

# **Draft Development Agreement**

**Revisions as Recommended by City, February 21, 2012**

**Prepared by:**

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Mailing Address

P. O. Box 1026  
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Physical Address

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Key West, FL 33040

And

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Mitchell Planning and Design, Inc  
15450 SE 103<sup>rd</sup> Place Road  
Ocklawaha, Florida 32179  
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**DEVELOPMENT AGREEMENT FOR HIGGS BEACH PARK**

**This AGREEMENT** is made and entered as of this \_\_\_\_ day of \_\_\_\_\_, 2012, by and between the **CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA**, (“City”), a municipal corporation of the State of Florida, and the **BOARD OF COUNTY COMMISSIONERS FOR MONROE COUNTY, FLORIDA**, (“Developer” or “County”), a subdivision of the State of Florida.

**WITNESSETH:**

**WHEREAS**, the City Commission for the City of Key West and the Monroe County Board of County Commissioners recognize the following:

**A.** This Agreement is entered into in accordance with the Florida Local Government Development Agreement Act, 163.3220-163.3243, Florida Statutes; and

**B.** This Agreement is entered into in accordance with Florida Interlocal Cooperation Act, 163.01, Florida Statutes; and

**C.** The Key West Code of Ordinances Sections 90-676 to 90-677 authorizes Development Agreements and establishes the procedures and requirements to enter into a development agreement with any person having a legal or equitable interest in real property located within its jurisdiction; and

**D.** Monroe County is the owner and developer of the property located at Higgs Beach, which is being used as a park located within the jurisdictional boundaries of the City of Key West, Florida; and

**E.** Higgs Beach is recognized by both the County and City Comprehensive Plans; and

**F.** On March 10, 2010, the County authorized the development of a Master Plan for Higgs Beach comprised of two phases. The first phase, development of a Master Plan, included a planning and design process to gather community and stakeholder input, acquired a new boundary survey, conducted a ground penetrating radar survey to locate impacted archeological resources and coordinated with staff of the City of Key West; and

**G.** The Higgs Beach Master Plan was developed with significant community input over several months; the master planning process included multiple public meetings and several smaller neighborhood meetings with park stake holders conducted by the County. The local community group, known as the Friends of Higgs Beach, and the neighbors immediately adjacent to the park were active participants in the Master Planning process. Their concerns were considered and addressed to the greatest extent practicable.

**H.** On January 19, 2011, the County approved the Higgs Beach Master Plan, Option F, and directed county staff to secure Major Development Plan approval from the City; and

**I.** On July 1, 2011, Monroe County submitted an application for approval of a Major Development Plan which came before the City Planning Board, at a duly noticed public hearing, on October 20, 2011, whereupon the Planning Board granted Major Development Plan approval pursuant to Resolution #2011-059; and

**J.** On December 14, 2011, the County made a written request to enter into a Development Agreement with the City; and

**K.** On January 3, 2012, the City Commission authorized the County to proceed with the creation of a Development Agreement for Higgs Beach; and

**L.** On January 19, 2012, the County Commission agreed to submit to the City this Development Agreement; and

**M.** The Key West City Commission and the Monroe County Board of County Commissioners find that entering into this Development Agreement furthers the purposes, goal, objectives, and policies of their respective Comprehensive Plans;

**NOW THEREFORE**, in consideration of the mutual covenants entered into between the parties, and in consideration of the benefits to accrue to each, it is agreed as follows:

**A. RECITALS.**

The above recitals set forth in the preceding “Whereas” clauses are true and correct and are incorporated herein and made a part hereof.

**B. DEFINITIONS.**

For the purposes of this Agreement, the following terms shall have the following meanings. Terms not defined in this Agreement shall be as defined in the City Code, in Chapter 163, Florida Statutes, or, if not defined in the Code or Statute, shall be understood by their usual and customary meaning.

1. **“Agreement”** shall refer to this Development Agreement, as the same may be subsequently amended, modified or supplemented pursuant to its terms and provisions and pursuant to the provisions of Sections 163.3220-163.3243, inclusive, Florida Statutes.

2. **“City”** shall refer to the City of Key West.

3. **“City Code”** shall refer to the Code of Ordinances of the City of Key West in existence on the Effective Date of this Agreement.

4. **“City Comprehensive Plan”** shall refer to the City of Key West Comprehensive Plan, in existence on the Effective Date of this Agreement, as expressly provided herein.

5. **“County”** shall refer to the Monroe County government.

6. **“County Code”** shall refer to the Code of Ordinances of Monroe County, Florida, in existence on the Effective Date of this Agreement.

7. **“County Comprehensive Plan”** shall refer to the County’s Comprehensive Plan, in existence on the Effective Date of this Agreement.

8. **“Developer”** shall mean Monroe County, a governmental agency.

9. **“Development”** shall refer to the redevelopment of the Property for the uses permitted by the Land Use Plan and Land Development Regulations, subject to the conditions, obligations, restrictions and terms contained in this Agreement.

10. **“Development Plan”** is referred to as the Development Plan and as the Master Plan.

11. **“Effective Date”** shall refer to the date this Agreement becomes effective, as set forth in Section J. of this Agreement.

12. **“Florida Department of Transportation”** (“FDOT”) refers to the agency of the State of Florida, as defined in Florida Statutes Chapter 20.23.

13. **“Land Use Plan”** shall mean the Future Land Use Element and Future Land Use Map of the City’s Comprehensive Plan in existence on the Effective Date of this Agreement.

14. **“Land Development Regulations”** shall mean Subpart B Chapter 86 through Chapter 122 of the City Code in existence on the Effective Date of this Agreement.

15. **“Owner”** shall refer to the County, the Owner of the Property subject to this Agreement.

16. **“Property”** shall refer to the parcel of real property located in the City that is the subject of this Agreement as set forth in Section D.1. of this Agreement.

17. **“Public Facilities”** means those facilities identified in Section 163.3221, Florida Statutes (2010), and as set forth in this Agreement.

**C. PURPOSE OF AGREEMENT.**

The purpose of the Agreement is to:

1. Establish a mechanism whereby the County and the City agree to extend the timeframes identified in City Code Section 108-203(a) to extend time for construction to begin; and
2. Agree to partner as necessary when seeking grants or other funding sources for the implementation of the Development Plan; and
3. Allow Administrative Modifications to the Master Plan that may exceed the scope of a minor deviation as described in City Code Section 108-91, in order to implement elements that improve the safety and public health of the park users, which may be required due to technical or engineering considerations; and
4. Insure that the approved Master Plan is exempt from future changes to the City Code or Comprehensive Plan that would require redesign of approved elements during the term of this Agreement; and
5. Exempt the County from fees for this Development Agreement during the entire term of this Agreement which shall include, but not be limited to, application fees, permit fees, and impact fees.

**D. TERMS OF AGREEMENT.**

**1. Legal Description and Owner**

The owner of the property is Monroe County. The legal description for the property subject to this Agreement is set forth in Exhibit “A”.

**2. Duration; Renewal**

This Development Agreement, also referred to as the Master Plan, shall remain in effect for a period of ten (10) years, commencing on the Effective Date set forth below. This Development Agreement may be renewed or extended as provided herein.

**3. Development Plan**

The development plan approved by the City Commission per Resolution 2012- is depicted as the Higgs Beach Master Plan, attached hereto as Exhibit “B”.

**4. Existing Development**

The property contains the following existing development which will remain on the property:

- a. The historic African Memorial Cemetery;
- b. The historic West Martello Tower and gardens;
- c. The Salute Restaurant;
- d. Two historic band stands, aka gun turrets;
- e. The existing toilets;
- f. Four shade pavilions in the dog park;
- g. Beach concessions.

**5. New Development Plan (Master Plan)**

The Development Plan, also known as the Master Plan, was approved by the City Commission pursuant to Resolution 2012- ..Administrative Modifications to the Master Plan may exceed the scope of a minor deviation as described in City Code Section 108-91, in order to implement elements that improve the safety and public health of the park users, which may be required due to technical or engineering considerations, or shall be promptly reviewed, and considered by the City according to Chapter 108.

In addition to the existing development, the plan includes:

- a. Visitor and Nature Center;
- b. Relocation of internal road and White Street enhancements;
- c. Relocation parking lots;
- d. Add bicycle lanes;
- e. Expand Beach area;
- f. Relocate and expand Astro City Playground;
- g. Add or expand sidewalks for pedestrian use;
- h. Add two maintenance buildings;
- i. Add two volleyball courts and two pickle ball courts;
- j. Remove two tennis courts;
- k. Add PAR fitness course;
- l. Expand open space;
- m. Relocate small dog park, revise large dog park;
- n. Revise outdoor lighting fixtures;
- o. Renovate and add landscaping;
- p. Revise storm water systems;
- q. Relocate utilities as required;
- r. Add sculpture garden;
- s. Renovate Whistling Duck Pond.

**6. Population Densities, Building Intensities and Height**

a. The property will remain a recreational park, no residential uses are proposed.

b. The proposed floor area ratio is 4%, well below the 20% maximum floor area ratio allowed for recreation and open space pursuant to Section 122-1020 of the City Code.

c. All proposed structures are designed to be within the twenty-five (25) foot height limitation pursuant to Section 122-1020 of the City Code.

**7. Set Backs and Floor Elevations**

a. All proposed new buildings are designed with finished floor elevations at or above the City’s floodplain management requirements.

b. All the setbacks fall within or exceed the requirements of the City Code, except for the setback for the existing West Martello Tower that exceeds the Coastal Construction Control Line and will not be changed. Setbacks are illustrated on the chart below which includes the required setbacks and the existing setbacks:

Type	Required	Existing	Proposed
Front (White Street)	20’	25’4”	25’4”
Side (Casa Marina Court)	15’	123’9”	24’0”
Rear (Reynolds Street)	20’	237’8”	55’4”
Coastal Construction	50’	11’5”	11’5”

**8. Phasing**

The Development Plan may be developed in two or more phases within the timeframes established in this Agreement, see Exhibit “C” attached hereto. **If all phases of the Development Plan are not completed within the stated timeframe,** the Development Plan will continue to be valid and operational according to the components of the previously completed phase.

**9. Public Facilities and Utilities Serving Redevelopment**

a. **Traffic Flow and Roads.** A traffic impact report is attached hereto as Exhibit “D”. According to the report the proposed enhancements to Higgs Beach will not negatively affect level of service standards and will improve traffic safety along Atlantic Boulevard and ingress/egress to the various parking areas within the park.

Although coordination has begun through the City’s development approval process, further coordination is required with the City’s Utilities Department and with Keys Energy and the Florida Keys Aqueduct Authority at the time the road is relocated.

**b. Solid Waste.** The County is responsible for all solid waste and recycling removal from the site. Waste disposal is provided to the Property by a vendor under contract with the County.

**c. Potable Water.** Potable water is provided to the park by the Florida Keys Aqueduct Authority. The approved plan includes cisterns to capture rainwater and grey water reuse is planned.

**d. Sewer.** The property is connected to a central sewer system operated by the City.

**e. Electric Service.** Electric Service is provided by Keys Energy.

**f. Fire Service.** Fire service is provided by the City Fire Department.

**10. Storm Water Runoff**

A conceptual Storm Water Drainage Plan has been developed to maintain the storm water on site as required by City Code, see attached plan as Exhibit “B”.

**11. Parking**

The proposed plan maintains the same number of existing parking spaces (145) on site. Of the 145 spaces, 123 are standard parking spaces, 16 are compact spaces, and 6 are handicapped accessible. There are 45 bicycles and/or scooter spaces proposed. Perimeter landscaping around the parking areas is proposed to shield automobile lights from adjacent uses. Proposed new lighting shall meet “Dark Sky” lighting requirements, and stormwater drainage requirements have been met for all parking areas. The proposed parking plan is in compliance with the City Code and ADA standards have been met.

**12. Additional Redevelopment Terms**

**a. Energy Conservation.** Construction on the site including the development of the Nature Visitors Center is required to be consistent with Chapter 255.2575(2), Florida Statutes which requires compliance with an accepted third party environmental standard. Therefore, the Nature Center has been designed to reduce energy needs. Design components of the building include solar hot water, collection of grey water for reuse, green walls and green roof, cross ventilation, white reflective roof material, solar electric panels, ultra low flow plumbing fixtures, and low Volatile Organic Compound (VOC) interior materials.

Lighting shall be designed to “Dark Sky” lighting standards and shall meet energy efficiency standards established by an accepted third party environmental standard consistent with F.S Chapter 255.2575(2).



The proposed landscape plan incorporates native plant material, clustering of plant material for water conservation, use of salt tolerant grasses, and installation of canopy trees for surface heat reduction.

**b. Landscaping.** The Landscape Plan was approved as part of the Development Plan approval through Resolution 2012-\_\_\_ and was approved by the Tree Commission on October 19, 2011. The Landscape Plan is attached hereto as a portion of Exhibit “B”. As part of the approval a Landscape Waiver Letter was issued by the Planning Department on October 11, 2011 pursuant to City Code Section 108-226 that specifically waives requirements to provisions 108-413(b), 108-415(a) and 108-481(a) **also attached hereto.**

**c. Schools and Affordable Housing.** School population is not affected, nor does the park create a need for housing.

**d. Access to Historic Sites:** The Master Plan provides improved access to the West Martello Tower, and the African Memorial and Grave yard by relocating Atlantic Boulevard away from the tower and gravestone and adding a delivery area. The additional graves discovered during ground penetrating radar studies are protected through the design that was approved for open space and passive recreational uses only. If additional gravesites are discovered when the present roadbed is moved, the gravesites will be protected and incorporated into the Memorial.

**13. Agreement Between City and County Regarding Grant Funding**

The City and the County agree to partner when seeking grants or other funding sources for the implementation of the Development Plan.

**14. Approval of Minor Modifications**

The City Planning Director may approve minor modifications to the Master Plan consistent with City Code Section 108 or allow Administrative Modifications to the Master Plan that may exceed the scope of a minor deviation as described in City Code Section 108-91, in order to implement elements that improve the safety and public health of the park users, which may be required due to technical or engineering considerations.

**15. Fees Related to Development Agreement**

The City agrees that the fees for this Development Agreement during the entire term of the Agreement shall be waived due to the benefit received by the City and its residents as a result of the development of the Higgs Beach property and shall include, but not be limited to, application fees, permit fees, and impact fees.

**16. Local Development Permits**

The following is a list of all development permits approved or needed to be approved for the development of the property as specified and requested in this

Agreement:

- a. Development Agreement; and
- b. Major Development Plan; and
- c. Building and related construction permits, including but not limited to paving, drainage, accessory structures, land clearing, and landscaping; and
- d. Federal, State, regional and local permits for storm water runoff, driveway connections, utility connections, and environmental (or endangered species) takings, when necessary and if required.

**17. Dedication of Property for Public Purpose**

The dedicated purpose for use of the Property shall be as a public park, It is in the best interest of the City for the property to remain as a public park.

**18. Consistency with Comprehensive Plan and Land Development Regulations**

By entering into this Agreement the City finds that the Development Plan proposed for the Property as provided in this Agreement is consistent with City's Comprehensive Plan, Land Development Regulations and Resolution 2012- \_\_\_ as presently written.

**19. Description of Conditions, Terms, Restrictions, or other Requirements Determined to be Necessary by the City Commission for the Public Health, Safety, or Welfare of its Citizens**

There are no additional conditions, terms, restrictions or other requirements are necessary.

**E. LOCAL LAWS AND POLICIES GOVERNING AGREEMENT.**

This Agreement shall govern the development of the Property for the duration of the Agreement. During the term of the Agreement the City and County agree to abide by the respective Comprehensive Plans and Land Development Regulations in effect on the effective date of the Agreement.

City and County laws and policies adopted after the Effective Date may be applied to the Property only if the determinations required by Section 163.3233, Florida Statutes, have been made after written notice to County, the developer, and at a public hearing. This Development Agreement was drafted and delivered in the State of Florida and shall be construed by and enforced under the laws of the State of Florida.

**F. AMENDMENT BY MUTUAL CONSENT.**

The Development Agreement may be amended by mutual consent which shall require a written document approved by the City Commission and the Board of County Commissioners, and shall require two (2) public hearings by the City.

**G. INVOLUNTARY REVOCATION OF DEVELOPMENT AGREEMENT.**

In the event that any state or federal law is enacted after the execution of this Agreement that is applicable to and precludes the parties from complying with the terms of this Agreement, then this Agreement shall be modified or revoked as is necessary to comply with the relevant state or federal law. Prior to modifying or revoking this Agreement under this provision, the City shall hold two public hearings.

**H. TERM OF DEVELOPMENT AGREEMENT.**

The initial term of this Agreement shall be ten (10) years from the Effective Date. This Agreement may be extended by mutual consent of the City and the County subject to State and City public hearing requirement.

**I. RECORDING.**

Within 14 days of approval by the City the Agreement shall be recorded with the Clerk of the Circuit Court in the Public Records of Monroe County, at the expense of the County.

**J. EFFECTIVE DATE AND DATE OF AGREEMENT.**

This Agreement shall be effective when the Department of Economic Opportunity (DEO) waives their right to appeal or after the 45 day DOE appeal period, whichever comes first, as required pursuant to state statute xxx. The date of this Development Agreement is the date the last party signs this Development Agreement.

**K. ANNUAL REVIEW.**

The City shall review the Development Agreement annually pursuant to Section 163.3235, Florida Statutes, and Section 90-688 of the City Code to determine if there has been demonstrated good faith compliance with the terms of the Development Agreement.

**L. TERMINATION OF THE AGREEMENT BY THE PARTIES.**

The Agreement may be terminated at any time by mutual consent or if the City finds, subsequent to an annual review, that there has been a failure to comply with the terms of the Development Agreement, the Agreement may be revoked or modified by the City. Such revocation shall be determined by the City Commission at a noticed public hearing and based on substantial competent evidence.

**M. MODIFICATION OR REVOCATION TO COMPLY WITH SUBSEQUENT STATE AND FEDERAL LAW.**

In the event that any state or federal law is enacted after the execution of this Agreement that is applicable to and precludes the parties from complying with the terms of this Agreement, then this Agreement shall be modified or revoked as is necessary to comply with the relevant state or federal law. Prior to modifying or revoking this Agreement under this provision, the City shall hold two public hearings.

**N. ASSIGNMENT OF AGREEMENT.**

This Agreement, or portions thereof, shall not be assigned by County, without the express written approval of City, which consent may be withheld in the sole discretion of the City.

**O. ENFORCEMENT.**

Any party aggrieved or adversely affected person as defined in Section 163.3215(2) may file an action for injunctive relief in the circuit court in Key West, Florida to enforce the terms of this Agreement or to challenge compliance of the agreement with Sections 163.3220 – 163.3243, Florida Statutes.

**P. SUCCESSORS.**

This Agreement shall be binding upon all the parties and their successors in interest, heirs, assigns and personal representatives.

**Q. NOTICES.**

The parties designate the following persons as representatives to be contacted and to receive all notices regarding this Agreement:

**For the City of Key West:**

City Planning Director  
Post Office Box 1409  
Key West, FL 33040  
Telephone: 305-809-3728

**With a copy to:**

City Manager  
Post Office Box 1409

Key West, FL 33040  
Telephone: 305-809-3888

City Attorney  
Post Office Box 1409  
Key West, FL 33040  
Telephone: 305-809-3770

**For the County:**

County Administrator  
1100 Simonton Street  
Room 2-205  
Key West, FL 33040  
Telephone:

**With a copy to:**

County Attorney  
PO Box 1026  
Key West, FL 33040  
Telephone:

Project Management  
1100 Simonton Street  
Room 2-216  
Key West, FL 33040  
Telephone:

All parties are responsible to notify the other in writing of a change of address for proper notice.

**R. CONFLICTS.**

In the event of a conflict between the provisions of this Development Agreement and City ordinances, the terms of this Development Agreement shall control.

**S. SEVERABILITY.**

In the event any provision, paragraph or section of this Development Agreement is determined to be invalid or unenforceable by a court of competent jurisdiction, such determination shall not affect the enforceability or the validity of the remaining provisions of this Development Agreement.

**T. SINGULAR AND PLURAL.**

When the context requires, the singular includes the plural, and the plural includes the singular.

**U. DUPLICATE ORIGINALS; COUNTERPARTS.**

This Development Agreement may be executed in any number of originals and in counterparts.

**V. HEADINGS.**

The headings contained in this Development Agreement are for identification purposes only and shall not be construed to amend, modify, or alter the terms of the Development Agreement.

**W. ENTIRETY OF AGREEMENT; INCORPORATION OF PRIOR DEVELOPMENT APPROVALS.**

This Development Agreement incorporates or supersedes all prior negotiations, correspondence, conversations, agreements or understandings regarding the matters herein. The parties agree that there are no commitments, agreements, or understandings concerning the subjects covered by this Development Agreement that are not contained in or incorporated by reference. This Development Agreement contains the entire and exclusive understanding among the parties and may not be modified in any manner except by instrument in writing signed by the parties.

**IN WITNESS WHEREOF**, the parties hereto, by their duly authorized representatives have set their hands and seals on the dates written below.

(SEAL)  
Attest: **DANNY L. KOLHAGE, Clerk**

**BOARD OF COUNTY COMMISSIONERS  
OF MONROE COUNTY, FLORIDA**

By: \_\_\_\_\_  
Deputy Clerk

By: \_\_\_\_\_  
Mayor/Chairman

Date: \_\_\_\_\_

Date: \_\_\_\_\_

(SEAL)  
Attest:

**CITY OF KEY WEST**

By: \_\_\_\_\_  
City Clerk

By: \_\_\_\_\_  
Mayor

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Approved as to Form and Legal Sufficiency:

\_\_\_\_\_  
City Attorney

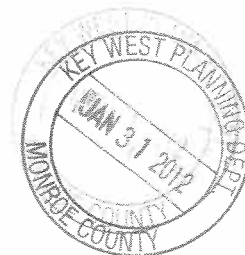
# **Draft Development Agreement**

**Recommended by County and approved by BOCC,  
January 19, 2012**



**BOARD OF COUNTY COMMISSIONERS**

Mayor David Rice, District 4  
Mayor Pro Tem Kim Wigington, District 1  
George Neugent, District 2  
Heather Carruthers, District 3  
Sylvia J. Murphy, District 5



Honorable Mayor Craig Cates  
City of Key West  
3126 Flagler Avenue  
Key West, Florida 33040



January 30, 2012

Dear Mayor Cates,


On January 3, 2012, the Key West City Commission agreed to accept a Development Agreement from Monroe County for implementation of the Higgs Beach Master Plan. At the January 19, 2012 meeting of the Monroe County Board of County Commissioners, the BOCC agreed to forward the Development Agreement to the City for review and action.

Attached please find the proposed Development Agreement. We have included for your staff's review a hard copy of the Development Agreement as well as an electronic version on compact disc. The CD includes the Development Agreement and all referenced attachments.

This is an exciting time for Higgs Beach. We look forward to participating in the review process with the City Commission, City staff and our constituents. The Development Plan that accompanies this Development Agreement implements the concepts, community desires, and decisions of the Master Plan. The City staff and the City Planning Board have reviewed the Development Plan. It is our intention the Development Plan application will be reviewed by the City Commission with the Development Agreement. Once the development review process is complete, we look forward to implementing the project.

It is our hope to start the Development Agreement review process at the February Development Review Committee meeting. Thank you for your assistance in this matter.

Sincerely,

  
Heather Carruthers, Commissioner  
Monroe County District 3

Cc: Don Craig, Key West Planning Director  
Terri Johnson, City Commissioner V (via email)  
Larry Erskine, Key West City Assistant Attorney (via email)  
Nat Cassel, Monroe County Assistant Attorney (via email)  
Jerry Barnett, Monroe County Project Management Director (via email)  
Bill Horn, Architect (via email)  
Barbara Mitchell, Mitchell Planning and Design (via email)



**Prepared by:**  
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Natileene W. Cassel, Asst. County Attorney  
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Key West, FL 33041-1026

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1111 12<sup>th</sup> Street  
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Key West, FL 33040



And

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Mitchell Planning and Design, Inc  
15450 SE 103<sup>rd</sup> Place Road  
Ocklawaha, Florida 32179  
Phone: 352-288-0401  
Email: [mitchellplanningdesign@gmail.com](mailto:mitchellplanningdesign@gmail.com)

**DEVELOPMENT AGREEMENT**  
**FOR HIGGS BEACH PARK**

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**WHEREAS**, the City Commission for the City of Key West and the Monroe County Board of County Commissioners recognize the following:

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- B.** This Agreement is entered into in accordance with Florida Interlocal Cooperation Act, 163.01, Florida Statutes; and
- C.** The Key West Code of Ordinances Sections 90-676 to 90-677 authorizes Development Agreements and establishes the procedures and requirements to enter into a development agreement with any person having a legal or equitable interest in real property located within its jurisdiction; and

D. Monroe County is the owner and developer of the property located at Higgs Beach, which is being used as a park located within the jurisdictional boundaries of the City of Key West, Florida; and

E. Higgs Beach is a recreational component of both the County and City Comprehensive Plans; and

F. On March 10, 2010, the County authorized the development of a Master Plan for Higgs Beach comprised of two phases. The first phase, development of a Master Plan, included a planning and design process to gather community and stakeholder input, acquired a new boundary survey, conducted a ground penetrating radar survey to locate impacted archeological resources and coordinated with staff of the City of Key West; and

G. The Higgs Beach Master Plan was developed with significant community input over several months; the master planning process included multiple public meetings and several smaller neighborhood meetings with park stake holders conducted by the County. The local community group, known as the Friends of Higgs Beach, and the neighbors immediately adjacent to the park were active participants in the Master Planning process. Their concerns were considered and addressed to the greatest extent practicable.

H. On January 19, 2011, the County approved the Higgs Beach Master Plan, Option F, and directed to secure major development plan approval from the City; and

I. On July 1, 2011, Monroe County submitted an application for approval of a Major Development Plan which came before the City Planning Board, at a duly noticed public hearing, on October 20, 2011, whereupon the Planning Board granted Major Development Plan approval pursuant to Resolution #2011-059; and

J. On December 14, 2011, the County made a written request to enter into a Development Agreement with the City; and

K. On January 3, 2012, the City Commission authorized the County to proceed with the creation of a Development Agreement for Higgs Beach; and

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M. The Key West City Commission and the Monroe County Board of County Commissioners find that entering into this Development Agreement furthers the purposes, goal, objectives, and policies of their respective Comprehensive Plans;

**NOW THEREFORE**, in consideration of the mutual covenants entered into between the parties, and in consideration of the benefits to accrue to each, it is agreed as follows:

A. **RECITALS.**

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2. **“City Code”** shall refer to the Code of Ordinances of the City of Marathon in existence on the Effective Date of this Agreement.

3. **“City Comprehensive Plan”** shall refer to the City’s Comprehensive Plan, in existence on the Effective Date of this Agreement, as expressly provided herein.

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5. **“County Comprehensive Plan.”** shall refer to the County’s Comprehensive Plan, in existence on the Effective Date of this Agreement.

6. **“Developer”** shall mean Monroe County, a governmental agency.

7. **“Development”** shall refer to the redevelopment of the Property for the uses permitted by the Land Use Plan and Land Development Regulations, subject to the conditions, obligations, restrictions and terms contained in this Agreement.

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11. **“Land Use Plan”** shall mean the Future Land Use Element and Future Land Use Map of the City’s Comprehensive Plan in existence on the Effective Date of this Agreement.

12. **“Land Development Regulations”** shall mean Subpart B Chapter 86-122 of the City Code in existence on the Effective Date of this Agreement.

13. **“Owner”** shall refer to the County, the Owner of the Property subject to this Agreement.

14. **“Property”** shall refer to the parcel of real property located in the City that is the subject of this Agreement as set forth in Section D.1. of this Agreement.

15. **“Public facilities”** means those facilities identified in Section 163.3221, Florida Statutes (2010), and as set forth in this Agreement.

**C. PURPOSE OF AGREEMENT.**

The purpose of the Agreement is to:

1. Provide the citizens and visitors to Key West and the Florida Keys with a renovated and updated park which will be a signature park for both the City and the County; and
2. Establish a mechanism whereby the County and the City agree to extend the timeframes identified in City Code Section 108-203(a) to extend time for construction to begin; and
3. Agree to partner as necessary when seeking grants or other funding sources for the implementation of the Development Plan; and
4. Allow Administrative Modifications to the Master Plan that may exceed the scope of a minor deviation as described in City Code Section 108-91, in order to implement elements that improve the safety and comfort of the park users, or may be required due to technical or engineering considerations; and
5. Insure that the approved Master Plan is exempt from future changes to the City Code or Comprehensive Plan that would require redesign of approved elements during the term of this Agreement; and
6. Exempt the County from any and all fees associated with permitting the Master Plan.

**D. TERMS OF AGREEMENT.**

1. **Legal Description and Owner.**

The owner of the property is Monroe County. The legal description for the property subject to this Agreement is set forth in Exhibit “A”.

2. **Duration; Renewal.**

This Development Agreement, also referred to as the Master Plan, shall remain in effect for a period of ten (10) years, commencing on the Effective Date set forth below. This Development Agreement may be renewed or extended as provided herein.

3. **Development Plan.**

The development plan approved by this Development Agreement is depicted as the Higgs Beach Master Plan, attached hereto as Exhibit "B".

4. **Existing Development.**

The property contains the following existing development which will remain on the property:

- a. the historic African Memorial Cemetery
- b. the historic West Martello Tower and gardens
- c. the Salute Restaurant
- d. two historic band stands, aka gun turrets
- e. the existing toilets
- f. four shade pavilions in the dog park
- g. beach concessions

5. **New Development Plan (Master Plan).**

The Development Plan, also known as the Master Plan, is hereby approved by the City Commission. All subsequent site plans, site plan approvals and building permits shall substantially comply with the Development Plan; provided however that the final site plan may deviate from the Development Plan (1) to accommodate refinements to the Development Plan made by County, including minor shifts in the locations of structures, paths, landscaping, game courts, or sidewalks; or (2) to accommodate modifications necessary to meet for environmental goals, or to meet regulatory requirements.

In addition to the existing development, the plan includes:

- a. Visitor and Nature Center
- b. relocation of internal road and White Street enhancements
- c. relocation parking lots
- d. add bicycle lanes
- e. expand Beach area,
- f. relocate and expand Astro City Playground
- g. add or expand sidewalks for pedestrian use
- h. add two maintenance buildings
- i. add two volleyball courts and two pickle ball courts

- j. remove two tennis courts
- k. add PAR fitness course
- l. expand open space
- m. relocate small dog park, revise large dog park
- n. revise outdoor lighting fixtures
- o. renovate and add landscaping
- p. revise storm water systems
- q. relocate utilities as required
- r. add sculpture garden
- s. renovate Whistling Duck pond.

6. **Population Densities, Building Intensities and Height.**

- a. The property will remain a recreational park without residential building; therefore, population densities should not change appreciably, except for increase in usage and are not applicable.
- b. Building Intensities for the existing floor area has a floor area ratio of 3% and the proposed floor area ratio is 4%, well below the 20% maximum floor area ratio for recreation and open space per City Ordinance Section 122-1020.
- c. All proposed structures proposed to be constructed have been designed to be within the twenty-five (25) foot height restriction as outlined in Section 122-1020 of the Key West City Code of Ordinances.

7. **Set Backs and Floor Elevations.**

- a. All proposed new buildings have been designed to have finished floor elevations at or above the City’s floodplain management requirements.
- b. All the setbacks fall within or exceed the requirements of the City Code, except for the Coastal Construction represented by the West Martello Tower historic construction and will not be changed. Setbacks are illustrated on the chart below which includes the required setbacks and the existing setbacks:

Type	Required	Existing	Proposed
Front (White Street)	20'	25'4"	25'4"
Side (Casa Marina Court)	15'	123'9"	24'0"
Rear (Reynolds Street)	20'	237'8"	55'4"
Coastal Construction	50'	11'5"	11'5"

8. **Phasing.**

The Development Plan may be developed in two or more phases within the timeframes established in this Agreement, see Exhibit “C” attached hereto. If all phases of the Development Plan are not completed within the stated

timeframe, the Development Plan will continue to operate under the last completed phase. Due to complexity and potential funding impacts on the plan the phasing plan may require some flexibility in the timeframe.

9. **Public Facilities and Utilities Serving Redevelopment.**

**a. Traffic Flow and Roads.** A traffic impact report is attached hereto as Exhibit “D”. As noted in the report, “the proposed enhancements to Higgs Beach are not anticipated to increase traffic flow along Atlantic Boulevard, are not anticipated to degrade the operating conditions of Atlantic Blvd or nearby local streets, however the changes will significantly improve safety to traffic traveling along Atlantic Boulevard or accessing the various parking areas located north or south of the roadway”.

The revisions to the traffic pattern at the intersection of White Street and Atlantic Boulevard adds a sense of entrance to the park area, and provides an opportunity to enhance the White Street Pier and AIDS Memorial.

Atlantic Blvd inside the park is shifted to the north to accommodate community desires to increase the beach area, relocate the playground to the south side of the road for safety reasons. The relocation of the road will provide a safety buffer from the old road and the West Martello Garden eliminating an unsafe condition since the Tower is currently located within five feet of the existing roadway.

The design of the road also includes a gentle curve to provide for traffic calming and to encourage a reduction in vehicular speed. The entrance to Higgs Beach from White Street has been shifted to the north as shown on the plans.

**b. Solid Waste.** Waste disposal is provided to the Property by a vendor under contract with the County. Contracts are subject to competitive bidding procedures. A recycling center is proposed adjacent to the Salute Restaurant. It is anticipated the recycling area will provide for recycling of solid waste as well as provide an area for composting of vegetation generated by the restaurant. Currently recycling collection boxes are scattered throughout the park and these will be reused.

**c. Potable Water.** Potable water is provided by the Florida Keys Aqueduct Authority. The Visitor Nature Center will include cisterns to capture rainwater and make it available for landscape irrigation. This building is designed to Leadership in Energy and Environmental Design (LEED) standards that will reduce and minimize the amount of potable water required. Grey water reuse is planned for the Visitor Nature Center.

**d. Sewer.** The property is connected to a central sewer system servicing the City of Key West.

**e. Electric Service.** Electric Service is provided by Keys Energy service to the park.

**f. Fire Service.** Fire service will be provided by City of Key West Fire Department.

10. **Storm Water Runoff.**

A conceptual Storm Water has been developed to maintain the storm water on site as required by City Code, see attached plan as Exhibit "B". The redesign and relocation of Atlantic Boulevard will provide the opportunity to engineer the roadway to capture the storm water generated by the impervious surface. Parking lots have been relocated further from the shoreline and will be engineered to City standards for storm water containment. Furthermore, innovative containment practices are proposed that will direct the storm water for reuse where possible to provide water for landscape areas.

11. **Parking.**

The current parking lots are unsafe and not consistent with City Code requirements. The proposed plan will keep the same number of parking spaces (145); however, these spaces have been reconfigured to enhance safety and access to the internal travel lanes in the park. Of the 145 spaces, 123 are standard parking spaces, 16 are compact spaces, and 6 are handicapped accessible. In addition there are spaces for 45 bicycles and/or scooters. The proposed plan provides parking lots with dedicated access points to the relocated Atlantic Boulevard. The size of the parking spaces is compliant with City regulations and provisions for scooter, bicycles and handicap spaces have been made. Atlantic Boulevard has been redesigned to accommodate bicycle traffic with dedicated lanes on both sides of the road. Other ADA standards have been incorporated in to the plan. Perimeter landscaping around the parking areas is proposed to shield automobile lights from adjacent uses.

12. **Additional Redevelopment Terms.**

**a. Energy Conservation.** The Nature Center has been designed to reduce energy needs. Four members of the Design Team are LEED Accredited Professionals. The Visitor Nature Center has the potential to be awarded enough credits to achieve LEED Gold Certification. Design components of the building include 100% solar hot water, collection of grey water for reuse, green walls and green roof as shown on the elevations, cross ventilation to reduce or eliminate the need for air conditioning, white reflective roof material, solar electric panels, ultra low



flow plumbing fixtures, and low Volatile Organic Compound (VOC) interior materials.

The maintenance buildings are designed to take advantage of natural ventilation and sun control.

Energy efficient lighting will be incorporated as part of the outdoor lighting plan. Opportunities include LED lighting or solar lights for the street outdoor lighting fixtures.

The proposed landscape plan incorporates native plant material, clustering of plant material for water conservation, use of salt tolerant grasses, and installation of canopy trees for surface heat reduction.

**b. Landscaping.** The parties agree to the conceptual landscape plan, attached hereto as a portion of Exhibit “B”, approved by the Key West Tree Commission on October 19, 2011, and agree to the waiver of certain landscape standards in the plan to maintain the view corridors for adjacent neighbors and to control future maintenance costs. Furthermore, the plan seeks to deter criminal behavior through environmental design known as Crime Prevention Through Environmental Design (“CPTED”). Principals of CPTED are based on the theory that proper design and the effective use of the built environment can reduce crime, reduce the fear of crime and improve the quality of life. Implementing these principles may require waivers due to conflict with some requirements of the landscape regulations; for instance it is important to prevent areas for criminals to hide in shrubs plantings. However, the total number of plant units required will be met or exceeded when the entire site is considered.

**c. Schools and Affordable Housing.** School population is not affected, nor does the park create a need for housing.

**d. Access to Historic Sites:** The Master Plan provides improved access to the West Martello Tower, and the African Memorial and Grave yard. West Martello Fort preservation is enhanced by the relocation of the road way, the planned pathways are designed to be a sufficient width to accommodate delivery vehicles during special events, addressing concern for adequate parking, loading and unloading supplies.

Another important historical component of the Master Plan is the African Memorial Cemetery. In November 2010, an extensive ground penetrating radar survey was conducted resulting in the location of additional gravesites of African refugees who died on the island in 1860 as a result of the slave trading activity. If additional gravesites are discovered when the present roadbed is moved, the gravesites will be incorporated into the Memorial.

13. **Agreement between City and County regarding Grant Funding.**

The City and the County agree to partner as necessary when seeking grants or other funding sources for the implementation of the Development Plan.

14. **Approval of Minor Modifications.**

The City Planning Director may approve minor modifications to the Master Plan consisting of revisions to structure size, reduction of or enlargement of impervious area, location of internal road if required by PD & E study done by FDOT 2015 Enhancement Funds, changes handicapped accessibility, construction of bathroom facilities or utilities, and to accommodate refinements to the Development Plan made by County, including minor shifts in the locations of structures, paths, landscaping, game courts, or sidewalks; or to accommodate modifications necessary to meet for environmental goals, or to meet regulatory requirements.

15. **Fees Related to Development Agreement.**

City agrees that the fees for this Development Agreement during the entire term of the Agreement shall be waived due to the benefit received by the City and its residents as a result of the development of the Higgs Beach property and shall include but not limited to application fees, permit fees, and impact fees.

16. **Local Development Permits.**

The following is a list of all development permits approved or needed to be approved for the development of the property as specified and requested in this Agreement:

- a. Development Agreement; and
- b. Minor Development Plan; and
- c. Building and related construction permits, including but not limited to paving, drainage, accessory structures, land clearing, and landscaping; and
- d. Federal, State, regional and local permits for storm water runoff, driveway connections, utility connections, and environmental (or endangered species) takings, when necessary and if required.

17. **Dedication of Property for Public Purpose.**

The dedicated purpose for use of the Property shall be as a public park, and shall remain zoned as a Public Service and Semipublic Service (PS) zoning district by the City of Key West. There will be no other dedication of the property.

18. **Consistency with Comprehensive Plan and Land Development Regulations.**

By entering into this Agreement the City finds that the Development Program proposed for the Property as provided in this Agreement is consistent with City's Comprehensive Plan and Land Development Regulations as presently written.

19. **Description of conditions, terms, restrictions, or other requirements determined to be necessary by the City Commission for the public health, safety, or welfare of its citizens.**

There are no additional conditions, terms, restrictions or other requirements that are not already contained herein that are necessary by the local government for the public health, safety, or welfare of its citizens.

**E. LOCAL LAWS AND POLICIES GOVERNING AGREEMENT.**

This Agreement shall govern the development of the Property for the duration of the Agreement. During the term of the Agreement the City and County agree to abide by the respective Comprehensive Plans and Land Development Regulations in effect on the effective date of the Agreement.

City and County laws and policies adopted after the Effective Date may be applied to the Property only if the determinations required by Section 163.3233, Florida Statutes, have been made after written notice to County, the developer, and at a public hearing. This Development Agreement was drafted and delivered in the State of Florida and shall be construed by and enforced under the laws of the State of Florida.

**F. AMENDMENT BY MUTUAL CONSENT.**

The Development Agreement may be amended by mutual consent which shall require a written document approved by the City Commission and the Board of County Commissioners, and shall require two (2) public hearing by the City.

**G. INVOLUNTARY REVOCATION OF DEVELOPMENT AGREEMENT.**

In the event that any state or federal law is enacted after the execution of this Agreement that is applicable to and precludes the parties from complying with the terms of this Agreement, then this Agreement shall be modified or revoked as is necessary to comply with the relevant state or federal law. Prior to modifying or revoking this Agreement under this provision, the City shall hold two public hearings.

**H. TERM OF DEVELOPMENT AGREEMENT.**

The initial term of this Agreement shall be ten (10) years from the Effective Date. This Agreement may be extended by mutual consent of the City and the County subject to State and City public hearing requirement.

**I. RECORDING.**

Within 14 days of approval by the City the Agreement shall be recorded with the Clerk of the Circuit Court in the Public Records of Monroe County, at the expense of the County.

**J. EFFECTIVE DATE AND DATE OF AGREEMENT.**

This Agreement shall be effective when recorded in the Public Records of the Monroe County.

The date of this Development Agreement is the date the last party signs this Development Agreement.

**K. ANNUAL REVIEW.**

The City shall review the Development Agreement annually pursuant to Section 163.3235, Florida Statutes, to determine if there has been demonstrated good faith compliance with the terms of the Development Agreement.

**L. TERMINATION OF THE AGREEMENT BY THE PARTIES.**

The Agreement may be terminated at any time by mutual consent or if the City finds, subsequent to an annual review, that there has been a failure to comply with the terms of the Development Agreement, the Agreement may be revoked or modified by the City. Such revocation shall be determined by the City Commission at a noticed public hearing and based on substantial competent evidence.

**M. MODIFICATION OR REVOCATION TO COMPLY WITH SUBSEQUENT STATE AND FEDERAL LAW.**

In the event that any state or federal law is enacted after the execution of this Agreement that is applicable to and precludes the parties from complying with the terms of this Agreement, then this Agreement shall be modified or revoked as is necessary to comply with the relevant state or federal law. Prior to modifying or revoking this Agreement under this provision, the City shall hold two public hearings.

**N. EXTENSION OF THE AGREEMENT AND ASSIGNMENT.**

In the event that the development does not take place as contemplated in this Agreement, the Agreement may be extended by amendment to this Agreement. This Agreement, or portions thereof, shall not be assigned by County, without the express written approval of City.

**O. ENFORCEMENT.**

Any party or aggrieved or adversely affected person as defined in Section 163.3215(2) may file an action for injunctive relief in the circuit court in Key West, Florida to enforce the terms of this Agreement or to challenge compliance of the agreement with Sections 163.3220 – 163.3243, Florida Statutes.

**P. SUCCESSORS.**

This Agreement shall be binding upon all the parties and their successors in interest, heirs, assigns and personal representatives.

**Q. NOTICES.**

The parties designate the following persons as representatives to be contacted and to receive all notices regarding this Agreement:

**For the City of Key West:**

City Planning Director  
3140 Flagler Avenue  
Key West, FL 33040  
Telephone:

**With a copy to:**

City Manager  
3132 Flagler Avenue  
Key West, FL 33040  
Telephone:

City Attorney

Key West, FL 33040  
Telephone:

**For the County:**

County Administrator  
1100 Simonton Street  
Room 2-205  
Key West, FL 33040  
Telephone:

**With a copy to:**

County Attorney

PO Box 1026  
Key West, FL 33040  
Telephone:

Project Management  
1100 Simonton Street  
Room 2-216  
Key West, FL 33040  
Telephone:

All parties are responsible to notify the other in writing of a change of address for proper notice.

**R. CONFLICTS.**

In the event of a conflict between the provisions of this Development Agreement and City ordinances, the terms of this Development Agreement shall control.

**S. SEVERABILITY.**

In the event any provision, paragraph or section of this Development Agreement is determined to be invalid or unenforceable by a court of competent jurisdiction, such determination shall not affect the enforceability or the validity of the remaining provisions of this Development Agreement.

**T. SINGULAR AND PLURAL.**

When the context requires, the singular includes the plural, and the plural includes the singular.

**U. DUPLICATE ORIGINALS; COUNTERPARTS.**

This Development Agreement may be executed in any number of originals and in counterparts.

**V. HEADINGS.**

The headings contained in this Development Agreement are for identification purposes only and shall not be construed to amend, modify, or alter the terms of the Development Agreement.

**W. ENTIRETY OF AGREEMENT; INCORPORATION OF PRIOR DEVELOPMENT APPROVALS.**

This Development Agreement incorporates or supersedes all prior negotiations, correspondence, conversations, agreements or understandings regarding the matters herein. The parties agree that there are no commitments, agreements, or understandings concerning the subjects covered by this Development Agreement that are not contained in or incorporated by reference. This Development Agreement contains the entire and exclusive understanding among the parties and may not be modified in any manner except by instrument in writing signed by the parties.

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives have set their hands and seals on the dates written below.

(SEAL)

Attest: **DANNY L. KOLHAGE, Clerk**

By: Isabel C. DeSantis  
Deputy Clerk

Date: 01-19-12

**BOARD OF COUNTY COMMISSIONERS  
OF MONROE COUNTY, FLORIDA**

By: [Signature]  
Mayor/Chairman

Date: 1-19-12

MONROE COUNTY ATTORNEY  
APPROVED AS TO FORM:

[Signature]

NATILEENE W. CASSEL  
ASSISTANT COUNTY ATTORNEY

Date: 1-20-2012

(SEAL)

Attest:

By: \_\_\_\_\_  
City Clerk

Date: \_\_\_\_\_

**CITY OF KEY WEST**

By: \_\_\_\_\_  
Mayor

Date: \_\_\_\_\_

Approved as to Form and Legal Sufficiency:

\_\_\_\_\_  
City Attorney

# **Attachments**



# **Exhibit “A”**

### Higgs Beach Legal Description:

A certain tract of land lying and being in Monroe County, Florida, on the island of Key West, being all the lands within the following metes and bounds except the described Enclave.

From the Point of Start (P.O.S.), said point being of the intersection of the Westerly line of White Street and the Southerly line of Casa Marina Court and being marked by a 1/4 inch copper bolt set in the top of a concrete monument, proceed S 10 degrees 30' W, 221.1 feet to a point, said point being the Point of Beginning (P.O.B.); thence S 79 degrees 30' E, 135.0 feet to a point; thence S 10 degrees 30' W, 270.0 feet to a point; thence N 79 degrees 30' W, 270.0 feet to a point; thence N 10 degrees 30' E, 270.0 feet to a point; thence S 79 degrees 30' E, 135.0 feet to the Point of Beginning. Excepted from the lands thus bounded as an Enclave being described as follows: Starting from the above described Point of Beginning, proceed S 10 degrees 30' W, 40.0 feet to a point, said Point being the Point of Beginning to the Enclave; thence S 79 degrees 30' E, 39.35 feet to a point; thence S 34 degrees 30' E, 78.70 feet to a point; thence S 10 degrees 30' W, 78.70 feet to a point; thence N 34 degrees 30' W, 78.70 feet to a point; thence S 79 degrees 30' E 39.35 feet to the Point of Beginning of the Enclave.

The net area of the lands herein described (Parcel within outer bounds less enclave) being 0.91 acres more or less.

A certain tract or parcel of land lying and being in Monroe County, Florida, on the island of Key West, being all the lands within the following metes and bounds except an enclave described as follows:

From a Point of Beginning (P.O.B.) said point being in the westerly line of White Street approximately 400 feet southerly from the County Road and being marked by a 1/4 inch copper bolt set in the top of a concrete monument set at the Northeast corner of the boundary fences, proceed S 34 degrees 23' East, 500 feet to a point in the Westerly line of White Street; thence S 55 degrees 30' W, 339.8 feet to a point; thence S 76 degrees 30' W, 103.3 feet to a point; thence N 79 degrees 30' W, 89.9 feet; thence N 34 degrees 30' W, 399.2 feet to a point in the Southerly boundary of Casa Marina Court; thence N 55 degrees 37' E, 500 feet to the Point of Beginning. Excepted from the lands thus bounded is an enclave being more particularly described as follows: Starting from the above described P.O.B., proceed S 10 degrees 30' W, 221.1 feet to a point, said point being the point of the Enclave; thence S 79 degrees 30' E, 135.0 feet to a point; thence S 10 degrees 30' W, 270.0 feet to a point; thence N 79 degrees 30' W, 270.0 feet to a point; thence S 79 degrees 30' E, 135.0 feet to the Point of Beginning of the enclave.

The net area of the lands herein described (Parcel within the outer bounds less enclave) being 4 acres more or less.

There is reserved from this grant an easement 15 feet wide from the public road to the Enclave as it existed on March 15, 1973, and a 10 foot wide easement for buried electrical cable running northeasterly approximately 50 feet from the northeast corner of the Enclave to the boundary of White Street. The access road may be relocated to the expense of the Grantee with the consent of the Grantor.

There are excepted from this conveyance and reserved to the Grantor, and its assigns, all oil, gas and other minerals in, under and upon the lands herein conveyed, together with the rights to enter upon the land for the purpose of mining and removing same.

This conveyance is made subject to any and all existing rights of way, easements, and conveyance and agreements affecting the above described premises whether or not the same now appear of record.

# **EXHIBIT “B”**

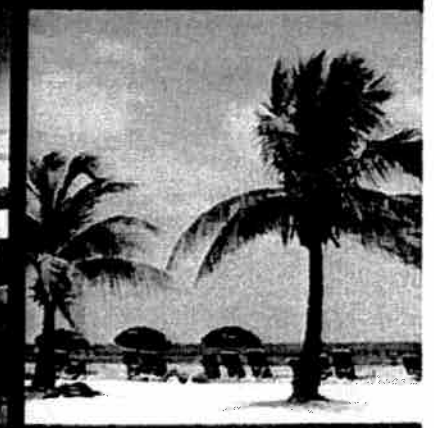


# HIGGS BEACH PARK

MASTER PLAN REPORT

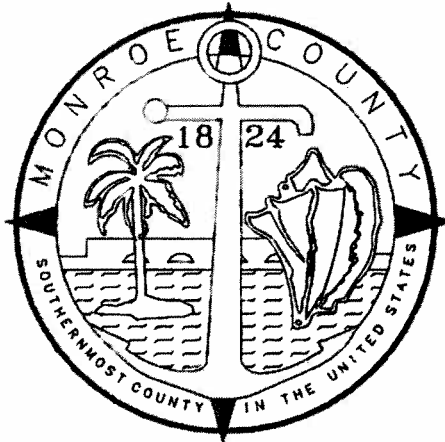
MONROE COUNTY, FLORIDA

JANUARY 19TH, 2011



# HIGGS BEACH PARK

## MASTER PLAN REPORT



Prepared for:  
Board of County Commissioners  
of Monroe County, Florida  
1100 Simonton Street  
Key West, FL 33040

January 19<sup>th</sup>, 2011



Prepared by:

**WILLIAM P. HORN ARCHITECT, P.A.**

915 EATON STREET, KEY WEST, FLORIDA 33040

In Association with:

LANDWISE  
DESIGN 

**Mitchell Planning  
& Design**

  
**PEREZ ENGINEERING  
& DEVELOPMENT, INC**

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## **ACKNOWLEDGEMENTS**

The consulting team of **William P. Horn Architect, PA** and our associate consultants would like to acknowledge the dedicated efforts of the **Board of County Commissioners of Monroe County**, especially the honorable Heather Carruthers, County Commissioner and Carol Schreck, Aide to Commissioner Carruthers.

Additionally, organized community efforts are also acknowledged including the **Friends of Higgs Beach Committee**, the **Higgs Beach Preservation Association**, the **Key West African Cemetery**, the **Key West Garden Club**, and the numerous citizens who gave of their time to attend multiple workshops and provide their constructive input and voice support for the Master Planning effort.

## **INTRODUCTION**

Since the early days of Key West, the site we know as Clarence S Higgs Memorial Beach Park (aka Higgs Beach) has a past rich with historically significant events. Within the boundaries of the park, there are numerous cultural and recreational activities used by both residents and tourists. The sandy shoreline has withstood all that human nature and Mother Nature can deliver – from hurricanes to the notorious wreckers. Prior to the Civil War the beach was one of the early cemeteries on the island, not only for residents but also for African refugees rescued in the 1860's from slave ships bound for Cuban sugar plantations. Although storms removed many of the early gravesites, the location of the African refugee graves have been located as discussed later in this report. This section of coastline has protected the island community during wars that threatened not only Key West but also the entire Country. From the West Martello Fort, constructed in 1863 as the War Between the States loomed, to the barracks, gun turrets and radio tower built in the 1900's in response to the threat of World Wars. Henry Flagler's Railroad terminated near here and it is reported the rails from that infamous train track were used in the construction of the Reynolds Street pier in the 1940's.

The original beach was much smaller and centered around the end of Reynolds Street. At the close of World War II, the military barracks were no longer needed and negotiations began with Monroe County to surplus this land. In 1948 Monroe County accepted the beach and began to enhance the park. Early improvements included construction of bathrooms, expansion of the sand beach and maintenance on the Reynolds Street pier. The citizens of Monroe County and Key West have maintained a keen interest in this beach. It has acquired the moniker of the "locals beach". Time and again the residents of Key West and Monroe County have provided input, energy, time and money to improve the beach park.

It is this heritage the Design Team has endeavored to protect and enhance during this Master Planning process. Over the past eight months, the Team has met with many interested persons including residents, adjacent neighbors, business owners, as well as City and County staff. We have guided an information sharing process with as many stakeholders as possible in order to learn and listen to their desires and concerns. Information and work that was done prior to this contract was reviewed and acknowledged. The Team recognizes this special beach park is a unique respite for the residents and visitors of Key West. The improvements contemplated by the Master Plan are a response to all that was expressed and seeks to enhance the experience for all park users.



## **EXECUTIVE SUMMARY**

In March 2010, a contract was awarded to William P. Horn Architect PA for the development of a Master Plan for The Clarence S Higgs Beach Memorial Park. Mr. Horn assembled a Design Team of professionals with extensive local experience and knowledge to assist him in preparing the Master Plan. In the ensuing months, the Design Team, led by Mr. Horn, hosted and/or attended over thirty meetings throughout the Key West community. This information gathering process provided a wealth of data. The Team used this data to understand the relevant issues, assess the needs and incorporate the desires of the community as the Master Plan was developed.

Six Master Plan Options were developed during the course of this phase of the contract. The first two, Options A and B, were presented for discussion at the first Public Workshop held in June. This workshop began with a discussion of the existing conditions at the park as shown on the current survey. Option A proposed maintaining Atlantic Blvd in the same location, relocating the parking facilities and proposed conceptual spaces for recreational activities. Option B shifted the road to the north, significantly increasing the beach area as well as reorganizing the parking facilities. As in Option A, similar conceptual spaces for park activities were shown. Upon conclusion of the design charrette, the workshop participants identified favorable concepts from A & B and directed the Design Team develop a combined scheme.

During the following month, the Design Team developed Option C and presented this plan, as well as Options A & B, as part of a progress update to the Monroe County Board of County Commissioners on July 21, 2010. Option C further defined the design concepts and ideas enumerated during the first public workshop. A central core for the park began to emerge. This core included an Art Park, Nature Center, parking and loading zones. A traffic circle was proposed for the intersection of White Street and Atlantic Blvd. The entrance to the park at Reynolds Street was studied and changes to calm traffic were included. The BOCC was informed of the activities to date and directed the Design Team to continue development of the plans and concepts.

The second public workshop was held on August 12, 2010. At this meeting Option C and C Alternate were presented to the group. The concepts were similar but different parking schemes were indicated on the plans. Again, with each plan, concepts and ideas began to solidify and mature. The consensus of the participants was to continue with Option C.

In the early fall, funding was made available for a Ground Penetrating Radar Survey of the middle and eastern sections of Higgs Beach. The City of Key West required the survey be conducted as part of the development approval process due to the anticipated location of archeological resources associated with the

African Memorial. The survey was conducted in mid November and did locate additional human remains. Given the historical data available, these remains are more than likely those of the African refugees rescued from slave trading ships in 1860. This discovery impacted the Master Plan as development was proposed in the area of the discovered graves and resulted in the development of Option D. Option D modified the location of Atlantic Blvd in order to leave the graves undisturbed, shifted the White Street traffic circle to the north, relocated the small dog park and required modifications to the parking program. This plan was presented at the third and final public workshop on December 2, 2010.

During the final workshop, the majority of the participants understood the reason for the changes to the Master Plan. However, several adjacent property owners disagreed with many of the proposed concepts. Unfortunately a number of these participants were attending for the first time. In the following weeks, the Design Team was directed to meet with these neighbors in an attempt to reach a compromise. Proposed Site Plan - Option E was developed. The major changes include removal of the traffic circle on White Street, addition of a landscape median on White Street, relocation of the small Dog Park from the northeastern corner of the park to a site adjacent to the Large Dog Park and relocation of a proposed parking lot from White Street to the interior of the park. In addition, the size of the proposed Nature Center has been reduced and the Pickleball Courts have been relocated to the west end of the tennis courts. Option E was discussed with the adjacent neighbors in late December and early January. The constituents requested further modification to the Master Plan. The resulting Site Plan – Option F is presented in this report as the compromised plan. The changes from Option E to Option F include a reduced footprint for the Visitor Nature Center from 1500 square feet to 1080 square feet. Additionally, the shade structure and bathroom proposed for the children's playground have been deleted.

A compact disc is included with this report that provides drawings of all Site Plan Options developed as part of this Master Planning process.

## **SECTION 1: PROJECT RESEARCH AND DATA GATHERING**

### **1 A. BACKGROUND**

In 1948, Monroe County accepted Higgs Beach. Over the years, the County has implemented improvements to the park. Currently, in addition to the sandy beach, the park contains tennis courts, West Martello Tower which is home to the Key West Garden Club, Salute Restaurant, Astro City, one bathroom building, concrete benches and cabanas, large and small dog parks, the Whistling Duck Pond, volleyball and handball courts, Reynolds Street Pier, the African Memorial and of course the swimming and snorkeling area adjacent to the beach. Within the boundaries of the park a fenced area with FAA tower and small concrete equipment building are located. The passage of time and the subtropical environment have taken their toll on most of the current park amenities.

Since 1999, a joint effort with the County, concerned residents and the Friends of Higgs Beach initiated discussions on the need for park improvements. Issues recognized included addressing security items, the impact of the homeless population, signage, parking, safe ingress and egress, trash and human waste impacts, increased vehicular traffic and site lighting. A Master Plan was commissioned and prepared in 2001. The overall plan was not funded for design and development although some of the recommendations were implemented.

In 2009, Commissioner Heather Carruthers's office facilitated the gathering of public input for Higgs Beach. Numerous public meetings were held and an Advisory Committee was established where both short and long term goals were identified. The minutes of these meetings are included in the Appendices attached to this report. Review of these minutes indicate that many of the issues such as safety, traffic flow, impact of the homeless population, etc were still of concern. In addition, a "Wish List" of improvements was developed and ranked. The Advisory Committee recommended that although some short-term improvements could be addressed, it would behoove the County to develop a new Master Plan that considered the most recent public input as well as current conditions.

A two-phase contract was awarded to William P Horn, Architect PA to develop this Master Plan in March 2010. For the first phase, development of the Master Plan, Mr. Horn assembled a team of professionals including Barbara Mitchell, Mitchell Planning and Design Inc., Ladd Roberts RLA, Landwise Design Inc and Allen Perez PE of Perez Engineering and Development Inc. This team has prepared the plan and this report for your review.

## 1 B. STAKEHOLDER SURVEY

The first action taken by the Design Team was to meet with the Friends of Higgs Beach Board. This meeting was held on April 7, 2010. Mr. Horn was in attendance for the team. Minutes from this and subsequent meetings are included in the Appendices in chronological order. The following list had been prepared as a result of the work completed by the Advisory Committee during the previous year. It was provided to the Design Team as a starting point for the public input process. This list prioritized the improvements and amenities currently desired.

PRELIMINARY WISH LIST FOR HIGGS BEACH							
HIGGS BEACH WISH LIST	DESCRIPTION	RANK					
1	OUTFALL FILTERS	WATER QUALITY	33	26	AFRICAN CEMETERY MEMORIAL	FINISH (2-3 MORE PHASES?)	20
2	STORM WATER DRAINAGE	WATER QUALITY	33	27	TENNIS COURTS	5 CURRENTLY	20
3	RECYCLING & TRASH		30	28	VOLLEYBALL COURTS	ADDITIONAL COURTS(S), LIGHTING	19
4	BIKE RACKS	?	30	29	DOG PARK EQUIPMENT		19
5	IMPROVED SIDEWALKS	ADA, ATHLETIC TRAIL, ROLLER BLADING, ETC.	29	30	YOGA/MEDITATION		19
6	REPLACE LIGHTING	ECD / NEIGHBOR FRIENDLY LIGHTING	29	31	KID CONCERTS		19
7	DRINKING FOUNTAINS	THROUGHOUT PARK	28	32	COMMUNITY GARDEN	VEGETABLE AND FLOWER	18
8	FAMILY BATHROOM	NORTH SIDE OF PARK	27	33	BASKETBALL COURT		18
9	OPEN SPACE		27	34	KITE BOARDING		17
10	EXTEND SWIM PIER		27	35	COVERED TIKI HUT	YOGA MEDITATION	16
11	PAVILIONS, TIKI HUTS	FIX, PAINT, ADD UMBRELLA TABLES	26	36	PICKLE BALL	GROUP USE THE EASTSIDE OF TENNIS W/TAPE	16
12	SNORKELING		26	37	SHUFFLEBOARD	ONE CURRENTLY AND IN BAD SHAPE	15
13	FIRST AID STATIONS		25	38	HORSESHOES	ONE CURRENTLY AND IN BAD SHAPE	15
14	EVENTS	MONTHLY CONCERTS (SOUND SYSTEM/TENTS)	25	39	HANDBALL	2 CURRENTLY	14
15	COMMUNICATION	SIGNS, FLYERS, BROCHURES, WEBSITE	24	40	ULTIMATE FRISBEE GOLF		14
16	IMPROVED MARINE PARK	INC. NET AROUND SWIMMING AREA	24		ARTWORK	ADDED DURING OTHER SESSIONS	
17	FITNESS TRAIL/RUNNING TRACK		24		IMPROVED FENCING	ADDED DURING OTHER SESSIONS	
18	CONCESSIONS	ATHLETIC/REC SHOP (TENNIS, HOTDOGS, BIKES)	23		SEAWALL REPLACEMENT	ADDED DURING OTHER SESSIONS	
19	PLAYGROUND	REPLACE	23				
20	PEST CONTROL		22		NOTE: SECURITY WAS NOT ON LIST		
21	LOCKERS		22				
22	KAYAKING		22				
23	SHOWER ROOMS		22				
24	BUS/TROLLEY STOP		22				
25	SWIMMING TRACK/MARKERS	TWO SHALLOW INSIDE OF BARRICADE/PIER	21				

## 1 C. COMMUNITY ORGANIZATIONS SURVEY

Prior to the first public meeting, Mr. Horn conducted several meetings with individual stakeholders and community organizations. The minutes of these meetings are included in the Appendices.

The surrounding residential community is very involved and interested in the plans for Higgs Beach. On April 14, 2010 a neighborhood meeting was held to inform the Design Team of the concerns of the neighborhood. During this meeting the public input process and schedule were outlined. The possible removal of the FAA tower was discussed. People in attendance introduced themselves and discussed their thoughts for the park.

The following day, Mr. Horn met with Mr. Richard Hatch, who currently leases and operates the Salute Restaurant from Monroe County. The restaurant is an important feature in the park. It is located adjacent to the beach, at grade, and is

a non-conforming use and structure according to the Key West Land Development Regulations. Mr. Hatch outlined his concerns, discussed the existing conditions of the building and suggested numerous improvements.

The Casa Marina is located adjacent to the park and on May 12, 2010 Mr. Horn met with Mr. Kevin Speidel, the General Manager of the resort. Primary concerns for the Casa Marina included parking on Reynolds Street, the overall appearance of the park and the resort supported improvements to the road.

On May 21, 2010, Mr. Horn met with Mr. Cory Malcom, archaeologist for the Mel Fisher Maritime Museum and Mr. Gene Tinnie an artist instrumental in developing the African Memorial located adjacent to the West Martello Garden. The importance of this archeological site was discussed.

In December 2010, several meetings were held with the Higgs Beach Preservation Association. This group formed in response to the third and final public meeting held on December 2, 2010. The group, composed primarily of adjacent neighbors expressed concern about several components of the Master Plan presented at the December 2, 2010 public meeting.

#### **1 D. GOVERNMENT COORDINATION**

The Design Team recognizes that, although this is a County Park, the City of Key West will play an important role in the ultimate development and permitting of the park renovations.

The initial meeting with City staff occurred on April 28, 2010. During this meeting the City expressed concerns with the safety of parking and traffic flow - particularly as it relates to the intersection of White Street with Atlantic Blvd. A traffic circle was suggested as a possible solution for this intersection. Other areas of concern included the location of the African graves, the alignment of Atlantic Blvd as it relates to the West Martello Garden, entry areas of the park, landscaping and buffers along the property line, and the upgrade/location of the current playground. City Staff requested the Design Team attend an informal meeting with the Development Review Committee (DRC) early in the process to keep them informed.

Coordination has been ongoing with Mayor Carruthers office, the majority of the meetings held have been attended by either Mayor Carruthers and/or her staff assistant Carol Schreck. The Design Team has coordinated with the Overseas Heritage Trail and Scenic Highway group. Formal meetings were not held but input was gathered by review of the Overseas Heritage Trail Master Plan as well as discussions with the County, City and State bicycle planners. Higgs Beach is one of the termination points of the Overseas Heritage Trail Bicycle Path.

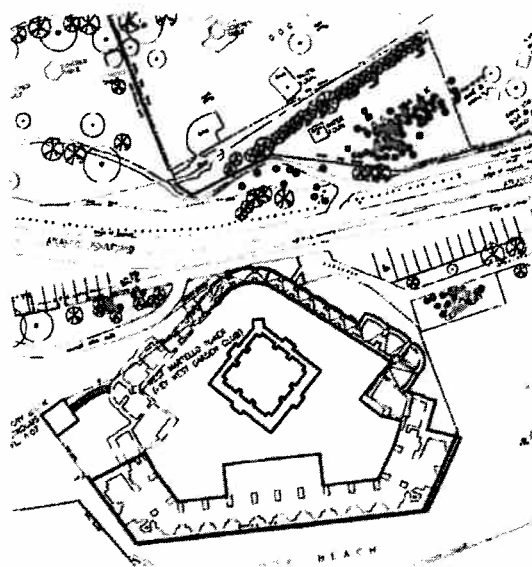
On July 21, 2010 an update was provided to the Monroe County Board of County Commissioners (BOCC). The Power Point presented is included in the Appendices.

On August 26, 2010 the Design Team presented the Conceptual Plans prepared to date at the Key West DRC. Official minutes from the City are not available. Generally the project was well received, several City Departments commented on the permit process and information that would be required; such as, an Environmental Resource Permit (ERP) for storm water system modifications, the HARC planner discussed the need for ground penetrating radar to locate the African grave sites, Bicycle Planner commented on White Street pedestrian access and signage requirements, and the Utility Companies provided information on existing service, City Planning discussed the possibility of City and County shared maintenance and recycling activities, legal non-conformity status of the restaurant, variance for landscape buffer requirements (in light of safety issues), and potential road relocation issues.

On October 13, 2010, a meeting was held with the Tourist Development Council, DAC 1, to present the Master Plan, Option C, and to inform the group of the progress to date.

## 1 E. ARCHAEOLOGICAL INVESTIGATION

Several years ago, a ground penetrating radar survey was conducted and identified nine gravesites located to the east of the West Martello Fort. At that time it was recognized that additional graves more than likely existed; however, funding was not available to continue the survey. From November 11 - 14, 2010, Dr. Laurence Conyers, University of Denver, with the assistance of Corey Malcom, Director of Archaeology Mel Fisher Maritime Heritage Society conducted a ground penetrating radar survey of the park area's most likely "hot spots". Gravesites were identified as shown in the adjacent sketch with the red dots. It is likely that additional graves exist beneath the Atlantic Blvd although the radar technique used cannot penetrate paving surfaces. The Conceptual Master Plan developed to date was revised in order to accommodate an undisturbed area for the graves. The location of these graves is a significant archaeological discovery, one of the only



known cemeteries of African refugees in the United States and presents an opportunity for preservation of this historic discovery.

## 1 F. PUBLIC INVOLVEMENT (WORKSHOPS)

As specified by the Master Plan contract, three public workshops were held to obtain public input for the Master Plan. The workshops were held at the Harvey Government Center in Key West and were advertised in accordance with public notice procedures. The Power Point presentations presented at the meetings were cumulative. In an effort to reduce redundancy, the first and last Power Point presentations and all sign in sheets are included in the Appendices.

The first meeting was held on June 22, 2010. There were 40 people in attendance. Based upon the information accumulated to date, the Design Team had developed Option A & B for discussion. The attendees were divided into four groups to brainstorm and modify the proposed plans. Comments from each group were then discussed. The consensus of the workshop was to direct the Design Team to develop an Option C including components of A & B.

On August 12, 2010, over 60 people attended the second public meeting. At this meeting in addition to reviewing the two previous plans, Option C and C Alternate were presented. The plans were discussed and the direction expressed to the Design Team was to continue further development of Option C.

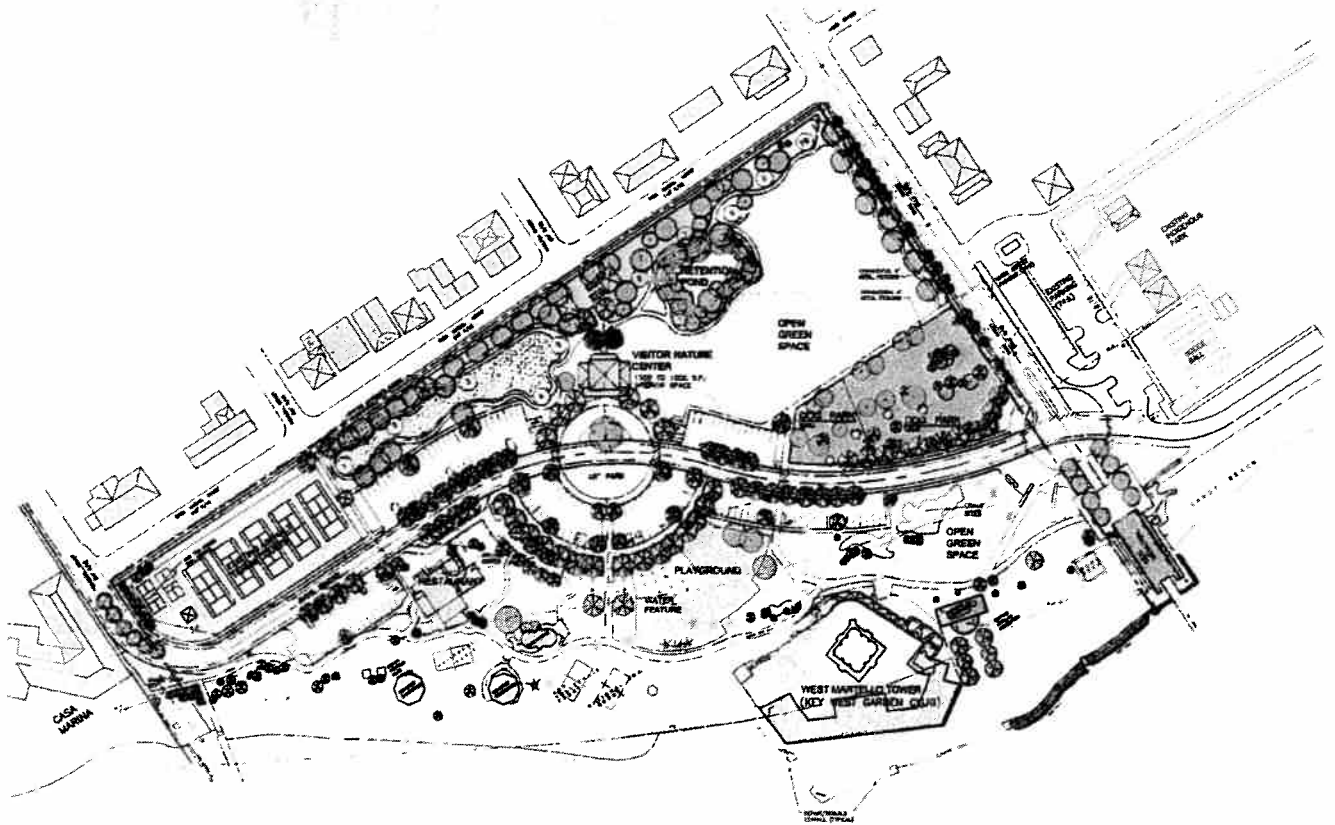
The third and final public workshop was held on December 2, 2010. The meeting was well attended with over 45 participants. During this meeting, the findings of the ground penetrating radar survey and the impact of the location of additional African gravesites on the developing Master Plan was discussed. Option D was presented, and reflected changes implemented due to the radar survey. Many of the participants at the meeting had been in attendance throughout the entire process understood and agreed with the modifications as presented. A small group of adjacent property owners attended, some of whom attended for the first time, vocally opposed the plan. The discussion of the project was extensive.

In response to requests by the adjacent property owners three meetings were held to address their concerns. On December 14, 2010 a meeting was held at Mayor Carruthers office to explain the rationale for the Option D. On December 16, 2010 a meeting was held with Mayor Carruthers and Key West Mayor Cates to discuss the neighbors concerns expressed during the December workshop. Furthermore, at the request of Mayor Carruthers an additional meeting was held on December 22, 2010 to discuss Option E. Further changes were requested and the final Master Plan, Option F reflects changes made to accommodate and respond to the neighbor's concerns as much as possible. Minutes of these meetings are included in the Appendices.

## SECTION 2: HIGGS BEACH MASTER PLAN

### 2A. MASTER PLAN

The Master Plan, Option F, presented in this Master Plan Report is the culmination of public, private and government input garnered through multiple workshops and data collection conducted by the Design Team during the past eight months. In this section of the report, Option F is presented and specific components of the plan are discussed. (Option F illustrated below)



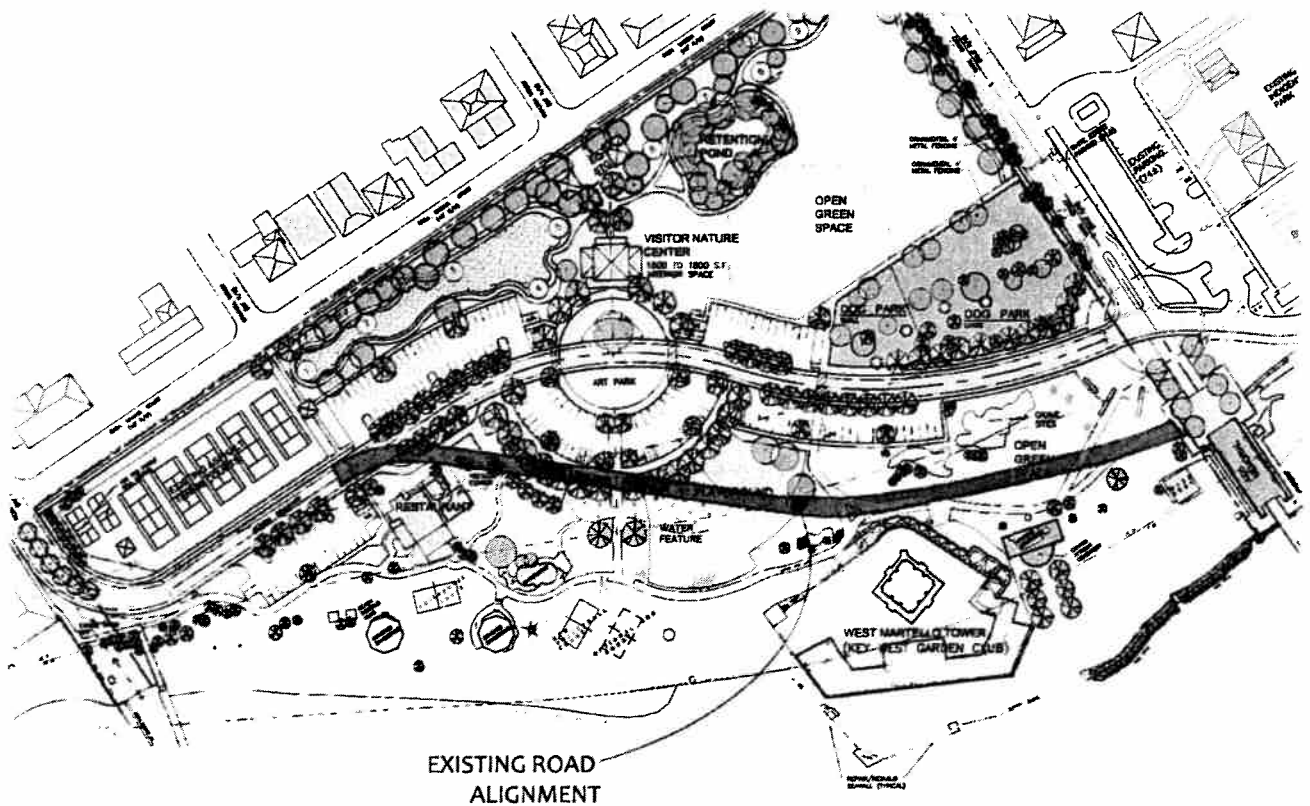
During the master planning process, it became evident to the Design Team that maintaining or enlarging open space; addressing safety concerns; improving pedestrian and vehicular circulation, access and parking; responding to various user group needs for improved facilities; accommodating the Overseas Heritage Trail; preserving the existing historical resources; and preserving and enhancing the existing tree canopy were the primary goals expressed by the constituents participating in this process. The following discusses how these goals are addressed.



## 2B. PLAN COMPONENTS — ROAD MODIFICATIONS

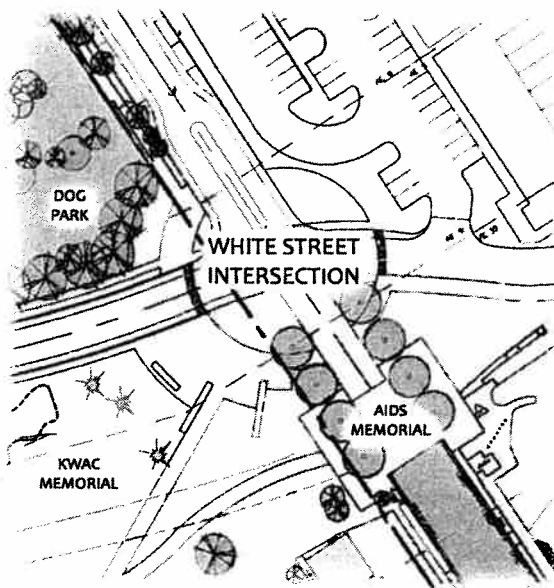
### ATLANTIC BOULEVARD

Atlantic Boulevard is the lifeblood of the park and provides the primary access for many residents and visitors. During the design process, the safety concerns expressed included the proximity of the road to the West Martello Gardens, pedestrian and bicycle conflicts, loading zones for the restaurant and Gardens, the relationship of the current parking areas to the travel lanes of the road, intersections of the road with Reynolds Street and White Street. The proposed design, keeps the road alignment in the same location adjacent to the tennis courts. However, beyond the tennis courts, the road has been shifted to north and a gentle curve to facilitate traffic calming has been designed. Relocating the road has provided the additional area needed to enlarge the beach, provide room for the new playground and to preserve the recently discovered additional graves of African refugees. The parking areas have been redesigned to include crosswalks and reduce conflict points with pedestrians. The proposed design of the road has also been widened to accommodate bicycle lanes on both sides.

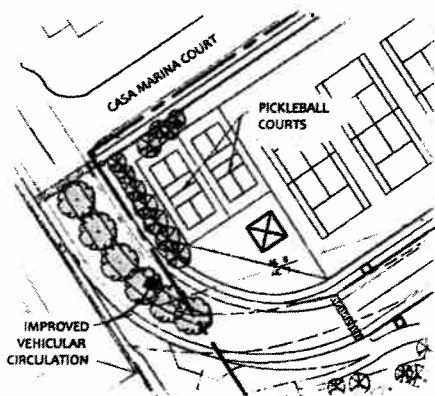


## ATLANTIC BLVD & WHITE STREET INTERSECTION

The intersection with White Street has been changed as a result of the northern shift of Atlantic Blvd. Early in the design process, preliminary research indicated there was a need to review this location. There is no doubt that White Street and Atlantic Blvd is a very busy intersection. The potential for accidents exists due to the sheer number of automobiles, scooters, trolleys, pedestrians and bicyclists that traverse this area on a daily basis. Initial designs explored the concept of a traffic circle or "round-a-bout". The current plan provides the ambiance of a traffic circle; but retains the existing traffic pattern. It will create a sense of place for the end of White Street as well as an entrance to the park. Furthermore, it enlarges and provides an opportunity to enhance the entrance to White Street Pier and the AIDS Memorial. The median on White Street has been proposed to indicate entrance into the Casa Marina residential neighborhood. The proposed design will require the modification of the existing parking at Indigenous Park. Officials for the City of Key West have been briefed on this design proposal and its potential impact and improvement to the area.



## ATLANTIC BLVD & REYNOLDS STREET INTERSECTION



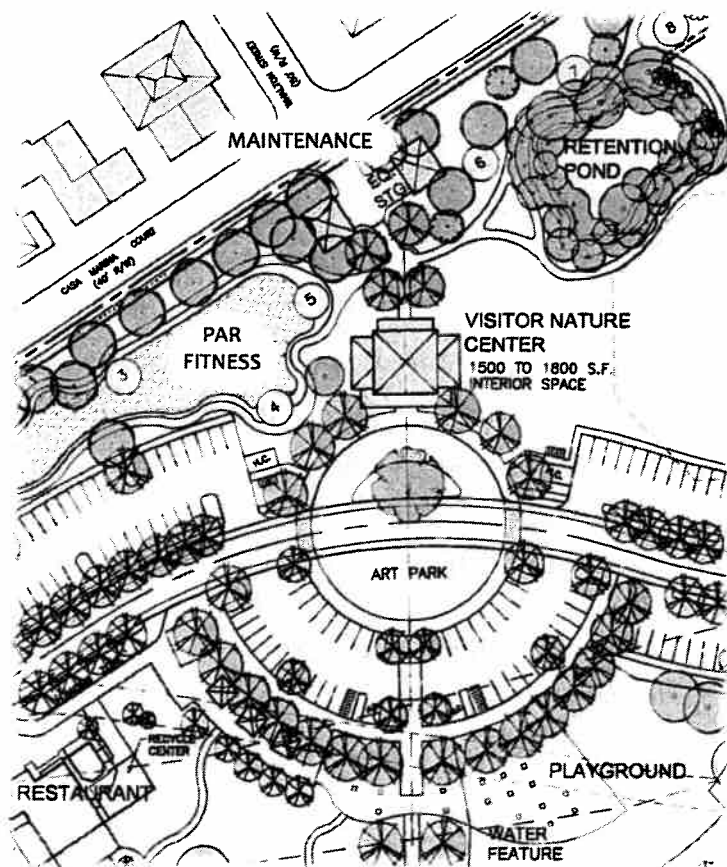
The Reynolds Street entrance to the park has been modified to improve circulation and enhance this access point to the park. The parking adjacent to the tennis courts has been removed, and two Pickleball Courts are proposed. Parking for these activities has been relocated to the east end of the tennis courts. The widened roadway allows for the radius of the curve to be increased, a landscape median added, room for the bicycle lanes and a canoe/kayak drop off area.

## 2C. PLAN COMPONENTS — INTERIOR MODIFICATIONS

The Florida Keys Overseas Heritage Trail and the Florida Keys Scenic Highway Master Plan are two concurrent and complementary planning processes sponsored by the Florida Department of Environmental Protection and the Florida Department of Transportation respectively. Among the missions for these projects is to provide a conduit for sustainable tourism journeys into the non-traditional world of heritage and ecotourism. Both of these plans recognize Higgs Beach as an important asset and suggest a rest area or other structures to accommodate users of these trails. The Design Team studied the plans and proposes a Visitor Nature Center and other amenities in order to resonate with the spirit and mission of these significant opportunities.

### VISITOR NATURE CENTER

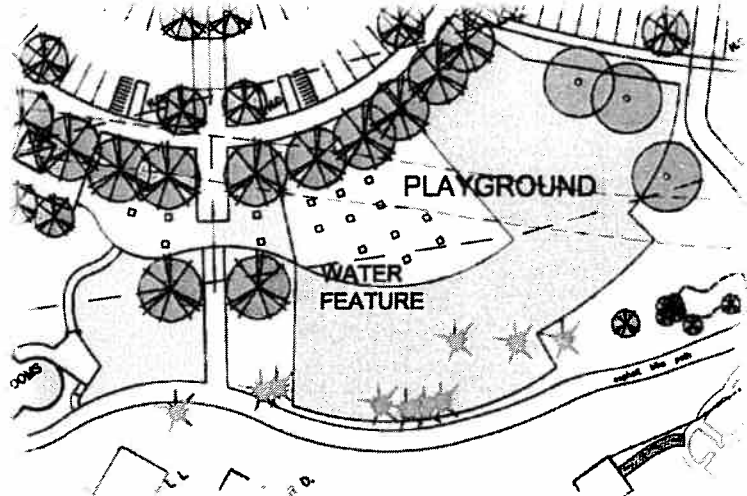
The core feature of the park is the proposed Nature Center. This central feature acts as an axis for park activities. The Center will help to create a synergy with



Salute Restaurant and the relocated Astro City. The building will include a restroom for users on the north side of the park. It provides a central location for parking and loading of pedestrians. An Art Park is suggested adjacent to the central parking area. To the east of the building is open green space intended for passive and active recreational activities. The dotted line indicates the existing FAA Tower boundaries. The fitness course and Whistling Duck Pond nature area are located to the north. Landscaping will buffer these passive activities from the adjacent residential neighborhood. Although the ultimate program for the building has not been finalized, one proposed use is to provide ecological and environmental information for residents and visitors alike.

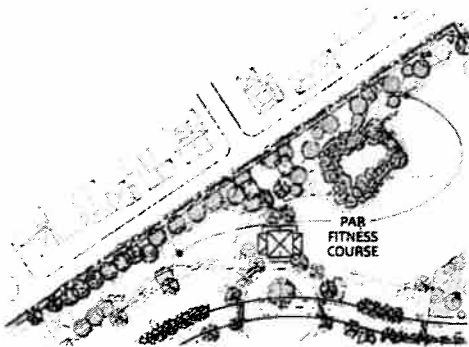
## ASTRO CITY

During the public workshops, the Design Team listened to many participants discuss the status of the existing children's playground. The primary concern was for the safety of the children, the relationship of the road and parking to the playground, the lack of shade within the play area, the absence of restrooms, and the lack of access to the beach. Alternate locations with respect to the road were presented for discussion. It was generally agreed that locating the



playground on the south side of the road was preferable. Option E included a pavilion located within the playground to provide restrooms and shade opportunities for users. This would have separated the children's restroom from restrooms used by the general public. Many workshop participants voiced the separation of restrooms being of significant importance. However, Option F, shown above, deleted this pavilion in response to concerns by the adjacent property owners. A Wet Play Area comprised of ground fountains (water emitters) are shown on the proposed plan. The area will be secured with ornamental fencing for the safety and security of the children.

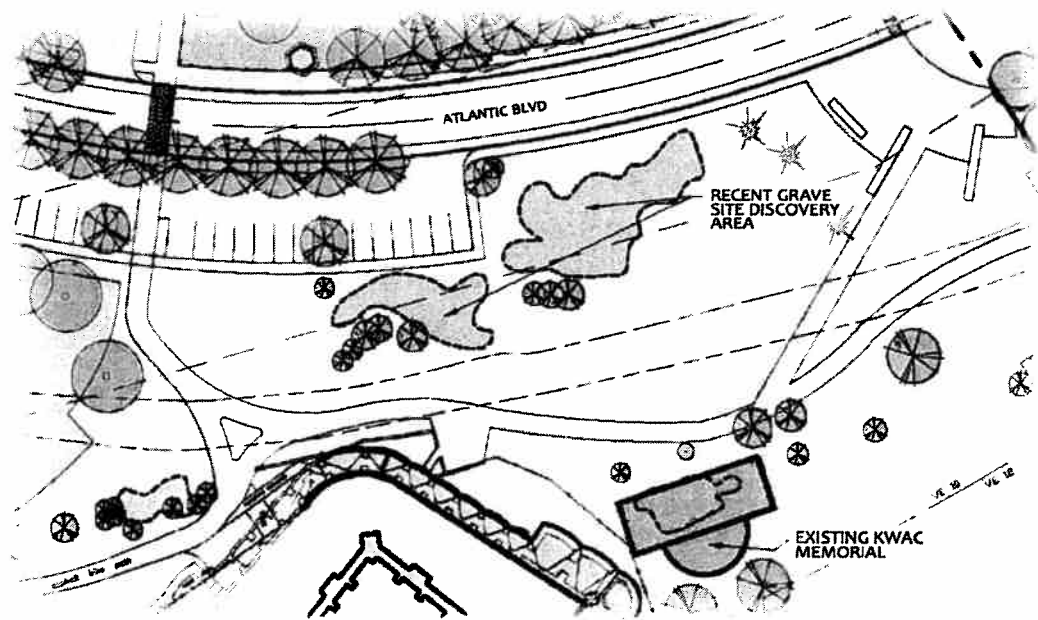
## PAR FITNESS COURSE



Located on the northern boundary of the park is a Par Fitness Course. The course is comprised of solitary stations located at intervals along a path. The core concepts of par fitness courses are for the equipment to blend into the outdoor environment and to keep it simple. Par course exercise equipment includes strength training, plyometric and stretching stations. The course has been located intentionally away from the beach area in order to encourage use by all shapes and sizes of people.

## AFRICAN MEMORIAL AND GRAVEYARD

As discussed earlier in this report, a ground penetrating radar survey was conducted in November 2010. This survey revealed a significant number of graves located as shown in Section 1 of this document. The boundaries of the survey conducted extended beyond the location of the found graves. Upon completion of the survey, the Master Plan was revised to relocate the Small and Large Dog Parks, shift the road and relocate proposed parking in order to remove all development from the grave area. It is expected that additional



graves are located beneath the existing road (shown by the dashed lines in the above picture). Once the road has been removed, these too shall be preserved. The history of the African refugees and the West Martello Fort are linked together. The opportunity to preserve and enhance these two parts of island history adds another gem to the features of Higgs Beach Park. An additional benefit is the further protection of the West Martello Fort due to the relocation of the road away from the Fort. During the public workshops, members of the Key West Garden Club provided insight into their use of the Fort and their impact during special events held at the Fort. Primarily, their concern was for adequate parking and the ability for loading and unloading supplies needed for special events such as the annual Garden show and catered events that occur at the Fort. Although the discovery of the graveyard precluded the location of parking adjacent to the Fort, the pathways planned are of a sufficient width to accommodate delivery vehicles when needed for special occasions.

## OTHER IMPROVEMENTS

The Master Plan developed proposes to significantly expand the sandy beach area on both sides of the Fort. This will provide room for expansion of the current Volleyball Courts. The Salute Restaurant has remained the same, as required by the City of Key West Land Development Regulations, but access and parking for the restaurant have been expanded and a loading zone and recycle area have been proposed. Overall, the parking quantity provided by the new design is consistent with the current parking count. The proposed parking has been designed and is compliant with Key West City Code. The band stands (aka gun turrets) and the existing restrooms remain intact. The existing Australian Pines are shown on the plan and, at this time are scheduled to remain.

By shifting the road to the north, the safety of pedestrian circulation has been increased. There is less of an opportunity for conflict between people and vehicles. While some of the current beach sidewalks will remain the same; others are proposed for widening to accommodate all users groups.

Additional upland improvements include investigation of the Whistling Duck Pond to improve its viability as a fresh water pond, possibly integrate it with the overall Storm Water Plan and reduce the mosquito infestation. The Master Plan anticipates the removal of the FAA Tower. The area occupied by the Tower is intended for green space and open recreation fields. The major improvements proposed for the park are not located within the Tower area and therefore, an extended timeframe for removal of the Tower should not impact the implementation of other park elements.

## **SECTION 3: PLAN IMPLEMENTATION**

### **3A. PLANNING PROCESS**

The first step in implementation of the Master Plan for Higgs Beach will be to acquire development approval through the City of Key West Planning Department and City Commission. Applications for Conditional Use Approval will be required. These applications will include conceptual Site, Building (Floor and Elevations), Storm Water, and Landscape Plans. A traffic study will more than likely be needed to review the impact of the proposed changes to White Street. It is anticipated that due to funding constraints the time needed for development will exceed that authorized by a City Development Order. Therefore, a Development Agreement or Inter-local Agreement between Monroe County and the City of Key West will be required. The City staff, the Development Review Committee, the Tree Commission and the Planning Board, will review the Conditional Use application. Any variances will require approval by the Board of Adjustment. The Development Agreement will be reviewed in the same fashion, with final approval by the City Commission.

### **3B. PERMITTING PROCESS**

Upon receipt of development approval outlined above, the permitting process begins. Development of construction drawings will be required. An Environmental Resource Permit (ERP) granted by the South Florida Water Management District (SFWMD) will be needed.

### **3C. POTENTIAL PHASING**

The potential phasing plan cannot be determined as this time. The Monroe County Board of Commissioners will need to prioritize the improvements suggested by the Master Plan. It is expected that FDOT funds for improvements/relocation of the road will be funded in the FY 2014/15 budget.

### **3D. COST ESTIMATE**

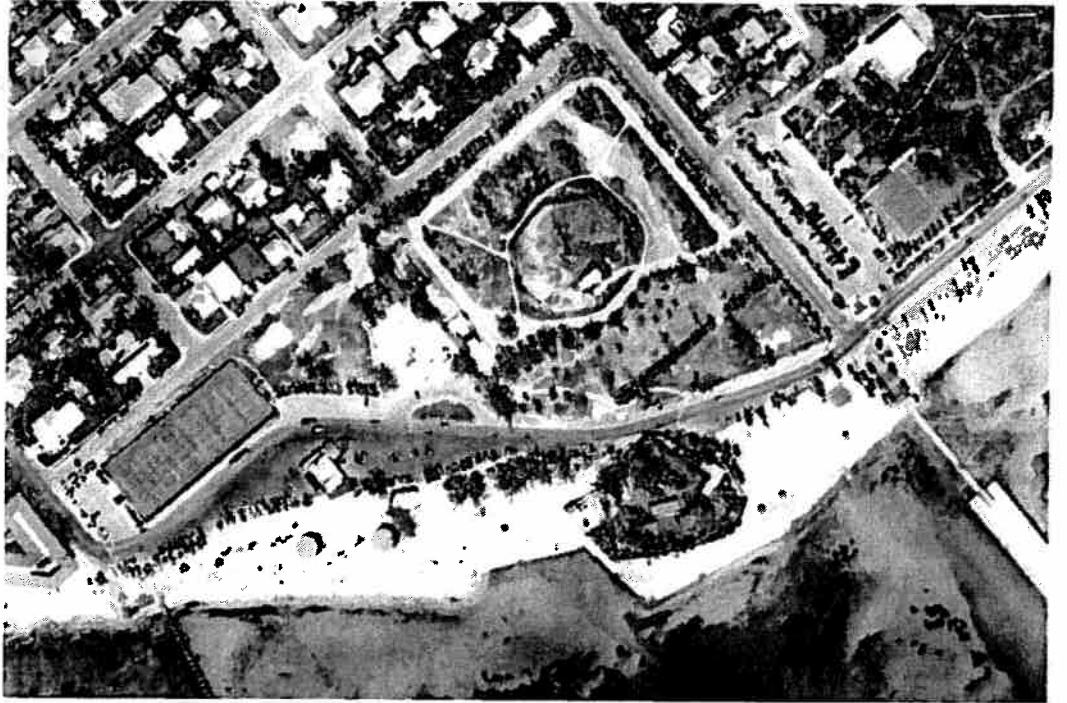
Please see the following spreadsheet.

MONROE COUNTY		HIGGS BEACH PARK					
		CONCEPTUAL MASTER PLAN					
		PRELIMINARY ESTIMATE OF PROBABLE COST					
Estimates based on take-offs derived from Site Plan 'E' -Revised 1/19/2011		January 19th, 2011					
ELEMENTS OF DEVELOPMENT	UNITS	QTY	UNIT COST	TOTAL COST	PHASE I COST	PHASE II COST	
Components of Construction					N/A	N/A	
<b>GENERAL COST</b>							
1 Mobilization	LS	1	25,000 \$	25,000			
2 Clearing and Grubbing	LS	1	25,000 \$	25,000			
3 Maintenance of Traffic	LS	1	5,000 \$	5,000			
<b>DEMOLITION &amp; SITE PREPARATION</b>							
4 Asphaltic Area (existing road, parking, etc..including sub-base)	SY	11,232	5 \$	56,160			
5 Asphaltic Area (existing bike paths)	SY	847	4 \$	3,388			
6 Concrete Area (existing sidewalks, courts, etc. assuming 4" thickness)	SY	1,166	4 \$	4,664			
7 Misc. Drainage Structures, Signs, Pipes, Etc..	LS	1	18,000 \$	18,000			
8 Concrete Structures (assumed rod reinforcement i.e.-existing picnic structures)	LS	1	10,000 \$	10,000			
9 F.A.A. Antenna/Associated Structures (verify with appropriate agencies)	n/a		\$	-			
10 Dog Park Equipment Removal/Storage	LS	1	5,000 \$	5,000			
11 Astro Park Demolition	LS	1	5,000 \$	5,000			
12 Sediment Barriers / Silt Fence	LS	1	2,500 \$	2,500			
<b>HORIZONTAL ELEMENTS</b>							
13 Roadway	SY	6,683	85 \$	568,055			
14 Parking Area	SY	8,115	80 \$	489,200			
15 Sidewalk	SF	62,785	8 \$	502,280			
16 New Beach Area - Sand	SY	3,053	30 \$	91,590			
17 Whistling Duck Pond Improvements	LS	1	100,000 \$	100,000			
18 Site Drainage System (actual estimate pending final drainage design)	LS	1	350,000 \$	350,000			
19 Site Utilities (actual estimate pending final utility design)	LS	1	250,000 \$	250,000			
<b>VERTICAL ELEMENTS</b>							
20 Nature Center Bldg	LS	1	1,200,000 \$	1,200,000			
21 Maintenance Bldg	LS	1	300,000 \$	300,000			
22 Playground Restroom / Shade Structure	LS	1	0 \$	-			
23 Park Pavilions	LS	2	15,000 \$	30,000			
<b>AMENITIES</b>							
24 PAR Fitness Course	LS	1	50,000 \$	50,000			
25 New Playground (dry equipment and installation)	LS	1	100,000 \$	100,000			
26 Playground Base and Surface Material w/Filter Fabric	SF	15,000	3.00 \$	45,000			
27 New Playground - Wet Play Area	LS	1	70,000 \$	70,000			
28 Volley Ball Court	LS	2	8,000 \$	16,000			
29 Pickle Ball Courts	LS	2	9,000 \$	18,000			
30 Way-Finding / Informative Kiosks	LS	1	1,800 \$	1,800			
31 Open Green Space (see landscape seed/sod)	SY	180,000	0.85 \$	104,000			
32 Dog Park Construction (Potentially done by volunteers at no cost)	LS	1	20,000 \$	20,000			
33 Decorative Fencing (4') (dog park and playground)	LF	1,564	80 \$	93,840			
34 Decorative Fencing (6') (along white street only)	LF	325	80 \$	26,000			
35 Interpretive Signage	LS	1	10,000 \$	10,000			
36 KWAC Memorial Improvements (potentially done by KWAC)	n/a		\$	-			
37 Site Furnishings							
38 Picnic Tables	EA	12	1,200 \$	14,400			
39 Bike Racks	EA	8	600 \$	3,600			
40 Benches	EA	12	750 \$	9,000			
41 Trash Receptacles	EA	18	750 \$	12,000			
42 Entry Monuments	EA	2	15,000 \$	30,000			
<b>LANDSCAPING</b>							
43 Tree Protection Barriers	LF	1	15,000 \$	15,000			
44 Landscaping (materials and installation)	SF	1	297,500 \$	297,500			
45 Temporary / Fixed Irrigation	LS	1	60,000 \$	60,000			
46 Seed/Sod (open green space)	LS	210,000	0.65 \$	136,500			
				<b>Sub-total</b>	<b>\$ 5,173,277</b>		
<b>CONTINGENCY</b>							
Estimating Contingency	@15%			\$	775,992		
				<b>TOTAL PROJECT COST</b>	<b>\$ 5,949,269</b>		
<b>ESTIMATE NOTES:</b>							
***Project phasing is contingent upon funding sources yet to be determined and by staff/county priorities; no phasing suggestions are presented at this time.							
***Unit pricing values are based on current/relevant contractor pricing.							
***Lump sum values are target allowances contingent upon design development and final construction specifications and are subject to change.							
***All demolition and removal assumes proper and legal disposal of materials demolished.							
***All estimates of cost are based on a conceptual master plan and should be regarded as conceptual in accuracy, contingency applied may be plus/minus.							
***FAA Antenna Demolition, KWAC Memorial, Permitting Fees and Design Service Fees not included in estimate of cost.							
<i>William P. Horn Architect, P.A.</i>							



## HIGGS BEACH PARK — PHOTO INVENTORY

### AERIAL IMAGE OF PARK



### GENERAL PICTURES OF THE PARK



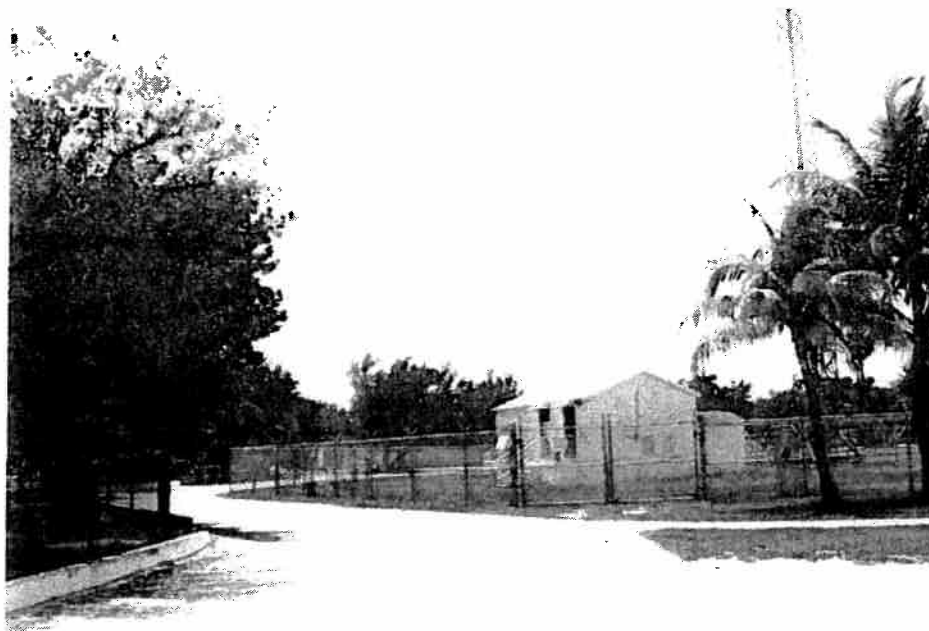
**GENERAL PICTURES OF THE PARK (CONTINUED)**











WILLIAM P. HIGGS  
ARCHITECT, P.A.

DATE: 11/11/10  
PROJECT: CLARENCE HIGGS BEACH  
SHEET: A-3

BY: W.P.H. (11/11/10)  
CHECKED BY: W.P.H. (11/11/10)  
SCALE: AS SHOWN

HIGGS BEACH  
KEY WEST, FL



PROPOSED IMPROVEMENTS

EXISTING IMPROVEMENTS

PROPOSED TRAILS

EXISTING TRAILS

PROPOSED PARKING

EXISTING PARKING

PROPOSED UTILITIES

EXISTING UTILITIES

PROPOSED LANDSCAPE

EXISTING LANDSCAPE

DATE: 11/11/10  
PROJECT: CLARENCE HIGGS BEACH  
SHEET: A-3

BY: W.P.H. (11/11/10)  
CHECKED BY: W.P.H. (11/11/10)  
SCALE: AS SHOWN

HIGGS BEACH  
KEY WEST, FL

PROPOSED IMPROVEMENTS

EXISTING IMPROVEMENTS

PROPOSED TRAILS

EXISTING TRAILS

PROPOSED PARKING

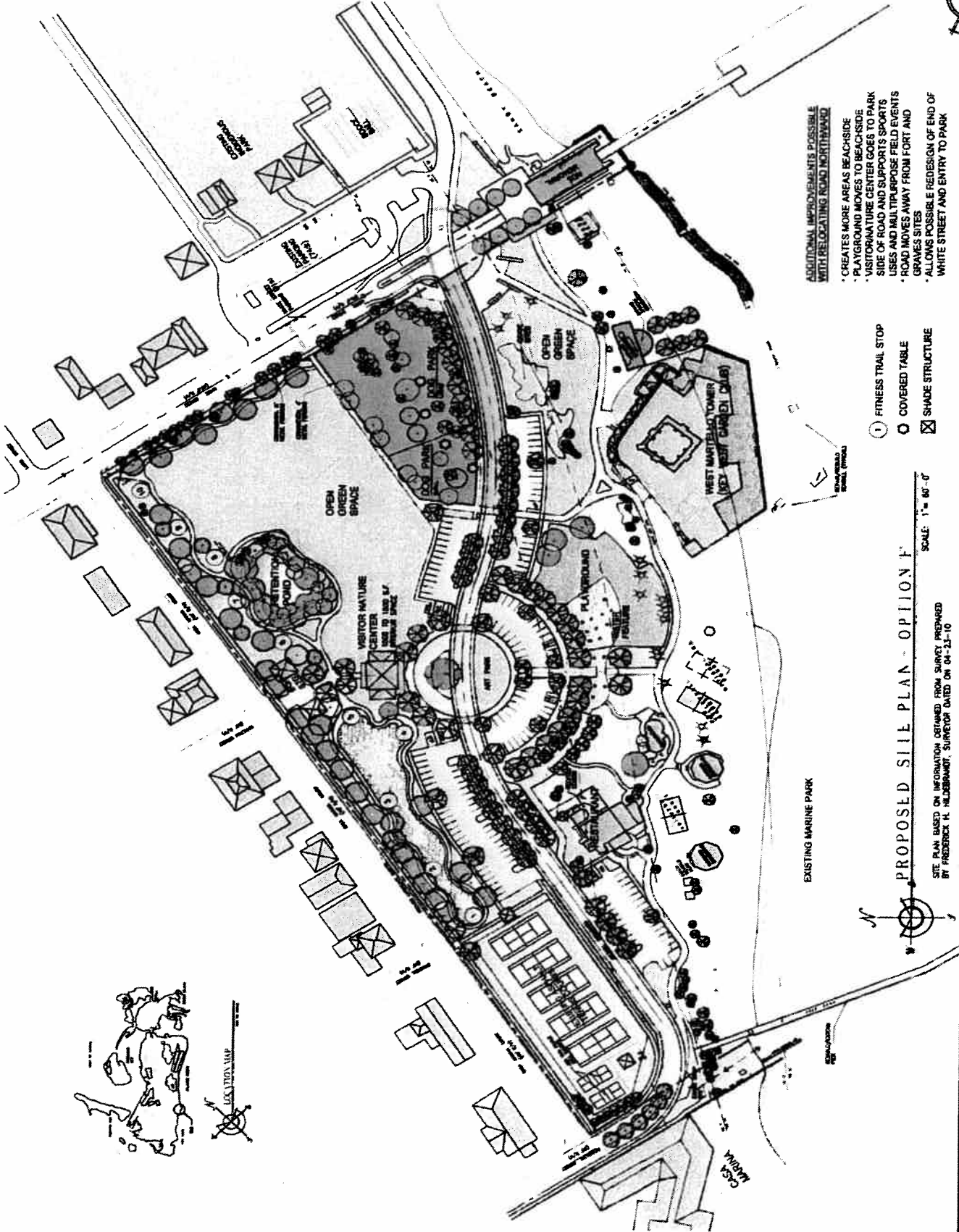
EXISTING PARKING

PROPOSED UTILITIES

EXISTING UTILITIES

PROPOSED LANDSCAPE

EXISTING LANDSCAPE



- ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELOCATING ROAD NORTHWARD**
- \* CREATES MORE AREAS BEACHSIDE
  - \* PLAYGROUND MOVES TO BEACHSIDE
  - \* VISITOR NATURE CENTER GOES TO PARK SIDE OF ROAD AND SUPPORTS SPORTS USES AND MULTIPURPOSE FIELD EVENTS
  - \* ROAD MOVES AWAY FROM FORT AND GRAVES SITES
  - \* ALLOWS POSSIBLE REDESIGN OF END OF WHITE STREET AND ENTRY TO PARK

- FITNESS TRAIL STOP
- COVERED TABLE
- ⊠ SHADE STRUCTURE

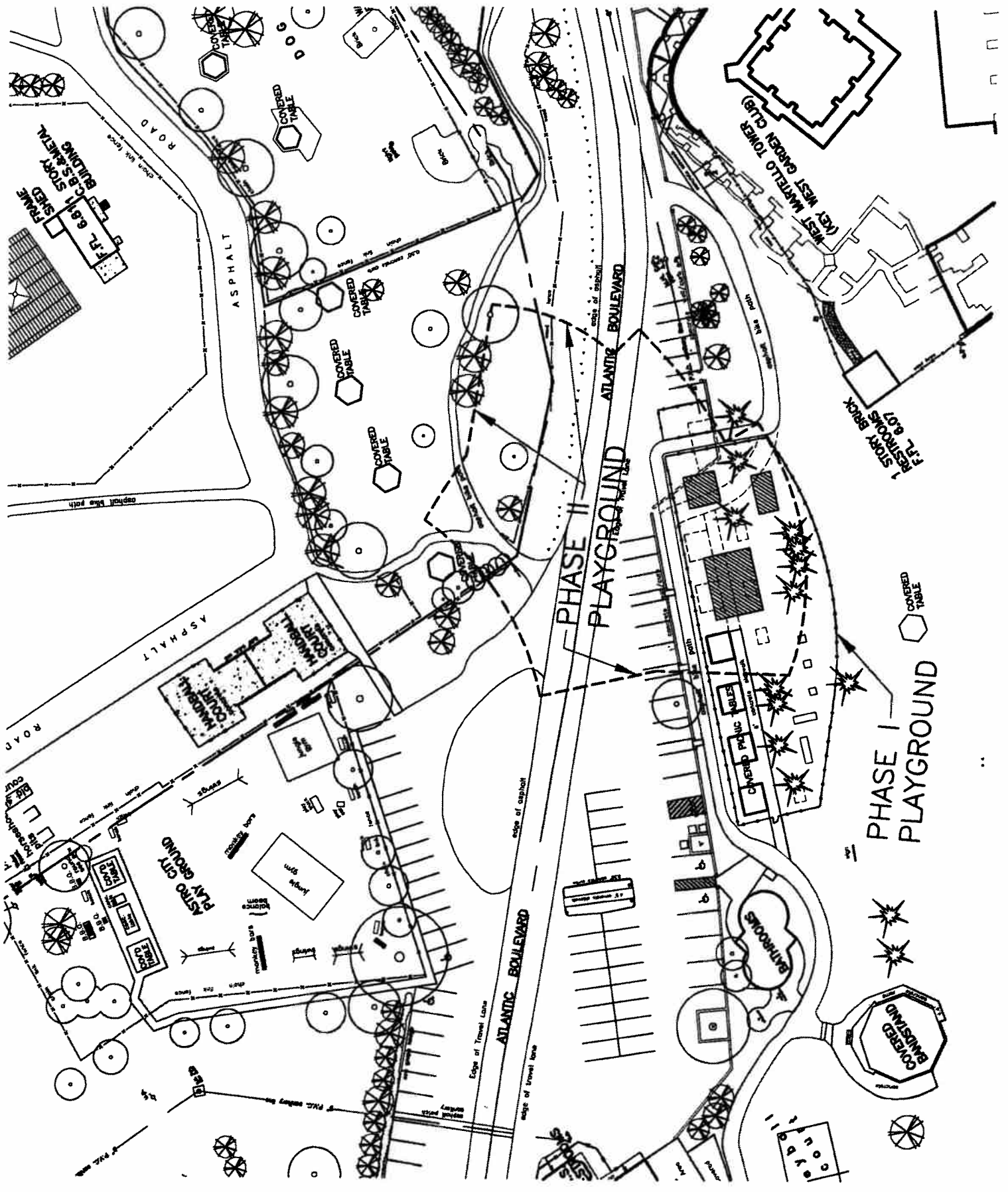
SCALE: 1" = 60'-0"

**PROPOSED SITE PLAN - OPTION F**

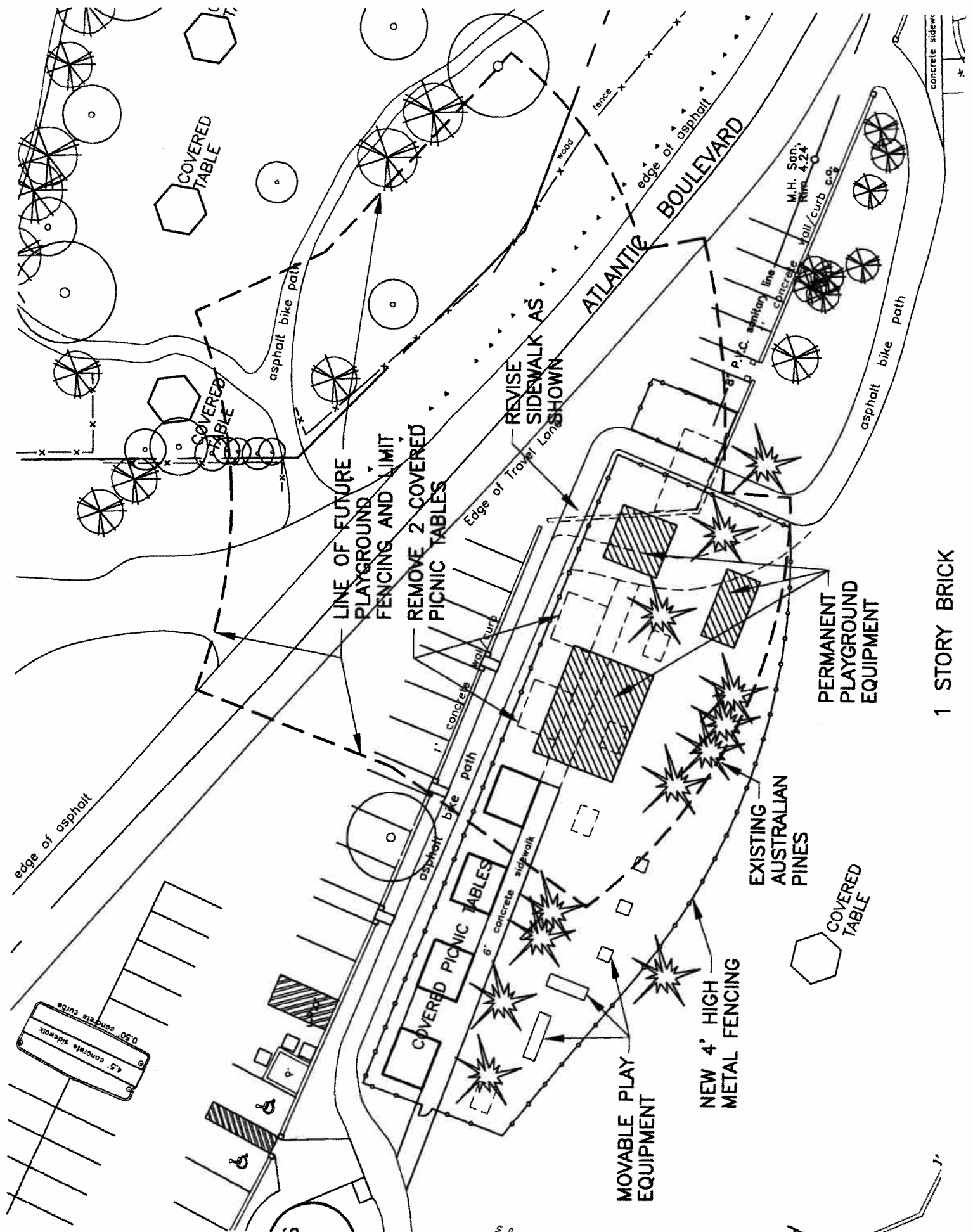
SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HALSBANDT, SURVEYOR DATED ON 04-11-10

**CLARENCE HIGGS BEACH - MASTER PLAN**

KEY WEST, FLORIDA







LINE OF FUTURE  
PLAYGROUND  
FENCING AND LIMIT  
REMOVE 2 COVERED  
PICNIC TABLES

REVISE  
SIDEWALK AS  
SHOWN

MOVABLE PLAY  
EQUIPMENT

NEW 4' HIGH  
METAL FENCING

EXISTING  
AUSTRALIAN  
PINES

PERMANENT  
PLAYGROUND  
EQUIPMENT

1 STORY BRICK

ATLANTIC BOULEVARD

COVERED  
TABLE

COVERED  
TABLE

COVERED  
TABLE

asphalt bike path

1' concrete  
walk/curb

asphalt bike path

6' concrete  
sidewalk

M.H. San.  
Man 4.24'

Concrete  
wall/curb c.g.

asphalt bike path

concrete sidewalk

4.5' concrete sidewalk  
0.50' concrete curb

Edge of Travel Lane

edge of asphalt

edge of asphalt

WILLIAM F. HENRY  
ARCHITECT, P.A.

DESIGNED BY  
KEY WEST  
FLORIDA  
JUNE

114 WEST 2ND AVENUE  
KEY WEST, FLORIDA 34134

TELEPHONE  
349-1111

HIGGS BEACH  
KEY WEST, FL.

APPROVALS  
APPROVED FOR THE PROJECT  
APPROVED FOR THE PROJECT  
APPROVED FOR THE PROJECT  
APPROVED FOR THE PROJECT  
APPROVED FOR THE PROJECT  
APPROVED FOR THE PROJECT  
APPROVED FOR THE PROJECT

SCALE  
AS SHOWN ON THIS PLAN  
UNLESS OTHERWISE NOTED  
ALL DIMENSIONS ARE IN FEET  
UNLESS OTHERWISE NOTED  
WILLIAM F. HENRY  
ARCHITECT, P.A.

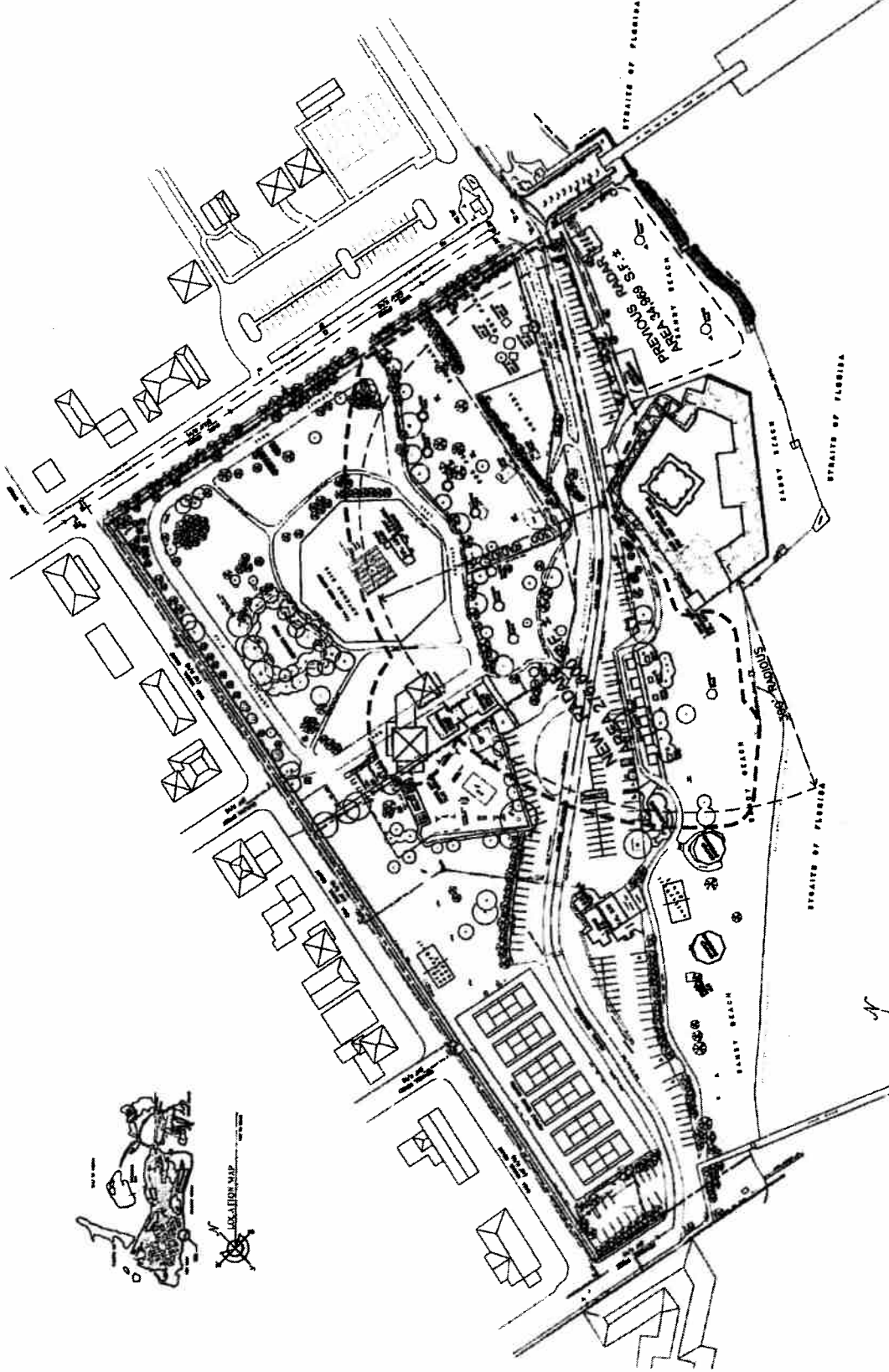
DATE  
08-22-10

REVISIONS

DRAWN BY  
CMA

CHECKED BY  
W. HENRY

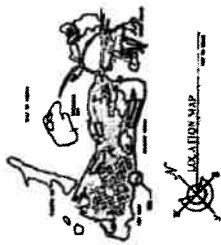
1004



**EXISTING SITE PLAN**

SCALE: 1" = 80'-0"  
SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED  
BY FREDERICK H. HELDRETH, SURVEYOR DATED ON 04-23-10

**CLARENCE HIGGS BEACH - MASTER PLAN**  
KEY WEST, FLORIDA



## **Ground-penetrating radar mapping in the search for graves Higgs Beach area, Key West, Florida**

Lawrence B. Conyers, PhD  
Geophysical Investigations Inc.  
2595 S. Saint Paul St.  
Denver, CO 80210

### **Prepared for:**

Carol A. Shreck  
Aide to Mayor Pro Tem Heather Carruthers  
Monroe County Commission, District III  
530 Whitehead St.  
Key West, FL 33040

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915 Eaton Street  
Key West, FL 33040

Corey Malcom, Director of Archaeology  
Mel Fisher Maritime Heritage Society  
200 Greene St.  
Key West, FL 33040

### **Introduction**

Ten grids of ground-penetrating radar (GPR) data were collected in various areas to the north and on Higgs Beach along the south coast of Key West, Florida in November, 2010. The purpose of this study was to search for graves of various ages (Malcolm 2010) that might still exist in this area, in preparation for a re-development of the general area and possible relocation of Atlantic Blvd. The area studied were agreed on jointly by William Horn, Corey Malcolm, Johnny King and myself prior to beginning the surveys, and modified somewhat during the data acquisition as preliminary results were available and we were able to assess what areas needed to be tested further. Corey Malcolm and C. Michael Nalepa were involved in all data collection.

A GSSI SIR-3000 GPR system was used for all collection with 400 MHz antennas and a survey wheel for distance calibration. All reflection profiles were collected with a 40 nanosecond time window (equal to about 2 meters depth or 6 feet in the ground). Reflection traces were collected with 30 per meter along transects. Recorded amplitudes were gained automatically at each location where data were collected depending on the materials in the ground. Profiles were spaced 1 meter apart except for Grids 3 and 9 which had 50 cm profile spacing for greater subsurface resolution.



**Figure 1:** GPR system used in collection was the GSSI SIR-3000 system, 400 MHz antenna (orange box) and an attached survey wheel for distance calibration.

All data were saved to disk and then processed into profiles and horizontal amplitude slice-maps. In Table 1 are the profiles collected within each grid.

**Table 1: Grid locations and profiles in each**

<b>Grid</b>	<b>Location</b>	<b>Reflection profile files</b>
1	Higgs Beach between fort and bandstand	1-51
2	Small grid E. of Higgs Beach north of bike trail	52-84
3	High resolution grid within Grid 2	85-97
4	North of Atlantic Blvd. south of small dog park	98-108
5	Small dog park	109-131
6	Picnic area west of dog parks	132-183
7	Southern edge of big dog park	184-194
8	Western edge of small area in big dog park	195-205
9	Re-do of small dog park in high resolution	206-256
10	North of hand ball courts	257-269

### **The GPR Method**

Ground-penetrating radar data are acquired by transmitting pulses of radar energy into the ground from a surface antenna, reflecting the energy off buried objects, features, or bedding contacts and then detecting the reflected waves back at the ground surface with a receiving antenna where it is recorded as digital wave forms on a computer in the main system (Conyers 2004). As radar energy moves through various materials, the velocity of the waves changes depending on the physical and chemical properties of the material through which they are traveling (Conyers 2004). When travel times of energy pulses are measured, and their velocity through the ground is known, distance (or depth in the ground) can also be accurately measured (Conyers and Lucius 1996), making GPR a powerful method for many historic and archaeological applications. The greater the contrast in electrical (and to some extent magnetic) properties between two materials at a buried interface, the stronger the reflected signal, and therefore the greater the amplitude of reflected waves (Conyers 2004). In grave mapping, reflections are usually created from the tops of caskets, void spaces that exist in the burial, burial goods and the discontinuities between the natural strata and soils and the homogeneous fill within the burial trenches.

Standard GPR antennas propagate radar energy that varies in frequency from about 10 megahertz (MHz) to 1000 MHz. Low frequency antennas (10-120 MHz) generate long wavelength radar energy that can penetrate up to 50 m in certain conditions, but are capable of resolving only very large buried features. In contrast, the maximum depth of penetration of a 900 MHz antenna is about one meter in typical materials, but its generated reflections can resolve features with a maximum dimension of a few centimeters. A trade-off therefore exists between depth of penetration and subsurface resolution. In this project the 400 MHz antennas were used, which produced data of good resolution at depths up to about 2 meters (6 feet) and resolved features as small as about 20 cm in dimension, which was quite good for resolving burials and many other features in the ground.

Reflection data were collected in transects spaced either 1 meter or 50 cm apart depending on the resolution necessary. Reflections obtained from within the ground were collected every 3.3 cm apart in these linear transects, within grids. All reflection data were first analyzed in two-dimensions to determine the nature of subsurface reflections, their wavelength, depth of penetration, amount and nature of background interference, and the velocity of radar energy in the ground. These reflection profiles were looked at first, and often buried features were visible in real-time on the radar computer screen during collection (Figure 1). When reflection data from field profiles were especially noisy, they were filtered later before the final products were produced for this report. Noise usually comes in the form of electromagnetic radio interference from radio, TV and cell phone transmissions. The radar antennas used for this project are within the frequency bands of these other transmissions, and therefore filtering was necessary.

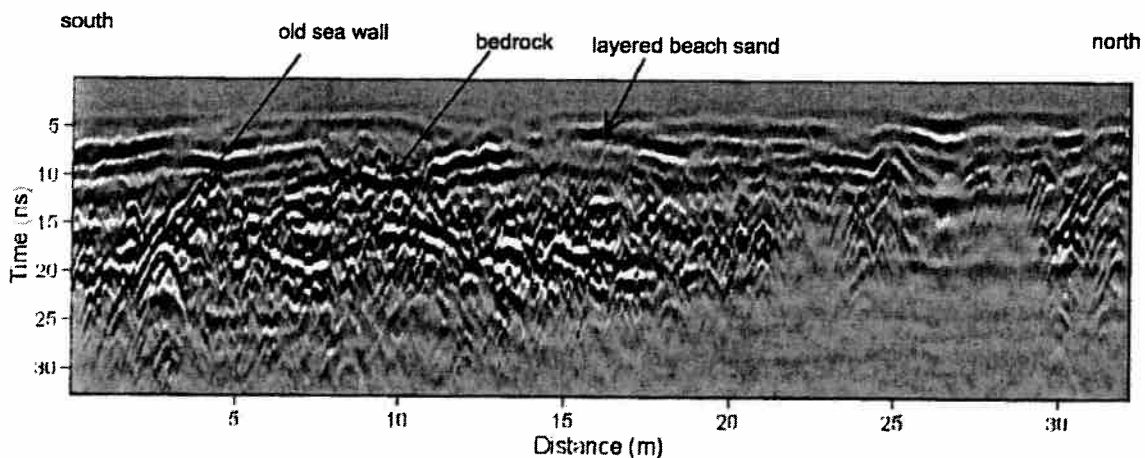
In all cases the two-dimensional reflection profiles were not sufficient to show the aerial extent and origin of important reflections in the ground. This was especially true when dealing with many graves in a small area, and with other large buried features. Using a method called amplitude slice-mapping, however, the changes in reflections along and in between profiles were compared, gridded, and mapped spatially to produce images of reflection amplitude changes over an area at various depths in the ground (horizontal levels). When this was done, the layout of complex burials

and other materials in the ground became visible (Conyers 2004). In amplitude slice maps colors of the rainbow are placed on the range of amplitudes with red being strong reflections (high amplitudes) and blue little or no reflection. Slices were produced at various depths, depending on the nature of reflections and the types of features to be visualized in each grid. Approximate depths of each slice are shown on each individual map. The amplitude slice maps are analogous to arbitrary horizontal excavation levels in standards archaeological studies.

In reflection profiles two-dimensional slices through the ground from the surface (at the top) to depth were produced, which are analogous to looking at features in the wall of a trench. In these images time was placed on the left axis, measured as the two way travel time that radar waves took to travel from the antenna, into the ground, and back to the antenna (measured in nanoseconds). Velocities were calculated for this area and in general each 5 nanoseconds in two-way travel time are equal to approximately 40 cm depth in the ground. There are some variations in velocity across the area of study, but the changes were minor and therefore this velocity-depth correction was used throughout. In the reflection profiles black and white colors are showing very high amplitude reflections and shades of gray are the low amplitude areas.

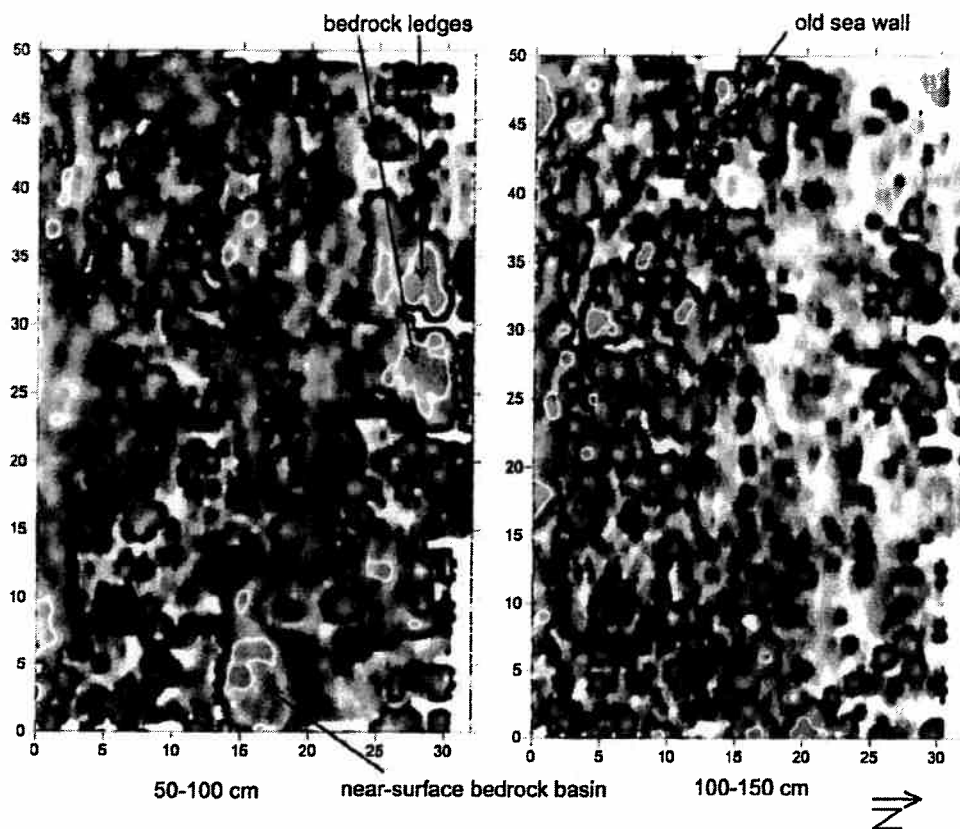
#### Grid 1: Higgs Beach between fort and bandstand

In this grid many complex bedrock features were visible including what might be an old sea wall, inland from the present wall, and cut and fill features from many erosion events from storms. The bedrock can be seen as high reflections (Figure 2) and the beach sand as more horizontally layered lower amplitude reflections. Walls are visible as distinct hyperbolic reflections.



**Figure 2:** Reflection profile across the beach showing bedrock and beach sand reflections.

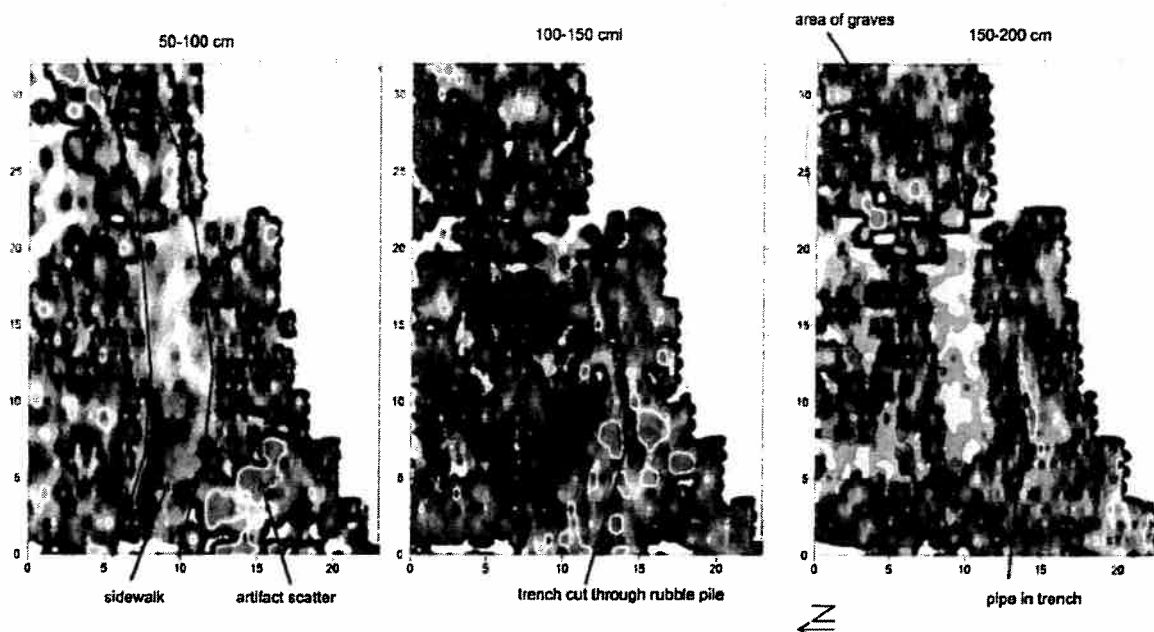
No graves were visible in the beach sand, and it is unlikely any still exist after all the erosion from hurricane flooding and placement of sand back on the beach, which Johnny King noted had occurred often. Many of these erosion channels and bedrock ledges and knobs are visible beneath the sand (Figure 3).



**Figure 3:** Amplitude slice maps of the area of Higgs Beach between the fort and the bandstand showing bedrock features and a possible old sea wall.

#### **Grid 2: Small grid E. of Higgs Beach north of bike trail**

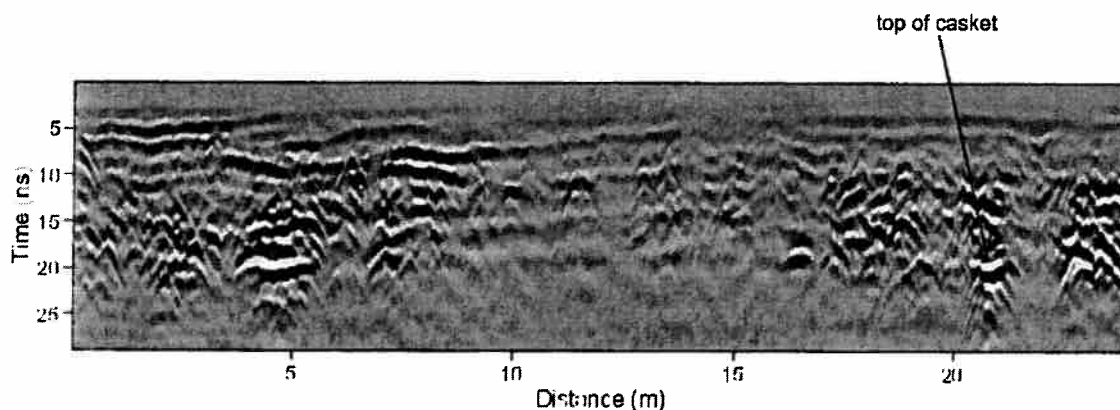
This small grid immediately located a number of graves in its eastern portion, which we noticed on the system computer screen during collection. They appear to be intact coffins with void spaces, which are much different than most of the other graves that we located elsewhere in this study. Other interesting objects are also visible in this area behind the fort, which no doubt complicate things (Figure 4). There is also a large artifact scatter located directly next to the fort, which Corey Malcom excavated in the past when the restroom was being constructed. The realization that the material used to make the bike trails is very attenuating to radar was also first discovered during collection of the data in this grid. This problem was encountered in other areas as well. Johnny King was not able to help us with the chemistry of this material, which must be very electrically conductive and destroys much of the radar energy that attempts to pass through it. A more detailed grid of data was produced in this same area (Grid 3), where the details of the burials are much more apparent.



**Figure 4:** Amplitude slice maps just north of the fort showing the artifact scatter, an area of graves, and a few pipes. The sidewalk destroys all energy that attempts to penetrate it.

### Grid 3: High resolution grid within Grid 2

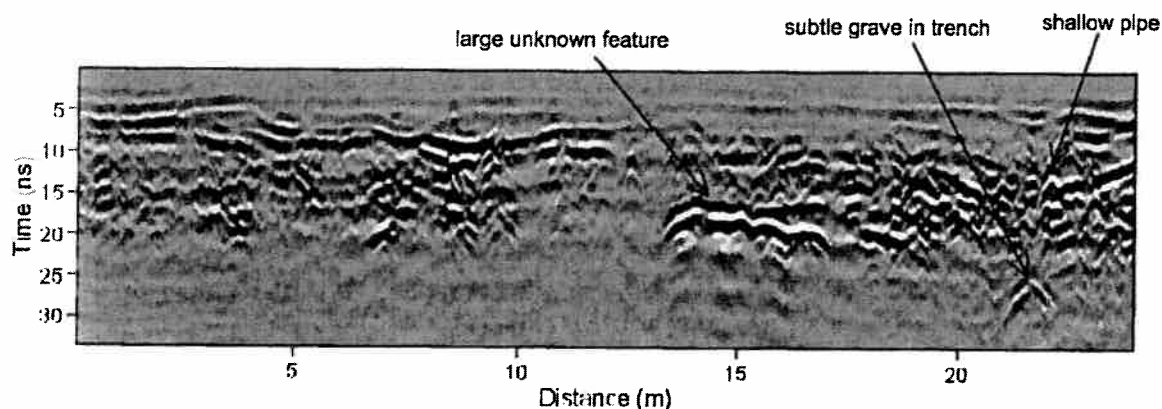
The graves discovered during the acquisition of Grid 2 were re-surveyed with profiles spaced 50 cm apart and oriented north-south. Individual caskets were apparent, some of which still have void spaces in them, which are highly reflective (Figure 5).



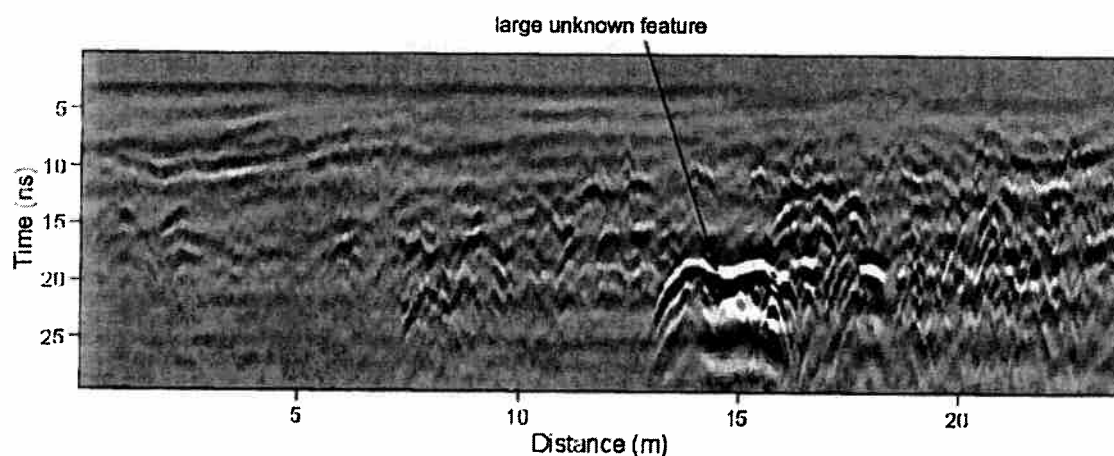
**Figure 5:** Reflection profile showing a casket, which likely contains a void space, producing a very high amplitude reflection.

Other graves in this grid are more subtle, which are likely less formal burials, or contain caskets that have collapsed and have no void spaces to reflect energy (Figure 6). One large complex feature is also visible in this grid, whose origin is not known (Figures 6 and 7).



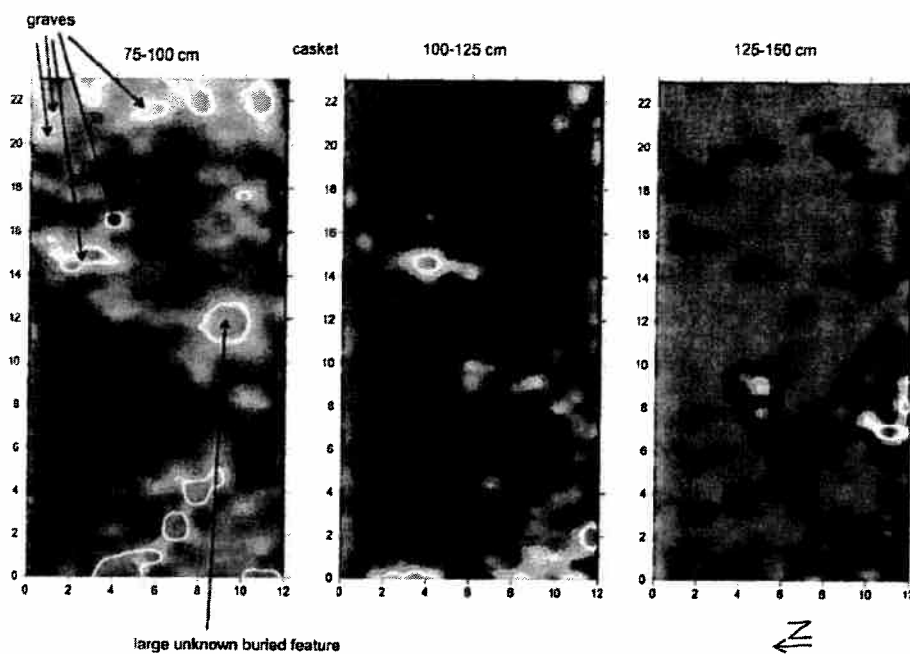


**Figure 6:** Reflection profile showing a subtle grave in a trench, and a large unknown feature, which may be related to activities that occurred at the fort, or the military barracks that were once located in this area.



**Figure 7:** The same unknown feature visible in Figure 6, which is highly reflective, and contains objects within or under it.

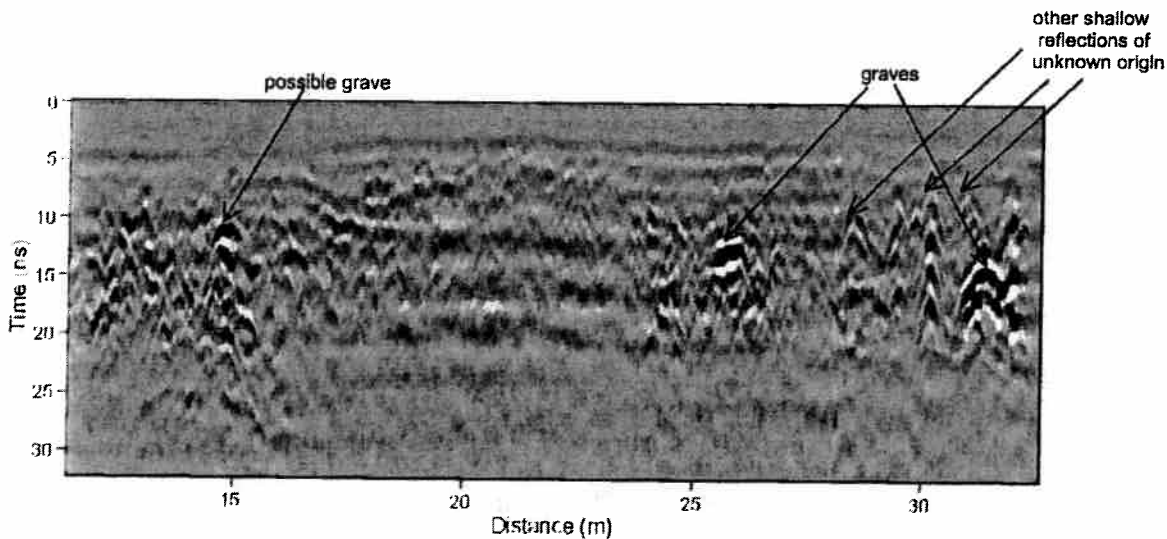
The amplitude maps of this grid show the location of the large object, and many graves in the eastern portion of the grid (Figure 8). The graves appear to be oriented north-south, which is interesting and puzzling. My experience in other cemeteries indicate that most Christian burials are east-west oriented. But the African graves discovered to the east of the fort (Conyers and Malcom 2002) were also oriented north-south, which perhaps indicates that there is something different with burial orientations in Key West.



**Figure 8:** Amplitude slice-maps showing the large unknown object and the graves within this high resolution grid.

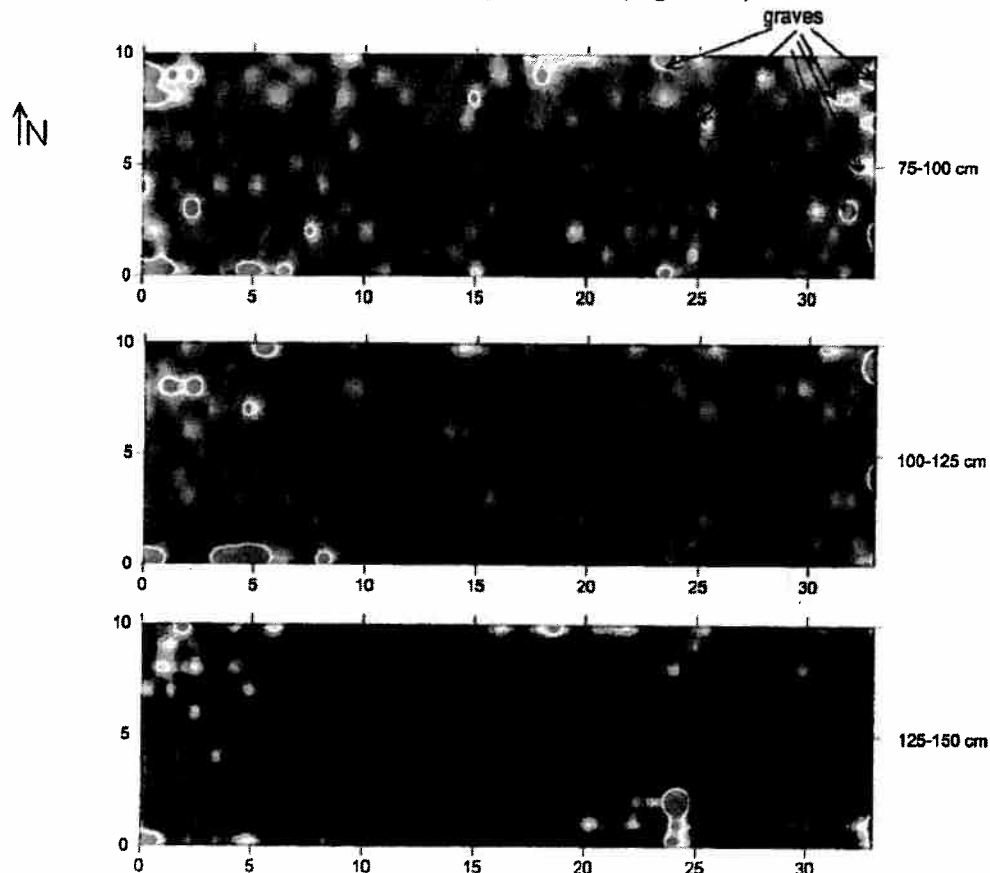
#### **Grid 4: North of Atlantic Blvd. south of small dog park**

This small grid showed a number of graves that are similar to those found in Grid 3. They appear to be caskets, some of which have intact void spaces (Figure 9). The ground in this grid is full of other objects as well, which make the reflections somewhat cluttered. I suspect the busy nature of these data is related to the proximity to the barracks that used to exist in this general area and a variety of surface trash or other objects that accumulated.



**Figure 9:** Reflection profile showing a few graves in Grid 4, but many other reflections of unknown origin, probably related to trash that accumulated in proximity to the fort and the historic barracks.

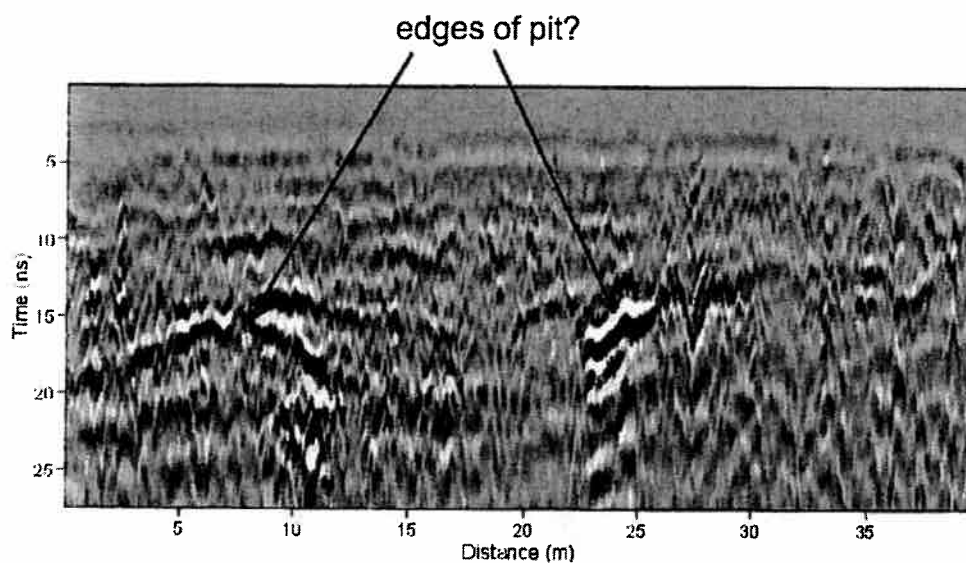
The amplitude slice-maps show the location of the graves in this grid, but also many other small reflections, which are likely trash that accumulated in this area related to the barracks, the fort, or road and bike trail building activities (Figure 10).



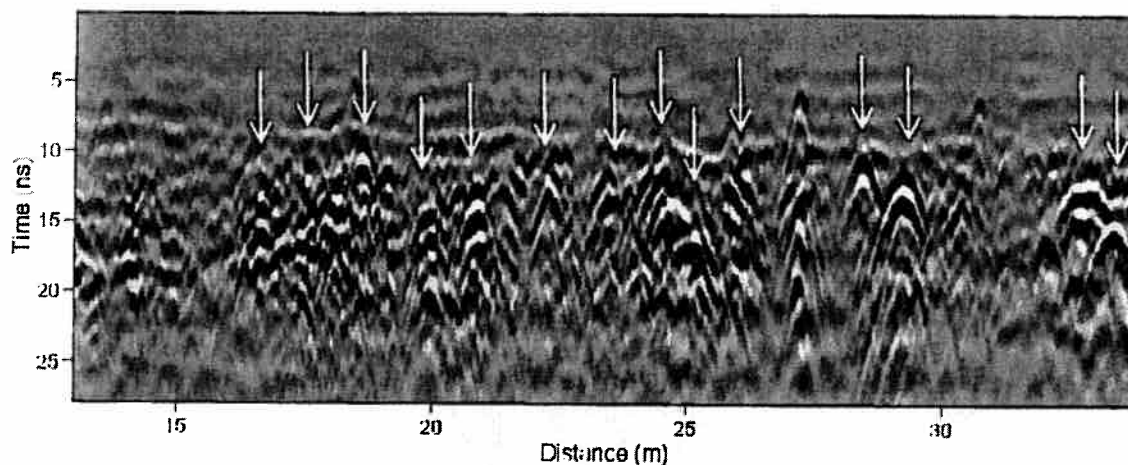
**Figure 10:** Amplitude slice maps of Grid 4 showing some graves and other debris that produces small reflections in the shallowest slices illustrated.

#### **Grid 5: Small dog park**

This grid in the small dog park immediately located a number of graves and what appears to be a “pit” that is filled with objects (Figure 11). So many graves were visible in this grid during collection that it was decided to collect an additional higher resolution grid (Grid 9) to better identify the burial features (Figure 12).

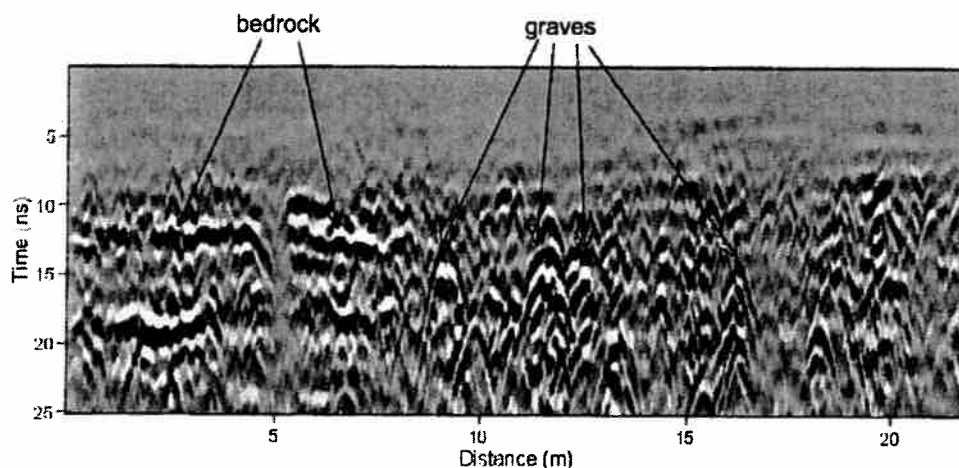


**Figure 11:** Reflection profile showing the edges of a pit within Grids 5 and 9 in the small dog park.



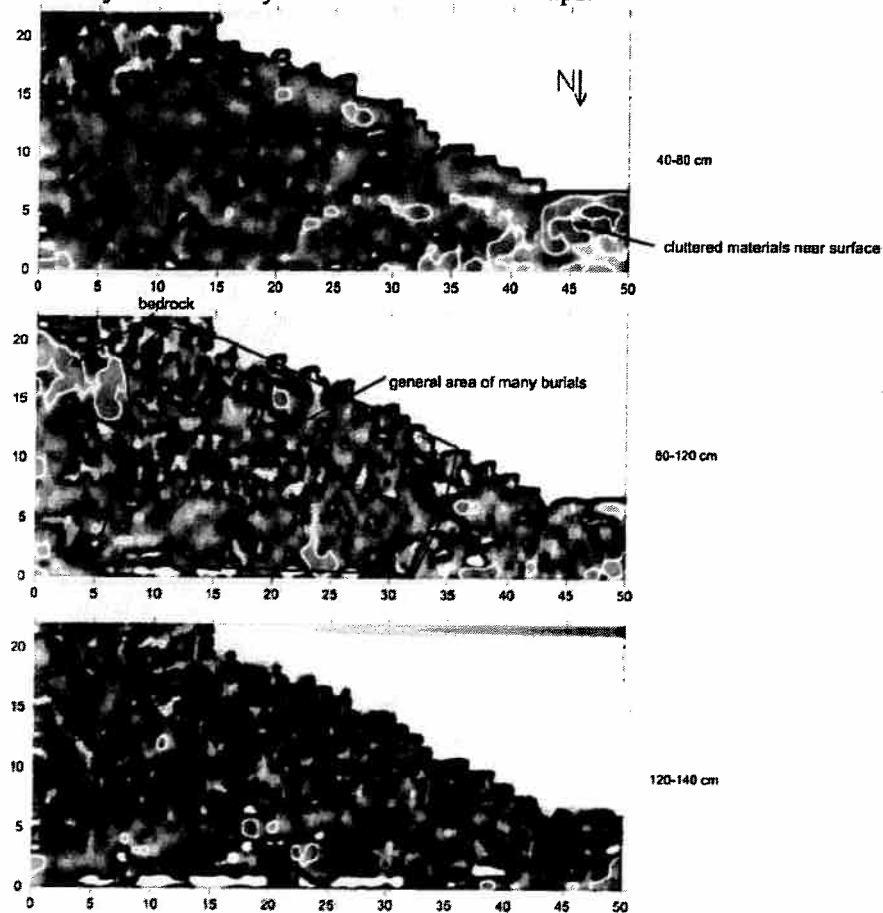
**Figure 12:** Reflection profile showing all the graves in this area, shown as distinct hyperbolic reflections and identified by arrows. This area has deeper bedrock than other areas mapped in the area, which is likely why there is such a concentration of graves, as the digging was much easier.

Where bedrock was closer to the surface, no graves are seen (Figure 13), indicating why graves are found in such a high concentration within the small dog park grids.



**Figure 13:** Reflection profile showing that when bedrock is near the surface, there were no graves dug, and areas with bedrock much deeper contain many burials.

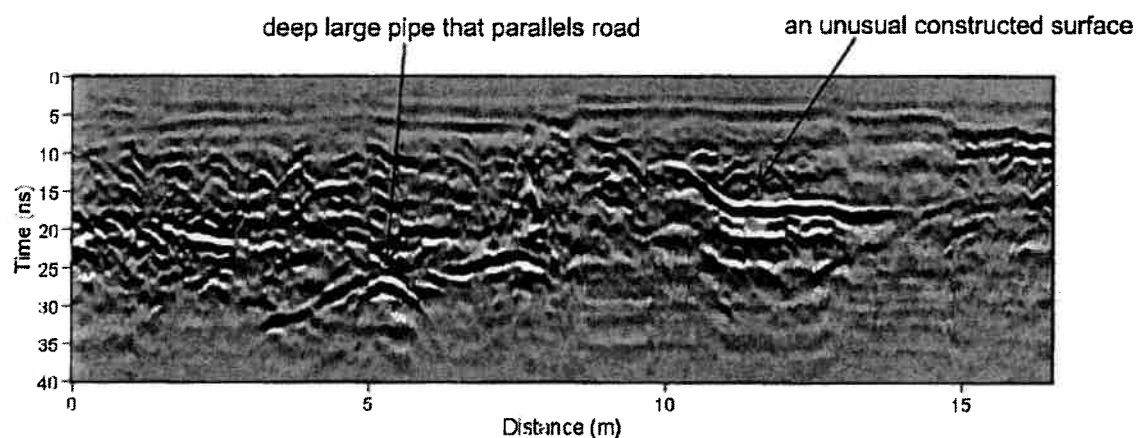
The amplitude slice maps show a general area of graves, but because profiles were spaced only a meter apart, they are not easily identified (Figure 14). The bedrock areas near the surface can be easily identified by the red areas on the maps.



**Figure 14:** Amplitude slice-maps of Grid 5 showing the general area of graves in the small dog park, and the bedrock near the surface.

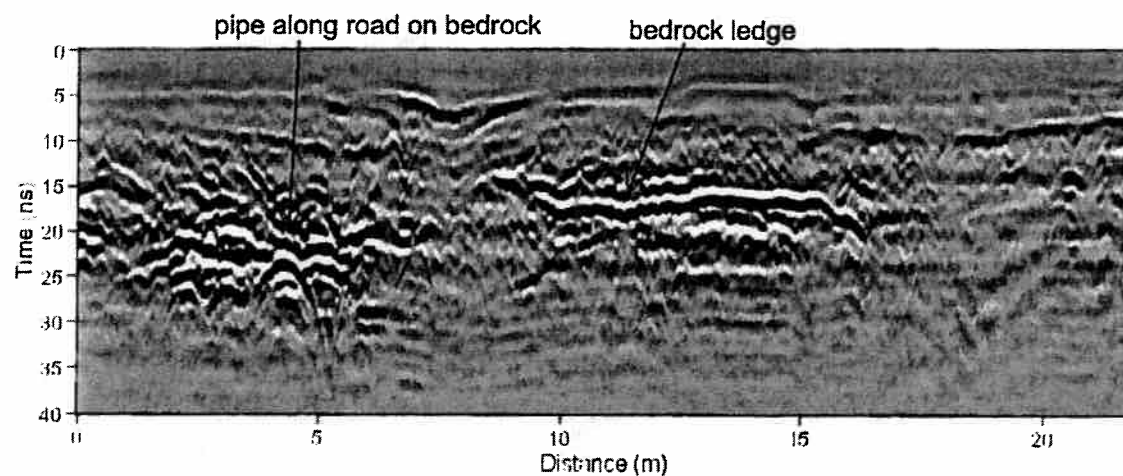
### Grid 6: Picnic area west of dog parks

No graves were found in this large grid, but some other interesting features that help with an understanding this complex area in general. In general bedrock is close to the surface throughout the grid, which has been cut into to lay pipes (Figure 15). Other interesting features are of unknown origin, and could be related to the barracks that were located in this area.



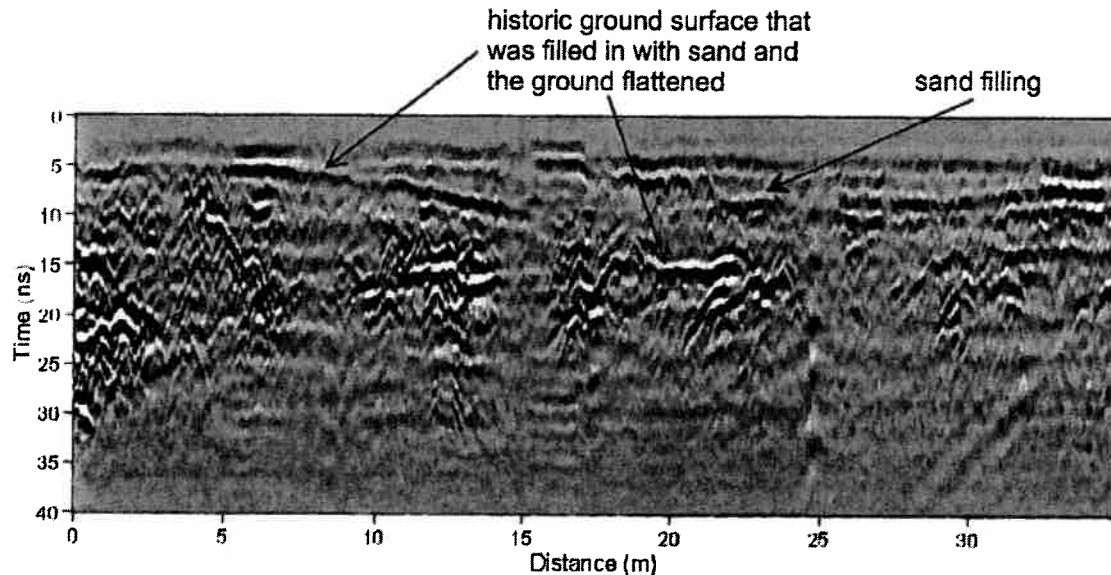
**Figure 15:** Reflection profile showing a deep pipe and a constructed surface of unknown origin, perhaps related to the historic barracks.

In much of the grid bedrock is very close to the surface and produces a very distinct reflection, which is sometimes very flat, and other times undulating (Figure 16).



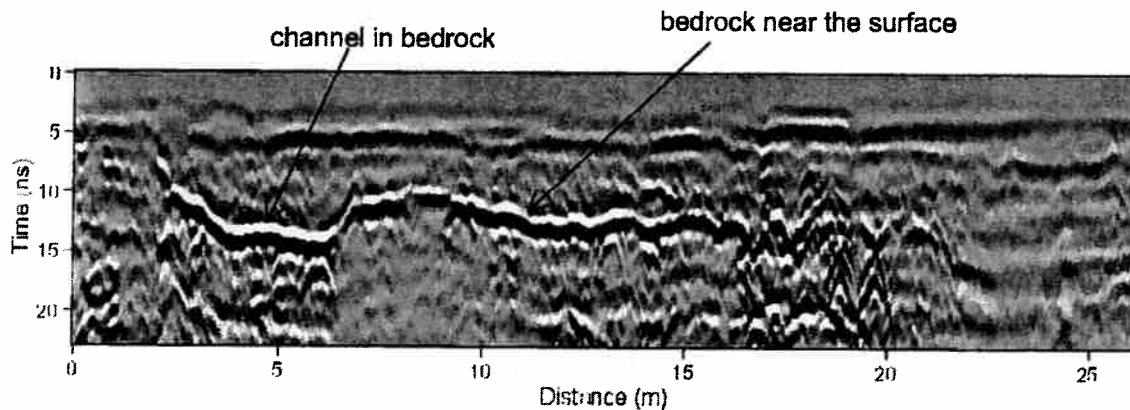
**Figure 16:** Reflection profile showing a buried pipe and complex bedrock reflections common in Grid 6.

In places horizontal reflections are visible filling in what was an undulating ground surface, likely produced from flooding during hurricanes. The sand fill is visible as low amplitude horizontal reflections (Figure 17).



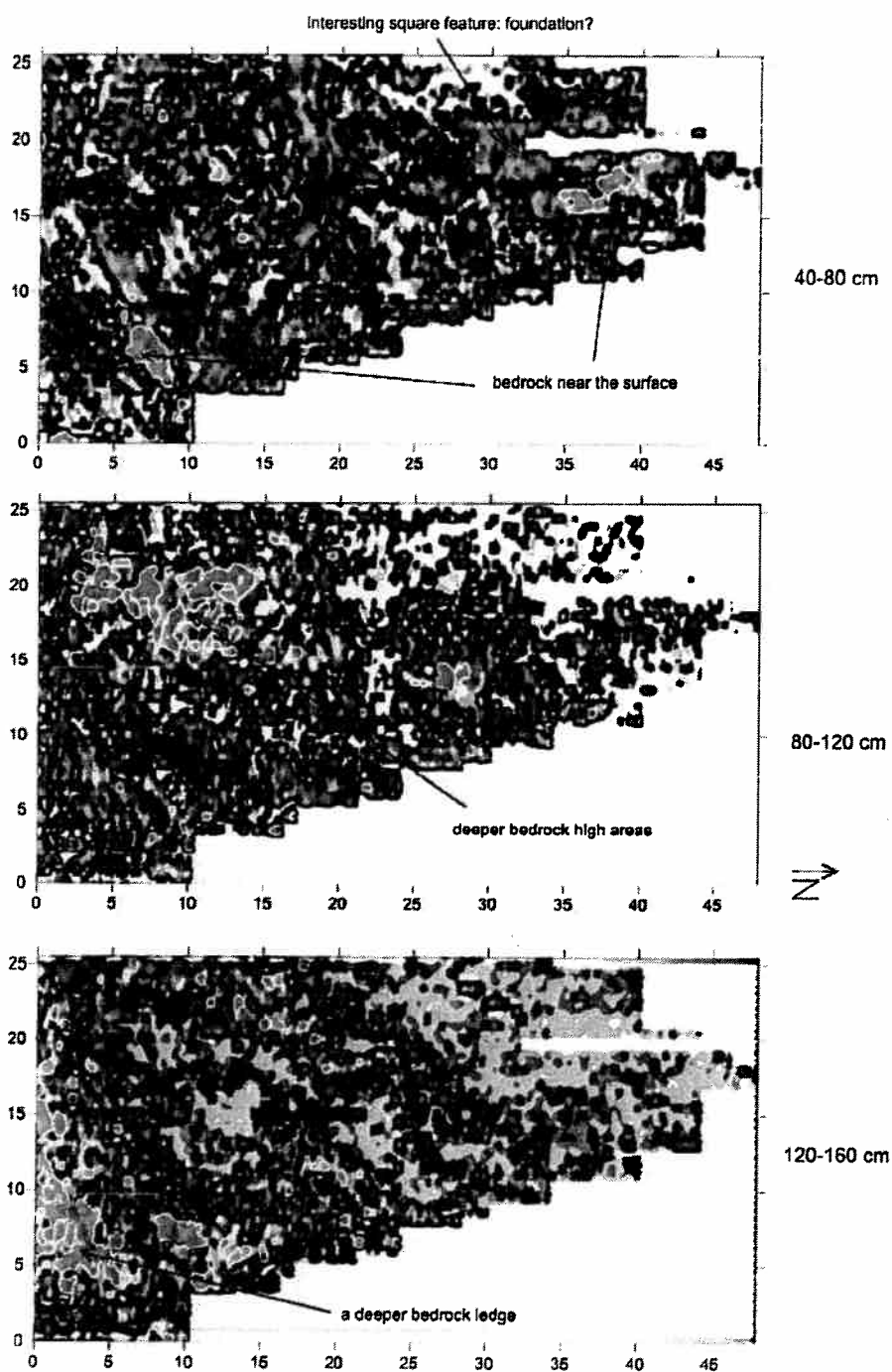
**Figure 17:** Reflection profile showing the sand filling that was used to level the area after channeling from flooding during past storms.

In places the bedrock is severely channeled, creating an undulating buried bedrock surface (Figure 18).



**Figure 18:** Reflection profile showing channeling in the bedrock.

The amplitude slice maps are complex, but potentially interesting. In a shallow slice a square feature is visible, which might be the remains of a foundation from the barracks (Figure 19). Other visible features in this grid are related to bedrock ledges and knobs that are now buried by sand to level the present ground surface.



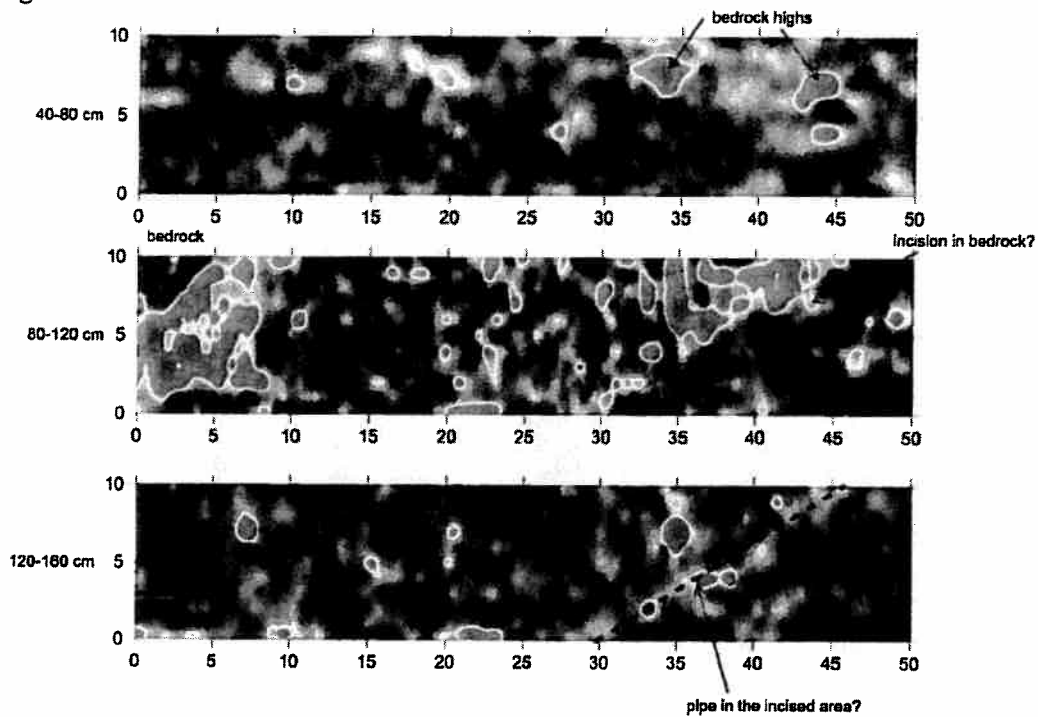
**Figure 19:** Amplitude slice maps of Grid 6 showing many bedrock features and one square feature, which is likely a building foundation in the 40-80 cm slice.

#### **Grid 7: Southern edge of big dog park**

Bedrock is very close to the surface in this area and no graves were found. The lack of graves in this area north of the small dog park is likely related to bedrock being located near the



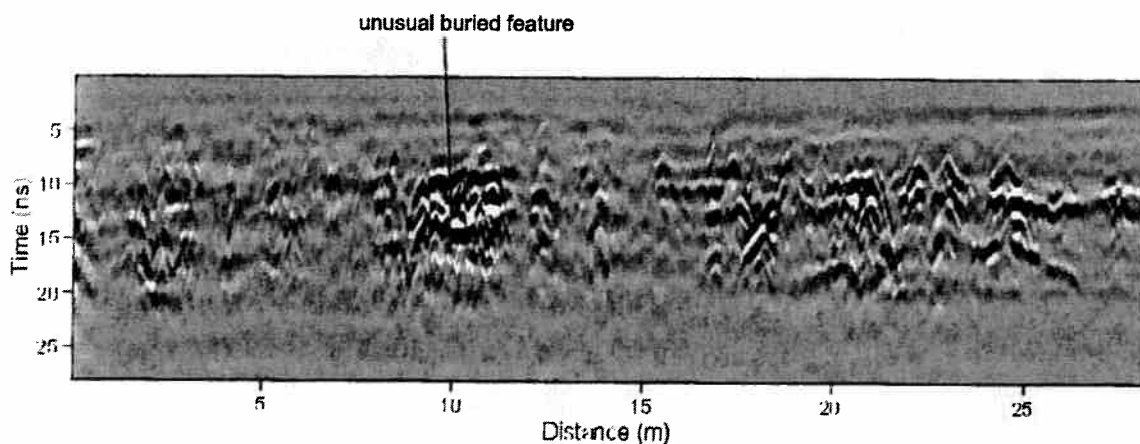
surface (Figure 20). One distinct incision is visible, likely a trench for a pipe, which is no longer in the ground.



**Figure 20:** Amplitude slice maps of Grid 7 showing bedrock features near the surface.

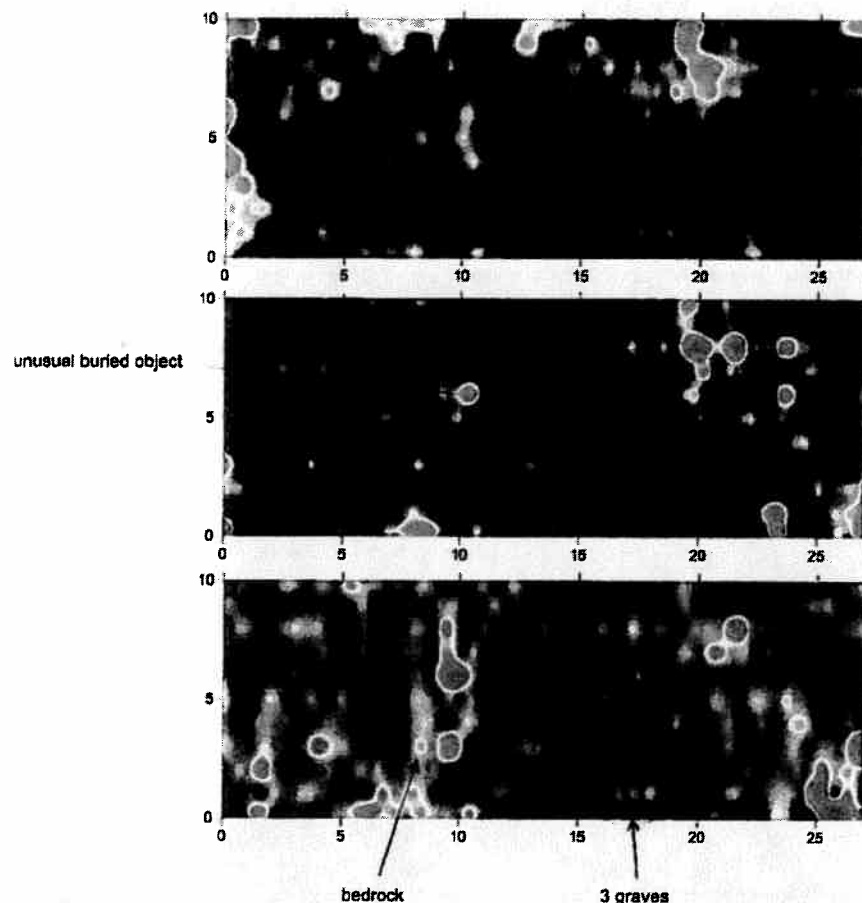
#### **Grid 8: Western edge of big dog park**

A few graves were found in this grid to the west of the small dog park along the north-south fence separating the large and small dog parks. One very unusual buried object was also found in this grid (Figure 21) of unknown origin.



**Figure 21:** Reflection profile showing a large unusual object found in Grid 8.

In much of this grid bedrock is very close to the surface and only a few graves are found in the easternmost portion of the grid along the fence separating this area from the small dog park (Figure 22).



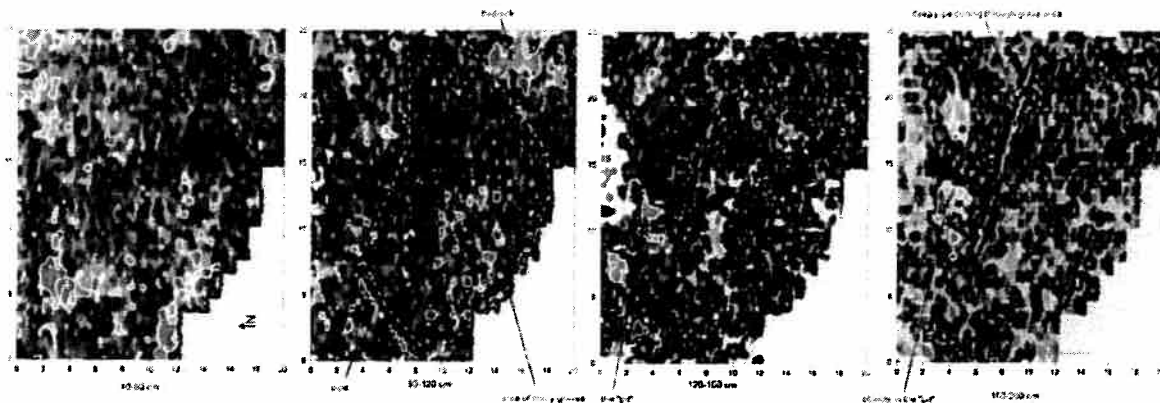
**Figure 22:** Amplitude slice maps of Grid 8 showing a few graves along the fence, and an unusual object (Figure 21) in the middle of the grid.

### **Grid 9: Re-do of small dog park in high resolution**

A high resolution grid of data was collected over the same area as covered in Grid 5, in the small dog park, where the possible pit and associated graves was found (Figure 14). This grid had profiles spaced 50 cm apart, and profiles were oriented north-south instead of the east-west orientation used in Grid 5. Many burials were again found in this grid, but they could be discerned more accurately. In addition an east-west oriented pipe that crosses the burials (and cuts some of these burials) was visible in the deepest slices (Figure 23).

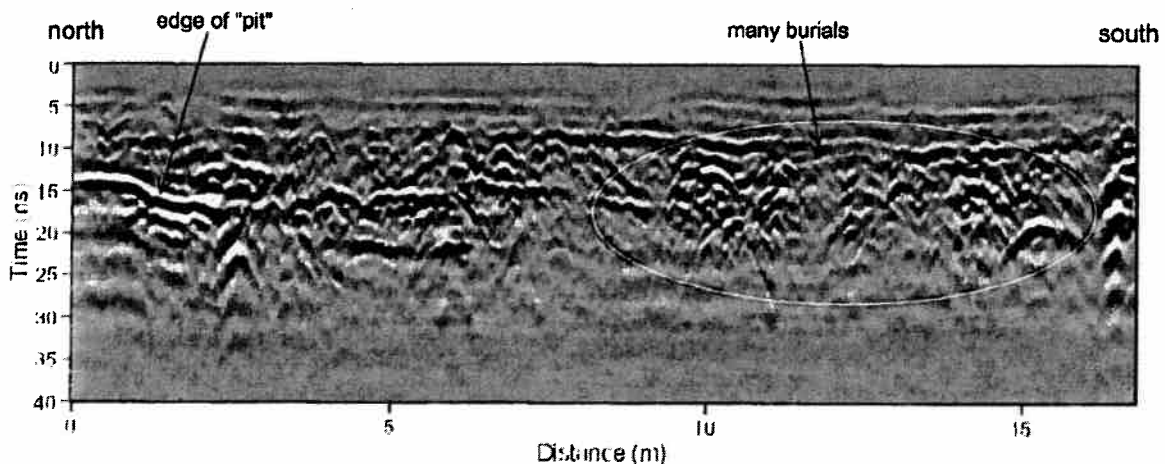
The graves in this grid are found everywhere there is not bedrock near the surface. Bedrock close to the surface was no doubt the limiting factor in digging trenches deep enough to bury the dead. Everywhere in this grid, this is the case. Bedrock limits the burial depth to the

north, east and west. The limits of burials to the south are not known, as the southern fence of the dog park, the bike trail and Atlantic Boulevard are found in that area and GPR surveying was impossible. It is likely that graves continue under the road in the direction where the African Cemetery is located, where burials were discovered in 2001 using similar GPR methods (Conyers and Malcom 2002).



**Figure 23:** Amplitude slice maps of Grid 9 showing many graves in the white dashed outlined area in the second slice, the “pit” in slice 3, and the pipe crossing the area in the fourth slice.

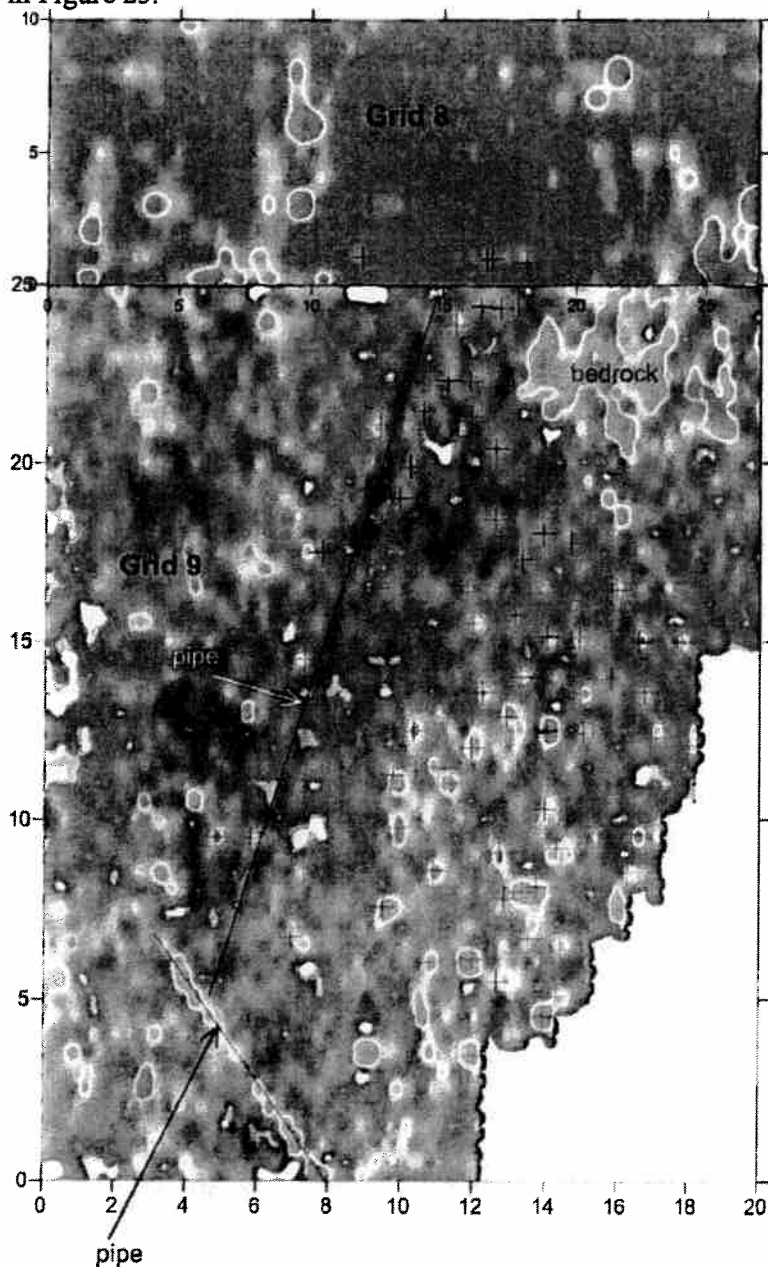
A different look at “the pit” can be seen in many profiles in this grid (Figure 24). The pit is not a trench but instead a broad pit, which contains a number of reflective objects, whose origin is not known. The objects in the pit are jumbled, but little else can be said about them.



**Figure 24:** Reflection profile showing the north edge of the pit and burials located to the south.

A composite map, which is somewhat busy, but contains much information, is found in Figure 25. This image contains amplitudes from Grid 8 and 9, with crosses marking the most distinct graves. This image does not contain the slice showing the “pit”, but does have the individual graves located in more detail. In Figure 25 sixty-seven graves are marked, which were placed on this image based on amplitude signatures in the slice maps and also reflection

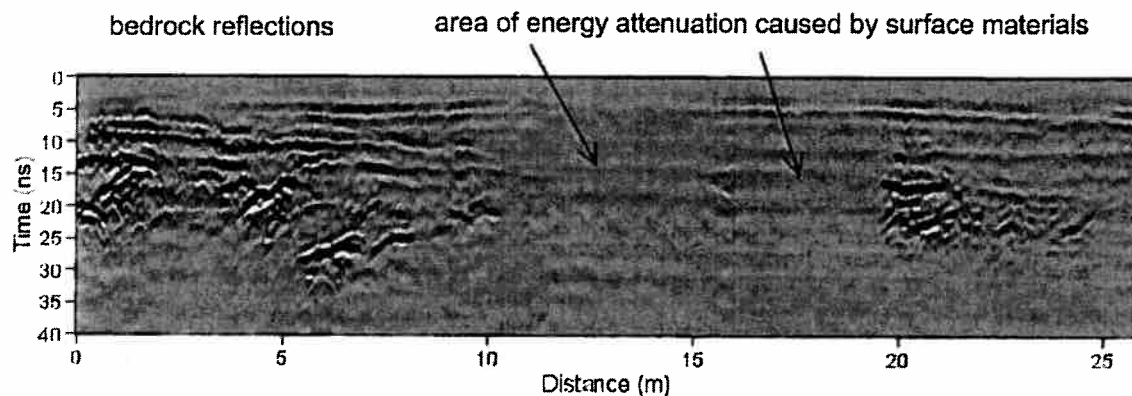
hyperbolas visible in each of the two-dimensional profiles (eg. Figures 12, 13 and 24). Two pipes also cross this area, which cut some of the graves and likely exhumed bones and other burial remains when the trenches for them were excavated. In addition it appears that some of the graves were incised into preexisting burials, making this area very complex. If some of the burials were not within coffins or informal burials of other sorts they would also be more difficult to image using GPR. So I suspect there are many more burials in this area than the 67 that are marked in Figure 25.



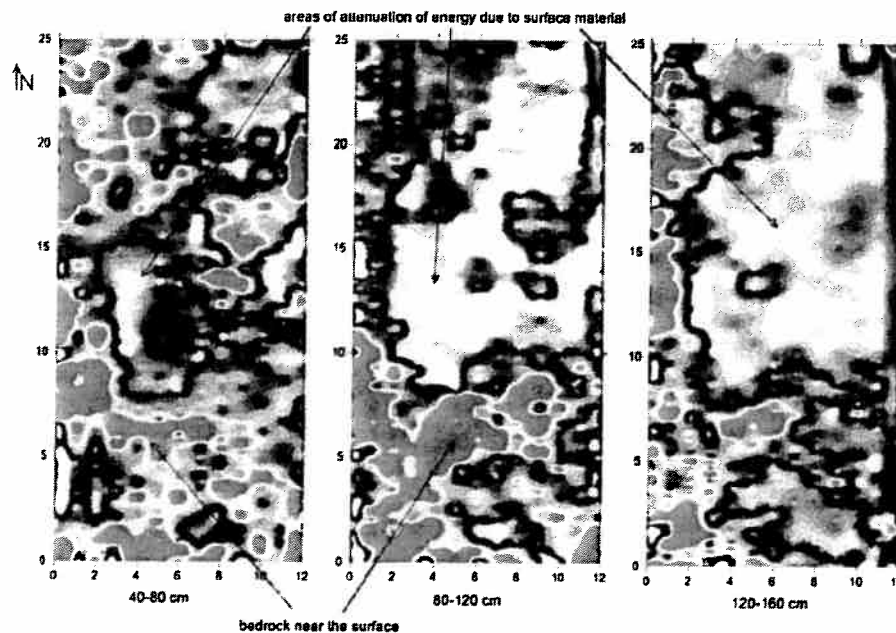
**Figure 25:** Composite amplitude maps of Grids 8 and 9 with crosses indicating the most distinct burials and the two most prominent pipes crossing the area.

### Grid 10: North of hand ball courts

The area north of the handball courts had a good deal of the material used for paving the bike trails remaining on the surface. This mystery material, which attenuates radar energy at the surface, precluded energy penetration deeper than a few inches in the ground (Figure 26). Even with those technical problems it is apparent that bedrock is located very close to the surface in this area, and therefore would not be an area suitable for burials. No burials that are at all similar to those found elsewhere in the other grids were found in this grid, and only reflections from bedrock near the surface (Figure 27).



**Figure 26:** Reflection profile showing attenuation caused by paving materials stored on the surface.

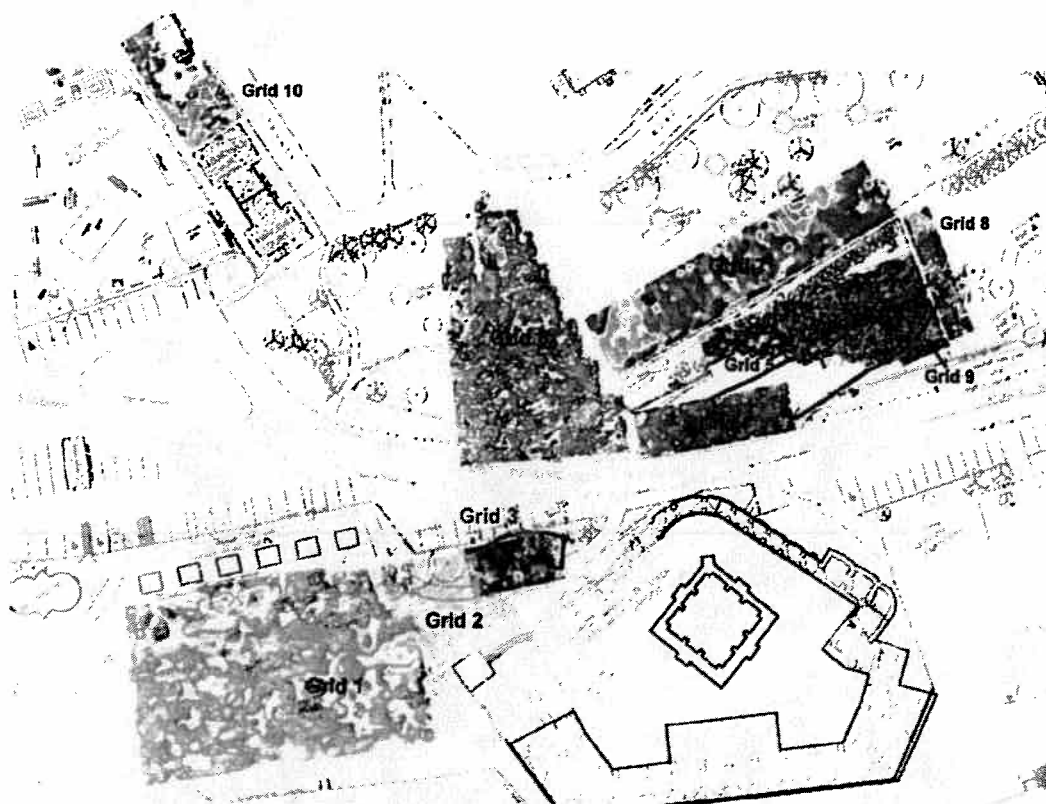


**Figure 27:** Amplitude slice maps of Grid 10 showing areas of attenuation and bedrock located very near the surface through the area surveyed.

## Conclusions

Radar energy penetration and reflection was excellent throughout the area surveyed in the Higgs Beach area. Radar penetration was in excess of 2 meters (6 feet) throughout the area using the 400 MHz antennas. Bedrock reflections were the most common feature found in most grids and when bedrock was close to the surface (shallower than 1 meter: 3 feet) appears to have been the limiting factor in burials. The abundance of burials were found in portions of Grid 3, 4, 5, 8 and 9, which in all cases were in areas where bedrock was deeper than two meters below the ground (6 feet). An outline of the general areas of graves is found in Figure 28, which covers much of the small dog park and adjoining areas, and a small area in a grassy space adjacent to the bike trail west of the fort.

While GPR was excellent at mapping many graves in this area, it is likely that subtle graves exist, which did not produce significant reflections. No method exists to produce images of these kinds of subtle graves short of excavations. In addition graves likely exist under the bike trail and Atlantic Boulevard, which were not surveyed. A major undertaking to remove the asphalt and all other surface materials prior to surveying with GPR would be necessary to locate those areas, and it is probably best to work under the assumption that they are there, and be careful with all excavation operations in the area.



**Figure 28:** Composite base map of all grids with the areas where graves were identified shown in red.

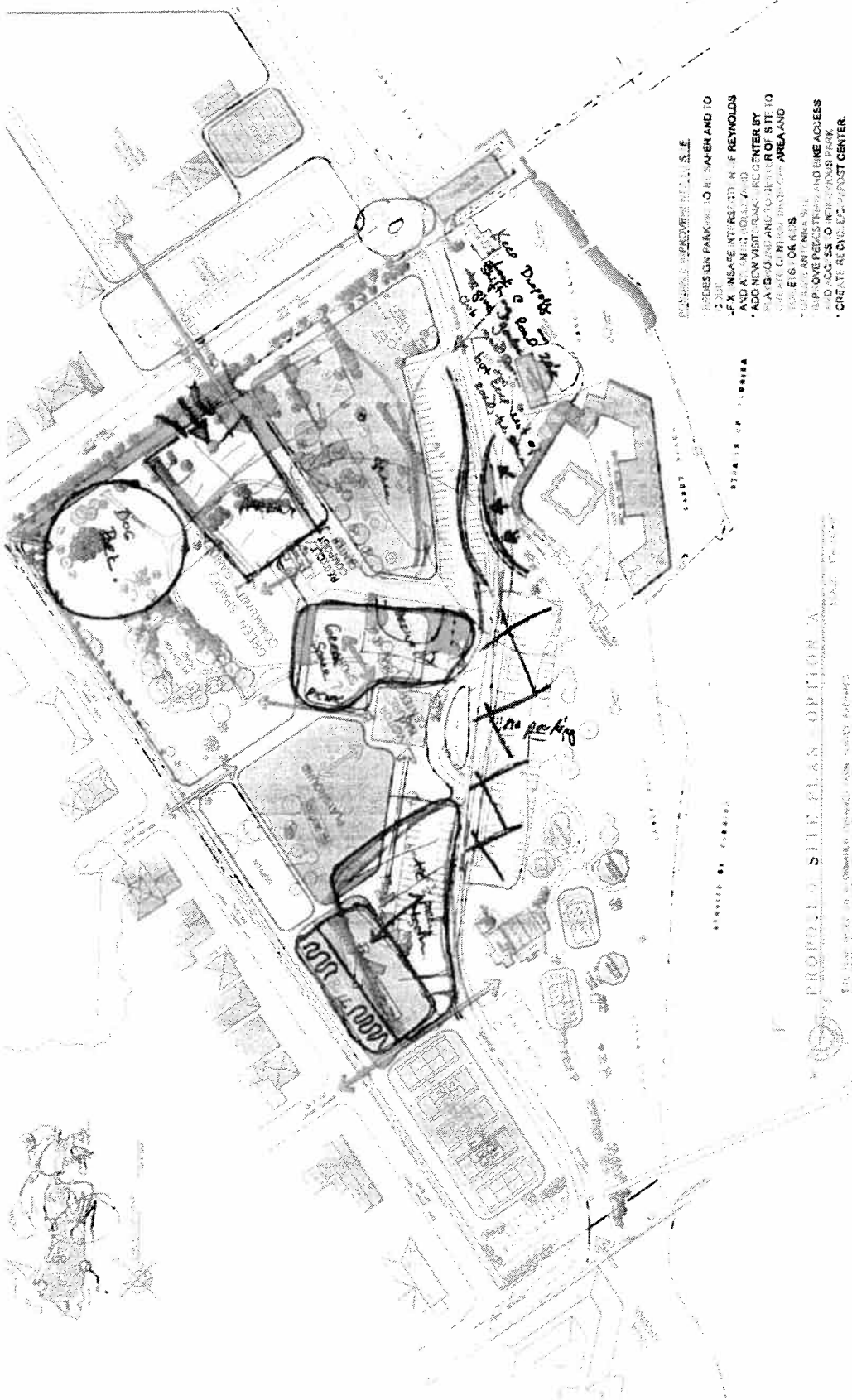
**References Cited**

**Conyers, Lawrence B.**, 2004, Ground-penetrating Radar for Archaeology. Altamira Press, Walnut Creek, California\

**Conyers, Lawrence B. and Jeffrey Lucius**, 1996, Velocity analysis in archaeological ground-penetrating radar studies. Archaeological Prospection, v. 3, pp. 312-333.

**Conyers, L. and C. Malcom**, 2002, Evidence for the African Cemetery at Higgs Beach, Key West, Florida. Mel Fisher Maritime Society, Key West, FL.

**Malcom, Corey**, 2010, Cemeteries at South Beach, Key West, Florida. Mel Fisher Maritime Society, Key West, FL.



- RECYCLED RUBBER MULCH
- RECYCLED RUBBER MULCH TO BE SAVERLAND TO 2" DEPT
  - FIX INSIDE INTERSECTION OF REYNOLDS AND ARLING (WIDENING)
  - ADD NEW WOODEN DECK CENTER BY ARLING AND TO CENTER OF SITE TO CREATE OPEN SPACE AREA AND PLANTING
  - IMPROVE PEDESTRIAN AND BIKE ACCESS AND ACCESS TO INDIVIDUAL PARK AND RECYCLED RUBBER CENTER.

TABLE #2

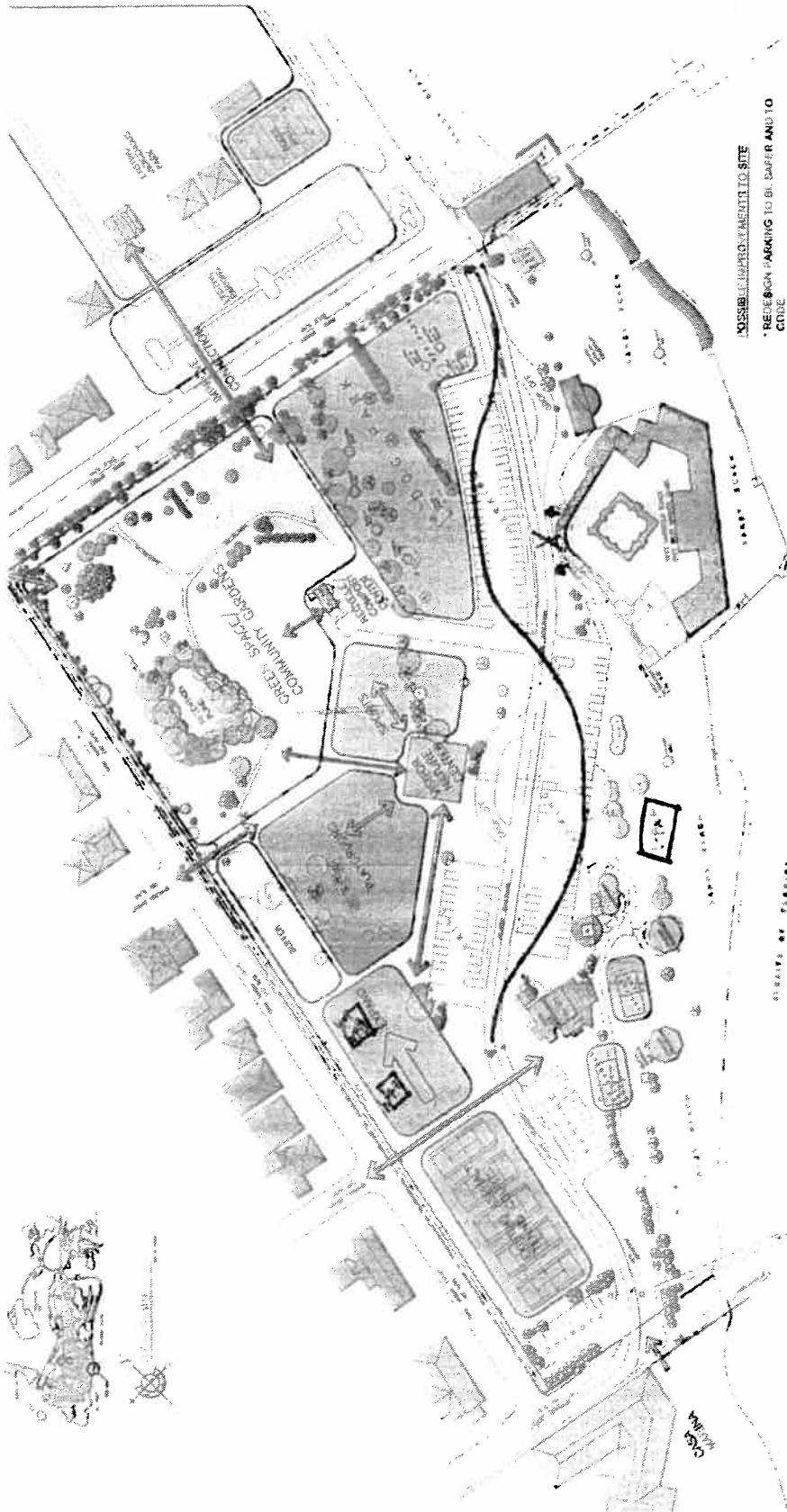
PROPOSED SITE PLAN - OPTION A

CLARENCE HIGGS BEACH - MASTER PLAN  
 BY: [unreadable] ARCHITECTS, INC. AND [unreadable] ENGINEERS, INC.  
 1000 [unreadable] AVENUE, SUITE 100, CLARENCE, FLORIDA 32009

CLARENCE HIGGS BEACH - MASTER PLAN

NOVEMBER 2014





- POSSIBLE IMPROVEMENTS TO SITE**
- \* REDESIGN PARKING TO BE SAFER AND TO COMPLY WITH ADA
  - \* FIX UNSAFE INTERSECTION OF REYNOLDS AND ATLANTIC BOULEVARD
  - \* ADD NEW VISITOR CENTER BY PLAYGROUND AND TO CENTER OF SITE TO CREATE CENTRAL DROP OFF AREA AND TOILETS FOR KIDS
  - \* UTILIZE ANTENNA SITE
  - \* IMPROVE PEDESTRIAN AND BICYCLE ACCESS TO INDIGENOUS PARK
  - \* CREATE RECYCLE/COMPOST CENTER

**PROPOSED SITE PLAN OPTION A**

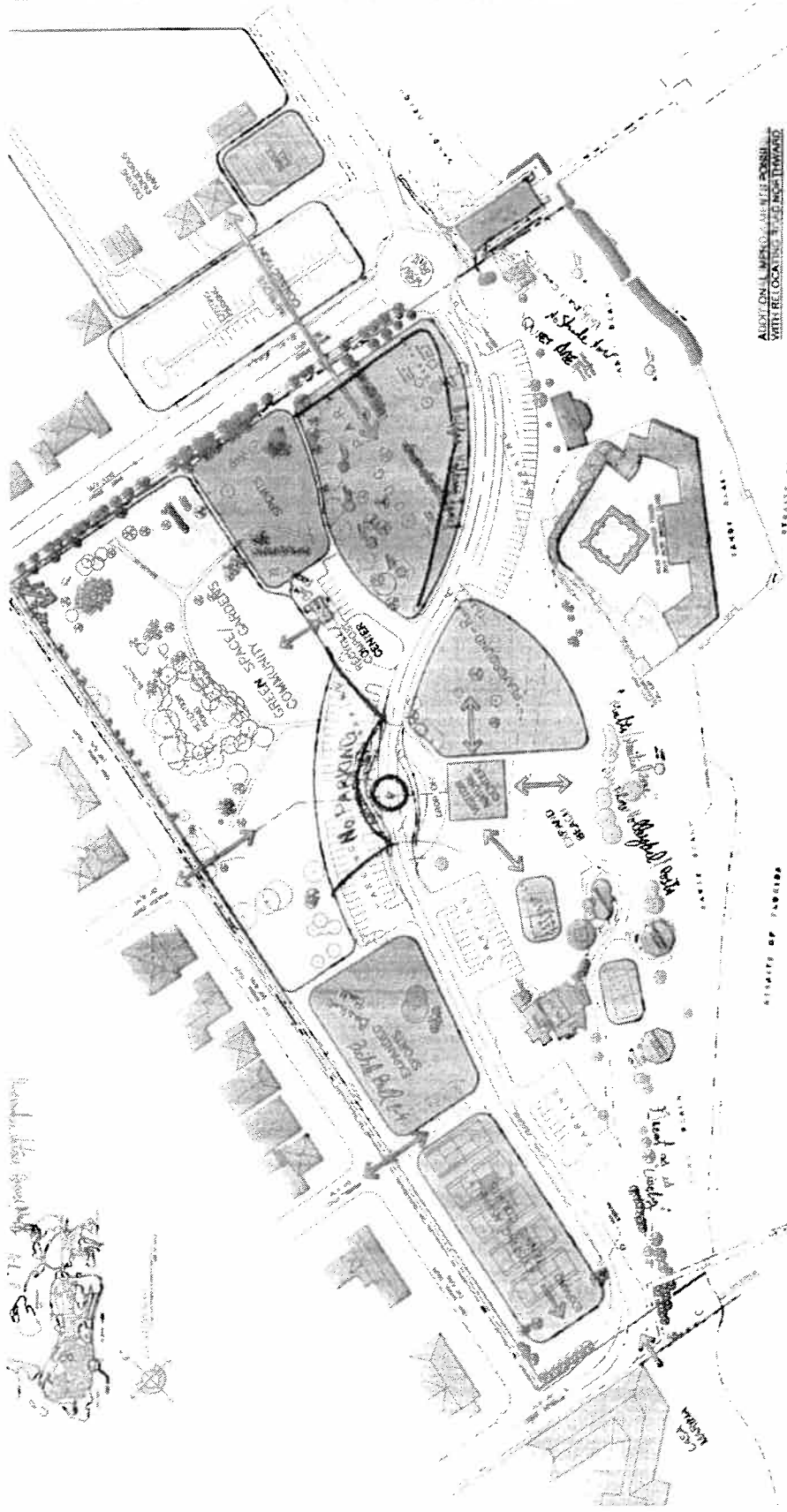
SCALE: 1" = 60'-0"

ALL PLAN DATA OR INFORMATION OBTAINED FROM SUPPLY PROVIDED BY ARCHITECT OR RECORDING SURVEYOR DATED ON \_\_\_\_\_

**TABLE 3**

DATE: 11/15/2011  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 PROJECT: [Project Name]  
 SHEET: [Sheet Number]

DATE: 11/15/2011  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 PROJECT: [Project Name]  
 SHEET: [Sheet Number]



- AUDIT ON ALL WORK. ARE WE POSSIBLY  
WITH RELOCATING TO THE NORTHWARD**
- \* CREATES MORE AREAS BEACHSIDE
  - \* PLAYGROUND MOVES TO BEACHSIDE
  - \* VISITOR/NATURE CENTER CAN BE BEACHSIDE
  - \* ROAD MOVES AWAY FROM FORT
  - \* NEW TRAIL LINES ON END OF WHITE STREET AND ENTRY TO PARK

**TABLE 1**

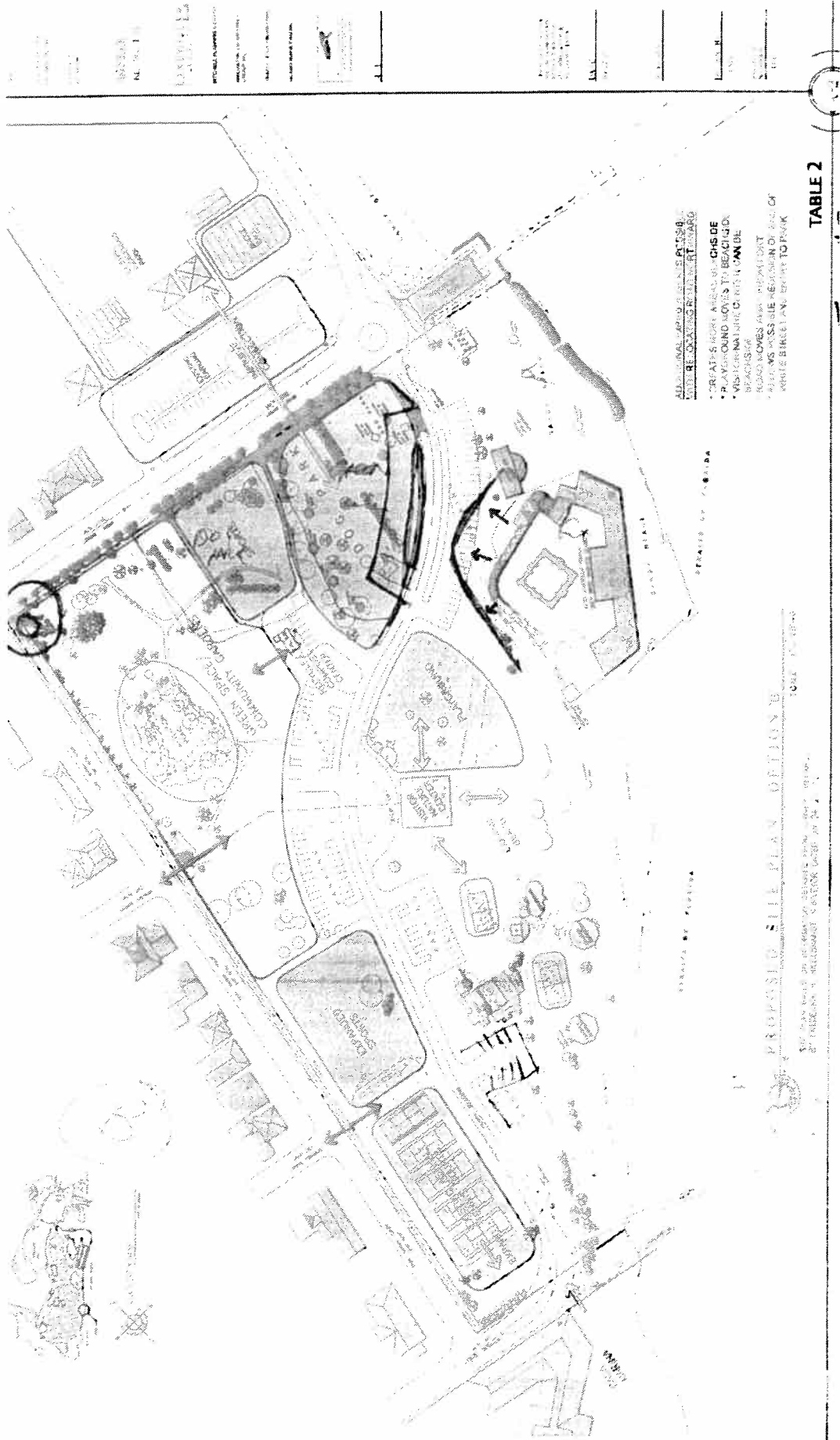
**PROPOSED SITE PLAN - OPTION 1**

BY PLAN BASED ON RESEARCH OBTAINED FROM SURVEY CONDUCTED BY F. S. BERNARD, JR. PRELIMINARY SURVEY DATED ON 04-23-10

SCALE: 1" = 40'



DATE	10/1/10
PROJECT	ARLANS BEACHSIDE
CLIENT	ARLANS BEACHSIDE
DESIGNER	ARLANS BEACHSIDE
SCALE	1" = 40'
DATE	10/1/10
PROJECT	ARLANS BEACHSIDE
CLIENT	ARLANS BEACHSIDE
DESIGNER	ARLANS BEACHSIDE
SCALE	1" = 40'
DATE	10/1/10
PROJECT	ARLANS BEACHSIDE
CLIENT	ARLANS BEACHSIDE
DESIGNER	ARLANS BEACHSIDE
SCALE	1" = 40'
DATE	10/1/10
PROJECT	ARLANS BEACHSIDE
CLIENT	ARLANS BEACHSIDE
DESIGNER	ARLANS BEACHSIDE
SCALE	1" = 40'



- ADDITIONAL LAND USES TO BE CONSIDERED:**
- TRAILS AND BIKEWAYS TO BE CONSIDERED
  - PLAYGROUND MOVES TO BE CONSIDERED
  - VISITORIAL USES TO BE CONSIDERED
  - RECREATION AREAS TO BE CONSIDERED
  - RECREATION AREAS TO BE CONSIDERED
  - RECREATION AREAS TO BE CONSIDERED
  - RECREATION AREAS TO BE CONSIDERED
  - RECREATION AREAS TO BE CONSIDERED

**TABLE 2**

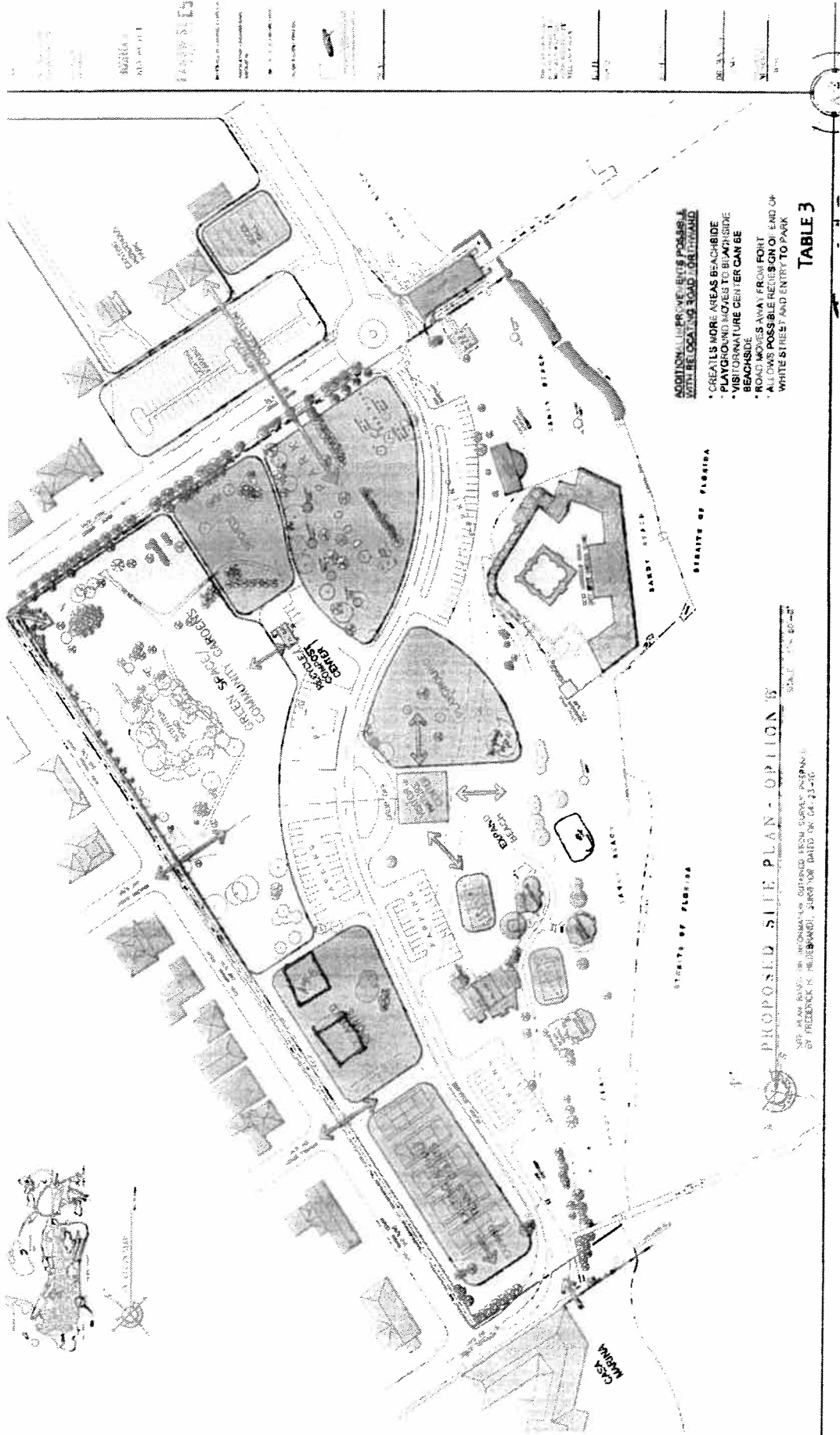
**PROPOSED SITE PLAN OPTION B**

DATE: 11/10/10

BY: [Signature]

FOR: [Signature]

NO. OF PLOTS	10
NO. OF UNITS	100
NO. OF PARKING SPACES	100
NO. OF GREEN SPACES	10
NO. OF TRAILS	10
NO. OF BIKEWAYS	10
NO. OF PLAYGROUNDS	10
NO. OF VISITORIAL USES	10
NO. OF RECREATION AREAS	10
NO. OF OTHER USES	10



- ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELOCATING ROAD TO THE ROAD**
- CREATES MORE AREAS BEACHSIDE
  - PLAYGROUND MOVES TO BEACHSIDE
  - VISITOR NATURE CENTER CAN BE BEACHSIDE
  - ROAD MOVES AWAY FROM FORT
  - ALLOWS POSSIBLE REVISION OF END OF WHITE STREET AND ENTRY TO PARK

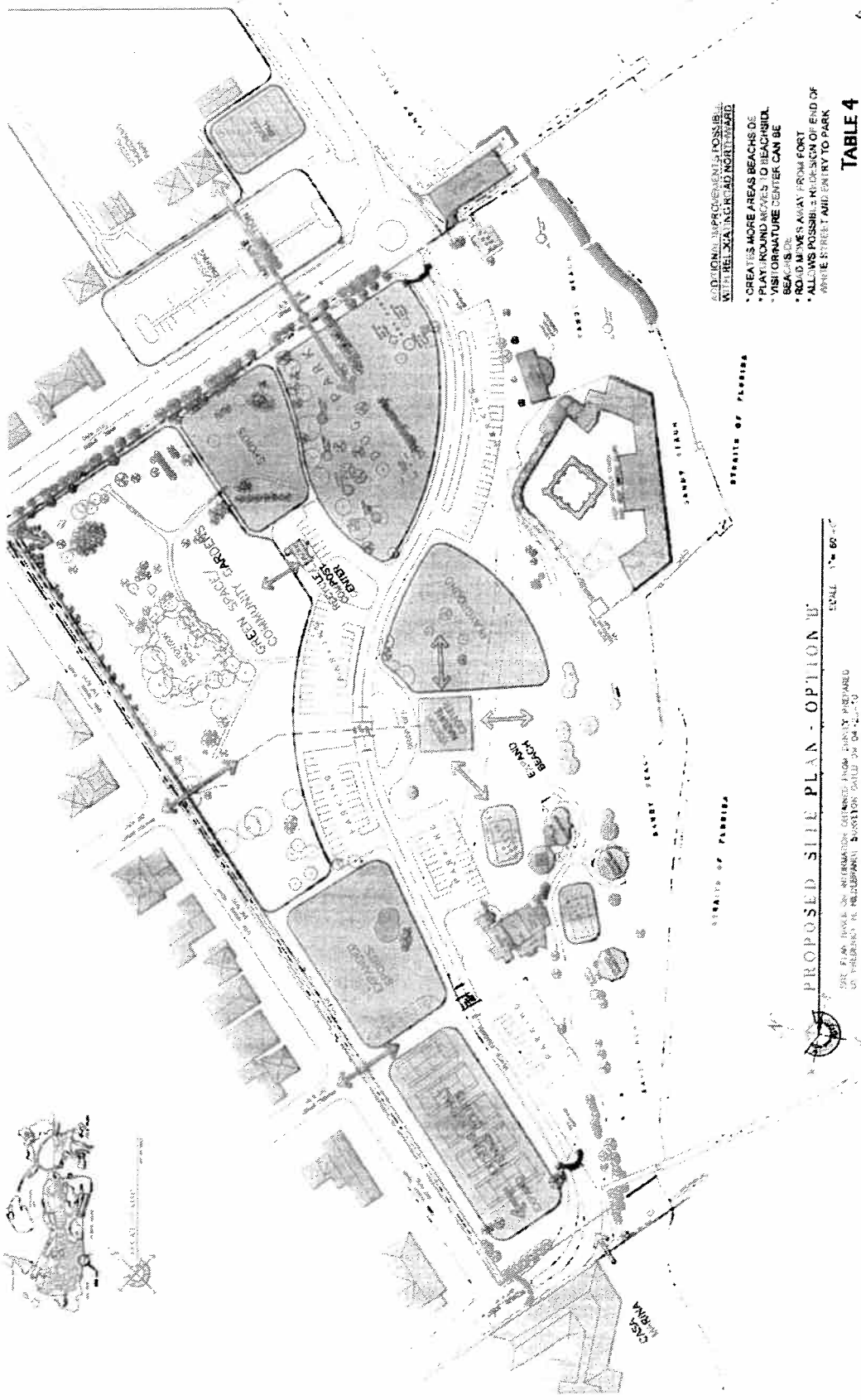
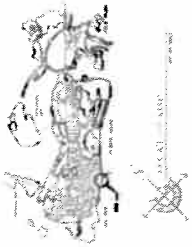
**TABLE 3**

**PROPOSED SITE PLAN - OPTION B**

NOT A PLAN BASED ON INFORMATION OBTAINED FROM COURTESY OF THE CITY OF JACKSONVILLE, FLORIDA. JURISDICTION DATED 04.23.10

SCALE: 1" = 100'-0"

DATE: 04.23.10	PROJECT: JACKSONVILLE BEACHSIDE DEVELOPMENT
DRAWN BY: [Name]	CHECKED BY: [Name]
SCALE: 1" = 100'-0"	PROJECT NO: [Number]
DATE: 04.23.10	PROJECT: JACKSONVILLE BEACHSIDE DEVELOPMENT
DRAWN BY: [Name]	CHECKED BY: [Name]
SCALE: 1" = 100'-0"	PROJECT NO: [Number]



ADDITIONAL IMPROVEMENTS POSSIBLE WITH THE EXISTING LAYOUT

- \* CREATE MORE AREAS BEACHS DE
- \* PLAYGROUND MOVES TO BEACHSIDE
- \* VISIT ORNATURE CENTER CAN BE BEACHSIDE
- \* ROAD MOVES AWAY FROM FORT ANSIE STREET AND ENTRY TO PARK

TABLE 4

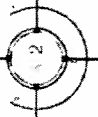
PROPOSED SITE PLAN - OPTION B

SCALE: 1" = 60'-0"

SITE PLAN BASED ON INFORMATION GATHERED FROM VISUAL PRESENTATION OF THE PROJECT BY PRESENTATION BOARD ON 04/21/2010

CLARENCE HIGGS BEACH - MASTER PLAN

NEW PORT, FLORIDA



WILLIAMS  
ARCHITECTS, P.A.

DATE: 06-23-10

PROJECT: CLARENCE HIGGS BEACH  
LOCATION: KEY WEST, FL

SCALE: 1" = 60'-0"

DESIGNED BY: WILLIAMS ARCHITECTS, P.A.  
DRAWN BY: [Name]  
CHECKED BY: [Name]  
DATE: 06-23-10

PROJECT: CLARENCE HIGGS BEACH  
LOCATION: KEY WEST, FL

DATE: 06-23-10

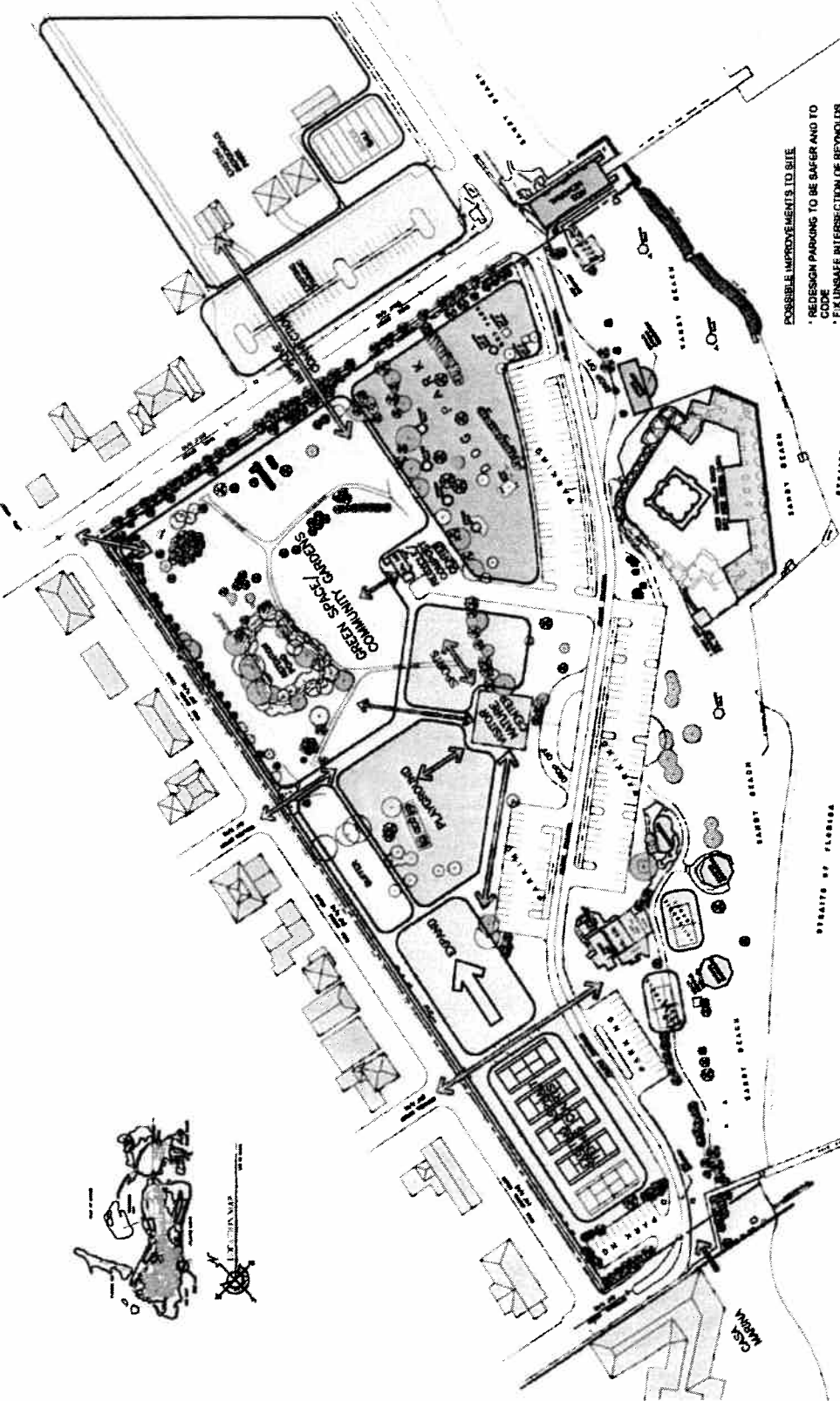
SCALE: 1" = 60'-0"

PROJECT: CLARENCE HIGGS BEACH  
LOCATION: KEY WEST, FL

DATE: 06-23-10

SCALE: 1" = 60'-0"

PROJECT: CLARENCE HIGGS BEACH  
LOCATION: KEY WEST, FL



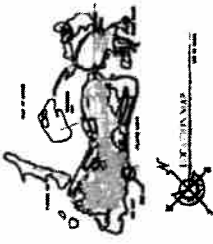
- POSSIBLE IMPROVEMENTS TO SITE
- REDESIGN PARKING TO BE SAFER AND TO CODE
  - FIX UNSAFE INTERSECTION OF REYNOLDS AND ATLANTIC BOULEVARD
  - ADD NEW VISITOR/NATURE CENTER BY PLAYGROUND AND TO CENTER OF SITE TO CREATE CENTRAL DROP OFF AREA AND TOILETS FOR RIDE
  - IMPROVE PEDESTRIAN AND BIKE ACCESS AND ACCESS TO INDIGENOUS PARK
  - CREATE RECYCLE/COMPOST CENTER



PROPOSED SITE PLAN OPTION 'A'  
SCALE: 1" = 60'-0"  
SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PROVIDED BY FREDERICK H. HUBBARD, SURVEYOR DATED ON 04-23-10

# CLARENCE HIGGS BEACH - MASTER PLAN

KEY WEST, FLORIDA



W. LUDWIG ARCHITECT P.A.  
ARCHITECT P.A.

PROJECT NO. 1000000000  
DATE: 08/22/11

CLIENT: CLARENCE HIGGS BEACH  
1000000000

DESIGNED BY: W. LUDWIG ARCHITECT P.A.  
1000000000

- 1. SITE PLAN
- 2. GENERAL NOTES
- 3. LEGEND
- 4. EXISTING CONDITIONS
- 5. PROPOSED IMPROVEMENTS
- 6. UTILITIES
- 7. LANDSCAPE
- 8. PAVING
- 9. SIGNAGE
- 10. FURNITURE
- 11. LIGHTING
- 12. SECURITY
- 13. ACCESSIBILITY
- 14. ENVIRONMENTAL
- 15. HISTORICAL
- 16. OTHER

DATE: 08/22/11

BY: W. LUDWIG ARCHITECT P.A.  
1000000000

DATE: 08/22/11

SCALE: 1" = 60'-0"

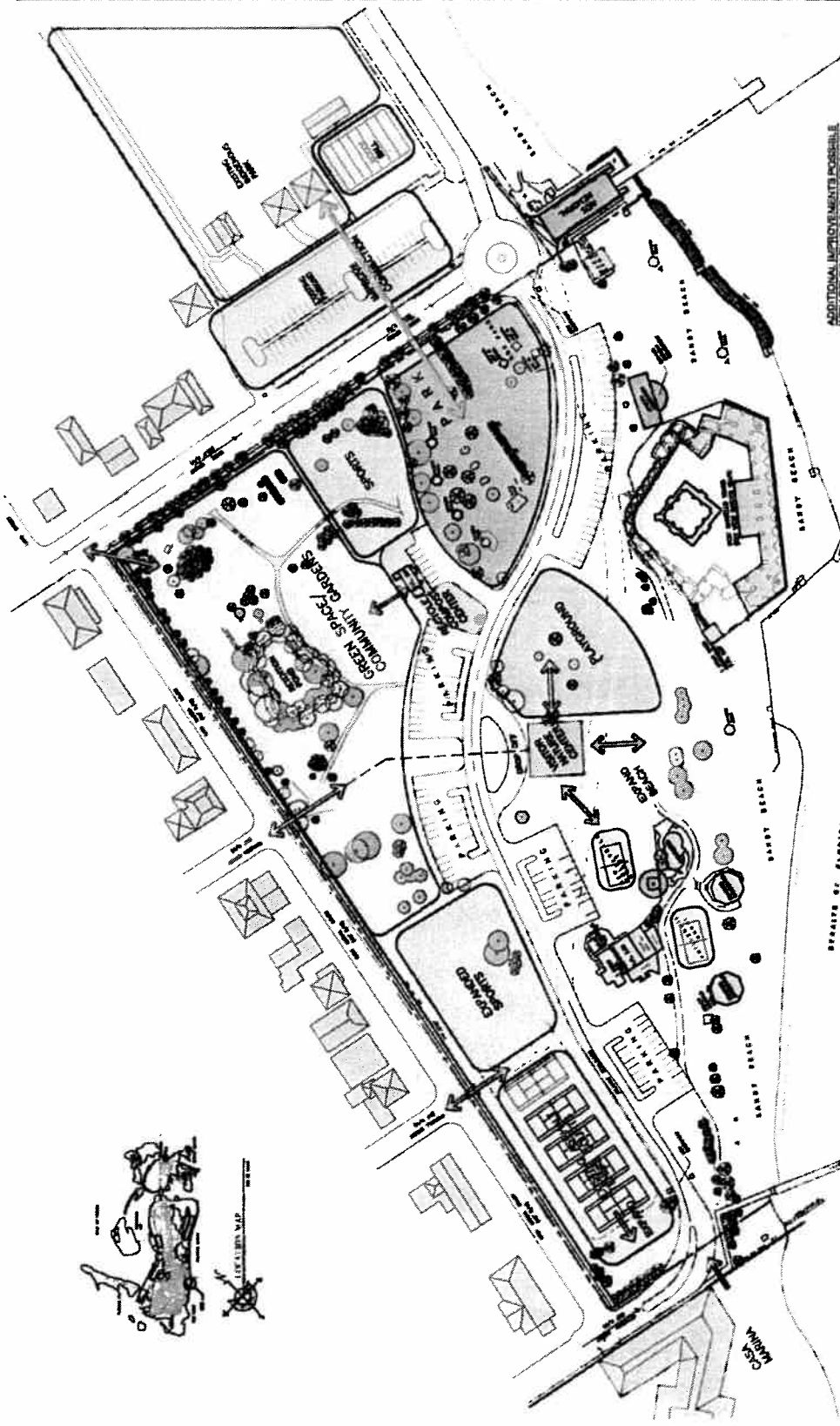
DATE: 08/22/11

BY: W. LUDWIG ARCHITECT P.A.  
1000000000

DATE: 08/22/11

SCALE: 1" = 60'-0"

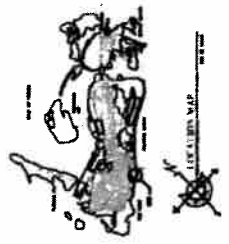
A-2



- ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELOCATING ROAD NORTHWARD
- CREATES MORE AREAS BEACHSIDE
  - PLAYGROUND MOVES TO BEACHSIDE
  - VISITOR CENTER CAN BE RELOCATED AWAY FROM FORT
  - ALLOWS POSSIBLE REDESIGN OF END OF WHITE STREET AND ENTRY TO PARK

PROPOSED SITE PLAN - OPTION B  
SCALE 1" = 60'-0"  
SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY, PREPARED BY FREDERICK H. FLEISHER, SURVEYOR DATED ON 04-23-10

CLARENCE HIGGS BEACH - MASTER PLAN  
MAYNIST, FLORIDA



W. LUDWIG HIGGS  
ARCHITECT, P.A.

DATE: 11-14-10  
SCALE: 1" = 60'-0"

PROJECT: CLARENCE HIGGS BEACH  
LOCATION: KEY WEST, FL

ARCHITECT: W. LUDWIG HIGGS ARCHITECT, P.A.

- 1. GENERAL NOTES
- 2. SITE PLAN
- 3. FLOOR PLANS
- 4. SECTION
- 5. ELEVATIONS
- 6. EXTERIOR FINISHES
- 7. INTERIOR FINISHES
- 8. MECHANICAL
- 9. ELECTRICAL
- 10. PLUMBING
- 11. PAINT
- 12. FURNITURE
- 13. LANDSCAPE
- 14. SIGNAGE
- 15. SPECIALTIES

DATE: 11-14-10  
SCALE: 1" = 60'-0"

PROJECT: CLARENCE HIGGS BEACH  
LOCATION: KEY WEST, FL

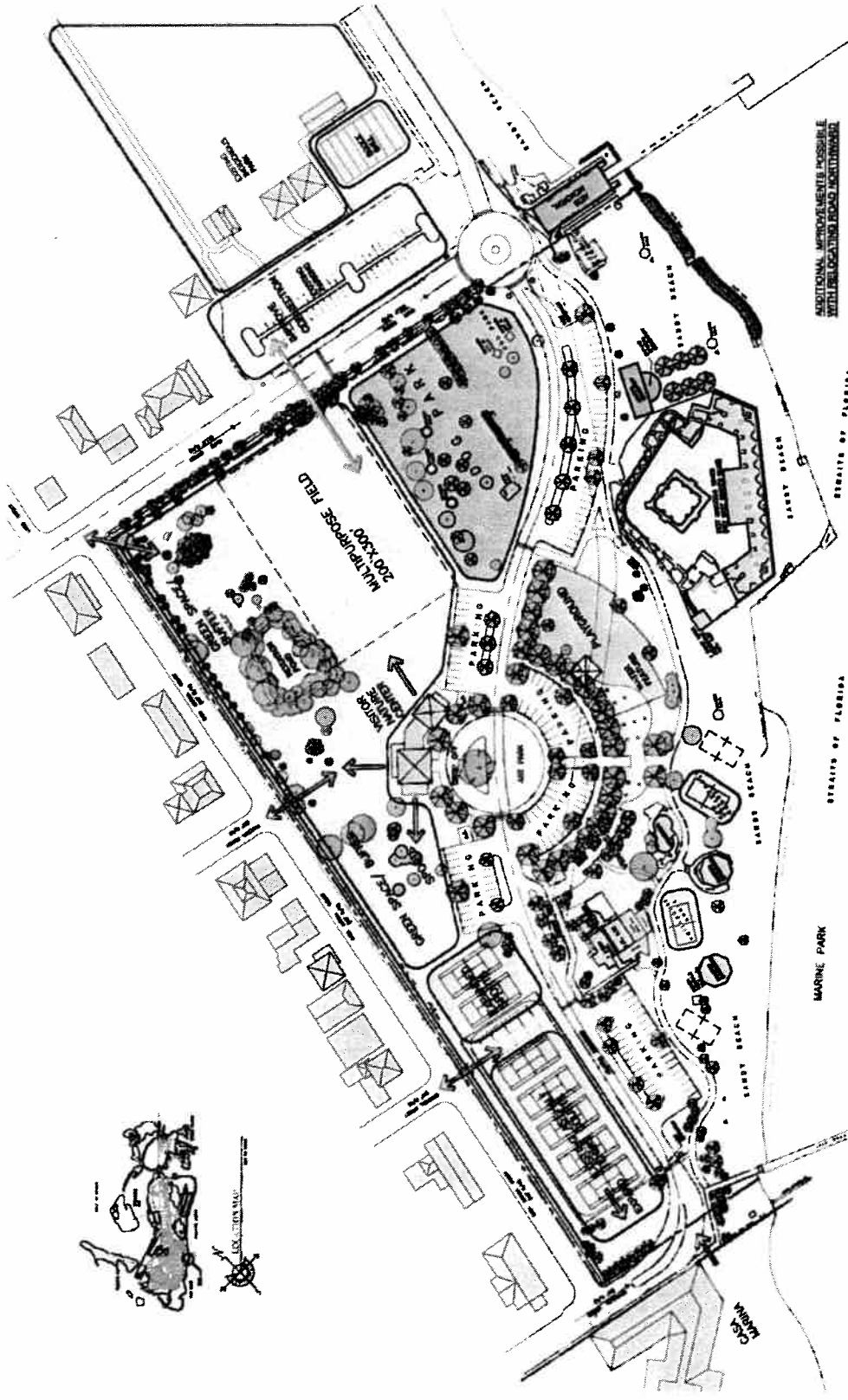
ARCHITECT: W. LUDWIG HIGGS ARCHITECT, P.A.

DATE: 11-14-10  
SCALE: 1" = 60'-0"

PROJECT: CLARENCE HIGGS BEACH  
LOCATION: KEY WEST, FL

ARCHITECT: W. LUDWIG HIGGS ARCHITECT, P.A.

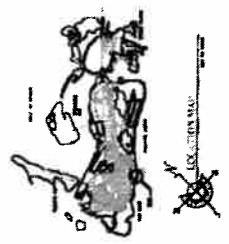
A-3



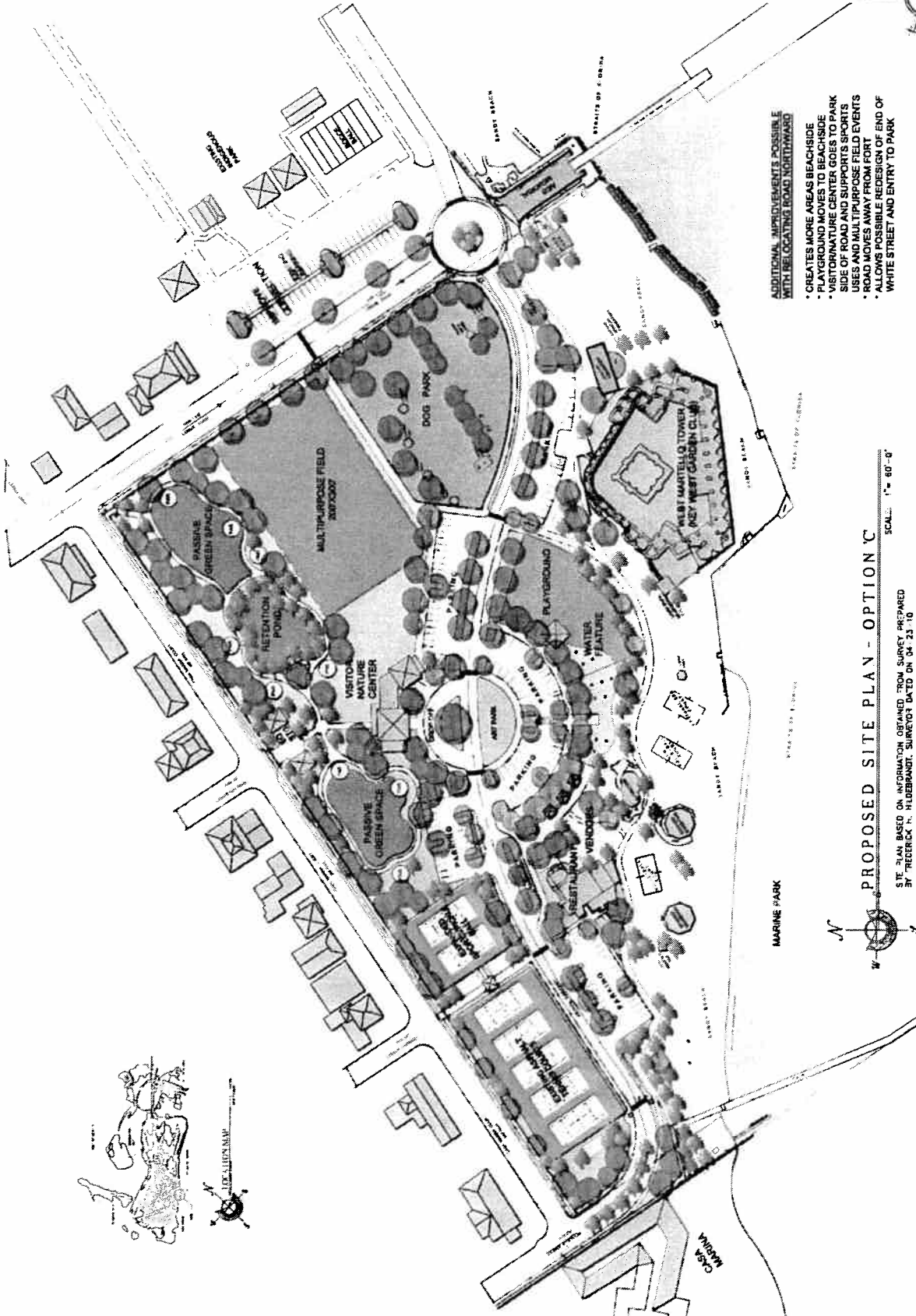
- ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELOCATING ROAD NORTHWARD:
- \* CREATED MORE AREAS BEACHSIDE
  - \* PLAYGROUND MOVES TO BEACHSIDE
  - \* VISITOR NATURE CENTER GOES TO PARK
  - \* USES OF GOLF AND SUPPORTS SPORTS
  - \* ROAD MOVES AWAY FROM FIELD
  - \* ALLOWS POSSIBLE REDESIGN OF END OF WHITE STREET AND ENTRY TO PARK

PROPOSED SITE PLAN - OPTION C  
 SCALE: 1" = 60'-0"  
 SITE PLAN BASED ON SURVEY DATA FROM SURVEY PROVIDED BY FREDERICK H. LUDWIGSON, SURVEY DATED ON 04-24-10

CLARENCE HIGGS BEACH - MASTER PLAN  
 KEY WEST, FLORIDA





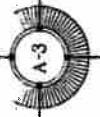


- ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELOCATING ROAD NORTHWARD**
- CREATES MORE AREAS BEACHSIDE
  - VISITOR NATURE CENTER GOES TO PARK SIDE OF ROAD AND SUPPORTS SPORTS USES AND MULTIPURPOSE FIELD EVENTS
  - ROAD MOVES AWAY FROM FORT
  - ALLOWS POSSIBLE REDESIGN OF END OF WHITE STREET AND ENTRY TO PARK

**PROPOSED SITE PLAN - OPTION C**  
SCALE: 1" = 80'-0"

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY RECENCK P. HUBERMANO, SURVEYOR DATED ON 04-23-10

**CLARENCE HIGGS BEACH - MASTER PLAN**  
KEY WEST, FLORIDA



WILLIAMP HARRY  
ARCHITECT P.A.

91 EAST  
KEY WEST  
FLORIDA  
3-18

TEL: 305.862.2222  
FAC: 305.862.2222  
WWW: WWW.WHARCHITECT.COM

HIGGS BEACH  
KEY WEST FL



INTERNATIONAL PLANNING & DESIGN

LANDSCAPE ARCHITECTURE

ARCHITECTURE

INTERIOR DESIGN

LANDSCAPE ARCHITECTURE

LANDSCAPE ARCHITECTURE

SCALE

DATE: 08.23.10

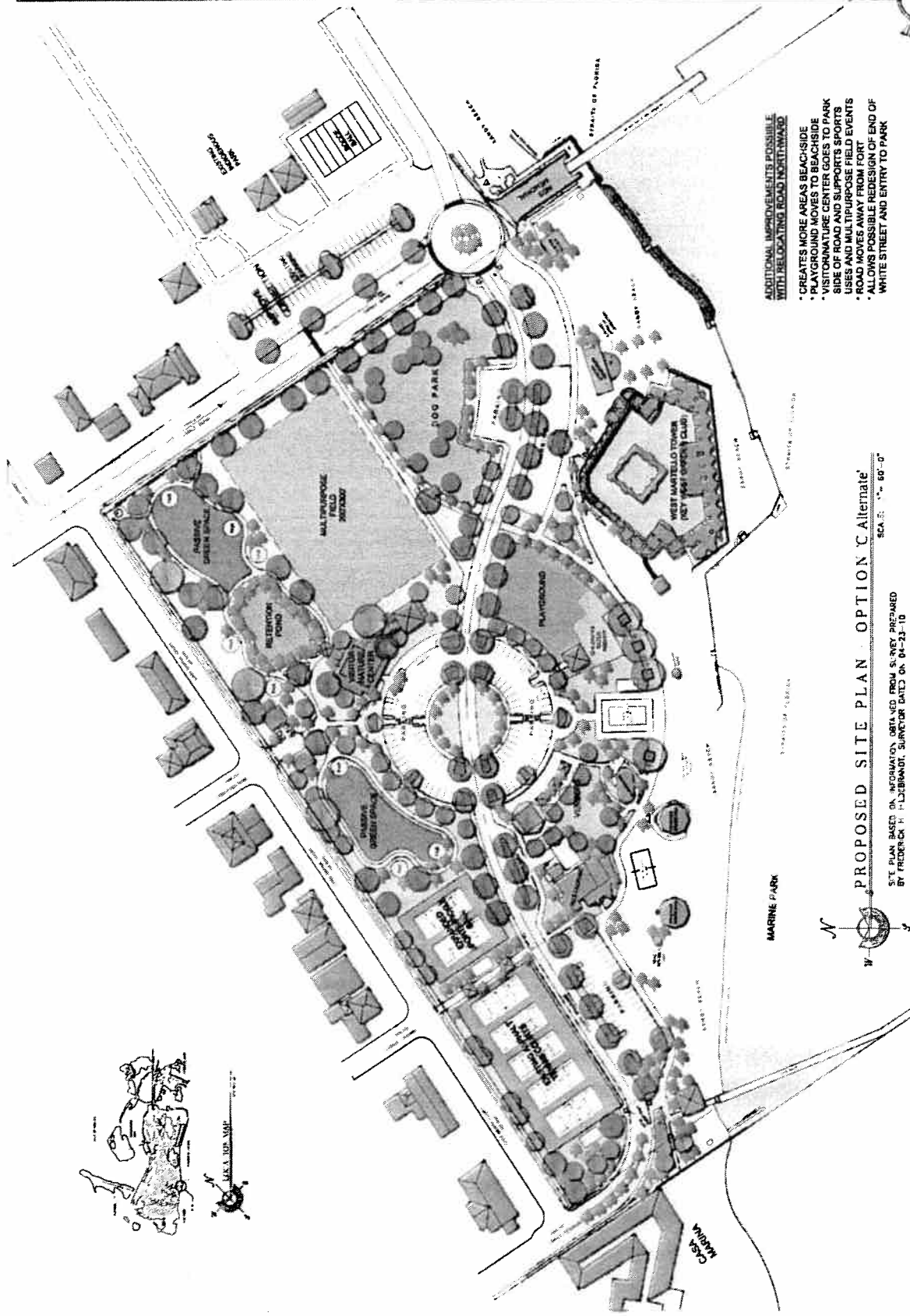
SCALE: 1" = 60'-0"

DATE: 08.23.10

SCALE: 1" = 60'-0"

DATE: 08.23.10

SCALE: 1" = 60'-0"



- ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELOCATING ROAD NORTHWARD**
- \* CREATES MORE BEACHSIDE PLAYGROUND MOVES TO BEACHSIDE
  - \* VISITOR NATURE CENTER GOES TO PARK SIDE OF ROAD AND SUPPORTS SPORTS USES AND MULTIPURPOSE FIELD EVENTS
  - \* ROAD MOVES AWAY FROM FORT
  - \* ALLOWS POSSIBLE REDESIGN OF END OF WHITE STREET AND ENTRY TO PARK

**PROPOSED SITE PLAN - OPTION C Alternate**

SCALE: 1" = 60'-0"  
SITE PLAN BASED ON INFORMATION OBTAINED FROM S. KEY PREPARED BY FREDERICK T. FLORIAN; SURVEY DATED ON 04-23-10

**CLARENCE HIGGS BEACH - MASTER PLAN**  
KEY WEST, FLORIDA

MILAN FERRARI  
ARCHITECT, P.A.

DATE: 08/11/10  
SCALE: AS SHOWN

PROJECT: CLARENCE HIGGS BEACH  
SHEET: A-3

PLANNING  
DESIGN  
CONSTRUCTION



1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

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Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

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Fax: 954.561.1112

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Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

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Fort Lauderdale, FL 33304  
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Fax: 954.561.1112

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Fax: 954.561.1112

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Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
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Tel: 954.561.1111  
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Fax: 954.561.1112

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Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

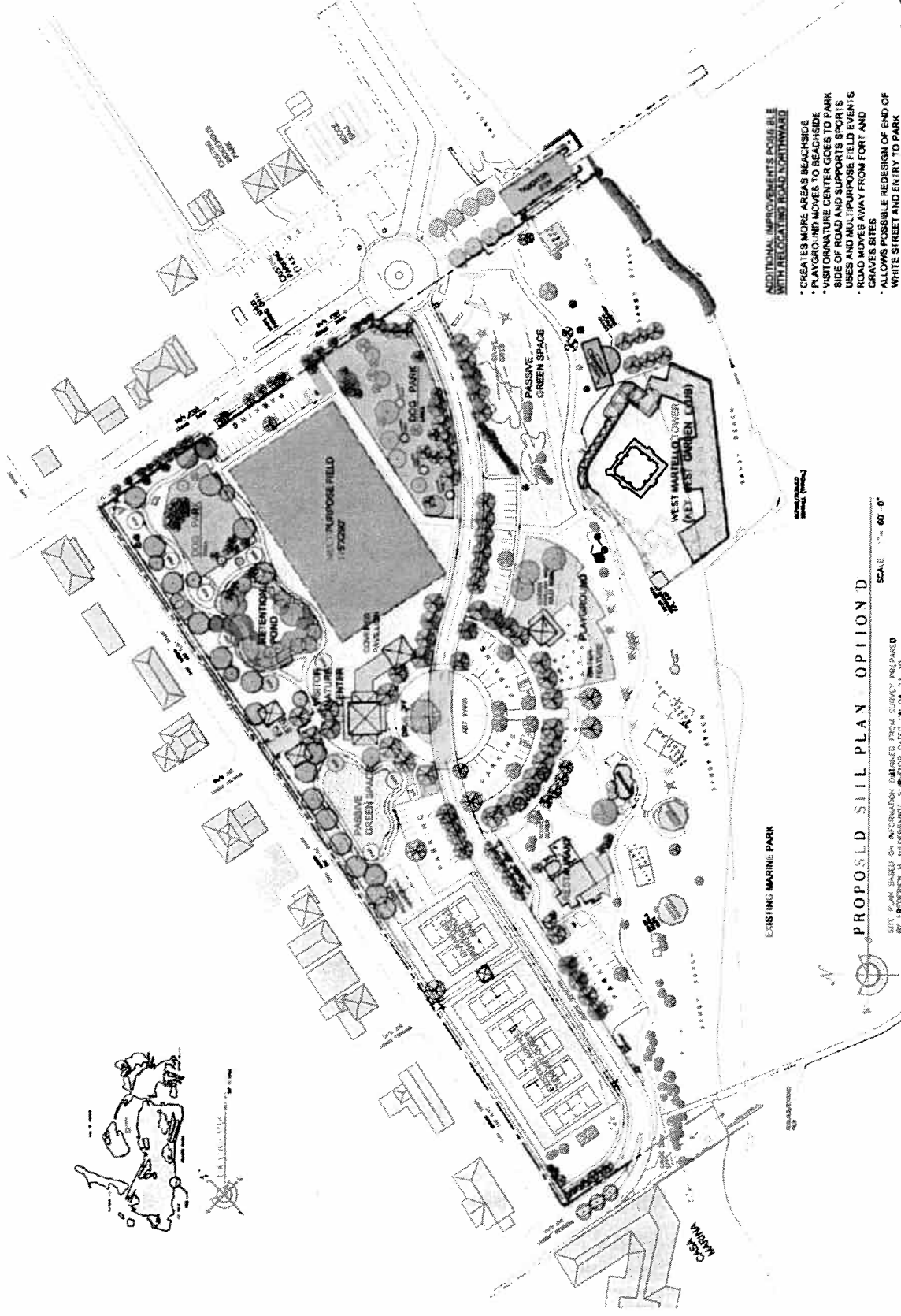
1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
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1000 N. W. 10th Ave.  
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Fax: 954.561.1112

1000 N. W. 10th Ave.  
Fort Lauderdale, FL 33304  
Tel: 954.561.1111  
Fax: 954.561.1112



- ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELEGATING ROAD NORTHWARD**
- CREATES MORE BEACHSIDE PLAYGROUND MOVES TO BEACHSIDE
  - VISITOR NATURE CENTER GOES TO PARK SIDE OF ROAD AND SUPPORTS SPORTS USES AND MULTIPURPOSE FIELD EVENTS
  - ROAD MOVES AWAY FROM FORT AND GRAVES SITES
  - ALLOWS POSSIBLE REDESIGN OF END OF WHITE STREET AND ENTRY TO PARK

**PROPOSED SITE PLAN OPTION D**  
SCALE: 1/8" = 1'-0"

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HEDERBAND, SURVEYOR DATED 08-23-10

**CLARENCE HIGGS BEACH - MASTER PLAN**  
N.W. WEST, FLORIDA

MULLENBACH  
ARCHITECT, P.A.

DATE: 01-21-10  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 PROJECT NO: 10-0001

PROJECT NO: 10-0001

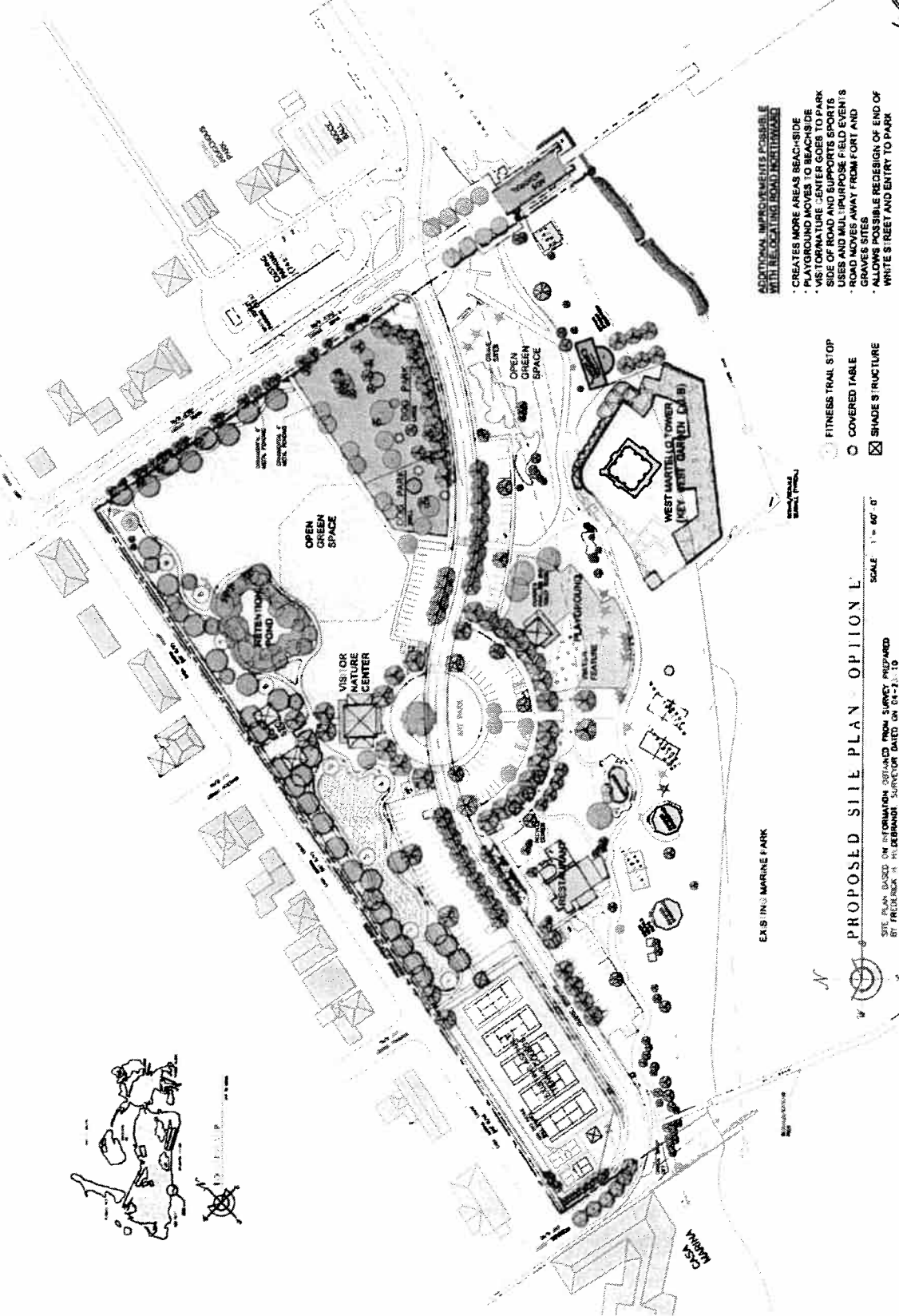
- 1. GENERAL NOTES
- 2. SITE PLAN
- 3. LANDSCAPE ARCHITECTURE
- 4. CIVIL ENGINEERING
- 5. ELECTRICAL ENGINEERING
- 6. MECHANICAL ENGINEERING
- 7. PLUMBING ENGINEERING
- 8. STRUCTURAL ENGINEERING
- 9. CONSTRUCTION METHODS
- 10. MATERIALS
- 11. FINISHES
- 12. EQUIPMENT
- 13. UTILITIES
- 14. ILLUMINATION
- 15. SIGNAGE
- 16. FURNITURE
- 17. SPECIAL FEATURES
- 18. OTHER

DATE: 01-21-10  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 PROJECT NO: 10-0001

PROJECT NO: 10-0001

DATE: 01-21-10  
 DRAWN BY: [Signature]  
 CHECKED BY: [Signature]  
 PROJECT NO: 10-0001

A-3



**ADDITIONAL IMPROVEMENTS POSSIBLE WITH RELOCATING ROAD NORTHWARD**

- CREATES MORE AREAS BEACHSIDE
- PLAYGROUND MOVES TO BEACHSIDE
- VISITOR NATURE CENTER MOVES TO PARK SIDE OF ROAD AND SUPPORTS SPORTS USES AND MULTI-PURPOSE FIELD EVENT'S
- ROAD MOVES AWAY FROM FORT AND GRAVES SITES
- ALLOWS POSSIBLE REDESIGN OF END OF WHITE STREET AND ENTRY TO PARK

- FITNESS TRAIL STOP
- COVERED TABLE
- ☒ SHADE STRUCTURE

SCALE: 1" = 60'-0"

**PROPOSED SITE PLAN - OPTION L**

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY TRUMBULL & HILGEMANN SURVEYORS, DATED ON 04-21-10

**CLARENCE HIGGS BEACH - MASTER PLAN**

KLI WEST, FLORIDA



WILLIAM P. HORN  
ARCHITECT, P.A.

1614 LANTANA ST.  
KEY WEST,  
FLORIDA  
33001

TEL: (305) 294-9322  
FAX: (305) 294-1888

LICENSING NO.  
14118

HIGGS BEACH  
KEY WEST, FL.



DATE: 11/15/07

PROJECT NO.: 07-001

SCALE: AS SHOWN

BY: WPH



DATE: 11/15/07

THIS DOCUMENT IS  
NOT BE REPRODUCED  
OR TRANSMITTED IN  
ANY FORM OR BY  
ANY MEANS, ELECTRONIC  
OR MECHANICAL, WITHOUT  
PERMISSION FROM  
WILLIAM P. HORN

DATE:  
09-22-10  
09-22-10  
09-18-11 P.L. NO.

REVISIONS:  
12-30-10  
01-09-11  
02-02-11

DESIGNER:  
EWA  
PROJECT  
NO.: 07-001  
JOB  
NO.: 1004

A-1

**SITE DATA**

SITE AREA: 17.0 ACRES  
LAND USE: PUBLIC SERVICES INC. RECREATION & OPEN SPACES  
FLOOD ZONE: AE +4.57/VE +4.57/AE +10.07/VE 10/VE 12  
SETBACKS:  
FRONT SETBACK (WHITE STREET)  
RECORDED = 25'-0" (WOOD DECK)  
PROPOSED = 25'-0" (WOOD DECK)  
SIDE SETBACK (CASA MARINA COURT)  
RECORDED = 10'-0"  
EXISTING = 12'-0" (COVERED BAR/STAND)  
PROPOSED = 20'-0" (EQUIPMENT STORAGE)  
REAR SETBACK (REYNOLDS STREET)  
RECORDED = 10'-0" (COVERED BAR/STAND)  
EXISTING = 23'-0" (TENNIS PAVILION)  
PROPOSED = 23'-0" (TENNIS PAVILION)  
COASTAL CORRT. CONTROL LINE:  
RECORDED = 11'-0" (WEST MARTELLO)  
EXISTING = 11'-0" (WEST MARTELLO)  
PROPOSED = 11'-0" (WEST MARTELLO)  
PARK (INTERIOR AND COVERED AREA)  
ALLOWABLE: 0.3 MAX. (152,578 S.F.)  
EXISTING: 0.02 (10,578 S.F.)  
PROPOSED: 0.02 (24,000 S.F.)  
HEIGHT:  
ALLOWABLE: 25'-0" (WEST MARTELLO)  
EXISTING: 25'-0" (NEW MOTOR CENTER)  
PROPOSED: 25'-0" (NEW MOTOR CENTER)  
LOT DRAINAGE AREA:  
RECORDED: 20,145 S.F. (458 MAX.)  
EXISTING: 20,145 S.F. (458 MAX.)  
PROPOSED: 20,172 S.F. (4,320)  
INTERIORS AREA:  
RECORDED: 20,145 S.F. (458 MAX.)  
EXISTING: 20,145 S.F. (458 MAX.)  
PROPOSED: 20,172 S.F. (4,320)  
LANDSCAPE AREA:  
RECORDED: 152,578 S.F. (200)  
EXISTING: 152,578 S.F. (18,750)  
PROPOSED: 152,578 S.F. (18,750)  
OPEN SPACE (INCLUDES RECREATIONAL OPEN SPACE)  
RECORDED: 152,578 S.F. (200)  
EXISTING: 152,578 S.F. (17,750)  
PROPOSED: 152,578 S.F. (17,300)  
PARKING:  
EXISTING: 145 SPACES  
PROPOSED: 145 SPACES  
INCLUDES 8 HANDICAP SPACES  
Bike/BOATER PARKING:  
EXISTING: 48 SPACES (418 MAX. CONFORMANCE)  
PROPOSED: 48 SPACES

# CLARENCE HIGGS BEACH MASTER PLAN KEY WEST, FLORIDA

MASTER PLAN TEAM MEMBERS		LIST OF DRAWINGS	
<b>ARCHITECT:</b> WILLIAM P. HORN ARCHITECT, P.A. WILLIAM P. HORN, AIA, LEED AP EVELLA MEDINA, LEED AP 200 LANTANA ST., SUITE 200 KEY WEST, FL 33001 TEL: (305) 294-9322	<b>PLANNER:</b> MITCHELL PLANNING & DESIGN BARBARA LUTCHWELL, LEED AP WENDY M. PETERSON, LEED AP 200 LANTANA ST., SUITE 200 KEY WEST, FL 33001 TEL: (305) 294-9322	<b>LANDSCAPE DESIGN:</b> LANDSCAPE DESIGN LARRY ROBERTS, P.E. 1001 UNIVERSITY PARK DRIVE SUITE 100 KEY WEST, FL 33001 TEL: (305) 294-9322	<b>COVER SHEET, SITE DATA</b> A-1 EXISTING SITE PLAN 1" = 60.0' A-2 PROPOSED SITE PLAN 1" = 60.0' A-3 PARTIAL SITE PLAN 1/4" = 1'-0" A-4 PARTIAL SITE PLAN 1/4" = 1'-0" A-5 PARTIAL SITE PLAN 1/4" = 1'-0" A-6 PARTIAL SITE PLAN 1/4" = 1'-0" A-7 VISITOR/NATURE CENTER, PLANS, ELEVATIONS & RENDERINGS A-7.1 VISITOR/NATURE CENTER, PLANS, ELEVATIONS, RENDERINGS & SITE DETAILS A-8 STORAGE BUILDING, PLANS, ELEVATIONS, RENDERINGS & SITE DETAILS E-1 LIGHTING SITE PLAN
<b>CIVIL ENGINEERS:</b> PERSE ENGINEERING AND DEVELOPMENT INC. ALLEN E. PERSE, PE 1001 UNIVERSITY PARK DRIVE SUITE 100 KEY WEST, FL 33001 TEL: (305) 294-9322	<b>LANDING DESIGN:</b> ORNDORF INC. BRYAN ORNDORF, PE, LEED AP 200 LANTANA ST., SUITE 200 KEY WEST, FL 33001 TEL: (305) 294-9322	<b>TRAVEL ENGINEERS:</b> TRAVEL TECH ENGINEERING JONAS VANDERKAM, PE 1001 UNIVERSITY PARK DRIVE SUITE 100 KEY WEST, FL 33001 TEL: (305) 294-9322	<b>CONCEPTUAL DRAINAGE PLAN</b> C-1 CONCEPTUAL DRAINAGE PLAN C-2 CONCEPTUAL DRAINAGE PLAN A C-3 CONCEPTUAL DRAINAGE PLAN B C-4 CONCEPTUAL DRAINAGE PLAN C L-1 TREE IMPACT PLAN L-2 CODE PLANTING & TREE RELOCATIONS L-3 PLANTING DETAILS & SUGGESTED PLANT PALETTE SURVEY
<b>STRUCTURE:</b> MILANO STRUCTURAL INC. FREDERICK H. MILERMAN, PE 1001 UNIVERSITY PARK DRIVE SUITE 100 KEY WEST, FL 33001 TEL: (305) 294-9322			

## CLARENCE HIGGS BEACH - MASTER PLAN KEY WEST, FLORIDA

WILLIAM P. HORN  
ARCHITECT, P.A.

DESIGNED BY  
KEY WEST,  
FLORIDA

TEL: 305-856-4422  
FAX: 305-856-4422  
LICENSING NO.  
AS 0000000

HIGGS BEACH  
KEY WEST, FL.

- 1. EXISTING BUILDINGS
- 2. EXISTING DRIVEWAYS
- 3. EXISTING DRIVEWAYS
- 4. EXISTING DRIVEWAYS
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SCALE

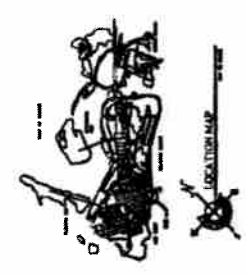
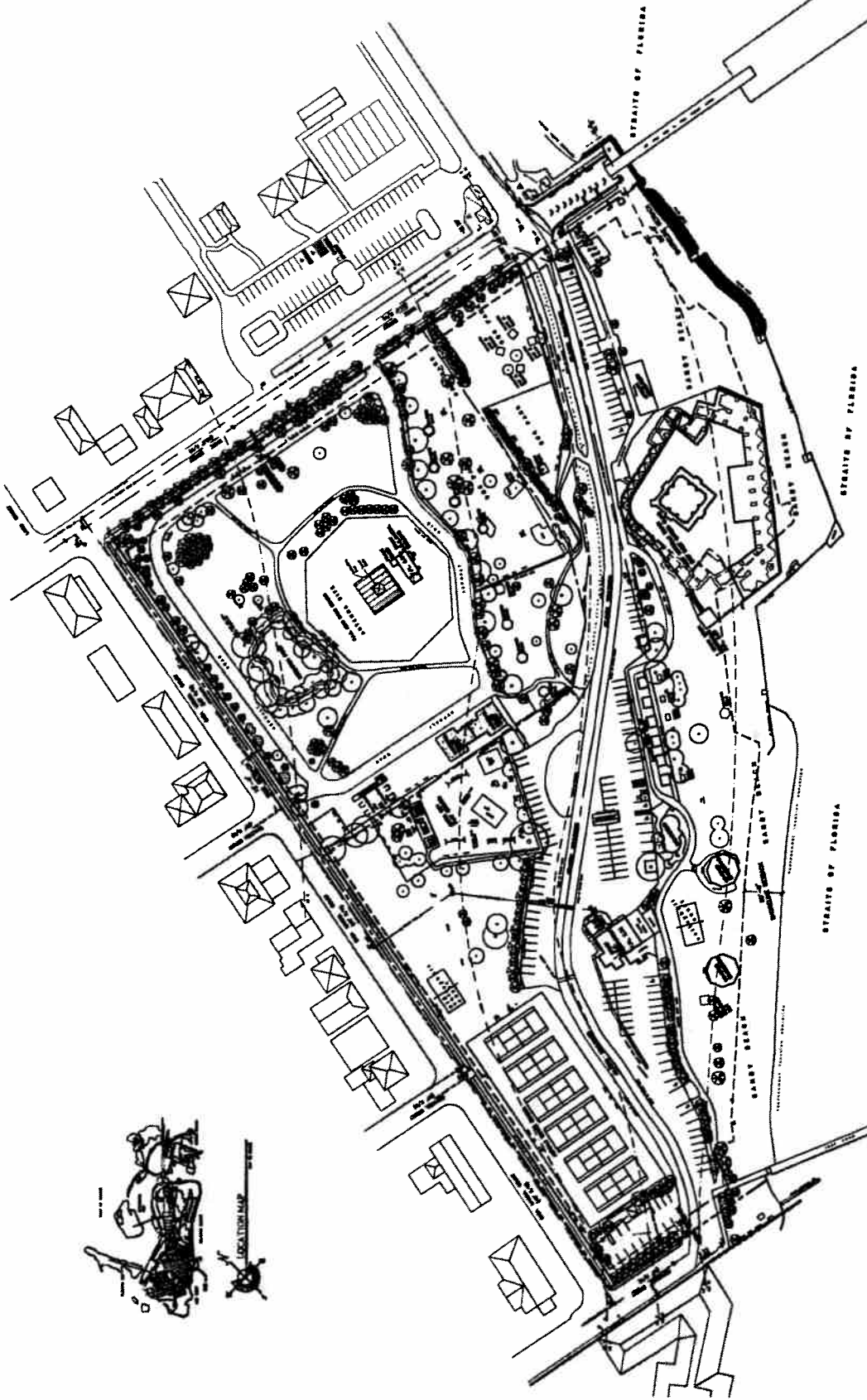
DATE: 08-22-10  
08-22-10  
08-18-11 PL. NO.

ANALYSTS:  
12-28-10  
01-28-11  
02-28-11

DRAWN BY:  
EMA

CHECKED BY:  
WPH

DATE: 08-22-10



EXISTING SITE PLAN

SCALE: 1" = 80'-0"  
SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED  
BY FREDERICK H. HILDEBRANDT, SURVEYOR DATED ON 04-23-10

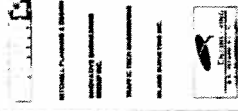
CLARENCE HIGGS BEACH - MASTER PLAN  
KEY WEST, FLORIDA

WILLIAM F. HORN  
ARCHITECT, P.A.

CLARENCE HIGGS BEACH  
KEY WEST, FLORIDA

TEL: 305.836.1111  
FAX: 305.836.1112  
WWW.WFHORN.COM

HIGGS BEACH  
KEY WEST, FL



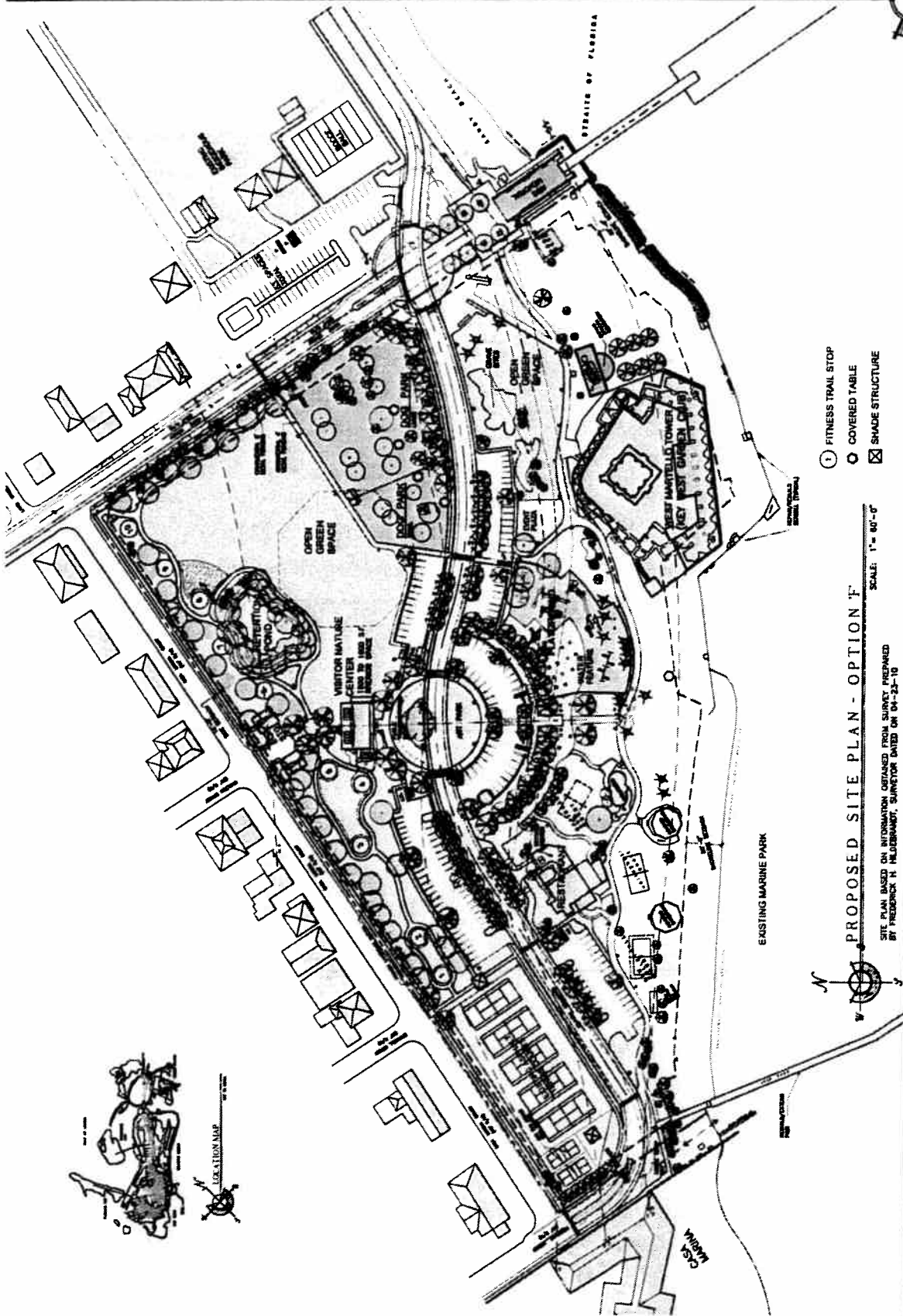
SEAL

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DATE: 08.28.10  
09.16.10  
08.18.11 P.L. 10

REVISIONS:  
12.20.10  
01.06.11  
02.25.11

DESIGNED BY: [Blank]  
DRAWN BY: [Blank]  
CHECKED BY: [Blank]  
DATE: 10/04

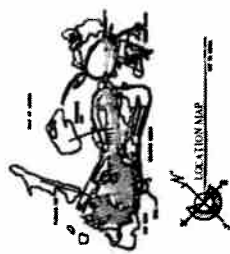


A-3

CLARENCE HIGGS BEACH - MASTER PLAN  
KEY WEST, FLORIDA

- FITNESS TRAIL STOP
- COVERED TABLE
- ⊠ SHADE STRUCTURE

PROPOSED SITE PLAN - OPTION F  
SCALE: 1" = 60'-0"  
SITE PLAN BASED ON INFORMATION GATHERED FROM SURVEY PERFORMED BY FREDERICK H. HUBERMAN, SURVEYOR DATED 04-25-10



WILLIAM P. HORN  
ARCHITECT, P.A.

THE LANTERN BY  
KEY WEST,  
FLORIDA  
33004

TEL: 305-834-8427  
FAX: 305-834-1020

LAURENCE W. HORN  
ARCHITECT

HIGGS BEACH  
KEY WEST, FL.



VERTICAL CURB & GUTTER

CONCRETE DRIVEWAY

CONCRETE DRIVEWAY

CONCRETE DRIVEWAY

CONCRETE DRIVEWAY

CONCRETE DRIVEWAY

CONCRETE DRIVEWAY

CONCRETE DRIVEWAY

SCALE: 1/8" = 1'-0"

DATE: 11-10-10  
11-20-10  
02-20-11  
03-20-11

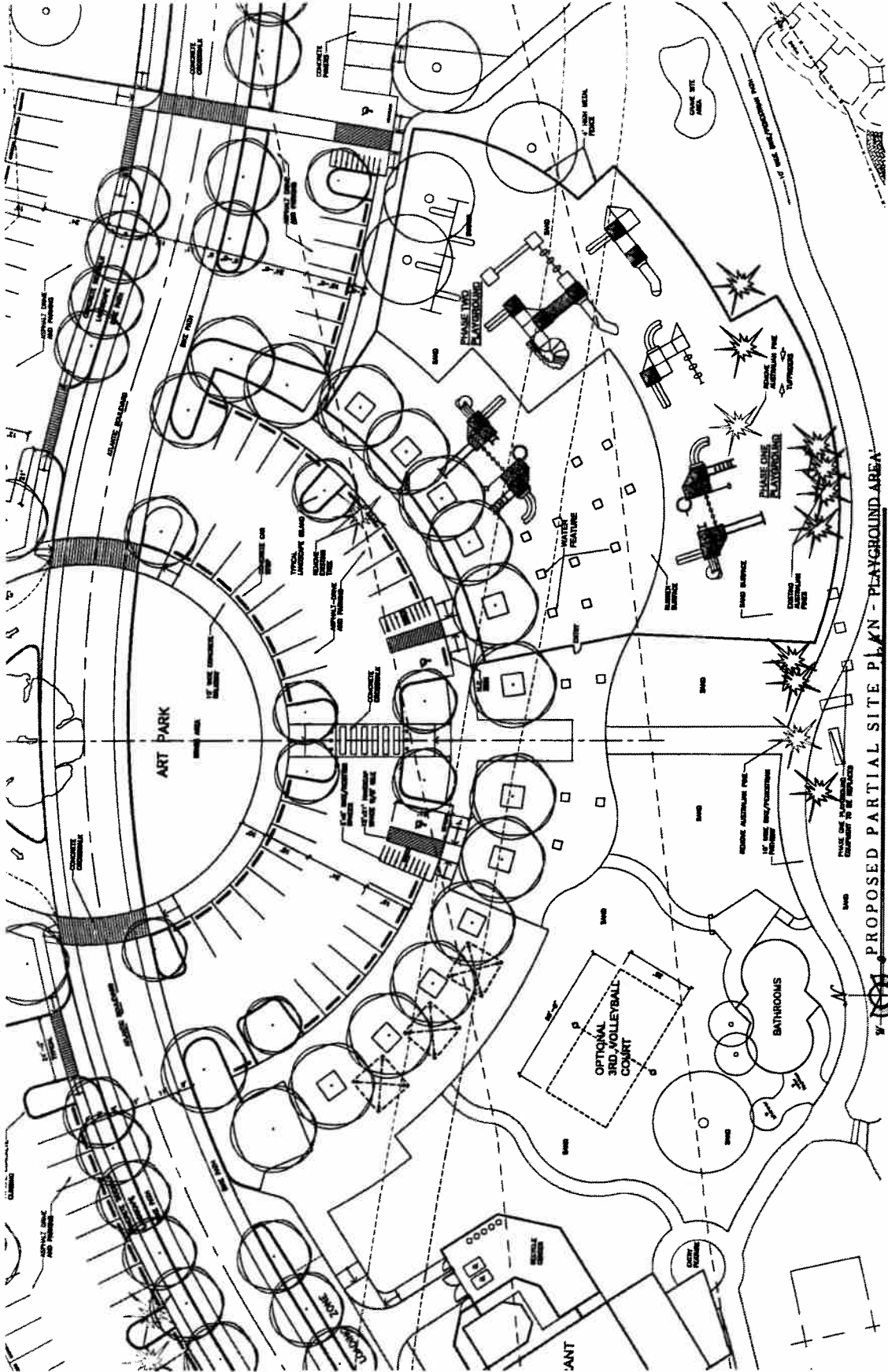
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DATE: 11-10-10  
11-20-10  
02-20-11  
03-20-11

DATE: 11-10-10  
11-20-10  
02-20-11  
03-20-11



PROPOSED PARTIAL SITE PLAN - PLAYGROUND AREA

SCALE: 1/8" = 1'-0"

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PROVIDED BY FREDERICK R. HUBBARD, SURVEYOR DATED ON 04-23-10

CLARENCE HIGGS BEACH - MASTER PLAN

KEY WEST, FLORIDA





WILLIAM F. JACOB  
ARCHITECT, P.A.

REGISTRATION NO.  
KEY WEST, FLORIDA  
2008

TELEPHONE NO.  
FALLEN CREEK ROAD  
LAKELAND, FLORIDA  
33809

HIGGS BEACH  
KEY WEST, FL.



DATE: 04-23-10

DATE: 01-08-11

DATE: 02-28-11

DATE: 04-23-10

DATE: 04-23-10

DATE: 04-23-10

DATE: 04-23-10

DATE: 04-23-10

DATE: 04-23-10

DATE: 01-08-11

DATE: 02-28-11

DATE: 04-23-10

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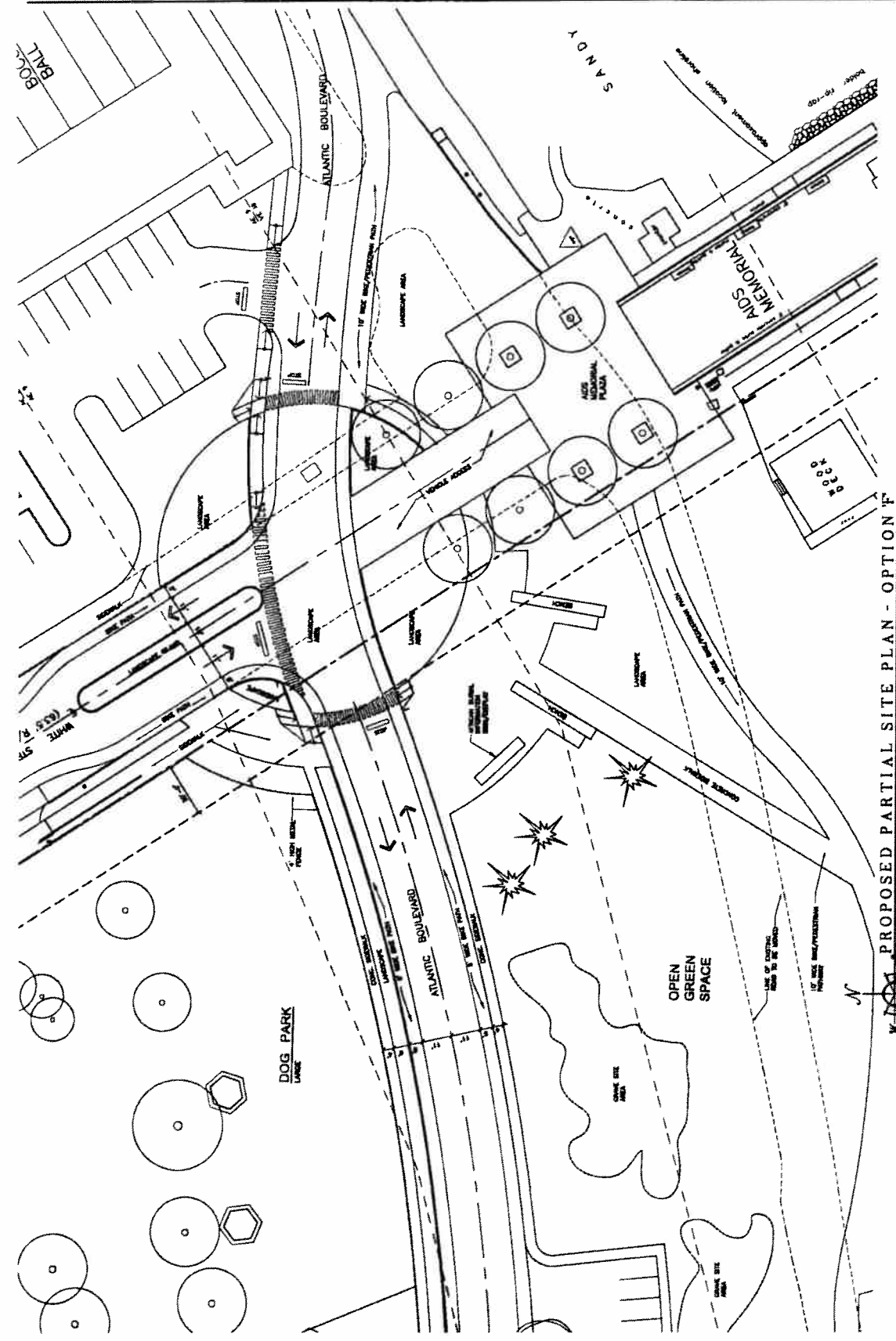
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DATE: 04-23-10

DATE: 04-23-10

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PROPOSED PARTIAL SITE PLAN - OPTION F  
SCALE: 1/8" = 1'-0"

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HILGEMONT, SURVEYOR DATED ON 04-23-10

CLARENCE HIGGS BEACH - MASTER PLAN  
KEY WEST, FLORIDA

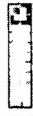


WILLIAM P. INGH  
ARCHITECT, P.A.

RELATION BY  
KEY WEST,  
FLORIDA

TEL: 305-858-4400  
FAX: 305-858-4400  
LEONARD, FL  
AS BIDDING

HIGGS BEACH  
KEY WEST, FL



DATE: 04-23-10

DATE: 04-23-10

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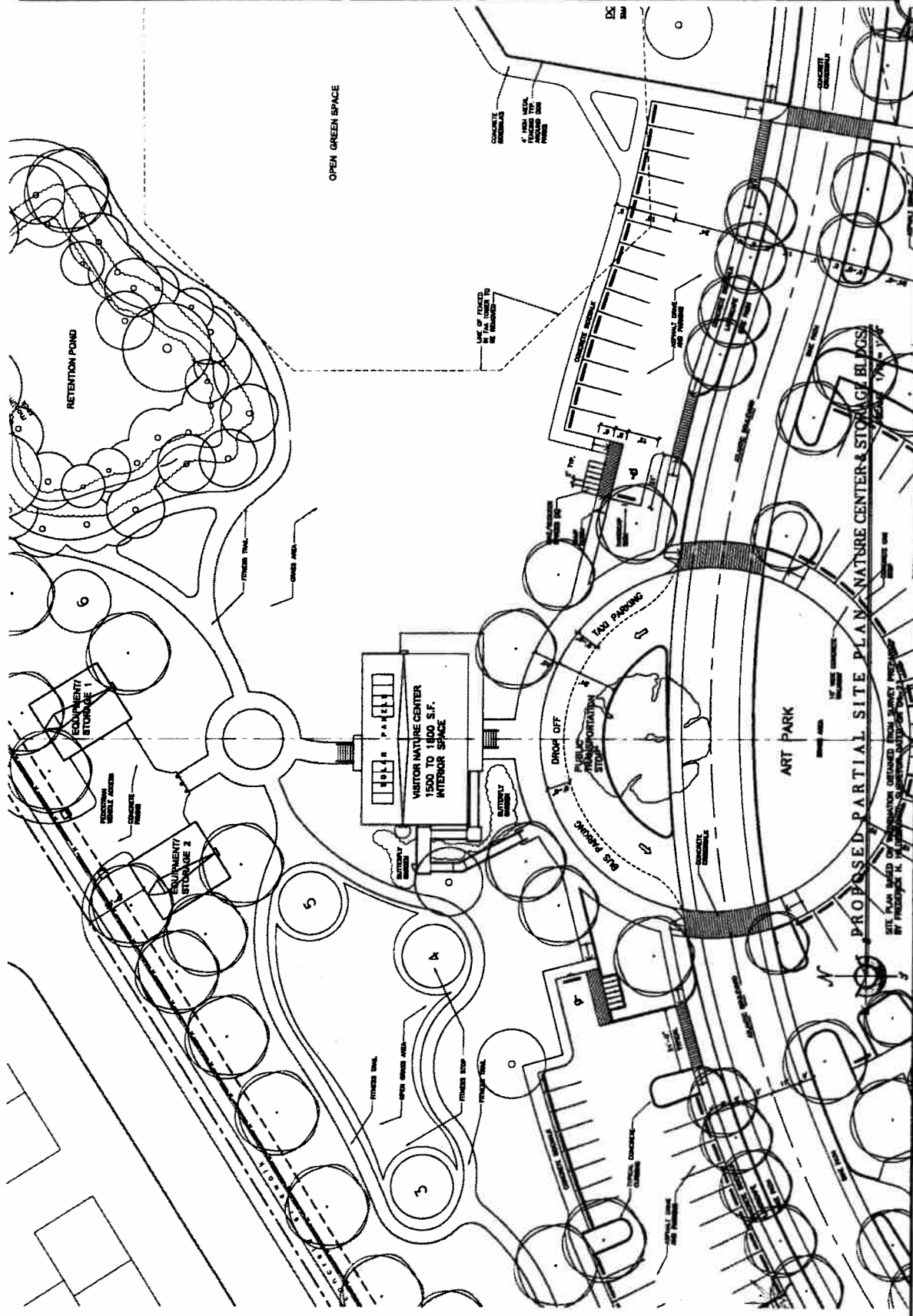
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A-6

CLARENCE HIGGS BEACH - MASTER PLAN  
KEY WEST, FLORIDA

PROPOSED PARTIAL SITE PLAN, NATURE CENTER & STORAGE BLDGS.

THIS PLAN IS BASED ON INFORMATION OBTAINED FROM SURVEY AND RECORDS OF THE CITY OF KEY WEST, FLORIDA.

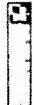
WILLIAM P. HORN  
ARCHITECT P.A.

REGISTRATION BY  
KEY WEST,  
FLORIDA  
2000

TEL: 305-290-6000  
FAX: 305-290-1880

LICENSE NO.  
12-000000

HIGGS BEACH  
KEY WEST, FL.



VERTICAL, HORIZONTAL & DIMENSIONS

CONSTRUCTION

THREE YEAR WARRANTY

WARRANTY EXCEPT FOR

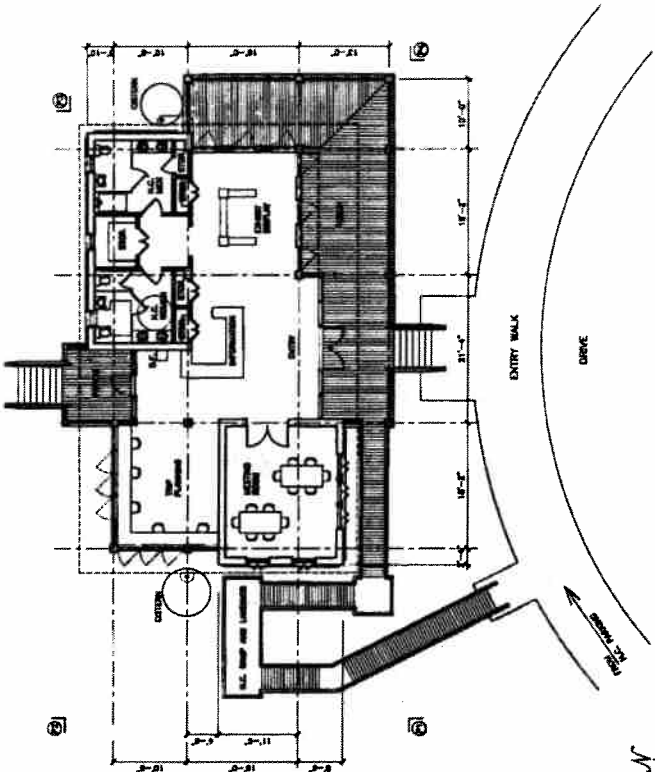
SEAL

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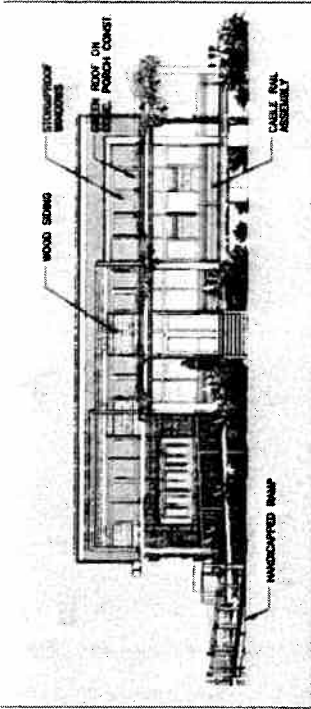
DATE: 10-08-11  
BY: DMC

REVISIONS:  
12-28-10  
02-28-11  
02-28-11

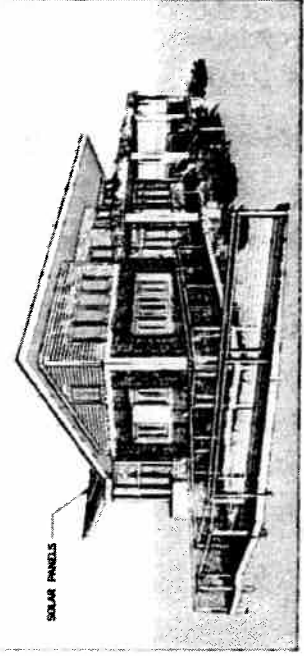
SCALE: 1/8"=1'-0"



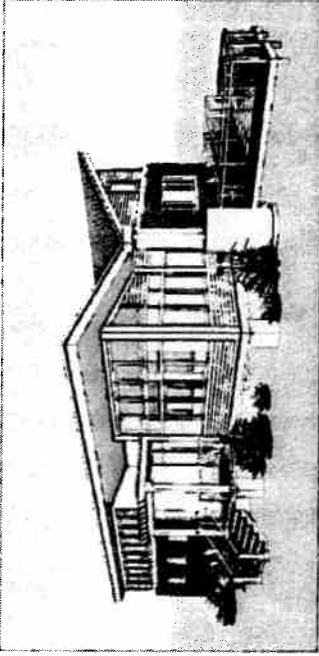
VISITOR - NATURE CENTER  
SCALE: 1/8"=1'-0"



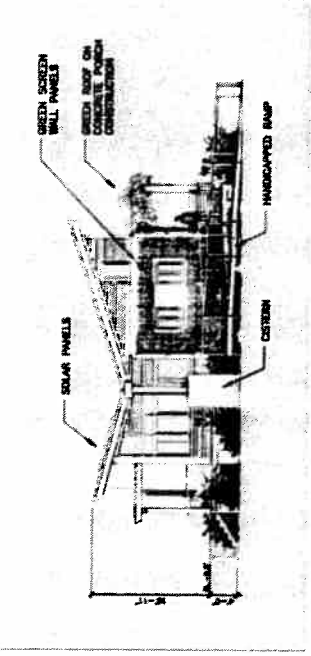
SOUTH ELEVATION - FRONT  
SCALE: 1/8"=1'-0"



PERSPECTIVE 1 - SOUTHWEST



PERSPECTIVE 2 - NORTHWEST



WEST ELEVATION  
SCALE: 1/8"=1'-0"

CLARENCE HIGGS BEACH - MASTER PLAN  
KEY WEST, FLORIDA

WILLIAM F. HORN  
ARCHITECT, P.A.

116 EASTON ST.  
KEY WEST,  
FLORIDA  
33040

TEL: 305-858-3442  
FAX: 305-858-3442  
LICENSING NO.  
AA 0000000

HIGGS BEACH  
KEY WEST, FL.



REGISTERED ARCHITECT & DESIGNER

FLORIDA ARCHITECTURE BOARD

FLORIDA BOARD OF PROFESSIONAL ENGINEERS

FLORIDA BOARD OF PROFESSIONAL LANDSCAPE ARCHITECTS

FLORIDA BOARD OF PROFESSIONAL SURVEYORS

FLORIDA BOARD OF PROFESSIONAL INTERIORS

SCALE

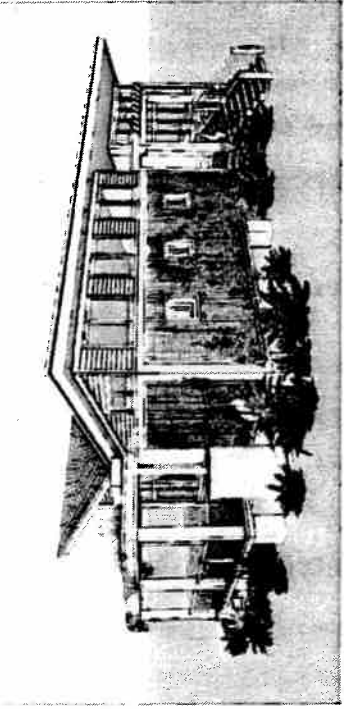
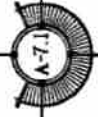
THIS DRAWING IS THE PROPERTY OF WILLIAM F. HORN ARCHITECT, P.A. IT IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. IT IS NOT TO BE REPRODUCED OR COPIED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF WILLIAM F. HORN ARCHITECT, P.A.

DATE:  
08-29-10  
08-30-11  
08-30-11

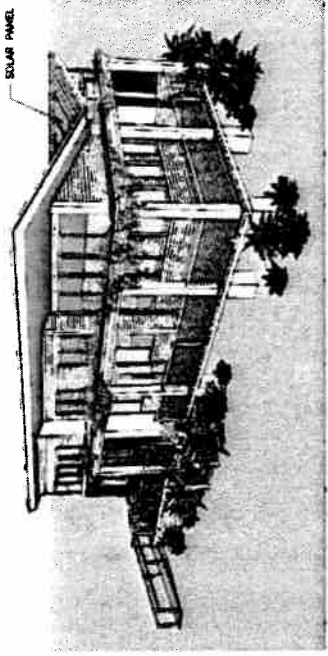
REVISIONS:  
12-30-10  
01-08-11  
02-25-11

DESIGNED BY:  
LMAA

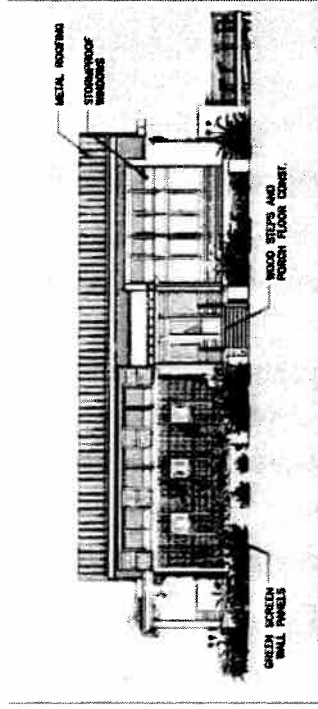
PROJECT NO.  
1100



PERSPECTIVE 3 - NORTHEAST

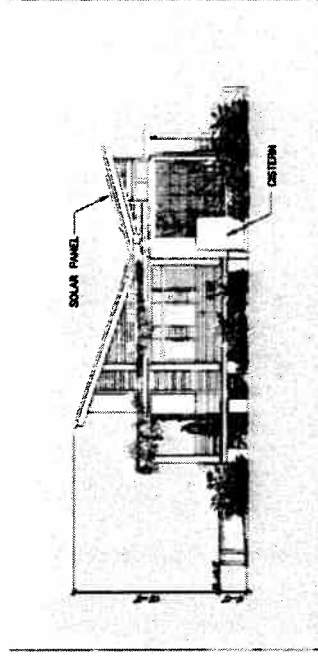


PERSPECTIVE 4 - SOUTHEAST



NORTH ELEVATION - REAR

SCALE: 1/8"=1'-0"



EAST ELEVATION

SCALE: 1/8"=1'-0"

CLARENCE HIGGS BEACH - MASTER PLAN

KEY WEST, FLORIDA

WILLIAM F. HORN  
ARCHITECT, P.A.

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FLORIDA  
33001

TEL. (305) 294-8333  
FAX (305) 294-1183  
LAKESIDE DR.  
KEY WEST, FL.

HIGGS BEACH  
KEY WEST, FL.



INTERNATIONAL ARCHITECTS ASSOCIATION

REGISTERED ARCHITECT

MEMBER AIA

MEMBER IAAO

MEMBER IAA

MEMBER IAA

MEMBER IAA

MEMBER IAA

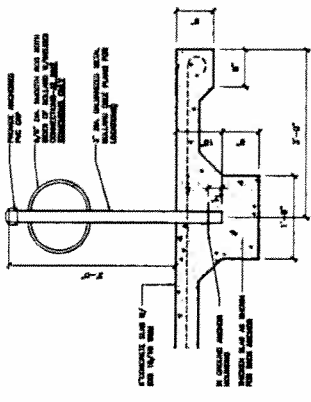
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AND NOT TO BE REPRODUCED OR  
DISTRIBUTED WITHOUT THE WRITTEN  
CONSENT OF WILLIAM F. HORN

DATE: 08-28-11  
BY: DMC

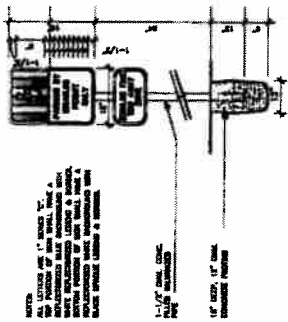
REVISIONS:  
12-28-10  
02-28-11  
02-28-11

DRAWN BY:  
EAMA

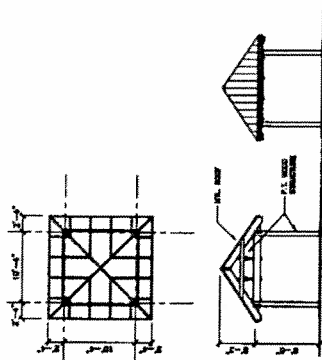
PROJECT:  
1004



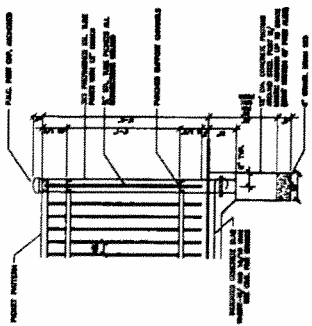
11 BIKE RACK DETAIL AND BOLLARD SIGN  
SCALE: 1/4"=1'-0"



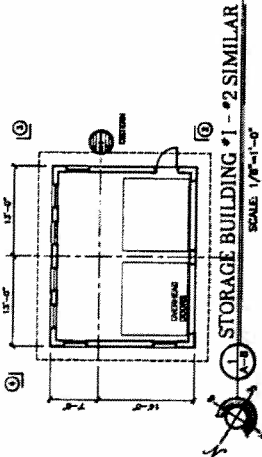
10 H.C. PARKING SIGN  
SCALE: 1/4"=1'-0"



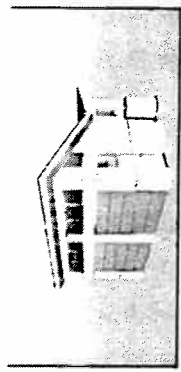
15 SHADE PAVILION  
SCALE: 1/4"=1'-0"



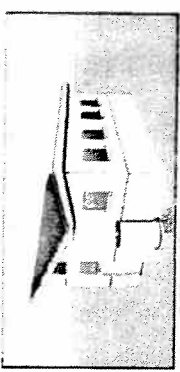
14 FENCE DETAIL  
SCALE: 1/8"=1'-0"



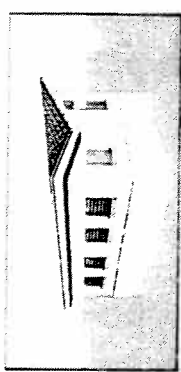
13 STORAGE BUILDING #1 - #2 SIMILAR  
SCALE: 1/8"=1'-0"



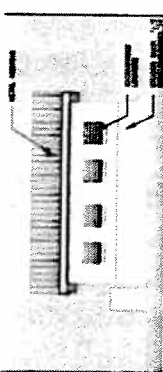
2 PERSPECTIVE - SOUTH  
SCALE: 1/8"=1'-0"



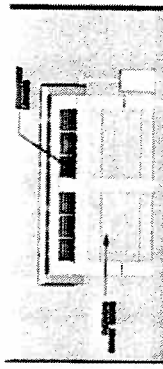
3 PERSPECTIVE - EAST  
SCALE: 1/8"=1'-0"



4 PERSPECTIVE - NORTH  
SCALE: 1/8"=1'-0"



5 REAR  
SCALE: 1/8"=1'-0"



6 FRONT  
SCALE: 1/8"=1'-0"



7 RIGHT SIDE  
SCALE: 1/8"=1'-0"



8 LEFT SIDE  
SCALE: 1/8"=1'-0"

12 H.C. PARKING DETAIL  
SCALE: 1/4"=1'-0"

CLARENCE HIGGS BEACH - MASTER PLAN  
KEY WEST, FLORIDA

**ENGINEERING & DEVELOPMENT INC.**  
 1000 N. W. 10th Street, Suite 100  
 Ft. Lauderdale, FL 33304  
 Phone: (954) 562-1111  
 Fax: (954) 562-1112  
 Email: info@edinc.com

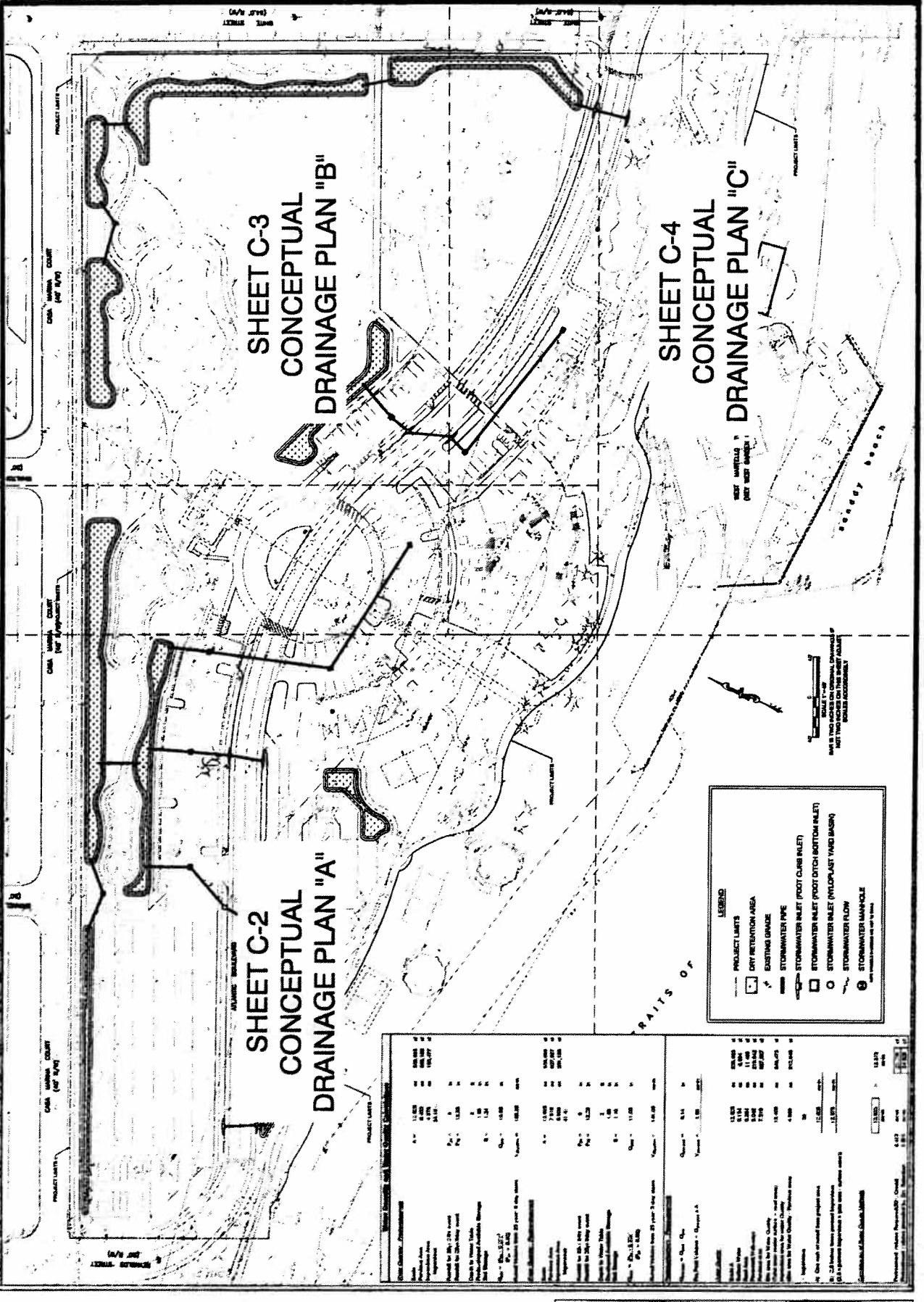
PROJECT NO. 10418  
 DATE: 08/20/2011

CLARENCE HIGGS BEACH  
 CONCEPTUAL DRAINAGE PLAN

KEY WEST, FL 33040

DATE: 08/20/2011  
 DRAWN: JMM/ML  
 CHECKED: JMM/ML  
 DESIGNED: JMM/ML  
 PROJECT: CLARENCE HIGGS BEACH

SHEET C-1



**SHEET C-3  
 CONCEPTUAL  
 DRAINAGE PLAN "B"**

**SHEET C-4  
 CONCEPTUAL  
 DRAINAGE PLAN "C"**

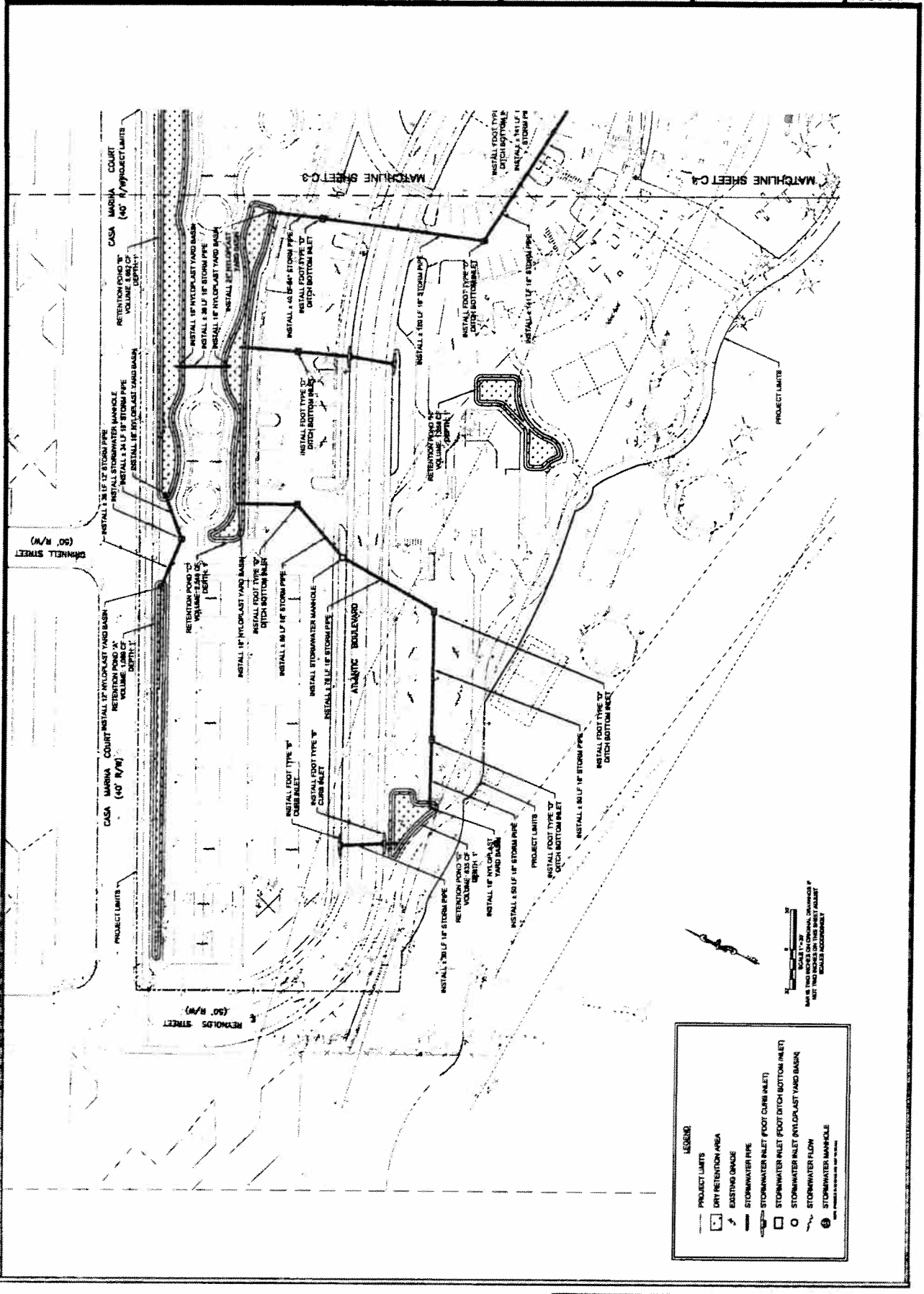
**SHEET C-2  
 CONCEPTUAL  
 DRAINAGE PLAN "A"**

**LEGEND**

- PRODUCT LIMITS
- DRY RETENTION AREA
- - - EXISTING GRADE
- STORMWATER PIPE
- STORMWATER INLET (FOOT CURB INLET)
- STORMWATER INLET (FOOT DITCH BOTTOM INLET)
- STORMWATER INLET (MULTIPLAST YARD BASIN)
- ⊗ STORMWATER MANHOLE

SCALE: 1" = 40'  
 THIS IS TWO HOURS OF UNIVERSAL DRAINAGE  
 WITH NO ACCUMULATION

Station	Flow (cfs)	Depth (ft)	Velocity (ft/s)	Time (min)
1+00	1.00	0.10	1.00	1.00
2+00	2.00	0.15	1.33	1.50
3+00	3.00	0.20	1.50	2.00
4+00	4.00	0.25	1.60	2.50
5+00	5.00	0.30	1.67	3.00
6+00	6.00	0.35	1.71	3.50
7+00	7.00	0.40	1.75	4.00
8+00	8.00	0.45	1.78	4.50
9+00	9.00	0.50	1.80	5.00
10+00	10.00	0.55	1.82	5.50
11+00	11.00	0.60	1.83	6.00
12+00	12.00	0.65	1.84	6.50
13+00	13.00	0.70	1.85	7.00
14+00	14.00	0.75	1.86	7.50
15+00	15.00	0.80	1.87	8.00
16+00	16.00	0.85	1.88	8.50
17+00	17.00	0.90	1.89	9.00
18+00	18.00	0.95	1.90	9.50
19+00	19.00	1.00	1.91	10.00
20+00	20.00	1.05	1.92	10.50
21+00	21.00	1.10	1.93	11.00
22+00	22.00	1.15	1.94	11.50
23+00	23.00	1.20	1.95	12.00
24+00	24.00	1.25	1.96	12.50
25+00	25.00	1.30	1.97	13.00
26+00	26.00	1.35	1.98	13.50
27+00	27.00	1.40	1.99	14.00
28+00	28.00	1.45	2.00	14.50
29+00	29.00	1.50	2.01	15.00
30+00	30.00	1.55	2.02	15.50
31+00	31.00	1.60	2.03	16.00
32+00	32.00	1.65	2.04	16.50
33+00	33.00	1.70	2.05	17.00
34+00	34.00	1.75	2.06	17.50
35+00	35.00	1.80	2.07	18.00
36+00	36.00	1.85	2.08	18.50
37+00	37.00	1.90	2.09	19.00
38+00	38.00	1.95	2.10	19.50
39+00	39.00	2.00	2.11	20.00
40+00	40.00	2.05	2.12	20.50
41+00	41.00	2.10	2.13	21.00
42+00	42.00	2.15	2.14	21.50
43+00	43.00	2.20	2.15	22.00
44+00	44.00	2.25	2.16	22.50
45+00	45.00	2.30	2.17	23.00
46+00	46.00	2.35	2.18	23.50
47+00	47.00	2.40	2.19	24.00
48+00	48.00	2.45	2.20	24.50
49+00	49.00	2.50	2.21	25.00
50+00	50.00	2.55	2.22	25.50
51+00	51.00	2.60	2.23	26.00
52+00	52.00	2.65	2.24	26.50
53+00	53.00	2.70	2.25	27.00
54+00	54.00	2.75	2.26	27.50
55+00	55.00	2.80	2.27	28.00
56+00	56.00	2.85	2.28	28.50
57+00	57.00	2.90	2.29	29.00
58+00	58.00	2.95	2.30	29.50
59+00	59.00	3.00	2.31	30.00
60+00	60.00	3.05	2.32	30.50
61+00	61.00	3.10	2.33	31.00
62+00	62.00	3.15	2.34	31.50
63+00	63.00	3.20	2.35	32.00
64+00	64.00	3.25	2.36	32.50
65+00	65.00	3.30	2.37	33.00
66+00	66.00	3.35	2.38	33.50
67+00	67.00	3.40	2.39	34.00
68+00	68.00	3.45	2.40	34.50
69+00	69.00	3.50	2.41	35.00
70+00	70.00	3.55	2.42	35.50
71+00	71.00	3.60	2.43	36.00
72+00	72.00	3.65	2.44	36.50
73+00	73.00	3.70	2.45	37.00
74+00	74.00	3.75	2.46	37.50
75+00	75.00	3.80	2.47	38.00
76+00	76.00	3.85	2.48	38.50
77+00	77.00	3.90	2.49	39.00
78+00	78.00	3.95	2.50	39.50
79+00	79.00	4.00	2.51	40.00
80+00	80.00	4.05	2.52	40.50
81+00	81.00	4.10	2.53	41.00
82+00	82.00	4.15	2.54	41.50
83+00	83.00	4.20	2.55	42.00
84+00	84.00	4.25	2.56	42.50
85+00	85.00	4.30	2.57	43.00
86+00	86.00	4.35	2.58	43.50
87+00	87.00	4.40	2.59	44.00
88+00	88.00	4.45	2.60	44.50
89+00	89.00	4.50	2.61	45.00
90+00	90.00	4.55	2.62	45.50
91+00	91.00	4.60	2.63	46.00
92+00	92.00	4.65	2.64	46.50
93+00	93.00	4.70	2.65	47.00
94+00	94.00	4.75	2.66	47.50
95+00	95.00	4.80	2.67	48.00
96+00	96.00	4.85	2.68	48.50
97+00	97.00	4.90	2.69	49.00
98+00	98.00	4.95	2.70	49.50
99+00	99.00	5.00	2.71	50.00
100+00	100.00	5.05	2.72	50.50



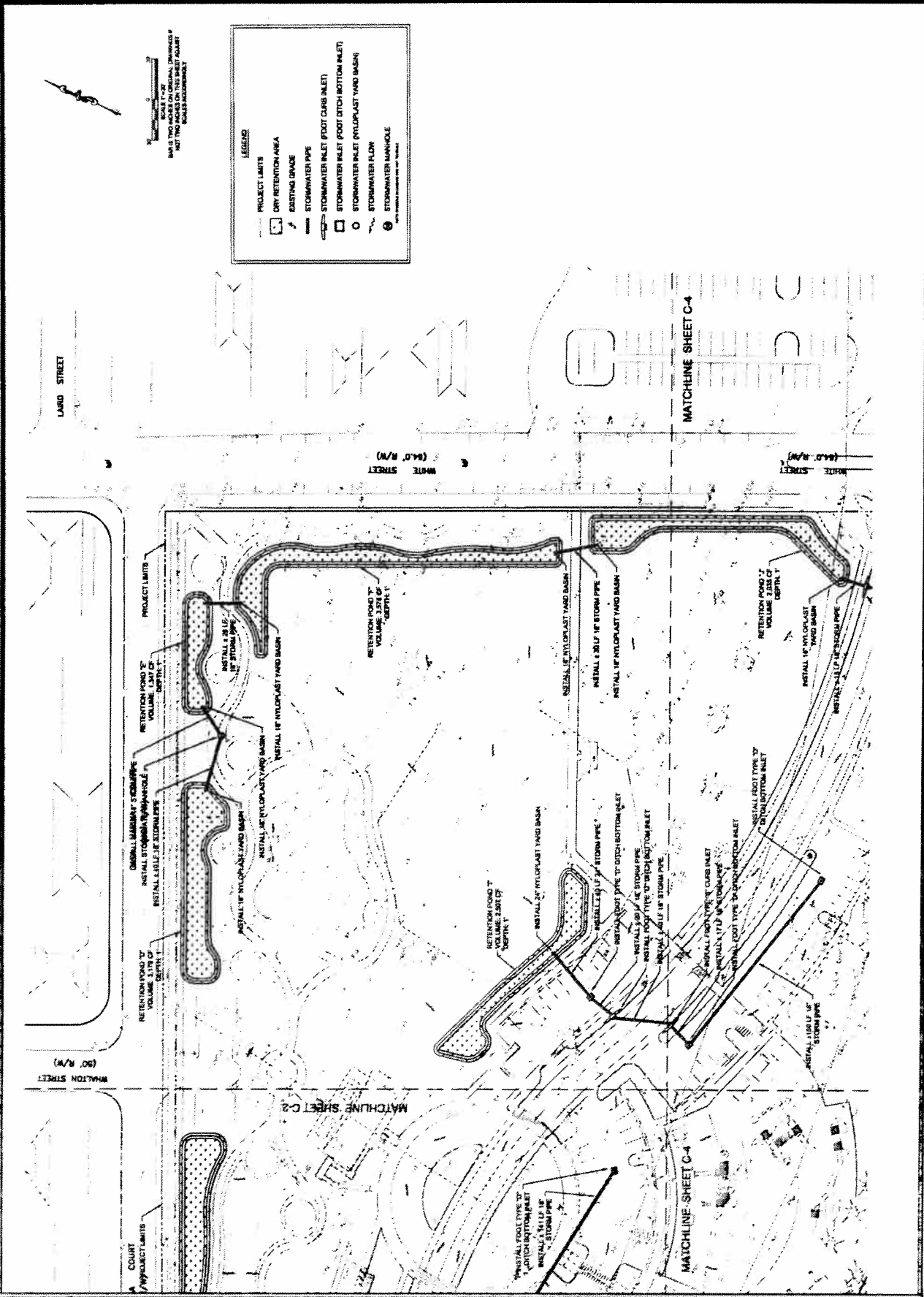
**LEGEND**

- PROJECT LIMITS
- DRY RETENTION AREA
- EXISTING DRAINAGE
- STORMWATER PIPE
- STORMWATER INLET (FOOT CURB INLET)
- STORMWATER INLET (FOOT DITCH BOTTOM INLET)
- STORMWATER INLET (W/LOUVER YARD BASIN)
- STORMWATER FLOW
- STORMWATER MANHOLE

SCALE: 1"=20'  
 ALL DIMENSIONS ON ORIGINAL DRAWING EXCEPT WHERE NOTED OTHERWISE



MATCHLINE SHEET C-1  
 MATCHLINE SHEET C-3





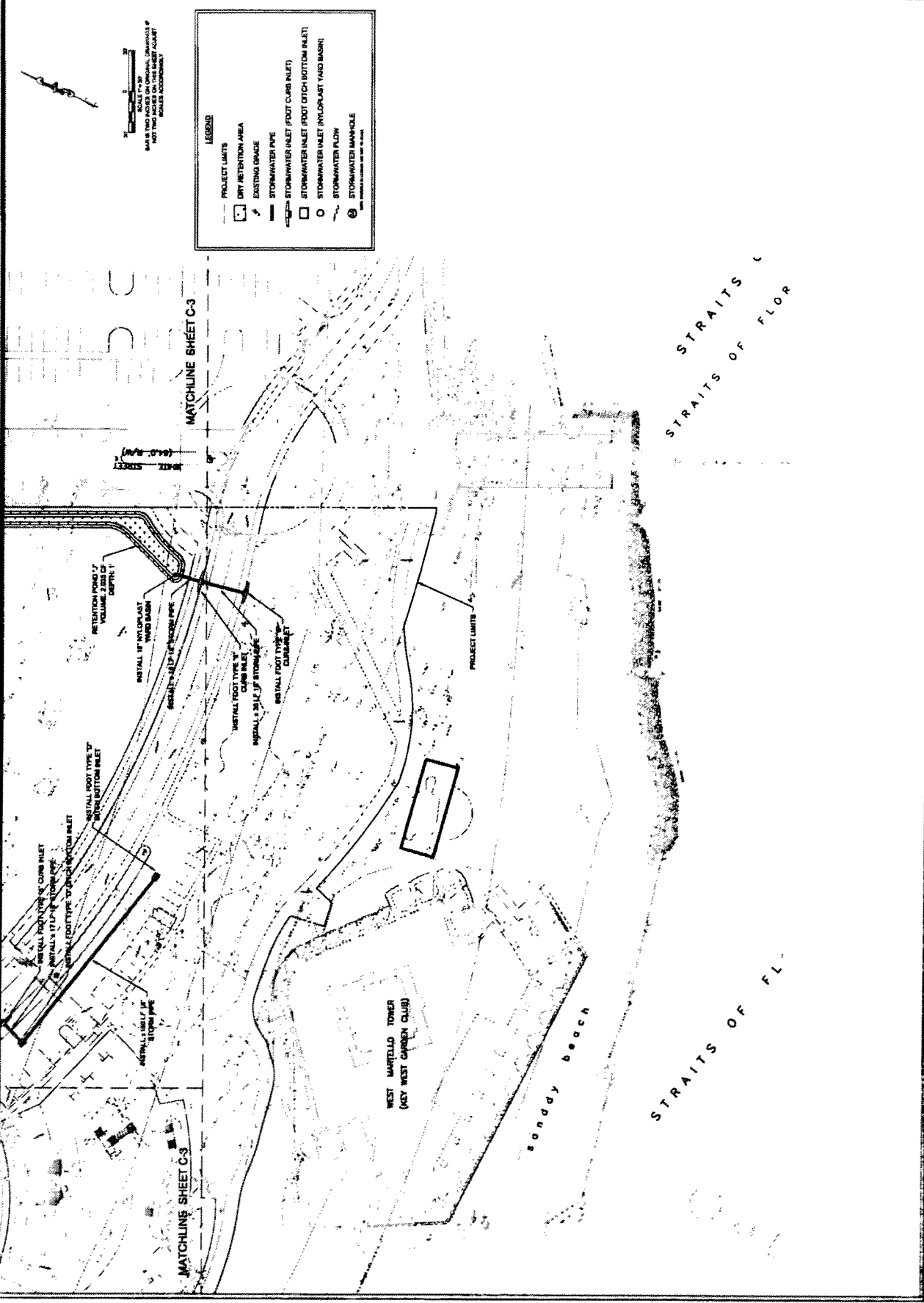
**ENGINEERING**  
 & DEVELOPMENT, INC.  
 10000 BAYVIEW BLVD. SUITE 100  
 MIAMI BEACH, FL 33154  
 TEL: (305) 866-1111  
 FAX: (305) 866-1112  
 WWW: WWW.AEDINC.COM

DATE: 04/20/2011  
 DRAWN BY: ALAN PEREZ, P.E.  
 CHECKED BY: ALAN PEREZ, P.E.

1	PROJECT
2	DESIGN
3	CONSTRUCTION
4	AS-BUILT
5	FINAL

CLARENCE HOGGS BEACH  
 KEY WEST, FL 33040  
 CONCEPTUAL DRAINAGE PLAN C

DATE	04/20/2011
DRAWN	ALAN PEREZ, P.E.
CHECKED	ALAN PEREZ, P.E.
SCALE	AS SHOWN
SHEET	C-4



**LEGEND**

- PROJECT LIMITS
- DRY RETENTION AREA
- EXISTING DRAIN
- STORMWATER PIPE
- STORMWATER INLET (FOOT CURB INLET)
- STORMWATER INLET (FOOT DITCH BOTTOM INLET)
- STORMWATER INLET (NYLON LAST YARD BASIN)
- STORMWATER FLOW
- STORMWATER MANHOLE

SCALE: 1" = 20' (SEE PLAN)  
 DIMENSIONS TO FACE UNLESS OTHERWISE NOTED

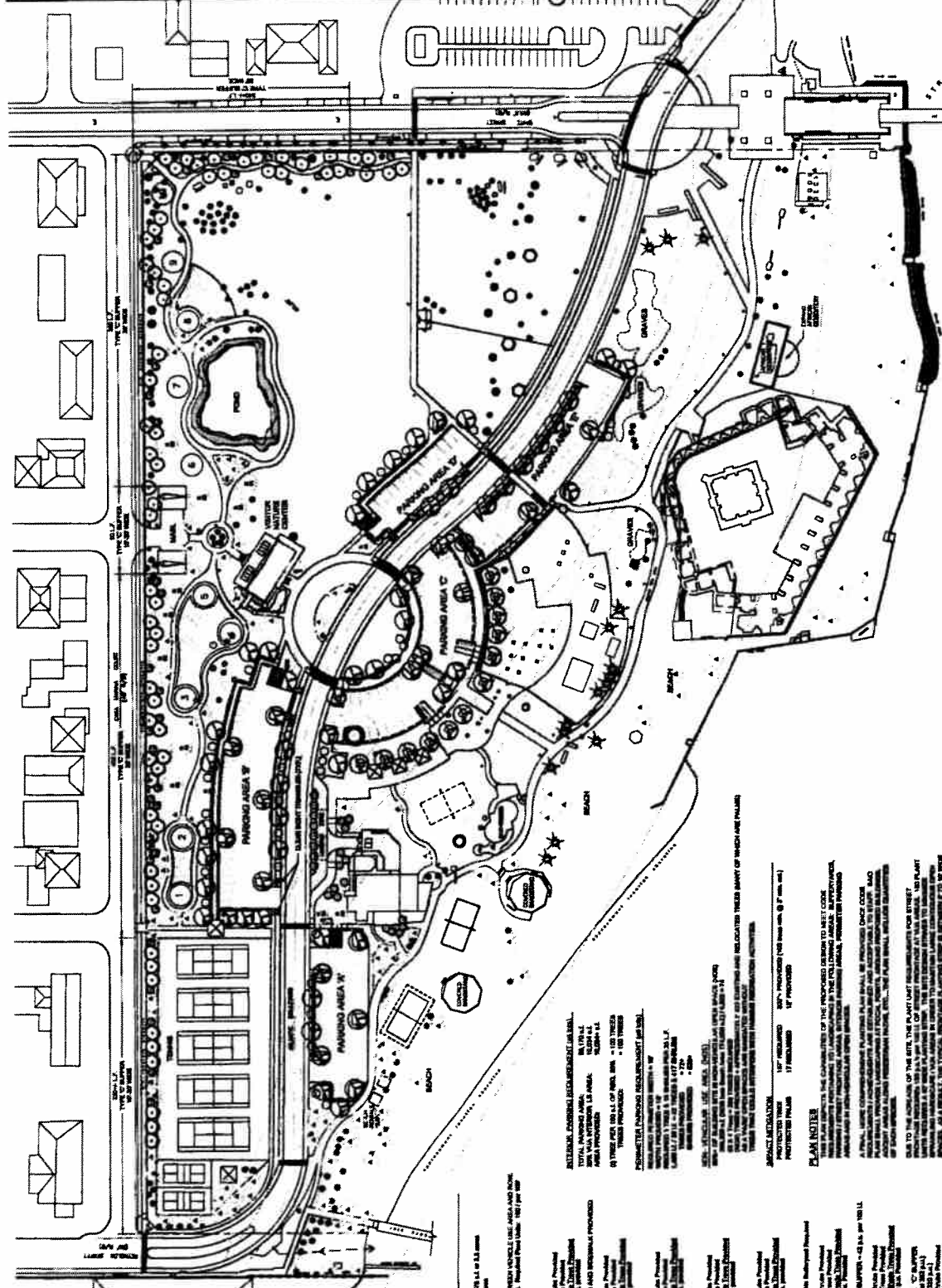
MATCHLINE SHEET C-3  
 MATCHLINE SHEET C-3

STRAITS OF FLORIDA  
 STRAITS OF FLORIDA

WEST MARTELLO TOWER  
 (WEST WEST GARDEN CLUB)

sandy beach

STRAITS OF FLORIDA



EXISTING TREES TO REMAIN  
 - 1" diameter tree  
 - 2" diameter tree  
 - 4" diameter tree  
 - 6" diameter tree  
 - 8" diameter tree  
 - 10" diameter tree  
 - 12" diameter tree  
 - 14" diameter tree  
 - 16" diameter tree  
 - 18" diameter tree  
 - 20" diameter tree  
 - 24" diameter tree  
 - 30" diameter tree  
 - 36" diameter tree  
 - 42" diameter tree  
 - 48" diameter tree  
 - 54" diameter tree  
 - 60" diameter tree  
 - 72" diameter tree  
 - 84" diameter tree  
 - 96" diameter tree  
 - 108" diameter tree  
 - 120" diameter tree

RELOCATED TREES  
 (IN TOTAL TREES)  
 (118 TOTAL COCONUTS)  
 - Canopy Tree - Parking Areas  
 - Utility Tree - Parking Areas  
 - Utility Tree - Parking Areas  
 - Canopy Tree - Parking Areas  
 - Utility Tree - Parking Areas  
 - Utility Tree - Parking Areas

GENERAL INFORMATION  
 DISTRICT: 10 - PUBLIC SERVICES  
 ZONING: 10 - PUBLIC SERVICES  
 PLANNING AREA: 10 - PUBLIC SERVICES  
 PROJECT: HIGGS BEACH  
 PREPARED BY: W.F. HOHN  
 DATE: 07-1-10  
 SCALE: 1/8" = 1'-0"

LANDSCAPE DATA CALCULATIONS  
 AMERICAN LANDSCAPE AREA:  
 LANDSCAPE AREA: 10,000 sq. ft.  
 STREET FRONTAGE REQUIREMENT:  
 STREET FRONTAGE: 100 ft.  
 PLANTING RATE: 10 plants per 100 sq. ft.  
 TOTAL PLANTS: 1,000

PLANTING SCHEDULE

PLANTING AREA	PLANTING RATE	TOTAL PLANTS
Parking Area A	10 plants/100 sq. ft.	100
Parking Area B	10 plants/100 sq. ft.	100
Parking Area C	10 plants/100 sq. ft.	100
Parking Area D	10 plants/100 sq. ft.	100
Parking Area E	10 plants/100 sq. ft.	100
Walkways	10 plants/100 sq. ft.	100
Other Areas	10 plants/100 sq. ft.	100
<b>TOTAL</b>		<b>1,000</b>

PLANTING SCHEDULE

PLANTING AREA	PLANTING RATE	TOTAL PLANTS
Parking Area A	10 plants/100 sq. ft.	100
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Parking Area E	10 plants/100 sq. ft.	100
Walkways	10 plants/100 sq. ft.	100
Other Areas	10 plants/100 sq. ft.	100
<b>TOTAL</b>		<b>1,000</b>

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Parking Area D	10 plants/100 sq. ft.	100
Parking Area E	10 plants/100 sq. ft.	100
Walkways	10 plants/100 sq. ft.	100
Other Areas	10 plants/100 sq. ft.	100
<b>TOTAL</b>		<b>1,000</b>

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Other Areas	10 plants/100 sq. ft.	100
<b>TOTAL</b>		<b>1,000</b>

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<b>TOTAL</b>		<b>1,000</b>

PLANTING SCHEDULE

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Parking Area C	10 plants/100 sq. ft.	100
Parking Area D	10 plants/100 sq. ft.	100
Parking Area E	10 plants/100 sq. ft.	100
Walkways	10 plants/100 sq. ft.	100
Other Areas	10 plants/100 sq. ft.	100
<b>TOTAL</b>		<b>1,000</b>

CLARENCE HIGGS BEACH - CODE PLANTING & TREE RELOCATIONS  
 KEY WEST, FLORIDA

WILLIAM F. HIGGS  
ARCHITECT, P.A.

115 LAYTON ST.  
KEY WEST,  
FLORIDA  
33040

TEL. 305 294-4433  
FAX 305 294-4400  
LUCAS@HIGGS.COM  
WWW.HIGGS.COM

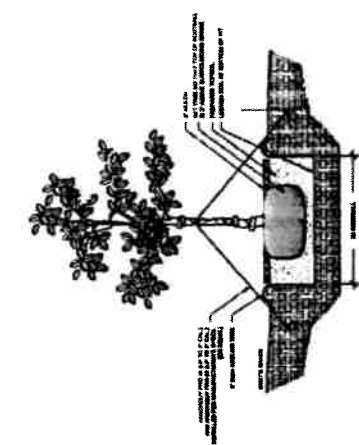
HIGGS BEACH  
KEY WEST, FL



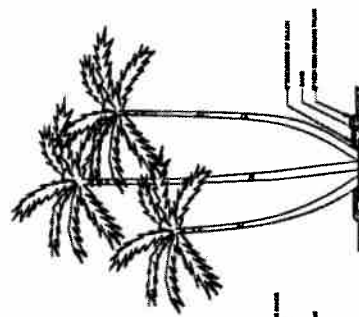
MECHANICAL, ELECTRICAL & PLUMBING  
WILLIAM F. HIGGS  
115 LAYTON STREET  
KEY WEST, FLORIDA 33040

PLANTING PLAN  
DATE: 07-1-10

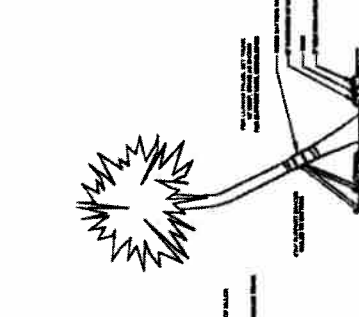
SCALE: 1/8" = 1'-0"



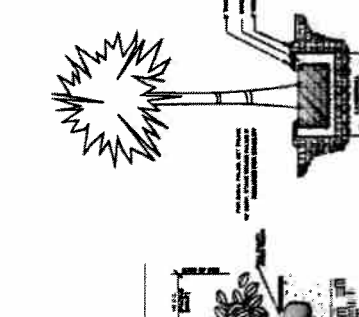
**TREE PLANTING DETAIL**  
ALL TREES ARE TO BE INSTALLED TO FULLY MEASURED OF THE BLIND OF THE CURB AND IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER.



**LEANING PALM PLANTING DETAIL**  
ALL TREES ARE TO BE INSTALLED TO FULLY MEASURED OF THE BLIND OF THE CURB AND IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER.



**SHRUB PLANTING DETAIL**  
ALL TREES ARE TO BE INSTALLED TO FULLY MEASURED OF THE BLIND OF THE CURB AND IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER.



**SODDING DETAIL**  
ALL TREES ARE TO BE INSTALLED TO FULLY MEASURED OF THE BLIND OF THE CURB AND IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER. THE PLANTING SHALL BE INSTALLED IN SUCH A MANNER AS TO BE PROTECTED BY THE CURB AND GUTTER.

**IRRIGATION NOTES**

100% IRRIGATION COVERAGE SHALL BE PROVIDED TO ALL PROPOSED PLANTING AREAS.  
SOD SYSTEM SHALL BE DESIGNED AND PROVIDED TO ALL PROPOSED PLANTING AREAS. SOD SYSTEM SHALL BE DESIGNED AND PROVIDED TO ALL PROPOSED PLANTING AREAS. SOD SYSTEM SHALL BE DESIGNED AND PROVIDED TO ALL PROPOSED PLANTING AREAS.

**GENERAL NOTES:**

CONTINGENT UPON THE TREE COMMISSIONERS DETERMINATION OF REPLACEMENT VALUES FOR VEGETATION REMOVED, THE FINAL LANDSCAPE PLAN SHALL BE SUBMITTED TO THE TREE COMMISSIONERS FOR REVIEW AND APPROVAL. THE PROPOSED PLANS ARE CONCEPTUAL ONLY. FINAL LANDSCAPE PLANS TO BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION.  
100% IRRIGATION COVERAGE SHALL BE PROVIDED TO ALL PROPOSED PLANTING AREAS. SOD SYSTEM SHALL BE DESIGNED TO MAXIMIZE WATER CONSERVATION.

**SUGGEST PLANT PALETTE** (Quantities shall be provided with Final Landscape Plan)

CITY	COMMON NAME	SCIENTIFIC NAME	SIZE	NOTE	QTY	COMMON NAME	SCIENTIFIC NAME	SIZE	NOTE	QTY
PALMS	AMERICAN CYPRESS	TAXUS FLORIDANA	10' x 10'			AMERICAN CYPRESS	TAXUS FLORIDANA	10' x 10'		
	WILD CYPRESS	TAXUS FLORIDANA	10' x 10'			WILD CYPRESS	TAXUS FLORIDANA	10' x 10'		
	FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'			FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'			THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'			BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
	SPANISH PALM	SPANISH PALM	10' x 10'			SPANISH PALM	SPANISH PALM	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
TREES	FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'			FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'			THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'			BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
	SPANISH PALM	SPANISH PALM	10' x 10'			SPANISH PALM	SPANISH PALM	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
	FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'			FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'			THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'		
SHRUBS	FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'			FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'			THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'			BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
	SPANISH PALM	SPANISH PALM	10' x 10'			SPANISH PALM	SPANISH PALM	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
	FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'			FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'			THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'		
GROUNDCOVER	FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'			FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'			THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'			BLACK PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
	SPANISH PALM	SPANISH PALM	10' x 10'			SPANISH PALM	SPANISH PALM	10' x 10'		
	WAX PALM	WAX PALM	10' x 10'			WAX PALM	WAX PALM	10' x 10'		
	COCONUT PALM	COCONUT PALM	10' x 10'			COCONUT PALM	COCONUT PALM	10' x 10'		
	FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'			FLORIDA PALM	CHORYZANDRA FLORIDANA	10' x 10'		
	THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'			THATCH PALM	CHORYZANDRA FLORIDANA	10' x 10'		



**CLARENCE HIGGS BEACH - PLANTING DETAILS & SUGGESTED PLANT PALETTE**

KEY WEST, FLORIDA

WILLIAM P. MOHN  
ARCHITECT, P.A.

115 EAST 1ST ST  
KEY WEST,  
FLORIDA  
33001

TEL: (305) 854-1000  
FAX: (305) 854-1000

LAKELAND, FL  
33809

HIGGS BEACH  
KEY WEST, FL



DATE: 04-20-10

SCALE: AS SHOWN

PROJECT NO. 04-20-10

CLIENT: HIGGS BEACH

DESIGNER: W.P. MOHN

DATE: 04-20-10

SCALE: AS SHOWN

PROJECT NO. 04-20-10

CLIENT: HIGGS BEACH

DESIGNER: W.P. MOHN

DATE: 04-20-10

SCALE: AS SHOWN

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DATE: 04-20-10

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PROJECT NO. 04-20-10

CLIENT: HIGGS BEACH

DESIGNER: W.P. MOHN

DATE: 04-20-10

SCALE: AS SHOWN

PROJECT NO. 04-20-10

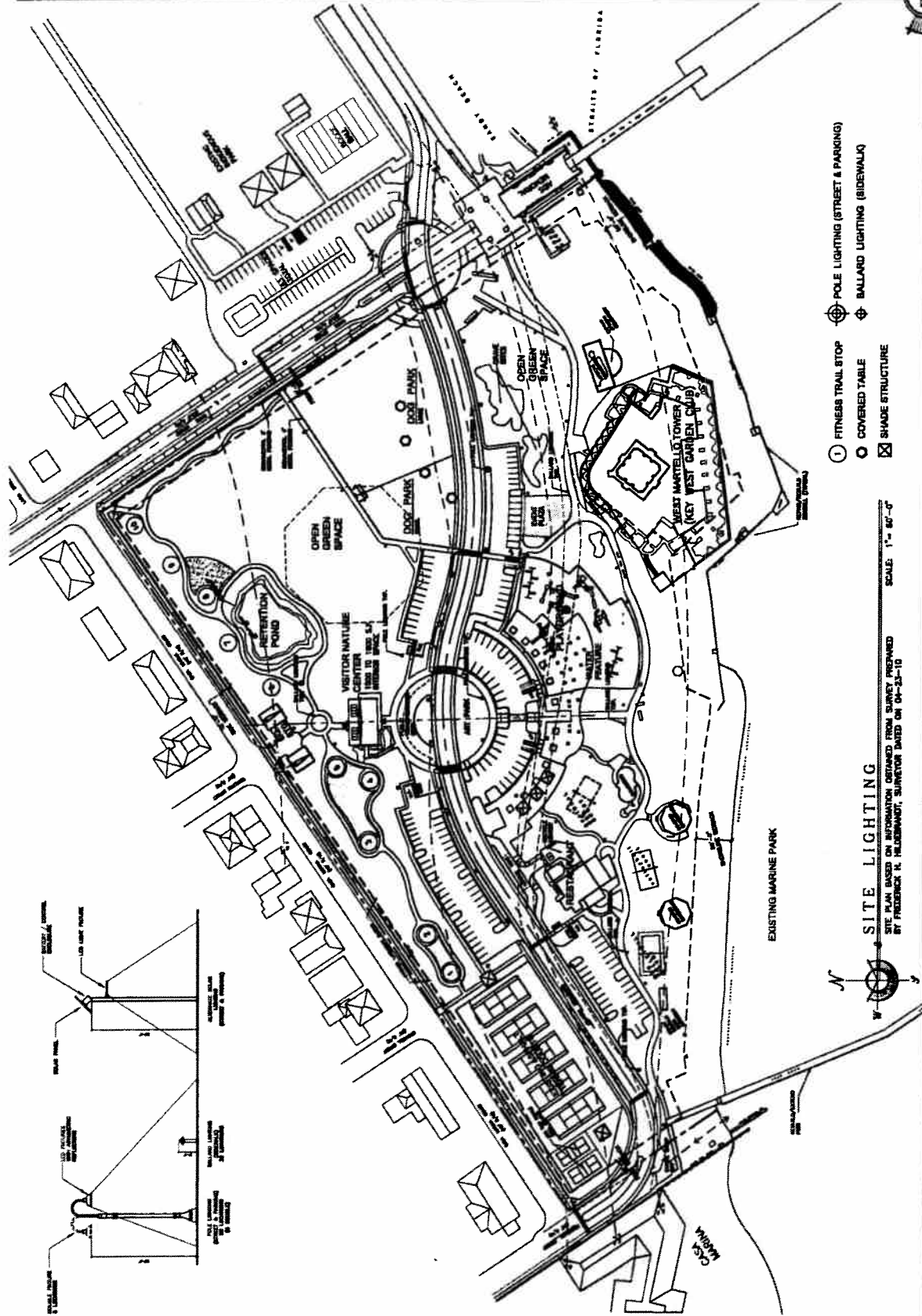
CLIENT: HIGGS BEACH

DESIGNER: W.P. MOHN

DATE: 04-20-10

SCALE: AS SHOWN

PROJECT NO. 04-20-10



- ① FITNESS TRAIL STOP
- COVERED TABLE
- ⊗ SHADE STRUCTURE
- ⊕ POLE LIGHTING (STREET & PARKING)
- ⊕ BALLARD LIGHTING (SIDEWALK)

**SITE LIGHTING**

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PERFORMED BY FREDERICK H. HILDEBRANDT, SURVEYOR DATED ON 04-22-10

SCALE: 1" = 80'-0"

**CLARENCE HIGGS BEACH - MASTER PLAN**  
KEY WEST, FLORIDA

# **EXHIBIT “C”**



# **EXHIBIT “D”**

Mr. William P. Horn  
William P. Horn Architects  
915 Eaton Street  
Key West, Florida 33040

June 9, 2011

**Re: Higgs Beach – Traffic Impact Statement**

Dear Bill:

Traf Tech Engineering, Inc. has completed the following three tasks associated with the proposed enhancements to Clarence Higgs Beach located in the City of Key West in Monroe County, Florida.

- o Trip Generation
- o Existing Level of Service on Atlantic Boulevard
- o Traffic Safety

Clarence Higgs Beach is a recreational beach located on the Atlantic Ocean along Atlantic Boulevard between Reynolds Street and White Street on the south area of the City of Key West. Figure 1 on the following page depicts the location of the subject recreational beach. The total area designated to Higgs Beach is approximately 15 acres. The beach is bifurcated by Atlantic Boulevard. The sandy beach areas are located on the south side of the roadway as well as a restaurant, a pedestrian walkway, beach tables, parking areas, and other beach amenities. On the north side of Atlantic Boulevard, six asphalt tennis courts, two small parking lots, a playground, a dog park, and an FAA antenna site are found. Volleyball courts are provided on the north and south sides of Atlantic Boulevard. Attachment A contains a site plan depicting the existing conditions on Higgs Beach.

**Trip Generation**

The trip generation for the existing conditions at Higgs Beach was based on information contained in the Institute of Transportation Engineer’s (ITE) *Trip Generation* manual (8<sup>th</sup> Edition). According to the subject ITE manual, the most appropriate “land use” category for the subject beach is ITE’s Land Use 415 – Beach Park. Table 1 documents the existing trip generation for Higgs Beach.

TABLE 1 Trip Generation Summary Clarence Higgs Beach – Key West, Florida				
Land Use	Size	Vehicle Trips per Day		
		Weekday	Saturday	Sunday
Beach Park	15 acres	450	1,000	1,030

SOURCE: ITE Trip Generation Manual (8<sup>th</sup> Edition)





**FIGURE 1**  
Higgs Beach  
Key West, Florida

**BEACH LOCATION MAP**

**Traf Tech**  
ENGINEERING, INC.

As indicated in Table 1, it is estimated that Higgs Beach is currently generating approximately 450 daily trips on regular weekdays, approximately 1,000 trips per day on Saturdays, and approximately 1,030 daily trips on Sundays.

Since the proposed enhancements to Higgs Beach (refer to Attachment A) consist of improvements to the parking areas, additional pedestrian walkways, open green space, a visitors center, and improved beach amenities, the proposed enhancements to Higgs Beach are not anticipated to increase traffic flow along Atlantic Boulevard or nearby local streets.

The trip generation equations for the existing Higgs Beach, given by ITE, are:

**BEACH PARK (Land Use 415)**

*Weekday Daily Trips*

$$T = 29.81 (X)$$

Where T = average weekday vehicle trip ends (vehicle trips per day)

X = size in acres

*Saturday Daily Trips*

$$T = 66.47 (X)$$

Where T = average Saturday vehicle trip ends (vehicle trips per day)

X = size in acres

*Sunday Daily Trips*

$$T = 68.52 (X)$$

Where T = average Sunday vehicle trip ends (vehicle trips per day)

X = size in acres

**Existing Level of Service on Atlantic Boulevard**

According to FDOT records, Atlantic Boulevard near Higgs Beach carries approximately 5,400 vehicles per day (refer to Attachment B). Based on FDOT's *Generalized Annual Average Daily* capacity tables<sup>1</sup>, Atlantic Boulevard has a level of service "D" capacity of approximately 10,700 vehicles per day. Therefore, Atlantic Boulevard is currently operating at approximately 50% of its vehicular carrying capacity, which is considered to be excellent. Therefore, the proposed enhancements to Higgs Beach are not anticipated to degrade the operating conditions of Atlantic Boulevard or nearby local streets.

**Traffic Safety**

As shown in the existing conditions site plan (refer to Attachment A), all parking areas (north and south sides of the roadway) can be accessed from any point along Atlantic Boulevard, which is undesirable from a safety standpoint. Moreover, the driveway that provides access to the small parking lot located west of the tennis courts has restricted

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<sup>1</sup> 2009 FDOT Quality/Level of Service Handbook

sight visibility (a vehicle exiting from the subject parking lot cannot see traffic heading south on Reynolds Avenue). This condition is undesirable from a safety standpoint.

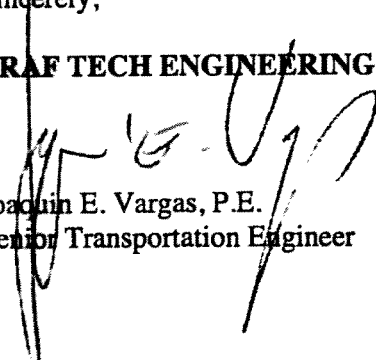
The proposed enhancements to Higgs Beach eliminate the existing safety concerns described above. All parking areas are well defined and are accessed via well-spaced driveways. Driveways located north and south of the roadways either align with each other or are well spaced in order to eliminate undesired conflicts. In short, the proposed beach enhancements provide significant safety improvements to traffic traveling along Atlantic Boulevard or accessing the various parking areas located north or south of the roadway.

In summary, the proposed enhancements to Higgs Beach are not anticipated to increase traffic flow along Atlantic Boulevard, are not anticipated to degrade the operating conditions of Atlantic Boulevard or nearby local streets, and will significantly improve safety to traffic traveling along Atlantic Boulevard or accessing the various parking areas located north or south of the roadway.

Please give me a call if you have any questions relative to the information provided herein.

Sincerely,

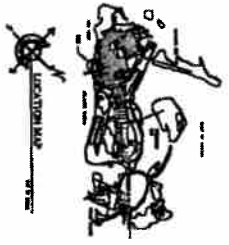
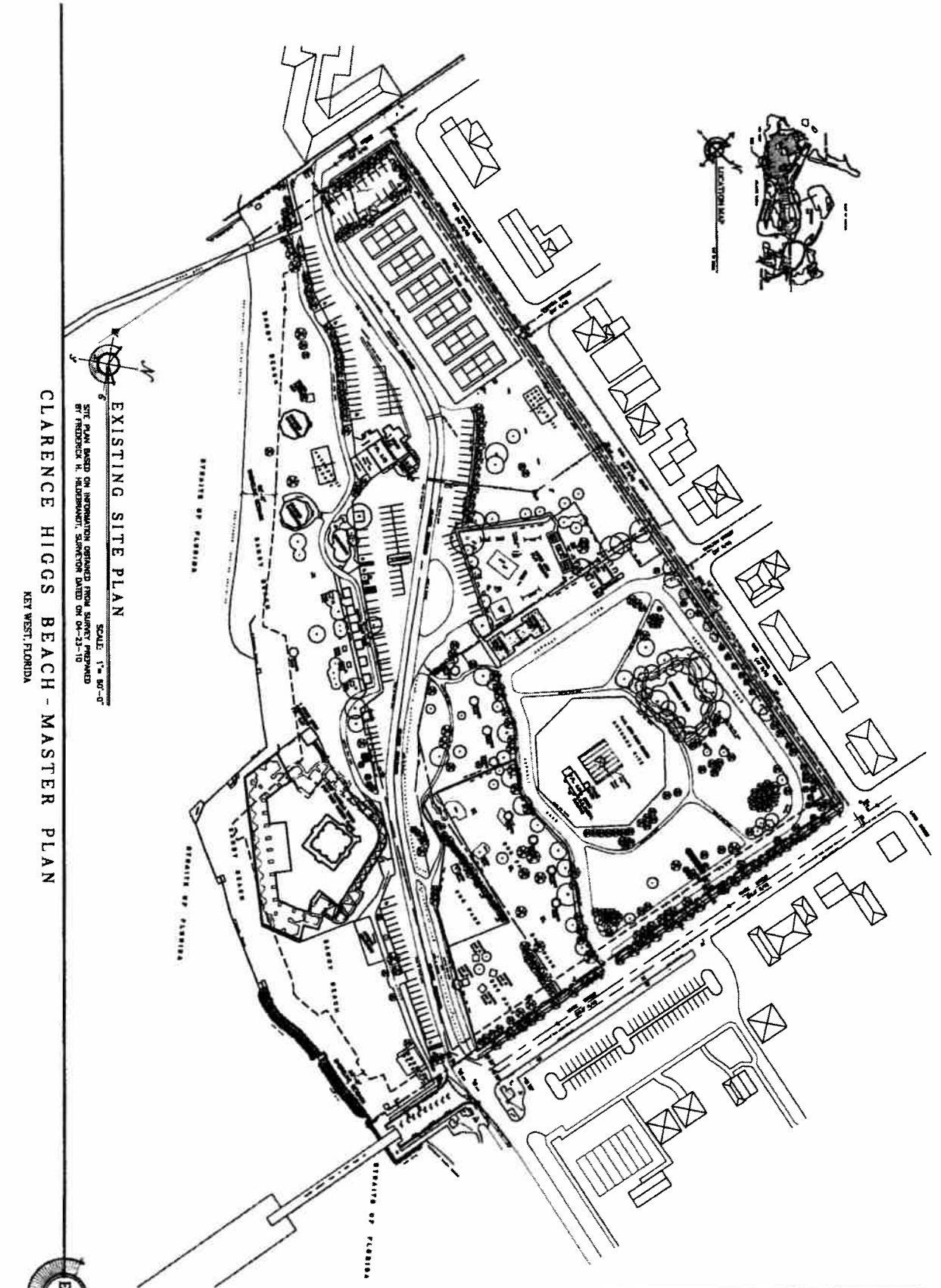
**TRAF TECH ENGINEERING, INC.**



Joaquin E. Vargas, P.E.  
Senior Transportation Engineer

# **ATTACHMENT A**

**Clarence Higgs Beach – Site Plans  
(Existing and Proposed Conditions)**



**EXISTING SITE PLAN**

SCALE: 1" = 50'-0"

SIT PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PROVIDED BY ARCHITECT H. HARRISON, SENIOR SURVEYOR ON 04-23-10

**CLARENCE HIGGS BEACH - MASTER PLAN**

NEW WEST, FLORIDA



WILLIAM P. NEW  
ARCHITECT, P.A.

1000  
PROJECT  
1000

HOUSSEAU  
NEW WEST, FL.

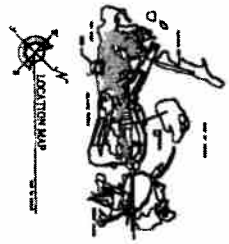
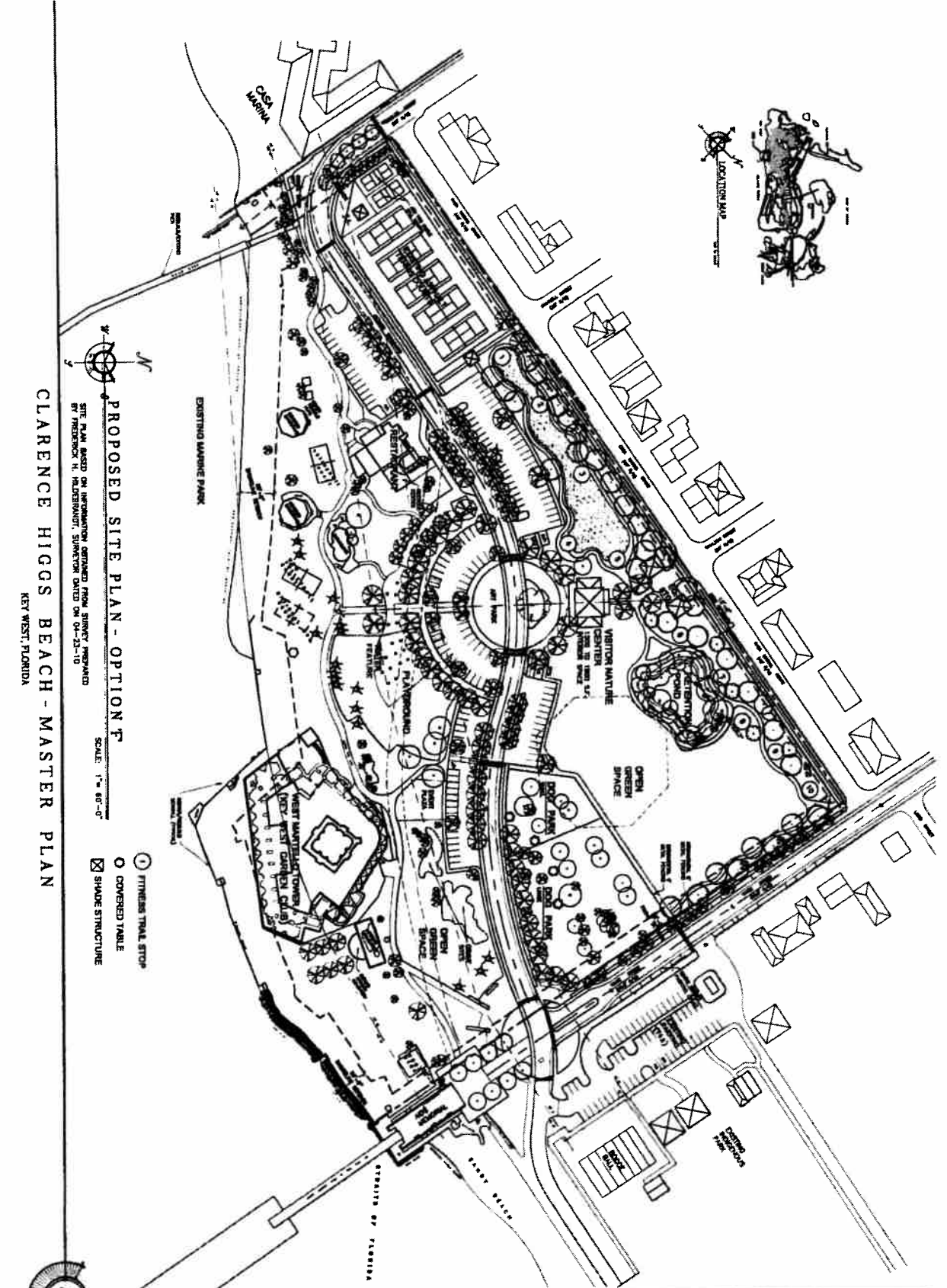
DATE: 06-23-10

EXCISIONS

OWNER: HARRISON, SENIOR SURVEYOR

DATE: 04-23-10

SCALE: 1" = 50'-0"



**PROPOSED SITE PLAN - OPTION F**  
 CLARENCE HIGGS BEACH - MASTER PLAN  
 KEY WEST, FLORIDA

SITE PLAN BASED ON INFORMATION OBTAINED FROM SURVEY PREPARED BY FREDERICK H. HALDENBROOK, SURVEYOR DATED ON 04-23-10

SCALE: 1" = 60'-0"

- ① FITNESS TRAIL STOP
- COVERED TABLE
- ☒ SHADE STRUCTURE



WILLIAM P. HORN  
 ARCHITECT, P.A.

IN CHARGE OF  
 KEY WEST  
 FLORIDA

THE HORN GROUP  
 P.O. BOX 200  
 KEY WEST, FL 34290  
 TEL: 305-894-8800  
 FAX: 305-894-8801  
 WWW.HORNGROUP.COM

HORN GROUP  
 KEY WEST, FL.

DATE: 04-23-10

REVISIONS:  
 12-30-10  
 05-08-11  
 05-29-11

DESIGNED BY  
 DRAWN BY  
 CHECKED BY  
 DATE

PROJECT  
 LOCATION

SCALE: 1" = 60'-0"

KEY WEST, FLORIDA

CLARENCE HIGGS BEACH - MASTER PLAN

OPTION F

KEY WEST, FLORIDA

DATE: 04-23-10

REVISIONS:  
 12-30-10  
 05-08-11  
 05-29-11

DESIGNED BY  
 DRAWN BY  
 CHECKED BY  
 DATE

PROJECT  
 LOCATION

SCALE: 1" = 60'-0"

KEY WEST, FLORIDA

CLARENCE HIGGS BEACH - MASTER PLAN

OPTION F

KEY WEST, FLORIDA

**ATTACHMENT B**  
**Traffic Counts (Source: FDOT)**

County: 90  
 Station: 0004  
 Description: ATLANTIC BLVD, 200' E WHITE ST  
 Start Date: 01/20/2009  
 Start Time: 0000

Time	Direction: E					Direction: W					Combined Total	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total		
0000	9	5	5	5	24	2	2	1	3	8	32	
0100	3	3	2	1	9	2	0	2	1	5	14	
0200	5	2	4	2	13	0	1	0	2	3	16	
0300	3	2	1	3	9	2	1	0	1	4	13	
0400	1	2	5	6	14	2	1	2	2	7	21	
0500	2	6	6	4	18	2	3	3	6	14	32	
0600	3	9	14	17	43	5	8	19	28	60	103	
0700	17	20	24	15	76	35	36	35	58	164	240	
0800	26	33	28	35	122	67	79	68	65	279	401	
0900	32	28	47	44	151	36	39	33	52	160	311	
1000	39	39	67	61	206	45	44	36	45	170	376	
1100	49	57	38	50	194	32	58	47	34	171	365	
1200	35	44	44	61	184	56	45	55	42	198	382	
1300	54	56	54	57	221	53	40	53	52	198	419	
1400	47	44	61	70	222	48	59	49	39	195	417	
1500	66	52	53	66	237	47	33	52	53	185	422	
1600	68	72	62	67	269	42	45	41	56	184	453	
1700	86	76	55	49	266	45	38	37	44	164	430	
1800	38	35	36	32	141	36	45	22	38	141	282	
1900	18	36	22	18	94	19	18	12	16	65	159	
2000	23	25	23	20	91	18	19	13	12	62	153	
2100	14	28	23	21	86	13	12	5	4	34	120	
2200	23	12	14	9	58	6	5	2	2	15	73	
2300	14	14	3	4	35	8	4	6	2	20	55	
24-Hour Totals:					2783						2506	5289

	Peak Volume Information					
	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	0915	158	0800	279	0800	401
P.M.	1630	291	1330	212	1615	474
Daily	1630	291	0800	279	1615	474



County: 90  
 Station: 0004  
 Description: ATLANTIC BLVD, 200' E WHITE ST  
 Start Date: 01/21/2009  
 Start Time: 0000

Time	Direction: E					Direction: W					Combined Total	
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total		
0000	11	4	4	8	27	5	4	3	2	14	41	
0100	5	3	3	1	12	1	0	2	1	4	16	
0200	2	0	3	2	7	0	0	0	0	0	7	
0300	1	1	4	2	8	2	1	0	3	6	14	
0400	2	2	5	2	11	2	0	0	2	4	15	
0500	1	7	6	6	20	1	4	6	7	18	38	
0600	5	7	10	10	32	5	11	21	13	50	82	
0700	20	8	18	25	71	32	46	45	58	181	252	
0800	37	42	38	35	152	67	64	76	45	252	404	
0900	43	30	31	37	141	42	52	43	42	179	320	
1000	38	51	53	45	187	35	38	46	43	162	349	
1100	55	50	62	68	235	42	63	52	55	212	447	
1200	45	39	51	50	185	44	41	52	50	187	372	
1300	55	53	47	60	215	58	42	65	51	216	431	
1400	47	58	63	52	220	56	45	48	37	186	406	
1500	65	60	62	68	255	34	56	45	48	183	438	
1600	65	71	72	80	288	42	45	31	33	151	439	
1700	96	67	65	39	267	52	43	52	45	192	459	
1800	58	40	29	28	155	31	36	25	18	110	265	
1900	25	26	32	25	108	7	4	6	15	32	140	
2000	26	27	23	11	87	12	13	12	18	55	142	
2100	22	20	15	28	85	19	18	5	9	51	136	
2200	22	12	13	9	56	8	9	8	5	30	86	
2300	9	10	10	3	32	6	5	3	2	16	48	
24-Hour Totals:					2856						2491	5347

	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	0815	158	0745	265	0745	407
P.M.	1615	319	1330	217	1645	488
Daily	1615	319	0745	265	1645	488

County: 90  
 Station: 0004  
 Description: ATLANTIC BLVD, 200' E WHITE ST  
 Start Date: 01/22/2009  
 Start Time: 0000

Time	Direction: E					Direction: W					Combined Total
	1st	2nd	3rd	4th	Total	1st	2nd	3rd	4th	Total	
0000	7	5	3	1	16	3	3	3	2	11	27
0100	4	1	2	3	10	3	4	3	2	12	22
0200	1	4	0	0	5	1	1	1	1	4	9
0300	1	2	1	2	6	1	1	0	1	3	9
0400	4	1	0	5	10	2	1	2	1	6	16
0500	3	5	6	2	16	1	2	3	5	11	27
0600	7	4	15	9	35	9	7	11	19	46	81
0700	21	19	21	20	81	25	43	46	65	179	260
0800	32	28	33	24	117	78	79	68	57	282	399
0900	38	22	36	38	134	47	38	43	43	171	305
1000	49	44	54	42	189	42	55	54	46	197	386
1100	64	47	57	53	221	45	38	57	44	184	405
1200	49	46	68	50	213	46	55	48	32	181	394
1300	44	44	62	53	203	36	55	48	49	188	391
1400	49	59	61	52	221	55	46	48	39	188	409
1500	65	62	67	59	253	43	42	45	54	184	437
1600	60	76	76	46	258	46	55	48	32	181	439
1700	97	75	69	59	300	37	44	56	45	182	482
1800	51	50	41	28	170	21	28	32	33	114	284
1900	31	26	26	24	107	22	12	14	16	64	171
2000	26	23	25	21	95	18	20	13	12	63	158
2100	21	22	25	22	90	8	9	11	8	36	126
2200	16	20	16	14	66	7	9	8	5	29	95
2300	17	10	6	4	37	5	4	4	7	20	57
<b>24-Hour Totals:</b>	<b>2853</b>					<b>2536</b>					<b>5389</b>

	Peak Volume Information					
	Direction: E		Direction: W		Combined Directions	
	Hour	Volume	Hour	Volume	Hour	Volume
A.M.	0915	145	0745	290	0745	403
P.M.	1700	300	1315	207	1700	482
Daily	1700	300	0745	290	1700	482