

MAINSTREET DESIGN STANDARDS



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Jeff Weidner, Mobility Manager, FDOT District 4

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TABLE OF CONTENTS

1. INTRODUCTION..... 1

2. INTENT..... 2

3. IMPLEMENTATION AND USING THE STANDARDS..... 3

 3.1 Planned MainStreet Development Districts..... 3

 3.1.1 Intensity..... 3

 3.1.2 Existing Entitlements..... 3

 3.1.3 Required Elements for Planned MainStreet Development Districts..... 4

 3.1.4 Underground Utilities..... 5

 3.1.5 Process for Rezoning Planned MainStreet Development District..... 5

 3.1.6 Subsequent to Rezoning a Planned MainStreet Development District..... 5

 3.2 Standards Organization..... 6

4. DISTRICT BOUNDARIES AND SUB-DISTRICTS..... 8

 4.1 District Boundaries..... 8

 4.2 Sub-Districts..... 9

5. DISTRICT-WIDE DEVELOPMENT ORGANIZATION..... 11

 5.1 Land Dedications..... 15

 5.2 Open Space..... 16

 5.2.1 Existing Wetlands..... 17

 5.2.2 Greenspace..... 18

 5.2.3 Water Features and Canals..... 19

 5.3 Street Grid..... 20

 5.4 Development Block..... 21

 5.5 Development/Land Use Pattern..... 22

 5.6 Utilities..... 23

 5.6 Public Safety..... 25

6. STREETSCAPES..... 27

 6.1 Street Type A: Sample Road Entrance..... 33

 6.2 Street Type B: Lyons Road Entrance..... 35

 6.3 Street Type C: MainStreet..... 37

 6.4 Street Type D: Residential Street..... 40

 6.5 Street Type E: Residential Canal..... 42

 6.6 Street Type F: Cullum Road..... 44

 6.7 Frontage Road (Perimeter) Greenway..... 48

MainStreet Design Standards
TABLE OF CONTENTS (cont.)

7. PLAZAS AND OPEN SPACE.....	50
7.1 Plazas.....	50
7.2 Open Space.....	51
8. BUILDINGS.....	52
8.1 Uses, Densities and Height.....	54
8.1.1 <i>Sub-District MS-C</i>	56
8.1.2 <i>Sub-District MS-R</i>	59
8.1.3 <i>Sub-District MS-P</i>	61
8.1.4 <i>Sub-District MS-T</i>	66
8.2 Setbacks.....	68
8.3 Street Orientation.....	72
8.4 Location of Uses.....	72
8.5 Solar Orientation.....	73
8.6 Shading.....	74
8.7 Air Movement.....	75
8.8 Materials.....	76
8.9 Fenestration.....	77
8.10 Articulation.....	79
8.11 Rooftops.....	82
8.12 Signage.....	83
8.13 Lighting.....	86
8.14 Parking.....	87
8.14.1 <i>Shared Parking</i>	87
8.15 Service Areas and Refuse.....	89
8.16 Attached Housing.....	90
9. SUSTAINABLE AND GREEN COMPONENTS.....	91
9.1 Education Campaign.....	92
9.2 Recycling/Waste Management.....	94
9.2.1 <i>Commercial Recycling</i>	95
9.2.2 <i>Home Recycling</i>	96
9.3 Stormwater Management.....	97
9.3.1 <i>Pervious Materials</i>	97
9.3.2 <i>Aquascaping</i>	98
9.4 Reduced Site Disturbance.....	99
9.4.1 <i>Site Protection</i>	99
9.4.2 <i>Tree Protection</i>	100
9.4.3 <i>Earthwork</i>	100

MainStreet Design Standards
TABLE OF CONTENTS (cont.)

9. SUSTAINABLE AND GREEN COMPONENTS (cont.)	
9.5 Alternative Transportation.....	101
9.5.1 <i>Mass Transit</i>	101
9.5.2 <i>Bicycles and Canoes/Kayaks</i>	101
9.6 Light Pollution.....	102
9.7 Reduce Heat Islands.....	102
9.8 Water Conservation.....	104
9.9 Building Requirements.....	105
9.9.1 <i>Sustainable Site</i>	105
9.9.2 <i>Materials and Resources</i>	105
9.9.3 <i>Water Efficiency</i>	106
9.9.4 <i>Energy Conservation</i>	107
9.9.5 <i>Indoor Air Quality</i>	109
10. DEFINITIONS.....	111
11. OPEN SPACE TEMPLATE.....	114
APPENDICES (UNDER SEPARATE COVER)	
APPENDIX A: ANALYSIS OF INFRASTRUCTURE AND DEVELOPMENT REGULATIONS	
APPENDIX B: MAINSTREET MASTERPLAN RETAIL MARKET ANALYSIS	

INTRODUCTION

The work presented in this document is guided by the view that there is a tremendous opportunity for the development of new downtown in Coconut Creek. Coconut Creek is widely recognized as a well-planned community with a unique environmental consciousness. The City has a progressive planning approach to creating a unique life-style for its residents and businesses with beautiful parks (more than any other city in Broward County), an extensive greenways program and the implementation of hybrid transportation technologies. At the time of this writing, however, the City lacks a centralized downtown area that can serve as the heart of the community, providing opportunities for residents to live, work, shop and play.

These standards are the result of a master planning process beginning in 2002, during which the City leaders placed a high degree of importance on the values of the City's residents and property owners. Numerous meetings were held to receive input from community stakeholders to help guide the master planning process. These standards are the result of that process and therefore, embody the values of the community as a whole.

One of the greatest values of the Coconut Creek community is a desire for sustainability. Sustainability is a value that achieves balance between resources used and resources created. While it includes, and is often associated with, the implementation of recycling programs, efforts to minimize the consumption of energy resources and incorporate green building practices, sustainability encompasses much more than that. The concept of sustainability includes the fact that the community is a community of people and that the buildings are a component of an infrastructure network that allows the community to live comfortably within a compact environment over time. It also includes economic sustainability, the creation of buildings with long life spans and the opportunity for reuse, and that investment in these buildings can provide the returns necessary to support it.

Principle	<i>Sustainable: The condition of being able to meet the needs of present generations without compromising those needs for future generations. Achieving a balance among extraction and renewal and environmental inputs and outputs, as to cause no overall net environmental burden or deficit.</i>
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INTENT

The intent of the MainStreet District is to provide for the development of a sustainable, mixed-use downtown environment that embodies the uniqueness of Coconut Creek and will serve as a local and regional destination for the City's residents and nearby communities. The district promotes the development of a pedestrian oriented, mixed-use community organized around substantial, centralized and contiguous recreational open space. The efficient development of land resources, compact development of a variety of housing choices, flexibility in use and design, and green building and planning techniques are fundamental criteria of the district development.

In support of the city's progressive environmental consciousness, these standards provide for the environmentally sensitive development of buildings, open spaces and water bodies. Furthermore, these standards recognize and encourage the use of green development practices established by the U.S. Green Building Council and the Florida Green Building Coalition, Inc. These organizations promote the design, construction and operation of buildings that are environmentally responsible, profitable, and healthy places the live and work. Both organizations provide standards for green development and a means for certification within their respective programs. This certification is a minimum requirement within the District.

Concerning building uses and overall buildable area, the creation of substantial open space, the development of mixed-use structures and the implementation of green building techniques are encouraged by providing greater development opportunities than that which existed prior to adoption of these standards. The standards provide floor area ratios, residential densities, allowable building heights and appropriate development block sizes. Yard and setback areas are minimal and are required to be developed as an integral part of the overall pedestrian streetscape. Ground floor build-to lines are provided in order to establish a continuous building frontage that enhances and provides spatial definition for the urban streetscape.

These design standards supplement the City of Coconut Creek Land Development Code (LDC) and are incorporated by reference. When the standards do not provide guidance on specific zoning issues the LDC provisions shall apply. District development shall not be contrary to or inconsistent with the comprehensive plan.

IMPLEMENTATION AND USING THE STANDARDS 3

3.1
Planned MainStreet
Development Districts

The MainStreet Design Standards serve as an overall design framework for future projects within the MainStreet Project Area (MSPA), and as such, does not have the affect of rezoning for any property within the MainStreet Project Area as it relates to uses, densities, and intensities. The Standards identify a MainStreet district boundary with several sub-districts which future rezonings shall be consistent with. Ultimately, it is the implementation and application of this framework that becomes critical in ensuring that the vision for MainStreet development becomes a reality.

The intent of these PLANNED MAINSTREET DEVELOPMENT DISTRICT (PMDD) regulations is to implement the use, design of structures, and land design within the overall MSPA. Each PMDD is required to be consistent with the MainStreet Design Standards, as approved by the City Commission. It is the intent of the PMDD regulations to promote development projects as comprehensively planned design districts that encourage coordinated development upon land suitable in size, location and character. With these regulations the city can provide protection and compatibility with abutting blocks and/or districts; and provide compatibility and amenity among uses located within the overall MSPA.

Zoning for development projects within MainStreet shall be adopted in conjunction with or prior to the site plan approval for all properties within the MSPA. Each individual PMDD application shall be reviewed for consistency with the MainStreet Design Standards. Each application must clearly demonstrate consistency with the standards and principles of the MainStreet Design Standards. In the event, the application does not meet certain standards and principles, reasons must be identified why standards cannot be achieved and alternate solutions must be provided which accomplish and maintain the overall concept of MainStreet.

3.1.1
Intensity

The maximum intensity of proposed development permitted within any proposed PMDD shall not exceed intensity permitted by the Coconut Creek Comprehensive Plan, as may be amended. Intensities provided for under a future land use categories such as Regional Activity Center (RAC) or Local Activity Center (LAC) designation shall be regulated by the City of Coconut Creek. Development intensity shall be assigned by the City Commission during site plan approval as stated in Section 3.1.6.

3.1.2
Existing Entitlements

The MainStreet Design Standards serve as a framework for future development and redevelopment. Existing entitlements shall be defined and limited to permitted uses, densities, and intensity. Previously approved site development standards are hereby superceded. In the event landowner seeks modifications to any existing entitlements, the MainStreet Design Standards shall serve as the framework for such modifications.

IMPLEMENTATION AND USING THE STANDARDS 3

3.1.3
*Required Elements for
Planned MainStreet
Development Districts*

All PMDD regulations shall, at a minimum, address the following design criteria, as provided for in the MainStreet Design Standards. Additional design criteria, as necessary, shall be adopted in conjunction with these minimum required elements.

- Streetscape Requirements
- Right-of-way and Typical Sections
- Plaza and Open Space Requirements
- Building Design
 - Uses, Density and Height
 - Setbacks
 - Street Orientation
 - Location of Uses
 - Solar Orientation
 - Shading
 - Air Movement
 - Materials and Exterior Finishes
 - Fenestration
 - Articulation
 - Rooftops
 - Signage
 - Lighting
 - Parking
 - Service Areas and Refuse
 - Pedestrian Access/Connectivity
- Sustainable and Green Components
 - Recycling/Waste Management
 - Storm water Management
 - Reduced Site Disturbance
 - Alternative Transportation
 - Light Pollution
 - Reduce Heat Islands
 - Water Conservation
 - Green Building Commitments

IMPLEMENTATION AND USING THE STANDARDS **3**

3.1.4 *Underground Utilities*

All utilities within PMDDs, including but not limited to, telephone, television cable, and electrical systems shall be installed underground. Large transformers shall be placed on the ground and contained within pad mounts, enclosures or vaults. The developer shall provide adequate landscaping with shrubs and plants to screen all utility facilities permitted above ground.

3.1.5 *Process for Rezoning Planned MainStreet Development District*

- *Application.* Petitions for rezoning of land to a PMDD shall proceed in general as other petitions for rezoning of land. Petitions will be provided and processed by the City of Coconut Creek Development Services Department.
- *Prehearing conferences.* Upon request by the applicant, representatives of the development services department shall meet with the applicant to review the proposed PMDD preliminary development plan. The purpose of prehearing conferences shall be to provide information to assist the applicant in interpreting the PMDD zoning requirements. Prehearing conferences shall continue until the applicant has a complete PMDD zoning development plan ready for submission with a rezoning petition.
- *Public hearing.* The applicant shall submit petition for PMDD on the application provided by the development services department. The petition shall be reviewed by the City's Development Review Committee for completeness and consistency with the MainStreet Design Standards. Once an application has been determined to be complete and consistent with the MainStreet Design Standards, a public hearing date shall be established for the next regularly scheduled planning and zoning board meeting. Thereafter, public notice shall be given and a public hearing before the city commission on the petition for rezoning shall be held in the same manner as for other applications for zoning.
- *Planning and zoning board findings and recommendations.* After the close of the public hearing, the planning and zoning board may recommend to the city commission that the PMDD rezoning be granted as submitted, granted subject to stated stipulations and conditions, or denied.
- *City commission action.* The city commission shall, after due consideration, enact or deny PMDD zoning for the subject property. The ordinance enacting the PMDD zoning shall specifically incorporate the PMDD zoning plan that shall consist of the minimum required elements, as previously described in this section. Upon receipt of the planning and zoning board recommendation, the city commission shall act in accordance with the procedures for rezoning as identified in Chapter 13 of the City's Land Development Code.

3.1.6 *Subsequent to Rezoning a Planned MainStreet Development District*

Subsequent to the enactment of PMDD zoning, development of all or a portion of the PMDD shall proceed in accordance with the standard site plan review and subdivision approval provisions of the City of Coconut Creek Land Development Code. All site plans within the MSPA are subject to City Commission approval. Site plan approval and subdivision approval shall be granted only for developments, which conform to the requirements set forth in the individual PMDD ordinance.

IMPLEMENTATION AND USING THE STANDARDS **3**

3.2 Guideline Organization

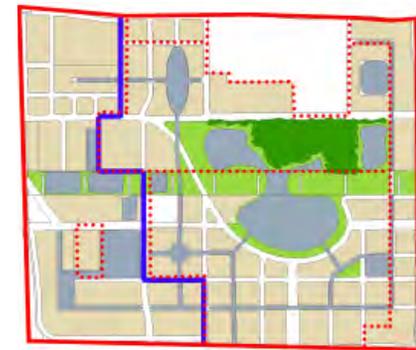
When using these Standards, it is helpful to understand the basis for their development. In order to establish a framework from which to understand the development potential of the district, a conceptual development scheme was created, herein after referred to as the “conceptual scheme”. This conceptual scheme was utilized not only to test that the Standards would ensure that future MainStreet development fulfilled the intent of the district, but also that the Standards were flexible, pragmatic and enforceable. For this reason, the Standards often make reference to the conceptual scheme as a point of departure, both graphically and in text. The City recognizes that the development of the MainStreet District will most likely occur in phases and by multiple development entities. Therefore, it is not the intent of the Standards to mandate any particular overall development scheme. Alternative schemes may be proposed provided the conceptual intent of the District is maintained and that future phases are accounted for.



Existing Conditions



Conceptual Scheme



Land Dedications

These Standards provide for the cohesive, yet flexible, future development of the MainStreet District. They are organized to first address the overall planning and development of the District as whole. This includes general parameters for the development and placement of open spaces, water bodies, development blocks and street networks and descriptions of how these components should relate to one another as an interdependent whole. Secondly, the Standards provide more specific requirements for the development of streetscapes, open spaces, and buildings and, thirdly the Standards address specific requirements for sustainable planning and building. When using these Standards, it is important to note that they have been developed as a holistic document and no single section should be read in isolation. References have been provided throughout to aide in understanding the relationships between different sections.

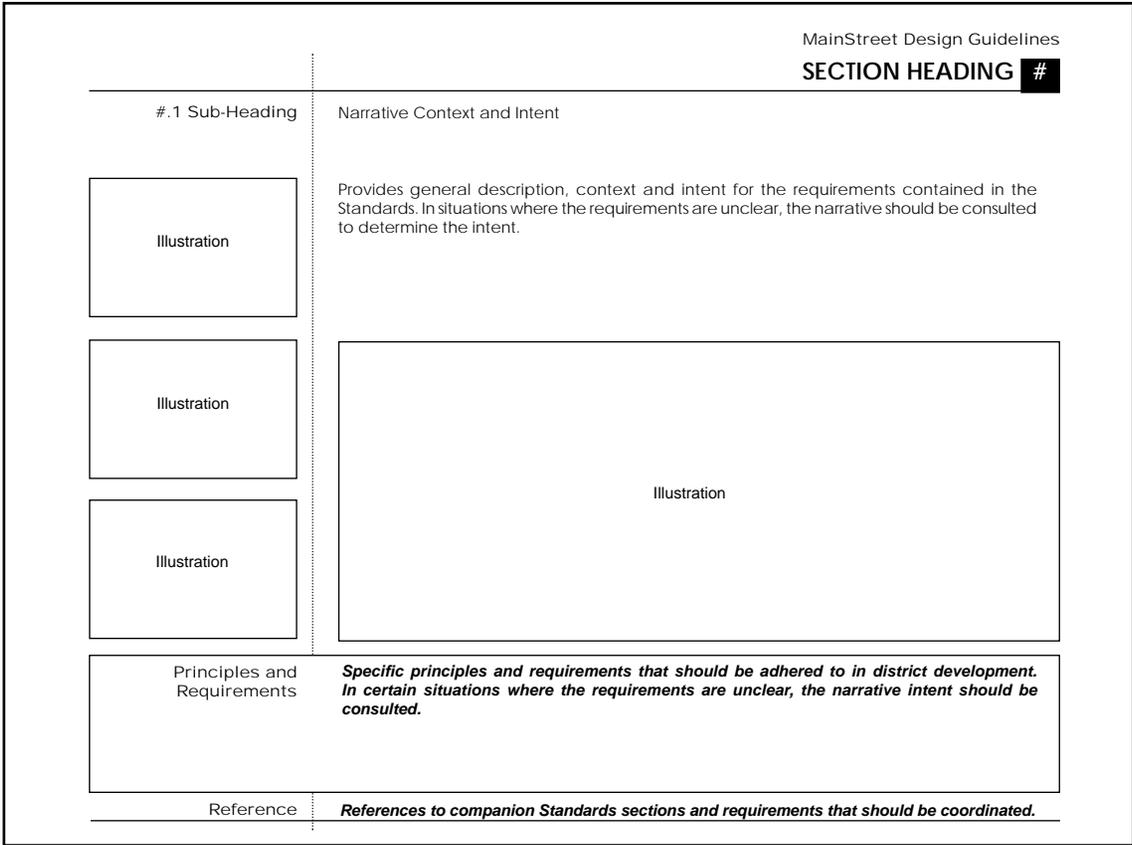
IMPLEMENTATION AND USING THE STANDARDS 3

3.2 (cont.)
Guideline Organization

Of important note when using the Standards is the distinction between requirements for the MainStreet District as a whole and the requirements of Sub-Districts. Sub-Districts govern allowable building uses, densities and height only. All other aspects of a development project should follow the requirements provided throughout the document. Section 4, District Boundaries and Sub-Districts, describes the overall District and Sub-District boundaries and provides a general intent for each Sub-District.

Typical zoning parameters, including the specific Sub-District building allowances (uses, density and height) as well as building setbacks and parking requirements are located in Section 8, Buildings.

Most pages are formatted to provide a narrative context and intent for the Standards, illustrative graphics and photographs, specific component requirements and other Standard references. The format is illustrated in the diagram below:



DISTRICT BOUNDARIES AND SUB-DISTRICTS 4

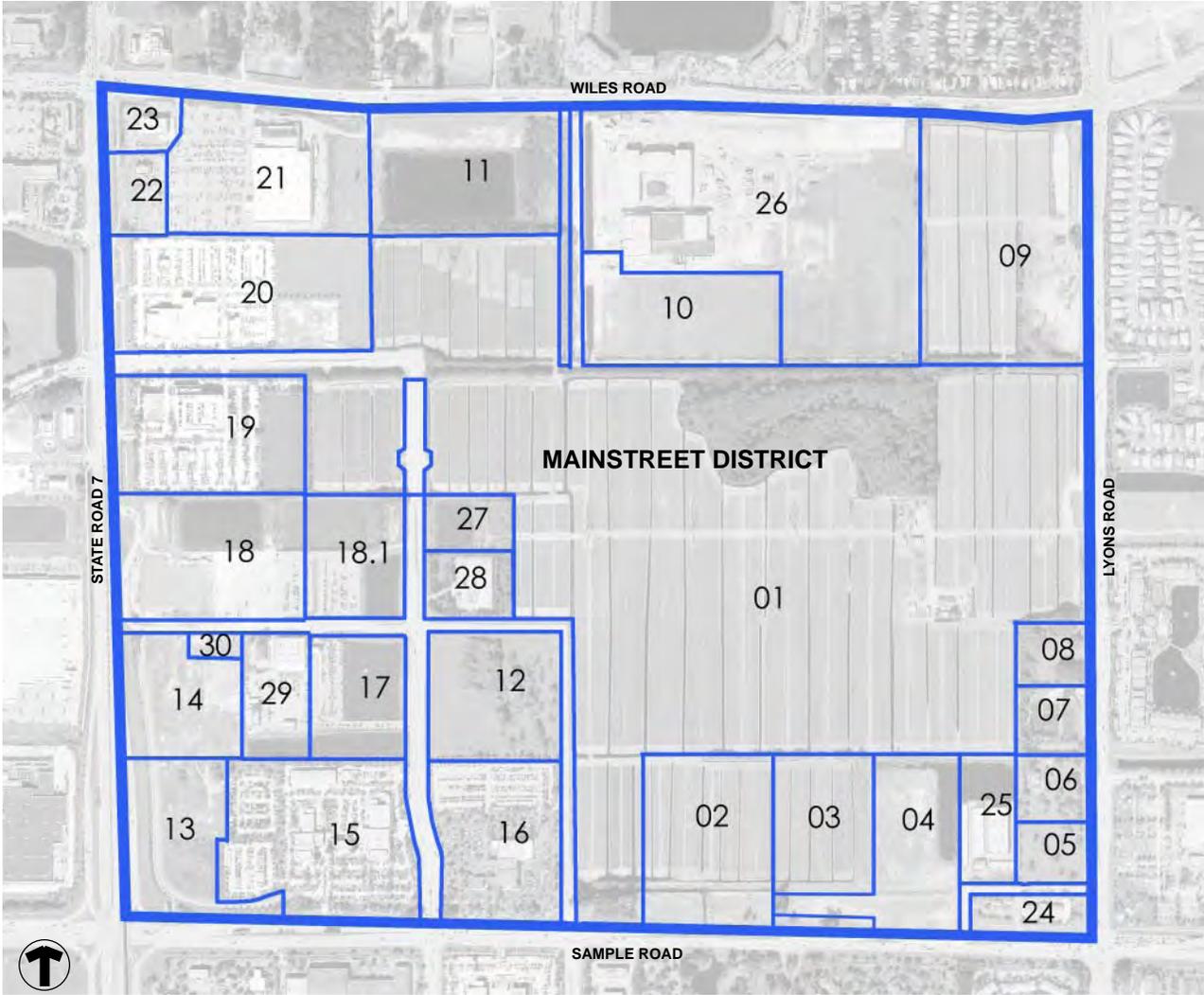
4.1

District Boundaries

(Property information is from 2003)

- 1. JOHNS, DANIEL FRANKLIN TR % SUNTRUST BANK S FL NA
- 2. SAMPLE ROAD TR % CAPITAL REALITY SERVICES INC
- 3. CITY OF COCONUT CREEK
- 4. POMPANO IMPORTS INC % VISTA MOTORS
- 5. SIGNET LC
- 6. CATALINA SQUARE LC
- 7. COMPLETE PROPERTY MAINTENANCE
- 8. CURRIE, DONALD R & GWENDOLYN G
- 9. GREEN, VIRGIL D & GREEN LND TR % ROBERT M GREEN & NANCY E BEACH
- 10. CITY OF COCONUT CREEK
- 11. RM GREEN CORP
- 12. CITY OF COCONUT CREEK
- 13. MORSE OPERATIONS INC
- 14. CED ACQUISITIONS INC
- 15. TT OF COCONUT CREEK INC
- 16. AL HENDRICKSON TOYOTA INC
- 17. SEMINOLE TRIBE OF FLORIDA
- 18. SEMINOLE PROPERTIES INC
- 18.1 SEMINOLE PROPERTIES INC
- 19. MAROONE MANAGEMENT SERV INC
- 20. VOLKSWAGEN OF AMERICA INC GUNTHER VOLKSWAGEN
- 21. HOME DEPOT USA INC % PROP TAX DEPT 6356
- 22. INTERSTATE COCONUT LLC
- 23. WILES PARTNERS LLC
- 24. MOTIVA ENTERPRISES LLC
- 25. LYONS CREEK LC % UNITED STOR-ALL CENTERS INC
- 26. BROWARD COUNTY SCHOOL BOARD
- 27. COMMERCE CENTER AT COCONUT CRK % J SHORE
- 28. FLORIDA POWER & LIGHT CO
- 29. UNITED STATES OF AMERICA (SEMINOLE TRIBE OF FLORIDA)
- 30. THOMAS, BARBARA L & THOMAS, MARGARET R

The overall MainStreet District is comprised of approximately 430 acres (not including the Monarch High School) defined by Lyons Road on the east, State Road 7 on the west, Sample Road on the South, and Wiles Road on the North. Of the 430 acres, approximately 290 acres are currently undeveloped or are being utilized for agricultural purposes. The existing conditions of the MainStreet District are illustrated below.



MainStreet District Boundaries & Property Ownership

DISTRICT BOUNDARIES AND SUB-DISTRICTS 44.2
Sub-Districts*MainStreet District**MS-C Sub-District**MS-R Sub-District**MS-P Sub-District**MS-T Sub-District*

Within the District, four Sub-Districts have been established. The Sub-District regulations primarily govern building densities, floor area ratios, uses, and site development typologies. Specific requirements of each are provided within the sections (Buildings, Section 8) that address those issues. The Sub-District's are as follows:

- MainStreet Mixed-Use Commercial (MS-C): A sub-district focusing on mixed-use commercial/residential development and allowing for the greatest overall density in the District.

As indicated on the District and Sub-District boundary maps, the MS-C Sub-District encompasses approximately 143 acres and properties 02, 03, 04, 12, 25, 27 and 28. It encompasses portions of 01.

- MainStreet Mixed-Use Residential (MS-R): A mixed-use district focusing on residential, civic and cultural uses.

As indicated on the District and Sub-District boundary maps, the MS-C Sub-District encompassed approximately 103.5 acres and property 10. It encompasses portions of 01, 09 and 11.

- MainStreet Mixed-Use Perimeter (MS-P): A mixed-use district focusing on commercial and office development fronting Lyons and Wiles roads and allowing for site development typologies that account for the existing character of surrounding roadways.

As indicated on the District and Sub-District boundary maps, the MS-P Sub-District encompassed approximately 43.5 acres and properties 05, 06, 07, 08 and 24. It encompasses portions of 01, 09 and 11.

- MainStreet Mixed-Use Transit (MS-T): This Sub-District covers areas adjacent State Road 7 and anticipates that this roadway may one day be developed into a rapid transit corridor. As opposed to the other Sub-Districts which are primarily composed of undeveloped land, the majority of the properties within the MS-T Sub-District have already been developed with successful commercial uses. Therefore, the Sub-District provides general standards and incentives for future redevelopment with an orientation towards transit, but should not impact existing uses.

As indicated on the District and Sub-District boundary maps, the MS-T Sub-District encompassed approximately 140 acres and properties 13, 14, 15, 16, 17, 18, 18.1, 19, 20, 21, 22, 23. It does not include property 29.

Reference

8: Buildings: 8.1: Uses, Densities and Height

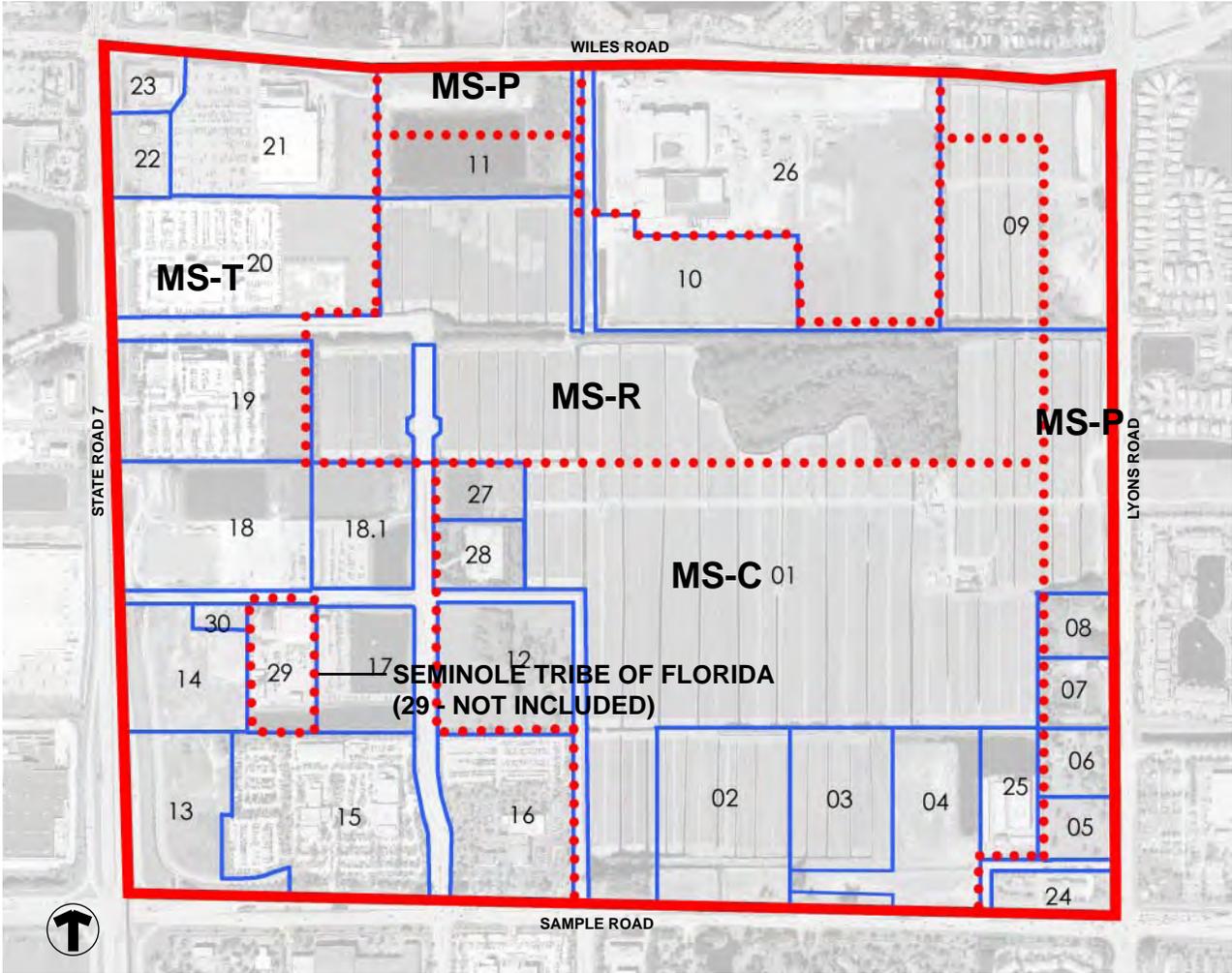
DISTRICT BOUNDARIES AND SUB-DISTRICTS 4

4.2 (cont.) Sub-Districts

The four Sub-Districts are illustrated below and overlaid on the existing conditions of the MainStreet District. The requirements and allowances of the Sub-Districts are provided in Section 8.1: Uses, Densities and Height.

LEGEND:

-  Existing Properties/Plats
-  MainStreet District
-  MainStreet Sub-Districts



Sub-District Boundaries

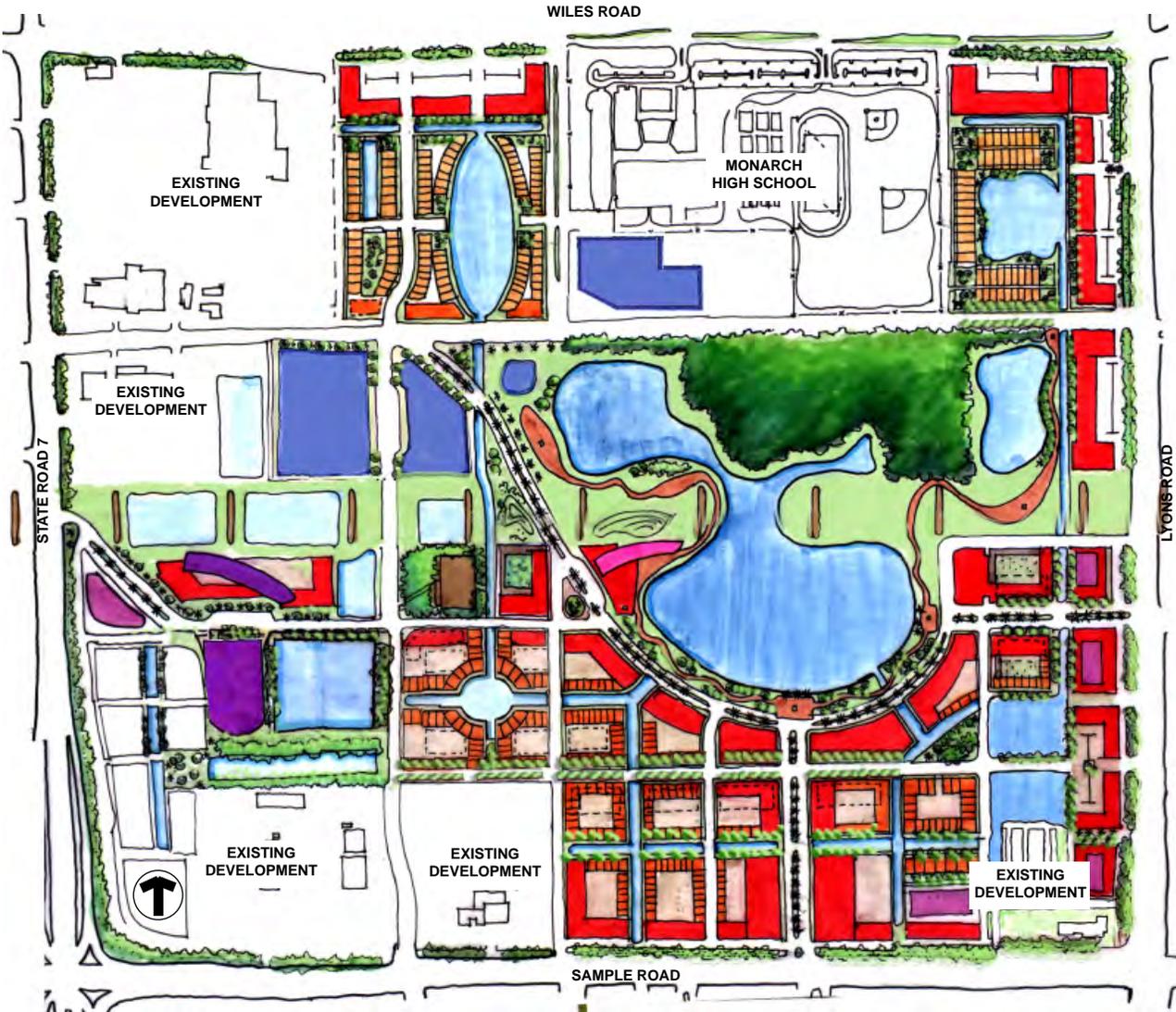
DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

DISTRICT-WIDE DEVELOPMENT ORGANIZATION

The intent of this section is to inform the overall development organization and planning of the district. Furthermore, the purpose is to ensure the development of a cohesive, pedestrian oriented urban environment that incorporates significant public open space and amenities, and opportunities for successful development of a mix of uses. The conceptual scheme below provides an illustration of the initial phases of the development.

LEGEND:

- Commercial/Retail
- Office
- Civic/Cultural
- High Density Residential
- Med.Density Residential
- Seminole/Casino/Hotel
- Water/Canals



Conceptual Scheme - Initial Phases

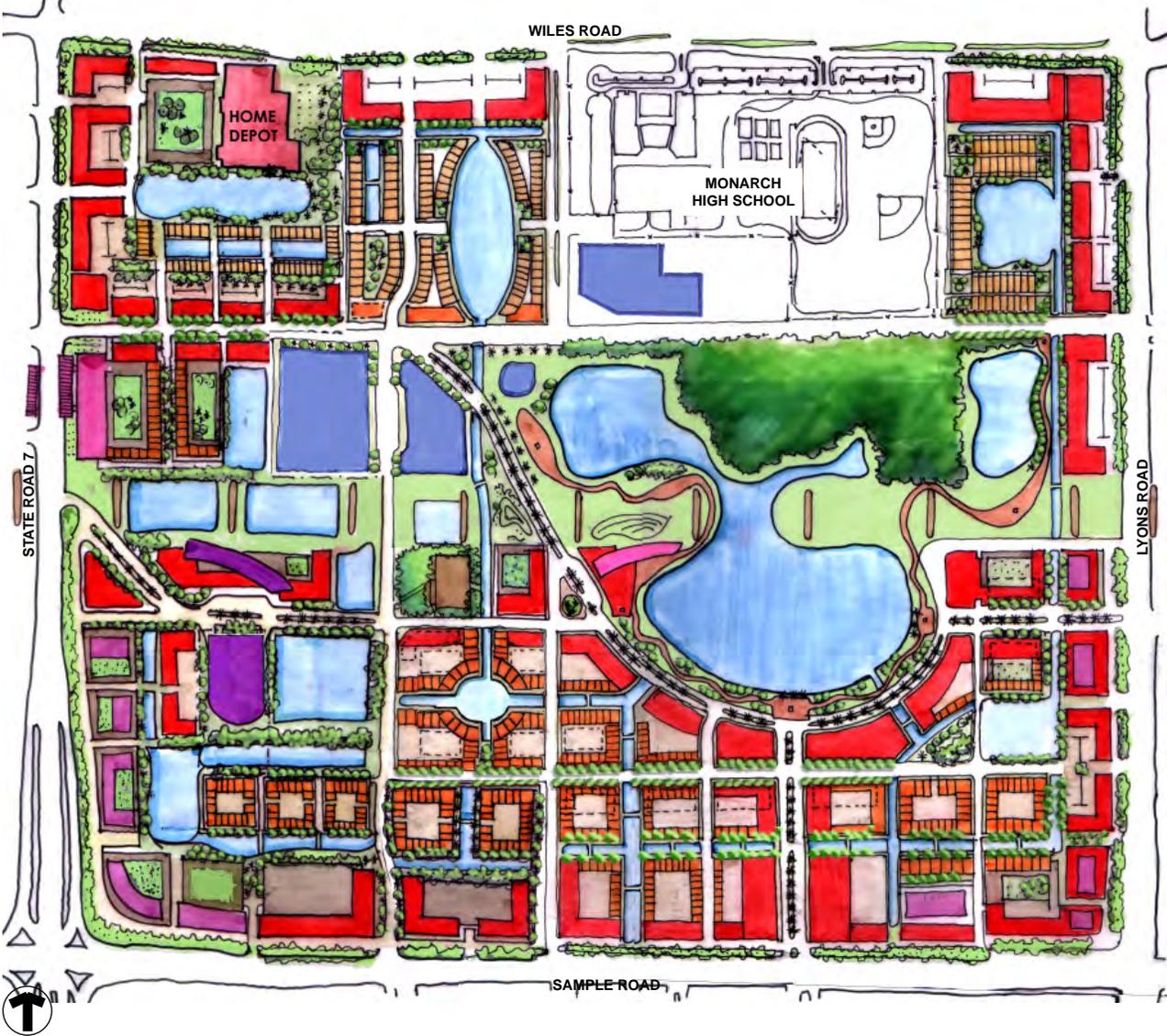
DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

DISTRICT-WIDE DEVELOPMENT ORGANIZATION

The conceptual scheme below provides an illustration of the full build-out of the development.

LEGEND:

- Commercial/Retail
- Office
- Civic/Cultural
- High Density Residential
- Med. Density Residential
- Seminole/Casino/Hotel
- Water/Canals



Conceptual Scheme - Final Phases

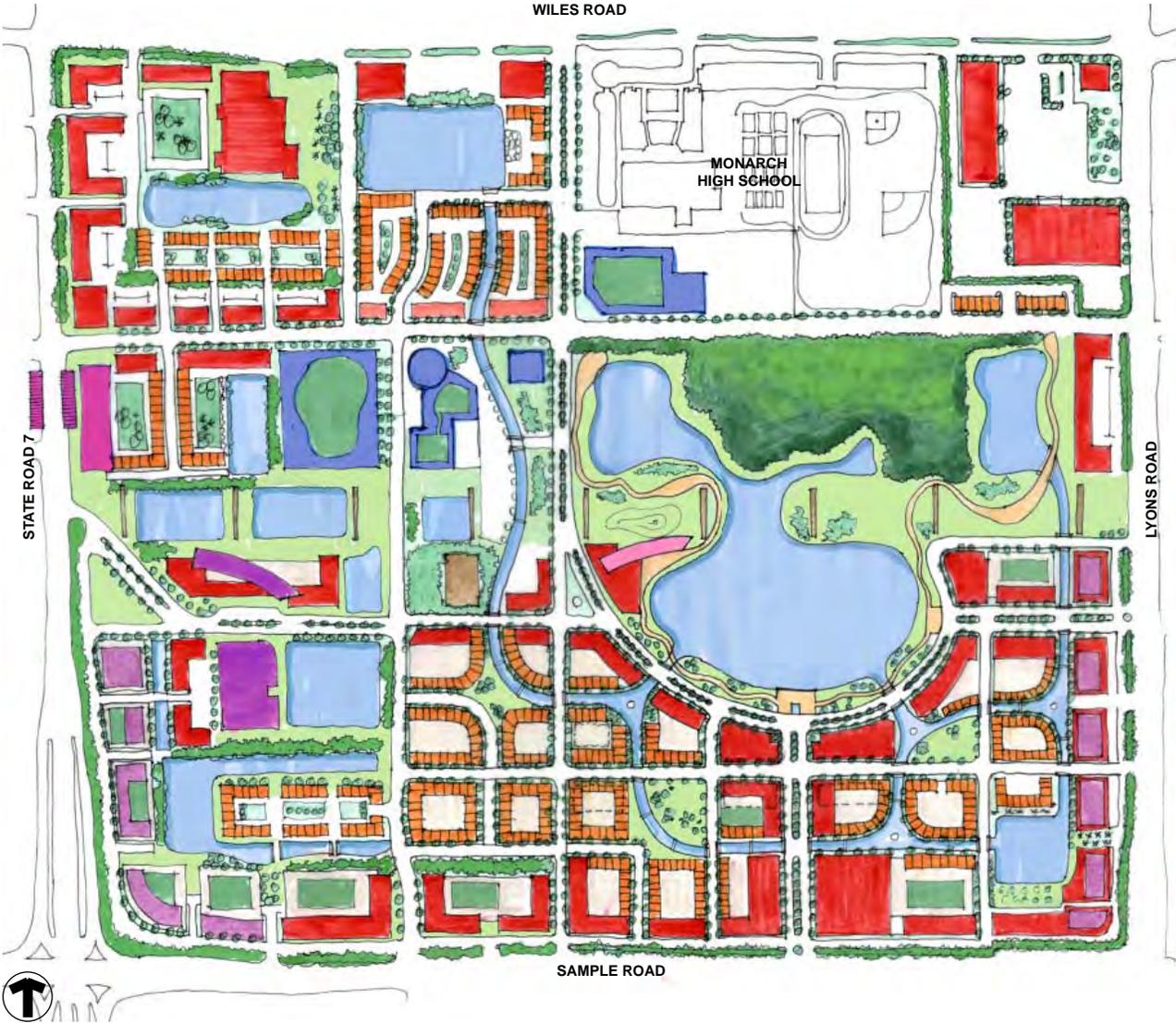
DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

DISTRICT-WIDE DEVELOPMENT ORGANIZATION

The alternative conceptual scheme provided below illustrates subtle design variations such as curved canals, retention of significant existing water bodies, alternatives for perimeter development and a variation on the alignment of MainStreet (Street Type C).

LEGEND:

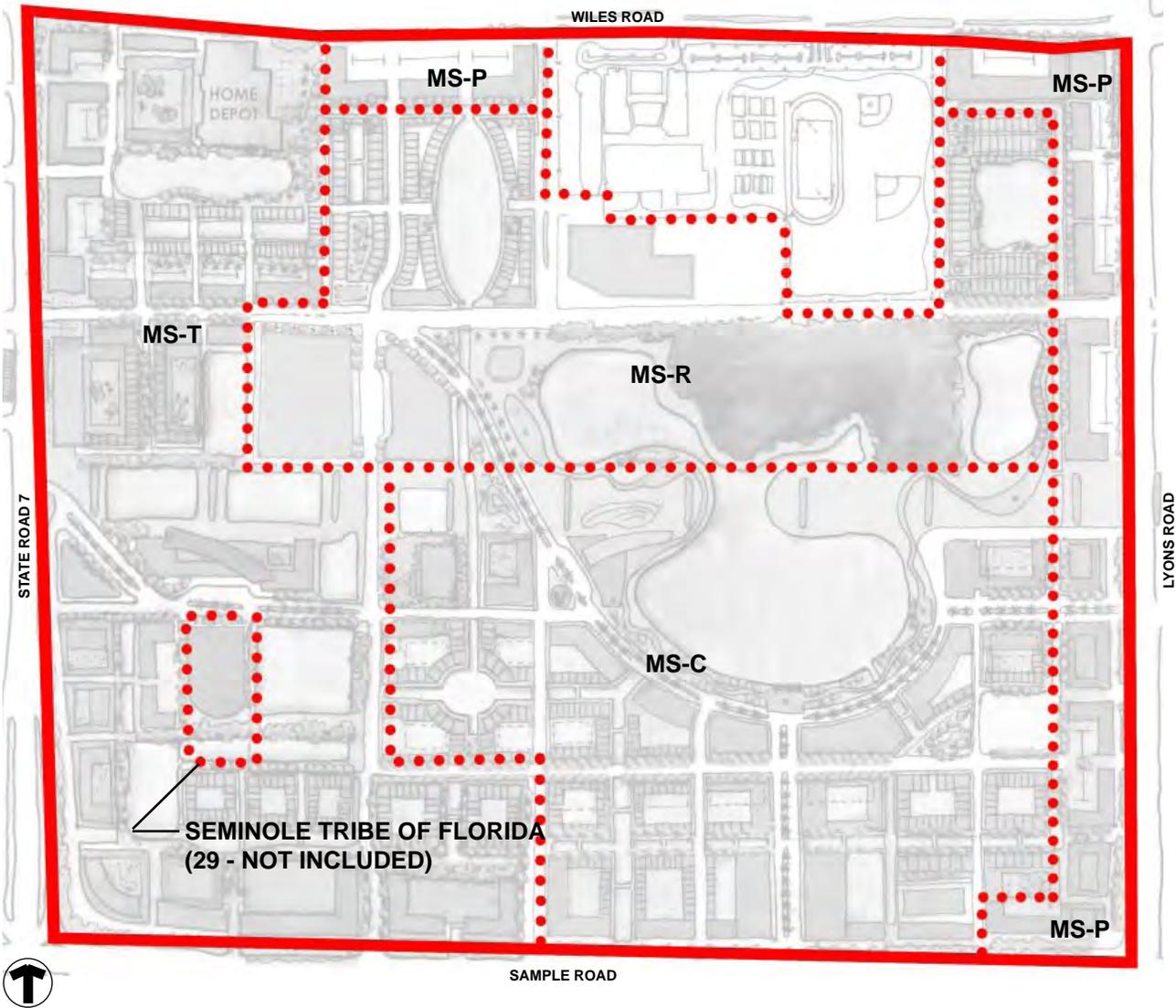
- Commercial/Retail
- Office
- Civic/Cultural
- High Density Residential
- Med.Density Residential
- Seminole/Casino/Hotel
- Water/Canals



DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

DISTRICT-WIDE DEVELOPMENT ORGANIZATION

The MainStreet Sub-Districts are indicated below and overlaid on the conceptual scheme.

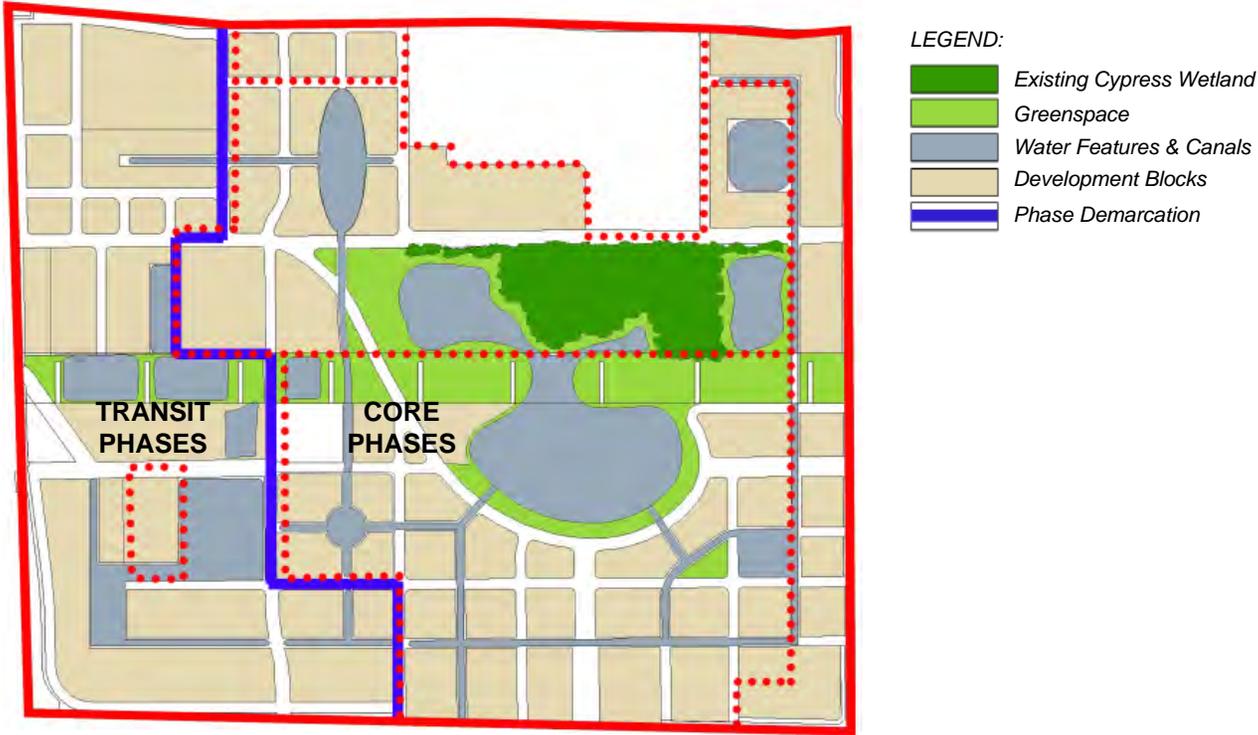


 MainStreet Sub-Districts

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.1
Land Dedications

Land use dedications have been estimated based on the conceptual scheme and shall guide the overall development of the District. The initial phases and final phases are comprised of approximately 290 and 140 acres, respectively.



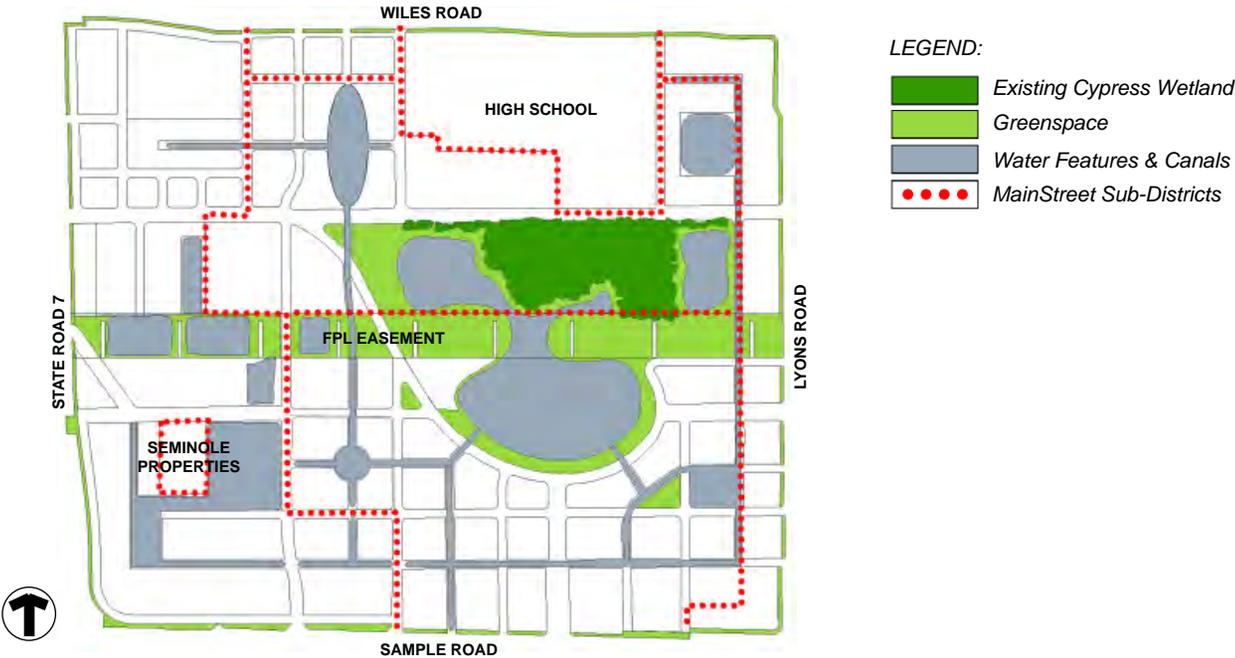
Land Dedications

Requirements	<u>Core Phases (290 acres)</u>	<u>Transit Phases (140 acres)</u>
	Greenspace:.....58 acres (20%) Water Features:..... 44 acres (15%) Canals:..... 12 acres (4%) Roadways:.....46 acres (16%) Development Blocks:.....130 acres (45%)	Greenspace:.....14 acres (10%) Water Features:..... 21 acres (15%) Canals:..... 2 acres (1.5%) Roadways:.....25 acres (18%) Development Blocks:.....78 acres (55.5%)

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.2 Open Space

Public open space shall be the primary organizing framework and centralized focus of the District. The open space includes the existing cypress wetlands, greenspace, water features and canals.



Open Space Diagram

Principle	<ul style="list-style-type: none"> • Provide a systematic open space component. • Provide a minimum of 16% pervious area of open space for drainage. • Water features and canals used for retention may be counted toward required open space and will be given credit based on the width of the water body. • See Open Space Template in Section 11 for calculating open space.
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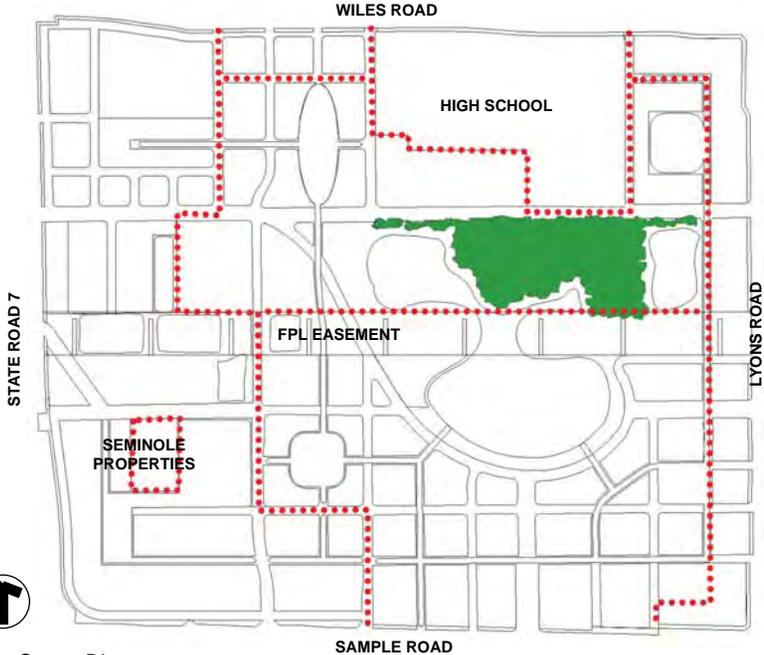
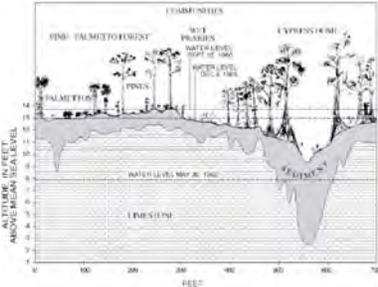
Reference	5.1: Land Dedications; 7: Plazas and Open Space; 11.0 Open Space Template
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DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.2.1 Existing Wetlands

The District contains a significant cypress wetland community as identified and protected in the Coconut Creek Comprehensive Plan as site 35. This wetland community shall be restored and protected.

The wetland community shall be recognized as a substantial community asset and shall be incorporated and planned as a focal component of the overall District plan and open space. Such incorporation shall be accomplished in a manner that does not create undue environmental stress on the wetland and allows the community recreational and educational opportunities and enjoyment. The wetland may be counted towards the greenspace requirements of the District.



LEGEND:

- Existing Cypress Wetland
- MainStreet Sub-Districts

Open Space Diagram

Requirements

- Restore and protect the existing cypress wetland, including:**
- **The removal of invasive and exotic plant communities.**
 - **Establish a long-term management plan to ensure that natural hydrology of the wetland is maintained.**
 - **Restriction of development within 100' of the wetland.**
 - **Implementation of a construction management and erosion control plan to protect the wetland from the effects of stormwater runoff and erosion caused by construction and disturbance of natural water flows.**

Reference

5.1: Land Dedications; 9.4 Reduced Site Disturbance

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.2.2. Greenspace

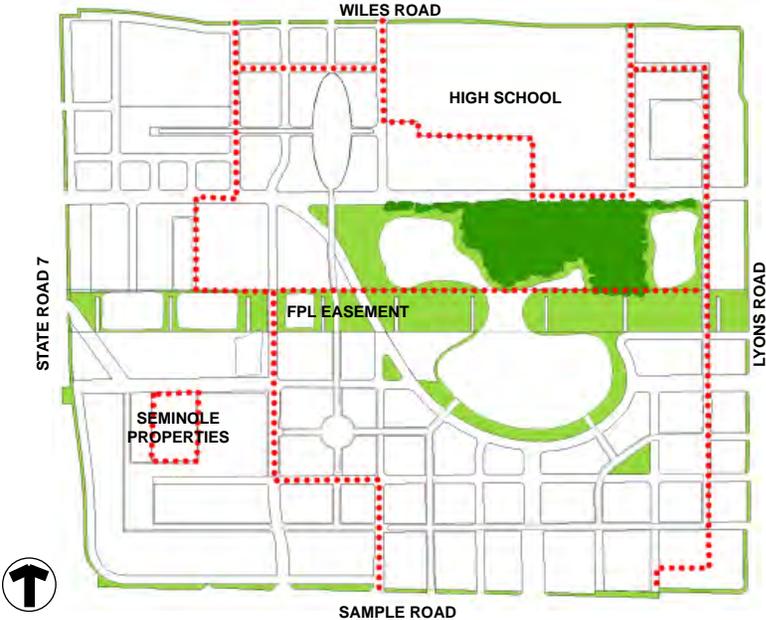
Greenspace is a fundamental component of a healthy urban environment and provides opportunities for recreation and relaxation, exercise, cultural entertainment and education. Greenspace may be provided in the form of parks, landscape buffers, greenway trails, public plazas and gathering areas.

Individual development blocks do not have greenspace requirements, but more than 16% of the District area shall be dedicated public greenspace. This affords the District the opportunity for a significant recreation component. In order to provide the District with a discernible focus, the greenspace shall be primarily located and planned in a centralized and contiguous manner. As indicated in the Comprehensive Plan, greenway trails have been identified throughout the City to connect neighborhoods with sidewalks, bicycle paths, nature trails and equestrian parks. One such proposed trail traverses the district within the existing Florida, Power and Light easement and connects existing parks on the eastern boundary of the City to the western boundary of the City to the western boundary. This trail shall be developed as a component of the greenspace throughout the entirety of the district. In addition, the surrounding edges of the district shall be improved as greenways.



LEGEND:

-  Existing Cypress Wetland
-  Greenspace
-  MainStreet Sub-Districts



Greenspace Diagram

Requirements

- **Provide centralized and contiguous greenspace organization.**
- **Provide 20% (gross) of the core phase as greenspace: 10% of the transit phase (16.7 % total).**
- **Utilize greenspace to enhance and buffer the existing cypress wetlands.**
- **Provide a greenway trail within the FPL easement. Trail path shall be a minimum of 15 feet in width.**

Reference

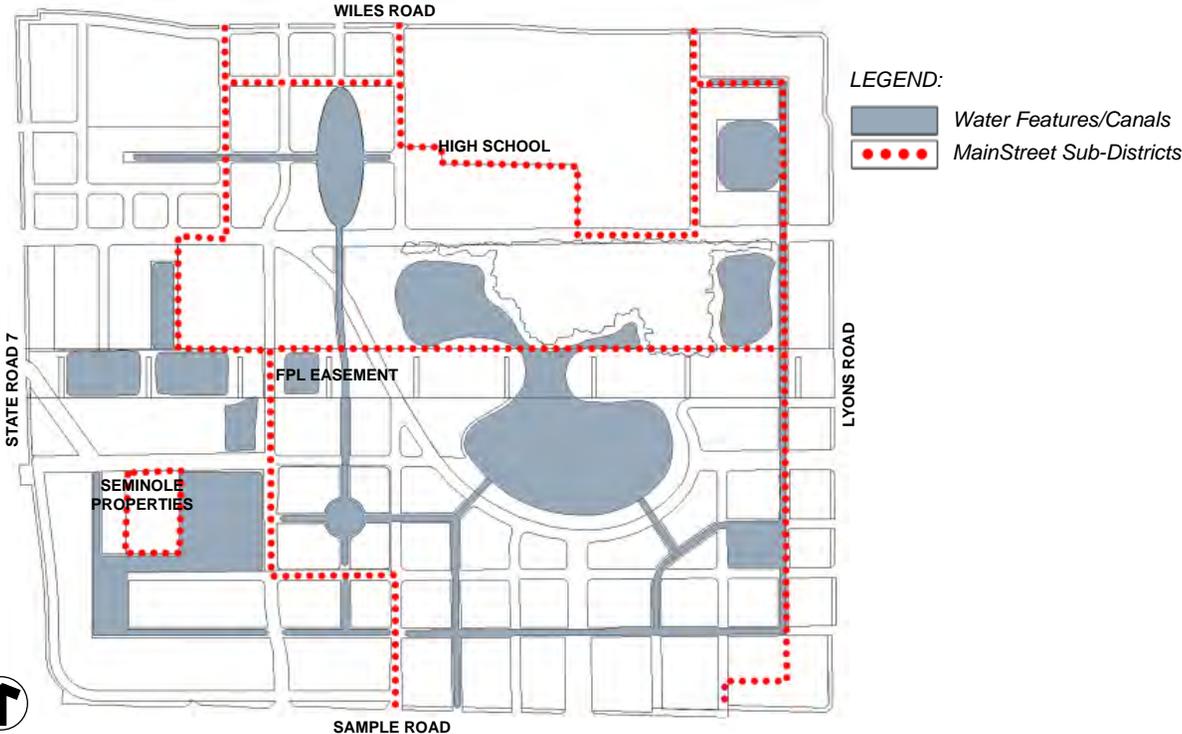
5.1: Land Dedications; 7.2: Open Space

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.2.3 Water Features and Canals

The District encourages the development of a significant water feature centrally located and designed to be integral and complementary to greenspace and existing wetland components. Other water bodies should be located so that they become focal elements of smaller “communities” within the District. Such water features shall operate as effective stormwater management tools, but shall also maintain a water quality that is suitable for public recreation purposes such as non-motorized boating.

Additionally, the development of water canals is encouraged throughout the district. Such canals shall be integral to the overall block development, and shall be systematically connected to one another and to larger water features. Canal edges shall be designed as urban streetscapes with ample pedestrian access and amenities.



Water Features and Canals Diagram

- | | |
|--------------|--|
| Requirements | <ul style="list-style-type: none"> • Locate water bodies so that they act as focal components of the District. • Take appropriate measures to ensure and maintain water quality. • Canals and water bodies shall be curved in design. There shall be no linear canals or rectilinear water bodies. |
|--------------|--|

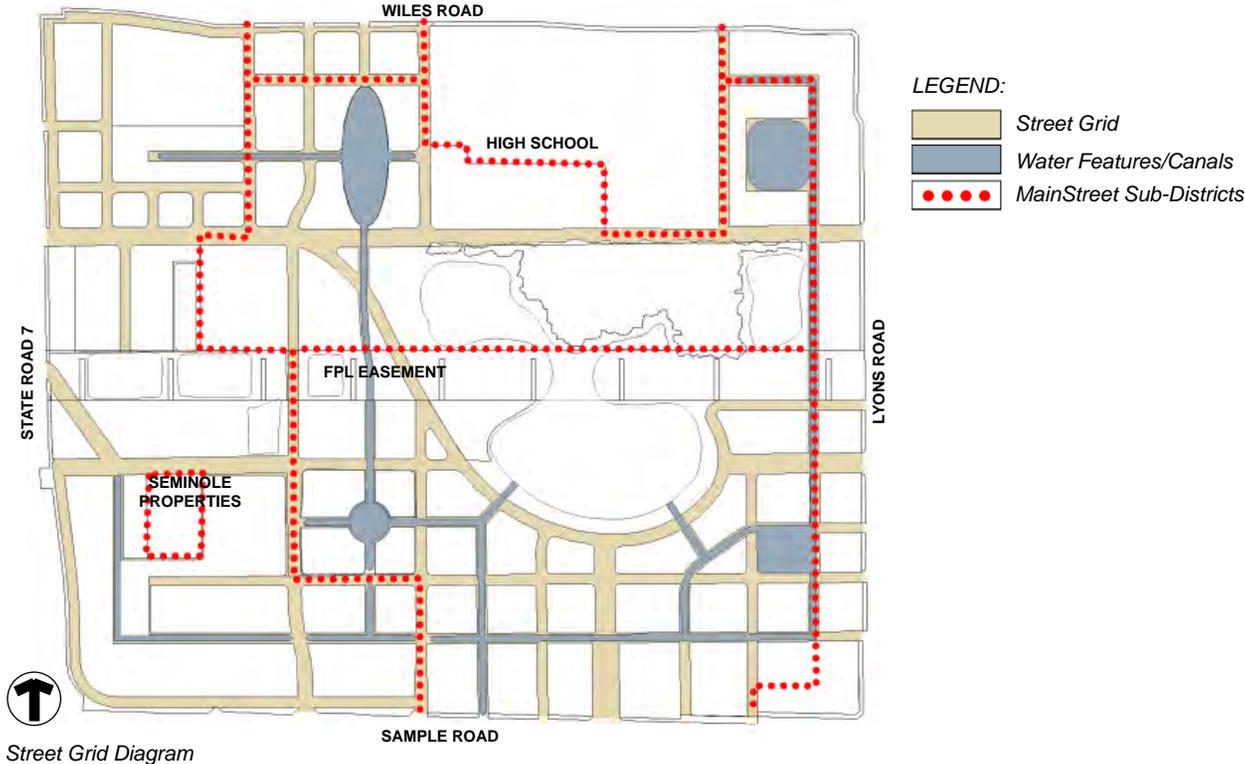
Reference 6.5: Streetscapes; 7.2: Open Space; 9.3: Stormwater Management

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.3 Street Grid

Streets within the District shall provide a variety of pedestrian, bicycle and vehicular routes and an efficient means for dispersing traffic. They shall be primarily developed as a connected grid network that conforms to natural features and planned open space. Street types shall be developed with a clear hierarchy, providing clarity for primary development entry points from adjacent thoroughfares, primary retail and commercial streets, and secondary residential streets and canals.

Streets shall provide efficient connectivity to the surrounding community and existing thoroughfares with entry points that conform to the requirements of each thoroughfare. The District shall have primary points of entry from Sample and Lyons Roads, State Road 7, and a secondary entrance form Wiles Road. Additional connections to these roads are encouraged to the extent possible.



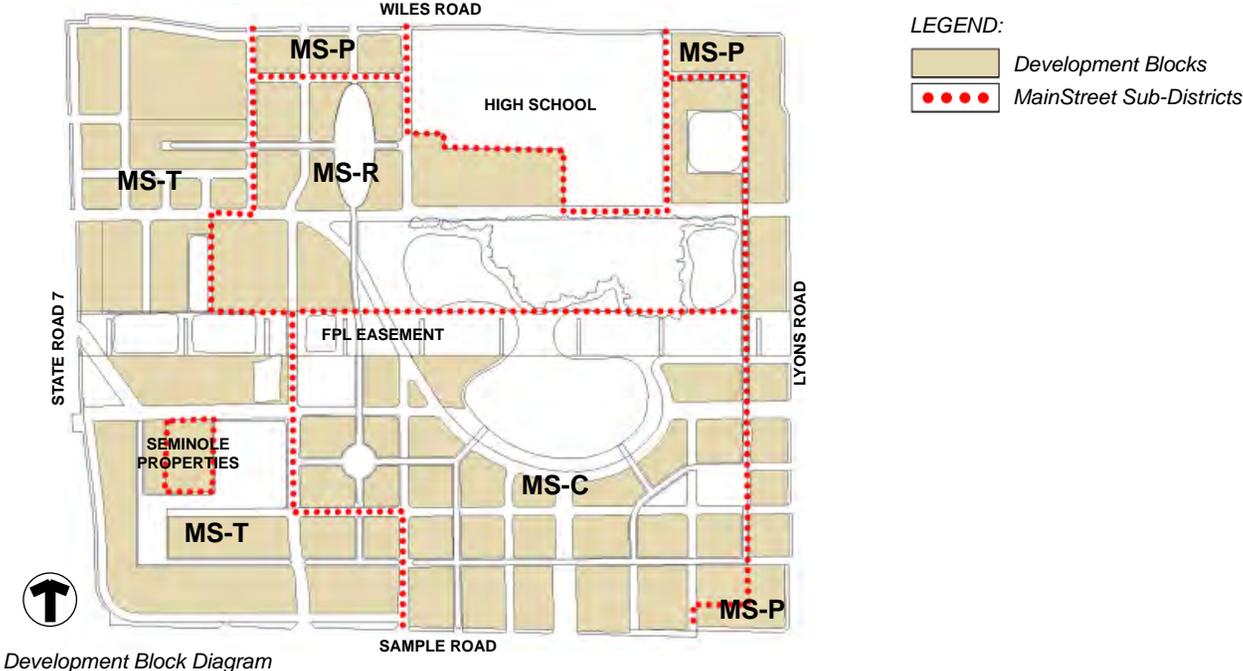
- | | |
|--------------|--|
| Requirements | <ul style="list-style-type: none"> • Provide a grid network of streets with a variety of pedestrian, bicycle and vehicular routes. • Provide appropriate connections to surrounding roadways. • Ensure that adequate emergency vehicle circulation is accommodated. |
|--------------|--|

Reference	6: Streetscapes; 5.2.3 Water Features and Canals
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DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.4 Development Blocks

Block size is a fundamental component of urban design that must balance the need to maximize the opportunities for efficient development and to also provide a comfortable pedestrian environment and connectivity. For this reason the district recommends average block sizes and the majority of blocks should reasonably approximate the average. However, it is recognized that some types of developments will require larger blocks and some blocks will have irregular geometries. In order to provide flexibility, recommended maximum block size is provided. In any case, smaller blocks are preferred and the intent of the pedestrian orientation of the District shall be maintained.



Requirements

- Sub-District MS-C Blocks:**
 - Shall average approximately 2 acres (approximately 300' x 300') with a maximum of 4 acres.
- Sub-District MS-R Blocks:**
 - Shall average approximately 2 acres (approximately 300' x 300') with a maximum of 10 acres for civic, cultural and school uses.
- Sub-District MS-P Blocks:**
 - Shall average approximately 2 acres (approximately 300' x 300') with a maximum of 10 acres.
- Sub-District MS-T Blocks:**
 - Shall average approximately 4 acres (approximately 400' x 450') with a maximum of 9 acres.

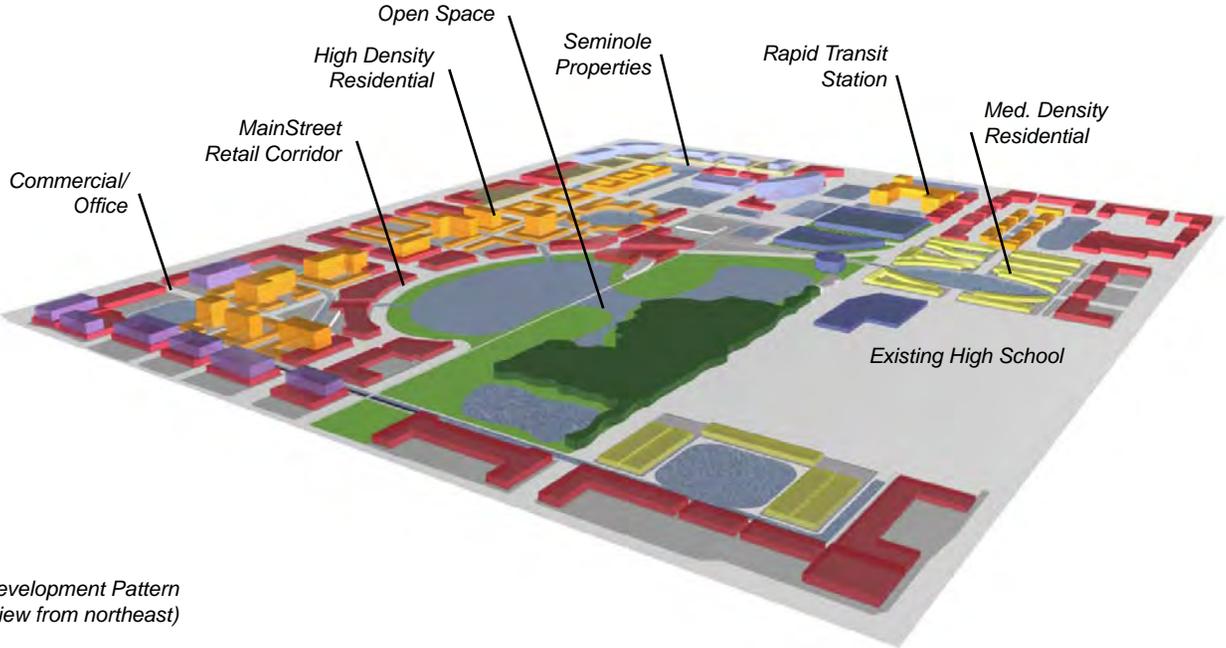
DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.5
Development/Land Use
Pattern

The suggested development pattern is garnered from the conceptual scheme as previously discussed. It is intended that development pattern should be organized to focus on the major open space components of the plan. The open space component should become the integral element of the development and as such, becomes the foundation for providing a character that is unique to Coconut Creek. Primary MainStreet mixed-use retail corridors should front and complement these open spaces. It is further encouraged that retail corridors stretch towards the District's surrounding roads and potential future development of the Seminole properties. Doing so will not only enhance the economic vitality of retail uses by making them visible to these heavily used thoroughfares, but will also serve to connect the overall development to the surrounding community.

Higher density residential uses should be adjacent and integral to major retail corridors and future transit stations and should be situated to gain views of the open space. Therefore, it is intended that building heights be stepped back from the open space, creating holistic opportunities for views and enjoyment of the open space.

Civic and cultural uses should also front the open space component and serve to anchor retail development. Public gathering spaces should be incorporated within the open space to transition to these uses and to provide an important civic character to the development. Outlying parcels should be developed with lower density residential, office and commercial uses.



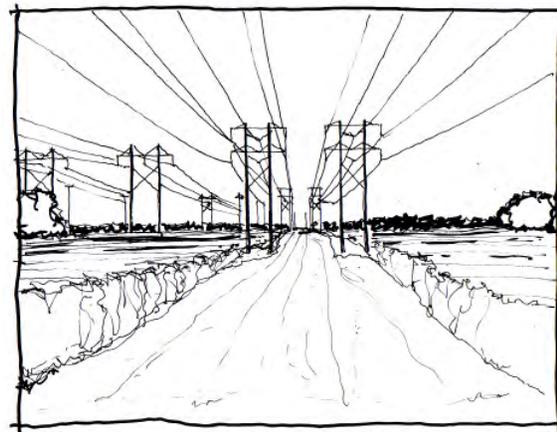
Development Pattern
(view from northeast)

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

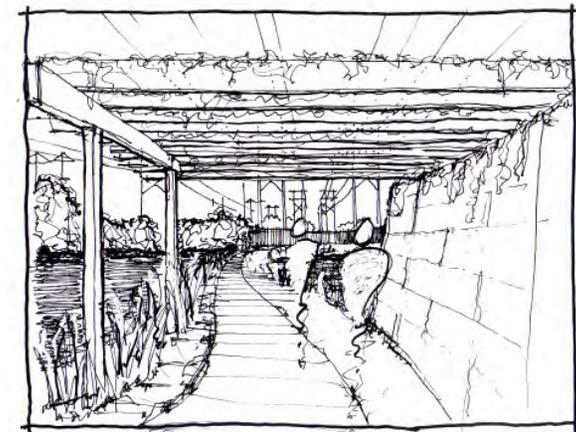
5.6 Utilities



Within the district, there are a number of existing overhead utilities including a major FPL transmission corridor. Existing overhead lines, outside the major FPL transmission corridor, shall be replaced with underground. It is also desirable that the utilities within the FPL easement be relocated, either underground or off-site, but it is recognized that these utilities may be permanent fixtures within the district. The conceptual scheme was organized to conceal them to the greatest extent possible by shaping the central water feature and adjacent development to minimize the long silhouette view that currently exists. In addition, it is recommended that open space areas within the FPL easement incorporate elements that interrupt views. This may include introducing topographical features, vertical features such as architectural screens and landscaping, and overhead elements associated with greenway trails. Long and silhouette views of overhead utilities should be minimized and the “tunnel effect” of long, straight, uninterrupted views should be especially avoided. In addition, substations and transformers should be screened from view through the use of topography, plant materials, fencing and/or enclosure walls.



Existing FPL transmission lines



Potential mitigation through landscape and open space structures

Requirements

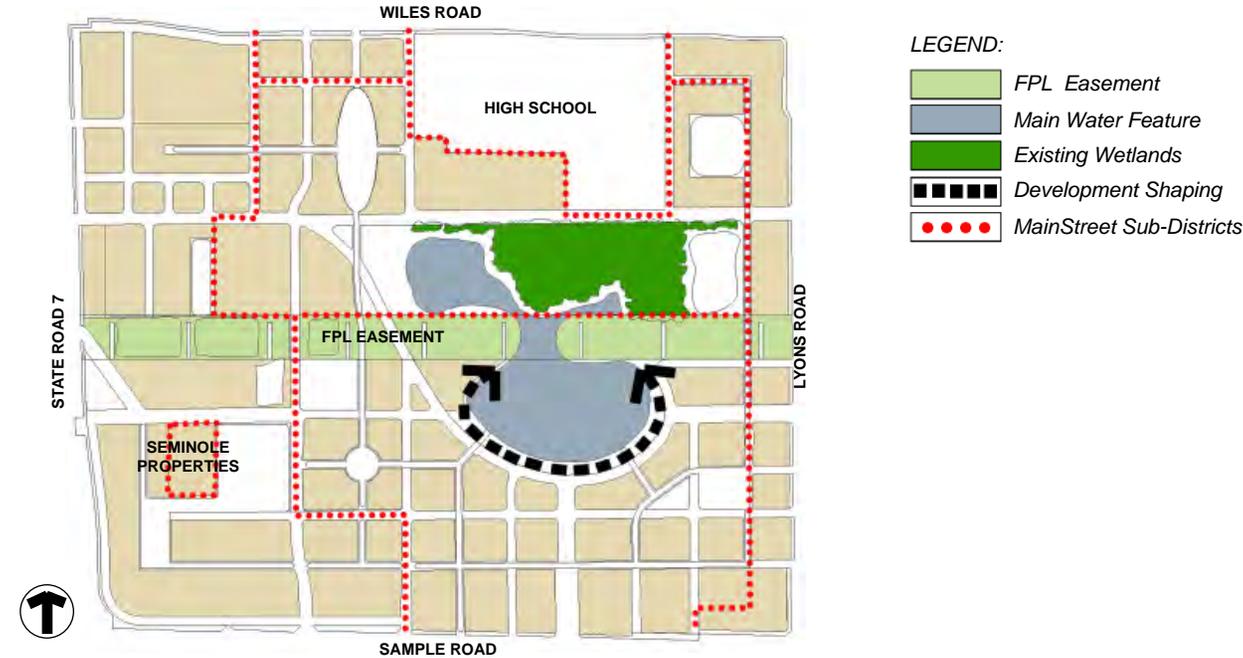
- **Buffer FPL infrastructure from views to the greatest extent possible.**
- **Existing overhead lines, outside the major FPL transmission corridor, shall be replaced with underground.**

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.6 (cont.)
Utilities



Other potential strategies for mitigating the existing FPL transmission lines and their associated structures include the implementation of Art in Public Places, creative lighting strategies or even the implementation of a solar field. It is possible, given FPL's interest in energy conservation, that they would be amenable to the possibility of allowing photovoltaic solar panels to be attached to the vertical transmission line supports if done in a way that does not interfere with the service requirements of the infrastructure. The solar panels, which are quite interesting to view, could be used to augment lighting requirements of the open space components, and would serve as a beacon to the MainStreet District and its sustainable consciousness.



FPL View/Development Organization Mitigation Diagram

Requirements	<ul style="list-style-type: none"> • Buffer FPL infrastructure from views to the greatest extent possible.
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DISTRICT-WIDE DEVELOPMENT ORGANIZATION 5

5.7 Public Safety

Crime Prevention Through Environmental Design (CPTED) contends that architects, city planners, landscape and interior designers, and law enforcement can create a climate of safety in a community, right from the start, by designing a physical environment that positively influences human behavior. People who use CPTED-designed areas perceive them as safe, and would-be criminals see them as highly risky places to commit crimes.

CPTED should be a key element in any local planning project such as MainStreet. This comprehensive crime prevention strategy encourages the community to be more intentional in the fight against crime and influences two related phenomena - the *probability* that a crime will occur and the public's *perception* of community safety.

The secret to CPTED is design features that eliminate or reduce criminal behavior and at the same time encourages people to “keep an eye out” for each other. These are just a few of the ingredients that go into creating an effective CPTED environment, a safer, more livable community.

CPTED is a unique way of thinking about crime. It is based on three principles:

- **Natural Surveillance**
- **Territorial Reinforcement**
- **Natural Access Control**

DISTRICT-WIDE DEVELOPMENT ORGANIZATION 55.7 (cont.)
Public Safety

Natural Surveillance: A design concept directed primarily at keeping intruders easily observable. Criminals don't want to be seen. Placing physical features, activities, and people in ways that maximize the ability to see what's going on discourages crime. Promoted by features that maximize visibility of people, parking areas and building entrances such as doors and windows that look out onto streets and parking areas, pedestrian-friendly sidewalks and streets; front porches, and adequate nighttime lighting.

Territorial Reinforcement: People protect territory that they feel is their own and have a certain respect for the territory of others. Physical design can create or extend a sphere of influence. Users then develop a sense of territorial control while potential offenders, perceiving this control, are discouraged. Promoted by features that define property lines and distinguish private spaces from public spaces using landscape plantings, berms, pavement designs, gateway treatments, and "CPTED" fences. Identifying intruders is much easier in a well-defined space.

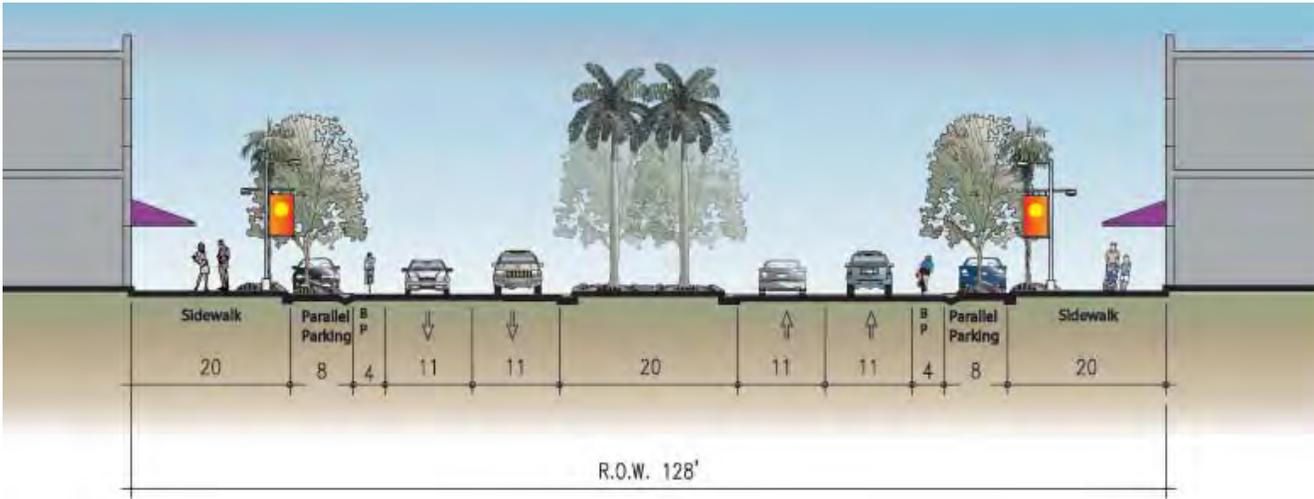
Natural Access control: A design concept directed primarily at decreasing crime opportunity by denying access to crime targets and creating in offenders a perception of risk. Gained by designing streets, sidewalks, building entrances and neighborhood gateways to clearly indicate public routes and discouraging access to private areas with structural elements. Properly located entrances, exits, fencing, landscaping, and lighting can direct both foot and automobile traffic in ways that discourage crime.

It is anticipated that MainStreet will incorporate CPTED principles in the organization of future development. The Standards provide design elements that can achieve the concept of CPTED and can be found in the following sections of the document.

STREETSCAPES 6

STREETSCAPES

Great streets balance the needs of pedestrian, bicycle and vehicular traffic. Streets are the backbone of a great community offering places for extra activities including sidewalk seating, small gatherings, vendors and waiting for transit. Pedestrian comfort and safety is crucial to the development of an economically sustainable downtown and shall be of greater concern than the convenience of drivers. Streetscapes should offer protection from the elements. In South Florida, that primarily means protection from the sun and rain. To the greatest degree possible, continuous overhead cover should be provided. This cover may provide continuous protection without being continuous itself and may be accomplished by landscaping and building projections. In addition, the best streets offer variety and encourage building occupants to add something to the street such as awnings, cafe seating, plants and flowers. The goal of street design within the district should be to provide appropriate space for these things to occur, thus ensuring a vibrant and interesting public space. Site furnishings, plants, and hardscape treatments should be carefully selected and installed to complement the sustainable goals of the District.



STREETSCAPES

Principles: Safety

Safety is a key part of creating a pedestrian friendly environment. These Standards employ methods that separate pedestrians from vehicular traffic and reduce traffic speed.

- *Provide on-street parking and landscaped bump-outs at intersections to buffer pedestrians from moving vehicles.*
- *Add landscaping in sidewalks as a further buffer.*
- *Provide wide medians in the middle of the street to provide a more intimate scale and reduce speed.*

Principles: Comfort and Visual Appeal

The structure and content of Coconut Creek MainStreet must be attractive in order to attract and retain shoppers and residents.

- *Provide ample sidewalk space and comfortable seating.*
- *Provide shade trees, which can moderate temperature both outdoors and indoors.*
- *Maximize lake/water feature views by providing vistas.*
- *Provide architectural detail in site amenities to increase interest, appearance, and richness of experience.*

Principles: Scale and Hierarchy

Defining a character for each street type allows visitors to be more aware of the function of the street. This improves way finding ability and creates a unique sense of place that will be remembered.

- *Use dramatic treatment at entry streets to announce arrival.*
- *Use pavers at crosswalks and on major streets to define important intersections.*
- *Use smaller scale elements on residential streets to create a sense of intimacy.*
- *Use different tree species for each street type.*

Principles: Environmental Responsibility

Site furnishings, plants, and hardscape treatments shall be carefully selected and installed to have the least possible impact on the environment. These same decisions can also often extend the life of a project.

- *Use pervious pavers and extensive plant beds reduce stormwater runoff.*
- *Use shade trees and light surfaces to increase the urban canopy and help to reduce heat islands.*
- *Use xeriscaping principles to reduce water and fertilizer needs.*

STREETSCAPES

Requirements:

Benches	<i>Benches shall be comfortable to sit in. To discourage users from sleeping, benches longer than four (4') feet shall have central armrests. Metal benches shall be coated to protect users from heat. Recycled materials are preferred.</i>
Bike Lanes	<i>Where indicated , there shall be right of way dedicated exclusively to bicycle traffic. Unless otherwise noted, all bike lanes shall be four (4) feet wide.</i>
Bike Racks	<i>Bike racks shall be an integral component of the streetscape on commercial streets and shall be placed at regular intervals to provide convenient access to area residents and patrons. Placement of bike racks (including secured bikes) shall allow for safe storage maneuvering and minimum sidewalk clearances as specified under the requirements for each street type. Racks shall be aligned with other streetscape elements such as street furniture, landscaping, etc. Bike racks shall be securely anchored and shall allow for the bicycle frame and front wheel to be secured to the rack using a standard U-shape shackle lock.</i>
Buffers	<i>Where allowed, surface parking lots shall have a buffer consisting of hedges, trees, walls, fences, or a combination thereof. A living barrier shall be a minimum of 4 feet wide at its narrowest point and is a minimum of three feet above finished grade. It shall be continuously planted with a hedge or shrubs spaced a maximum of 30" apart. A nonliving buffer shall consist of a wall that is a minimum of three feet above finished grade. Regardless of type of buffer chosen one tree shall be planted every 35' or less.</i>
Bulb-outs	<i>All parallel parking spaces adjacent to an intersection shall be replaced with a curbed landscaped area of the same width, planted with shrubs and one tree. Unless otherwise noted, all trees shall be the same species for the length of the street.</i>
Continuous Trenches	<i>Continuous trenches are encouraged as a method of planting street trees that results in a look that is similar to standard methods but allows more room for tree root systems, resulting in longer life for the trees. They are composed of a trench approximately 30" deep and six (6) to eight (8) feet wide that runs continuously parallel to the curb. It is filled with structural soil and then covered with geotextile, a base course, and paving. Openings are left for trees and shrubs, which are planted at intervals within the trench.</i>

Reference

9.3: Stormwater Management

STREETSCAPES

Emergency Vehicle Access	<i>The future street grid shall be coordinated with authorities having jurisdiction to ensure adequate emergency vehicle access.</i>
Parallel Parking	<i>Where indicated, parallel parking shall consist of parallel parking spaces 8' wide by 20'. Parallel parking shall be built with pavers.</i>
Pavers	<i>Pavers improve drainage and help reduce stormwater runoff. They are easy to replace when damaged, and provide easier access to utilities. They are decorative and shall be used to define space and the relative scale of varying street types. Pavers must be set on a porous surface and be placed with a joint of at least 1/8" between all pavers. Interlocking pavers without spacers are not permitted. Pavers must include at least 25% recycled content.</i>
Plant Beds	<i>Plant beds shall consist of a minimum depth of thirty (30) inches of soil and shall be planted with shrubs or ground cover such that coverage will be 100% within six (6) months of planting. Plant beds must have a minimum width of five feet six inches (5'6"). All plant material and planting specifications shall follow Coconut Creek Code of Ordinances. Underground utility lines shall be kept clear of plant beds.</i>
Porous Paving	<i>Porous paving reduces runoff and if installed atop a porous reservoir helps to filter pollutants from runoff. It can be used in parking lots, along canal type streets where there is little or no vehicular access. Porous paving consists of open-graded angular aggregate, approximately 3/8" in size, sorted to exclude fines and bound with an asphaltic, Portland cement, or epoxy binder and must be installed on top of a porous reservoir consisting of stone or gravel enclosed in filter fabric.</i>
Recycling	<i>Recycling receptacles for all materials that are collected by the contracted recycling company shall be provided adjacent to all trash receptacles. At a minimum, two materials shall be recycled. The style of all trash and recycling receptacles shall match.</i>
Structural Soil	<i>Structural Soil consists of a mix of crushed stone (3/4 to 2 inches in diameter) and clay loam which is sometimes amended with nutrients or binders. The stone provides the stability to install paving on top, but retains enough soil-filled spaces to allow for root penetration even when compacted. It is also called engineered soil. (CU-Structural Soil or similar.)</i>

STREETSCAPES

Travel Lanes	All vehicle travel lanes shall be eleven (11) feet wide.
Signage	<p>Street Signage shall be aluminum or galvanized steel. The lettering shall be clear and easy to read and shall be reflective. Text and edges shall be extruded. U-channel sign posts shall not be used.</p> <p>All street signs throughout the district shall be of a consistent style. The scale of the signage shall vary by street type to define hierarchy.</p> <ul style="list-style-type: none"> • Decorative: 6" extruded reflective • Large-Scale Decorative: 9" extruded reflective
Lighting	<p>Lighting shall meet and not exceed the recommended levels set by the Illuminating Engineering Society (IES.) No light shall be emitted above the horizontal (90 degrees). External signs, including advertising and building identification, shall be lit by fully shielded top mounted fixtures. Flags, statues, and other items requiring uplighting shall employ a narrow cone of light to minimize spill and glare. Lumens per watt shall be a minimum of 100 LPW.</p> <p>All street lighting throughout the district shall be of a consistent style. The scale of the lighting shall vary by street type to define hierarchy and properly illuminate streets of different widths.</p> <ul style="list-style-type: none"> • Banner: Cross arms for a banner or hanging basket shall be added to designated lighting type. • Combination Lighting: Post top luminaire (street lighting) with two cross arms, one for a banner and one for a pendant light (pedestrian lighting). Shall not exceed twenty (20) feet in overall height. • Pedestrian Lighting: Smaller-scale post top luminaire. Shall not exceed fifteen (15) feet in overall height • Street Lighting: Larger-scale post top luminaire. Shall not exceed twenty (20) feet in overall height.

STREETSCAPES

Proper Plant Selection

Proper plant selection can accomplish many goals, from reducing maintenance costs to attracting wildlife and creating a beautiful and enjoyable environment. All trees, palms, and site furnishings to be placed no closer than 4' from face of curb.

Annuals: The use of annuals shall be discouraged. Annuals in general use far more water and require more care than established landscape plants. It is recommended that they be used in moderation and be reserved for entrances and other areas where their impact will be most appreciated.

Butterfly-Attracting Plants: Many attractive plants including *Duranta repens*, *Callicarpa americana*, *Verbena tamperisi*, *Hamelia patens*, *Passiflora multiflora*, *Echinacea* and *Salvia* are used by butterflies as host plants and nectar plants. These plants shall be used wherever possible. Butterfly gardens that group these plants are encouraged in pocket parks, plazas, and linear parks. More information on planning gardens for butterflies can be found on the Coconut Creek website.

Invasive Plants: No plants on the Florida Exotic Pest Council (FLEPPC) Category I or Category II lists of invasive species shall be used.

Native Plants: Native plants offer many benefits over exotics. They flourish in Florida's harsh climate and often have fewer nutritional and watering needs when compared to exotics. They provide habitat for native wildlife and visually project an image that is uniquely Floridian. At least 50% of all species selected shall be native.

Water Use: Selecting plants with lower water use needs is encouraged. South Florida Water Management District (SFWMD) rates many native and non-native plants for water efficiency. At least 50% of the species selected shall be rated for medium or low water usage, with the exception of aquascaping plants. Additionally, at least 50% of the quantity of plants installed shall be rated for medium or low water usage by the SFWMD.

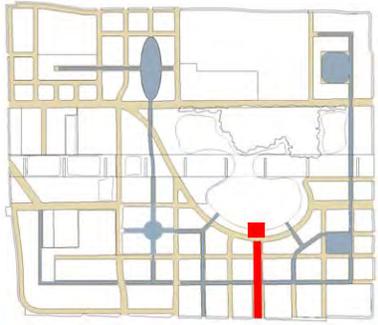
Reference

9.2: Recycling/Waste Management; 9.3: Stormwater Management

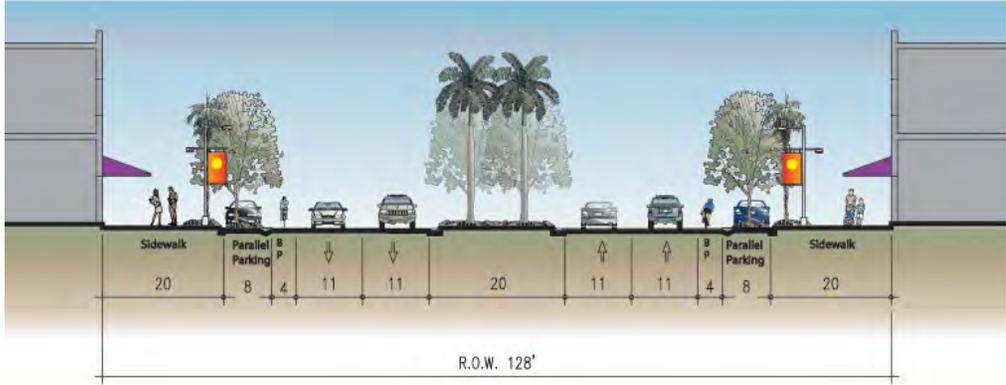
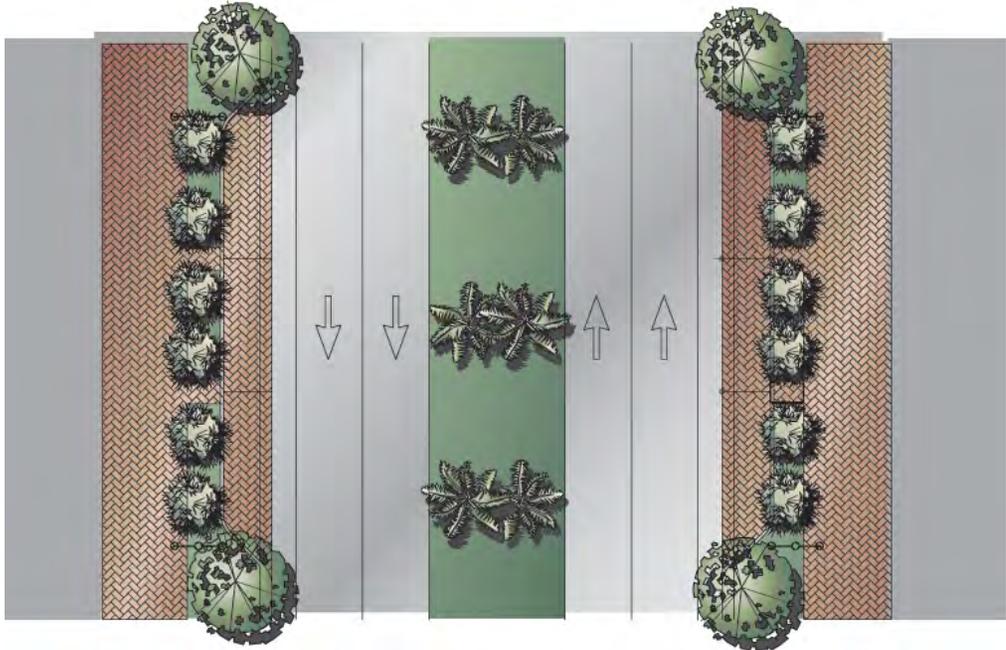
STREETSCAPES 6

6.1 Street Type A Sample Road Entrance 128' ROW

Street Type A is the primary entrance into Coconut Creek MainStreet and is an extension of primary MainStreet retail corridor. This street is designed to transition from the scale of Sample Road to the scale of the MainStreet development. The centerline of the street shall be located on the shared property lines of properties 02 and 03 (see Section 4.1). The wide landscaped sidewalks provide a comfortable and safe environment to encourage pedestrian activity. The street shall be placed to accentuate a clear view of the open space components and should terminate in a public plaza.



Type A Location Diagram



6.1 (cont.)

Requirements:
Hardscape

TYPICAL DIMENSIONS:

ROW: 128'

Sidewalks: 2 @ 20'

Parallel Parking: 2 @ 8'

Bike Path: 2 @ 4'

Travel Lanes: 4 @ 11'

Median: 20'

- **Sidewalks:** Sidewalks shall be twenty (20') feet wide including plant beds or continuous trench. Plant beds shall be located adjacent to the parallel parking. At a minimum, one five foot (5') by five foot (5') plant bed with at least one tree or palm shall be provided for each on-street parking space. Pedestrian access shall be provided from every parking space to the sidewalk with the use of a paver path. A ten (10') foot continuous width of sidewalk shall be maintained free of any obstructions, or any temporary or permanent structure.
- **Parallel Parking:** To be placed between the sidewalk and the bike lane on both sides of the road.
- **Bike Lane:** To be placed between the parallel parking and the travel lane on both sides of the road.
- **Travel Lane:** Four (4) travel lanes, two in either direction.
- **Median:** The median is twenty (20) feet wide.
- **Pedestrian Crossing:** Ten (10) feet wide paved band with concrete divider at major intersections.
- **Pavers:** Sidewalks, parallel parking, pedestrian crossings, and at intersections with street type B, C, or F.

Requirements:
Planting Locations

- **Shrub/ Groundcover:** Coverage not to be less than 40% in all pervious areas.
- **Palms:** Large palms in medians no more than thirty (30) feet on center. In sidewalk plant beds, no more than thirty (30) feet on center.
- **Shade Trees:** At bulb outs.
- **Accent Trees:** In sidewalk plant beds, no more than thirty (30) feet on center.

Requirements:
Site Furniture

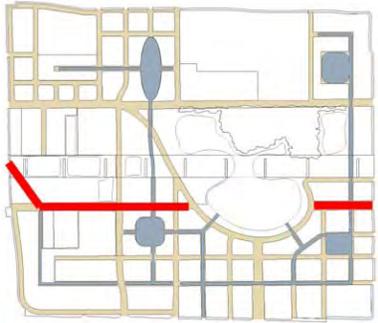
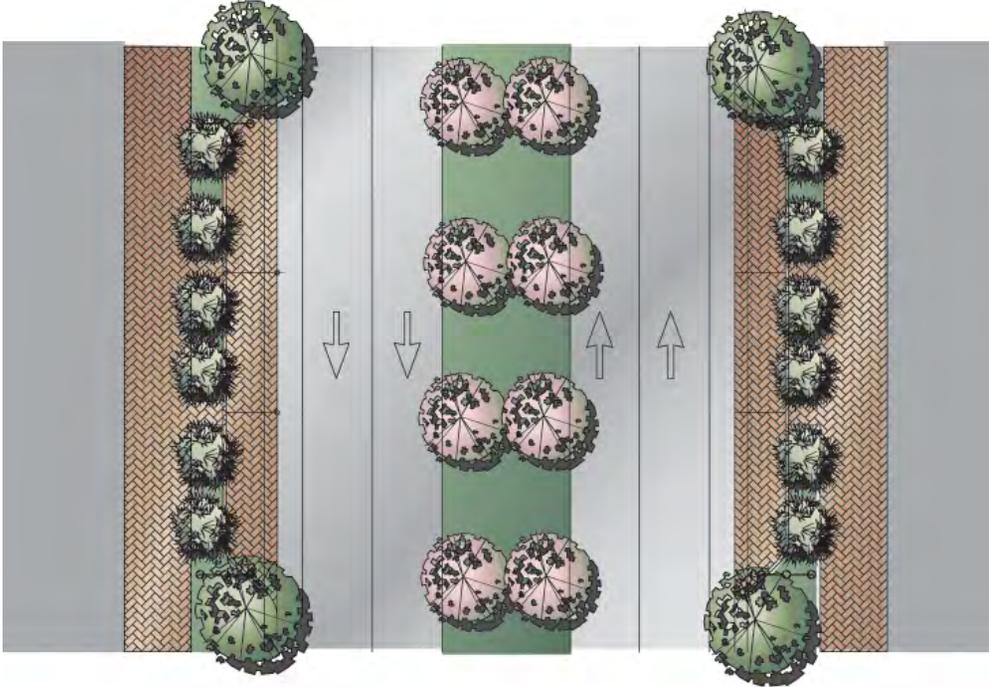


- **Benches:** Along sidewalks, spaced no more than 300 feet apart, on each side of the street.
- **Trash/Recycling:** On each side of the street at every intersection.
- **Newspaper Stand:** Not to exceed one grouping in a unified dispenser on each side of the street every 600 feet.
- **Lighting:** Combination.
- **Street Signage:** Large scale decorative.
- **Awnings:** Awnings, hoods, canopies or marquees may not project over eight (8) feet into the right-of-way.
- **Accents:** Unique entry incorporating water feature and butterfly garden.

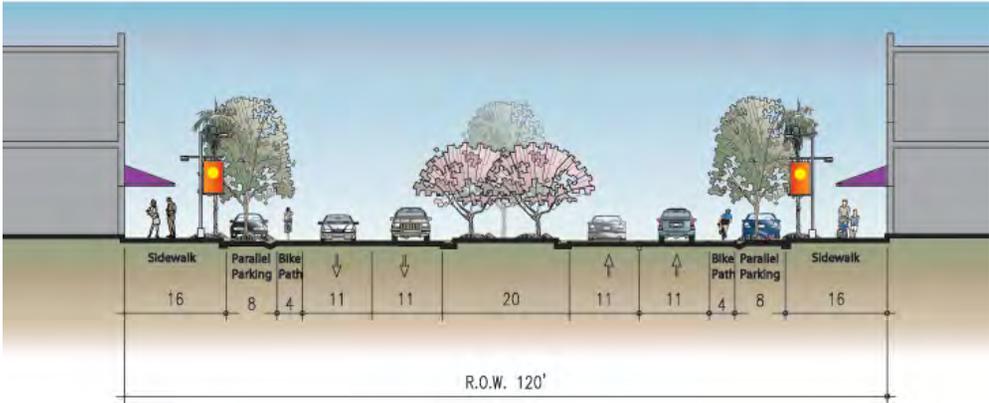
STREETSCAPES 6

6.2 Street Type B Lyons Road Entrance 120' ROW

Street Type B is the secondary entrance into Coconut Creek MainStreet and is an extension of the MainStreet (type C) retail corridor. This street is designed to transition from the scale of Lyons to the scale of the MainStreet development. The wide landscaped sidewalks and median provide a means to accomplish this goal and provide a comfortable and safe environment for pedestrians. The street shall be placed to accentuate a clear view of the open space components.



Type B Location Diagram



6.2 (cont.)

Requirements:
Hardscape

TYPICAL DIMENSIONS:

ROW: 120'

Sidewalks: 2 @ 16'

Parallel Parking: 2 @ 8'

Bike Path: 2 @ 4'

Travel Lanes: 4 @ 11'

Median: 20'

- **Sidewalks:** Sidewalks shall be sixteen (16') feet wide including plant beds or a continuous trench. Plant beds shall be located adjacent to the parallel parking. At a minimum, one five foot (5') by five foot (5') plant bed with at least one tree or palm shall be provided for each on-street parking space. Pedestrian access shall be provided from every parking space to the sidewalk with the use of a paver path. A minimum eight (8') foot continuous width of sidewalk shall be maintained free of any obstructions, or any temporary or permanent structure.
- **Parallel Parking:** To be placed between the sidewalk and the bike lane on both sides of the street.
- **Bike Lane:** To be placed between the parallel parking and the travel lane on both sides of the street.
- **Travel Lane:** Four (4) travel lanes, two in either direction.
- **Median:** The median is twenty (20') feet wide.
- **Pedestrian Crossing:** Ten (10') foot wide paved band with concrete divider at major intersections.
- **Pavers:** To be placed at sidewalks, parallel parking, pedestrian crossings, and at intersections with street type A, C, or F.

Requirements:
Planting Locations



- **Shrub/ Groundcover:** Coverage not to be less than forty percent (40%) in all pervious areas.
- **Palms:** In sidewalk plant beds, no more than twelve (12') feet on center. Adjacent to parallel parking spaces, no more than twenty (20') feet on center between parking spaces.
- **Shade Trees:** At bulb outs. In median no more than thirty (30') feet on center.
- **Accent Trees:** Two (2) rows in median, no more than twenty-five (25') feet on center. In sidewalk plant beds, no more than twelve (12') feet on center. Adjacent to parallel parking spaces, no more than twenty (20') feet on center between parking spaces.

Requirements:
Site Furniture

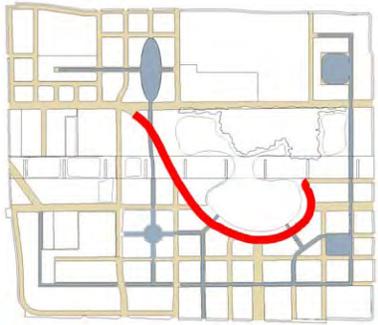
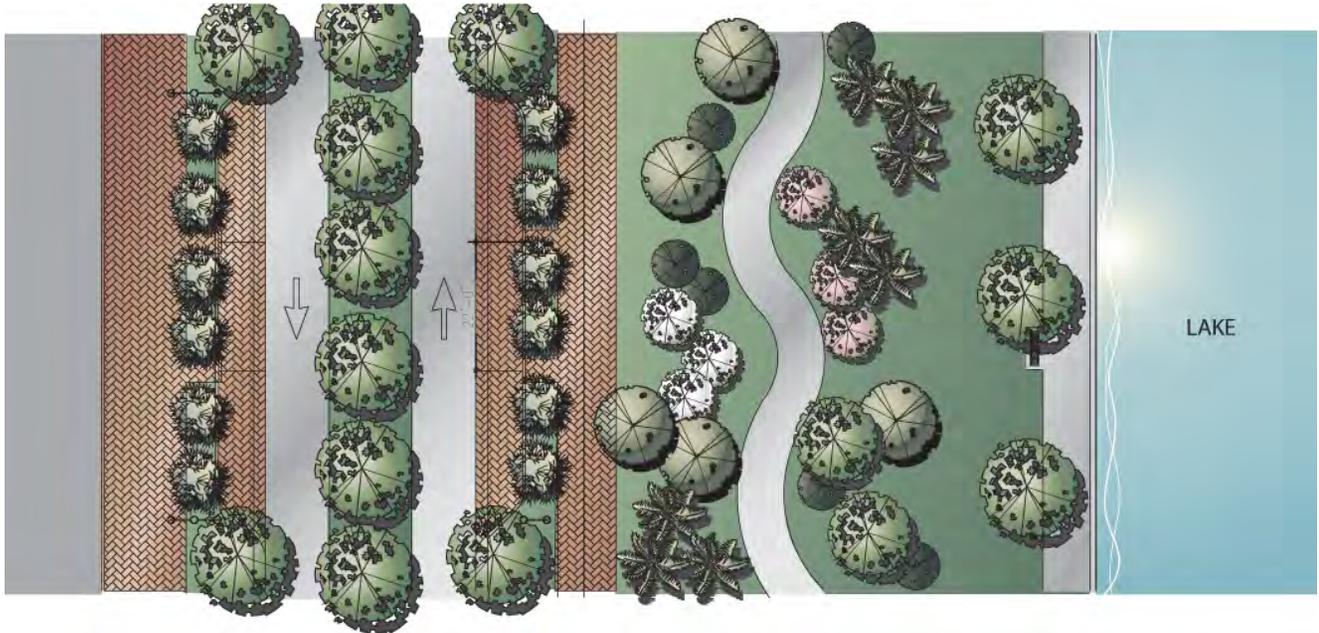


- **Benches:** Along sidewalks, spaced no more than 300 feet apart on each side of the street, and in the median under shade trees.
- **Trash/Recycling:** One on each side of the major roadway at every intersection.
- **Newspaper Stand:** Not to exceed one grouping in a unified dispenser on each side of the street every 600 feet.
- **Lighting:** Combination.
- **Street Signage:** Large scale decorative.
- **Awnings:** Awnings, hoods, canopies or marquees may project a maximum of eight (8') feet into the right-of-way.

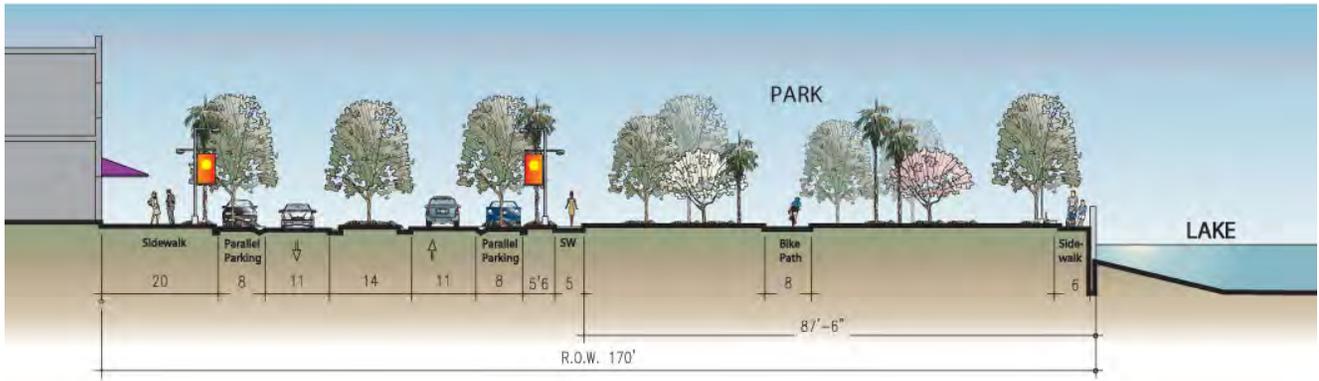
STREETSCAPES 6

6.3 Street Type C MainStreet 170' ROW

Street Type C is the primary east-west MainStreet retail corridor and provides for an integrated relationship between retail development and open space components through the incorporation of a pedestrian park, promenade/greenway, and lakefront. The streetscape is designed to maximize lake view, encourage active and passive recreational activities, and facilitate safe pedestrian movement between commercial and recreational uses.



Type C Location Diagram



6.3 (cont.)



Requirements:
Hardscape

TYPICAL DIMENSIONS:

ROW: 170'

Sidewalks: Commercial edge @ 20'
Lakeside edge @ 11'

Parallel Parking: 2 @ 8'

Bike Path: 1 @ 10'

Travel Lanes: 2 @ 11'

Median: 14'

Linear Park: 87'- 6"

- **Sidewalks:** Sidewalks on commercial side shall be twenty (20') feet wide including plant beds or a continuous trench. Plant beds shall be located adjacent to the parallel parking. At a minimum, one five foot (5') by five foot (5') plant bed with at least one tree or palm shall be provided for each on-street parking space. Pedestrian access shall be provided from every parking space to the sidewalk with the use of a paver path. A minimum eight (8') foot continuous width of sidewalk shall be maintained free of any obstructions, or any temporary or permanent structure.
- **Parallel Parking:** To be placed between the sidewalk and the bike lane on both sides of the road.
- **Bike Lane:** One ten (10') foot wide bike lane to be incorporated in park area.
- **Travel Lane:** Two (2) travel lanes, one (1) in either direction.
- **Median:** The median is fourteen (14') feet wide.
- **Pedestrian Crossing:** An eight (8') foot wide paved band with concrete divider at major intersections.
- **Pavers:** To be placed at sidewalks, parallel parking, pedestrian crossings, and at intersections with street type A, B, or F.

Requirements:
Planting Locations

- **Shrub/ Groundcover:** Coverage not to be less than forty percent (40%) in all pervious areas.
- **Palms:** In sidewalk plant beds, no more than twelve (12') feet on center, In Park. Adjacent to parallel parking spaces, no more than twenty (20') feet on center between parking spaces.
- **Shade Trees:** At bulb outs, in median no more than twenty (20') feet on center, In Park.
- **Accent Trees:** In sidewalk plant beds, no more than twelve (12') feet on center, In Park.

6.3 (cont.)

Requirements:
Site Furniture



- **Benches:** *In Linear Park.*
- **Trash/Recycling Receptacles:** *One on each side of the major roadway at every intersection.*
- **Newspaper Stand:** *Not to exceed one grouping in a unified dispenser on each side of the street every 600 feet.*
- **Lighting:** *Combination on commercial side of road, Street/Banner on park side of road. Pedestrian at lakefront.*
- **Street Signage:** *Large scale decorative.*
- **Awnings:** *Awnings, hoods, canopies or marquees may project a maximum of eight (8') feet into the right-of-way.*
- **Accents:** *Raised planters between plant beds, bollards at intersections on Lakeside of the road.*

Requirements:
Linear Park

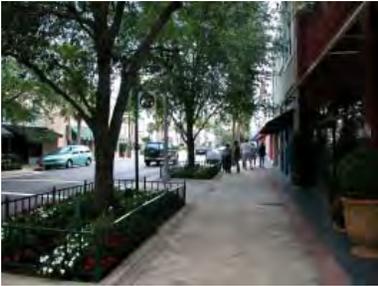


- **Benches:** *Spaced no more than 100 feet apart. Shall be placed near shade trees and have a view of the water.*
- **Trash/Recycling Receptacles:** *Along the pathways no more than 300 feet apart.*
- **Lighting:** *Pathway to be lit with Pedestrian lighting and lighted bollards as appropriate.*
- **Accents:** *A minimum of one 3,500 square foot area per 900 linear feet to be designated as a butterfly garden.*
- **Shrub/ Groundcover:** *A minimum of thirty percent (30%) coverage.*
- **Palms:** *As desired.*
- **Shade Trees:** *A minimum of one per 700 square feet (SF).*
- **Accent Trees:** *As desired.*
- **Sidewalks:** *Paved sidewalk to run adjacent to the lake, minimum width of eight (8') feet in width. Shall be pavers or porous concrete.*
- **Bike Lane:** *One ten (10') foot wide bike lane to be incorporated in park area. Shall be pavers or porous paving.*

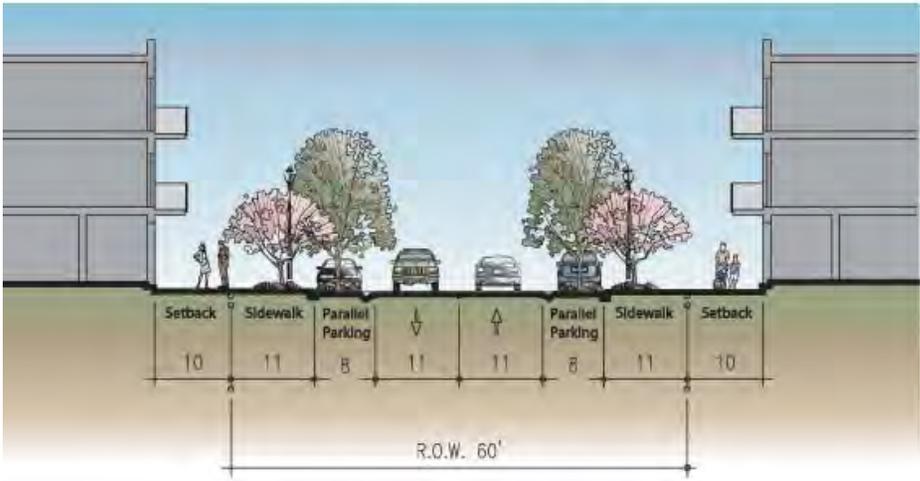
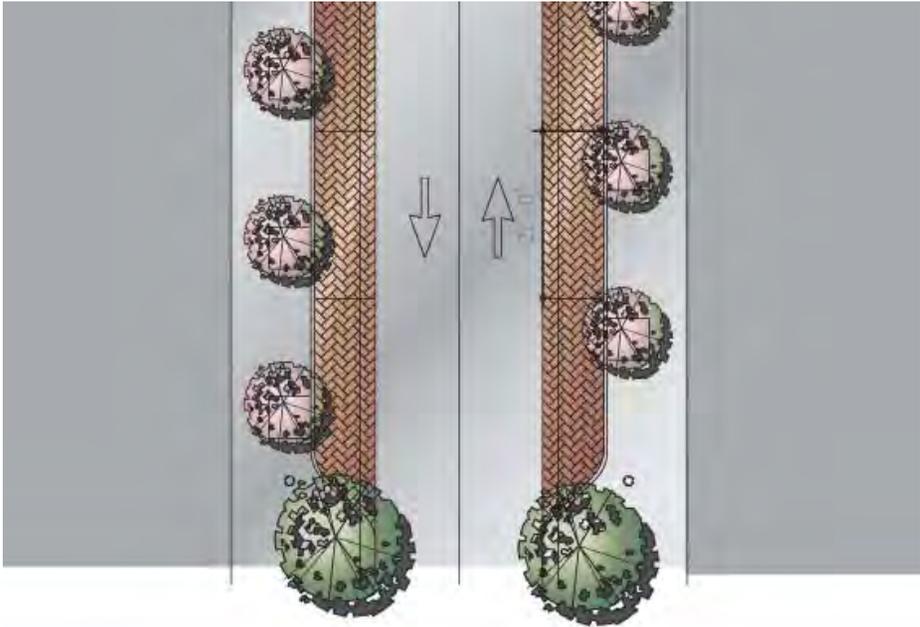
STREETSCAPES 6

6.4
Street Type D
Residential
60' ROW

Street Type D is residential and is intended for use primarily by the local population. The scale of the street furnishings are smaller and more intimate than on commercial streets. Shade trees create a neighborhood feel and help conserve energy in nearby buildings.



Type D Location Diagram



6.4 (cont.)
Street Type D
Residential
60' ROW



Requirements:
Hardscape

TYPICAL DIMENSIONS:

ROW: 60'

Sidewalks: 2 @ 11'

Parallel Parking: 2 @ 8'

Travel Lanes: 2 @ 11'

- **Sidewalks:** Sidewalks shall be eleven (11') feet wide including plant beds or a continuous trench. Plant beds shall be located adjacent to the parallel parking. At a minimum, one five foot (5') by five foot (5') plant bed with at least one tree or palm shall be provided for each on-street parking space. Pedestrian access shall be provided from every parking space to the sidewalk with the use of a paver path. A minimum five (5') foot continuous width of sidewalk shall be maintained free of any obstructions, or any temporary or permanent structure.
- **Parallel Parking:** To be placed between the sidewalk and the travel lane on both sides of the street.
- **Travel Lane:** Two (2) travel lanes, one (1) in either direction.
- **Pedestrian Crossing:** Six (6') foot wide paved band with concrete divider at major intersections.
- **Pavers:** To be placed at parallel parking and pedestrian crossings.

Requirements:
Planting Locations

- **Shrub/ Groundcover:** Coverage not to be less than forty percent (40%) in all pervious areas.
- **Shade Trees:** At bulb outs.
- **Accent Trees:** In sidewalk plant beds, no more than twelve (12') feet on center. Adjacent to parallel parking spaces, no more than twenty (20') feet on center between parking spaces.

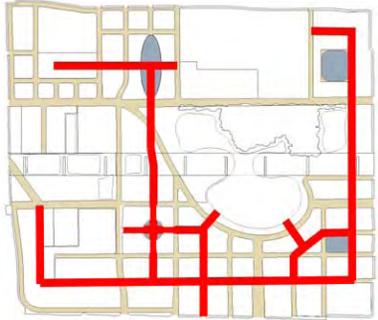
Requirement:
Site Furniture

- **Lighting:** Pedestrian.
- **Street Signage:** Decorative.

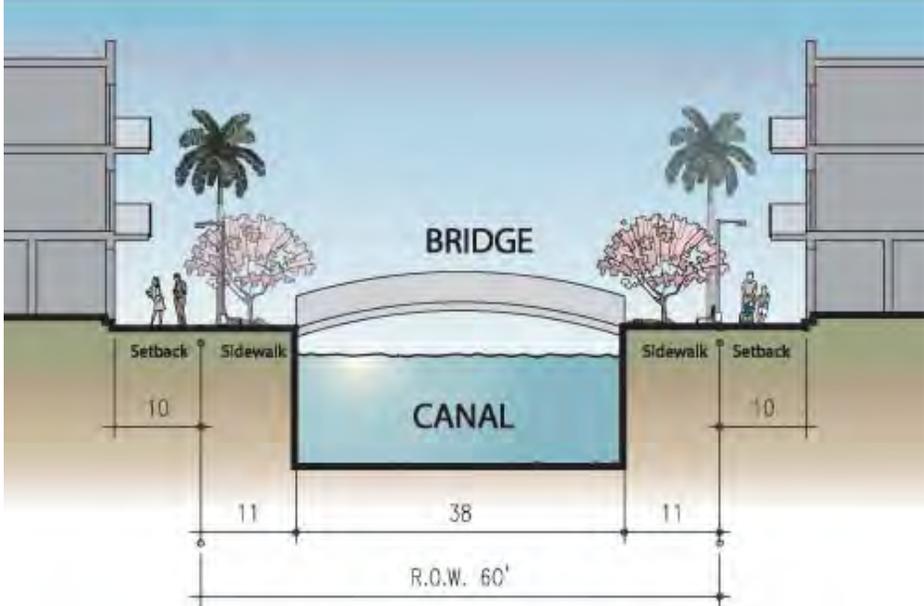
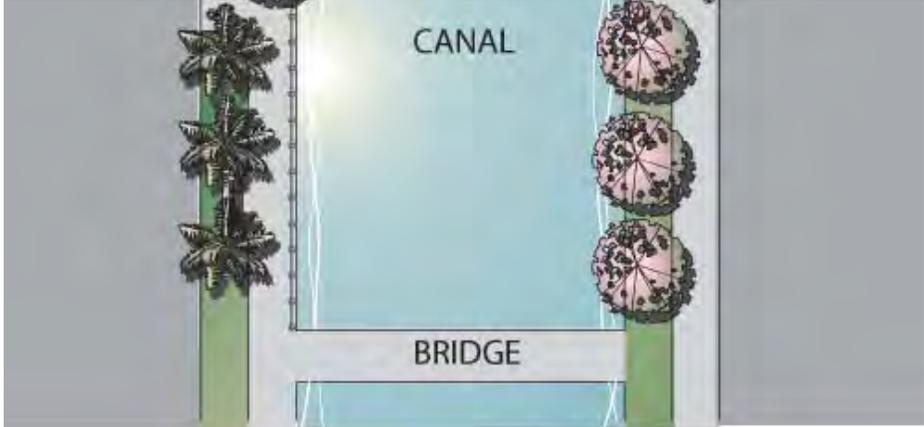
STREETSCAPES 6

6.5
Street Type E
Residential Canal
60' ROW

Street Type E includes canals that front housing units. It is designed for pedestrian and bicycle use. Selection of plant material should be of a smaller scale and incorporate flowering plants because of the intimate nature of this street type. This presents an excellent opportunity to use butterfly-attracting plants.



Type E Location Diagram



6.5 (cont.)
Street Type E
Residential Canal
60' ROW



Requirement:
Hardscape

TYPICAL DIMENSIONS:

ROW: 60'

Sidewalks: 2 @ 11'

Canal: 38'

- **Sidewalks:** Sidewalks shall be eleven (11') feet wide including plant beds or a continuous trench. Plant beds shall be alternately placed adjacent to the canal and adjacent to the right of way line to create a pleasing rhythm. A minimum five (5') foot continuous width of sidewalk shall be maintained free of any obstructions, or any temporary or permanent structure.
- **Bike Lane:** Shall be incorporated into the sidewalk.
- **Median:** Canal.
- **Pedestrian Crossing:** Pedestrian bridges shall be provided at mid-block.
- **Pavers:** To be placed at walkways, bridges.

Requirement:
Landscape

- **Shrub/ Groundcover:** Coverage not to be less than forty percent (40%) in all pervious areas.
- **Palms:** In sidewalk plant beds, no more than twelve (12') feet on center.
- **Accent Trees:** In sidewalk plant beds, no more than twelve (12') feet on center.

Requirement:
Site Furniture

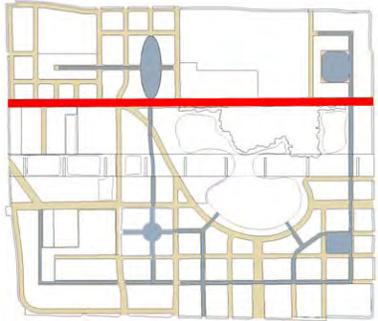
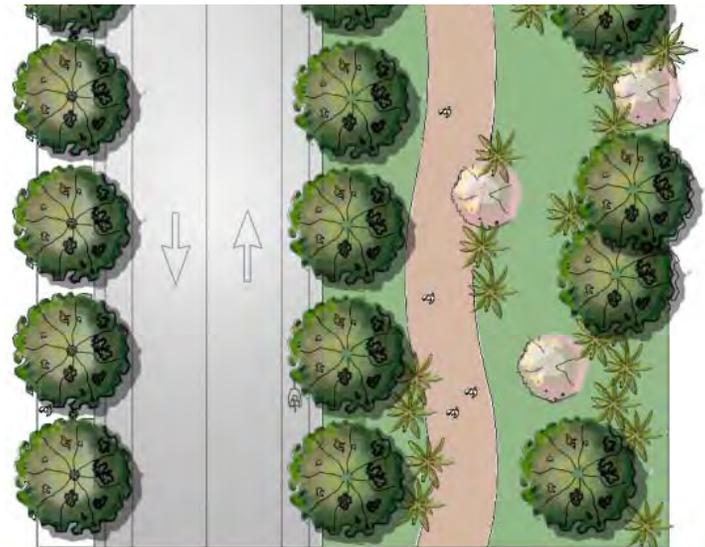
- **Benches:** Along sidewalks every 300 feet.
- **Lighting:** Pedestrian.
- **Street Signage:** Decorative.
- **Accents:** Decorative railings shall be provided along canal edge and pedestrian bridges. Handrails, railings, grab bars, fasteners, and mounting devices shall conform to ADA Accessibility Guidelines (ADAAG) as maintained by the U.S. Department of Justice and U.S. Department of Transportation.

STREETSCAPES 6

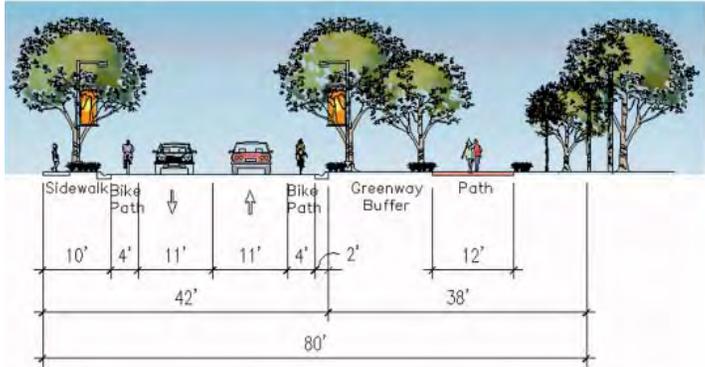
6.6
Street Type F
Cullum Road
60' ROW

Street Type F is potentially a connector between Lyons Road and 441, and as such will need traffic calming. Banners are used to announce entry into the MainStreet community. Good cross connections are essential, so pedestrian crossings are being emphasized with decorative pavers. The wide pathway in the buffer section shall be connected to the path in the linear park, creating a trail around the lake.

This street runs directly adjacent to a Cypress dome, an important native community that acts as a reservoir that recharges the aquifer when adjacent water tables drop. Because exotic vegetation can quickly invade and destroy this resource, it is especially important to use only appropriate plant materials in all areas that about the dome.



Type F Location Diagram



6.6 (cont.)



Requirement:
Hardscape

TYPICAL DIMENSIONS:

ROW: 80'

Sidewalk: 10'

Bike Path: 2 @ 4'

Travel Lanes: 2 @ 11'

Greenway: 38'

- **Sidewalks:** Sidewalks shall be ten (10') feet wide including plant beds or a continuous trench. Continuous plant beds shall be located adjacent to the bike lanes on both sides of the street. A minimum five (5') foot continuous width of sidewalk shall be maintained free of any obstructions, or any temporary or permanent structure.
- **Bike Lane:** To be placed between the curb and the travel lane on both sides of the street.
- **Travel Lane:** Two (2) travel lanes, one in either direction.
- **Additional Lanes:** If required, based on a traffic study, two additional 11' lanes may be provided within the right of way identified as greenway.
- **Pedestrian Crossing:** Ten (10') foot wide paved band with concrete divider at major intersections.
- **Pavers:** To be placed at sidewalks, pedestrian crossings, and at intersections with street type A, B, or C.

Requirement:
Landscape

- **Shrub/ Groundcover:** Coverage not to be less than forty percent (20%) in all pervious areas.
- **Palms:** In sidewalk plant beds, no more than twelve (12') feet on center.
- **Shade Trees:** In sidewalk plant beds, no more than thirty (30') feet on center.
- **Accent Trees:** In sidewalk plant beds, no more than twelve (12') feet on center.

Requirement:
Site Furniture

- **Benches:** In Greenway.
- **Trash/Recycling Receptacles:** One on each side of the street at every intersection.
- **Newspaper Stand:** Not to exceed one grouping in a unified dispenser on each side of the street every 600 feet.
- **Lighting:** Combination.
- **Street Signage:** Large scale decorative.
- **Accents:** Wetland buffer/ nature trail.

6.6 (cont.)

Requirements:
Greenway



Buttonbush



String lily



Pond cypress

- **Benches:** Spaced no more than 300 feet apart.
- **Trash/Recycling:** One on each side of the street at every intersection and every 300’.
- **Lighting:** Pathway to be lit with Pedestrian lighting and lighted bollards as appropriate.
- **Shrub/ Groundcover:** A minimum of fifty percent (50%) coverage. One hundred percent (100%) shall be native and of the following approved species:
 - *Acrostichum danaeifolium*: Leather fern
 - *Callicarpa Americana*: Beauty Berry
 - *Cephalanthus occidentalis*: Buttonbush
 - *Cordia globosa*, Bloodberry
 - *Crinum americanum*: String lily
 - *Eragrostis spectabilis*, Purple Love Grass
 - *Eugenia confusa*, Redberry Stopper
 - *Eugenia foetida*, Spanish Stopper
 - *Eugenia rhombea*, Red Stopper
 - *Forestiera segregata*, Florida Privet
 - *Hamelia patens*: Firebush
 - *Ilex glabra*: Gallberry Holly
 - *Lyonia lucida*: Fetterbush
 - *Muhlenbergia capillaris*, Muhly Grass
 - *Myrcianthes fragrans*, Simpson Stopper
 - *Myrica cerifera*: Wax myrtle
 - *Myrsine guianensis*: Myrsine
 - *Osmunda regalis var. spectabilis*: Royal fern
 - *Passiflora incarnata*, Maypop
 - *Passiflora subarosa*, Corkystem
 - *Peltandra virginica*: Arrow arum
 - *Polypodium phyllitidis*: Strap fern
 - *Psychotria nervosa*: Wild Coffee
 - *Salix caroliniana*: Coastal plain willow
 - *Spartina bakeri*, Sand Cordgrass
 - *Stachytarpheta jamaicensis*, Blue Porterweed
 - *Tripsacum dactyloides*: Fakahatchee grass
 - *Tripsacum floridanum*, Dwarf Fakahatchee
 - *Zamia pumila*: Coontie
- **Palms:** One hundred percent (100%) shall be native of the following approved species:
 - *Acoelorrhaphe wrightii*, Paurotis palm
 - *Roystonea elata*: Royal Palm
 - *Sabal palmetto*: Sabal (Cabbage) Palm
 - *Thrinax radiata*: Florida Thatch Palm

6.6 (cont.)

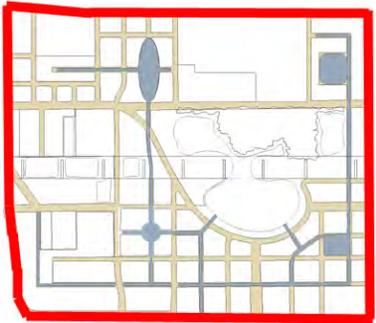
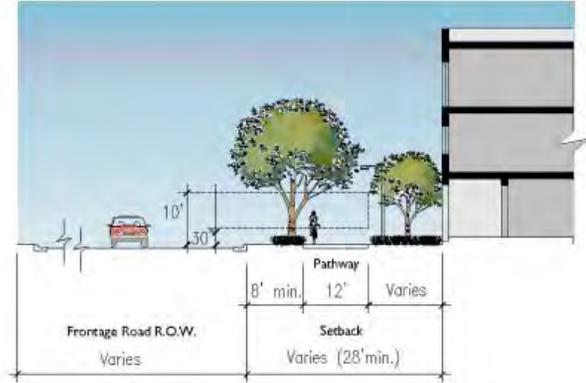
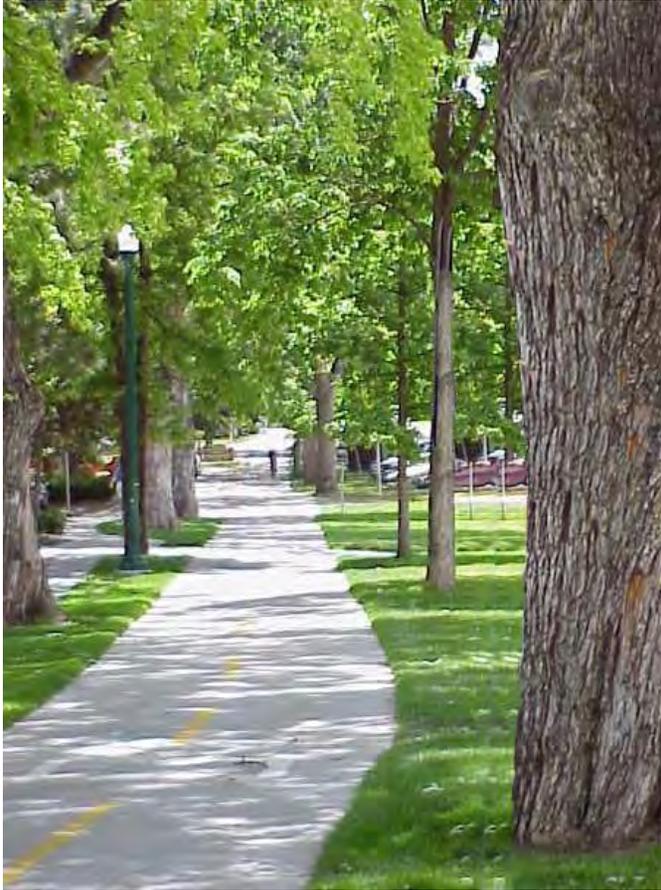
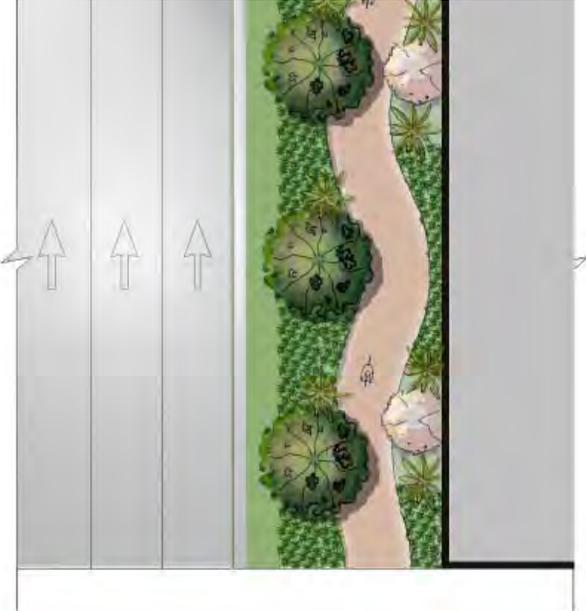
Requirements:
Greenway

- **Accent Trees:** A minimum of one per 700 square feet. One hundred percent (100%) shall be native and of the following approved species:
 - *Annona glabra*: Pond Apple
 - *Capparis cynophallophora*: Jamaica caper
 - *Cordia sebestena*: Geiger tree
 - *Eugenia axillaries*: White stopper
 - *Eugenia confuse*: Redberry stopper
 - *Eugenia foetida*: Spanish stopper
 - *Eugenia rhombea*: Red stopper
 - *Guaiaacum sanctum*, *Lignum vitae*
 - *Guapira discolor*: Blolly
 - *Iles attenuata*, East Palatka Holly
 - *Iles cassine*, Dahoon Holly
 - *Magnolia virginiana*, Sweet Bay Magnolia
 - *Persea borbonia*: Redbay
- **Shade Trees:** A minimum of one per 700 square feet (SF.) One hundred percent (100%) shall be native and of the following species:
 - *Acer rubrum*: Southern Red Maple
 - *Annona glabra*: Pond Apple
 - *Bursera simaruba*: Gumbo Limbo
 - *Chrysophyllum oliviforme*: Satin Leaf
 - *Coccoloba diversifolia*: Pigeon Plum
 - *Coccoloba uvifera*: Seagrape
 - *Cordia sebestena*: Geiger Tree
 - *Fraxinus caroliniana*: Pop Ash
 - *Pinus elliottii*: Slash Pine
 - *Quercus virginiana*: Live Oak
 - *Simarouba glauca*: Paradise Tree
 - *Swietenia mahagoni*: Mahogany
 - *Taxodium ascendens*: Pond cypress
 - *Taxodium distichum*: Bald cypress
- **Multi-use Path:** Path inside Greenway, ten (10') feet in width. Material shall match Linear Park path in Street Type C.

STREETSCAPES 6

6.7 Frontage Road (Perimeter) Greenway

The frontage road greenway is intended to provide pedestrians and cyclists a comfortable area for movement along the major roadways that surround the MainStreet District. New developments that abut the right of way of Sample Road, Lyons Road, Wiles Road or State Road 7 should provide the greenway within the building setback requirements provided in section 8.2. The greenway should provide ample shade and a comfortable distance from the heavy traffic volumes that these roadways carry.



Greenway Location Diagram

6.7 (cont.)
Frontage Road
(Perimeter) Greenway



Pathway Material



Requirements:

TYPICAL DIMENSIONS:

Total Greenway: 28'

Minimum Pathway: 12'

Minimum Separation Between Trail
and Frontage Road: 8'

- **Pathway:** Provide minimum of twelve (12') feet in width. Pathway shall be concrete with use of pavers. Pavers shall be light colored/high-albedo with a Solar Reflectance Index (SRI)² of at least 29.
- **Vertical Clearance:** Ten (10') feet of vertical clearance shall be maintained between Pathway and Frontage Roads. This is to provide adequate overhead clearance for cyclists and as a safety measure for visibility.
- **Lighting:** Pathway shall be lit with Pedestrian lighting as necessary and appropriate.
- **Shrub/Groundcover:** Coverage not to be less than 40% in all pervious areas. Height of shrubs shall not exceed 30" between Pathway and Frontage Roadway to maintain clear visibility for safety.
- **Palms:** To be used in addition to shade and accent tree requirements, but not as a replacement.
- **Shade Trees:** No more than thirty (30') feet on center between Pathway and Frontage Roadway.
- **Accent Trees:** A minimum of one per 700 square feet of pervious area shall be provided.

PLAZAS AND OPEN SPACE 7

7.1 Plazas



MainStreet plazas should be designed with public use as a priority. Plazas can be designed at a number of scales from small intimate spaces to larger spaces capable of supporting outdoor performances. Plazas should not be designed in isolation, but should be integral to other activities within MainStreet. Care should be taken to create a synergy of uses that will ensure greater public use and enjoyment of the plaza. Development bonuses are provided to encourage the development of plazas and open space and are defined in Buildings, Section 8.

Given the climate of South Florida, plazas need special attention to make them habitable during the summer months. Open spaces should be located to receive and encourage south east breezes and shade should be provided by vegetation, canopies, and fixtures such as trellises. Water features can be used as a cooling element.

The design of outdoor plazas should consider how they will be used by people. The layout of a plaza should respond to pedestrian circulation patterns within the MainStreet Development. Plazas should be developed at the congruence of major open spaces and pedestrian corridors and should help connect these areas to commercial development. The layout of plazas should enhance views and serve as a threshold to MainStreet’s open space components.

Requirements

- **Provide easy access to plazas by creating clear paths and well marked crosswalks.**
- **Provide a variety of seating and viewing opportunities.**
- **Encourage programmed uses in plazas such as places for outdoor performances and vendors.**
- **Provide shade through the use of native landscaping. Landscaping shall cover at least 30% of the plaza to aide in the reduction of heat islands.**
- **Where appropriate, provide butterfly attracting gardens as described in Streetscapes, Section 6.**
- **Design plazas to take advantage of breezes and incorporate water features both for cooling and visual interest.**
- **Provide 1 linear foot of seating for each perimeter linear foot of the plaza. 50% of this seating may be provided through the use of retaining walls, planter edges, steps and other similar items.**
- **Movable chairs should be considered to add flexibility and encourage group use.**
- **Incorporate a large percentage of pervious materials to reduce stormwater runoff.**
- **Include public art in the plaza.**

PLAZAS AND OPEN SPACE 7

7.2 Open Space



Water elements and greenspace should be incorporated as a component of a holistic Sustainable Urban Drainage System (SUDS). SUDS is an integrated approach to drainage composed of several components aimed at achieving the goal of improving the quality and quantity of surface runoff from development sites. The system includes green roofs, infiltration trenches, dry basins, wet detention ponds, filter strips, swales and porous paving. The intent of this system is to use the natural processes of sedimentation, filtration and biological action to clean up and control rainwater runoff. They trap particles washed off roads and roofs in rainwater, and the increased retention time allows for the natural degradation of pollutants. They have the added benefit of slowing down the runoff process following storms and thus help to reduce the risk of flooding and recharge the groundwater. In addition, the ponds, wetlands and ditches which form the SUDS can provide important habitat and amenity value for the local community.

Organization of the open space within the District should take advantage of the existing cypress wetlands as an environmental asset and educational opportunity and in turn, should provide an important buffer for the wetland from the core of the MainStreet Development.

Aside from the Linear Park and the Wetland Buffer provided in the streetscape sections, the remainder of greenspace should only incorporate native vegetation as provided in section 6.6. This will not only provide users an appreciation for native Florida landscape, but will protect the existing wetland as well. In addition, it is encouraged that the FPL easement be utilized to create habitat that will support the existing wetlands and to also introduce new wetlands as a component of a sustainable stormwater system.

Requirements	<ul style="list-style-type: none"> • <i>Incorporate open space components as an integral component of SUDS.</i> • <i>Utilize open space components to buffer the existing wetlands. Use native landscape as provided in section 6.6.</i>
--------------	--

Reference

6: Streetscapes; 5.2.3 Water Features and Canals; 9.3: Stormwater Management

BUILDINGS

The design of buildings plays a major role in defining the character of a place. When properly executed, buildings can establish a unique character that stems from not only the treatment of building facades, but also from the orientation and placement of buildings within their surroundings and an architectural response to the time in which they were built. Other than places like Miami Beach and Key West, South Florida has struggled with its architectural identity, choosing largely to revert to poorly executed Spanish and Mediterranean prototypes. One needs only to compare the climatic factors of South Florida and Mediterranean regions to realize that perhaps this has been a poor choice.

In recent years there has been a nationwide propensity for new town-center developments to take on an overall themed aesthetic, borrowing architectural “styles” with hopes of achieving a sense of place and instead, producing building caricatures rather than quality buildings and surrounding environments. While it is not the intent of the Standards to mandate any particular architectural style, it is the intent that buildings should respond to local climatic conditions; should reinforce and enhance the District open spaces; and should contribute to vibrant urban streetscapes; all of which reinforce the theme of the MainStreet District...sustainability. Buildings that are characterized by light colored materials and shading devices (large roof overhangs, arcades, verandahs, light shelves, screens, shutters and landscaping) to reduce heat gain; and interior courtyards, breezeways, high ceilings and water elements to create a cooling effect, will contribute to the holistic creation of an authentic District “style” and “sense of place”.

Bruno Stagno,
An Architect in the Tropics

**Founding Director, Institute
for Tropical Architecture**

“...I realized that a correct interpretation of latitude, and more specifically of the tropical latitude, not only gave expression to the architectural language but also assured its coherent adaptation to the environment. What interested me in this language was the syllables, more than any precise words, sentences or paragraphs, for it is precisely in the syllables where the expression of latitude resides... It is precisely these syllables that integrate architecture into the context of its locality.”

BUILDINGS



The way in which buildings interface with the street is possibly the most important element of creating effective public street space. It is within this space that much activity of the urban environment occurs. In general, buildings should be built to the street, especially along major retail corridors. This will provide a consistent public space where individual buildings acknowledge the civic importance of the street. Large gaps along the street edge are discouraged as they will act much like a vacant lot and create areas of low activity and discontinuity in the pedestrian experience.

Furthermore, the Standards acknowledge that the MainStreet development may occur in large phases where many of the buildings are designed and constructed within the same time frame. This type of development sometimes produces a large quantity of buildings that generally have little discernible scale and character from one another and as a result, the overall development suffers from lack of variety and interest. For this reason, buildings within the district are encouraged to have a variety of heights, scale and architectural character. Designers should incorporate elements that provide a scale and level of detail at the street level that is appropriate to the pedestrian. Different interior uses should be clearly articulated through changes in the plane of the facade, materials and/or architectural details.

As previously stated, the Standards do not mandate architectural style, but instead provide general parameters for the location of buildings and uses; the incorporation of passive solar devices; articulation and scale; and quality of materials. The intent is that the combination of these qualities will provide for the development of an overall character that represents the uniqueness of Coconut Creek and our sub-tropical climate, and thereby creating a sense of place and community.



Principles

VERNACULAR:
Belonging to the country of one's birth; one's own by birth or nature; native; indigenous.

- ***Provide building passive cooling measures that respond to the South Florida climate.***
- ***Build to and respond to the street and its activities.***
- ***Provide pedestrian oriented uses at the street level. Parking shall be located behind buildings.***
- ***Provide buildings with quality materials and unique character.***
- ***Provide variety in building heights.***
- ***Screen parking garages and service areas.***



Reference

2: Intent

8.1 Uses, Densities and Height



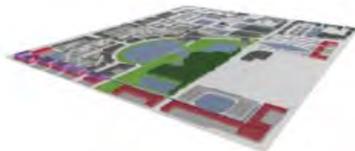
MainStreet District



MS-C Sub-District



MS-R Sub-District



MS-P Sub-District



MS-T Sub-District

Building uses, densities and height are regulated within these Standards. As provided in the Development Organization section of the Standards, a large portion of the District will be dedicated to open space, water elements, and roadway infrastructure. The developable portion of the District (approximately 130 acres in the initial phases and 78 acres in the final phases) is intended to average no more than 20 residential units per acre (approximately 2600 initial phase residential units and an additional 1,100 units in the final phases). In order to achieve this, densities vary among Sub-Districts, with some being lower and some being higher than the overall average.

For the purposes of building densities and height, the initial phase of the MainStreet District is organized into three primary Sub-Districts:

- MainStreet Mixed-Use Commercial (MS-C): A mixed-use district focusing on commercial development and allowing for greater overall density.
- MainStreet Mixed-Use Residential (MS-R): A mixed-use district focusing on residential, civic and cultural uses.
- MainStreet Mixed-Use Perimeter (MS-P): A mixed-use district focusing on commercial and office development and allowing for site development typologies that account for the existing character of surrounding roadways.

Additionally, the MainStreet Mixed-Use Transit (MS-T) is a fourth Sub-District covering areas adjacent State Road 7. This Sub-District anticipates that this roadway may one day be developed into a rapid transit corridor. As opposed to the other Sub-Districts which are primarily composed of undeveloped land, the majority of the properties within the MS-T Sub-District have already been developed with successful commercial uses. Therefore, the Sub-District anticipates the final phases of the MainStreet Development and provides general standards and incentives for future redevelopment with an orientation towards transit. The Sub-District should not impact existing uses unless they choose to redevelop.

8.1 (cont.)
Uses, Densities and
Height

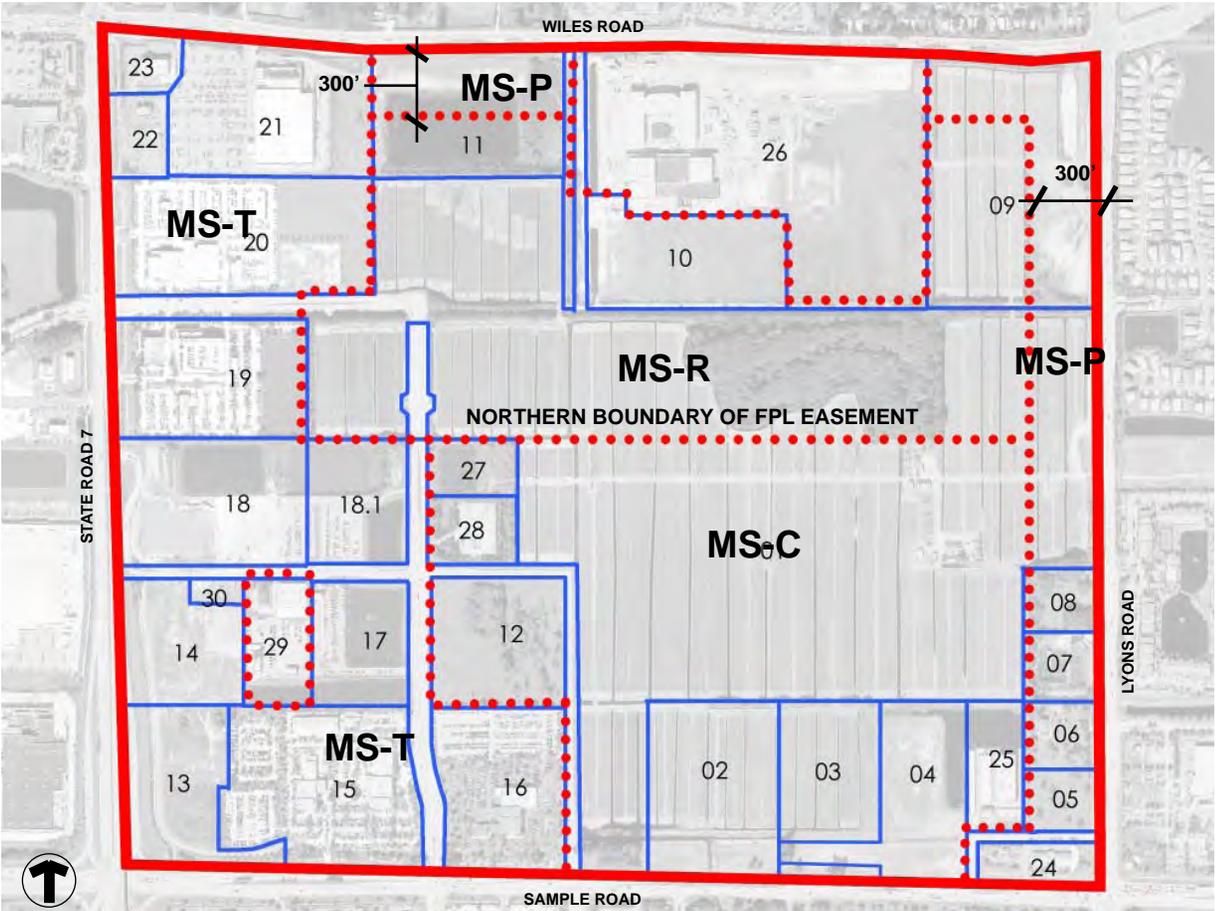


LEGEND:

-  Existing Properties/Plats
-  MainStreet District
-  MainStreet Sub-Districts

Each of the Sub-Districts are similar in that they encourage the compact development of mixed-uses. They differ primarily in allowable densities and building height. Additionally, each Sub-District encourages a mix of uses that are more appropriate given the location of the Sub-District.

Effort has been made to align Sub-District boundaries with existing properties/plats. However, there are instances where this was not reasonable. In some cases, Sub-District boundaries do not coincide with current property lines within the District, but coincide with the development organization contemplated within the conceptual scheme. In the case where a single property exists within two or more Sub-Districts, the property area within the Sub-District boundary shall be the basis for calculating allowable development intensity (floor area ratio and density).



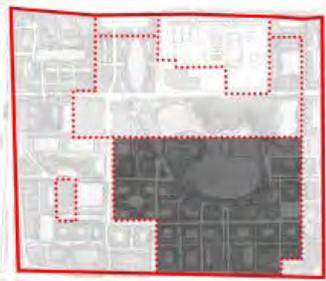
Sub-District Boundaries

BUILDINGS 8

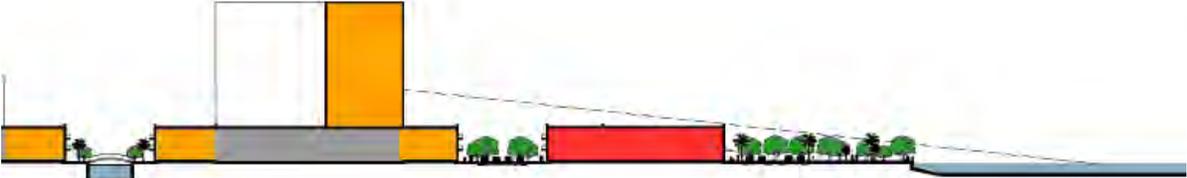
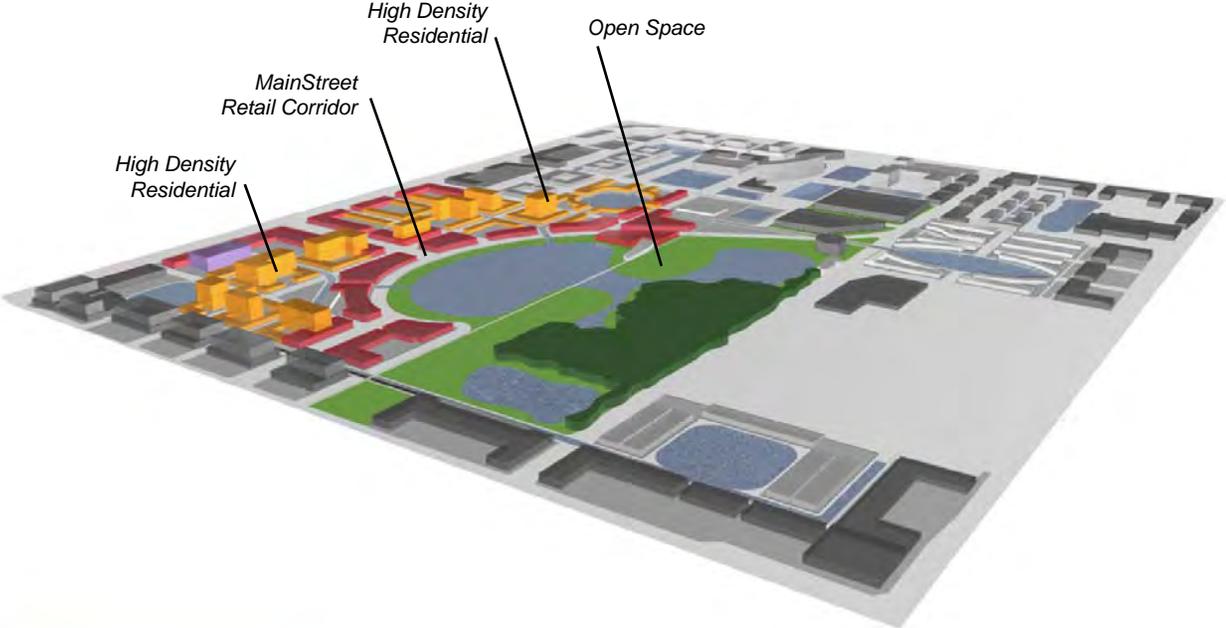
8.1.1
Sub-District MS-C

The MS-C Sub-District focuses on commercial and residential development with a greater overall density and height than that of Sub-Districts MS-R, MS-P and MS-T. The purpose is to allow for the primary MainStreet commercial development and to encourage a relatively large number of residents to live nearby. This nearby population will help support the commercial development and the combination of the uses will help create a lively downtown environment.

Commercial development should include retail shopping, eating/drinking and entertainment, neighborhood services and small offices. Residential development should include multi-family buildings with a variety of unit types. The sub-district promotes the development of smaller, more intimate public plazas and open space by providing development bonuses. These public spaces should be in addition to the overall MainStreet District requirements outlined in Section 5.



Sub-District MS-C

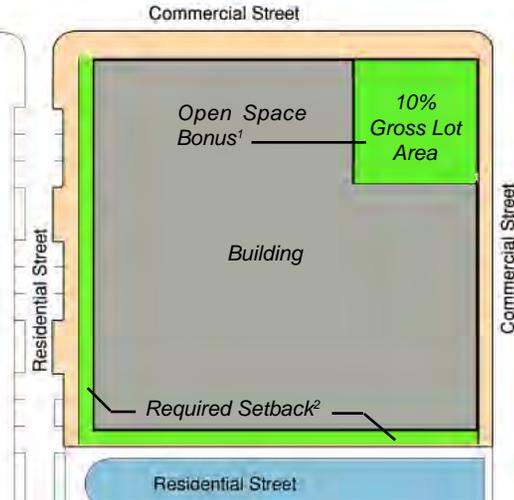


Protect open space views through low heights (single use buildings) along the MainStreet Retail Corridor

Reference

5: District-Wide Development Organization

8.1.1 (cont.)
Sub-District MS-C



Sub-District Allowances

- **Base Density: 30 units x gross lot acres**
 - **Maximum Density with Open Space Bonus¹: 40 units x gross lot acres**
 - **¹Open Space Bonus Density:**
5 units x gross lot acres when 5% of the gross lot area is dedicated plazas or open space²
10 units x gross lot acres when 10% of the gross lot area is dedicated plazas or open space²
- **Maximum Building Height:**
Single-Use Commercial and Office Buildings: 3 stories or 40', whichever is less
Mixed-Use³ and Residential Buildings: 10 stories or 120', whichever is less
Parking Garage: 4 stories or 45', whichever is less
- **Building Setbacks: See Section 8.2**

²Open Space resulting from required setbacks or any other Standard requirements shall not count towards the Open Space Bonus.

³Mixed-Use Buildings within the MS-C Sub-District are defined as having at least 50% of the net square footage dedicated to residential and/or office uses.

8.1.1 (cont.)
Sub-District MS-C

Proposed Uses¹:
(See Section 5.5 for
preferred location of
uses)

¹Uses not specified as a proposed use may be considered as a special land use as in accordance with the Land Development Code. Existing uses proposed that are currently considered special land uses under the Land Development Code are also to be reviewed as special land uses.

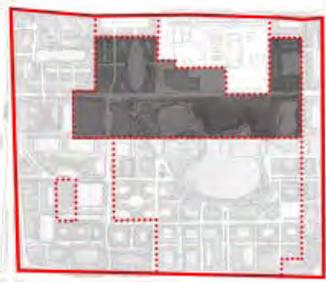
Residential:

- **Attached dwellings**
- **Townhouses**
- **Multiple-family dwellings**

Commercial and Office

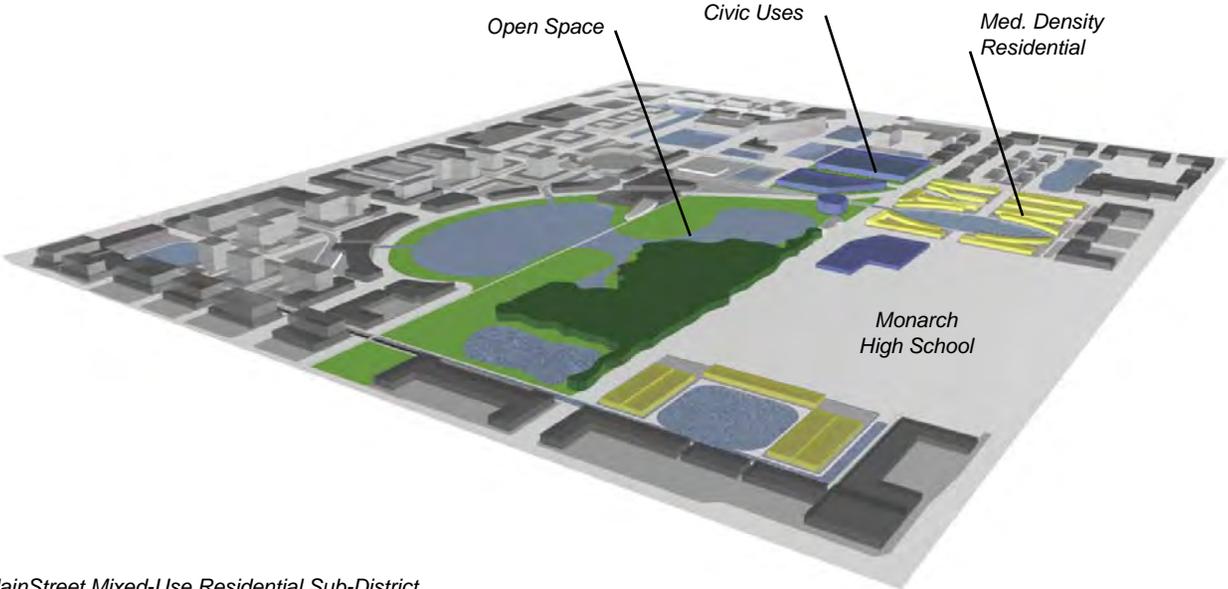
- **Amusement Centers (indoor only)**
- **Animal Grooming (no overnight boarding)**
- **Apparel and accessory stores**
- **Arts, crafts and drafting supplies**
- **Automobile tag agency**
- **Bake shop and delicatessen**
- **Ballrooms and Dance halls**
- **Barbershops, beauty/nail salons and tanning salons**
- **“Big box” retail over 75,000 sq. ft.**
- **Business services**
- **Catering and meeting halls**
- **Coin operated Laundromats**
- **Convenience stores (without fuel sales)**
- **Dance, musical instruction and martial arts studios**
- **Detective and security agencies**
- **Drug stores and pharmacies**
- **Employment agencies**
- **Financial institutions, mortgage and stockbrokers**
- **Florists**
- **General retail not otherwise specified**
- **Government offices**
- **Gyms and exercise clubs**
- **Hardware stores**
- **Hotels/motels**
- **Indoor tennis, racket ball, handball and similar court sports**
- **Indoor theatres**
- **Jewelry shops with repair (no smelting)**
- **Liquor stores**
- **Message therapist**
- **News stands**
- **Pet stores**
- **Photographic and artist studios**
- **Professional offices not otherwise specified**
- **Real estate office**
- **Restaurants, carry-out snack shops, etc. (no drive-thru)**
- **Secretarial, data processing and temporary staffing services**
- **Shoe repair**
- **Travel agencies**
- **Video stores**

8.1.2
Sub-District MS-R



Sub-District MS-R

The MS-R Sub-District focuses on residential development and community development in the form of civic and cultural uses. Civic uses and recreational facilities are important components of this district and should include uses such as police and fire stations, city hall, public schools and community recreation facilities. Residential density and allowable height is lower than that of the MS-C district. The sub-district promotes the development of open space by providing development bonuses. These public spaces should be in addition to the overall MainStreet District requirements outlined in Section 5.



MainStreet Mixed-Use Residential Sub-District

Sub-District Allowances

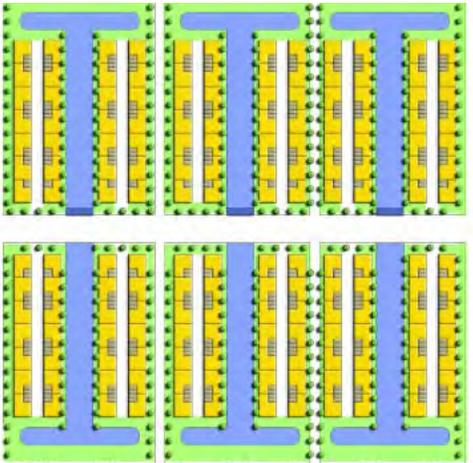
- **Base Density: 8 units x gross lot acres**
 - **Maximum Density with Open Space Bonus: 16 units x gross lot acres**
 - **Open Space Bonus Density:**
8 units x gross lot acres when 20% of the gross lot area is dedicated open space¹
- **Maximum Building Height: 5 stories or 70', whichever is less**
- **Building Setbacks: See Section 8.2**

¹Open Space resulting from required setbacks or any other guideline requirements shall not count towards the Open Space Bonus.

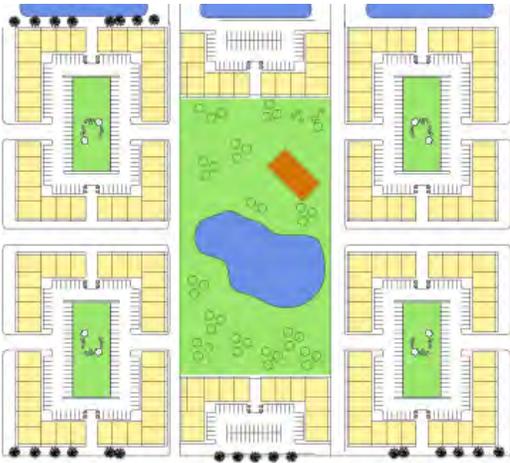
Reference

5: District-Wide Development Organization; 7: Plazas and Open Space; 8.2: Building setbacks

8.1.2 (cont.)
Sub-District MS-R



Residential Density 8 Units per Acre



Multi-Level Residential Density 16 Units per Acre
(20% open space)

¹Proposed Uses:
(See Section 5.5 for preferred location of uses)

¹Uses not specified as a proposed use may be considered as a special land use as in accordance with the Land Development Code. Existing uses proposed that are currently considered special land uses under the Land Development Code are also to be reviewed as special land uses.

- Residential:**
- **Semidetached dwellings**
 - **Attached dwellings**
 - **Zero lot line dwellings**
 - **Townhouses**
 - **Multiple-family dwellings**

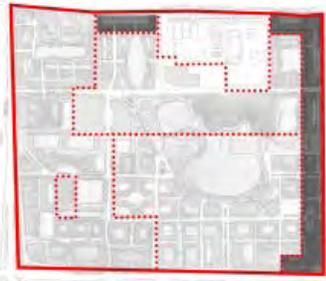
Public and private schools

- Business and Office**
- **Government offices**
 - **Research and Development facilities**

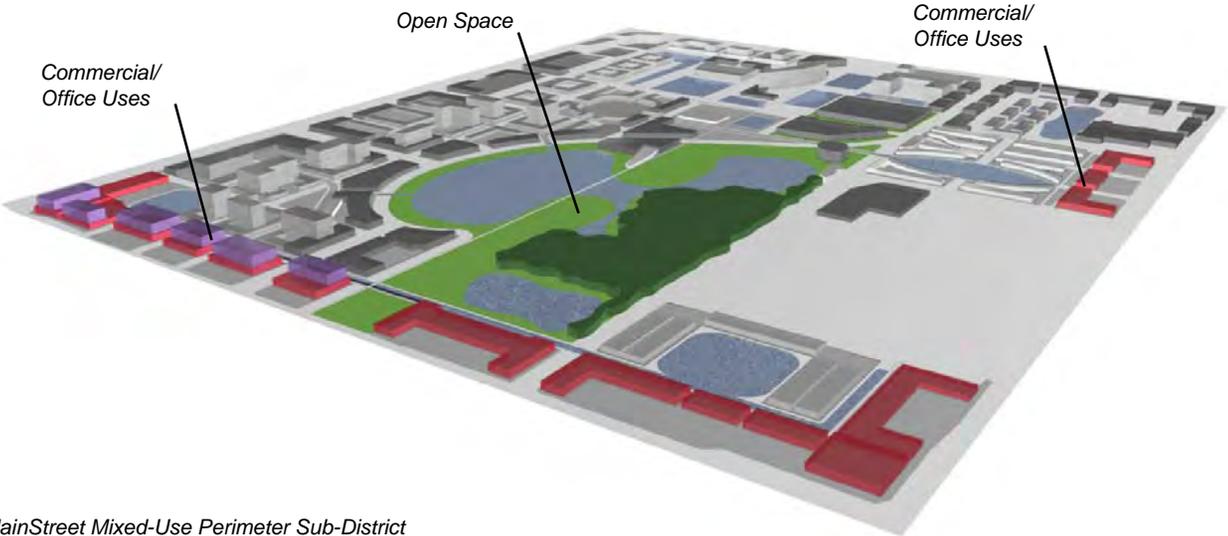
- Civic & Cultural Uses**
- **Public Recreational Facilities**
 - **Libraries**
 - **Museums**

8.1.3
Sub-District MS-P

The MS-P Sub-District recognizes the significance and scale of the District's surrounding roadways and focuses on commercial and office development. The mix of these use is encouraged, but single use buildings are allowed. Given the busy and noisy nature of the surrounding roadways, residential uses should be oriented towards the rear of mixed-use sites and should front neighboring districts.



Sub-District MS-P



MainStreet Mixed-Use Perimeter Sub-District

Sub-District Allowances

- **Maximum FAR:**
Single Use Commercial Buildings: .3 x gross lot area
Single Use Office Buildings: 1.5 x gross lot area
Mixed (Residential) Uses²: An additional .3 x gross lot area.
- **Maximum Density: 8 units x gross lot acres**
- **Maximum Building Height: 6 stories or 75', whichever is less**
- **Building setbacks: See Section 8.2**

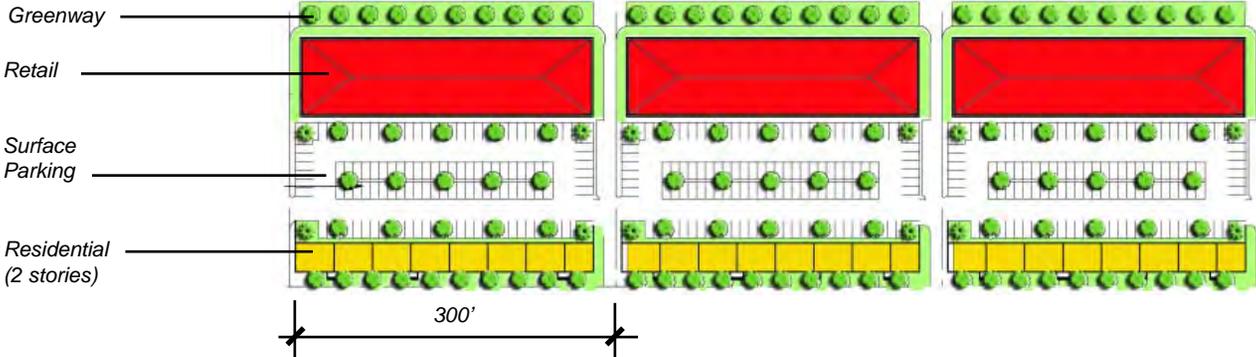
¹FAR calculations shall be based on the area of property within the Sub-District. The MS-P Sub-District has a depth of 300' except that, in the case of properties 05, 06, 07, 08 and 24, the entire property is included.

²Additional FAR shall be used solely for residential development and shall not be utilized for other uses. Single use residential development is not permitted in the MS-P Sub-District.

8.1.3 (cont.)
Sub-District MS-P

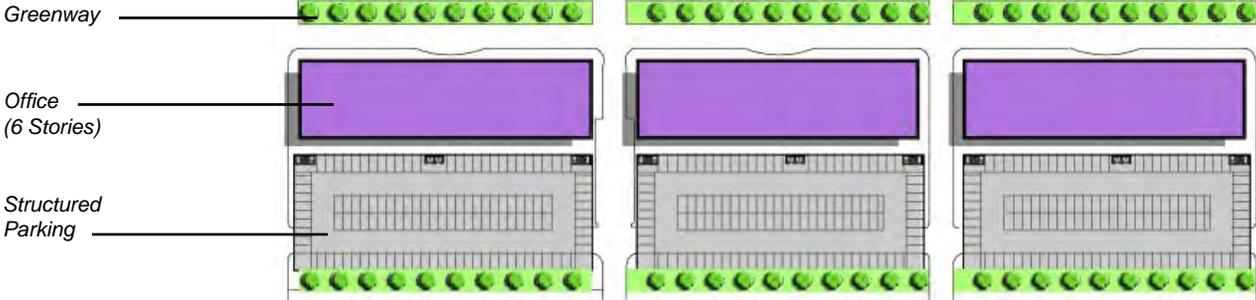
Mixed Use:

Retail : 0.25 FAR
Residential: 8 units/acre,
(additional 0.3 FAR)



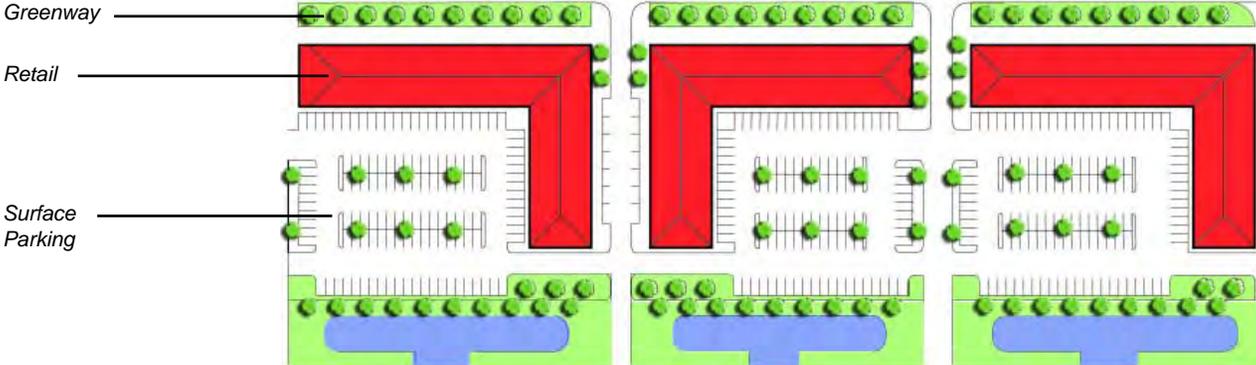
Single Use:

Office: 1.5 FAR



Single Use:

Retail : 0.28 FAR



8.1.3 (cont.)
Sub-District MS-P

¹Proposed Uses:
(See Section 5.5 for
preferred location of
uses)

¹Uses not specified as a proposed use may be considered as a special land use as in accordance with the Land Development Code. Existing uses proposed that are currently considered special land uses under the Land Development Code are also to be reviewed as special land uses.

²One motor fuel station, in addition to existing motor fuel sales uses, is permitted within the MS-P Sub-District. In no case shall there be more than two motor fuel sales uses, including existing uses, within the MS-P Sub-District. Motor fuel sales uses shall comply with the Design Standards for buildings as well as specific Standards provided in this section.

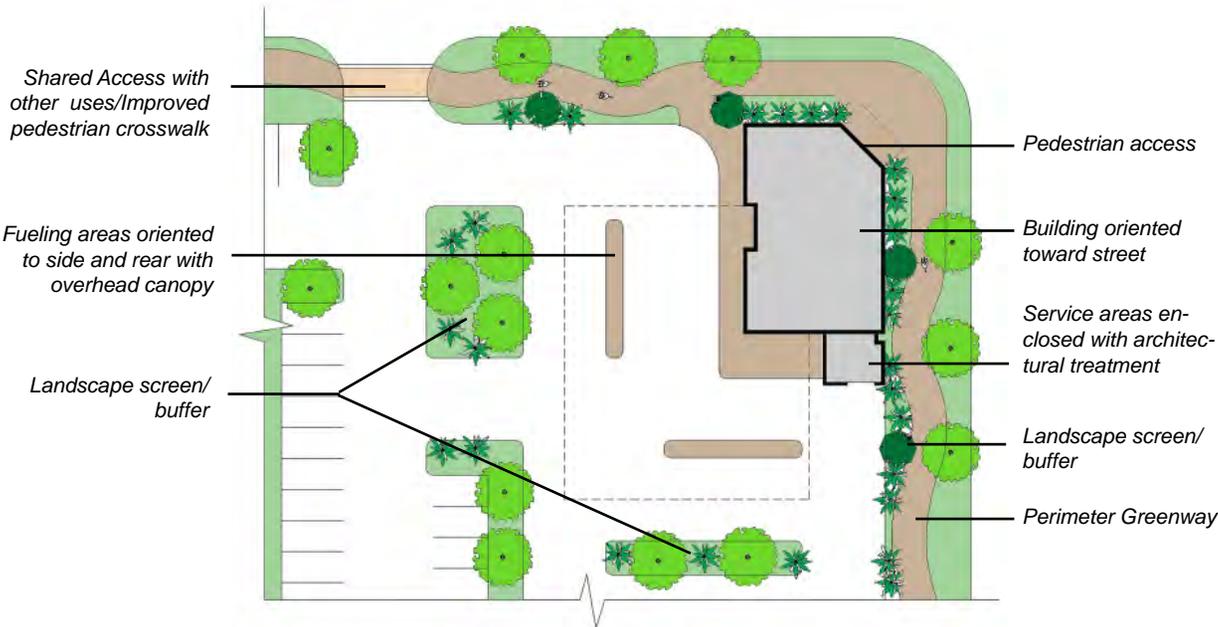
Residential:

- **Townhouses**
- **Multiple-family dwellings**
- **Public and private schools**

Business and Office

- **Amusement Centers (indoor only)**
- **Animal Grooming (no overnight boarding)**
- **Apparel and accessory stores**
- **Arts, crafts and drafting supplies**
- **Automobile parts (no service or installation)**
- **Automobile tag agency**
- **Bake shop and delicatessen**
- **Ballrooms and Dance halls**
- **Barbershops, beauty/nail salons and tanning salons**
- **“Big box” retail over 75,000 sq. ft.**
- **Bowling Alleys**
- **Building materials**
- **Business services**
- **Catering and meeting halls**
- **Child daycare and nursery schools**
- **Coin operated Laundromats**
- **Convenience stores (with/without fuel sales¹)**
- **Dance, musical instruction and martial arts studios**
- **Detective and security agencies**
- **Drug stores and pharmacies**
- **Dry cleaners**
- **Employment agencies**
- **Financial institutions, mortgage and stockbrokers**
- **Florists**
- **General Office**
- **General retail not otherwise specified**
- **Government offices**
- **Gyms and exercise clubs**
- **Hardware stores**
- **Hotels/motels**
- **Household equipment rental**
- **Indoor tennis, racket ball, handball and similar court sports**
- **Indoor theatres**
- **Jewelry shops with repair (no smelting)**
- **Lawn and garden supplies and equipment**
- **Liquor stores**
- **Maid, valet and janitorial services**
- **Message therapist**
- **Medical offices and clinics**
- **Motor Fuel Sales (no service bays)²**
- **News stands**
- **Pet stores**
- **Photographic and artist studios**
- **Professional offices not otherwise specified**
- **Real estate office**
- **Repair shops for small household appliances and locksmiths**
- **Restaurants, carry-out snack shops, etc.**
- **Secretarial, data processing and temporary staffing services**
- **Shoe repair**
- **Travel agencies**
- **Veterinary (indoor overnight boarding)**
- **Video stores**

8.1.3 (cont.)
Sub-District MS-P



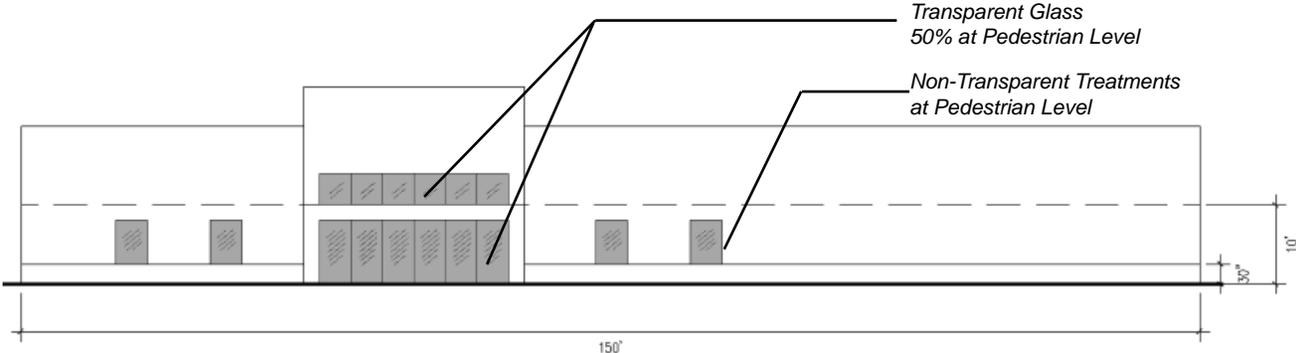
Motor Fuel Sales/Convenience Store Guidelines

MSP Special Requirements

Requirements:
Motor Fuel Sales

- **The primary building shall be oriented towards the Street and fuel islands toward the rear and sides. Pedestrian access should be provided from the perimeter greenway.**
- **Where feasible, minimize curb cuts and enhance pedestrian circulation by sharing access with other commercial uses.**
- **Screen service/storage/refuse area with architectural enclosures and landscape buffers.**
- **Restrooms and ATMs shall be located within the primary building, not outside.**
- **Apply “Building” Design Standards (and all sub-sections) within this document. Pump Islands and canopies should be integrated with the overall architectural character.**
- **Landscaping materials shall be consistent with the requirements of the “Streetscape” Design Standards within this document.**

8.1.3 (cont.)
Sub-District MS-P



Wall Area = $150' \times 10' = 1500 \text{ SF}$
 Required Transparency = 15% = 225 SF
 Transparency Provided = 288 SF = 19%

Required Non-Transparency = 5% = 75 SF
 Non-Transparency Provided = 88 SF = 6%

MSP Special Requirements

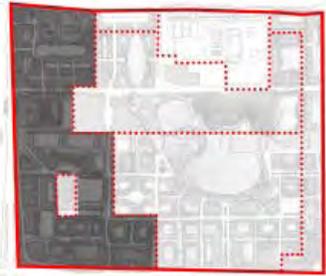
Requirements:
Fenestration

- **Retail uses over 75,000 square feet: The primary building facade shall contain windows and/or doorways of transparent glass covering at least 15% of the wall area. At least half of the transparent glass shall be placed at pedestrian level. In addition, the primary building facade shall contain display windows or transparent /non-transparent window treatments covering an additional 5% of the wall area. Percentages shall be based on the wall area for the first 10 feet of height above the public sidewalk. Display windows and treatments may encroach the right of way by a distance of 16" and are not required to provide views into the retail space, but shall be placed at pedestrian level. Display windows shall be regularly maintained and shall display retail merchandise sold on the premises. Such merchandise shall be rotated on a seasonal basis at a minimum. Display of signs or advertisements are subject to the City's Land Development Code.**
- **All other requirements as per Section 8.9.**

Requirements:
Parking

- **All parking within the MS-P Sub-District shall meet the design standards provided in the Land Development Code, unless otherwise specified herein.**
- **Within the MS-P Sub-District, 25% of the provided parking shall be located on the side and/or rear of buildings. Additionally, no more than 300 parking spaces may be located in the front of buildings.**
- **In no case shall parking be allowed to front interior MainStreet District streets (Types A, B, C, D, E and F). Such parking shall be buffered with other uses and/or landscape buffers as required within the Standards.**

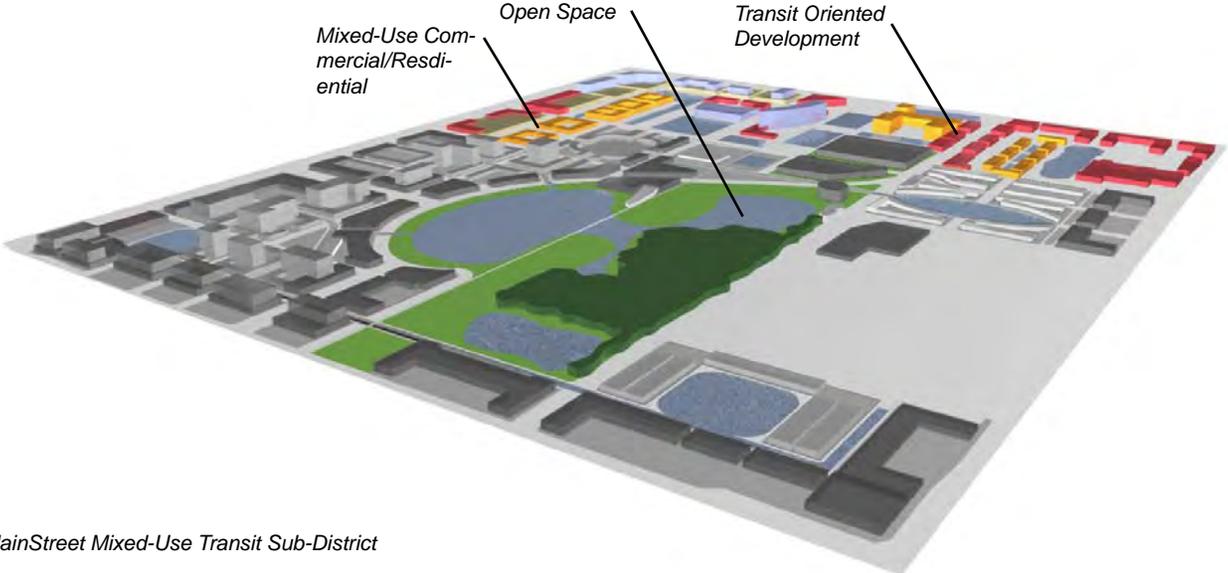
8.1.4
Sub-District MS-T



Sub-District MS-T

The MS-T Sub-District is a redevelopment district that anticipates that State Road 7 may one day be developed as a rapid transit corridor. Therefore the district promotes transit oriented development with a mix of uses, including residential, commercial and office. An Intermodal Transit Hub shall be provided in this district with participation from property owners and shall be coordinated with appropriate agencies. The district also promotes the redevelopment of existing commercial uses and more specifically, the large surface parking lots that currently exist. This promotion is accomplished through an increase in allowable development intensities.

Several commercial uses currently exist within the district. They are primarily composed of automobile dealership's, a large home center and the Seminole casino, all of which have very large surface parking lots. These properties could be redeveloped through the introduction of structured parking which would free up valuable land for the introduction of mixed-uses on the perimeter of the properties.



MainStreet Mixed-Use Transit Sub-District

<p>Sub-District Allowances</p>	<ul style="list-style-type: none"> • Maximum FAR: <i>Single Use Developments per development block: .8 x gross lot area</i> <i>Mixed-Use Developments per development block: 2.0 x gross lot area</i> • Maximum Density: 40 units x gross lot acres • Maximum Building Height: 10 stories or 120', whichever is less. Building height may exceed 10 stories for properties adjacent to the State Road 7 overpass based on superior building design including but not limited to Green Building Certification and increased Public Plaza space.
--------------------------------	--

Reference

5: District-Wide Development Organization

8.1.4 (cont.)
Sub-District MS-T

¹Proposed Uses:

¹Uses not specified as a proposed use may be considered as a special land use as in accordance with the Land Development Code. Existing uses proposed that are currently considered special land uses under the Land Development Code are also to be reviewed as special land uses.

Residential:

- **Townhouses**
- **Multiple-family dwellings**

Public and private schools

Business and Office

- **Amusement Centers (indoor only)**
- **Animal Grooming (no overnight boarding)**
- **Apparel and accessory stores**
- **Arts, crafts and drafting supplies**
- **Automobile parts (no service or installation)**
- **Automobile tag agency**
- **Bake shop and delicatessen**
- **Ballrooms and Dance halls**
- **Barbershops, beauty/nail salons and tanning salons**
- **“Big box” retail over 75,000 sq. ft.**
- **Building materials**
- **Business services**
- **Catering and meeting halls**
- **Child daycare and nursery schools**
- **Coin operated Laundromats**
- **Convenience stores (without fuel sales)**
- **Dance, musical instruction and martial arts studios**
- **Detective and security agencies**
- **Drug stores and pharmacies**
- **Dry cleaners**
- **Employment agencies**
- **Financial institutions, mortgage and stockbrokers**
- **Florists**
- **General retail not otherwise specified**
- **Government offices**
- **Gyms and exercise clubs**
- **Hardware stores**
- **Hotels/motels**
- **Household equipment rental**
- **Indoor theatres**
- **Jewelry shops with repair (no smelting)**
- **Lawn and garden supplies and equipment**
- **Liquor stores**
- **Maid, valet and janitorial services**
- **Message therapist**
- **Medical offices and clinics**
- **News stands**
- **Pet stores**
- **Photographic and artist studios**
- **Professional offices not otherwise specified**
- **Real estate office**
- **Repair shops for small household appliances and locksmiths**
- **Restaurants, carry-out snack shops, etc.**
- **Secretarial, data processing and temporary staffing services**
- **Shoe repair**
- **Travel agencies**
- **Video stores**

8.2
Setbacks

Building setback and build-to (maximum setback) requirements in the district are regulated by the types of streets that they front or are surrounded by. For primary commercial corridors, buildings shall be generally built to the street in order to provide a consistent edge and spatial definition that contributes to the activities of the street. For residential streets, buildings should have a maximum setback to establish a semi-private zone or yard.

Requirements



- **District Commercial Streets: Street Types A, B and C**
**Stories 1-2: Maximum Setback = 0'*
Above 2 Stories: Minimum Setback = 15'
Parking Garages: Minimum Setback = 15'

- **District Residential Streets: Street Types D, E and F**
**Stories 1-2: Maximum Setback = 10'*
Above 3 Stories: Setback 15'
Parking Garages: Minimum Setback = 15'

- **Frontage Streets (Sample, State Road 7, Wiles and Lyons)**
All Stories: Minimum Setback = 28'. Setback area must be improved as a greenway as defined in section 6.7.

- **MS-C Sub-District Frontage on Sample Road:**
Minimum Setback above 6 stories or 75' = 150'

- **When property does not front a District Street:**
Rear: Minimum Setback = 5'
Side: Minimum Setback = 5'

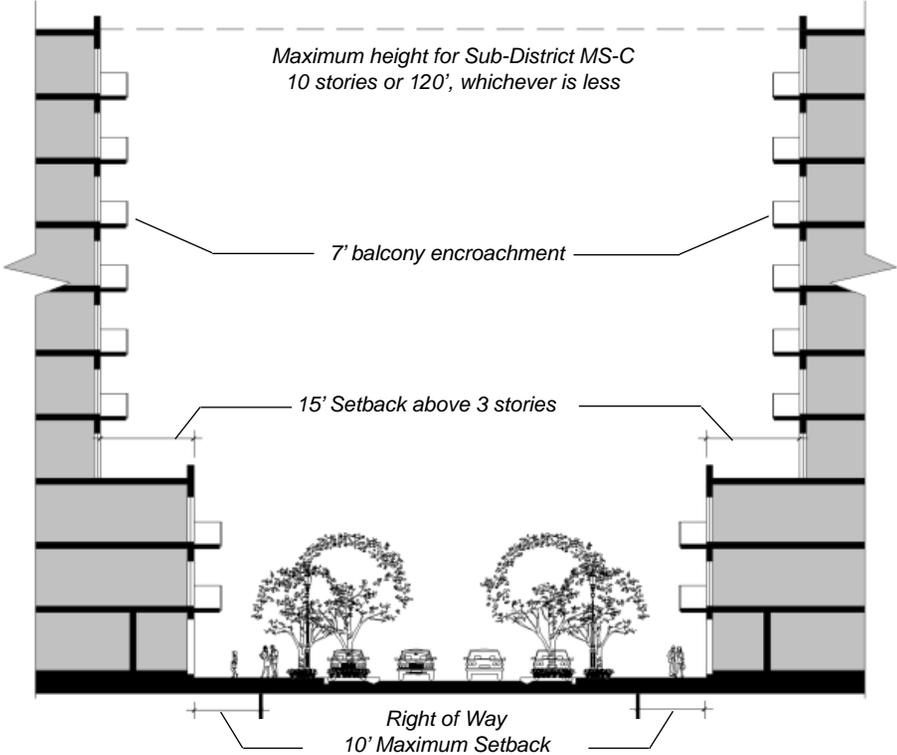
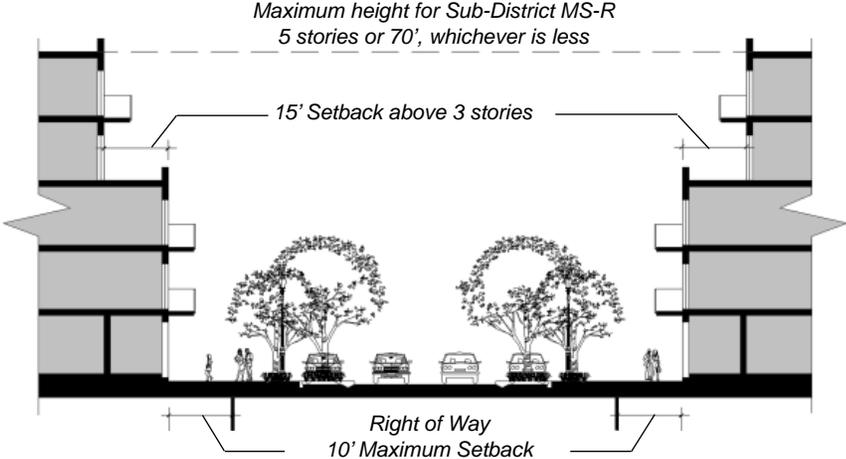
**Maximum setbacks apply to 80% of the primary building facade or arcade and shall not apply or limit minor changes in wall planes that provide building articulation. Exceptions for maximum setbacks may be provided for the development of public plazas and open space. Buildings may exceed the maximum setback when the resultant space is designed and improved as public open space. Off-Street parking is not allowed within the maximum setback. Awnings and canopies may encroach maximum setbacks and public right of way by a maximum distance of 8'. Upper story balconies may encroach 7' and architectural features may encroach setback requirements by a distance of 3'.*

Reference

6.0 Streetscapes; 8.1: Uses, Densities and Height

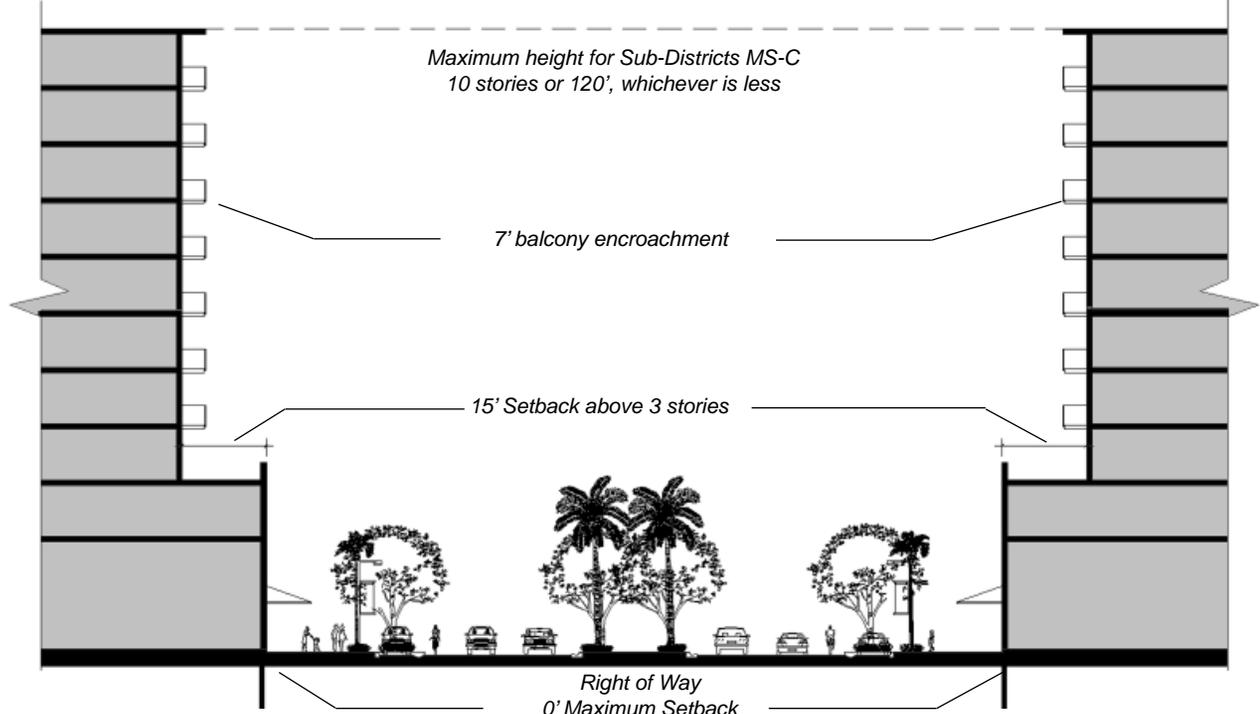
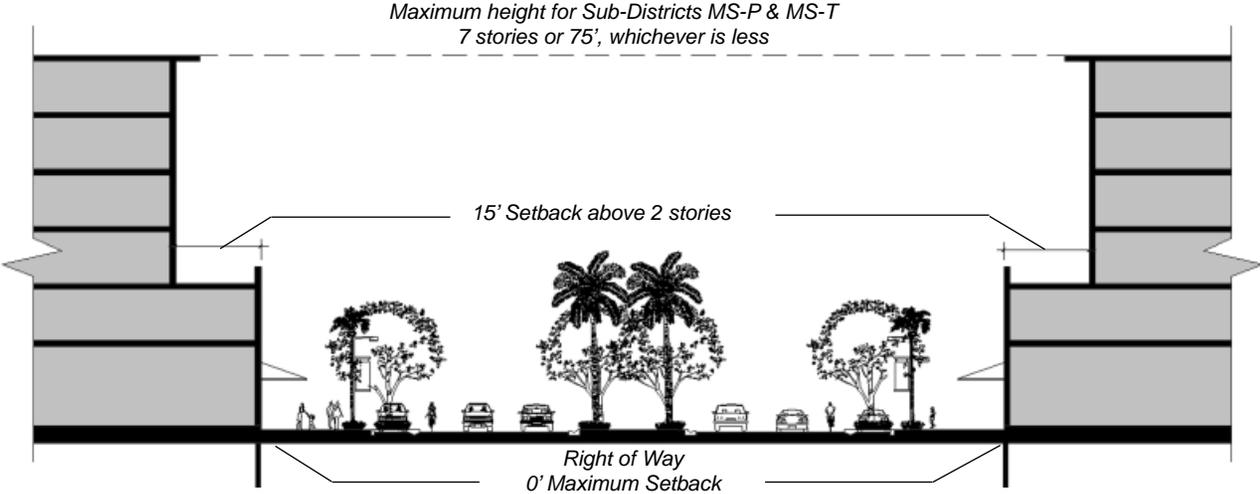
8.2 (cont.)
Setbacks

District
Residential Street
(Type D, E and F)
Setbacks



8.2 (cont.)
Setbacks

District
Commercial Street
(Type A, B and C)
Setbacks



BUILDINGS 8

8.3
Street Orientation



Buildings should have a clear relationship with the street and should reinforce the street framework by locating primary facades parallel to the street. When streets curve, buildings should reinforce the geometry of the street as this will strengthen the urban spatial character.

Building facades should be open and inviting on all facades. They should be richly detailed and varied to provide visual interest and a pedestrian scale at the street level. Reinforcement of the human scale can be accomplished through the use of varied materials and appropriately scaled construction modules. Commercial street frontages should be largely transparent, allowing pedestrians to view the activities inside or displays related to these activities. Storefronts and entrances should be oriented towards the street, should be well lit and accentuated to provide pedestrian orientation. Building facades should incorporate components that protect pedestrian from the sun and rain. Through-lobbies or breezeways that address both the street and parking lots are encouraged.

Principles

- **Street level facades shall have a pedestrian scale.**
- **Street level facades shall be largely transparent.**
- **Emphasize building entrances.**
- **Provide protection from the elements.**

Requirements

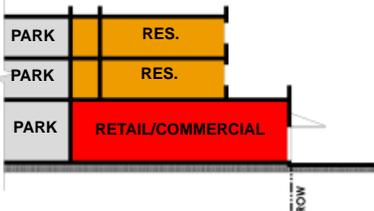
- **All ground level space designed for pedestrian oriented uses shall have external entrances directly accessible from public sidewalk and street space. At least one (1) external entrance shall be located along the frontage of the street or on the corner intersection of two streets. Additionally, each building use, such as a retail store with a cafe or restaurant, shall have separate entrances. All such entrances shall be transparent.**

Reference

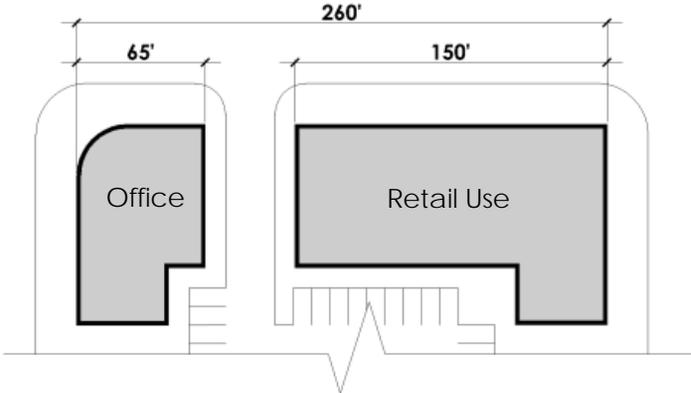
8: Buildings; 8.2: Setbacks

8.4
Location of Uses

The location of building uses is governed by the types of streets that front or surround a building. Commercial streets should have ground floor pedestrian oriented uses. Residential streets are encouraged to have live/work uses that may include small shops, galleries and offices. Particularly when development is adjacent to sensitive uses such as residential development, the location of uses should be coordinated with adjoining properties to avoid creating nuisances such as noise, light intrusion, invasion of privacy and traffic. Careful consideration should be given to all uses adjacent the FPL easement and should be coordinated with city staff early in the design process.



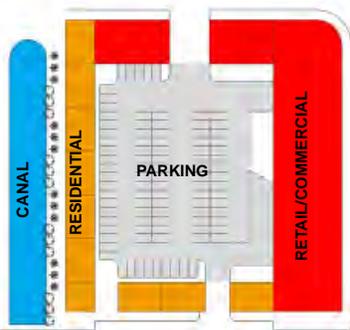
Building Use Section Diagram



Street Property Frontage = 260'

Pedestrian Oriented Use Frontage Provided = 150' + 65' = 215' = 82%

Requirements



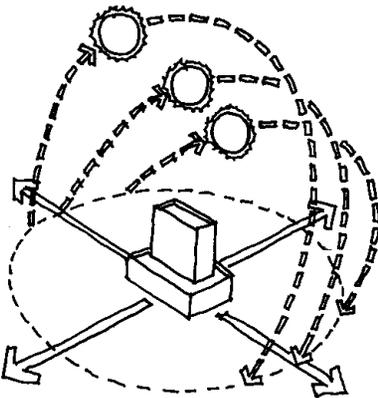
Building Use Block Diagram

- **Commercial Street Frontages: Street Types A, B and C**
Ground floor pedestrian oriented uses required for 75% of the building/street property frontage. Parking garages and lots shall not front commercial streets and shall be lined with active uses on all levels.
- **Residential Street Frontages: Street Types D, E and F**
Live/work shops, galleries and offices are encouraged at street level in Sub-Districts MS-C and MS-P.
Parking Garages and lots shall be lined with uses, screened with architectural treatment or landscape buffers.
Residential or live/work uses shall front residential canals within the MS-C and MS-R Sub-Districts.
Within the MS-P Sub-District, blank, unarticulated facades shall not front residential canals. These facades shall incorporate active uses, elements to provide visual interest, or shall buffer them from view through the use of landscaping.
- **FPL Easement: All proposed uses adjacent the FPL easement shall be subject to proper site design in relation to the FPL easement as provided under the site plan review process by the City.**

Reference

6: Streetscapes

8.5
Solar Orientation



Prior to the introduction of air conditioning systems, buildings in Florida were constructed to take advantage of local climatic conditions and, as a result, inhabitants were able to live and work in relative comfort. Unfortunately, most buildings constructed today ignore the benefits of passive solar orientation and rely solely on conditioning systems to control indoor comfort. Passive solar orientation should be utilized to augment and decrease the load on the buildings mechanical systems. However, it is recognized that proper solar orientation can sometimes be very difficult in an urbanized environment. Buildings in an urban context must generally make the most efficient use of a limited development area and the resultant solar orientation may be less than desirable. In some cases, solar orientation may even be unnecessary, given that adjacent buildings may provide a welcome protection from the sun. Regardless, the conceptual scheme takes solar orientation in account at a District-wide scale primarily in two ways: 1) The MainStreet retail corridor is oriented so that buildings can take advantage of a northern exposure, thus making the incorporation of large expanses of glass not only an asset to the pedestrian streetscape, but also to take advantage of the reflected northern light as a daylighting strategy, and 2) the proposed organization of the high density residential buildings in the MS-C district could easily allow for residential towers oriented on a east-west axis while retaining views of the open space component of the scheme.

The Florida Solar Energy Center (FSEC), an institute of the University of Central Florida, is the largest and most active state-supported renewable energy and energy efficiency research, training, testing and certification institute in the United States. They regularly make research data available to the general public, including methodologies for creating energy efficient buildings. Most data can be accessed via the FSEC website: www.fsec.ucf.edu. Designers should consult this valuable resource when making solar design decisions.

Principles	<ul style="list-style-type: none"> <i>Buildings shall, to the greatest extent possible, should make use of proper solar orientation in order to provide natural daylight and promote lower heating and cooling requirements for the building.</i>
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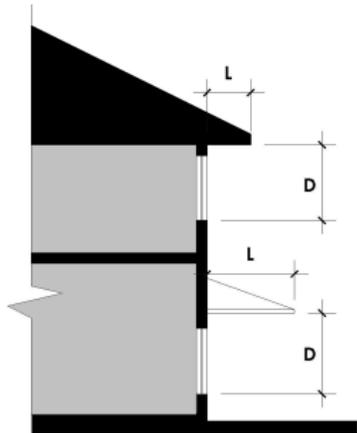
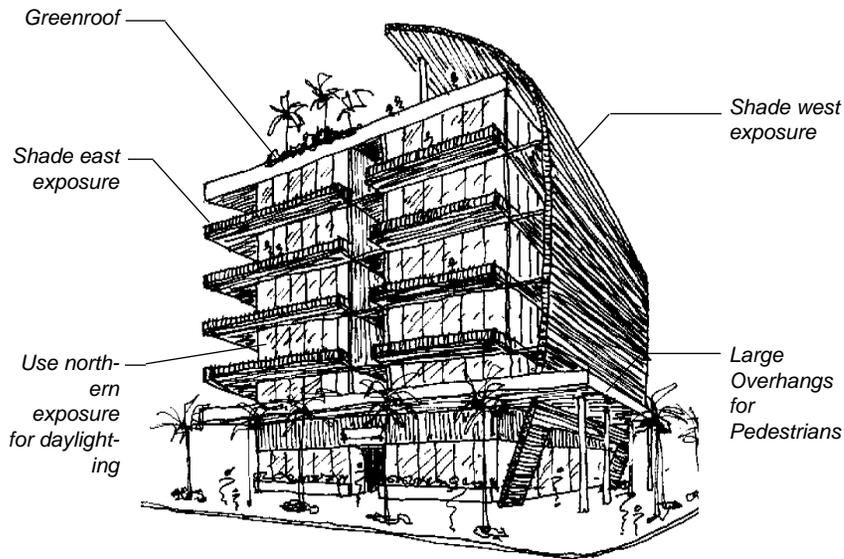
Reference	8: Buildings; 9.9.4: Energy Conservation
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BUILDINGS 8

8.6
Shading



Solar radiation is a major heat source in buildings. Given the South Florida climate, buildings should be mostly concerned with cooling requirements of the long hot season. This increases the importance of protecting windows, walls and sliding glass doors. This can be accomplished by incorporating light colored and high albedo materials, insulated glass and shading devices. Shading devices include roof overhangs, arcades, awnings, porches and verandahs, screens, shutters, trellises and landscaping. Shading devices are intended to play a major role in providing architectural character to the district, but should be employed in a thoughtful and calculated manner and not simply to achieve a desired "look" for a building. Designers should account for the different exposures of a building so that shading measures produce a cooling benefit and energy conservation.



Sample south-facing overhang calculation:
Approximate latitude = 26.5 degrees
 $L = D \times F$
 $L =$ length of overhang
 $D =$ distance from window
 $F = .71$ (per FSEC)
Assume $D = 6$ feet
 $L = 6 \times .71$
Length of Overhang = 4.26 feet

Requirement	<ul style="list-style-type: none"> Provide shading measures for buildings. Utilize the Florida Solar Energy Center document FSEC-DN-8-86 for proper sizing and placement of shade devices.
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Reference	8: Buildings; 8.5: Solar Orientation; 9.9.4 Energy Conservation
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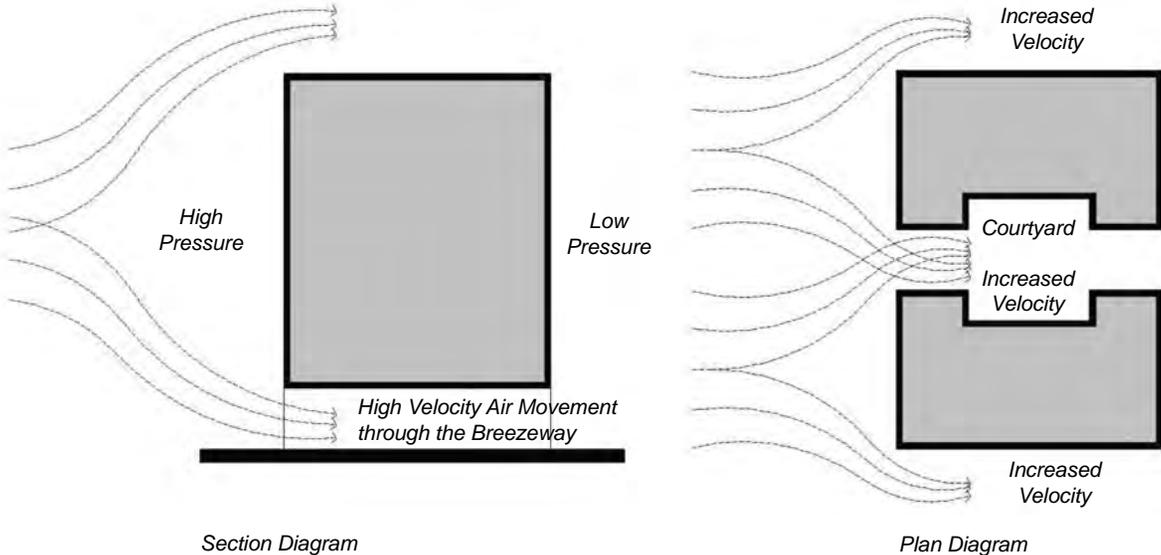
8.7
Air Movement



Buildings are encouraged to incorporate features, such as breezeways, that induce air movement and further serve to “cool” the pedestrian. These breezeways can lead to interior courtyards that provide more intimate places for rest and relaxation. In addition, fans should be incorporated whenever possible to increase the comfort of these spaces and increase the likelihood of their use.

Inducing air movement can greatly increase the human tolerance for higher temperature and humidity levels. Ventilation of buildings has been a major cooling technique throughout the world, as it provides cooling by using air to carry heat away from the building and or from the human body itself. It is based on the fundamental heat transfer mode of convection, when the air flowing next to a surface carries away heat, provided it is at a lower temperature than the surface. When it passes over the human body, it increases the evaporation rate from the skin and enhances heat extraction.

Air movement through buildings results from the difference in pressure indoors and outdoors , which may be created either by natural forces (wind) or mechanical power (fan). Air flow patterns are the result of differences in the pressure distribution around and within the building. Air moves from high pressure regions to low pressure regions.



Requirement

- **Provide building elements, such as breezeways, interior courtyards and fans to induce air movement and provide comfortable places for rest and relaxation.**

BUILDINGS 8

8.8
Materials



Possibly the most important element in conveying the quality of a building and the MainStreet development as a whole is the use of quality building materials. Building materials should convey a sense of permanence and civic presence. Facades should reinforce the human scale at the street level, provide distinction between interior uses, and break down the scale of larger buildings through the use of a variety of materials, appropriately scaled construction details, modules and textures.

Creative and innovative high quality building materials (with recycled content) are encouraged. A variety of building materials and combinations of materials should be utilized and shall be appropriate to the character of the building and harmonious with adjacent buildings. Genuine materials should be utilized rather than simulated materials. Use of accent materials, such as metal, stone or wood, should be used on all facades of the building, not just the front of the building. Consistent architectural materials should be used throughout the District to establish a holistic character.

Requirements	<ul style="list-style-type: none"> • <i>Building Facades shall incorporate at least two different materials. When used only for windows, glass shall not count towards this requirement.</i> • <i>Transparent glass shall be used at the street level.</i> • <i>Large expanses of reflective glass and faux treatments are discouraged.</i>
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Reference

9.9.2: Materials and Resources

8.9 Fenestration

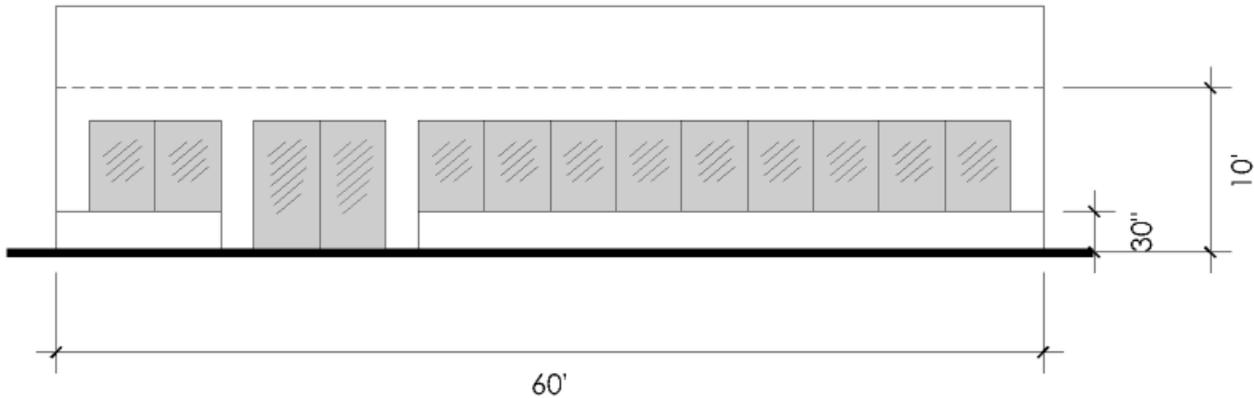


A fundamental component of a successful urban retail environment is the placement of fenestration with respect to the sidewalk and street. Street level building facades should incorporate single and double height windows or general access entrances to encourage browsing and window shopping.

Doors at storefronts with windows should match the materials, design and character of the display window framing. High quality materials such as crafted wood, stainless steel, bronze and other metals are recommended. Detailing such as carved woodwork, stonework or applied ornament should be used to create noticeable detail for pedestrians. Doors may be flanked by columns, distinctive lighting fixtures or other details.

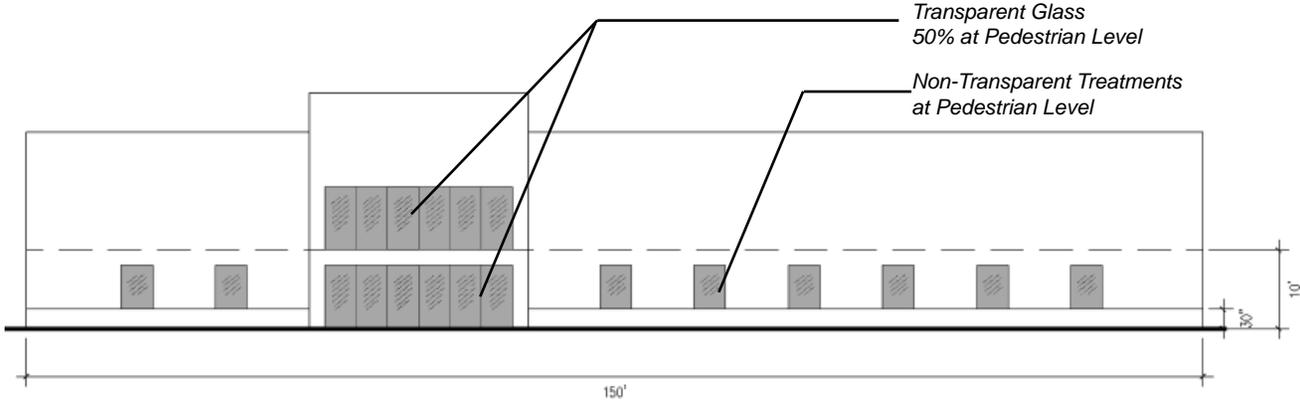
All windows on a building shall be related in design. Windows on the upper floors should be smaller in size than storefront windows on the first floor and should encompass a smaller proportion of facade surface area. Upper story windows should be detailed with architectural elements, such as projecting sills, molded surrounds and/or lintels. Deeply tinted glass or applied films are not permitted. Shading for windows should be provided as described in the section 8.6. Windows should maintain consistency in shape and location across the facade and should be harmonious with facades of adjacent buildings. Treatments on windows or balconies should be consistent with the overall building aesthetic. Window reveals should be a minimum of 4 inches. Storefront, transom, display windows or doors should encompass 50% minimum of the front of a building wall area. False fronts or windows are discouraged.

To maintain architectural consistency, unattractive functional features such as hurricane shutters and security shutters should be screened or omitted through the use of impact glass.



Wall Area = 60' x 10' = 600 SF
Required Transparency = 50% = 300 SF
Transparency Provided = 306 SF = 51%

8.9 (cont.)
Fenestration



Wall Area = 150' x 10' = 1500 SF
Required Transparency = 25% = 375 SF
Transparency Provided = 384 SF = 26%
Required Non-Transparency = 10% = 150 SF
Non-Transparency Provided = 176 SF = 12%

Requirements

Commercial Buildings

- **General:** For the first 10 feet of height above the public sidewalk elevation, the building facade shall contain windows and/or doorways of transparent glass covering at least 50% of the wall area.
- **Retail uses over 75,000 square feet (see Sub-District MS-P for special requirements):** The primary building facade shall contain windows and/or doorways of transparent glass covering at least 25% of the wall area. At least half of the transparent glass shall be placed at pedestrian level. In addition, the primary building facade shall contain display windows or transparent/non-transparent window treatments covering an additional 10% of the wall area. Percentages shall be based on the wall area for the first 10 feet of height above the public sidewalk. Display windows and treatments may encroach the right of way by a distance of 16" and are not required to provide views into the retail space, but shall be placed at pedestrian level. Display windows shall be regularly maintained and shall display retail merchandise sold on the premises. Such merchandise shall be rotated on a seasonal basis at a minimum. Display of signs or advertisements are subject to the City's Land Development Code.
- The base of all transparent openings shall be no more than 30 inches above the public sidewalk elevation.
- All street level use open to the public shall have external entrances directly accessible from the sidewalk. For commercial buildings, there shall be at least 1 entrance located along the frontage of commercial streets or on the corner intersection with other streets.

Reference

8.8: Shading; 8.10 Articulation

8.10 Articulation



Within District commercial corridors, the development of a complex of buildings is preferable to a single large structure. The varied massing provides visual interest and human scale. The spaces created between the various buildings provide opportunities for pedestrian plazas, courtyards, and other outdoor gathering areas.

Building facades should incorporate varied architectural elements, especially at the street level, to provide for visual interest and pedestrian scale. Large building volumes should be broken into a number of smaller components to decrease its apparent mass and volume, and thus reduce its visual impact. Reducing the visual impact of mass can be accomplished by creating building insets or projections, stepping back upper floors, varying the height of the roofline and repetitive architectural features and details. Changes in vertical mass should be used in an architecturally appropriate way to add interest and reduce the appearance of building height and bulk. Large, expansive blank surfaces are prohibited.

Where multiple-tenant spaces are incorporated into a building, individual tenant spaces shall be located within the horizontal increments. This can be achieved by:

- Placing a column, pier or pilaster between building bays;
- Applying vertical slot or recess between building bays;
- Providing variation in plane along the building wall; and by
- Varying the building wall by recessing the storefront entrance or creating a niche for landscaping or a pedestrian area.

Entries to ground floor retail areas should occur from main commercial streets and should incorporate distinctive mass or architectural elements. A recessed entry or bay in the facade should be provided to create transitional spaces between the street and buildings. These recesses should include elements such as special paving and ceiling treatments, distinctive light fixtures and attractive decorative door pulls, escutcheons, hinges and other hardware. In addition, projecting awnings or canopies are encouraged to provide shelter and should be designed as a canvas or fabric awning, or as a permanent architectural canopy utilizing materials from the primary building. Entries should incorporate a change in roofline or major break in the surface of the subject wall.

Entrances to upper-story uses should be located between storefronts and should be accented by architectural elements such as sidelights and distinctive light fixtures. These entrances should be indicated by a recessed entrance, vestibule or lobby. Doorways should be recessed for privacy, but should be clearly expressed through awnings, high quality materials or other architectural treatments.

BUILDINGS 8

8.10 (cont.)
Articulation



Where buildings are located at major or gateway intersections, front important community spaces or anchor unique corners, a prominent architectural corner treatment of the building mass should be incorporated. Near the corner, the building should either be sited on the property lines or set back to provide a public open space which provides direct access to the buildings or frames an open space between buildings. Attractively landscaped areas may also be permitted where siting of a building's public open space at a corner is not feasible. Building corners should have continuity and all sides of a structure should be continuous in design with no side left unimproved. Architectural details, roof lines and parapets should continue around all visible sides.



Roof overhangs and shade devices on windows

Vista to open spaces

Deep arcades augmented with shade devices

Requirements



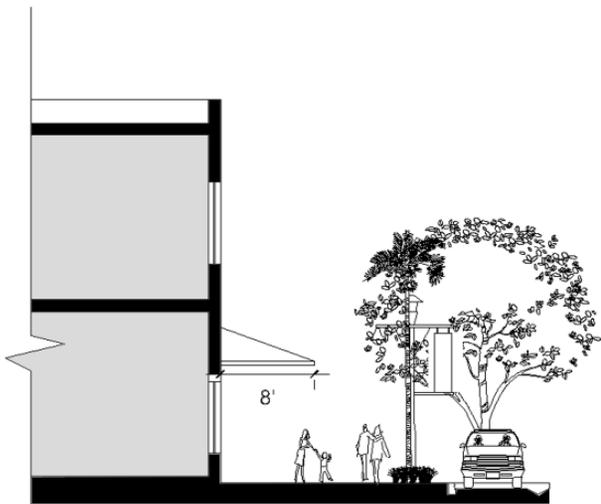
- **Unbroken facades, in excess of 100', without changes in wall planes shall be avoided. Changes in wall plane shall be employed to add shade and shadow. Such changes in plane shall be at least 2'.**
- **All street level use open to the public shall have external entrances directly accessible from the sidewalk. For commercial buildings, there shall be at least 1 entrance located along the frontage of commercial streets or on the corner intersection with other streets.**
- **Building corners shall utilize prominent architectural treatment. Designers should consider corners for the 20% maximum setback exception provided in section 8.2. The resultant setback should be improved as a pedestrian amenity.**

BUILDINGS 8

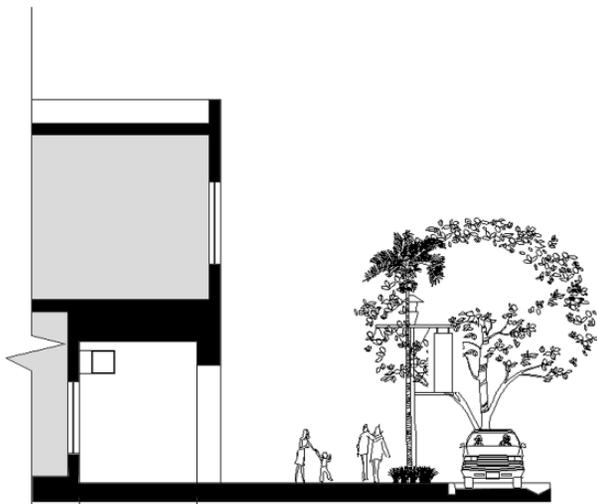
8.10 (cont.)
Articulation



Awnings, canopies and arcades should be used to enhance building facades and storefronts with color and dimension to provide shade for browsing and cafe seating, but such use should be coordinated to avoid a visually cluttered streetscape. The type of awning used and its form, materials and color should be consistent with the design character of the building to which it is attached. The height of all awnings above the sidewalk should be consistent, with a minimum clearance of eight feet provided between the bottom of the valence and the sidewalk. Awnings should be located between, rather than across, significant vertical features that make up the composition of the facade. The use of vinyl and plastic awnings is discouraged. If used, lighting for awnings should be from fixtures located above and designed and placed to enhance the appearance of the building. Awning color(s) should be compatible with the overall building color scheme and should be monochromatic.



Awning



Arcade

Requirements

- ***Awnings, canopies or arcades shall be utilized on all commercial street frontages and shall provide consistent and continuous pedestrian protection from the elements, to the extent feasible.***
- ***Awnings or arcades shall have a consistent depth as those of neighboring buildings with a minimum depth of 6'.***
- ***Awnings and canopies may encroach the right of way by a distance of 8' and shall provide a vertical clearance of 8'.***
- ***Awnings, canopies, and arcades shall contain fans (or other devices or apparatus) to induce airmovement.***
- ***Arcades shall provide an unobstructed pedestrian pathway of at least 8'.***

Reference

8.2: Setbacks; 8.8: Shading

BUILDINGS 8

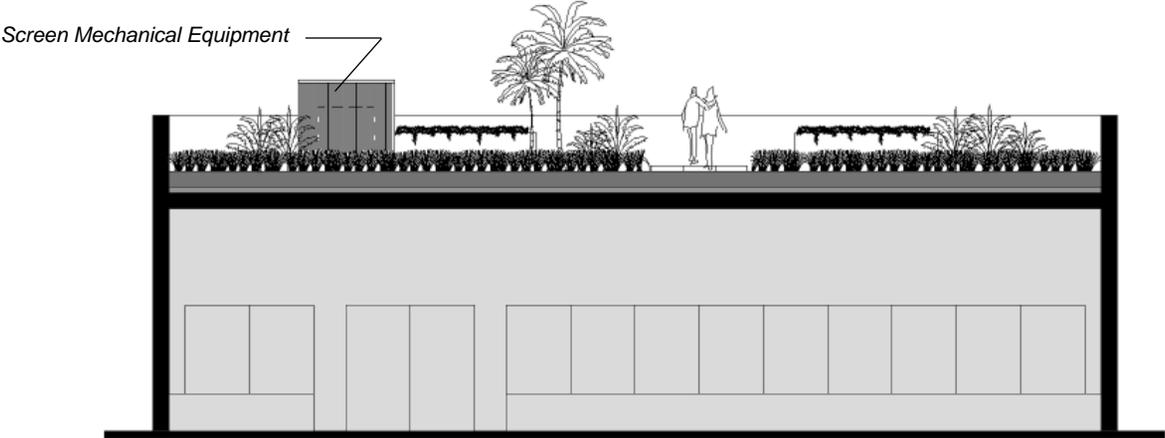
8.11
Rooftops



The MainStreet District allows more height than any other zoning district in the City, allowing for views within the district and to open spaces. However, this also allows views to adjacent buildings within the district and to those building rooftops. Unfortunately, rooftops are typically cluttered with unsightly service equipment, put there because it is considered out of view and to save valuable space on the ground. Rooftops should be designed in a way that they acknowledge their visibility from other buildings and from the street. Therefore, service equipment should be architecturally screened both from the street and neighboring buildings.

Given that development blocks (outside of required open space) do not carry a greenspace requirement, it is strongly recommended that “green” roofs be incorporated in the district. Green roofs may be either active or passive and are encouraged to be incorporated as elements of public open space. In addition, the use of green roofs will go a long way in meeting the green building requirements of the district, playing a large role in reducing stormwater runoff and heat islands.

To further aide in the reduction of heat islands, pitched roofs should incorporate light colored/high albedo materials. Roof overhangs should be ample to shade building walls and windows.



Requirements	<ul style="list-style-type: none"> • 40% of all commercial and office buildings within the MainStreet District shall incorporate greenroofs. • Screen rooftop service equipment from view. • Use light colored/high albedo materials. • Roof overhangs shall be sized according to section 8.6. • Top level of all parking structures shall incorporate green rooftops on a portion of the top level.
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Reference

8.8: Shading; 9.3: Stormwater Management; 9.7: Reduce Heat Islands

**8.12
Signage**

Signs will play a major role in defining the overall character of the MainStreet District and should make a positive contribution to the overall visual character of streetscape and commercial areas. Signs should be of high quality materials and should be innovative and imaginative in design. These Standards provide appropriate examples and general techniques for creating quality signage and supplement the City's Land Development Code.

Given the pedestrian orientation of the District, signs should be primarily oriented to the pedestrian. Therefore, the majority of the District signage should be composed of wall, hanging, projecting and awning signs. A possible exception may be major retail anchors and office uses situated within the MS-P Sub-District and along the District's surrounding roadways, where signage visible to vehicles is important to the viability of these uses. In addition to signs restricted in the City's Land Development Code, roof signs are not allowed. Monument or ground signs should be minimal in number and placed with discretion at major entry points. Such signs shall be integrated into gateway features and shall be limited to general District announcement. In general, signs should be compatible with the building and the surrounding environment; should utilize quality materials; should be legible; and should be carefully illuminated.

Well designed signs are effective tools to enhance storefronts and attract people. Signs should be appropriately scaled for the buildings on which they are placed and to the area in which they are located. Smaller buildings and storefronts should have smaller signage than larger buildings. The size and shape of the sign should be proportional with the scale of the building and should be integrated with and complement the design of the building. Given the close proximity of commercial and residential uses with the District, signs should be located so that they have little or no impact on nearby residential uses.

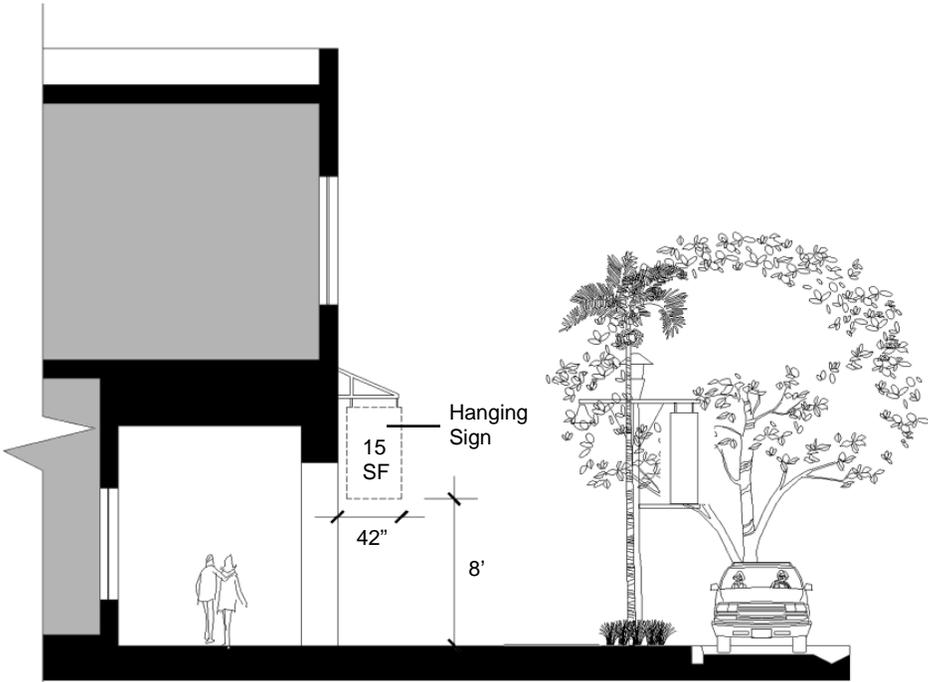
Sign materials should complement the building design and should be extremely durable. Materials and finishes can contribute to the signs legibility. Signs should generally utilize flat or matte finishes, as glossy finishes are often difficult to read due to glare and reflections. In addition, color plays a major role in the attractiveness and legibility of a sign. A substantial contrast should be established between the colors of the sign background and lettering. The use of too many colors should be avoided for the primary copy of the sign. Small accents of additional color can provide uniqueness but should be limited. Solid and void, such as a metal sign with cut-out copy can also be very effective in providing contrast.



8.12 (cont.)
Signage

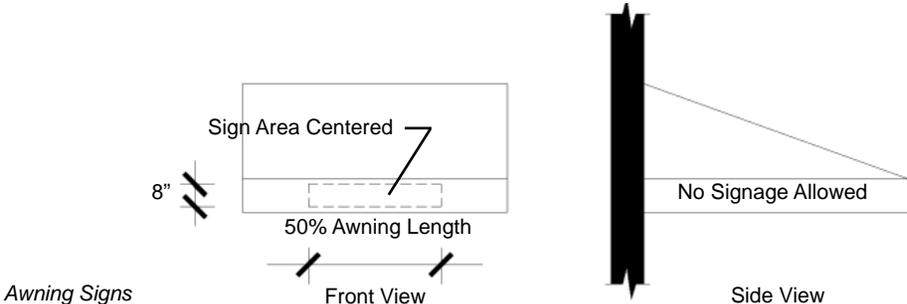
The message conveyed on the sign should be brief. Signs that use fewer words to convey a succinct message are easy to read and are visually more attractive than those with lengthy messages. In addition, letters and words should be appropriately spaced and the number of lettering styles should be limited.

Signs should be illuminated for legibility at night. Illumination should be accomplished by backlighting (solid letters) or from a projected light source (downlighting). Projected light sources and fixtures should be small and unobtrusive and should contribute to the overall character of the building. Special care should be taken to ensure that projected lighting does not spill over or produce glare for nearby residential uses or adjacent roadways.



Hanging Signs

8.12 (cont.)
Signage



Requirements



- **Unless otherwise provided herein, refer to the City’s Land Development Code for number and size of signs, as follows:**
 - Residential Uses: Sec. 13-458 (d)*
 - Commercial and Office Uses: 13-458 (e)*
- **In addition to ground or monument signs allowed for places of worship or community facilities, there shall be no more than 4 ground or monument signs within the District. Such signs shall be limited to overall district announcement as a whole and should not advertise individual establishments.**
- **Signs shall be generally oriented and scaled for the pedestrian.**
- **Lettering styles shall be limited to 2 per sign.**
- **Signs shall not obscure windows or other architectural features including window trim/moulding, grillework, piers, pilasters and other detail features.**
- **Wall-mounted signs on facias above storefront windows shall be sized to fit within friezes, lintels, spandrels and other similar features. Such signs shall be generally centered over storefronts and/or primary entrances.**
- **Electrical transformer boxes, raceways and conduits shall be concealed from public view.**
- **Raceways shall be mounted internally behind the finished exterior wall.**
- **Signage on awnings shall be limited to the front valance drop. Such signage shall be centered, shall not exceed 50% of the front length of the awning and letters shall not exceed 8” in height. The vertical dimension of the valance drop should not exceed 12”.**
- **Signage illumination shall not spill over or produce glare for nearby residential uses or adjacent roadways.**
- **Hanging and projecting signs:**
 - *shall be limited to one sign per storefront or building use;*
 - *shall provide a minimum vertical clearance of 8 feet from the top surface of the sidewalk;*
 - *shall not project more than 42” from the building facade;*
 - *shall be double faced and mounted at a 90 degree angle to the primary building facade; and*
 - *shall be limited to 15 square feet per sign face.*

8.13
Lighting

Architectural lighting should be utilized to highlight landscaping, signage, and special architectural features. Lighting should be used to create shadows and depth and highlight important architectural elements and building materials such as colored glass and perforated metal. Lighting in store windows should be used to encourage window shopping and other evening activities when stores are typically closed, but should not remain on throughout the night.

Exterior lighting shall be designed as an integral part of the building and landscape design. Lighting should generally be designed to include cut-offs to minimize the negative effects of lighting of the sky and should be located so as to minimize the impact of lighting upon adjacent buildings and properties, especially residential uses. In general, the location of lighting should respond to the anticipated use and not exceed the amount of illumination required by users. Illumination over an entire area or use of overly bright lighting is strongly discouraged. Lighting for pedestrian safety should illuminate changes in grade, path intersections and other areas along paths which, if left unlit, would cause the user to feel insecure.

Recommended minimum levels of illumination along pedestrian paths between destinations is 0.5 foot-candles. At pedestrian destination points such as entryways, plazas and courtyards, lighting levels should typically achieve illumination of 1 foot-candle. The placement of light standards, whether for street lights or garden lights, should not interfere with pedestrian movement.

Principles

- ***Whenever possible, light second story windows to imply human presence and counter the appearance of desertion.***
- ***Decorative lighting shall be used to illuminate signs and uplighting to illuminate landscaping. Glare shields shall be used to reduce light spillover into pedestrian and vehicular areas and to reduce light pollution.***
- ***Use sconces and other architectural lighting to illuminate building entrances with warm light.***
- ***Illuminate signs, entrances, window displays and interiors at varying levels of brightness.***

Reference

9.6: Light Pollution

8.14
Parking



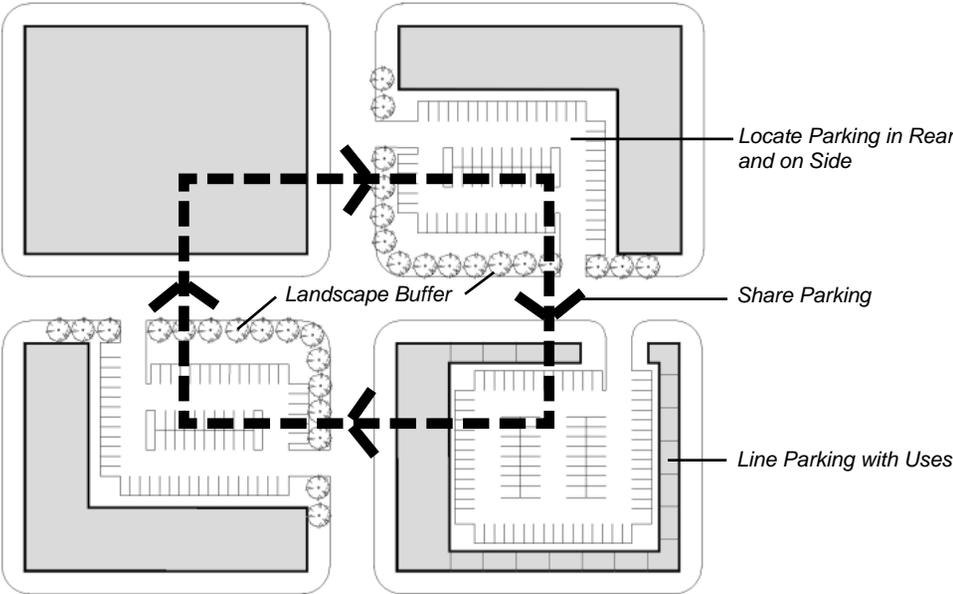
Parking garages are generally a necessary component of compact development. Unfortunately, they are sometimes developed at the detriment of pedestrian oriented street-level activity and multi-uses per block. It is important that their design be handled with care. The district encourages screening garages from public view by incorporating street level uses, lining edges along important streets with uses, and incorporating architectural or landscape screening elements on upper levels. Surface lots should be handled with the same level of care.

Additionally, because the District streetscapes provide on-street parking and promotes the use of alternative transportation modes, District parking requirements are generally reduced from those found in the City Land Development Code.

8.14.1
Shared Parking



Because the MainStreet Project is focused on creating a pedestrian oriented environment, the development blocks are sized to provide an ease of pedestrian movement and to encourage residents and patrons to walk. These smaller blocks are sometimes problematic for large retailers, especially in meeting their standard parking requirements. Large retailers, typically associated with suburban development, are accustomed to developing on large parcels of land where their parking requirements can be met with surface lots. For this reason, the district encourages the sharing of parking facilities among adjacent development blocks.



8.14.1 (cont.)
Shared Parking

In addition, the district promotes the overall reduction in parking requirements, for mixed-use developments, through the application of a shared parking analysis. Such analysis should utilize standardized data and follow the procedures of the Urban Land Institute Shared Parking Report, ITE Shared Parking Guidelines, or similar recognized procedures. These procedures account for mixed-uses that have different parking demand patterns and peaks and are able to use the same parking spaces throughout the day.

Requirements



Shared Parking

- **Utilize shared parking when possible.**
 Shared parking for residential units must be located within 300' of dwelling unit entrances they serve.
 Shared spaces for other uses must be located within 500' of the principle building entrances, except that up to 20% of the spaces may be located between 500' and 1,000'.

Parking Requirements (see Sub-District MS-P for special requirements)

- **Commercial/Office/Retail/Restaurant/Entertainment Uses: 3 spaces per 1000 square feet of gross leasable area**
- **Residential Uses: 1.5 spaces per dwelling unit**
- **Parking for all other uses and for the disabled shall be as provided in Section 13-398 of the City's Land Development Code.**
- **For all uses, perpendicular parking spaces shall not be less than 9'-0" in width and 18' in length.**
- **For all uses, parallel parking spaces shall not be less than 8' in width and 20' in length.**

Parking Screens

- **Screen parking garages and lots from public view. Blank, unarticulated walls shall not be permitted for parking garage facades that are not lined with uses. Such facades shall have architectural treatments designed to be compatible with adjacent buildings. Ramps, stairwells any other portion of a garage should be buffered with the use of decorative grilles and screens, landscaping, and other varied materials.**
- **Parking garages and lots on commercial streets:**
 Shall not front commercial streets.
 Pedestrian oriented uses are required at street level.
 Upper levels shall be lined with uses such as residential or office.
- **Parking garages and lots on residential streets:**
 Lining with active uses is required along residential canals. It is encouraged on other residential streets.
 When garages and lots are not lined with uses, they shall be screened through the use of architectural treatment or landscape buffers.

8.15
Service Areas and Refuse

To minimize the impact of service areas and site-related infrastructure on the aesthetic character of the MainStreet District, service areas, garbage receptacles, utility meters and mechanical and electrical equipment should be screened from public view and located for convenient access by service vehicles. Trash collection should be designed for from a side street, alleyway or parking area, to avoid collection trucks needing to maneuver in busy roadways.

Screening of these areas should be integrated into the overall building and landscape design. Trash enclosures shall be integrated to minimize visibility and accommodate truck access. Enclosures shall be constructed of durable materials and the color, texture, and architectural detailing shall be consistent with the overall site and building design. All structural screening should be supplemented with landscaping. Roofs of enclosures should be designed to complement the project buildings' roof style and colors.

Lighting of outdoor service, loading and storage areas should be the minimum necessary for security purposes and should be designed and directed so as not to create glare or lighting impacts at the street or on surrounding properties. A minimum one foot-candle at ground level should be designed and located as low to the ground as possible.

Requirements	<ul style="list-style-type: none"> • <i>Service areas, garbage receptacles, utility meters, mechanical and electrical equipment shall be screened from public view.</i> • <i>Lighting levels shall be one foot-candle and shall be located to avoid light pollution.</i>
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Reference

9.6: Light Pollution

8.16
Attached Housing

Attached residential buildings should be oriented to the street and/or canals (in the case of higher densities and taller buildings, they should be oriented to take advantage of open space vistas). This includes common main entrances, individual entrances and front doors, and windows of major interior rooms. Front entrances and common lobbies should be well lit and easily accessed from the street with walkways

Off-street parking should be located in the rear or on the side of buildings and should not occur between buildings and the street. When parking is not provided within a common lot or garage, it shall be provided by an enclosed garage or screened parking area and accessed from a rear alleyway. Garages and accessory structures shall have a minimum setback of 5’.

Individual units within large buildings should be articulated through roof forms, front porches or stoops, overall massing, and material details/changes.

8.17
Affordable Housing

Affordable workforce housing should be provided, to the greatest extent possible, within the MainStreet District to act as a component of a sustainable downtown. Property owners are encouraged to include affordable workforce housing within a residential or mixed-use project. If a property owner is unable to achieve affordable workforce housing as a part of the project, then the property owner shall be subject to the City’s Affordable Housing Impact Fee. Efforts shall be made to provide affordable workforce housing for those residents who live and work in the district or in the City.



SUSTAINABLE AND GREEN COMPONENTS 9

SUSTAINABLE AND GREEN COMPONENTS

“Sustainability” is the ability of a system to maintain itself with only the sunlight, air and water naturally entering its boundaries. It does not exfiltrate waste or deplete resources of adjacent systems. This is a very ideal standard which is a good goal but impossible to meet in the truest form of the definition.

“Green” is an adjective modifier used to indicate that a project has achieved certain characteristics that indicate it has minimized its consumption of natural resources in comparison to the average project. While this is not as noble of a concept as Sustainability, it is more achievable in the current market.

Environmental Resources in South Florida are being consumed at an exponential rate. Anyone with a basic understanding of the American economy, (supply/demand), can see that as the demand for resources increases and the supply decreases, costs will rise. The building industry is the nation’s largest manufacturing activity, representing more than 50 percent of the nation’s wealth. In addition, buildings account for one-sixth of the world’s freshwater withdrawals, one-quarter of its wood harvest, and two-fifths of its material and energy flows. Outside of the project boundaries, buildings impact stormwater systems, air quality, and transportation patterns of communities. It is Coconut Creek’s desire to conserve our supply of natural resources and to minimize the demand for these resources. By setting these goals of sustainability, the City is taking steps to build value into the properties (durability, low operation and maintenance costs and high salvage value), the residents (better quality of environment, desirable amenities), the companies (higher productivity per employee, lower operating costs, lower employee recruiting costs) and the community (need less infrastructure, less overhead required to manage, deplete less finite resources and help investors attract other buyers).

It has been demonstrated by the 2004 “Costing Green: A Comprehensive Database and Budgeting Methodology” study by Davis Langdon Adamson, that producing a Green building is not more expensive than a non-green building. Their study included classrooms, office buildings, multi-level parking structures, theaters, sport facilities and other types of structures. It included modifiers for geographic location and rural vs. urban considerations. The study compares 138 buildings – 93 non-LEED and 45 LEED seeking. The end analysis shows no statistical deviation between the LEED and non-LEED samples.

Requirements	<ul style="list-style-type: none"> • All Buildings in the MainStreet District shall be at a minimum, LEED certified by the USGBC United States Green Building Council. Amendments to the LEED requirements will be enforced at the time of site plan review. • The City’s site plan review application process shall dictate the necessary documentation for LEED enforcement at time of site plan review. • All projects in the MainStreet District shall contain a conspicuous display of green and sustainable technology which shall act as a social, educational, and artistic element to the district.
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SUSTAINABLE AND GREEN COMPONENTS 99.1
Education Campaign

In order to create a Green Community, the City must take an active role of leadership. This leadership must include both setting the standards for Sustainability and making any new public buildings on this site Sustainable. The City must teach, model and encourage the desired performance, so that the private development can respond appropriately.

The education effort involves several different approaches in order to unify the community. First the definition of Sustainability must be consistent throughout the community. This is accomplished through public policy. All tangible benefits pertaining to all stakeholders need to be defined and communicated in order to effectively promote sustainable building on a large scale. Definition must be given to Sustainable Development of the community at large vs. the very focused goals of creating a Sustainable Building. The education must be simple and consistent in order to minimize cost and unproductive opposition. By educating the community on the achievability of the expectations the City will lessen developer risk and facilitate development.

The first goal is to create a definition a green building for this project. Parts of the definition could include references to voluntary consensus based standards such as USGBC's LEED and FGBC's Green Commercial Building Standard Version 1.0. In addition, the Green Building goals must be defined as well as Green Community and Site goals. These community and site goals could include basic land use, transportation programs to minimize traffic concerns, and infrastructure investments such as greywater systems for irrigation, high efficiency central cooling plants.

The second goal is to create a community awareness of the benefits of this program. When the community unifies as stakeholders of the system, the implementation and maintenance of the program will require less "policing".

Finally, current codes and ordinances should be reviewed to determine if there are any policies in place which inhibit green practices

These efforts will subtly move sustainable building efforts to the point where they become common, everyday practice in the Coconut Creek MainStreet Development. The following recommendations will streamline the process of getting the implementation started.

The first recommendation is for the City to adopt a sustainable building policy for all new City funded construction projects in the area to be LEED certified by the US Green Building Council.

SUSTAINABLE AND GREEN COMPONENTS 99.1 (cont.)
Education Campaign

Once a common foundation has been established by the Standard, the City should review codes, regulations and other requirements that pertain to the building industry. The purpose of this would be two-fold: 1) To identify codes that are perceived barriers to sustainable building and clarify that they are not real barriers; 2) To identify, evaluate and recommend appropriate changes to codes which conflict with sustainable building. For example, the use of greywater is currently not allowed for water closets. This should be studied and possibly modified in order to allow more potential green efforts.

In addition to ensuring that regulations do not impede sustainable building efforts, the City could provide the industry with the tools to put sustainable building ideas into action. One method is to create an area on the City's website with useful information such as a Resource Center to make information more accessible to those conducting research on green building products, technologies and practices. A wealth of information about sustainable building already exists but is scattered among hundreds of companies, agencies and other organizations throughout the world. One-stop-shopping for this information is an item that is strongly recommended.

Education and outreach is also key to getting sustainable building into the mainstream. Workshops, seminars, and other education of City staff (e.g. building inspectors) and industry professionals need to continue and expand. For many, this education will be an introduction to sustainable building ideas, while for others it will provide the latest information to continually do better.

Marketing sustainable programs is vital to their success. The marketing campaign should create a "brand" or identity for sustainable building to incorporate this concept into everyday life for the building industry and the general public. As part of the marketing effort, the City should recognize, reward and publicize outstanding projects.

Finally, to keep pace with constantly changing technologies and regulations, and to continually raise the bar, the Standard's performance guidelines should be evaluated and modified on a biennial basis. At some point, sustainable building may become so mainstream that the Standards will not be necessary. In addition, if the other City initiatives, such as the educational program, are successfully implemented, they too should be assessed biennially to determine whether they should continue, be modified, or replaced with new initiatives. Again, once sustainable building becomes more accepted and practiced, many of the City programs may be retired.

SUSTAINABLE AND GREEN COMPONENTS 99.2
Recycling/
Waste Management

Recycling is a LEED prerequisite

Recycling is a system of collecting, sorting, and processing solid waste and other discarded materials for use as raw materials in the manufacture of new products. As indicated by the three arrows on a recycling symbol, recycling is a three-step process that includes:

- Collecting and separating materials,
- Manufacturing and reprocessing, and
- Purchasing of recycled content products.

Coconut Creek citizens are generating trash every day. American businesses generate enough paper to circle the earth 20 times. Recycling materials, instead of landfilling them, extends local landfill life, preserves natural resources, reduces pollution, and saves energy.

Broward County has the 3rd highest cost for waste disposal in the state. The current rate is \$13.25/cuyd, and is reviewed annually in September. Most communities are able to produce large enough volumes of recyclable materials to minimize or offset the additional Cost of adding the recycling service. This additional Cost is offset not only by the revenue received from recycled materials but also from the reduction in waste disposal Costs as volumes are diverted from landfilling to recycling.

SUSTAINABLE AND GREEN COMPONENTS 9

9.2.1 Commercial Recycling

Business owners provide on-site recycling opportunities to their employees in much the same way that the City could provide this opportunity to single-family homes through curbside recycling. As is the case with the City's curbside program, the participation of each employee/tenant is voluntary. The business shall recycle a minimum of two materials listed below or other non-listed materials that are approved by the **City's Public Works Department at (954) 973-6780 or All-Service Refuse (954) 583-1830:**

- Aluminum cans
- Tin/Steel cans
- Glass bottles
- Plastic containers
- Newspaper
- Corrugated cardboard
- Mixed office paper

The City reserves the authority to add or delete other materials to the above list.

Requirements

- ***Institute a Commercial and Multi-Family Recycling requirement that all multi-family communities with 100 or more units and businesses with 100 employees or more, or buildings with an aggregate of at least 100 employees that have a single garbage collection service, shall establish an on-site recycling program and recycle a minimum of two designated materials listed above.***
- ***Businesses shall recycle a minimum of 2 materials.***
- ***All business owners in the MainStreet area must provide a Recycling Plan to the City of Coconut Creek within 14 days of beginning operations.***

SUSTAINABLE AND GREEN COMPONENTS 99.2.2
Home Recycling

The production as well as the disposal of everything we throw away has a cost, both for the consumer and the environment. Raw materials and energy had to be used to make the products - some from renewable sources and some not. This is just the first cost. The second cost is the price of going to landfills. And there is a less considered third price of potential land, air, and water pollution from the toxins our garbage often contains. Landfill space is quickly vanishing. Pollution levels are increasing. Reduction, reuse, *and* recycling on everyone's part can positively impact our resources and environment.

Using recycled content (as opposed to new/raw) materials provides approximately 50% energy savings and 85% reduction in industrial air pollution. And using recycled materials can also conserve approximately 50% in industrial water use and reduces industrial water pollution by about 40%. This also reduces demand on our virgin/raw materials and resources. For example recycled paper can reduce the demand for virgin wood pulp by approximately 40%, as well as realize reductions in energy and water use, and air and water pollution.

The easiest, least expensive, and safest ways to reduce these impacts are to produce less, use less, reuse more, and recycle everything we can. Of the millions of tons of garbage Americans produce each year it is estimated that more than 70% of it could be recycled. For example, Americans spend more on food packaging in a given year than American farmers receive in net income. Buying bulk items and products with little or no packaging, sometimes called *precycling*, can reduce what goes into the waste stream in the first place.

The City currently offers a recycling program, with curbside pick-up of newspaper and co-mingled items (paper, glass and plastic) for single-family homes.

The most common things Americans throw away are glass, aluminum, paper, and kitchen and yard waste (often called organic waste). The importance of recycling becomes apparent when we think of just a few of the impacts. For instance, the energy saved by recycling one glass bottle will light a 100-watt bulb for four hours. An aluminum can in a landfill wastes as much energy as it would if you filled it half-way with gasoline and poured it out - and it will still not be decomposed after 500 years. If everyone in the U.S. recycled just 1/10 of their newsprint, we would save the equivalent of 25,000,000 trees each year. Composting organic waste is not only good for soils, this waste accounts for about 70% of the average American's garbage.

The County accepts household quantities of home chemicals for disposal and recycling. The Center is open at selected published times to collect materials such as paint, motor oil, garden chemicals, pesticides, and cleaning chemicals. The facility is not designed to accept waste from businesses. To use the facility you must be a resident of the County.

Benefits from participation in the recycling program include lower waste collection costs.

SUSTAINABLE AND GREEN COMPONENTS 9

9.3 Stormwater Management

9.3.1 *Pervious Materials* (LEED Sustainable Site Credit 6)



It is preferred that new development in the District will limit disruption of natural water flows by minimizing storm water run-off, increasing on-site filtration and reducing contaminants.

Flash flood conditions reveal that impervious surfaces such as asphalt and concrete add dramatically to stormwater runoff problems: erosion, pollution of surface waters, and downstream flooding. For most high traffic road surfaces, impervious asphalt and concrete pavement are the best options. But for parking areas, low-use driveways, utility access roads, pedestrian walkways, fire lanes, and highway shoulders, there are many advantages to materials that can absorb surface water rather than shedding it. Also, in keeping with the “cool communities” effort to reduce heat absorbing and radiating surfaces, pervious materials are a smart choice over concrete and asphalt surfaces. These products can cost from 10 to 40 percent more than asphalt surfaces on a first cost basis. The cost is mitigated when additional costs of processing stormwater runoff are factored into the comparison.

In communities similar to Coconut Creek, the public response has been good; more product exposure is needed. Pervious paving areas facilitate groundwater recharge. Pervious paving can accept runoff from roofs and adjacent parking areas and allow it to infiltrate the ground. It can also reduce the need for curbs and gutters as drainage features. Materials such as gravel, crushed stone, open paving blocks or pervious paving blocks minimize runoff and increase filtration for driveways, parking areas, walkways, and patios. Some pervious paving options can retain turf and carry autos and trucks evenly without creating tracks or other signs of heavy traffic wear.

Many pervious surfaces that receive vehicle traffic require a clay-type roadbase subgrade. The roadbase material could slow water percolation in heavy rains and cause over-saturation above it, leading to puddles or runoff. It is best to select a pervious paving material that can use the most porous subbase. Care should be taken during installation to minimize excessive soil compaction. Additionally, a turf-covered pervious surface can be problematic for high-heeled shoes, and can stay wetter after rains because of grass heights. A compromise approach is to retain a small impervious walkway next to vehicle loading and unloading areas.

Pervious materials may cost more than asphalt, possibly less than concrete. However, higher costs can be recovered in areas with underground utilities because pervious materials are easier to remove and replace than asphalt. Pavement replacement is simplified, and expensive measures such as asphalt cutting and patching are eliminated.

Requirements

- ***Use pervious materials for small, low-use parking areas, low-use driveways, utility access roads, pedestrian walkways, fire lanes and highway shoulders when feasible.***
- ***Use pavers, blocks and soil stabilization products with recycled content.***
- ***Utilize aquascaping as a fundamental component of water feature design.***

SUSTAINABLE AND GREEN COMPONENTS 9

9.3.1 (cont.)
*Pervious Materials:
 Installation*



9.3.1 (cont.)
*Pervious Materials:
 Grass Requirements*



9.3.2
Aquascaping

Pervious paving will function best with a similarly porous subgrade. This can be difficult given the soils in many areas and the compaction that may occur during the construction process. Contractors will need to take special precautions to prevent excessive compaction of the soil during the installation process.

Sediment should be prevented from filling the pore spaces of the paving blocks during and after installation or the pervious nature of the finished product will be diminished.

Certain systems interlock and thereby avoid ruts, cracking, or settling in heavily traveled spots. The interlocking feature allows for use by heavy equipment such as fire trucks and other emergency vehicles.

Some pervious paved areas may use interlocking pavers that have open spaces, which allow grass to grow in the openings. This creates a surface combining good load-bearing capacity and large pervious openings.

A sub-base consisting only of sand and gravel will have less ability to support grass roots growing into it. This restricts the grass root zone primarily to the topsoil directly above the sub-base, and can be subject to more rapid drying out in drought conditions. Including soil in the mixture of sand and/or gravel will permit better growing conditions for the grass.

Cultivation of grass in interlocking pavers will be most successful in medium to low traffic areas.

Paving systems that have distinct ridges above the soil level can prevent the crown of the plants from being crushed.

Proper maintenance of permeable paving includes periodic vacuuming of the paving with street-sweeping equipment to remove sediment buildup.

Aquascaping shall be incorporated as a fundamental component of water feature design. Aquascaping is the practice of using aquatic plants to landscape in and around water. While it's main purpose is to beautify, it also serves to catch, trap and filter pollutants within water runoff, aides in controlling erosion of water body banks and also helps to deter the spread of invasive non-native plants. Aquascaping can attract wildlife and increase wildlife habitat in urban areas. Aquascaping shall incorporate a wide range of native plants. Non-native species are prohibited. Given that canals are intended to act as urban streetscapes, aquascaping is not required.

SUSTAINABLE AND GREEN COMPONENTS 9

9.4
Reduced Site Disturbance
(LEED Sustainable Site
Credit 5)

The MainStreet District seeks to preserve and create communal greenspace and water bodies that contain indigenous flora/fauna. In addition to managing stormwater runoff, it is recommended that compliance with LEED Sustainable Site Credit 5 be required.

9.4.1
Site Protection

Preserving the natural elements of the site is important. In Green Building projects, the site is considered first and evaluated for all characteristics. The site has a crucial role in future performance of the building and enjoyment of occupants. Preserving native vegetation can greatly reduce water and pesticide use, and large existing trees add to property value. A recent study determined that one city's urban forest contributes \$133,600,000 annually in real benefits. These benefits affect air quality, stormwater run-off mitigation, and direct energy savings from trees.

The protection of trees and shrubs can provide wind and solar protection for on-site buildings. Using indigenous vegetation also reduces the amount of energy and water needed to grow and transport materials. By maintaining habitat for native species a crucial environmental balance can be preserved.

Keeping natural grades undisturbed can minimize erosion and water pollution. There are several ways to minimize the adverse environmental impacts related to site work.

General climatic data (temperature, humidity and wind patterns) should be analyzed in conjunction with specific site elements (i.e. topography, vegetation, water conditions on-site, existing built forms, natural drainage patterns) in the selection of building location, orientation, form, envelope construction, and size and location of apertures.

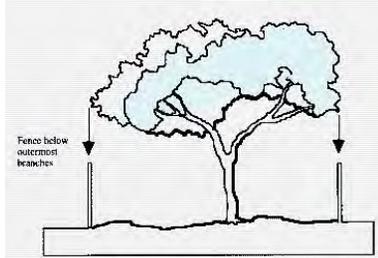
Consideration should be given to mapping the individual elements discussed above on overlays to get a composite view of their effects for making design decisions.

Planned Green Space measures are being considered to promote wildlife habitat and tree preservation.

Requirements	<ul style="list-style-type: none"> • Comply with LEED Sustainable Site Credit 5.
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SUSTAINABLE AND GREEN COMPONENTS 9

9.4.2 Tree Protection



9.4.3 Earth Work



The existing cypress dome shall be protected. Much of the site is tomato farmland and does not have trees. Existing trees in the other areas need to be examined for quality, health and native vs. invasive species. Usually, existing trees should be viewed as valuable natural and aesthetic resources that are not readily renewable. They provide substantial shading values since a large part of Florida cooling loads is due to solar radiation. Not only do they reduce cooling loads, but they reduce the heat-sink impact on paved areas. A survey of the existing trees could be required prior to development with an instruction to relocate or to be protected during construction.

If a tree is to be protected during construction, provide tree protection in compliance with the existing Coconut Creek requirements.

Topsoil is a valuable living ecosystem that should not become mixed with subsoil or other materials. If topsoil is stripped during construction, it should be stockpiled for reuse on the site. Bare topsoil should never be allowed to wash off the site. Topsoil should be piled carefully, clear of all pollutants. The foot of the pile should be diked to prevent erosion and creepage. Slopes should be covered with mulch or seeded with annual grasses if a growth season is likely to occur during the life of the stockpile.

Recycled concrete should be considered for use as backfill material. In addition, recycled concrete is an acceptable substitute for quarried stone aggregate in nearly all site applications. It can be used as subgrade or base course for roads, embankments, and retaining structures.

Site slope modification should be avoided in order to reduce soil erosion and increase infiltration. When modifying drainage, preference should be given to sheet flow rather than concentrated flow. Provide swales and temporary on-site areas, so that rainwater and roof run-off can be absorbed on-site.

Requirements

- ***Protect the existing cypress dome.***
- ***Protect existing trees in compliance with Coconut Creek requirements.***
- ***Stockpile and reuse existing topsoil.***
- ***Use recycled concrete as a backfill material and as subgrade to the extent possible.***

SUSTAINABLE AND GREEN COMPONENTS 9

9.5
Alternative
Transportation
(LEED Sustainable Site
Credit 4)

The US currently has an estimated 200 million of the 520 million cars worldwide. Reducing the use of private automobiles saves energy and avoids environmental problems (air pollution, oil extraction and petroleum refining). Parking lots have a negative impact by increasing stormwater run-off and heat island effects. The new development will seek to minimize pollution and land development impacts from automobile use.

9.5.1
Mass Transit



Hybrid Bus lines will be extended into the MainStreet development. It is our understanding that the previous electric busses operated by the city are difficult to maintain since the manufacturer has become extinct. Broward County has loaned the City several traditional busses for temporary use. It is the intent to purchase new hybrid busses from a more reliable manufacturer. Hybrid Vehicle refueling stations should be placed within the MainStreet development for the busses and also to facilitate private electric vehicle usage.

9.5.2
Bicycle and
Canoes/Kayaks



Bicycle securing stations and Bicycle paths will be planned throughout the MainStreet area. Business Owners/Developers are required to provide bicycle securing points (as streetscape components) and encouraged to provide changing/shower facilities for use by cyclists. The current intention is to provide bicycle paths and Kayak waterways to increase small-scale access to the core of the MainStreet.



Requirements

- **Provide electric vehicle refueling stations as defined by LEED.**
- **Provide bicycle racks as defined by LEED.**
- **Provide hybrid bus service to future rapid transit developed along State Road 7.**

SUSTAINABLE AND GREEN COMPONENTS 9

9.6 Light Pollution (LEED Sustainable Site Credit 8)



The District seeks to eliminate light trespass from building sites and improve the night sky access. It also reduces the development impact on nocturnal environments. Reduced light pollution creates substantial energy savings over the lifetime of the building.

Street lighting should maintain safe light levels while avoiding off-site lighting and night sky pollution.

New developments shall meet LEED Sustainable Site Credit 8 by not exceeding the Illuminating Engineering Society of North America (IESNA) footcandle level requirements as stated in the Recommended Practice Manual; Lighting for Exterior Environments, AND designing interior and exterior lighting such that zero direct-beam illumination leaves the building site. This requirement shall not take precedence over other City interests, such as security, wayfinding, etc.



Requirements

- **Comply with LEED Sustainable Site Credit 8.**
- **Provide “full-cutoff” luminaires.**
- **Keep light poles low and space more closely.**
- **Focus light downward.**

SUSTAINABLE AND GREEN COMPONENTS 9

9.7 Reduce Heat Islands (LEED Sustainable Site Credit 7)

The goal of this recommendation is to reduce heat islands and minimize the impact on microclimate and human and wildlife habitat. Traditional dark non-reflective surfaces for parking lots, roofs, walkways and other surfaces absorb solar radiation and radiate it back to surrounding areas. In some urban areas, this has contributed to artificially elevating the ambient temperature by 10 degrees. This increases local HVAC equipment cooling energy consumption. This effect can be mitigated through the use of shading and the use of light colored materials that reflect the solar radiation.

As discussed in the building section of these Standards, it is strongly recommended that “green” roofs be incorporated in the district. The use of green roofs will play a large role in reducing stormwater runoff and heat islands.

Public Sidewalks shall comply with the LEED requirements for this credit. New developments providing sidewalk/walkway connections to the public walkways must meet the standards provided in the Standards.

Public structures shall meet LEED Sustainable Site Credit 7.1 and 7.2. It is encouraged that new developments provide light colored roofing in accordance with the LEED credit.

Under building parking is also encouraged in certain applications.

Requirements

- **Public Structures shall comply with LEED Sustainable Site Credit 7.1 and 7.2.**

Greenroofs shall provide the following:

- **Use light colored/high albedo materials (reflectance of at least 0.3) and/or open grid pavement for at least 30% of the site’s non-roof impervious surfaces, including parking lots, walkways, plazas, etc.**
- **Place a minimum of 50% of parking spaces covered by parking structures.**
- **Use an open-grid pavement system (less than 50% impervious) for a minimum of 50% of the parking lot area.**

In addition, provide one of the following:

- **Use ENERGY STAR compliant and high emissivity roofing (at least 0.9) for a minimum of 75% of the roof surface.**
- **Provide a green (vegetated) roof for at least 50% of the roof area. Combinations of high albedo and green roof can be used providing they collectively cover 75% of the roof area.**

SUSTAINABLE AND GREEN COMPONENTS 9

9.8
Water Conservation

The presence of water to sustain life is critical. People can live without electricity and fossil fuels, but they cannot live without water. 97% of all the Earth’s water is in the oceans, 2% is frozen at the polar caps, and 1% sustains animal/plant life on land. A community that can conserve water will be well positioned for adapting to the future.

Water is the only utility that the City administers. It is anticipated that in general Utility Rates for potable water are expected to escalate in the coming years as a result of over consumption and finite resources. Each year brings more drought and although South Florida has one of the highest annual rainfall rates in the country at over 60 inches per year, most of that is received in one or two unwanted short burst periods.

Native Landscapes have lower irrigation requirements and tend to attract native wildlife, including birds, mammals, insects, creating a site that is integrated with the natural surroundings. This will be a departure from the existing usage. Native plantings require less fertilizer and fewer pesticides, thus impacting water quality.

It is the intention is to provide Native plantings and Water Efficient Landscaping in public Greenspace areas. The intention is to limit the use of potable water for irrigation. At the current time a quantity has not been determined, but the intention would be to use Recycled Site Water for Irrigation of the community plantings.

Public Buildings and restrooms will employ the use of Innovative Wastewater technologies such as low flow fixtures and waterless fixtures where possible. Current Codes do not allow for the use of greywater or blackwater systems. Lower water usage will result in lower water connection fees.

There is reclaimed water available at the local water plant. This reclaimed water is suitable for irrigation and possibly “HVAC process” purposes only. Research will need to be performed to determine the cost of extending supply lines to the site. There is a study currently underway to analyze some of these possibilities.

Requirements	<ul style="list-style-type: none"> • Comply with LEED Water Efficiency Credit 1.
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SUSTAINABLE AND GREEN COMPONENTS 9

9.9
Building Requirements

As previously stated, all buildings in the MainStreet District are required, as a minimum, to be certified by the Florida Green Building Coalition (FGBC) or LEED certified by the United States Green Building Council (USGBC).

9.9.1
Sustainable Site

Sustainability starts at the project site. The essence of Sustainability is that only the water, air, energy, and other elements entering a site are consumed by the site. While this is somewhat unattainable, there are reasonable steps which can be taken to minimize the negative impact of one site onto another. The goal is to minimize this impact when the building is sited, constructed and operated. This will preserve as much of the natural ecosystem as possible on an ongoing basis.

9.9.2
Materials and Resources

The goal of these requirements is to reduce waste. Proper use of resources minimizes waste, requiring less landfill space and minimizes the need to extract additional resources from the lithosphere for use in the biosphere. Additional goals include using local resources so that transportation costs are lowered by minimizing the need for fossil fuel powered transportation in delivery.

Principles

- ***Control Erosion to reduce negative impacts on water and air quality.***
- ***Maintain a high density in the MainStreet area to foster the urban development goals. Plan for a minimum density of 60,000 square feet per acre.***
- ***Reduce the development of land into parking lots. Parking behind, on the side and underneath buildings is required. Land usage shall primarily be either for buildings or greenspace.***
- ***Encourage the use of Local Materials. Using locally harvested and locally manufactured materials reduces the impact of transporting the goods and improves the local economy.***
- ***Increase Resource reuse and Construction waste management. The majority of the site has no existing development to reuse. Before construction begins develop a waste management plan. Divert and recycle a minimum of 75% of waste material by weight.***
- ***Encourage the use of Materials with Recycled content. Reduce the amount of materials removed from the lithosphere and placed into the biosphere. By using materials with recycled content, there is less need to extract more resources for manufacturing.***

Reference

9.3: Stormwater Management; 9.5: Alternative Transportation; 9.6: Light Pollution; 9.7: Heat Islands

SUSTAINABLE AND GREEN COMPONENTS 9

9.9.3 Water Efficiency

Water is the critical resource of the future. As stated in the Water Conservation section, water is the only utility that the City administers. It is anticipated that in general utility rates for potable water are expected to escalate in the coming years as a result of over consumption and finite resources.

The City will bear the cost of increasing the water production capacity of its plants at some future date when the community's demands exceed the capacity. To minimize the costs encumbered in this situation, it is recommended that fairly simple water conservation techniques be implemented on a large scale.

Principles

- **Encourage the installation of waterless urinals. This technology is low tech and very common. Primary draw backs are attributed to smells associated with the lack of cleaning the surrounding area. Research has shown that there are many successful installations, including the "Miami Dolphins" Stadium.**
- **Encourage the installation of fixtures that reduce the use of potable water. Install Fixtures that meet LEED Water Efficiency Credit 3, by reducing the aggregate water use of the facility by 20% less than the baseline building, after meeting the Energy Policy Act of 1992 "fixture performance" requirements.**
- **Encourage the installation of technologies to reduce potable water demand. Use Infrared occupancy sensors and metering technologies accomplish these goals.**
- **Encourage the installation of Innovative Wastewater Technologies that will reduce the use of potable water for sewage conveyance. Innovative Wastewater Technologies in compliance with LEED Water Efficiency Credit 2, or use reclaimed water for sewage conveyance or cooling tower make-up.**
- **Discourage the Use of Ventless Clothes Dryers. This technology has two drawbacks for South Florida. 1) A portion of the water removed from clothes in the dryer is introduced into the interior space. South Florida already struggles with a continual challenge of de-humidifying ambient air to prevent mold/mildew problems inside buildings. Introducing moisture into the space will further aggravate the problem. 2) The "recirculated air" that carries the moisture away from the clothes is cooled by potable water. This process causes the entrained water to condense and be removed by down a drain. This is problematic in that this is a tremendous waste of potable water. The reason is because the average potable water temperature in South Florida is substantially higher than the rest of the country, so that it will take more than the design flow rate to effectively cool the device.**

SUSTAINABLE AND GREEN COMPONENTS 9

9.9.4

Energy Conservation

Buildings in the United States consume greater than 30% of the total energy load and about 60% of the nations electricity. Currently, on a large scale, Energy is derived from either fossil fuels such as oil and coal, natural gas, nuclear fission, or hydroelectric generators. In Florida, most power plants are coal fired, with a few nuclear plants such as Turkey Point in the Miami area. There are dangers associated with nuclear power as well as coal fired plants. Coal fired utilities produce at least one third of total emissions of nitrogen oxides, (a major contributor of smog), and 2/3rds of all emissions of Sulfur Dioxide, a key element in Acid Rain. The combustion of coal to produce electricity is the largest generator of fine particles in the United States. These fine particles penetrate deep into the lungs of humans and cause cancer and respiratory illnesses.

One definition of Potential Energy is defined as mass x gravity x height ($U=mgh$). Hydroelectric Power is generated by converting the potential energy of water at a high elevation, (One side of the dam), into electricity when it travels through the turbines as it changes elevation and trickles out the other side of the dam. Since there is very little elevation change across the state, there is very little opportunity for hydroelectric power.

Solar power is still more expensive than traditional power. Because it is difficult to mass-produce, it is more effective on smaller continuous loads. Technology to use solar power for water heating and remote site lighting is very common, and should be used when applicable.

As a result of the difficulty in finding simple energy sources, it is a better approach to focus our efforts on conserving energy. The following recommendations focus on energy conservation for buildings in the MainStreet area, such that impact to our current utilities are minimized, resources are not over consumed and future operational costs are minimized so that value is built into the community.

9.9.4 (cont.)
Energy Conservation

Requirements

- **Commissioning is encouraged for all buildings. This is a process that ensures that all building systems perform interactively according to the contract documents. While each component purchased can be viewed as a commodity that has been tested thoroughly at the manufacturer's plant, the combination of systems for each building is unique. The benefits of fine-tuning the systems at start-up are that the energy savings are maximized, and the maintenance costs are minimized. It is estimated that commissioning increases energy efficiency by 5 to 10%. (On a 50,000 sq. ft. building, this could equal ~ \$5,000 per year). Commissioning should be in compliance with LEED Prerequisite 1.**
- **Maximize Overall Building Efficiency. Buildings must exceed the minimum level of energy efficiency of the Florida or Building code, or ASHRAE Standard 90.1, whichever is more stringent by 10% Calculation method shall comply with LEED Energy and Atmosphere Credit 1.**
- **Conserve Energy by installing energy efficient HVAC equipment. This can be accomplished by exceeding the Florida Energy Code minimum efficiency by 20% for residential electric driven Air conditioning equipment. Another method is to exceed the ASHRAE 90.1 standard by 20%.**
- **Conserve Energy by installing energy efficient office equipment Use Energy Star equipment to reduce plug loads. Equipment includes Copiers, Computers and refrigerators.**
- **Reduce Ozone depletion. This is accomplished by installing equipment that contain Zero CFC refrigerants.**

SUSTAINABLE AND GREEN COMPONENTS 9**9.9.5**
Indoor Air Quality

On average, Americans spend 80% to 90% of their time indoors. As a result the quality of the indoor environment has a significant impact on the health, productivity and quality of life of people.

Mold and Mildew lawsuits are commonplace in the Broward County area. The most common or publicized instances are schools, courthouses and condominiums. The three major components of a mold outbreak are food, water and time. With the substantial amount of water vapor present in the ambient South Florida air, it only takes condensation at the wrong place to have a problem. Minimizing the food sources and proper building design to address water vapor are effective steps to reduce the risk of mold/mildew issues in a building.

In addition to mold and mildew problems other issues affecting Indoor Environmental Quality are the proper control of contaminants and ventilation effectiveness. Materials and construction sequencing can be implemented to minimize contaminants in the indoor environment. Once contaminants are introduced into the indoor environment, there are HVAC solutions that can be implemented to treat the problems.

Aside from contaminants, there are design issues that can lend to the more emotional well being of the occupants. These design concepts include daylighting/views, temperature control for occupants, acoustic design and illumination issues. The following recommendations are simple steps that will build value into new construction by providing a quality indoor environment for citizens.

Requirements

- **Provide a Construction IAQ Management Plan.** *Develop an Indoor Air Quality (IAQ) Management Plan for the construction and preoccupancy phases of the building. Performance shall comply with LEED Environmental Quality Credit 3. 1 and 3.2. The intent is to minimize building contamination prior to occupation. HVAC systems are particularly prone to contamination from particulate matter generated during construction activities. Proper measures during construction and a flush-out of the building prior to occupancy can minimize these effects.*
- **No Smoking.** *Provide zero exposure of non-smokers to Environmental Tobacco Smoke. Performance shall comply with LEED Environmental Quality Prerequisite 2.*
- **Provide CO2 Monitoring.** *This inexpensive sensor can be incorporated into a ventilation control system to modulate outdoor air intake to provide an indoor air quality level with no more than 530 parts per million of carbon dioxide at any time. When the occupant load in the building is low, the CO2 sensor can modulate the outside air volume down to save energy, as long as the building does not develop a negative pressure state.*
- **Use Low Emitting Materials.** *Met or exceed VOC limits for adhesives, sealants, paints, composite wood products and carpet systems. Provide materials that comply with LEED Environmental Quality Credit 4.*
- **Control Indoor Chemicals and Pollutant Sources.** *Provide permanent entryway systems to capture dirt/contaminants and prevent them from entering the buildings. Isolate rooms with chemical processes such as copying/print rooms and janitor's closets. Extend the walls surrounding these rooms to the structural deck and provide exhaust to prevent re-entrainment of these contaminants into the indoor environment. Locate Fresh Air intakes away from pollution sources, dumpsters, exhaust fans, etc.*
- **Provide for a thermally comfortable environment.** *Provide an environment that supports the productive and healthy performance of the building occupants. Building shall comply with ASHRAE Standard 55-1992, Addenda 1995. Provide permanent temperature and humidity sensors in the building that allow the HVAC system to control the environment to maintain a level of comfort.*
- **Provide for a visually comfortable environment.** *Provide an environment that supports a connection between the indoor and outdoor environments through the introduction of sunlight and views into the occupied areas of the building. A large portion of the Coconut Creek sense of place is derived from the outdoor environment. To encourage occupants to interact/appreciate the outdoor environment, new buildings shall meet the LEED Environmental Quality Credit 8 for daylighting and views. The views provide a better quality of environment. Daylighting will provide connection to the natural cycles of the sun and lower energy costs by reducing the dependence on artificial lighting.*

DEFINITIONS

Albedo: The ratio of reflected light to the total amount falling on a surface. A high albedo indicates high reflectance properties.

Arcade: An architectural element composed of arches, evenly spaced in a continuous row that forms a semi-enclosed corridor. It provides continuous shade for the pedestrian.

Awnings: An element attached to the building facade, which provides shade at ground level.

Bike Lane: The area of the right of way dedicated exclusively to bicycle traffic. Unless otherwise noted, all bike lanes shall be four (4) feet wide.

Bridge: See Pedestrian Bridge

Buffer: Surface parking lots shall have a buffer consisting of hedges, trees, walls, fences, or a combination thereof. A living barrier shall be a minimum of 4 feet wide at its narrowest point and is a minimum of three feet above finished grade. It shall be continuously planted with a hedge or shrubs spaced a maximum of 30" apart. A nonliving buffer shall consist of a wall that is a minimum of three feet above finished grade. Regardless of type of buffer chosen one tree shall be planted every 35' or less.

Bulb out: All parallel parking spaces adjacent to an intersection shall be replaced with a curbed landscaped area of the same width, planted with shrubs and one tree. Unless otherwise noted, all trees shall be the same species for the length of the street.

Continuous Trench: A trench, approximately 30" deep and six (6) to eight (8) feet wide that runs continuously parallel to the curb. It is filled with structural soil and then covered with geotextile, a base course, and paving. Openings are left for trees and shrubs, which are planted at intervals within the trench. This method of planting street trees results in a look that is similar to standard methods but allows more room for tree root systems, resulting in longer life for the trees.

Daylighting: The use of controlled natural lighting methods indoors through top lighting (skylights), side lighting (windows) and/or uplighting (reflection).

Encroachments: Any element that crosses the right-of-way from a private development into public property is said to be "encroaching into the public right-of-way".

DEFINITIONS

Greenroof: Vegetated roof covers, with growing media and plants taking the place of bare membrane, gravel ballast, shingles or tiles. The number of layers and the layer placement vary from system to system and greenroof type, but at the very least all greenroofs include a single to multi-ply waterproofing layer, drainage, growing media and the plants, covering the entire roof deck surface. (See also: Section 9.7 Reduce Heat Islands.

Liner Uses: Storefronts and building fronts that conceal a larger use from view such as a parking garage.

Pedestrian Area: The area within the public right-of-way primarily dedicated for pedestrian use. This area may contain a sidewalk, landscape verge, and outdoor seating spaces.

Pedestrian Oriented Use: A building use which is intended to encourage walk-in customers and which generally does not limit the number of customers by requiring appointments or otherwise excluding the general public. A pedestrian oriented use may suggest or require appointments for services when primarily for the convenience of the customer, such as reservations with restaurants, beauticians or optometrists to avoid being turned away due to unavailability.

Pedestrian Refuge: The space located within the medians of the streets that protects the pedestrian from vehicular traffic. This is used in streets with multiple lanes of traffic in both directions.

Parallel Parking: Shall consist of parallel parking spaces 8' wide by 20'. Parallel parking shall be built with pavers.

Pavers: Pavers are easy to replace when damaged, provide access to utilities, and improve drainage by allowing water to percolate. They are decorative and should be used to define space and the relative scale of varying street types. Pavers must be set on a porous surface and be placed with a joint of at least 1/8" between all pavers. Interlocking pavers without spacers are not permitted. Pavers must include at least 25% recycled content.

Pedestrian Bridge: Shall provide a minimum of six (6') feet clearance above high water line at mid span. Bridge design shall meet all ADA Accessibility Guidelines (ADAAG). Maximum grade shall be 1:12 or adequate intermediate landings shall be provided. Handrail shall be continuous on both sides. Nonslip surfaces shall be used.

Plant beds: Shall consist of a minimum depth of thirty (30) inches of soil and shall be planted with shrubs or ground cover such that coverage will be 100% within six (6) months of planting. Plant beds must have a minimum width of five feet six inches (5'6".) All plant material and planting specifications to follow Coconut Creek Code of Ordinances. Underground utility lines should be kept clear of plant beds.

DEFINITIONS

Porous paving: Porous paving reduces runoff and if installed atop a porous reservoir helps to filter pollutants from runoff. It can be used in parking lots, along canal type streets where there is little or no vehicular access. Consists of open-graded angular aggregate, approximately 3/8" in size, sorted to exclude fines and bound with an asphaltic, Portland cement, or epoxy binder. Must be installed on top of a porous reservoir consisting of stone or gravel enclosed in filter fabric.

Recycling: Recycling receptacles for all materials that are collected by the contracted recycling company shall be provided adjacent to all trash receptacles. At a minimum, two materials shall be recycled. The style of all trash and recycling receptacles shall match.

Right-of-way: The line marking the boundary between the public domain and the private domain.

Setback: An establish physical separation between the face of a building and the right-of-way. A maximum setback establishes a "build-to" line where a building's primary facade shall be constructed.

Lighting: Combination lighting includes street light, banner arm and pedestrian light. Street lighting shall not exceed eighteen (18) feet in overall height. Lighting should meet but not exceed the recommended levels set by the Illuminating Engineering Society (IES.) Consider low-voltage and solar lighting wherever possible.

Structural Soil: A mix of crushed stone (3/4 to 2 inches in diameter) and clay loam which is sometimes amended with nutrients or binders. The stone provides the stability to install paving on top, but retains enough soil-filled spaces to allow for root penetration even when compacted. Also called engineered soil. (CU-Structural Soil or similar.)

Signage: No sign shall be greater than eighteen (18) feet in height overall. Signs should be clear and easy to read and should match the character of the buildings.

Travel Lane: The area of the right of way dedicated exclusively to vehicular traffic. All travel lanes shall be eleven (11) feet wide.

Trash Receptacles: Shall be provided adjacent to all recycling receptacles. The style of all trash and recycling receptacles shall match.

Trees: All trees shall be of a species permitted by Coconut Creek Code of Ordinances section 13-444. The minimum tree size shall be in accordance with the standards set forth in that section. A minimum of fifty percent (50%) of all plant material with the exception of sod shall be native species. Species selection shall be consistent for the length of the street.

OPEN SPACE TEMPLATE

Required Open Space	Acres	%	Open Space Bonus	Acres	%
Parks & Greenway Trails (pervious areas)			Parks & Greenway Trails		
Landscape Buffers			Public Plazas		
Other Pervious Areas/ Green Rooftops			Public Gathering Areas		
Water Bodies			Outdoor Private Recreation		
• Width greater than 100 feet=100% credit			Water Bodies – 100% Credit		
• Width greater than 60 feet=50% credit			(Width less than 60 feet with pedestrian sidewalks/bridges)		
• Width less than 60 feet=0% credit					
Total (Provided)			Total (Provided)		