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Palm Cottage Garden Historic Preservation

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

PALM COTTAGE GARDEN HISTORIC PRESERVATION

A thesis submitted in partial fulfillment of the

requirements for the degree of

MASTER OF LANDSCAPE ARCHITECTURE

by

Vrushali J. Bharadwaj

2004

To: Dean Juan Antonio Bueno
School of Architecture

This thesis, written by Vrushali J. Bharadwaj, and entitled Palm Cottage Garden Historic Preservation, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this thesis and recommend that it be approved.

Michael Del Giudice

Marta Canaves

Gray Read, Major Professor

Date of Defense: March 30, 2004

The thesis of Vrushali J. Bharadwaj is approved.

Dean Juan Antonio Bueno
School of Architecture

Dean Douglas Wartzok
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Florida International University, 2004

DEDICATION

This thesis is dedicated to my loving husband, Jeetendra Bharadwaj, who contributed much inspiration, thought and support in writing this thesis and to my parents who have always supported me.

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ABSTRACT OF THE THESIS

PALM COTTAGE GARDEN HISTORIC PRESERVATION

by

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Florida International University, 2004

Miami, Florida

Professor Gray Read, Major Professor

Historic landscapes are vital elements of our nation's cultural continuum and must be protected as a part of living fabric of the community. This thesis addressed the preservation of historic landscape gardens, focusing on design strategies that can make historic time legible in landscape. It proposed a landscape plan for the preservation of Palm Cottage Garden in Gotha, Florida, a significant historic landscape resource.

To determine the criteria used to establish how and to what period the estate should be restored, the Secretary of the Interior's Guidelines for the Treatment of Cultural Landscapes was followed. This process involved documenting the current site conditions and evaluating natural and cultural resources.

For the garden to continue to keep its historic fabric, rehabilitation was selected. The garden was designed to preserve existing features and make efficient contemporary use of the garden possible. The landscape plan focused on strategies that reveal the site's significant past through new design elements while adapting to current and future needs.

TABLE OF CONTENTS

CHAPTER	PAGE
CHAPTER 1	1
1.1 Introduction.....	1
1.2 Preservation of Historic Landscapes.....	1
1.3 Time and Legibility in Landscape	1
1.4 Research Findings.....	3
CHAPTER 2.....	5
2.1 Site Introduction	5
2.2 Problem Statement.....	5
2.3 Methodology.....	5
CHAPTER 3.....	6
3.1 Physical Characteristics of the Site.....	6
3.1.1 Vegetation.....	6
3.1.2 Soils	6
3.1.3 Fauna.....	6
3.2 Geographical Context, Social and Cultural History	6
3.3 Ownership Occupancy and Development.....	7
CHAPTER 4.....	8
4.1 Site Analysis	8
4.1.1 Location	8
4.1.2 Regional and Neighborhood Character.....	8
4.1.3 Access	8
4.1.4 Existing Conditions.....	8
CHAPTER 5.....	9
5.1 Design Goals.....	9
5.2 Site and Period of Significance.....	9
5.3 Recommended Treatment.....	9
5.4 Program.....	9
5.4.1 Objectives	9
5.5 Conceptual Design Description	10
5.6 Master Plan Description.....	10
5.7 Conclusion	11
BIBLIOGRAPHY	24
NOTES	25

LIST OF PLATES

PLATE	PAGE
1. Location and Context.....	12
2. Regional and Neighborhood Study.....	13
3. Soils and Climatic Data.....	14
4. Existing Site Conditions.....	15
5. Existing Vegetation.....	16
6. Concept.....	17
7. Master Plan.....	18
8. Entrance and Formal Garden.....	19
9. Event Garden.....	20
10. Ornamental Garden.....	21
11. Pineland Habitat.....	22
12. Illustrative.....	23

CHAPTER 1

1.1 Introduction

Historic landscape gardens are living elements of our nation's cultural history and contribute to the vitality of our community. My thesis addressed the subject of preservation of historic landscape gardens, focusing on design strategies that can make historic time legible in the landscape. The thesis project proposed a landscape plan for the preservation of Palm Cottage Garden in Gotha, Florida, which is a significant historic landscape resource. The ultimate goal is to ensure that visitors connect to its past and educate them with its history.

1.2 Preservation of Historic Landscapes

Historic and cultural landscapes are places that reveal aspects of our country's origins and development. Each generation has left a particular cultural imprint on the landscape through time. The landscape's form, features and details reflect a particular period in time. But these elements change with time offering a legible trace of the past. The presence of the past offers a sense of completion, of stability, of permanence in resistance to the rapid pace of contemporary life.¹ People have always tried to investigate the past as a source of knowledge to better their future and landscapes have been an important link between the past and the present. Today we are facing a problem of losing such significant landscapes owing to lack of maintenance, misuse and shortage of funds. Due to rapid urbanization and space limitation, there is an increasing risk of losing significant landscapes within the urban space to development. Preservation of such historic landscapes not only provides an opportunity to educate and to increase awareness about its significant past, but also provides an opportunity to vitalize modern environments by creating an easily accessible recreation place for the urban population.

1.3 Time and Legibility in Landscape

This research into the writings of John Brinckerhoff Jackson and James Corner helped to identify and to understand various aspects of a site that influence shaping, development and legibility of a landscape over time.

According to James Corner, landscape is neither fixed nor passive but changing and active, demanding extension and reinvention. The landscape has the capacity to critically engage the metaphysical and political programs that operate in a given society. Landscape architecture is not simply a reflection of culture but more an active instrument in the shaping of modern culture. The landscape shapes the world not only because of its physical and experiential characteristics but also because of its content, its capacity to contain and express ideas and so engage the mind.² Thus landscapes not only reflect a significant timeframe of the past but also have a strong influence in shaping the future landscapes and hence need to be recovered, cultivated and projected towards new ends.

Meinig conceptualized the landscape as a multiple-layer text to read and interpret. According to Meinig the landscape is a complex cumulative record of the work of nature and society. It can be read in terms of layers of history, which are often complexly interwoven. Meinig believes all landscapes are symbolic, expressing cultural values, social behavior, and individual actions worked upon particular localities at particular period.³ This can be seen in the difference in the conception of Oriental landscapes from that of the West. Oriental landscapes are based on reverence for powers of nature and principles of inclusion and integration, where as the landscapes of the West seem to be based more on aesthetic and principles of contrast. Some other examples are the formal tradition emphasized in Renaissance and Baroque Europe and Moslem world, the informal romantic tradition seen in China, Japan and eighteenth century England and the nineteenth century and twentieth century fascination with plants for their own sake based on horticultural and botanical advances.

Landscapes form dynamic imprints of the evolution of natural systems and human interventions. Change is seen through their own natural succession. A garden with young and small canopy trees allowing sunlight to penetrate through them has a sun-loving-plant understory initially, but as it matures the garden's character changes with mature tall trees and shade-loving plants under it. They are the product of changes through time, often-over thousands of years. Sometimes such changes occur slowly and subtly, as with the geomorphologic effects on landform, at other times rapidly and dramatically as with vegetation, either in the cyclical changes of growth and reproduction or the progressive changes of plant competition and succession. This dynamic quality of all landscapes is balanced by the continuity of distinctive characteristics retained over time. For in spite of a landscape's constant change, a property can still exhibit continuity of form, order, use, features, or materials by using the existing topography, surface material, scale and light that give particular character to that place. Preservation and rehabilitation treatments seek to secure and emphasize this continuity while acknowledging change.

The landscape also undergoes change due to physical, historic, cultural and economic factors. Hence it is essential to study the landscape with reference to its context. J.B. Jackson perceives landscape as a unique thing that is a primordial idea and that can be read like language. Using Medieval Europe as an example he shows landscape to be mobile and changing in what he calls the vernacular landscape—the everyday landscape that people live in and go about in their every day lives. For Jackson, landscapes were social constructs, not collected individual designs. He sought to understand varied landscape elements as the product of human values and aspirations and regarded landscapes first of all in terms of living rather than looking. According to him, landscapes are organic and ever changing. They are the symbolic expression of human identity and can be studied as social contexts for human life.⁴

Landscapes are the product of one of the most enduring sets of linkages: the relationships between the physical environment and human society. Environment is the factual aspect whereas the landscape forms the sensible aspect of the relationship between the society and nature and hence is subjective.⁵ Landscapes are the result of attitudes as well as actions. They change from the actions of human intervention and manipulation depending on the requirement of the time and individual taste. They need to be viewed within the context of their own natural and cultural histories in order to be properly understood. The history of landscape is inevitably grounded in the analysis of its visible features.

According to Meinig, Peirce Lewis describes landscape as our unwitting autobiography, reflecting our tastes, our values, our aspirations, and even our fears, in tangible, visible form.⁶ Thus designed landscapes in particular represent the specific values and aesthetic ideas of their designers, yet continue to grow and change over time. To make the landscapes legible, they are represented as a continuous sequence of narrative or a particular phase in time using elements as metaphors. Every landscape is legible, and its study may decipher meaning. This can be seen in Villa Lante in Bagnaia. It has two main parts, park area with oak trees and fountains and formal garden placed side by side as if for comparison. The theme of the overall park is a chronological narrative leading from primitive Golden Age to modern civilization. The park area indicates the ideal timeless state of harmony with very little manipulation by man. The trellis surrounds fountains depicting unicorns and dragons symbolize the life of virtue and help establish the identity of the park as the earthly paradise.⁷



Fig.1 Section showing level difference in the garden adapting to the topography
Source: <http://www.famusoa.net/classes/laa6931/public/pag062.html>

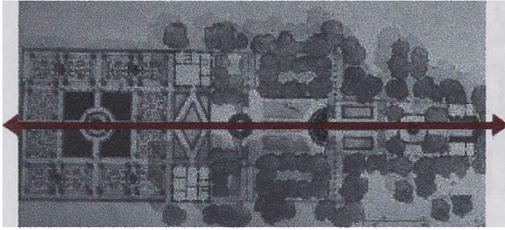


Fig.2 Plan showing balanced garden on central axis
Source:<http://www.famuso.net/classes/public/pag062.html>

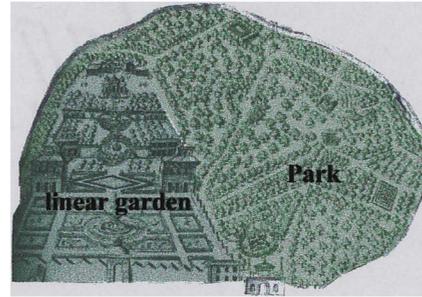


Fig.3 View of park and linear garden next to each other for comparison
Source:<http://www.bergerfoundation.ch/Jardin/images/bagnaia.jpg>

The formal garden is a linear narrative along the central axis showing the transition of the natural landscape being cultivated, tamed and perfected into a formal, ordered landscape by various natural forces and human efforts. The paths in the park lead to the upper end of the linear garden where the grotto of deluge represents the flood, which was the cause for the destruction of the golden age. Each terrace that progresses downwards represents the story of the civilization, shaping a more perfect nature through application of art and labor.⁸ Water is an important feature acting as a decorative, organizing and active element of the design. From symbolically wild conditions, water progresses down slope through several transitional stages to reach to its most sophisticated form in the lower gardens. Here it is in the form of still large placid pools reflecting the sky indicating stability and completion of the goal in comparison of the water features in the top terrace, which are in form of a waterfall. The continuous rills indicate the transitional and in process stage. Also there is transition between heavily wooded and wild vegetation on upper level to sunlight penetrated, formal lower areas of the parterres.

Time is a critical dimension of the landscape and design acts as a tool to make a historic time more or less legible in the landscape. Legibility of a landscape can help us to understand and read the time and history of a place. In land art, the artists like Andy Goldsworthy and Robert Smithson demonstrate the landscape as less a scene for contemplation and more as a shifting, material field of

natural processes engaged through motion and time.⁹ They reflect the passages and rhythms of time, seasons and weather. Most importantly, one is made aware of its time span, pace and the transitional, changing quality of each element with time. Movement, change, growth and decay are not only part of nature but they help to beautify it. Thus in addition to being a relationship and combination of art, technology and human impact, landscape achieves a unique quality of transformation with transition of time because of nature's law of birth, growth and its consequent and inevitable gradual decay.

Legibility changes with time. For example, when a farm is abandoned, the natural system takes back the land; when a quarry opens and closes, either condition alters the legibility of the site. Thus landscapes operate on different temporal scales engaging with the past and with the future in many different ways. Making the history legible in landscape also encourages reading and interpretation of people who use and invest their time in such places.

1.4 Research Findings

Preservation and rehabilitation treatments must address the specific historical period that the garden represents while acknowledging change within a living system and adapting to current conditions and contemporary use. This is essential for its survival and can be achieved by integration of a new design, which serves present and future needs. Thus recognition of history and value of such historic landscapes and their preservation by ensuring a balance between historic preservation and change is an important aspect of landscape architecture. This thesis project therefore proposed a landscape design within the context of historic preservation including: evaluation, analysis and organization of historical elements as well as the addition of new elements that constitute another layer of intervention.

To achieve the goal of preservation of a historic landscape it is important to study the landscape as a process considering its origin and the various stages of its development. It provides a better

understanding of a landscape's cultural and natural features and can result in a treatment and management agenda that reveals the history and context of the landscape continuum that is present today. Also, study and analysis of influencing elements through time that affect the legibility of the landscape helps to make judgment of quality and purpose of various elements of the landscape based on their values. Therefore, Palm Cottage garden was approached as a continuing record of past life. Additionally, by classifying these features and relationships, the landscape is presented as an artifact, possessing evidence of evolving natural systems and human interventions over time.

According to Christopher Tilley, landscapes form potent sources of metaphors for the social construction and perception of reality. Knowledge and the metaphorical understanding of landscape are thus intimately bound up with the experience of each person and his movement between places. There is often a present-past relationship because the landscape gathers together histories, experiences, thoughts, events and associations. Attitudes to the landscape have changed markedly over time, as people's perceptions and interpretations have altered in the light of their own changing experience.¹⁰ Landscapes that today are valued for aesthetic or environmental reasons, and which now may be carefully managed, were not created intentionally, but have developed as a by-product of historical processes. The ways in which people interact with their environments to produce landscapes depend on time, place and historical context, and also on age, gender, socio-economic status, ethnicity, race and other variables, which need to be considered while designing a particular landscape.

The main activities of a landscape architect lie in determining what to keep, what to eliminate and what to invent or add to a site. Process of historic preservation involves evaluation, analysis and organization of history and making it legible through landscape. To do so we must make judgments about the quality and purpose of each element based upon its values. This thesis looked at the following aspects of a site that influence shaping, development and legibility of a landscape over time as discussed

above: natural history, physical conditions of the site, geographical context, social and cultural history, human intervention, ownership, occupancy and use.

The existing landscape is analyzed in terms of the following:

- **Historical Process:** Analysis of the landscape as a continuing process in order to explore the cause and effects responsible in shaping of the landscape.
- **Time-Depth:** Analysis of the combination of change and continuity that create the historic landscape. Because of their time-depth relationship, landscapes involve interactions between the present and the past, and give a sense of identity at individual, local, regional and national scales.
- **Complexity and Diversity:** Analysis of the landscape as a part of a complex and diverse inter-dependent whole in order to identify historic landscape character or to characterize an area's historic dimension and origins—the most significant aspect of historic landscape. The main strategies used to guide the design were the following:
 - **Narrative:** Many landscape gardens present a visitor with a designed sequence of views and elements as an explicit narrative that is simultaneously experiential and symbolic. Example, Villa Lante.
 - **Cross Sections:** An historic landscape garden can be read as a series of layers of intervention.

CHAPTER 2

2.1 Site Introduction

This thesis project is the redesign of Palm Cottage Garden in order to open the garden to the public and convey its history. Palm Cottage Garden belonged to a pioneer horticulturist, Dr. Henry Nehrling from 1885 to 1929. His garden's creations brought wealth and beauty to all of Florida. The exotic plants he cultivated and popularized—caladiums, palms, bamboo and amaryllis—today are staples of the state's landscape.

2.2 Problem Statement

After Dr. Henry Nehrling's death in 1929, the estate lay fallow for a few years until Julian Nally purchased it in 1934. After Nally's death in 1977, the property was vacant until it was purchased and subdivided by a group of developers. The house and six acres of the gardens were purchased and rescued from being demolished by Barbara Bochiardy and are now owned by the Henry Nehrling Society with a vision to preserve and operate it as The Nehrling Gardens and Museum. It is a valuable piece of the past and is listed on the National Register of Historic Places. Much of the original vegetation is absent and the garden is overgrown and in need of restoration. No landscape plan of the original garden survives, but information about the garden and the plant material is available in personal notes of Dr. Henry Nehrling.

This thesis addressed how best to preserve and convey its significant history to visitors while integrating new elements necessary to adapt to contemporary use, ensuring that the landscape will serve present and future needs. The current redesign will change the estate from private residence to a public garden.

2.3 Methodology

Site related research was conducted. It involved site inventory and documentation of existing conditions followed by evaluation and analysis of available natural and cultural resources according to the criteria established through research. The Secretary of the Interior's Guidelines for the Treatment of Cultural Landscapes was followed to determine the criteria used to establish how the garden should be preserved.

CHAPTER 3

3.1 Physical Characteristics of the Site

3.1.1 Vegetation

Palm Cottage Garden occupies an area of Central Florida that was a long leaf pine/sandhill forest community. Overstory was formed by longleaf pine and turkey oak, with a dense ground cover of wild flowers, perennial grasses such as wiregrass, and a sparse understory of woody shrubs.

Long leaf pine can live for 500 years. They are fire tolerant. Their existence depends on fire every 3 to 5 years. Historically, the long leaf pine was one of the most important tree species in the southeastern U.S. forest community. Unfortunately, only three percent of the long leaf pines remain today as a result of timbering practices. Development of Gotha resulted in further modification to the long leaf pine ecosystem with the developing of citrus groves, private estates and sawmills.

3.1.2 Soils (see plate 3)

The soil of pine ecosystems is mostly droughty, coarse well-drained sands, fertile, calcareous, sandy clay and loamy sands sometimes underlain by clays. Soils found within Palm Cottage Garden have been modified, over time, to accommodate the more horticultural plant species used within the garden.

3.1.3 Fauna

The pine community provides important habitat for many wildlife species. The understory shrubs and grasses are used for nesting, refuge and forage. Overstory pines and hardwoods provide home sites for cavity-nesting and tree-nesting species as well as perches for hunting and foraging birds. They often

have wet areas that are beneficial to many amphibians. There are between twenty and thirty species of reptiles and amphibians that may be found in these ecosystems. They include tree frog, oak toad, eastern box turtle, Eastern diamondback and pygmy rattlesnakes, black racer, and pinewoods snake. Pine flatwoods provide a year-round home for many birds. Others use the habitat while they are passing through during migration in spring and fall. Among the most common resident species are pine warblers, brown-headed nuthatch, Bachman's sparrow, great-horned owl, American kestrel, bald eagle, wild turkey, and bobwhite quail. Red-cockaded woodpeckers, an endangered species, use certain types of older, flatwoods pines for nesting.¹¹

3.2 Geographical Context, Social and Cultural History

In Florida, human settlements have existed for over 10,000 years. Before human occupation, it is understood that the area was predominantly a long leaf pine/sand hill plant community. The landscape started to change when Florida's aborigines began agricultural activities about 800 years ago. The European colonization caused gradual deforestation with the clearing of woodlands for agriculture and commerce. The early nineteenth hundreds saw Florida become the new winter capital of United States. Located in the subtropical region, it was very attractive for the northern dwellers to come south and enjoy the warm sun. During this time, Florida benefited greatly from the well-advertised climate and promotion of tourism. Also construction of railroads and their connecting roadways played a major role in the development of Florida cities.

Gotha is one of the few German American settlements in Florida. A few settlers had landed in the area in the 1870s and earlier, but in the 1880s Georg Hempel of Buffalo, New York, came to this area nine miles west of Orlando. He decided to lay out a German town and name it Gotha, after his birthplace in eastern Germany and filed a plat for the town in 1885. Hempel opened a store, planted

citrus trees, and set up a sawmill that supplied lumber for many early buildings of Winter Park and Maitland. German-American poet Frank Siller is another Gotha founder who settled down because of the wonderful climate and planted orange groves. It was with the help of Siller that Dr. Henry Nehrling bought a tract of land in Gotha and settled there.¹² Gotha today is the same Old World settlement it started out to be close to a hundred years ago. The church, school, post office and general store make up Main Street, while narrow roads cut into the grove land with neatly kept homes shining through.

3.3 Ownership Occupancy and Development

In 1885, wishing to grow tropical and subtropical plants out-doors the year round and to establish a tropical garden Dr. Henry Nehrling purchased a forty-acre tract of land on a small lake in Gotha. The land was once covered with a magnificent pine forest, but when he purchased it there were only about a dozen tall pine trees and a number of small live oaks and willows remaining. He covered the land with plants collected from around the world and called it Palm Cottage Garden. At this time the population of Gotha stood at 150 persons. Initially, Dr. Henry Nehrling spent a month or two in Florida each year, first clearing land for his house and orange grove. In 1890 he made a start on the development of a subtropical garden on the ten acres he had set aside for this purpose. He favored a naturalistic style of garden design. He was a pioneer in a landscape movement, which spawned the trend for native plants and regionally inspired gardens. It was an ideology that coincided with the newly emerging American wilderness preservation movement.¹³

The community prospered for nearly ten years until the disastrous freezes of 1894 and 1895 destroyed the groves. Nonetheless, Dr. Henry Nehrling along with a few families stayed back with their groves. Having started a collection in his greenhouse in Milwaukee, Dr. Nehrling transported plants with him to Florida. He searched the hammocks in any walking distance from Gotha for native plant material,

and hauled magnolia, American olive, wax myrtle, American laurel, sweet bay and other treasures on his shoulders back to his Palm Cottage Garden. He became particularly well known for over 200 varieties of bamboo with which he experimented on the grounds and for the bromeliads, caladium, and amaryllis, which he also cultivated on the grounds.¹⁴

After Dr. Nehrling's death in 1929, the gardens lay fallow for five years until Mr. Julian Nally purchased them in 1934. Mr. Nally, a pioneer in bromeliad propagation, continued Dr. Nehrling's legacy until his death in 1977. At that time, the property again lay idle until it was purchased and subdivided by a group of developers. Mrs. Barbara Bochiardy, and her late husband Howard rescued the house and six acres of the lakeside gardens. The Henry Nehrling Society purchased the property from Mrs. Barbara Bochiardy and proposes to save and operate it as The Nehrling Gardens and Museum.

CHAPTER 4

4.1 Site Analysis

4.1.1 Location (see plate 1)

Palm Cottage Garden is located in Gotha, Western Orange County, Florida. The site is well connected to the surrounding areas by close proximity to the Florida Turnpike and Interstate Highway 4. Gotha is a small-unincorporated community nine miles west of Orlando, a city with many tourist attractions. Due to presence of many theme parks and attractions in Orlando the surrounding communities are under increasing pressure of development as bedroom communities resulting in loss of the scarce existing natural vegetation.

4.1.2 Regional and Neighborhood Character (see plate 2)

Palm Cottage Garden lies on Dora ridge which was covered with high pineland. Today most of the high pineland is replaced by citrus plantation and building industry. This region is characterized by numerous natural fresh water lakes, which have a moderating effect on the surrounding areas. Gotha has a lowscale character with a mix of charming single family homes, cemetery and churches. The outdated commercial buildings, overhead utility lines and simple signage add to the old look of the town. Mature oak trees give a sense of historic time and a positive character to the area.

4.1.3 Access

The entrance to the site is from Hempel Avenue on the west side. The entrance has a small sign, which is not easily visible and needs clear definition. The driveway is curving, narrow with an abrupt steeper gradient (4-5 feet) leading to the house. It is not handicap accessible. Abutting on the east side of

the site is Lake Nally. The site has residential properties adjacent to its north and south side. The boundary between the adjacent residential lots is not clearly defined and needs a buffer vegetation area.

4.1.4 Existing Conditions (see plate 4 and plate 5)

Henry Nehrling Estate covered 40 acres of land. It was reduced to 25 acres at the time Julian Nally purchased the property. Much of the original 40-acre estate has been sold off, leaving only 6 acres and the 1880 home at present. Most of the original plants are missing. The garden is overgrown and covered with invasive plants, in need of clearing. Magnolias, oaks, palms, bamboo, pine tree and some specimen plants are the only original vegetation existing. They will be preserved to form the bone structure of the garden. The house is a two-story wooden frame structure with wide verandahs, porches, balconies and spacious rooms. It is in good condition and will be preserved and used as a museum. The pathway lined by palms leading to the lake as seen in the postcard is in poor condition and will be rehabilitated to form the central axis of the garden. The littoral zone near Lake Nally is in poor condition. It will be restored and developed as a wetland area.

CHAPTER 5

5.1 Design Goals

- Preservation of the garden.
- To express and make significant history of the garden legible through design.
- To provide historic continuity and educate visitors by reflecting the garden's past.
- Propose new design improvements and integrate them to adapt to current needs for the property's survival and maintenance.

5.2 Site and Period of Significance

In order to establish a criterion for the restoration of the estate and what period it should be restored to, Guidelines for Treatment of Cultural Landscape was used. The following aspects of the site were taken into consideration.

- Associated with significant persons: Dr. Henry Nehrling was a pioneer horticulturist. He introduced many ornamental plants in Florida.
- Reflects a cultural /historical trend in landscape architecture: Dr. Henry Nehrling was a pioneer in a landscape movement, which spawned the trend for native plants and regionally inspired gardens. He introduced many ornamental plants in his garden keeping the main framework of native plants.
- The garden is a heritage cultural landscape, one of the biggest expanding areas of landscape architecture.

The garden will be restored to its most significant period, which is during the stay of Dr. Henry Nehrling from 1885 to 1929. The later owners provided minimal attention and only basic maintenance of the garden.

5.3 Recommended Treatment

Many of the historic features are no longer there and very little original planting material is left today. What was once a garden with masses of flowers such as amaryllis, azaleas, and hibiscus is no longer there. Since the property is acquired by the Henry Nehrling Society, its purpose has changed from a private garden to a place open to the public. Of the four treatments of preservation, rehabilitation, restoration and reconstruction, rehabilitation is selected since only rehabilitation gives the opportunity to conduct minimal changes in the spaces, its features and spatial relationships to make possible an efficient contemporary use without destroying the historic fabric. In such focus the garden can be transformed into an educational tool for visitors to be able to establish a connection to the past.

5.4 Program

The program describes how the physical facilities of Palm Cottage garden should serve. The mission statement of the Henry Nehrling Society serves as guideline to arrive at a program that fulfills the garden's intended purpose and function.

5.4.1 Objectives

- Restore missing features from the selected period of significance, like the central pathway leading to the lake.
- Create new uses compatible with the preservation of historic character to attract more people to the garden.
- Design exhibition and demonstration areas.

- Develop it as a place where community members can meet, expand their knowledge of horticulture and Gotha history, and relax in the beauty and solitude of nature.
- Propose a landscape design that is reasonable to maintain.
- Provide habitat for birds and butterflies.
- Enhance the existing lakefront. Clear the invasive weeds from the lakefront and replant with native plants and visually attractive planting material.
- Design a buffered parking area with capacity of 30 vehicles.
- Convert residence for use as museum and learning center.
- Restore existing greenhouse for cold sensitive plants, such as orchids also function as a laboratory for instruction in the principles of plant propagation.

5.5 Conceptual Design Description (see plate 6)

Since Dr. Henry Nehrling was a horticulturist, he did not follow any special principles while planting his garden. He considered his garden as a laboratory for horticultural experiments focusing on each individual plant rather than an overall spatial experience. The proposed design introduced landscape principles of space and form in addition to the horticultural approach of Dr. Henry Nehrling. It established the location, size and relationships of various activities that will occupy the property. The design proposed that the existing structure of the garden be continued and expanded while integrating new use like parking, picnic area and observation deck. These new design elements form another layer of intervention.

The proposed design was conceived in form of layers. The existing magnolias, oaks and other native vegetation comprising one layer form the main structure of the garden while ornamental

horticultural plants introduced by Dr. Henry Nehrling forming another layer were used in combination to create a model regional garden as intended by Dr. Henry Nehrling.

The transition in the vegetation of the site through time from the native pineland to a citrus grove followed by ornamental plants introduced by Dr. Henry Nehrling was made legible by arranging each phase as a sequential narrative along the restored central historic pathway.

The proposed vegetation was planted on a grid to contrast with the existing naturally planted trees. The spacing of the trees planted in grid varied depending on the type and zone of the garden.

The circulation pattern consisted of the main central historic pathway leading directly to the lake and proposed secondary trail in the form of a loop.

5.6 Master Plan Description (see plate 7)

The landscape form is defined in different zones to inspire plant lovers, to reveal Dr. Henry Nehrling's accomplishments and to make the history of the site legible to the visitors:

- Entrance garden: It is designed to give a sense of arrival for the visitors. It consists of a parking area and ticket house.
- Vegetable garden: It is designed as a part of the regional model garden especially for children to create awareness about the environment.
- Bamboo area: The existing bamboo area from Dr. Henry Nehrling's period is in good condition and will be preserved. It is very attractive and adds a tropical look Dr. Henry Nehrling was so fond of.
- Flower garden: It is a very important element, which helps to restore the color missing in the garden.
- Pineland habitat: The existing native longleaf pine tree is preserved and additional pineland habitat vegetation will be planted to represent the original vegetation of the site.

- The wetland habitat: The lake and its edge habitat will be cleared of weed and restored as a wetland habitat.
- Existing vegetation: The existing large oak trees and magnolias are important elements of Dr. Henry Nehrling's garden. They give a sense of historic time and character to the garden due to their size and age and are preserved to form the basic structure of the garden.

As in Villa Lante, though the garden has a main central axis, the visitor moves through a diagonal and zigzag path that helps her or him to experience the garden passing through different spatial zones with different vantage points. The proposed trail for Palm Cottage Garden is designed on the same principle with different points of interests designed along it like the pond near the event garden.

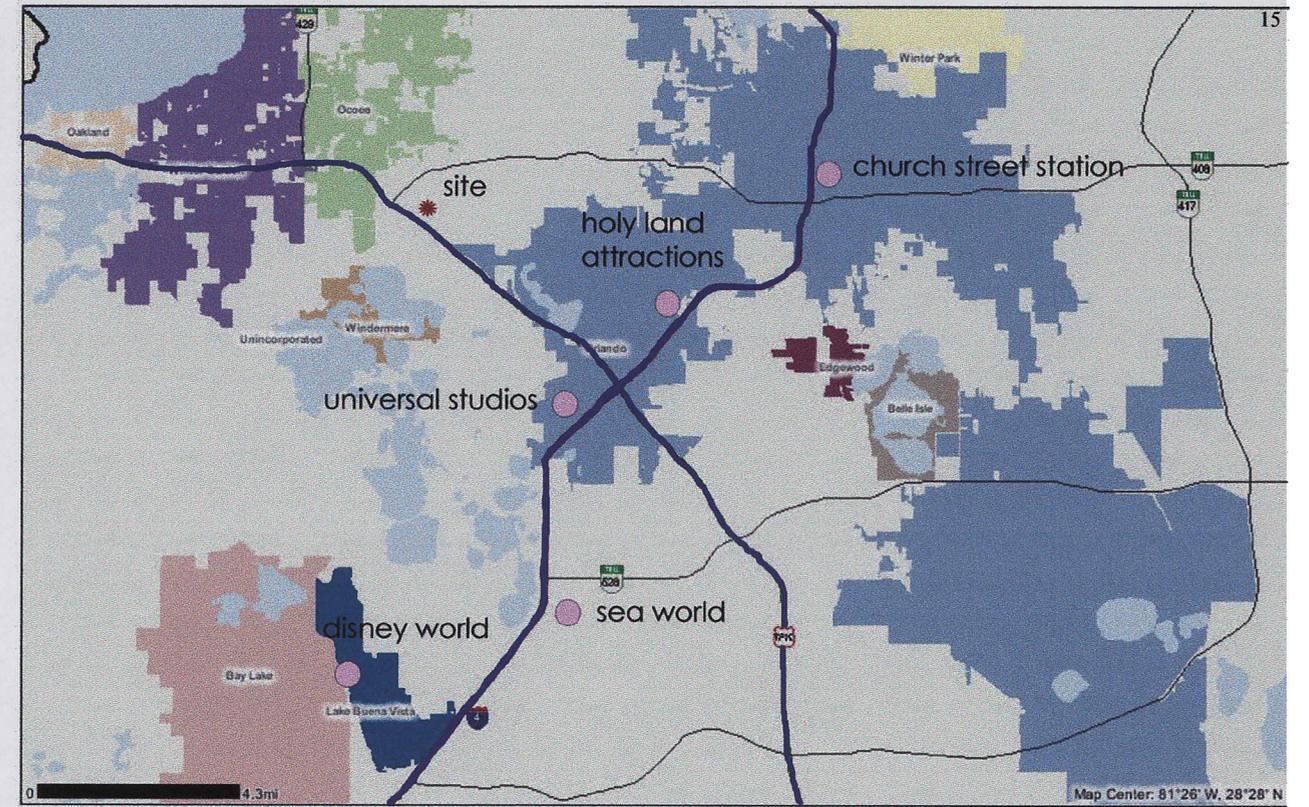
New elements such as, signage and self-guided brochures are integrated within the existing landscape at enhanced nodes to articulate a historical narrative and give a visitor a sense of historical depth and the passage of time.

5.7 Conclusion

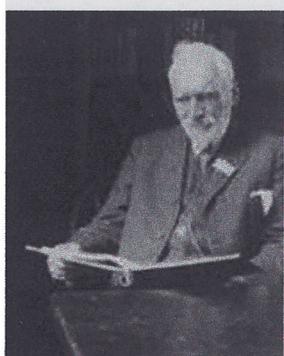
Historic landscapes are important cultural resources. They are not just passive landscapes of the past but form an active element that influence and shape the future and contribute to the vitality of our community. Unfortunately, historic buildings have a greater survival rate than cultural landscapes since their nature is ephemeral and constantly changing with time. This thesis proposed a landscape plan to rehabilitate the Palm Cottage garden to its historic integrity in order to retain and reflect the accomplishments of Dr. Henry Nehrling. Important aspect of design was to ensure balance between preservation and change. This thesis attempted to make the historic time legible by arranging the site history as a sequential narrative along the central historic pathway. New design elements like the parking and the secondary trail were integrated to adapt to current and future needs. Proposed vegetation

in each zone was arranged on a grid to contrast with the existing natural arrangement of the vegetation. Of the four preservation strategies established in the *Guidelines for Treatment of Cultural Landscapes*, rehabilitation was determined the most appropriate for this thesis project. Through this rehabilitation process, all significant features were preserved while permitting improvements that allowed for contemporary use of the garden. The physical change will help the potential growth and preservation of the estate in future.

Continued research should be undertaken to help maintain Palm Cottage Garden as a sustainable landscape. Since Dr. Henry Nehrling was involved in horticulture and introduced many exotic plant materials from different countries, more research should be done on plant material and horticultural practice during that period to avoid invasive species.



Site is well connected by interstate highway 4 and turnpike. The closest metro area is Orlando, which is famous for its theme parks and other tourist attractions.



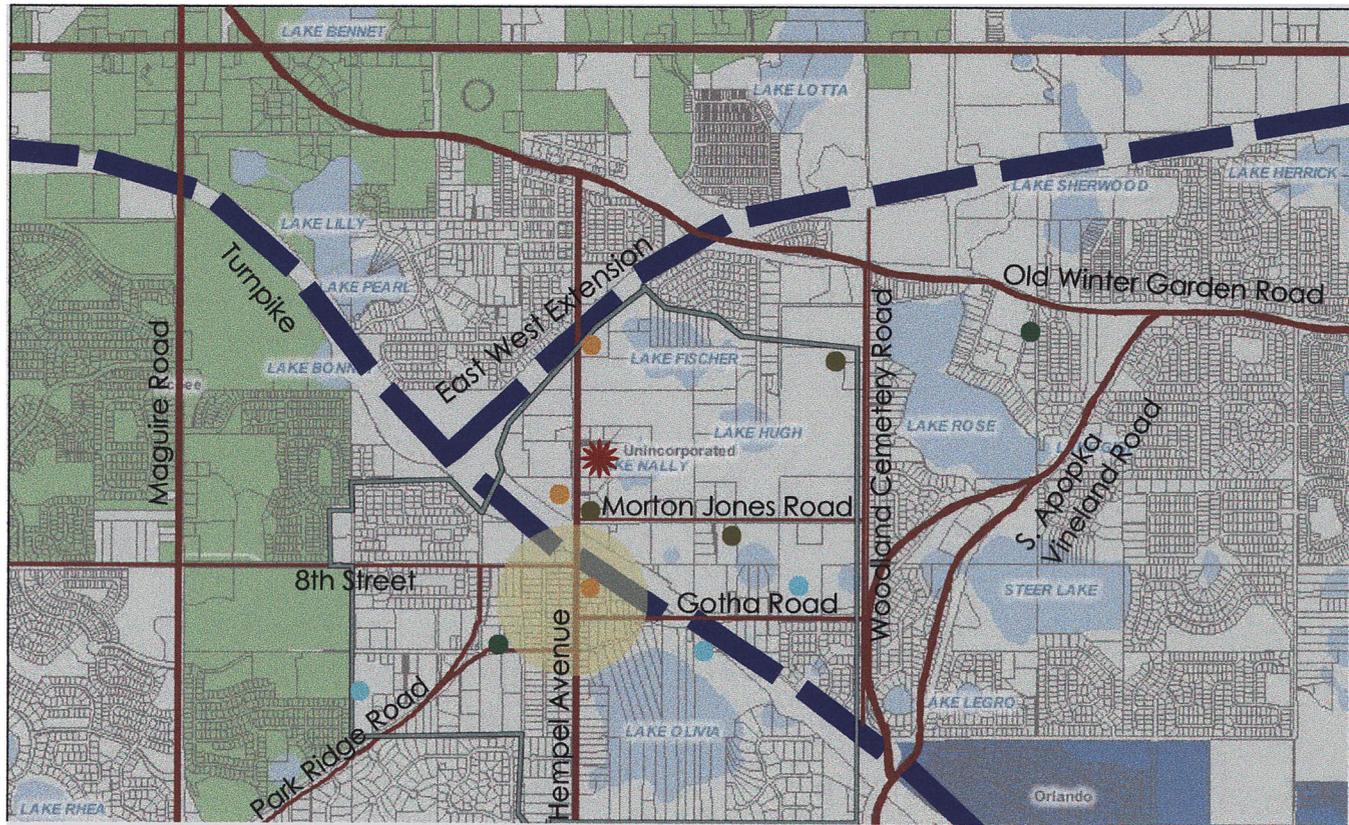
16



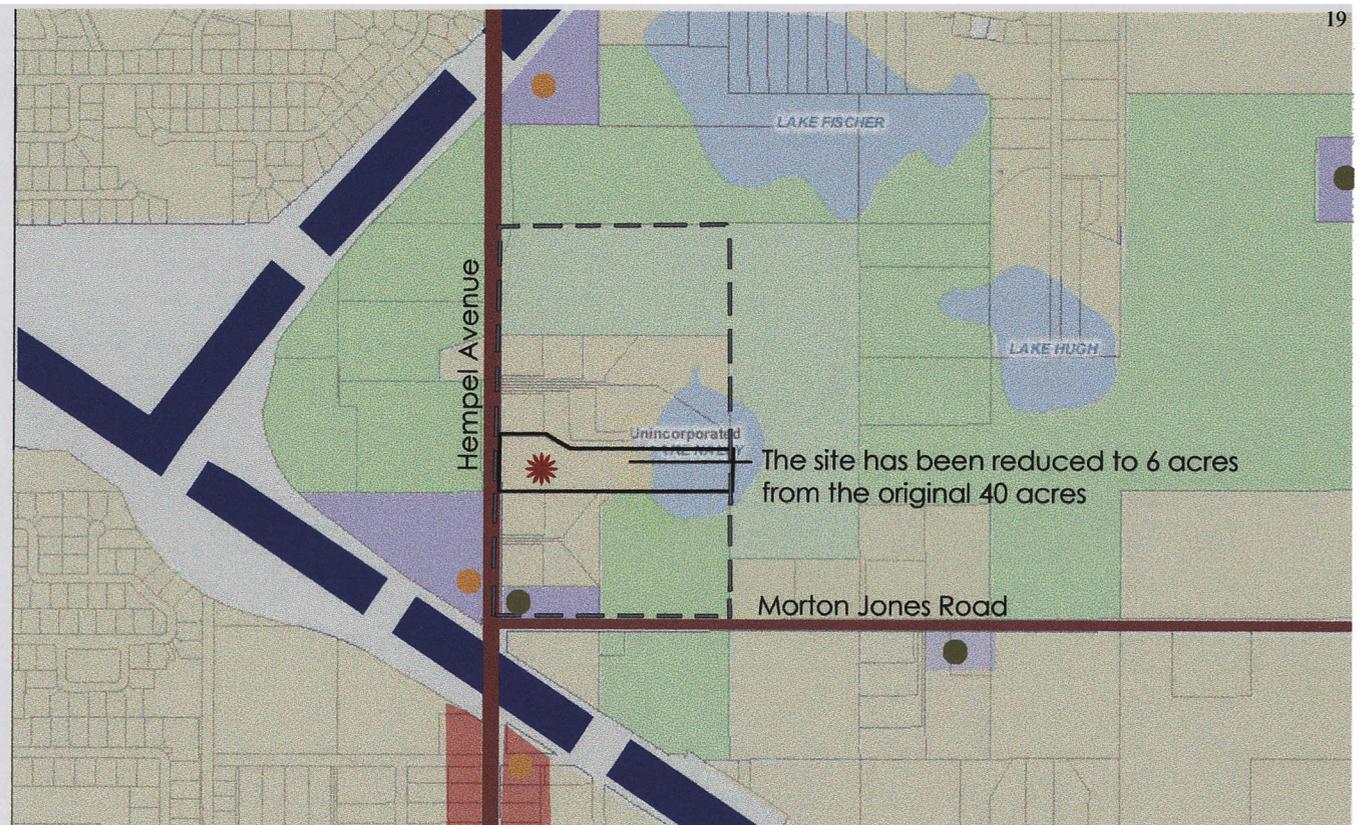
17



Plate1. Location and Context



18



19

legend

-  project site
-  turnpike
-  main street
-  early settlement
-  golf courses
-  similar facility (botanical garden)
-  churches
-  cemetery
-  school
-  park
-  residential
-  institutional
-  open space
-  commercial

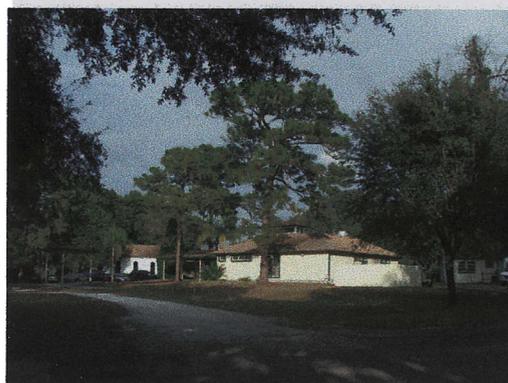
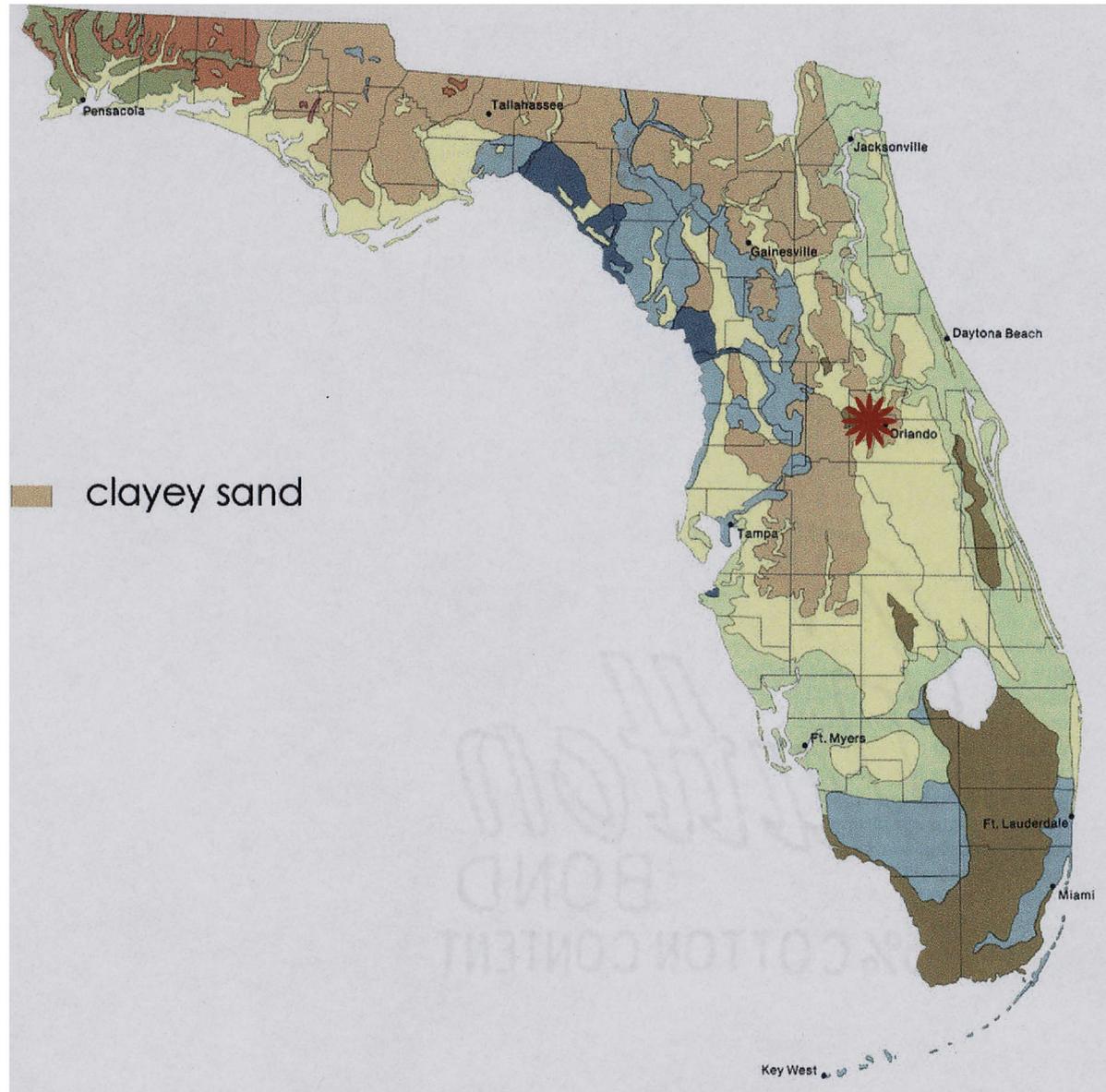
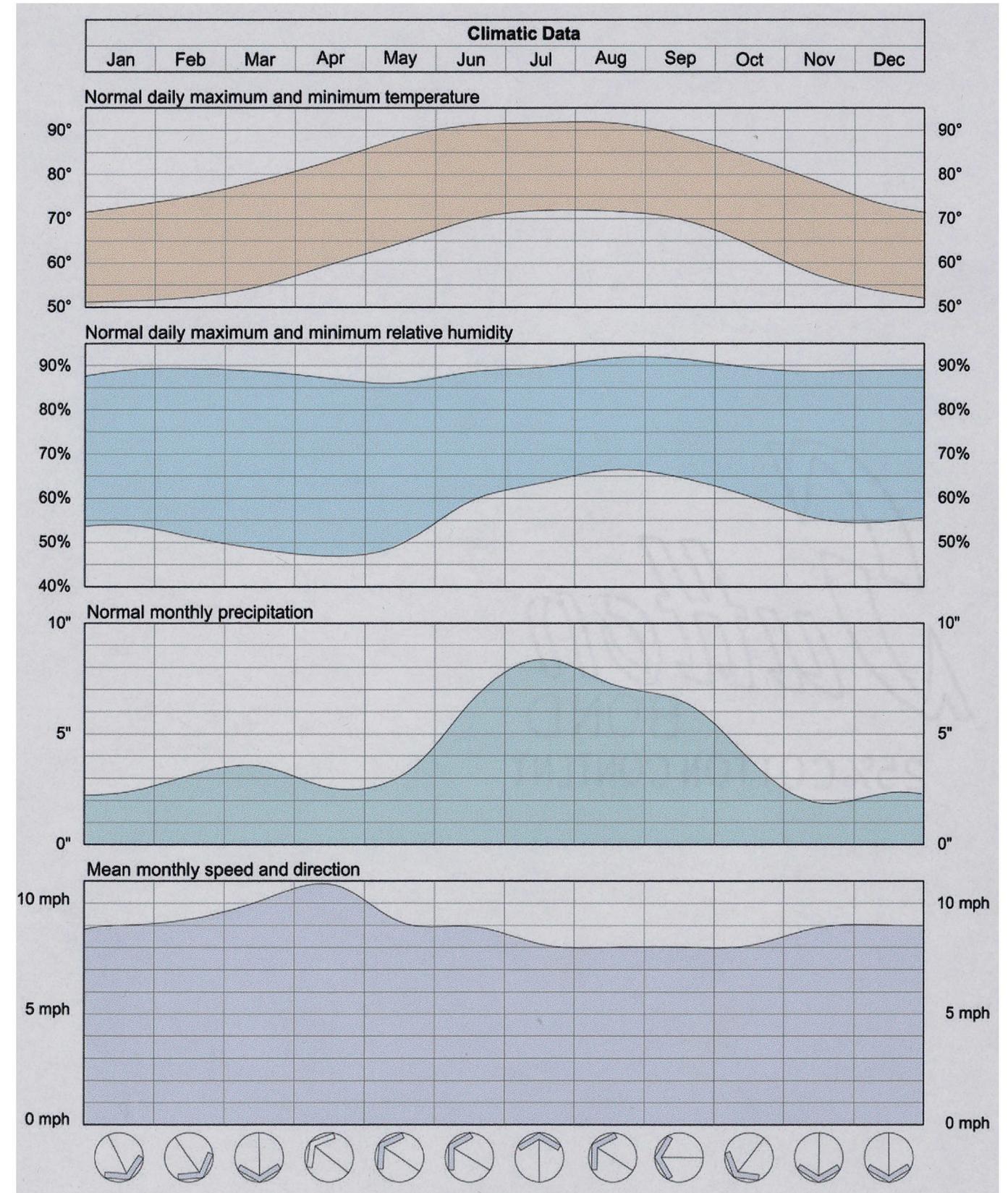


Plate 2: Regional and Neighborhood Study



- site is in transitional zone between north and south Florida
- temperature varies very little throughout the year with an annual mean of 70 F
- soil is acidic, sandy and underlain by a clay hardpan
- average rainfall is 50 inches

Plate 3: Soil and Climatic Data (Falcón + Bueno 2003)



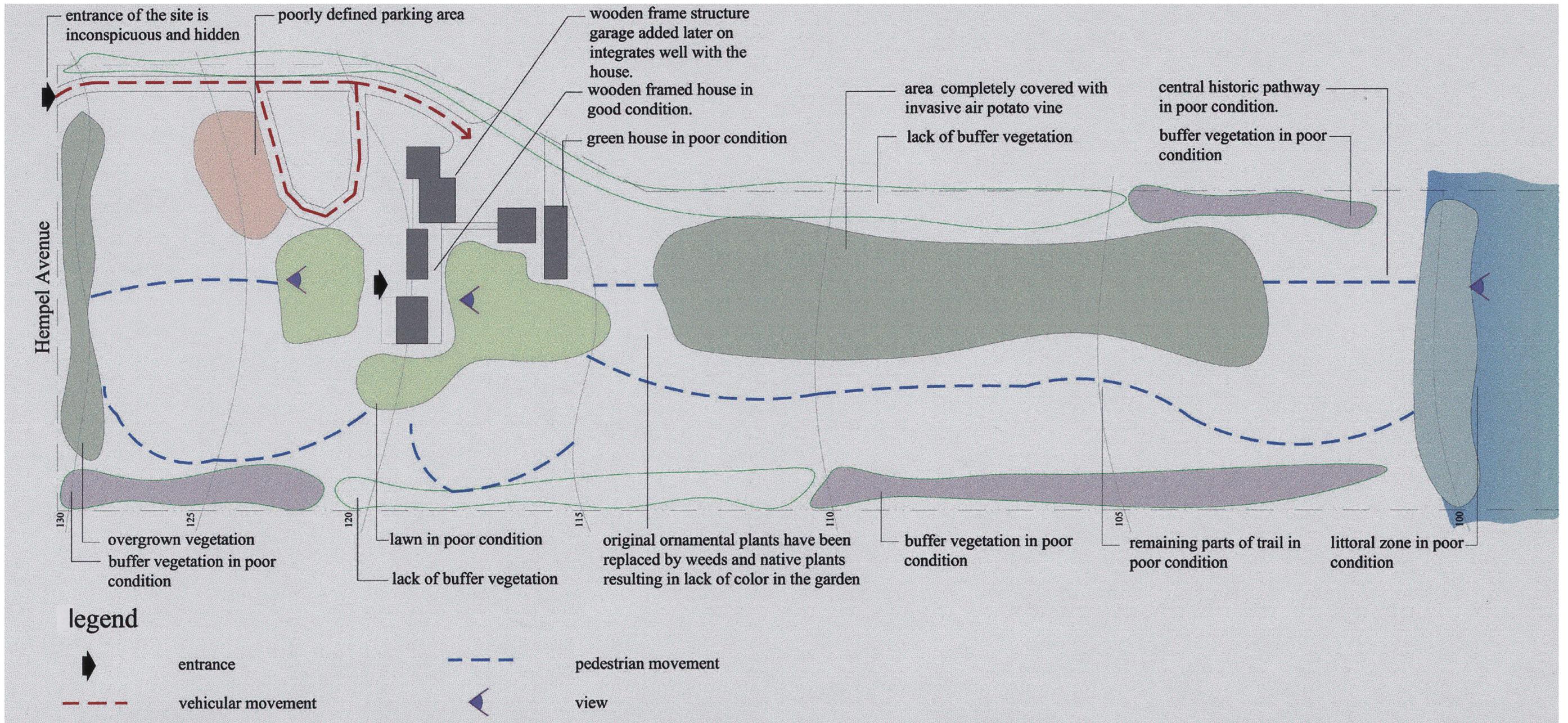


Plate 4: Existing Site Conditions

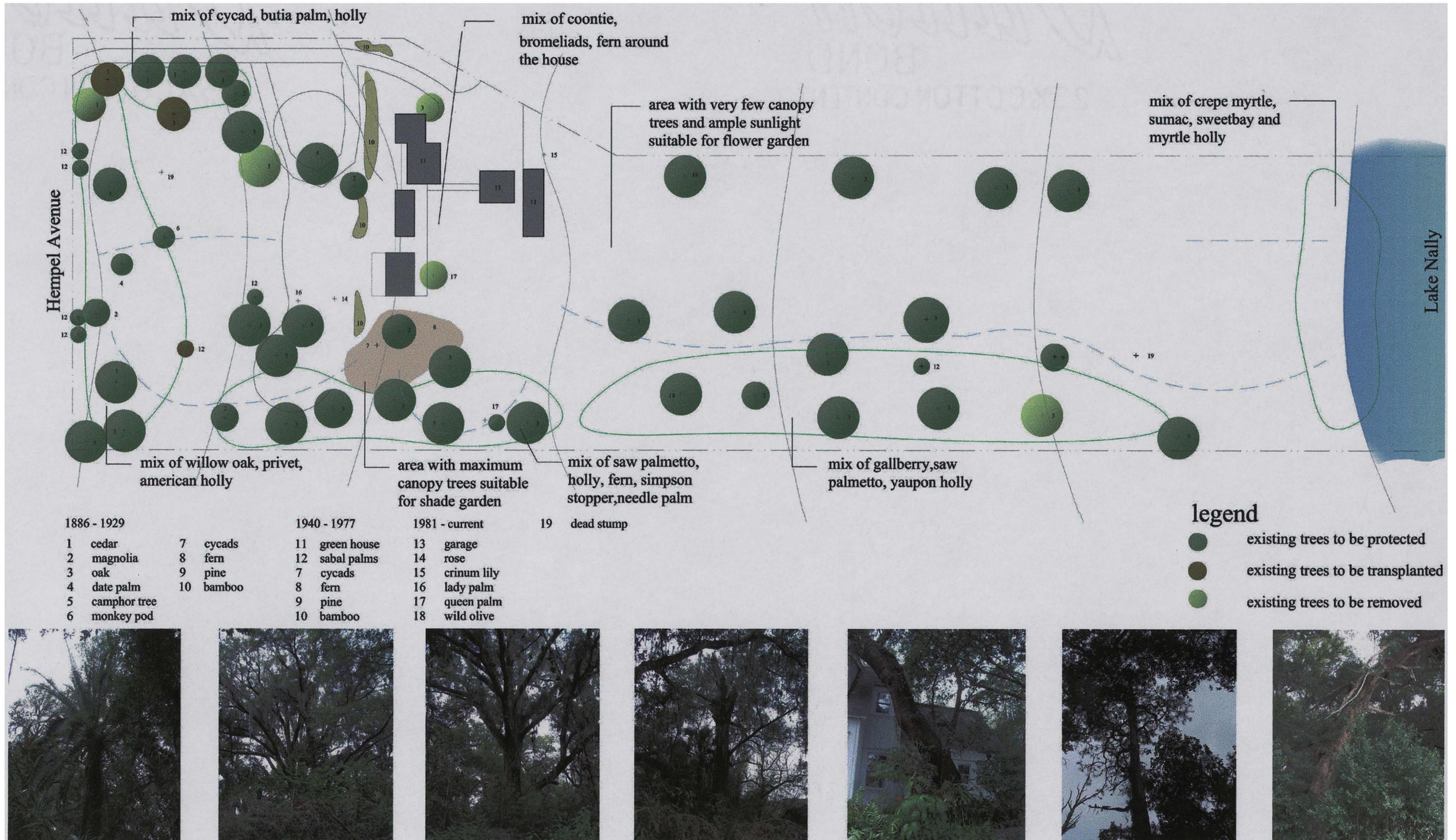
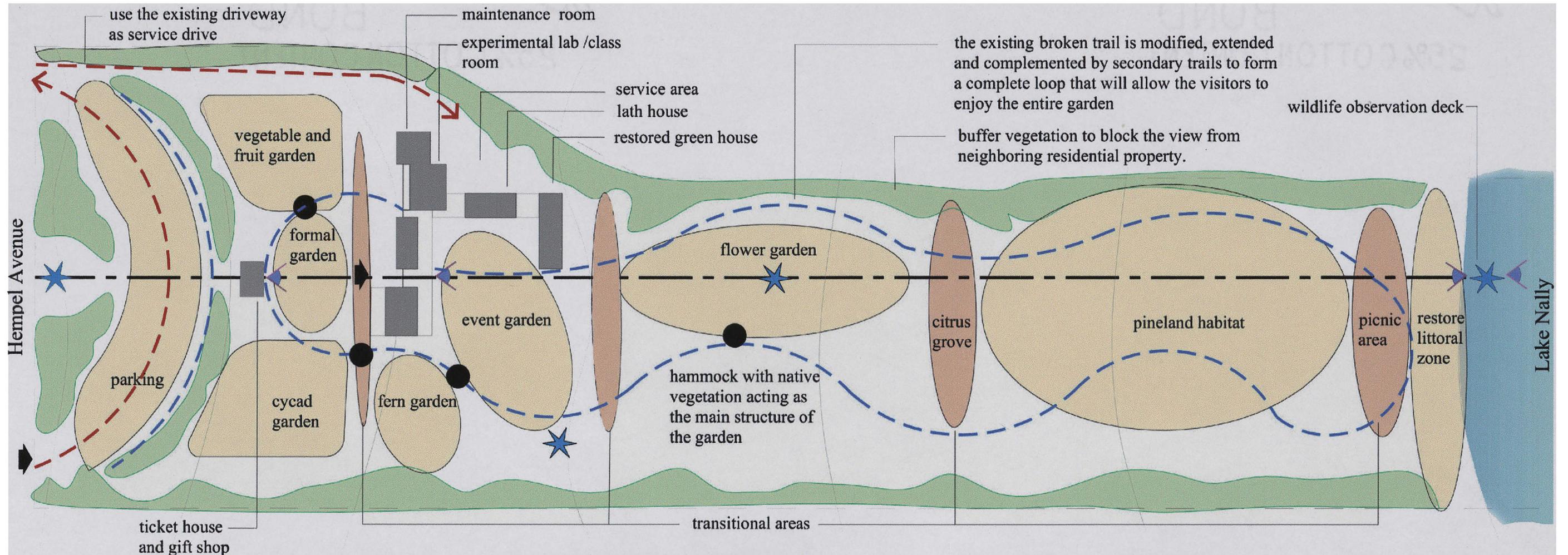


Plate 5: Existing Vegetation

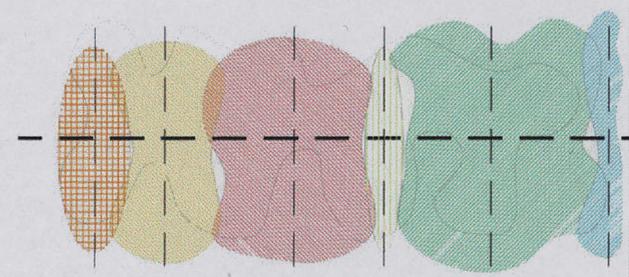


legend

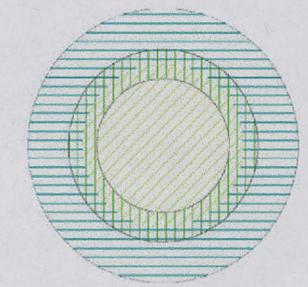
- ➡ entrance
- - - vehicular movement
- - - pedestrian movement
- ◀ view
- ★ focal point
- node



existing large canopy trees and native vegetation which adds a sense of historic time will be preserved to form the basic framework and background for the ornamental garden.



In order to make legible the history of the site as it developed with passage of time, the garden zones are arranged sequentially as a narrative along the rehabilitated central historic path which acts as the main axis of the garden.



basic structure within each zone consists of vegetation arrangement based on size, height and heirarchy



spatial scale experienced as one moves through each zone along the main central axis.

Plate 6: Concept

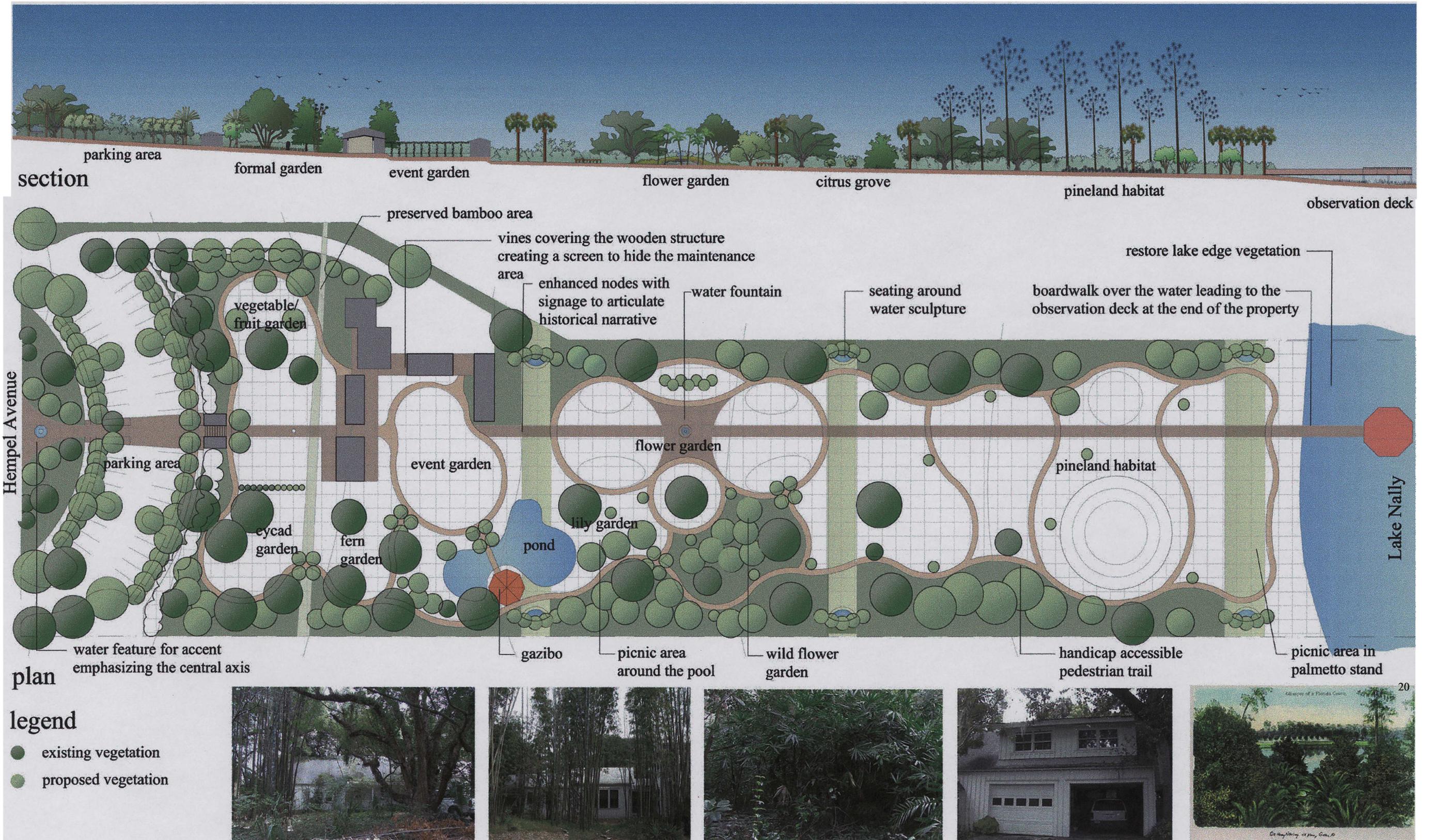


Plate 7: Master Plan



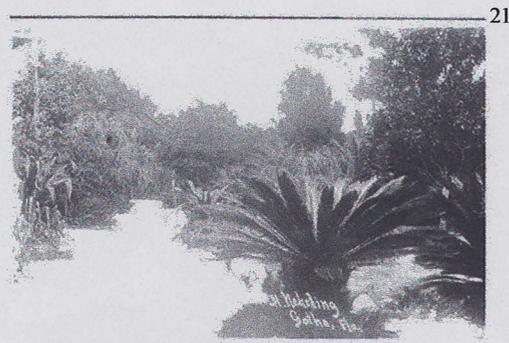
buffer

vegetable garden

formal garden around the house with amaryllis hybrids cultivated by Dr Henry Nehrling in the forefront

shade garden

buffer



21



22



dioon edule
 cycas circinalis
 cycas pectinata
 cycas siamensis
 ceratozamia mexicana
 bouenia spectabilis
 macrozamia spiralis

asparagus fern
 tree fern
 birds nest fern
 strapfern



water feature for accent
 emphasizing the central axis

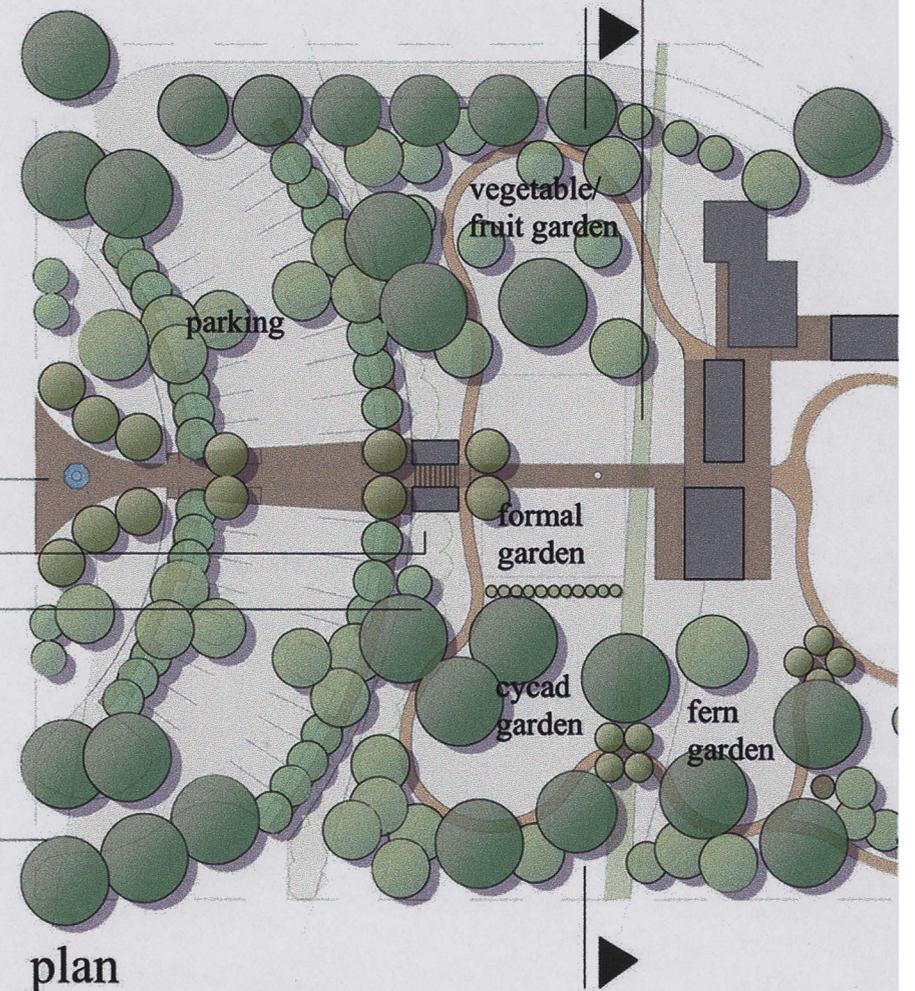
ticket and gift shop

buffer vegetation

vehicular entrance

section

restored bamboo area



plan

Plate 8: Entrance and Formal Garden



buffer vegetation

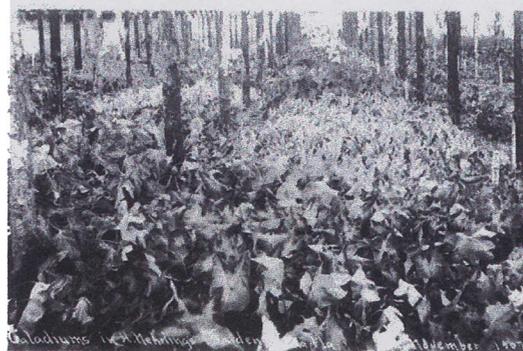
shade house

event lawn

pond area

buffer vegetation

section



23



24



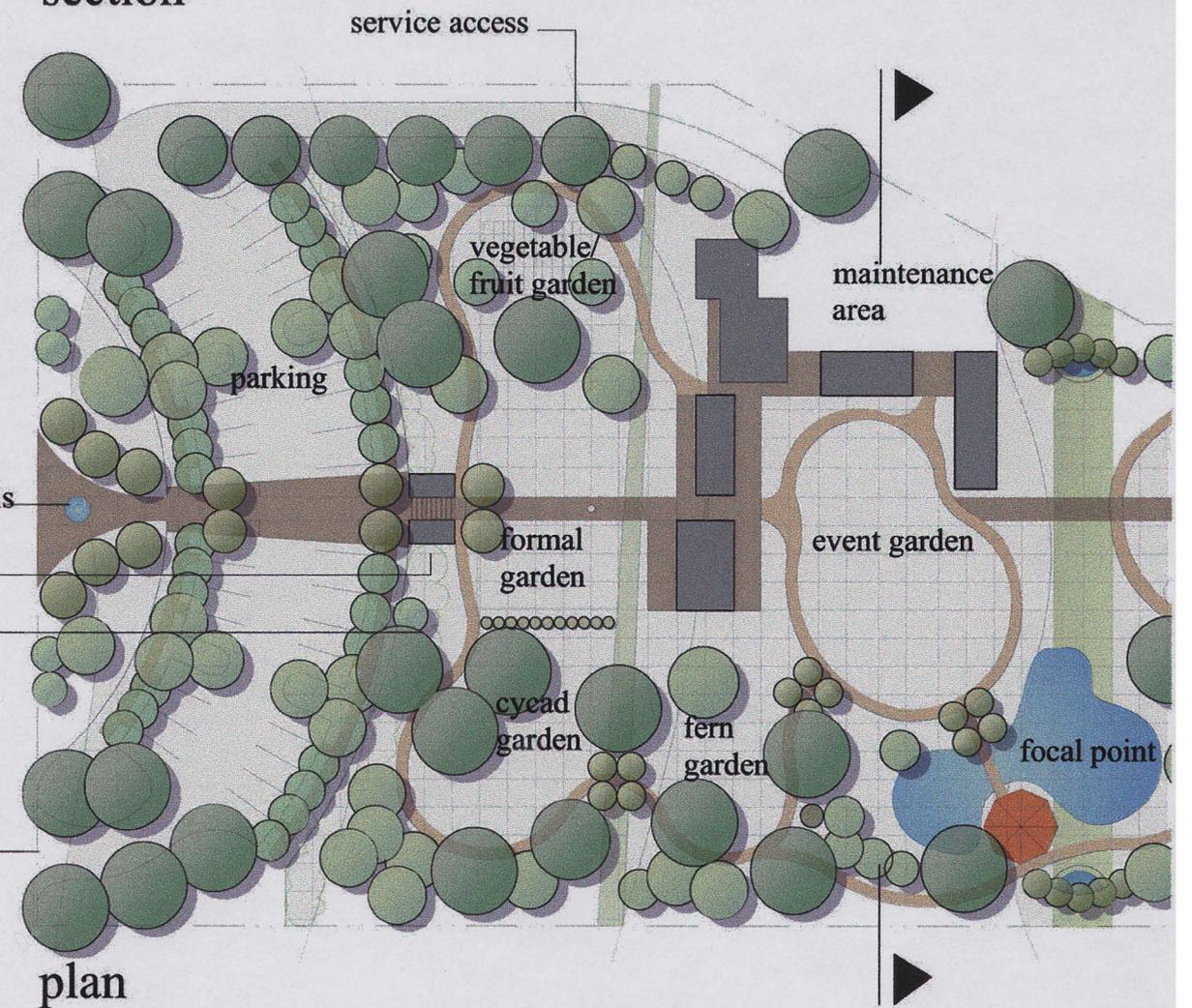
proposed view of pond area

water feature for accent
emphasizing the central axis

ticket and gift shop

buffer vegetation

vehicular entrance



plan

Plate 9: Event Garden

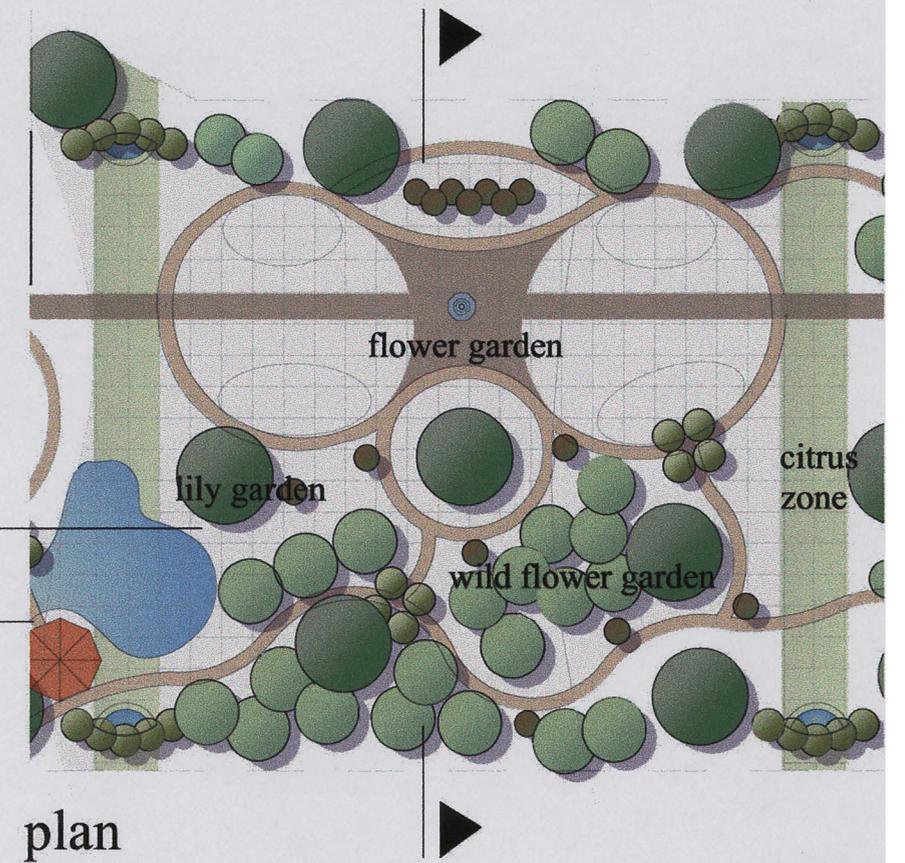


section

camellia
 amaryllis
 caladium
 alocasia
 crotons
 dracaena
 ixora
 hibiscus
 bauhinia
 yellow elder
 cape jasmine

gardenia
 wax begonia
 crossandra
 dahlia
 petunia
 marigold
 canna
 ligustrums
 oleasters
 thunbergias

spider lily
 day lily
 water lily
 crinum lily
 amazon lily
 gloriosa lily
 german iris



picnic area
 around the pond
 pond as
 destination point

Plate 10: Ornamental Garden

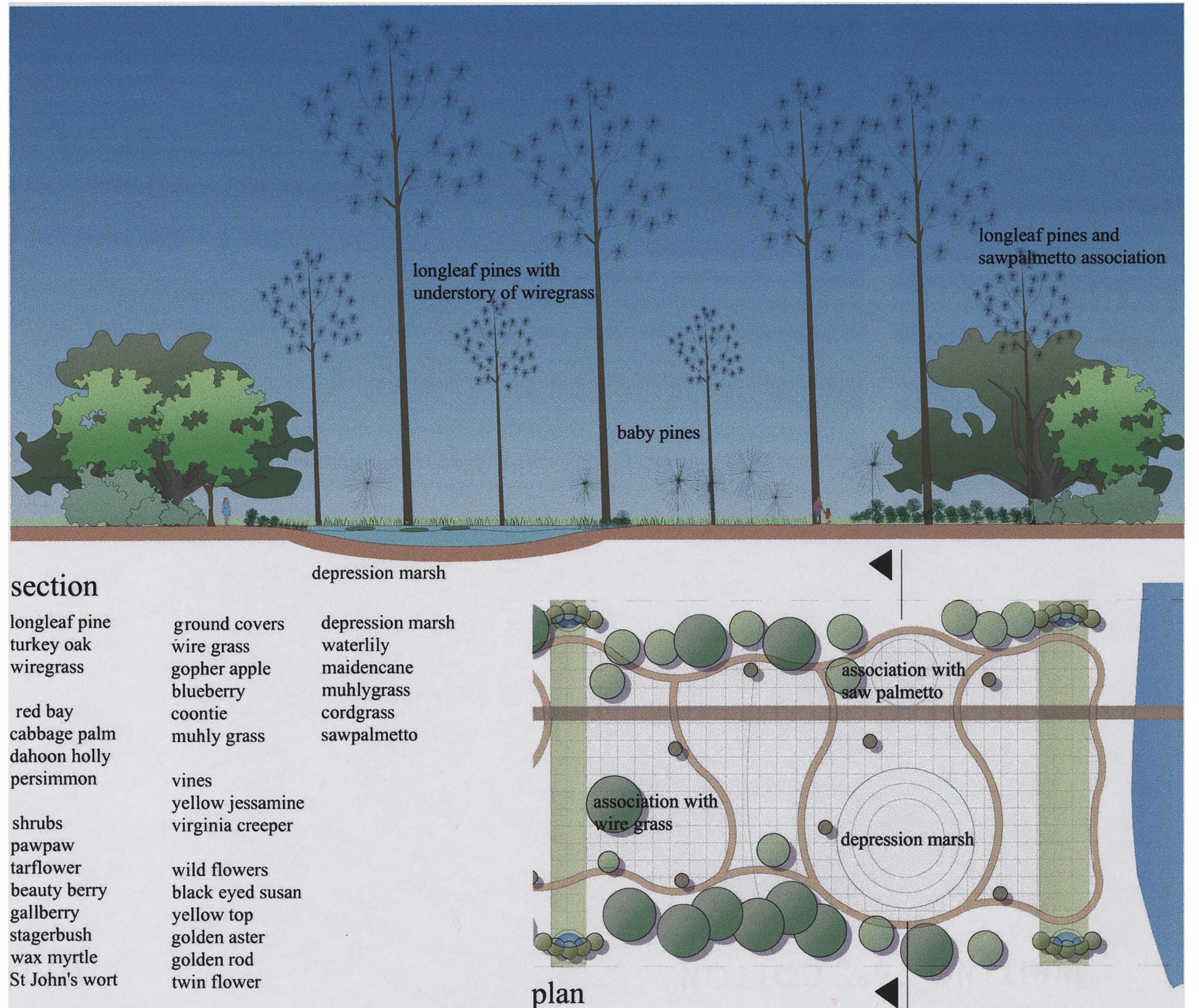


Plate 11: Pineland Habitat

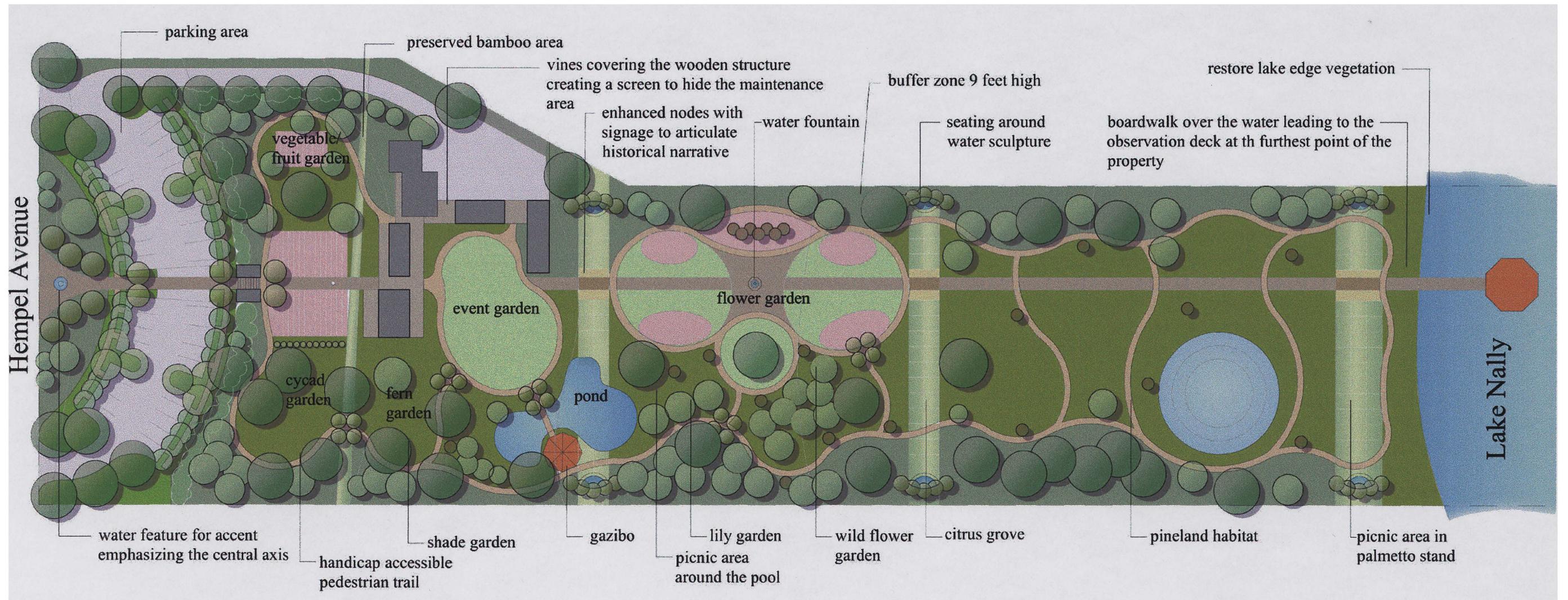


Plate 12: Illustrative

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