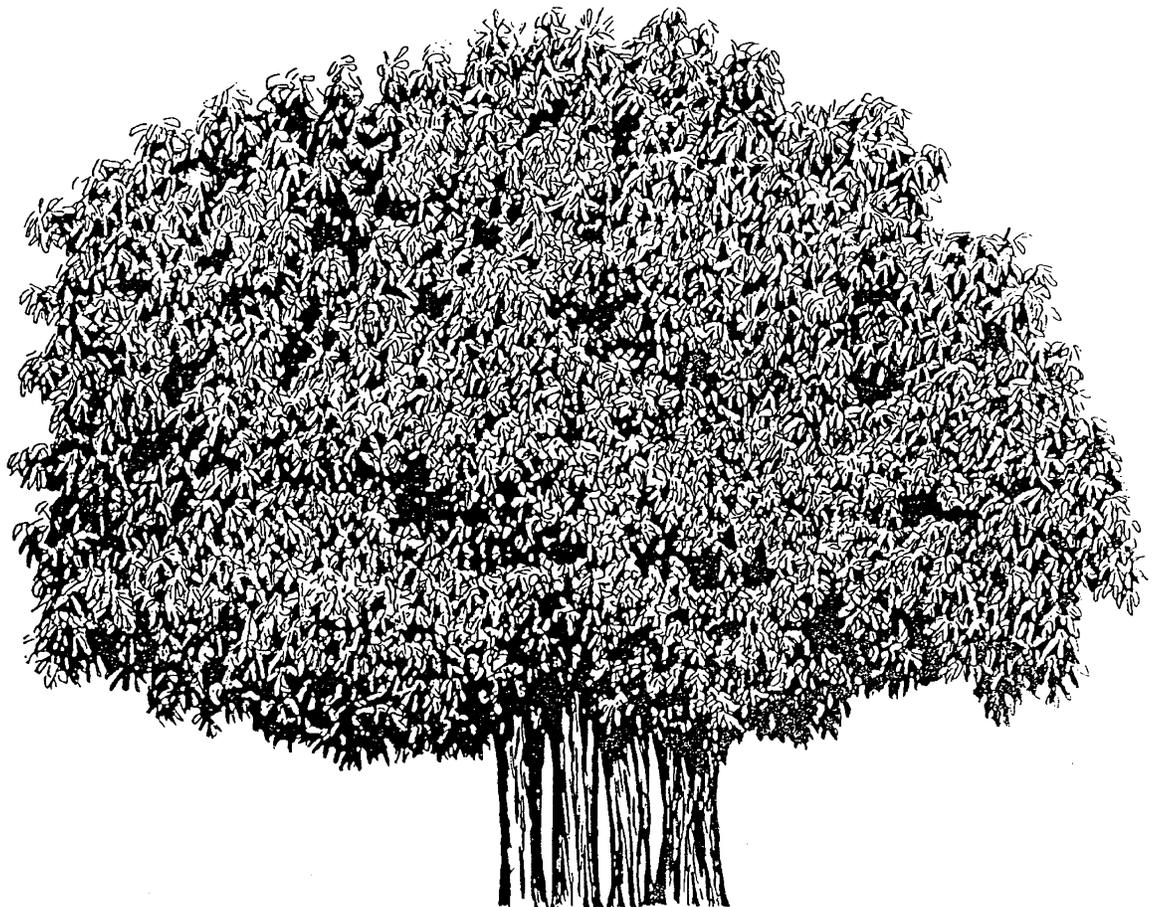


Banyan Tree Assessment Report

Banyan Street - Boca Grande, Florida



Prepared by:
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Lee County Division of Environmental Sciences
May 22, 2002

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“No town can fail of beauty, though its walks were gutters and its houses hovels, if venerable trees make magnificent colonnades along its streets.”

Henry Ward Beecher, *Proverbs*, 1887

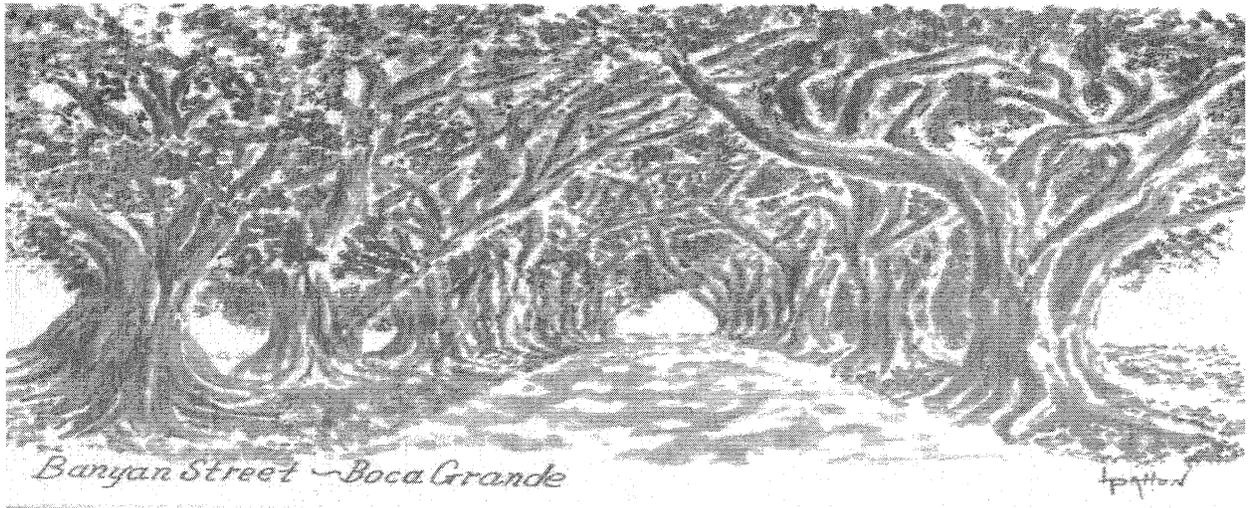


Photo from postcard art by Leo Patten, courtesy of Boca Grande Lighthouse Museum

Located in the beautiful historic district, Banyan Street is a signature icon on Gasparilla Island (Boca Grande). The graceful beauty of huge trees canopied tightly over a narrow street is truly village like. The fig trunks are nearly grotesque in form, twisting their way up and down. Large aerial roots drip down from above. Those roots that reach the ground add support to the heavy branches. This island street is a special place, worthy of attention and protection.

In meeting with adjacent property owners to Banyan Street, it was readily apparent that they love and care about these trees. Frequently, visitors are taking photos of the street and appreciating the cooling deep shade. The contrasts of textures, colors and light are also commonly added to canvas by artists who see a place of beauty.

This report will provide an assessment of the banyan trees along Banyan Street. Historic and current information was gathered to better understand these specific trees and the surrounding area. Research on the *Ficus* genus and this species, *benghalensis* was done. An onsite meeting was conducted with adjacent property owners to hear their thoughts, ideas, recommendations and concerns. Lastly, a series of recommendations was prepared to increase the long-term health of the trees.

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History

Banyan Street, as a street, was created as Second Street in "Plan for Subdivision of Boca Grande" in on July 15, 1915. Interestingly, this subdivision plat was prepared by Carl Rust Parker, a Landscape Architect from Portland, Maine. The plat was recorded in the Lee County records on Plat Book 3, Page 51. Parker was also the landscape designer of what would be Boca Grande's first street tree planting effort. Because of the trees planted in the section of the Second Street between Gilchrist Avenue and Park Avenue the street was renamed to Banyan Street.

The banyan trees were also planted in 1915 by employees of Boca Grande Land Company, a subsidiary of the American Agricultural Chemical Company. Peter Bradley, from the Boston, Massachusetts based Bradley Fertilizer Works, was the founder of the American Agricultural Chemical Company and helped to plant the trees. The Charlotte Harbor and Northern Railroad Company was also a subsidiary of the American Agricultural Chemical Company. Other tree species were planted on different streets. Most notable of the other trees were the coconut palms planted to line the wide median of Gilchrist Avenue.

***Ficus benghalensis*....the Banyan Tree**

In botanical classification, *Ficus* is a genera (genus) and a member of the mulberry family of trees, known as the Moraceae. The Moraceae family includes mulberry, breadfruit, jackfruit, osage orange and the largest genera, the *Ficus*. There are approximately 800 species in the *Ficus* genus. Several species and cultivated varieties of *Ficus* are used in eating "fig" fruit production. We all know Fig Newtons! There are five *Ficus* species native to Florida, most common is the strangler fig (*Ficus aureum*) often seen clinging on a sabal or cabbage palm.

Specifically, the banyan tree, (*Ficus benghalensis*), is native to India, Sri Lanka and Pakistan. Other common names of the banyan tree include the Bengal fig, Indian fig, East Indian fig, vada, bara, baladore and bata gachha. They are also known as the "many footed ones" and "trees that walk." The word banyan comes from the Hindi word "banian" which means "trader." The shade of the banyan was frequently used in India by merchants and traders for buying and selling dealing their wares.

Banyan trees are found in almost every village in India. It is considered sacred and is often planted around Buddha and Hindu temples. Banyan trees have been used for ornamental purposes in the tropics throughout the world. Hawaii has many specimens of banyan trees that are noted. The City of Fuzhou in China is known as the city of banyan trees that were planted over 900 years ago. In Indonesia, banyans are considered the "elders" of all trees and afforded special respect.

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In Cambodia, banyan trees are found embedded with the stones of ancient temples an Angkor. Cambodians believe that their history is rather like that of the banyan tree. Their history is made of a thousand branches intertwined together, merging the past and present, yet forever changing and growing.

The leaves of the banyan are dark green in color, broad and flat. The leaves are to 10 inches long and 6 inches wide. The thick growth of leaves creates a canopy that is dense and very shady. The fruits are approximately 3/4 to 1 inch in diameter size. The fruits start orange red and turn more red as they ripen.

Banyan trees, as are most *Ficus* species, are tropical in origin. By being tropical, they are subject to cold damage during frosts and freezes. Generally, banyan trees are tough to the elements of tropical climates. There is extensive information about the ethnobotanical (how people use plants) uses of banyan trees. Banyan tree traditional medicinal uses range from curing leprosy and diabetes to treating scorpion bites.

The Florida state champion sized banyan tree is located at the Thomas Edison winter estate in Fort Myers, Florida. This specific tree was given to Mr. Edison by his neighbor and friend Harvey Firestone in 1925. This awesome banyan tree greets visitors at the entrance to the estate near the parking lot. The canopy of this huge tree covers nearly an acre of the estate grounds. The tree measures 191 feet in crown spread and the diameter of the main trunk is over 31 feet in circumference. There are many secondary trunks that have formed from the aerial roots.

Conditions of the Trees on Banyan Street

There are a total of 31 banyan trees that line both sides of Banyan street between Park Avenue and Gilchrist Avenue. A dense canopy exists from one end of the street to the other. Overall, the banyan trees appear to be good health and condition. The leaves and branching is thick and has good color. The trunks have been nicked and some minor carved graffiti are evident. There was a noticeable lack of leaf litter on the ground around most of the trees.

There are five banyan trees at the northwest corner of the intersection of Banyan Street and Gilchrist Avenue that do show stress. The canopies of these trees are thinner and leaves show some signs of chlorosis (yellowing). In discussions with adjacent property owners, this was the area that was subject to inundation of Gulf of Mexico water on September 11, 2001 during Tropical Storm, later becoming Hurricane Gabrielle. It was stated that water ponded in the area of the stressed trees for approximately two days.

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By existing 88 years, these trees have been exposed to no less than 4 hurricanes or tropical storms. Typical conditions of these tropical storm events that would have impacted these trees include high winds, Gulf of Mexico salt spray and salt water inundation from tidal flooding. This photo shows the flooding effects and ponded Gulf of Mexico water of the 1921 hurricane that hit Boca Grande.



This downtown street, probably Gilchrist Avenue, flooded in the 1921 storm. (Courtesy of Homer Addison.)

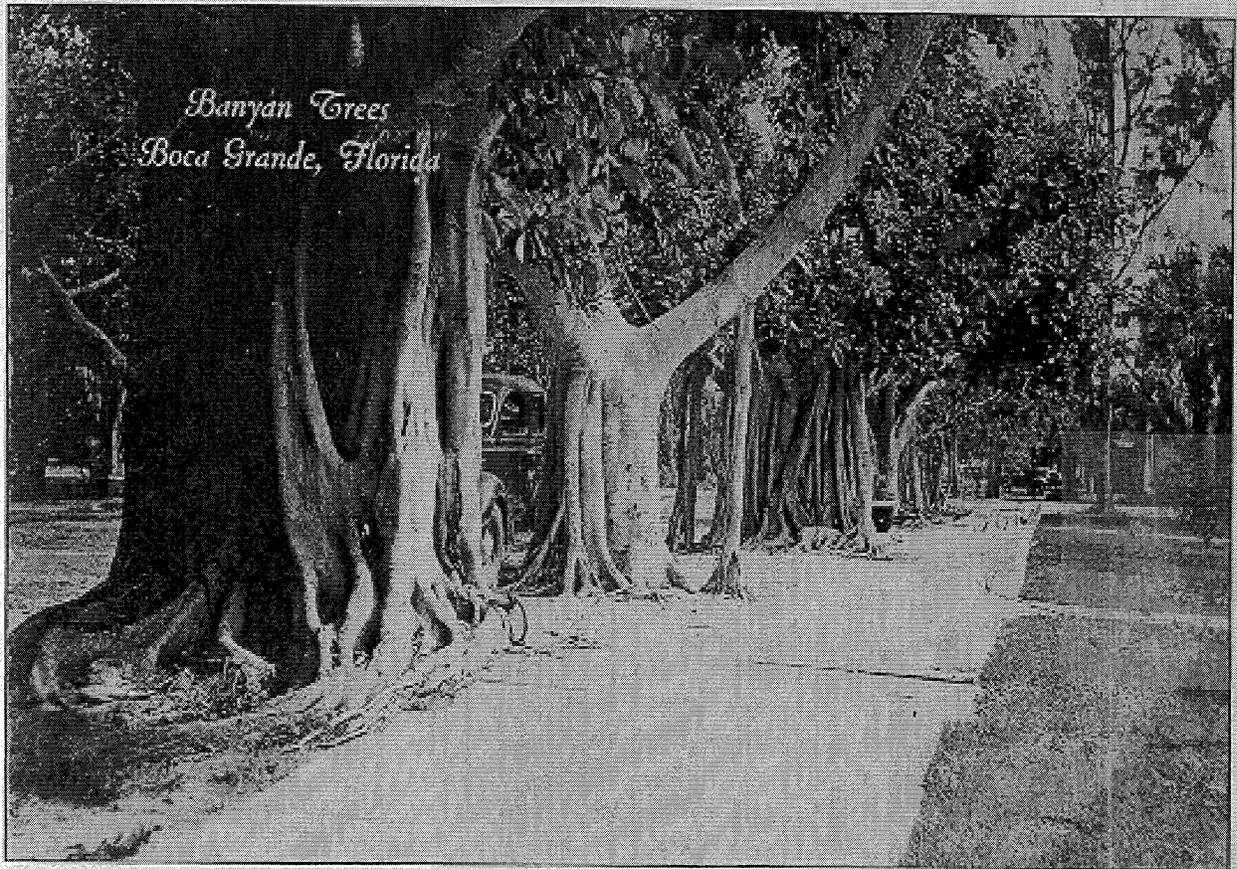
Photo courtesy of Homer Addison, Published in "Images of America: Boca Grande" by Marilyn Hoeckel and Theodore B VanItallie.

The problem with surface water ponding for extended periods is being addressed by water management improvements that are currently under construction. These improvements along Gilchrist Avenue by the Lee County Department of Transportation should reduce the length of time water is ponded at the northeast corner of Banyan Street and Gilchrist Avenue. It should also reduce stress and help the health of the banyan trees.

The most western banyan tree on the north side of Banyan Street at the intersection with Gilchrist Avenue was in poor condition. There were two primary trunks on the tree. The trunk that is more upright leaning toward Banyan Street was completely dead. The other trunk that leaned over Gilchrist Avenue had severe decay at the intersection with the main trunk. This was a hazard tree that has been addressed and it is described in the recommendation part of this report.

Freezes and frosts do damage tropical origin plants, including banyan trees. It was described by residents that freezes have caused major leaf drop. A freeze of approximately seven years ago caused a leaf drop of two feet or more of leaves that required the use of heavy equipment to clean up.

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Banyan Street, one of Boca Grande's most noted landmarks, was planted in about 1916. It is shown here in about 1950. (Courtesy of Jeff Gaines.)

Photo courtesy of Jeff Gaines published in the book "Images of America: Boca Grande", by Marilyn Hoeckel and Theodore B VanItallie, Arcadia Publishing, 2000.

Marilyn Hoeckel, Director of the Boca Grande Lighthouse Museum was very helpful in finding and looking at historic information about Banyan Street and trees. A review of older photos from the island were revealing. In the above 1950's photo, large concrete sidewalks existed on the outside of the trees. These sidewalks are basically gone. I understand most of sections of the sidewalk were totally removed. Remnants of the sidewalk can still be seen today. In some areas, it appears as if the trees had swallowed the concrete walks.

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Recommendations

1. Gulf to Bay Tree and Landscape, Inc. has recently completed a maintenance pruning of the banyan trees. This type of overall structural pruning is needed each year and should always include removal of any hazardous, dead or crossing branches. This arborist company also removed the one dead trunk and reduced the length of the other decayed trunk on single tree in northwest corner of Gilchrist Avenue and Banyan Street. It is recommended that the decayed trunk be removed back to large trunk mass and be allowed to resprout new branches. Annually prune the "new" trunk for proper branch development.
2. Provide bi-annual fertilizer application to the trees. It is recommended that an acid forming fertilizer formula with a balanced formulation, such as 10/10/10 with micro elements be used.
3. Provide an application of Mycorrhizae fungi to optimize root feeding. Use Plant Success Soluble, made by Plant Revolution, Inc. This product includes both EctoMycorrhiza and EndoMycorrhiza. *Ficus* trees require EndoMycorrhiza and it has been successfully used to rehabilitate banyan trees in Hawaii. The Plant Success Soluble is applied as a soil drench or is injected into the soil at the rate of one pound per 200 gallons of water throughout the root zone of the tree.
4. Request adjacent homeowners leave some leaves around base of trees as organic mulch for trees. More decorative organic mulches, other than cypress, could be used for the same effect. These leaves or mulch provide moisture retention during droughts, Mycorrhizae (essential root fungus) development and reduce soil compaction.
5. Request adjacent property owners allow some additional branch support through not cutting all aerial roots that develop and extend to the ground. Some of the large diameter branches would benefit from additional support provided with aerial roots reaching the ground. It is not a recommendation that the banyan trees be encouraged or allowed to eat the neighboring structures!
6. Consideration should be given to make Banyan Street a one way street which would reduce the need for crown pruning for dual travel lane clearance. This would also make the street safer for the many pedestrians that walk there. Residents could work with Lee County Department of Transportation to secure that result.

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7. Additional regulatory protection could be afforded these Banyan trees through a "designation" of the trees in a number of ways. McGregor Boulevard in Fort Myers, a state road has been designated a "scenic highway" by the Florida Department of Transportation (FDOT). A copy of that FDOT designation is attached as an appendix to this report. Additionally, protection against acts of vandalism, such as carving initials or names into the bark, could be made a criminal offense.

8. All *Ficus*, including banyans, are quite sensitive to tricloypr (Round-Up brand types) herbicides. Caution should be used by right-of-way maintenance staff and adjacent residents in using these types of herbicides to avoid any incidental herbicide damage to the banyan trees.

Conclusions

In the preparation of this report, the author has learned new things about both the early development of Boca Grande and banyan trees. It is truly my pleasure to share what I have learned. Banyan Street is a special place. It is one of those places to seek out and experience. Big trees command respect.

Appreciation is extended to Clifford and Lois (Lolo) Weir for requesting Lee County to look and assess the banyan trees. I was asked by Lee County Commission Chairman Bob Janes to prepare the assessment report. Several others have helped in the research about the history of the island and the care of banyan trees. They include Marilyn Hoeckel, Misty Nabers, Mark Shevitski, Dolores Salvas, Mary Gibbs, Gloria Sajgo, Pam Houck, Randy Cerchie, Robert Olinger and Dr. Michael Amaranthus.

As described in India's National Newspaper, "The Hindu"....."the banyan tree has always been venerated and honoured by humans, and perhaps this is because it has all the qualities we all cherish - longevity, serenity, wisdom and resilience."

And lastly.....

"When you enter a grove peopled with ancient trees, higher than the ordinary, and shutting out the sky with their thickly inter-twined branches, do not the stately shadows of the wood, the stillness of the place, and the awful gloom of this doomed cavern then strike you with the presence of a deity?" Seneca

BANYAN STREET REPORT APPENDIX

Florida House of Representatives - 1981

CS for HB 823

By Committee on Transportation and Representative Mann

Ch. 81-164, Laws of Fla.

This public document was promulgated at an average cost of 1.3 cents per single page for the information of members of the Legislature and the public.

1 A bill to be entitled
2 An act relating to historic highways; amending
3 chapter 75-312, Laws of Florida, providing
4 legislative intent; providing definitions;
5 providing for the designation of McGregor
6 Boulevard as a state historic highway and
7 prohibiting the use of state or county funds
8 for described purposes; authorizing the
9 Department of Transportation to issue permits
10 for certain works on the road; prohibiting the
11 erection of signs; providing easements;
12 providing for markers; prohibiting the
13 attachment of signs, lights, reflectors or
14 other objects on certain trees; providing
15 penalties for violations; providing an
16 effective date.

17
18 Be It Enacted by the Legislature of the State of Florida:

19
20 Section 1. Chapter 75-312, Laws of Florida, is amended
21 to read:

22 Section 1. Legislative intent.--In enacting this law,
23 it is the declared intention of the Legislature that the
24 historic and scenic values of McGregor Boulevard and its
25 surroundings should be preserved. Any work which is likely to
26 affect such values adversely should be discouraged, and the
27 division should be consulted as the principal authority on
28 historical preservation in all cases where it is suspected
29 that proposed public works may affect the historical and
30 scenic qualities of McGregor Boulevard.

31 Section 2. Definitions.--As used in this act:

CODING: Words in ~~struck~~ through type are deletions from existing law; words underlined are additions.

1 (1) "Road" means McGregor Boulevard which includes
2 State Road 867 which extends from its intersection with U.S.
3 41 (State Road 45) in Fort Myers south to its intersection
4 with College Parkway in Fort Myers.

5 (2) "Division" means the Division of Archives, History
6 and Records Management of the Department of State.

7 (3) "Historic easement" means any easement,
8 restriction, covenant or condition running with the land,
9 designated to preserve, maintain or enhance all or part of the
10 existing state of places of historic, architectural,
11 archeological, or cultural significance.

12 (4) "Department" means the Department of
13 Transportation.

14 Section 3. Designation as historic highway.--McGregor
15 Boulevard is hereby designated as a state historic highway.
16 No state or county funds shall be expended by any public body
17 or agency for any of the following purposes:

18 *(1) To cut or remove any palm tree within 15 feet of
19 either side of the paved surface of the road; or to engage in
20 an activity which requires the removal without replacement of
21 such a tree.

22 (2) To alter the physical dimensions or location of
23 the road except for the addition of primary or secondary roads
24 intersecting the limits of McGregor Boulevard.

25 (3) To erect, demolish or significantly alter the
26 appearance of any structure, including, but not limited to,
27 walls, fences, sidewalks and curbing, within 20 feet of either
28 side of the paved surface of the road, with the following
29 exceptions:
30
31

1 (a) Bicycle paths and recreational facilities the
2 construction of which does not require the removal of any
3 structure deemed worthy of preservation by the division.

4 (b) Erections, demolitions, alterations, and
5 restorations undertaken for the purpose of preserving or
6 enhancing the historic or scenic value of the road and its
7 surroundings.

8 (c) The department shall review all work proposed to
9 be funded in any part with state funds and shall have the
10 authority to issue a permit for any work not contrary to the
11 provisions of this act. Before permitting the emplacement of
12 any sign or the erection, demolition, alteration or
13 restoration of any structure, the department shall consult and
14 obtain the official approval of the division.

15 (d) Nothing in this section shall be construed to
16 prevent the ordinary maintenance and repair of the road or
17 structures, provided the physical dimensions and location of
18 the road and the appearance of any structure are preserved,
19 nor to prevent any work that is necessary for the public
20 health or safety as determined by the agency having
21 jurisdiction over the portion of the road involved. Nothing
22 in this act shall prohibit the establishment of three-lane
23 traffic or three-lane turn intersections on said road if such
24 can be accomplished without the dislocation of immediately
25 bordering palm trees, or can be accomplished by transplanting
26 said trees to conform with the revised intersection design.

27 Section 4. Signs.--No signs may be erected within 25
28 feet of either side of the paved surface of the road, except
29 the following:

30 (1) Official road signs, including traffic control
31 devices, erected by the Department of Transportation or by the

1	city or county having jurisdiction over the portion of the	
2	road involved.	1.
3	(2) Signs not visible from the road.	1.
4	(3) Markers indicating points of historical interest	1.
5	erected or approved by the division.	.
6	(4) Signs that do not exceed 6 square feet in area	1.
7	advertising the sale or lease of the property upon which they	1..
8	are located.	
9	(5) Signs advertising only the name or nature of the	1.6
10	business being conducted upon or the products, facilities,	
11	goods or services being sold, supplied, or distributed upon or	1.6
12	from the premises where the signs are located, if such signs	1.6
13	do not exceed a total of 30 square feet in area for any one	
14	business.	
15		
16	The provisions of this section shall not supersede a more	1.6
17	restrictive law, ordinance or regulation already in effect or	1.6
18	taking effect after this act and shall not include any signs	
19	existing before the effective date of this act.	1.6
20	Section 5. Easements.--The division is authorized to	1.6
21	obtain by purchase, gift or devise historic easements in	
22	property situated along the road whenever and to such extent	1.6
23	that the division may determine appropriate for the	
24	preservation of the road or of any structure of historic	1.6
25	significance along the road. To be considered worthy of	1.6
26	protection by the division, property or the protected part	
27	thereof need not be of great historic, architectural,	1.
28	archeological, or cultural significance when considered by	
29	itself, provided that it makes a significant contribution to	1.
30	the area considered as a whole. Any restriction placed on the	1.
31	use of property situated along the road pursuant to this	

1 section shall be reported by the division to the property
2 appraiser of Lee County and shall be taken into consideration
3 when the property is assessed for tax purposes.

4 Section 6. Nothing in this act shall be construed to
5 permit any public body or agency to take or acquire private
6 property rights abutting said highway without just
7 compensation to the property owner.

8 Section 7. The division shall provide for the erection
9 of suitable markers on and along the road.

10 Section 8. No signs, lights, reflectors, or any other
11 objects may be mounted or attached in any way to the trunk or
12 branches of any palm tree within 15 feet of either side of the
13 paved surface of the road.

14 Section 9. The violation of any provision of this act
15 is declared to be a criminal offense and a misdemeanor within
16 the meaning of s. 775.08, Florida Statutes, and shall be
17 punishable as provided by law.

18 Section 10. If any provision of this act or the
19 application thereof to any person or circumstance is held
20 invalid, the invalidity shall not affect other provisions or
21 applications of the act which can be given effect without the
22 invalid provision or application, and to this end the
23 provisions of this act are declared severable.

24 Section 2. This act shall take effect upon becoming a
25 law.

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