Porch & Fence: a planted Frontage where the Façade is set back from the Frontage Line with an attached porch permitted to Encroach. A fence at the Frontage Line maintains street spatial definition. Porches shall be no less than 8 feet deep.		

b. Buildings on corner Lots shall have two Private Frontages as shown in diagrams below. Requirements for the second and third Layers pertain only to the Principal Frontage. Requirements for the first Layer pertain to both Frontages. No portion of the Private Frontage may Encroach the Sidewalk.
Open porches may encroach the first Layer 50% of its depth.
Balconies and bay windows may encroach the first Layer 25% of its depth except that balconies on porch roofs may Encroach the same depth as the porch.





c. All Facades shall be glazed with clear glass no less than 30% of the first Story.

d. Building heights, shall conform to the diagram below and Table T3 Item 'k'.

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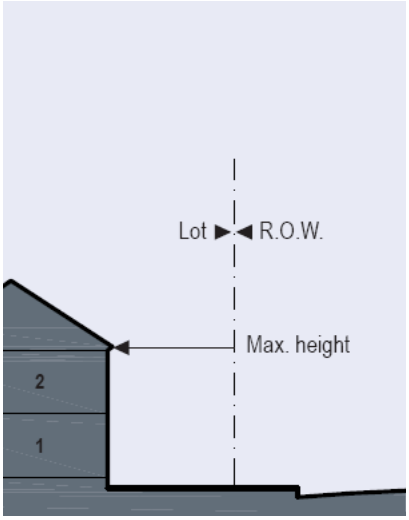


e. Stories and attics may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial Function, which shall be a minimum of 11 feet with a maximum of 25 feet. A single floor level exceeding 14 feet, or 25 feet at ground level, shall be counted as two (2) stories. Mezzanines extending beyond 33% of the floor area shall be counted as an additional Story.

f. In a Parking Structure or garage, each above-ground level counts as a single Story regardless of its relationship to habitable Stories.

g. Height limits do not apply to raised basements, masts, belfries, clock towers, chimney flues, water tanks, or elevator bulkheads.

h. The habitable area of an Accessory Unit within a Principal Building or an Outbuilding shall not exceed 440 square feet, excluding the parking area.

i. Each Principal Building and each Outbuilding containing an accessory Apartment or home occupation shall have at least one window on each story of a Facade from which its adjacent Public Frontage is visible.

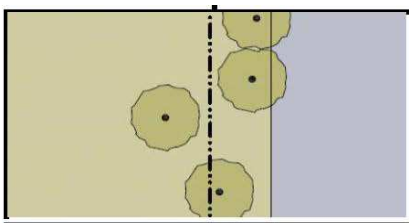
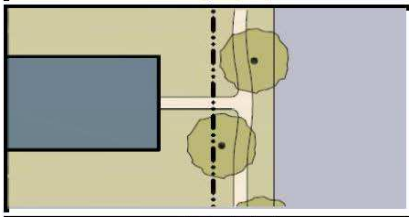
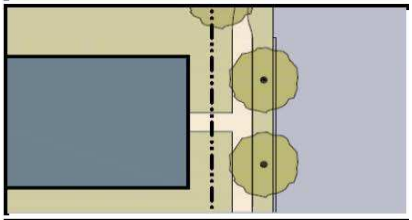
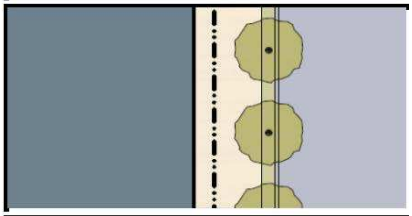
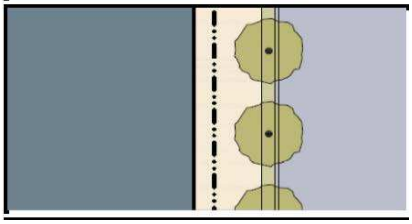
j. Where Rear Alleys or Rear Lanes are present, each Principal Building and each Outbuilding containing an Accessory Apartment or Home Occupation shall have at least one window on the rear elevation, through which a person or vehicle moving through a part of the alley or lane would be visible. This window may look out from any room type. CCTV surveillance may substitute for this requirement by Conditional Use.

k. In the absence of securable windows, Barrier Plants shall be planted below windows to ground floor Common Rooms, extending at least twelve (12) inches to each side of a window but no higher than its sill. Vegetation shall not hinder the egress requirements for emergency exit from sleeping areas.

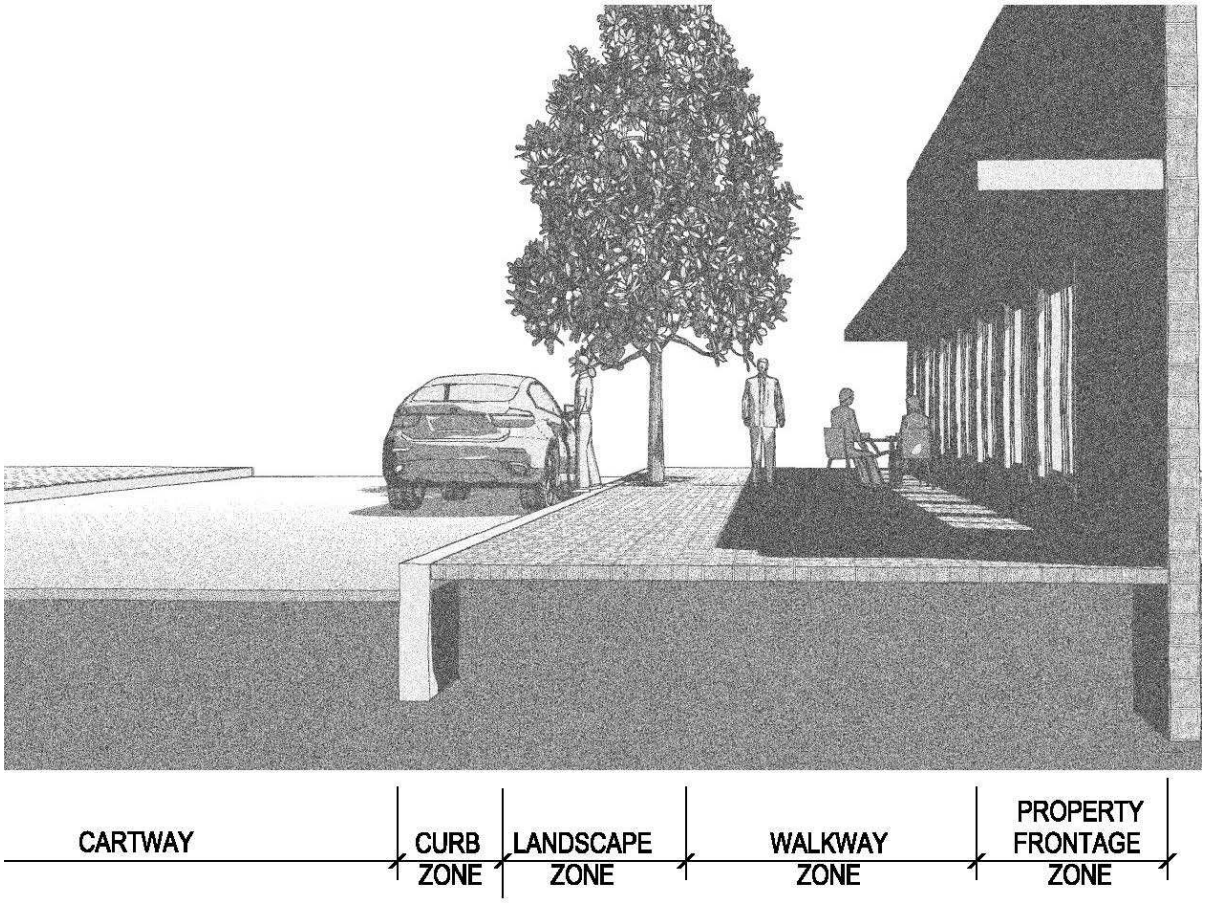
l. Outbuildings shall be lockable.

PUBLIC FRONTAGE

a. Public Frontages shall be designed as shown in the diagram below and allocated within the Transect Zones.

a. **(HW) For Highway:** This Frontage has open Swales drained by percolation, Bicycle Trails and no parking. The landscaping consists of the natural condition or multiple species arrayed in naturalistic clusters. Buildings are buffered by distance or berms	
b. **(RD) For Road:** This Frontage has open Swales drained by percolation and a walking Path or Bicycle Trail along one or both sides Yield parking. The landscaping consists of the multiple species arrayed in naturalistic clusters.	
c. **(ST) For Street:** This Frontage has raised Curbs drained by inlets and Sidewalks separated from the vehicular lanes by individual or continuous Planters, with parking on one or both sides. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee, with the exception that Streets with a right-of-way (R.O.W.) width of 40 feet or less are exempt from tree requirements.	
d. **(DR) For Drive:** This Frontage has raised Curbs drained by inlets and a wide Sidewalk or paved path along one side, related to a Greenway or waterfront. It is separated from the vehicular lanes by individual or continuous Planters. The landscaping consists of street trees of a single species or alternating species aligned in a regularly spaced Allee.	
e. **(AV) For Avenue:** This Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the vehicular lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced Allee.	

b. The Public Frontage shall consist of 4 zones: the Property Frontage Zone, the Walkway Zone, the Landscape Zone and the Curb Zone, all as defined below.

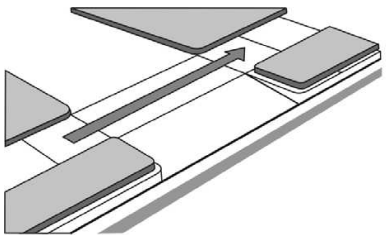


c. The Property Frontage Zone is the area immediately adjacent to the property line.

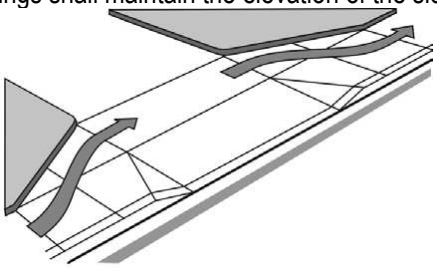
1. The Property Frontage Zone shall not be considered in the Walkway Zone width.
2. Private furnishings (tables, chairs, portable signage and displays) are permitted in the Property Frontage Zone.
3. Overhanging elements shall provide a minimum clearance of 80 inches.

d. The Walkway Zone is the area between the Property Frontage Zone and the Landscape Zone intended for pedestrian travel only.

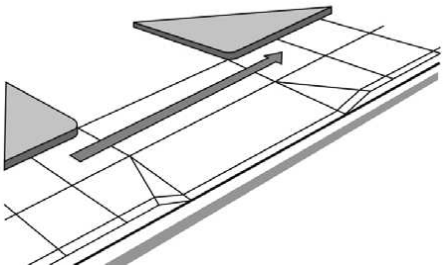
1. The area shall be clear of obstacles and constructed with a smooth walking surface.
2. Running slopes shall not exceed the grade of the adjacent street. Cross slopes shall not exceed 2%including driveways. Steeper driveway slopes are permitted in the Landscape Zone and Curb Zone.



3. Driveway crossings shall maintain the elevation of the sidewalk



4. Driveways aprons shall not extend into the clear pedestrian travel path (5' min).



5. Walkway Zones shall be of sufficient width to accommodate expected pedestrian volume surges without impeding the free movement of pedestrians walking along the zone.

e. The Landscape Zone is the area between the Walkway Zone and the Curb Zone intended to serve as a buffer between the Walkway Zone and the vehicle traveled Cartway

1. Street trees, planting strips, planters, transit shelters, street furniture, utility/traffic/telephone poles, bike racks, etc. shall be located within this zone and completely outside of the Walkway Zone.
2. Furnishings and other Landscape Zone elements shall not obscure the clear site of the pedestrians and motorists from each other.

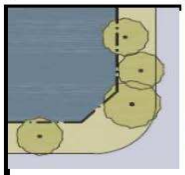
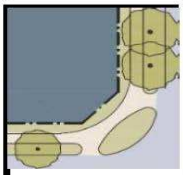
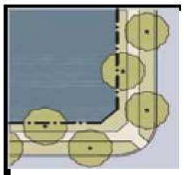
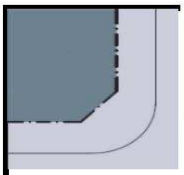
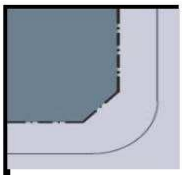
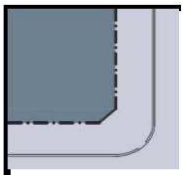
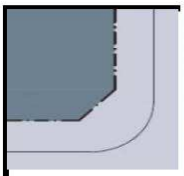
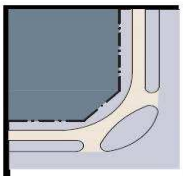
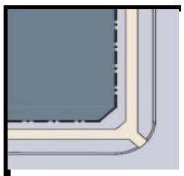
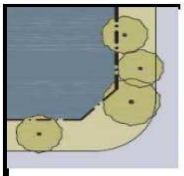
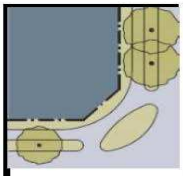
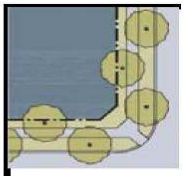
f. The Curb Zone is the transitional area between the Landscape Zone and the vehicle traveled Cartway

1. With the exception of parking meters, this zone shall be kept free of any objects.

g. The Public Frontage Zone minimum dimensions shall be as follows:

STREET TYPE	**ZONE**	**PREDOMINANTLY COMMERCIAL GROUND FLOOR USE**	**PRIMARILY RESIDENTIAL GROUND FLOOR USE**
HIGHWAY (HW) AVENUE (AV)	PROPERTY FRONTAGE	1.5 feet	1.5 feet along façades, tall walls and fences
	WALKWAY	6 feet	5 feet
	LANDSCAPE	7 feet	8 feet
	CURB	2.5 feet/ 4feet at transit stops for the length of the transit stop	2.5 feet/ 4feet at transit stops for the length of the transit stop
STREET (ST) DRIVE (DR)	PROPERTY FRONTAGE	2.5 feet	1 foot along façades, tall walls and fences
	WALKWAY	6 feet	6 feet
	LANDSCAPE	6 feet	8 feet
	CURB	2.5 feet	2 feet
ROAD (RD)	PROPERTY FRONTAGE	2.5 feet	1foot along façades, tall walls and fences
	WALKWAY	6 feet	6 feet
	LANDSCAPE	6 feet	8 feet
	CURB	2.5 feet/ 4feet at transit stops for the length of the transit stop	2 feet/ 4 feet at transit stops for the length of the transit stop

h. Within the Public Frontages, the prescribed types of Public Lighting shall be as shown in the Table below. The spacing may be adjusted by Conditional Use within the limits prescribed below to accommodate specific site conditions. Public Plantings shall be as prescribed in the Public Planting Standard, in Section 3.7 Thoroughfare Stormwater Management, and the landscaping provisions of this Transect Zone.

Public Frontage Type	HW & RD	RD & ST	ST-DR-AV
a. Assembly: The principal variables are the type and dimension of Curbs, walkways, Planters and landscape.			
Total Width	16-24 feet	12-24 feet	12-18 feet
b. Curb. The detailing of the edge of the vehicular pavement incorporating drainage.			
Type	Open Swale	Open Swale	Raised Curb
Radius	10-30 feet	10-30 feet	5-20 feet
c. Walkway. The hard surface dedicated exclusively to pedestrian activity.			
Type	Path Optional	Path	Sidewalk
Width	n/a	4-8 feet	4-8 feet
d. Landscape: The layer which accommodates street trees and other landscape materials.			
Arrangement	Clustered	Clustered	Regular
Species	Clustered	Clustered	Alternating
Planter Type	Continuous Swale	Continuous Swale	Continuous Planter
Planter Width	8 feet - 16 feet	8 feet - 16 feet	8 feet - 12 feet

POST

COLUMN

PIPE

i. The Public Frontage shall include trees of various species, naturalistically clustered, as well as understory.

j. The introduced landscape shall consist primarily of native species requiring minimal irrigation, fertilization and maintenance. Lawn shall be permitted only by Conditional Use.

PERMITTED USES

a. Building uses and parking shall conform to the following Tables. Uses that do not conform shall require approval by Conditional Use as specified on the Specific Use Table

SPECIFIC USE

a. RESIDENTIAL	T3
Mixed Use Block	
Flex Building	
Apartment Building	
Live/Work Unit	■
Row House	
Duplex House	
Courtyard House	
Sideyard House	■
Cottage	■
House	■
Villa	
Accessory Unit	■

b. LODGING	
Hotel (no room limit)	
Inn (up to 12 rooms)	
Bed & Breakfast (up to 5 rooms)	■
S.R.O. Hostel	□
School Dormitory	

c. OFFICE	
Office Building	
Live/Work Unit	■

d. RETAIL	
Open-Market Building	■
Retail Building	
Display Gallery	
Restaurant	
Kiosk	
Push Cart	
Liquor Selling Establsihment	
Adult Entertainment	

e. CIVIC	
Bus Shelter	■
Convention Center	
Conference Center	
Exhibition Center	
Fountain or Public Art	■
Library	
Live Theater	
Movie Theater	
Museum	
Outdoor Auditorium	■
Parking Structure	
Passenger Terminal	
Playground	■
Sports Stadium	
Surface Parking Lot	
Religious Assembly	■

f. OTHER: AGRICULTURE	T3
Grain Storage	
Livestock Pen	
Greenhouse	□
Stable	□
Kennel	□

f. OTHER: AUTOMOTIVE	
Gasoline	
Automobile Service	
Truck Maintenance	
Drive-Through Facility	
Rest Stop	
Roadside Stand	
Billboard	
Shopping Center	
Shopping Mall	

f. OTHER: CIVIL SUPPORT	
Fire Station	■
Police Station	
Cemetery	□
Funeral Home	
Hospital	
Medical Clinic	

f. OTHER: EDUCATION	
College	
High School	
Trade School	
Elementary School	□
Other - Childcare Center	■

f. OTHER: INDUSTRIAL	
Heavy Industrial Facility	
Light Industrial Facility	
Truck Depot	
Laboratory Facility	
Water Supply Facility	
Sewer and Waste Facility	
Electric Substation	□
Wireless Transmitter	
Cremation Facility	
Warehouse	
Produce Storage	
Mini-Storage	

■	BY RIGHT
□	CONDITIONAL USE

.

PARKING FUNCTION

a. RESIDENTIAL	Restricted Residential: The number of dwellings on each Lot is restricted to one within a Principal Building and one within an Accessory Building, with 2 parking spaces for each. Both dwellings shall be under single ownership. The habitable area of the Accessory Unit shall not exceed 440 sf, excluding the parking area.
b. LODGING	Restricted Lodging: The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom, up to five, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.
c. OFFICE	Restricted Office: The building area available for office use on each Lot is restricted to the first Story of the Principal or the Accessory Building and by the requirement of 3.0 assigned parking places per 1,000 square feet of net office space in addition to the parking requirement for each dwelling.
d. RETAIL	Restricted Retail: The building area available for Retail use is restricted to one Block corner location at the first Story for each 300 dwelling units and by the requirement of 4.0 assigned parking places per 1,000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store.

b. Accessory Functions of Restricted Lodging or Restricted Office shall be permitted within an Accessory Building.

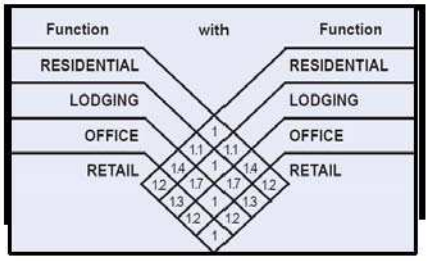
PARKING CALCULATIONS

a. The actual parking required for uses within the lot shall be determined by adding the total number of spaces required by each separate use on the lot and dividing the total by the Shared Parking Factor below.

REQUIRED PARKING

T3	
RESIDENTIAL	2.0 / dwelling
LODGING	1.0 / dwelling
OFFICE	3.0 / 1,000 sq.ft.
RETAIL	4.0 / 1,000 sq.ft.

SHARED PARKING FACTOR



Parking for Civic and all other uses shall be determined by Conditional Use.

To ensure enough parking, when three functions share parking, the lowest shared parking factor shall be used.

DENSITY

a. Buildable Density on a lot shall be determined by the actual parking provided within the lot for the Function it serves.

Bicycle Parking Requirements

a. The amount of short term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required N/A
OFFICE	No Spaces Required
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft.
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft. Minimum 2.0 Spaces 1.0 Additional 20,000 Sq. Ft.
SCHOOL Elementary	 Minimum 2.0 Spaces 1.0 / Additional 25 Students
TRANSIT STATION	10-30% passengers /day

b. The amount of long term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required N/A
OFFICE	No Spaces Required
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft.
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 15 Employees Minimum 2.0 Spaces 1.0 Additional 20 Employees
SCHOOL Elementary	 Minimum 2.0 Spaces 1.0 / Additional 20 Students
TRANSIT STATION	TBD

Note: A minimum of one bicycle rack place shall be provided within the Public or Private Frontage for every ten vehicular parking spaces.

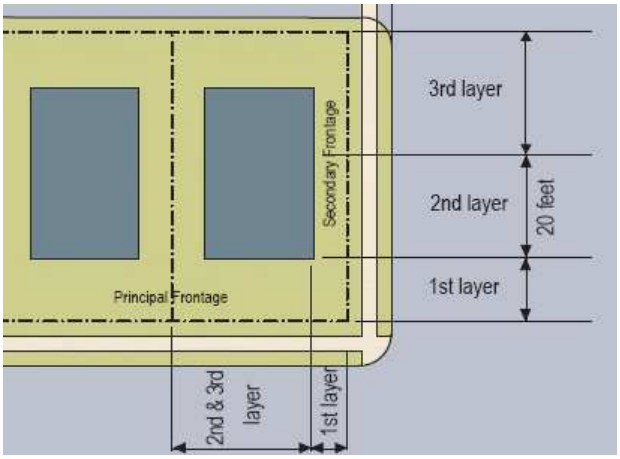
PARKING LOCATION

a. Parking shall be accessed by Rear Alleys or Rear Lanes, when such are available on the Regulating Plan.

b. Open parking areas shall be masked from the Frontage by a Building or Streetscreen.

c. Parking for large facilities shall not dominate street frontages. Active ground floor uses such as retail and front-office functions and/or architectural treatments that create pedestrian-friendly frontages shall be provided along primary streets. Vehicular access to parking facilities should be provided from secondary streets.

d. Open parking areas shall be located at the second and third Lot Layers, except that Driveways, drop-offs and unpaved parking areas may be located at the first Lot Layer.



e. Garages shall be located at the third Layer except that side- or rear-entry types may be allowed in the first or second Layer by Conditional Use.

f. Driveways at Frontages shall be no wider than 10 feet in the first Layer.

ARCHITECTURAL STANDARDS

a. Building wall materials may be combined on each Facade only horizontally, with the heavier below the lighter. The exterior finish material on all Facades shall be limited to brick, wood siding, cementitious siding and/or stucco.

b. All buildings except detached single family houses shall have an expression line delineating the division between the first story and the second story. A cornice shall delineate the tops of the facades. Expression lines and cornices shall either be moldings extending a minimum of 2 inches, or jogs in the surface plane of the building wall greater than 2 inches.

c. All openings, including porches, Galleries, Arcades and windows, with the exception of shop fronts, shall be square or vertical in proportion. Windows shall have visible sills and wide casings to protect end grain of siding material and create shadow lines.

d. Gable eaves shall project a minimum of 12" from the façade face.

e. Applied Mansard roofs are not permitted.

f. Street screens should be constructed of a material matching the adjacent building Facade

g. Openings above the first Story shall not exceed 50% of the total building wall area, with each Facade being calculated independently.

h. Doors and windows that operate as sliders are prohibited along Frontages

i. Pitched roofs, if provided, shall be symmetrically sloped no less than 5:12, except that roofs for porches and attached sheds may be no less than 2:12.

j. Flat roofs shall be enclosed by parapets a minimum of 42 inches high, or as required to conceal mechanical equipment to the satisfaction of the CRC.

k. Balconies and porches shall be made of painted wood.

l. Fences at the first Lot Layer shall be painted. Fences at other Layers may be of wood board or chain link.

m. Subsidized housing units shall not be clustered in one area and shall be designed so as not to distinguish their outward appearance from non-subsidized units.

LANDSCAPE STANDARDS

a. Impervious surface shall be confined to the ratio of Lot coverage specified in Table T3, item 'f'

b. Berms are not permitted in the Public Frontage.

c. Along residential frontages, a minimum of two trees shall be planted within the first Layer for each 30 feet of Frontage Line or portion thereof. Along frontages containing any commercial uses, trees shall be planted within the first Layer a minimum of 30 feet apart measured to the centerline of the tree along the Frontage Line or portion thereof.

d. Trees may be of single or multiple species as shown on Public Planting Table.

e. Trees shall be naturalistically clustered.

f. Existing trees may be utilized to meet the landscaping requirements. When existing trees do not meet the requirements, new trees of species appropriate for the region and form appropriate for the Transect Zone shall be planted. See Public Planting Table in Supplemental Standard SPS4.

g.Trees shall be planted below the grade of the sidewalk and the street in structural cells with sufficient root space.

h. Only trees designated as small trees in the Public Planting Table in Supplemental Standard SPS-4 shall be planted along frontages with buildings greater than 2 stories in height.

i. Lawn shall be permitted by Conditional Use.

j. The landscape installed shall consist primarily of native species requiring minimal irrigation, fertilization, and maintenance

k. Rain Gardens and Bioswales shall be installed to infiltrate runoff from parking lots, Thoroughfares, Plazas and other impervious surfaces.

l. Buildings may be equipped with roofs of shallow 4-inch soils and drought tolerant plants. Buildings approved for Intensive Green Roofs may hold soils deeper than 4" and larger plants and trees.

m. Balconies shall be equipped with planter boxes designed to capture runoff from the balcony.

n. Green walls, if provided, shall be restricted to non-invasive species.

o. Cisterns may be used to capture and recirculate stormwater from buildings.

p.The first Layer may not be paved, with the exception of Driveways

q. Native plant perennial landscapes shall replace turf grass where possible and be very diverse. They shall be placed lower than walkways, not mounded up.

r. A landscaping plan shall be prepared by a registered landscape architect and submitted for review and approval.

SIGNAGE STANDARDS

a. There shall be no signage permitted additional to that specified in Supplemental Standard SPS 5 Signage.
b. The address number, no more than 6 inches measured vertically, shall be attached to the building in proximity to the Principal Entrance or at a mailbox
c. Signage shall not be illuminated.
d. One blade sign for each business may be permanently installed perpendicular to the Facade within the first Layer. Such a sign shall not exceed a total of 4 square feet and shall clear 8 feet above the Sidewalk.

SUSTAINABILITY

a. The base densities for this transect shall be increased with the incorporation of the following sustainable elements:

Use of 100% recyclable low emissive glass technology that does not contain metal coatings with a maximum transparency up to 79%, SHGC< .35% (heat transfer reduction up to 70%, minimum 97% reduction in UV ad IR. +2 dwelling units

Use of Solar powered glass curtain wall systems utilizing PV-windows, PV walls and PV rooftops combined with time shift energy storage and management systems converting building surfaces and grounds into a power plant. +1 dwelling units for each PV element for up to +3 dwelling units

Use of water from air extraction and magnetic filtration/purification systems capable of generating 25-120 liters of capacity per day +1 dwelling units

Use of anti-germ, antimold, anti-odor, anti-VOC self-cleaning nano-technology with an efficiency rating of 100% +1 dwelling units

The increases are cumulative for a maximum increase of up to 7 dwelling units per acre.

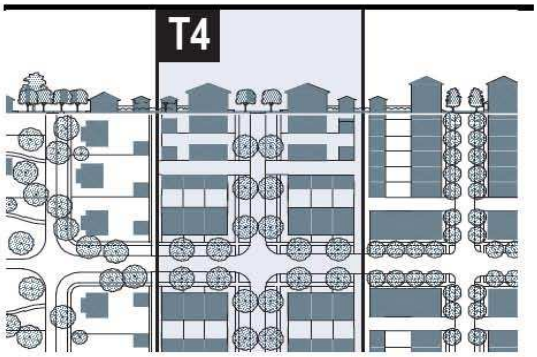
T-3C STANDARDS

Properties located in zones with "c" designations shall be developed in conformance with this section. Prior to development of a property within such a designated "c" zone, the Community Development Plan for such zone shall be subject to Conditional Use approval by Bensalem Township Council. Only upon approval of the Community Development Plan will a plan for development of any particular property be considered, in accordance with this Regulating Code.

T-4

TOWN GENERAL DISTRICT

TABLE T4



I. BUILDING FUNCTION

Residential	limited use
Lodging	limited use
Office	limited use
Retail	limited use

k. BUILDING CONFIGURATION

Principal Building	3 stories max., 2 min.
Outbuilding	2 stories max.

f. LOT OCCUPATION

Lot Width	18 ft. min., 96 ft. max.
Lot Coverage	70% max.

i. BUILDING DISPOSITION

Edgeyard	permitted
Sideyard	permitted
Rearyard	permitted
Courtyard	not permitted

g. SETBACKS - PRINCIPAL BUILDING

(g.1) Front Setback Principal	6 ft. min., 18 ft. max.
(g.2) Front Setback Secondary	6 ft. min., 18 ft. max.
(g.3) Side Setback	0 ft. min.
(g.4) Rear Setback	3 ft. min.*
Frontage Buildout	60% min. at setback

h. SETBACKS - OUTBUILDING

(h.1) Front Setback Principal	20 ft. min. + bldg. setback
(h.2) Front Setback Secondary	0 ft. min. or 3 ft. at corner
(h.3) Side Setback	3 ft. min.

j. PRIVATE FRONTAGES

Common Lawn	not permitted
Porch & Fence	permitted
Terrace or Lightwell	permitted
Forecourt	permitted
Stoop	permitted
Shopfront & Awning	permitted
Gallery	permitted
Arcade	not permitted
	Refer to Summary Table

PARKING PROVISIONS

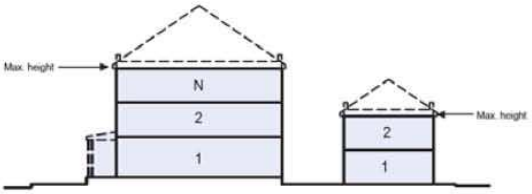
(See parking for Transect)

* or 15 feet from center line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

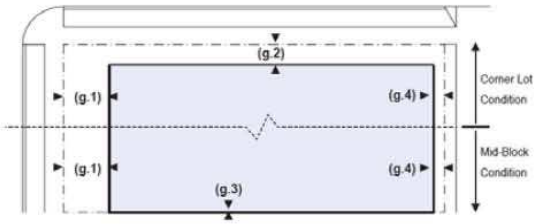
BUILDING CONFIGURATION

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minumum of 11 ft with a maximum of 25 feet.
3. Height shall be measured to the eave or roof deck



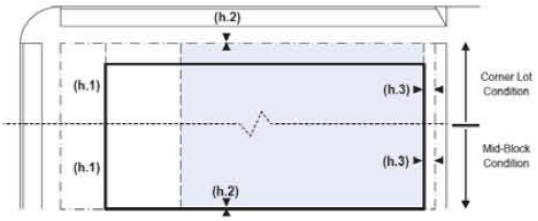
SETBACKS - PRINCIPAL BLDG.

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



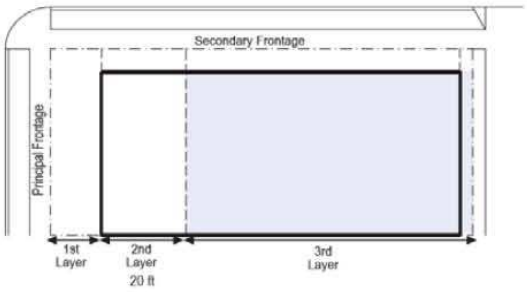
SETBACKS - OUTBUILDING

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.



PARKING PLACEMENT

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram.
2. Covered parking shall be provided within the third Layer as shown in the diagram.
3. Trash containers shall be stored within the third Layer.



BUILDING DISPOSITION

a. Lot width and coverage shall be according to the Table T4 item 'f '.

b. Buildings shall be located in relation to the boundaries of their Lots according to Table T4 items 'g' and 'h'. In the case of an Infill Lot, Setbacks shall match one of the existing adjacent Setbacks. Setbacks may otherwise be adjusted by Conditional Use.

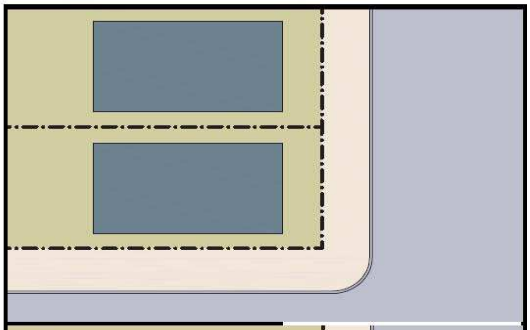
c. Facades shall be built parallel to a rectilinear Principal Frontage Line or to the tangent of a curved Principal Frontage Line, and along a minimum percentage of the Frontage width at the Setback, as specified as Frontage Build-out on Table T4 item 'g'.

d. Rear Setbacks for Outbuildings shall be a minimum of 12 feet measured from the centerline of the Rear Alley or Rear Lane easement. In the absence of Rear Alley or Rear Lane, the rear Setback shall be as shown in TableT4 item 'h'.

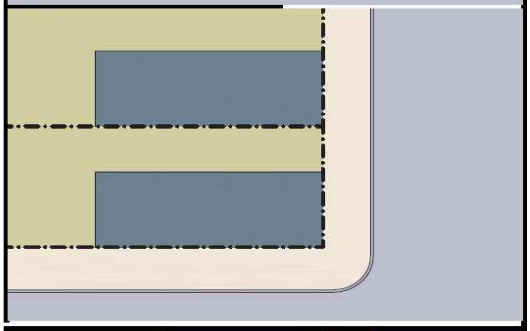
e. To accommodate slopes over ten percent, relief from front Setback requirements is available by Conditional Use.

f. Building Disposition types shall be as shown below. This diagram approximates the location of the structure relative to the boundaries of each Individual lot, establishing suitable basic building types.

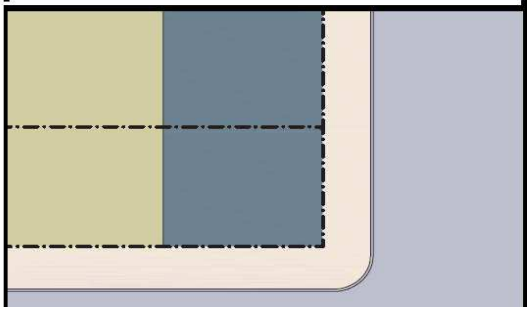
a. Edgeyard: A building that occupies the center of its Lot with Setbacks on all sides. This is the least urban of types as the front yard sets it back from the Frontage, while the side yards weaken the spatial definition of the public Thoroughfare space. The front yard is intended to be visually continuous with the yards of adjacent buildings. The rear yard can be secured for privacy by fences and a well placed Backbuilding and/or Outbuilding.



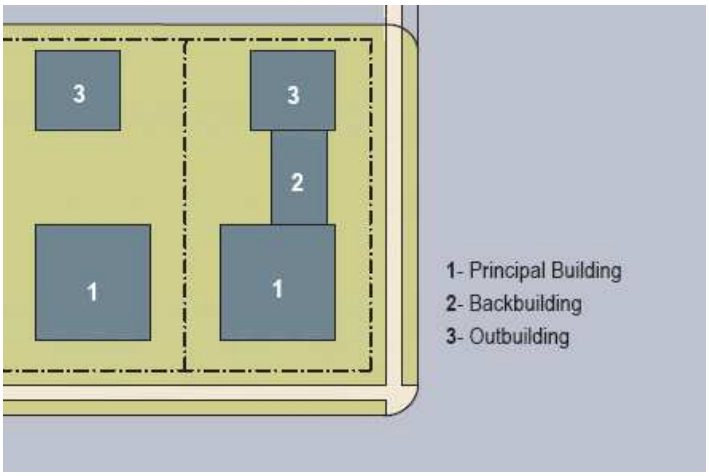
b. Sideyard: A building that occupies one side of the Lot with the Setback to the other side. A shallow Frontage Setback defines a more urban condition. If the adjacent building is similar with a blank side wall, the yard can be quite private. This type permits systematic climatic orientation in response to the sun or the breeze. If a Sideyard House abuts a neighboring Sideyard House, the type is known as a Twin or double house. Energy costs, and sometimes noise, are reduced by sharing a party wall in this disposition.



c. Rearyard: A building that occupies the full Frontage, leaving the rear of the Lot as the sole yard. This is a very urban type as the continuous Facade steadily defines the public Thoroughfare. The rear Elevations may be articulated for functional purposes. In its Residential form, this type is the Rowhouse. For its Commercial form, the rear yard can accommodate substantial parking.



g. One Principal Building at the Frontage, and one Outbuilding to the rear of the Principal Building, may be built on each Lot as shown below

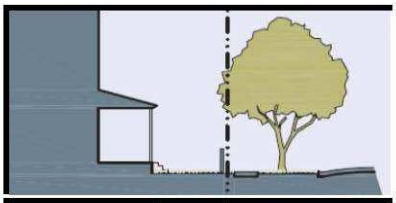
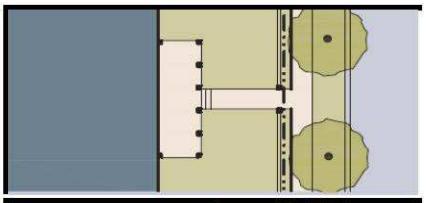
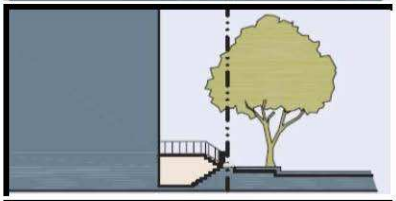
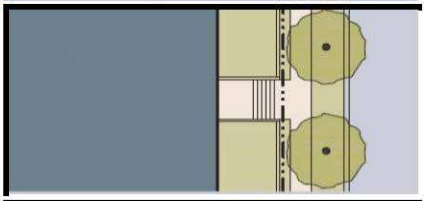
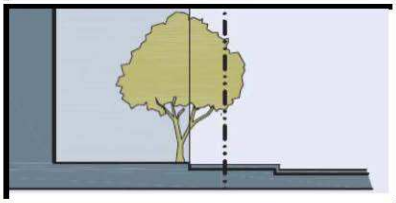
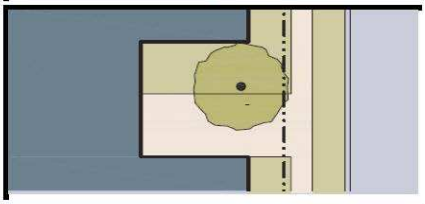
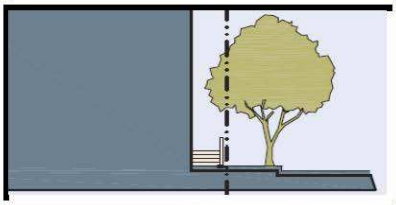
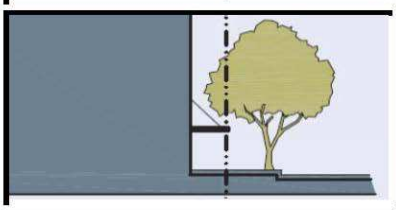
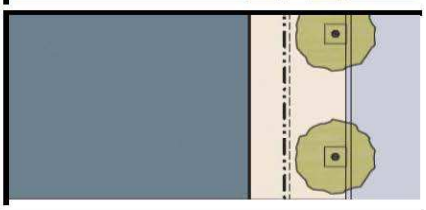
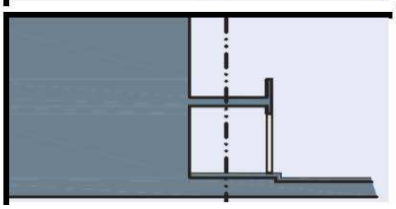
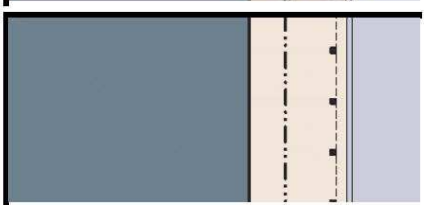


h. **Specific to Multi-Unit Residential and Mixed-use buildings**

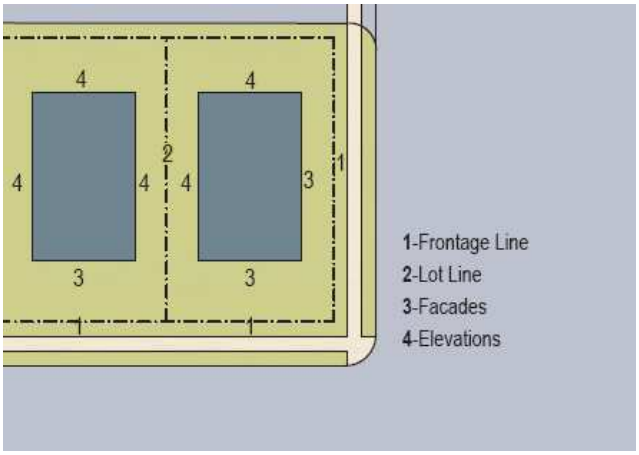
1. Property owners shall address Territoriality, Access Control, Natural Surveillance, Activity Support, and Image, as provided in Section 5.5 Public Safety.
2. Crime prevention methods should not conflict with Section 1.3 Intent.
3. Recreation areas such as pools, tennis courts, clubhouses and playgrounds shall be visible from one or more of the windows of the buildings

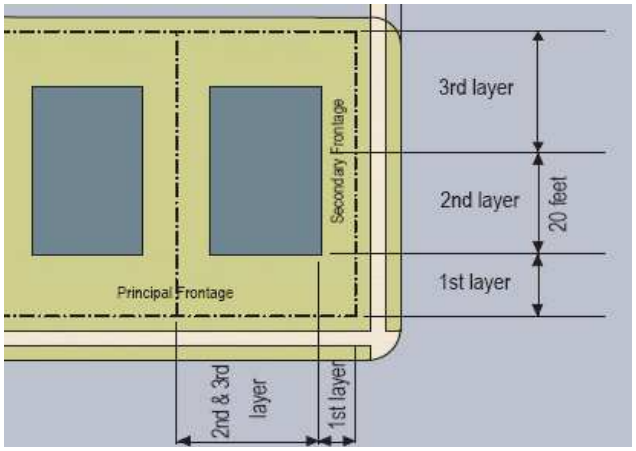
BUILDING CONFIGURATION

a. The Private Frontage of buildings shall conform to and be allocated in accordance with Table T4 item 'j' and the diagram below

b. Porch & Fence: a planted Frontage where the Façade is set back from the Frontage Line with an attached porch permitted to Encroach. A fence at the Frontage Line maintains street spatial definition. Porches shall be no less than 8 feet deep.		
c. Terrace or Lightwell: a frontage wherein the Façade is setback back from the Frontage Line by an elevated terrace or sunken Lightwell. This type buffers Residential use from urban Sidewalks and removes the private yard from public encroachment. Terraces are suitable for conversion to outdoor cafes. Syn: **Dooryard**.		
d. Forecourt: a Frontage wherein the Façade is close to the Frontage Line and the central portion is set back. The forecourt created is suitable for vehicular drop-offs. This type should be allocated in conjunction with other Frontage types. Large trees within the Forecourts may overhang the Sidewalks.		
e. Stoop: a Frontage wherein the Façade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk sufficiently to ensure privacy for the windows. The entrance is usually an exterior stair and landing. This type is recommended for ground-floor Residential use.		
f. Shopfront: a Frontage wherein the Façade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. This type is conventional for Retail use. It has substantial glazing on the Sidewalk level and an awning that should overlap the Sidewalk to within 2 feet of the Curb. Syn: **Retail Frontage**.		
g. Gallery: a Frontage wherein the Façade is aligned with the Frontage Line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk. This type is conventional for Retail use. The Gallery should be no less than 10 feet wide and should overlap the sidewalk to within 2 feet of the Curb.		

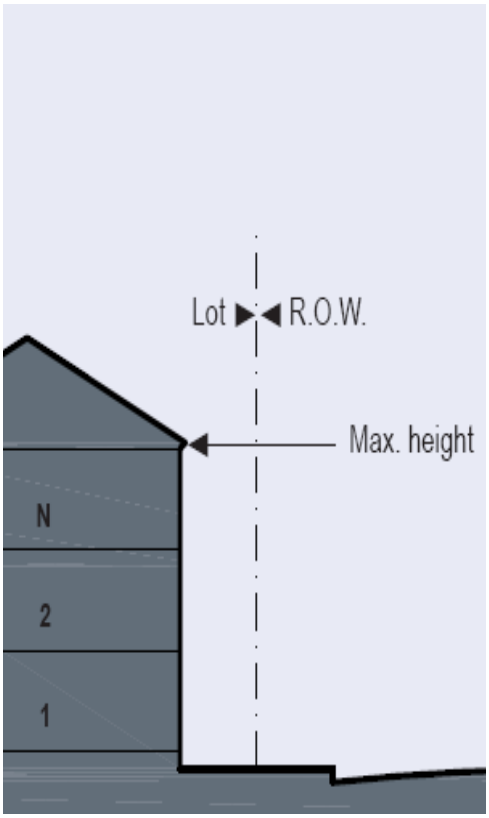
b. Buildings on corner Lots shall have two Private Frontages as shown in diagrams below. Requirements for the second and third Layers pertain only to the Principal Frontage. Requirements for the first Layer pertain to both Frontages. Balconies, open porches and bay windows may encroach the first Layer 50% of its depth.



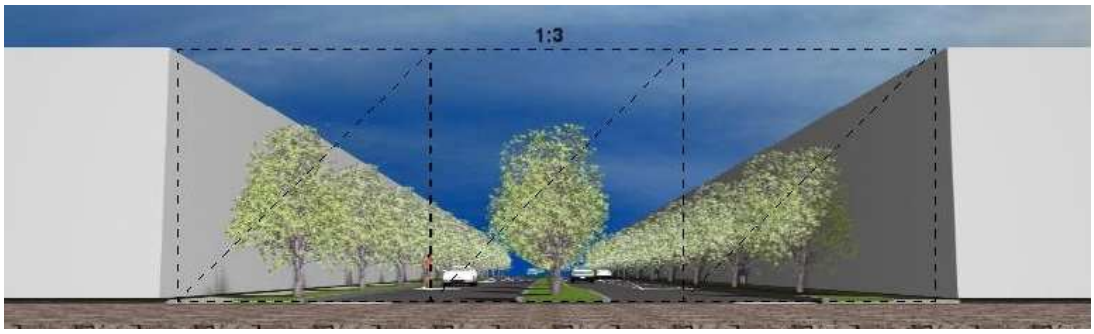


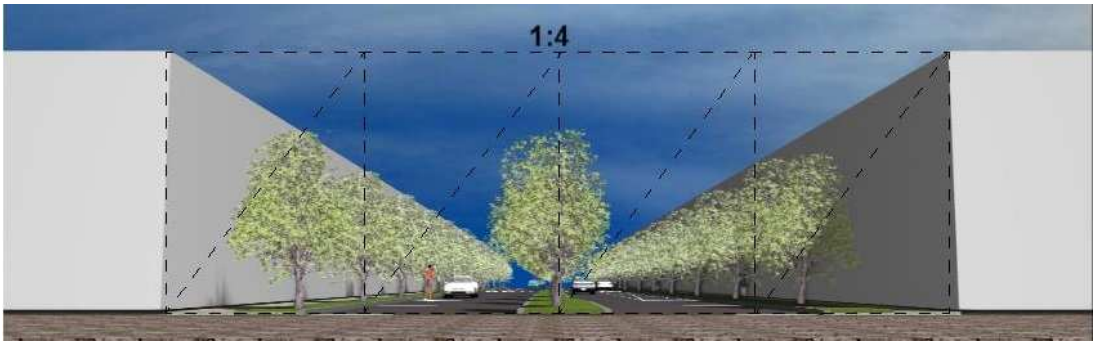
c. All Facades shall be glazed with clear glass no less than 30% of the first Story. Retail Frontage designation requires a Shop front at Sidewalk level along the entire length of its Private Frontage. The Shop front shall be no less than 70% glazed in clear glass and shaded by an awning overlapping the Sidewalk as generally illustrated in the diagram in section 'a' under Building Configuration above. The first floor shall be confined to Retail use through the depth of the second Layer. A Gallery Frontage may be combined with a Retail Frontage.

d. Building heights, shall conform to the diagram below and Table T4 Item 'k'.



e. The ratio of building height to Thoroughfare width shall be 1:3. Ratios of 1:4 are permitted in predominantly residential areas.





f. The habitable area of an Accessory Unit within a Principal Building or an Outbuilding shall not exceed 440 square feet, excluding the parking area.

g. Each Principal Building and each Outbuilding containing an accessory Apartment shall have at least one window on each story of a Facade from which its adjacent Public Frontage is visible.

h. Where Rear Alleys or Rear Lanes are present, each Principal Building and each Outbuilding containing an Accessory Apartment or Home Occupation shall have at least one window on the rear elevation, through which a person or vehicle moving through a part of the alley or lane would be visible. This window may look out from any room type. CCTV surveillance may substitute for this requirement by Conditional Use.

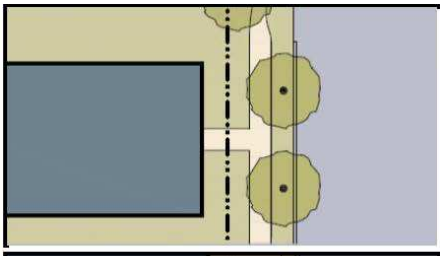
i. In the absence of securable windows, Barrier Plants shall be planted below windows to ground floor Common Rooms, extending at least twelve (12) inches to each side of a window but no higher than its sill. Vegetation shall not hinder the egress requirements for emergency exit from sleeping areas.

j. Outbuildings shall be lockable.

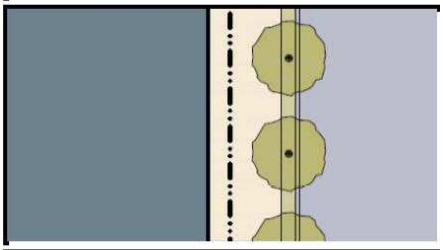
PUBLIC FRONTAGE

a. Public Frontages shall be designed as shown in the diagram below and allocated within the Transect Zones.

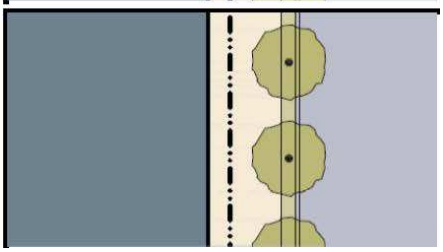
(ST) For Street: This Frontage has raised Curbs drained by inlets and Sidewalks separated from the vehicular lanes by individual or continuous Planters, with parking on one or both sides. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee, with the exception that Streets with a right-of-way (R.O.W.) width of 40 feet or less are exempt from tree requirements.



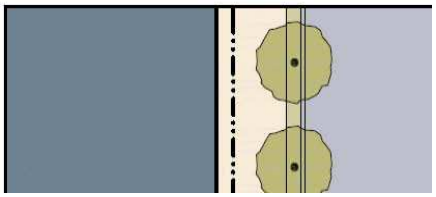
(DR) For Drive: This Frontage has raised Curbs drained by inlets and a wide Sidewalk or paved path along one side, related to a Greenway or waterfront. It is separated from the vehicular lanes by individual or continuous Planters. The landscaping consists of street trees of a single species or alternating species aligned in a regularly spaced Allee.



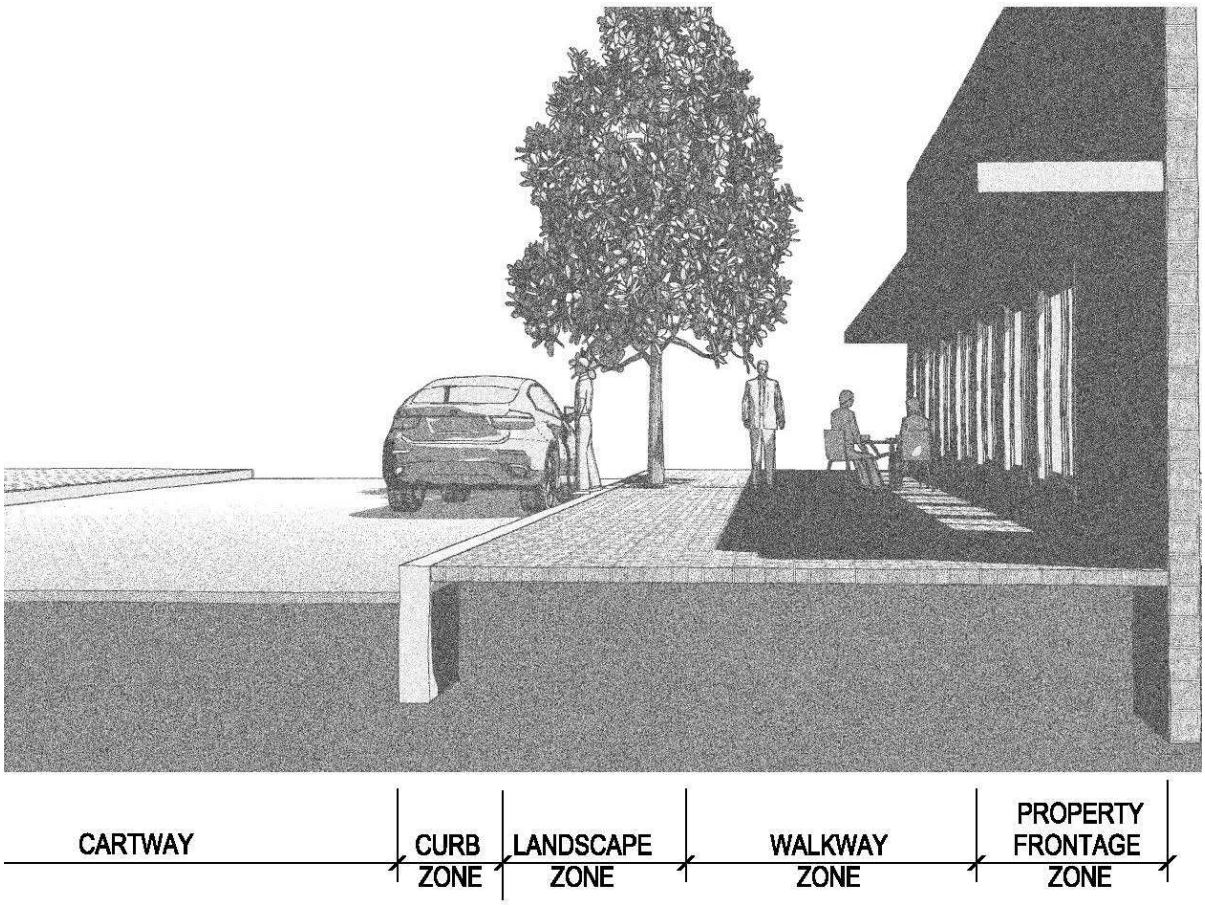
(AV) For Avenue: This Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the vehicular lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced Allee.



(BV) For Boulevard: this Frontage has slip Roads on both sides. It consists of raised Curbs drained by inlets and Sidewalks along both sides, separated from the vehicular lanes by Planters. The landscaping consists of double rows of a single tree species aligned in a regularly spaced Allee.



b. The Public Frontage shall consist of 4 zones: the Property Frontage Zone, the Walkway Zone, the Landscape Zone and the Curb Zone

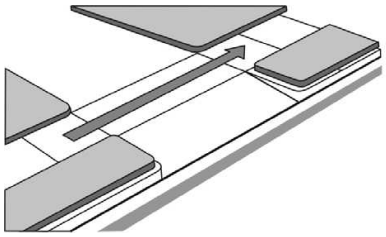


c. The Property Frontage Zone is the area immediately adjacent to the property line.

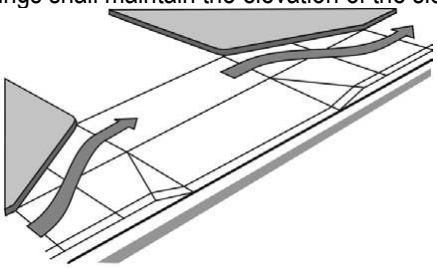
1. The Property Frontage Zone shall not be considered in the Walkway Zone width.
2. Private furnishings (tables, chairs, portable signage and displays) are permitted in the Property Frontage Zone.
3. Overhanging elements shall provide a minimum clearance of 80 inches.

d. The Walkway Zone is the area between the Property Frontage Zone and the Landscape Zone intended for pedestrian travel only.

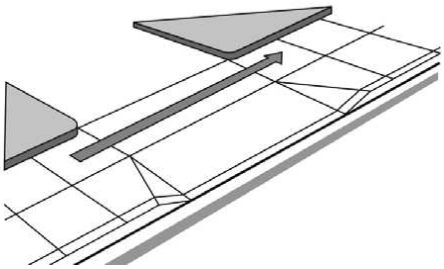
1. The area shall be clear of obstacles and constructed with a smooth walking surface.
2. Running slopes shall not exceed the grade of the adjacent street. Cross slopes shall not exceed 2%includeing driveways. Steeper driveway slopes are permitted in the landscape and curb zone.



3. Driveway crossings shall maintain the elevation of the sidewalk



4. Driveways aprons shall not extend into the clear pedestrian travel path (5' min).



5. Walkway Zones shall be of sufficient width to accommodate expected pedestrian volume surges without impeding the free movement of pedestrians walking along the zone.

e. The Landscape Zone is the area between the Walkway Zone and the Curb Zone intended to serve as a buffer between the Walkway Zone and the vehicle traveled Cartway

1. Street trees, planting strips, planters, transit shelters, street furniture, utility/traffic/telephone poles, bike racks, etc. shall be located within this zone and completely outside of the Walkway zone.
2. Furnishings and other Landscape Zone elements shall not obscure the clear site of the pedestrians and motorists from each other.

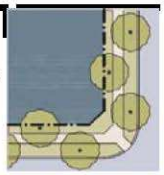
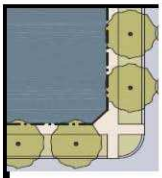
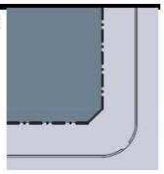
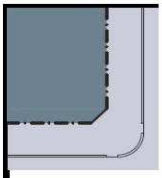
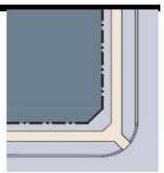
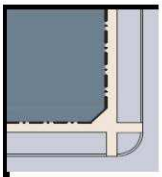
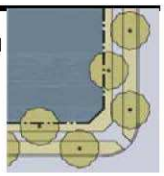
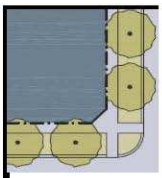
f. The Curb Zone is the transitional area between the Landscape Zone and the vehicle traveled Cartway

1. With the exception of parking meters, this zone shall be kept free of any objects.

g. The Public Frontage Zone minimum dimensions shall be as follows:

STREET TYPE	**ZONE**	**PREDOMINANTLY COMMERCIAL GROUND FLOOR USE**	**PRIMARILY RESIDENTIAL GROUND FLOOR USE**
BOULEVARD (BV) AVENUE (AV)	PROPERTY FRONTAGE	2.5 feet	1.5 feet along façades, tall walls and fences
	WALKWAY	8 feet	8 feet
	LANDSCAPE	7 feet	8 feet
	CURB	2.5 feet/ 4feet at transit stops for the length of the transit stop	2 feet/ 4feet at transit stops for the length of the transit stop
STREET (ST) DRIVE (DR)	PROPERTY FRONTAGE	2.5 feet	1.5 feet along façades, tall walls and fences
	WALKWAY	6 feet	6 feet
	LANDSCAPE	6 feet	8 feet
	CURB	2.5 feet	2 feet

h. Within the Public Frontages, the prescribed types of Public Lighting shall be as shown in the Table below. The spacing may be adjusted by Conditional Use within the limits prescribed below to accommodate specific site conditions. Public Plantings shall be as prescribed in the Public Planting Supplemental Standard SPS4, in Section 3.7 Thoroughfare Stormwater Management, and the landscaping provisions of this Transect Zone.

Public Frontage Type	ST-DR-AV	ST-DR-AV-BV
Assembly: The principal variables are the type and dimension of Curbs, walkways, Planters and landscape.		
Total Width	12-18 feet	12-18 feet
Curb. The detailing of the edge of the vehicular pavement incorporating drainage.		
Type	Raised Curb	Raised Curb
Radius	5-20 feet	5-20 feet
Walkway. The hard surface dedicated exclusively to pedestrian activity.		
Type	Sidewalk	Sidewalk
Width	4-8 feet	4-8 feet
Planter: The layer which accommodates street trees and other landscape materials.		
Arrangement	Regular	Regular
Species	Alternating	Single
Planter Type	Continuous Planter	Continuous Planter
Planter Width	8 feet - 12 feet	8 feet - 12 feet

POST

COLUMN

d. The introduced landscape shall consist primarily of durable species tolerant of soil compaction.

e. The Public Frontage shall include trees planted in a regularly-spaced Allee pattern of single or alternated species with shade canopies of a height that, at maturity, clears at least one Story.

PERMITTED USES

a. Building uses and parking shall conform to the following Tables. Uses that do not conform shall require approval by Conditional Use as specified on the Specific Use Table.

SPECIFIC USE

a. RESIDENTIAL	T4
Mixed Use Block	
Flex Building	■
Apartment Building	□
Live/Work Unit	■
Row House	■
Duplex House	■
Courtyard House	■
Sideyard House	■
Cottage	■
House	■
Villa	
Accessory Unit	■

b. LODGING	
Hotel (no room limit)	
Inn (up to 12 rooms)	■
Bed & Breakfast (up to 5 rooms)	■
S.R.O. Hostel	□
School Dormitory	■

c. OFFICE	
Office Building	■
Live/Work Unit	■

d. RETAIL	
Open-Market Building	■
Retail Building	■
Display Gallery	■
Restaurant	■
Kiosk	■
Push Cart	
Liquor Selling Establsihment	
Adult Entertainment	

e. CIVIC	
Bus Shelter	■
Convention Center	
Conference Center	
Exhibition Center	
Fountain or Public Art	■
Library	■
Live Theater	
Movie Theater	
Museum	
Outdoor Auditorium	
Parking Structure	
Passenger Terminal	
Playground	■
Sports Stadium	
Surface Parking Lot	□
Religious Assembly	■

f. OTHER: AGRICULTURE	T4
Grain Storage	
Livestock Pen	
Greenhouse	
Stable	
Kennel	□

f. OTHER: AUTOMOTIVE	
Gasoline	
Automobile Service	
Truck Maintenance	
Drive-Through Facility	
Rest Stop	
Roadside Stand	
Billboard	
Shopping Center	
Shopping Mall	

f. OTHER: CIVIL SUPPORT	
Fire Station	■
Police Station	■
Cemetery	□
Funeral Home	■
Hospital	
Medical Clinic	□

f. OTHER: EDUCATION	
College	
High School	□
Trade School	
Elementary School	■
Other - Childcare Center	■

f. OTHER: INDUSTRIAL	
Heavy Industrial Facility	
Light Industrial Facility	
Truck Depot	
Laboratory Facility	
Water Supply Facility	
Sewer and Waste Facility	
Electric Substation	□
Wireless Transmitter	
Cremation Facility	
Warehouse	
Produce Storage	
Mini-Storage	

■ BY RIGHT

□ CONDITIONAL USE

PARKING FUNCTION

a. RESIDENTIAL	**Limited Residential:** The number of dwellings on each Lot is limited by the requirement of 1.5 parking spaces for each dwelling, a ratio which may be reduced according to the the shared parking standards
b. LODGING	**Limited Lodging:** The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom, up to twelve, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed ten days.
c. OFFICE	**Limited Office:** The building area available for office use on each Lot is limited to the first Story of the Principal Building and/or the Accessory Building, and by the requirement of 3.0 assigned parking places per 1,000 square feet of net office space in addition to the parking requirement for each dwelling.
d. RETAIL	**Limited Retail:** The building area available for Retail use is limited to the first Story of buildings at corner locations, not more than one per Block, and by the requirement of 4.0 assigned parking places per 1,000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store or food service seating no more than 40.
e. CIVIC	Conditional Use
f. OTHER	Conditional Use

b. Accessory Functions of Limited Lodging or Limited Office shall be permitted within an Accessory Building.

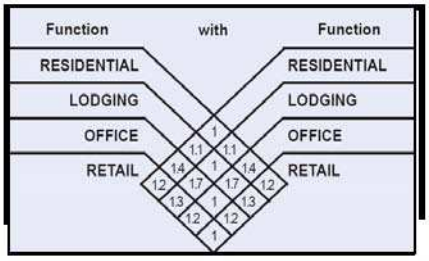
PARKING CALCULATIONS

a. The actual parking required for uses within the lot shall be determined by adding the total number of spaces required by each separate use on the lot and dividing the total by the Shared Parking Factor below

REQUIRED PARKING

T4	
RESIDENTIAL	1.5 / dwelling
LODGING	1.0 / dwelling
OFFICE	3.0 / 1,000 sq.ft.
RETAIL	4.0 / 1,000 sq.ft.

SHARED PARKING FACTOR



Parking for Civic and all other uses shall be determined by Conditional Use.

To ensure enough parking, when three functions share parking, the lowest shared parking factor shall be used

DENSITY

a. Buildable Density on a Lot shall be determined by the sum of the actual parking calculated as that provided (1) within the Lot (2) along the parking lane corresponding to the Lot Frontage, and (3) by purchase or lease from a Civic Parking Reserve within the Pedestrian Shed, if available.

b. The actual parking may be adjusted upward according to the Shared Parking Factor to determine the Effective Parking. The Shared Parking Factor is available for any two Functions within any pair of adjacent Blocks.

c. Based on the Effective Parking available, the Density of the projected Function may be determined according to the Parking Function Table.

d. Within the overlay area of a Transit Oriented Development (TOD) the Effective Parking may be further adjusted upward by 30%.

e. The total Density within each Transect Zone shall not exceed that specified by an approved Regulating Plan based on Article 3.

f. Accessory Units do not count toward Density calculations.

g. Liner Buildings less than 30 feet deep and no more than two Stories shall be exempt from parking requirements.

Bicycle Parking Requirements

a. The amount of short term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required Minimum 2.0 Spaces .05 Spaces / bedroom
OFFICE	Minimum 2.0 Spaces 1.0 / Additional 20,000 Sq. Ft
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 5,000 Sq. Ft.
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft. Minimum 2.0 Spaces 1.0 Additional 15,000 Sq. Ft.
SCHOOL Elementary / High School	 Minimum 2.0 Spaces 1.0 / Additional 20 Students
TRANSIT STATION	10-30% of passengers /day

b. The amount of long term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required Minimum 2.0 Spaces .15 Spaces / bedroom
OFFICE	Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft.
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 15 Employees Minimum 2.0 Spaces 1.0 Additional 20 Employees
SCHOOL Elementary / High School	 Minimum 2.0 Spaces 1.0 / Additional 20 Students
TRANSIT STATION	TBD

Note: A minimum of one bicycle rack place shall be provided within the Public or Private Frontage for every ten vehicular parking spaces.

PARKING LOCATION

a. Parking shall be accessed by Rear Alleys or Rear Lanes, when such are available on the Regulating Plan.

b. Open parking areas shall be masked from the Frontage by a Building or Streetscreen.

c. Parking for large facilities shall not dominate street frontages. Active ground floor uses such as retail and front-office functions and/or architectural treatments that create pedestrian-friendly frontages shall be provided along primary streets. Vehicular access to parking facilities should be provided from secondary streets.

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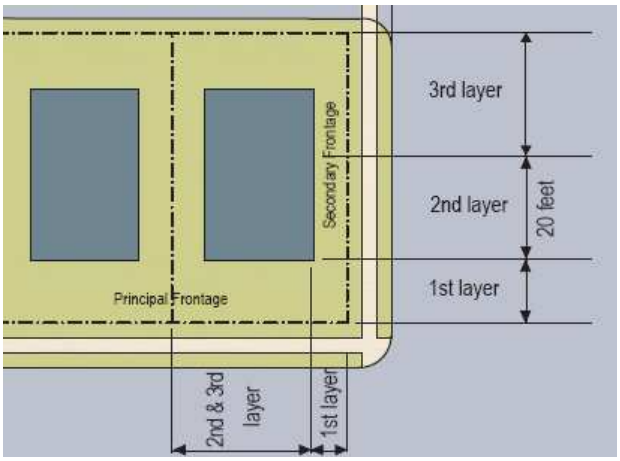


d. Driveways at Frontages shall be no wider than 10 feet in the first Layer.

e. All parking areas and garages shall be located at the second or third Layer.

f. Where shared outdoor parking areas are present, each building shall have at least one window from which the parking lot is visible on each story of the elevation(s) facing the lot. Parking spaces shall be assigned to residents and located close to the resident's unit, but not marked with their unit number. Visitor parking should be designated separately

Bicycle Parking Location Standards

a. Location and type of bicycle parking shall be in accordance with the Supplemental Bicycle Parking Standards SPS-1.

ARCHITECTURAL STANDARDS

a. Building wall materials may be combined on each Facade only horizontally, with the heavier below the lighter. The exterior finish material on all Facades shall be limited to brick, wood siding, cementitious siding and/or stucco

b. All buildings except detached single family houses shall have an expression line delineating the division between the first story and the second story. A cornice shall delineate the tops of the facades. Expression lines and cornices shall either be moldings extending a minimum of 2 inches, or jogs in the surface plane of the building wall greater than 2 inches.

c. Streetscreens shall be constructed of a material matching the adjacent building Facade.

d. All openings, including porches, Galleries, Arcades and windows, with the exception of shopfronts, shall be square or vertical in proportion. Windows shall have visible sills and wide casings to protect end grain of siding material and create shadow lines.

e. Gable eaves shall project a minimum of 12" from the façade face.

f. Applied Mansard roofs are not permitted.

g. Openings above the first Story shall not exceed 50% of the total building wall area, with each Facade being calculated independently.

h. Doors and windows that operate as sliders are prohibited along Frontages.

i. Pitched roofs, if provided, shall be symmetrically sloped no less than 5:12, except that roofs for porches and attached sheds may be no less than 2:12.

j. Flat roofs shall be enclosed by parapets a minimum of 42 inches high, or as required to conceal mechanical equipment to the satisfaction of the CRC.

k. Balconies and porches shall be made of painted wood.

l. Fences at the first Lot Layer shall be painted. Fences at other Layers may be of wood board or chain link.

m. Subsidized housing units shall not be clustered in one area and shall be designed so as not to distinguish their outward appearance from non-subsidized units.

LANDSCAPE STANDARDS

a. Impervious surface shall be confined to the ratio of Lot coverage specified in Table T4, item 'f'

b. Berms are not permitted in the Public Frontage.

c. Trees shall be planted within the first Layer a minimum of 30 feet apart measured to the centerline of the tree along the Frontage Line or portion thereof.

d. Trees shall be a single species to match the species of Street Trees on the Public Frontage, or as shown in the Public Planting Table in Supplemental Standard SPS-4.

e. Structural soil shall be utilized adjacent to tree pits

f. Existing trees may be utilized to meet the landscaping requirements. When existing trees do not meet the requirements, new trees of species appropriate for the region and form appropriate for the Transect Zone shall be planted. See Public Planting Table in Supplemental Standard SPS-4.

g. Trees shall be planted below the grade of the sidewalk and the street in structural cells with sufficient root space.

h. Only trees designated as small trees in the Public Planting Table in Supplemental Standard SPS-4 shall be planted along frontages with buildings greater than 2 stories in height

i. The landscape installed shall consist primarily of durable species tolerant of soil compaction.

j. Planter boxes shall be bottomless, flow-through boxes with native plants, placed next to buildings and designed to capture building runoff. They may be placed in courtyards or adjacent sidewalks with runoff sent to them via French drains or hidden pipes.

k. Rain Gardens and Bioswales shall be installed to infiltrate runoff from parking lots, Thoroughfares, Plazas and other impervious surfaces.

l. Buildings may be equipped with roofs of shallow 4-inch soils and drought tolerant plants. Buildings approved for Intensive Green Roofs may hold soils deeper than 4” and larger plants and trees.

m. Balconies shall be equipped with planter boxes designed to capture runoff from the balcony.

n. Green walls, if provided, shall be restricted to non-invasive species.

o. Cisterns may be used to capture and recirculate stormwater from buildings.

p. The first Layer may not be paved, with the exception of Driveways

q. Native plant perennial landscapes shall replace turf grass where possible and be very diverse. They shall be placed lower than walkways, not mounded up.

r. Lawn shall be permitted By Right.

s. A landscaping plan shall be prepared by a registered landscape architect and submitted for review and approval.

SIGNAGE STANDARDS

a. There shall be no signage permitted additional to that specified in Supplemental Standard SPS 5 Signage.
b. The address number, no more than 6 inches measured vertically, shall be attached to the building in proximity to the Principal Entrance or at a mailbox
c. One blade sign for each business may be permanently installed perpendicular to the Facade within the first Layer. Such a sign shall not exceed a total of 4 square feet and shall clear 8 feet above the Sidewalk.
d. Signage shall be externally illuminated, except that signage within the Shopfront glazing may be neon lit

SUSTAINABILITY

a. The base densities for this transect shall be increased with the incorporation of the following sustainable elements:

Use of 100% recyclable low emissive glass technology that does not contain metal coatings with a maximum transparency up to 79%, SHGC< .35% (heat transfer reduction up to 70%, minimum 97% reduction in UV ad IR. +2 dwelling units

Use of Solar powered glass curtain wall systems utilizing PV-windows, PV walls and PV rooftops combined with time shift energy storage and management systems converting building surfaces and grounds into a power plant. +1 dwelling units for each PV element for up to +3 dwelling units

Use of water from air extraction and magnetic filtration/purification systems capable of generating 25-120 liters of capacity per day +1 dwelling units

Use of anti-germ, antimold, anti-odor, anti-VOC self-cleaning nano-technology with an efficiency rating of 100% +1 dwelling units

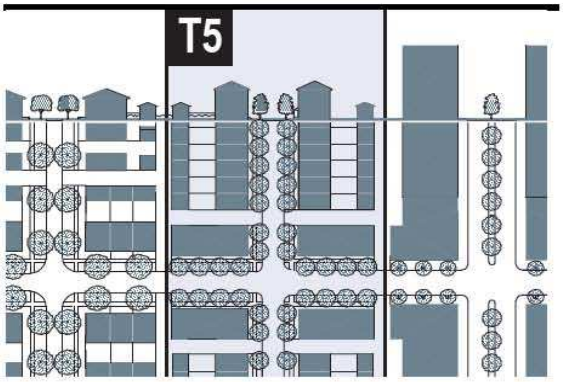
The increases are cumulative for a maximum increase of up to 7 dwelling units per acre.

T-4C STANDARDS

Properties located in zones with "c" designations shall be developed in conformance with this section. Prior to development of a property within such a designated "c" zone, the Community Development Plan for such zone shall be subject to Conditional Use approval by Bensalem Township Council. Only upon approval of the Community Development Plan will a plan for development of any particular property be considered, in accordance with this Regulating Code.

T-5
TOWN CENTER

TABLE T5



I. BUILDING FUNCTION

Residential	open use
Lodging	open use
Office	open use
Retail	open use

k. BUILDING CONFIGURATION

Principal Building	5 stories max., 2 min.
Outbuilding	2 stories max.

f. LOT OCCUPATION

Lot Width	18 ft. min., 180 ft. max.
Lot Coverage	80% max.

i. BUILDING DISPOSITION

Edgeyard	not permitted
Sideyard	permitted
Rearyard	permitted
Courtyard	permitted

g. SETBACKS - PRINCIPAL BUILDING

(g.1) Front Setback Principal	2 ft. min., 12 ft. max.
(g.2) Front Setback Secondary	2 ft. min., 12 ft. max.
(g.3) Side Setback	0 ft. min., 24 ft. max.
(g.4) Rear Setback	3 ft. min.*
Frontage Buildout	80% min. at setback

h. SETBACKS - OUTBUILDING

(h.1) Front Setback Principal	40 ft. max. from rear prop.
(h.2) Front Setback Secondary	0 ft. min. or 2 ft. at corner
(h.3) Side Setback	3 ft. max.

j. PRIVATE FRONTAGES

Common Lawn	not permitted
Porch & Fence	not permitted
Terrace or Lightwell	permitted
Forecourt	permitted
Stoop	permitted
Shopfront & Awning	permitted
Gallery	permitted
Arcade	permitted

PARKING PROVISIONS

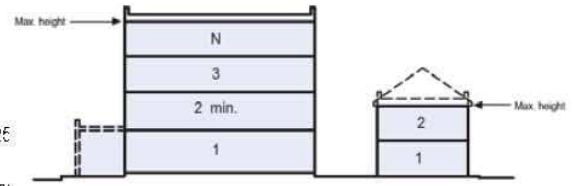
(see parking for transect)

* or 15 feet from center line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

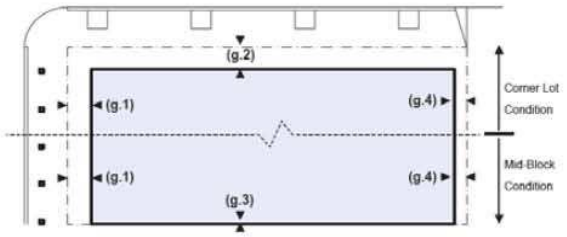
BUILDING CONFIGURATION

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minumum of 11 ft with a maximum of 25 feet.
3. Height shall be measured to the eave or roof deck
4. Expression Lines shall be provided as per the building configuration requirements



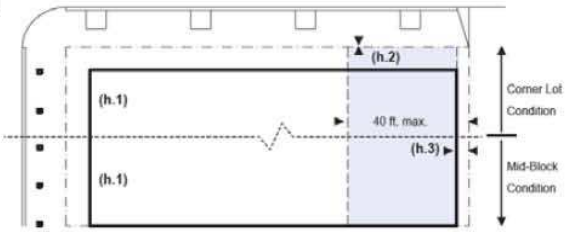
SETBACKS - PRINCIPAL BLDG.

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



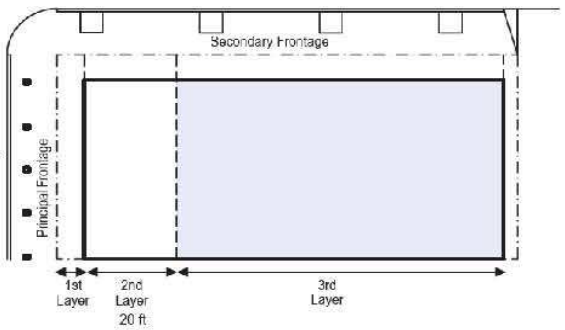
SETBACKS - OUTBUILDING

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.



PARKING PLACEMENT

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram
2. Covered parking shall be provided within the third Layer as shown in the diagram.
3. Trash containers shall be stored within the third Layer.



BUILDING DISPOSITION

a. Lot width and coverage shall be according to the Table T5 item 'f '.

b. Buildings shall be located in relation to the boundaries of their Lots according to Table T5 items 'g' and 'h'. In the case of an Infill Lot, Setbacks shall match one of the existing adjacent Setbacks. Setbacks may otherwise be adjusted by Conditional Use.

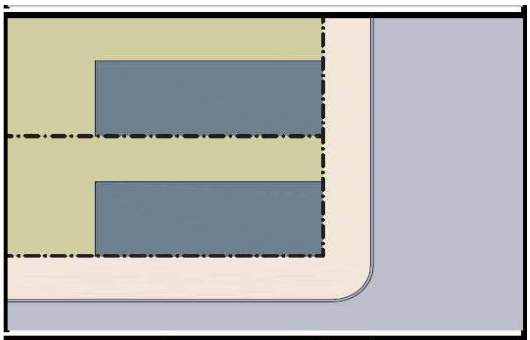
c. Facades shall be built parallel to a rectilinear Principal Frontage Line or to the tangent of a curved Principal Frontage Line, and along a minimum percentage of the Frontage width at the Setback, as specified as Frontage Build-out on Table T5 item 'g'.

d. Rear Setbacks for Outbuildings shall be a minimum of 12 feet measured from the centerline of the Rear Alley or Rear Lane easement. In the absence of Rear Alley or Rear Lane, the rear Setback shall be as shown in Table T5 item 'h'.

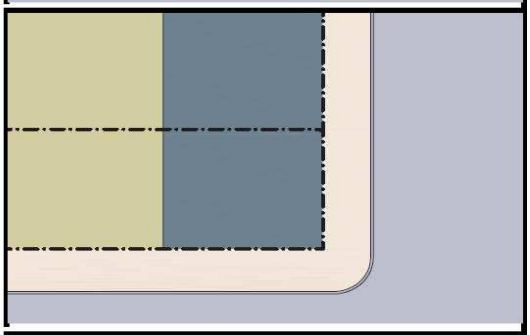
e. To accommodate slopes over ten percent, relief from front Setback requirements is available by Conditional Use.

f. Building Disposition types shall be as shown below. This diagram approximates the location of the structure relative to the boundaries of each Individual lot, establishing suitable basic building types.

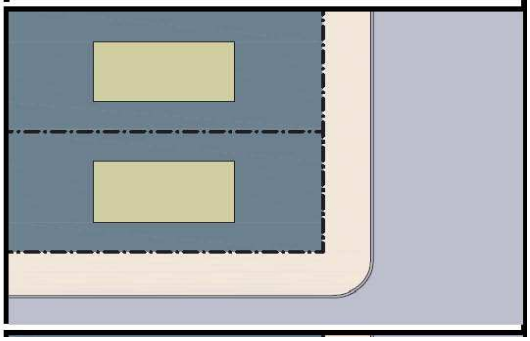
b. Sideyard: A building that occupies one side of the Lot with the Setback to the other side. A shallow Frontage Setback defines a more urban condition. If the adjacent building is similar with a blank side wall, the yard can be quite private. This type permits systematic climatic orientation in response to the sun or the breeze. If a Sideyard House abuts a neighboring Sideyard House, the type is known as a Twin or double house. Energy costs, and sometimes noise, are reduced by sharing a party wall in this disposition.



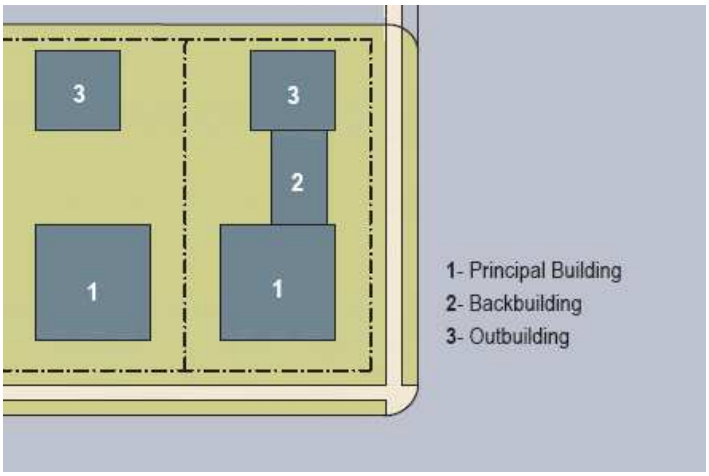
c. Rearyard: A building that occupies the full Frontage, leaving the rear of the Lot as the sole yard. This is a very urban type as the continuous Facade steadily defines the public Thoroughfare. The rear Elevations may be articulated for functional purposes. In its Residential form, this type is the Rowhouse. For its Commercial form, the rear yard can accommodate substantial parking.



d. Courtyard: A building that occupies the boundaries of its Lot while internally defining one or more private patios. This is the most urban of types, as it is able to shield the private realm from all sides while strongly defining the public Thoroughfare. Because of its ability to accomodate incompatible activities, masking them from all sides, it is recommended for workshops, Lodging and schools. The high security provided by the continuous enclosure is useful for crime-prone areas.



g. One Principal Building at the Frontage, and one Outbuilding to the rear of the Principal Building, may be built on each Lot as shown below



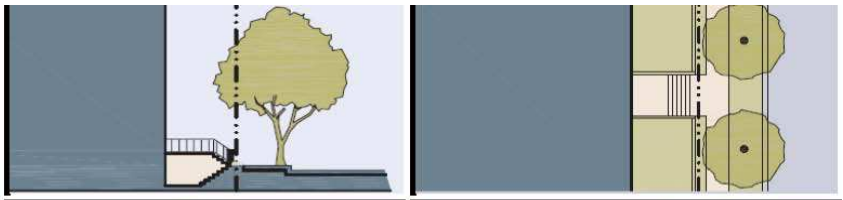
h. **Specific to Multi-Unit Residential and Mixed-use buildings**

1. Property owners shall address Territoriality, Access Control, Natural Surveillance, Activity Support, and Image, as provided in Section 5.5 Public Safety.
2. Crime prevention methods should not conflict with Section 1.3 Intent.
3. Recreation areas such as pools, tennis courts, clubhouses and playgrounds shall be visible from one or more of the windows of the buildings

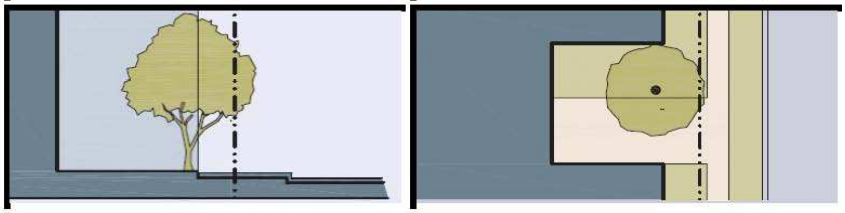
BUILDING CONFIGURATION

a. The Private Frontage of buildings shall conform to and be allocated in accordance with Table T5 item 'j' and the table below

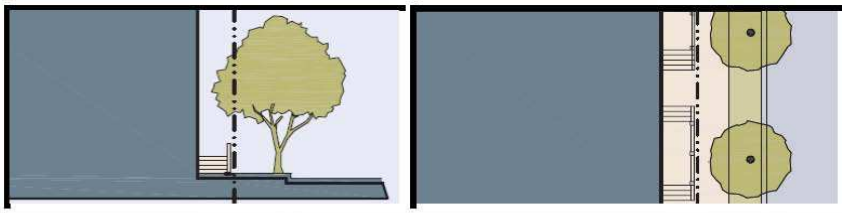
c. **Terrace or Lightwell:** a frontage wherein the Façade is setback back from the Frontage Line by an elevated terrace or sunken Lightwell. This type buffers Residential use from urban Sidewalks and removes the private yard from public encroachment. Terraces are suitable for conversion to outdoor cafes. Syn: **Dooryard**.



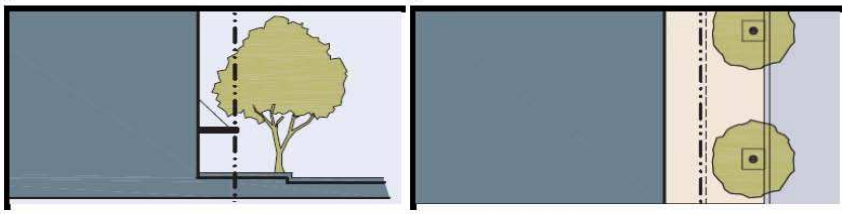
d. **Forecourt:** a Frontage wherein the Façade is close to the Frontage Line and the central portion is set back. The forecourt created is suitable for vehicular drop-offs. This type should be allocated in conjunction with other Frontage types. Large trees within the Forecourts may overhang the Sidewalks.



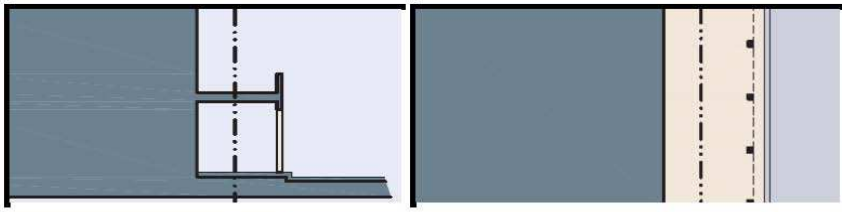
e. **Stoop:** a Frontage wherein the Façade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk sufficiently to ensure privacy for the windows. The entrance is usually an exterior stair and landing. This type is recommended for ground-floor Residential use.



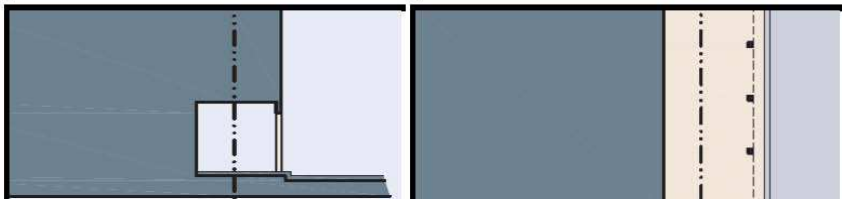
f. **Shopfront:** a Frontage wherein the Façade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. This type is conventional for Retail use. It has substantial glazing on the Sidewalk level and an awning that should overlap the Sidewalk to within 2 feet of the Curb. Syn: **Retail Frontage**.



g. **Gallery:** a Frontage wherein the Façade is aligned with the Frontage Line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk. This type is conventional for Retail use. The Gallery should be no less than 10 feet wide and should overlap the sidewalk to within 2 feet of the Curb.

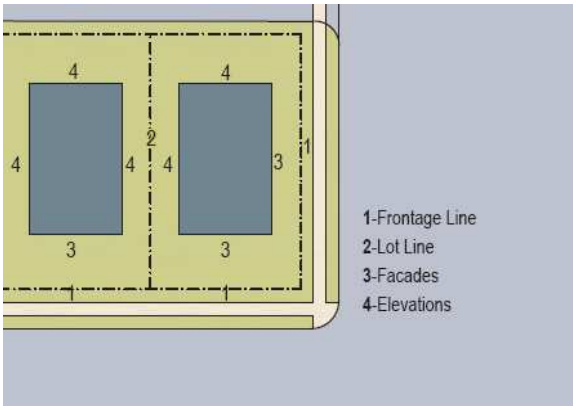


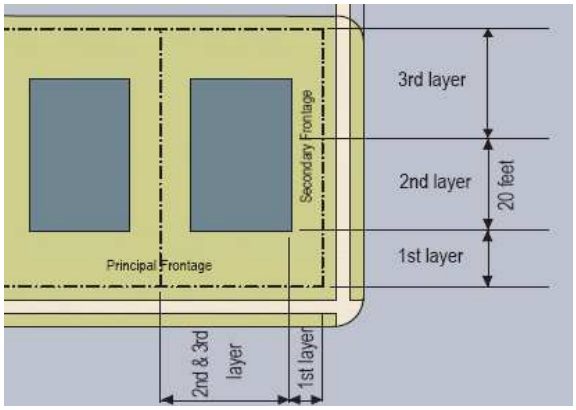
h. **Arcade:** a collonade supporting habitable space that overlaps the Sidewalk, while the Façade at Sidewalk level remains at or behind the Frontage Line. This type is conventional for Retail use. The Arcade shall be no less than 12 feet wide and should overlap the Sidewalk to within 2 feet of the Curb. See Table 8.



b. Buildings on corner Lots shall have two Private Frontages as shown below. Requirements for the second and third Layers pertain only to the Principal Frontage. Requirements for the first Layer pertain to both Frontages.

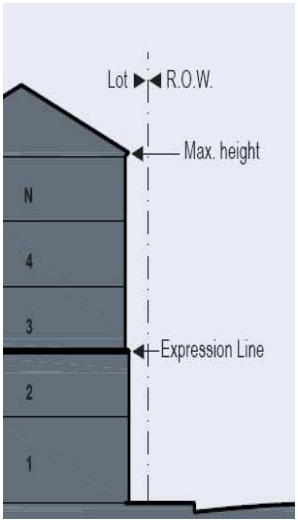
Stoops, Lightwells, balconies, bay windows, and terraces may Encroach the first Layer 100% of its depth.

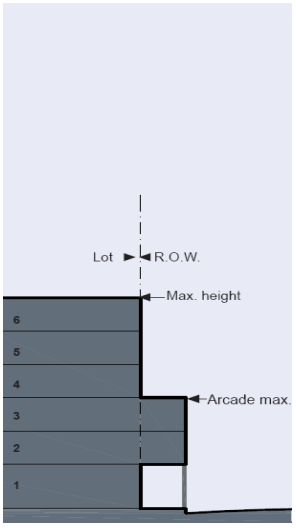




c. All Facades shall be glazed with clear glass no less than 40% of the first Story. Retail Frontage requires a Shopfront at Sidewalk level along the entire length of its Private Frontage. The Shopfront shall be no less than 70% glazed in clear glass and shaded by an awning overlapping the Sidewalk as generally illustrated in the diagram in section 'a' above Building Configuration. The first floor shall be confined to Retail use through the depth of the second Layer. A Gallery Frontage may be combined with a Retail Frontage. The Arcade Frontage may be combined with a Retail Frontage.

d. Building heights, Stepbacks, and Extension Lines shall conform to the diagrams below and Table T5 item 'j'. Maximum Encroachment heights (Extension Lines) for Arcades shall be as shown below. Awnings, Arcades, and Galleries may Encroach the Sidewalk to within 2 feet of the Curb but must clear the Sidewalk vertically by at least 8 feet.



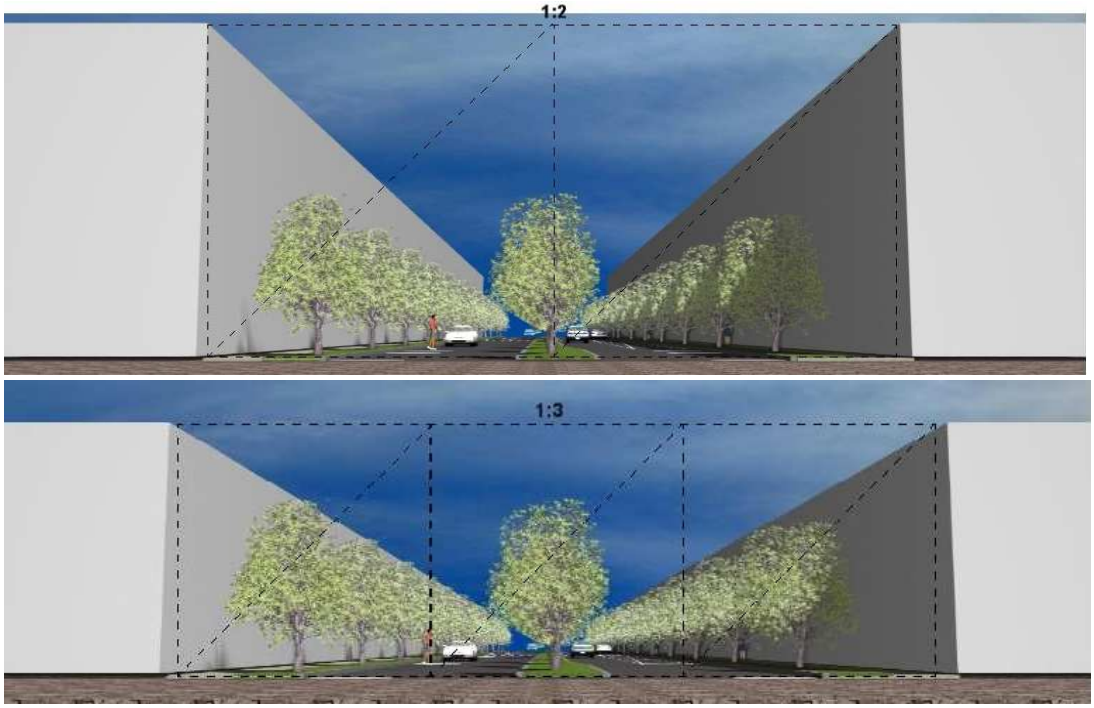


e. Stories and attics may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial Function, which shall be a minimum of 11 feet with a maximum of 25 feet. A single floor level exceeding 14 feet, or 25 feet at ground level, shall be counted as two (2) stories. Mezzanines extending beyond 33% of the floor area shall be counted as an additional Story.

f. In a Parking Structure or garage, each above-ground level counts as a single Story regardless of its relationship to habitable Stories.

g. Height limits do not apply to raised basements, masts, belfries, clock towers, chimney flues, water tanks, or elevator bulkheads.

h. The ratio of building height to Thoroughfare width shall be between 1:2 and 1:3.



I. The habitable area of an Accessory Unit within a Principal Building or an Outbuilding shall not exceed 440 square feet, excluding the parking area.

j. Each Principal Building and each Outbuilding containing an accessory Apartment shall have at least one window on each story of a Facade from which its adjacent Public Frontage is visible.

k. Where Rear Alleys or Rear Lanes are present, each Principal Building and each Outbuilding containing an accessory Apartment or home occupation shall have at least one window on the rear elevation, through which a person or vehicle moving through a part of the alley or lane would be visible. This window may look out from any room type. CCTV surveillance may substitute for this requirement by Conditional Use.

l. In the absence of securable windows, Barrier Plants shall be planted below windows to ground floor Common Rooms, extending at least twelve (12) inches to each side of a window but no higher than its sill. Vegetation shall not hinder the egress requirements for emergency exit from sleeping areas.

m. Outbuildings shall be lockable.

n. Loading docks and service areas shall be permitted on Frontages only by Conditional Use.

o. In the absence of a building Facade along any part of a Frontage Line, a Streetscreen shall be built co-planar with the Facade.

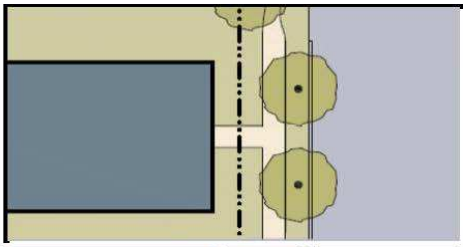
p. Streetscreens shall be between 3.5 and 8 feet in height. The Streetscreen may be replaced by a hedge or fence by Conditional Use. Streetscreens shall have openings no larger than necessary to allow automobile and pedestrian access.

q. A first level Residential or Lodging Function shall be raised a minimum of 2 feet from average Sidewalk grade

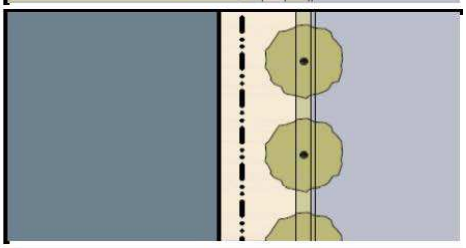
PUBLIC FRONTAGE

a. Public Frontages shall be designed as shown in the diagram below and allocated within the Transect Zones.

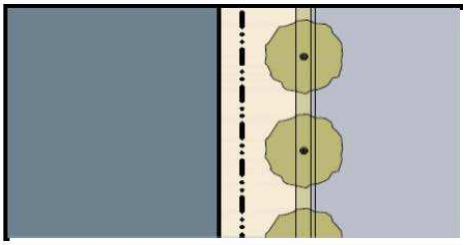
(ST) For Street: This Frontage has raised Curbs drained by inlets and Sidewalks separated from the vehicular lanes by individual or continuous Planters, with parking on one or both sides. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee, with the exception that Streets with a right-of-way (R.O.W.) width of 40 feet or less are exempt from tree requirements.



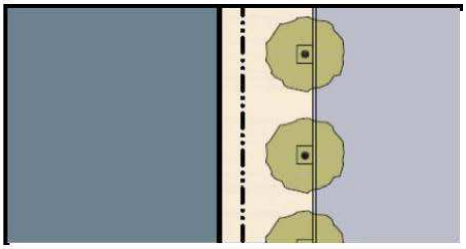
(DR) For Drive: This Frontage has raised Curbs drained by inlets and a wide Sidewalk or paved path along one side, related to a Greenway or waterfront. It is separated from the vehicular lanes by individual or continuous Planters. The landscaping consists of street trees of a single species or alternating species aligned in a regularly spaced Allee.



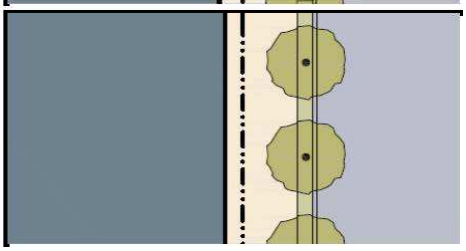
(AV) For Avenue: This Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the vehicular lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced Allee.



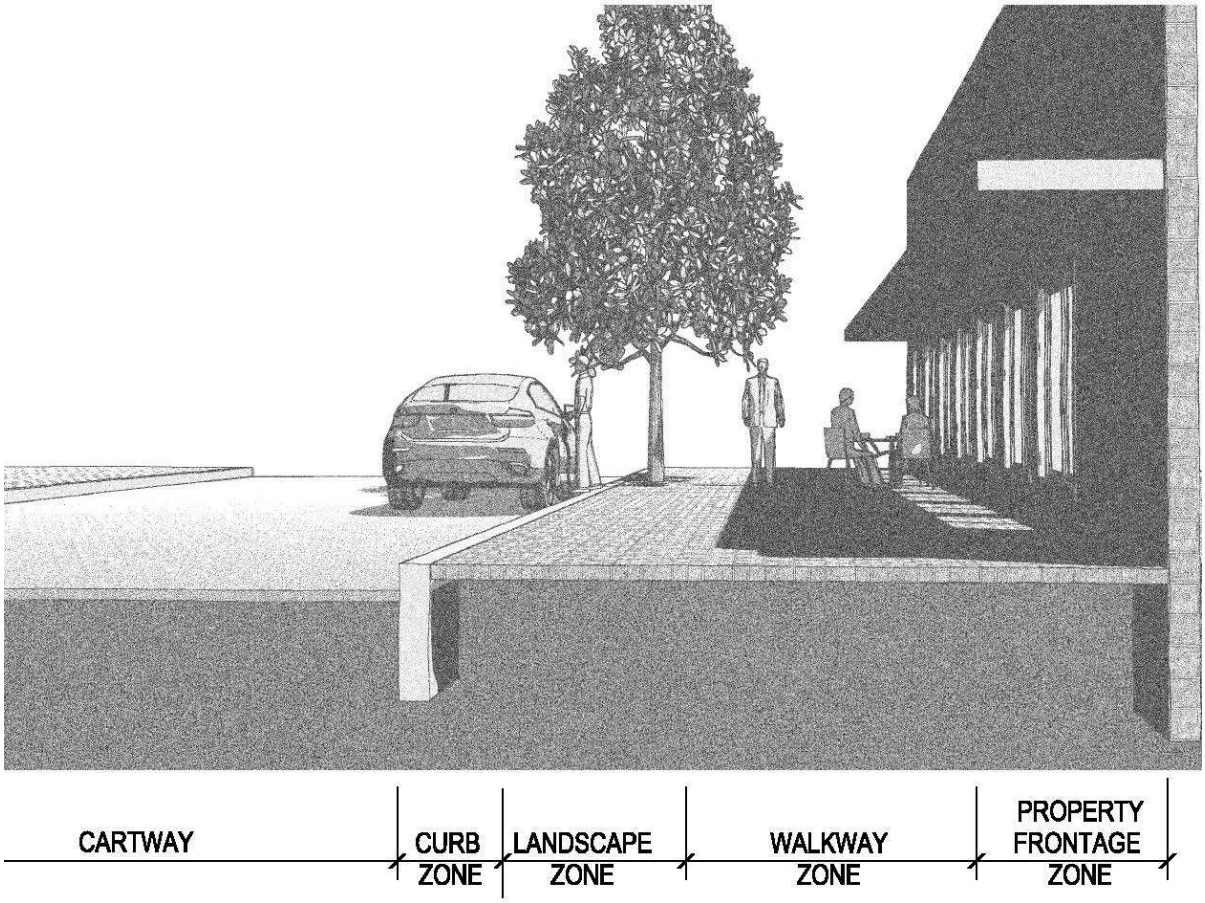
(CS) (AV) For Commercial Street or Avenue: This Frontage has raised Curbs drained by inlets and very wide Sidewalks along both sides separated from the vehicular lanes by separate tree wells with grates and parking on both sides. The landscaping consists of a single tree species aligned with regular spacing where possible but clears the storefront entrances.



(BV) For Boulevard: this Frontage has slip Roads on both sides. It consists of raised Curbs drained by inlets and Sidewalks along both sides, separated from the vehicular lanes by Planters. The landscaping consists of double rows of a single tree species aligned in a regularly spaced Allee.



b. The Public Frontage shall consist of 4 zones: the Property Frontage zone, the walkway zone, the landscape zone and the curb zone

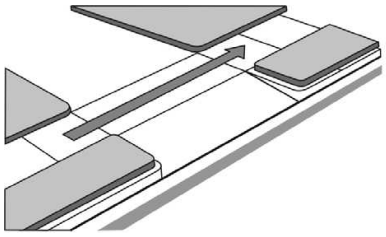


c. The Property Frontage Zone is the area immediately adjacent to the property line.

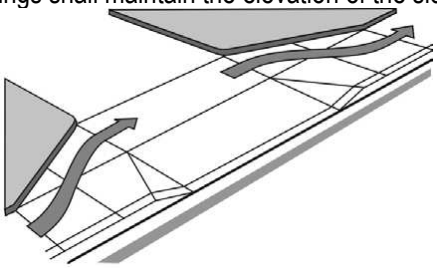
1. The Property Frontage Zone shall not be considered in the Walkway Zone width.
2. Private furnishings (tables, chairs, portable signage and displays) are permitted in the Property Frontage Zone.
3. Overhanging elements shall provide a minimum clearance of 80 inches.

d. The Walkway Zone is the area between the Property Frontage Zone and the Landscape Zone intended for pedestrian travel only.

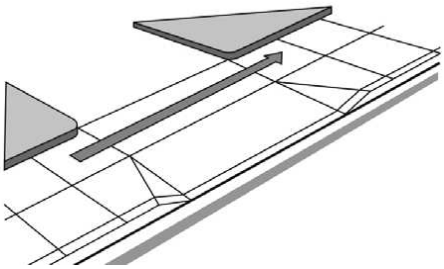
1. The area shall be clear of obstacles and constructed with a smooth walking surface.
2. Running slopes shall not exceed the grade of the adjacent street. Cross slopes shall not exceed 2%including driveways. Steeper driveway slopes are permitted in the landscape and curb zone.



3. Driveway crossings shall maintain the elevation of the sidewalk



4. Driveways aprons shall not extend into the clear pedestrian travel path (5' min).



5. Walkway Zones shall be of sufficient width to accommodate expected pedestrian volume surges without impeding the free movement of pedestrians walking along the zone.

e. The Landscape Zone is the area between the Walkway Zone and the Curb Zone intended to serve as a buffer between the Walkway Zone and the vehicle traveled Cartway

1. Street trees, planting strips, planters, transit shelters, street furniture, utility/traffic/telephone poles, bike racks, etc. shall be located within this zone and completely outside of the Walkway zone.
2. Furnishings and other Landscape Zone elements shall not obscure the clear site of the pedestrians and motorists from each other.

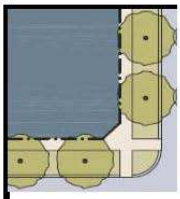
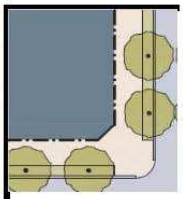
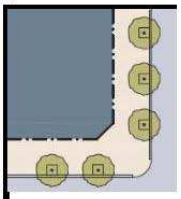
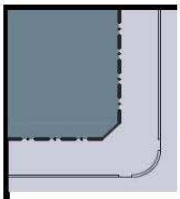
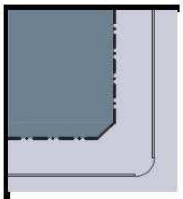
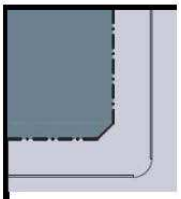
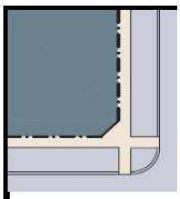
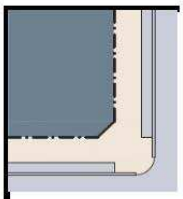
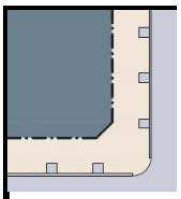
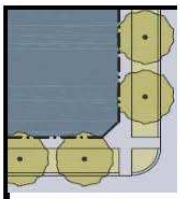
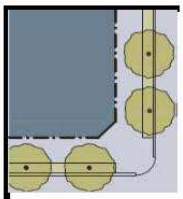
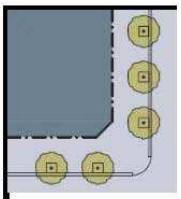
f. The Curb Zone is the transitional area between the Landscape Zone and the vehicle traveled Cartway

1. With the exception of parking meters, this zone shall be kept free of any objects.

g. The Public Frontage Zone minimum dimensions shall be as follows:

STREET TYPE	**ZONE**	**PREDOMINANTLY COMMERCIAL GROUND FLOOR USE**	**PRIMARILY RESIDENTIAL GROUND FLOOR USE**
BOULEVARD (BV) AVENUE (AV) COMMERCIAL STREET (CS)	PROPERTY FRONTAGE	3 feet	3 feet
	WALKWAY	10 feet	10 feet
	LANDSCAPE	7 feet	7 feet
	CURB	3 feet/ 4feet at transit stops for the length of the transit stop	3 feet/ 4feet at transit stops for the length of the transit stop
STREET (ST) DRIVE (DR)	PROPERTY FRONTAGE	3 feet	3 feet along façades, tall walls and fences
	WALKWAY	9 feet	9 feet
	LANDSCAPE	6 feet	6 feet
	CURB	2.5 feet	2.5 feet

h. Within the Public Frontages, the prescribed types of Public Lighting shall be as shown in the Table below. The spacing may be adjusted by Conditional Use within the limits prescribed below to accommodate specific site conditions. Public Plantings shall be as prescribed in the Supplemental Standard SPS-4 Public Planting Standard, in Section 3.7 Thoroughfare Stormwater Management, and the landscaping provisions of this Transect Zone.

Public Frontage Type	ST-DR-AV-BV	CS-DR-AV-BV	CS-DR-AV-BV
Assembly: The principal variables are the type and dimension of Curbs, walkways, Planters and landscape.			
Total Width	12-18 feet	18-24 feet	18-30 feet
Curb. The detailing of the edge of the vehicular pavement incorporating drainage.			
Type	Raised Curb	Raised Curb	Raised Curb
Radius	5-20 feet	5-20 feet	5-20 feet
Walkway. The hard surface dedicated exclusively to pedestrian activity.			
Type	Sidewalk	Sidewalk	Sidewalk
Width	4-8 feet	12-20 feet	12-30 feet
Planter: The layer which accommodates street trees and other landscape materials.			
Arrangement	Regular	Regular	Opportunistic
Species	Single	Single	Single
Planter Type	Continuous Planter	Continuous Planter	Tree Well
Planter Width	8 feet - 12 feet	4 feet - 6 feet	4 feet - 6 feet

DOUBLE COLUMN

i. The introduced landscape shall consist primarily of durable species tolerant of soil compaction.

j. The Public Frontage shall include trees planted in a regularly-spaced Allee pattern of single species with shade canopies of a height that, at maturity, clears at least one Story. At Retail Frontages, the spacing of the trees may be irregular, to avoid visually obscuring the shopfronts.

f. Streets with a Right-of-Way width of 40 feet or less shall be exempt from the tree requirement.

PERMITTED USES

a. Building uses and parking shall conform to the following Tables. Uses that do not conform shall require approval by Conditional Use as specified on the Specific Use Table

SPECIFIC USES

a. RESIDENTIAL	T5
Mixed Use Block	■
Flex Building	■
Apartment Building	□
Live/Work Unit	■
Row House	■
Duplex House	■
Courtyard House	■
Sideyard House	■
Cottage	
House	
Villa	
Accessory Unit	■

b. LODGING	
Hotel (no room limit)	■
Inn (up to 12 rooms)	■
Bed & Breakfast (up to 5 rooms)	■
S.R.O. Hostel	□
School Dormitory	■

c. OFFICE	
Office Building	■
Live/Work Unit	■

d. RETAIL	
Open-Market Building	■
Retail Building	■
Display Gallery	■
Restaurant	■
Kiosk	■
Push Cart	□
Liquor Selling Establsihment	□
Adult Entertainment	

e. CIVIC	
Bus Shelter	■
Convention Center	
Conference Center	□
Exhibition Center	
Fountain or Public Art	■
Library	■
Live Theater	■
Movie Theater	■
Museum	□
Outdoor Auditorium	■
Parking Structure	■
Passenger Terminal	□
Playground	■
Sports Stadium	
Surface Parking Lot	□
Religious Assembly	■

f. OTHER: AGRICULTURE	T5
Grain Storage	
Livestock Pen	
Greenhouse	
Stable	
Kennel	□

f. OTHER: AUTOMOTIVE	
Gasoline	□
Automobile Service	
Truck Maintenance	
Drive-Through Facility	□
Rest Stop	
Roadside Stand	
Billboard	
Shopping Center	
Shopping Mall	

f. OTHER: CIVIL SUPPORT	
Fire Station	■
Police Station	■
Cemetery	
Funeral Home	■
Hospital	□
Medical Clinic	■

f. OTHER: EDUCATION	
College	□
High School	□
Trade School	□
Elementary School	■
Other - Childcare Center	■

f. OTHER: INDUSTRIAL	
Heavy Industrial Facility	
Light Industrial Facility	
Truck Depot	
Laboratory Facility	
Water Supply Facility	
Sewer and Waste Facility	
Electric Substation	□
Wireless Transmitter	
Cremation Facility	
Warehouse	
Produce Storage	
Mini-Storage	

■ BY RIGHT

□ CONDITIONAL USE

PARKING FUNCTION

a. RESIDENTIAL	**Open Residential:** The number of dwellings on each Lot is limited by the requirement of 1.0 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards
b. LODGING	**Open Lodging:** The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom. Food service may be provided at all times. The area allocated for food service shall be calculated with parking according to Retail Function.
c. OFFICE	**Open Office:** The building area available for office use on each Lot is limited by the requirement of 2.0 assigned parking places per 1,000 square feet of net office space.
d. RETAIL	**Open Retail:** The building area available for Retail use is limited by the requirement of 3.0 assigned parking places per 1,000 square feet of net Retail space. Retail spaces under 1,500 square feet are exempt from parking requirements.
e. CIVIC	Conditional use
f. OTHER	Conditional use

b. Accessory Functions of Limited Lodging or Limited Office shall be permitted within an Accessory Building

c. First Story Commercial Functions shall be permitted.

d. Manufacturing Functions within the first Story may be permitted by Variance.

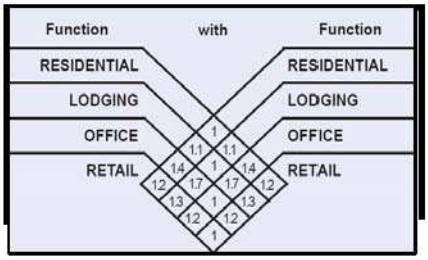
PARKING CALCULATIONS

a. The actual parking required for uses within the lot shall be determined by adding the total number of spaces required by each separate use on the lot and dividing the total by the Shared Parking Factor below

REQUIRED PARKING

	T5
RESIDENTIAL	1.0 / dwelling
LODGING	1.0 / dwelling
OFFICE	2.0 / 1,000 sq.ft.
RETAIL	3.0 / 1,000 sq.ft.

SHARED PARKING FACTOR



Parking for Civic and all other uses shall be determined by Conditional Use.

To ensure enough parking, when three functions share parking, the lowest shared parking factor shall be used

DENSITY

a. Buildable Density on a Lot shall be determined by the sum of the actual parking calculated as that provided (1) within the Lot (2) along the parking lane corresponding to the Lot Frontage, and (3) by purchase or lease from a Civic Parking Reserve within the Pedestrian Shed, if available.

b. The actual parking may be adjusted upward according to the Shared Parking Factor Table to determine the Effective Parking. The Shared Parking Factor is available for any two Functions within any pair of adjacent Blocks.

c. Based on the Effective Parking available, the Density of the projected Function may be determined according to the Parking Function Table.

d. Within the overlay area of a Transit Oriented Development (TOD) the Effective Parking may be further adjusted upward by 30%.

e. The total Density within each Transect Zone shall not exceed that specified by an approved Regulating Plan based on Article 3.

f. Accessory Units do not count toward Density calculations.

g. Liner Buildings less than 30 feet deep and no more than two Stories shall be exempt from parking requirements.

Bicycle Parking Requirements

a. The amount of short term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required Minimum 2.0 Spaces .1 spaces /bedroom
OFFICE	Minimum 2.0 Spaces 1.0 / Additional 15,000 Sq. Ft.
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 5,000 Sq. Ft.
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft. Minimum 2.0 Spaces 1.0 Additional 20,000 Sq. Ft.
SCHOOL Elementary / High School College	 Minimum 2.0 Spaces 1.0 / Additional 25 Students Minimum 2.0 Spaces 1.0 / Additional 20 Students
TRANSIT STATION	10-30% of passengers /day

b. The amount of long term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required Minimum 2.0 Spaces .2 spaces /bedroom
OFFICE	Minimum 2.0 Spaces 1.5/ Additional 10,000 Sq. Ft.
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft.
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 15 Employees Minimum 2.0 Spaces 1.0 Additional 20 Employees
SCHOOL Elementary / High School College	 Minimum 2.0 Spaces 1.0 / Additional 20 Students Minimum 2.0 Spaces 1.0 / Additional 15 Students
TRANSIT STATION	TBD

Note: A minimum of one bicycle rack place shall be provided within the Public or Private Frontage for every ten vehicular parking spaces.

PARKING LOCATION

a. Parking shall be accessed by Rear Alleys or Rear Lanes, when such are available on the Regulating Plan.

b. Open parking areas shall be masked from the Frontage by a Building or Streetscreen.

c. Parking for large facilities shall not dominate street frontages. Active ground floor uses such as retail and front-office functions and/or architectural treatments that create pedestrian-friendly frontages shall be provided along primary streets. Vehicular access to parking facilities should be provided from secondary streets.

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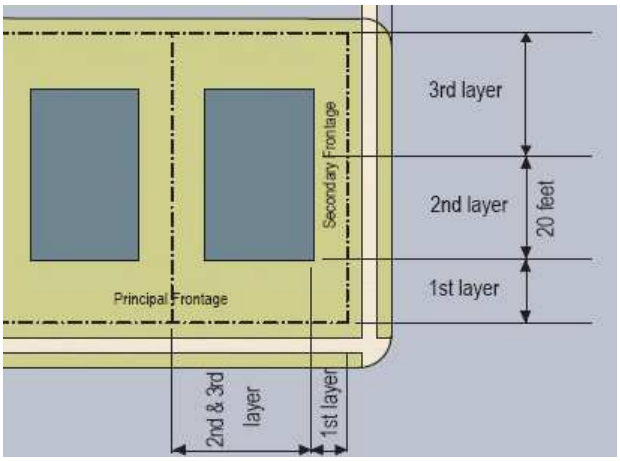


d. Driveways at Frontages shall be no wider than 10 feet in the first Layer.

e. All parking areas and garages shall be located at the second or third Layer.

f. Where shared outdoor parking areas are present, each building shall have at least one window from which the parking lot is visible on each story of the elevation(s) facing the lot. Parking spaces shall be assigned to residents and located close to the resident's unit, but not marked with their unit number. Visitor parking should be designated separately

g. All parking lots, garages, and Parking Structures shall be located at the second or third Layer.

h. Vehicular entrances to parking lots, garages, and Parking Structures shall be no wider than 24 feet at the Frontage.

i. Pedestrian exits from all parking lots, garages, and Parking Structures shall be directly to a Frontage Line (i.e., not directly into a building) except underground levels which may be exited by pedestrians directly into a building.

j. Parking Structures on the A-Grid shall have Liner Buildings lining the first and second Stories.

k. Specific to multi-unit residential and mixed-use buildings

Where shared outdoor parking areas are present, each building shall have at least one window from which the parking lot is visible on each story of the elevation(s) facing the lot. Parking spaces shall be assigned to residents and located close to the resident's unit, but not marked with their unit number. Visitor parking should be designated separately

Bicycle Parking Location Standards

a. Location and type of bicycle parking shall be in accordance with the SPS-1 Supplemental Bicycle Parking Standards.

ARCHITECTURAL STANDARDS

a. Building wall materials may be combined on each Facade only horizontally, with the heavier below the lighter. The exterior finish material on all Facades shall be limited to brick, wood siding, cementitious siding and/or stucco.

b. All buildings except detached single family houses shall have an expression line delineating the division between the first story and the second story. A cornice shall delineate the tops of the facades. Expression lines and cornices shall either be moldings extending a minimum of 2 inches, or jogs in the surface plane of the building wall greater than 2 inches.

c. Streetscreens shall be constructed of a material matching the adjacent building Facade.

d. All openings, including porches, Galleries, Arcades and windows, with the exception of shopfronts, shall be square or vertical in proportion. Windows shall have visible sills and wide casings to protect end grain of siding material and create shadow lines.

e. Gable eaves shall project a minimum of 12" from the façade face.

f. Applied Mansard roofs are not permitted.

g. Openings above the first Story shall not exceed 50% of the total building wall area, with each Facade being calculated independently.

h. Doors and windows that operate as sliders are prohibited along Frontages.

i. Pitched roofs, if provided, shall be symmetrically sloped no less than 5:12, except that roofs for porches and attached sheds may be no less than 2:12.

j. Flat roofs shall be enclosed by parapets a minimum of 42 inches high, or as required to conceal mechanical equipment to the satisfaction of the CRC.

k. Balconies and porches shall be made of painted wood.

l. Fences at the first Lot Layer shall be painted. Fences at other Layers may be of wood board or chain link.

m. Subsidized housing units shall not be clustered in one area and shall be designed so as not to distinguish their outward appearance from non-subsidized units.

LANDSCAPE STANDARDS

a. Impervious surface shall be confined to the ratio of Lot coverage specified in Table T5 item 'f'.

b. Berms are not permitted in the Public Frontage.

c. Trees shall not be required in the first Layer. If trees are provided, such trees shall be planted within the first Layer a minimum of 30 feet apart measured to the centerline of the tree along the Frontage Line or portion thereof.

d. Existing trees may be utilized to meet the landscaping requirements. When existing trees do not meet the requirements, new trees of species appropriate for the region and form appropriate for the Transect Zone shall be planted. See Public Planting Table in Supplemental Standard SPS-4.

e.Trees shall be planted below the grade of the sidewalk and the street in structural cells with sufficient root space.

f. . Only trees designated as small trees in the Public Planting Table in Supplemental Standard SPS-4 shall be planted along frontages with buildings greater than 2 stories in height

g. Structural soil shall be utilized adjacent to tree pits.

h. Buildings may be equipped with roofs of shallow 4-inch soils and drought tolerant plants. Buildings approved for Intensive Green Roofs may hold soils deeper than 4" and larger plants and trees

i. Green walls, if provided, shall be restricted to non-invasive species.

j. Cisterns may be used to capture and recirculate stormwater from buildings.

k. Balconies shall be equipped with planter boxes designed to capture runoff from the balcony.

l. The first Layer may be paved to match the pavement of the Public Frontage.

m. Rain Gardens and Bioswales shall be installed to infiltrate runoff from parking lots, Thoroughfares, Plazas and other impervious surfaces

n. The landscape installed shall consist primarily of durable species tolerant of soil compaction.

o. Planter boxes shall be bottomless, flow-through boxes with native plants, placed next to buildings and designed to capture building runoff. They may be placed in courtyards or adjacent sidewalks with runoff sent to them via French drains or hidden pipes.

p. A landscaping plan shall be prepared by a registered landscape architect and submitted for review and approval.

SIGNAGE STANDARDS

a. There shall be no signage permitted additional to that specified in Supplemental Standard SPS 5 Signage.
b. The address number, no more than 6 inches measured vertically, shall be attached to the building in proximity to the Principal Entrance or at a mailbox
c. Signage shall be externally illuminated, except that signage within the Shopfront glazing may be neon lit
d. Blade signs, not to exceed 6 square ft. for each separate business entrance, may be attached to and shall be perpendicular to the Facade, and shall clear 8 feet above the Sidewalk.
e. A single external permanent sign band may be applied to the Facade of each building, providing that such sign not exceed 3 feet in height by any length.

SUSTAINABILITY

a. The base densities for this transect shall be increased with the incorporation of the following sustainable elements:

Use of 100% recyclable low emissive glass technology that does not contain metal coatings with a maximum transparency up to 79%, SHGC< .35% (heat transfer reduction up to 70%, minimum 97% reduction in UV ad IR. +2 dwelling units

Use of Solar powered glass curtain wall systems utilizing PV-windows, PV walls and PV rooftops combined with time shift energy storage and management systems converting building surfaces and grounds into a power plant. +1 dwelling units for each PV element for up to +3 dwelling units

Use of water from air extraction and magnetic filtration/purification systems capable of generating 25-120 liters of capacity per day +1 dwelling units

Use of anti-germ, antimold, anti-odor, anti-VOC self-cleaning nano-technology with an efficiency rating of 100% +1 dwelling units

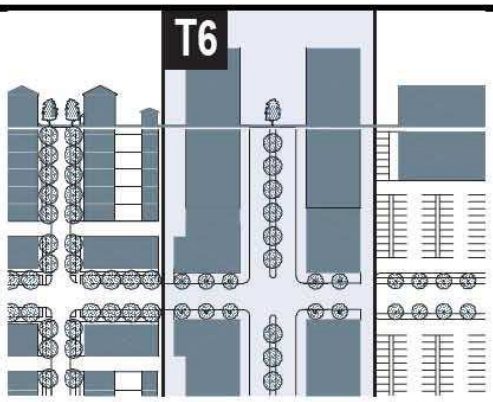
The increases are cumulative for a maximum increase of up to 7 dwelling units per acre.

T-5C STANDARDS

Properties located in zones with "c" designations shall be developed in conformance with this section. Prior to development of a property within such a designated "c" zone, the Community Development Plan for such zone shall be subject to Conditional Use approval by Bensalem Township Council. Only upon approval of the Community Development Plan will a plan for development of any particular property be considered, in accordance with this Regulating Code.

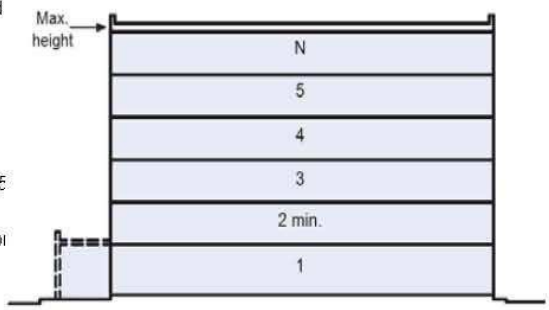
T-6

REGIONAL TECHNOLOGY AND MANUFACTURING CENTER



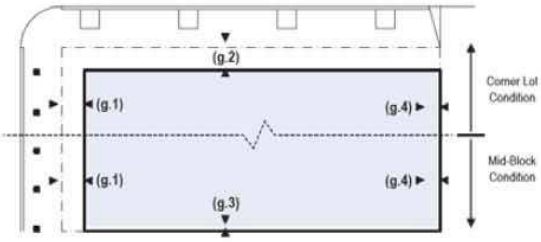
BUILDING CONFIGURATION

1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
2. Stories may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minumum of 11 ft with a maximum of 25 feet.
3. Height shall be measured to the eave or roof deck
4. Stepbacks, Recess Lines, and Extension Lines are required



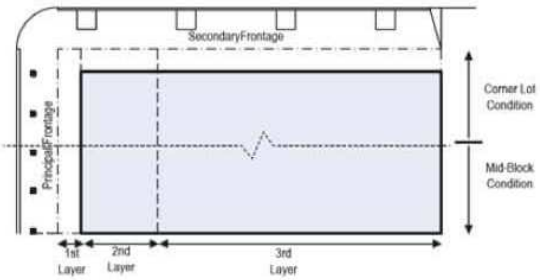
SETBACKS - PRINCIPAL BLDG.

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



PARKING PLACEMENT

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram
2. Covered parking shall be provided within the third Layer as shown in the diagram
3. Trash containers shall be stored within the third Layer.



I. BUILDING FUNCTION

Residential	open use
Lodging	open use
Office	open use
Retail	open use

k. BUILDING CONFIGURATION

Principal Building	8 stories max., 2 min.
Outbuilding	N/A

f. LOT OCCUPATION

Lot Width	18 ft. min., 700 ft. max.
Lot Coverage	90% max.

i. BUILDING DISPOSITION

Edgeyard	not permitted
Sideyard	not permitted
Rearyard	permitted
Courtyard	permitted

g. SETBACKS - PRINCIPAL BUILDING

(g.1) Front Setback Principal	2 ft. min., 12 ft. max.
(g.2) Front Setback Secondary	2 ft. min., 12 ft. max.
(g.3) Side Setback	0 ft. min., 24 ft. max.
(g.4) Rear Setback	0 ft. min.*
Frontage Buildout	80% min. at setback

h. SETBACKS - OUTBUILDING

(h.1) Front Setback Principal	N/A
(h.2) Front Setback Secondary	N/A
(h.3) Side Setback	N/A

j. PRIVATE FRONTAGES

Common Lawn	not permitted
Porch & Fence	not permitted
Terrace or Lightwell	not permitted
Forecourt	permitted
Stoop	permitted
Shopfront & Awning	permitted
Gallery	permitted
Arcade	permitted

PARKING PROVISIONS

* or 15 feet from center line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums.

BUILDING DISPOSITION

a. Lot width and coverage shall be according to the Table T6 item 'f '.

b. Buildings shall be located in relation to the boundaries of their Lots according to Table T6 items 'g' and 'h'. In the case of an Infill Lot, Setbacks shall match one of the existing adjacent Setbacks. Setbacks may otherwise be adjusted by Conditional Use.

c. Facades shall be built parallel to a rectilinear Principal Frontage Line or to the tangent of a curved Principal Frontage Line, and along a minimum percentage of the Frontage width at the Setback, as specified as Frontage Build-out on Table T6 item 'g'.

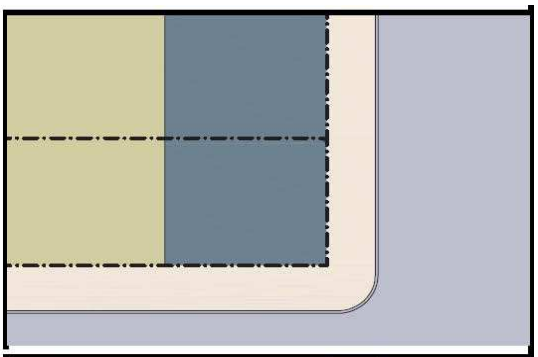
d. Rear Setbacks for Outbuildings shall be a minimum of 12 feet measured from the centerline of the Rear Alley or Rear Lane easement. In the absence of Rear Alley or Rear Lane, the rear Setback shall be as shown in TableT6 item 'h'.

e. To accommodate slopes over ten percent, relief from front Setback requirements is available by Conditional Use.

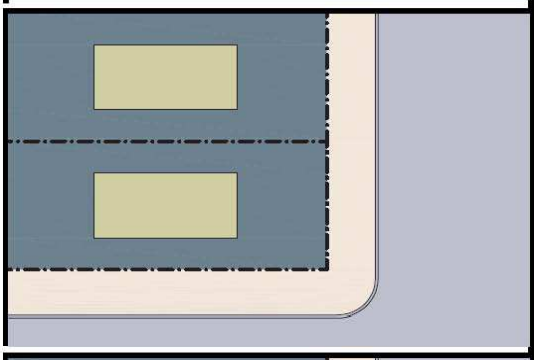
f. The principal entrance shall be on a frontage line.

g. Building Disposition types shall be as shown below. This diagram approximates the location of the structure relative to the boundaries of each Individual lot, establishing suitable basic building type

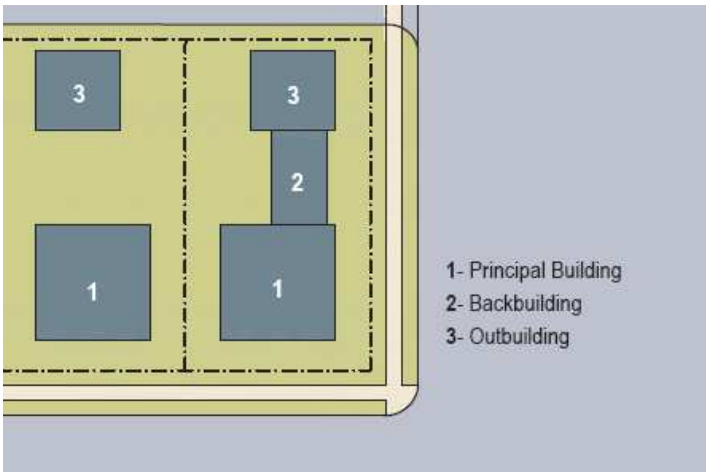
c. Rearyard: A building that occupies the full Frontage, leaving the rear of the Lot as the sole yard. This is a very urban type as the continuous Facade steadily defines the public Thoroughfare. The rear Elevations may be articulated for functional purposes. In its Residential form, this type is the Rowhouse. For its Commercial form, the rear yard can accommodate substantial parking.



d. Courtyard: A building that occupies the boundaries of its Lot while internally defining one or more private patios. This is the most urban of types, as it is able to shield the private realm from all sides while strongly defining the public Thoroughfare. Because of its ability to accomodate incompatible activities, masking them from all sides, it is recommended for workshops, Lodging and schools. The high security provided by the continuous enclosure is useful for crime-prone areas.



h. One Principal Building at the Frontage, and one Outbuilding to the rear of the Principal Building, may be built on each Lot as shown below

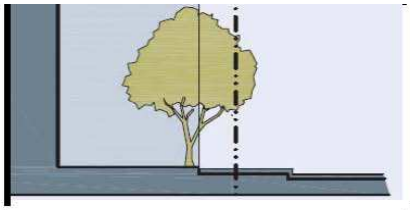
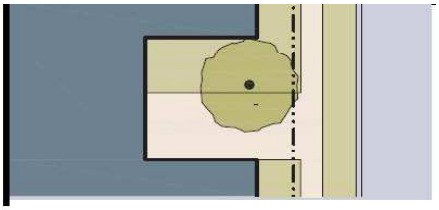
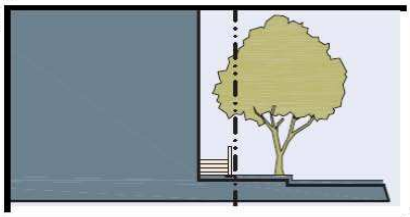
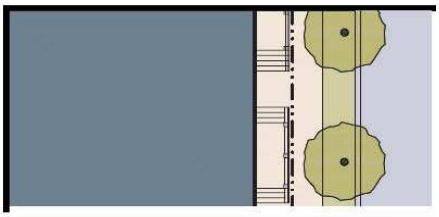
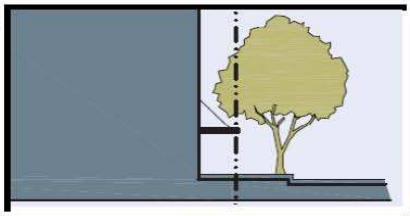
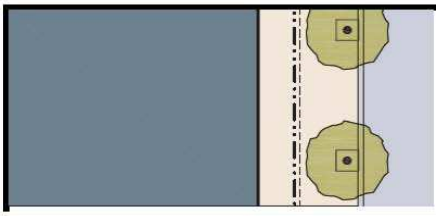
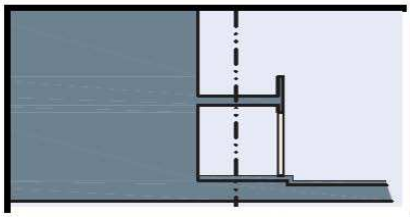
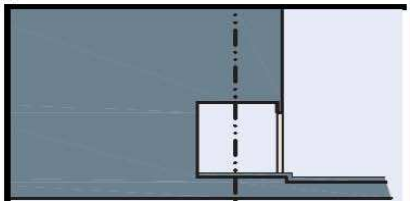


i. **Specific to Multi-Unit Residential and Mixed-use buildings**

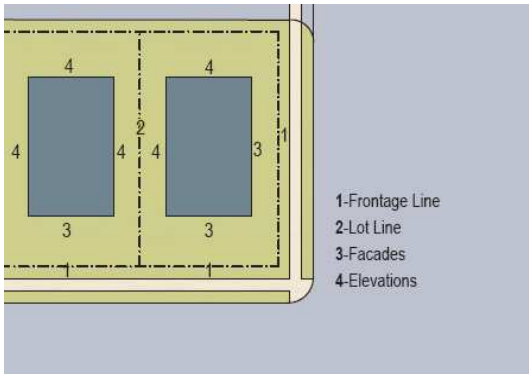
1. Property owners shall address Territoriality, Access Control, Natural Surveillance, Activity Support, and Image, as provided in Section 5.5 Public Safety
2. Crime prevention methods should not conflict with Section 1.3 Intent.
3. Recreation areas such as pools, tennis courts, clubhouses and playgrounds shall be visible from one or more of the windows of the buildings

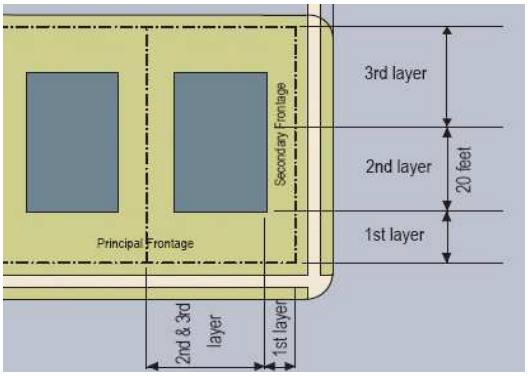
BUILDING CONFIGURATION

a. The Private Frontage of buildings shall conform to and be allocated in accordance with Table T6 item 'j' and the table below

d. **Forecourt:** a Frontage wherein the Façade is close to the Frontage Line and the central portion is set back. The forecourt created is suitable for vehicular drop-offs. This type should be allocated in conjunction with other Frontage types. Large trees within the Forecourts may overhang the Sidewalks.		
e. **Stoop:** a Frontage wherein the Façade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk sufficiently to ensure privacy for the windows. The entrance is usually an exterior stair and landing. This type is recommended for ground-floor Residential use.		
f. **Shopfront:** a Frontage wherein the Façade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. This type is conventional for Retail use. It has substantial glazing on the Sidewalk level and an awning that should overlap the Sidewalk to within 2 feet of the Curb. Syn: **Retail Frontage**.		
g. **Gallery:** a Frontage wherein the Façade is aligned with the Frontage Line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk. This type is conventional for Retail use. The Gallery should be no less than 10 feet wide and should overlap the sidewalk to within 2 feet of the Curb.		
h. **Arcade:** a collonade supporting habitable space that overlaps the Sidewalk, while the Façade at Sidewalk level remains at or behind the Frontage Line. This type is conventional for Retail use. The Arcade shall be no less than 12 feet wide and should overlap the Sidewalk to within 2 feet of the Curb. See Table 8.		

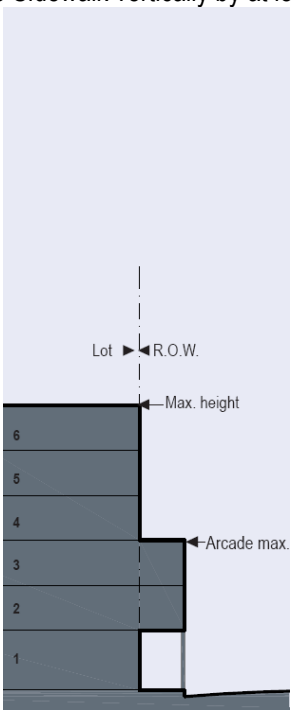
b. Buildings on corner Lots shall have two Private Frontages as shown below. Requirements for the second and third Layers pertain only to the Principal Frontage. Requirements for the first Layer pertain to both Frontages.

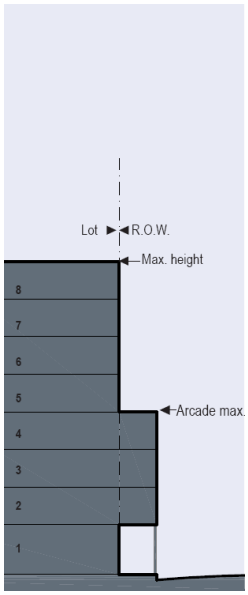


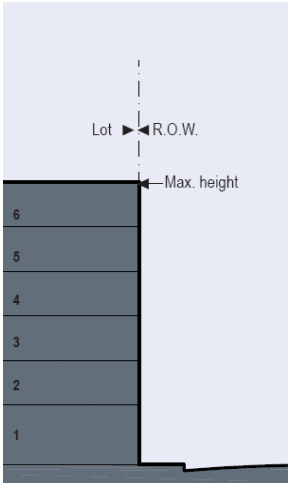


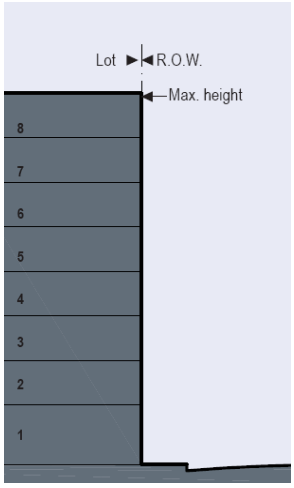
c. All shall be glazed with clear glass no less than 50% of the first Story. Retail Frontage requires a Shopfront at Sidewalk level along the entire length of its Private Frontage. The Shopfront shall be no less than 70% glazed in clear glass and shaded by an awning overlapping the Sidewalk as generally illustrated in the diagram in section 'a' above Building configuration. The first floor shall be confined to Retail use through the depth of the second Layer. A Gallery Frontage may be combined with a Retail Frontage. The Arcade Frontage may be combined with a Retail Frontage.

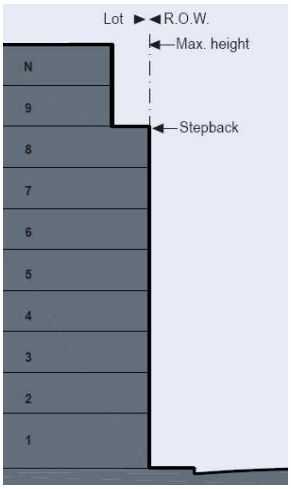
d. Building heights, Stepbacks, and Extension Lines shall conform to the diagrams below and Table T6 item 'j'. Maximum Encroachment heights (Extension Lines) for Arcades shall be as shown below.
Awnings, Arcades, and Galleries may encroach the Sidewalk to within 2 feet of the Curb but must clear the Sidewalk vertically by at least 8 feet.

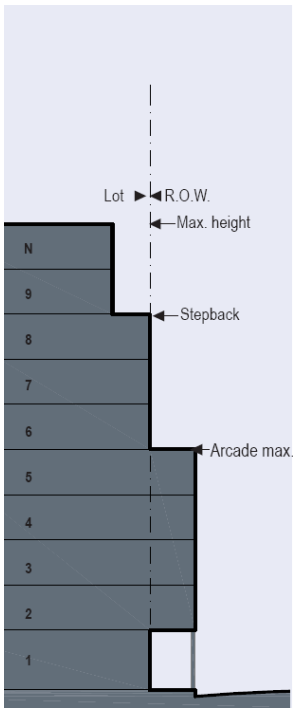










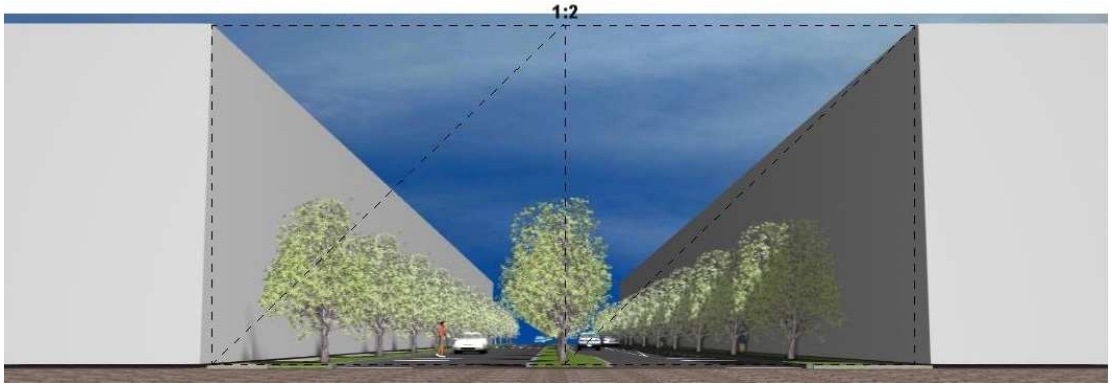


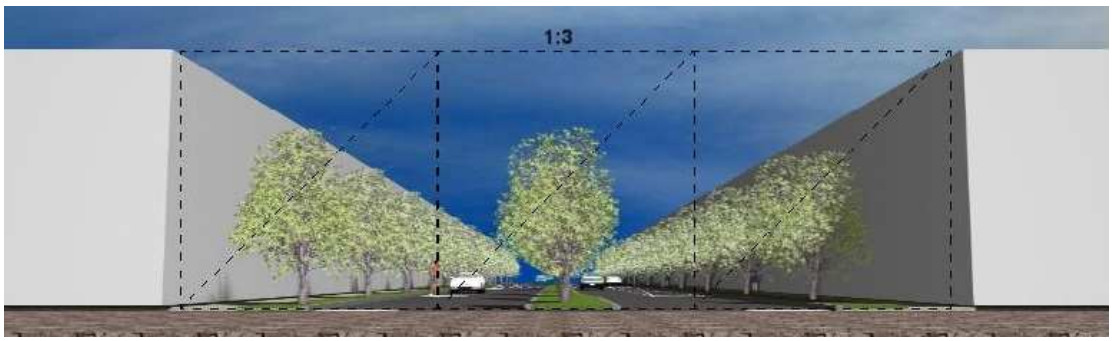
e. Stories and attics may not exceed 14 feet in height from finished floor to finished ceiling, except for a first floor Commercial Function, which shall be a minimum of 11 feet with a maximum of 25 feet. A single floor level exceeding 14 feet, or 25 feet at ground level, shall be counted as two (2) stories. Mezzanines extending beyond 33% of the floor area shall be counted as an additional Story.

f. In a Parking Structure or garage, each above-ground level counts as a single Story regardless of its relationship to habitable Stories.

g. Height limits do not apply to raised basements, masts, belfries, clock towers, chimney flues, water tanks, or elevator bulkheads.

h. The ratio of building height to thoroughfare width shall be not exceed than 1:2. Ratios of 1:3 are permitted in predominantly residential areas.





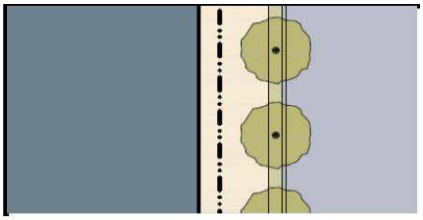
I. The habitable area of an Accessory Unit within a Principal Building or an Outbuilding shall not exceed 440 square feet, excluding the parking area.

j. Each Principal Building and each Outbuilding containing an accessory Apartment shall have at least one window on each story of a Facade from which its adjacent Public Frontage is visible.

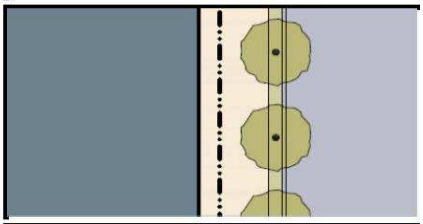
PUBLIC FRONTAGE

a. Public Frontages shall be designed as shown in the diagram below and allocated within the Transect Zones.

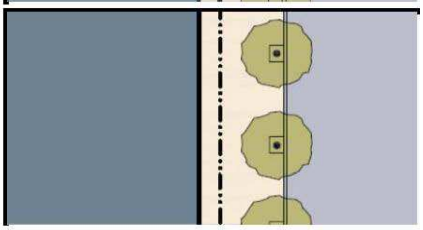
(DR) For Drive: This Frontage has raised Curbs drained by inlets and a wide Sidewalk or paved path along one side, related to a Greenway or waterfront. It is separated from the vehicular lanes by individual or continuous Planters. The landscaping consists of street trees of a single species or alternating species aligned in a regularly spaced Allee.



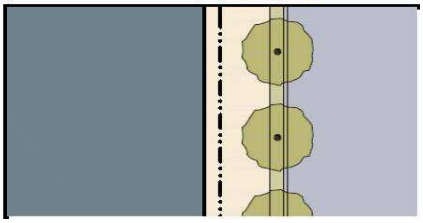
(AV) For Avenue: This Frontage has raised Curbs drained by inlets and wide Sidewalks separated from the vehicular lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced Allee.



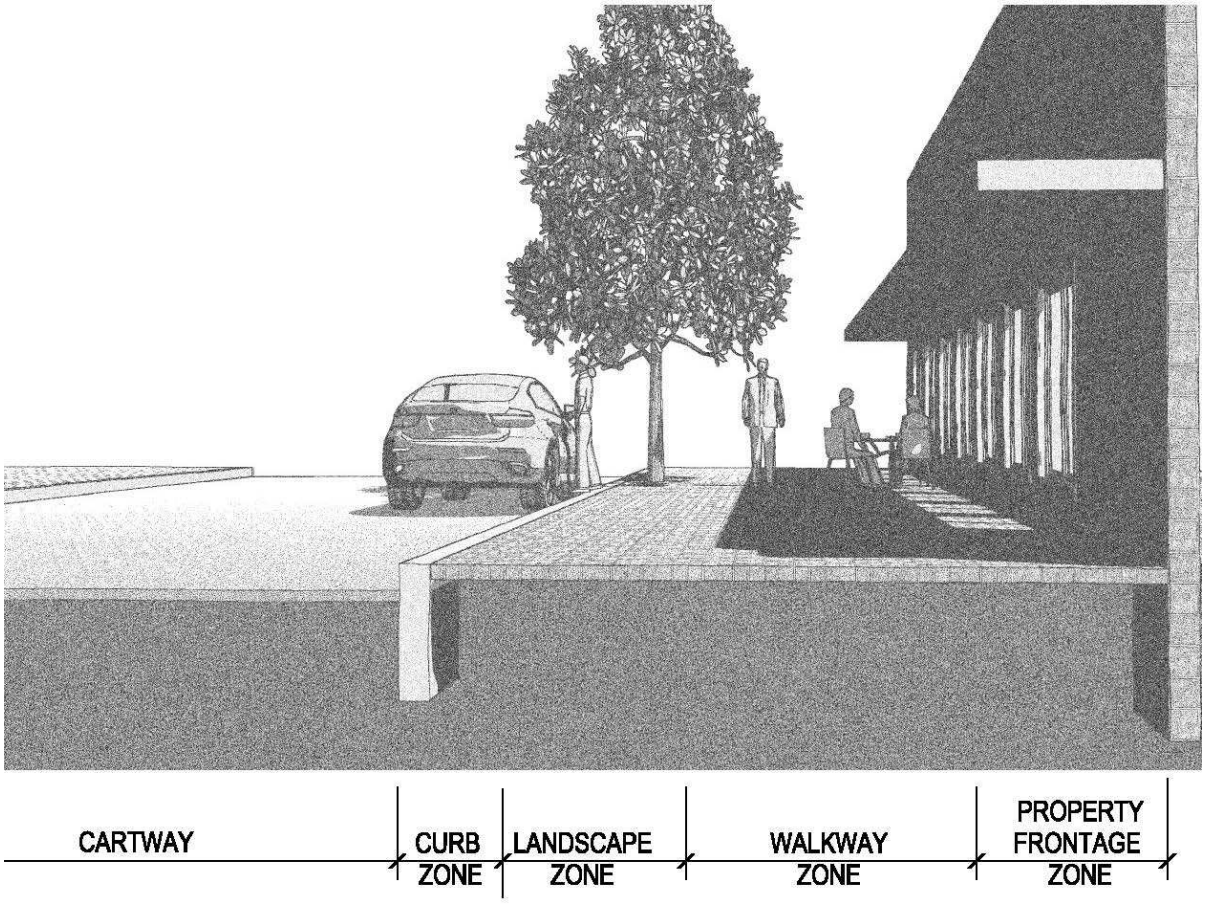
(CS) (AV) For Commercial Street or Avenue: This Frontage has raised Curbs drained by inlets and very wide Sidewalks along both sides separated from the vehicular lanes by separate tree wells with grates and parking on both sides. The landscaping consists of a single tree species aligned with regular spacing where possible but clears the storefront entrances.



(BV) For Boulevard: this Frontage has slip Roads on both sides. It consists of raised Curbs drained by inlets and Sidewalks along both sides, separated from the vehicular lanes by Planters. The landscaping consists of double rows of a single tree species aligned in a regularly spaced Allee.



b. The Public Frontage includes the types of Sidewalk, Curb, planter, bicycle facility, and street trees. It shall consist of 4 zones: the Property Frontage zone, the walkway zone, the landscape zone and the curb zone

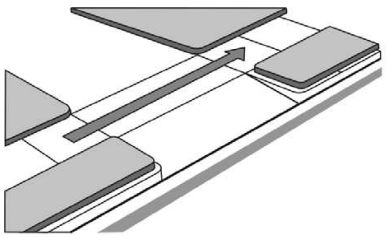


c. The Property Frontage Zone is the area immediately adjacent to the property line.

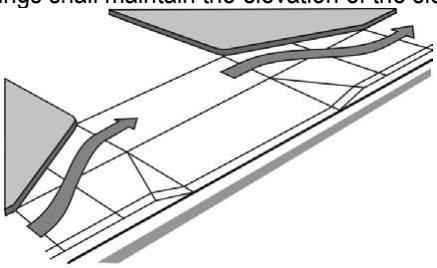
1. The Property Frontage Zone shall not be considered in the Walkway Zone width.
2. Private furnishings (tables, chairs, portable signage and displays) are permitted in the Property Frontage Zone.
3. Overhanging elements shall provide a minimum clearance of 80 inches.

d. The Walkway Zone is the area between the Property Frontage Zone and the Landscape Zone intended for pedestrian travel only.

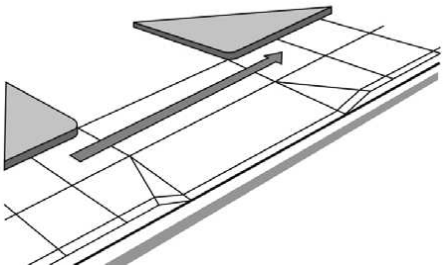
1. The area shall be clear of obstacles and constructed with a smooth walking surface.
2. Running slopes shall not exceed the grade of the adjacent street. Cross slopes shall not exceed 2%includeing driveways. Steeper driveway slopes are permitted in the landscape and curb zone.



3. Driveway crossings shall maintain the elevation of the sidewalk



4. Driveways aprons shall not extend into the clear pedestrian travel path (5' min).



5. Walkway Zones shall be of sufficient width to accommodate expected pedestrian volume surges without impeding the free movement of pedestrians walking along the zone.

e. The Landscape Zone is the area between the Walkway Zone and the Curb Zone intended to serve as a buffer between the Walkway Zone and the vehicle traveled Cartway

1. Street trees, planting strips, planters, transit shelters, street furniture, utility/traffic/telephone poles, bike racks, etc. shall be located within this zone and completely outside of the Walkway zone.
2. Furnishings and other Landscape Zone elements shall not obscure the clear site of the pedestrians and motorists from each other.

f. The Curb Zone is the transitional area between the Landscape Zone and the vehicle traveled Cartway.

1. With the exception of parking meters, this zone shall be kept free of any objects.

g. The Public Frontage Zone minimum dimensions shall be as follows:

STREET TYPE	**ZONE**	**PREDOMINANTLY COMMERCIAL GROUND FLOOR USE**	**PRIMARILY RESIDENTIAL GROUND FLOOR USE**
BOULEVARD (BV) AVENUE (AV) COMMERCIAL STREET (CS)	PROPERTY FRONTAGE	3 feet	3 feet
	WALKWAY	10 feet	10 feet
	LANDSCAPE	7 feet	7 feet
	CURB	3 feet/ 4feet at transit stops for the length of the transit stop	3 feet/ 4feet at transit stops for the length of the transit stop
DRIVE (DR)	PROPERTY FRONTAGE	3 feet	3 feet along façades, tall walls and fences
	WALKWAY	9 feet	9 feet
	LANDSCAPE	6 feet	6 feet
	CURB	2.5 feet	2.5 feet

h. Within the Public Frontages, the prescribed types of Public Lighting shall be as shown in the Table below. The spacing may be adjusted by Conditional Use within the limits prescribed below to accommodate specific site conditions. Public Plantings shall be as prescribed in the Public Planting Standard SPS-4, in Section 3.7 Thoroughfare Stormwater Management, and the landscaping provisions of this Transect Zone.

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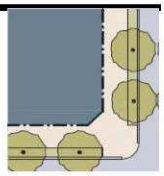
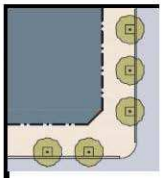
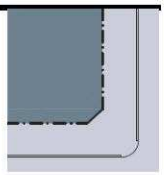
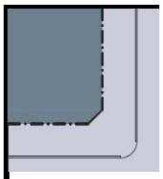
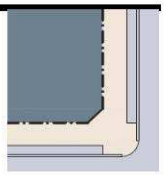
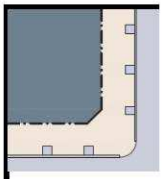
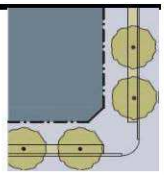
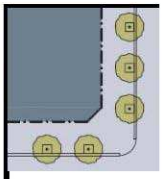
Public Frontage Type	CS-DR-AV-BV	CS-DR-AV-BV
Assembly: The principal variables are the type and dimension of Curbs, walkways, Planters and landscape.		
Total Width	18-24 feet	18-30 feet
Curb. The detailing of the edge of the vehicular pavement incorporating drainage.		
Type	Raised Curb	Raised Curb
Radius	5-20 feet	5-20 feet
Walkway. The hard surface dedicated exclusively to pedestrian activity.		
Type	Sidewalk	Sidewalk
Width	12-20 feet	12-30 feet
Planter: The layer which accommodates street trees and other landscape materials.		
Arrangement	Regular	Opportunistic
Species	Single	Single
Planter Type	Continuous Planter	Tree Well
Planter Width	4 feet - 6 feet	4 feet - 6 feet

DOUBLE COLUMN

i. The introduced landscape shall consist primarily of durable species tolerant of soil compaction.

J. The Public Frontage shall include trees planted in a regularly-spaced Allee pattern of single species with shade canopies of a height that, at maturity, clears at least one Story. At Retail Frontages, the spacing of the trees may be irregular, to avoid visually obscuring the shopfronts.

k. Streets with a Right-of-Way width of 40 feet or less shall be exempt from the tree requirement.

PERMITTED USES

a. Building uses and parking shall conform to the following Tables. Uses that do not conform shall require approval by Conditional Use as specified on the Specific Use Table

SPECIFIC USES

a. RESIDENTIAL	T6
Mixed Use Block	■
Flex Building	■
Apartment Building	□
Live/Work Unit	■
Row House	
Duplex House	
Courtyard House	
Sideyard House	
Cottage	
House	
Villa	
Accessory Unit	
b. LODGING	
Hotel (no room limit)	■
Inn (up to 12 rooms)	■
Bed & Breakfast (up to 5 rooms)	■
S.R.O. Hostel	□
School Dormitory	■
c. OFFICE	
Office Building	■
Live/Work Unit	■
d. RETAIL	
Open-Market Building	■
Retail Building	■
Display Gallery	■
Restaurant	■
Kiosk	■
Push Cart	□
Liquor Selling Establsihment	□
Adult Entertainment	□
e. CIVIC	
Bus Shelter	■
Convention Center	□
Conference Center	■
Exhibition Center	□
Fountain or Public Art	■
Library	■
Live Theater	■
Movie Theater	■
Museum	■
Outdoor Auditorium	■
Parking Structure	■
Passenger Terminal	□
Playground	■
Sports Stadium	□
Surface Parking Lot	□
Religious Assembly	■

f. OTHER: AGRICULTURE	T6
Grain Storage	
Livestock Pen	
Greenhouse	
Stable	
Kennel	□
f. OTHER: AUTOMOTIVE	
Gasoline	□
Automobile Service	
Truck Maintenance	
Drive-Through Facility	□
Rest Stop	
Roadside Stand	
Billboard	□
Shopping Center	
Shopping Mall	
f. OTHER: CIVIL SUPPORT	
Fire Station	■
Police Station	■
Cemetery	
Funeral Home	■
Hospital	□
Medical Clinic	■
f. OTHER: EDUCATION	
College	□
High School	□
Trade School	□
Elementary School	■
Other - Childcare Center	■
f. OTHER: INDUSTRIAL	
Heavy Industrial Facility	
Light Industrial Facility	□
Truck Depot	
Laboratory Facility	□
Water Supply Facility	
Sewer and Waste Facility	
Electric Substation	□
Wireless Transmitter	
Cremation Facility	
Warehouse	□
Produce Storage	
Mini-Storage	

■ BY RIGHT

□ CONDITIONAL USE

PARKING FUNCTION

a. RESIDENTIAL	**Open Residential:** The number of dwellings on each Lot is limited by the requirement of 1.0 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards
b. LODGING	**Open Lodging:** The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom. Food service may be provided at all times. The area allocated for food service shall be calculated with parking according to Retail Function.
c. OFFICE	**Open Office:** The building area available for office use on each Lot is limited by the requirement of 2.0 assigned parking places per 1,000 square feet of net office space.
d. RETAIL	**Open Retail:** The building area available for Retail use is limited by the requirement of 3.0 assigned parking places per 1,000 square feet of net Retail space. Retail spaces under 1,500 square feet are exempt from parking requirements.
e. CIVIC	Conditional use
f. OTHER	Conditional use

b. First Story Commercial Functions shall be permitted.

c. Light Manufacturing Functions within the first Story shall be permitted.

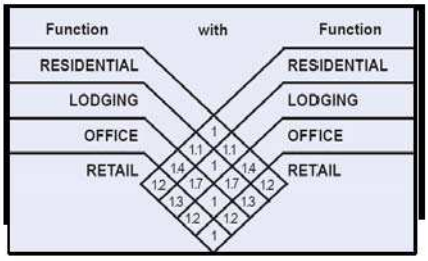
PARKING CALCULATIONS

a. The actual parking required for uses within the lot shall be determined by adding the total number of spaces required by each separate use on the lot and dividing the total by the Shared Parking Factor below

REQUIRED PARKING

	T6
RESIDENTIAL	1.0 / dwelling
LODGING	1.0 / dwelling
OFFICE	2.0 / 1,000 sq.ft.
RETAIL	3.0 / 1,000 sq.ft.

SHARED PARKING FACTOR



Parking for Civic and all other uses shall be determined by Conditional Use.

To ensure enough parking, when three functions share parking, the lowest shared parking factor shall be used

DENSITY

a. Buildable Density on a Lot shall be determined by the sum of the actual parking calculated as that provided (1) within the Lot (2) along the parking lane corresponding to the Lot Frontage, and (3) by purchase or lease from a Civic Parking Reserve within the Pedestrian Shed, if available.

b. The actual parking may be adjusted upward according to the Shared Parking Factor Table to determine the Effective Parking. The Shared Parking Factor is available for any two Functions within any pair of adjacent Blocks.

c. Based on the Effective Parking available, the Density of the projected Function may be determined according to the Parking Function Table.

d. Within the overlay area of a Transit Oriented Development (TOD) the Effective Parking may be further adjusted upward by 30%.

e. The total Density within each Transect Zone shall not exceed that specified by an approved Regulating Plan based on Article 3.

f. Accessory Units do not count toward Density calculations.

g. Liner Buildings less than 30 feet deep and no more than two Stories shall be exempt from parking requirements.

Bicycle Parking Requirements

a. The amount of short term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required Minimum 2.0 Spaces .1 spaces /bedroom
OFFICE	Minimum 2.0 Spaces 1.0 / Additional 15,000 Sq. Ft.
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 5,000 Sq. Ft.
INDUSTRIAL	.4 spaces/employee
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft. Minimum 2.0 Spaces 1.0 Additional 20,000 Sq. Ft.
SCHOOL Elementary / High School College	 Minimum 2.0 Spaces 1.0 / Additional 25 Students Minimum 2.0 Spaces 1.0 / Additional 20 Students
TRANSIT STATION	10-30% of passengers /day

b. The amount of long term bicycle parking required per lot shall be regulated as follows:

RESIDENTIAL Single-Family Multi-Family	 No Spaces Required Minimum 2.0 Spaces .2 spaces /bedroom
OFFICE	Minimum 2.0 Spaces 1.5/ Additional 10,000 Sq. Ft.
RETAIL	Minimum 2.0 Spaces 1.0 / Additional 10,000 Sq. Ft.
INDUSTRIAL	TBD
CIVIC Non-Assembly Assembly	 Minimum 2.0 Spaces 1.0 / Additional 15 Employees Minimum 2.0 Spaces 1.0 Additional 20 Employees
SCHOOL Elementary / High School College	 Minimum 2.0 Spaces 1.0 / Additional 20 Students Minimum 2.0 Spaces 1.0 / Additional 15 Students
TRANSIT STATION	TBD

Note: A minimum of one bicycle rack place shall be provided within the Public or Private Frontage for every ten vehicular parking spaces.

PARKING LOCATION

a. Parking shall be accessed by Rear Alleys or Rear Lanes, when such are available on the Regulating Plan.

b. Open parking areas shall be masked from the Frontage by a Building or Streetscreen.

c. Parking for large facilities shall not dominate street frontages. Active ground floor uses such as retail and front-office functions and/or architectural treatments that create pedestrian-friendly frontages shall be provided along primary streets. Vehicular access to parking facilities should be provided from secondary streets.

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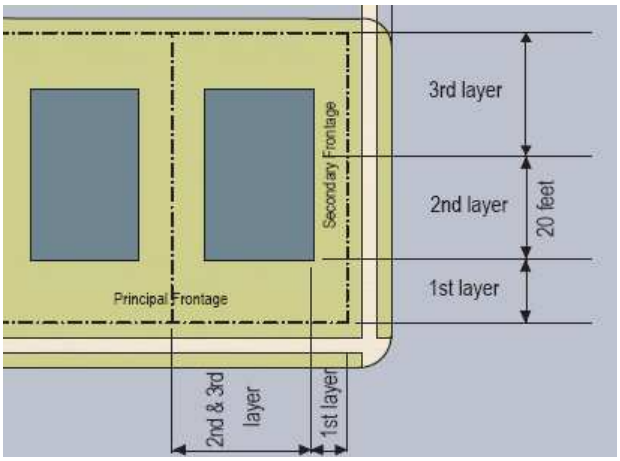


d. Driveways at Frontages shall be no wider than 10 feet in the first Layer.

e. All parking areas and garages shall be located at the second or third Layer.

f. All parking lots, garages, and Parking Structures shall be located at the second or third Layer.

g. Vehicular entrances to parking lots, garages, and Parking Structures shall be no wider than 24 feet at the Frontage.

h. Pedestrian exits from all parking lots, garages, and Parking Structures shall be directly to a Frontage Line (i.e., not directly into a building) except underground levels which may be exited by pedestrians directly into a building.

i. Parking Structures on the A-Grid shall have Liner Buildings lining the first and second Stories.

j. Specific to multi-unit residential and mixed-use buildings in zones

Where shared outdoor parking areas are present, each building shall have at least one window from which the parking lot is visible on each story of the elevation(s) facing the lot. Parking spaces shall be assigned to residents and located close to the resident's unit, but not marked with their unit number. Visitor parking should be designated separately

Bicycle Parking Location Standards

a. Location and type of bicycle parking shall be in accordance with the Supplemental Bicycle Parking Standards SPS-1.

ARCHITECTURAL STANDARDS

a. Building wall materials may be combined on each, only horizontally, with the heavier below the lighter. The exterior finish material on all Facades shall be limited to brick, wood siding, cementitious siding and/or stucco.

b. All buildings except detached single family houses shall have an expression line delineating the division between the first story and the second story. A cornice shall delineate the tops of the expression lines and cornices shall either be moldings extending a minimum of 2 inches, or jogs in the surface plane of the building wall greater than 2 inches.

c. Streetscreens should be constructed of a material matching the adjacent building.

d. All openings, including porches, Galleries, Arcades and windows, with the exception of shopfronts, shall be square or vertical in proportion. Windows shall have visible sills and wide casings to protect end grain of siding material and create shadow lines.

e. Gable eaves shall project a minimum of 12" from the face.

f. Applied Mansard roofs are not permitted.

g. Openings above the first Story shall not exceed 50% of the total building wall area, with each being calculated independently.

g. Doors and windows that operate as sliders are prohibited along Frontages.

h. Pitched roofs, if provided, shall be symmetrically sloped no less than 5:12, except that roofs for porches and attached sheds may be no less than 2:12.

i. Flat roofs shall be enclosed by parapets a minimum of 42 inches high, or as required to conceal mechanical equipment to the satisfaction of the CRC.

j. Balconies and porches shall be made of painted wood.

k. Fences at the first Lot Layer shall be painted. Fences at other Layers may be of wood board or chain link.

l. Subsidized housing units shall not be clustered in one area and shall be designed so as not to distinguish their outward appearance from non-subsidized units.

INTEGRATION DESIGN STANDARDS

These standards are intended to provide an added level of definition for the development character within the T-6 Regional Technology and Manufacturing Center ("RTC") District. The standards are intended to establish high quality design and coordination among site planning, building design and landscape components. They are intended to allow flexibility for design professionals, developers and builders in the implementation of developments within the RTC District. Creativity is encouraged in order to achieve diversity, distinction and context sensitive solutions as long as they are executed in the spirit of the overall purpose of these standards in promoting an integrated landscape with aesthetic quality and functionality.

The T-6 RTC District development shall:

Incentivize production of new space for advanced manufacturing and high tech light industrial activities

Provide flexible incubator space for a variety of small to medium sized business enterprises

Provide development that forms an integrated landscape with new supportive mixed use housing opportunities, retail, business and repair facilities.

Mitigate future land-use conflicts (nuisance complaints) to create an active, vibrant working/living environment

INTEGRATION OF USES AND BUILDING TYPES

Horizontal Integration. Horizontal integration refers to residential, commercial and industrial uses occupying adjacent parcels. Industrial and non-industrial uses are closely intermingled. Larger more predominant facilities occupy and define the corners, with smaller offices, personal service shops, or production areas within the depth of the block. Single use buildings are permitted provided there is compatibility between buildings with distinct programs.

Photograph courtesy of Sandy Sorlien

Vertical Integration. Vertical integration refers to residential uses above ground level industrial uses

"Live/Work lofts" shall provide integration of residential and light industry, uses on the ground floor, or office-sized spaces which are maintained "for future use"

Spatial relationships shall be established within the same building or structure to allow for integration of different uses and flexibility of use.

BUILDING ENVELOPE

Massing:

Vertical and horizontal articulation, height, mass, and scale shall be considered to break down the scale of larger structures (base, middle, top), to make them visually compatible with adjacent buildings and to create a well-proportioned and unified structure.

Strong, simplified massing shall be used in order to create a well-integrated facade which harmonizes with the rhythm of the adjacent buildings and the character of the area.

Finish Materials:

Finish materials shall be balanced among the building's use, context, structural system, and form. A minimal number of finish material systems shall be used and in a manner consistent with the inherent nature of the material.

Articulation of a façade to promote light and shade falling across a unified façade shall be considered before use of multiple contrasting materials to define changes in plane, form or function in the building.

The design professional shall consider whether the texture of the surrounding buildings in determining appropriate materials that will complement the building and the area. Materials which are both out of context and unnecessary, or used only for a 'faux-industrial feel', are discouraged.

Rooftop screens shall be provided to hide mechanical equipment. Mechanical equipment shall be set back from the facade to further reduce visibility from the street.

Exposed sides and rear of buildings shall continue the finish treatment used on the street facade. To the maximum extent feasible, provide property-line windows to avoid large windowless wall planes.

Ground Floor Height:

In vertically integrated buildings, the typical construction method shall be a raised concrete platform over the ground floor industrial and parking uses with non-industrial uses above.

Minimum platform floor height for shall be 18' to allow industrial machinery and supporting process/building infrastructure.

Access:

To the maximum extent feasible, where residential entrances occur along more commercial streets orient primary industrial delivery/loading access to sides and rear of site, or along industrial alleys; conversely along truck-heavy industrial streets orient housing along small-scale residential alleys where children can play, and orient industry towards truck-heavy industrial streets

Parking:

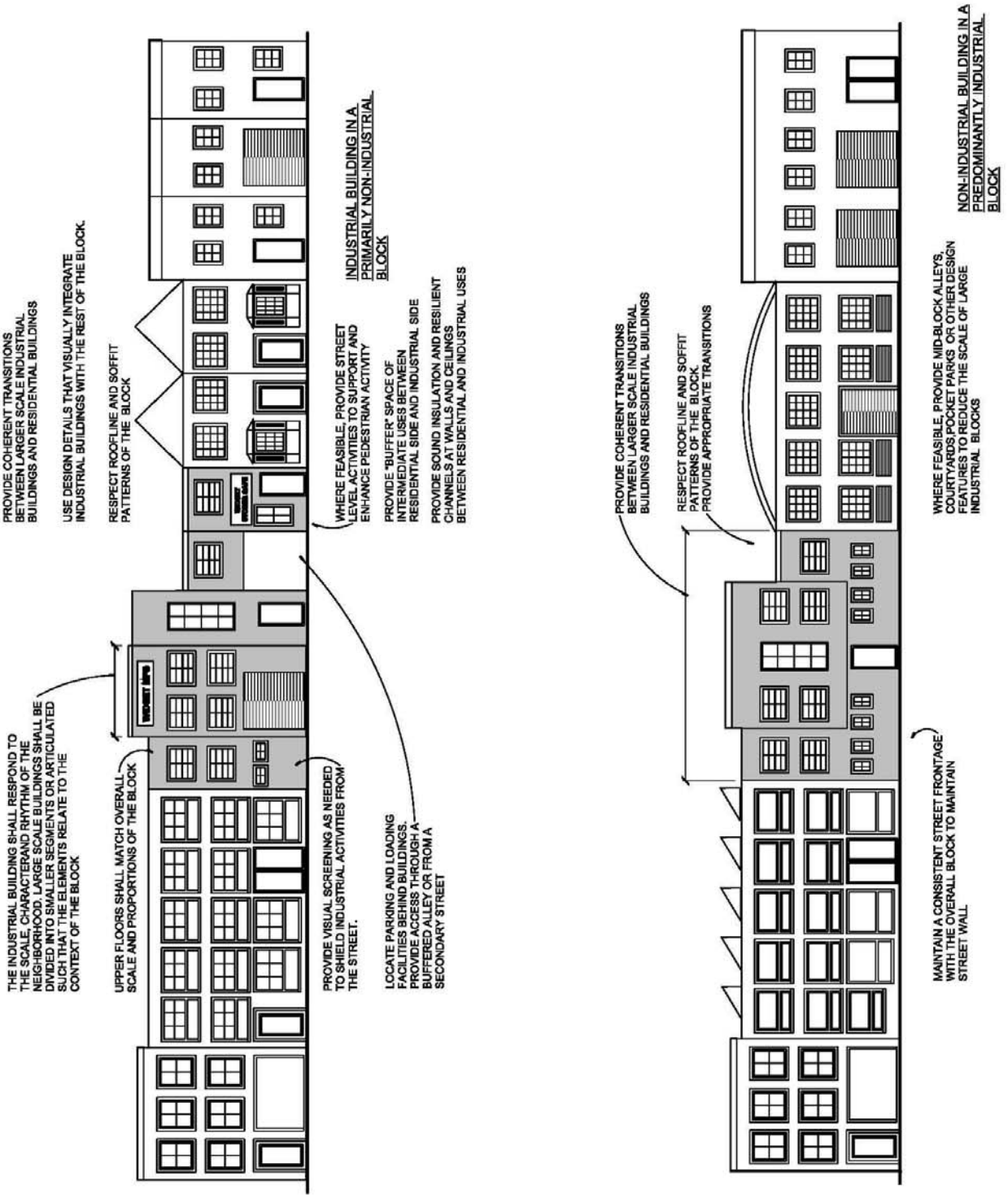
To maximize industrial use of ground floor space and further promote use of multimodal transportation, buildings having parking for both residential tenants and for industrial employees shall be permitted to reduce residential parking 10%

Shared parking between industrial and residential is permitted. Coordination with industrial hours of operation is required.

Mitigation:

All residential uses shall have covenants and residents shall sign an acknowledgment to living in a mixed-use area with adjacent industrial uses, waiving a right to claim nuisances on these uses. The owner shall insert such warning clauses into all agreements of purchase and sale or lease for the affected lots/units.

Context:


PROVIDE COHERENT TRANSITIONS BETWEEN LARGER SCALE INDUSTRIAL BUILDINGS AND RESIDENTIAL BUILDINGS
USE DESIGN DETAILS THAT VISUALLY INTEGRATE INDUSTRIAL BUILDINGS WITH THE REST OF THE BLOCK.
RESPECT ROOFLINE AND SOFFIT PATTERNS OF THE BLOCK
INDUSTRIAL BUILDING IN A PRIMARILY NON-INDUSTRIAL BLOCK
WHERE FEASIBLE, PROVIDE STREET LEVEL ACTIVITIES TO SUPPORT AND ENHANCE PEDESTRIAN ACTIVITY
PROVIDE "BUFFER" SPACE OF INTERMEDIATE USES BETWEEN RESIDENTIAL SIDE AND INDUSTRIAL SIDE
PROVIDE SOUND INSULATION AND RESILIENT CHANNELS AT WALLS AND CEILINGS BETWEEN RESIDENTIAL AND INDUSTRIAL USES
THE INDUSTRIAL BUILDING SHALL RESPOND TO THE SCALE, CHARACTERAND RHYTHM OF THE NEIGHBORHOOD. LARGE SCALE BUILDINGS SHALL BE DIVIDED INTO SMALLER SEGMENTS OR ARTICULATED SUCH THAT THE ELEMENTS RELATE TO THE CONTEXT OF THE BLOCK
UPPER FLOORS SHALL MATCH OVERALL SCALE AND PROPORTIONS OF THE BLOCK
PROVIDE VISUAL SCREENING AS NEEDED TO SHIELD INDUSTRIAL ACTIVITIES FROM THE STREET.
LOCATE PARKING AND LOADING FACILITIES BEHIND BUILDINGS. PROVIDE ACCESS THROUGH A BUFFERED ALLEY OR FROM A SECONDARY STREET
PROVIDE COHERENT TRANSITIONS BETWEEN LARGER SCALE INDUSTRIAL BUILDINGS AND RESIDENTIAL BUILDINGS
RESPECT ROOFLINE AND SOFFIT PATTERNS OF THE BLOCK. PROVIDE APPROPRIATE TRANSITIONS
NON-INDUSTRIAL BUILDING IN A PREDOMINANTLY INDUSTRIAL BLOCK
WHERE FEASIBLE, PROVIDE MID-BLOCK ALLEYS, COURTYARDS,POCKET PARKS OR OTHER DESIGN FEATURES TO REDUCE THE SCALE OF LARGE INDUSTRIAL BLOCKS
MAINTAIN A CONSISTENT STREET FRONTAGE WITH THE OVERALL BLOCK TO MAINTAIN STREET WALL

LANDSCAPE STANDARDS

a. Impervious surface shall be confined to the ratio of Lot coverage specified in Table T6 item 'f'.

b. Berms are not permitted in the Public Frontage.

c. Trees shall not be required in the first Layer.

d. Existing trees may be utilized to meet the landscaping requirements. When existing trees do not meet the requirements, new trees of species appropriate for the region and form appropriate for the Transect Zone shall be planted. See Public Planting Table in Supplemental Standard SPS-4..

e. Trees shall be planted below the grade of the sidewalk and the street in structural cells with sufficient root space.

f. Trees which grow over 25 feet in height shall not be planted along frontages with buildings greater than 2 stories in height

g. Structural soil shall be utilized adjacent to tree pits.

h. Buildings may be equipped with roofs of shallow 4-inch soils and drought tolerant plants. Buildings approved for Intensive Green Roofs may hold soils deeper than 4" and larger plants and trees

i. Green walls, if provided, shall be restricted to non-invasive species.

j. Cisterns may be used to capture and recirculate stormwater from buildings.

k. Balconies shall be equipped with planter boxes designed to capture runoff from the balcony.

l. The first Layer may be paved to match the pavement of the Public Frontage.

m. Rain Gardens and Bioswales shall be installed to infiltrate runoff from parking lots, Thoroughfares, Plazas and other impervious surfaces

n. The landscape installed shall consist primarily of durable species tolerant of soil compaction.

o. Planter boxes shall be bottomless, flow-through boxes with native plants, placed next to buildings and designed to capture building runoff. They may be placed in courtyards or adjacent sidewalks with runoff sent to them via French drains or hidden pipes.

p. A landscaping plan shall be prepared by a registered landscape architect and submitted for review and approval.

SIGNAGE STANDARDS

a. There shall be no signage permitted additional to that specified in Supplemental Standard SPS 5 Signage.
b. The address number, no more than 6 inches measured vertically, shall be attached to the building in proximity to the Principal Entrance or at a mailbox
c. Signage shall be externally illuminated, except that signage within the Shopfront glazing may be neon lit
d. Blade signs, not to exceed 6 square ft. for each separate business entrance, may be attached to and shall be perpendicular to the Facade, and shall clear 8 feet above the Sidewalk.
e. A single external permanent sign band may be applied to the Facade of each building, providing that such sign not exceed 3 feet in height by any length.

SUSTAINABILITY

a. The base densities for this transect shall be increased with the incorporation of the following sustainable elements:

Use of 100% recyclable low emissive glass technology that does not contain metal coatings with a maximum transparency up to 79%, SHGC< .35% (heat transfer reduction up to 70%, minimum 97% reduction in UV ad IR. +2 dwelling units

Use of Solar powered glass curtain wall systems utilizing PV-windows, PV walls and PV rooftops combined with time shift energy storage and management systems converting building surfaces and grounds into a power plant. +1 dwelling units for each PV element for up to +3 dwelling units

Use of water from air extraction and magnetic filtration/purification systems capable of generating 25-120 liters of capacity per day +1 dwelling units

Use of anti-germ, antimold, anti-odor, anti-VOC self-cleaning nano-technology with an efficiency rating of 100% +1 dwelling units

The increases are cumulative for a maximum increase of up to 7 dwelling units per acre.

T-6C STANDARDS

Properties located in zones with "c" designations shall be developed in conformance with this section. Prior to development of a property within such a designated "c" zone, the Community Development Plan for such zone shall be subject to Conditional Use approval by Bensalem Township Council. Only upon approval of the Community Development Plan will a plan for development of any particular property be considered, in accordance with this Regulating Code.

ARTICLE 6

SUPPLEMENTAL STANDARDS

SPS-1

BICYCLE PARKING

ARTICLE 6

SUPPLEMENTAL STANDARDS

SPS-1

BICYCLE PARKING

BICYCLE PARKING STANDARDS

Bicycle parking plays a key support role to the bicycle network. With proper support facilities more people will ride bicycles. These standards are intended to provide an added level of definition beyond that found in the Regulating Code to provide consistent and context sensitive solutions promoting a safe, integrated landscape with aesthetic quality and functionality.

In general bicycle parking shall :

Be widely available and decentralized
Be easy to understand and use for all types of bicyclists.
Be sturdy and require little or no work to maintain.
Keep from rusting, racks made from steel tubing should be coated with zinc (hot dip galvanized) or made of stainless steel.
Be resistant to pipe cutters
Have an adequate buffer to easily accommodate bicycles and allow them to easily enter and exit an area without interfering with pedestrian access
Be combined with matching street furniture to reinforce a positive image of the bike parking facility

SHORT TERM BICYCLE PARKING

Types of short term bike racks required:

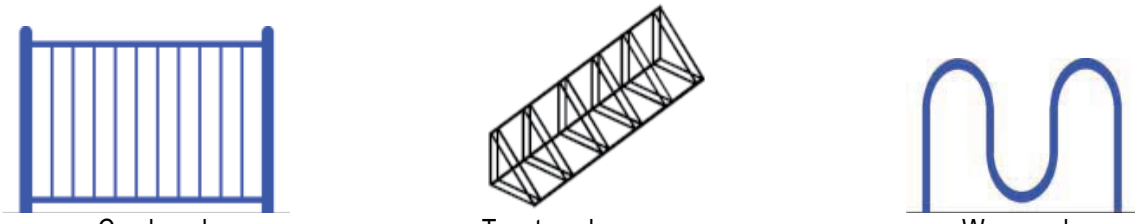
Post and ring | Inverted U- rack | A -rack

FIGURE 1

An appropriate rack element shall:

Support the bicycle upright by its frame in two places
Prevent the wheel of the bicycle from tipping over
Enable the frame and one or both wheels to be secured
Support bicycles without a diamond-shaped frame with a horizontal top tube (e.g. a mixte frame)
Allow front-in parking: a U-lock should be able to lock the front wheel and the down tube of an upright bicycle
Allow back-in parking: a U-lock should be able to lock the rear wheel and seat tube of the bicycle

Prohibited:



Comb rack | Toast rack | Wave rack

FIGURE 2

These are potentially wheel bending racks that provide no support for the bicycle frame

Rack specifications
Racks shall meet the following minimum specifications:

Functional
- Support bicycles at two points of contact (preventing fallen bicycles)
- Allow locking of bicycle frames and wheels with U-locks
- Employ square tubes
- Offer a user friendly design
- Minimize maintenance costs (galvanized finish resists corrosion)
- Do not require lifting of the bicycle
- Provide secure mounting
- Are economically priced
- Used in other bicycle friendly cities
- Offer visibility to pedestrians with a minimum height of 31 inches
- Endorsed by the Association of Pedestrian and Bicycle Professionals

Material
- Minimum 2" square schedule 40 structural steel tubing with a hot-dipped galvanized zinc finish.
- Minimum rack wall thickness is .188 inches with flanges attaching to the sidewalk or street that are 3/8 of an inch thick

Rack Mounting
- Surface mount bicycle racks to concrete surfaces or subsurfaces and not asphalt. Do not install racks on non-mortared brick sidewalks with a sand sub-surface.
- Fasteners shall be zinc plated carbon steel

Rack Placement (see also figure 3 & 4)
Racks shall be grouped in a common location in the following manner:

They shall be in a highly visible location, within view of passersby, commercial activity or windows and within 50' of building entrances.

They shall provide convenient access to buildings they serve and to the street

They shall be placed in such a manner so that racks do not conflict with pedestrian or automobile traffic. A minimum of 6' of clear sidewalk space shall remain beyond the rack (See also figure 3)
They shall be in a well lit area.

The individual racks may be attached to a single frame or remain single elements mounted within close proximity to each other. The rack should provide easy, independent bike access.

Individual racks aligned side by side shall be spaced a minimum of 36" apart

Individual racks aligned end-to-end shall be spaced a minimum of 96" apart

Bike racks must provide 4' clearance to utility access, trees, fire hydrants, street poles, bus stops etc. Racks should not be placed within 5' from the center line of any doorways.

Racks located perpendicular to the curb shall be a minimum of 36" from the back of the curb.

Racks located parallel to the curb shall be a minimum of 24" from the back of the curb.

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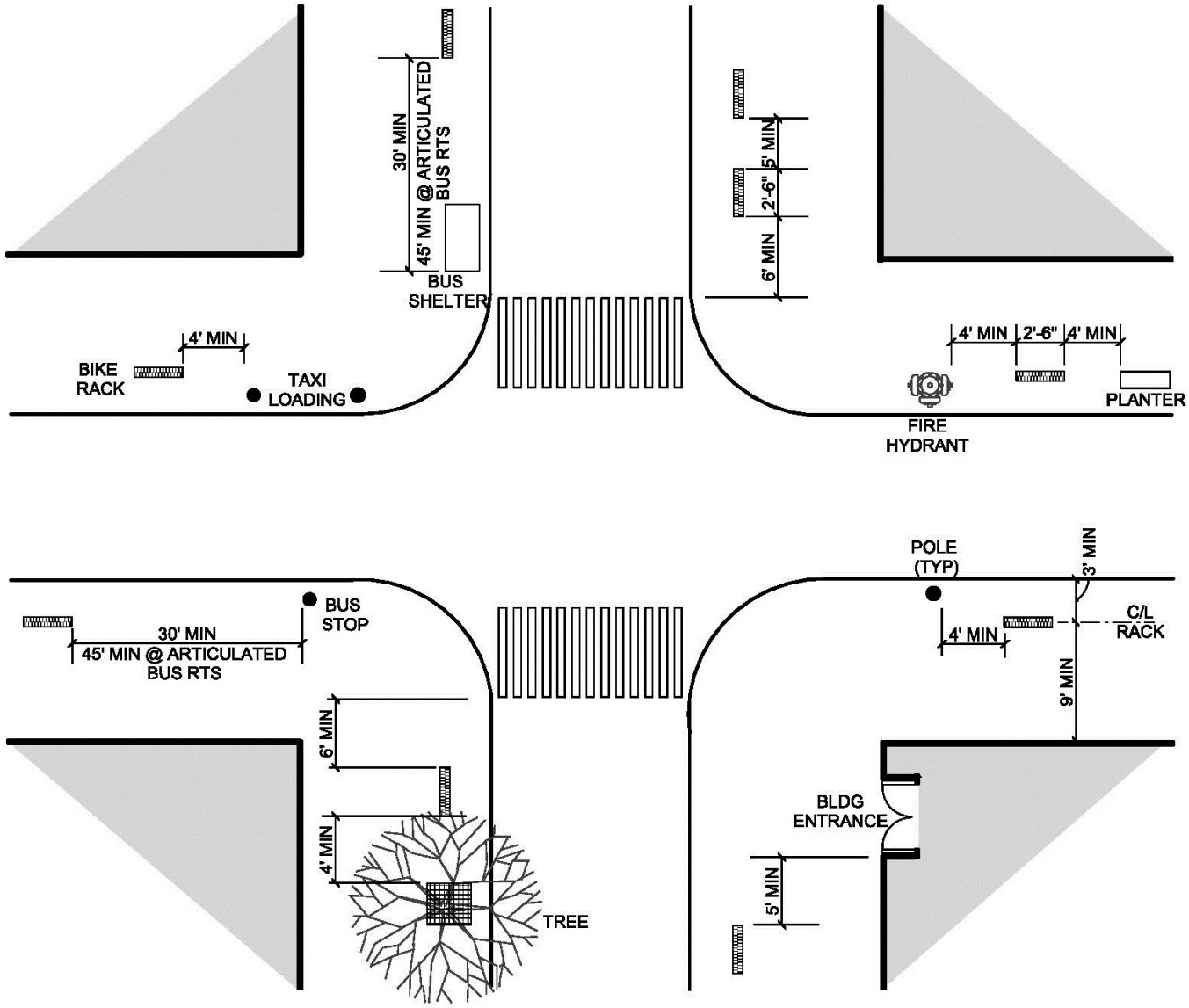
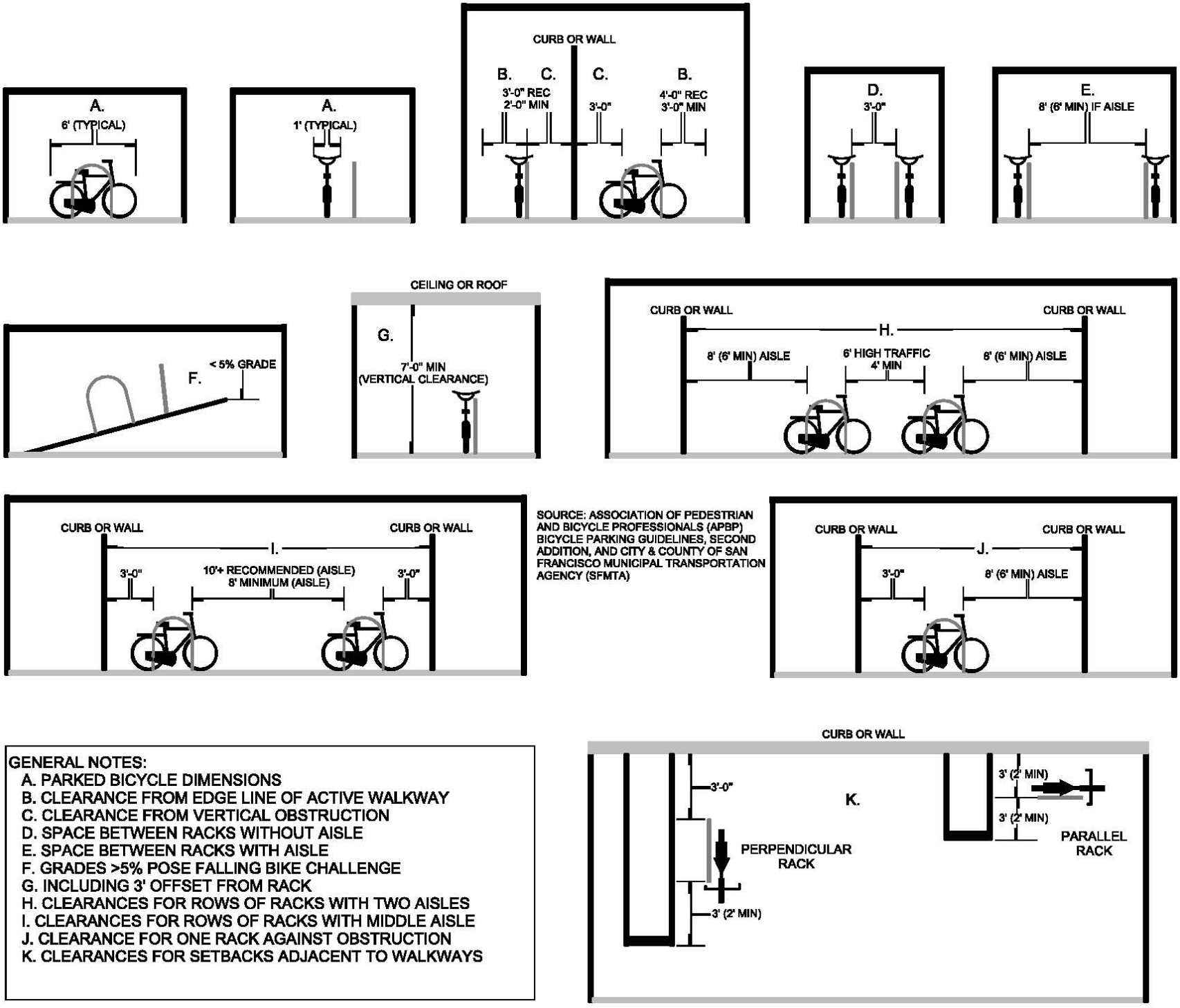


RACK PLACEMENT

FIGURE 3

BIKE RACK PLACEMENT/BICYCLE LOT LAYOUT



SOURCE: ASSOCIATION OF PEDESTRIAN AND BICYCLE PROFESSIONALS (APBP) BICYCLE PARKING GUIDELINES, SECOND ADDITION, AND CITY & COUNTY OF SAN FRANCISCO MUNICIPAL TRANSPORTATION AGENCY (SFMTA)

GENERAL NOTES:

A. PARKED BICYCLE DIMENSIONS
B. CLEARANCE FROM EDGE LINE OF ACTIVE WALKWAY
C. CLEARANCE FROM VERTICAL OBSTRUCTION
D. SPACE BETWEEN RACKS WITHOUT AISLE
E. SPACE BETWEEN RACKS WITH AISLE
F. GRADES >5% POSE FALLING BIKE CHALLENGE
G. INCLUDING 3' OFFSET FROM RACK
H. CLEARANCES FOR ROWS OF RACKS WITH TWO AISLES
I. CLEARANCES FOR ROWS OF RACKS WITH MIDDLE AISLE
J. CLEARANCE FOR ONE RACK AGAINST OBSTRUCTION
K. CLEARANCES FOR SETBACKS ADJACENT TO WALKWAYS

FIGURE 4

Bicycle Parking Lots/Bicycle Corrals (see also figure 4)

A Bicycle parking lot is a dedicated area where more than one rack is installed in areas where demand for bicycle parking is greater.

Aisles separating the racks shall be a minimum of 48" wide. The aisle is measured from tip to tip of bike tires across the space between racks. In high traffic areas where many users park or retrieve bikes at the same time, the minimum aisle width is 72 inches.

Bicycle parking spaces shall be minimum 72" long
Large rack areas with a high turnover rate should have more than one entrance. To the extent feasible, the parking area should be protected from the elements.

LONG TERM BICYCLE PARKING

Long-term facilities are for bicycle parking of longer than two hours.

Long-term bicycle parking includes bicycle rooms/cages, bicycle stations, and various types of bicycle lockers (traditional keyed, electronic, and collective).

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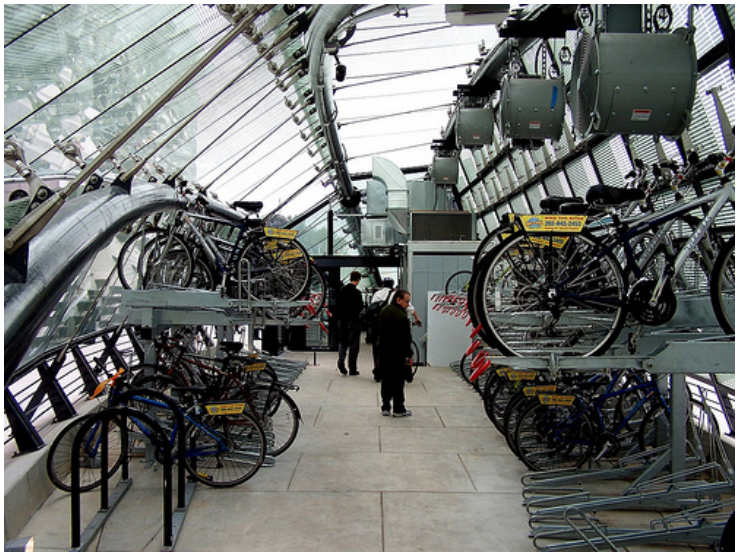
BICYCLE CAGES AND ROOMS

Bicycle cages and rooms shall restrict access exclusively to people parking bicycles inside a secure designated area. Access control to bicycle cages and rooms shall be with a key, keypad or cardkey. Bicycle rooms shall be located on the ground floor of a building to provide easy access, while cages may be located in basements or parking garages, and can be located outdoors.

If bicycle racks inside cages and rooms are inverted-U racks then installation should be in compliance with figure 3. Additionally, adequate clearance from walls and other fixed objects is necessary to allow parking of bicycles and aisle spacing should allow for:

Simultaneous users
Entry and exit from the space
Lifting of bicycles where there are two-tiered racks12

Hanging racks must allow for the use of “U” locks that can secure the bicycle frame and the dimensions of the rack must provide adequate clear distance behind the rack for easy maneuvering. If stacked racks are used, the second level should offer a device that assists with lifting the bicycle up on the rack. If space allows, these racks should be used in combination with standard floor racks since they are easier to use.



BICYCLE STATIONS

Bicycle stations shall provide secure bicycle parking locations indoors where access is controlled by an attendant, card key or key pad. Bicycle stations are encouraged to offer additional amenities to bicyclists like an attendant, or showers and/or lockers, sales of bicycle parts and supplies, and, in some cases, bicycle repairs and rentals. if stacking racks are used in self-serve stations, the racks shall offer assistance with lifting bicycles to the second level.

BICYCLE LOCKERS

Bicycle lockers securely protect a bicycle and its components as well as other related gear, including a helmet, bags, shoes, lights, and clothing. Typically one locker fits one bicycle.
They range from 22 square feet for an individual locker to 41 square feet for a quad of lockers. There are also collective bicycle lockers.

Space Requirements

Clearances shall be provided for ready access and egress of a bicycle.
To ensure user friendliness, lockers shall have the following characteristics:

- Spaced for 90+ degree door opening
- Labeled as bicycle parking
- Posted with directions for use
- Posted with membership information
- Wheel tracked for stacked lockers

SIGNAGE

Long-term bicycle parking shall be visible to bicyclists and relatively easy to access. If the parking facilities are not obvious, then signage shall be provided directing bicyclists to the long-term parking location. Above is an example sign for directing bicyclists to bicycle parking.

SPS-2

DRIVE-THRU FACILITY STANDARDS

DRIVE THRU FACILITIES STANDARDS

These standards are intended to provide an added level of definition for the development of sites with drive-through facilities in order to achieve the intent of the Regulating Code for a comfortable, safe and attractive pedestrian network and high quality public realm. Further, to balance the needs of motorized vehicles with those of pedestrians including public transportation and bicycles.

GENERAL REQUIREMENTS:

Buildings shall be located at the street edge

Main entrances shall be along street frontages with a direct route from the public sidewalk.

Vehicular and pedestrian traffic shall be distinctly separated

Stacking lanes, driveways, parking, utilities and services shall be located behind the buildings away from the street

Pedestrian safety and convenience shall take precedence over vehicular convenience.

INTEGRATION INTO THE BLOCK

Building location:

Locate new buildings as close to the street edge as feasible and in the context of the planned and/or existing adjacent buildings to the street. Buildings may be setback from the street line only if it will contribute to the enhancement of the public realm

Locate the main entrance door at the corner or on the more major street, on a corner lot.

Relationship to the public realm:

Locate the main entrance door directly off the public sidewalk.

Locate public amenities close to entrance and to the public sidewalk such as restaurant seating

Walls along the street face and walls visible from the street shall be transparent with windows, doors and other similar features to maximize views in and out of the building and to support its relationship with the public street and sidewalk

Canopies for stacking lanes associated with the pick -up window area, shall be incorporated at an appropriate scale, into the massing and expression of the building

Vehicular access:

Stacking lanes and driveways shall be located out of plain view of the public street and/or sidewalk, at the rear and/or side of the building. Stacking lanes and driveways shall not be located between the building and the street stacking lanes and driveways shall be integrated into the larger landscape and streetscape concept

A minimum of 10 stacking spaces shall be provided on site for restaurant and food sale use drive-through Facilities

A minimum of 4 stacking spaces on site for non-food related use drive-through Facilities.

Provide vehicular site access from the side or less major street where possible, to improve pedestrian safety on the major street sidewalk

Parking shall be located at the rear and/or side of the building out of view of the public street and/or sidewalk. Parking or vehicular site exits or entrances shall not be located between the building and the street.

Services integration:

Utilities and services such as transformers, loading and trash pick up shall be located at the rear or side of the building and integrate into the site design, landscaping and mass of the building.

Trash facilities shall be enclosed in enclosed structures, integrated into the building, with roofs, reinforced metal doors. Cladding materials for exterior garbage facilities that match or are complementary to the main structure.

Landscaping:

Provide well designed, high quality landscaping to enhance the appearance of the site from the street and public sidewalk and provide comfortable and safe pedestrian circulation and places of repose.

On-site landscaping shall be coordinated with streetscape improvements in the public boulevard.

A landscaped area shall be provided between the building and the street when a setback is provided.

Landscaped areas shall be provided to define and distinguish the front door of the building and to define the vehicular entrance to the drive through site.

Continuous soft landscaped areas no less than 6 feet in width shall define stacking lanes. At areas of pedestrian crossings low level landscaping shall be provided.

Landscaping shall be coordinated with adjacent or visible natural landscapes.

Landscaping shall be provided to screen views from the street edge of stacking lanes, driveways, parking, utilities and services to maintain an attractive and unified experience of the streetscape view along the street and/or sidewalk.

A landscaped transition area shall be provided between a drive-through facility and public open space. Where natural or naturalized areas exist, the landscaping on the drive-through site should be designed to respect and support it by providing native planting.

Screening shall be provided including low decorative fences or walls with continuous screening hedges maintained between 3 foot to 4 foot in height. Provide trees where possible, use high branching deciduous trees where it is necessary to maintain site lines.

Screening design, height and materials shall relate to the building expression, the character of the area, the surrounding streetscape .

Provide a minimum 8 foot wide landscaped area along the perimeter at the back and sides of the site to accommodate tree planting, fencing, snow storage requirements, etc. A greater width may be required where these requirements overlap, under change of grade conditions, or where walkways and other spatial needs are identified

Mediating measures such as sound attenuation fences with soft landscaping at back and side site edges are required and appropriate.

SPS-3

RAIL BOULEVARD STANDARDS

SPS-3

RAIL BOULEVARD STANDARDS

RAIL BOULEVARD DEVELOPMENT STANDARDS

These standards are intended to provide an added level of definition for the development of communities along the Rail Boulevard Corridor, as defined below, including Cornwells and Eddington Stations. They are intended to provide a consistent standard of development to enhance the quality of living environments along the Rail Boulevard Corridor.

These standards are to be considered minimum mitigation measures. Creativity is encouraged in order to achieve diversity, distinction and context sensitive solutions as long as they are executed in the spirit of the overall purpose of these standards in promoting a safe, integrated landscape with aesthetic quality and functionality. Mitigation measures should not create onerous, highly engineered conditions that overwhelm the aesthetic quality of the landscape.

THE RAIL BOULEVARD CORRIDOR:

The Rail Boulevard Corridor shall be considered to extend 900' from and parallel with the railroad right of way.

PROCESS:

SEPTA and AMTRAK and any other applicable railroads or railways (the "railway") shall be contacted in writing (the "development notice") during the project's early design phase to determine:

the location of the site in relation to the rail corridor
the nature of the proposed development;
the frequency, types, and speeds of trains travelling within the corridor;
the potential for expansion of train traffic within the corridor;
any issues the railway may have with the new development or with specific uses proposed for the new development;
the capacity for the site to accommodate standard mitigation measures (or the need for a Viability Analysis);
any suggestions for alternate mitigation measures that may be appropriate for the site;
the suggested specifications to be applied to the project.

Once a development notice has been delivered to the railway for review, it will have 30 days to respond (60 days in cases where a Viability Analysis has been required), and indicate any conditions for consideration and discussion. The final decision as to whether or not to impose those conditions will lie with the CRC.

BUILDING DISPOSITION:

The building setbacks within developments in proximity to railway operations are as follows:

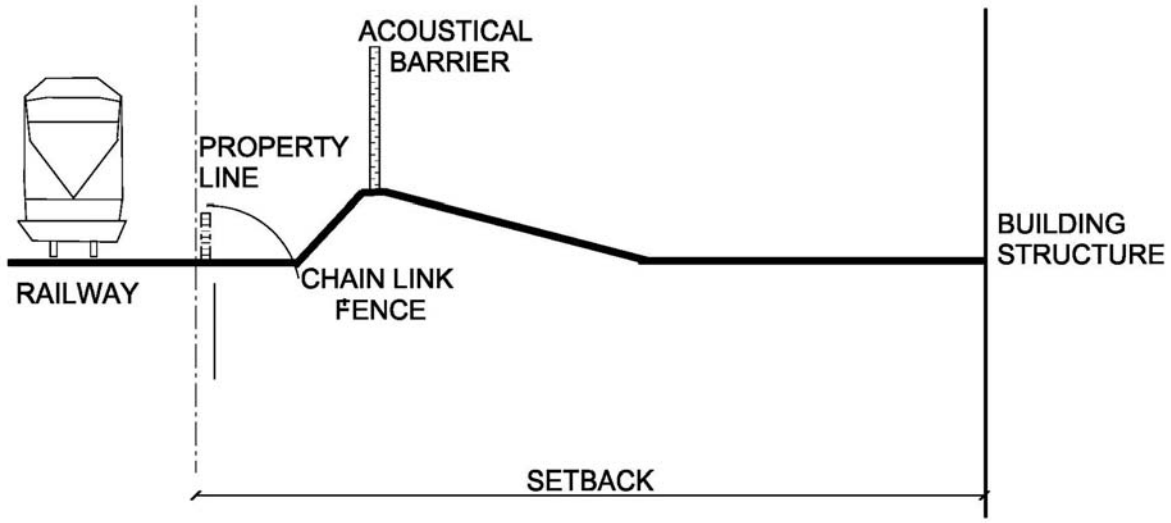
Freight Rail Yard:	900 feet
Principle Main Line:	100 feet
Secondary Main Line:	100 feet
Principle Branch Line:	50 feet
Secondary Branch Line:	50 feet
Spur Line:	50 feet

Setback distances shall be measured from the railroad right of way line to the building face, in a straight horizontal line, perpendicular to the right of way
Reductions in setback of up to 15 feet may be achieved through a reciprocal increase in the height of a safety berm.

MITIGATION MEASURES:

Safety barriers

Where full setbacks are provided, safety barriers may be constructed as earthen berms compacted to 95% modified proctor.



Berms are to be constructed adjoining and parallel to the railway right-of-way with returns at the ends and to the following specifications:

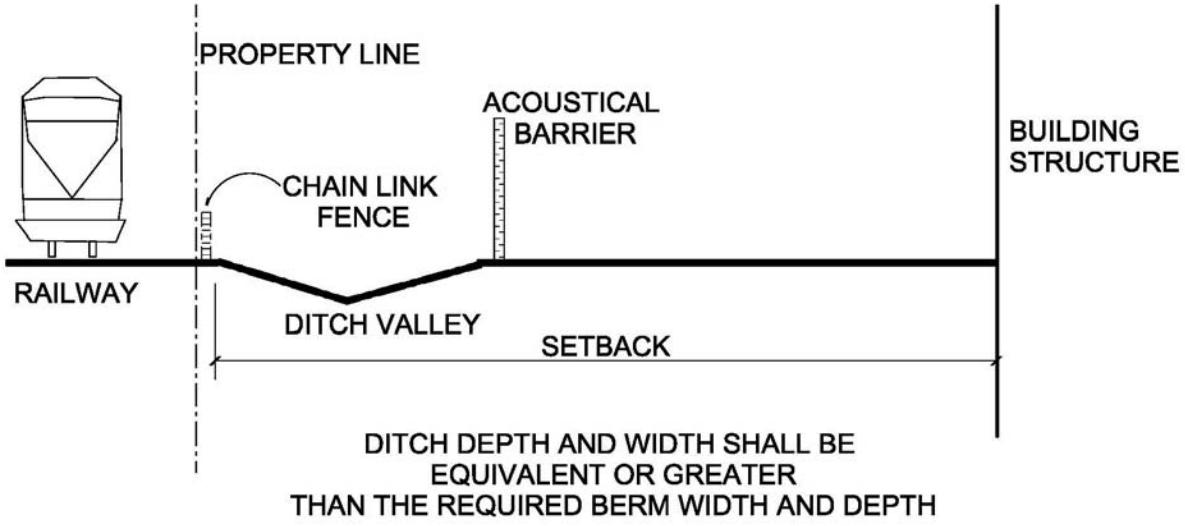
Principle Main Line:	7 feet above grade
Secondary Main Line:	6 feet above grade
Principle Branch Line:	6 feet above grade
Secondary Branch Line:	6 feet above grade
Spur Line:	not required

Side slopes shall not exceed 3 to 1 Steeper slopes may be possible in tight situations and shall be reviewed with the railway and the CRC for approval.

Berm height is to be measured from grade at the property line. Reduced berm heights are possible where larger setbacks are proposed.

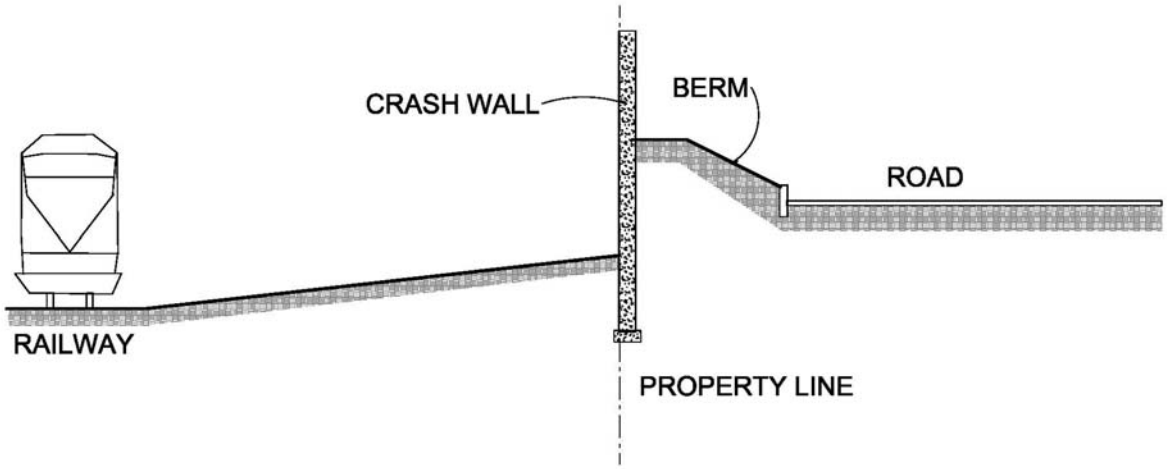
Where the railway line is in a cut of equivalent depth, no berm is required.

In lieu of the safety berm, a ditch or valley between the railway and the subject new development property that is equivalent to or greater in depth and width than the height and width of the berm may be considered



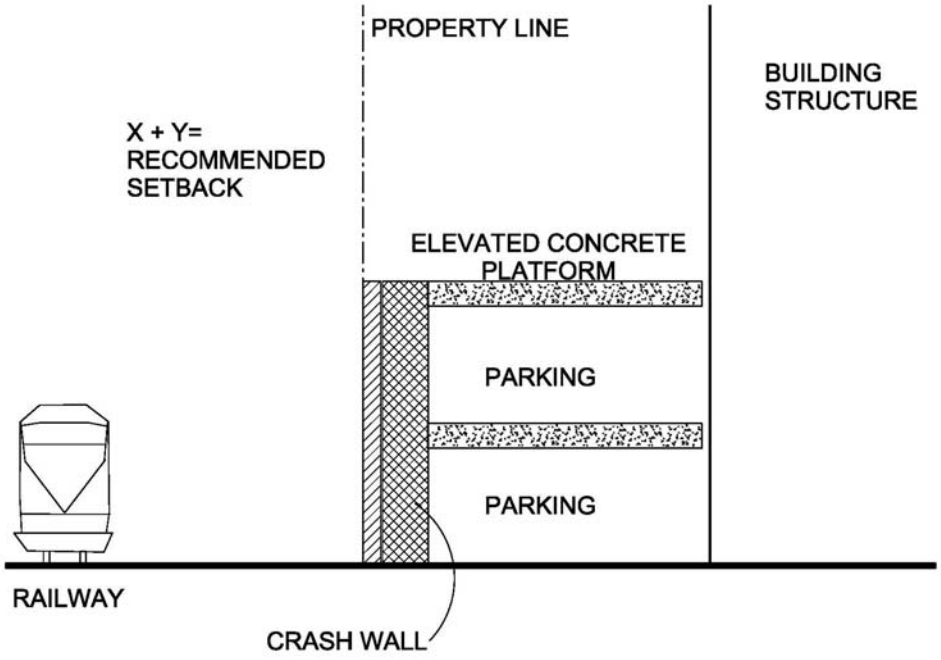
Where the standard berm and setback are not technically or practically feasible, a Viability Analysis shall be conducted by the property owner to evaluate the conditions specific to the site, determine its suitability for development, and suggest alternative safety measures such as crash walls or crash berms.

Crash Berms are permitted in spatially constrained sites where a full berm cannot be accommodated. Crash berms are reinforced berms – essentially a hybrid of a regular berm and a crash wall and are preferred over the use of crash walls. Crash berms shall be constructed of concrete wall structures retaining more earth behind the wall opposite the railroad right of way.



Crash walls are permitted spatially constrained sites where a full berm or a crash berm cannot be accommodated.

Horizontal setback requirements may be reduced with the construction of a crash wall. A low-occupancy podium may be utilized and the setback can be measured as a combination of horizontal and vertical distances, the sum of the horizontal and vertical value shall be equal to or greater than recommended setback.



When proposing a crash wall, the owner shall undertake a detailed study outlining the site conditions and design specifics of the proposed structure. This study shall be submitted to the CRC for approval and must contain the following elements:

1. a location or key plan for the purpose of identifying the mileage and subdivision, the classification of the rail line, and the maximum speed for freight and passenger rail traffic;
2. a Geotechnical Report of the site;
3. a site plan clearly indicating the property line, the location of the wall structure, and the centerline and elevation of the nearest rail track;
4. layout and structure details of the proposed crash wall structure, including all material notes and specifications, as well as construction procedures and sequences. All drawings and calculations must be signed and sealed by a professional engineer;
5. the extent and treatment of any temporary excavations on railway property; and
6. a crash wall analysis, reflecting the specified track speeds for passenger and/or freight applicable within the corridor, and which includes the following four load cases:

    Freight Train Load Case 1 - Glancing Blow: three locomotives weighing 200 tons each plus six cars weighing 143 tons each, impacting the wall at 10 degrees to the wall;

    Freight Train Load Case 2 - Direct Impact: single car weighing 143 tons impacting the wall at 90 degrees to the wall;

    Passenger Train Load Case 3 - Glancing Blow: two locomotives weighing 148 tons each plus 6 cars weighing 74 tons each impacting the wall at 10 degrees to the wall

Passenger Train Load Case 4 - Direct Impact: Single car weighing 74 tons impacting the wall at 90 degrees to the wall.

The crash wall design must include horizontal and vertical continuity to distribute the loads from the derailed train.

To assist in designing the crash wall safety structure, the following should be considered:

The speed of a derailed train or car impacting the wall is equal to the specified track speed;

The height of the application of the impact force is equal to 0.914 m (3 feet) above ground;

The minimum height of the wall facing the tracks is equal to 2.13 m (7 feet) above the top of rail elevation.

For energy dissipation calculations, assume:

Plastic deformation of individual car due to direct impact is equal to 0.3 m (1 foot) maximum;

Total compression of linkages and equipment of the two or three locomotive and six cars is equal to 3.05 m (10 feet) maximum;

Deflection of the wall is to be determined by the designer, which would depend on material, wall dimensions and stiffness of crash wall.

Noise

Careful consideration of the location and orientation of buildings, as well as their internal layout can minimize the exposure of sensitive spaces to railway noise. Site design shall take into consideration the location of the rail corridor, existing sound levels, topography, and nearby buildings.

Noise studies shall be conducted for development in proximity to railway operations as follows:

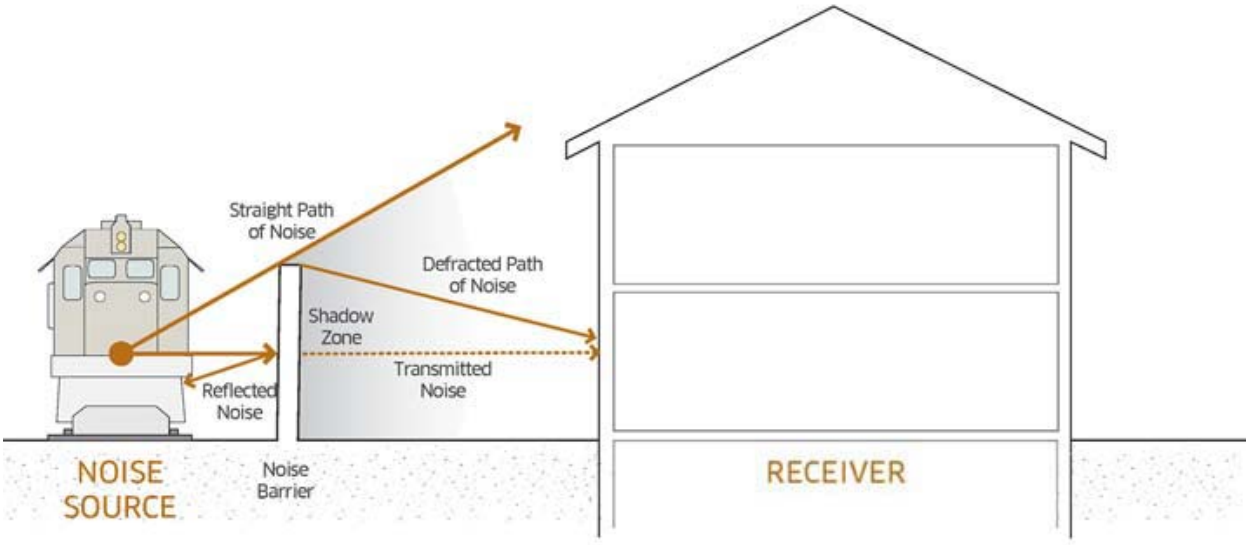
Freight Rail Yards:	3,000 feet
Principal Main Lines:	900 feet
Secondary Main Lines:	750 feet
Principal Branch Lines:	450 feet
Secondary Branch Lines:	225 feet
Spur Lines:	225 feet

An acoustic consultant shall calculate the external noise exposure, confirm with measurements if there are special conditions, and calculate the resultant internal sound levels. This study shall be conducted as it relates to the specific proposed development. The measurements and calculations shall be representative of the full range of trains and operating conditions likely to occur in the foreseeable future at the particular site or location. The study report shall include all necessary details of assessment methods, results summary, and recommended outdoor as well as indoor control measures.

Habitable rooms shall be designed to meet the criteria when their external windows and doors are closed. If sound levels with the windows or doors open exceed these criteria by more than 10 dBA, the design of ventilation for these rooms shall be such that the occupants can leave the windows closed to mitigate against noise.

Noise Barriers

The required height of noise barriers shall be determined by an acoustic engineer in a noise report.



For the purposes of pre-planning minimum heights are as follows:

Principal Main Line:	18 feet above top of rail
Secondary Main Line:	15 feet above top of rail
Principal Branch Line:	13 feet above top of rail
Secondary Branch Line:	no minimum
Spur Line:	no minimum

When not at the same grade, the barrier heights shall be measured from an inclined plane struck between the ground at the wall of the proposed building and the top of the highest rail.

Noise barriers shall be constructed adjoining and parallel to the railway right-of-way with returns at each end.
They shall be constructed without holes or gaps
They shall be made of a durable material with sufficient mass to limit the noise transmission to at least 10 dBA less than the noise that passes over the barrier
The barrier shall be constructed of masonry, concrete, or other equivalent low maintenance, durable construction to achieve the maximum noise reduction combined with longevity.

Consideration shall be made to limiting the visual impact of noise barriers in order to maintain a high level of urban design in all new developments, and to discourage vandalism. Incorporation of public art into the design of the barrier, the planting of trees and shrubs on the side of the barrier facing the development, or construction of the barrier as a living wall, are encouraged and preferred.

Building Construction
Noise mitigation shall be considered at the outset of a development project, during the layout and design stage. The layout of buildings shall be constructed and configured, to the greatest extent feasible, to reduce the impact of rail noise.

Bedrooms and other habitable areas shall be located on the side of the building furthest from the rail corridor. Rooms that are less sensitive to noise are to be located on the noisy side of the building to serve as a noise buffer.

Minimize the number of doors and windows on the noisy side of the dwelling to reduce the intrusion of noise

To reduce the transmission of noise into the building, masonry or concrete construction or another form of heavy wall shall be used for all buildings in close proximity to railway corridors. Penetrations caused by exhaust fans, doors, or windows of a lesser insulation capacity shall be kept to a minimum. Exhaust vents shall be treated with sound-absorbing material when located on walls which are directly exposed to the external noise.

Windows shall be double glazed and properly sealed with a flexible caulking such as mastic or silicone on both the inside of the window and outside, between the wall opening and the window frame;

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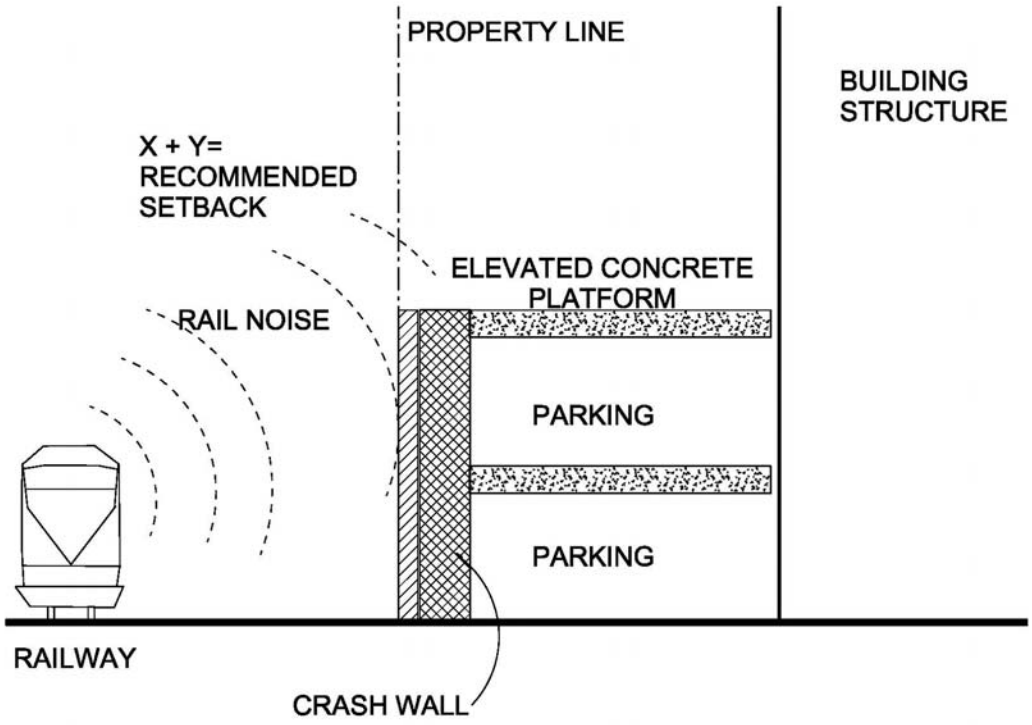
When using double-glazing is used the design professional shall specify the panes with different thicknesses to avoid sympathetic resonance or to use at least one laminated lite to dampen the vibration within the window

Sliding patio doors should be treated as windows when assessing attenuation performance.

STC ratings shall include the full window assembly with the frame

Outdoor rail noise can be substantially reduced by building residential apartments on top of a podium or commercial building space. If the residential tower is set back, then the podium provides increased distance from the railway corridor, reducing the noise from the corridor and providing extra shielding to the lower apartments.



Where enclosed balconies are provided acoustic louvers and/or mechanical ventilation shall be provided to move air into and out of the balcony space

Vibration

A qualified acoustic or vibration consultant shall conduct a vibration impact study for any development proposed within 250 feet of the railroad right of way. The study shall be conducted at the outset of a development project, during the layout and design stage, to determine whether vibration mitigation measures are necessary and what options are available given the particular conditions of the development subject site.

The consultant shall conduct vibration measurements and calculate the resultant internal vibration levels. The measurements and calculations shall represent the full range of trains and operating conditions likely to occur at the particular site or location. The study report shall include all necessary details of assessment methods, results summary, and recommended control measures.

The following physical parameters shall be considered by the consultant for designing vibration control:

Operational and vehicle factors: including speed, primary suspension on the vehicle, and flat or worn wheels.

Guideway: the type and condition of the rails and the rail support system.

Geology: including but not limited to the stiffness and internal damping of the soil and the depth of bedrock.

Receiving building: the vibration energy that reaches the building foundations, the coupling of the building foundation to the soil, and the propagation of the vibration through the building.

SECURITY FENCING:

All new developments in proximity to railway corridors must include a minimum 4 foot high chain link fence along the entire mutual property line. The fence shall be constructed by the owner entirely on private property. Other materials may also be considered, in consultation with the railway and the CRC. Noise barriers and crash walls are acceptable substitutes for standard fencing. Additional standard fencing shall be required in any location with direct exposure to the rail corridor to ensure there is a continuous barrier to trespassing.

STORMWATER MANAGEMENT:

Stormwater management and drainage infrastructure associated with a development or railway corridor adjustments shall not adversely impact on the function, operation, or maintenance of the corridor, or shall not adversely affect area development.

Development should not discharge or direct stormwater, roof water, or floodwater onto a railway corridor.

Any development-related changes to drainage must be addressed using infrastructure and/or other means located entirely within the confines of the subject development site

Stormwater or floodwater flows should be designed to maintain the structural integrity of the railway corridor infrastructure, avoid scour or deposition, and prevent obstruction of the railway corridor as a result of stormwater or flood debris.

MAINTENANCE OF SAFETY INFRASTRUCTURE:

The owner shall be responsible for the maintenance of berms, chainlink fences, and sound walls and that portion of the berm contained within their site.

Where a sound wall is erected, the portion of the berm situated on the side adjoining the railway shall be maintained by the railway when the property is under the ownership of the railway.

NUISANCE MITIGATION:

To ensure that those who may acquire an interest in a subject property are notified of the existence and nature of the rail operations, the potential for increased rail activities, the potential for annoyance or disruptions, and that complaints should not be directed to the railways, the owner shall insert such warning clauses into all agreements of purchase and sale or lease for the affected lots/units.

CONSTRUCTION PLANNING:

Prior to the start of construction of a new development, the railway shall be consulted. Rail corridor-related infrastructure must be identified and plans adjusted as required to ensure that these features are not adversely affected by the proposed construction.

No entry upon, below, or above the rail corridor shall be permitted without prior consent from the railway.

Appropriate permits and flagging are required for work immediately adjacent to railway corridors. The owner is responsible for any related costs and for obtaining all appropriate permits, flagging and satisfying all other requirements of railways.

Temporary fencing shall be provided as needed to discourage unauthorized access to the rail corridor.

Plans illustrating proposed fencing /staging locations as well as any other construction related infrastructure, shall be submitted to the CRC and the railway for approval.

Cranes, concrete pumps, and other equipment capable of moving into or across the airspace above railway corridors shall not be used in airspace over the rail corridor without prior approval from the railway.

Existing services and utilities under a rail corridor shall be protected from increased loads during the construction and operation of the development.

Construction shall not obstruct emergency access to the railway corridor.

VIABILITY ANALYSIS:

Development proposals will be submitted for smaller or constrained sites that are not able to accommodate the mitigation measures outlined in this standard, particularly the full setback and berm. Such proposals shall be subject to a Viability Analysis to assist developers in assessing the viability of their site for development and in designing the appropriate mitigation to effectively address the potential impacts associated with building near railway operations.

A Viability Analysis is an evaluation based on the specific and inherent characteristics of the development area to determine any potential conflicts resulting from the proximity of the development to the neighboring rail corridor, any potential impacts on the operation of the railway as a result of the new development, both during the construction phase and afterwards and the identification of appropriate mitigation measures.

The proposed development shall not be permitted until the impacts on both the railway and the development itself are appropriately managed and mitigated.

The Viability Analysis shall be carried out by a qualified planner or engineer in close consultation with the railway to ensure that all relevant matters are addressed. The Analysis shall:

Identify all potential hazards to the operational railway, its staff, customers, and the future residents of the development;

Take into account the operational requirements of the railway facilities and the whole life cycle of the development;

Identify design and construction issues that may impact on the feasibility of the new development;

Identify the potential risks and necessary safety controls and design measures required to reduce the risks to the safety and operational integrity of the railway corridor and avoid long-term disruptions to railway operations that would arise from a defect or failure of structure elements;

Identify how an incident could be managed if it were to occur.

The following is an outline of the minimum content requirements for a standard Viability Analysis. Additional issues may need to be addressed in a Viability Analysis, depending on the unique nature of the subject site and the proposed development.

Site details

The Analysis shall include detailed conditions of the subject site. At a minimum, the factors to be evaluated are:

site condition (cutting, embankments, etc.);

soil type, geology;

topography;

prevailing drainage patterns over the site; and

proximity to the railway corridor and other railway infrastructure/utilities.

Railway details

Details of the railway corridor (or other facility) itself. At a minimum, the factors to be evaluated are:

track geometry and alignment (i.e. is the track straight or curved, etc);

the existence of switches or junctions;

track speed, including any potential or anticipated changes to the track speed;

derailment history of the site and of other sites similar in nature;

current and future estimated usage and growth in patronage (10-year horizon);

details of any future/planned corridor upgrades/ works, or any protection of the corridor for future expansion, where no plans are in existence;

topography of the track (i.e. is it in a cut, on an embankment, or at grade, etc).

Development details

Details of the development itself, including design and operational components. At a minimum, the following information shall be provided:

proximity of the proposed development to the railway corridor or other railway infrastructure;

clearances and setbacks of the proposed development to the railway corridor;

any collision protection features proposed for the new development, to protect it in the case of a train derailment.

Construction details

It is understood that construction details will not be finalized at this stage of the development application. Construction impacts shall be evaluated ensuring the railway corridor, infrastructure, staff, and users can be adequately protected from activities associated with the construction of the development. At a minimum, the following information shall be provided:

details with regard to corridor encroachments :

a. whether access to the railway corridor will be required;
b. whether any materials will be lifted over the railway corridor;
c. whether any temporary vehicle-crossing or access points are required; and
d. whether there will be any disruption to services or other railway operations as a result of construction;

details with regard to services and utilities:

a. whether any services or utilities will be required to cross the railway corridor;
b. whether any existing railway services/ utilities will be interfered with;

details with regard to stormwater, drainage, sediment, and erosion control

a. temporary stormwater and drainage will operate during construction,
b. how sediment and erosion control will be managed.

details with regard to security of the railway corridor during construction,

a. details about the type and height of security fencing to be used

details of any planned demolition, excavation and retaining works within 100 feet of the railway corridor and specify the type and quantity of works to be undertaken;

Identification of hazards and risks

Individual risks shall be identified and evaluated with separate mitigation measures planned for each. At a minimum, consideration must be given to:

the safety of people occupying the development and the potential for the loss of life in the event of a train derailment;

potential structural damage to the proposed development resulting from a collision by a derailed train;

the ability of trespassers to enter into the railway corridor.

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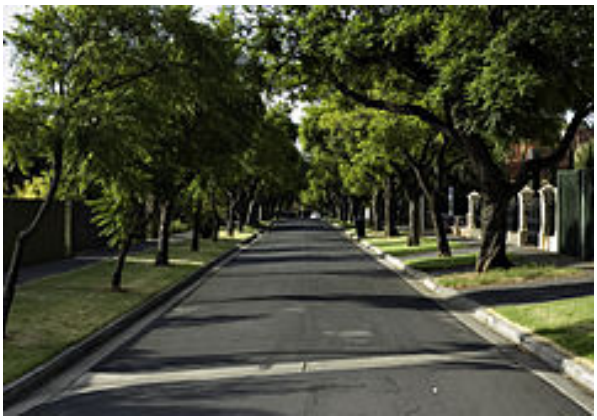
PUBLIC PLANTING STANDARDS



TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

SMALL TREES (under 30')		
Thornless Cockspur Hawthorn		*Crataegus crus-galli* - Tree features horizontally-tiered branches, late spring clusters of white flowers; Deep green leaves turn to a red/orange in the fall; red berries emerge in early fall and persist through winter; completely thornless. Great for privacy and accent, extremely versatile in the landscape; low-branched, extremely tolerant tree.
Queen Elizabeth Hedge Maple		*Acer campestre* - A medium sized tree with an upright growth habit becoming rounded with age. More vigorous and upright growing than typical Hedge Maples, which often have horizontal or weeping limbs, Queen Elizabeth has 45˚ branch angles. Upright branching, dark green foliage turns yellowish in fall.
Tataiian Maple		*Acer tataricum* - 20-25', best in full sun to partial shade. It is adaptable to both dry and moist locations and is considered to be drought-tolerant; highly tolerant of urban pollution. Slender branches form a intermediate size tree with a somewhat irregularly rounded crown. Dark green leaves turn yellow in fall and winged seeds maturing to rosy-red then to dried brown. Tolerates alkaline soil.
Service Berry (all hybrids)		*Amelanchier laevis* - Sun to partial shade; moist, well drained soil but tolerates dry soil, moderate growth rate, short-lived,15-20 ft, narrow crown (cultivars to 30'), many hybrids; cultivated for use as a multi-stemmed bush for privacy screen or as a"Single Stem" tree-like formation
Oaklahoma Redbud		*Cercis canadensis* - Large fuchsia blooms in late winter and early spring. The pink blooms in spring, lavender blooms in summer, and various shades of autumn. Compact tree will mature to a height of 30 feet and a width of 20 feet; has a deep root system but fits in tight spaces. Tolerant of occasional droughts; attracts birds and butterflies.
Lavalle Hawthorn		*Crataegus lavallei* - Broad rounded crown, thorns along branches,white flowers in spring, followed by berries, ripening to orange-red in the fall. In summer, leaves are dark green becoming bronze-red in the fall. Narrow while young, non-aggressive roots make it a good sidewalk tree & a power line tree with mature height 25' and width 20'.
Washington Hawthorn		*Crataegus phrenopyrum* - broadly ovate crown, widely grown as a hedgerow tree, enjoys moist soil conditions but can tolerate brief drought once established, prefers full sunlight but will grow in partial shade, dark green foliage hides the 3-inch long thorns on the branches and trunk of the tree, 25-30'.
Sweet Crabapple		*Malus coronaria* - small ornamental tree with a short trunk, to 30 ft, broad rounded crown, best in slightly acid, moist, well-drained soil, should be planted in full sun, very little pruning is required beyond removing dead or diseased branches. (native, other hybrids)

TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

SMALL TREES (under 30')		
Japanese Flowering Crabapple		*Malus floribunda* - small ornamental tree, bright pink buds open to fragrant white flowers, has an irregular, spreading branch habit as it ages, showy, persistent yellow-red fruits and good disease resistance. Use as a specimen tree, in small groups, or a mixed border, size ranges 15-25'
Zumi Crabapple		*Malus × zumi var. calocarpa* -white flowers and glossy, small, bright red crabapples; rounded-to-spreading,12-20' high; dark green foliage. Plant as background for other flowering plants, near fences, in groups as a screen or hedge; may be used as a street tree.
Northern White Cedar /Arbor-vitae		*Thuja occidentalis* - to 60 ft, can spread to 12 ft wide, prune to keep small, narrowly columnar (cultivars to 30'), slow growing, use as hedge or screen planting
Common Chokecherry		*Prunus virginiana* - to 30 ft, ovate crown, tolerates very cold, heat, wind, poor soil and fluctuating temperatures, round, arching branches, moderate growth rate & water needs
Shubert Chokeberry		*Prunus virginiana* - 15’ to 30’ height, 15’ to 30’spread, full sun to part shade; medium moisture; attracts birds & butterflies; pink flowers with burgundy foliage in fall.
Kwanzan Japanese Flowering Cherry		*Prunus serrulata* - Double pink flowers, should be located on a site with loose soil and plenty of moisture; some tolerance to salt, and clay if well-drained; yellow fall color, non-fruit bearing, prefers full sun, lifespan15 to 25 years.
Columnar Sargent Chery		*Prunus sargentii* - Upright to vase shaped tree, highly recommended for home and urban landscape, moderate growth rate, pink to deep pink single blooms appear before the new red-tinged leaves. Pea-sized fruits are red, ripening to a dark purple in June and July, Fall leaves take on various shades of orange, bronze & red.
Lilac Tree		Sometimes described as a large shrub or small tree with stiff, spreading branches and an oval to rounded crown, Japanese tree lilac eventually becomes a graceful, somewhat arching specimen, spreading to a width of 15’ to 25’, flowers best in full sun conditions.

TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

MEDIUM TREES 30' TO 40'		
Ruby Red Chestnut		*Aesculus x carnea* - A magnificent oval headed tree with large leaves and deep red flowers in upright clusters 10" or more in length. A must tree for the collector. More compact in growth than other Horsechestnuts. Mature height & width 30' - 40'. Prefers full sun, flowers in summer, no fall color.
Eastern Red Cedar		*Juniperus virginiana* - to 35 ft, needled evergreen, height 30-50', spread 10-20', pyramidal, slow-growing, cold winter weather may cause the foliage to turn a pinkish hue, produces clusters of blue berries, effectively used as a hedge or windbreak
American Hophornbeam		Ostyra virginiana - to 40 ft, conical crown becoming globose (Class A) Slow growing, pyramidal when young. Broader crown with horizontal to drooping smaller branches when mature, good for planting on boulevards with narrow berms.
Carolina Silverbell		Halesia carolina - usually 15-40' tall and 15-35' wide, full sun to part shade, green leaves in summer yellow in fall, white flowers that appear in April and May are shaped like bells, forming in small clusters that hang downward on the tree. This tree may form multiple trunks, so choosing one as a central leader when it is in its early years and pruning lower branches can help give this a tree form.
Golden Rain		Average to 30 feet, dense with rounded crown and spread of equal size, sparingly branched, hearty tolerance to drought, poor soil, and air pollution making it an excellent urban and street tree.
Amur Maackia		*Maackia amurensis* – 20'-30', Amur maackia is slow-growing, tolerates severe dryness, cold and heavy soils, summer flowers appear silvery with frost on them, full sun to part shade, good shade, street and flowering tree
Persian Parrotia		*Parrotia persica* - low-branched small tree, unusual form and texture, early small flowers have red stamens, fall color mix of yellow, orange and red, fall foliage develops to yellow/orange/scarlet, excellent small lawn or street tree, will tolerate many soil types, and will do well in full sun or light shade. 20-40'
Yoshino Cherry		*Prunus yedoensis* - low-branched, unusual form and texture, blooming flowers have red stamens, fall color mix of yellow, orange and red, reddish purple leaves change to green in summer, fall foliage is yellow/orange/scarlet, excellent small lawn or street tree, will tolerate many soil types & does well in full sun or light shade, 20-30'

TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

MEDIUM TREES 30' TO 45'		
Sawtooth Oak		*Quercus acutissima* - is a good shade tree, leaves are 4-8 inches long, may stay on the tree through most of the winter, summer twig shows small acorns about 1" in diameter, grows to a height of 40–60' and a spread of 40–60' at maturity, grows at a medium to fast rate, prefers full sun.
Korean Mountain Ash		*Sorbus alnifolia* - grows quickly to 30' tall, canopy casts dense shade, green leaves change to yellow, orange, and rust in fall, late spring clusters of white blooms are followed by red to yellow fruits.Fruits display nicely after leaves fall in autumn, grows best in full sun, is tolerant of clay, loam and sandy soils. Moderately tolerant of drought.

TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

LARGE TREES OVER 45'		
Valley Forge Elm		*Ulmus Americana* - "Delaware" and "Valley Forge" hybrids - to 90ft, crown vase shaped, tolerates salt, poor soil conditions, drought and pollution, other native hybrids
Black Gum/Tupelo		*Nyssa sylvatica* - to 70 ft, conical, becoming irregularly ovate with age, grows at a slow to medium rate, with height increases of anywhere from less than 12" to 24" per year, Full sun and partial shade, grows well in in acidic, loamy, moist, rich, sandy, silty loam and well-drained soils.
Sweet Gum		*Liquidambar styraciflua* - to 60-100 ft, crown pyramidal when young, flat or rounded top later, moderate to rapid growth rate, can live more than 150 years, Situate where mature height cannot interfere with overhead wires or other obstructions and at least 8 to 10 feet away from sidewalks and curbs, as the tree has an aggressive root system that can cause pavement to heave. "Rotundiloba" is seedless
Ginkgo		*Ginkgo biloba* - **"Princeton Sentry"** practically pest-free, resistant to storm damage, and casts light shade due to the narrow crown, dense, fat columnar form growing to about 65 ft tall with a 15 to 20-ft-wide crown, durable street tree. Ginkgo tolerates most soil, including compacted, and alkaline
Hackberry		*Celtis occidentalis* - to 50 ft, broadly globose crown, rugged fast growing tree, can withstand pollution, high salt, acid, sand, clay and alkali levels in soils, as well as survive extended flooding and drought
American Linden		*Tilia Americana* - to 70 ft, broad conical crown, grows best on floodplains and near wetlands, away from large paved areas, as the reflection of the heat from the asphalt tends to damage the leaves. **Linden** (Tilis cordite) - "Greenspire"
Red Maple		*Acer rubrum* - to 100 ft, rounded crown, can't tolerate soils with a considerably high pH. They're also intolerant of salt and need partial shade to full sun.
Swamp White Oak		*Quercus bicolor* - to 80 ft, broadly ovate to globose crown, grows best in full sun in moist to wet, deep, acidic soils.

TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

LARGE TREES (OVER 45')		
Shingle Oak		*Quercus imbricaria* - to 65 ft, conical crown, broadly globose with age, flowers are greenish – yellow, with flowering and leafing sprouting together, acorns are brown, almost round and stalked, deep-rooting plant, sun to slight shade, permeable soils, garden, street and parks tree.
White Oak		*Quercus imbricaria* - to 65 ft, conical crown, broadly globose with age, flowers are greenish – yellow, with flowering and leafing sprouting together, acorns are brown, almost round and stalked, deep-rooting plant, sun to slight shade, permeable soils, garden, street and parks tree.
Willow Oak		*Quercus phellos* - to 80 ft, rounded and somewhat open crown, long life span relative to most other species and a rapid growth rate. At maturity, the typically will reach up to 100 feet high, with a maximum height at 20 years of 60 feet. well adapted to moist, well-drained, acid soils and full sun or light shade
Pin Oak		*Quercus palustris* - to 75 ft, conical crown becoming ovate with age, do not handle soil with high pH levels well. They prefer moist soil, as well as loam, sandy and clay soil types. Pin oak trees thrive in full sun and partial shade.
Red Oak		*Quercus rubra* - to 100 ft, broadly ovate somewhat open crown, grows 2 feet per year, sturdy street tree tolerant of urban pollution; develops chlorosis in high pH soils. Easy to transplant
Bald Cypress		*Taxodium distickum* - to 80 ft, conical to columnar crown, loses needles in fall, highly resistant to flooding, has a very long lifespan, can survive in really poor soil, though they grow a lot slower than they do in nutrient-rich soils
American Linden		*Tilia Americana* - to 70 ft, broad conical crown, grows best on floodplains and near wetlands, away from large paved areas, as the reflection of the heat from the asphalt tends to damage the leaves.
Kentucky Coffee		*Gymnocladus dioica* to 75 ft, no coffee beans, leaves on tree only about 6 mos., tolerates pollution, prefers rich, moist soil, but can also tolerate drought, no problems with pests and diseases, variety of soil types, except heavy clay,

TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

LARGE TREES (OVER 45')		
Dawn Redwood		*Maetasequoia glyptostroboides* - to 85 ft, conical crown, love full sun and an abundance of groundwater in deep, well-drained, acidic soil, fast growing, capable of surviving in dry soils, although not to the best of its ability
Japanese Zelkova		*Zelkova serata* - to 70 ft, exotic, fast-growing & roundheaded in youth, becomes vase-like and moderate growth in maturity, prefers moist deep soil & full sun, is wind & drought resistant & tolerates pollution, good lawn or street tree choice providing shade quickly.
Amur Cork		*Phellodendron amurense* - to 50 feet, mature specimens have short dark gray trunks with deeply ridged and corky bark, and widely spreading crowns, round green berries ripen black, smell strongly of turpentine. ***Some states prohibit this tree as an invasive species.***
Prairie Pride Hackberry		*Cettis occidentalis* - has a rounded unifom form, moderate to fast growing to 40-50', long narrow green leaves, hardy tree. Small dark green flowers produce distinct red fruit that attract birds. Tolerates windy, dry conditions and poor alkaline soils. The dark green leaves turn yellow in the fall, prefers full sun.
Turkish Filbert		*Corylus colurna* - pyramidal tree with dark green leaves, broadly rounded and heavily toothed, turning yellow to coppery red in fall, edible, thick shelled nuts mature in late summer, extremely water thrifty, mature size, 30-50', growth rate modetate, prefers full sun.
Hardy Rubber Tree		*Eucommia ulmoides - a* verage, well-drained soils in full sun to light shade.Tolerates wide range of soil conditions except wet ones, is insect and disease resistant, grows 40-60', round spreading crown, rubber can be made from the tree sap, but extraction process is complicated and costly. Tear a leaf, break a twig or peel off some bark and a stringy latex-like sap appears.
Shademaster (Honey Locust)		*Gleditsia triacanthos* - An open rounded tree with slightly arching branches turning upward at the ends, green, fern-like foliage turns yellow in fall, moderate water, fast growing, partial to full sun, 40-50' maturity height.
English Oak		*Quercus robur* - Stately, broad, round-topped tree with spreading branches and deeply grooved bark. Dark green leaves turn golden yellow then brown in fall often clinging through winter, water thrifty, moderate need, slow groth rate, full sun, 40-60' mature height.

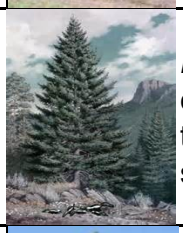
TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

LARGE TREES (OVER 45')		
Shumard Oak		*Quercus shumardii* - a type of deciduous southern Red Oak, red fall color and is relatively disease and drought resistant, full sun, generally 40-60' in height with an equal spread, pyramidal tree becoming more spreading, slow to moderate growth rate, well-drained soil & tolerant of most soil types.
Redmond Linden		*Tilia americana* - strong pyramid-shaped form throughout life, clean habit and fragrant yellow flowers in early summer, compact, great shade or street tree, 50' at maturity, with a spread of 35', high canopy, typical clearance of 6' from ground, not for under power lines, medium grow rate, full sun, adapts to dry and moist locations, somewhat tolerant of urban pollution.
Little Leaf Linden		*Tilia cordata* - medium to slow growth about 60' tall by 40' wide, often only 20' tall by 10' wide when used as street tree, upright pyramidal youth, rounded oval with age, full sun to partial shade, best in full sun, moist, well-drained soil, not tolerant to heat, drought, poor soils and pollution, creamy yellow summer flowers, moderately fragrant.
Cremean Linden		*Tilia x euchlora* - Rapid growing reaches heights of 40-50', pyramid-like shape when young, oval shaped as it matures, leaves are 2-4" wide, deep green and are heart shaped, well-drained, moist soil conditions, prefers full sun, fragrant flowers of yellowish-white bloom early summer, nut-like fruits, produces wood that is light and soft for carving
Silver Linden		*Tilia tomentosa* - popular shade tree found lining streets, grow to 50-70', young pyramid shape, oval when mature, dark green, heart shaped leaves that are 2-4" wide, fast-growing, fragrant yellow flowers bloom in summer, likes well drained soil, regular waterings and prefer sunny to partially shaded areas, wood is light in color and used for lumber and furniture.
"Homestead" Elm		*Ulmus* - large conical form with dark green foliage grows rapidly to 60' high, very symmetrical, spreads to 35', highly resistant to Dutch Elm disease, golden yellow fall color, prefers full sun
Exclamation Plantree		*Platanus x acerifolia* - A strong central leader and upright pyramidal shape, full sun, tolerant to acid & alkaline soils, drought, frost, & poor drainage, showy fruit, attractive bark, fast growth to 55'. Good for city streets & urban environment.
"Dynasty" Lacebark Elm		*Ulmus parvifolia* - Easily grown in average, dry to medium, well-drained soils in full sun, tolerates drought, a wide range of soils and urban conditions, prefers rich, moist soils with good drainage, fast-growing, vase-shaped, with a small rounded crown, average 20-40' tall, dark green leaves often turn an attractive red in autumn, good for urban areas.

TREES SUITABLE FOR URBAN STREET PLANTING BENSALEM 2018

BUFFER YARDS & SCREENS

Buffer Yards: **Where buffer yards are required, an evergreen planting screen shall be used to provide an adequate visual barrier. Minimum height for plant material shall be 4 feet and be in a staggered arrangement to provide immediate effect. Deciduous shrubs may be used with the evergreens. A landscape architect licensed by the Commonwealth of Pennsylvania shall be required to ensure proper spacing, use and arrangement of plants and to provide an aesthetically pleasing effect. The following evergreens are recommended for screening or buffer yard purposes.**

American Holly		*Ilex opaca* - to 60 ft, narrow conical crown, full sun and moist well-drained soil, will tolerate light shade, prefer slightly acidic soil with moderate fertility
Yew Bush		*Taxus* - A type of shrub or tree, slow growing; with some achieving the height of small trees while others remain the size of small shrubs, 8-20'
Eastern Red Cedar		*Juniperus virginiana* - to 35 ft, crown narrowly upright to conic, use as a hedge or windscreen, in a border,
Northern White Cedar /Arbor-vitae		*Thuja occidentalis* - to 60 ft, can spread to 12 ft wide, prune to keep small, narrowly columnar (cultivars to 30'), slow growing, use as hedge or screen planting
Eastern White Pine		*Pinus strobes* - to 120 ft, conical to irregular or flat-topped with age, moderate life span, rapid growth,
Red Spruce		*Picea rubens* - 60 - 80' large broad crown, with right-angled branches, curving upward at the ends, long life span, moderate growth
White Spruce		*Picea glauca* - to 120 ft, 1.5-3' diameter, crown broadly conical, windscreen
Black Spruce		*Picea mariana* - to 30-40', narrow irregular pyramidal crown, thrives in cold temperatures dislikes summer heat, lower branches often brush the ground, and through will form new trees where growing tips successfully root
Red Pine		*Pinus Resinosa* - to 110', crown narrowly rounded, thrives in drought-like conditions. However, it should be loose and be able to promote drainage.

SPS-5

SIGNAGE STANDARDS

SIGNAGE STANDARDS

GENERAL INTENT

The intent of regulating signs visible from the Public Frontage is to ensure proper dimensioning and placement with respect to existing or planned architectural features, to maintain or improve public safety, to maintain or improve the aesthetic character of the context in which they are located, and to provide legible information for pedestrians, not just drivers.

SPECIFIC TO ADDRESS SIGNS (As Pictured in the Sign Table)

a. Address Sign numerals applied to Retail, Office, Residential, institutional, or industrial buildings shall be between four (4) and six (6) inches tall. Address Sign numerals applied to individual dwelling units in Apartment buildings shall be at least two (2) inches tall.
b. Address signs shall be easily visible by using colors or materials that contrast with their background.
c. Address signs shall be constructed of durable materials.
d. The address sign shall be attached to the front of the building in proximity to the Principal Entrance or at a mailbox.

SPECIFIC TO AWNING SIGNS (As Pictured in the Sign Table)

a. The following variations of awnings, with or without Sign bands, are permitted:
    i. Fixed or retractable awnings
    ii. Shed Awnings
    iii. Dome awnings
b. Other awning types may be permitted by Conditional Use.
c. Signage shall be limited to the Valance of the awning or the vertical portion of a dome awning.
d. No portion of an awning shall be lower than eight (8) feet Clearance, or seven (7) feet by Warrant.
e. Awnings shall be a minimum of 4 feet in depth. Awnings approved by Conditional Use for seven (7) feet Clearance may be a minimum of 3 feet in depth.
f. Awnings shall not extend beyond the width of the building or tenant space, nor encroach above the roof line or the Story above.
g. The height of the Valance shall not exceed twelve (12) inches.
h. Awning Signs shall contain only the business name, logo, and/or street address.
i. Letters, numbers, and graphics shall cover no more than seventy percent (70%) of the Valance area.
j. Awning Signs shall not be internally illuminated or backlit.

SPECIFIC TO BAND SIGNS (As Pictured in the Sign Table)

a. All businesses are permitted one (1) Band Sign on each first Story Facade.
b. Band Signs shall include only letters, background, lighting, and an optional logo. Information shall consist only of the name and/or logo of the business. Band Signs shall not list products, sales, or other promotional messages, or contact information.
c. The following Band Sign construction types are permitted:
    i. Cut-out Letters. Letters shall be individually attached to the wall or on a separate background panel, and shall be externally illuminated.
    ii. Flat Panel. Letters shall be printed or etched on same surface as the background, which is then affixed to the wall and externally illuminated.
    iii. Channel Letters by Conditional Use. Each letter shall have its own internal lighting element, individually attached to the wall or onto a separate background panel. The letter shall be translucent, or solid to create a backlit halo effect.
d. Height and width shall be measured using smallest rectangle that fully encompasses the entire extent of letters, logo and background.
e. Band Signs shall not be wider than 90% of the width of the building Facade or tenant space.
f. Band Signs shall not project vertically above the roof line.
g. Band Signs may be illuminated from dusk to dawn or during hours permitted by the lighting table. External lights shall be shielded from direct view to reduce glare.
h. Neon may be permitted on Band Signs by Conditional Use . No other internal lighting shall be permitted.

i. Electrical raceways, conduits and wiring shall not be exposed. Internal lighting elements shall be contained completely within the sign assembly or inside the wall.

j. Band Signs should be placed where the architectural features suggest the best placement for signage. They should be vertically aligned with the center of an architectural feature such as a storefront window, entry portal, or width of a bay or overall retail space. They shall not interrupt or obscure these features or cause visual disharmony.

k. Where multiple Band Signs are present on a single building (i.e. for retail tenants in a shopping center), signage shall be coordinated in terms of scale, placement, colors and materials.

SPECIFIC TO BLADE SIGNS (As Pictured in the Sign Table)

a. Blade Signs may be double-sided.

b. Blade Signs shall be permitted only for businesses that have a Principal Entrance on the first Story.

c. Businesses shall be permitted one (1) Blade Sign where its Principal Frontage Line is no more than five (5) feet from the Facade. Businesses that have a Secondary Frontage Line that is no more than two (2) feet from the Facade shall be permitted one (1) additional Blade Sign on that Facade.

d. Blade Signs may encroach into the Public Frontage up to four (4) feet and shall clear the Sidewalk by at least eight (8) feet.

e. Blade Signs shall not encroach above the roof line nor above the bottom of the second Story window.

f. Text and graphics on the Blade Sign shall be limited to the name and/or logo of the business. Slogans, address labels, operating hours and contact information shall not be permitted.

g. Mounting hardware, such as supports and brackets, may be simple and unobtrusive or highly decorative, but shall complement the design of the sign, the building, or both.

h. For buildings with multiple signs, mounting hardware or sign shapes, sizes and colors shall be coordinated.

SPECIFIC TO MARQUEES (As Pictured in the Sign Table)

a. Marquees shall be located only above the Principal Entrance of a building.

b. No Marquee shall be wider than the entrance it serves, plus two (2) feet on each side thereof.

c. No portion of a Marquee shall be lower than ten (10) feet Clearance.

d. No Marquee shall extend closer to the Curb than three (3) feet.

e. Columns or posts may be used as supports for Marquees eight (8) feet deep or deeper by Warrant.

f. All Marquees, including anchors, bolts, supporting rods and braces, shall be constructed of non-combustible materials and shall be designed by a structural engineer and approved by the Township of Bensalem Building Inspector.

g. Marquee components and materials may vary. Anchors, bolts, and supporting rods shall be limited to the interior of the Marquee.

h. Message Boards shall be permitted as part of Marquees.

i. A Band Sign shall be permitted above a Marquee.

SPECIFIC TO NAMEPLATES (As Pictured in the Sign Table)

a. Nameplates shall consist of either a panel or individual letters applied to a building wall within ten (10) feet of an entrance to the building.

b. One Nameplate shall be permitted per address.

c. Nameplates shall not exceed three (3) square feet.

d. Nameplates shall be constructed of durable materials.

SPECIFIC TO OUTDOOR DISPLAY CASES (As Pictured in the Sign Table)

a. Each outdoor display case shall not exceed six (6) square feet.

b. Outdoor display cases may be externally or internally illuminated.

c. Theaters may be permitted larger outdoor display cases by Conditional Use

d. Outdoor display cases shall not be attached to Shopfront windows.

SHINGLE SIGNS (As Pictured in the Sign Table)

a. Shingle Signs shall comport with the standards for Blade Signs except Blade Signs items d and f.

b. A building may have both the prescribed number of Blade Signs and the same number of Shingle Signs.

c. Shingle Signs may encroach into the Public Frontage up to two (2) feet and shall clear the Sidewalk by at least seven (7) feet.

d. Text and graphics on the Shingle Sign shall be limited to the name, logo, and suite number of the business. Slogans, full street address labels, operating hours and contact information are not permitted.

SPECIFIC TO SIDEWALK SIGNS (As Pictured in the Sign Table)

a. Sidewalk Signs shall consist of freestanding, double-sided temporary signs placed at the entrance to a business in a primarily pedestrian environment.

b. Sidewalk Signs shall be removed at the close of business each day.

c. One (1) Sidewalk Sign shall be permitted for each business.

d. Sidewalk Signs shall not exceed 42 inches in height or 26 inches in width.

e. Sidewalk Signs shall be moved inside during high winds or other weather conditions that might pose a hazard to public safety.

SPECIFIC TO WINDOW SIGNS (As Pictured in the Sign Table)

a. Only the following Window Sign types shall be permitted:

i. Vinyl applique letters applied to the window. Appliques shall consist of individual letters or graphics with no visible background.

ii. Letters painted directly on the window.

iii. Hanging signs that hang from the ceiling behind the window.

iv. Neon signs.

v. Door signs applied to or hanging inside the glass portion of an entrance doorway.

b. Window signs shall not interfere with the primary function of windows, which is to enable passersby and public safety personnel to see through windows into premises and view product displays.

c. Window signs shall be no larger than 25% of the total area of the window onto which they are applied. Sign area shall be measured using smallest rectangle that fully encompasses the entire extent of letters, logo and background.

d. Window signs may list services and/or products sold on the premises, or provide phone numbers, operating hours or other messages, provided that the total aggregate area of these messages shall not exceed the limit provided above.

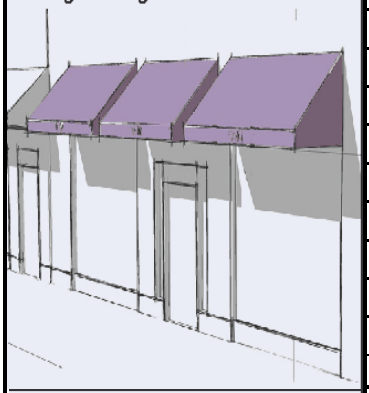
e. Letters on window signs shall be no taller than eight (8) inches.

SPECIFIC TO YARD SIGNS (As Pictured in the Sign Table)

a. One single- or double-post yard sign for each business may be permitted by Conditional Use, provided it is set back at least six (6) feet from the Frontage Line, does not exceed six (6) square feet excluding posts, and does not exceed six (6) feet high including posts, measured from the yard at the post location.

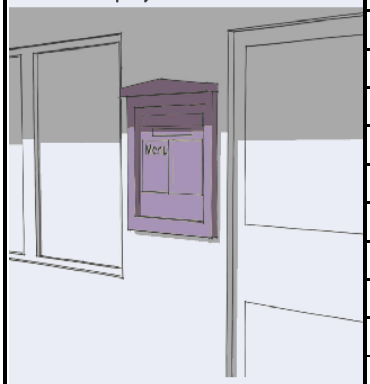
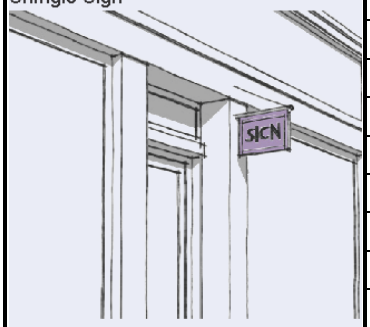
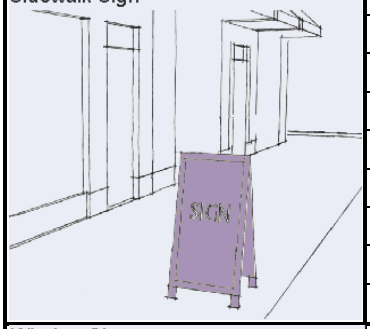
SPECIFIC TO TEMPORARY SIGNS AND BANNERS (As Pictured in the Sign Table)

a. Temporary signs of all types may be approved by Conditional Use for a 30-day period only. Permitted materials shall be determined by Conditional Use.

	SPECIFICATIONS		T1	T3	T4	T6	T6	SD
Address Sign 	a. Quantity (max)	1 Per Address	N/A	■	■	■	■	□
	b. Area	Maximum 2 SF						
	c. Width	Maximum 24 Inches						
	d. Height	Maximum 12 Inches						
	e. Depth/Projection	Maximum 3 Inches						
	f. Clearance	Minimum 4.5 Feet						
	g. Apex	N/A						
	h. Letter Height	Maximum 6 Inches						
Awning and Sign 	a. Quantity (max)	1 Per Window			■	■	■	□
	b. Area	N/A						
	c. Width	Max equals width of Facade						
	d. Height	N/A						
	e. Depth/Projection	Minimum 4', see Sec 5.12.7e						
	f. Clearance	Minimum 8', 7' by Warrant						
	g. Apex							
	h. Letter Height							
	i. Variance Height							
	j. Distance from Curb							
Band Sign 	a. Quantity (max)	1 2 for corner buildings)						
	b. Area (max)	1.5 SF per Linear ft Facade			□	■	■	□
	c. Width	Max 90% widrh of Facade						
	d. Height	Maximum 3 ft						
	e. Depth/Projection	Maximum 7 Inches						
	f. Clearance	Minimum 7 ft						
	g. Apex	N/A						
	h. Letter Height	Maximum 18 Inches						
Blade Sign 	a. Quantity	1 Per Facade, 2 Maximum		■	■	■	■	■
	b. Area (max)	4 sf T3,T4,T6, 6 sf T5,T6						
	c. Width	Maximum 4 ft						
	d. Height	Maximum 4 ft						
	e. Depth/Projection	Maximum 4 ft						
	f. Clearance	Minimum 8 ft						
	g. Apex	N/A						
	h. Letter Height	Maximum 8 Inches						
Marquee and Sign 	a. Quantity (max)	1 Per Business						
	b. Area	N/A				■	■	□
	c. Width (max)	Entrance Plus 2' Each Side						
	d. Height	Maximum 50% Story Height						
	e. Depth/Projection	Min 4 feet, Max 10 feet						
	f. Clearance	Minimum 10 feet						
	g. Apex	N/A						
	h. Letter Height	N/A						
	j. Distance from Curb	Minimum 3 feet						

■ By Right

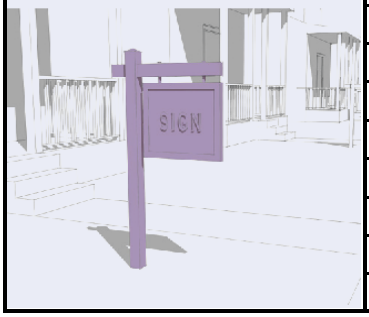
□ By Conditional Use

	SPECIFICATIONS		T1	T3	T4	T5	T6
Nameplate Sign 	a. Quantity (max)	1		■	■	■	■
	b. Area	Maximum 3 SF					
	c. Width	Maximum 18 Inches					
	d. Height	Maximum 2 feet					
	e. Depth/Projection	Maximum 3 Inches					
	f. Clearance	Minimum 4 Feet					
	g. Apex	Maximum 7 feet					
	h. Letter Height	N/A					
Outdoor Display Case 	a. Quantity (max)	1	N/A	□	■	■	■
	b. Area	Maximum 6 SF					
	c. Width	Maximum 3.5 SF					
	d. Height	Maximum 5 Inches					
	e. Depth/Projection	Minimum 4 feet					
	f. Clearance	Minimum 8', 7' by Warrant					
	g. Apex	N/A					
	h. Letter Height	N/A					
Shingle Sign 	a. Quantity (max)	1 Per Facade, 2 Maximum		■	■	■	■
	b. Area (max)	4 SF					
	c. Width	Max 2 feet					
	d. Height	Maximum 3 ft					
	e. Depth/Projection	Maximum 2 feet					
	f. Clearance	Minimum 7 ft					
	g. Apex	N/A					
	h. Letter Height	Maximum 8 Inches					
Sidewalk Sign 	a. Quantity	1 Per Business			■	■	■
	b. Area (max)	Maximum 8 SF					
	c. Width	Maximum 26 Inches					
	d. Height	Maximum 42 Inches					
	e. Depth/Projection	N/A					
	f. Clearance	N/A					
	g. Apex	Maximum 42 Inches					
	h. Letter Height	N/A					
Window Sign 	a. Quantity (max)	1 Per Window			■	■	■
	b. Area	Maxium 25% of Glass					
	c. Width (max)	Varies					
	d. Height	Varies					
	e. Depth/Projection	N/A					
	f. Clearance	4 feet					
	g. Apex	N/A					
	h. Letter Height	Maximum 8 Inches					

■ By Right

□ By Conditional Use

Yard Sign



SPECIFICATIONS		T1	T3	T4	T6	T6	SD
a. Quantity	1 Maximum Per Lot		▫	■			
b. Area	Maximum 6 SF						
c. Width	Max 3’ (not counting post)						
d. Height	Max 2’ (not counting post)						
e. Depth/Projection	N/A						
f. Clearance	Minimum 3 feet to Sign Edge						
g. Apex	Maximum 8 Inches						
h. Letter Height	Maximum 6 Inches						

■ By Right

▫ By Conditional Use

SPS-6

LARGE FORMAT FACILITY STANDARDS

LARGE FORMAT FACILITIES STANDARDS

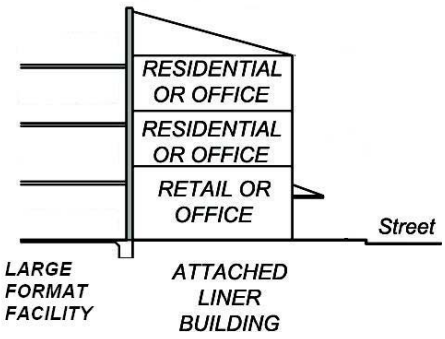
Large-Format Facilities are structures in excess of 20,000 square feet with a singular large footprint located on individual sites or that are clustered on a larger site adjacent to each other.

These standards are intended to provide an added level of definition for the development of sites with large format facilities in order to achieve the intent of the regulating code for a comfortable, safe and attractive pedestrian network and high quality public realm. They are to be implemented as needed to the greatest extent feasible within all transects including the T6, RTC District.

To promote and mitigate development of large format facilities, the strategy of liner buildings shall be employed. To achieve appropriate use of this technique, specific site context and conditions must also reviewed in conjunction with these standards. Creativity is encouraged in order to achieve diversity, distinction and context sensitive solutions as long as they are executed in the spirit of the overall purpose of these standards in promoting an integrated landscape with aesthetic quality and functionality.

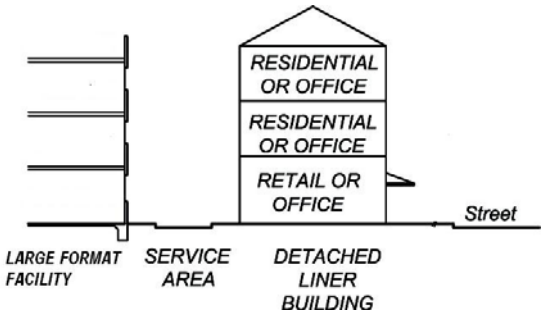
LINER BUILDINGS are buildings specifically designed to mask and engage the edge of a parking lot, parking garage, public assembly, large fabrication facility or large retail facility (big box) along a public frontage.

Liner buildings can be attached.



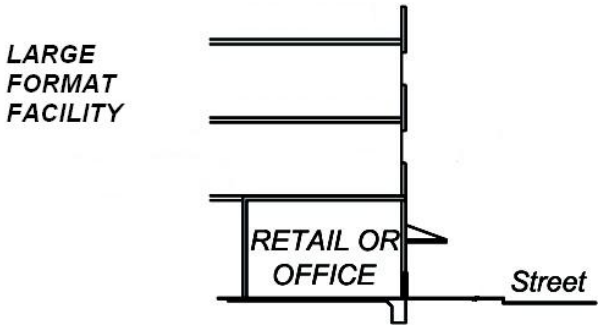
The mixed use building is attached to the larger facility and permitted as one building. Each building may have a separate address

Liner buildings can be detached



The mixed use buildings are detached from the larger facility and permitted as separate buildings. Spaces between the buildings serve as access or service corridors for vehicles.

Liner buildings can be inset.

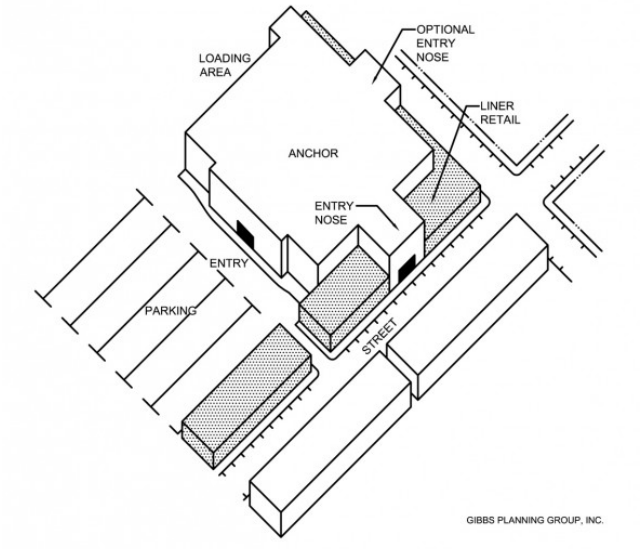


The mixed use buildings as well as parking are located on the ground floor, with upper floors used by the large format facility. Ground floor parking and the large format facility are shielded from view at the street by inset shop fronts or offices.

Access and Entry

The Principal Entrance to each individual unit on the ground floor shall have direct access from a permitted frontage type facing and abutting the street.

In tightly knit contexts, access to the Large Format Facility can be incorporated in the same scale as and in line with the front of the liner buildings.



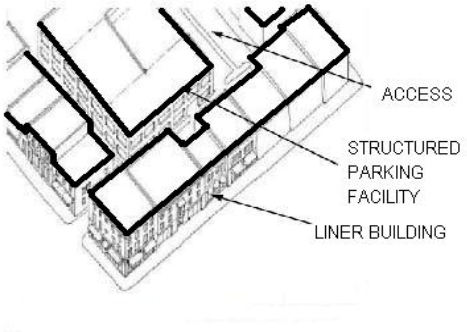
Parking
Parking shall be located behind or under the principal building, or in one or more common or public parking areas located interior to the block. On-street parking is encouraged along all street frontages.

Frontage
Frontage types along the street must include the required frontages for each transect respectively

Placement and Massing
The liner building shall comprise a minimum of 60% of the frontage. Minimum liner building depth is 16 feet. The façade along the ground floor on a Public Frontage must change visibly in height, setback, materials, or colors along the street frontage consistent with the scale and rhythm of its context and with no module exceeding 75 feet in length. An entryway must be provided on the ground floor every 40 feet at a minimum.

SPECIFIC FACILITIES

STRUCTURED PARKING FACILITIES are multi-story buildings specifically designed to park or store motor vehicles. Use of Structured Parking Facilities is encouraged to conserve land area.



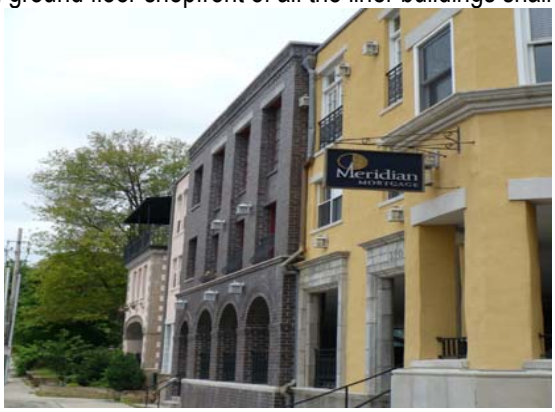
The structure shall be enclosed by residential or commercial uses in any manner of liner building at a minimum along the first floor. Structures located within the regulated Rail Boulevard Corridor and implementing safety mitigation measures utilizing ground level parking structures as a raised platform for mixed use above are exempt from this requirement.

Access and Entry
Ground level parking shall not be visible from the street except at the entryway.

The entryway shall not exceed 30 feet in width

Portions of the Structured Parking facility that extend above or beyond the liner building shall be screened with ornamental grillwork, artwork, or similar architectural features

The main entrance to each ground floor shopfront of all the liner buildings shall be directly from the street.



The pedestrian entrance to the parking structure shall be accessed directly from and be set back from the street.

Common entrances to residential portions of the liner buildings shall be through a street level lobby, a podium lobby accessible from the street or a side yard or through individual street level entrances.

Where common lobbies are employed, interior access to each dwelling shall be through a corridor

Parking
On-site parking shall be within the parking structure.

Frontage
Frontage types along the street must include the required frontages for each transect respectively

Placement and Massing
Structured Parking Facilities shall consider surrounding context in terms of scale, height and design.

Structured Parking Facility height shall not exceed the average height of principal structures within the block on which the proposed structure is located by more than one (1) story. If the Liner Buildings do not exceed such average heights, the garage itself may exceed the Liner Building height by two stories.

Liner buildings can be either attached or detached.
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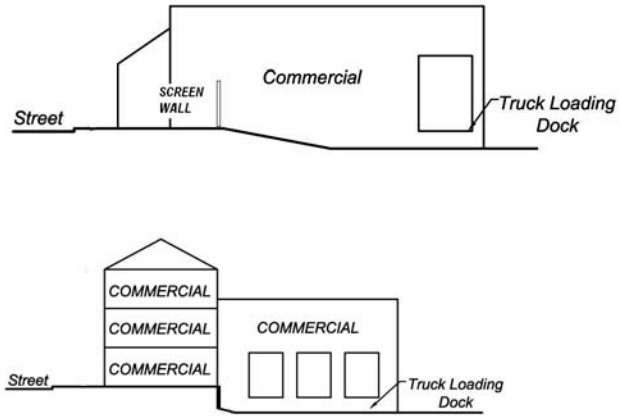
LINED TRUCK DOCK FACILITY is a building designed to accommodate light manufacturing and heavy commercial uses that utilizes a liner building along the street frontage



Dockyard areas and areas for shipping and deliveries by heavy trucks and off street parking shall be screened.

Access and Entry
The main pedestrian entrance to the ground floor shall be directly from the street.

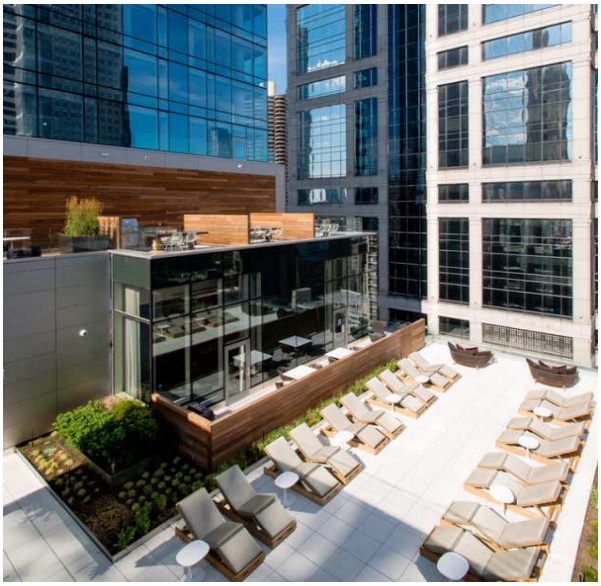
Parking
On-site parking and loading bays shall be in the dock yard area. Parking and services shall be accessed from within the dock yard, or from an alley. The vehicle entrance to the dock yard may be from either an alley or from the street through an entrance not to exceed a width of 30 feet.

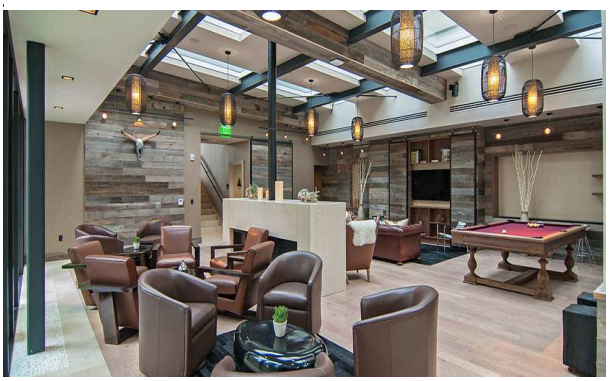
Frontage
Frontage types along the street must include the required frontages for each transect respectively

Placement and Massing
The dock yard area shall be screened from view by a decorative masonry street wall with a maximum height of 5 feet located a minimum of 5 feet from the back of the sidewalk. Landscaping shall be provided within this area.

SPS-7

APARTMENT COMPLEX STANDARDS





APARTMENT BUILDING STANDARDS

Apartment buildings are a group of more than 5 dwellings arranged vertically sharing access, circulation, parking, open space and other facilities sharing the land they occupy.

Apartment Buildings shall not exceed 6 stories in height exclusive of structured parking.

These standards are intended to provide an added level of definition for the development of sites with apartment buildings in order to achieve the intent of the Regulating Code for a comfortable, safe and attractive pedestrian network and high quality public realm.

GENERAL REQUIREMENTS:

Apartment buildings shall be located within 1000' of a rail station.

Apartment buildings shall contribute to the character and definition of public spaces and to the life of the street.

Apartment building development shall remain permeable and connected to the surrounding neighborhoods.

Apartment buildings shall be designed to be sustainable with efficient use of durable, low maintenance materials and equipment.

Apartment building development shall be responsive to the surrounding natural and built environment as well as to the transportation and environmental factors affecting the site.

PRELIMINARY LOCATION AND SITE ANALYSIS

A site plan shall be provided along with a written site analysis in the form of a narrative detailing how the design relates to its surrounding context. The analysis is to be more than just an inventory of existing features and conditions. It shall be used to identify the impacts of these existing conditions, the opportunities and impediments for development and how the proposed design responds to these factors.

The analysis shall include, as applicable, the following:

Surrounding topography, existing natural and built features and view sheds. Include location of north, prevailing wind direction and a sun path diagram for both summer and winter seasons.

Location, size and use of surrounding public open spaces.

Transportation routes of the surrounding area (railways, streets, bike paths, pedestrian walkways) and on-site circulation patterns. Include the character, scale and landscaping of these streetscapes and how the proposed development adequately connects and relates to this context.

Public transportation routes, stations and stops. Include current and projected service frequencies.

Location and types of other uses (shops, restaurants, offices, etc.) in the surrounding area. Include character of buildings, size of lots and how the proposed development relates to this surrounding context.

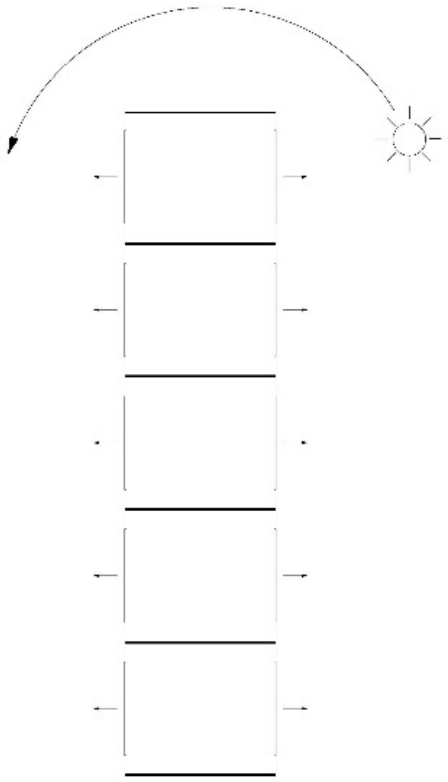
SITE DEVELOPMENT DESIGN PLANS

Site development design plans shall include site specific plans and building designs that detail the built forms and open spaces on the site and how these are integrated with each other and the surrounding context.

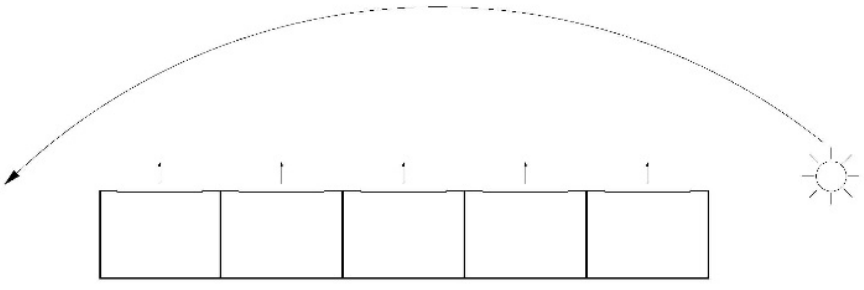
Site layout

Orientation:

Apartment buildings, the type of apartment and the orientation shall be such that every apartment receives direct sunlight at some point during the day.

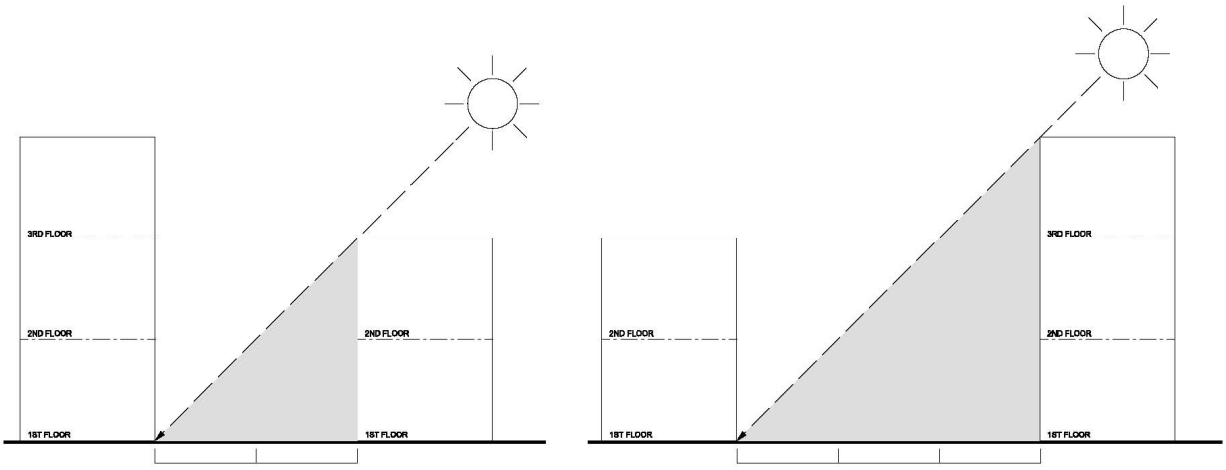


NORTH-SOUTH ORIENTATION



EAST-WEST ORIENTATION

A minimum of 50’ shall be provided between apartment buildings or the buildings shall be angled to prevent direct sight lines into neighboring apartment units. However, the distance between buildings shall be proportional to their height such that overshadowing onto an adjacent building does not occur. Where open space is provided next to or between buildings, the configuration shall be such that the open space has direct solar access in the winter months.



Open space:

Open space shall be provided to the general public and is considered separate from private amenities provided solely to the apartment occupants. Open space shall be deliberately designed as an integral part of and relevant to the overall site. Space left over from the design of the site may be used as open space but will not be considered in the minimum area calculation. Open space shall be adequately designed, landscaped, furnished and located for use by persons of all ages and physical ability.

Open space shall comprise a minimum of 25% of the site area and shall be accessible from at least two directions.

Open spaces shall generate activity and enhance the amenities for apartment occupants and the existing neighborhood.

Open space shall follow the Public Safety guidelines in section 5.5 of this Code to ensure a safe and active public space.

Open space shall be provided with direct solar access during the winter months and adequate shade during the summer months.

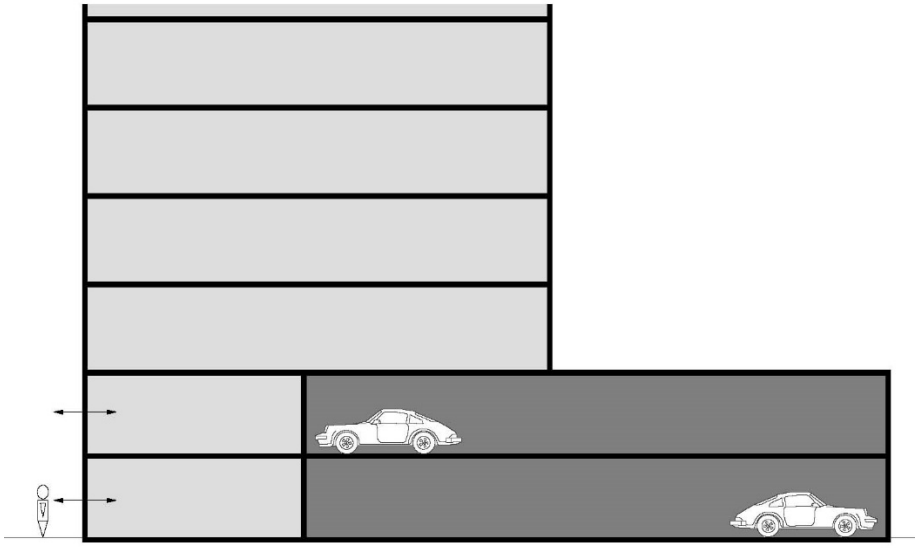
Landscaping within the open space shall contribute to the streetscape and enhance the public amenity. It shall also be integrated into the site and regional storm water management system.

Landscaping shall be low maintenance and suitably hardy.

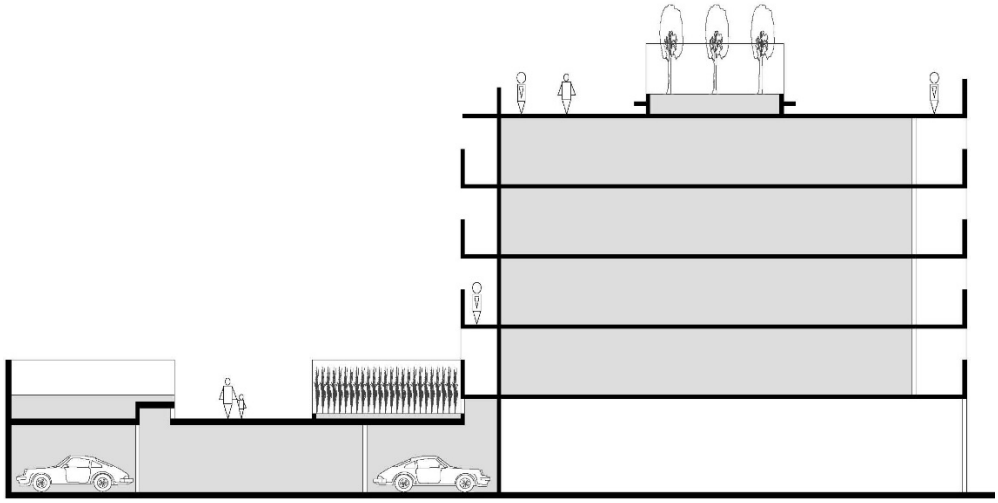
Parking:

Surface parking for apartment buildings is not permitted. All parking for apartments shall be in a structured parking facility. Parking is solely for apartment occupant use.

Structured facilities shall be located within the apartment building either above or below grade. Above grade parking shall not front on the street edge for the first two stories. A liner building shall be provided between the street and the parking facility. See also SPS 7 Large Format Facilities for additional methods of screening parking.



Parking structures creating a platform shall be landscaped for use as a private open space amenity for apartment occupants.



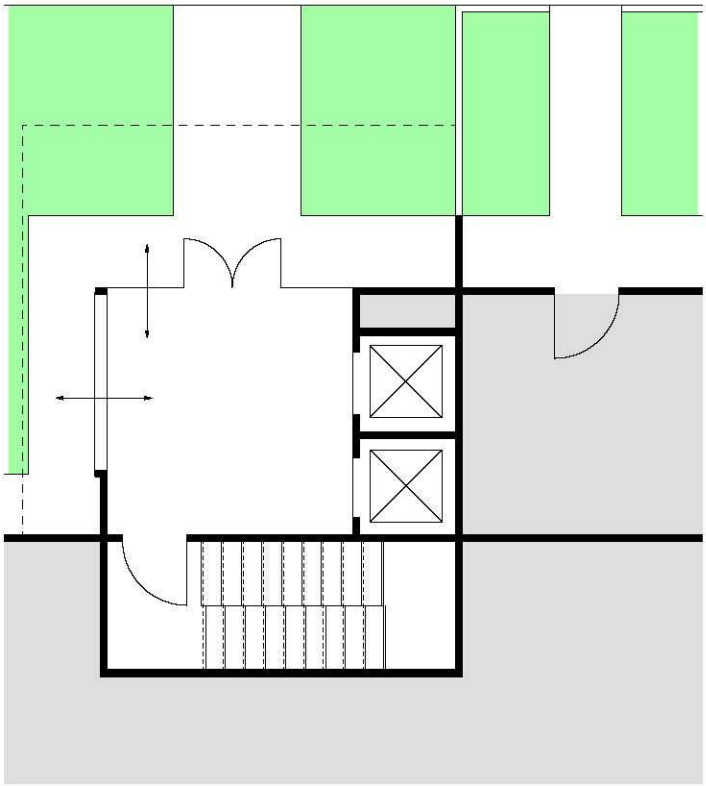
Building Design

Apartment building design shall be site and context specific.

A mix of building typologies shall be utilized for an apartment development appropriately responding to site conditions and providing diversity of housing choice.

Entries:

Locate entries and use multiple entries (main entry plus private ground floor apartments entries where applicable) in relation to street pattern, street landscaping and pedestrian network. The intent is to engage the street edge and create a rhythm of openings along the street of an appropriate size and scale for the building and the surrounding context.



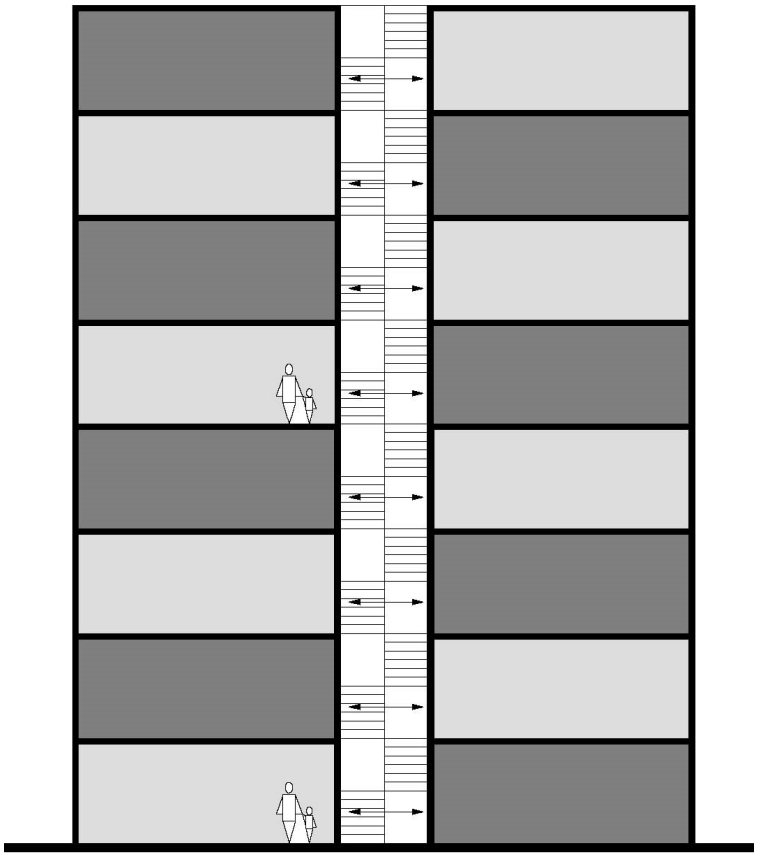
BUILDING ENTRY

Entries shall be a clearly identifiable and generously proportioned building element providing a direct physical and visual connection between the street and building entry. Building entries shall be well-lit, highly visible and shall provide some form of weather covering. Main entries shall be designed as an architectural element.

Site and building design shall follow the Public Safety guidelines in section 5.5 of this Code to ensure a safe and active public space.

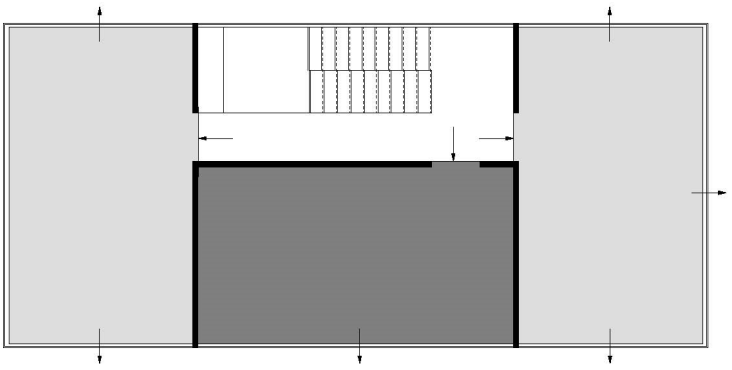
Vertical Core Access:

The vertical core of an apartment building is the area containing common stairs and lifts.



The vertical core shall be designed as an architectural element and as a space conducive to social interaction.

Vertical core arrangements typically induce repetition of the same plan on each floor. Plans shall reflect a mix of single aspect, dual aspect and corner unit apartments. A mix of single story and two story units is encouraged.



Acoustics:

Arrange apartments within a development to minimize noise transmission between apartments by locating busy, noisy areas next to each other and quieter areas next to each other- both horizontally and vertically.

Acoustic insulation levels between apartments both horizontally and vertically shall be designed to have a minimum STC rating of 65.

Daylight and Ventilation:

To the maximum extent feasible, each apartment shall have an external wall that allows for optimum sunlight and ventilation.

At least 70% of living rooms and private open spaces in a development should receive a minimum of three hours direct sunlight in mid-winter.

Apartments with depths up to 60 feet shall support natural cross ventilation. All apartment designs shall provide intended methods and flow paths of cross ventilation.

Amenities:

Apartment amenities are to be designed to provide the best and most in-demand features and finishes, convenience and comfort for the apartment residents.

Typical community amenities:

24-hour concierge

Indoor pool, whirlpool, sauna & steam room

Fully-equipped fitness center

Rooftop decks with fireplace & BBQ grills

Spa treatment room

Screening theater

Billiards room

Business center with Mac & PC workstations

Complimentary Wi-Fi in common areas

Electric car charging station

On-site Notary

Pet friendly (breed & weight restrictions apply)

Typical interior amenities:

Stainless steel appliances

Granite countertops

Gas ranges

Custom cabinetry

Hardwood floors

Washer/dryer

Spacious Closets

Floor-to-ceiling windows*

Private balconies*

Soaking tubs*

*in most units

SPS-8

ACCESSORY BUILDING STANDARDS

Accessory Building/Accessory Unit Standards

These standards are intended to provide and added level of definition for Accessory buildings in order to

a. Create new housing units while respecting the look and scale of single-dwelling development;
b. Support more efficient use of existing housing stock and infrastructure;
c. Offer environmentally friendly housing choices with less average space per person and smaller associated carbon footprints;
d. Provide housing that responds to changing family needs, smaller households, and increasing housing costs; and
e. Provide accessible housing for seniors and persons with disabilities.

An accessory building, also known as accessory dwelling unit (ADU), is a smaller, secondary home on the same lot as a primary dwelling. ADUs are independently habitable and provide the basic requirements of shelter, heating, cooking, and sanitation. There are two types of ADUs:

Garden cottages are detached structures . Examples include converted garages or new construction.

Accessory suites are attached to or part of the primary dwelling. Examples include converted living space, attached garages, basements or attics; additions; or a combination thereof.

An ADU may be created through new construction, conversion of an existing structure, addition to an existing structure, or conversion of a qualifying existing house to a garden cottage while simultaneously constructing a new primary dwelling on the site.

The ADU shall comply with all development and design standards of this section.

Proposed modifications comply with applicable building and fire safety codes

Occupancy and use standards for an ADU shall be the same as those applicable to a primary dwelling on the same site.

The ADU shall comply with all site requirements for the transect in which it is located and with the CPTED requirements in section 5.5, Public Safety.

Design.
The following design standards are in addition to the Architectural Standards for each transect. Where a conflict exists, the requirements of the transect shall apply.

An ADU may be no more than 600 square feet or the size of the primary dwelling, whichever is less.

No additional parking is required for an ADU. Existing required parking for the primary dwelling must be maintained or replaced on-site.

Location of entrances
Only one entrance may be located on the facade of the primary dwelling facing the street, unless the primary dwelling contained additional entrances before the accessory suite was created. An exception to this regulation is entrances that do not have access from the ground such as entrances from balconies or decks.

Exterior stairs.
Fire escapes or exterior stairs for access to an upper level accessory suite shall not be located on the front of the primary dwelling or accessory building.

Garden cottages must meet the following additional requirements:

Height. The maximum height allowed for a garden cottage shall not exceed 25 feet or the height of the primary dwelling, whichever is less.

Building setbacks. Garden cottages must be located at least six feet behind the primary building, unless the garden cottage is in an existing detached structure that does not meet this standard.

Building coverage. The building coverage of a garden cottage shall be less than the building coverage of the primary dwelling.

Yard setbacks. Garden cottages shall meet the building disposition requirements for the transect in which they are located

Exterior finish materials. Exterior finish materials must visually match in type, size and placement, the exterior finish materials of the primary dwelling.

Roof pitch. The roof pitch must be the same as the predominant roof pitch of the primary dwelling.

Windows. If the street-facing façade of the ADU is visible from the street, its windows must match, in proportion and orientation, the windows of the primary dwelling.

Eaves. If the primary dwelling has eaves, the ADU must have eaves that project the same distance from the building. If the primary dwelling does not have eaves, no eaves are required for the ADU.

ARTICLE 7

DEFINITIONS

This Article provides definitions for terms in this Code that are technical in nature or that otherwise may not reflect a common usage of the term. If a term is not defined in this Article, then the CRC shall determine the correct definition.

A-Grid:	Cumulatively, those Thoroughfares that by virtue of their pre-existing pedestrian-supportive qualities, or their future importance to pedestrian connectivity, are held to the highest standards prescribed by this Code.
Access Control:	A technique or techniques for limiting and/or identifying who may have access to a site.
Accessory Building:	An Outbuilding with an Accessory Unit.
Accessory Unit:	An Apartment not greater than 600 square feet sharing ownership and utility connections with a Principal Building; it may or may not be within an Outbuilding.
Activity Support:	The filling of public areas, or spaces near public areas, with legitimate users.
Adjusted Pedestrian Shed:	A Pedestrian Shed that has been adjusted, creating the regulatory boundary of a Community Unit.
Affordable Housing:	Dwellings consisting of rental or for-sale units that have a rent (including utilities) or mortgage payment typically no more than 30% of the income of families earning no more than 80% of median incomes by family size for the county.
Allee:	A regularly spaced and aligned row of trees usually planted along a Thoroughfare or Path.
Apartment:	A Residential unit sharing a building and a Lot with other units and/or uses; may be for rent, or for sale as a condominium.
Apartment Building	A multi-unit residential building or buildings containing more than five Apartments.
Arcade:	A Private Frontage conventional for Retail use wherein the Facade is a colonnade supporting habitable space that overlaps the Sidewalk, while the Facade at Sidewalk level remains at the Frontage Line.
Attic:	The interior part of a building contained within a pitched roof structure.
Avenue (AV):	A Thoroughfare of high vehicular capacity and low to moderate speed, acting as a short distance connector between urban centers, and usually equipped with a landscaped median.
B-Grid:	Cumulatively, those Thoroughfares that by virtue of their use, location, or absence of pre-existing pedestrian-supportive qualities, may meet a standard lower than that of the A-Grid.

BRT:	see **Bus Rapid Transit.**
Backbuilding:	A single-Story structure connecting a Principal Building to an Outbuilding.
Barrier Plant:	Plant with a dense vegetation structure and thorns or needles.
Base Density:	The number of dwelling units per acre before adjustment for other Functions and/or TDR. See **Density.**
Bed and Breakfast:	An owner-occupied Lodging type offering 1 to 5 bedrooms, permitted to serve breakfast in the mornings to guests.
Berm:	A manmade mound or wall of earth or sand for screening a building or parking lot, or for landscape design.
Bicycle Lane (BL):	A dedicated lane for cycling within a moderate-speed vehicular thoroughfare, demarcated by striping.
Bicycle Route (BR):	A Thoroughfare suitable for the shared use of bicycles and automobiles moving at low speeds.
Bicycle Trail (BT):	A bicycle way running independently of a vehicular Thoroughfare.
Block:	The aggregate of private Lots, Passages, Rear Alleys and Rear Lanes, circumscribed by Thoroughfares.
Block Face:	The aggregate of all the building Facades on one side of a Block.
Boulevard (BV):	A Thoroughfare designed for high vehicular capacity and moderate speed, traversing an Urbanized area. Boulevards are usually equipped with Slip Roads buffering Sidewalks and buildings.
Boundary Definition:	The act of establishing Territoriality, or the defined edge itself.
Brownfield:	An area previously used primarily as an industrial site.
Building Envelope:	Collectively, all components of a building that enclose conditioned or unconditioned above-ground space, including foundation, roof, walls, doors and windows.
Bus Rapid Transit:	A rubber tire system with its own right-of-way or dedicated lane along at least 70% of its route, providing transit service that is faster than a regular bus.
By Right:	Characterizing a proposal or component of a proposal for a Community Development Plan or Building Scale Plan that complies with the Regulating Code and is permitted and processed administratively, without public hearing.
CCTV:	see **Closed Circuit TV**

CLD or **Clustered Land Development:**	A Community Unit type structured by a Standard Pedestrian Shed oriented toward a Common Destination such as a general store, Meeting Hall, schoolhouse, or church. CLD takes the form of a small settlement standing free in the countryside.
CBRNE:	Chemical, Biological, Radiological, Nuclear, high-yield Explosive.
CRC:	Consolidated Review Committee.
Civic:	The term defining not-for-profit organizations dedicated to arts, culture, education, recreation, government, transit, and municipal parking.
Civic Building:	A building operated by not-for-profit organizations dedicated to arts, culture, education, recreation, government, transit, and municipal parking, or for use approved by the legislative body.
Civic Parking Reserve:	Parking Structure or parking lot within a quarter-mile of the site that it serves.
Civic Space:	An outdoor area dedicated for public use. Civic Space types are defined by the combination of certain physical constants including the relationships among their intended use, their size, their landscaping and their Enfronting buildings.
Civic Zone:	Designation for public sites dedicated for Civic Buildings and Civic Space.
Closed Circuit T**V:**	A camera and television system allowing guardians to watch activity in another room, another part of the same room, or outdoors. It also records activity for later analysis.
Commercial:	The term collectively defining workplace, Office, Retail, and Lodging Functions
Common Destination:	An area of focused community activity, usually defining the approximate center of a Pedestrian Shed. It may include without limitation one or more of the following: a Civic Space, a Civic Building, a Commercial center, or a transit station, and may act as the social center of a neighborhood.
Common Room:	One of the main rooms in a dwelling or business, including but not limited to the following types or any combination of them: kitchen, dining room, living room, family room, recreation room, office, studio, lobby, or retail shop.
Common Yard:	A planted Private Frontage wherein the Facade is set back from the Frontage line. It is visually continuous with adjacent yards.

Community Unit:	A regulatory category defining the physical form, Density, and extent of a settlement. The three Community Unit types addressed in this Code are CLD, TND, and RCD. Variants of TND and RCD for Infill are called Infill TND and Infill RCD. The TOD Community Unit type may be created by an overlay on TND or RCD.
Conditional Use:	A permitted use, consistent with the intent of the Regulating Code and subject to the requirements set forth in Section 232-595 of the Bensalem Township Zoning Ordinance, except that review of an application for conditional use within the Bensalem 2018 Regulating Code Overlay District shall be conducted by the Consolidated Review Committee in lieu of the Bensalem Township Planning Commission.
Configuration:	The form of a building, based on its massing, Private Frontage, and height.
Consolidated Review Committee (CRC):	Usually part of the Planning Office, a CRC is comprised of a representative from each of the various regulatory agencies that have jurisdiction over the permitting of a project, as well as a representative of the Development and Design Center.
Corridor:	A lineal geographic system incorporating transportation and/or Greenway trajectories. A transportation Corridor may be a lineal Transect Zone.
Cottage:	An Edgeyard building type. A single-family dwelling, on a regular Lot, often shared with an Accessory Building in the back yard.
Courtyard Building:	A building that occupies the boundaries of its Lot while internally defining one or more private patios.
CPTED:	Crime Prevention Through Environmental Design, a professional safety organization and their set of techniques.
Curb:	the edge of the vehicular pavement that may be raised or flush to a Swale. It usually incorporates the drainage system.
DDC:	Development and Design Center
Daylight Factor:	A measurement for daylight in a building, calculated as a ratio of the unshaded exterior illuminance on a horizontal plane, under a fully overcast sky, over interior illuminance on a horizontal plane. The higher the daylight factor, the more natural light is available in the room.
Density:	The number of dwelling units within a standard measure of land area.

Design Speed:	Is the velocity at which a Thoroughfare tends to be driven without the constraints of signage or enforcement. There are four ranges of speed: Very Low: (below 20 MPH); Low: (20-25 MPH); Moderate: (25-35 MPH); High: (above 35 MPH). Lane width is determined by desired Design Speed.
Developable Areas:	Lands other than those in the O-1 Preserved Open Sector.
Development and Design Center (DDC):	A component of the Planning Office assigned to advise on the use of this Code and to aid in the design of the Communities and buildings based on it.
Displacement:	The movement of criminal activity from one location to another as the first location becomes inhospitable for it.
Disposition:	The placement of a building on its Lot.
District Stormwater System:	A stormwater system that manages runoff from multiple lots.
Dooryard:	A Private Frontage type with a shallow Setback and front garden or patio, usually with a low wall at the Frontage Line. (Variant: **Lightwell,** light court.)
Double Skin:	An additional external building Facade that allows air to circulate in the space between the two Facades, providing an extra layer of insulation and air flow.
Drive:	A Thoroughfare along the boundary between an urbanized and a natural condition, usually along a waterfront, park, or promontory. One side has the urban character of a Thoroughfare, with Sidewalk and building, while the other has the qualities of a Road or parkway, with naturalistic planting and rural details.
Driveway:	A vehicular lane within a Lot, often leading to a garage.
Edgeyard Building:	A building that occupies the center of its Lot with Setbacks on all sides.
Effective Parking:	The amount of parking required for Mixed Use after adjustment by the Shared Parking Factor.
Effective Turning Radius:	The measurement of the inside Turning Radius taking parked cars into account.
Elevation:	An exterior wall of a building not along a Frontage Line. See: **Facade**

Encroach:	To break the plane of a vertical or horizontal regulatory limit with a structural element, so that it extends into a Setback, into the Public Frontage, or above a height limit.
Encroachment:	Any structural element that breaks the plane of a vertical or horizontal regulatory limit, extending into a Setback, into the Public Frontage, or above a height limit.
Enfront:	To place an element along a Frontage, as in "porches Enfront the street."
Estate House:	An Edgeyard building type. A single-family dwelling on a very large Lot of rural character, often shared by one or more Accessory Buildings. (Syn: country house, villa)
Expression Line:	A line prescribed at a certain level of a building for the major part of the width of a Facade, expressed by a variation in material or by a limited projection such as a molding or balcony. *See Table 8.* (Syn: transition line.)
Extension Line:	A line prescribed at a certain level of a building for the major part of the width of a Facade, regulating the maximum height for an Encroachment by an Arcade Frontage.
Facade:	The exterior wall of a building that is set along a Frontage Line. *See* **Elevation.**
Forecourt:	A Private Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back.
Formal Surveillance:	In contrast to Natural Surveillance, a mechanical system and/or professional guardian(s) watching over a site.
Frontage:	The area between a building Facade and the vehicular lanes, inclusive of its built and planted components. Frontage is divided into **Private Frontage** and **Public Frontage.**
Frontage Line:	A Lot line bordering a Public Frontage. Facades facing Frontage Lines define the public realm and are therefore more regulated than the Elevations facing other Lot Lines.
Full Cutoff:	A Luminaire type that does not allow any light to be emitted or reflected above a horizontal plane.
Function:	The use or uses accommodated by a building and its Lot, categorized as *Restricted, Limited,* or *Open* , according to the intensity of the use.
Gallery:	a Private Frontage conventional for Retail use wherein the Facade is aligned close to the Frontage Line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk.

GIS: (Geographic Information System)	A computerized program in widespread municipal use that organizes data on maps. The protocol for preparing a *Regional Plan* should be based on GIS information.
Green:	A Civic Space type for unstructured recreation, spatially defined by landscaping rather than building Frontages.
Greenfield:	An area that consists of open or wooded land or farmland that has not been previously developed.
Green Roof:	A building roof partially or completely covered with vegetation and soil, or a growing medium, over a waterproofing membrane. Green roofs may be categorized as Extensive, Semi-Intensive, or Intensive, depending on the depth of the planting medium and the amount of maintenance required. *See Natural Drain-age Standards Module.* (Syn: eco-roof, living roof, greenroof).
Greenway:	An Open Space Corridor in largely natural conditions which may include trails for bicycles and pedestrians.
Greyfield:	An area previously used primarily as a parking lot. Shopping centers and shopping malls are typical Greyfield sites. (Variant: Grayfield.)
G**round Source** H**eat** E**xchange:**	A process by which the relatively constant tem-perature below ground is used in building climate control systems as a heat source for heating, or a heat sink for cooling.
Growth Sector:	One of four Sectors where development is permitted By Right in the SmartCode, three for New Communities and one for Infill.
Hamlet:	*See* **CLD**. (Syn: cluster, settlement.)
Highway:	A rural and suburban Thoroughfare of high vehicular speed and capacity. This type is allocated to the more rural Transect Zones (T-1, T-2, and T-3).
Home Occupation:	Non-Retail Commercial enterprises. The work quarters should be invisible from the Frontage, located either within the house or in an Outbuilding. Permitted activities are defined by the Restricted Office category.
House:	An Edgeyard building type, usually a single-family dwelling on a large Lot, often shared with an Accessory Building in the back yard. (Syn: single.)
Infill:	*noun* - new development on land that had been previously developed, including most Greyfield and Brownfield sites and cleared land within Urbanized areas. *verb*- to develop such areas.

Infill RCD:	A Community Unit type within an Urbanized, Greyfield, or Brownfield area based on a Long or Linear Pedestrian Shed and consisting of T-4, T-5, and/or T-6 Zones. An Infill RCD is permitted By Right in the G-4 Infill Growth Sector and is regulated by Article 4. (Var: downtown.)
Infill TND:	A Community Unit type within an Urbanized, Greyfield, or Brownfield area based on a Standard Pedestrian Shed and consisting of T-3, T-4, and/or T-5 Zones. An Infill TND is permitted By Right in the G-4 Infill Growth Sector and is regulated by Article 4.
Initial Lumens:	A measure of how much light a lamp is emitting near the beginning of its life.
Inn:	A Lodging type, owner-occupied, offering 6 to 12 bedrooms, permitted to serve breakfast in the mornings to guests.
Lamp:	The source of illumination in a lighting fixture.
Layer:	A range of depth of a Lot within which certain elements are permitted.
Light Shelf:	A horizontal overhang placed in a window above eye level, which reflects daylight onto the ceiling and deeper into a room. The overhang of the shelf also provides shade near the window to reduce window glare
Lightwell:	A Private Frontage type that is a below-grade entrance or recess designed to allow light into basements. (Syn: light court.)
Linear Pedestrian Shed:	A Pedestrian Shed that is elongated along an important Mixed Use Corridor such as a main street. A Linear Pedestrian Shed extends approximately 1/4 mile from each side of the Corridor for the length of its Mixed Use portion. The resulting area is shaped like a lozenge. It may be used to structure a TND, RCD, Infill TND, or Infill RCD. (Syn: elongated pedestrian shed.)
Liner Building:	A building specifically designed to mask a parking lot or a Parking Structure from a Frontage.
Live-Work:	A Mixed Use unit consisting of a Commercial and Residential Function. The Commercial Function may be anywhere in the unit. It is intended to be occupied by a business operator who lives in the same structure that contains the Commercial activity or industry. *See* **Work-Live.** (Syn.: flexhouse.)
Lodging:	Premises available for daily and weekly renting of bedrooms.
Long Pedestrian Shed:	A Pedestrian Shed that is an average 1/2 mile radius or 2640 feet, used when a transit stop (bus or rail) is present or proposed as the Common Destination. A Long Pedestrian Shed represents approximately a ten-minute walk at a leisurely pace. It is applied to structure an RCD Community Unit type. *See* **Pedestrian Shed.**

Lot:	A parcel of land accommodating a building or buildings of unified design. The size of a Lot is controlled by its width in order to determine the grain (i.e., fine grain or coarse grain) of the urban fabric.
Lot Line:	The boundary that legally and geometrically demarcates a Lot
Lot Width:	The length of the Principal Frontage Line of a Lot.
Lumen:	A measure of brightness.
Luminaire:	A light unit or fixture including
Main Civic Space:	The primary outdoor gathering place for a community. The Main Civic Space is often, but not always, associated with an important Civic Building.
Manufacturing:	Premises available for the creation, assemblage and/or repair of artifacts, using table-mounted electrical machinery or artisanal equipment, and including their Retail sale.
Meeting Hall:	A building available for gatherings, including conferences, that accommodates at least one room equivalent to a minimum of 10 square feet per projected dwelling unit within the Pedestrian Shed in which it is located.
Mixed Use:	Multiple Functions within the same building through superimposition or adjacency, or in multiple buildings by adjacency, or at a proximity determined by Warrant.
Movement Predictors:	Places that channel the movement of people along a predictable route or path.
Natural Surveillance:	In contrast to Formal Surveillance, the ability of non-professionals to look out over or into public areas and report crime, or prevent it by their obvious presence.
Net Site Area:	All developable land within a site including Thoroughfares but excluding land allocated as Civic Zones.
Network Pedestrian Shed:	A Pedestrian Shed adjusted for average walk times along Thoroughfares. This type may be used to structure Infill Community Plans.
Office:	Premises available for the transaction of general business but excluding Retail, artisanal and Manufacturing uses.
One-hundred Year Storm Event:	A 24-hour rainstorm having a one percent chance of occurrence in any given year.
Open Space:	Land intended to remain undeveloped; it may be for Civic Space

Outbuilding:	An Accessory Building, usually located toward the rear of the same Lot as a Principal Building, and sometimes connected to the Principal Building by a Backbuilding.
Park:	a Civic Space type that is a natural preserve available for unstructured recreation.
Parking Structure:	A building containing one or more Stories of parking above grade.
Passage (PS):	A pedestrian connector, open or roofed, that passes between buildings to provide shortcuts through long Blocks and connect rear parking areas to Frontages.
Path (PT):	A pedestrian way traversing a Park or rural area, with landscape matching the contiguous Open Space, ideally connecting directly with the urban Sidewalk network.
Pedestrian Shed:	An area that is centered on a Common Destination. Its size is related to average walking distances for the applicable Community Unit type. Pedestrian Sheds are applied to structure Communities. *See* **Standard, Long, Linear** or **Network**
Pedestrian Shed.	(Syn: walkshed, walkable catchment.)
Photovoltaic (PV):	Capable of producing voltage when exposed to radiant energy, especially light.
Planter:	The element of the Public Frontage which accommodates street trees, whether continuous or individual.
Plaza:	A Civic Space type designed for Civic purposes and Commercial activities in the more urban Transect Zones, generally paved and spatially defined by building Frontages.
Principal Building:	The main building on a Lot, usually located toward the Frontage.
Principal Entrance:	The main point of access for pedestrians into a building.
Principal Frontage:	On corner Lots, the Private Frontage designated to bear the address and Principal Entrance to the building, and the measure of minimum Lot width. Prescriptions for the parking Layers pertain only to the Principal Frontage. Prescriptions for the first Layer pertain to both Frontages of a corner Lot. *See* **Frontage.**
Private Frontage:	The privately held Layer between the Frontage Line and the Principal Building Facade.
Public Frontage:	The area between the Curb of the vehicular lanes and the Frontage Line.
RCD:	*see* **Regional Center Development.**

Rear Alley (RA):	A vehicular way located to the rear of Lots providing access to service areas, parking, and Outbuildings and containing utility easements. Rear Alleys should be paved from building face to building face, with drainage by inverted crown at the center or with roll Curbs at the edges.
Rear Lane (RL):	A vehicular way located to the rear of Lots providing access to service areas, parking, and Outbuildings and containing utility easements. Rear Lanes may be paved lightly to Driveway standards. The streetscape consists of gravel or landscaped edges, has no raised Curb, and is drained by percolation.
Rearyard Building:	A building that occupies the full Frontage Line, leaving the rear of the Lot as the sole yard. (Var: Rowhouse, Townhouse, Apartment House)
Recess Line:	A line prescribed for the full width of a Facade, above which there is a Stepback of a minimum distance, such that the height to this line (not the overall building height) effectively defines the enclosure of the Enfronting public space. Var: Extension Line.
Regional Center:	**Regional Center Development** or **RCD.**
Regional Center Development (RCD:	A Community Unit type structured by a Long Pedestrian Shed or Linear Pedestrian Shed, which may be adjoined without buffers by one or several Standard Pedestrian Sheds, each with the individual Transect Zone requirements of a TND. RCD takes the form of a high-Density Mixed Use center connected to other centers by transit. See **Infill RCD**, (Var: town center, downtown. Syn: **Regional Center)**
Regulating Plan:	A Zoning Map or set of maps that shows the Transect Zones, Civic Zones, Special Districts if any, and Special Requirements if any, of areas subject to, or potentially subject to, regulation by the regulating code
Residential:	Characterizing premises available for long-term human dwelling.
Retail:	Characterizing premises available for the sale of merchandise and food service.
Retail Frontage:	Frontage designated on a Regulating Plan that requires or recommends the provision of a Shopfront, encouraging the ground level to be available for Retail use. *See* **Special Requirements.**
Risk Assessment:	Professional evaluation of a site to help determine which crime prevention strategies are most appropriate.
Road (RD):	A local, rural and suburban Thoroughfare of low-to-moderate vehicular speed and capacity. This type is allocated to the more rural Transect Zones (T1-T3).

Rowhouse:	A single-family dwelling that shares a party wall with another of the same type and occupies the full Frontage Line. See **Rearyard Building.** (Syn: **Townhouse)**
Runoff Release Rate:	The quantity per unit of time at which stormwater runoff is released from upstream to downstream land.
Rural Boundary Line:	The extent of potential urban growth as determined by existing geographical determinants. The Rural Boundary Line is permanent.
Sector:	A neutral term for a geographic area. In the SmartCode there are six specific Sectors for regional planning that establish the legal boundaries for Open Space and development.
Secondary Frontage:	On corner Lots, the Private Frontage that is not the Principal Frontage. As it affects the public realm, its First Layer is regulated.
Setback:	The area of a Lot measured from the Lot line to a building Facade or Elevation that is maintained clear of permanent structures, with the exception of Encroachments listed in *Section 5.7.* (Var: build-to-line.)
Shared Parking Factor:	An accounting for parking spaces that are available to more than one Function.
Shopfront:	A Private Frontage conventional for Retail use, with substantial glazing and an awning, wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade.
Sidewalk:	The paved section of the Public Frontage dedicated exclusively to pedestrian activity.
Sideyard Building:	A building that occupies one side of the Lot with a Setback on the other side. This type can be a Single or Twin depending on whether it abuts the neighboring house.
Slip Road:	An outer vehicular lane or lanes of a Thoroughfare, designed for slow speeds while inner lanes carry higher speed traffic, and separated from them by a planted median. (Syn: access lane, service lane)
Solar Reflective Index (SRI):	A measure of the constructed surface's ability to reflect solar heat, as shown by a small temperature rise. Numerically, standard black is 0 and a standard white is 100.
Specialized Building:	A building that is not subject to Residential, Commercial, or Lodging classification.
Special District (SD):	An area that, by its intrinsic Function, Disposition, or Configuration, cannot or should not conform to one or more of the normative Community Unit types or Transect Zones specified by the SmartCode. Special Districts may be mapped and regulated at the regional scale or the community scale.

Special Flood Hazard Area:	A designation by the Federal Emergency Management Agency (FEMA) that may include the V (Velocity) Zones and Coastal A Zones where building construction is forbidden, restricted, or contingent upon raising to the Base Flood Elevation.
Special Requirements:	Provisions of Section 3.9 and Section 5.3 of this Code and/or the associated designations on a Regulating Plan or other map for those provisions.
Square:	A Civic Space type designed for unstructured recreation and Civic purposes, spatially defined by building Frontages and consisting of Paths, lawns and trees, formally disposed.
Standard Pedestrian Shed:	A Pedestrian Shed that is an average 1/4 mile radius or 1320 feet, about the distance of a five-minute walk at a leisurely pace. See Pedestrian Shed.
Stepback:	A building Setback of a specified distance that occurs at a prescribed number of Stories above the ground.
Stoop:	A Private Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk for privacy, with an exterior stair and landing at the entrance.
Stormwater Runoff Volume:	The volume of water that results from precipitation that is not absorbed by the soil, evaporated into the atmosphere, or entrapped by ground surface depressions and vegetation, and that flows over the ground surface.
Story:	A habitable level within a building, excluding an Attic or raised basement.
Street (ST):	A local urban Thoroughfare of low speed and capacity.
Streetscreen:	A freestanding wall built along the Frontage Line, or coplanar with the Facade. It may mask a parking lot from the Thoroughfare, provide privacy to a side yard, and/or strengthen the spatial definition of the public realm. (Syn: streetwall.)
Structural Soil:	A load-bearing soil that resists compaction to allow for healthier tree root growth. Angular gravel within the soil mix allows air and water to permeate while supporting pavement loads.
Surface to Volume Ratio (S/VRatio):	The amount of surface exposed to the outside per volume of building unit.
Substantial Modification:	Alteration to a building that is valued at more than 50% of the replacement cost of the entire building, if new.
Swale:	A low or slightly depressed natural area for drainage.

T-zone:	**Transect Zone.**
TDR:	Transfer of Development Rights, a method of relocating existing zoning rights from areas to be preserved as Open Space to areas to be more densely urbanized.
TDR Receiving Area:	An area intended for development that may be made more dense by the purchase of development rights from TDR Sending Areas.
TDR Sending Area:	An area previously zoned for development within a designated Reserved Open Sector (O-2), from which development rights may be transferred to a Growth Sector.
Terminated Vista:	A location at the axial conclusion of a Thoroughfare. A building located at a Terminated Vista designated on a Regulating Plan is required or recommended to be designed in response to the axis.
Territoriality:	The concept of creating and fostering places that are adopted by the legitimate users of the space (i.e., they take ownership), making it less likely for people who do not belong to engage in criminal or nuisance behavior at that location.
Thoroughfare:	A way for use by vehicular and pedestrian traffic and to provide access to Lots and Open Spaces, consisting of Vehicular Lanes and the Public Frontage.
TND:	Traditional Neighborhood Development, a Community Unit type structured by a Standard Pedestrian Shed oriented toward a Common Destination consisting of a Mixed Use center or Corridor, and in the form of a medium-sized settlement near a transportation route. (Syn: village. Variant: **Infill TND**, neighborhood.)
TOD:	Transit Oriented Development. TOD is created by an overlay on all or part of a TND or RCD, or by designation on a Regional Plan, permitting increased Density to support rail or Bus Rapid Transit
Townhouse:	See **Rearyard Building.** (Syn: **Rowhouse**)
Transect:	A cross-section of the environment showing a range of different habitats. The rural-urban Transect of the human environment used in the SmartCode template is divided into six Transect Zones. These zones describe the physical form and character of a place, according to the Density and intensity of its land use and Urbanism.

Transect Zone (T-zone):	One of several areas on a Zoning Map regulated by the SmartCode. Transect Zones are administratively similar to the land use zones in conventional codes, except that in addition to the usual building use, Density, height, and Setback requirements, other elements of the intended habitat are integrated, including those of the private Lot and building and Public Frontage.
Turning Radius:	The curved edge of a Thoroughfare at an intersection, measured at the inside edge of the vehicular tracking. The smaller the Turning Radius, the smaller the pedestrian crossing distance and the more slowly the vehicle is forced to make the turn.
Two Year Storm Event:	A 24-hour rainstorm having a fifty percent chance of occurrence in any given year,
Urban Boundary Line:	The extent of potential urban growth as determined by the projected demographic needs of a region. The Urban Boundary Line may be adjusted from time to time.
Urbanism:	Collective term for the condition of a compact, Mixed Use settlement, including the physical form of its development and its environmental, functional, economic, and sociocultural aspects.
Urbanized:	Generally, developed. Specific to the SmartCode, developed at T-3 (Sub-Urban) Density or higher.
Variance:	A ruling that would permit a practice that is not consistent with either a specific provision or the Intent of this Code *(Section 1.3).* Variances are usually granted by the Board of Appeals in a public hearing. *See Section 1.5* .
Visible:	Able to be seen by a human being with normal vision unaided by binoculars, telescope, or Closed Circuit TV.
Work-Live:	A Mixed Use unit consisting of a Commercial and Residential Function. It typically has a substantial Commercial component that may accommodate employees and walk-in trade. The unit is intended to function predominantly as work space with incidental Residential accommodations that meet basic habitability requirements. See Live-Work. (Syn: Live-With.)
Yield:	Characterizing a Thoroughfare that has two-way traffic but only one effective travel lane because of parked cars, necessitating slow movement and driver negotiation. Also, characterizing parking on such a Thoroughfare.
Zoning Map:	The official map or maps that are part of the zoning ordinance and delineate the boundaries of individual zones and districts. See **Regulating Plan.**