Collier County's Streetscape Master Plan

COLLIER COUNTY, FLORIDA

January 1, 1997

prepared by

Collier/Naplescape 90's
and
George Botner ASLA

ACKNOWLEDGEMENTS

Collier County has been enriched by the participation of many private and public sector contributors to development and enactment of a comprehensive urban area Streetscape Master Plan.

This plan has been in process through private contributions over a three year period. Funding for this three phase project has been provided by the following entities:

Phase One:	Data Gathering	Collier/Naplescape 90's
Phase Two:	Character Analysis	Juliet C. Sproul
Phase Three:	Master Plan	Collier County / CN 90's

There have been numerous private contributions of time and support services by many individuals and firms. These are best organized into the several following groups:

Collier County Board of County Commissioners:

John Norris, District 1
Timothy Hancock, District 2
Timothy Constintine, District 3
Pam Mac'Kie, District 4
Barbara Berry, District 5

Collier County Staff:

Neil Dorrill - County Manager
Tom Conrecode - Director, Public Works
Adolfo Gonzales - Director, Office of Capital Projects
George Parker - Project Manager, OCPM
George Archibald - Administrator, Collier County DOT
Vincent Cautero - Administrator, Community Development Services
Nancy Siemion - Landscape Architect, Community Development Services

Technical Advisory Committee:

Juliet C. Sproul - Collier/Naplescape 90's
JoAnn M. Smallwood - Chamber/EDC Coalition
Vincent A. Cautero - Administration, Community Development Services
Nancy Siemion - Landscape Architect, Community Development Services
Tom Conrecode -Public Works Director, Collier County Government
Terry Fedelem - Naples Community Services, Engineering Div - City of Naples
Ellin Goetz - Landscape Architect, J. Roland Lieber, PA
Gavin Jones - MPO Staff
Larry Warner - Architect, Warner/Perrenoud Architects
Dan Brundage - Civil Engineer, Agnoli Barber & Brundage Inc.
George Parker, Project Manager, OCPM
George Botner, ASLA - Consultant

Collier/Naplescape 90's Board of Directors:

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John Krueckeberg - Krueckeberg Law Offices
James L. Martin - the Riedman Corp.
Edward J. Oates
Susan H. Watts - WCI Communities LP
David Wilkison - Wilkison & Associates

Specific sections of this document have received special assistance from Technical Advisory Committee members, as follows:

Section 1.0 - 2.0	GBASLA, HOH Associates, Alexandria, Virginia.
Section 3.0	Smallwood Design Group, J. Roland Leiber & Associates, Edward Durrell Stone & Associates (EDSA), City of Naples; Collier County, S.W. Florida Water Management District, South Florida Water Management District and GBASLA.
Section 4.0	FDOT District One - James Chanatry, RLA , Collier County, James Abney & Associates, and GBASLA.
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Section 6.0	Many sources, edited by GBASLA.
Section 7.0	GBASLA staff.
Production	Gretchen M. Botner

We also want to thank the many private sector groups and individuals who gave of their time and input to many meetings and the public hearings needed to resolve and adopt the Streetscape Master Plan.

Thank you all,
George Botner, ASLA

About the Author / Editor

George Botner is owner of George Botner ASLA, (GBASLA) Landscape Architects and Planners, a private practice located in Naples, Florida. Mr. Botner also serves as President / Executive Director of Collier/Naplescape 90's, a private not-for-profit corporation whose mission is to facilitate public rights-of-way landscape throughout Collier County. Mr. Botner is a High Honors graduate of University of Florida and Cornell University programs in landscape architecture. A native of Florida, Mr. Botner is a 25-year practitioner of landscape architecture in the State of Florida; is licensed in nine southeast states and is certified nationally by C.L.A.R.B. (Council of Landscape Architecture Registration Board).

EXECUTIVE SUMMARY

INTRODUCTION

Collier County, the City of Naples, and private enterprise have combined resources to create and maintain an outstanding streetscape program throughout Collier County. This public/private partnership has developed a "signature" for Naples and Collier County over the past decade.

PURPOSE

In 1992, the Board of Directors of Collier/Naplescape 90's agreed to organize and help fund development of a comprehensive strategy for landscape and maintenance of the arterial street network in Collier County. This effort has been joined by many private persons, practitioners, and entities whose goal has been to create a common design theme and means for implementation of a comprehensive network of arterial streets.

APPROACH

This approach for accomplishment of purpose has been a pro-active one by Collier/Naplescape 90's, working with Collier County Government. In 1992, C/N 90's retained a private consultant to draft an outline for an overall plan. That work was accomplished at no charge to the community.

The approach envisioned coupling professional talent with a strong sense of civic involvement. For the initial three years of master plan development, two separate Technical Advisory Committees have met, reviewed, and commented on drafts of various plan components. In addition, County and City staff have contributed their time and expertise where needed.

Finally, it has been recognized from inception of the SSMP project that, in order to be meaningful, the plan would require adoption by government, and ultimately to become law. Therefore this document, is recommended to become its own Section in the Collier County Land Development Code, and, to be similarly adopted by the City of Naples.

PROCESS

Development of the SSMP has been a 3-step process over the past three years as follows:

1. *Data Gathering*

   All relevant information was collected, assembled and organized for creation of a comprehensive plan. State, County and City design standards were assembled along with major roadway development schedules. An approval process was also established and implemented. This consisted of identification of all potential constituencies and several meetings throughout Collier County. These meetings provided the public view point as an essential ingredient to the plan.

In general, it was discovered that the participating public wanted:

- Landscaping of Major streets;
- A comprehensive understanding of costs involved; both capital and maintenance;
- A schedule for improvements;
- Cost effective landscape solutions; and
- Parity: a balance of landscape programs throughout the County.

A major product from the Data Gathering Phase was establishment of the Urban Area Streetscape Network. Using the Metropolitan Planning Organizations (MPO) 15-Year Plan as a guide, a network of divided highways was established as the boundary for the SSMP in urbanized Collier County. A shorter action plan relating to Collier County's 5-Year Highway Improvement Plan was also identified as the near term landscape implementation schedule.

II. Character Analysis

All design projects require a program. "What shall we do and what shall it accomplish" are primary questions asked and answered as part of this phase of the SSMP.

Two important concepts were established to guide answers to these questions as follows:

Concept I: Contextual Relevancy.
Quoting from the text: "Streets pass through various regions, hence, they do not have a character themselves, but rather the region does. The street should reflect and interpret the region, not vice-versa."

Concept II: Character Zones.
The streetscape network is comprehensive in urban Collier County necessitating a macro vs micro approach toward programming. Therefore, a "zonal" method towards identification of design requirements was established. Various streetscape zones were determined by combining several factors: a.) natural character; b.) existing land use; c.) existing zoning; and d.) Collier County Comprehensive Plan.

Seven Character Zones for streetscape design were identified as a result of combining the above land use features of Collier County (see figure E.1)

Character Zones:

- Activity Center Zone - These are related to the existing and proposed major urban areas, essentially a ½ mile square around major street intersections.
- Urban Residential Zone - These are transitional landscape areas which combine features of both Activity Center and Residential Zones.
- Residential Zone - These zones occur primarily as frontages to Collier County's numerous planned communities and established subdivisions.

- Agricultural Zone - These refer to those areas currently developed for a variety of agricultural purposes. Over time, these may convert to one of the above categories.

- Utility Zone - These zones are not extensive in size and always occur as a specialized segment of another zone classification. Therefore, they have specialized requirements.

- Conservation Zone - These zones are those which are dominated by natural, protected landscapes along the frontage street.

- Gateway Zone - These are the major entry and exit points to urbanized Collier County on the streetscape network. There are seven of these: five on Interstate 75; two on the north and one on the south side of the County.

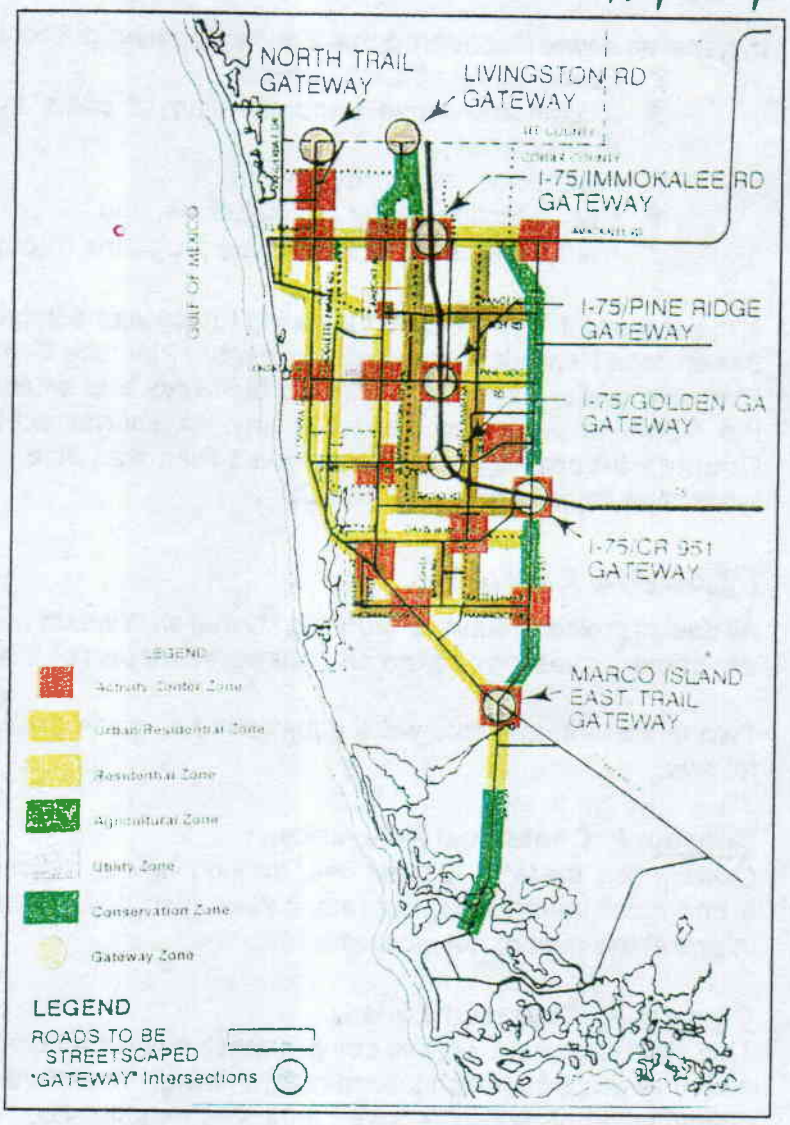

figure E 1 Identified character zones for streetscape design

All of the above character zones have been mapped, quantified, and qualified by descriptive commentary as a part of this section of the SSMP. Further, each individual street within the streetscape system has been given a verbal interpretation of its potential landscape which responds to its location within a character zone.

III. Master Plan Implementation

The above data and programming are implemented by a 5-Step process as outlined in the body of the SSMP as follows:

- **Schematic Design**
  This portion of Programming (Section 2.0) gives generalized design commentary accompanied by a plan and section view of each activity zone as described above.

- **Planting Recommendations**
  General guidelines have been provided which respond to three sources: the plantings as shown in schematic design, local landscape professional knowledge, and maintenance experience of City, County and State agencies. An overriding consideration has been given to a reduction of irrigation dependency. Therefore, three of the seven character zones are recommended to be composed of xeriphytic and/or native Florida plant materials.

  Water, soils, fertilizer, pesticide, and design recommendations are made in this section. Most importantly, a plant species list is recommended by Character Zone and Florida Native status.

- **Irrigation Recommendations**
  Water requirements for median plantings are a major determinant of planting design and maintenance. Therefore, plantings and water delivery methods require close collaboration.

  As a general goal, all plant systems will be designed for available water, and all plantings will be designed to require as little water as possible to sustain them. A preferred ultimate goal is no irrigation at all. Completely naturally sustainable plantings could occur; especially in the Agricultural and Conservation Landscape Zones as described in Section 2.0.

  1.) Drip versus Spray Irrigation. State of Florida rights-of-way will allow no spray irrigation as a result of perceived potential liability problems.

  Therefore, in State rights-of-way, either subsurface, occasional manual, or no irrigation will be provided. Cost effective techniques for drip irrigation are being developed, especially for shrub and tree plantings.

  Collier County and City of Naples rights-of-way may prefer to also utilize controlled spray irrigation techniques. This is especially due to reduced construction costs, and the ability to support manicured lawn components of streetscape plantings.

  2.) Irrigation Specifications and Details. Irrigation requirements within the context of the SSMP are performance driven rather than specific in their orientation. This will provide for liberal accommodation of techniques of construction and materials as they change over time.

  3.) Water Source. The ultimate goal of water source is reclaimed water following tertiary treatment at municipal waste water plants. State and Federal water quality and treatment methods shall be followed for safe exposure to the public. However, there will be occasions when the need for public landscape will preceed the availability of reuse water. Nothing in this section shall prohibit the use of potable water as an interim source.

- **Five and Fifteen Year Implementation Schedules.**
  Subject to available funds, the SSMP shows both a five and fifteen year schedule for implementation of the streetscape network. Maintenance schedules are also included as a cumulative requirement following implementation. In order to complete landscape work for 120 miles of roadway within a 15-year time frame, 8 miles of streets would require landscape installation per year. In the past 10 years, approximately 20 miles of roads have been landscaped resulting in an average of 2 miles per year, or one quarter the rate needed to complete the streetscape master plan in a 15 year time frame.

  Therefore, it is recommended that the Board of County Commissioners update a streetscape schedule consistent with community priorities and available funding.

- **Finally,** the SSMP provides references for further research and specific relevant sources for help (*Help!*) on streetscape projects in Collier County.

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1.0 INTRODUCTION

1.1 BACKGROUND

The idea of streetscape is now common place in the context of urban design, urban renewal, CBD redevelopment and community planning. New towns simply create their own design standards, which are implemented with each phase of community infrastructure development. Since no population exists, the designer is left to his/her own ethic and creative capacity for guidance in development of an approach toward design. Without judging the merits/demerits of this approach, it may certainly be said that it lacks the political complexity associated when a resident population exists. However, it does allow for a purist design solution, irrespective of politics.

This Streetscape Master Plan (SSMP) has had the responsibility to interact with an existing resident population, politics, funding sources, and roadway construction schedules. Therefore, a highly interactive process between plan preparers and resident population has been necessary for development of not only a technically competent plan, but one which also meets the needs of its public.

Both the City of Naples and Collier County participated in the capital costs and on-going maintenance of landscapes within their and the State of Florida's rights-of-way. And, several communities within these jurisdictions have elected to impose special taxing districts in order to fund landscape installation and maintenance within public rights-of-way.

At the time of this writing, approximately 20 miles of landscape have been installed in Collier County and the City of Naples. Approximately another 120 miles would be available over the next 15 years.

Several factors working together have created the need for this Streetscape Master Plan:

- Public interest in streetscape work. There has been a continuing and ongoing interest in landscaping public rights-of-way;
- Streetscape work done over the past 10 years has not had a consistent design theme;
- Sequence of landscape has not followed a logical order of evolution consistent with overall County roadway construction and maintenance capabilities;
- Both government and private sector interests desire a schedule for construction and maintenance consistent with identified funding resources; and
- A desire for establishment of design, construction and maintenance standards to guide sound and regionally specific landscape implementation practices.

In response to the above needs, Collier County government working with Collier/Naplescape 90's, a private non-profit streetscape interest group, jointly commissioned this Streetscape Master Plan. Work was begun in 1992 with private funding and was completed in 1996 with funding provided by Collier County government.

1.2 HISTORICAL PRECEDENT

Many municipalities in the State of Florida and elsewhere have chosen to adopt landscape

standards in order to protect public health, safety and welfare. While these standards vary widely as to comprehensiveness and specificity, they do create a legislative background for inclusion of streetscape standards in local codes and ordinances and to provide a methodology for implementation.

In 1995, the State of Florida adopted its "Florida Highway Landscape Guide", a comprehensive treatment of design, installation and maintenance standards of landscapes within Florida's major thoroughfares. In doing so, the state recognized that:

> "Millions of residents and visitors travel Florida's highways annually. The condition, safety and attractiveness of the State's urban, suburban and rural corridors are important issues with residents of the State and travelers along the highways.
>
> The Sunshine State's strong tourist-based economy is dependent upon a well-maintained and aesthetically pleasing highway system. Enhancing the natural image of Florida, with lush foliage along major thoroughfares, conveys the image of a vacation paradise and attracts tourists. Likewise, quality highways reflect community pride and economic vitality, thereby attracting businesses and industries."[1]

Both the State of Florida and Federal Government have policies for landscaping transportation corridors. President William J. Clinton directed all federal agencies to improve landscaping on all federal grounds in a memorandum signed and dated on April 26, 1994. Implementation was to occur in several ways:

- Use regionally native plants in landscaping.
- Minimize impacts on natural habitats.
- Prevent pollution by reducing fertilizer and pesticide use and by reducing run-off.
- Implement water efficient irrigation practices.
- Prepare demonstration projects illustrating the above.

This memorandum was preceded in the State of Florida in 1987 when the Florida Legislature approved F.S. 339.24. F.S. 339.24 requires the Florida Department of Transportation(FDOT) to plan a state wide beautification program with implementation by means of a grant program to local municipalities. In 1992, FDOT Secretary of Transportation Ben G. Watts issued the "Environmental Policy for State Transportation Facilities," which emphasizes preservation and enhancement of the natural environment in State rights-of-way.

The Florida Highway Beautification Grant Program was established following the Legislature's action in 1987. In order to compete successfully for these funds, local government needs to include a section within their state mandated Comprehensive Plan dealing with aesthetic treatment of its streets and highways. The Highway Beautification Manual further states:

> "This plan needs to identify the streets and highways that the community wants considered for highway landscape improvements. It should include scenic routes and routes where the community wants special emphasis placed on the

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[1] p.p. 1-1 Florida Landscape Guide, State of Fla D.O.T., 1995.

highway landscape. Blighted areas that need highway landscaping to improve the aesthetics of the community, should be identified. The plan should show the location of existing trees and plants that the community wants to preserve."

And, it further states that:

"If the local government comprehensive plan does not include a section on highway aesthetics, the District Planning Department will coordinate with the local government Planning Department to determine their position on including a highway landscape element within the project. The programming of a highway landscape element, during the initial programming phase, assures that landscaping will be addressed during the development of the project."[2]

Therefore, the historical rationale for establishment of a comprehensive strategy for landscape enhancement of major streets in Collier County follows from both national and state policy; such a plan is required for successful competition for state and federal funding resources.

1.3 PROJECT GOALS

1.3.1 Major Goal: to produce a workable document which will become a code requirement in Collier County that comprehensively addresses design, implementation, maintenance standards, sequencing of roadway enhancement and recommends funding sources.

This goal is further defined by enhancement of its primary components:

1.3.2 Design: The Streetscape Master Plan (SSMP) shall provide a rationale for and establish a methodology for design of landscapes which occur in major public thoroughfares in Collier County. These guidelines are meant to provide an overall theme or character of design; not the specific design itself.

1.3.3 Implementation: The SSMP will provide certain standards for implementation of plantings and irrigation in accordance with successful local landscape construction practice. A major component of this work shall be identification of a recommended plant list.

1.3.4 Maintenance: On going maintenance practices will be addressed. These practices must be tailored to planting systems required by plantings in a rigorous environment. They must also recognize maintenance worker safety and safety of the general public. Since maintenance practices change over time, this document does not prescribe specific procedures.

1.3.5 Schedule: The SSMP will provide a format for maintaining streetscape implementation and maintenance schedules. These schedules will be based on 5 and 15 year timetables consistent with State of Florida and Collier County roadway construction schedules. These schedules will be amended annually in concert with annual roadway project updates.

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[2] p.p. 2-1 Florida Highway Design Manual, April 1995.

Additionally, existing eligible roadways will be incorporated into overall schedules. Eligible roadways are those which are at least 4-lanes in width and contain a median.

1.3.6 Funding: The SSMP will identify existing funding resources available to streetscape installation and maintenance. It will be the prerogative of local government whether or not to assign specific resources, matched to streetscape schedules, no less frequently than annually.

1.3.7 Flexibility: In order for the SSMP to be an efficient, visionary, and responsive document, the final goal is that it be amendable over time. Amendments to the SSMP should be available to the local municipality on a schedule consistent with its own code and budget review.

1.4 PROJECT LOCATION

1.4.1 General: The Streetscape Master Plan covers the majority of urbanized Collier County located on the southwest coast of Florida, USA. Collier County roadways, included for treatment in the Streetscape Master Plan, have been selected as a result of several criteria as follows.

1.4.2 Streetscape Network Methodology: First, only arterial or divided collector streets with medians are selected since they have the greatest public exposure due to intensity of use, and opportunities for landscape due to availability of medians.

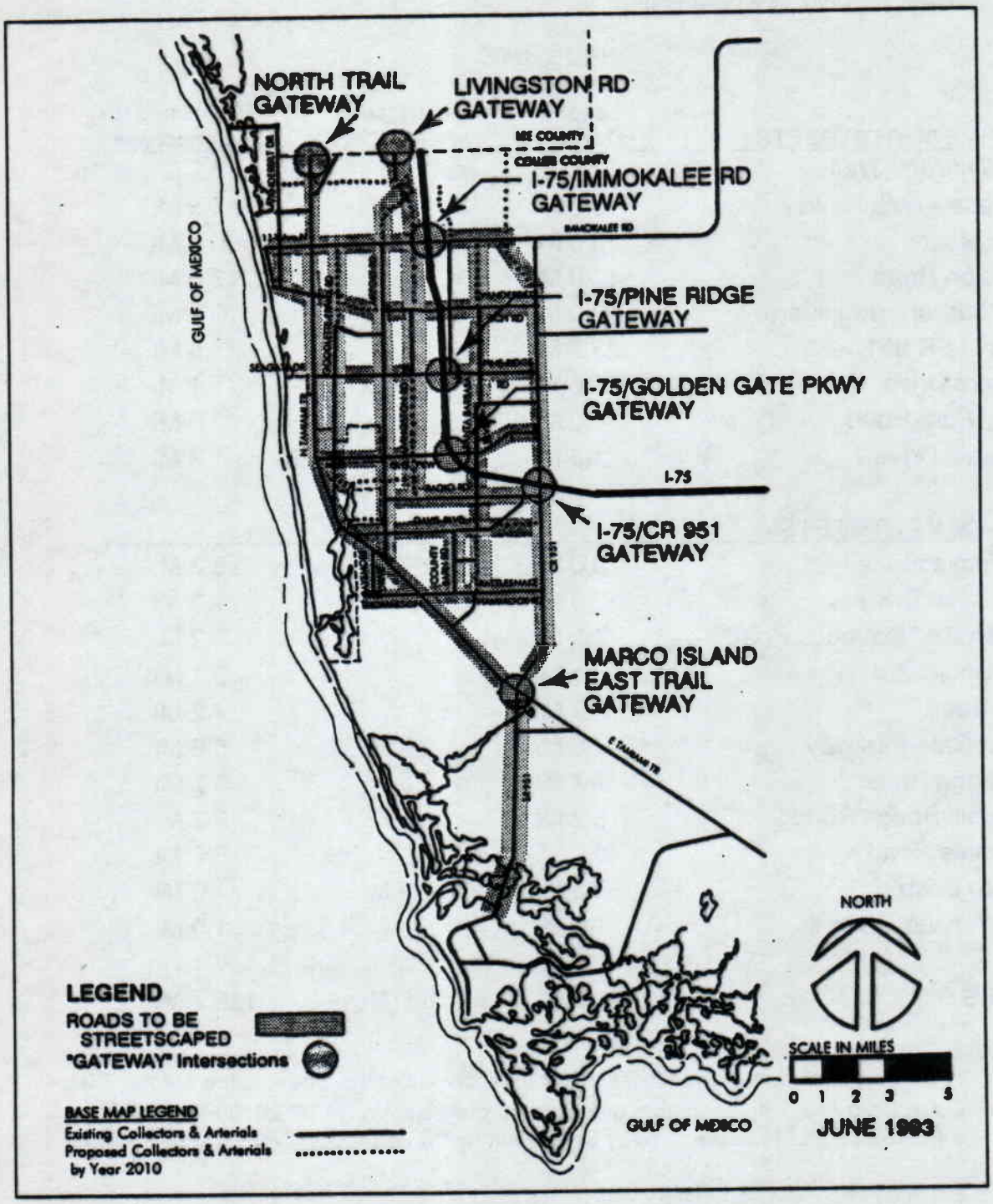
Second, arterials and collectors must be shown as accepted streets for improvement in the MPO 2010 Financially Feasible Plan and a part of Collier County's 5-10 Year Work Program - if arterials have not already achieved maximum design capacity. This will allow streetscape improvement to track roadway construction programs.

Third, selected streets must be an obvious component of the county-wide, publicly accessible "grid". Collectors in private and semi-private communities that have their own street landscaping programs are not included.

Fourth, streets in out-lying communities such as Marco Island, Immokalee, Copeland, Chokoloskee Island and Everglades City are felt to have their own unique character and local constituencies that may wish to establish guidelines for streetscape specifically consistent with each community's own goals. If any of these communities request to be included in future Streetscape Master Plan updates, they will be accommodated.

1.4.3 Gateways: Gateways to the urban core of Collier County are also shown on the Streetscape Network. These locations are viewed as being locations for specialized treatment in the form of entry features. They occur at points of intersection of external arterials with the network grid, or, as in the case of North Tamiami Trail, upon entrance to Collier County. Gateway treatments will be designed to convey welcomed arrival and a caring attitude toward environmental quality. They should convey the notion that one has ventured into a special place.

1.4.4 F COLLIER COUNTY STREETSCAPE NETWORK PLAN - to the year 2010



Source: Collier County MPO - to be updated annually

1.4.5 YEAR 2010 STREETSCAPE NETWORK

The following schedule represents streets within the Streetscape Network which have been landscaped to date, and those which are remaining. As with the preceding plan, this schedule will be updated annually at a minimum.

JUNE 15, 1993

NORTH - SOUTH STREETS	Length Overall	Landscaped Miles to Date	Remaining to be Landscaped
North Tamiami Trail	13.2 Mi	5.0 Mi	8.2 Mi
Goodlette-Frank Road	10.0 Mi	4.5 Mi	5.5 Mi
Airport Road	13.0 Mi	3.2 Mi	9.8 Mi
Livingston Road	12.0 Mi		12.0 Mi
Santa Barbara Boulevard	10.0 Mi		10.0 Mi
CR 951 / SR 951	23.5 Mi		23.5 Mi
Bayshore Drive	1.5 Mi	.4 Mi	1.1 Mi
County Barn Road	2.0 Mi		2.0 Mi
Vanderbilt Drive	1.3 Mi		1.3 Mi
EAST-WEST STREETS			
East Tamiami Trail	9.0 Mi	.7 Mi	8.3 Mi
Thomasson Drive	1.3 Mi		1.3 Mi
Rattlesnake Hammock Road	4.2 Mi		4.2 Mi
Davis Boulevard	6.1 Mi		6.1 Mi
Radio Road	4.2 Mi		4.2 Mi
Golden Gate Parkway	7.8 Mi	2.2 Mi	5.6 Mi
Pine Ridge Road	7.7 Mi	2.0 Mi	5.7 Mi
Vanderbilt Beach Road	9.2 Mi		9.2 Mi
Immokalee Road	6.7 Mi		6.7 Mi
Seagate Drive	.5 Mi	.5 Mi	.0 Mi
111th Avenue North	1.0 Mi		1.0 Mi
TOTALS	**144.2 Mi**	**18.5 Mi**	**125.7 Mi**

Source: Major collectors and arterials selected for inclusion in the Streetscape Master Plan are from roadway segments available as projected in NATS 2010 FINANCIALLY FEASIBLE PLAN as prepared by David Plummer & Associates, Inc., January, 1993.

1.5 RELEVANT DATA

The Streetscape Master Plan is responsive to a wide variety of data resources. References for specific resources are contained in Section 7.0 *Help!* Roadway Landscape Information Resources. The following general categories of relevant information resources have been researched and documented for purposes of SSMP preparation.

1.5.1 *Affected Corridors:* This is the streetscape network as referred to in Sections 1.4.4 and 1.4.5. These corridors will change over time in accordance with State, County and City roadway improvement schedules. They also include existing ready-to-landscape roadways. Collier County Government will maintain up to date development schedules on an annual basis consistent with its roadway capital improvement funding strategies.

1.5.2 *Existing Improvement Schedule:* This reflects County and State forecasts for affected corridor improvement, including development of new corridors within the streetscape improvement time frame.

1.5.3 *Existing Conditions:* Present conditions of streets within the targeted streetscape network are to be catalogued for design analysis in future phases of work, most notably, Section 2.0 Programming and Design.

1.5.4 *Streetscape Requirements:* These are the State and County design requirements for landscaping within their respective jurisdictions.

1.5.5 *Constituency by Corridors:* This is a compilation of advocacy groups who may be interested in either participation in development of the Master Plan or simply desire to be kept informed as to progress and outcome. Prior master plan initiatives have engaged various constituencies. Since these groups change significantly over time, they are not specifically identified in the SSMP.

1.5.6 *Existing Plans:* Existing streetscape plans, either implemented or proposed are identified and/or collected as background information for previous design work.

1.5.7 *Collier County Comprehensive Plan:* The primary components of this multi-volume document include transportation and land use elements (see figure 1.5.7)..

1.5.8 *Existing Zoning*

1.5.9 *Existing Land Use*

1.5.10 *Natural Environment*

1.5.11 *Technical Advisory Committee:* This is a group of 10 - 12 professionals and civic activists who have participated in each phase of SSMP development. They have provided a wide variety of additional relevant data and direction in formulation of the SSMP.

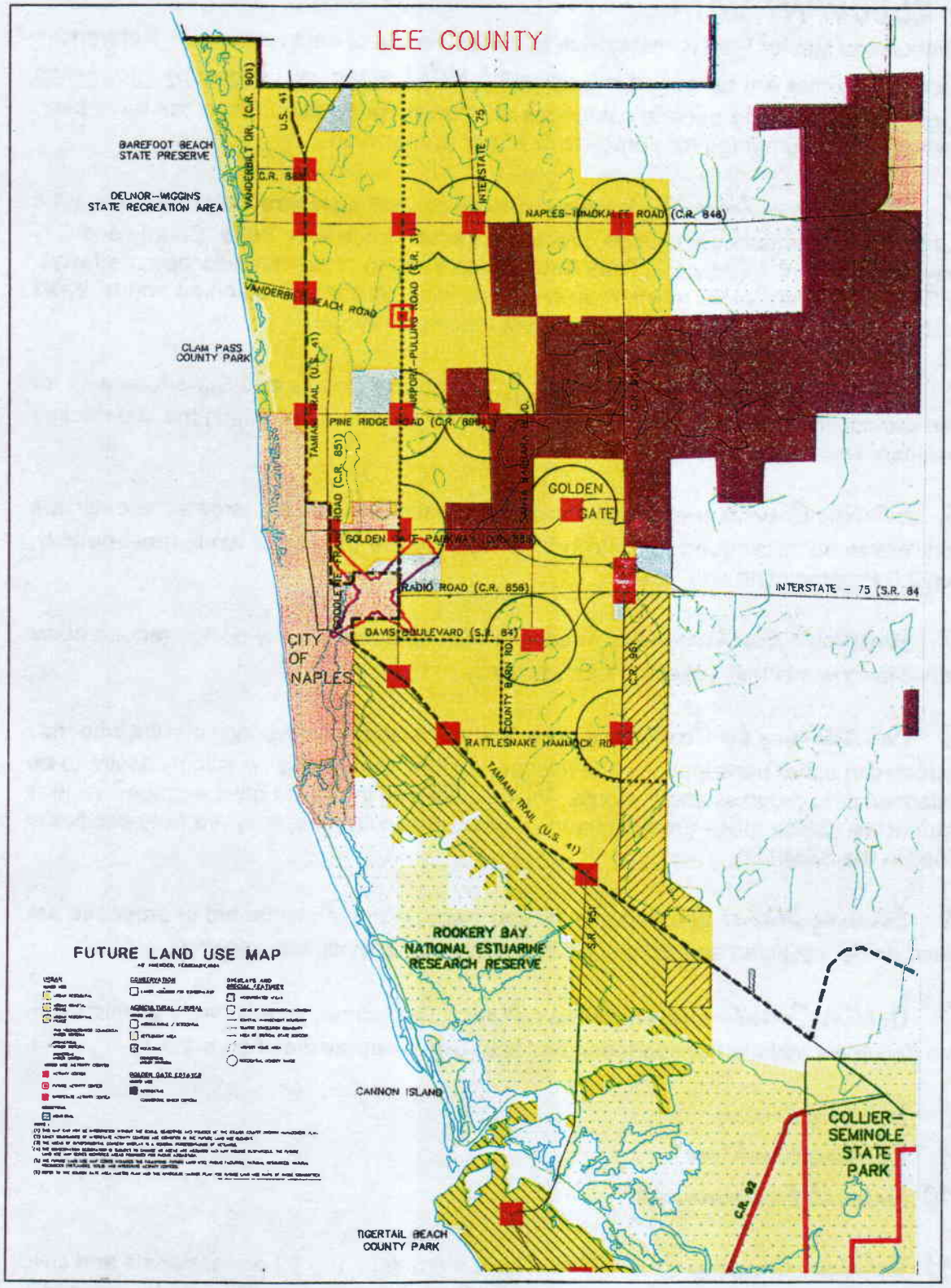


figure 1.5.7 Portion of the Collier County future land use map

Technical Advisory Committee (TAC) members have been responsive to preparation of the SSMP in two separate phases as follows:

1.5.11.1 Preliminary TAC Membership / SSMP Sections 1.0 - 2.4

Mr. Terry Fedelem, City of Naples Parks & Parkways Div.
- Community Services Department
Mrs. Gail Pettey, Gail Boorman & Associates
Ms. Dana Fendrick, Wilson, Miller, Barton & Peek
Ms. Ellin Goetz, J. Roland Lieber PA
Mr. Jeff Perry, MPO Coordinator, Long Range Planning, Collier County
Mr. Christian Andrea, Smallwood Design Group
Mr. George Archibald, Administrator, Transportation Services, Collier County
Mr. Larry Warner, Warner/Perrenoud Architects
Mr. Chris Anderson, Urban Forester, Department of Forestry

1.5.11.2 Final TAC Membership / SSMP Sections 2.5 - 8.0

Juliet C. Sproul, Collier/Naplescape 90's
JoAnn M. Smallwood, Chamber/EDC Coalition
Vincent A. Cautero, Community Development & Environmental Services Div.
Nancy Siemion, Landscape Architect, Collier County Development Services
Tom Conrecode PE, Administrator, Public Works Divison
Terry Fedelem, Naples Development Services, Engineering Div- City of Naples
Ellin Goetz, Landscape Architect, J. Roland Lieber, PA
Gavin Jones, MPO Coordinator, Collier County Long Range Planning
Larry Warner, Architect, Warner/Perrenoud Architect
Dan Brundage, Civil Engineer, Agnoli Barber & Brundage Inc.
Mr. Geroge Parker, Project Manager, OCPM
Mr. George Archibald, Director, Collier County Transportation
Mr. Steve Fabiano, Collier D.O.T.
Mr. Val Prince, Collier County Transportation Landscape Services

2.0 PROGRAMMING and DESIGN

2.1 PROGRAM RATIONALE

All design work starts with a program of what it wishes to accomplish in both broad and specific terms. In the case of the SSMP, the most important program element is the establishment of a design "theme" which is more broadly referred to as "character". Therefore, the SSMP addresses the issue of Program in the context of identifying and establishing landscape design character for Collier County's urban area roadways.

2.1.1 Goals The following major goals were established in order to provide a system of Landscape Character of major roadways:

- **2.1.2.1** Be responsive to existing conditions and also accommodate future growth;
- **2.1.2.2** Recognize both civic and design issues while at the same time being site specific, memorable, and implementable;
- **2.1.2.3** Minimize problems inherent in streetscape work and maximize opportunities for public enjoyment of its public right of way use;
- **2.1.2.4** Establish the opportunity to create design guidelines which are easily implementable;
- **2.1.2.5** Relate to the community and its standard of life; and,
- **2.1.2.6** Be comprehensive in its use of relevant data (Sec. 1.5).

2.2 ESTABLISHMENT of DESIGN DIRECTION for PUBLIC INPUT

The ultimate goal of the Streetscape Master Plan is to be adopted and implemented by the City of Naples and Collier County governments. In order to achieve this goal, it has been necessary to obtain wide spread community support. Consensus building, as an approach toward establishment of community support was accomplished through an interactive review process. Therefore, the following generalized design concepts were developed as a means of generating discussion and input.

2.2.1 Concept 1: Contextual Relevancy Streets pass through various regions, hence, they do not have a character themselves, but rather, the region does. The street should reflect and interpret the region, not vice-versa.

However, it should be remembered that in some cases the street is expressive of the entire region, and becomes an embodiment of regional character. Pennsylvania Avenue (the Nation's #1 Main Street) in Washington D.C. and the Blue Ridge Parkway through the Great Smokey Mountains, are notable examples. In addition to establishment of regional character, these streets also interpret and reflect their immediate surroundings.

For example, Goodlette Road and Golden Gate Parkway, which have been the subject of an earlier study, have been assigned a "parkway" character which is superimposed over all regions through which these streets pass.

2.2.2 Concept II: Character Zones

Since the SSMP network of streets is comprehensive, the entire network should be perceived as being related not only to its particular location, but also perceived as a part of a comprehensive urban area streetscape system.

For this reason, a "zonal" approach to character definition was established. Each street will be assigned a character zone which relates to natural and man made environmental concerns. These zones are defined by a number of criteria, including their regional identity. The establishment of zones will provide for creating streetscape solutions that respond to the immediate area while also establishing design continuity throughout the streetscape system.

2.3 ESTABLISHMENT OF DESIGN CHARACTER

After review of both existing conditions and policies of the Collier County Master Plan, specific streetscape design characteristics emerged. These characteristics can be grouped by their natural and man made features into "zones." In this sense, the "Design Character" of a street create definitions of landscape zones.

2.4 CHARACTER DEFINITION

Proposed landscaping should be inspired by existing, positive site characteristics. The character of a street or place is defined by the following features:

2.4.1 Existing and Proposed Land Uses. (figure 2-0)

Land uses adjacent to streetscape network corridors help to determine the intensity and character of proposed landscaping. In general, more urban land uses can support more formal landscape treatments since architecture tends to be more geometric in character (figure 2-1). It can be argued that one seeks relief from architectural intensity in urban areas by use of a soft, naturalistic landscape. And, a more geometric or structured landscape may seem out of character when placed adjacent to suburban and rural land uses.

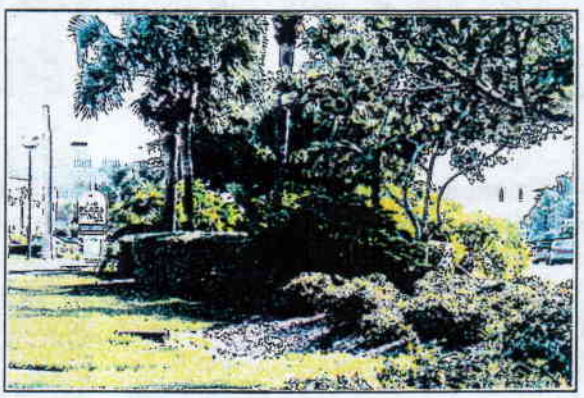


figure 2-1 Formal landscape in urban land use areas

2.4.2 Vegetation.

Existing native vegetation, adjacent to rights of way, shall be preserved and enhanced to achieve the goals for the Streetscape Master Plan (figure 2-2). This approach reduces the amount of landscaping required to achieve the objectives of the Master Plan which strives to "fit" the landscape into it's setting. Wetland stands of

figure 2-2 Preserve and enhance existing native vegetation

cypress trees, and sandhill vegetation associations dominated by pine and saw palmetto are two primary types of native vegetation. Mature stands of exotic species including Melaleuca, Australian pine and Brazilian pepper are also prevalent. Native plant material is encouraged while the use of exotic plant material is discouraged in the SSMP.

Where possible, the streetscape shall replicate adjacent existing native vegetation within the right of way. The SSMP encourages removal of adjacent exotic vegetation and to discourage its use along roadways, consistent with State and County regulations.

Heavily vegetated edges shall be preserved to create, or maintain a "parkway" character. Much of existing portions of Golden Gate Parkway and Santa Barbara Boulevard have this potential, among others.

Finally, visually significant stands of native vegetation shall be enhanced and preserved to open views from streets. They are a valuable character resource that would be difficult and expensive to replace.

2.4.3 Natural Features / Unique Features. Both natural and unique features including open prairies, wetland bogs and slews, agricultural fields, waterways, and forests all give a strong sense of special character which shall be preserved.

Unique features include cultural elements that are not present in nature. They can be perceived as bad or good. Powerlines, switching stations, land fills, and highly industrialized areas are elements that may otherwise have a negative impact on the landscape. Historic or interesting architecture and man-made waterways can become positive features. Streetscape landscape can assist in buffering or accentuating views of these elements.

2.4.4 Views. Views are critical to establishing the character of a landscape. As mentioned above, views of adjacent features can be enhanced or diminished by the use of proper landscape treatments. Views of landscape elements within the right of way can be identified by analyzing "line of sight" and "view period".

"Line of Sight" determines what, in the motorist's view, is most noticeable, and therefore most important for consideration in landscaping. In general, the motorist's line of sight occurs in an angle from straight ahead to an oblique angle slightly off to one side. By identifying critical sight lines and views, landscaping can be placed in appropriate locations.

As roadways bend, or when a motorist is stopped at a "T" intersection, views become concentrated straight ahead. These locations are especially important to establishment of landscape character.

"View Period" refers to the length of time the traveling motorist has to perceive his/her surroundings. Great levels of landscape detail in the form of small, intricate planting beds are lost to the motorist on high-speed highways. High Speed highways require bold, and dramatic landscape expression to capture attention. At intersections and where travel speeds are slower, landscaping can be more formal and intricate. Therefore, roadway speed becomes important to understanding relevant landscape character.

2.4.5 Topography. The most important aspect of topography in southwest Florida is its flatness. As a result views carry great distances. Therefore, accentuation by landscape can be significant. Any vertical elevation such as a bridge, or highway overpass creates dramatic view opportunities in an otherwise flat landscape.

2.4.6 Minimize problems and maximize opportunities. Most people can agree on what is a good or a bad view; what traffic situations are safe or dangerous; and what unique features need to be buffered (disguised from view), or enhanced. Natural land forms and features create the best opportunities for enhancement, while land fills, weed infested ditches and utility lines create the most commonly occurring problems to be minimized. The newcomer, or casual observer, of the Collier County landscape may interpret this experience as a monoculture with little diversity. However, there is a subtle diversity, in comparison with regions of the country that have a wider temperature range and accentuated topography. This region has vegetation that spans climatic zones between subtropical and tropical. There is a predominate cover of slash pine / palmetto and oaks, punctuated by enclaves of wetlands, both freshwater and saline.

Since wetlands are protected by State, County and Water Management district regulations, they provide opportunities for conservation throughout the region, including within public rights-of-way. Native vegetation stands, be they upland or wetland, represent the best, and least expensive methods of right-of-way enhancement. Preservation where these opportunities occur and relocation of them in adjacent public right's-of-way create a contextually appropriate design solutions for some streetscape network segments. These are opportunities that should be maximized.

Collier County also has it's share of problems to be minimized or mitigated through landscape design. Envisioned as a tropical "paradise", the existing condition and native landscape of Collier County creates great challenges. In conflict with the perceptual notion of "tropics", it is interesting that no habited portion of Collier County lies within this climatic zone. A tropical landscape has been established to create an image of a tropical paradise. While this practice accommodates a marketing objective, there are costs to consider since maintenance of any "imported" landscape is always more costly than that which occurs naturally .

Another common problem to over come throughout the County is a the unsightly network of drainage ditches and culverts, most of which occur within the view of the streetscape network. Several new communities, which have control over their drainage systems, deal with the problem at inception: buried drainage pipes connect various lakes which in turn, connect to out-fall structures.

Public right-of-ways are especially impacted visually since open ditches represent the primary form of storm water run-off conveyance. Open drainage ditches would be acceptable except for the following reasons:

- They are costly to maintain in a weed-free condition.
- They are full to over flowing with runoff during the rainy season.
- They are empty during the dry season.

In all cases, drainage ditches are open to public view within our right-of-way. Mitigation of unpleasing views would be achieved by either screening drain ditches from view or to enhance them as naturalistic aquatic landscapes.

As an example, the "Grey Oaks" community has incorporated the required Airport Road drainage ditch into its' community water amenity (figure 2-3).

figure 2-3

Collier County has many aesthetically pleasing commercial enclaves. The County also has several strip developments that may be benefitted by architectural guidelines. The Streetscape can help improve strip commercial aesthetics by screening views, providing continuity by use of repetitive landscape forms, and thus creating a visual order. In many cases, adequate space is lacking or difficult to use for landscape plantings due to the presence of sidewalks, utilities, and other structures which will require judicious use of landscape materials to achieve the above design objectives.

2.4.7 Remain Responsive to Collier County Comprehensive Plan

In response to State of Florida mandate (Ch 163, FL Statutes) Collier County maintains a comprehensive plan to guide development. This plan identifies several generalized land use categories through which the streetscape network traverses.

These land use categories, while too general to give specific direction to streetscape design, do create a pattern of development suitable for defining character zones. The following use designations represent the major land uses in Collier County which are appropriate for guidance of streetscape development.

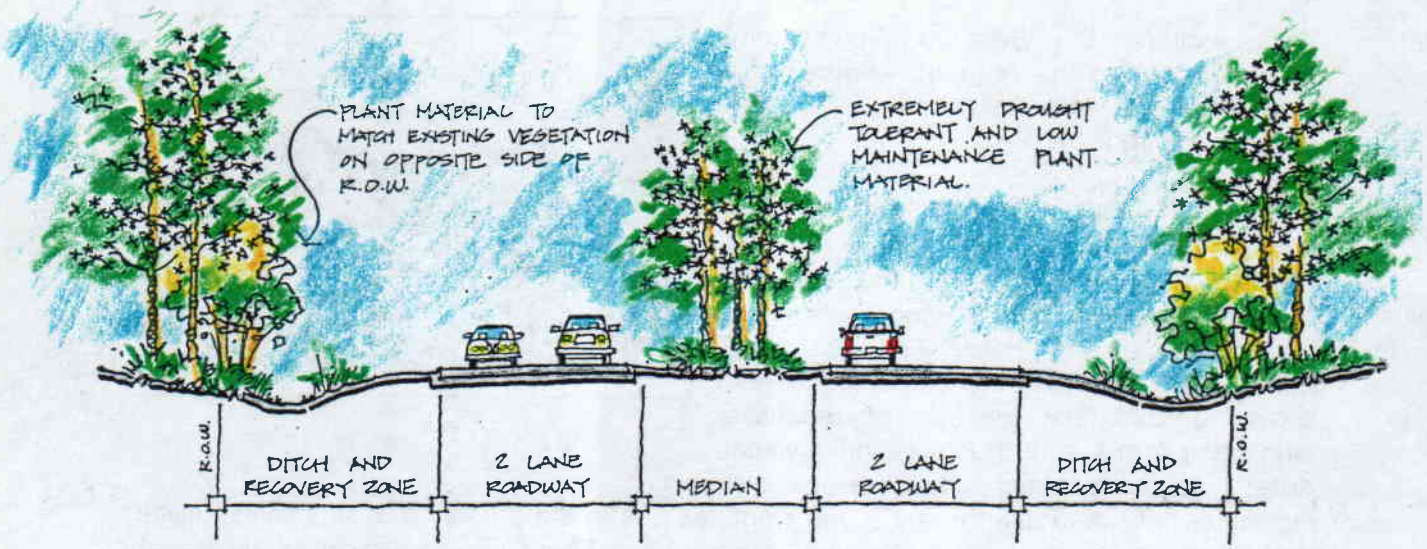
2.4.7.1 Urban. These are areas that should contain the greatest residential densities and commercial growth. They are in or close to areas projected to receive support facilities and services.

2.4.7.2 Urban-mixed Use District. This district provides for accommodation of a number of compatible urban land uses including a wide range of residential types with certain commercial and industrial uses.

- Urban Residential Subdistrict - The purpose of this district is to allow the greatest residential densities where few natural constraints occur and maximum concentrations of support infrastructure are expected to occur.

- Urban Residential Fringe Subdistrict - This is a transition zone between the Urban District(s) and Agricultural/Rural District(s). Residential densities of up to 1.5 du/acre are allowed.

2.5.5.5 AGRICULTURAL ZONE - Schematic Cross Section



2.5.6 *Utility Zone* This zone occurs in areas of predominately industrial activity or adjacent to landfills, quarry, or utility plant locations (figure 2-10). The resulting intensity of use of these areas makes landscaped medians in the public right-of-way more, rather than less important.

figure 2-10 Utility locations affect the character of the roadway

2.5.6.1 Character Utility zones are most often of short duration. We would therefore promote a streetscape planting that is consistent with the adjacent zones in order to blend utility zones with their neighbors.

This is also a zone that shall receive edge landscape treatment as may be needed to create a visual buffer to adjacent land use activity.

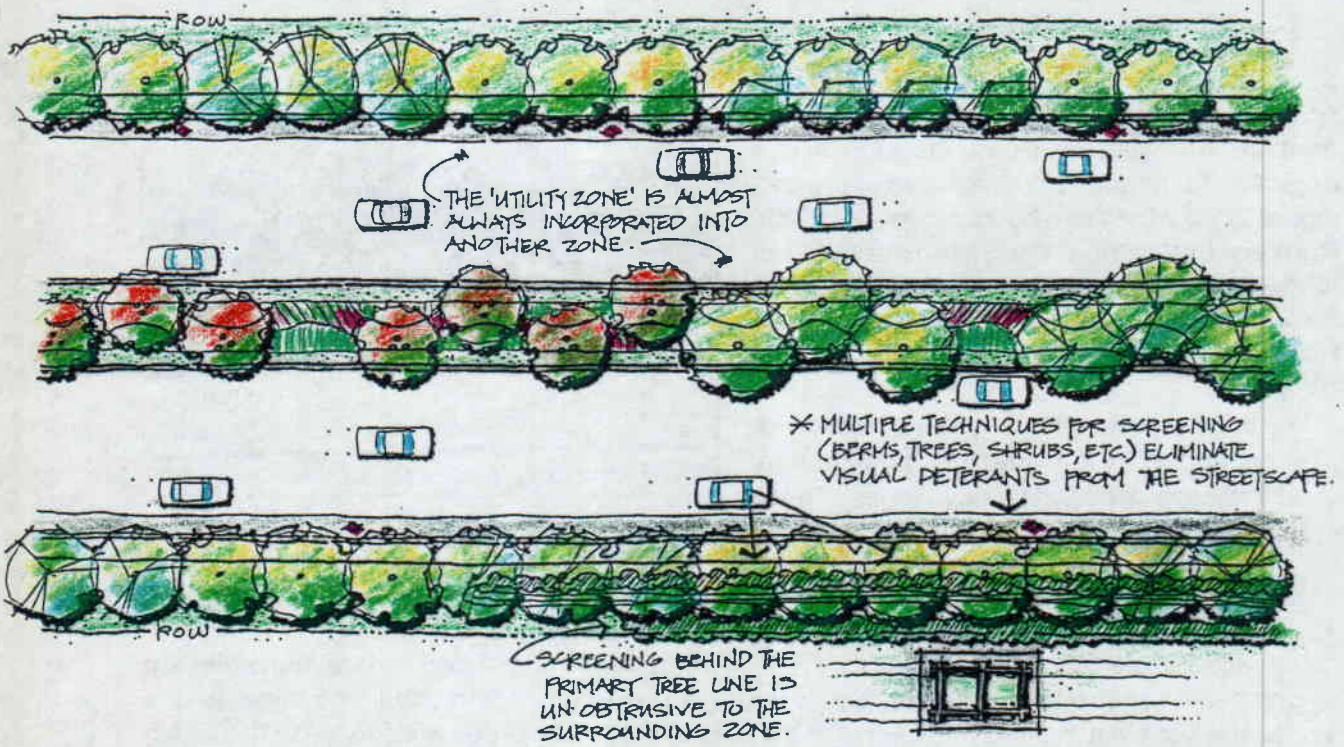
2.5.6.2 Design Landscapes should be drought tolerant, easy to maintain and consistent with adjacent zones. The most important function of landscape in the Utility Zone is to create a pleasant experience as one moves through it to an adjacent zone.

2.5.6.3 Medians Design of medians should reflect and be a continuation of design guidelines provided for other, adjacent landscape zones. In order to create additional buffering, it may be advisable to increase intensity (size and quantity) of plantings for a linear distance of 1.5 times frontage of the actual utility.

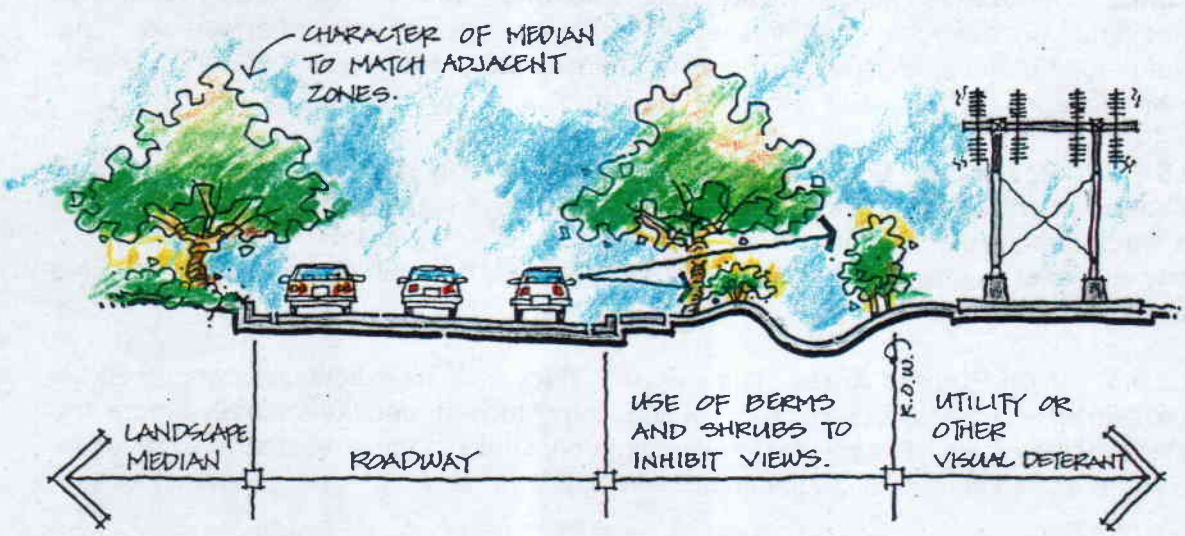
2.5.6.4 Roadsides Edges of roadways fronting on utility land uses should be heavily planted, approaching 100% opacity at maturity. These plantings must be of the same character and material usage as the adjacent zones. Avoid use of plant material which may tend to draw attention to itself; but rather attempt to blend in these visually impacted areas with their surroundings.

2.5.6.5 Non-Planted Areas Impervious surfaces (walks, bikeways), lighting, street furnishings, and graphics should be a continuation of those found immediately before and after the Utility Zone. The intent is to maintain a continuity of the streetscape experience, in so far as possible, through the impacted utility area.

2.5.6.6 UTILITY ZONE - Schematic Plan



2.5.6.7 UTILITY ZONE - Schematic Cross Section



2.5.7 Conservation Zone These are areas where roadways pass through or are adjacent to natural areas or passive parks (figure 2-11). They can be as extensive as the Rookery Bay segment of State Road 951, or more limited as the Rattlesnake Hammock Slew as it crosses Rattlesnake Hammock Road.

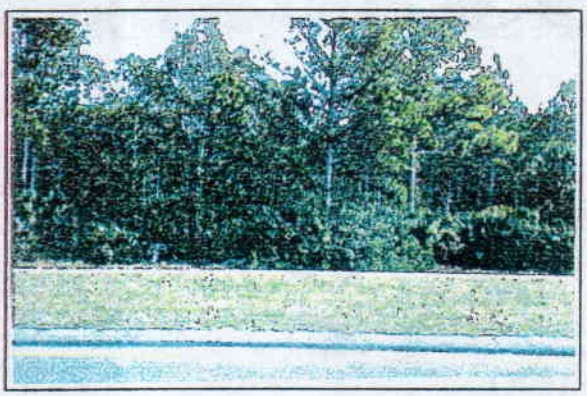


figure 2-11 Natural areas exist throughout the project area

2.5.7.1 Character More extensive systems may provide the most natural landscape opportunities available. These natural areas should be reflected in median plantings if possible. In this way, the roadway will more effectively blend with the natural environment and become a part of it rather than dominate. Large natural areas may be replicated to some degree in available median space. Drifts of buttonwood may be planted where the adjacent preserve consists of salt or brackish wetland, for example. Care should be taken to use species of plant materials that occur in the natural areas but which will survive in the much different soils found in highway medians. Soil and hydrological conditions may need to be amended in actual planting bed locations. The remainder of the median can be left in drought tolerant grass without supplementary irrigation.

Smaller natural areas (shorter than ¼ mile frontage) may be treated in one of two ways. First, they may be treated as an extension of landscaping of the adjacent zone, using similar plantings as found before and after the natural area. Second, they may be planted as an extension of the natural area into the median. This would give the impression of the natural area passing through the street, rather than vice-versa. It would also provide an interesting accent to adjacent landscape zones.

2.5.7.2 Design The primary objective of design for this landscape is to replicate nature within the right-of-way rather than exclude it. Whether this is done in small areas (¼ mile or less) should be determined on a case by case basis. An assessment should also be made as to the costs of maintenance and the likelihood of survival, especially of wetland species.

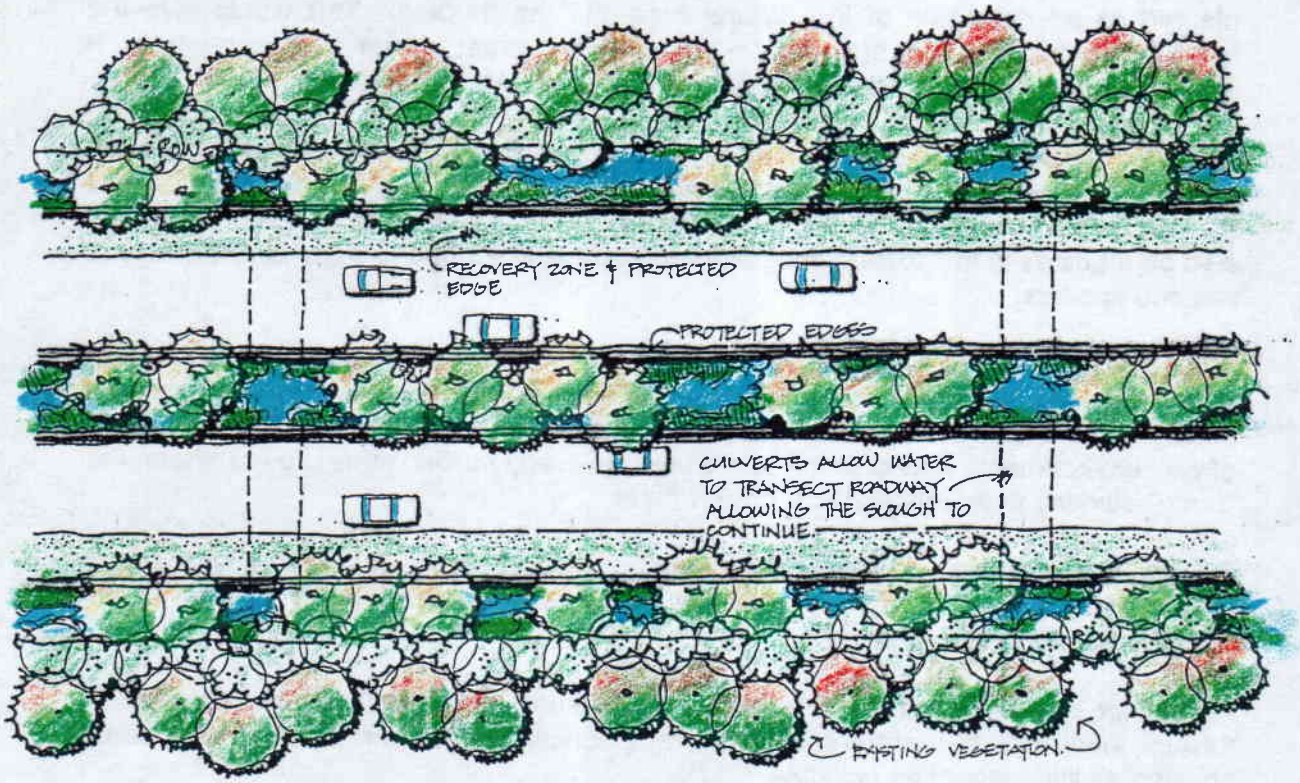
2.5.7.3 Medians As illustration 2.5.6.3 F shows, median spaces provide opportunities for planting natural landscapes as a continuation of these existing areas through the right of way. Care should be taken to ensure survivability of natural planting systems in a right of way environment. If long term maintenance is overly burdensome, do not attempt to "force" planting in an inhospitable environment.

2.5.7.4 Roadsides Existing native plantings should be allowed to approach edges of roadways as close as possible, respecting required set backs of plantings from edges of pavement for safety purposes.

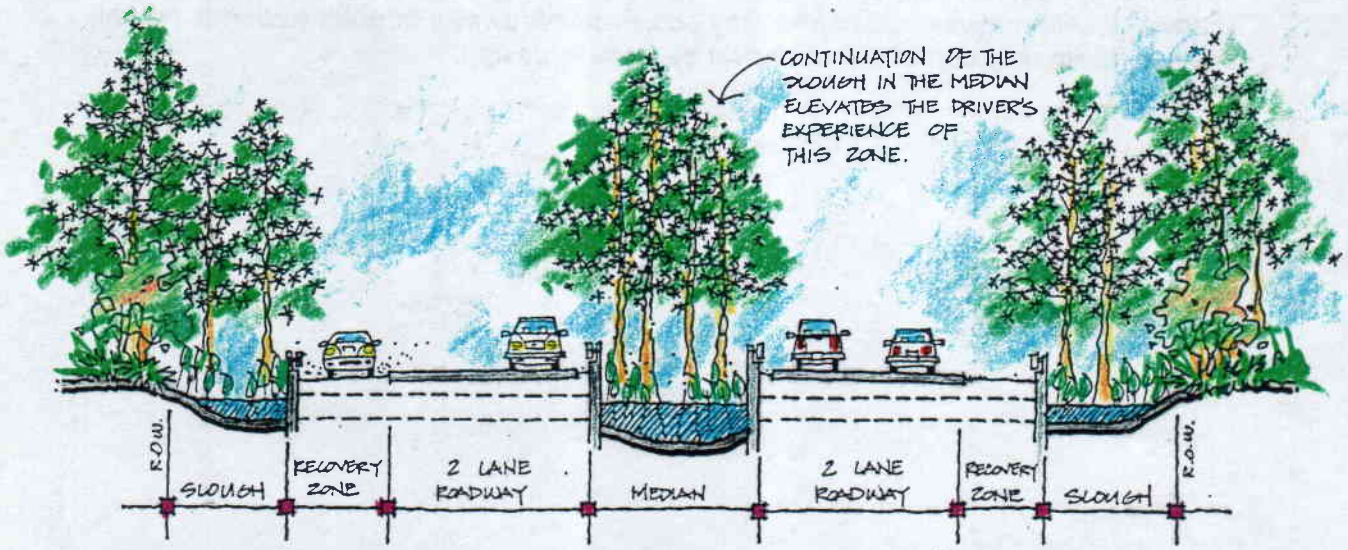
In concept, preserve areas should be allowed to visually dominate roadway construction through them. Roads, therefore, become metaphorical "bridges" through natural systems causing as little impact as possible.

2.5.7.5 Non-Planted Areas There will likely be few if any non-planted components of the design for conservation areas. This is due to the overriding concern for preservation and continuity of Conservation Zones through rights of way. In the case of wetland Conservation Zones, for example, if sidewalks require continuity through this zone, it may be necessary to minimize impact by locating walks immediately adjacent to roadways. Alternatively, sidewalks may occur as boardwalks through wetlands. In this case, a minimum width of 6 feet should be used in design.

2.5.7.6 CONSERVATION ZONE - Schematic Plan



2.5.7.7 CONSERVATION ZONE - Schematic Cross Section



2.5.8 Gateway Zone

Gateway Zones occur within a quarter-mile of gateway intersections as located on the Streetscape Network (figure 1.4.4 F). The main purpose of Gateway Zones are to signify arrival and serve as an entry feature at major access points to the Streetscape Network. The Streetscape Master Plan has identified seven gateways:

- Marco Island East Trail Gateway
- I-75 / CR951 Gateway
- I-75 / Pine Ridge Gateway
- I-75 / Golden Gate Parkway Gateway
- North Trail Gateway
- I-75 / Immokalee Road Gateway
- Livingston Road Gateway

2.5.8.1 Character Each Gateway is unique. Therefore, attempts to standardize landscape character should be resisted. If the Gateway occurs within an Activity Center a more urban expression is more appropriate. Use of walls, water features, formal plantings maybe appropriate.

This approach may not be appropriate at the North Trail and Livingston Road Gateways which occur in adjacent residential or agricultural zones. These Gateways should make one feel like he or she is entering a park by bringing masses of vegetation in informal drifts up to the edge of the roadway (figure 2-12). Signage and lighting should supplement plantings of shade trees, palms and shrubs. Character Zone designations must also be respected.

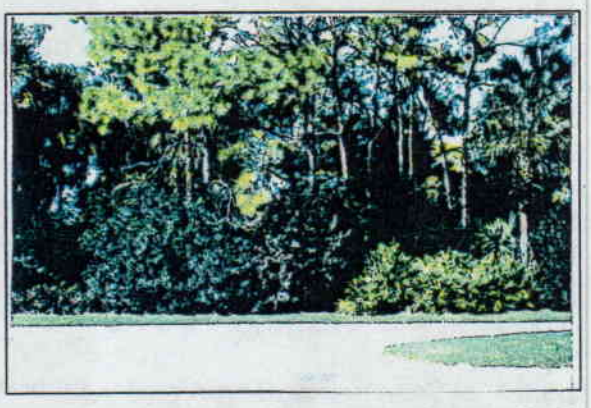


figure 2-12 Landscape treatment adjacent to residential

2.5.8.2 Design Gateway landscapes are the most important features in the Streetscape Network. They set the stage for arrival and are the last thing one sees upon departure. Therefore, an increased level of landscape and resulting maintenance is anticipated. All but one of these Gateways occurs within state road controlled intersections or streets. Therefore, design will need to be coordinated with the State of Florida Department of Transportation.

2.5.8.3 Medians Median planting opportunities exist in three of the seven gateways. For the most part, these median areas should be clear in the foreground (as seen upon entry), with a backdrop of vegetation to frame and accent the entrance. Each entrance requires its own specific median design but continuity in character and appearance for all seven gateway medians should prevail. Color in perennial shrubs such as Thryalis and Bougainvillea are appropriate. Discretionary use of beds of annuals, replaced at least semi-annually would also be appropriate in these areas.

2.5.8.4 Theme Tree An entrance or framing tree is prescribed for all seven entrances to Collier County. This is the major structure tree(s) to be used as the form-giver to landscape entrance features. Three trees are suitable, and are to be used together:

Slash pine, Live oak and Sabal palms. One method of planting which respects height, character, and color of these three indigenous, ubiquitous, and drought tolerant species would be to use the Pine in mass plantings as a backdrop to Oaks in the foreground and Sabals in informal groupings as accents of no fewer than seven specimens each.

2.5.8.5 Roadsides Gateways require plantings, especially theme trees as described above, to approach the edge of pavement as closely as possible. Therefore, along with median plantings, roadside plantings create a partial sense of closure thus emphasizing an entrance to a new, special, and unique locale.

The same predominate theme trees should be used to provide structure for these entrances. They should also be augmented by use of flowering trees, masses of mature shrubs, colorful groundcovers, and discriminate use of flowering annuals as may be determined for each gateway.

Lawn grasses may be either St. Augustine "Floritam" or Bahia, depending upon irrigation availability of each entry.

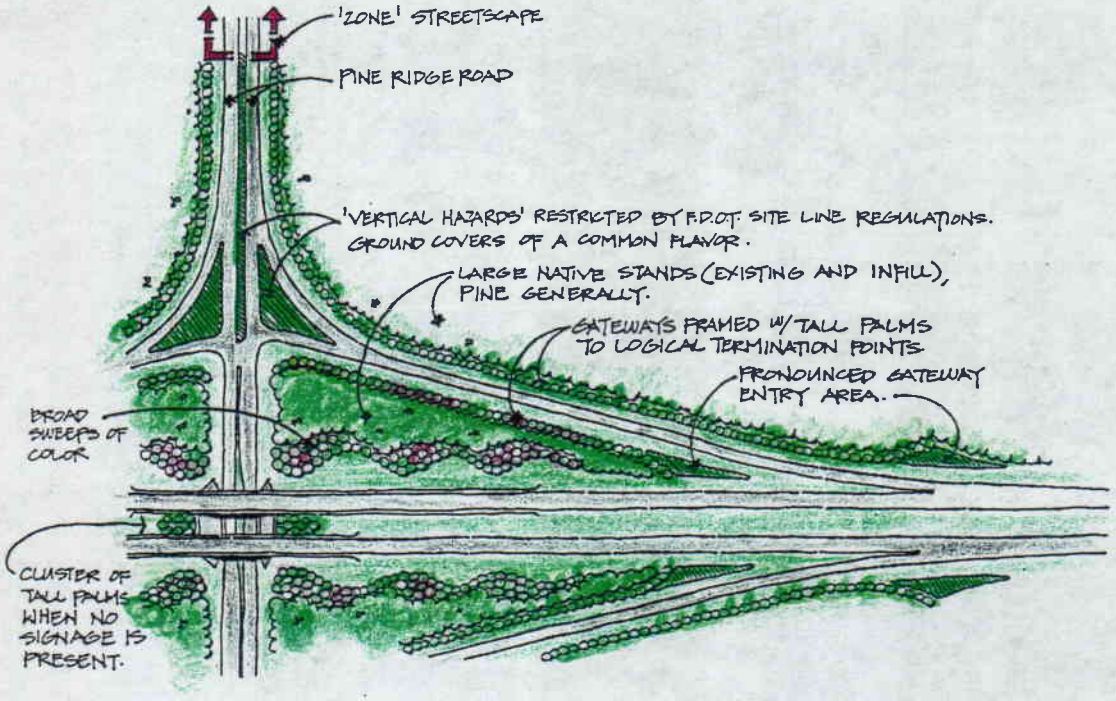
2.5.8.6 Non-Planted Areas Pavements within available landscape area of gateways, other than sidewalks and bikeways are not promoted. Water features, rocks, sculptures, decorative walls, and the like, would be inappropriate fenestration for the natural and indigenous character of this region.

Not withstanding the above, graphics and associated lighting should be provided. Collier County will control a proprietary graphic image to be displayed at gateways. Similarity of this graphic image may be manifested in a variety of forms, but shall convey the same impression at all gateways.

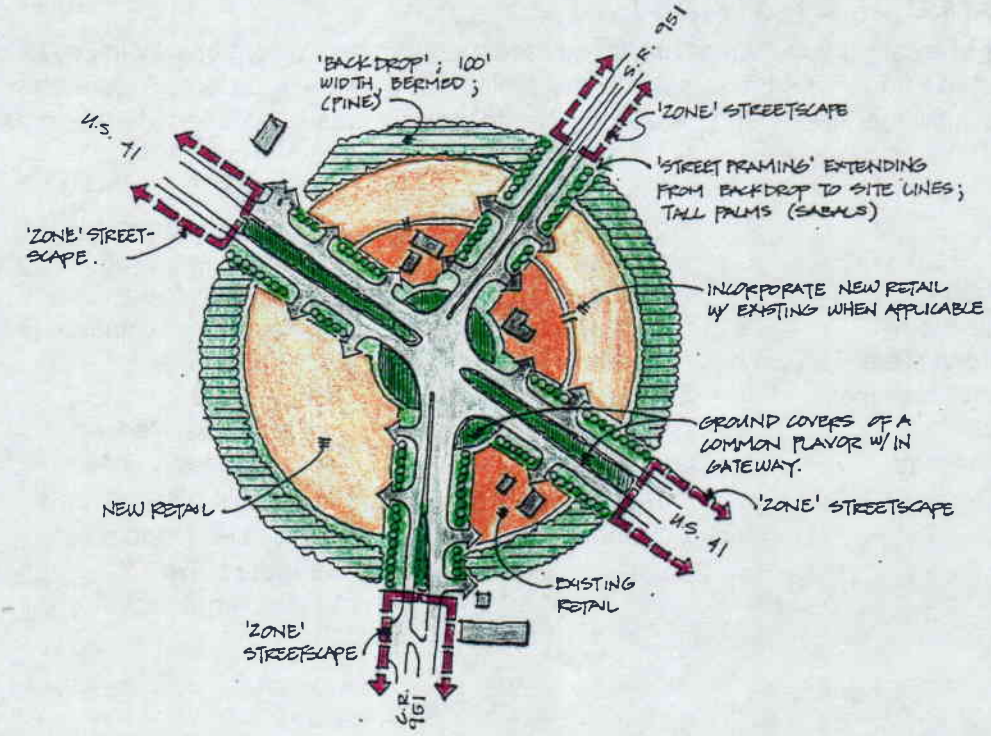
2.5.8.7 Schematics Three representative gateway landscape plans are provided as a guide for ultimate implementation by others. In order to insure county-wide continuity, it is recommended that Collier County control both design and construction of all gateways on a schedule consistent with public need and roadway construction schedules.

- The Interstate Gateway Zone as shown below references the several "gateways" to collier county from Interstate 75 (2.5.8.8)
- The Multiple Direction Gateway Zone primarily refers to the condition at CR / SR 951and East Tamiami Trail. This intersection provides both an opportunity for entry to Collier County and Marco Island (2.5.8.9).
- The Single Direction Gateway Zone presently exists at the North Tamiami Trail entrance to Collier County from Lee County. Future road construction will provide additional opportunities for implementation of this gateway concept (2.5.8.10).

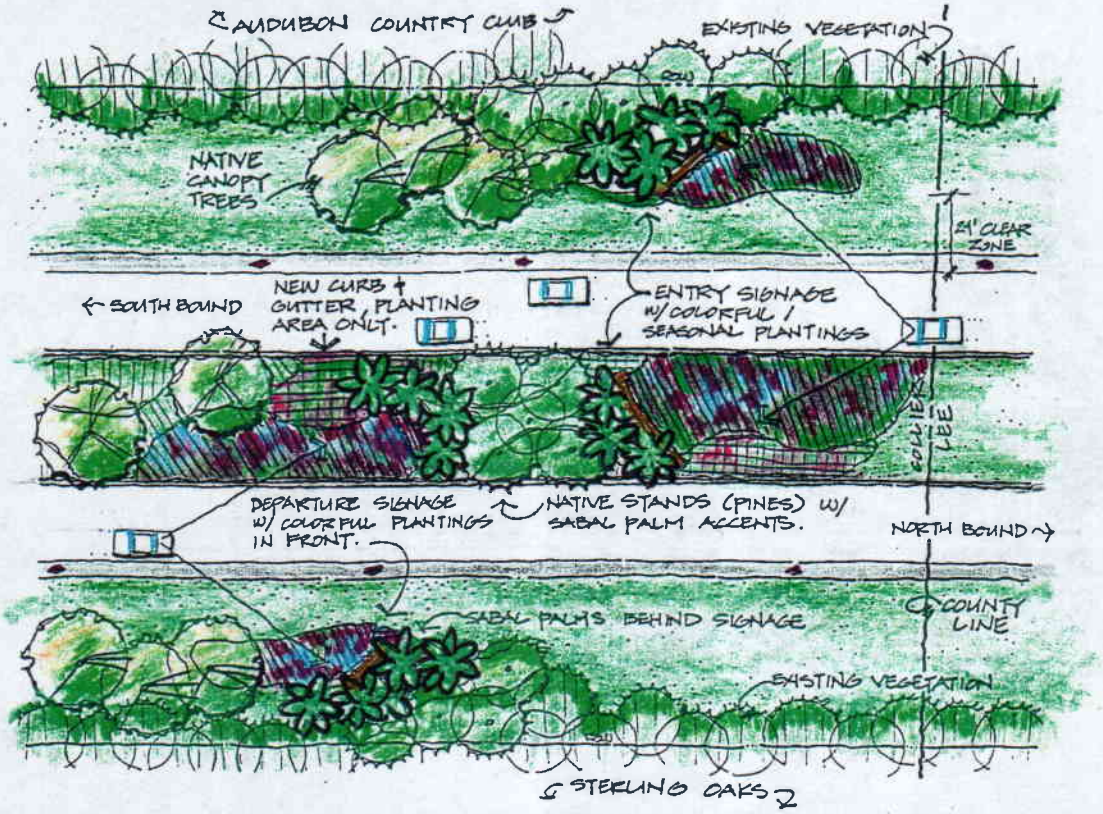
2.5.8.8 INTERSTATE GATEWAY ZONE - Schematic Plan



2.5.8.9 MULTIPLE DIRECTION GATEWAY ZONE - Schematic Plan



2.5.8.10 SINGLE DIRECTION GATEWAY ZONE - Schematic Plan



2.6 STREET BY STREET

An analysis of existing conditions, proposed land uses, and new right of way improvements was conducted for identified roads within the project study area in order to locate character zones along individual streets and gateways. The following roads have been identified as part of the SSMP.

Gateways	North-South Streets	East-West Streets
Marco Is / East Trail	North Tamiami Trail	East Tamiami Trail
I-75 / CR 951	Goodlette-Frank Road	Thomasson Drive
I-75 / Pine Ridge	Airport Road	Rattlesnake Hammock Road
I-75 / Golden Gate Parkway	Livingston Road	Davis Boulevard
I-75 / Immokalee Road	Santa Barbara Road	Radio Road
North Trail	CR 951 / SR 951	Golden Gate Parkway
Livingston Road	Bayshore Drive	Pine Ridge Road
	County Barn Road	Vanderbilt Beach Road
	Vanderbilt Drive	Immokalee Road
		Seagate Drive
		111th Avenue North

2.6.1 Opportunities and Constraints

An Opportunities and Constraints map was developed to identify areas that have natural or man-made features that the streetscape design should enhance, or build upon and conditions (power substation, storage areas, etc.) that should be mitigated (see figure 2.6.1.1 F). One major asset that is found throughout most of the study areas is the amount of natural vegetation that exists due to the amount of undeveloped land. This provides the opportunity to build upon existing vegetation rather than creating a landscape. In the more developed areas, the roadway provides an opportunity to bring continuity to the overall appearance of the immediate community as a result of available planting space at edges of rights-of-ways (see figure 2.6.1.1 F).

2.6.2 Gateways

The intersections that have been identified as gateways into Collier County and Naples have distinct characteristics that separate them from one another. The following is a description of each gateway and their design opportunities.

- **North Trail Gateway**

  The North Trail Gateway, located on the Collier County line on US 41, is comprised of Planned Unit Developments (PUD) on both sides of the gateway (Audubon and Sterling Oaks). The landscaping should reinforce the residential character of the surrounding community. The landscape style should build on and enhance what has been established by the PUD's. The median is fairly wide and provides ample room for trees and understory plantings of shrubs and groundcover. This is a major gateway into the county and the design should reinforce its importance. Specialized graphics (signage) and lighting would be appropriate and should be coordinated with all gateways (see drawing 2.5.8.10).

- **Marco Island / East Trail Gateway**

  This is the primary gateway from the south. It is located at the intersection of US 41 and SR/CR 951. Like the North Trail Gateway, this is a primary entrance into the county. The primary land use is Urban Coastal Fringe and the gateway is classified as an Activity center. The configuration of the intersection and the location of the existing tree line provides long views into the study area. A recent highway project has placed new light poles on both sides of the highway, this providing a strong vertical repeating design element. The landscape character for this gateway should reinforce the natural vegetation found in the immediate area. The style should be bold/simple curvilinear forms with accent plantings at the intersection. Dual signage should be provided as part of entry statements for both Marco Island and Naples/Collier County (see drawing 2.5.8.9).

- **I-75 / CR 951 Gateway**

  This is the eastern gateway to the county. This Activity center is comprised of fast food, gas stations, and motels at the intersection, with underdeveloped vegetated land beyond. Presently, there is not a dominant landscape associated with development parcels in which the design could follow. The remaining natural landscape beyond the intersection is a major asset for this gateway. The majority of visitors will arrive from I-75 which is just north of CR 951 and Radio Road. They approach the gateway by passing under the I-75

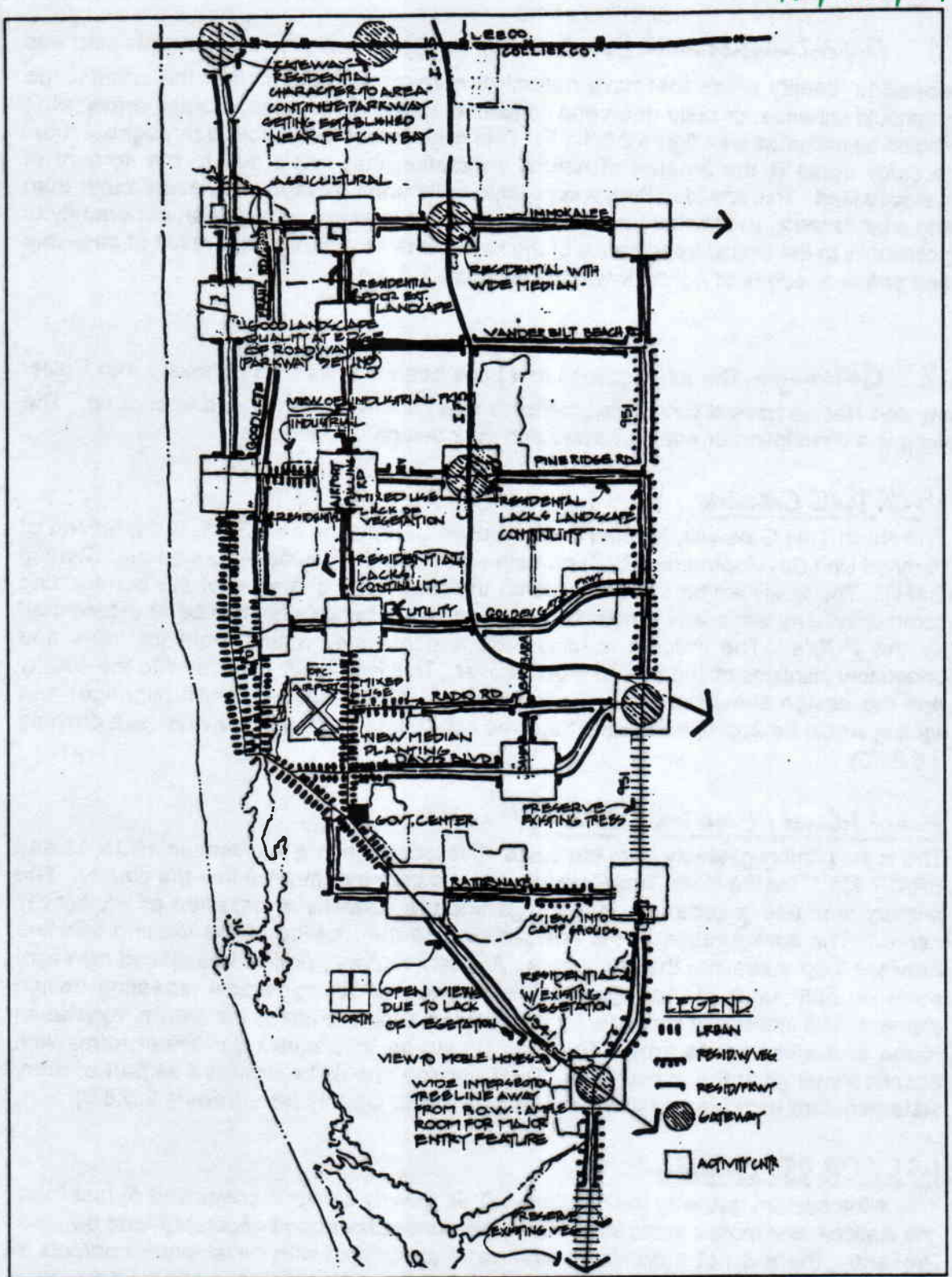


figure 2.6.1.1 F Opportunities and constraints

overpass. The bridge which frames the view of the gateway, acts as a gateway "door" into the area. Because of the type of development and lack of landscaping, the streetscape could be more controlled in its design and layout (see drawing 2.5.8.8).

- I-75 / Golden Gate Parkway Gateway

  There is presently no direct access from I-75 onto Golden Gate Parkway, although one is proposed. The overpass acts as a visual gateway into Collier County. An extensive streetscape study has been completed for Golden Gate Parkway. Any additional landscaping shall follow the design standards set forth in that document (see drawing 2.5.8.8).

- I-75 / Pine Ridge Gateway

  This gateway is designated as an Activity center on the Collier County future land use map. The gateway is comprised of small commercial uses, Naples Plaza on the west, and residential development (The Vineyards, Livingston Woods, and Golden Gate) on the other three sides of the interchange. There is some natural vegetation remaining on all four sides of the interchange (see drawing 2.5.8.8).

  This streetscape shall be comprised of informal landscape patterns that reinforce the remaining natural vegetation. The edge of the ROW should supplement the median landscape and help establish a cohesive landscape design throughout the gateway. In addition, existing and new development should be encouraged to reinforce this area as a gateway by providing additional landscaping along edges of private property.

- I-75 / Immokalee Road Gateway

  Immokalee Road has experienced a considerable amount of new construction which has created a more urban residential character. Presently the gateway is undeveloped with large stands of trees and understory vegetation. This gateway shall preserve the natural vegetation, as much as possible, to create a setting similar to the one found at the edge of the right of way on US 41 near Pelican Bay. Because the gateway is undeveloped, a comprehensive landscape design could be promoted and achieved (see drawing 2.5.8.8).

- Livingston Road Gateway

  This is a potential future gateway into the county. The proposed residential development (Livingston Road Country Club) and the natural vegetation suggests that this gateway shall be informal / naturalistic in its design character (see drawing 2.5.8.10).

2.6.3 Street by Street Each roadway has a unique set of conditions, man-made and natural, that establishes the character for the community. The following is a brief description of each street and the landscape character zone that should be applied. See figure 2.6.3.1 F - Character Zones for the exact location of each character zone along individual roadway.

- ## North Tamiami Trail (US 41)

This road is characterized by PUD's along both sides of the roadway with shopping centers and mixed use development at or near major intersections. The northern portion of US 41 from the county line to Pine Ridge Road is predominantly residential (PUD's) with well landscaped entrances. The PUD's have used landscape plantings and/or berms to screen views into their property. This approach has created a well landscaped edge to the roadway. In most cases the median has been landscaped in controlled or bold curvilinear patterns. Any additional landscaping should reinforce the landscape character already established in this area. The character zones identified for this area range from urban residential to activity zones at major intersections. From Pine Ridge Road south, the density of development is higher and the number of commercial/mixed uses increases. The landscape along the edge of the highway is more formal with clipped hedges in geometric patterns. The design style shall incorporate the following elements:

- Plant landscape material in controlled patterns.
- Use flowering shrubs and understory plantings that produce color at intersection.
- Plant material to be similar to landscape plantings at PUD's.
- Coordinate color schemes with adjacent PUD entrance designs.

- ## Goodlette-Frank Road

Goodlette-Frank Road is primarily a residential street with views of golf courses and residential development. North of Pine Ridge Road, large stands of trees remain. The Collier County Future Land Use Map identifies the corridor as an urban residential area with an Activity Center where Goodlette-Frank Road intersects Golden Gate Parkway. The recent construction of a northern portion of Goodlette-Frank Road provided new well landscaped medians. The landscape character for Goodlette-Frank Road should build upon the landscaping within the medians. The design shall create a parkway setting for this residential community. The design style should incorporate the following elements:

- Use curvilinear planting patterns.
- Use bold, simple forms.
- Plant material should be similar to landscape plantings at edge of roadway
- Carry design onto side streets where applicable to provide continuity.
- Encourage new landscaping where long runs of fencing occur to soften impact and to bring development in-line with the rest of the community.

- ## Livingston Road

Livingston Road will be a new road traversing through urban residential and residential zones. This is an opportunity to develop a continuous landscape design solution throughout the length of the roadway. The design should be residential in character with street tree plantings and curvilinear drifts of shrubs and groundcover. The design style shall incorporate the following design elements:

- Plant a dominant species of street tree along the roadway to establish continuity.
- Understory plantings of shrubs shall be informal curvilinear patterns to screen views into residential lots and to provide interest.
- At intersections, provide color and accent plantings that complement the surrounding landscape.
- Encourage new landscape onto side streets to provide additional continuity.

Santa Barbara Boulevard

Land use along Santa Barbara Boulevard consist of a mix of urban residential and residential with small commercial uses at the intersection with Radio Road and Golden Gate Parkway. The design shall utilize existing natural vegetation to produce a setting similar to Golden Gate Parkway. The design style shall incorporate the following design elements:

- Use bold, simple planting patterns.
- Arrange plantings in curvilinear forms.
- Frame views of golf courses with trees and understory plantings.
- Direct views toward Golden Gate Community Park and away from I-75.

CR 951 / SR 951

CR 951 is a mix of urban residential, residential, urban residential fringe and activity centers at major intersections. The large amount of undeveloped land and conservation areas on the east side provides an almost continuous natural setting. New construction of a residential community on the west side (Lely) has preserved stands of trees between the roadway and its development, providing continuity along the corridor. This section of roadway shall preserve and enhance the natural ecosystem, as much as possible, creating a conservation zone. Use of native large stands of trees and understory is encouraged.

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North of 1-75 the character is more residential with large stands of natural vegetation. The residential development on the east side is at a greater distance from the roadway due to the canal, a parallel collector road, and preserved stands of trees. On the west side of CR 951 there are views of the Golden Gate Golf Course and natural stands of trees. The landscape along this portion of CR 951 should create a natural like setting. To do so, the landscape treatment shall utilize the following design elements:

- Use native plant material only.
- Use naturalized drifts of shrubs, grasses and ground cover within the median.
- Plant trees in clusters using species found in adjacent ecosystems.
- Provide shrub massing along shoreline of canal.

SR 951 is comprised of urban coastal fringe and conservation areas. The intent of the landscape design shall mimic the surrounding ecosystem by preserving as much natural plant material as possible and by restricting landscape design to native plants associated with this ecosystem. The design shall be simple and appear natural in its style and form. Entrances to commercial or residential communities present opportunities to accent an otherwise natural system of plantings on medians and adjacent roadsides by use of other ornamental plant materials on a limited basis.

- ## Bayshore Drive

Bayshore Drive is located in the urban coastal fringe land use area. It is made up of well established residential communities with small commercial uses at the main intersections. The medians are narrower and have been planted with palm trees which are similar to the residential landscape at the edge of the street. Understory plantings of shrubs are usually clipped into formal hedges to help screen views into parking lots and residential units. The landscaping along Bayshore Drive shall continue the street tree plantings and augment them with understory plantings. The design can create a uniform tree lined residential street. The landscape shall incorporate the following design elements:

- Continue palm trees along entire length of Bayshore Drive.
- Understory plantings shall be straightforward in their design due to narrow planting spaces.
- Add color and accents at intersections and entrances to major residential developments.

- ## County Barn Road

The northern portion of County Barn Road has considerable natural vegetation along its right of way. In the southern portion of the roadway some of the vegetation has been removed. The overall character of this urban residential community is naturalistic. The design shall re-establish the lost native vegetation and preserve the remaining forest edge. Exotic plants shall be removed and discouraged from use in the future. The landscape design should consist of the following elements:

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- Use native plants associated with the existing ecosystem.
- Tree plantings shall be in clusters.
- Understory plantings shall be in naturalized drifts.
- Use informal naturalistic planting patterns.

- ## Vanderbilt Drive

This street is urban residential with views of water, boating and established residential neighborhoods. The landscape treatment shall borrow from its surroundings as much as possible. Careful attention shall be paid to views of the water and boating activities to prevent landscaping from obstructing views. The landscape need not be more than a simple planting with an emphasis on street trees through the residential areas, and shrubs and accent plantings along open areas. A landscape theme consisting of similar plantings, signage and lighting could be developed along this corridor and eventually repeated elsewhere in the Vanderbilt community.

- ## East Tamiami Trail

The southeastern portion of this roadway is a mix of urban coastal fringe and urban residential with activity centers at major intersections. The density of development increases as one travels northward. Open views of mobile home parks and development with little to no landscaping are of major concern. Large PUD's located on the west side of the roadway provide views of golf, water, and landscape buffers and should provide the basis for future landscape design. The landscape character for the East Tamiami Trail shall reinforce the urban residential character by using curvilinear planting patterns, and large clusters of trees in the median and along the sides of the rights of way. From Rattlesnake Hammock Road northward, the landscape can become more bold and controlled using large drifts of understory plantings with flowering trees and accent plantings at major intersections. Additional street trees and understory plantings shall be used along the approach to the Collier County Government Center. The design character for East Tamiami Trail should incorporate the following design elements:

- Use curvilinear planting patterns.
- Use native species in the southeastern portion of the roadway.
- Use accent plantings of flowering trees and shrubs at intersections.
- From Rattlesnake Hammock Road north, use more of a controlled planting pattern with accent colors at intersections.

- ## Thomasson Drive

Thomasson Drive is an urban residential community with a small commercial center (Bayshore Corners) where the street intersects with Bayshore Drive. The character is that of a residential street with natural vegetation on the south side. The landscape design shall use native plants associated with the surrounding ecosystem. The style should create a park like setting for the residential community. The landscape shall be carried onto side streets to provide continuity and to create a sense of community.

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- ## Rattlesnake Hammock Road

This roadway is characterized by activity centers at the east and west ends of the roadway with urban residential in between. Near CR 951, where little to no development has occurred, large stands of native vegetation exist. As one travels west, the character of the roadway changes to a residential community with perimeter fencing, landscaping and some native stands of trees. The landscape can provide continuity and a sense of a community by repeating planting patterns and a consistent use of plant material. The landscape shall address the edge condition to soften the impact of views of fences and residential units. The landscape design shall incorporate the following design elements:

- Plant shrubs masses along edge of right of way to provide additional privacy for residential units.
- Use native plant material.
- Use plant material in informal naturalistic patterns with accent plantings at major access points.

- ## Davis Boulevard

Traveling west from CR 951, Davis Boulevard is comprised of Planned Urban Developments with small commercial uses interspersed. As one approaches Airport Pulling Road, the intensity of development increases and more mixed/commercial uses occur. The landscape shall be more curvilinear and less controlled from CR 951 to Foxtail Boulevard and more controlled from Foxtail Boulevard to Tamiami Trail. The design should provide screening of parking lots and service areas. The landscape shall incorporate the following design elements:

- Provide controlled plantings in simple bold forms.
- Trees shall be planted in controlled patterns in the more urban areas.
- From CR 951 to Foxtail Boulevard use more informal patterns in large informal drafts.
- Cluster trees in the residential areas.
- Use accent plantings that are similar to plant material used at entrances to PUD's.

- ## Airport Pulling Road

Airport Pulling Road is a major commercial mixed use corridor with urban residential uses to the north. Landscape projects in the median have established a strong design character at the southern (south of Golden Gate Parkway) end of this road. Because of the amount of development in the southern portion of the roadway, additional landscaping shall be encouraged along the edges of the right of way and carried down side streets to soften the impact of development and provide continuity to the area. The northern segment of Airport Road shall reflect both the Activity Center and Residential Characters respectively:

- Use bold planting patterns with accent plantings at Activity Centers.
- Screen/soften views into parking lots and service areas at Activity Centers with additional plantings on the edge of right of way.
- North of Golden Gate Parkway, the planting shall be less controlled and more informal in its style, except at the Pine Ridge & Immokalee Road intersections.
- In the residential areas, use bold, simple patterns with clusters of trees (native species).
- Use plant material that is similar to the landscape palette used at PUD's to provide continuity.

- ## Radio Road

Radio Road goes from residential uses on the east to commercial mixed uses at the intersection with Airport Pulling Road. The character of the roadway is a mixture of small native stands of trees with semiformal landscapes along the edges of PUD's. This creates a suburban feel to the corridor. The landscape shall provide continuity through repeating landscape forms and plant material. The type of plant material used shall relate to the

landscape plantings associated with PUD's, but be of a natural character throughout to create continuity. The landscape could be more formal in its appearance from Briarwood Boulevard to Airport Pulling Road to respond to the commercial mixed uses found along this portion of the roadway.

- *Golden Gate Parkway*

  A corridor management study was completed by Collier County for this parkway. Recommendations shall be carried out throughout the corridor. To help blend the parkway setting established in this study, individual developments and public streets adjacent to the parkway shall be encouraged to adopt similar landscape designs. This approach would eliminate the linear appearance to the parkway and will help unify the communities located along it edge.

- *Pine Ridge Road*

  From CR 951 to Livingston Road, the character of the roadway is predominately residential. From Livingston Road to Tamiami Trail, the density of development increases with commercial, residential and industrial land uses occurring along the right of way. The median narrows as one approaches US 41 and there is little landscape between the road and adjacent development. Long runs of fencing associated with residential development shall be softened with frontage plantings. The character proposed for Pine Ridge Road shall be semiformal using bold curvilinear patterns with clusters of trees on the western portion of Pine Ridge Road. The eastern segment (Airport Road to I-75) shall be more naturalistic in character, utilizing native plant species in informal patterns.

- *Vanderbilt Beach Road*

  Vanderbilt Beach Road is a mixture of urban residential and residential with commercial activities at the Intersections of US 41 and Airport Pulling Road. There is a considerable amount of native vegetation with well landscaped entrances to residential communities. The design shall build upon the existing character of Vanderbilt Beach Road by using similar landscape material in naturalistic patterns. Near US 41, the landscape shall become more bold and pronounced by using large planting patterns with accent plantings at intersections.

- *Immokalee Road*

  Immokalee Road has a considerable amount of existing native vegetation along the right of way. Activity centers occur at every major intersection. The landscape treatment shall be similar in its character to that proposed for Golden Gate Parkway. Soft but controlled plantings using predominately native species of plants at the west end could progressively give way to entirely naturalistic plantings at the east end (CR 951).

- *Seagate Drive*

  The present landscape character is that of a formal landscaped boulevard. Any new landscaping along Seagate Drive shall continue the landscape style already established. The landscape character shall be carried onto the side streets to create a stronger sense of community and to provide continuity between the separate neighborhood communities. The landscape shall incorporate the following design elements:

- Use the same plant material as already established in the median and along the right of way.
- Use plant material in simple controlled patterns with accent plantings at intersections.

- **111th Avenue North**

  111th Avenue North is comprised of a commercial shopping center at the intersection of US 41, urban residential on the south, with a public park and school on the north. The amount of existing native vegetation provides the basis for developing a park like setting to this community. Plant material shall emphasize native species in naturalistic planting patterns.

3.0 PLANTING GUIDELINES

3.1 COLLIER COUNTY

has specific planting and landscape maintenance requirements. The following information relates to growing conditions and planting techniques in this area. Nothing in this document reduces the responsibility of the Designer or Contractor of Collier County streetscape from applying safe and correct application techniques. Therefore, the following provides a guide only. Ultimate responsibility is that of the Designer and Contractor for each streetscape installation.

3.2 GENERAL NOTES

- *Design Standards* - Contractors shall insure that installation in medians and rights-of-way conform to criteria set forth in D.O.T. (Florida and/or Collier County) roadway and traffic design standards (see *Help!*, Section 7.0 for a listing).

- *Clear Zones* - All landscape materials shall be maintained to provide continuous clear zones for sight visibility for pedestrian and vehicular traffic. Landscape maintenance (tree trimming and shrub pruning) shall conform to criteria set forth in FDOT and Collier DOT Roadway and Traffic Design Standards.

- *Plan Requirements* - State of Florida DOT (District 1, Bartow, Florida) and Collier County DOT, including the Collier County Land Development Code maintain specific design and plan submittal requirements. It is the responsibility of the Designer and Contractor to thoroughly familiarize himself/herself with these requirements. Should there be a local code, administrative procedure, or State of Florida landscape rule which appears to be in conflict with SSMP recommendations, it shall be the responsibility of the applicant to resolve said conflict with the appropriate authority.

- *Utilities* - street rights-of-way typically are corridors for many utility and drainage systems. It shall be the responsibility of the Designer to determine locations of utilities and to comply with various landscape design requirements of principal utility companies / agencies. Storm water / drainage systems frequently occur within public rights-of-way. Creative methods of adapting streetscape planting systems within or adjacent to drainage ways are encouraged. Plantings which may impede either flow-way or maintenance of flow-ways must receive prior approval of the respective water management authority.

- *Plant Quality* - All plant material to be used within the SSMP shall be Florida #1 or better as outlined in "Grades and Standards for Nursery Plants," State of Florida Division of Plant Industry. All plant material shall meet minimum specified size requirements and shall be in a healthy and thriving condition, free of pests and diseases when delivered to the public rights-of-way for planting.

- *Safety* - It shall be the responsibility of the Designer and Contractor to specify and implement safe practices for landscape installation within public rights-of-way.

- *Xeriscape* - Thrifty use of water as outlined in the South Florida Water Management District "Xeriscape Plant Guide II" shall be applied throughout landscape installation and maintenance.

- *Establishment Period* - Regardless of the ultimate irrigation method, Contractors shall be responsible for the initial establishment period for plantings. Such period shall not be less than 90 days following acceptance by the municipality.

- *Coordination* - The landscape Contractor shall coordinate all work with related Contractors and with general construction of the streetscape installation in order not to impede the progress of the work of others or the Contractors own work.

- *Holding Areas* - The locations of all landscape holding areas, if any, will be identified in advance by the municipality. The Contractor shall adhere to the access routes to and from the holding area without disrupting or impeding access to the site by others. Adequate safety precautions for motorists using the site area shall be the responsibility of the Contractor.

- *Mulch* - Unless specified differently by the Designer, all shrub and groundcover beds shall be supplied with a uniform compacted bed of eucalyptus mulch, Grade B or better, to a depth of 2-3 inches. The Contractor shall ensure that mulch remains in place and that flooding or surface drainage has been mitigated across mulch beds.

- *Erosion Control* - Fabric may be required in shrub and groundcover planting areas for all slopes exceeding 3:1. All grades exceeding 3:1 shall be verified with the municipality prior to planting.

3.3 SOIL PREPARATION and SOIL MIX

Proper preparation of planting areas within rights-of-way areas are essential for successful drainage and cultivation of plant materials. Existing roadway medians and shoulders which are to receive new plantings including trees, palms, shrubs, groundcovers, and grasses must be inspected as to soil type and amendment requirements.

The following treatment of soils is to be used as a guide only. It shall be the responsibility of the Contractor to recommend any deviation from these guidelines which may result in improved plant material establishment and survival in a healthy and thriving condition. Expensive, exotic, imported topsoil or "potting" mixes are to be avoided. Indigenous top soils, amended as needed, are preferred for public right of way plantings.

The following soil placement and amendment guidelines are recommended for typical planting conditions. The Contractor shall also determine drainage capacity of soils beneath prepared topsoil areas to ensure adequate permeability.

3.3.1 All plants noted for removal shall be removed and properly disposed of off-site at Contractor's expense unless otherwise noted.

3.3.2 Apply Roundup (manufactured by Monsanto Corp.) according to manufacturer's rate and specification within limits of all areas to be planted. Protect existing plants to remain from overspray or spray within root zone. Contractor to ensure total weed eradication.

3.3.3 Before replacing topsoil, rake subsoil surface clear of stones (1" diameter and larger), debris, rubbish and remaining roots from removed plant material.

3.3.4 Scarify subsoil to a depth of three inches (3").

3.3.5 Contractor shall apply "Surfland" or approved pre-emergent herbicide in accordance with manufacturer's rate and specifications.

3.3.6 Planting soil mix for trees, shrubs, and groundcover shall consist of a thoroughly blended mixture of:

3.3.6.1 Date Palm, Sabal Palm, Coconut Palm:
90% clean D.O.T. sand
10% approved topsoil/Florida peat mixture

3.3.6.2 Royal Palm:
60% clean D.O.T. sand
40% approved topsoil/Florida peat mixture

3.3.6.3 Trees, Shrubs, and Groundcovers:
70% clean D.O.T. sand
30% approved topsoil/Florida peat mixture

Contractor shall submit laboratory soil tests of the soil mixture for approval by the Designer and/or municipality.

3.3.7 Florida peat shall be free of deleterious materials that would be harmful to plant growth, be free of nematodes, be of uniform quality and have a pH value between 5.5 and 6.5 (as determined in accordance with ASTM E70). Florida peat shall be sterilized to make it free of all viable nut grass and other undesirable weeds.

3.3.8 Topsoil shall be natural, fertile, agricultural soil capable of sustaining vigorous plant growth. It shall be of uniform composition throughout, with admixture of subsoil. It shall be free of stones, lumps, live plants and their roots, sticks and other extraneous

matter. Spread topsoil mixture to a minimum depth of four inches (4") throughout all lawn areas and twelve inches (12") in all areas to be landscaped. Remove all rocks and other objects over 1" in diameter.

3.3.9 Smooth all soil mixture to a depth of four inches (4") below top of surrounding pavement edges.

3.3.10 Smooth topsoil mixture to a depth of four inches (4") below finish grade in areas to be sodded.

3.3.11 Topsoil shall not be extremely acid or alkaline, nor contain toxic substances which may be harmful to plant growth. The topsoil pH shall be in the range of pH 5.5 to 6.5. If necessary, the Contractor shall apply the appropriate soil amendments adjusting soil pH to assure a pH range of 5.5 to 6.5.

3.3.12 Finish grade all topsoil areas to a smooth, even surface, assuring positive drainage away from the structures and eliminate any low areas which may collect water.[1]

3.4 TREE and PALM PLANTING and HANDLING

3.4.1 Preparing the Tree Pit

- Walls of the tree pit shall conform to the shape of the root ball.
- The tree pit must be a minimum of six inches (6") larger on every side than the ball of the tree.
- Make a mound in the center of the tree pit upon which to place the tree. Make sure when planting that the ball of the tree is 1-2 inches higher than existing grade.

3.4.2 Placing the Tree

- Place the tree in the pit by lifting and carrying the tree by it's ball whenever possible, otherwise wrap the trunk of the tree with burlap as tightly as possible just below a crotch or branch. Place the tree sling around the burlap and choke tightly, making sure not to scar the tree or break branches when picking it up.
- Set the tree straight and in the center of the pit with the most desirable side of the tree facing toward the prominent view.
- Pull burlap from top of the root ball and remove, cutting any other string or twine. Note: If root ball is tight and in good shape, remove burlap completely before setting tree in pit. On container trees, slash the edges of the root balls from top to bottom at least one inch (1") deep when heavily rooted. Note: If root balls are damaged upon delivery, Contractor shall remove and replace with another specimen.

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1 Sections 3.3 edited from materials provided by EDSA.

3.4.3 Backfilling and Watering

- Mix 1½ pounds of 8-10-10 50% slow release Fertilizer per one inch (1") of trunk caliper, (measured 4 feet above ground) into existing soil taken from tree pit. Note: Specifications may change for backfill depending on existing conditions as noted in Section 3-3.
- Make sure trees remain straight during backfill procedures.
- Thoroughly backfill and water simultaneously.
- Never cover top of tree ball with soil.
- Form a water ring four inches (4") higher than existing grade between edge of root ball and edge of pit completely around the tree. On sloping sites, build rings large enough to hold four inches (4") of standing water.
- Use a rock bar to insure all air pockets are removed. Insert bar between the sides of the root ball and the sides of the tree pit. Add water and soil as needed. Work in completely around tree.
- Reform the water ring and thoroughly water again.
- Prune out any dead or broken branches.
- Remove all tags, labels, strings and wire from the tree.
- Apply a 2-3" layer of the specified mulch around the tree pit.

3.4.4. Palm Planting Procedure Use the same basic procedure as a tree except for the changes listed below.

- Use a ½ pound of 8-10-10 fertilizer per inch of trunk diameter.
- Position the palm so that the bud is vertical during the backfill procedure.
- Protect the bud from jarring and dehydration.
- Lift the palm by strapping it just above the palms center of gravity. (Do not use a chain). Note: Gouges and scrapes can be detrimental to trees. Take all precautions necessary to handle trees and palms properly. In general, always strap the tree under the root ball when possible to avoid debarking the trunk with the strap.

3.5 CONTAINER PLANTING and HANDLING

In general, largest containers are to precede planting of smaller materials in the following procedure:

- The pit shall be dug twice as large as the root ball and deep enough to allow 1-2 inches of the root ball to set above the existing grade when planted.
- Place the plant in the pit by lifting and carrying it by the root ball. Remove the container before planting. Note: Do not carry container plants by the foliage.
- Place the plant in the center of the pit with the most desirable side facing the prominent view.
- Backfill the plant with existing soil unless otherwise specified. Pack soil around root ball to eliminate air pockets.
- Prune out any dead or broken branches.
- Remove any tags, labels, string, etc.
- Water all plantings thoroughly.
- Regrade all bed areas, removing any rocks and debris. Make sure edges are 3-4" lower than any hard surfaces thus allowing for mulch.

- Fertilizer shall be top dressed over the bed area, 8-10-10 at a rate of 1½-2 pounds per 100 square feet, spread evenly, not clumps and not close to trunk of plant.
- Spread pre-emergence herbicide (Ronstar or Treflan) to bed area at a rate of ½ pound per 100 SF, if needed.
- Mulch shall be spread evenly 2-3 inches thick except at base of plants where it should be 1-2 inches thick.
- Water again making sure to remove any mulch, fertilizer or pre-emergence herbicide from plant foliage. Soak thoroughly.

3.6 ANNUAL BED PREPARATION

Even though annuals take up a small percentage of the total landscape space, due to their abundance of color, they have a tremendous impact on the overall affect of landscape installations. When planting annuals, pay attention to detail so that the effect is maximized.

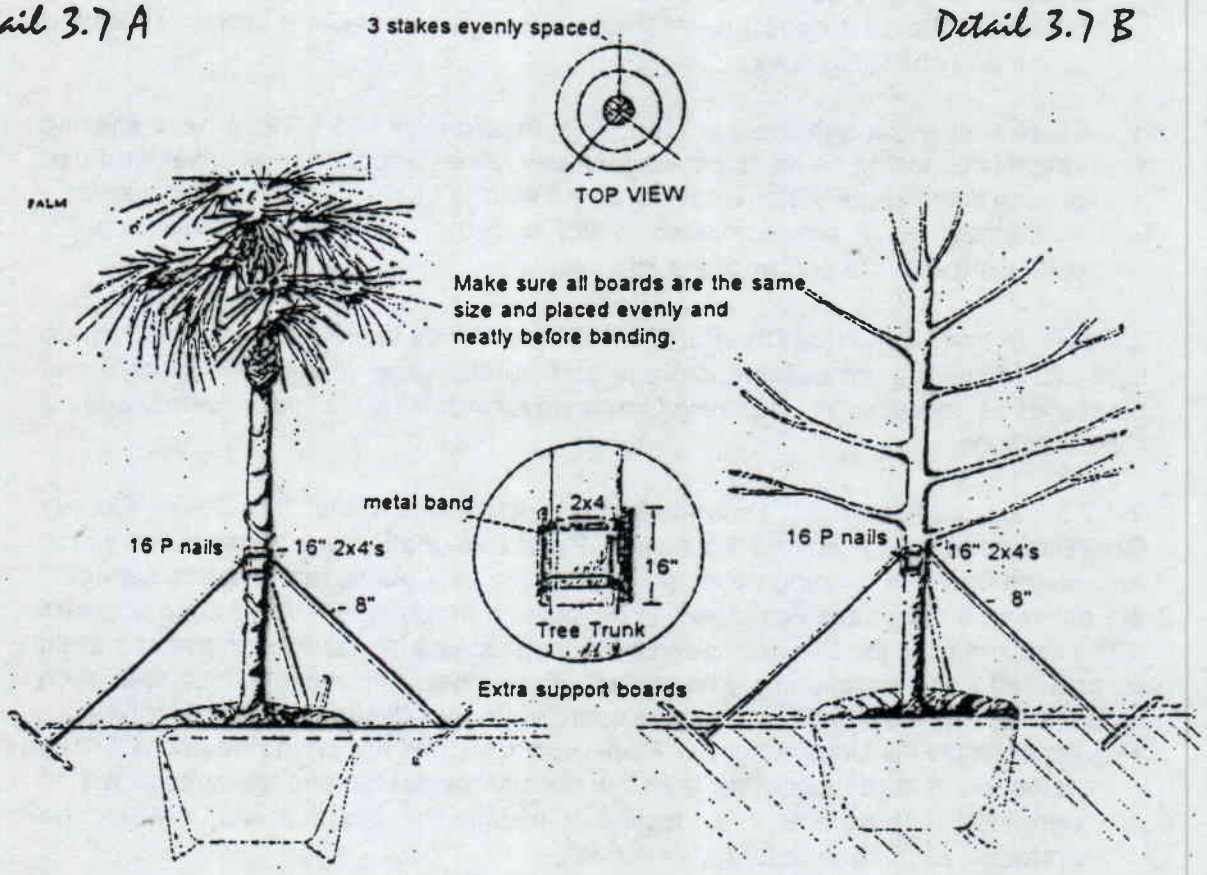
- Define the area of the annual bed by outlining the shape of the bed on the ground. Make sure the bed is free of debris and will drain properly, as described in 3.3.
- Dig a trench along the bed lines to the depth of a shovel and toss excavated soil onto the center of the bed.
- Spread the soil amendments evenly over the top of the existing soil. For every 100 SF of bed area, add the following:
  - 2 lbs. Cow manure
  - 6 ibs. Michigan peat, 3 cu. ft. bales
  - 10 lbs. Osmocote slow release annual fertilizer
  - 1 lb. Truban (granular fungicide)
- Thoroughly mix these amendments to a depth of twelve inches (12") into existing soil . This is best done by a tiller, but can be done by hand on smaller beds
- Retrench the beds and rake them smooth. They should be slightly mounded and free of debris.
- Spread the plants according to specifications. As with container material, lay out the bed shape first, then fill in the mass. As always, spacing is critical to the final look of the bed.
- By hand, plant the annuals, being very careful when removing from the pot. They are very fragile. As with all plants, do not plant them too deeply or too high. The soil line of the plant shall be even with the finish grade of the bed. After gently pushing the soil around the plant, gently pull the straw or mulch back around and under the plant. Make sure that no soil is showing through mulch.
- Water in thoroughly by soaking the entire mounded bed. Take care not to damage fragile plants.

3.7 TREE and PALM STAKING

3.7.1 Trees and Palms with 4" Caliper or Greater (see details 3.7 A & 3.7 B)

- Use pieces of 2x4 16" long for banding boards
- Use 3 or 4 2x4 braces - 8 foot long and spaced evenly around the tree.
- Bury the bottom of the 2x4 8-10 inches into the soil. Note: If soil is sandy or canopy of tree is extra large, take a piece of 2x4 16-18 inches long with a point cut on one end and drive it in the ground at an angle under the end of the 8 foot board for extra support (see details 3.7 A & 3.7 B).
- Attach stakes to banding (16") boards using 2 16 penny nails. Make sure nails do not penetrate the tree.
- Apply bands 4" from the top and 4" from the bottom of the 2x4's. Tighten them and put on 2 banding clips per band.
- NOTE: On Queen Palms and trees that are larger than or have a greater sized head than usual, four (4) stakes are recommended.

Detail 3.7 A



Detail 3.7 B

- Urban Coastal Fringe - This is a transitional zone between Urban and designated Conservation areas. It generally occurs between U.S. 41 and the Gulf. Residential densities within this District are limited to 4 du/acre.

- Industrial Subdistrict - This allows for the full range of industrial land uses as described in the Collier County Zoning Code for Industrial and Light Industrial zoning districts.

- Commercial Subdistrict - This district occurs in existing Urban Mixed Use districts. Uses include those that already exist or as permitted by zoning.

2.4.7.3 Urban - Commercial District. This district is located within mixed use activity centers which occur at major designated arterial street intersections. A second subdistrict, of limited application in the Streetscape Master Plan, is the PUD Neighborhood Commercial Subdistrict, which is a part of comprehensively planned new communities.

- Activity Center Subdistrict - These are mixed use districts which are anticipated to accommodate most new urban growth. They occur at designated intersections throughout Collier County. While a mix of Urban uses is encouraged, most proposed projects have been Commercial, especially Retail Centers. It is anticipated that these activity centers will help alleviate sprawl or strip commercial development and to create focal points of activity within the County. They represent the best opportunity for urban design expression outside of existing towns and shopping areas.

- Three Activity Centers occur at interchange locations on I-75. These have specific shapes depending on an approved geometry of commercial - residential land use at each interchange. The remainder of the activity centers are all the same size - 160 acres, which are ½ mile on a side with the center of the activity center coinciding with the center of the intersection.

2.4.7.4 Urban - Industrial District. This district permits industrial uses that include light manufacturing, processing, storage and warehousing, distribution centers and other uses as described in the Zoning Ordinance for Industrial & Light Industrial Zoning Classifications.

2.4.7.5 Agricultural/rural Designation. In accordance with the Collier County Growth Management Plan, the Agricultural/Rural Designation are "those areas which are remote from the existing development pattern, lack public facilities and services, are environmentally sensitive, or are in agricultural production." If this zone appears within the context of the Streetscape Network, a xeriscape landscape treatment should be provided since irrigation may be limited. Functional attributes of landscape, such as buffering and view direction may be appropriate and desirable in these zones.

- According to the Comprehensive Plan, Urbanization is not promoted and a limited selection of land uses other than low density residential and agricultural will be permitted. Therefore, if landscape is installed in these areas, it would be protected from change by future growth.

- Mixed Use District - This district allows for some residential in a predominately agricultural area. Commercial is also allowed, up to a maximum of 2.5 acres.

- Rural-Industrial District - This district is reserved for Industrial and Light Industrial uses as described in the Collier County Land Development Code (LDC). The boundaries of these districts may change depending upon demand for more industrial uses. Industrial use areas have a negative impact on the streetscape appearance. When industrial areas are positioned as frontage uses on arterial streets which service the entire County, streetscape design becomes even more important and necessary. Screening of views and softening of appearance are two prime applications of landscape design in industrial districts.

- Rural-Settlement Area District - this is a specific area designation located in the former North Golden Gate Subdivision and is governed by a specific PUD ordinance. It does not front on current streetscape network streets.

2.4.7.6 Estates Designation. This is an area currently subdivided into semi-rural lots, averaging 2.5 acres in size. It is rural in nature and future increases in densities would be discouraged.

2.4.7.7 Conservation Designation. The purpose of this district is to conserve and maintain natural resources of the County. All attempts will be made to maintain ecological and physical characteristics of the native landscape in these areas. While roadways may be considered highly disruptive to these natural landscapes, a responsive technique for streetscape design may be available. It is possible that roadway impact to the natural landscape may be mitigated by providing native or naturalistic landscapes within these public rights-of-way.

2.4.8 Recognize Existing Character.

Naples and Collier County are unique in comparison with any other regions of the United States. Not only is this area's geomorphology, climate, and vegetation unique, so are its politics and cultural background. While it may not be necessary to become overly comprehensive in an understanding of this place in order to prepare landscape guidelines for streetscape, it is necessary to have a general understanding of the forces at work which impact the character of the streetscape.

An important assumption must be made to identify design character zones: Existing and proposed character of the natural and cultural environment should be reflected in and guide landscape development. This approach toward streetscape design provides the basics for the following objectives:

2.4.8.1 Design must be cost conscious to implement and maintain;

2.4.8.2 The design solutions should be the easiest to understand and therefore able to gain consensus; and,

2.4.8.3 Design solutions shall best represent this area's unique natural and cultural heritage.

2.4.8.4 Design apprehension - The above approach may not result in a landscape that visitors come to expect. Unfortunately, but realistically, native plantings are not necessarily perceived as tropical. The Master Plan should carefully balance expectations with reality to create a landscape that has something for everyone. Conscious decisions need to be made regarding how much of a foreign landscape needs to be maintained to meet expectations of tourists and visitors.

2.5 STREETSCAPE DESIGN

2.5.1 *Character Zones Defined*

Character Zones are segments of roadways that are defined by their natural and man-made environment (see Sec. 2.4 Character Definition). The following zones were established after review of County planning documents, site visitation and site analysis:

- Activity Center Zones
- Residential Zones
- Utility Zones
- Gateway Zones
- Urban/Residential Zones
- Agricultural Zones
- Conservation Zones

The following outlines what landscape type/style would be appropriate for each character zone.

2.5.2 *Activity Center Zone*

The name for this zone originates from the Collier County Comprehensive Plan. It refers to 16 areas in Collier County where mixed use commercial and multifamily residential is planned to occur. In general, these are quarter-mile distances from the intersections of major identified streets. These are areas that are expected to have the greatest concentrations of infrastructure, traffic, people and building construction. Since street paving widths tend to be wider and driveways intersecting major streets are increased, there tends to be fewer landscape median opportunities. It is desirable to have greater landscape space available to help mitigate the impact of these most dense urban conditions, however, there is less available space. Therefore, the edges of rights-of-way become especially important as potential landscape areas.

2.5.2.1 Character Landscape character in urban conditions can either be informal, curvilinear (to counter act hard architectural form and line), or it can be geometrically similar (figures 2-4 and 2-5). This is the one zone where formal landscapes would be fitting. Similar species of palms and trees may be in groupings which are the same size and

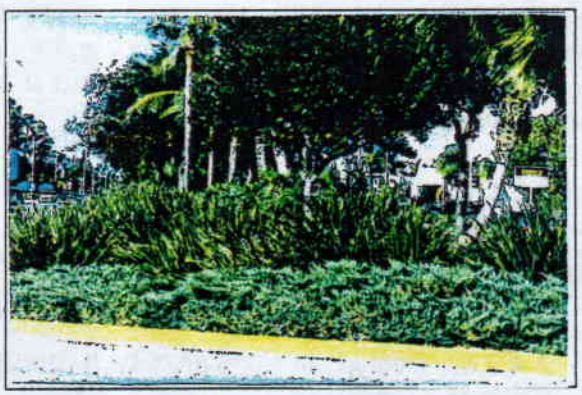


figure 2-4 Curvilinear landscape

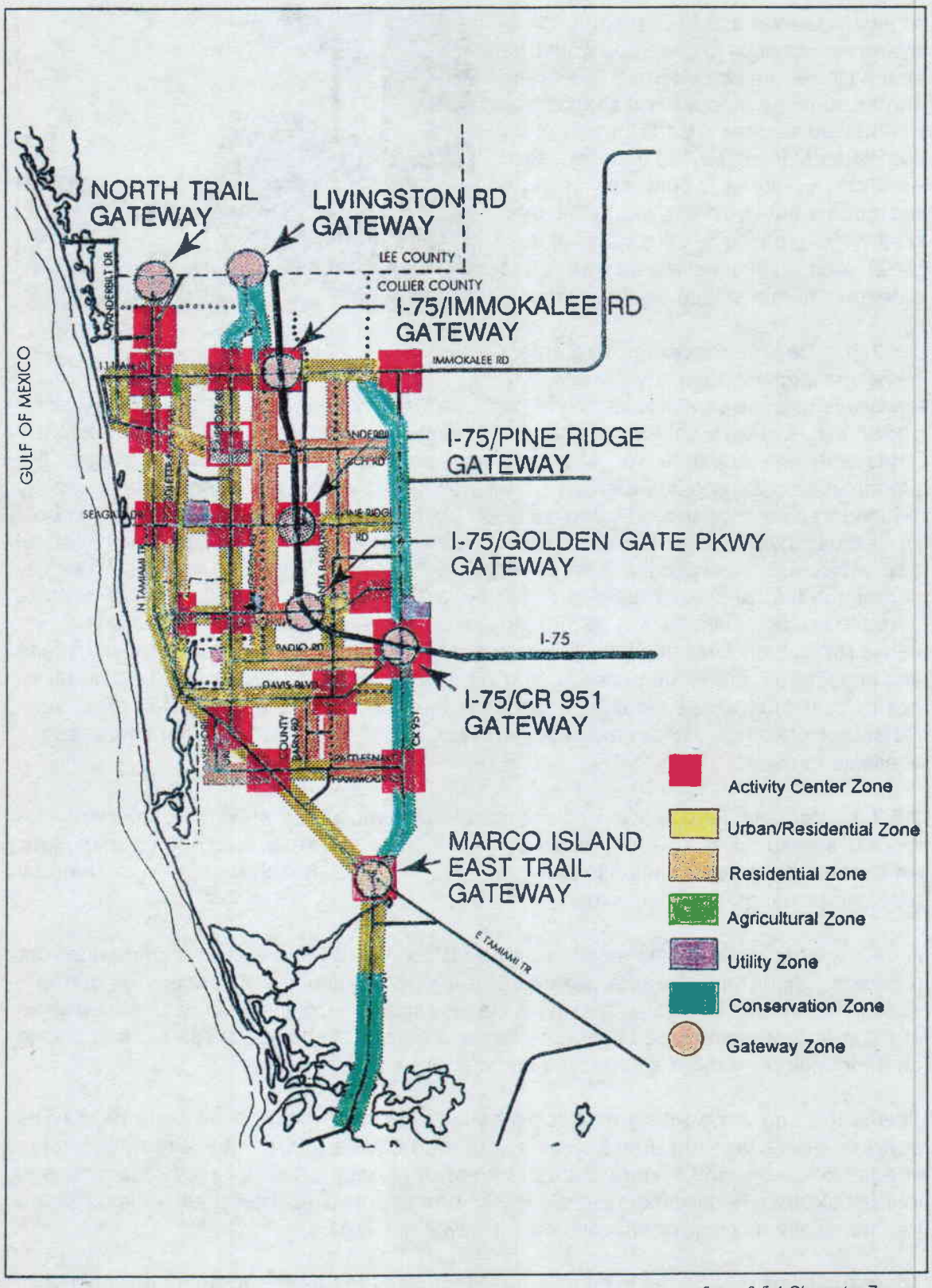


figure 2.5.1 Character Zones

regularly spaced apart. Planting beds of evergreen or flowering shrubs could be shaped in geometric patterns. Evergreen shrubs could be planted and shaped into maintained hedges. Beds need not be completely planted; paving materials such as brick or stone would not only be appropriate but could link with pedestrian crosswalks creating a "safe zone" at mid-street. And, such materials are easier and safer to maintain in high traffic situations.

figure 2-5 Geometric landscape

2.5.2.2 Design Since Activity Centers have the highest intensity of use, the landscape must be careful to allow adequate site distance at intersections and provide for opportunities to view adjacent signage, architecture, pedestrians and traffic. Since the landscape will compete for attention with architecture, traffic, and signage, the predominate color should be green. It will thus have the greatest opportunity to convey the landscape character in an urban condition. It should also consist of repetitive and bold forms thus providing a sense of urban design continuity in potentially chaotic architectural and vehicular surroundings. Keep it simple, keep it bold, and keep it green in activity center median and roadside plantings. Also, keep it tough. Avoid use of delicate herbaceous perenials except as ground covers. Instead, plant woody materials with dense strong branching structures that are capable of withstanding greater intensity of use and impact from traffic, pedestrians, and wind blown debris. Care should also be taken not to over plant these smaller, urban beds in an effort to overcome their small size. Resultant plantings will appear awkward and out of place with the horizontal space available to them.

2.5.2.3 Medians Frequently, medians tend to become very narrow to nonexistent as a result of a need for multiple turn lanes at intersections and shopping center parking lots. As a result of diminished median planting areas to help soften these high impact areas, roadside plantings are encouraged.

A variety of plant materials emphasizing both color and texture are recommended for medians. Significant use of a "signature" tree and/or palm are recommended due to a need for masses of planting within limited planting spaces. Color should be provided year-round in accent planting beds. Major trees and palms can be tightly spaced and placed on geometric centers for a controlled and elegant effect.

This is the only zone where manicured hedges placed in bold simple patterns may be appropriate. A layering affect of various ground covers and shrubs, alternating color, shades of green, and texture throughout the entire plant bed will provide drama and interest to these heavily exposed areas. As one approaches major intersections where tree materials may impact critical motorist view sight lines.

There should be very limited to no use of lawn grasses in this zone. Not only would lawn be difficult and dangerous to maintain, it would diminish the ability to use more significant landscape material. Therefore, shrubs and/or groundcovers are recommended for all

planting areas of two feet in horizontal dimension or greater. The use of mulch, either organic (wood chips) or inorganic (rocks, gravel, sand) is recommended only in mature planted areas where the dimension of residual mulch beds would be less than two feet in width.

2.5.2.4 Roadsides Roadside plantings should be encouraged to the extent planting space may be available. Linear beds of shrubs/groundcovers with an overstory of a canopy tree or palms on regular spacings will:

- mitigate visual impact of high trafficked areas,
- provide order to frequently architecturally chaotic surroundings,
- help to screen views of adjacent parking lots from roadways, and
- provide edge definition to roadways that have a soft rather than harsh character consistent with the image of Naples and Collier County.

Recommended plant material species, soils, and cultural practices for Activity Center Zones are provided in Section 4.0, Planting Specifications.

2.5.2.5 Non-Planted Areas This SSMP also recognizes that significant opportunities for non-planted landscape features are needed in the form of:

- Pedestrian sidewalks, including textured cross walks, preferably with "safe" zones in medians. Decorative paving for sidewalks are encouraged.

- Lighting, both for vehicular use areas, and at a "human scale" for pedestrians. Human scale lighting along sidewalks may consist of bollard lighting (42" mounting height) and/or decorative overhead lighting (mounting height of 8'-0" to 12'0").

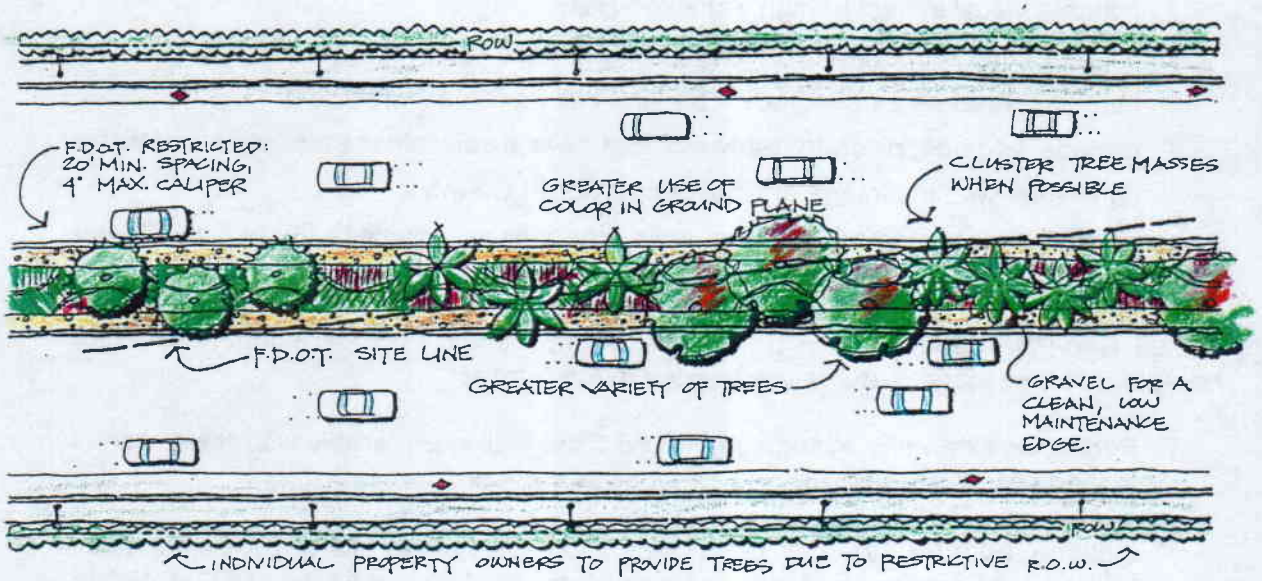
- Street Furnishings. Benches, trash cans, bike racks, kiosks, trellis, and pedestrian shelters would all be appropriate in edges of Activity Center streets. All should be of a consistent design theme and meet all applicable local building code requirements.

- Fencing / Walls. Fencing is discouraged along the edges of Activity Center rights of way unless of a highly decorative nature and at a height of no more than four (4) feet if located two (2) feet or less from back of sidewalk. Decorative walls of no greater than four (4) feet in height may be appropriate, especially if they do not provide a hazard to motorists, and provide continuity of an architectural theme throughout the Activity Center. In no case shall either fences or walls be located flush with sidewalk edges, regardless of height.

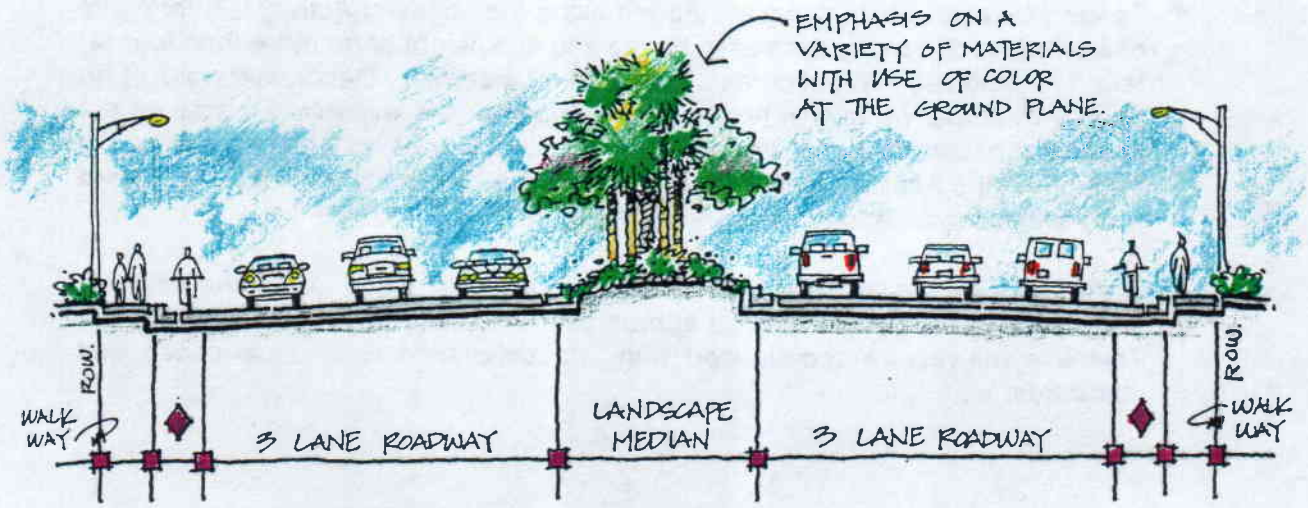
- Graphics. Signage consistent with a common architectural theme of the adjacent Activity Center use areas may be appropriate for location within rights of way. This use will require coordination with and adherence to all local codes and standards.

* Other features. Many urban areas benefit from creation of a "festival" character within their streetscapes. The SSMP encourages a coordinated design theme which may include use of banners, decorative poles, lighting or other special features which may connote a festival market place environment. Any and all such features require County, City, State approval and must be coordinated throughout the Activity Center right of way area.

2.5.2.6 ACTIVITY CENTER ZONE - Schematic Plan



2.5.2.7 ACTIVITY CENTER ZONE - Schematic Cross Section



2.5.3 Urban/Residential Zone

This is a mixed use zone that permits limited urban development in a primarily residential context. It is a transition zone between Activity Centers and Residential Use Areas.

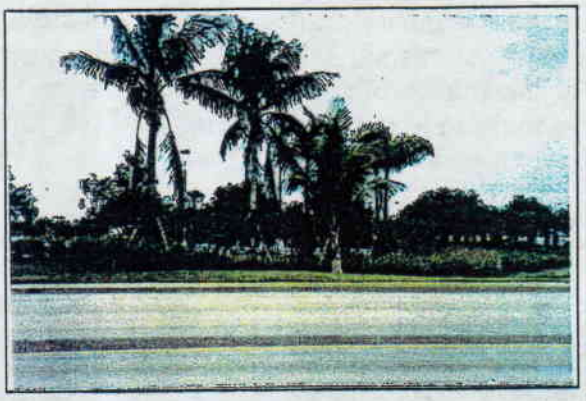


figure 2-6 Bold, simple forms at intersections

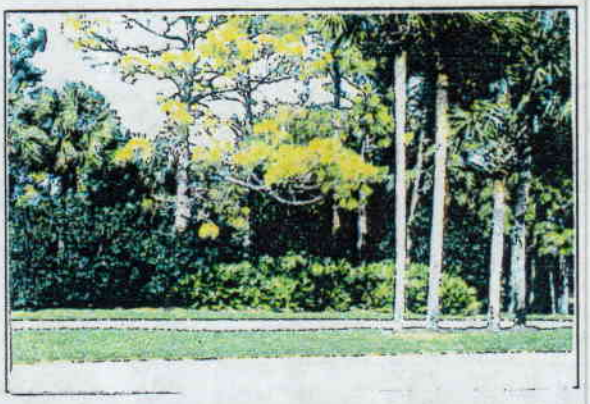


figure 2-7 Naturalistic treatment between intersections

2.5.3.1 Character The overall landscape design character is a soft, free flowing organization of shrub beds, groundcovers and lawn (figures 2-6 and 2-7). The overstory consists predominantly of native hardwood canopy trees. Accent areas of palms and/or flowering trees are encouraged, especially at intersections.

One should strive for a minimum of 60 percent canopy closure at maturity within medians and 50 percent median coverage by use of shrubs and ground covers, lawn and mulch beds may encompass the remainder of landscape bed coverage where no mulch bed exceeds two feet in width.

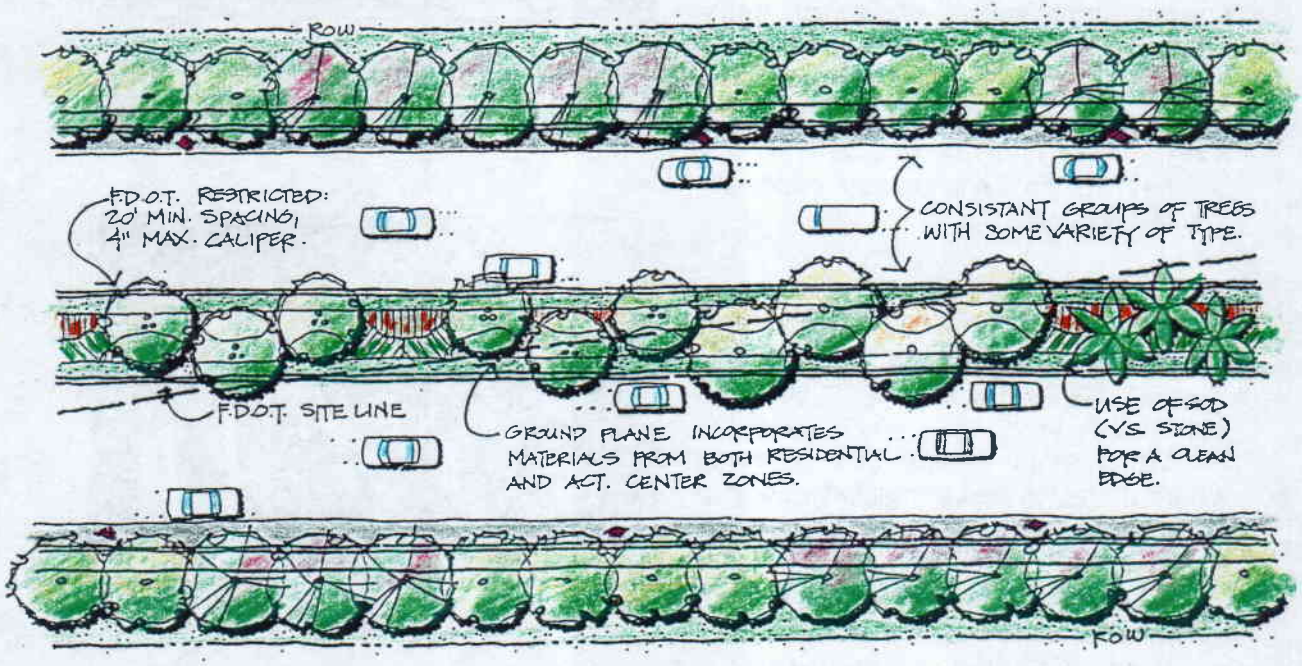
2.5.3.2 Medians The dimension of medians tends to increase in width as a transition from Activity Center (Urban) to Residential Zones. There should be a diminishing use of both a formal geometry of plant bed layout and use of shrub material which would require a formal clipped appearance.

Ground planes should undulate providing for visual relief and a greater opportunity to showcase plantings. Grades should never exceed 3:1 slopes. Isolated depressions, unless drained by use of catch basin, are discouraged. As demonstrated in the plant lists in Section 3.0, greater use of Florida native plant material is encouraged. And, correspondingly, there should be less dependence upon use of water in irrigation systems.

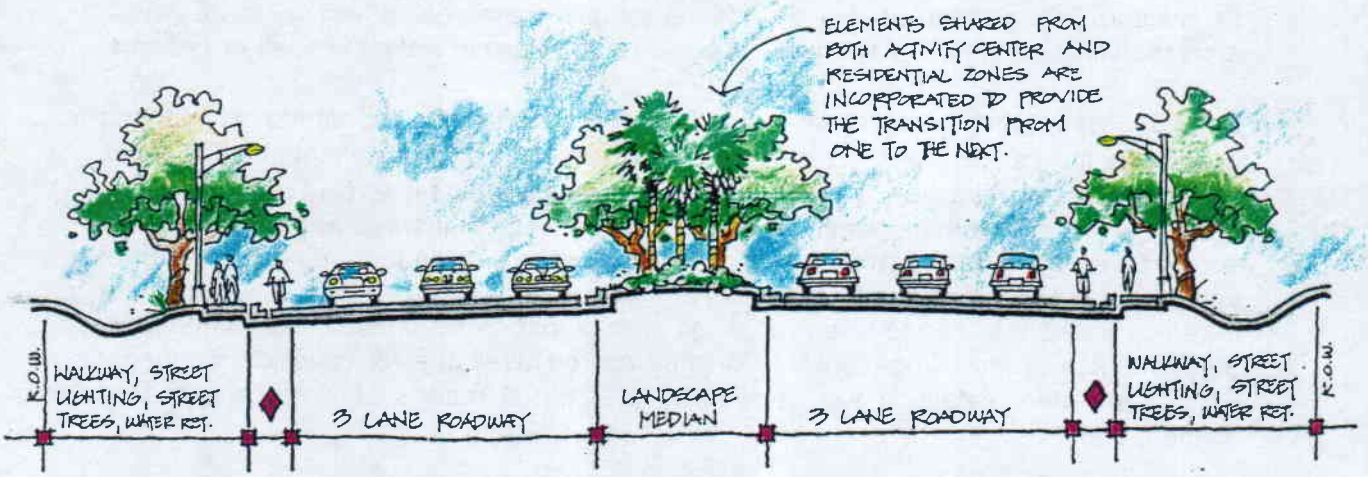
2.5.3.3 Roadsides These areas provide for additional but not mandatory planting opportunities of canopy trees, shrubs and groundcovers. The predominant planting areas will consist of lawn grasses. Canopy trees and palms should be spaced regularly but in groupings of no fewer than seven specimens each. Accent clusters of trees and/or palms should be provided at the corners of major intersections to provide further interest to street tree plantings and to serve as "gate posts" for important street crossings. Care should be taken to coordinate canopy tree plantings with plantings which occur in immediately adjacent use areas. Irrigation may or may not be available for roadside plantings. Coordinate plant selection with availability of artificial means of water supply and distribution.

2.5.3.4 Non-Planted Areas In most cases Urban/Residential areas will have a sidewalk, usually immediately adjacent to back of street curb or a few feet away in the most urban sections of this transitional zone. Lighting occurs as tall D.O.T. standard "pole and arm" for illumination of the adjacent roadway and sidewalk. Ideally, sidewalks should have a meandering alignment to provide for a soft appearance and to provide for interesting plant bed configurations.

2.5.3.5 URBAN/RESIDENTIAL ZONE - Schematic Plan



2.5.3.6 URBAN/RESIDENTIAL ZONE - Schematic Cross Section



2.5.4 Residential Zone This zone occurs within the Urban/Residential Land Use Area of the Collier County Comprehensive Plan and is entirely residential. It is frequently fronted by large planned unit developments (PUD) which provide landscape buffers along roadways with limited to no views to residential dwellings within the community (figure 2-8).

2.5.4.1 Character This is a very "soft" landscape zone in character. Often, street edges are already landscaped with plantings or plantings and perimeter wall combinations. Wide, open medians are usually available, some containing drainage swales. Interruptions usually only occur at PUD main entrances.

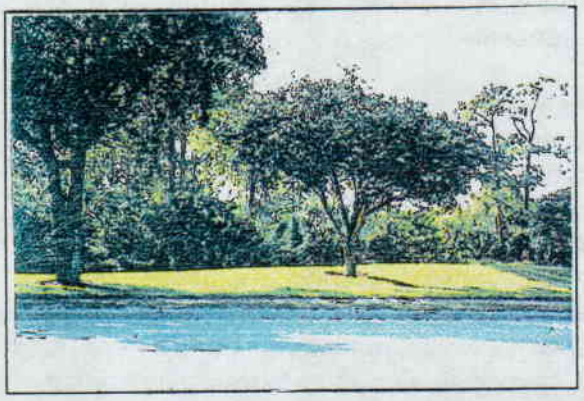


figure 2-8 Landscape buffer between road and PUD

Landscape need not fill the available planting area, but shall occur as drifts of plant beds in an undulating lawn or other less maintenance prone material. Where possible, native plant materials in rather large groupings shall be encouraged. Slash pine, Live oak and Sabal palm are predominate tree species, while Buttonwood, Cocoplum, Sea grape, Wax myrtle and Saw palmetto are shrub species that would be consistent within this zone.

Accent plantings in the medians at major PUD intersections should be encouraged, even if they depart from the native plant materials which are planted elsewhere. These plantings may reflect the species and design character of the adjacent major entry landscapes thus providing design continuity throughout the entire intersection (figure 2-9).

figure 2-9 Provide landscape continuity throughout the intersection

2.5.4.2 Design A soft, spacious, naturalistic character should not be difficult or costly to maintain. Large medians shall be predominately planted in lawn grass. A drought tolerant Bahia variety shall be selected and irrigated only as necessary during the "dry" season or during periods of drought. A selection of native trees and shrubs shall be naturally drought resistant. Occasional large beds of flowering perennial shrubs shall be encouraged, perhaps every quarter mile or so, to provide color, interest and seasonal change.

2.5.4.3 Medians In addition to the above description, medians may need to be phased landscapes which accommodate eventual road widening. Wide medians of 4-lane divided roadways shall retain edges in an expendable but soft green landscape. Low cost ground covers or drought tolerant lawn grasses would be appropriate. Wide expanses of mulch (organic and/or inorganic) are to be avoided.

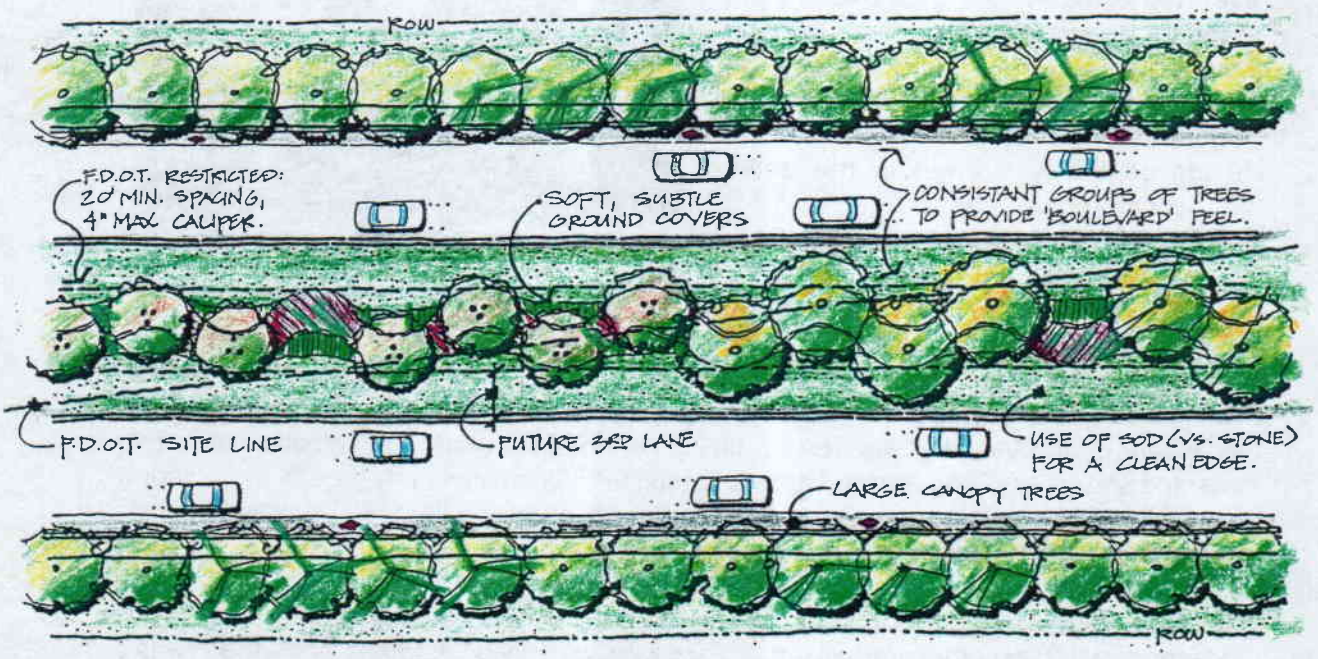
2.5.4.4 Roadsides Many Residential Zone landscapes have large Planned Unit Developments as frontage properties. Subdivisions and large single family home properties are also present. In many cases, it is possible, indeed desirable, to allow these adjacent uses to become the "edge" condition of public rights of way. If those edge conditions consist of walls or other hard architectural elements, additional tree material and groundcovers which employ the use of Florida native plant materials may be necessary.

As previously described, additional plantings should be arranged in informal masses where no single species grouping consists of less than a dozen members. This would be consistent with the grand scale of this landscape.

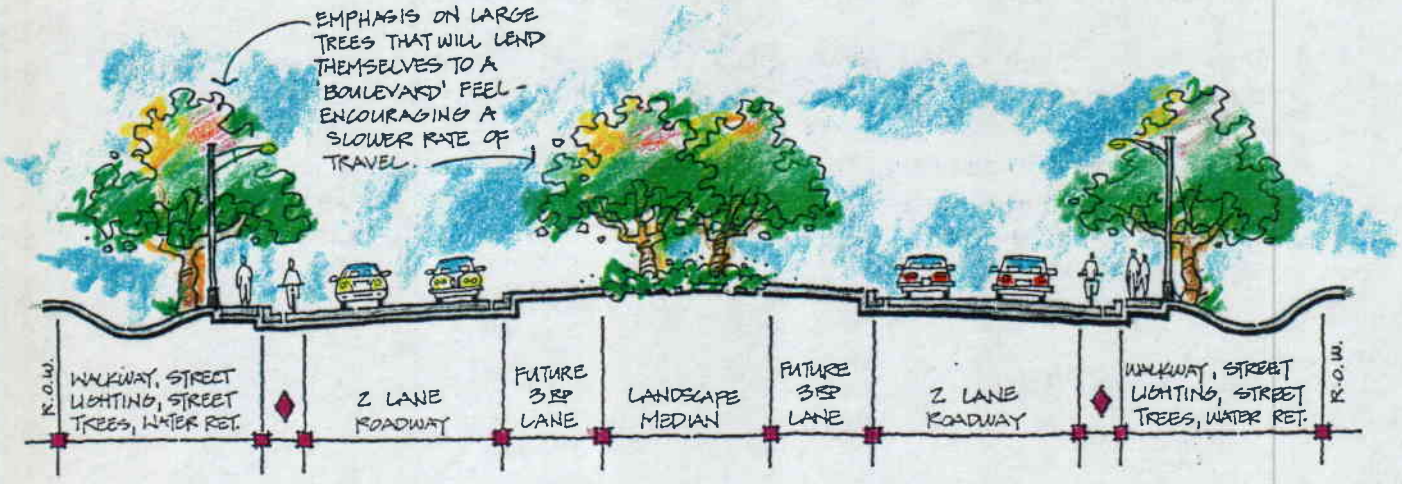
2.5.4.5 Non-Planted Areas In Residential Zones, non-planted areas consist primarily of sidewalks, bikeways and street lighting. If space permits, sidewalks should have a pleasing, soft horizontal alignment. Radii of less than 50 feet should be avoided, except at cross walks and intersections where horizontal dimensions become constrained. Try to layout sidewalks like street alignments: always with a definable curve and tangent. Avoid erratic, convoluted and excessively serpentine walk alignments.

2.5.4.6 Lighting Light poles shall not occur within paved pedestrian areas except at intersections, and only if absolutely necessary.

2.5.4.7 RESIDENTIAL ZONE - Schematic Plan



2.5.4.8 RESIDENTIAL ZONE - Schematic Cross Section



2.5.5 *Agricultural Zone* Farm fields, pasture land, and native undeveloped pinelands create the adjacent land use within the Agricultural Zones for streetscape. In the Urban Area of Collier County, the Agricultural Zone has been transitional. Remaining agricultural areas will likely become another use classification, most frequently Residential. Therefore, decisions about when and if to plant medians should be made on a case by case basis. Interim plantings are recommended and should be coordinated with future roadway development.

2.5.5.1 Medians Agricultural Zones usually do not have curb and gutter, are expansive in size (40'+ width) and frequently contain drainage swales. They are generally inhospitable planting conditions for all but the most hardy of plant materials.

Large stands of Live oak, Slash pine, Saw palmetto, Wax myrtle, and Sabal palms should be the basic native palette of plant materials. No permanent irrigation systems should be installed unless privately funded and maintained. Soils may require amendment to remove road bed materials and replacement with native topsoil in planting areas.

Never force any controlled geometry to plantings of tree materials in Agricultural Zone medians. The native fringe areas of adjacent agricultural pasture and farm lands should serve as a useful guide to character of planting beds and tree massings. Only drought tolerant grasses should be used. Manicured mulch beds would be inconsistent with the character of this zone and should be avoided.

Maintenance should consist of manual watering irrigation for 3 - 5 months. Following this establishment period, only occasional mowing (bi-monthly) should be required.

2.5.5.2 Roadsides The edges of Agricultural Zones present opportunities for significant mass plantings of native tree materials as a continuation of and linkage to median landscapes. Informal groupings of trees along with drifts of native shrub materials can help frame views of adjacent pasture lands from the highway.

Only xeriphitic plant material requiring little or no irrigation, other than grow-in support, should be planted. Only Bahia grass should be planted for this reason.

2.5.5.3 Non-Planted Areas There will be little to no areas along roadsides that will not be planted. Given the transitional nature of this landscape zone, sidewalks may not be appropriate. If present, the alignment of walks should have a slowly undulating character, well back from edge of the adjacent roadway.

2.5.5.4 AGRICULTURAL ZONE - Schematic Plan