Memorandum

MIAMI-DADE COUNTY

Date: November 28, 2006

Agenda Item No. 8(D)(1)(M)

To: Honorable Chairman Joe A. Martinez and Members, Board of County Commissioners

From: George M. Burgess, County Manager

Subject: Class I Permit Application by Flagstone Island Gardens, LLC and the City of Miami to Dredge 15.81 Acres of Submerged Bay Bottom for the Creation of a 50-Slip Mega Yacht Marina, Request for a Variance from Section 24-48.24 of the Code of Miami-Dade County for the Placement of Non-Water Dependent Fixed Structures Over Tidal Waters, and Acceptance of a Restrictive Covenant Running With the Land In Favor of Miami-Dade County

Attached, please find for your consideration an application by Flagstone Island Gardens, LLC and the City of Miami for a Class I Permit, a Request for Variance from Section 24-48.24 of the Code of Miami-Dade County, and acceptance of a Restrictive Covenant Running With the Land in favor of Miami-Dade County. Also, attached is the recommendation of the Director of the Department of Environmental Resources Management and a Resolution seeking the Board's approval of the aforesaid application, variance request, and acceptance of the restrictive covenant.

Assistant County Manager

Memorandum

MIAMI-DADE COUNTY

Date: August 31, 2006

To: George M. Burgess
County Manager

From: Carlos Espinosa, P.E., Acting Director
Environmental Resources Management

Subject: Class I Permit Application by Flagstone Island Gardens, LLC and the City of Miami to Dredge 15.81 Acres of Submerged Bay Bottom for the Creation of a 50-Slip Mega Yacht Marina, Request for a Variance from Section 24-48.24 of the Code of Miami-Dade County for the Placement of Non-Water Dependent Fixed Structures Over Tidal Waters and Acceptance of a Restrictive Covenant Running With the Land In Favor of Miami-Dade County

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RECOMMENDATION

I have reviewed the application for a Class I Permit, the Request for Variance from Section 24-48.24 of the Code of Miami-Dade County, and the Restrictive Covenant Running with the Land proffered by Flagstone Island Gardens, LLC and the City of Miami. Based upon the applicable evaluation factors set forth in Section 24-48.3 and 24-48.25 of the Code of Miami-Dade County, I recommend that the Board approve this application, grant the variance request, and accept the Restrictive Covenant for the reasons set forth below.

BACKGROUND

The proposed project was previously approved by the Board on November 30, 2004, via Resolution No. R-1343-04. Pursuant to Section 24-48.19 of the Code of Miami-Dade County, Class I permit approvals by the Board shall only be valid for a period of 18 months from the date of approval unless another time period is stated in the approving Resolution. The applicants have stated that due to the complexity of design and the time required to obtain the United States Army Corps of Engineers permit for the proposed project, the final construction plans have not yet been completed. Therefore, the Class I permit could not be obtained within the originally allowed 18-month period, which expired on May 30, 2006. Pursuant to the requirements in Section 24-48.19 of the Code, the applicants have filed a new Class I permit application for the construction of the same project as previously approved. In addition, the applicants have requested that Board approval for this application be valid for 24 months rather than the typical 18 months.

The project area is located on Watson Island in the City of Miami. The project site was previously a municipal marina owned and operated by the City of Miami. The proposed project involves the construction of a 50-slip mega yacht marina with two main access piers. The two main access piers will make an inward turn at 470 linear feet from the seawall forming the marina basin. A portion of the proposed piers will be bi-level to provide a separate public access area to view Biscayne Bay. In addition, stairs are proposed to provide non-public access to the lower service level of the dock. The proposed project also includes the dredging of 15.81 acres of submerged Bay bottom to depths of minus eighteen (-18) feet and minus twenty-five (-25) feet with one foot of allowable over-dredge. The applicants have stated that dredging to these depths is necessary to accommodate the deeper drafts of mega yachts [vessels greater than 100 feet in length] that could not be moored at the previously existing marina. As proposed, the completed marina will be able to accommodate mega yachts with a maximum length not to exceed 465 feet.

Section 24-48.3 of the Code of Miami-Dade County requires that the Department of Environmental Resources Management (DERM) base its recommendation for approval, denial, or approval subject to conditions, limitations or restrictions, for Class I Permits on the applicable evaluation factors. One of these factors is consistency with recommendations of Miami-Dade County's Manatee Protection Plan (MDCMPP). The MDCMPP identifies the area of Biscayne Bay where this project is proposed as suitable for construction or expansion of large vessel docking facilities.

As the applicants have stated that the purpose of this project is to create a mega yacht marina, the applicants have agreed to limit the total number of non-mega yacht power vessels (less than 100 feet in length) mooring at this facility. In order to maintain consistency with the MDCMPP, and considering the existing historic use of the site, the Class I permit shall require that the maximum number of powerboats that are less than 100 feet in length, as measured at the water line, that will be moored at the proposed docking facilities located at the marina, shall not exceed a total of 23 powerboats at any one time. Of the maximum allowable powerboats, not more than two shall be water taxis to be used by the guests of the marina, not more than four shall be commercial fishing or diving charter boats, and not more than three shall be marina service vessels. In order to ensure compliance with this condition, the City of Miami has proffered the attached Restrictive Covenant Running with the Land as part of the Class I Permit requirements.

In addition, this project was evaluated to identify any potential conflicts with the proposed future construction of the Port of Miami Tunnel. Staff discussed details of this project with consultants and representatives from the Florida Department of Transportation (FDOT) and the Miami-Dade County Seaport Department. No conflicts were identified. However, if approved, the Class I Permit for this project will require that the applicant coordinate construction activities with FDOT regarding work on the Port of Miami Tunnel.

As part of this project, the applicants propose to dredge 15.81 acres of submerged Bay bottom to achieve the targeted water depths. The proposed dredging will impact various marine resources within the project footprint, including seagrass habitat, hard bottom/sponge communities, macro algal communities, and several acres of benthic infaunal habitat. In order to mitigate for impacts to seagrass areas and to the hard bottom/sponge habitat, the applicants propose to create additional replacement habitat. Restoration of the lost seagrass habitat will be accomplished by filling a previously dredged area of Biscayne Bay near the Julia Tuttle Causeway to a shallower depth and then capping it with clean sand to support seagrass growth. Replacement of the lost hard bottom/sponge habitat will be accomplished by filling a previously dredged deep depression in the same area and capping it with a coarse material suitable for the growth of a hard bottom/sponge community. To offset the other project-related impacts the applicants propose to place 2,439 cubic yards of limestone riprap boulders under the proposed dock structures and to place 25,670 cubic yards of limestone riprap boulders at a DERM-approved artificial reef site in Biscayne Bay.

In addition to requesting approval for the proposed dredging and construction of the marina, the applicants are requesting a variance from Section 24-48.24 of the Code of Miami-Dade County, which prohibits non-water dependent, fixed structures over tidal waters of the County. The applicants propose to construct planters, roof structures, storage closets, security fences, vessel fueling service lines, and two pylons with statues, all of which are proposed for placement on the piers over tidal waters. Specifically, the applicants propose to construct planters along each edge of the second level piers. Said planters will border the two piers for approximately 470 linear feet, resulting in approximately 940 linear feet of planters on each of the piers. In addition, the applicants propose to install two covered structures at the end of the second level on each of the main piers. The applicants have indicated that due to the overall length of the pier structures, the covered structures are necessary to provide refuge from the elements at the far end of the pier. On the terminus of the main piers (i.e. harbor entrance) the applicants propose to install poles that will be

approximately 70 feet in height with 10-foot high statues on the top. Lastly, the applicants propose to install fuel lines running along the piers to provide in-slip fuel services to vessels moored at the docking facility.

The proposed project has been designed in accordance with all relevant Miami-Dade County coastal construction criteria and is also consistent with all other Miami-Dade County coastal protection provisions, with the exception of the proposed non-water dependent fixed structures for which the applicants are seeking a variance. Please find attached two Project Reports from the DERM Coastal Resources Section, which sets forth in more detail the reasons why the request for a variance and project are recommended for approval by DERM pursuant to the applicable evaluation factors set forth in Section 24-48.3 and in Section 24-48.25 of the Code of Miami-Dade County, Florida. The conditions, limitations, and restrictions set forth in the Project Report attached hereto are incorporated herein by reference hereto.

Attachments

Attachment A: Class I Permit Applications
Attachment B: Affidavit of Ownership
Attachment C: Applicants/Agents Letter, Engineer Certification Letter and Project Sketches
Attachment D: Names and Addresses of Owners of All Riparian or Wetland Property Within Three Hundred (300) Feet of the Proposed Work
Attachment E: Seagrass Mitigation Plan
Attachment F: Benthic Mitigation Plan
Attachment G: Harbor Operations Plan
Attachment H: Manatee Protection Plan
Attachment I: Restrictive Covenant Running with the Land
Attachment J: Zoning Memorandum
Attachment K: Project Report for Proposed Work – Class I Permit
Attachment L: Project Report for Variance Request – Fixed Non-Water Dependent Structures

NOTICE OF PUBLIC HEARING RELATING TO AN APPLICATION BY FLAGSTONE ISLAND GARDENS, LLC AND THE CITY OF MIAMI FOR A CLASS I PERMIT TO DREDGE 15.81 ACRES OF SUBMERGED BAY BOTTOM FOR THE CREATION OF A 50-SLIP MEGA YACHT MARINA LOCATED ON WATSON ISLAND IN THE CITY OF MIAMI, A REQUEST FOR A VARIANCE FROM SECTION 24-48.24 OF THE CODE OF MIAMI-DADE COUNTY, FLORIDA, TO ALLOW THE PLACEMENT OF NON-WATER DEPENDENT FIXED STRUCTURES OVER TIDAL WATERS, AND ACCEPTANCE OF A RESTRICTIVE COVENANT RUNNING WITH THE LAND IN FAVOR OF MIAMI-DADE COUNTY

BOARD OF COUNTY COMMISSIONERS
MIAMI-DADE COUNTY, FLORIDA

NOTICE IS HEREBY GIVEN pursuant to Article IV, Division 1 of Chapter 24 of the Code of Miami-Dade County that the Board of County Commissioners of Miami-Dade County will hold and conduct a Public Hearing on a request by ~~Flagstone Island Gardens, LLC and the City of Miami for a Class I Permit to dredge~~ 15.81 acres of submerged bay bottom for the creation of a 50-slip mega yacht marina, a request for a variance from Section 24-48.24 of the Code of Miami-Dade County, Florida to allow the placement of non-water dependent fixed structures over tidal waters, and acceptance of a restrictive covenant running with the land in favor ~~of Miami-Dade County. Such Public Hearing will be held on the 12th day of~~ September, 2006, at 9:30 am o'clock, at the County Commission Chambers on the 2nd Floor of the Stephen P. Clark Center in Miami, Florida.

Plans and details concerning the work requested in the application may be reviewed by interested persons at the office of the Miami-Dade County Department of

Environmental Resource Management, 4th Floor, 33 S.W. 2nd Avenue, Miami, Florida, 33130.

Oral statements will be heard and appropriate records made. For accuracy of records all important facts and arguments should be prepared in writing in triplicate, with two copies being submitted to the Deputy Clerk of the County Commission at the hearing or mailed to her beforehand (Kay Sullivan, Deputy Clerk), 111 N.W. 1st Street, Stephen P. Clark Center, Suite 17-202, Miami, Florida 33128; and with one copy being submitted beforehand to the Miami-Dade County Department of Environmental Resources Management, 33 S.W. 2nd Avenue, Miami, Florida, 33130.

A person who decides to appeal any decision made by any Board, Agency, or Commission with respect to any matter considered at its meeting or hearing, will need a record of proceedings. Such person may need to ensure that a verbatim record of the proceedings is made, including the testimony and evidence upon which the appeal is to be based.

BOARD OF COUNTY COMMISSIONERS
~~MIAMI-DADE COUNTY, FLORIDA~~

HARVEY RUVIN, CLERK

BY: _____
Kay Sullivan, Deputy Clerk

MEMORANDUM

(Revised)

TO: Honorable Chairman Joe A. Martinez and Members, Board of County Commissioners

DATE: November 28, 2006

FROM: Murray A. Greenberg, County Attorney

SUBJECT: Agenda Item No. 8(D)(1)(M)

Please note any items checked.

_____	**"4-Day Rule" ("3-Day Rule" for committees) applicable if raised**
_____	**6 weeks required between first reading and public hearing**
_____	**4 weeks notification to municipal officials required prior to public hearing**
_____	**Decreases revenues or increases expenditures without balancing budget**
_____	**Budget required**
_____	**Statement of fiscal impact required**
_____	**Bid waiver requiring County Manager's written recommendation**
_____	**Ordinance creating a new board requires detailed County Manager's report for public hearing**
✓	**Housekeeping item (no policy decision required)**
_____	**No committee review**

Approved _____ Mayor

Veto _____

Override _____

Agenda Item No. 8(D)(1)(M)

11-28-06

RESOLUTION NO. _____

RESOLUTION RELATING TO AN APPLICATION BY FLAGSTONE ISLAND GARDENS, LLC AND THE CITY OF MIAMI FOR A CLASS I PERMIT TO DREDGE 15.81 ACRES OF SUBMERGED BAY BOTTOM FOR THE CREATION OF A 50-SLIP MEGA YACHT MARINA LOCATED ON WATSON ISLAND IN THE CITY OF MIAMI, A REQUEST FOR A VARIANCE FROM SECTION 24-48.24 OF THE CODE OF MIAMI-DADE COUNTY, FLORIDA, TO ALLOW THE PLACEMENT OF NON-WATER DEPENDENT FIXED STRUCTURES OVER TIDAL WATERS, AND ACCEPTANCE OF A RESTRICTIVE COVENANT RUNNING WITH THE LAND IN FAVOR OF MIAMI-DADE COUNTY

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference ,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board having considered all the applicable factors contained within Section 24-48.3 and Section 24-48.25 of the Code of Miami-Dade County, hereby approves the application by Flagstone Island Gardens, LLC and the City of Miami for a Class I Permit to dredge 15.81 acres of submerged bay bottom for the creation of a 50-slip mega yacht marina, a request for a variance from Section 24-48.24 of the Code of Miami-Dade County, Florida, to allow the placement of non-water dependent fixed structures over tidal waters, and acceptance of a restrictive covenant running with the land in favor of Miami-Dade County, subject to the conditions set forth in the memorandum from

the Director of the Miami-Dade County Department of Environmental Resources Management, a copy of which is attached hereto and made a part hereof. The issuance of this approval does not relieve the applicants from obtaining all applicable Federal, State, and local permits. The approval of the Class I permit herein granted shall be valid for 24 months from the date of this approval.

The foregoing resolution was offered by Commissioner , who moved its adoption. The motion was seconded by Commissioner and upon being put to a vote, the vote was as follows:

Joe A. Martinez, Chairman
Dennis C. Moss, Vice-Chairman

Bruno A. Barreiro	Jose "Pepe" Diaz
Audrey M. Edmonson	Carlos A. Gimenez
Sally A. Heyman	Barbara J. Jordan
Dorrin D. Rolle	Natacha Seijas
Katy Sorenson	Rebeca Sosa
~~Sen. Javier D. Souto~~	

The Chairperson thereupon declared the resolution duly passed and adopted this 28th day of November, 2006. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF COUNTY
COMMISSIONERS

HARVEY RUVIN, CLERK

By:_____
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency. PST

Peter S. Tell

ATTACHMENT A:

Class I Permit Applications

MIAMI-DADE COUNTY

Class I
Permit Application

RECEIVED
JUL 19 2006
DERM
ENVIRONMENTAL RESOURCES REGULATION DIVISION

1. Application number	2. Date Day/Month/Year	3. For official use only
CC 06-259		

4. Applicant Information:

Name: Flagstone Island Gardens, LLC
Address: 1674 Meridian Avenue, Third Floor
Miami Beach, Florida Zip Code: 33139
Phone #: 305-531-3747 Fax #: 305-531-3748

5. Applicant's authorized agent, if any:

Name: Coastal Systems International, Inc.
Address: 464 South Dixie Highway
Coral Gables, Florida Zip Code: 33146
Phone #: 305-661-3655 Fax #: 305-661-1914

6. Describe the proposed activity, its purpose and intended use, including a description of the type of structures, if any, to be erected on fills, or pipe or float-supported platforms, and the type, composition and quantity of materials to be discharged or dumped and means of conveyance.

SEE ATTACHED.

	Dredged/Excavated			Filled/Deposited			
Volume of Material:	~217,000 CY Waterward of O.H.W. or M.H.W.		CY Landward of O.H.W. or M.H.W.	~50,000 CY Waterward of O.H.W. or M.H.W.		CY Landward of O.H.W. or M.H.W.	

7. Proposed Use: (Check One)

- ☐ Private
- ☑ Public
- ☐ Commercial
- ☐ Other

8. Names and addresses of adjoining property owners whose property also adjoins the waterway.

Name: City of Miami
Address: 950 MacArthur Causeway
Miami, Florida Zip Code 33130

Name: Florida Department of Transportation
Address: 605 Suwannee Street
Tallahassee, Florida Zip Code 32399

9. Location where proposed activity exists or will occur.

Street Address: 1040 MacArthur Causeway
(Watson Island)
Latitude 25°47'9.3"N Longitude 80°10'40.32"W
Section 31 Township 53 S Range 42 E
State Florida County Miami-Dade In City or Town Miami Near City Or Town

10. Name of waterway at location of the activity.

Biscayne Bay

11. Date activity is proposed to:

Commence 2006 Be completed 2009

12. Is any portion of this activity for which authorization is sought now complete?

☐ Yes

☑ No

If answer is "yes", give reasons in the remarks section. Indicate the existing work on the drawings.

Month and Year the activity was completed N/A

13. List all approvals or certifications required by other Federal, state or local agencies for any structures, construction, discharges, deposits or other activities described in this application, including whether the project is a Development of Regional Impacts.

Issuing Agency	Type of Approval	Identification Number	Date of Application	Date of Approval
SFWMD	Individual	13-02353-P	N/A	August 11, 2004
Corps	Individual	SAJ-2003-6823 (IP-PLG)	N/A	November 2, 2005
FL DCA	Individual	DCA02-BL-288	N/A	June 22, 2004

14. Has any other agency denied approval for any activity directly related to the activity described herein?

☐ Yes

☑ No

15. Remarks.

16. Estimated project cost = To be determined.

17. Contractor's name and address

Name: To be determined. License #:

Address:

Zip Code:

Phone #: Fax #:

19. To obtain proprietary authorization for work on state-owned submerged lands, please include an additional copy of the following:

☑ 8½ x 11 Location Map

☑ 8½ x 11 Project Drawing

☑ Copy of Application

18. Application is hereby made for a permit or permit(s) to authorize the activities described herein. I agree to provide any additional information/data that may be necessary to provide reasonable assurance or evidence to show that the proposed project will comply with the applicable State Water Quality Standards or other environmental protection standards both during construction and after the project is completed. I also agree to provide entry to the project site for inspectors from the environmental protection agencies for the purpose of making the preliminary analyses of the site and monitoring permitted works, if permit is granted. I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities.

Signature of Owner: Flagstone Island Gardens, LLC

By: Flagstone Development Corporation, its managing member

By:

Name: Mehmet Bayraktar

Its: President

Date: July 13 2006

SUBSCRIBED AND SWORN TO ME THIS 13TH DAY OF July, 20 06, BY Mehmet Bayraktar.

☑ PERSONALLY KNOWN ☐ PRODUCED IDENTIFICATION (PLEASE CHECK ONE)

TYPE OF ID PRODUCED

NOTARY PUBLIC

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

Attachment:

The Project will consist of the re-configuration of an existing 43-slip docking facility into a 50-slip international mega-yacht harbor to accommodate vessels up to 465 feet in length by dredging 15.8 acres of submerged land owned by the City of Miami, for development of the proposed Flagstone Island Gardens Mega-Yacht Harbor Project. Both the upland facilities that will support the harbor and submerged lands are owned by the City of Miami.

As a component of the project, this is also to request re-approval of the variance for all non-water dependent structures, including the statues attached to the pylons at the entrance to the harbor, the trees/planters along the piers, and the roofed shade structures at the terminus of the two main pier arms.

The project will be constructed in two phases. The first phase will consist of dredging and mitigation work, and the second phase will consist of the construction of the marina facilities.

Because of the complexity of the project, the applicant is requesting that the Board of County Commissioners grant the application 24 months to obtain the permit from DERM.

MIAMI-DADE COUNTY

Class I
Permit Application

1. Application number	2. Date Day/Month/Year	3. For official use only
CC06-259		

4. Applicant Information:

Name: City of Miami

Address: 3500 Pan American Drive

Miami, Florida Zip Code: 33133

Phone #: 305-250-5400 Fax #: 305-250-5410

5. Applicant's authorized permit agent

Name: Coastal Systems International, Inc.

Address: 464 South Dixie Highway

Coral Gables, Florida Zip Code: 33146

Phone #: 305-661-3655 Fax #: 305-661-1914

6. Describe the proposed activity, its purpose and intended use, including a description of the type of structures, if any, to be erected on fills, or pipe or float-supported platforms, and the type, composition and quantity of materials to be discharged or dumped and means of conveyance.

SEE ATTACHED.

	Dredged/Excavated		Filled/Deposited	
Volume of Material:	~217,000 CY Waterward of O.H.W. or M.H.W.	CY Landward of O.H.W. or M.H.W.	CY ~50,000 Waterward of O.H.W. or M.H.W.	CY Landward of O.H.W. or M.H.W.

7. Proposed Use: (Check One)

- ☐ Private
- ☑ Public
- ☐ Commercial
- ☐ Other

8. Names and addresses of adjoining property owners whose property also adjoins the waterway.

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(Watson Island)

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Section 31 Township 53 S Range 42 E

State Florida County Miami-Dade In City or Town Miami Near City Or Town

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Biscayne Bay

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Commence 2006 Be completed 2009

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If answer is "yes", give reasons in the remarks section. Indicate the existing work on the drawings.

Month and Year the activity was completed N/A

13. List all approvals or certifications required by other Federal, state or local agencies for any structures, construction, discharges, deposits or other activities described in this application, including whether the project is a Development of Regional Impacts.

Issuing Agency	Type of Approval	Identification Number	Date of Application	Date of Approval
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Name: To be determined. License #:

Address:

Zip Code:

Phone #: Fax #:

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☑ 8½ x 11 Location Map

☑ 8½ x 11 Project Drawing

☑ Copy of Application

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Signature of Owner:

Pedro G. Hernandez, City Manager, City of Miami

Date: 8/10/06

SUBSCRIBED AND SWORN TO ME THIS 16th DAY OF May August, 20 06, BY

☑ PERSONALLY KNOWN ☐ PRODUCED IDENTIFICATION (PLEASE CHECK ONE)

TYPE OF ID PRODUCED

SABRINA BLUE
MY COMMISSION # DD500846
EXPIRES: December 20, 2009
1-800-3-NOTARY Fl. Notary Discount Assoc. Co.

NOTARY PUBLIC

15

Attachment:

The Project will consist of the re-configuration of an existing 43-slip docking facility into a 50-slip international mega-yacht harbor to accommodate vessels up to 465 feet in length by dredging 15.8 acres of submerged land owned by the City of Miami, for development of the proposed Flagstone Island Gardens Mega-Yacht Harbor Project. Both the upland facilities that will support the harbor and submerged lands are owned by the City of Miami.

As a component of the project, this is also to request re-approval of the variance for all non-water dependent structures, including the statues attached to the pylons at the entrance to the harbor, the trees/planters along the piers, and the roofed shade structures at the terminus of the two main pier arms.

The project will be constructed in two phases. The first phase will consist of dredging and mitigation work, and the second phase will consist of the construction of the marina facilities.

Because of the complexity of the project, the applicant is requesting that the Board of County Commissioners grant the application 24 months to obtain the permit from DERM.

AFFIDAVIT OF MEMBERS, MANAGING MEMBERS, AND MANAGERS OF NON- FLORIDA (FOREIGN) LIMITED LIABILITY COMPANY

WE, (print full name(s) and all title(s) of person(s) or entity(s) in the following spaces; if more space needed print additional names and title(s) on separate paper marked as Exhibit A and attach Exhibit A to this Affidavit)

Full name	Title(s)
Flagstone Development Corporation	Member, Manager
Flagstone Miami Holdings, LLC	Member

hereby swear or affirm that :

1. **The foregoing persons or entities set forth above and on Exhibit A, if applicable, which Exhibit A is attached hereto and incorporated herein by reference hereto, constitute and are all of the Members, Managing Members, and Managers, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, or the equivalent* thereof, of the Non-Florida (Foreign) Limited Liability Company known as FLAGSTONE ISLAND GARDENS, LLC, a Delaware limited liability company (Print name of the Non-Florida (Foreign) Limited Liability Company as the name appears in the Articles of Organization, as that term is defined by Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, or the equivalent* thereof, currently filed with the Secretary of State of the State of Delaware) (Print name of State where Articles of Organization, or the equivalent* thereof, creating the Non-Florida (Foreign) Limited Liability Company are filed) or other jurisdiction, to wit, _____(Print the name of the country or other jurisdiction where the Articles of Organization, or the equivalent* thereof, creating the Non-Florida (Foreign) Limited Liability Company are filed;**

---

* **The term "equivalent" shall mean for the purposes of this Affidavit, with respect to "persons" or "entities", any person or entity which has or may have any one or more of the duties or powers or obligations or responsibilities or authorities, real or apparent, of a Member, Managing Member, or Manager, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time. The term "equivalent" shall mean for the purposes of this Affidavit, with respect to instruments or documents or articles of organization or operating agreements or written agreements or oral agreements, any written agreement or oral agreement or instrument or document which has or may have any one or more of the functions or purposes of any instrument, document, operating agreement, written agreement or oral agreement described or mentioned in this Affidavit.**

2. **There are no Members, Managing Members or Managers, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company other than the persons or entities set forth above and on Exhibit A, if applicable.**

3. **There are no provisions in any Articles of Organization, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company or in any operating agreement, written or oral, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, which prohibit, restrict or limit in any way or in any manner the execution of the instrument or document attached hereto and incorporated herein by reference hereto, to wit, CLASS I PERMIT APPLICATION # CC06-259 (Print the title of the instrument or document) by any of the foregoing persons or entities set forth above and on Exhibit A, if applicable, for and on behalf of the aforesaid Non-Florida (Foreign) Limited Liability Company and to bind and obligate the aforesaid Non-Florida (Foreign) Limited Liability Company as set forth in the foregoing instrument or document.**

4. **All of the foregoing persons or entities set forth above and on Exhibit A, if applicable, are authorized by the aforesaid Non-Florida(Foreign) Limited Liability Company, to execute the instrument or document attached hereto and incorporated herein by reference hereto, to wit, CLASS I PERMIT APPLICATION # CC06-259 (Print the title of the instrument or document) for and on behalf of the aforesaid Non-Florida (Foreign) Limited Liability Company and to bind and obligate the aforesaid Non-Florida (Foreign) Limited Liability Company as set forth in the foregoing instrument or document.**

5. **All of the provisions of this Affidavit shall be construed in accordance with the laws of the State of Florida.**

FLAGSTONE DEVELOPMENT CORPORATION

By: _____
Mehmet Bayraktar, President

Sworn to and subscribed before me this 1st **day of September, 2006 by** MEHMET BAYRAKTAR **(print name legibly), who is personally known to me or who has produced** _____ **(type of identification).**

_____ **(Signature of Notary Public)**
_____ **(Print, type or stamp name of Notary Public)**

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

FLAGSTONE MIAMI HOLDINGS, LLC

By: FLAGSTONE DEVELOPMENT CORPORATION, its Manager

By: _____
Mehmet Bayraktar, President

Sworn to and subscribed before me this 1ST **day of September, 2006 by** MEHMET BAYRAKTAR **(print name legibly), who is personally known to me or who has produced** _____ **(type of identification).**

_____ **(Signature of Notary Public)**

_____ **(Print, type or stamp name of Notary Public)**

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

AFFIDAVIT OF MEMBERS, MANAGING MEMBERS, AND MANAGERS OF NON- FLORIDA (FOREIGN) LIMITED LIABILITY COMPANY

WE, (print full name(s) and all title(s) of person(s) or entity(s) in the following spaces; if more space needed print additional names and title(s) on separate paper marked as Exhibit A and attach Exhibit A to this Affidavit)

Full name	Title(s)
Flagstone Development Corporation	Member, Manager
Familia Florida Intangibles Tax Trust	Member
Familia 2002 Irrevocable Trust	Member

hereby swear or affirm that :

1. **The foregoing persons or entities set forth above and on Exhibit A, if applicable, which Exhibit A is attached hereto and incorporated herein by reference hereto, constitute and are all of the Members, Managing Members, and Managers, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, or the equivalent* thereof, of the Non-Florida (Foreign) Limited Liability Company known as FLAGSTONE PROPERTY GROUP, LLC, a Delaware limited liability company (Print name of the Non-Florida (Foreign) Limited Liability Company as the name appears in the Articles of Organization, as that term is defined by Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, or the equivalent* thereof, currently filed with the Secretary of State of the State of Delaware) (Print name of State where Articles of Organization, or the equivalent* thereof, creating the Non-Florida (Foreign) Limited Liability Company are filed) or other jurisdiction, to wit, _____(Print the name of the country or other jurisdiction where the Articles of Organization, or the equivalent* thereof, creating the Non-Florida (Foreign) Limited Liability Company are filed;**

*** The term "equivalent" shall mean for the purposes of this Affidavit, with respect to "persons" or "entities", any person or entity which has or may have any one or more of the duties or powers or obligations or responsibilities or authorities, real or apparent, of a Member, Managing Member, or Manager, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time. The term "equivalent" shall mean for the purposes of this Affidavit, with respect to instruments or documents or articles of organization or operating agreements or written agreements or oral agreements, any written agreement or oral agreement or instrument or document which has or may have any one or more of the functions or purposes of any instrument, document, operating agreement, written agreement or oral agreement described or mentioned in this Affidavit.**

2. **There are no Members, Managing Members or Managers, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company other than the persons or entities set forth above and on Exhibit A, if applicable.**

3. **There are no provisions in any Articles of Organization, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company or in any operating agreement, written or oral, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, which prohibit, restrict or limit in any way or in any manner the execution of the instrument or document attached hereto and incorporated herein by reference hereto, to wit, CLASS I PERMIT APPLICATION # CC06-259 (Print the title of the instrument or document) by any of the foregoing persons or entities set forth above and on Exhibit A, if applicable, for and on behalf of the aforesaid Non-Florida (Foreign) Limited Liability Company and to bind and obligate the aforesaid Non-Florida (Foreign) Limited Liability Company as set forth in the foregoing instrument or document.**

4. **All of the foregoing persons or entities set forth above and on Exhibit A, if applicable, are authorized by the aforesaid Non-Florida(Foreign) Limited Liability Company, to execute the instrument or document attached hereto and incorporated herein by reference hereto, to wit, CLASS I PERMIT APPLICATION # CC06-259 (Print the title of the instrument or document) for and on behalf of the aforesaid Non-Florida (Foreign) Limited Liability Company and to bind and obligate the aforesaid Non-Florida (Foreign) Limited Liability Company as set forth in the foregoing instrument or document.**

5. **All of the provisions of this Affidavit shall be construed in accordance with the laws of the State of Florida.**

FLAGSTONE DEVELOPMENT CORPORATION

By: _____
Mehmet Bayraktar, President

Sworn to and subscribed before me this 1st **day of September, 2006 by** MEHMET BAYRAKTAR **(print name legibly), who is personally known to me or who has produced** _____ **(type of identification).**

_____ **(Signature of Notary Public)**
_____ **(Print, type or stamp name of Notary Public)**

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

FAMILIA FLORIDA INTANGIBLES TAX TRUST

By: _____
Sukeiye Bayraktar, **Trustee**

Sworn to and subscribed before me this 1ST **day of September, 2006 by** Sukeiye Bayraktar **(print name legibly), who is personally known to me or who has produced** _____ **(type of identification).**

_____ **(Signature of Notary Public)**
_____ **(Print, type or stamp name of Notary Public)**

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

FAMILIA 2002 IRREVOCABLE TRUST

By: _____
Sukeiye Bayraktar, **Trustee**

Sworn to and subscribed before me this 1ST **day of September, 2006 by** Sukeiye Bayraktar **(print name legibly), who is personally known to me or who has produced** _____ **(type of identification).**

_____ **(Signature of Notary Public)**
_____ **(Print, type or stamp name of Notary Public)**

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

AFFIDAVIT OF MEMBERS, MANAGING MEMBERS, AND MANAGERS OF NON- FLORIDA (FOREIGN) LIMITED LIABILITY COMPANY

WE, (print full name(s) and all title(s) of person(s) or entity(s) in the following spaces; if more space needed print additional names and title(s) on separate paper marked as Exhibit A and attach Exhibit A to this Affidavit)

Full name	Title(s)
Flagstone Development Corporation	Member, Manager
Flagstone Property Group, LLC	Member

hereby swear or affirm that :

1. **The foregoing persons or entities set forth above and on Exhibit A, if applicable, which Exhibit A is attached hereto and incorporated herein by reference hereto, constitute and are all of the Members, Managing Members, and Managers, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, or the equivalent* thereof, of the Non-Florida (Foreign) Limited Liability Company known as FLAGSTONE MIAMI HOLDINGS, LLC, a Delaware limited liability company (Print name of the Non-Florida (Foreign) Limited Liability Company as the name appears in the Articles of Organization, as that term is defined by Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, or the equivalent* thereof, currently filed with the Secretary of State of the State of Delaware) (Print name of State where Articles of Organization, or the equivalent* thereof, creating the Non-Florida (Foreign) Limited Liability Company are filed) or other jurisdiction, to wit, _____(Print the name of the country or other jurisdiction where the Articles of Organization, or the equivalent* thereof, creating the Non-Florida (Foreign) Limited Liability Company are filed;**

---

* **The term "equivalent" shall mean for the purposes of this Affidavit, with respect to "persons" or "entities", any person or entity which has or may have any one or more of the duties or powers or obligations or responsibilities or authorities, real or apparent, of a Member, Managing Member, or Manager, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time. The term "equivalent" shall mean for the purposes of this Affidavit, with respect to instruments or documents or articles of organization or operating agreements or written agreements or oral agreements, any written agreement or oral agreement or instrument or document which has or may have any one or more of the functions or purposes of any instrument, document, operating agreement, written agreement or oral agreement described or mentioned in this Affidavit.**

2. **There are no Members, Managing Members or Managers, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company other than the persons or entities set forth above and on Exhibit A, if applicable.**

3. **There are no provisions in any Articles of Organization, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company or in any operating agreement, written or oral, or the equivalent* thereof, of the aforesaid Non-Florida (Foreign) Limited Liability Company, as those terms are defined in Section 608.402, Fla. Stat. (2006), as same may be amended from time to time, which prohibit, restrict or limit in any way or in any manner the execution of the instrument or document attached hereto and incorporated herein by reference hereto, to wit, CLASS I PERMIT APPLICATION # CC06-259 (Print the title of the instrument or document) by any of the foregoing persons or entities set forth above and on Exhibit A, if applicable, for and on behalf of the aforesaid Non-Florida (Foreign) Limited Liability Company and to bind and obligate the aforesaid Non-Florida (Foreign) Limited Liability Company as set forth in the foregoing instrument or document.**

4. **All of the foregoing persons or entities set forth above and on Exhibit A, if applicable, are authorized by the aforesaid Non-Florida(Foreign) Limited Liability Company, to execute the instrument or document attached hereto and incorporated herein by reference hereto, to wit, CLASS I PERMIT APPLICATION # CC06-259 (Print the title of the instrument or document) for and on behalf of the aforesaid Non-Florida (Foreign) Limited Liability Company and to bind and obligate the aforesaid Non-Florida (Foreign) Limited Liability Company as set forth in the foregoing instrument or document.**

5. **All of the provisions of this Affidavit shall be construed in accordance with the laws of the State of Florida.**

FLAGSTONE DEVELOPMENT CORPORATION

By: _____
Mehmet Bayraktar, President

Sworn to and subscribed before me this 1st **day of September, 2006 by** Mehmet Bayraktar **(print name legibly), who is personally known to me or who has produced** _____ **(type of identification).**

_____ **(Signature of Notary Public)**
_____ **(Print, type or stamp name of Notary Public)**

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

FLAGSTONE PROPERTY GROUP, LLC

By: FLAGSTONE DEVELOPMENT CORPORATION, its Manager

By: _____
Mehmet Bayraktar, President

Sworn to and subscribed before me this 1st **day of September, 2006 by** MEHMET BAYRAKTAR **(print name legibly), who is personally known to me or who has produced** _____ **(type of identification).**

_____ **(Signature of Notary Public)**

_____ **(Print, type or stamp name of Notary Public)**

NOTARY PUBLIC-STATE OF FLORIDA
Juan Carlos Echeverria
Commission # DD456072
Expires: JULY 31, 2009
Bonded Thru Atlantic Bonding Co., Inc.

ATTACHMENT B:

Affidavit of Ownership

Affidavit of Ownership
and Hold Harmless Agreement

Personally Appeared Before Me, Pedro G. Hernandez, City Manager, City of Miami, that
(Property owner, lessee or Corporate Officer if owner is a corporation)
undersigned authority, and hereby swears and affirms under oath as follows:

1. That your affiant is the record owner or lessee of that certain property* more fully described as:

   PLEASE SEE ATTACHED DEED #19447 AND SURVEY

   * may attach legal description from public records or plat book or a copy of the warranty deed

2. That your affiant is also the riparian and/or littoral owner or lessee of that certain property that is the subject matter of Application No. CC06-259 for a Class I permit under and pursuant to Section 24-48 of the Code of Miami-Dade County to construct or engage in the following activity:

   SEE ATTACHED.

3. That your affiant hereby swears and affirms its ownership or leasehold in the above noted property necessary for the work noted in Paragraph 2 above, and hereby agrees to: defend same and hold the County harmless from any and all liability, claims and damages of any nature whatsoever occurring, including or arising as a result of your affiant not having the proper title to all lands or proper leasehold to all lands that are the subject matter of this application.

STATE OF FLORIDA
COUNTY OF DADE

Pedro G. Hernandez, City Manager, on behalf of
City of Miami

Owner/Applicant

BEFORE ME, the undersigned authority, personally appeared Pedro G. Hernandez, who, after being duly sworn, deposes and says that he/she has read the foregoing, and that the statements contained therein are true and correct to the best of his/her knowledge and belief.

Sworn to and subscribed before me this 16th (day) of August (month), 2006 (year).

Notary Signature Sabrina Blue

SABRINA BLUE
MY COMMISSION # DD500846
EXPIRES: December 20, 2009
Fl. Notary Discount Assoc. Co.

908646_1.PDF

INTERNAL IMPROVEMENT FUND STATE OF FLORIDA

DEED NO. 19447

KNOW ALL MEN BY THESE PRESENTS: That the undersigned, the Trustees of the Internal Improvement Fund of the State of Florida, under and by virtue of the authority of Section 253.12, Florida Statutes, 1941, and according to the provisions provided for in Section 253.13, Florida Statutes, 1941, and for and in consideration of the sum of Ten and 00/100 Dollars and other good and valuable considerations, to them in hand paid by CITY OF MIAMI, Dade County, Florida, receipt of which is hereby acknowledged, have granted, bargained, sold and conveyed to the said CITY OF MIAMI and its successors and assigns forever, the following described lands, to-wit:

Beginning at the point of intersection of the Easterly production of the Center Line of Richmond Street (now known as N. E. 13th Street) as shown on the Amended Plat of "RICHMOND ADDITION" as recorded in Plat Book 3, Page 2, with the U. S. Harbor Line on the West side of Biscayne Bay; thence run Northerly along said U. S. Harbor Line to a point on a line four hundred and fifty feet North of and parallel to the Easterly production of the said Center Line of Richmond Street (now known as N. E. 13th Street); thence run Easterly along said line 450 feet North of and parallel to the Easterly production of the Center Line of said Richmond Street (now known as N. E. 13th Street) to the point of intersection with that course described in Deed Book 361, Page 353, as follows: "Thence in a Southeasterly direction to the Southeast corner of the Southwest Quarter of the Southwest Quarter (SW¼ of SW¼) of Section 32, Township 53 South, Range 42 East"; Thence Southeasterly along the said last described course to the said Southeast corner of the SW¼ of SW¼ of Section 32, Township 53 South, Range 42 East, thence run South along the West Line of the NE¼ of NW¼ of Section 5, Township 54 South, Range 42 East to a point eighty feet Northerly from and measured at right angles to the Center Line of the Miami Municipal Channel; Thence run Southeasterly following that course described in Deed Book 1172, Page 474, as follows; "Commencing at the intersection of the West Line of the NE¼ of NW¼ of Section 5, Township 54 South, Range 42 East, and a line parallel to and eighty feet Northerly from, and measured at right angles to the Center Line of the Miami Municipal Channel", to the East boundary of the West 3/4 of said Section 5; Thence run South along the East boundary of the West 3/4 of said Section 5 and Section 8, Township 54 South, Range 42 East, to the Northerly Line of the FEC Railway Company Channel as described in aforesaid Deed Book 1172, Page 474; Thence run Westerly along the said Northerly line of the FEC Railway Company Channel to the East line of the NW¼ of Section 8, Township 54 South, Range 42 East; Thence run Westerly

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along that line described in Chapter 12666 (No. 102) Laws of Florida - 1929 as follows: "Thence westerly to the Intersection of the P. & O. S.S. Channel and the Channel extending from the mouth of the Miami River in a Southeasterly direction", to the East line of Section 7, Township 54 South, Range 42 East; Thence run South along the said East line of Section 7, Township 54 South, Range 42 East to a point 2000 feet North of the South line of Section 7, Township 54 South, Range 42 East, being that point at the termination of the line described in Deed Book 1900, Page 355 Parcel "B" as follows: "Thence North along the East Line of said Section 7 for a distance of 2000 feet to a point"; Thence along the course described in Deed Book 1900, Page 355, as follows: "Thence Southwest 2828 feet to a point on the South boundary of said Section 7", to a point 2000 feet East of the Southeast corner of said Section 7; Thence run West along the South line of said Section 7 and the South line of said Section 7 produced West, to the point of intersection with the U. S. Harbor Line on the West side of Biscayne Bay; thence run Northerly along the said U. S. Harbor Line to the point of beginning.

Except therefrom the following described BAY BOTTOM LAND AREA FOR DREDGING IN CONNECTION WITH PROPOSED 65 ACRE EDGEWATER ISLAND.

Beginning at the point of intersection of the Southeasterly production of the Northerly side of S. E. 14th Street, the same being the Southerly line of Highlyman's Subdivision as recorded in Plat Book 1, Page 184 of the Public Records of Dade County, Florida, with the U. S. Harbor Line on the Westerly side of Biscayne Bay; thence Northerly along the said U. S. Harbor Line and the Northerly extension thereof 3800 feet, more or less, to the point of intersection with the Southerly line of Miami River Channel, as shown and established on Sheet No. 2 of plan prepared by U. S. Engineer Office, Jacksonville, Florida, November 1934, showing Miami River, Florida, conditions on completion of Dredging of Channel Projects; thence Northeasterly along the said Southerly line of Miami River Channel and the Northeasterly production thereof 2500 feet to a point; thence Southerly 5300 feet, more or less; along a line parallel to the Southerly production of the dividing line between Township 53 South, Range 41 East and Township 53 South, Range 42 East to the point of intersection with the aforesaid Southeasterly production of the Northerly side of S. E. 14th Street; thence Northwesterly 2900 feet, more or less, along the said Southeasterly Production of the Northerly side of S. E. 14th Street to the U. S. Harbor Line, the point of beginning. And further excepting therefrom all land title to which is in private parties.

TO HAVE AND TO HOLD the said above mentioned and described land and premises, and all the title and interest of the Trustees therein as granted to them by Section 253.12, Florida Statutes, 1941, unto the said CITY OF MIAMI and its successors and assigns forever.

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SAVING AND RESERVING unto the Trustees of the Internal Improvement Fund of Florida, and their successors, an undivided three-fourths interest in and title in and to an undivided three-fourths interest in all the phosphate, minerals and metals that are or may be in, on or under the said above described lands, and an undivided one-half interest in and title in and to an undivided one-half interest in all the petroleum that is or may be in or under the said above described land, with the privilege to mine and develop the same.

PROVIDED, HOWEVER, anything herein to the contrary notwithstanding, this deed is given and granted upon the express condition subsequent that the Grantee herein or its successors or assigns shall never sell or convey or lease the above described land or any part thereof to any private person, firm or corporation for any private use or purpose, it being the intention of this restriction that the said lands shall be used solely for public purposes, including municipal purposes and not otherwise.

PROVIDED, FURTHER, anything herein to the contrary notwithstanding, this deed is given and granted upon the further express condition subsequent that the Grantee herein or its successors or assigns shall not give or grant any license or permit to any private person, firm or corporation to construct or make by any means, any islands, fills, embankments, structures, buildings or other similar things within or upon the above described lands or any part thereof for any private use or purpose, as distinguished from any public or municipal use or purpose.

It is covenanted and agreed that the above conditions subsequent shall run with the land and any violation thereof shall render this deed null and void and the above described lands shall, in such event, revert to the Grantors or their successors.

IN WITNESS WHEREOF, the Trustees of the Internal Improvement Fund of the State of Florida have hereunto subscribed their names and affixed their seals, and have caused the seal of the "DEPARTMENT OF AGRICULTURE OF THE STATE OF FLORIDA", to be hereunto affixed, at the Capitol, in the City of Tallahassee, on this the 28th day of February, A. D. Nineteen Hundred and Forty-nine.

Fuller Warren (SEAL)
Governor

C. M. Gay (SEAL)
Comptroller

J. Edwin Larson (SEAL)
Treasurer

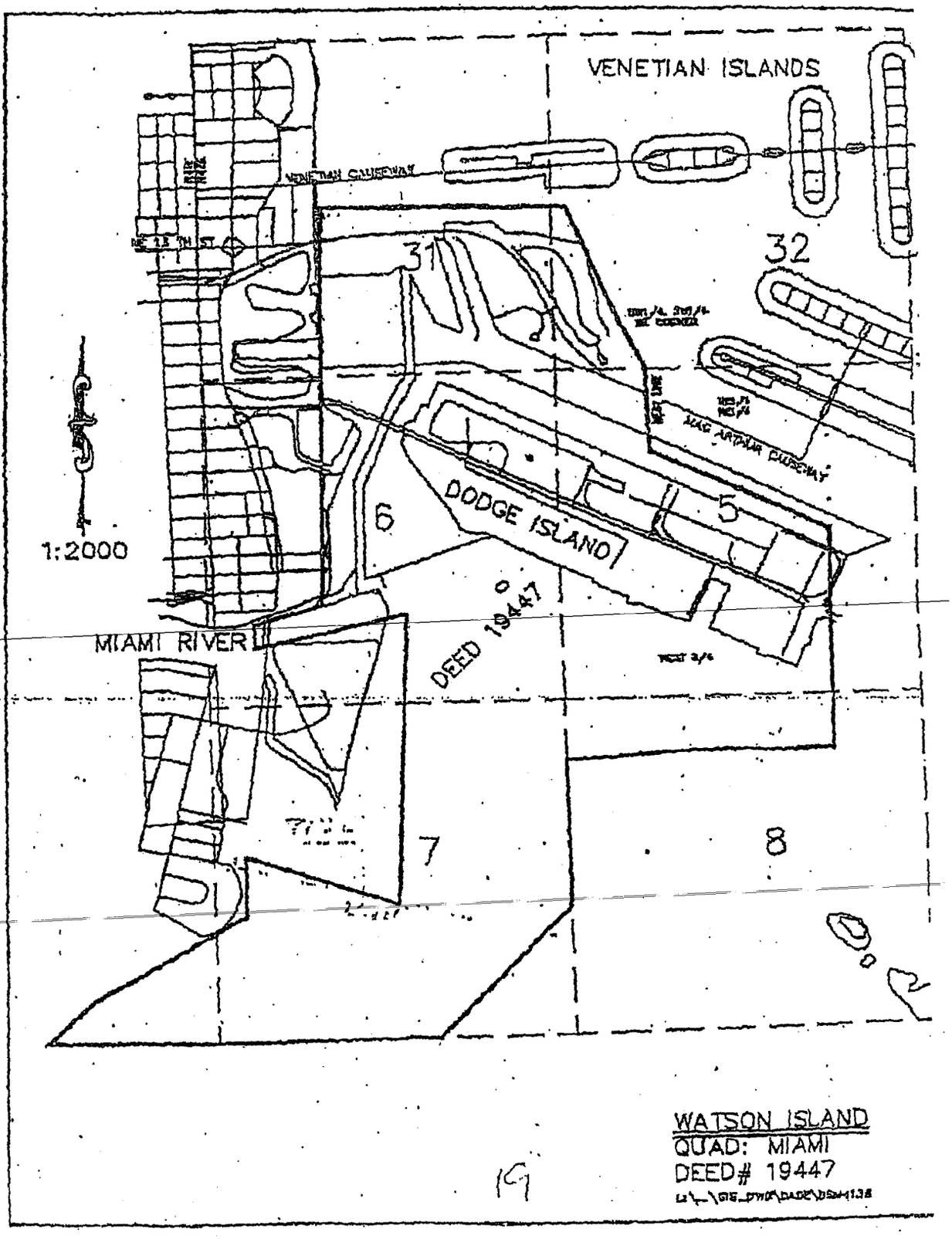
Richard W. Ervin (SEAL)
Attorney General

Nathan Mayo (SEAL)
Commissioner of Agriculture

Sent to
Mr. George Salley
Hunt and Salley
Miami, Florida
Feb. 24th, 1949

Filed under
City of Miami
by Lud M. Kelly

18


VENETIAN ISLANDS
VENETIAN CAUSEWAY
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32
MACARTHUR CAUSEWAY
6
DODGE ISLAND
5
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MIAMI RIVER
DEED 19447
7
8
WATSON ISLAND
QUAD: MIAMI
DEED# 19447

19

ATTACHMENT C:

Applicants/Agents Letter, Engineer Certification Letter & Project Sketches

COASTAL SYSTEMS INTERNATIONAL, INC.
464 South Dixie Highway • Coral Gables, Florida 33146
Tel: 305-661-3655 • Fax: 305-661-1914
www.coastalsystemsint.com

August 14, 2006

To:
Miami Dade County DERM
Class I Permitting Program
33 S.W. 2nd Avenue, Suite 400
Miami, Florida 33130-1540

RE: CLASS I STANDARD FORM PERMIT APPLICATION NUMBER CC06-259, FOR THE PROPOSED ISLAND GARDENS MEGA-YACHT HARBOR PROJECT, LOCATED ON WATSON ISLAND IN THE CITY OF MIAMI, MIAMI-DADE COUNTY, FLORIDA

By the attached Class I Standard Form permit application with supporting documents, I Mr. R. Harvey Sasso, President, Coastal Systems International, am the permit applicants / applicants' authorized agent and hereby request permission to perform the following: re-configuration of an existing 43-slip docking facility into a 50-slip international mega-yacht harbor to accommodate vessels up to 465 feet in length by dredging 15.8 acres of submerged land owned by the City of Miami, for development of the proposed Flagstone Island Gardens Mega-Yacht Harbor Project. Both the upland facilities that will support the harbor and submerged lands are owned by the City of Miami. The project will be constructed in two phases. The first phase will consist of dredging and mitigation work, and the second phase will consist of the construction of the marina facilities. The request for a variance for the non-water dependent structures is also included (pylons attached to piers, covered areas at waterward extent of main piers, and the planters/palm trees on the main piers). Because of the complexity of the project, the applicants are requesting that the Board of County Commissioners grant the applicants 24 months to obtain the permit from DERM. I understand that a Miami-Dade County Class I Standard Form Permit is required to perform this work.

If approval is granted for the proposed work by the Board of County Commissioners, complete and detailed plans and calculations of the proposed work shall be prepared by an engineer registered in the State of Florida in accordance with the minimum requirements of Chapter 24 of the Code of Miami-Dade County, Florida. Said plans and calculations shall be subject to the review and approval of the Department of Environmental Resources Management. The permit applicants will secure the services of an engineer registered in the State of Florida to conduct inspections throughout the construction period, and said engineer shall prepare all required drawings of record.

Respectfully submitted,
Coastal Systems International, Inc.

R. Harvey Sasso, President, Authorized Agent

COASTAL SYSTEMS INTERNATIONAL, INC.
464 South Dixie Highway • Coral Gables, Florida 33146
Tel: 305-661-3655 • Fax: 305-661-1914
www.coastalsystemsint.com

August 14, 2006

Miami-Dade County DERM
Class I Permitting Program
33 S.W. 2nd Avenue, Suite 400
Miami, Florida 33130-1540

RE: CLASS I STANDARD FORM PERMIT APPLICATION NUMBER CC06-259, FOR THE PROPOSED ISLAND GARDENS MEGA-YACHT HARBOR PROJECT, LOCATED ON WATSON ISLAND IN THE CITY OF MIAMI, MIAMI-DADE COUNTY, FLORIDA

Ladies and Gentlemen:

This letter will certify that I am an engineer registered in the State of Florida, qualified by education and experience in the area of construction, and that to the best of my knowledge and belief, the proposed work does not violate any laws of the State of Florida or any provision of the Code of Miami Dade County which may be applicable, that diligence and recognized standard practices of the engineering profession have been exercised in the engineer's design process for the proposed work, and in my opinion based upon my knowledge and belief, the following will not occur:

a. Harmful obstruction or undesirable alteration of the natural flow of the water within the area of the proposed work.

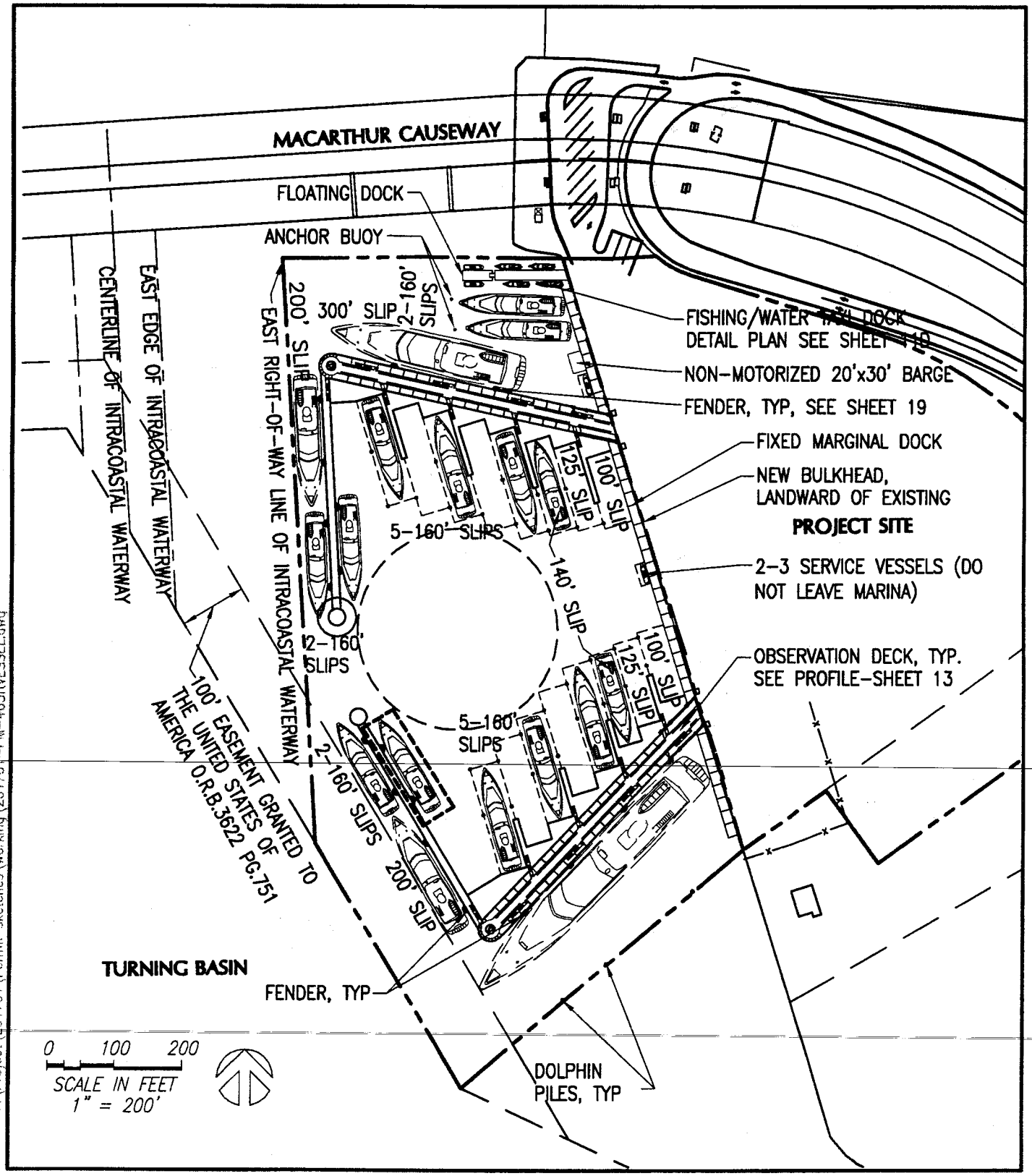
b. Harmful or increased erosion, shoaling of channels or stagnant areas of water.

c. Material injury to adjacent property.

Further, I have also been retained by Flagstone Island Gardens, LLC and City of Miami to provide inspections throughout the construction period and shall prepare a set of reproducible record prints of drawings showing changes made during the construction process based upon the marked-up prints, drawings, and other data furnished by the contractor to me.

Sincerely,
Coastal Systems International, Inc.
FL EB #7087

Timothy K. Blankenship, P.E.
Engineering Department Head
FL Reg. 55910

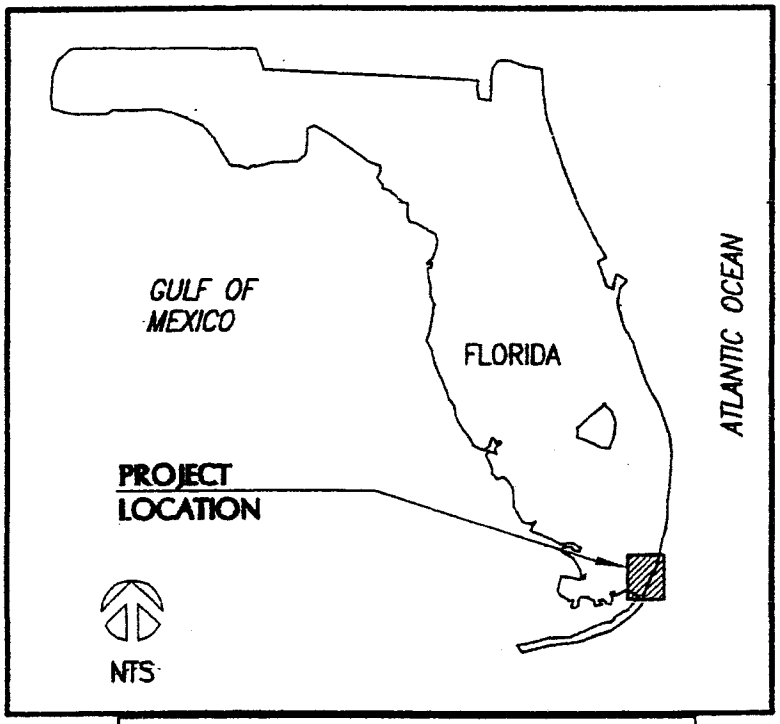


T.K. ELANKENSHIP
FL.REG.55910

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS, LLC
WATSON ISLAND
MIAMI, FL 33132

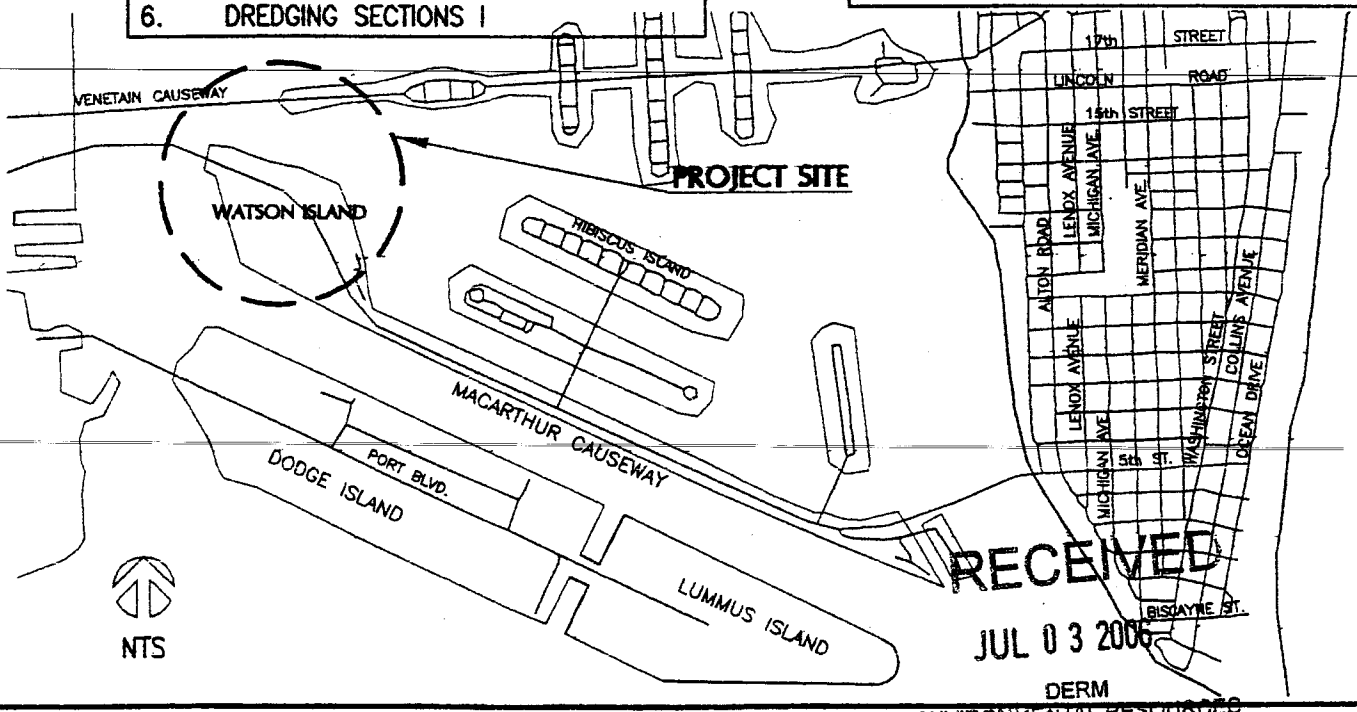
COASTAL SYSTEMS INTERNATIONAL, INC.
464 South Dixie Highway, Coral Gables, Florida 33146
Tel: 305/661-3655 Fax: 305/661-1914 www.CoastalSystemsInt.com
STATE OF FLORIDA EB #7087
Coastal, Environmental, Civil Engineering and Management

ISLAND GARDENS MEGAYACHT HARBOR	
PROPOSED 465 ft VESSEL	
JOB: 201701	DATE: 08/07/06
BY: MJP/VC	SHEET 1 OF 1



INDEX OF SHEETS

INDEX OF SHEETS, CONT.



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T.K. BLANKENSHIP
FL.REG.55910

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS, LLC
WATSON ISLAND
MIAMI, FL 33132

COASTAL SYSTEMS INTERNATIONAL, INC
4644 South Dixie Highway, Coral Gables, Florida 33146
Tel: 305/661-3855 Fax: 305/661-1914 www.CoastalSystemsInt.com
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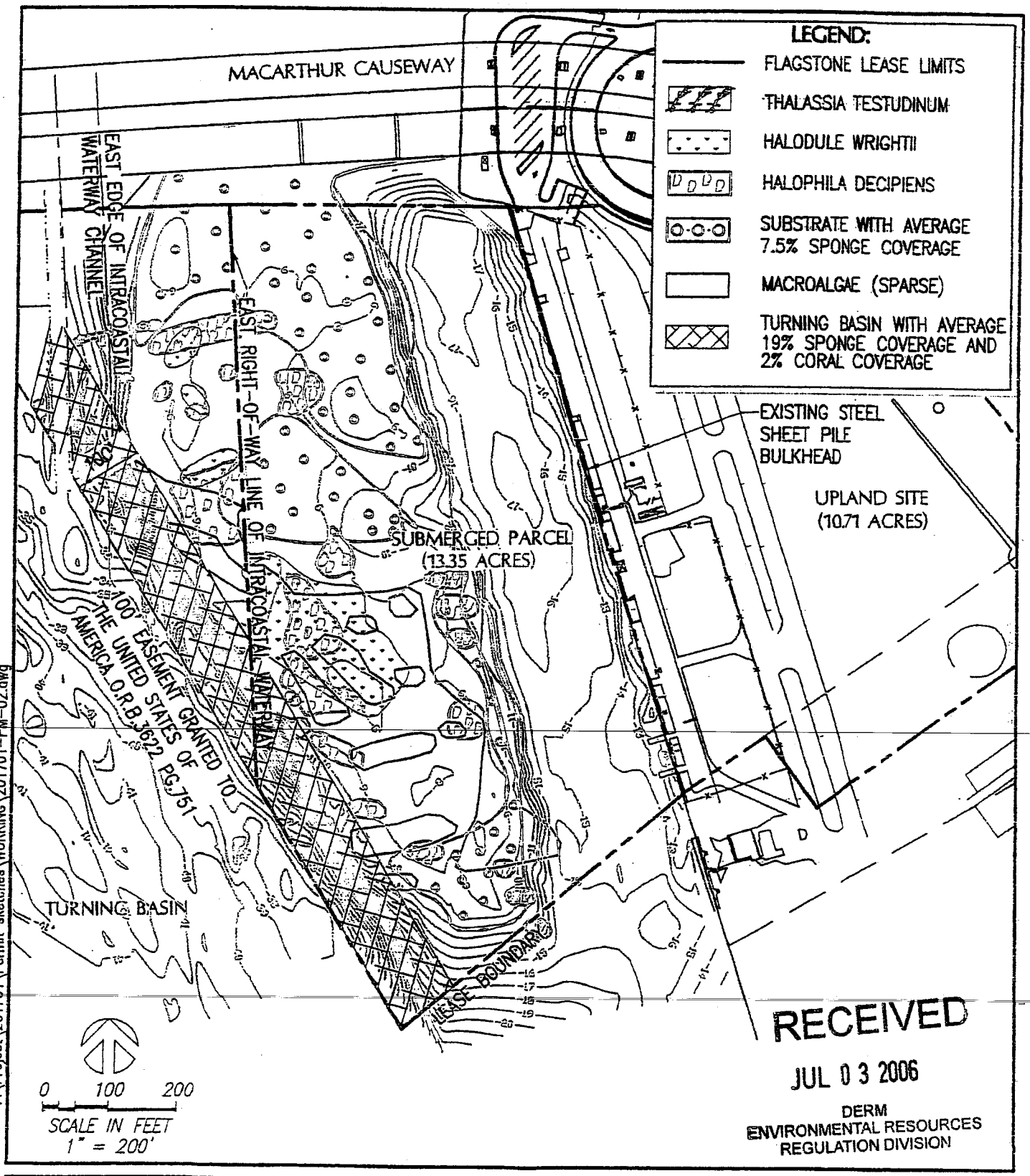
ISLAND GARDENS
MEGAYACHT HARBOR

LOCATION MAP	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 1 OF 26



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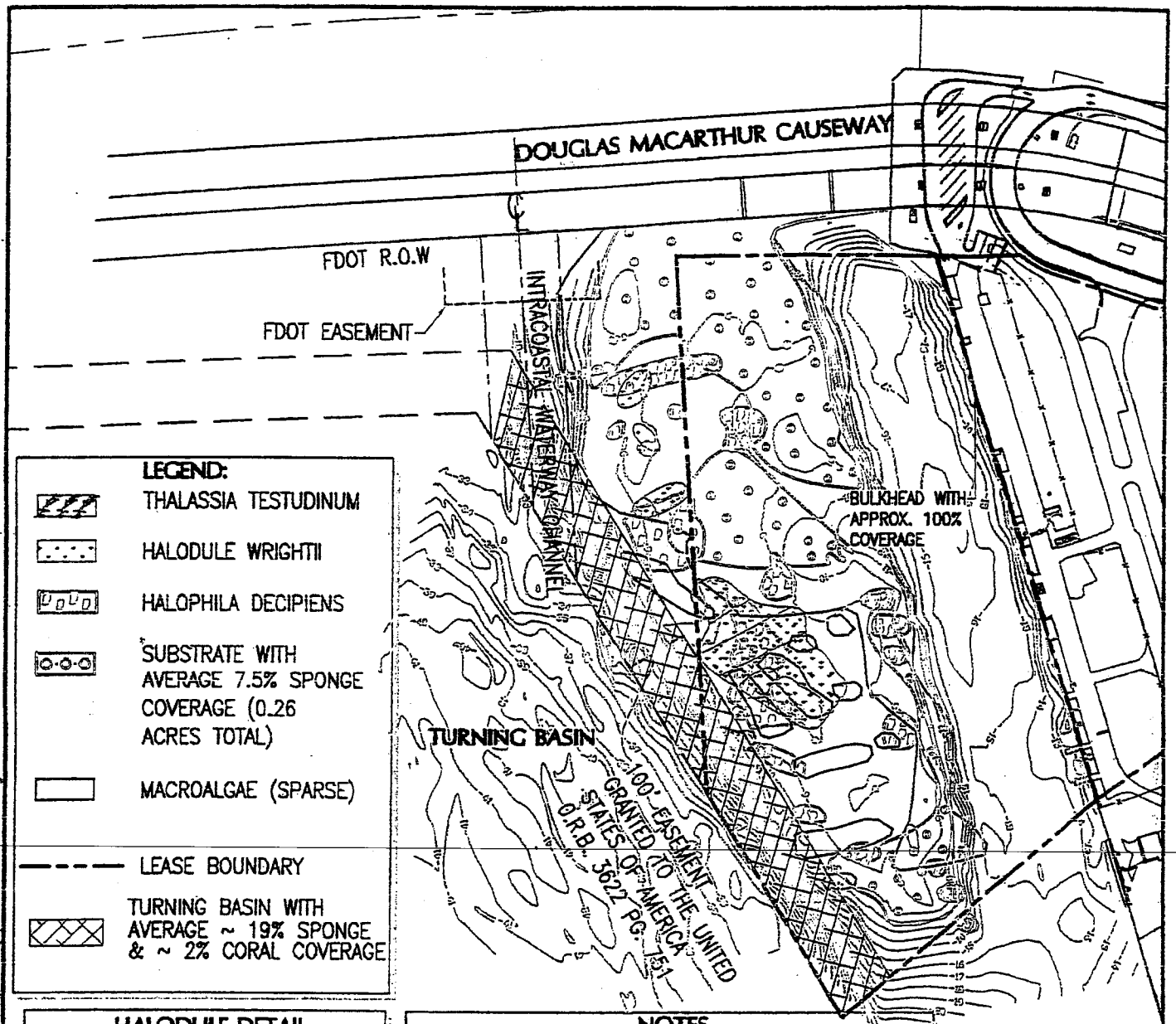
ISLAND GARDENS MEGAYACHT HARBOR	
EXISTING CONDITIONS	
JOB: 201701	DATE: 05/13/04
BY: VC	SHEET 2 OF 26



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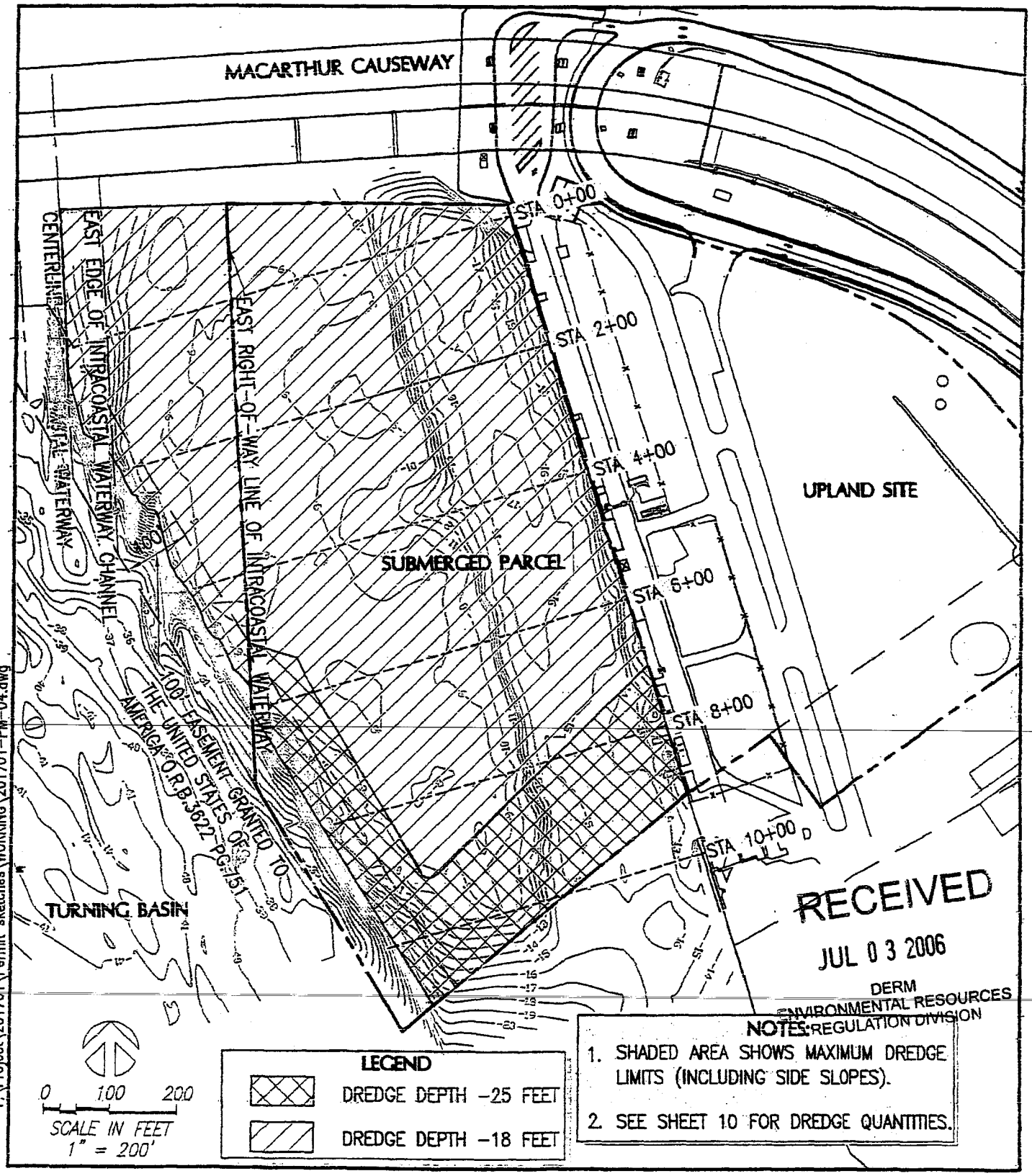
ISLAND GARDENS
MEGAYACHT HARBOR

MARINE RESOURCE QUANTITIES

JOB: 201701	DATE: 05/13/04
BY: VC	SHEET 3 OF 26



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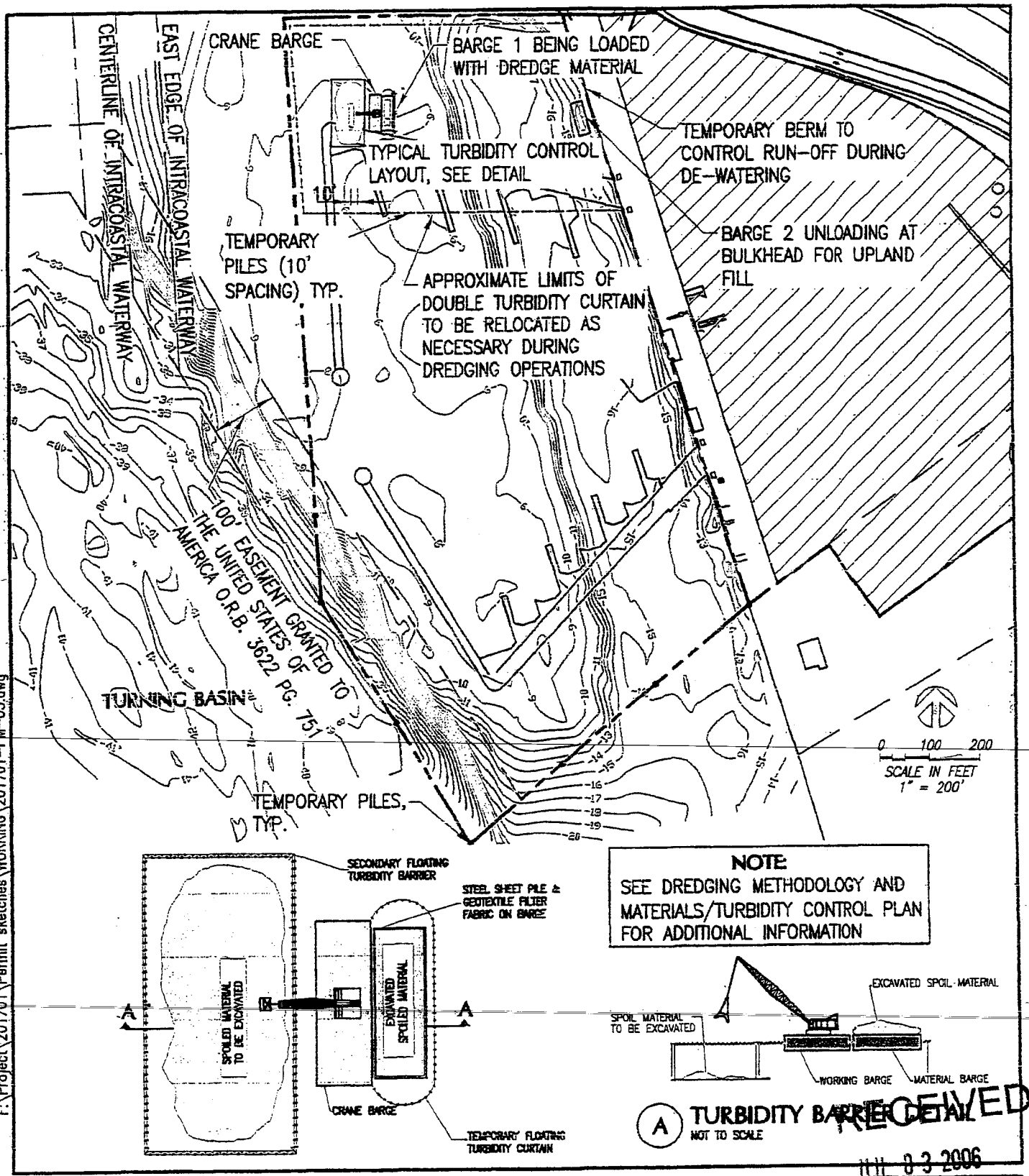
ISLAND GARDENS
MEGAYACHT HARBOR

DREDGE STATIONING PLAN

JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 4 OF 26



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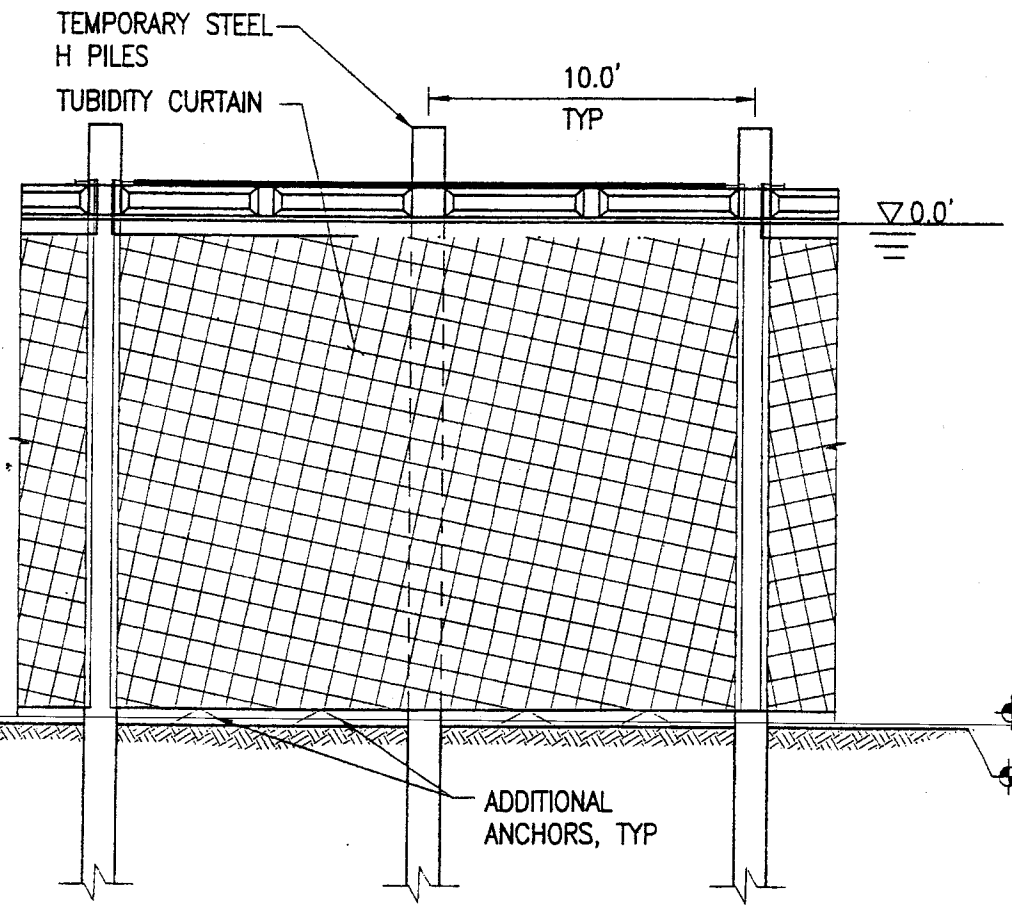
ISLAND GARDENS
MEGAYACHT HARBOR
TURBIDITY CONTROL PLAN

JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 5 OF 26



1 TURBIDITY CURTAIN PROFILE

SCALE 1" = 6'

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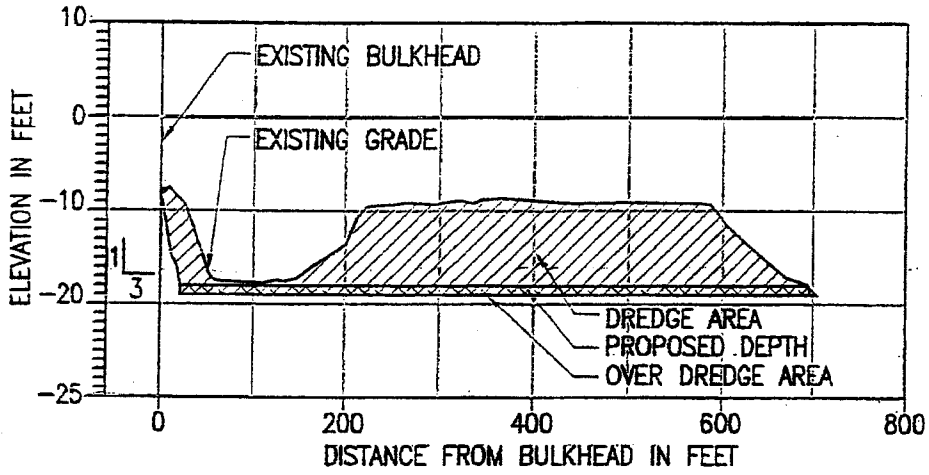
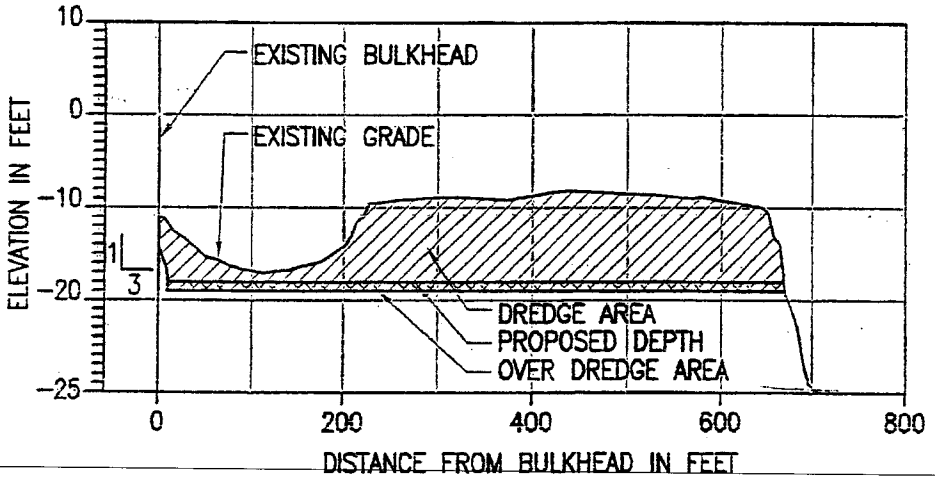
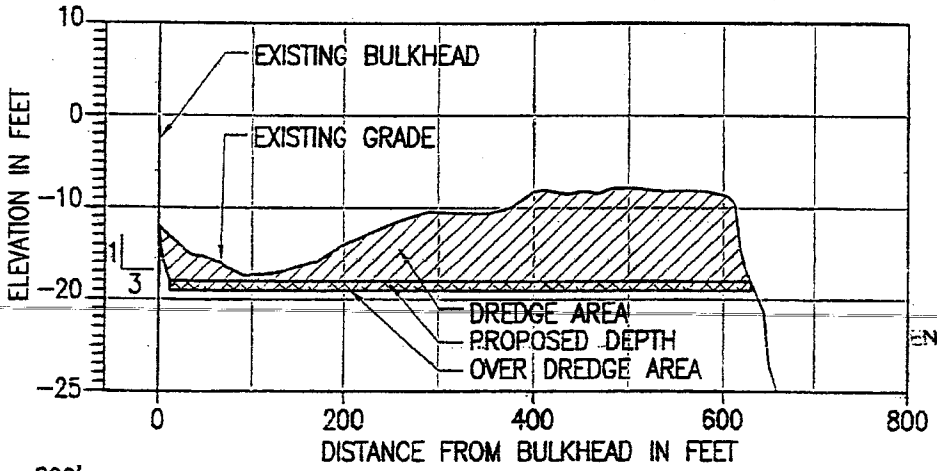
ISLAND GARDENS MEGAYACHT HARBOR	
TURBIDITY CONTROL PROFILE	
JOB: 201701	DATE: 04/14/04
BY: MJP/VC	SHEET 5a OF 22



DREDGING PROFILE STA 0+00



DREDGING PROFILE STA 2+00



DREDGING PROFILE STA 4+00

SCALE: H: 1" = 200'
V: 1" = 20

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NOTE
DREDGE TO -18.0' NGVD WITH 1.0' ALLOWABLE OVERDREDGE.

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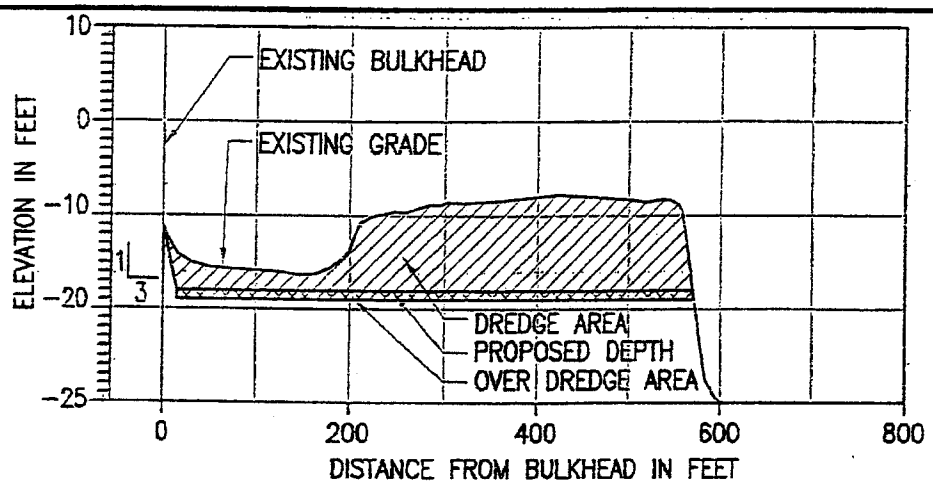
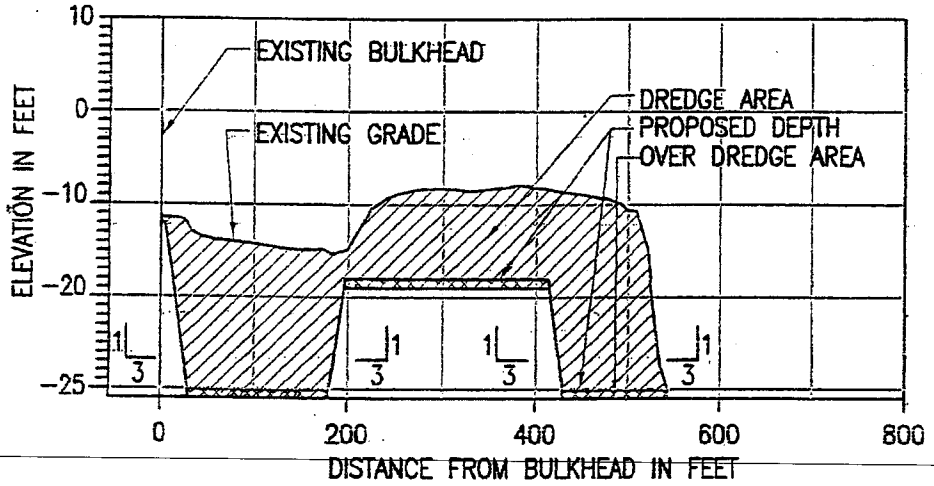
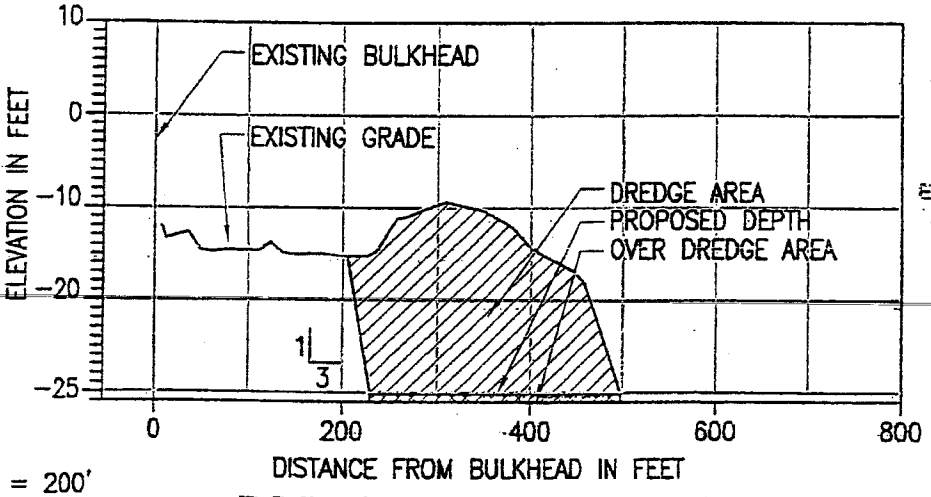
ISLAND GARDENS MEGAYACHT HARBOR	
DREDGING SECTIONS I	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 6 OF 26



DREDGING PROFILE STA 6+00



DREDGING PROFILE STA 8+00



DREDGING PROFILE STA 10+00

SCALE: H: 1" = 200'
V: 1" = 20

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NOTES:

1. ALL DREDGE SLOPES TO MAINTAIN 3:1 GRADE.
2. DREDGE TO -18.0' OR -25.0' NGVD WITH 1.0' ALLOWABLE OVERDREDGE.

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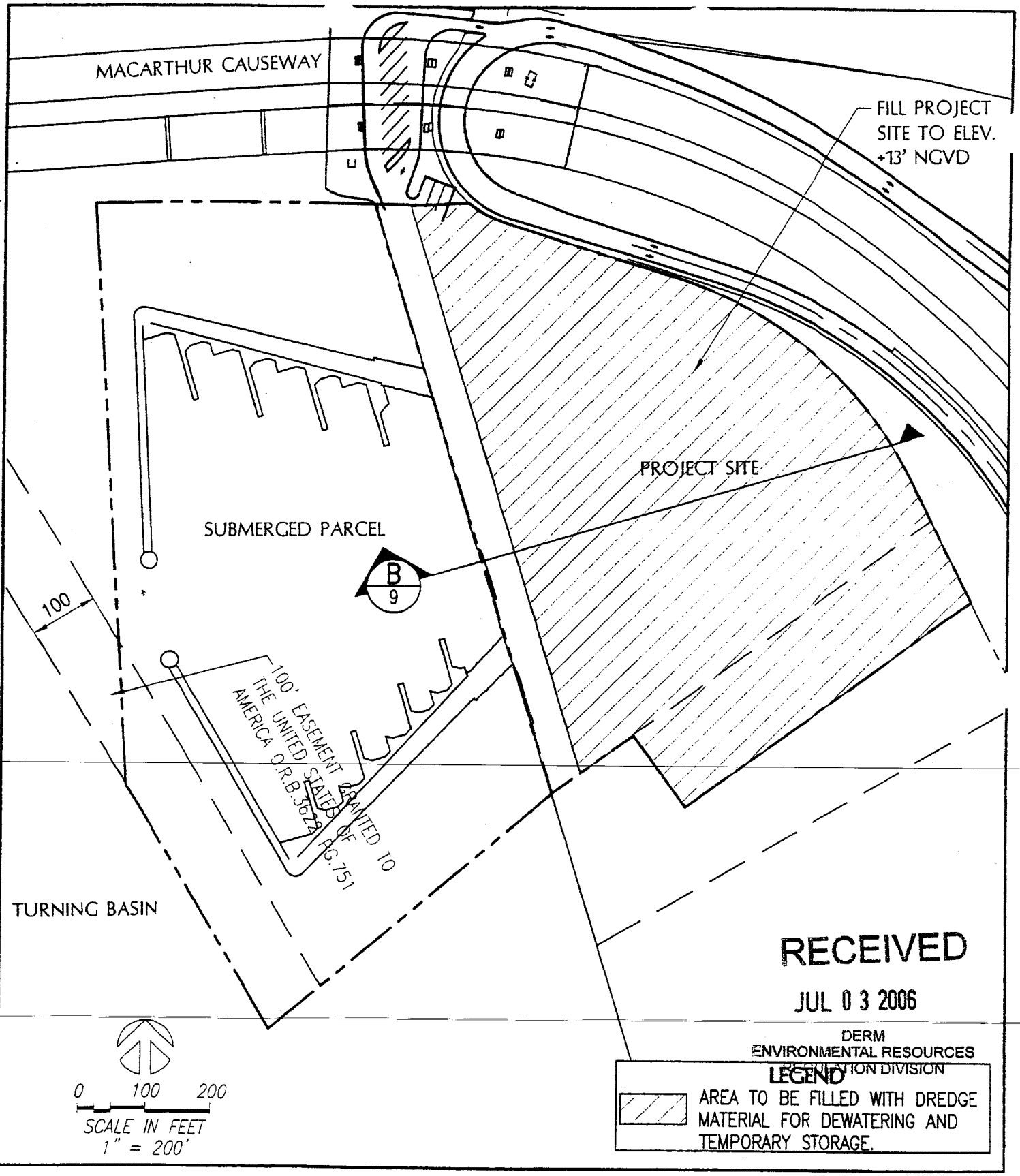
ISLAND GARDENS MEGAYACHT HARBOR	
DREDGING SECTIONS II	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 7 OF 26



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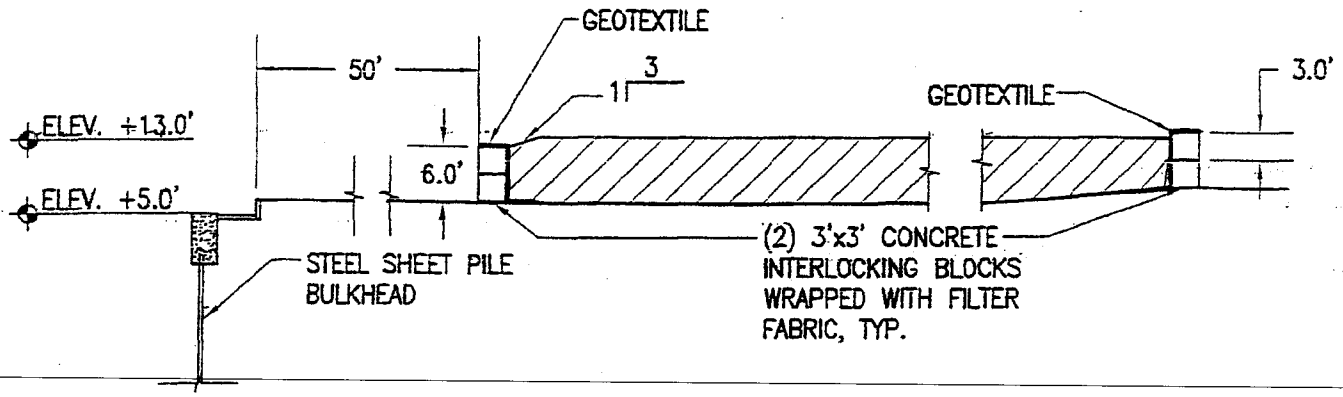
ISLAND GARDENS MEGAYACHT HARBOR	
UPLAND FILL PLAN	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 8 OF 26



B UPLAND FILL SECTION

SCALE 1" = 20'

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NOTE

SEE DREDGING METHODOLOGY AND MATERIALS TURBIDITY CONTROL PLAN FOR SEDIMENT DEWATERING AND PLACEMENT INFORMATION.

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ISLAND GARDENS MEGAYACHT HARBOR	
UPLAND FILL SECTION	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 9 OF 26

DREDGE DATA	
DREDGE AREA (ACRES)	15.81
DREDGE VOLUME TO -18' NGVD (c.y)	160,250
DREDGE VOLUME TO -25' NGVD (c.y)	32,451
OVER DREDGE (c.y.)	24,520
MAX. DREDGE VOLUME (c.y)	217,221

IMPACT TABLE	
BENTHIC RESOURCE	**AREA OF DIRECT IMPACT (acres)**
1. SEAGRASS	1.92
2. SPONGE COMMUNITY	0.26
3. TURNING BASIN WALL – UPPER SECTION	0.39
4. TURNING BASIN WALL – LOWER SECTION	0.14
5. BULKHEAD	0.02

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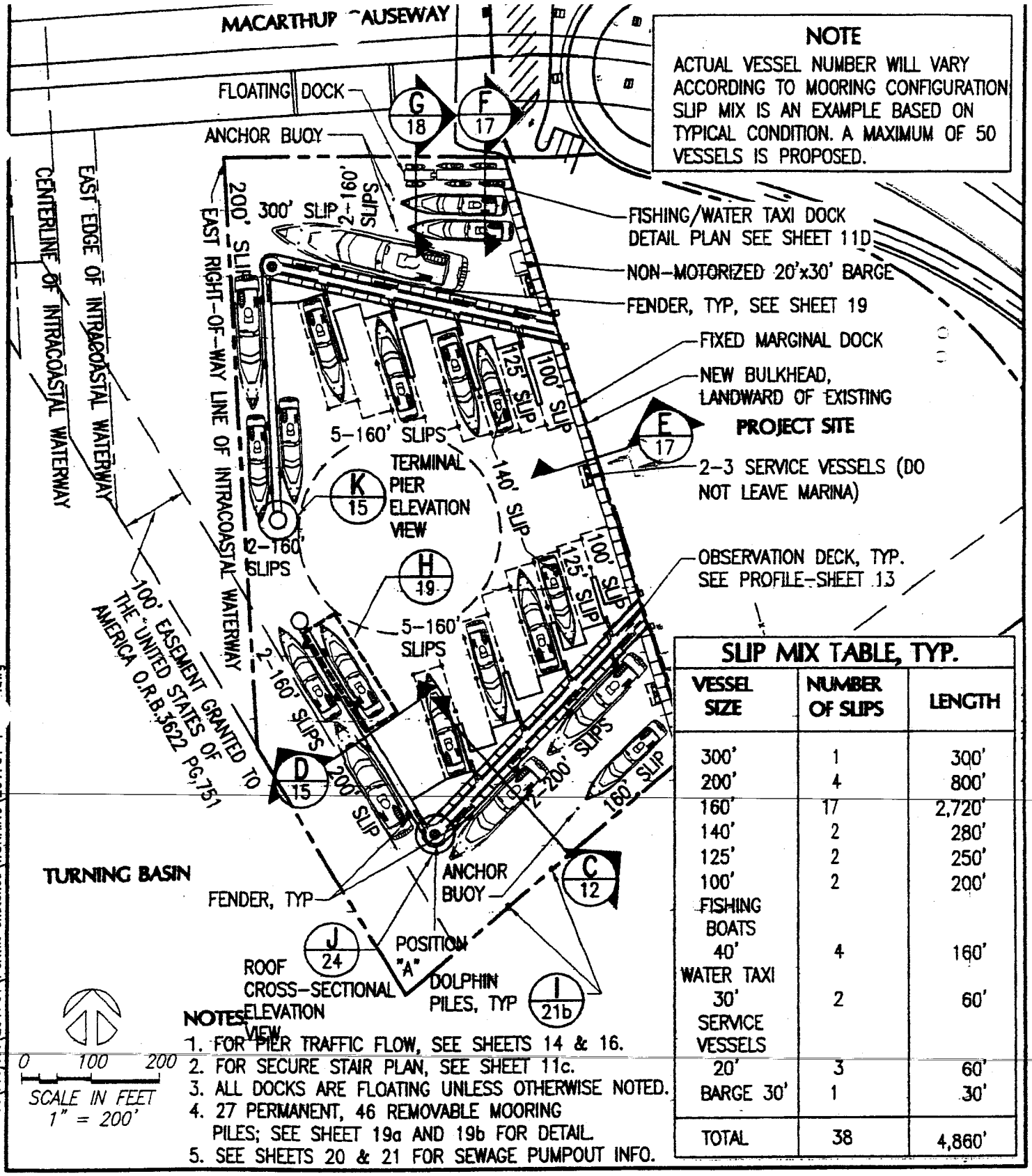
ISLAND GARDENS
MEGAYACHT HARBOR

DREDGE VOLUME COMPUTATION

JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 10 OF 26



NOTE

ACTUAL VESSEL NUMBER WILL VARY ACCORDING TO MOORING CONFIGURATION. SLIP MIX IS AN EXAMPLE BASED ON TYPICAL CONDITION. A MAXIMUM OF 50 VESSELS IS PROPOSED.

SLIP MIX TABLE, TYP.

VESSEL SIZE	NUMBER OF SLIPS	LENGTH
300'	1	300'
200'	4	800'
160'	17	2,720'
140'	2	280'
125'	2	250'
100'	2	200'
FISHING BOATS 40'	4	160'
WATER TAXI 30'	2	60'
SERVICE VESSELS 20'	3	60'
BARGE 30'	1	30'
TOTAL	38	4,860'

NOTES:

1. FOR PIER TRAFFIC FLOW, SEE SHEETS 14 & 16.
2. FOR SECURE STAIR PLAN, SEE SHEET 11c.
3. ALL DOCKS ARE FLOATING UNLESS OTHERWISE NOTED.
4. 27 PERMANENT, 46 REMOVABLE MOORING PILES; SEE SHEET 19a AND 19b FOR DETAIL.
5. SEE SHEETS 20 & 21 FOR SEWAGE PUMPOUT INFO.

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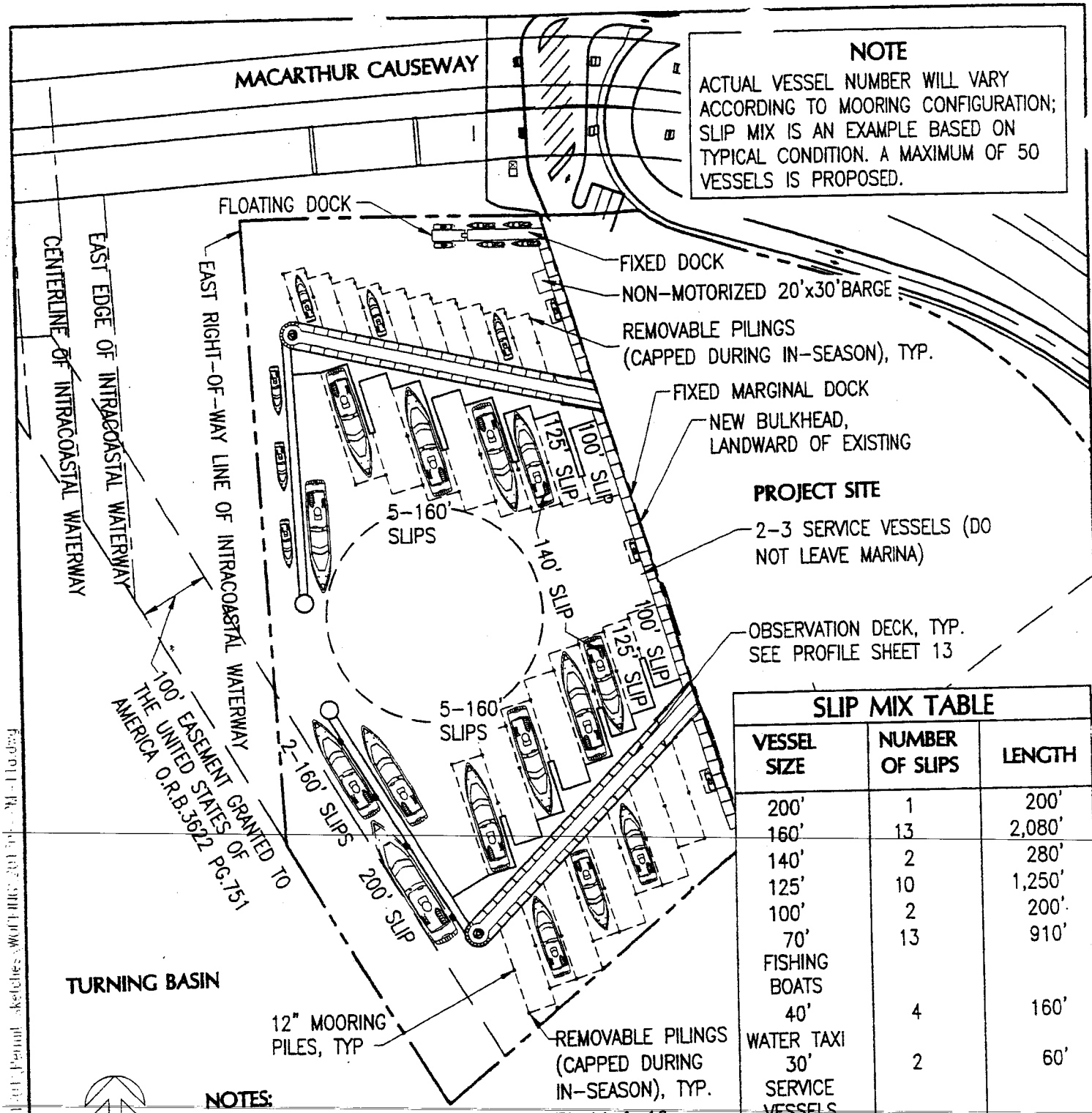
ISLAND GARDENS
MEGAYACHT HARBOR

PROPOSED IN-SEASON SLIP MIX

JOB: 201701 DATE: 05/13/04

BY: MJP/AC SHEET 11 OF 26



NOTE

ACTUAL VESSEL NUMBER WILL VARY ACCORDING TO MOORING CONFIGURATION; SLIP MIX IS AN EXAMPLE BASED ON TYPICAL CONDITION. A MAXIMUM OF 50 VESSELS IS PROPOSED.

SLIP MIX TABLE

VESSEL SIZE	NUMBER OF SLIPS	LENGTH
200'	1	200'
160'	13	2,080'
140'	2	280'
125'	10	1,250'
100'	2	200'
70' FISHING BOATS	13	910'
40' WATER TAXI	4	160'
30' SERVICE VESSELS	2	60'
20'	3	60'
BARGE 30'	1	30'
TOTAL	51	5,230'

NOTES:

1. FOR PIER TRAFFIC FLOW, SEE SHEETS 14 & 16.
2. FOR SECURE STAIRS PLAN, SEE SHEET 11c.
3. ALL DOCKS ARE FLOATING UNLESS OTHERWISE NOTED.
4. 27 PERMANENT, 40 REMOVABLE MOORING PILES; SEE SHEET 19a AND 19b FOR DETAIL.
5. SEE SHEETS 20 & 21 FOR SEWAGE PUMPOUT INFO.

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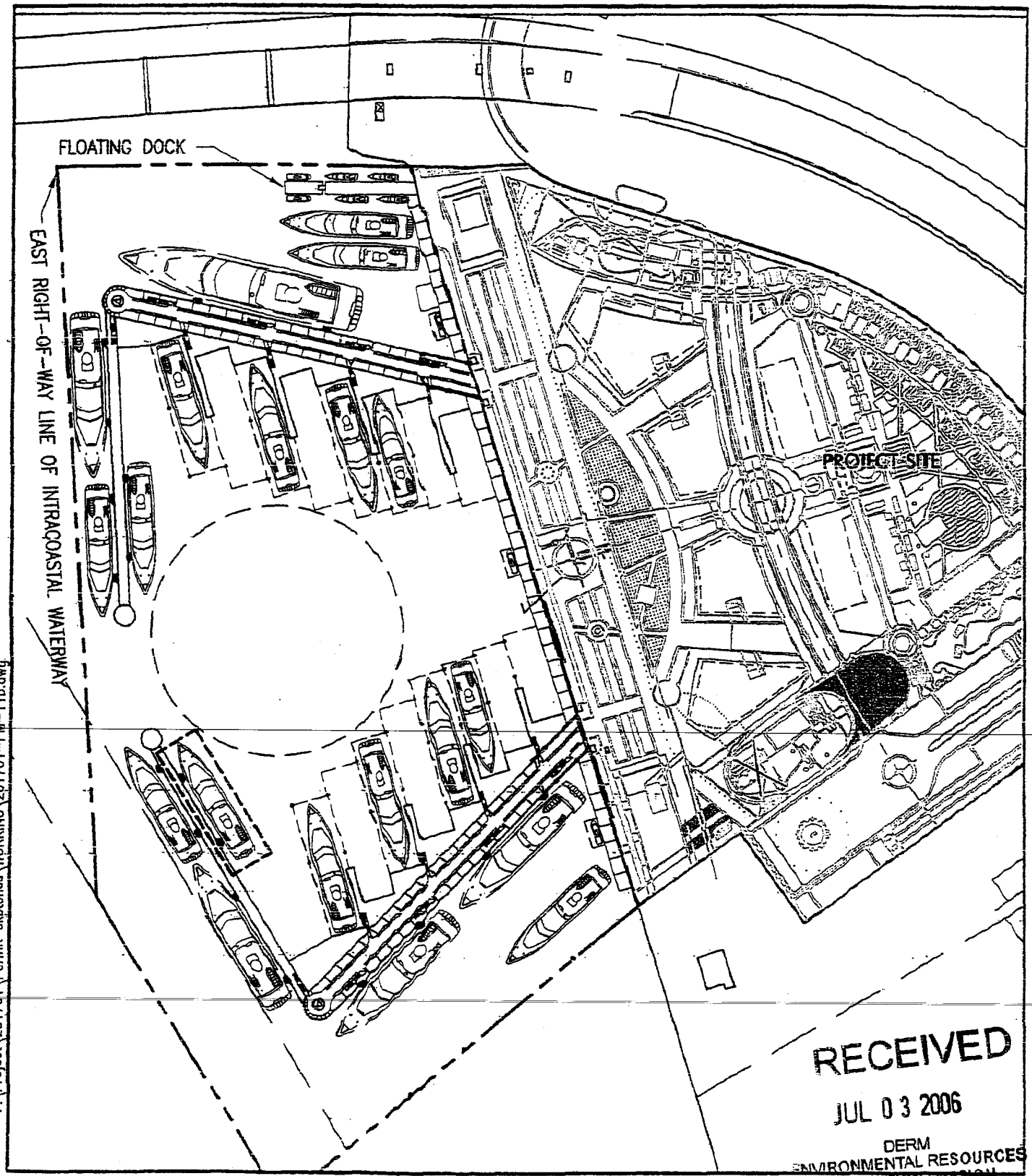
ISLAND GARDENS
MEGAYACHT HARBOR

PROPOSED OFFSEASON SLIP MIX

JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 11a OF 26



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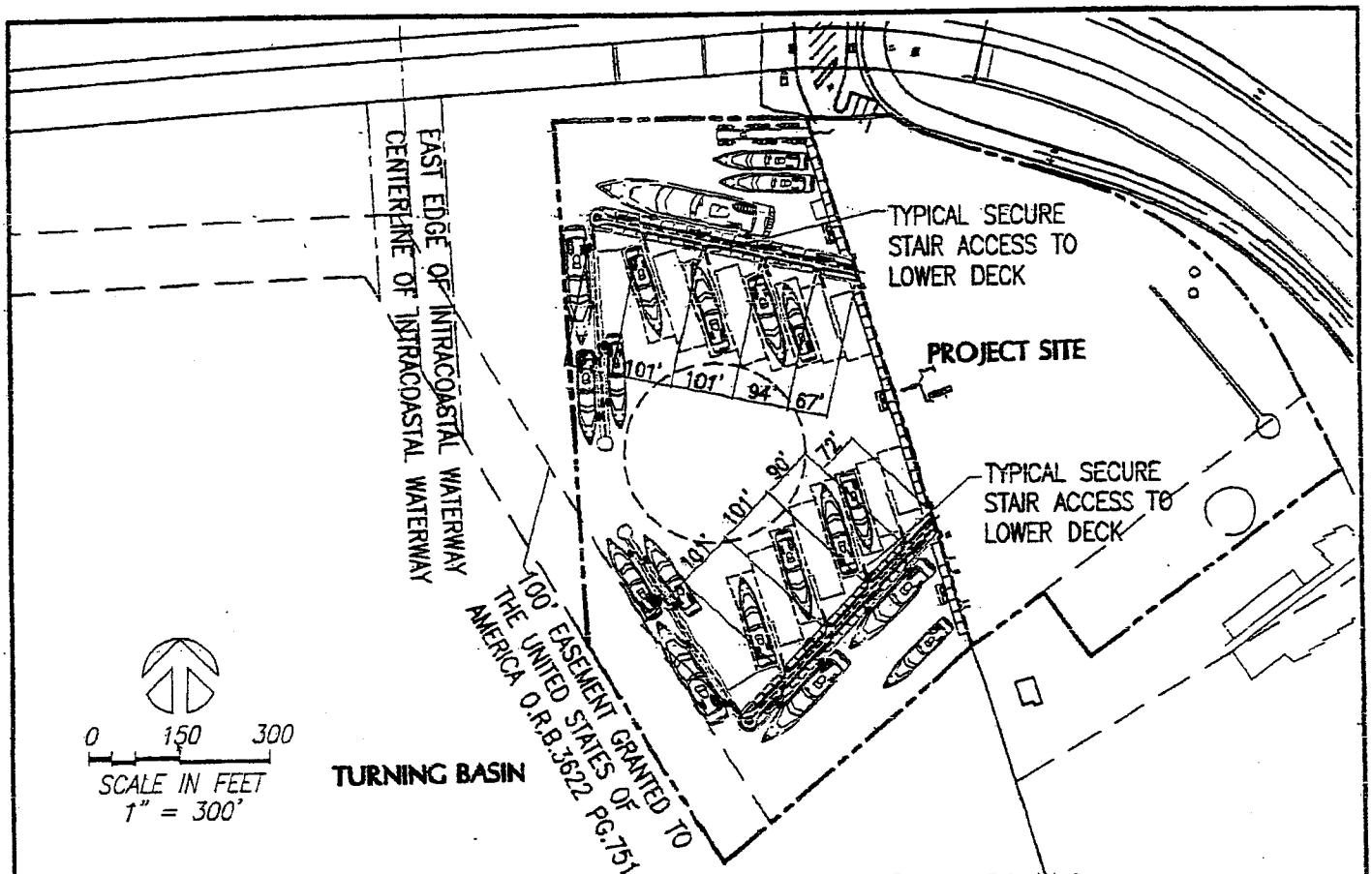
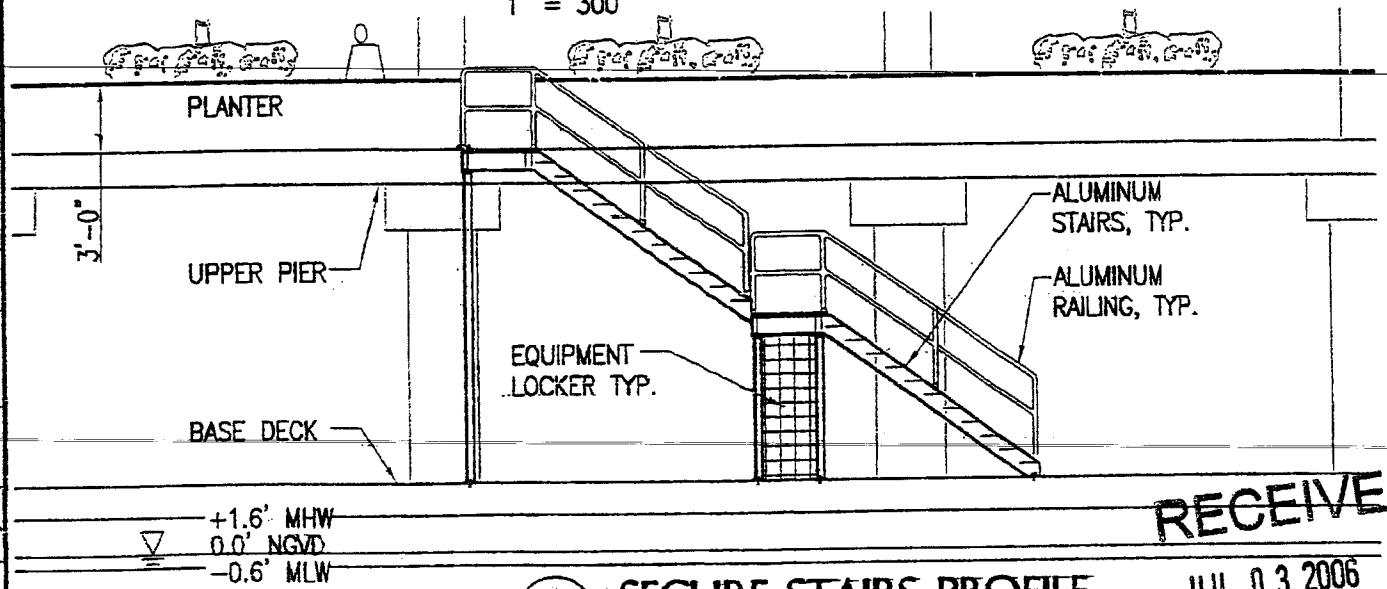
ISLAND GARDENS MEGAYACHT HARBOR	
UPLAND HARBOR SUPPORT PLAN	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 11b OF 26



SECURE STAIRS LAYOUT PLAN

1" = 300'



1 SECURE STAIRS PROFILE

SCALE 1" = 8'

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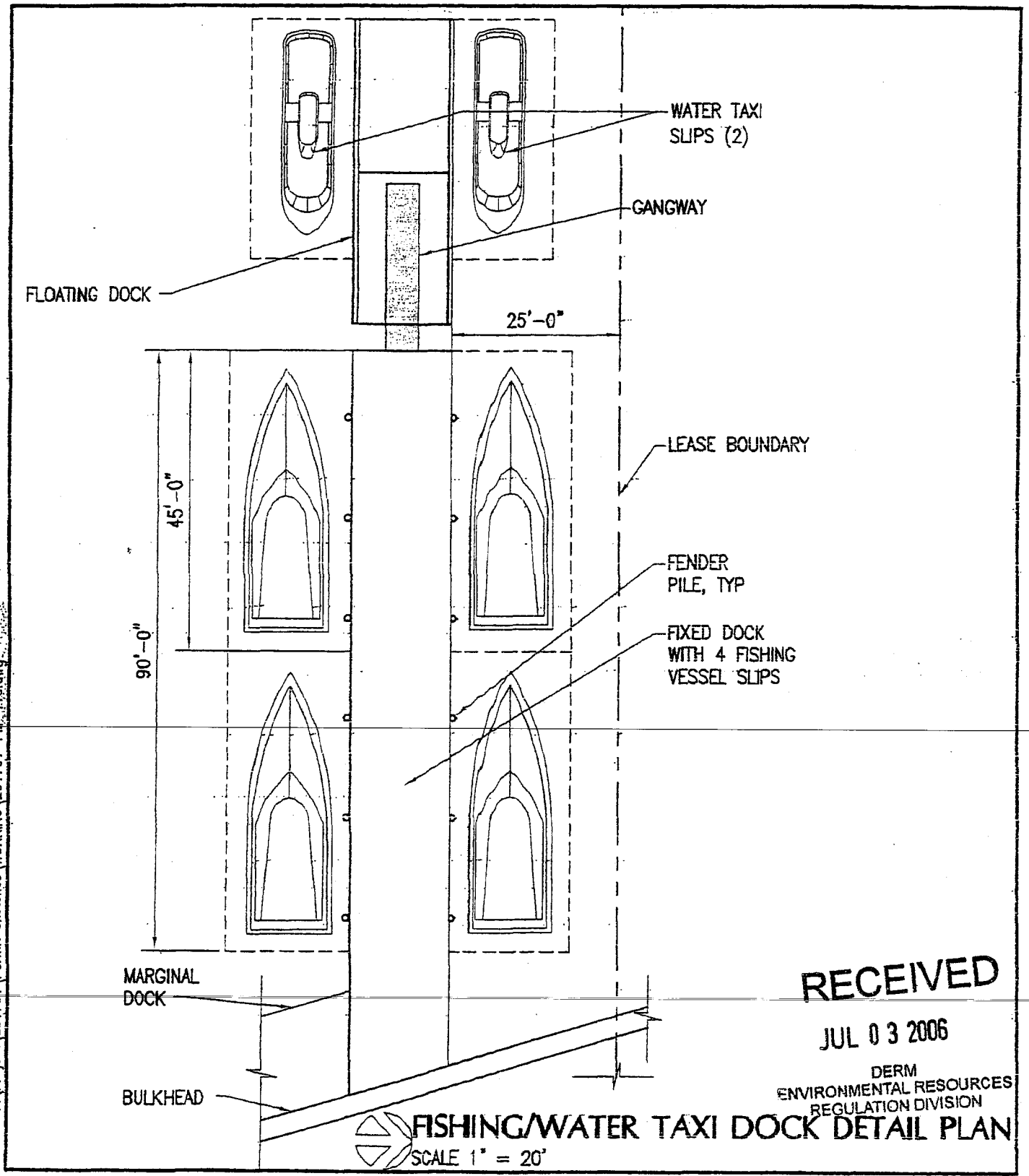
ISLAND GARDENS MEGAYACHT HARBOR	
SECURE STAIRS PLAN	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 11c OF 26



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FISHING/WATER TAXI DOCK DETAIL PLAN

SCALE 1" = 20'

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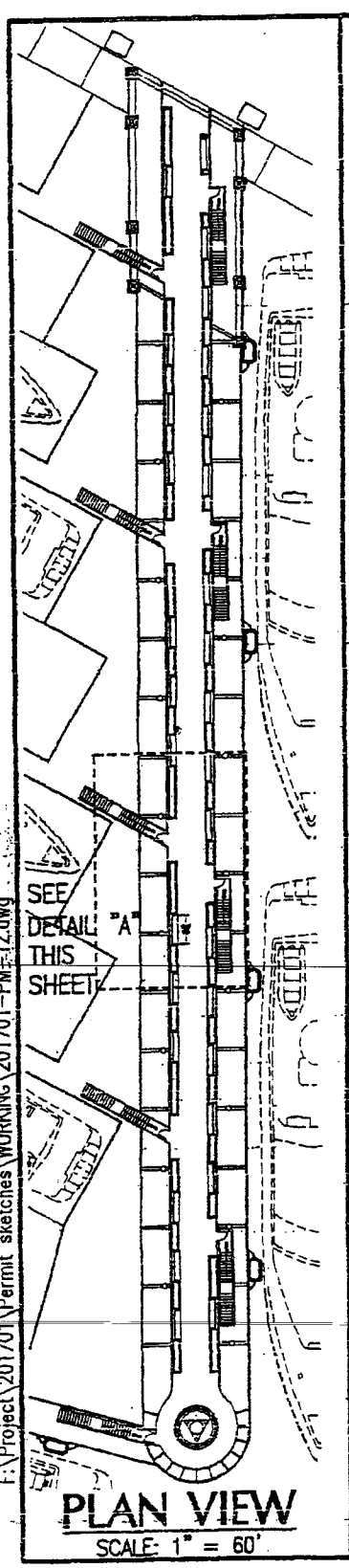
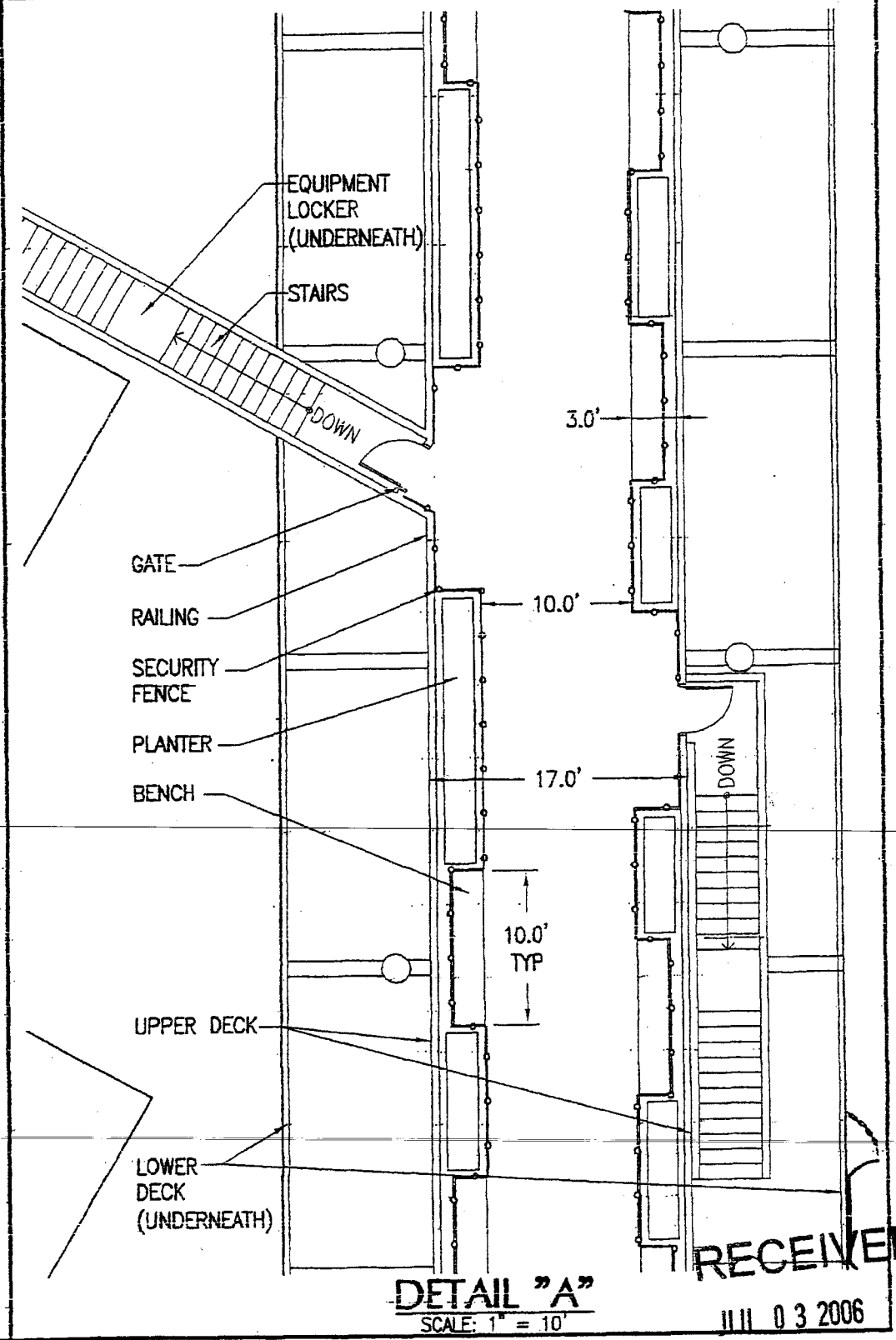
ISLAND GARDENS MEGAYACHT HARBOR	
FISHING/WATER TAXI DOCK DETAIL PLAN	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 11d OF 26



PLAN VIEW
SCALE: 1" = 60'



DETAIL "A"
SCALE: 1" = 10'

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ISLAND GARDENS MEGAYACHT HARBOR

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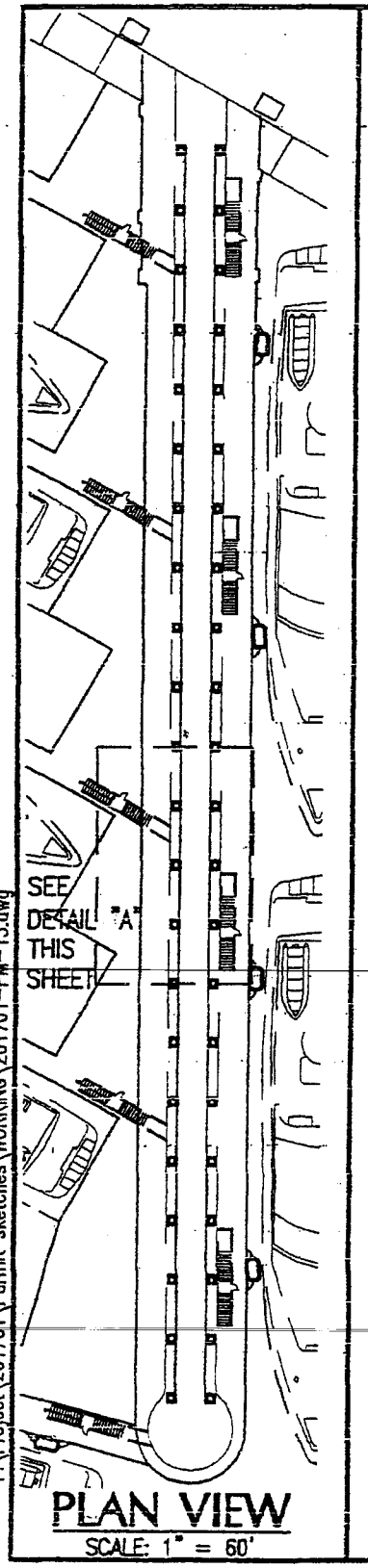
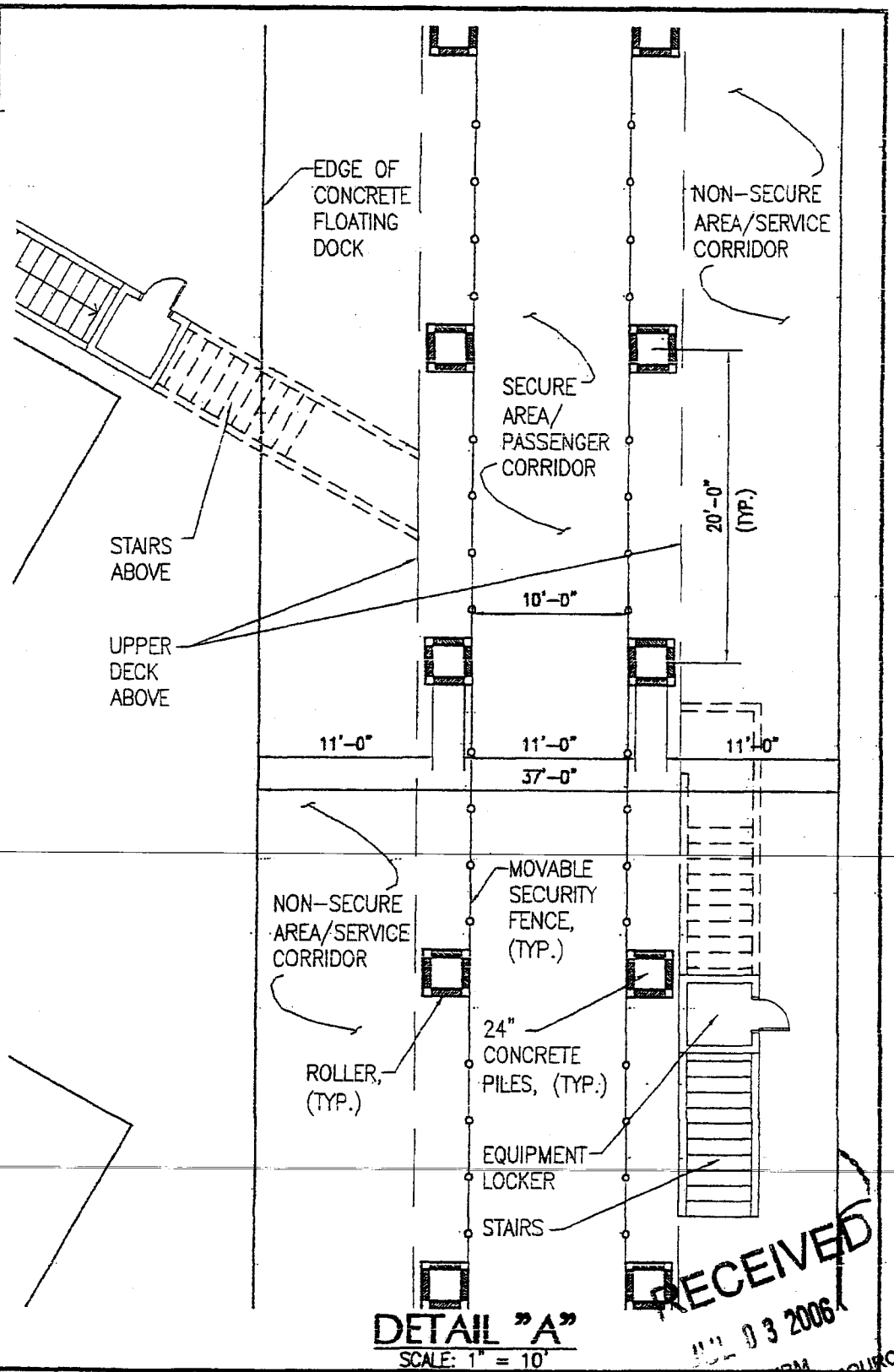
UPPER PIER DECK - PLAN VIEW

JOB: 201701	DATE: 05/13/04
BY: AGA	SHEET 12 OF 26



PLAN VIEW
SCALE: 1" = 60'



DETAIL "A"
SCALE: 1" = 10'

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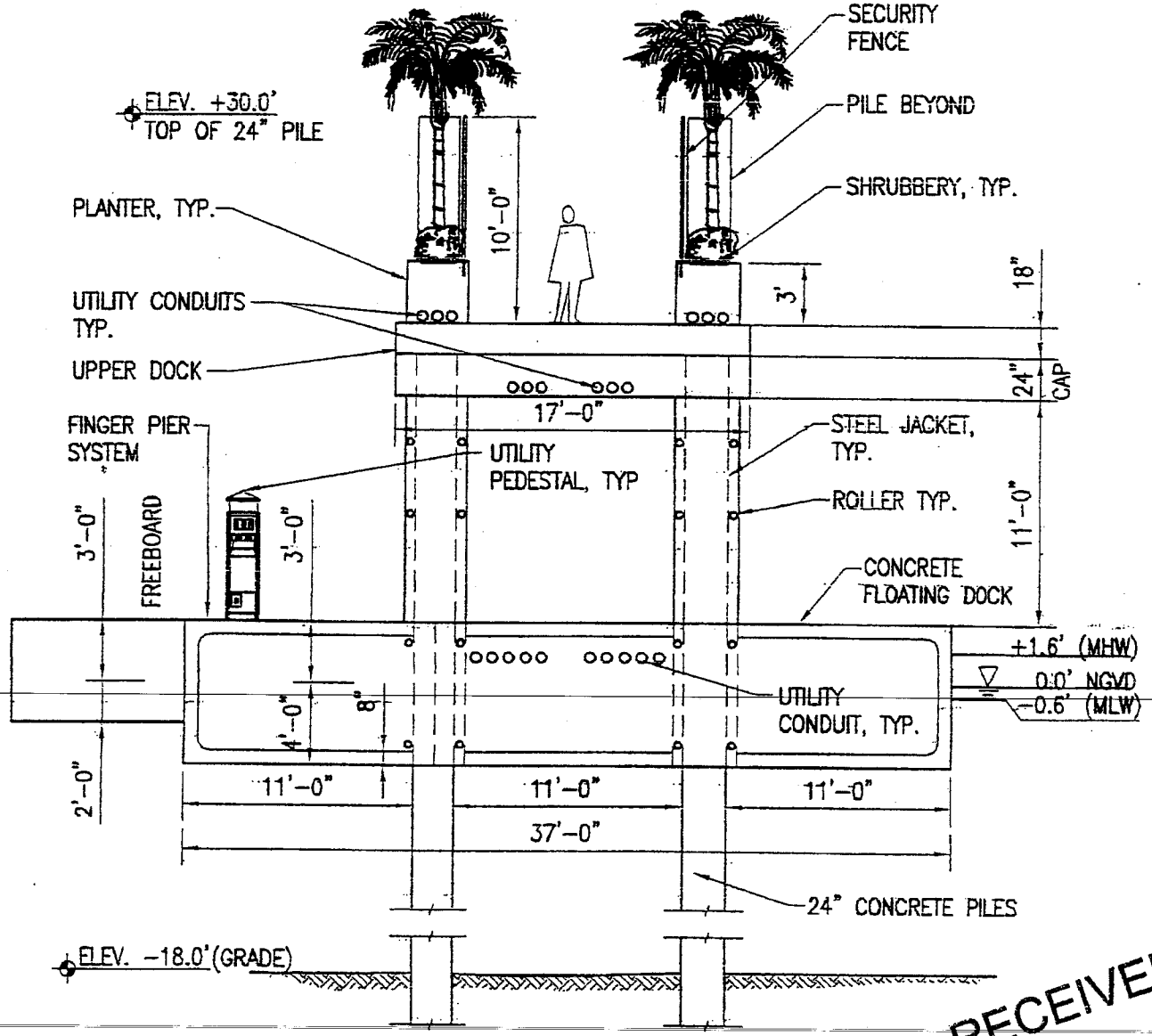
Coastal, Environmental, Civil Engineering and Management

ISLAND GARDENS
MEGAYACHT HARBOR

LOWER PIER DECK - PLAN VIEW

JOB: 201701	DATE: 05/13/04
BY: AGA	SHEET 13 OF 26



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(C) SECTION
SCALE 1" = 8'

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WATSON ISLAND
MIAMI, FL 33132

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ISLAND GARDENS MEGAYACHT HARBOR	
SECTION C - INNER ARM OF PIER	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 14 OF 26

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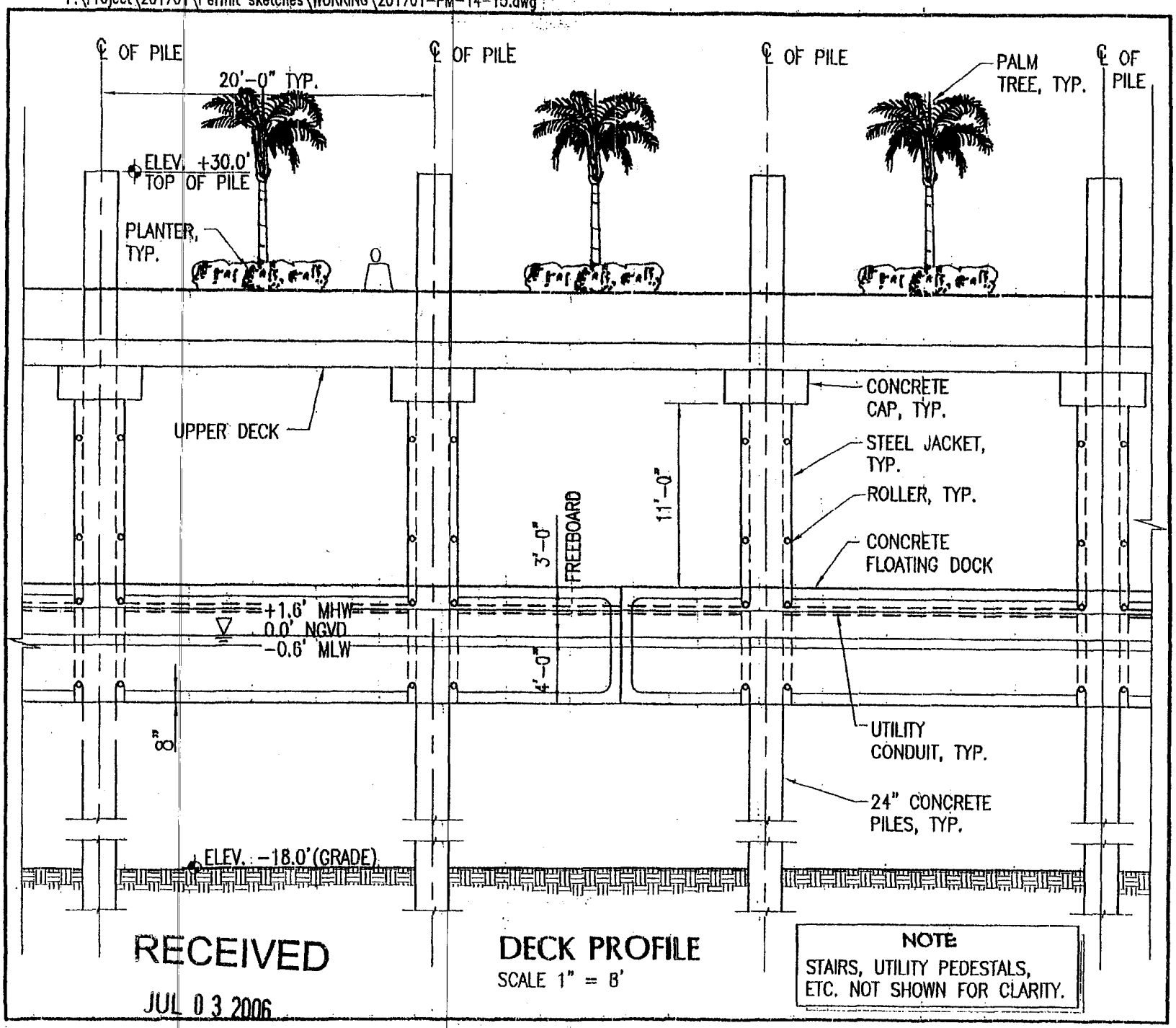

DECK PROFILE
SCALE 1" = 8'

NOTE:
STAIRS, UTILITY PEDESTALS, ETC. NOT SHOWN FOR CLARITY.

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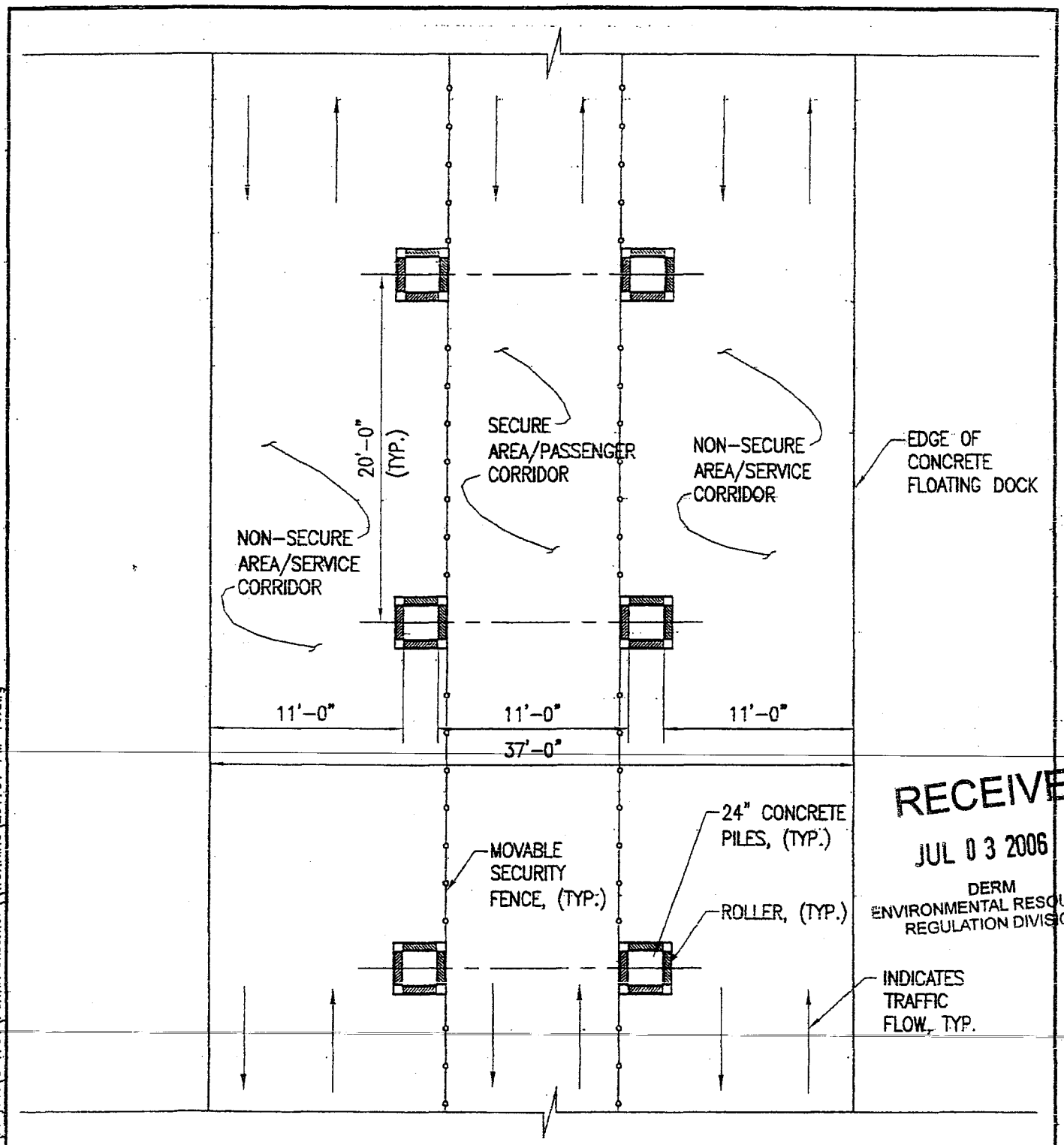
MIAMI, FL 33132

ISLAND GARDENS
MEGAYACHT HARBOR

INNER MAIN PIER PROFILE

JOB:	DATE:	SHEET
201701	05/13/04	15 OF 26

BY: MJP/VC



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DETAIL OF INNER PIER, BASE DECK TRAFFIC FLOW

SCALE 1" = 8'

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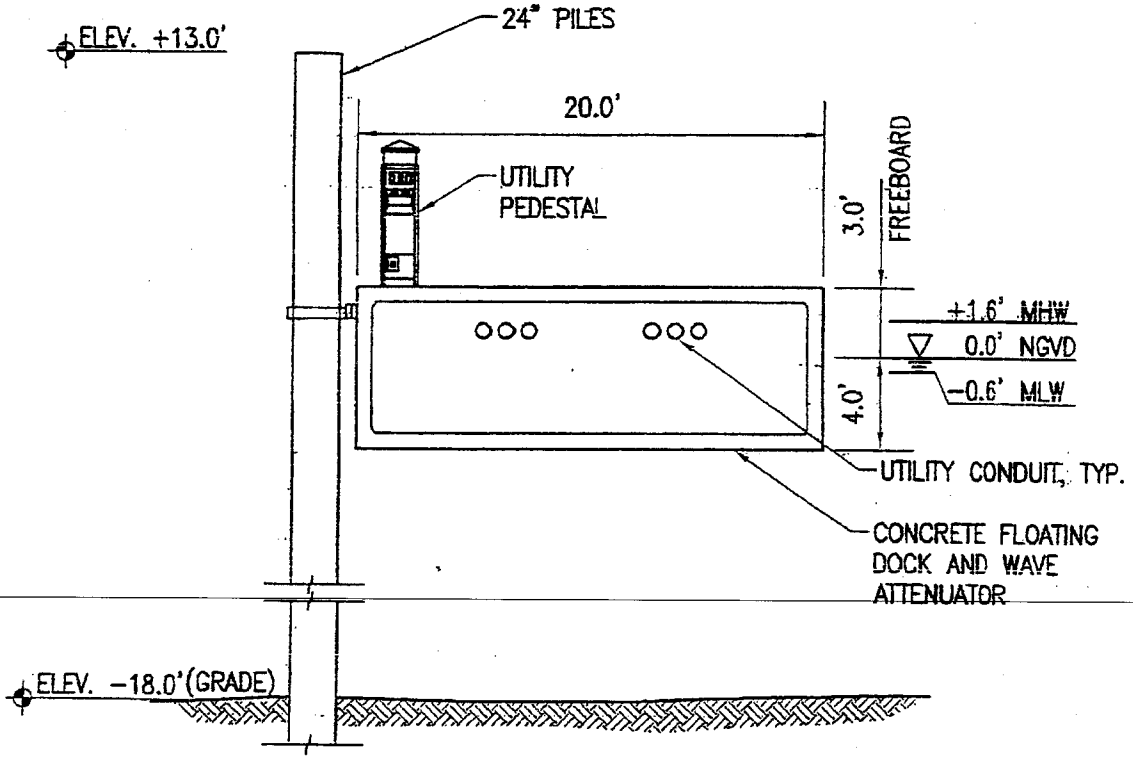
ISLAND GARDENS MEGAYACHT HARBOR	
INNER PIER BASE DECK TRAFFIC FLOW	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 16 OF 26



(D) TYPICAL SECTION - OUTER ARM OF PIER

SCALE 1" = 8'

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NOTES:

ONSITE MITIGATION NOT SHOWN, SEE BENTHIC COMMUNITY MITIGATION PLAN.

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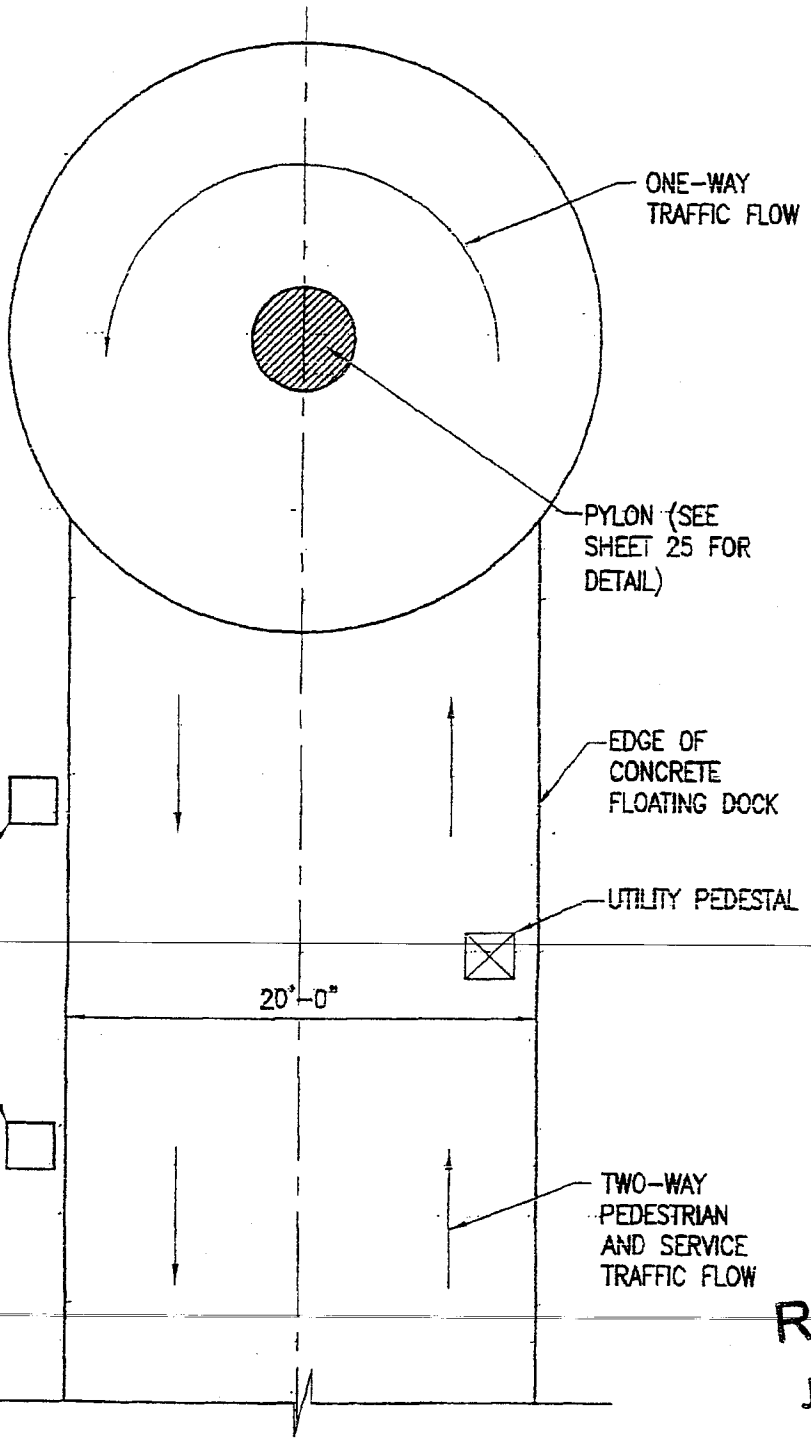
ISLAND GARDENS MEGAYACHT HARBOR	
SECTION D - OUTER ARM OF PIER	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 17 OF 26



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DETAIL OF OUTER PIER DECK TRAFFIC FLOW

SCALE 1" = 8'

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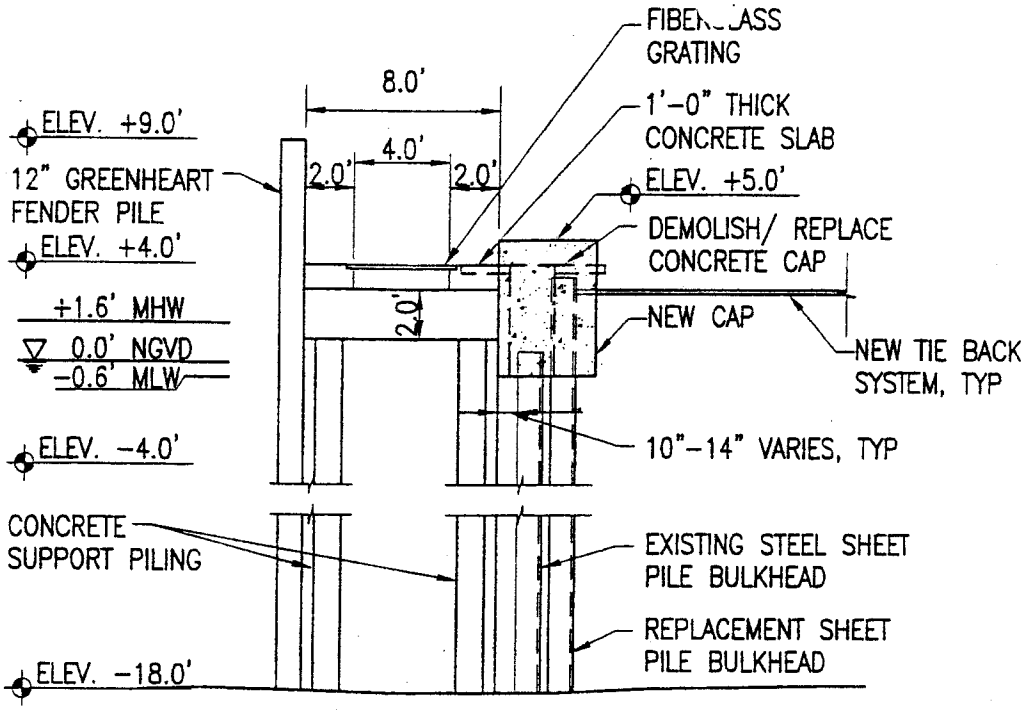
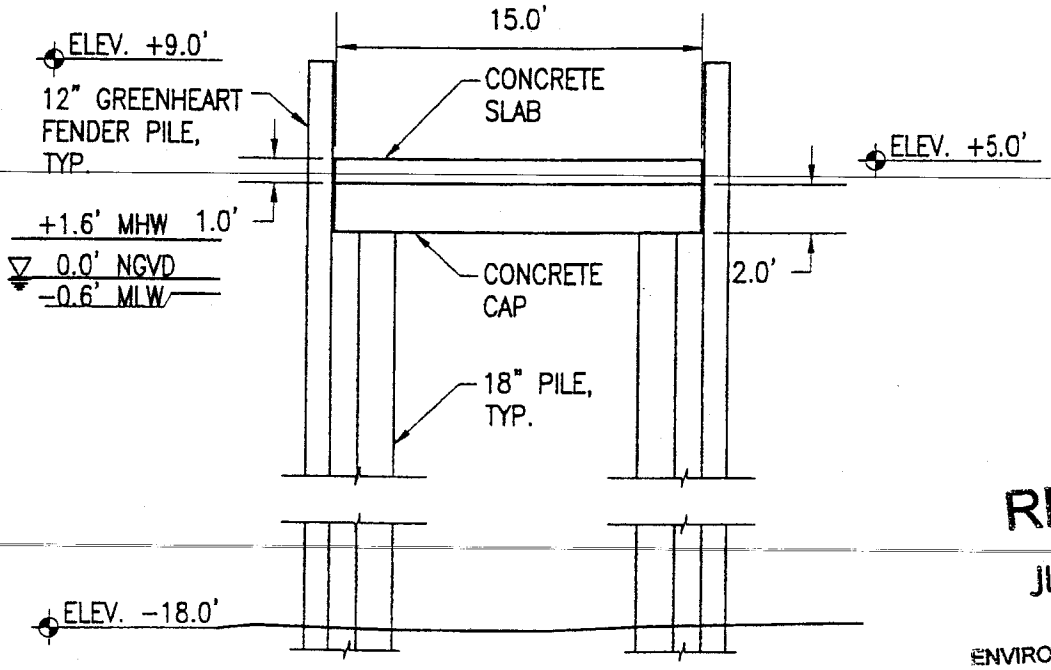
ISLAND GARDENS MEGAYACHT HARBOR	
OUTER PIER DECK TRAFFIC FLOW	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 18 OF 26



E **MARGINAL DOCK AND BULKHEAD SECTION**
SCALE 1" = 8'



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F **FIXED FISHING DOCK SECTION**
SCALE 1" = 8'

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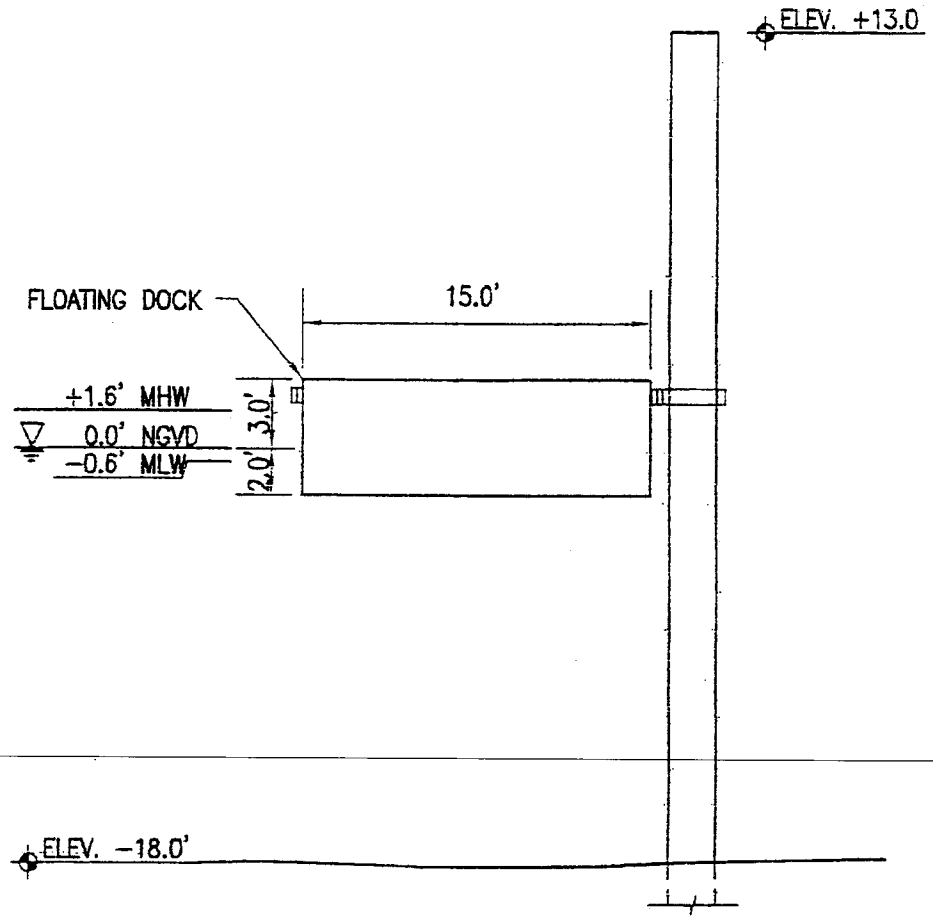
ISLAND GARDENS MEGAYACHT HARBOR	
SECTIONS E AND F - DOCKS	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 19 OF 26



(G) TYPICAL SECTION - FLOATING WATER TAXI DOCK

SCALE 1" = 8'

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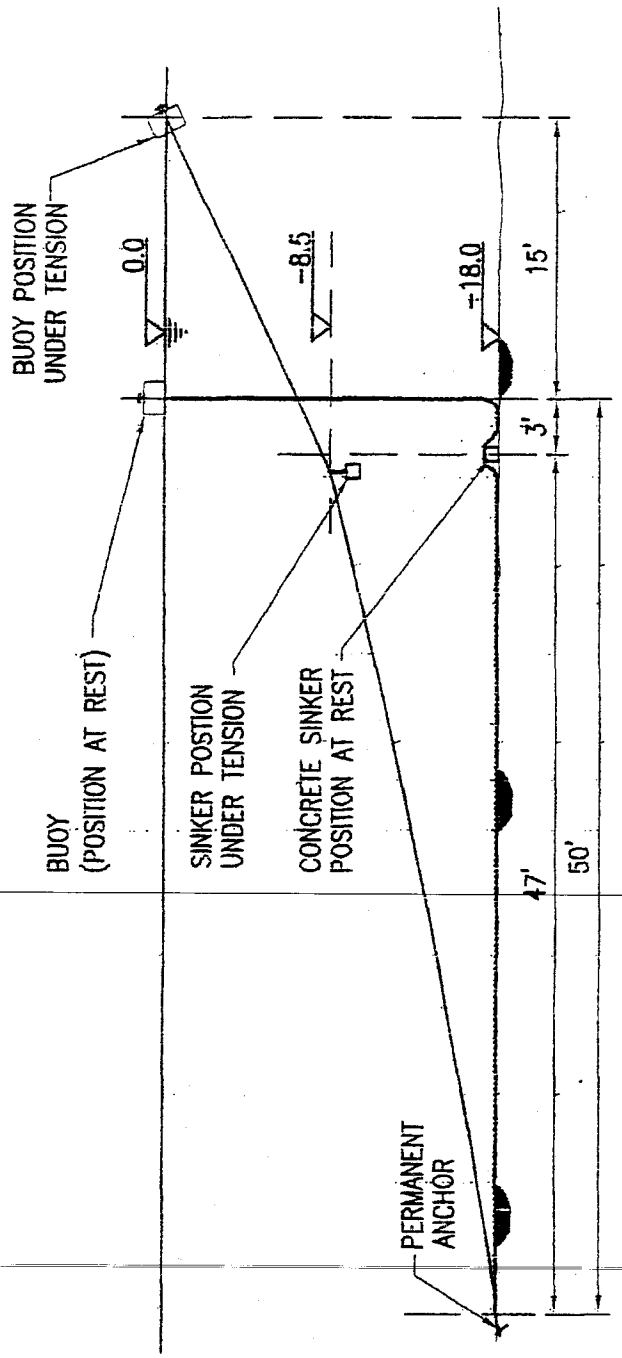
ISLAND GARDENS MEGAYACHT HARBOR	
SECTION G - WATER TAXI DOCK	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 20 OF 26



1 ANCHOR BUOY DETAIL

SCALE: 1" = 10'

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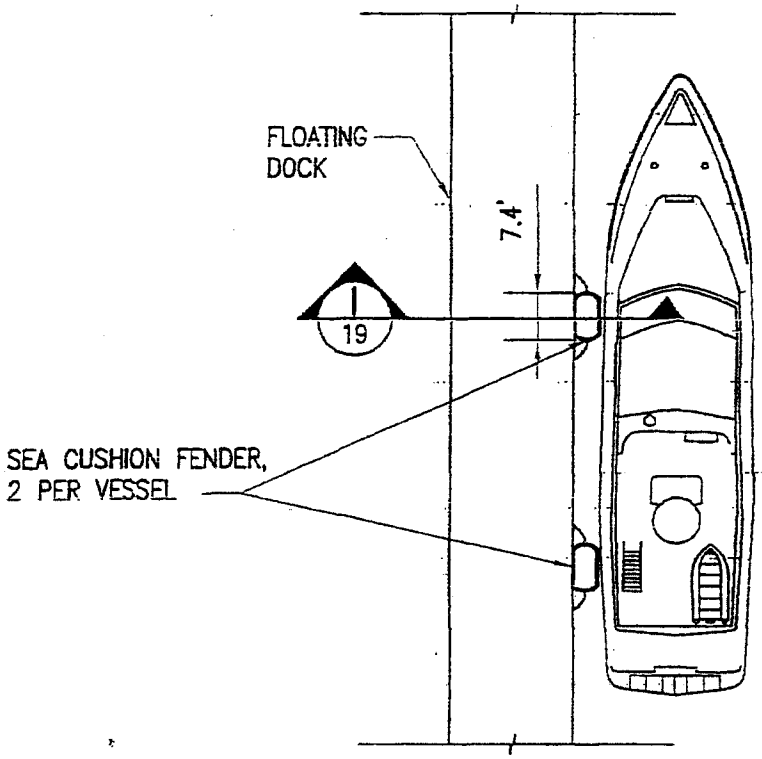
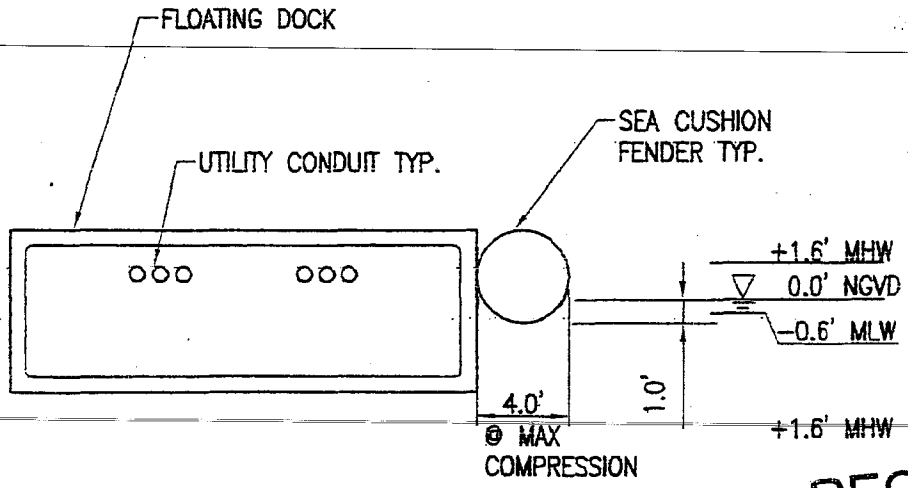
ISLAND GARDENS MEGAYACHT HARBOR	
ANCHOR BUOY DETAIL	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 20a OF 26



(H) DETAIL PLAN - TYPICAL FENDER

SCALE 1" = 30'



(I) SECTION - TYPICAL FENDER

SCALE 1" = 8'

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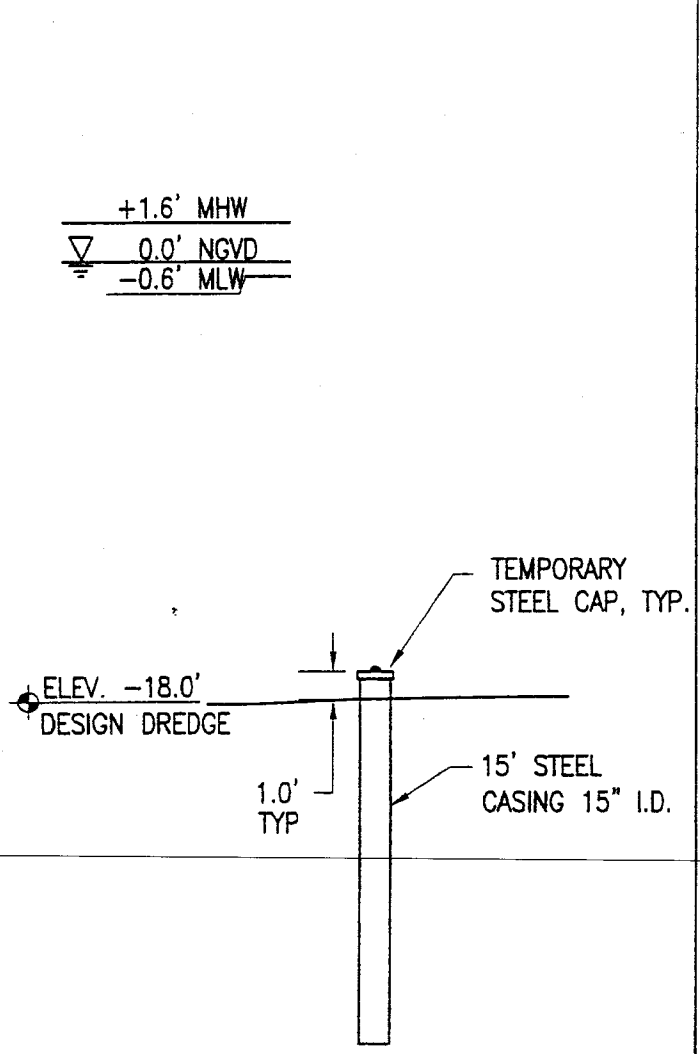
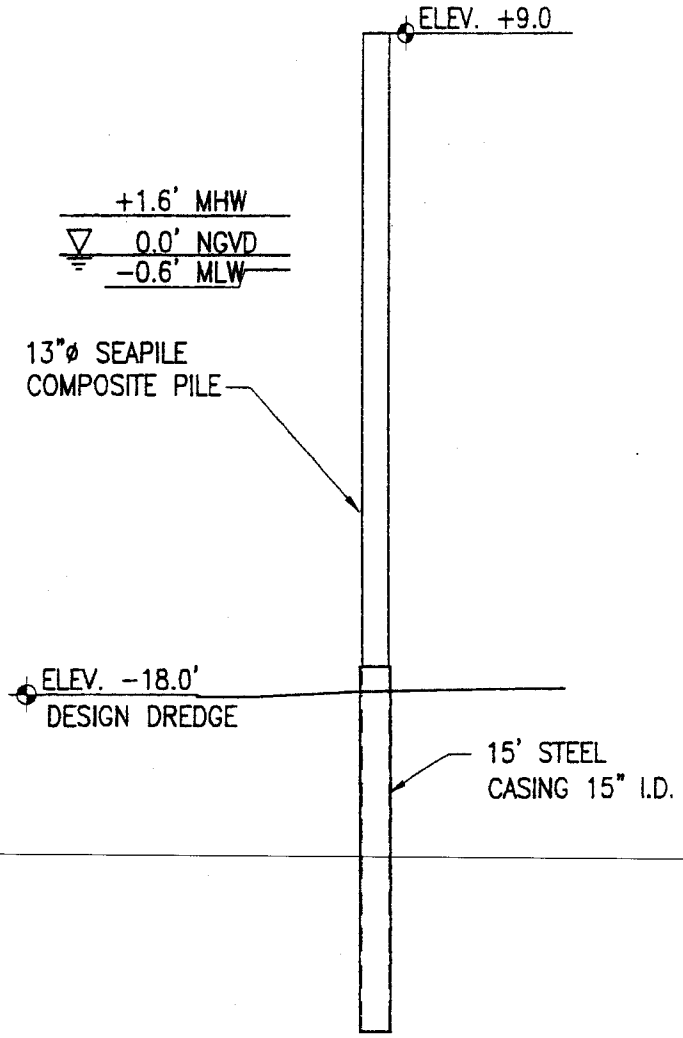
ISLAND GARDENS MEGAYACHT HARBOR	
SECTIONS H AND I - TYPICAL FENDER	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 21 OF 26



1 IN - SEASON MOORING PILE TYPICAL SECTION

1" = 8'



2 OFF - SEASON MOORING PILE TYPICAL SECTION

1" = 8'

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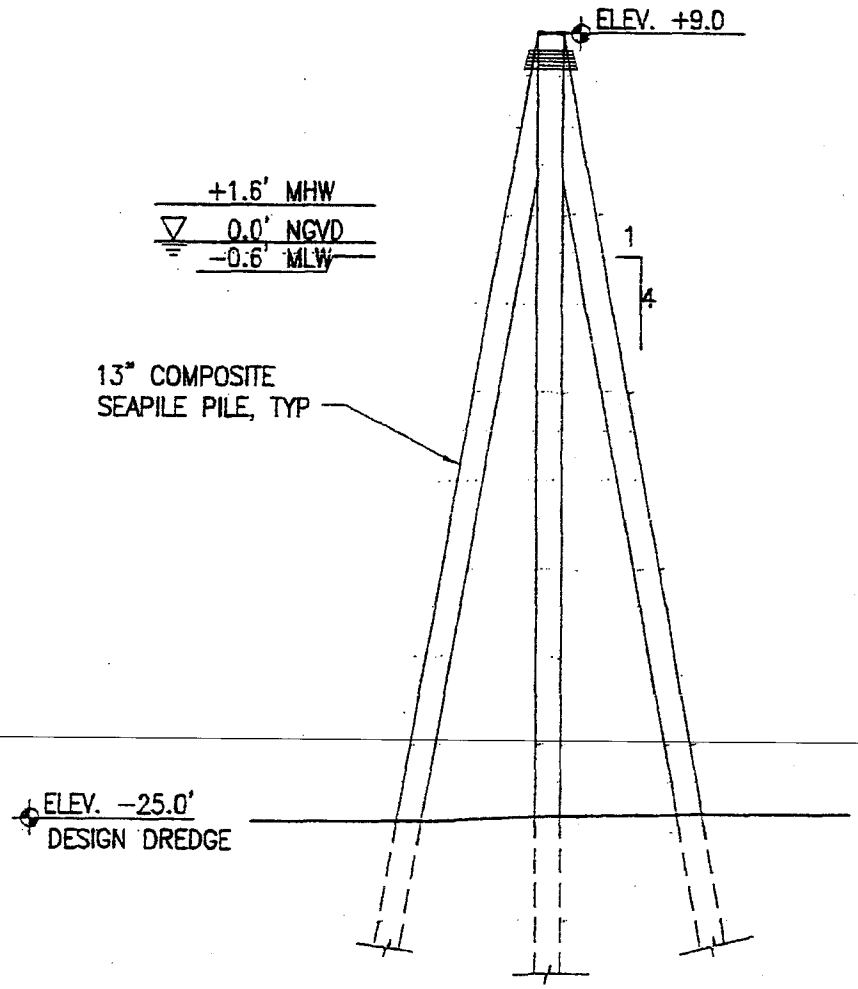
ISLAND GARDENS MEGAYACHT HARBOR	
REMOVABLE MOORING PILE	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 21a OF 26



1 DOLPHIN PILES TYPICAL DETAIL

1" = 8'

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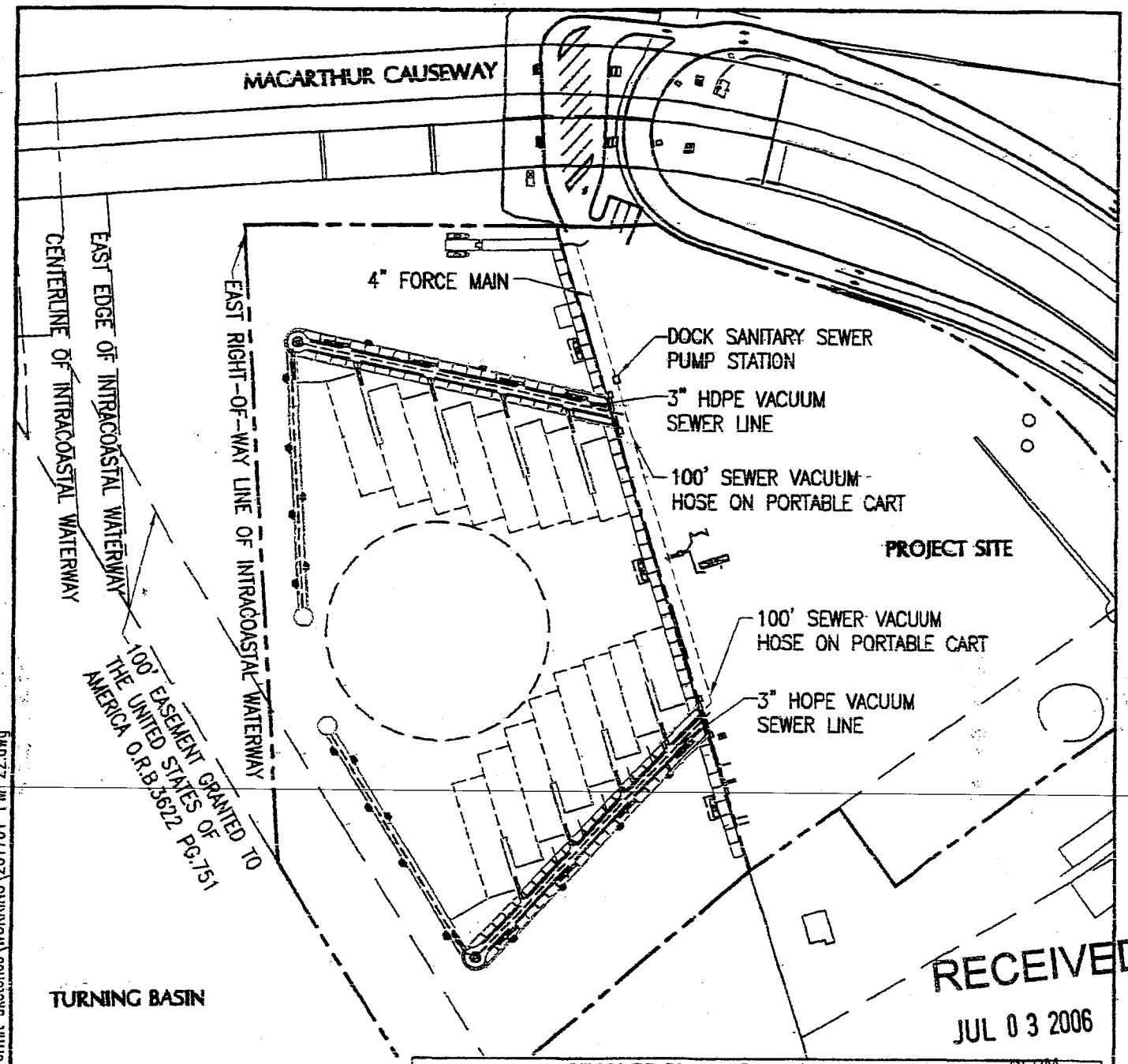
ISLAND GARDENS MEGAYACHT HARBOR	
DOLPHIN PILES TYPICAL DETAIL	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 21b OF 26



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SEWAGE PUMP-OUT SYSTEM NOTES

1. SEWAGE PUMP-OUT WILL CONSIST OF VACUUM SEWER SYSTEM.
2. PUMP-OUT STATION TO BE INSTALLED EVERY TWO SLIPS TO PROVIDE PUMP-OUT CAPABILITIES FOR EACH SLIP.
3. SEWER VACUUM HOSE CART TO BE PROVIDED FOR EACH PIER.
4. VACUUM SYSTEM WILL PUMP SEWAGE INTO PUMP STATION WHICH WILL PUMP THROUGH FORCE MAIN TO SANITARY SEWER SERVICE FOR SITE.
5. ADDITIONAL DETAILS, SEE SHEET 21

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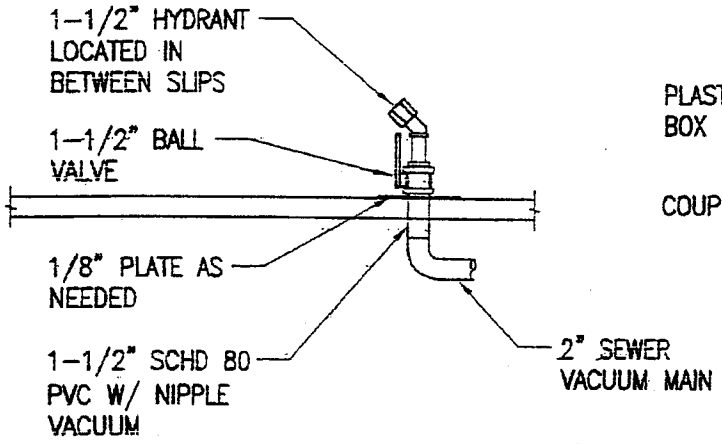
ISLAND GARDENS
MEGAYACHT HARBOR

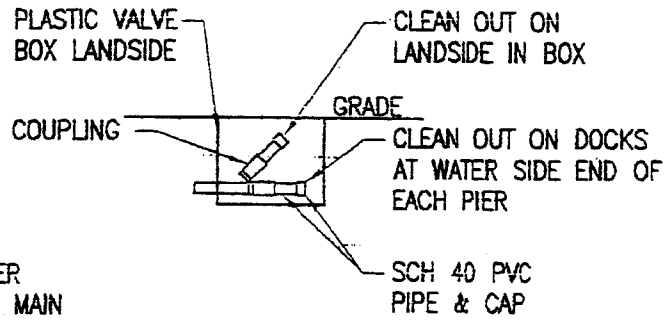
SEWAGE PUMP-OUT PLAN

JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 22 OF 26



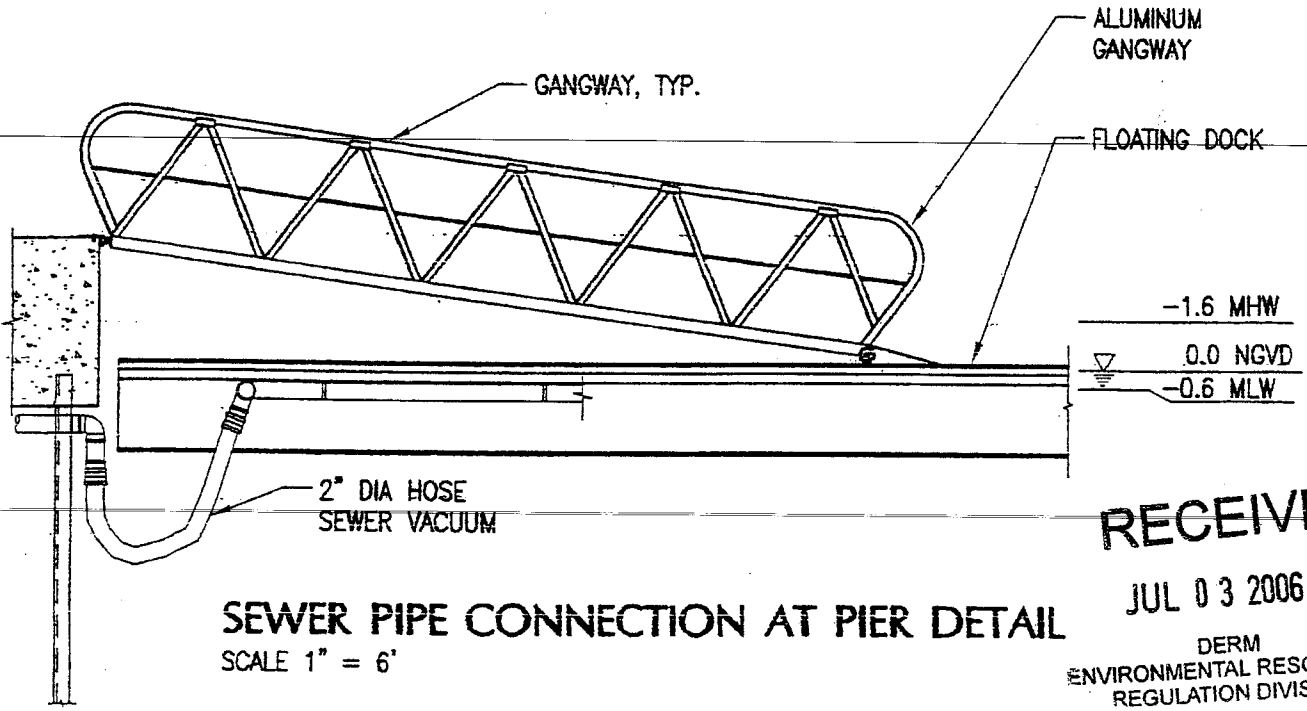
SEWER STATION DETAIL

SCALE 1" = 2'



SEWER CLEANOUT

SCALE 1" = 2'



SEWER PIPE CONNECTION AT PIER DETAIL

SCALE 1" = 6'

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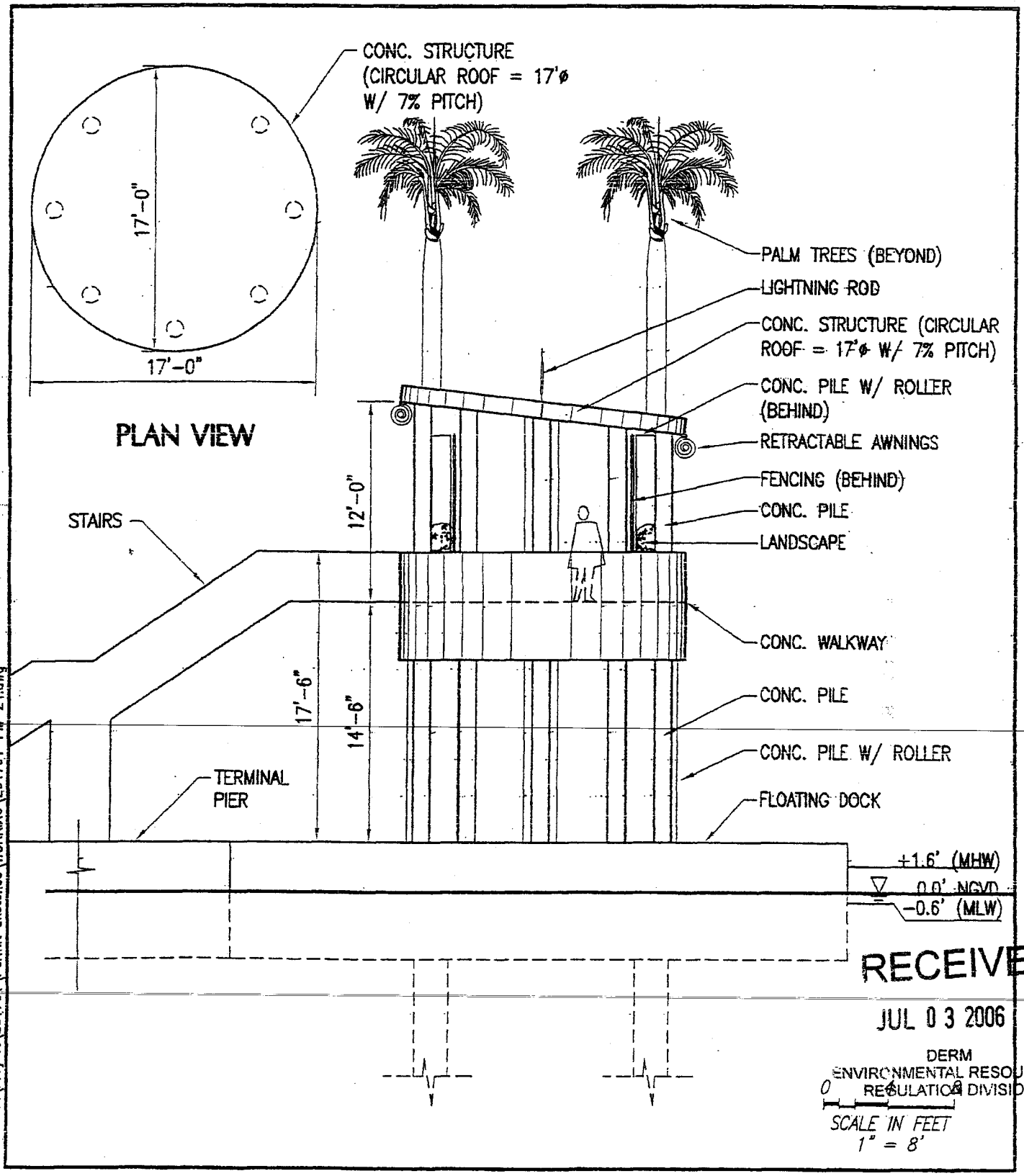
ISLAND GARDENS MEGAYACHT HARBOR	
SEWER DETAILS	
JOB: 201701	DATE: 05/13/04
BY: MJP	SHEET 23 OF 26



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0 4 8
SCALE IN FEET
1" = 8'

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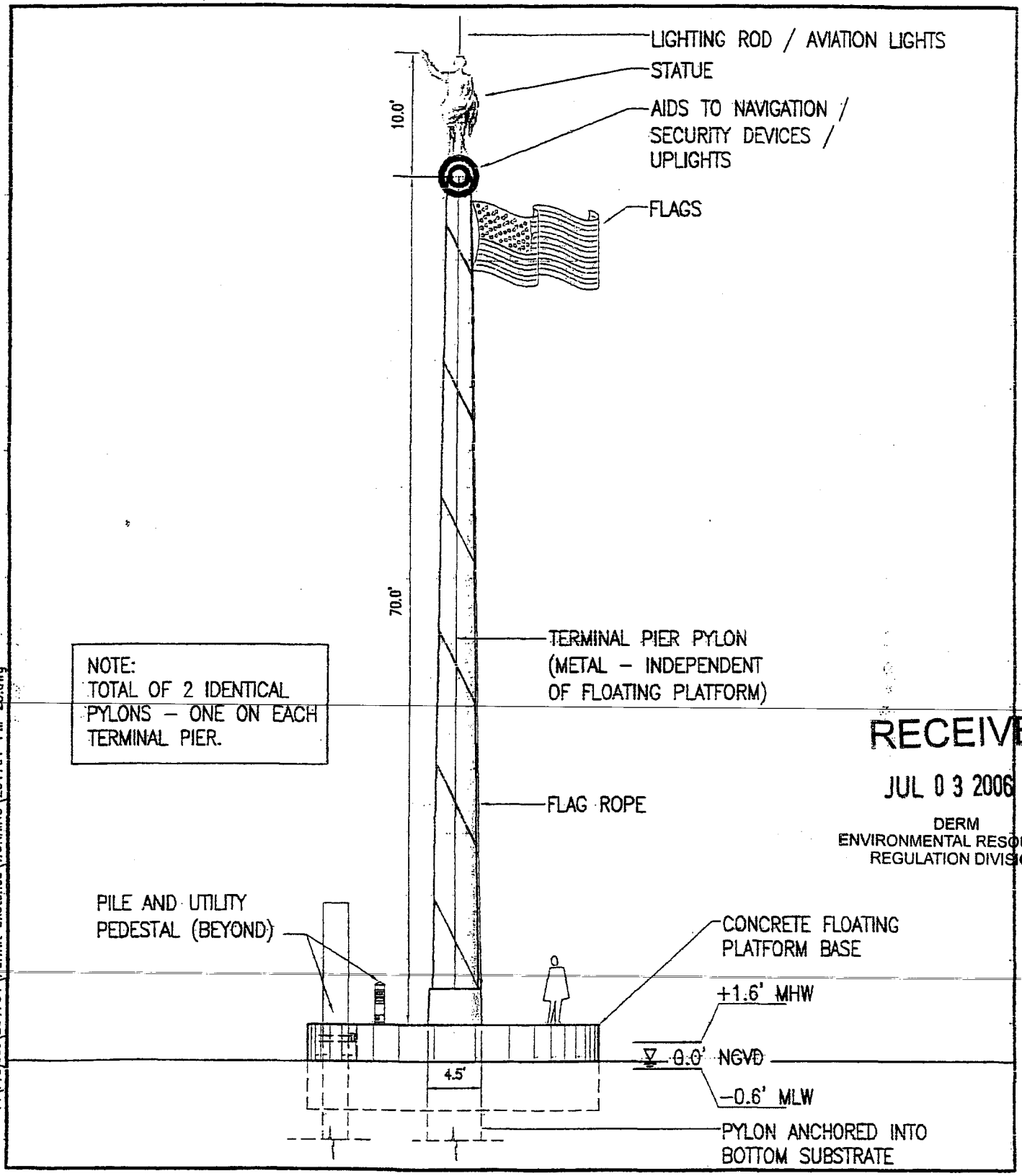
ISLAND GARDENS MEGAYACHT HARBOR	
ELEVATION J - INNER ARM OF PIER	
JOB: 201701	DATE: 05/13/04
BY: AGA	SHEET 24 OF 26



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ISLAND GARDENS MEGAYACHT HARBOR	
TERMINAL PIER PYLON	
JOB: 201701	DATE: 05/13/04
BY: AGA	SHEET 25 OF 26

GENERAL NOTES

1. PERMIT SET – REVIEW CONSTRUCTION PLANS AND SPECIFICATIONS PRIOR TO COMMENCING CONSTRUCTION ACTIVITY.
2. TOPOGRAPHIC, BOUNDARY INFORMATION PROVIDED BY WEIDENER SURVEYING AND MAPPING, AND COASTAL SYSTEMS INTERNATIONAL (CSI) DATED 11 JULY, 2002, AND SEPTEMBER, 2002.
3. HYDROGRAPHIC INFORMATION PROVIDED BY CSI FROM SURVEYS IN SEPTEMBER, 2002.
4. MARINE RESOURCE INFORMATION PROVIDED BY CSI FROM SURVEYS CONDUCTED ON MAY 6, 2003, JULY 15, 2003, AUGUST 25 & 26, 2003 AND SEPTEMBER 12, 2003.
5. ELEVATIONS REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM, (NGVD) 1929.
6. MEAN HIGH WATER (MHW) IS +1.6 FEET NGVD, AND MEAN LOW WATER (MLW) IS –0.6 FEET NGVD. TIDAL INFORMATION BASED ON NOS TIDE STATION 8723165.
7. HORIZONTAL CONTROL COORDINATES ARE IN FEET REFERENCED TO FLORIDA STATE PLANE GRID NAD–83.
8. DREDGING TO BE COMPLETED BY MECHANICAL METHODS.
9. PRIMARY AND SECONDARY TURBIDITY CURTAINS WILL BE UTILIZED TO CONTROL TURBIDITY WITHIN THE DREDGING OPERATIONAL AREA.
10. NO CCA–TREATED TIMBER MATERIALS WILL BE UTILIZED FOR IMMERSION IN THE AT THE PROPOSED PROJECT SITE. GREENHEART PILING, CONCRETE MATERIALS, OR OTHER COMPOSITE MATERIALS WILL BE USED TO COSTRUCT IMMERSED STRUCTURAL COMPONENTS.

ABBREVIATIONS

C.Y. ____ CUBIC YARDS
TYP. ____ TYPICAL
NOS. ____ NATIONAL OCEAN SERVICE
NAD ____ NORTH AMERICAN DATUM
▽ ____ WATER LEVEL

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MIAMI, FL. 33132

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ISLAND GARDENS MEGAYACHT HARBOR	
GENERAL NOTES	
JOB: 201701	DATE: 05/13/04
BY: MJP/VC	SHEET 26 OF 26

ATTACHMENT D:

Names and Addresses of Owners of All Adjacent Riparian or Wetland Property Within Three Hundred (300) Feet of the Proposed Work

Memorandum

MIAMI-DADE COUNTY

Date: August 18, 2006

To: Luis Otero, Manager
Coastal Resources
Environmental Resources Management

From: Molly Messer, ERPS
Coastal Resources
Environmental Resources Management

Subject: Class I Permit application CC03-245 and variance request by Flagstone Island Gardens, LLC and the City of Miami and Covenant Running with the Land in favor of Miami-Dade County

---

Please be advised that the applicant owns all upland and all submerged lands within 300 feet of the proposed project located at Section 31, Township 53 South, Range 42 East, Miami-Dade County, Florida. Therefore, no peel off /stick on labels were required to be submitted by the applicant.

CARLOS J. MARADIAGA
Property Owners Data Researcher
290 West Park Drive #204
Miami, Florida 33172

(305) 207-1412

Date: **March 27, 2006**

Total No. of Owners: **1 (Subject Property's Owner)**

COVER LETTER & CERTIFICATION

To: Whom it may concern
% Shutts & Bowen LLP
201 S. Biscayne Blvd #1500
Miami, Florida 33131

Re: Property Owners Within :
300 Feet of Subject Property
Ad: **Approx. 900 Block of McArthur Cswy**
Le: **31 32 53 42 Portion of Causeway**
Fill known as Watson Park and as
Described in Exhibits "A" & "B"
County of Miami-Dade, Florida

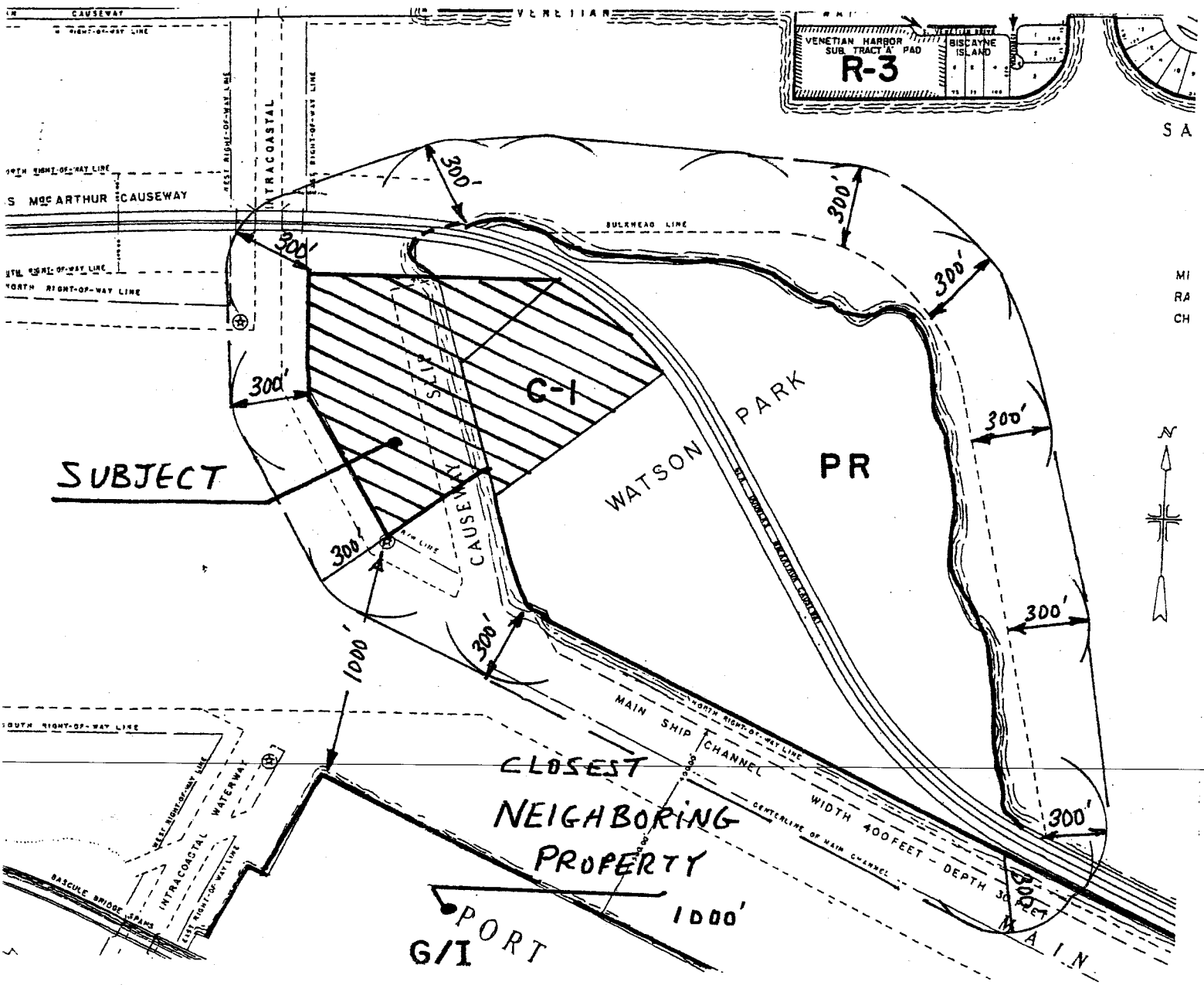
This is to certify that there are no owners within **300 Feet** of the Subject Property as listed in Exhibit "A" and Furthermore, the adjoining, contiguous and neighboring properties are owned by the same owner as Subject's Which is listed as **City of Miami Asset Management Division, 444 SW 2 Ave # 325, Miami FL 33130** This reflects the most current ad-valorem records in the Miami-Dade County Tax Assessor's Office as shown In Exhibit "B" Pages 1 thru 6.

Sincerely,

Carlos J. Maradiaga, Data Researcher (Seal)

Note: *Unless otherwise specified, all property owners are listed in numerical order by folio number.*

Cc: ***Shutts & Bowen, LLP /***



300 Foot Radius Map

Approximate Scale: 1" = 600'

Property Address:

Property Legal:

Re: Property Owners Within :
300 Feet of Subject Property

Ad: **Approx. 900 Block of McArthur Cswy**

Le: **31 32 53 42 Portion of Causeway Fill known as Watson Park and as Described in Exhibit "A"**
County of Miami-Dade, Florida

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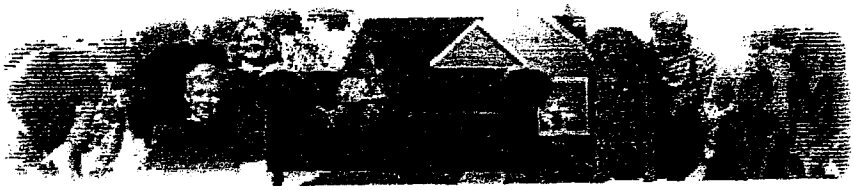
My Home



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Property Appraiser Tax Estimator

Summary Details:

Folio No.:	01-3231-000-0010
Property:	1050 MACARTHUR CSWY
Mailing Address:	CITY OF MIAMI -DEPT OF P&D ASSET MANAGEMENT DIVISION 444 SW 2 AVE # 325 MIAMI FL 33130-1910

Property Information:

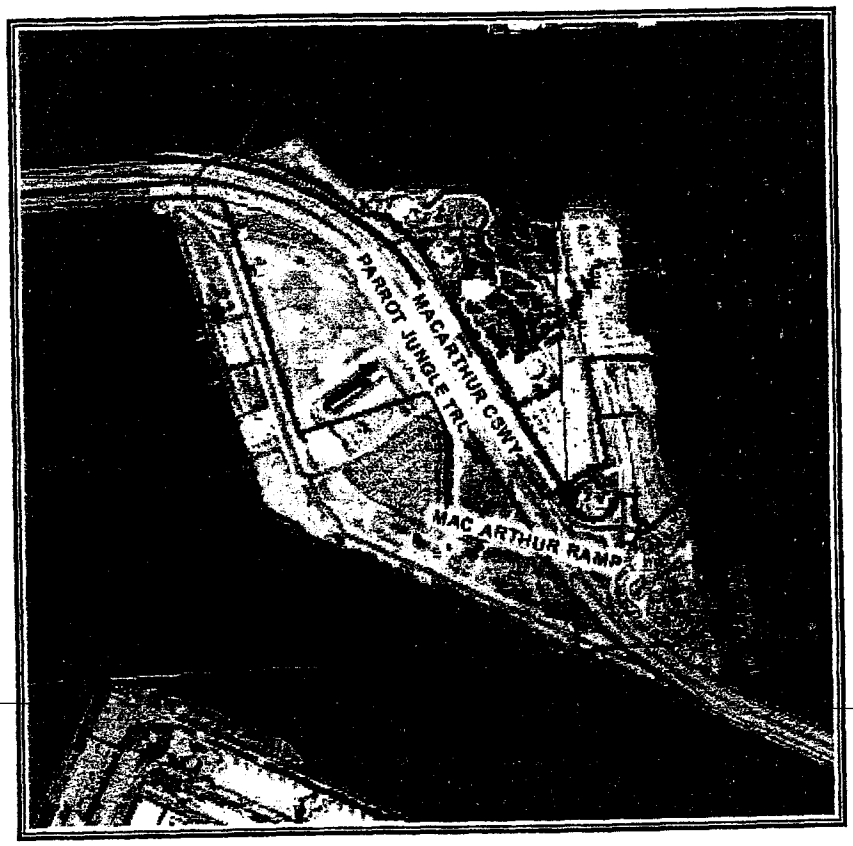
Primary Zone:	9700 MARINE RECREATION
CLUC:	0081 VACANT LAND
Beds/Baths:	0/0
Floors:	0
Living Units:	0
Adj Sq Footage:	0
Lot Size:	430,431 SQ FT
Year Built:	0
Legal Description:	31-32 53 42 9.886 AC PORTION OF CAUSEWAY FILL KNOWN AS WATSON PARK & CAUSEWAY DOCK LYG ELY & WLY MC ARTHUR CAUSEWAY LESS RDS & LESS PORT LEASED TO GOODYEAR TIRE & RUBBER CO &

Sale Information:

Sale O/R:	
Sale Date:	0/0
Sale Amount:	$0

Assessment Information:

Year:	2005	2004
Land Value:	$1,226,728	$1,226,728
Building Value:	$0	$0
Market Value:	$1,226,728	$1,226,728



Digital Orthophotography - 2005

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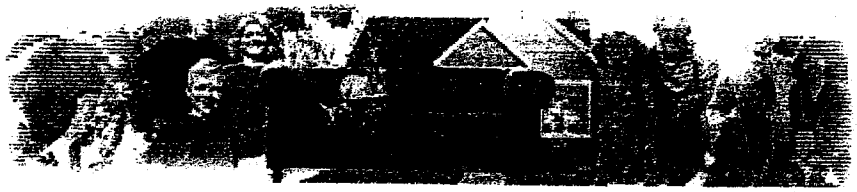
EXHIBIT "A"

Address of Property: **900 Block / / Mc Arthur / Causeway /** **Page 1 of 5**

(Portion of Causeway Fill known as Watson Park or Watson Island)

My Home



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Property Information

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Property Appraiser Tax Estimator

Summary Details:

Folio No.:	01-3231-000-0011
Property:	1001 MACARTHUR CSWY
Mailing Address:	CITY OF MIAMI-MIA YACHT ASSET MANAGEMENT DIVISION 444 SW 2 AVE STE #325 MIAMI FL 33130-1910

Property Information:

Primary Zone:	8002 PARKS & RECREATION
CLUC:	0009 MIXED USE-RESIDENTIAL
Beds/Baths:	0/0
Floors:	1
Living Units:	0
Adj Sq Footage:	7,713
Lot Size:	117,777 SQ FT
Year Built:	1947
Legal Description:	31-32 53 42 6.56 AC PORTION OF CAUSEWAY FILL KNOWN AS WATSON PARK & CAUSEWAY DOCK LYG ELY MACARTHUR CAUSEWAY LESS RDS PER LEASE AGREEMENT BETWEEN CITY

Sale Information:

Sale O/R:	
Sale Date:	0/0
Sale Amount:	$0

Assessment Information:

Year:	2005	2004
Land Value:	$167,832	$167,832
Building Value:	$57,494	$57,494
Market Value:	$225,326	$225,326

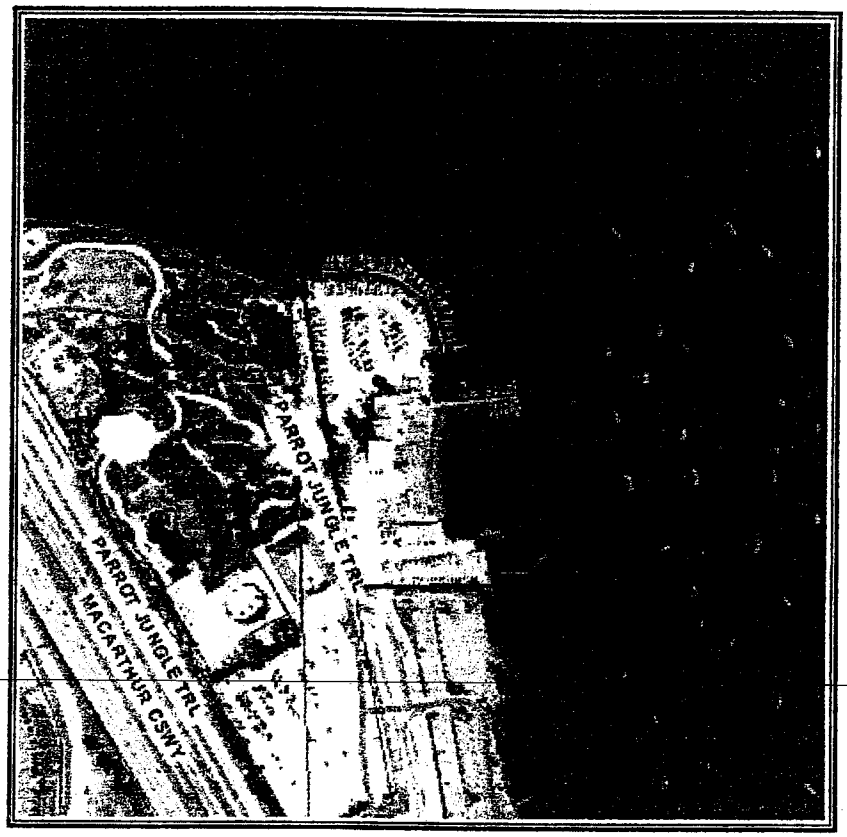

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EXHIBIT "A"

Address of Property: **900 Block / / Mc Arthur / Causeway /** **Page 2 of 5**

(Portion of Causeway Fill known as Watson Park or Watson Island)

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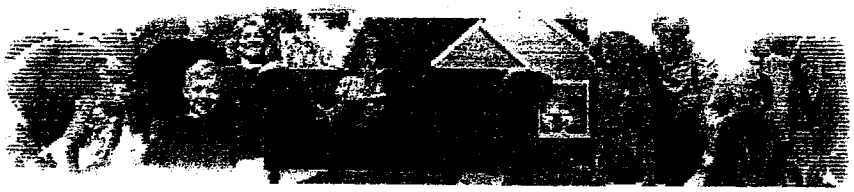

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Property Information

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Property Appraiser Tax Estimator

Summary Details:

Folio No.:	01-3231-000-0012
Property:	950 MACARTHUR CSWY
Mailing Address:	CITY OF MIAMI/ASSET MGMT 444 SW 2 AVE #325 MIAMI FL 33130-1910

Property Information:

Primary Zone:	9700 MARINE RECREATION
CLUC:	0040 MUNICIPAL
Beds/Baths:	0/0
Floors:	2
Living Units:	0
Adj Sq Footage:	61,477
Lot Size:	311,183 SQ FT
Year Built:	2003
Legal Description:	31-32 53 42 7.14 AC M/L PORTION OF CAUSEWAY FILL KNOWN AS WATSON PARK & CAUSEWAY DOCK LYG WLY OF MACARTHUR CAUSEWAY LESS RDS PER LEASE AGREEMENT BETWEEN CITY

Sale Information:

Sale O/R:	
Sale Date:	0/0
Sale Amount:	$0

Assessment Information:

Year:	2005	2004
Land Value:	$933,549	$933,549
Building Value:	$5,771,184	$5,340,213
Market Value:	$6,704,733	$6,273,762

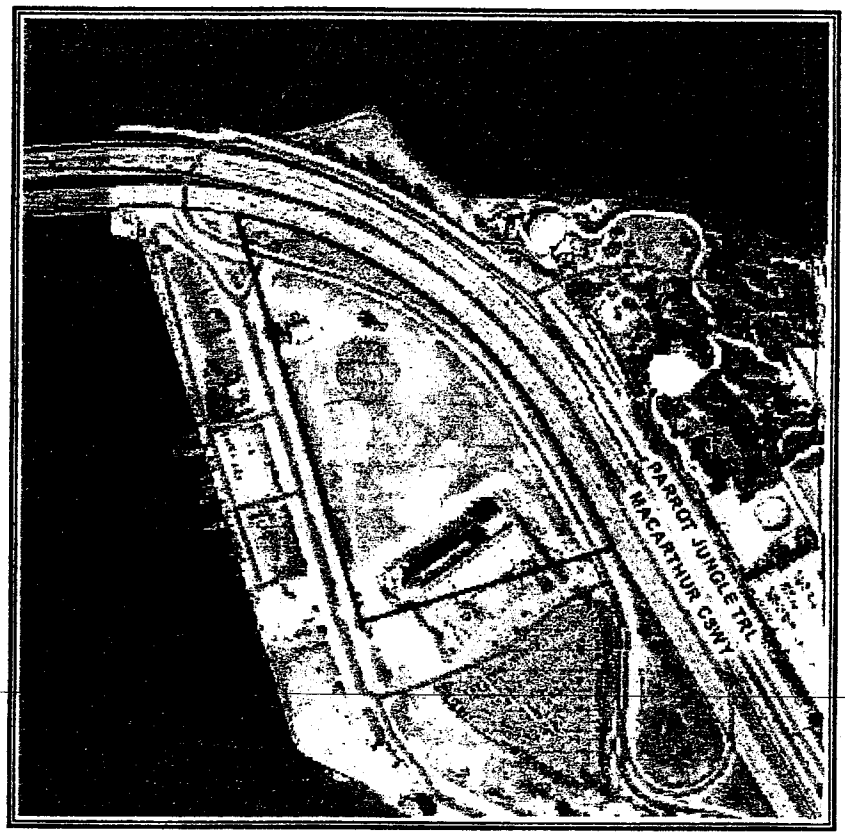

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EXHIBIT "A"

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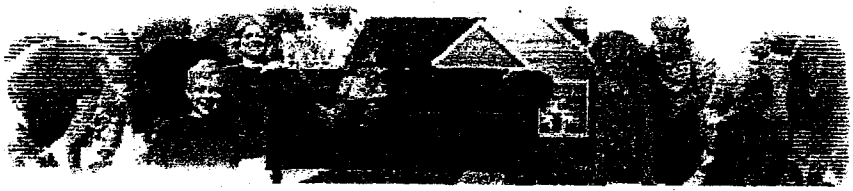

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Property Information

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Property Appraiser Tax Estimator

Summary Details:

Folio No.:	01-3231-000-0013
Property:	1099 MACARTHUR CSWY
Mailing Address:	CITY OF MIAMI-OUT BOARD ASSET MANAGEMENT DIVISION 444 SW 2 AVE STE #325 MIAMI FL 33130-1910

Property Information:

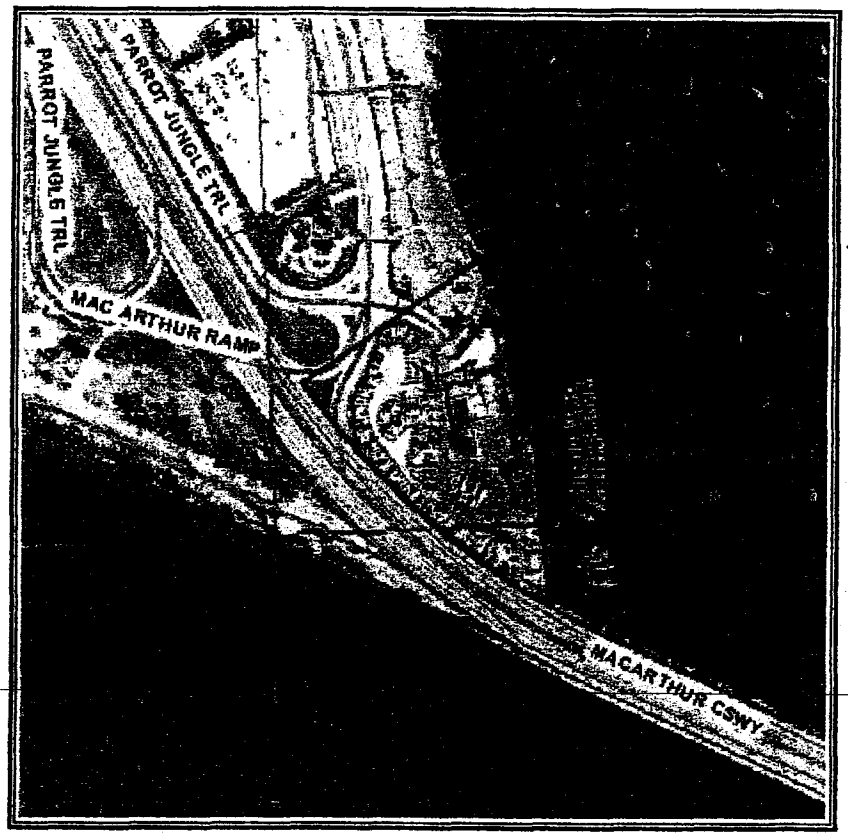
Primary Zone:	8002 PARKS & RECREATION
CLUC:	0015 ENTERTAINMENT
Beds/Baths:	0/0
Floors:	1
Living Units:	0
Adj Sq Footage:	9,530
Lot Size:	50,480 SQ FT
Year Built:	1958
Legal Description:	31-32 53 42 4.77 AC PORTION OF CAUSEWAY FILL KNOWN AS WATSON PARK & CAUSEWAY DOCK LYG ELY MACARTHUR CAUSEWAY LESS RDS PER LEASE AGREEMENT BETWEEN CITY

Sale Information:

Sale O/R:	
Sale Date:	0/0
Sale Amount:	$0

Assessment Information:

Year:	2005	2004
Land Value:	$75,720	$75,720
Building Value:	$88,330	$88,330
Market Value:	$164,050	$164,050



Digital Orthophotography - 2005 0 189 ft

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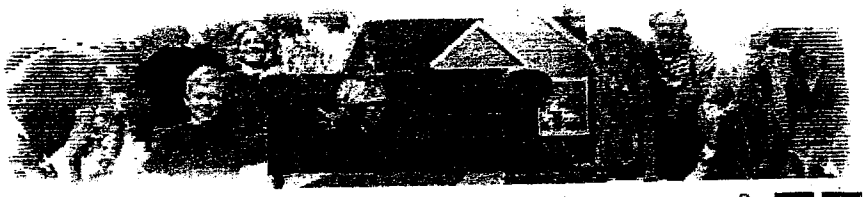
EXHIBIT "A"

Address of Property: 900 Block / / Mc Arthur / Causeway / Page 4 of 5

(Portion of Causeway Fill known as Watson Park or Watson Island)

My Home



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Property Information

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Property Appraiser Tax Estimator

Summary Details:

Folio No.:	01-3231-000-0014
Property:	1111 PARROT JUNGLE TRAIL
Mailing Address:	CITY OF MIAMI-DEPT OF R & D ASSET MANAGEMENT DIVISION 444 SW 2 AVE #325 MIAMI FL 33130-1910

Property Information:

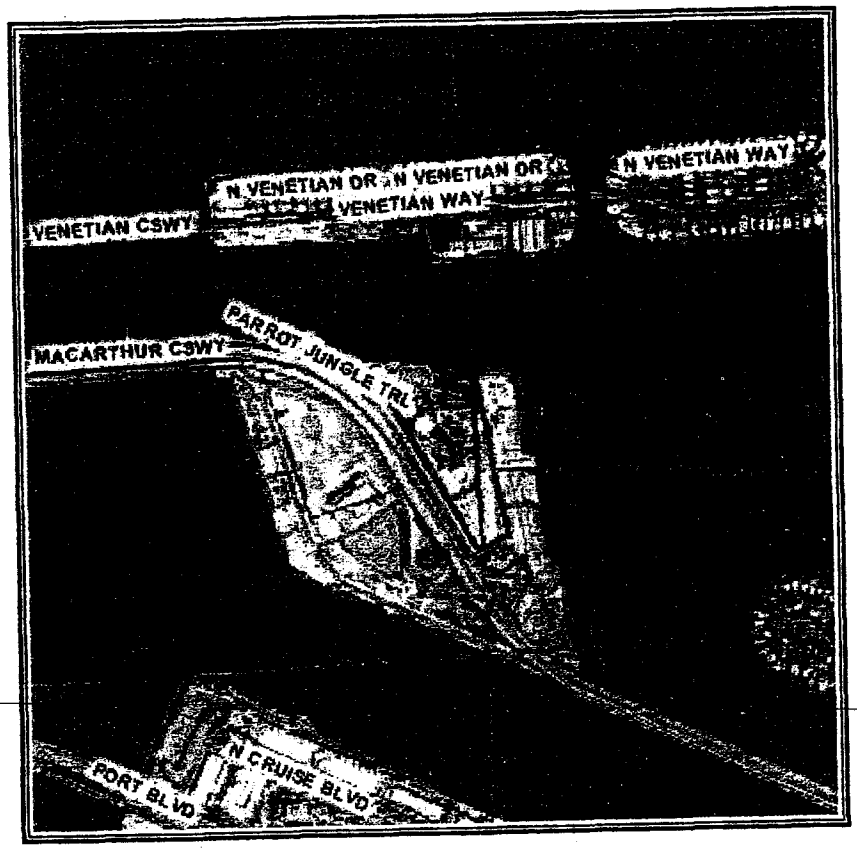
Primary Zone:	8002 PARKS & RECREATION
CLUC:	0081 VACANT LAND
Beds/Baths:	0/0
Floors:	0
Living Units:	0
Adj Sq Footage:	0
Lot Size:	810,760 SQ FT
Year Built:	0
Legal Description:	31 32 53 42 18.613 AC M/L PORT OF CAUSEWAY FILL & CAUSEWAY DOCK LYG ELY OF MCARTHUR CAUSEWAY R/W PER LEASE AGREEMENT BETWEEN CITY OF MIAMI & PARROT JUNGLE A/K/A PARROT JUNGLE

Sale Information:

Sale O/R:	
Sale Date:	0/0
Sale Amount:	$0

Assessment Information:

Year:	2005	2004
Land Value:	$8,499,722	$5,250,000
Building Value:	$0	$0



Digital Orthophotography - 2005

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EXHIBIT "A"

Address of Property: 900 Block / / Mc Arthur / Causeway / (Portion of Causeway Fill known as Watson Park or Watson Island)

Exhibit A (Cont.)

LEGAL DESCRIPTION OF SUBMERGED PARCEL

Commence at a point marked by an 5/8" diameter iron rod and Cap Stamped F.D.O.T., shown as P. T. Sta. 25+50 on the "Official Map of Location and Survey of a portion of Section 8708, designated as part of State Road A-1-A in Dade County, Florida", prepared by the State Road Department of the State of Florida, as recorded in Map Book 56, at Page 71 of the Public Records of Dade County, Florida. Said point being the point of tangency of the original center line of the Douglas MacArthur Causeway running Easterly and South Easterly from the Westerly limits (West Bridge) of Watson Island as shown on Sheet 3 of the State Road Department Right-of-Way Map, Section No. (8706-112) 87060-2117, revised March 25, 1959, said most Northerly curve having a radius of 1432.69 feet and a central angle of 62° 00' 00"; thence South 59° 51' 26" West departing radially from said centerline, a distance of 987.36 feet to a projected bulkhead line; thence North 17° 12' 21" West along said bulkhead line, a distance of 238.86 feet to the point and place of beginning; thence South 49° 32' 57" West departing said bulkhead line a distance of 550.92 feet to a point of intersection of lines of turning basin limit as established by U.S. Army Corps of engineers and position by coordinates North 527,878.62 feet, East 926,135.22 feet (based on North American Datum 1983-NAC83); thence North 31° 03' 50" West, along the limits of said turning basin a distance of 428.44 feet to a point of intersection with the East right of way line of the intracoastal waterway; thence North 03° 27' 54" West along said East right of way line a distance of 874.43 feet to a point of intersection with the Southerly right of way line of said Douglas MacArthur Causeway, said point of intersection being a point on a curve concave Southerly and having a radius of 10,716.59 feet, a radial line to said point bears South 01° 15' 15" East; thence run Easterly for 387.46 feet along the arc of said curve and along said Southerly right of way line, through a central angle of 02° 04' 17" to a point of tangency; thence South 89° 10' 55" East continuing Easterly along the said Southerly right of way line, a distance of 31.87 feet more or less to a point of intersection with an existing bulkhead line; thence South 17° 12' 21" East along said bulkhead line a distance of 924.70 feet to the point of beginning.

EXHIBIT "B"

SUBJECT PROPERTY

Information herein has been supplied by applicant.

Address of Subject Property: **900 BLOCK / MC ARTHUR / CWY /** .

Exhibit A

LEGAL DESCRIPTION OF UPLAND PARCEL

Commence at a point shown marked by an 5/8" diameter iron rod and Cap Stamped F.D.O.T., shown as P.T. Sta. 25+50 on the "Official Map of Location and Survey of a portion of Section 8706, designated as part of State Road A-1-A in Dade County, Florida", prepared by the State Road Department of the State of Florida, as recorded in Map Book 56, at Page 71 of the Public Records of Dade County, Florida. Said point being the point of tangency of the original center line of the Douglas MacArthur Causeway running Easterly and South Easterly from the Westerly limits (West Bridge) of Watson Island as shown on Sheet 3 of the State Road Department Right-of-Way Map, Section No. (8706-112) 87060-2117, revised March 25, 1959, said most Northerly curve having a radius of 1432.69 feet and a central angle of 62° 00' 00 seconds": thence South 59° 51' 26" West departing radially from said centerline a distance of 987.36 feet to a Projected Bulkhead line; thence North 17° 12' 21" West along said bulkhead line, a distance of 238.86 feet to the point and place of beginning; thence North 17° 12' 21" West continuing along said bulkhead line a distance of 924.70 feet to the Southerly right of way line of State Road A-1-A Douglas MacArthur Causeway; thence along said Southerly right of way line the following courses and distances: South 89° 10' 55" East, a distance of 73.08 feet; thence North 86° 44' 00" East, a distance of 67.09 feet to non-tangent curve concave to the Northeast whose radial line bears North 39° 29' 18" East having a radius of 160.00 feet and central angel of 22° 09' 33"; thence along said curve an arc length of 61.88 feet; thence South 72° 40' 15" East continuing along said Southerly right of way line a distance of 276.49 feet; to a curve concave to the Southwest having a radius of 600.00 feet and central angel of 46° 17' 39" thence along said curve an arc length of 484.79 feet to a point of tangency; thence South 26° 22' 36" East continuing along the southwesterly right of way line of State Road A-1-A, a distance of 196.59 feet; thence South 54° 07' 39" West Departing Said right of way line, a distance of 332.16 feet; thence North 35° 54' 03" West, a distance of 132.74 feet; thence South 54° 07' 39" West, a distance of 150.14 feet to the point of beginning.

EXHIBIT "B"

SUBJECT PROPERTY

Information herein has been supplied by applicant.

Address of Subject Property: **900 BLOCK / MC ARTHUR / CWY / .**

ATTACHMENT E:

Seagrass Mitigation Plan

81/13?
10/13/0.

Flagstone Island Gardens Mega-Yacht Harbor

Submerged Aquatic Vegetation Mitigation Plan

Revised July 14, 2004

PURPOSE

The purpose of this mitigation plan is to provide adequate in-kind compensation for unavoidable losses to seagrass habitat function due to dredging at the Flagstone Island Gardens Mega-Yacht Harbor Project site ("Project"). The preferred Project alternative requires dredging ranging between approximately -18 and -25 feet NGVD to accommodate marina basin mega-yacht drafts. As reported by the marine market and design consultant for the Project, Brandy Marine, these depths are essential for Island Gardens to be a functional and economically viable mega-yacht harbor.

Seagrass Resources: Seagrass species found within the boundaries of proposed dredging include *Halodule wrightii* (shoal grass), *Halophila decipiens* (paddle grass), and *Thalassia testudinum* (turtle grass), from depths ranging between –6 feet and –16 feet NGVD and average densities of approximately 35% (see revised permit sketch sheet number 2 dated 4/14/03). The goal of the compensation project is to offset the losses in seagrass habitat by restoring seagrass habitat with similar species to those impacted with an equal or greater value of services provided.

Reports from the Miami-Dade County Department of Environmental Resources Management (DERM) indicate that a few leaves of *Halophila johnsonii* (Johnson's seagrass) are present at the Project site (based on the site inspection on August 21, 2003, and subsequent dives in October 2003). However, a Johnson's seagrass survey utilizing the techniques outlined in the "National Oceanic and Atmospheric Administration's Recovery Plan for Johnson's Seagrass, Recommendations for Sampling Halophila johnsonii at a Project Site (Appendix III)" was conducted on August 25 and 26, 2003 by Coastal Systems International and no Johnson's seagrass was observed. The proposed Project is within designated critical habitat for Johnson's seagrass, but this area is not critical to the continued viability of the species due to its isolated configuration and lack of primary constituent elements necessary to support a significant Johnson's seagrass community. The proposed mitigation project, also within the designated critical habitat, will provide higher quality habitat for Johnson's seagrass than that lost based upon seagrass functions provided.

Macroalgae Resources: Both Chlorophyta (green algae) and Rhodophyta (red algae) have been identified attached to the submerged lands and the bulkhead at the Project site. Typical green algae found at the site included scattered communities of *Calerpa, Halimeda, Udotea, Acetabularia,* and *Avrainvilla*. More difficult to identify were the red algaes, but appeared to be *Wrangelia* spp., and *Dasya* spp. To quantify the limits of macroalgae coverage, surveys were conducted along 50-foot transects perpendicular to the bulkhead. Coverage was sparse to medium throughout most of the Project area (see revised permit sketch sheets 2 and 3 for additional location and quantity details). Total area of macroalgae on substrate proposed to be

impacted was calculated to be approximately 790 square feet at the time of the survey; the coverage appears to be highly variable. The bulkhead also contains communities of macroalgae (both red and green algae). Macroalgae coverage of the bulkhead is estimated at 35 percent. Total area of macroalgae habitat is approximately 3,500 square feet on the bulkhead. Mitigation for macroalgae impacts on the bulkhead and associated with the sponge-dominated community onsite are addressed in the revised "Benthic Community Mitigation Plan". Mitigation for macroalgae impacts associated with areas containing seagrass are addressed below.

DESCRIPTION OF THE SEAGRASS MITIGATION PROJECT

Mitigation Quantity & Quality: The compensatory mitigation project will focus on restoring the functional services of the impacted area of seagrass habitat. The original area of seagrass coverage surveyed in May 2003 was approximately 0.94 acre. However, the establishment of paddle grass at the Project site in late summer increased total coverage to 1.92 acres (including seagrass observed during survey work in the Intracoastal Waterway on October 24, 2003). The concepts provided in *Guidelines for the Conservation and Restoration of Seagrasses in the United States and Adjacent Waters* (Fonseca et al., 1998), the Habitat Equivalency Analysis (HEA) Methodology, as well as the Uniform Mitigation Assessment Method (UMAM) adopted by the Florida Department of Environmental Protection (see attached HEA and UMAM worksheets) are being used to size the restoration project.

There will be loss of seagrass habitat between the time when the impact area is dredged (i.e. the seagrass habitat at the Project site is lost) and the restored seagrass habitat is of functional equivalency to the lost habitat. This is referred to as an interim loss of habitat. A higher quality habitat with a greater range of seagrass functions will be restored at the mitigation site than that impacted. This plan proposes in-kind mitigation at a 3.5:1 ratio, which is slightly higher than the UMAM results presented below, based on the conservative estimates of time used to reach function greater than or equal to that lost at the impact site (results described below). The HEA methodology recommended a lesser mitigation ratio (results described below).

Therefore, approximately 5.76 acres of seagrass habitat (3:1 ratio) will be restored. Consistent with the South Florida Water Management District recommendations, 0.96 acres (0.5:1 ratio) will be out-of-kind mitigation, for a total mitigation ratio of 3.5:1 (see the revised Benthic Community Mitigation Plan for additional information on the out-of-kind mitigation proposed for impacts to the seagrass community).

Results of HEA and UMAM Analyses: The location of seagrasses at the Project site is provided on Sheet 3 (of 22) of the permit sketches. The seagrasses at the Project site includes 0.94 acre of mixed density shoal grass (*Halodule wrightii*) and 0.98 acre of medium to sparse density (21-40% coverage) paddle grass (*Halophila decipiens*). A small amount of turtle grass (*Thalassia* testudinum) was found and the acreage is included in the 0.94 acre. The mixed density shoal grass was found in patches with the following densities:

- sparse (0-20% coverage)
- medium to sparse (21-40% coverage)
- medium (41-60% coverage)
- medium to dense (61-80% coverage)

Calculation of Sufficient Mitigation Area: Two methods are used to confirm calculation of sufficient mitigation area: the Chapter 62-345, Uniform Mitigation Assessment Method, F.A.C. (UMAM) and the Habitat Equivalency Analysis (HEA) (NOAA 2000).

1. A conservative approach to using the UMAM (see attached calculation spreadsheets) is used where the subjectivity of the rule was removed by using a range of scenarios that are very conservative given the quality of the seagrass habitat at the Project site. Many factors in the UMAM scoring could negatively impact the scoring of the seagrasses at the Project site. These include the following considerations:

    - .500(6)(a) Location and Landscape Support – The seagrass area on the shoal at the Project site represents an isolated seagrass area as opposed to a seagrass bed that has connectivity to a larger bed or an area of shoreline seagrasses.

    - .500(6)(b) Water Environment – The seagrass area at the Project site represents an area that is at a depth that is too deep for dense growth of seagrasses.

    - .500(6)© Community Structure – The seagrass area at the Project site is either generally sparse or medium (0-60% coverage) and as such does not provide optimum habitat. In addition, as stated above for location and landscape support, the area is isolated and as such does not provide optimum habitat.

In spite of these considerations, the seagrass is scored using a very conservative range between optimum and moderate (10 – 7). This results in a combination of potential functional loss categories from high/high to low/low.

A conservative time factor is used that indicates that we will be able to construct a seagrass bed of comparable density within 6 – 10 years of the project. This is a conservative estimate because past projects indicate that a shoal grass bed should establish itself within 5 years or less from planting. A conservative risk factor of 2 (moderate risk) is used because seagrass projects, if planned correctly, have proven to be successful.

Using these conservative factors, the UMAM estimate for adequate mitigation area is between 4.80 and 4.84 acres (2.5:1 ratio calculated versus the proposed 3:1 ratio for this Project).

2. HEA is used in calculating sufficient replacement area to compensate for damages in a natural resource damage assessment. Again, a conservative approach is used to estimate the area that would replace the interim losses of seagrass habitat between the time of loss and the time of functional replacement. This time period is estimated to be 10 years and considers that the mitigation project will begin immediately subsequent to Project construction. The interim loss of habitat will be replaced by planting an additional 0.36 acre of seagrasses to the base loss (1.96 acres). The HEA provides an estimate that 2.32 acres of seagrass are required for mitigation (1.2:1 ratio calculated versus 3:1 ratio proposed for this Project)

Location of the Preferred Mitigation Site: Due to the presence of seagrass in the shallower dredge holes adjacent to the Julia Tuttle Causeway Bridge, the applicant is proposing to fill a deeper dredge hole that is absent of seagrass below the – 15 foot NGVD contour. The preferred mitigation site (mitigation area 1) is located on sovereign submerged lands, and will require a consent of use for placement of fill from the South Florida Water Management District.

Mitigation Site Characteristics: Mitigation area 1 is a deep dredge hole (see the attached location map (sheet 1) for reference). This site does not contain seagrass below approximately – 15 feet NGVD. Mitigation area 1 is approximately 5.76 acres when filled to the – 5-foot NGVD contour. Mitigation area 1 contains an apparent berm established around the perimeter of the dredge hole, deep water for fill access operations, and few marine resource communities at the fill depths proposed. Note that sponge communities do exist along the edges of the mitigation site at maximum depths of –12 to –14 feet NGVD; impacts to these sponges will be avoided (see sheet 3 for approximate locations of sponge communities). Depths at the preferred mitigation site vary between –2 feet and –26 feet NGVD.

Mitigation Design: The proposed design involves no direct impacts to seagrass. Cross-sections of the dredge hole are included (see sheets 5 and 6). This design fills the dredge hole completely from the bottom to approximately – 15 feet NGVD, and then slopes up and inward to a plateau at a depth of – 5 feet NGVD (see sheet 5). Fill will be placed at least three (3) feet offset from the nearest existing seagrass bed edge. Fill will also be sloped away from sponge communities to avoid direct impacts. The slope is designed at a stable 3-foot horizontal to 1-foot vertical rise, and should support Johnson's grass, paddle grass and shoal grass. The plateau should support both shoal and manatee grasses. The volume of fill required is approximately 125,000 cubic yards.

Pursuant to discussions with DERM staff, this project design has proven to be successful at a seagrass habitat restoration site north of the Julia Tuttle Causeway, adjacent to Biscayne Point and the 79th Street Causeway. A draft report that summarizes the successes and challenges of Biscayne Bay seagrass restoration projects (including the DERM project) is currently being prepared by Mr. Gary Milano and Mr. Don Deis for publication; this draft report and a summary table is enclosed for your review. This report confirms that the design of the Island Gardens mitigation project is consistent with other successful seagrass restoration projects in Biscayne Bay.

Sediment Source: The interior of the dredge hole at the mitigation area will be filled with sediment excavated from the submerged lands adjacent to the Island Gardens Project site and/or another suitable fill source. Sediment will be stockpiled during marina basin excavation onsite and either transported via truck to a suitable barge loading facility adjacent to the dredge hole, or loaded directly onto a barge at the Project site and transported north to the mitigation site. The geotechnical boring profiles submitted with the permit application indicate that the submerged lands to be dredged onsite largely consist of dredge spoil containing both silt, sand and limestone down to depths of approximately – 25 feet NGVD. A minimum of one foot of sand (less than 20 percent fines passing the 200-sieve analysis), likely aragonite, containing characteristics similar to sediment supporting adjacent existing seagrass beds will be used to cap the fill, providing suitable substrate for seagrass growth.

Method of Transport: As stated previously, excavated material may be transported by truck to a barge loading facility adjacent to the dredge hole, or placed on a barge adjacent to the Island Gardens Project site and transported north. The preferred option will be determined upon confirmation of and coordination with a licensed marine contractor. The draft of the fully loaded vessel will not exceed 8 feet. Access to the mitigation site exists from the east, with water depths exceeding barge draft (see sheet 7 for barge track plan).

Turbidity Management and Monitoring: Turbidity will be controlled by driving temporary wood piles around the boundaries of the dredge hole at the mitigation site, and enclosing the dredge hole with a double-walled turbidity curtain. The transport barge will be moored inside of the turbidity curtain during offloading of spoil material.

Turbidity levels will be monitored by measuring the nephelometric turbidity units (NTUs) in a circular arc around the dredge hole filling operation at an approximate radius of 150 meters (mixing zone). If any turbidity compliance samples exceed background, construction activities that may be contributing suspended solids to the receiving water body will cease immediately and will not resume until corrective measures have been taken and turbidity returns to acceptable levels (compliance with Chapter 62-302, Florida Administrative Code).

Donor Seagrass: Donor seagrass material will be obtained from the Island Gardens Project site. The submerged parcel at Island Gardens contains mixed and monospecific beds of shoal grass and paddle grass; a small patch of turtle grass is also present. As much shoal grass as possible from the impact area will be salvaged and transplanted. No paddle grass or turtle grass will be targeted for transplantation.

At least two (2) secondary donor seagrass beds of shoal grass will be required, and are proposed to supplement the transplant efforts. Additional donor beds will be scouted, and their locations provided to the regulatory agencies if necessary. The donor beds are proposed to be located within the same vicinity as the mitigation site. See the attached location map (sheet 1) for the location of the proposed donor beds. Donor seagrass bed 1 (E-938638.18/N-546616.08) is

approximately 5.2 acres; donor seagrass bed 2 (E-935989.87/N-540225.72) is approximately 1 acre. Depths at the donor sites range between –6 feet NGVD and above. Two main species of seagrass exist within and adjacent to the donor beds – shoal grass and manatee grass; density of shoal grass is fairly consistent at 80 to 100 percent coverage. Pursuant to comments and discussions with resource agencies, donor seagrass plugs will be collected, but collection techniques will not result in the harvesting of greater than 10 percent of the overall area containing shoal grass. Approximately 80 percent of the transplant seagrass material (8,000 plugs of shoal grass) will be collected from the donor beds; only 20 percent of the shoal grass transplant material is expected to be collected/salvageable from the project site (2,000 plugs). Limiting the amount of collection to less than 10 percent within the donor sites will result in no significant impacts to the donor beds. Spacing between plugs collected at the donor sites will be equivalent to approximately 2 feet or greater. Each acre of donor material should yield 2-3,000 plugs.

Collection and Transplanting Technique: Prior to commencement of dredging operations within the vicinity of the shoal grass beds at the Island Gardens Project site, shoal grass will be collected utilizing a core tube to extract plug samples. Core tubes will range in size but average approximately 4 inches in diameter. The plug units will be collected in buckets/tubs on board a collection vessel. The plugs may be transported to a temporary storage area, as necessary, adjacent to the mitigation site. The plugs from the Project site may be held in nearby shallower dredge holes that range in depths of –10 to –11 feet NGVD (similar to Project site) and contain sparse seagrass communities of shoal and paddle grasses for 1 to 2 weeks during which time the dredge hole will be filled and the sediment allowed to settle. The settling rate depends on the percentage of silt in the fill material and at the bottom of the dredge hole. Initial settling rate estimates for fill containing less than 15 percent of fines passing the –200 sieve test are 1-3 weeks. Higher percentages of fine, silty soil in the fill material will result in longer settling times.

Shoal grass units will also be collected at the donor seagrass beds (see location map attached). These units will be collected and transplanted the same day, utilizing a shovel and/or plug collector to collect the sample.

After settlement of the mitigation site, a small shovel or similar tool will be utilized to loosen sediment along pre-established transect lines spaced at 3-feet on-center. Transects will be oriented in an east-to-west direction (spaced at 3 feet apart). Each plug unit will be planted and stabilized. The total number of plugs to be planted is approximately 10,000. Steel staples will be utilized to help anchor the seagrass plugs.

Project Success Criteria and Project Monitoring: The monitoring program is designed to examine the progress of the project towards its goal of compensating for the loss of seagrass habitat at the Project site. A pre-construction survey of shoal grass will be performed within the Island Gardens Project impact area, the donor sites, and a reference site ("background areas") to

further document the species composition, density, patchiness, and other characteristics of seagrass growth. This information will be used to establish baseline conditions and confirm standards for success criteria of seagrass within the mitigation areas. Data used to date to design the mitigation project was Project site seagrass densities (average) of 35% and assumed success at the mitigation site of 60 to 70 percent cover.

Since shoal grass will be planted at the mitigation site, the success criteria will be achievement of density comparable to that of a shoal grass bed located at a similar depth near the mitigation area (reference site). In addition, to ensure no long-term impacts from seagrass collection techniques are observed, monitoring will also be conducted at the donor sites. The mitigation site, reference site, and the donor seagrass beds will be monitored along random transect lines (technique discussed below). The following monitoring methods will be used at all 3 areas (with the exception of percent survival of planting units for the reference and donor sites):

1) Survival of the planting units will be recorded by measuring random subsections of the planted area. This parameter will be used to determine if additional maintenance planting may be required early (within the first 1 to 3 years) in the monitoring program. It will be difficult to discern the individual planting units when the rhizomes begin to coalesce. If and when this occurs, this parameter will be discontinued within the planting area.

2) The aerial coverage (spread and eventual coalescence) of a randomly selected number of planting units. A 1-meter square quadrat divided into 10 cm X 10 cm grids will be used for this monitoring. The number of squares containing seagrasses will be counted to estimate percentage cover. In addition, percent aerial cover will be equated to cover classes within the 1-meter square quadrat, based on a modified Braun-Blanquet (1932) technique (see table below). This technique is commonly used in estimating plant coverage. This technique will also be used to confirm aerial coverage over time at the other monitored sites (reference site and donor site).

Cover Class	Description
0	Absent
0.1	Solitary shoot
0.5	A few individual shoots, less than 5% (5-10 cm X 10 cm grids) cover
1	Many shoots, less than 5% cover
2	5% to 25% cover
3	25% to 50% cover
4	50% to 75% cover
5	75% to 100% cover

3) A count of the number of shoots in the above described random samples within the planting site and other monitored areas. The shoots will be counted within 10 randomly selected 10 cm x 10 cm grids within the 1-meter-square quadrat. This number will be multiplied by 10 to obtain the number of shoots per meter square.

A random sampling program will be developed for monitoring of the mitigation site, reference site, and the donor sites. Success of the mitigation project will be measured by comparing the data from the planting site with similar data from the reference site. A power analysis will be performed on initial data from the Project site to determine the number of samples required for statistical analysis. Note that the mitigation site will be divided into an equal number of cells (5 or greater). It is estimated that approximately 200 quadrat measurements will be taken within the mitigation site cells (40 per cell approximately), evenly distributed, to ensure that adequate sampling coverage of the mitigation site is achieved. The quadrat measurement number will be adjusted from 200, as necessary, to achieve a reasonable statistical confidence level. Successful recovery at the donor sites will be achieved when the original plug areas (where donor transplant material was collected) are no longer distinguishable from the surrounding seagrass beds.

The seagrass areas will be monitored for a period of five years. The preferred planting time is in May near the beginning of the seagrass growing season. Quarterly monitoring will be performed in the first year in August, November, February, and May. The focus of the first year will be on planting unit success in the mitigation area. If planting unit success is determined to be unsuccessful, remedial actions will be proposed (e.g., additional planting units). Biannual monitoring will be performed in years 2 through 5 or until it has been determined that success, as described above, has been achieved. Biannual monitoring will be performed in April and September, at the beginning and end of the growing season. A statistical analysis and report will be generated from data collected during each monitoring event to determine if success has been achieved. If success has not been achieved by year 5, remedial actions will be proposed.

Remedial Actions - If success criteria are not met at the mitigation site, remedial actions will be taken during each stage of the monitoring cycle. Remedial actions will primarily consist of re-planting as necessary those barren areas, or those areas that did not achieve the projected growth. If re-planting does not work, additional measures will be conducted which include review of soil conditions, currents, and additional measurements (turbidity, etc) intended to provide valuable information concerning the water environment within that zone/cell of the mitigation area. All corrective actions will be coordinated with the regulatory agencies.

If the remaining holes left from the plug samples do not fill in, remedial actions at the donor site will include the inclusion of a small amount of fill into any apparent plug hole remaining after the original plug sampling occurred during the mitigation project. However, it is anticipated that these holes will fill in and coalesce within 2 to 3 years from the date of collection, if not sooner.

The proposed schedule for monitoring and submittal of monitoring report, assuming planting completion by August 2004, is as follows:

89/13
10/13/0

November 2004 – 1st report (3 months from date of planting)
February 2005 – 2nd report (6 months after first monitoring period)
May 2005 – 3rd report (9 months after first monitoring period)
November 2005 – 4th report
April 2006 – 5th report
September 2006 – 6th report
April 2007 – 7th report
September 2007 – 8th report
April 2008 – 9th report
September 2008 – 10th report
April 2009 – 11th report
September 2009 – 12th report

Construction Schedule: The preferred mitigation construction schedule will allow for filling of the dredge hole by July 2004. Ideally, this will allow approximately 1 – 3 weeks for the fill area to settle before transplanting the seagrasses from the holding areas to the mitigation site. Note that the lower the percent of fines in the transported sediment, the faster the settling times. Seagrass transplanting is proposed to begin in late July or early August 2004.

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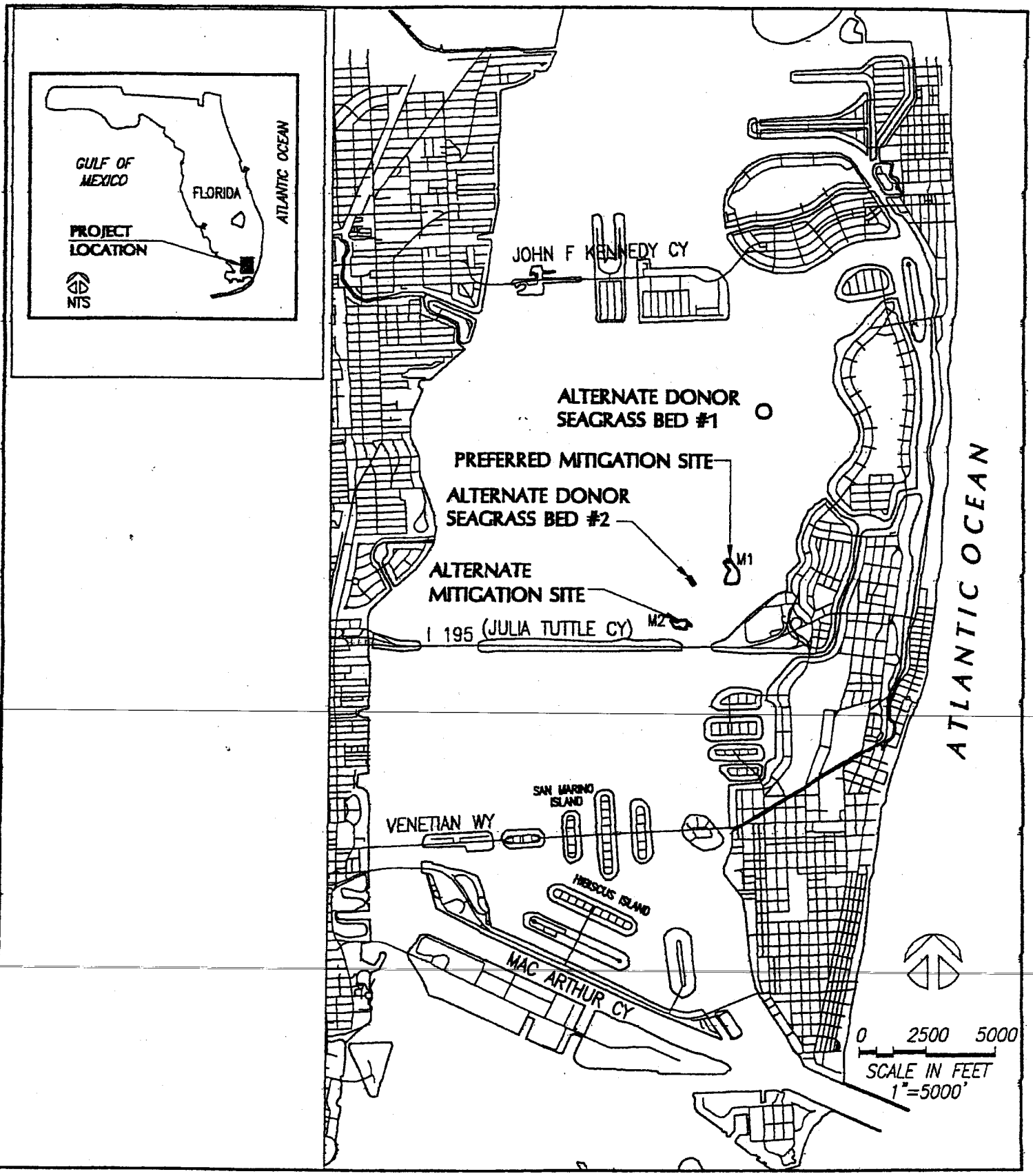
Braun-Blanquet, J. 1932. Plant sociology: the study of plant communities. Reprint 1983 Koeltz Scientific Books. P.O. Box 1360, D-6240 Koenigstein/West Germany

Damage Assessment and Restoration Program, National Oceanic and Atmospheric Administration, Department of Commerce. 2002. *Habitat Equivalency Analysis: An Overview*

Milano, G.R. and Deis, D.R. 2004. Biscayne Bay Seagrasses and Recent Restoration Efforts (draft summary report).



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Flagstone Island Gardens
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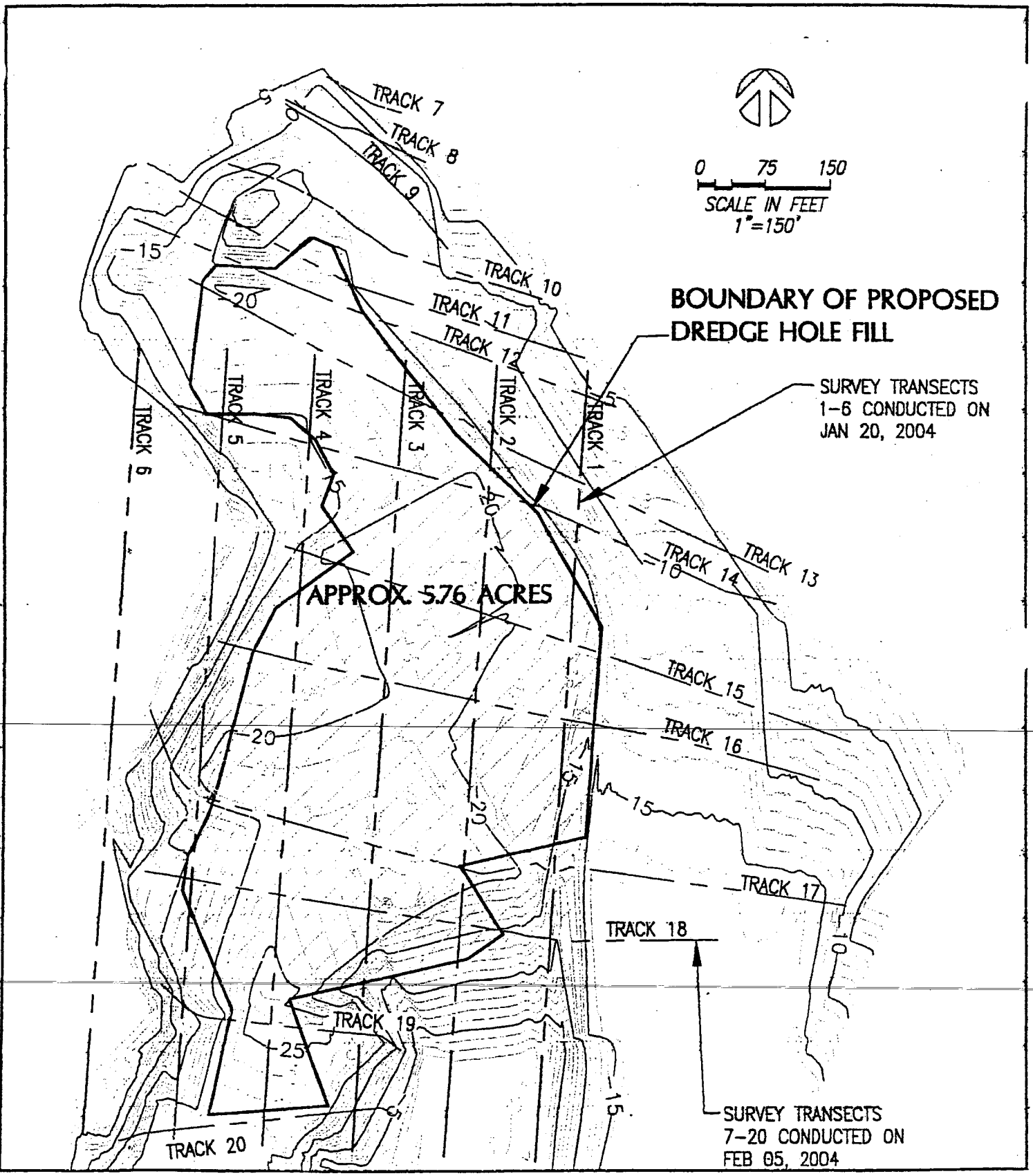
ISLAND GARDENS MEGA-YACHT HARBOR PROPOSED MITIGATION PROJECT	
LOCATION PLAN	
JOB: 201701	DATE: 04/15/04
BY: SR/MJP	SHEET 1 OF 7



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Flagstone Island Gardens
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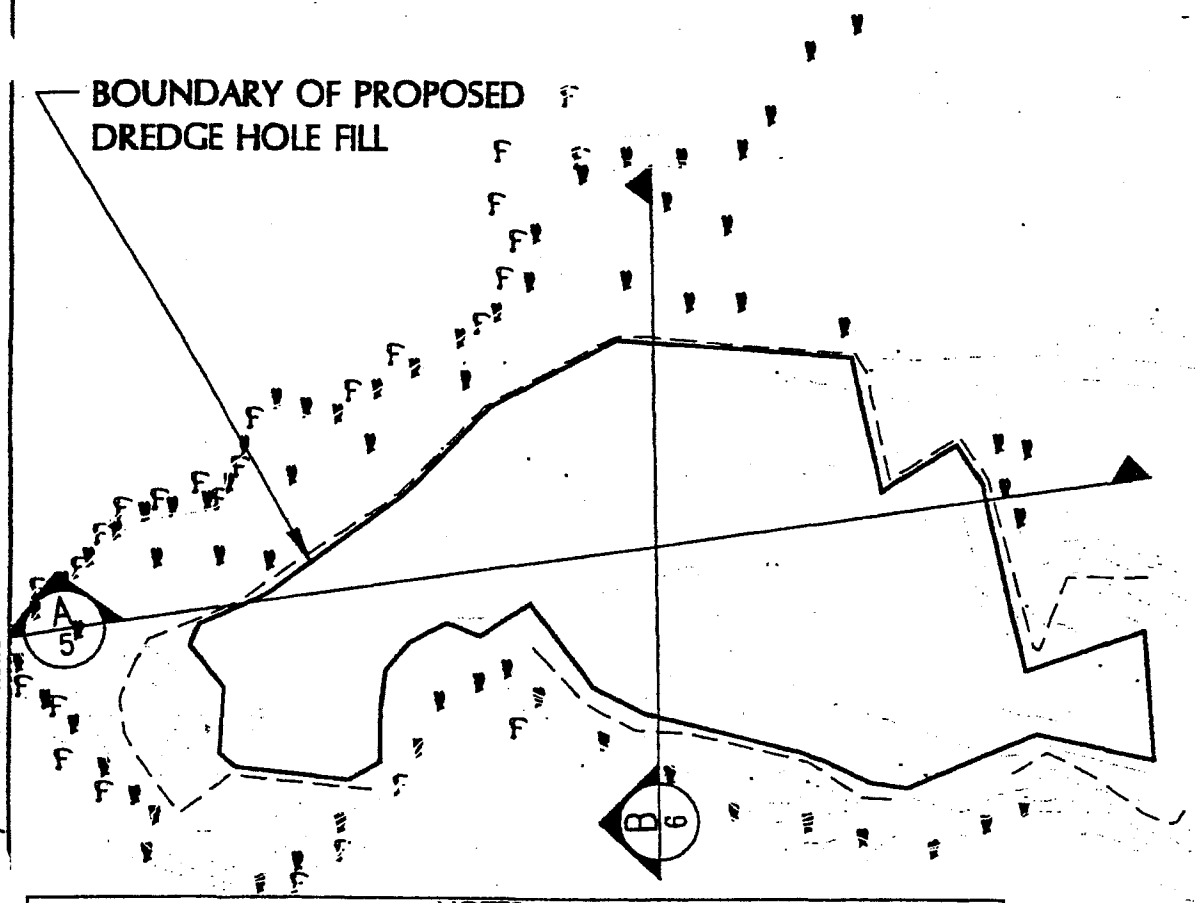
ISLAND GARDENS MEGA-YACHT HARBO PROPOSED MITIGATION PROJECT	
MITIGATION AREA 1-TRANSECT LOCATIONS	
JOB: 201701	DATE: 04/15/04
BY: SR/MJP	SHEET 2 OF 7



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201701/WORKING/MITIGATION_SKETCHES/(2004-04-15) MITIGATION

NOTES:

1. HYDROGRAPHIC AND SEAGRASS SURVEY PERFORMED BY COASTAL SYSTEMS INT, INC. ON SEPTEMBER 15, 2003; CORAL/SPONGE SURVEY PERFORMED BY CSI ON JANUARY 20, AND FEBUARY 5 2004.
2. SPARSE HALOPHILA DECIPIENS OBSERVED BETWEEN −14 TO −7 FEET NGVD. NO SEAGRASS WAS OBSERVED AT DEPTHS GREATER THAN APPROX. −14 TO −15 FEET NGVD.
3. COORDINATES ARE IN FEET RELATIVE TO FLORIDA STATE PLANE ZONE EAST (−901) REFERENCED TO NORTH AMERICAN DATUM 1983 (NAD 83).
4. ELEVATIONS ARE GIVEN RELATIVE TO NGVD 1929; CONTOURS ARE AT 1 FOOT INTERVALS.
5. THE INFORMATION ON THIS CHART REPRESENTS THE RESULTS OF THE SURVEY ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED INDICATIVE OF THE GENERAL CONDITIONS EXISTING AT THAT TIME.
6. PROPOSED AREA FOR MITIGATION PROJECT IS 5.76 ACRES. (4.65 ACRES @ −5 FEET NGVD; 1.12 ACRES ON SIDE SLOPE).
7. ESTIMATED FILL VOLUME IS 125,000 CUBIC YARDS.

0 100 200
SCALE IN FEET
1"=200'

- HALOPHILA DECIPIENS (SPARSE)
- SYRINGODIUM FILIFORME (DENSE)
- INNER BOUNDARY OF SPONGE COMMUNITY

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Flagstone Island Gardens
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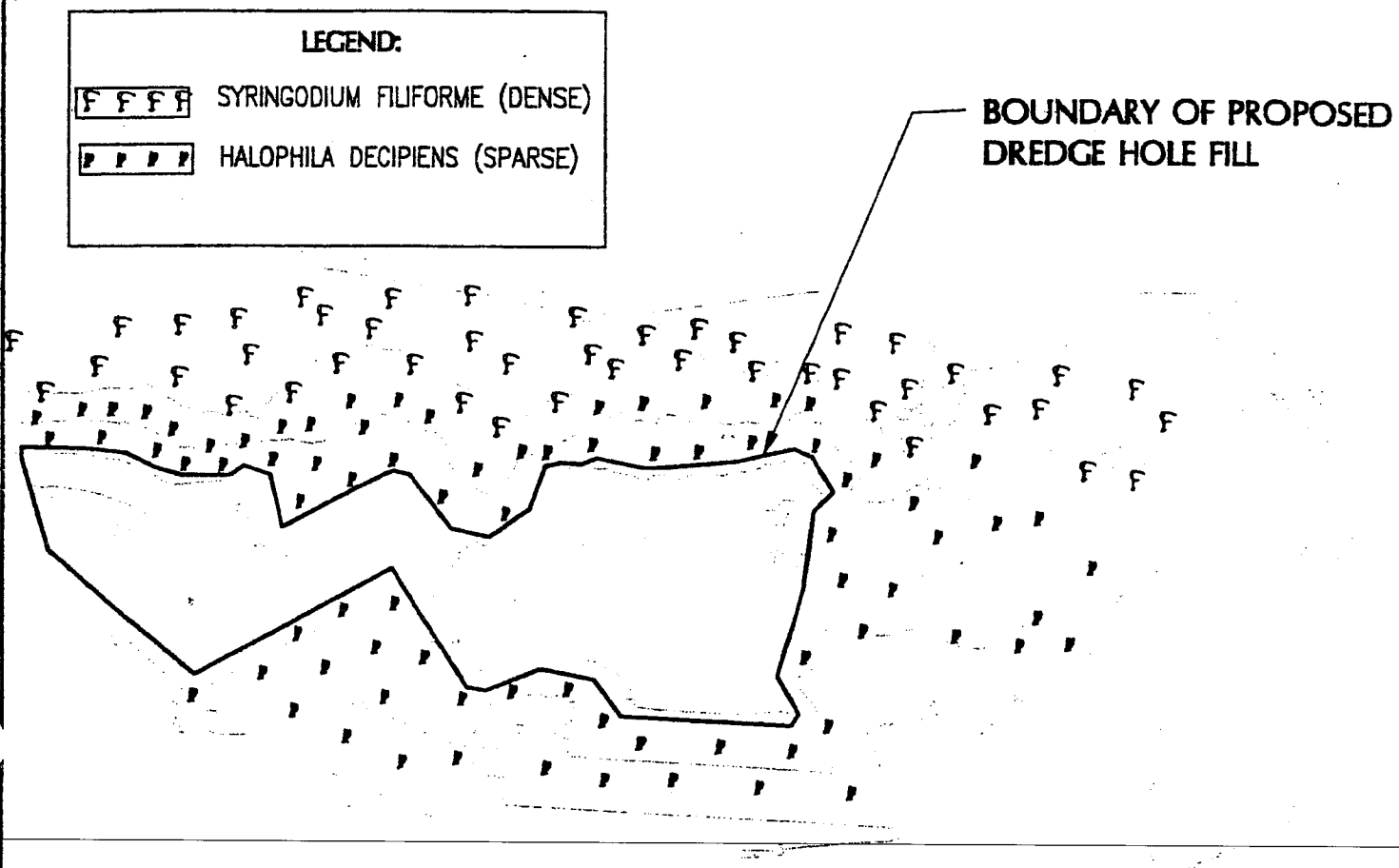
ISLAND GARDENS MEGA-YACHT HARBOR
PROPOSED MITIGATION PROJECT

MITIGATION AREA 1

JOB: 201701	DATE: 04/15/04
BY: SR/MJP	SHEET 3 OF 7



NOTES:

1. HYDROGRAPHIC SURVEY PERFORMED BY COASTAL SYSTEMS INT, INC. ON JUNE 24, 2003. SEAGRASS SURVEY CONDUCTED ON AUGUST 6 & 7, 2003.
2. COORDINATES ARE IN FEET RELATIVE TO FLORIDA STATE PLANE ZONE EAST (−901) REFERENCED TO NORTH AMERICAN DATUM 1983 (NAD 83).
3. ELEVATIONS ARE GIVEN RELATIVE TO NGVD (1929).
4. CONTOURS ARE AT 1 FOOT INTERVALS.
5. THE INFORMATION ON THIS CHART REPRESENTS THE RESULTS OF THE SURVEY ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED INDICATIVE OF THE GENERAL CONDITIONS EXISTING AT THAT TIME.
6. APPROXIMATE AREA TO −14 FT CONTOUR IS 3.62 ACRES.
7. NO SEAGRASS WAS OBSERVED AT DEPTHS GREATER THAN APPROXIMATELY −14 TO −15 FT NGVD.

0 100 200
SCALE IN FEET
1" = 200'

201701/WORKING/MITIGATION_SKETCHES/(2004-04-15) MITIGATION

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Flagstone Island Gardens
October 13, 2005 Attachment #A, page 14 of 45

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ISLAND GARDENS MEGA-YACHT HARBO
PROPOSED MITIGATION PROJECT

MITIGATION AREA 2	
JOB: 201701	DATE: 04/15/04
BY: MH	SHEET 4 OF 7

201701/WORKING/MITIGATION_SKETCHES/(2004-04-15) MITIGATION ...T/201701-P-05.DWG

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ISLAND GARDENS MEGA-YACHT HARBOR PROPOSED MITIGATION PROJECT	
MITIGATION AREA 1 - SECTION "A"	
JOB: 201701	DATE: 04/15/04
BY: SR	SHEET 5 OF 7

B SECTION B-MITIGATION AREA 1
HOR 1" = 160' VERT 1" = 8'

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Flagstone Island Gardens
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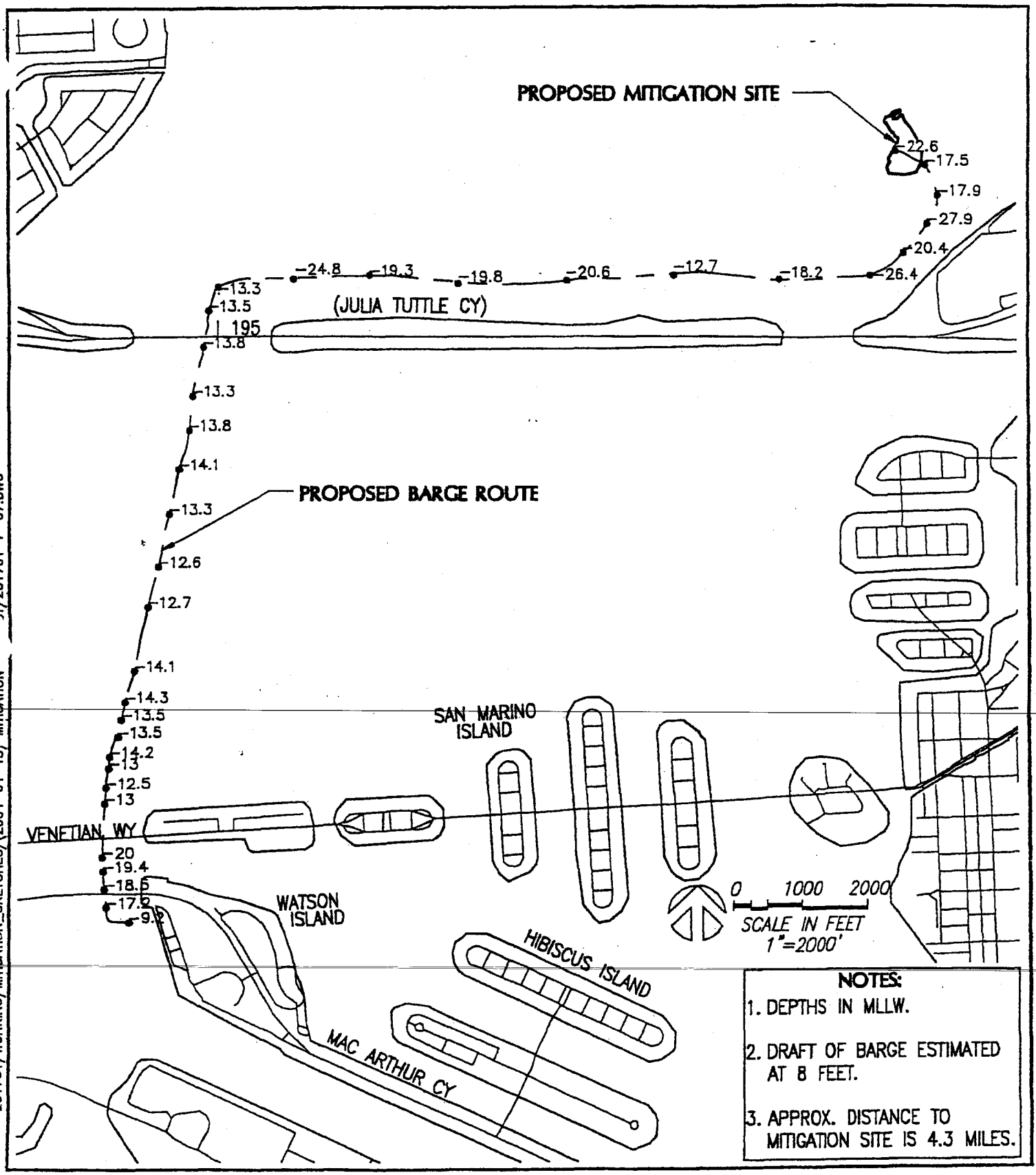
ISLAND GARDENS MEGA-YACHT HARE PROPOSED MITIGATION PROJECT	
MITIGATION AREA 1 - SECTION "B"	
JOB: 201701	DATE: 04/15/04
BY: SR	SHEET 6 OF 7



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ISLAND GARDENS MEGA-YACHT HARBOR PROPOSED MITIGATION PROJECT	
BARGE TRACK PLAN	
JOB: 201701	DATE: 04/15/04
BY: SR/MJP	SHEET 7 OF 7

PART II – Quantification of As
(See Sections 62

Site/Project Name	Application Number	Assessment Area Name or Number
Island Gardens Marina	030714-19	Marina Site either shoal grass or paddle grass areas
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	DRD	4/10/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	10	0	The seagrass area at the site is isolated from other seagrasses on a shoal area. It has some connectivity to an adjacent hard bottom feature associated with the submerged wall of the port turning basin. The area is in the passage between the inlet and Biscayne Bay.
.500(6)(b)Water Environment (n/a for uplands)	10	0	The area is surrounded by the water. The water depth is at or slightly below the lower limit of seagrass lush, healthy growth within Biscayne Bay affecting the density of seagrasses at the site.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	10	0	The sparse nature of the seagrass are affects the usage by wildlife (fishes and invertebrates). The area does not provide much habitat.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres	with	
1	0	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
-1

If mitigation
Time lag (t-factor) = 1.255
Risk factor = 2.0

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 2.51

100

PART II – Quantification of A
(See Sections 6

Site/Project Name	Application Number	Assessment Area Name or Number
Island Gardens Marina	030714-19	Marina Site either shoal grass or paddle grass areas
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	DRD	4/10/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	9	0	The seagrass area at the site is isolated from other seagrasses on a shoal area. It has some connectivity to an adjacent hard bottom feature associated with the submerged wall of the port turning basin. The area is in the passage between the inlet and Biscayne Bay.
.500(6)(b)Water Environment (n/a for uplands)	9	0	The area is surrounded by the water. The water depth is at or slightly below the lower limit of seagrass lush, healthy growth within Biscayne Bay affecting the density of seagrasses at the site.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	9	0	The sparse nature of the seagrass are affects the usage by wildlife (fishes and invertebrates). The area does not provide much habitat.

Score = sum of above scores/30 (If uplands, divide by 20)		If preservation as mitigation,	For impact assessment areas
current or w/o pres	with	Preservation adjustment factor =	FL = delta x acres =
0.9	0	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.9	Time lag (t-factor) = 1.255	RFG = delta/(t-factor x risk) = 2.51
	Risk factor = 2.0	

PART II – Quantification of Ass
(See Sections 62-3

Site/Project Name	Application Number	Assessment Area Name or Number
Island Gardens Marina	030714-19	Marina Site either shoal grass or paddle grass areas
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	DRD	4/10/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions .	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 10	with: 0
The seagrass area at the site is isolated from other seagrasses on a shoal area. It has some connectivity to an adjacent hard bottom feature associated with the submerged wall of the port turning basin. The area is in the passage between the inlet and Biscayne Bay.		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 9	with: 0
The area is surrounded by the water. The water depth is at or slightly below the lower limit of seagrass lush, healthy growth within Biscayne Bay affecting the density of seagrasses at the site.		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 10	with: 0
The sparse nature of the seagrass are affects the usage by wildlife (fishes and invertebrates). The area does not provide much habitat.		

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.96667	0

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
-0.966666667

If mitigation
Time lag (t-factor) = 1.255
Risk factor = 2.0

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 2.51

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PART II – Quantification of As:
(See Sections 62-

Site/Project Name	Application Number	Assessment Area Name or Number
Island Gardens Marina	030714-19	Marina Site either shoal grass or paddle grass areas
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	DRD	4/10/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with: 0	The seagrass area at the site is isolated from other seagrasses on a shoal area. It has some connectivity to an adjacent hard bottom feature associated with the submerged wall of the port turning basin. The area is in the passage between the inlet and Biscayne Bay.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 7	with: 0	The area is surrounded by the water. The water depth is at or slightly below the lower limit of seagrass lush, healthy growth within Biscayne Bay affecting the density of seagrasses at the site.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with: 0	The sparse nature of the seagrass are affects the usage by wildlife (fishes and invertebrates). The area does not provide much habitat.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.7	with: 0	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
-0.7

If mitigation
Time lag (t-factor) = 1.255
Risk factor = 2.0

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 2.51

PART I – (
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Island Gardens Mega-Yacht Marina	030714-19	Mitigation Area

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
		Mitigation	5.76 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Biscayne Bay	Class III	Aquatic Preserve, Outstanding Florida Waters

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Open waters of Biscayne Bay - North Biscayne Bay basin between Julia Tuttle Causeway and 79th Street Causeway

Assessment area description

The site represents the submerged borrow pit for material to construct Julia Tuttle CausewayDepths vary between -2 and -28 ft.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
A major seagrass bed exists within this basin of North Biscayne Bay.	The potential uniqueness of the area is its presence near the exiting seagrasses.

Functions	Mitigation for previous permit/other historic use
The functions of seagrass areas are well documented. The pit could act as a temporary refuge for some organisms and/or a sink for fine sediments.	Historically, north Biscayne Bay was lined with mangroves and contained seagrasses. The nature of the area changed significantly with inlet, causeway, and fill island construction.

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
The pit itself probably has little wildlife usage.	Mantees (low); fish (e.g., snook, snappers).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
DRD	4/10/2004

PART II – Quantification of As:
(See Sections 62-

Site/Project Name	Application Number	Assessment Area Name or Number
Island Gardens Marina	030714-19	Mitigation Area
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation	DRD	4/10/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The site is adjacent to a large seagrass bed.	0	10
.500(6)(b)Water Environment (n/a for uplands)	The area is surrounded by the water. The site is currently too deep for seagrass growth.	0	10
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The area provides low quality habitat. It may be an occassional refuge for some motile organisms	0	10

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres	with	
0	1	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
1

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Island Gardens Mitigation Area Calculations using the Uniform Mitigation Assessment Method

Impact Areas	Impact Area	TOTAL
Medium Shoal Grass	0.940	0.940
Medium *H. decipiens*	0.980	0.980
TOTAL	1.920	[redacted]

Note: Halodule density on site can be sparse (0-20% coverage), medium/sparse (21-40% coverage), medium (41-60% coverage), or medium/dense (61-80% coverage).

Note: Halophila density was medium/sparse (21-40% coverage) throughout.

Impact Area	Acreage	Delta*	Functional Loss (FL)
High Shoal Grass	0.940	1.000	0.940
Medium Shoal Grass	0.940	0.970	0.912
Low Shoal Grass	0.940	0.700	0.658
High *H. decipiens*	0.980	1.000	0.980
Medium *H. decipiens*	0.980	0.970	0.951
Low *H. decipiens*	0.980	0.700	0.686

*Deltas are based on various weighting factors

T-Factor (T)	Risk Factor (RF)	T*RF
1.255	2.000	2.510

RFG	
High Delta	0.398
Medium Delta	0.386
Low Delta	0.279

Impact Area	FL	RFG	Mitigation Area
High Shoal Grass	0.940	0.398	2.359
Medium Shoal Grass	0.912	0.386	2.359
Low Shoal Grass	0.658	0.279	2.359
High *H. decipiens*	0.980	0.398	2.460
Medium *H. decipiens*	0.951	0.386	2.460
Low *H. decipiens*	0.686	0.279	2.460

Mitigation Area			
Creating mitigation area in 6 to 10 years			
Scenario	Shoal grass	H. decipiens	TOTAL
High/High	2.359	2.460	[redacted]
High/Medium	2.359	2.460	[redacted]
High/Low	2.359	2.460	[redacted]
Medium/High	2.359	2.460	[redacted]
Medium/Medium	2.359	2.460	[redacted]
Medium/Low	2.359	2.460	[redacted]
Low/High	2.359	2.460	[redacted]
Low/Medium	2.359	2.460	[redacted]
Low/Low	2.359	2.460	[redacted]

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Results: Compensation area for each area type.

Area	Compensation Area				
	ft^2	m^2	acres	Impact Acres	Total Mitigation
Critical Habitat	977,948.84	90854.42	22.45371		
Seagrass	15,719.05	1460.35	0.36091	1.96	2.32
Sponges	567.38	52.71	0.01303	0.17	0.18
Algae	23.53	2.19	0.00054	0.02	0.02

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Biscayne Bay Seagrasses

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Abstract

Regional modifications of freshwater inflow, and past dredging and filling practices associated with the rapid urbanization of the Greater Miami area, have resulted in serious environmental degradation to Biscayne Bay. Two human-made inlets through Miami Beach have altered circulation and salinity regimes and associated bay communities. Low coastal wetlands have been virtually eliminated in north Biscayne Bay, and have been covered with dredged bay bottom fill. Dredge fill has been also placed on submerged bay bottom communities to make developable land and causeways to offshore barrier islands. In addition, seawalls were commonly constructed to contain the newly created land. Dredging of the north and central Biscayne Bay for spoil emplacement and the creation of navigation channels resulted in numerous dredged areas of varying size and depth, ranging from 2.1 meters (7 feet) to 9.2 (30 feet) in depth. Deep dredge troughs and borrow areas in north Biscayne Bay have been shown in past studies to have poor water quality, to be of limited habitat value, and to be a source of chronic turbidity compared to natural bay bottom communities. Restoration of the dredged areas to shallower depths can result in the reestablishment of seagrass or other benthic vegetation, enhance habitat value, and improve water quality. The central bay area is a transition zone from the heavily urbanized northern basins to the nearly un-dredged south bay area. Much of southern Biscayne Bay has good water quality and has retained its relatively pristine habitat.

This paper summarizes recent (1980-present) seagrass mapping, monitoring, and restoration efforts in Biscayne Bay. The Miami-Dade Department of Environmental Resources Management (DERM) has successfully tested the feasibility of using maintenance dredging spoil material to restore previously dredged areas in Biscayne Bay to natural contours.

I. Introduction

Biscayne Bay and its associated coastal ecosystems are some of Florida's most valuable natural resources. The bay provides habitat for a productive and diverse community of tropical marine plants and animals. It offers a variety of commercial and recreational opportunities to visitors and the over 2 million residents of Metropolitan Miami-Dade County. The bay is a shallow subtropical estuary located on the southeast coast of Florida (see Figure 1). Extending approximately 56 kilometers (35 miles) from north to south and varying in width from less than 1.6 kilometers (one mile) to approximately 12.8 kilometers (eight miles), it covers an area of 572 kilometers (220 square miles). The bay is bordered on the west by the Greater Miami area and on the east by a series of barrier islands and submerged vegetated banks, which separate the bay from the Atlantic Ocean. The bay is shallow [less than 4 meters (13 feet)]) except in the dredged bottom areas, which range from 2.5 meters (8.2 feet) to 16.7 meters (50 feet) in depth. Prevailing winds are from the east-southeast, and the bay is sheltered from oceanic swells by the offshore reef tract, barrier islands, and vegetated mud banks. After tide, the second most important factor affecting circulation in Biscayne Bay is wind. Freshwater naturally enters the bay through upland runoff, groundwater seepage, and rainfall. In the mid 1900's, to control upland flooding, a network of canals was created to discharge large pulses of freshwater into the bay during periods of heavy rainfall. Seasonal water temperature ranges from 13°C to 31°C. Salinity [one meter depth (3.3 ft.)] is measured monthly at a total of 100 stations. Of the seventy- five stations located in saline areas, average salinity was less than 33 ppt at thirty-two stations and greater than 36 ppt at seven stations (Alleman et al~~Biscayne Bay Swim Plan~~, 1995). Wanless (1976) categorized the major bay sediment types as quartz, carbonate, calcareous sand, calcareous mud, calcitic mud or peat, and quartzose calcareous. He also reported that over 50% of Biscayne Bay has less than 15 centimeters (6 inches) of sediment cover over the limestone bedrock and natural sediment accumulation is confined primarily to the deeper mid-bay axis (Wanless, 1969). Water quality in Biscayne Bay meets state water quality standards.

Biscayne Bay Resource Impacts

Rapid urbanization and associated coastal development over the last 100 years has severely altered natural habitats in Biscayne Bay (Harlem, 1979). The northern third of the Bay (north bay), which has been most severely impacted by development, is subdivided by six filled causeways and a major seaport facility. Low coastal wetlands have been virtually eliminated in north Biscayne Bay. Over fifty percent of the existing north bay bottom area is barren (Harlem, 1979; Milano, 1983), caused by the creation of deep dredge holes and associated spoil emplacement, and chronic elevated turbidity levels. High turbidity in the north Biscayne Bay area has been correlated with re-suspension of unconsolidated bay bottom and spoil-island shorelines, eroding margins of dredge banks and un-vegetated bottom sediments (Wanless et al. 1984).

The central bay area is a transition zone from the heavily urbanized northern basins to the almost un-dredged south bay area. Free exchange with ocean waters occur in this region through a 14.5-kilometer (nine-mile) system of shallow vegetated mud banks.

The south bay area western shoreline rises more gradually than the northern regions, with elevations of only 0.3 to 0.6 meters (one to two feet) above mean sea level for 1.6

kilometers (1 mile) or more inland from the shore. As a result of the resource protection regulations provided through Biscayne National Park and local regulatory agencies, south bay contains pristine habitats due to the absence of heavy development.

Activities that disturb the bottom communities of the bay disrupt the balance between biological and physical forces that maintain the bay's water clarity and sediment stability. These activities include dredging and filling operations, shoreline seawalls, prop scarring and scouring by recreational and commercial vessels, and bottom damage or disturbance by fishing activities (Biscayne Bay Partnership Initiative, 2001).

A large body of scientific literature exists documenting the importance of coastal habitats to local fisheries, food web relationships, habitat value, and as shoreline stabilizers (Idyll et al., 1968; Odum et al., 1982; Lewis, 1990a). Seagrasses are important primary producers, sequestering carbon, producing oxygen, and converting the sun's energy into food and structure useful to fish, invertebrates, and wildlife (Wood et al, 1969)

II. Biscayne Bay Restoration and Enhancement Program

Program Development

The natural qualities of Biscayne Bay, and the need to protect them have been recognized at national, state, and local levels. In 1980, Congress created Biscayne National Park, originally established in 1968 as a national monument, to preserve and protect tropical marine, terrestrial, and amphibious life in relatively pristine portions of central and south Biscayne Bay and adjacent environments (Figure 1). In 1974, in order to maintain the bay in an essentially natural condition, the State of Florida passed the Biscayne Aquatic Preserve Act, and the Miami-Dade County Commission declared Biscayne Bay an "Aquatic Preserve and Conservation Area" and empowered the County Manager to develop a management plan for the bay. These efforts led to the development of the "Biscayne Bay Management Plan" (Miami-Dade County Department of Environmental resources Management and Miami-Dade County Planning Department, 1980) and one of its principal implementation tools, the Biscayne Bay Restoration and Enhancement Program. The Restoration and Enhancement Program, which was initiated in 1978, is funded through a variety of funding sources, and is locally administered through Miami-Dade County Department of Environmental Resources Management (DERM). The primary goal of the program is to restore, maintain, and improve the ecological, recreational, and aesthetic values of the bay. Early efforts to develop specific strategies for Biscayne Bay resource management were hampered by the lack of comprehensive, scientific data. Therefore, habitat restoration, monitoring, and study of the bay became one of the key elements of the Biscayne Bay Restoration and Enhancement Program.

Scientific Study and Habitat Restoration

The following investigations were conducted in the early 1980's as part of the Biscayne Bay Restoration and Enhancement Program, and constituted the foundation upon which other program components were built.

1. Bottom Community Mapping
2. Water Circulation in North Biscayne Bay
3. Water and Sediment Quality
4. Sources of Turbidity
5. Benthic Sampling Program

6. Fisheries Assessment

The data accumulated established a baseline against which to assess future changes in Biscayne Bay. In addition, the program was guided initially by a Scientific/Technical Committee, which compiled and ranked a list of bay-wide projects, which included the restoration of habitats in Biscayne Bay, the filling of deep dredge holes in north Biscayne Bay, and the planting of seagrasses.

Since 1988, DERM has restored and enhanced approximately 122 hectares (300 acres) of coastal wetlands on public lands. Major wetlands restoration efforts have been conducted by DERM at the following sites: Cape Florida State Park, Oleta River State Park, Highland Oaks Park, North Virginia Key Preserve, Bear Cut Preserve, Florida International University (Biscayne Bay campus), and Chicken Key Bird Rookery (Milano, 1999a, 1999b, 2001). DERM has also created wetlands on dredge filled islands in north-central Biscayne Bay (Milano, 2000).

Additionally, DERM has created or restored over 24 hectares (60 acres) of maritime hammock at public parcels throughout Biscayne Bay. Island restoration and enhancement activities are underway to stabilize eroding shorelines, restore historical dune communities and wetlands, eradicate exotic vegetation, and create wetlands, dune, coastal strand and tropical hardwood hammock communities. DERM has successfully completed habitat restoration on 18 islands in Biscayne Bay. Four habitat types (dune, coastal strand, tropical hardwood hammock, and wetlands), consisting of approximately 90 species, have been established on natural and dredge spoil islands. Dune/strand species have been planted at 15 islands and tropical hardwood hammock communities ~~have been established on seven dredge spoil islands in Biscayne Bay (Milano, 2000).~~

Seagrass Mapping and Distribution

Bottom communities in Biscayne Bay were mapped in 1983 (Milano, 1983), and updated in 1993, to document the current distribution of seagrasses, hard bottom, and other bottom types. Bottom types were delineated through the use of high-resolution aerial photographs and in-water inspections. In addition, the inventory of the bottom communities of Biscayne National Park were updated in the late 1990's (Lewis et al, 1999).

~~The seagrass community is the dominant bottom community type, covering~~ approximately 64% of the total bay. Seagrasses occur in shallow sand or mud covered areas where light is able to penetrate to the bottom. Turtle grass (*Thalassia testudinium*)(=*Thalassia*) is the predominant seagrass in Biscayne Bay, and is most abundant in central and south bay. Shoal grass (*Halodule wrightii*)(=*Halodule*) and manatee grass (*Syringodium filiforme*)(=*Syringodium*) cover significant portions of north Biscayne Bay, and shallow areas along western portions of central and south Biscayne Bay.

Hard bottom communities comprise about 17% of the total bay bottom and are located primarily in south bay. The most conspicuous organisms found in hard bottom communities are soft corals, and sponges. A total of approximately 15% of Biscayne Bay

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does not support conspicuous plant or animal life. As stated earlier, north Biscayne Bay has been most seriously impacted by development. Dredging has directly altered approximately 41% of the north bay, and a total of 58% of north bay is devoid of submerged aquatic vegetation.

Seagrass Monitoring

1985-1995?

A long-term epi-benthic bottom community monitoring program was initiated in 1985 to establish a quantitative data-base for detecting trends, and seasonal variability in Biscayne Bay bottom communities. Initially, fifteen locations were picked to be representative of broad areas of seagrass and hardbottom communities in Biscayne Bay. All of the sites are near one of DERM's water quality monitoring stations, which are monitored on a monthly basis. The bottom community monitoring stations span the entire north–south extent of Biscayne Bay, from Haulover Inlet in the north to the vicinity of the mouth of the C-111 canal in Manatee Bay, in the south. The Manatee Bay stations were established in 1988, as a result of a very large release of freshwater from the C-111 canal in the extreme south end of Miami-Dade County. Permanent sampling transects were established at each station. The ends are marked with earth anchors and attached sub-surface buoys, to aid in relocating the transect locations. Transects are 46 meters (150 feet) in length, with three permanent one square meter (3.3 foot) sampling locations distributed along the transect to quantitatively sample seagrasses, soft corals, hard corals, and algae. The species composition and relative abundance are recorded along each transect. Fixed grids are located to quantify the density and diversity on each transect. A 1-meter squared (10.9 square feet) (poly vinyl chloride) grid sub-divided into 25 equal subunits is used to define the area. At each grid, five of the subunits are randomly selected for counting. Seagrass short shoots and blades are counted for *Thalassia* and *Syringodium* within these subunits. For *Halodule*, only short shoots are counted. In addition, an estimate of standing crop is performed for each station by collecting all aboveground biomass from three 0.04 meter (1.3 feet) squared quadrats adjacent to the permanent grids.

1995?-present

The current SAV monitoring design is comprised of fixed seagrass monitoring stations and stratified random monitoring.

Fixed Stations

As stated above, a series of fixed transects were established in September 1985, throughout the bay. Initially, sampling was conducted quarterly at 15 sites. Three additional sites were added 1989, two in Manatee Bay and one in Barnes Sound. Currently, sampling is conducted annually during the month of June at 10 of the original 15 sites. Monitoring of stations located near Black Ledge and Turkey Point was discontinued in 1996. The three stations added in 1989 were incorporated into DERM's SAV monitoring program in northeast Florida Bay, and sampling is currently conducted at these sites on a semiannual basis in May and November.

Parameters collected include, seagrass shoot and blade density, standing crop biomass by species, and seagrass composition along a 45 m transect. Shoot and blade density are

determined at each station by sampling a 0.2 m^2 section at each of three fixed one meter square grids.

Standing crop biomass is harvested from three 0.04 m^2 areas at each station. Biomass samples are segregated by species, rinsed in a mild HCl solution, then dried in an oven at 60 degrees C and weighed.

Stratified Random Sampling

The monitoring network consists of 101 stratified random sites sampled annually using the modified Braun-Blanquet cover-abundance scale (BBCA). Overall cover for each species of seagrass, and total cover for all species is estimated using the BBCA scale. Frequency, abundance, and density are calculated for each site. This method of sampling is currently being used in Florida Bay and the Florid Keys National Marine Sanctuary.
~~Routine annual monitoring is being conducted at 10 Biscayne Bay historical fixed sampling stations.~~

~~In addition to the routine annual monitoring, 100 stratified random sites in central and southern Biscayne Bay are sampled for seagrass cover using the modified Braun-Blanquest cover-abundance scale.~~

III. Biscayne Bay Large Scale Seagrass Restoration Efforts

Port of Miami Seagrass Mitigation Project

In October 1980, The U.S. Army Corps of Engineers (USACE) issued a dredge and fill permit for expansion of the Miami Seaport Facility. As a special permit condition the Seaport was required to plant 102 hectares (251-acres) of bay bottom with seagrasses to mitigate for damages to 33 hectares (81-acres) of grass beds. The detailed specifications of the planting and monitoring program were prepared in October 1981. The program was divided into two phases: Phase I included the planting and monitoring of one 10 hectare (25 acre) large scale planting and thirteen 0.4-hectares (1-acre) test plantings (Test Plots) intended to provide spatial, species, planting methods, and other guidance for the planting of the remaining 86-hectares (213-acres) in Phase II (Figure 2)(Dial and Deis, 1986).

The following survival rates were obtained from Connell Associates, 1984, the Biscayne Bay Aquatic Preserve Management Plan report, Miami-Dade County Planning Department, 1986, the 1995 Biscayne Bay SWIM Plan (Alleman et al, 1995), and Dial and Deis (1986).

Phase I 13 Test Plots and a 10-hectare (25-acre) Planting Effort (Figure 2)

In 43% of the test plots, the degree of survival was rated as a total loss (Connell and Associates, 1984). Of those that survived, *Thalassia* shoots had the highest rate of survival (63%), followed by *Halodule* shoots (46%) and *Syringodium* (9%). *Halodule* plugs, which were planted in six test plots, had a 24% survival rate.

Planting success varied depending on the geographic location within Biscayne Bay. The most successful sites were in clear water and not exposed to wave action. The goal of the

seagrass restoration program was to achieve an overall survival rate of 70%, but only 22% of the tested plots achieved 70% survival (Dial and Deis, 1986).

The rate of survival in the 10-hectare (25-acre) planting off Mercy Hospital in central Biscayne Bay was extremely low. After one-year, the mean survival rate for Phase I was approximately 12%.

Phase II Large Scale Planting Efforts (Figure 2)

North Biscayne Bay 8-hectare (20-acre) Planting Site

A second phase of planting was conducted, in north Biscayne Bay, which demonstrated the highest rates of survival in Phase I. This site is located between the NW 36 Street (Julia Tuttle) Causeway and the Venetian Causeway (NW 15 Street) in north Biscayne Bay. 15-acres of *Halodule* shoots and 5-acres of *Thalassia* shoots were planted during the summer of 1984. After a one-year period, the mean survival rate was approximately 12%.

Central Biscayne Bay 30-hectare 73-acre Planting Site

In the summer of 1985, 8 hectares (25-acres) of seagrasses (primarily *Thalassia and Syringodium*), that were scheduled to be destroyed by the Key Biscayne Beach Re-nourishment project, were transplanted to a 30-hectare (73-acre) central Biscayne Bay site on 1.2-meter (4-foot) centers. Monitoring during the summer of 1986 revealed that the mean survival rate was 10% (Gaby and Langley, 1985).

Alternative Seaport Mitigation Plan

As stated earlier, the Miami-Dade County Seaport Department was required to complete a mitigation program as a condition of a USACE regulatory permit. As of January 1988, the Seaport had spent approximately $3,000,000, and the cost to fulfill the obligation of the balance of the required seagrass planting, was estimated to be $1,200,000.

As a result of (phase I and phase II) very low survival rates and limited availability of suitable planting sites, an alternative Seaport mitigation plan was proposed and approved by the USACE.

The USACE alternative mitigation plan consisted of the following habitat improvements and activities, and were implemented by DERM:

1. Continued monitoring of the previous phases of the seagrass planting efforts.
2. Wetlands restoration [5.3 hectares (13-acres)] at Oleta River State Park.
3. Biscayne Bay artificial reef construction.

Additionally, Miami-Dade County DERM Class-1 Coastal Construction Permit required the following mitigation components for impacts associated with the Seaport expansion activities:

1. Shoreline stabilization (riprap and mangrove planters).
2. Inshore artificial reef construction.
3. Spoil Island Enhancement.

IV. Restoration of Seagrasses in Dredged Areas in North Biscayne Bay

In 1988, a study to evaluate alternative techniques for filling existing dredged areas in north Biscayne Bay was initiated, and resulted in a three-phased pilot project in a 1.05-hectare (2.6-acre) site located approximately 500 meters west of the western shore of Miami Beach at Biscayne Point (NE 110 Street) (Figure 2).

Project Design and Development

The pilot project was developed to demonstrate the feasibility of using clean dredge spoil material to restore previously dredged areas to natural depth contours, and to develop alternative cost-effective, environmentally sound methods for spoil disposal.

The following factors were considered in the design of the pilot project to determine the spatial distribution of fill and the volumes recommended for placement:

- Existing bottom conditions
- Long-term stability
- Environmental impact
- Cost-effectiveness

The selected dredge area is bordered on the north and south by a shallow *Syringodium* seagrass beds, and on the east and west by deeper bay bottom. Several spoil containment alternatives were evaluated and eliminated due to impracticability, cost or environmental impact. Some of these included sheet-pile dikes, earthen embankments, and concrete filled bags. The final spoil containment system consisted of the construction of submerged rock dikes on the east and west ends of the project site, where the water depths are greater. The water depth at the crest of the dikes is –0.9 meters (–3 feet NGVD) [-0.6 meters (- 1.9 MLW)] and the slope of the containment dike is 1Vertical: 2 Horizontal.

The original plan was to fill the contained area with two types of fill. Approximately 1.2 meters (4 feet) of clean dredge spoil material [9,175 cubic meters (12,000 cubic yards)] would be placed into the 1-hectare (2.6-acre) depression followed by a 30.5-centimeter (12-inch) cap layer of clean aragonite sand [2,300 cubic meters (3,000 cubic yards)]. The cap sand layer was designed into the project to provide a test of containment using coarse grain sands, for future dredging activities associated with the maintenance of the Atlantic Intra-coastal Waterway (AIW).

The objectives of this pilot project were twofold:

- To restore north Biscayne Bay seagrass communities through the development and implementation of techniques for the filling of deep areas in north Biscayne Bay with clean dredge spoil material, and
- To identify cost-effective dredge spoil disposal alternatives, in order to eliminate the need for AIW maintenance dredge spoil disposal on recently restored spoil islands, or on submerged aquatic vegetation, within the USACE easement areas.

Federal, state, and local environmental permits were obtained for the pilot project, and funding assistance was provided through the Florida Inland Navigation District and the Miami-Dade County Biscayne Bay Environmental Enhancement Trust Fund.

Implementation

The restoration project was constructed through three separate phases to provide optimum flexibility in the design and implementation. The project was initiated in October of 1991, and completed in November of 1994. Phase I consisted of the installation of lime-rock boulder containment dikes on the eastern and western boundaries of the dredged area. Phase II involved the filling of dredged area with clean dredge spoil material, from the Miami-Dade County Seaport expansion project, to natural depths [-1.2 meters (-4 feet)]. The original Phase II construction contractor agreement was terminated due to non-compliance. As a result of limited funds, Phase II was re-bid without the capping layer. The original Phase II contract fill material was barged directly from the Seaport expansion dredging project, and the Phase II contract re-bid fill material was barged from an upland staging site. Surface to bottom turbidity curtains were positioned around the entire 1.05 hectare (2.6-acre) restoration site. Heavy equipment deposited the fill material from the barge to the dredged area. Phase III consisted of the transplanting of three species of seagrasses from nearby donor beds to the restoration site. The following are detailed specifications included in the project.

- Only clean fill material was used for the restoration.
- To reduce turbidity and meet state water quality requirements, bedding materials and lime-rocks were pre-washed prior to deployment.
- During the placement of all material, a surface to bottom (weighted) turbidity curtain was positioned completely around the fill area, to contain fine materials within the work site. The turbidity curtain was securely staked in position outside the edge of all seagrass shoal margins adjacent to the fill area, and remained in place until physical stabilization of the fill material.
- ~~Weather permitting, fill material was placed and leveled using a standard~~ excavator during daylight hours only.
- The project site was monitored for the following parameters: turbidity during construction; seagrass density adjacent to the fill area pre-and post-construction; any changes in elevation of the top of filled area by means of depth surveys; and success of experimental seagrass transplantation.
- Turbidity levels were measured continuously during the construction period.
- A detailed "as-built" was required to ensure fill quantities and final design elevation compliance.
- ~~No significant changes in the elevation of the top of the 1.05 hectare (2.6 acre) filled area and no project related impacts to nearby habitats were detected within 24 months of the completion of construction.~~
- Three species of seagrass, *Halodule*, *Syringodium*, and *Thalassia*, were planted at the site, using bare root material harvested from approved nearby donor sites.

The turbidity curtains were effective in containing the turbidity on-site. Wind driven currents were found to reduce the effectiveness of the surface to bottom turbidity curtains. As a result, fill deployment activities were not allowed to occur during wind events of 15 knots or greater. The turbidity curtains were also found to be very effective in the containment of the deposited fill. As a result, the limerock boulder containment dikes may not be a necessary project component for future restoration efforts. In addition, the fill boundaries and the positioning of the turbidity curtains could be located

closer to adjacent desirable seagrasses. this would eliminate the resulting trough between the existing seagrasses and the restored seagrass area. After 24-months of the completion of construction, no significant changes were observed in the elevation of the 1.05 hectare (2.6-acre) filled area, and no project related impacts to nearby habitats were detected. Table 1 includes project cost details for all three phases of the restoration effort. Total cost for all three phases was $576,000 or $548,571/hectare.

Seagrass Transplanting and Monitoring

The area was planted in May/June 1994 using planting units of *Thalassia*, *Syringodium*, and *Halodule* anchored with geo-textile staples on approximate 0.9-meter (3-foot) centers. The planting units consisted of bare-root seagrass rhizomes with a minimum of three apical meristems and minimum three culms behind the meristem. A total of 12,957 planting units were installed over the area including 5,397 planting units of *Halodule*, 3,780 planting units of *Syringodium*, and 3,780 planting units of *Thalassia*. The individual species were planted in species plots with *Halodule* on the eastern side of the fill area, *Syringodium* in the center, and *Thalassia* on the west.

It was noted in the post construction synopsis (Deis, 1994), that each species from *Halodule* to *Syringodium* to *Thalassia* became progressively more difficult to acquire from the donor site south of 79th Street Causeway and to plant. Each plant produced more waste to develop a planting unit. It was recommended that *Halodule* be the first choice for future plantings because of ease of collection, less damage to the donor site, and quality of the planting unit providing an abundance of apical meristems. *Syringodium* is difficult to plant because of the buoyancy of the leaves and rhizomes. *Thalassia* should be planted only as sods. As discussed, the dredged material from the port used to fill the site was not capped with Aragonite as proposed. The result was sediment that was coarse grained and rocky.

Miami-Dade DERM biologists surveyed the project site on June 20, 1995, approximately one year after the planting (DERM, 1998). Survivability of planted units was measured only in the *Thalassia* plot because the *Syringodium* and *Halodule* areas had coalesced such that individual planted units were not visible. The survey found 64.8% of the planted *Thalassia* units survived the first year.

Percent cover was measured using a 1-meter (3.3 foot) grid divided into 100 subunits. Table 2 provides the results of the survey. *Halodule* and *Syringodium* were found in all of the plots. The *Halodule* and *Syringodium* plots each contained approximately 60% coverage.

A qualitative survey of the site in June of 2002 found a 30% patchy cover of all three species of seagrasses on the site. We have no long-term quantitative data for the restoration site. As a result of the rock groins and buffer areas for turbidity controls, the site remains an independent feature in the bottom communities of this section of the bay. Other factors, e.g., the coarseness of the material used to fill the site, may be contributing to the patchiness in the seagrasses currently found on the site. Long term monitoring at a seagrass location within this basin of Biscayne Bay has demonstrated a change in seagrass species from *Syringodium* to *Halodule*. This is sometimes associated with changes in water quality within a location.

V. Seagrass Restoration and Management Opportunities in Biscayne Bay

During the early 1900's, more than 40% of north Biscayne Bay bottom communities, including seagrass habitats, were dredged to provide fill for upland development. South Florida has experienced tremendous population growth since then, and will continue to do so. As a result, Biscayne Bay environments face many challenges and threats to their present and future health. Shallow seagrass beds are being degraded by recreational and commercial watercraft traffic. Scarred and scoured seagrasses have been documented throughout the State of Florida, mostly in shallow coastal waters less than 2 meters (6 feet) (Sargent et al., 1995). Experimental techniques are being developed by governmental agencies to restore these vessel related impacts nationwide.

Seagrass planting has been generally more successful when restoration is conducted at sites where seagrass communities existed, but were disturbed by physical impacts that can be corrected or eliminated (Fonseca et al, 1998). The restoration of the structure of the seagrass habitat is of primary importance. Seagrasses have been observed to naturally recruit into newly restored coastal areas (Cape Florida State Park, North Virginia Key and the Chicken Key Bird Rookery) in Biscayne Bay (Milano, 2001). Natural recolonization~~storation/recruitment~~ can occurs vegetatively (rhizome extension) ~~through seagrass coalescence and~~/or through seedling recruitment (Fonseca et al. 1998).~~transport~~. A number of seagrass restoration opportunities, requiring the filling to natural contours, are being considered in north Biscayne Bay. In addition, Biscayne National Park resource managers are presently initiating an effort to catalogue all vessel related impacts in south Biscayne Bay for potential future restoration (R. Clark, personal communication, Biscayne National Park). Future south Biscayne Bay seagrass restoration opportunities are limited to these shallow propeller scars and boat groundings. Biscayne Bay seagrass restoration opportunities may be limited to the filling of previously dredged areas in north Biscayne Bay to natural contours, and the restoration of marine vessel propeller scars and boat groundings in shallow coastal waters. As illustrated in this review, the project component costs (fill material, transportation, placement of fill, planting, project monitoring, etc.) for seagrass restoration are dependent on site-specific environmental conditions (water depth, currents, wave energy, etc.).

Sargent et al. (1995) have recommended that education is an essential part of any effort to make all boaters understand the sensitive nature of shallow seagrass communities. Miami-Dade County, South Florida Water Management District, and the Florida Fish and Wildlife Conservation Commission have developed a boater's guide with maps illustrating the location of seagrass in Biscayne Bay. Additionally, on-going statewide boater education certification programs should include information on seagrass protection.

In addition to the ongoing efforts to restore shallow coastal watercraft impacts and educate the boating public, shallow water motorboat exclusion zones can be used as a management tool to help protect and conserve seagrass habitats, provide manatee protection, and enhance boating safety. Improved navigational signage is an additional tool that can be used to further these goals. Inclusion of seagrass protection signage in appropriate conservation waters, such as critical wildlife areas or national parks, would:

- Provide resource protection to shallow marine environments.
- Demonstrate effective methods of delineating sensitive marine communities.

- Provide an opportunity to develop effective enforcement and education strategies.
- Save long-term restoration and mitigation dollars.

Exclusion zones, with the necessary enforcement, may be an effective management and natural resource conservation tool to assist in delineating, protecting, and restoring shallow seagrass areas from vessel related impacts.

This paper illustrates the high cost of seagrass restoration, especially in previously dredged areas. Preservation of seagrasses is the most cost-effective approach. Preservation of south Florida seagrasses can be accomplished through an improved delivery and scheduling of freshwater run-off to coastal areas, providing boater education programs, implementing resource protection zones, and providing dedicated marine resource enforcement.

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Table 1. ~~Project Costs~~Restoration of Seagrasses in a North Biscayne Bay Dredged Area: Project Costs:

~~Phase I~~ Containment Dike System

Description	Units	Quantity	UnitPrice	Total
Mobilization	Lump Sum	1	$98~~50~~,000	$98~~50~~,000
Silt Barrier	Lump Sum	1	$30,000	$30,000
Bedding Material	Tons	750	$30	$22,500
Limerock Riprap	Tons	2,500	$35	$87,500
Filter Fabric	SquareYards	3,500	$4	$14,000
Navigational Aids	EA	4	$2,000	$8,000
~~Contingency~~	~~10%~~			~~$21,200~~
~~Estimate Total~~				~~$233,200~~
Actual Cost				**$260,000**

~~Phase II~~ Fill Placement

Description	Units	Quantity	Unit Price	Total
Mobilization	Lump Sum	1	$73,975~~40,000~~	$73,975~~40,000~~
Filter Fabric	Square Yards	600	$4	$2,400
Bedding Stone	Tons	100	$25	$2,500
Limerock Riprap	Tons	375	$35	$13,125
Spoil Material	Cubic Yards	9,000	$18	$162,000
Capping Material	Cubic Yards	6,000	$27	$162,000
Silt Barrier	Lump Sum	1	$30,000	$30,000
~~Contingency~~	~~10%~~			~~$41,203~~
Estimate Total (includes capping material)				**$446,000~~53,228~~**
~~Estimated Total (no capping material)~~				~~$291,228~~
Actual Cost (no capping material)				**$284,000**

~~Phase III~~ Seagrass Transplantation Cost (Actual)	**$32,000**
Total Cost For All Project Components	$576,000

Table 2. Percent Cover of Seagrass Species by Planted Areas (Plot) One Year after Planting (from Miami-Dade DERM, 1998).

Seagrass Species	*Thalassia* Plots	*Syringodium* Plots	*Halodule* Plots
Thalassia	7.82	0	0
Syringodium	6.67	49.64	2.48
Halodule	26.72	16.11	58.78
TOTAL	39.61	60.59	59.57
Red drift algae	38.72	27.14	8.63
Green algae	4.47	6.55	6.59

Figure 1. Biscayne Bay, Florida, with limits of Biscayne National Park and Biscayne Bay Aquatic Preserve.

Figure 2. Seagrass planting efforts in Biscayne Bay, Florida. with locations of Port of Miami Seagrass Mitigation Project 1981 through 1984 Phase I and II restoration efforts and the 1988 Dredged Area Pilot Restoration Project. (Stars = Port of Miami Seagrass Mitigation Phase I planting efforts; Triangles = Port of Miami Seagrass Mitigation Phase II planting efforts; Hexagon = Dredged Area Pilot Restoration Project).

Seagrass Summary Table

SUMMARY TABLE

PROJECT DESCRIPTION	PLANTED SPECIES	SUCCESS CRITERIA	AVAILABLE MONITORING
Biscayne Bay Dredge Hole Fill and Seagrass Planting fill from Port of Miami in an existing dredge hole in north Biscayne Bay – project for DERM	40% Shoal grass 30% Manatee grass 30% Turtle grass 3-foot centers	None stated	Spread of shoal grass and manatee grass throughout site at one year monitoring; 60% coverage by seagrasses within one year in the shoal grass and manatee grass plots, 40% in turtle grass plots; turtle grass alive but slow to spread
Laguna Madre Shoal Removal and Seagrass Planting – project for Corpus Christi Oil and Gas in mitigation for oil and gas well access channels	Shoal grass 3-foot centers	Unknown	Results after 3-months average survival rate of transplants 88.9%; average spread (areal coverage) of approximately 9 inches from center); Coalescence within the first year
Key West Salt Pond – dredge and fill in salt pond – mitigation for the Smathers Beach restoration project – planting material salvaged from the beach restoration project	Mostly shoal grass 3-foot centers	70% coverage over 2.0 acres	2.6 acres of habitat created; 85% coverage in less than 1 year in 1.8 acres
Esserman Property Dredge Pit – fill of a dredged area – enforcement by DERM	None-natural recruitment	60% within a 10-foot fringe of surrounding grass bed	80% coverage of site after 2 years
Lake Surprise, Key Largo, FL – restoration after pipeline installation and backfill – the backfill was of variable quality including shell hash, fine silt, and rocky	Shoal Grass Turtle grass various planting methods on 3-foot and broadcast	None	After 7 months shoal grass coverage 100% in shell hash, 98% in fine silt, and 18% in rocky. Turtle grass 75% survival of transplants in shell hash and fine silt

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Island Gardens I. ga-Yacht Harbor
Mitigation Summary Table

Marine Resources	IMPACT AREA (ACRES)	MITIGATION PROPOSED	RATIO	Notes:
Seagrass	1.92	5.76	3:1	In-kind
		0.96	0.5:1	Out-of-Kind - Riprap at Brickell
Sponge Community	3.5	3.62	1.03:1	In-kind mitigation by filling dredge hole near julia tuttle causeway
Bulkhead	0.13	0.19	1.46:1	Riprap at Brickell
Macroalgae	2.93	2.56	1 CY per 10 SF	12,763 cubic yards riprap
Turning Basin (combined)	0.53	1.68	3.17:1	Riprap at Brickell (1.12 ac.) + Riprap On-site (0.56ac.)
Non-vegetated Submerged Land	6.93	0.6	1 CY per 100 SF	3,019 cubic yards riprap

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ATTACHMENT F:

Benthic Mitigation Plan

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Flagstone Island Gardens Mega-Yacht Harbor

Benthic Community Mitigation Plan

Revised July 16, 2004

PROJECT SUMMARY

The proposed Flagstone Island Gardens Mega-Yacht Harbor Project (Project) includes reconfiguration of an existing marina that is currently located along the Watson Island bulkhead. The dredging limits for the proposed marina basin encompass approximately 15.81 acres, including areas anthropogenically impacted by previous dredge and fill activities, to depths ranging between –18 and –25 feet.

The proposed dredging is required to accommodate mega-yacht vessels ranging between approximately 100 and 450 feet in length. The off-season slip mix of 50 vessels proposes smaller yachts on the northern and southern pier arms during the slow season for mega-yachts (summer). The area to be dredged contains a shoal with sediments ranging from silt to sand, and limerock that are likely the result of spoil deposition from dredging activities in the adjacent turning basin.

EXISTING BENTHIC RESOURCES AND PROPOSED IMPACTS

Benthic habitats within the Project area can be categorized into the following sub-communities based on differential structure and other conditions: 1) turning basin wall, 2) sponge-dominated communities, 3) bulkhead communities, and 4) mud/sand substrate. Sparse macroalgae is ubiquitous in the former three community areas. These communities are further described below and in the Field Observation Reports produced by Coastal Systems International, Inc.

Turning Basin Wall: The turning basin wall is a community that was created when the Port of Miami dredged the area down to depths greater than 30 feet for navigation purposes. The wall within the project area is located in water depths ranging from approximately –10 to –30 feet NGVD, the slope of which averages approximately 1.5:1. To estimate coverage of this habitat by resources, vertical surveys between approximately –10 and –30 feet NGVD were conducted every 50 feet along the turning basin wall. The majority of resources are located on the wall between water depths of approximately –10 and –20 feet (NGVD), with an average density coverage in this zone of approximately 20%. Between water depths of approximately –20 and –30 feet (NGVD), resource coverage is much sparser at less than 10% average coverage.

The dominant communities on the turning basin wall are sponges and soft corals. Several branching (*Oculina* spp.) hard corals were observed on the turning basin wall. Macroalgae was sparse.

Based on the average turning basin wall slope of 1.5:1, the total surface area between –10 and –19 feet (impact zone) across the 1,050 linear feet of wall to be dredged is approximately 16,800 square feet (0.39 acre). The total surface area to be impacted between –19 and –26 feet for the

500-linear foot deep dredge section is estimated at 6,300 square feet (0.14 acre). Please note these impact area calculations include 1 foot of overdredge. The total area of impacts proposed is 0.53 acre.

Sponge-Dominated Community on Debris: Sponge-dominated communities, attached to exposed limerock, shell/rock fragments, logs, and other debris, are found within a 3.5-acre area of the submerged lands at the Project site. This area contains sponges with a highly variable density with an average-density (non-weighted by area) of approximately 7.5% based on recent quantitative surveys. As only that area containing hardbottom or debris at the surface is capable of supporting sponge communities (versus the silt/sand surrounding the debris), the sponge habitat area is calculated at approximately 11,435 square feet (0.26 acre) within the 3.5-acre boundary. However, DERM has requested that the entire 3.5 acres of hard bottom community be considered for mitigation, rather than the direct impacts to sponges of approximately 0.26 acre, given that a number of resources both mobile and sessile, utilize these areas. The mitigation area has been revised to reflect this 3.5-acre area.

Typical sponge communities include loggerhead sponges, vase sponges, encrusting sponges, and tube sponges. Macroalgae is often found attached or proximal to the base of the sponges. Miami-Dade County DERM staff reported one star coral within the sponge-dominated community during the August 21, 2003 site inspection.

Bulkhead Community: The bulkhead (approximately 920 linear feet) within the Project site supports dense benthic communities containing sponges, algae, a few hard and soft corals, and other sessile organisms. To estimate organism densities, vertical surveys were conducted every 50 feet along the bulkhead. On average, the bulkhead is nearly 100% covered with organisms from the water line to approximately –12 feet NGVD. 50 to 60% of the resource coverage consists of sponges. The number of hard corals on the bulkhead is estimated at 10.

The bulkhead will be directly impacted by installation of 14-inch-wide piles at the face of the bulkhead to support the marginal dock. These piles will be spaced at approximately 15 feet on-center, resulting in approximately 856 (n=1.17*61*12 vertical feet) square feet (0.02 acre) of direct impact to bulkhead resources. It is estimated that approximately 6 vertical feet of bulkhead may be impacted secondarily by shading associated with the proposed marginal dock; the area of potential secondary impacts is approximately 5,520 (n=920*6 vertical feet) square feet (0.126 acre). This area is used as the impact assessment area in this version of the mitigation plan.

Macroalgae Community: While macroalgae is typically found in the same areas as other communities onsite, there is an area of approximately 2.93 acres that contains sparse coverage of macroalgae outside of the communities noted above.

Unvegetated Bottom: The unvegetated substrate, which covers an area of approximately 6.93 acres, contains infaunal organisms that will be impacted by dredging at the project site. This is a temporary impact, as an infaunal community will re-establish after the dredging project is

completed, but there will be a time lag between the impact and recovery of this community that will be addressed through appropriate mitigation.

BENTHIC RESOURCE IMPACT MINIMIZATION

The Project goal has been to minimize impacts to benthic communities to the greatest extent practicable, and then to adequately compensate for unavoidable losses to these habitats. The proposed bulkhead replacement waterward of the existing bulkhead, which is standard engineering practice, was re-designed to be located landward of the existing bulkhead to minimize resource impacts.

As the primary impacts to marine resources at the Project site are due to dredging activities, dredge depths, particularly along the turning basin wall, have been scrutinized several times by the applicant's consulting team. It is the applicant's goal to bring in the market's largest mega-yachts into the proposed facility. While the slip layout shows vessels as small as 160 feet on the exterior marginal dockage as a demonstration of typical slip mix, the range of vessel size these slips will accommodate is up to approximately 450 feet. Re-designing the harbor to limit vessel draft to less than 18 feet would severely restrict the functional capabilities of the facility. It is not possible to reduce the depth of dredging along the turning basin wall without compromising the size of mega-yachts that can moor along the prime exterior marginal dock space. This evaluation of impact minimization is described more fully in the document entitled "Avoidance and Minimization Measures – Site Alternatives Analysis".

BENTHIC RESOURCE IMPACT MITIGATION

The compensatory projects address unavoidable impacts to the benthic community resources described above through creation of similar habitat with equal or greater services over time. The state's Uniform Mitigation Assessment Method (UMAM), Chapter 62-345, Florida Administrative Code, was used to confirm appropriate levels of mitigation.

Turning Basin Wall: Prior to commencement of dredging activities, soft corals and hard corals within the impact area that can be efficiently and successfully moved will be relocated to an area north of the proposed dredge activities. Immediately north of the FDOT right-of-way and MacArthur Causeway, shallow submerged areas are proposed as recipient areas for relocated soft and hard corals (see Benthic Organism Relocation section).

The turning basin wall is an artificial habitat that was created by dredging a vertical wall at the edge of the Port turning basin. The location is isolated and is not part of a larger continuous ecosystem. Pelagic fish and invertebrates use the habitat for refuge and foraging; the hard substrate supports sessile benthic organisms. The community structure for the upper turning basin wall consists of an average of 20% coverage by sessile epibenthic organisms, with low to moderate diversity of species (majority of species coverage is by sponges and soft corals) as noted above. The lower turning basin wall community structure consists of low coverage of

benthic organisms (less than 10%), with a low diversity of species. The water is turbid and water clarity is poor, particularly at deeper elevations of the wall, but good flushing exists due to the high degree of tidal influence. These factors are addressed in the values input into the UMAM spreadsheet entitled "Uniform Mitigation Assessment – Turning Basin (Combined)" attached. Note that in the original proposal, the Turning Basin wall was divided into an upper and lower region; these regions have now been combined for ease of calculating mitigation utilizing UMAM.

To compensate for the immediate and interim loss of habitat, creation of a benthic community with equal or greater function than the impacted habitat is proposed. The UMAM for the turning basin wall uses a time factor of 11 to 15 years, to replace the functions lost within the impact area. A conservative risk factor of 1.5 is used in the UMAM.

The UMAM results indicate that approximately 1.68 acres of mitigation is needed to compensate for the 0.53 acre of impact to the turning basin wall (approximately a 3.17:1 ratio). The proposed mitigation will consist of two elements to appropriately address replacement of the functions created by the more vertical nature of the turning basin wall for pelagic fish species in addition to the refuge functions for invertebrates and substrate/foraging functions. Pelagic refuge functions of the onsite vertical mitigation element are anticipated to offset impacts more immediately than other community structure functions.

Offsite Mitigation: The first mitigation component to compensate for lost turning basin wall functions consists of benthic habitat creation offsite at the Brickell Artificial Reef site (see sheet 1 of the enclosed sketches for location information). This component is provided to accommodate substrate functions for sessile benthic and boring organisms that are similar to those provided by the turning basin wall. The habitat will be constructed of 2- to 4-foot diameter limerock boulders. Approximately 1.12 acres of habitat is proposed offsite (2:1 ratio - see sheet 5 of the enclosed sketches for conceptual layout and typical cross-section). Florida Department of Environmental Protection (DEP) and DERM permits, including a Consent of Use relative to the state lands, have been issued and are active for the Brickell Artificial Reef site. Authorization will be issued by the U.S. Army Corps of Engineers as part of the Flagstone Island Gardens project or to DERM separately.

Onsite Mitigation: The second mitigation component is proposed onsite to compensate for the loss of functions provided due to the vertical wall characteristics, which were difficult to address clearly in the UMAM analysis, as well as to provide additional substrate for sessile benthic and boring organisms. This element includes creation of a high relief habitat by placing 3 to 4-foot-diameter limerock riprap boulders onsite in water depths similar to those where the impacts will occur (see sheets 3 and 4 of the attached permit sketches). This element provides 0.56 acre of surface area, mitigating for the refuge function lost from the entire turning basin wall face at a 1:1 ratio.

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Summary: Therefore, to account for interim loss of functions, a total of a 3.17:1 mitigation ratio is proposed for the turning basin wall areas cumulatively by the two components described above.

In addition, the mitigation structures are designed based on simple ratios of surface area lost to surface area created; in reality, the interstitial spaces created by the large limerock boulders to be used for construction of the onsite and offsite habitats will provide much greater surface area than that lost.

Sponge-Dominated Community: Prior to commencement of dredging activities, sponges, soft corals, and hard corals within the impact area that can be efficiently and successfully moved (those that are attached to discrete pieces of debris such as cobbles and logs) will be relocated to the area immediately north of the FDOT right-of-way and MacArthur Causeway (see Benthic Organism Relocation section for additional information).

The existing sponge-dominated habitat is very discontinuous and the maturity of the organisms within it varies widely. Density of sponges across the entire sponge-community habitat is low at 7.5%. The community structure is scored at a level of 6 in the UMAM (see attached spreadsheet entitled "Uniform Mitigation Assessment – Sponge Community"), because of the low density of sponges measured during field investigations. We are addressing impacts to a 3.5 acres of sponge community. A time lag to achieve full services for the mitigation project of 10 years is used. The UMAM recommends 3.53 acres of mitigation to compensate for the 3.5 acres of impact (approximately a 1:1 ratio); 3.62 acres are proposed (1.03:1 ratio). Benthic habitat creation is proposed offsite with equal or greater functions (more continuous, suitable substrate and better water clarity) to compensate for the unavoidable impacts to sponge-dominated community habitat.

The mitigation design for impacts to sponges will consist of in-kind mitigation by filling a deep dredge hole from –20 feet NGVD to approximately –9 feet NGVD at an area located north of the Julia Tuttle Causeway (see sheet 1 of the attached permit sketches for a location map). The deep dredge hole will be filled with clean dredge spoil (rubble, sand, chunks of rock) generated from the Island Gardens Project's dredging operations, and barged to the site. Prior to offloading the spoil material, the barge will be enclosed within a turbidity curtain held in place by temporary wood piles. A seagrass survey was conducted at the sponge mitigation site, and no seagrass is located below the –14-foot depth; all impacts to adjacent seagrass beds will be avoided (see sheet 4 of 7 of the enclosed mitigation sketches for your review. Note that the turbidity controls and monitoring requirements from the submerged aquatic vegetation mitigation plan will be employed at the sponge mitigation site as well (see Submerged Aquatic Vegetation Mitigation Plan as well as the Seagrass Mitigation Turbidity Control Plan for additional information on monitoring and turbidity controls during filling). Deposited fill will be graded to approximately the –9-foot contour, and will be sloped away from any adjacent marine resources at a stable slope (minimum 3:1).

Additionally, we anticipate that sponge-dominated communities may colonize the Island Gardens substrate post-dredging, as sponges and soft corals are found at depths of -18 to -19 feet currently along the turning basin wall. Therefore, for 3.5 acres of impact to the sponge community at the Project site, 3.62 acres (slightly above the 3.53 acres recommended by UMAM) of habitat are proposed to be created (1.03:1 ratio) offsite in addition to the onsite hardbottom area that will be available for sponge colonization.

The offsite mitigation structure design is based on simple ratios of surface area lost to surface area created; in reality, the greater rugosity created by the limerock rubble to be used for construction of the mitigation project will provide much greater surface area and continuous habitat than that lost.

Bulkhead Community: The UMAM for bulkhead community impacts (see attached spreadsheet entitled "Uniform Mitigation Assessment – Bulkhead Resources") addresses compensation for impacts to the relatively mature community structure that exists on the face of the existing bulkhead. The flat vertical substrate of the wall will be replaced by the installation of piles, although this habitat may be of a slightly lower value than the existing due to potential shading impacts from the proposed marginal dock (this is addressed in the UMAM). The UMAM requires creation of 0.19 acre of mitigation (approximately a 1.46:1 ratio). Creation of approximately 0.19 acre of benthic community at the Brickell Artificial Reef is proposed. As with the sponge community mitigation, the rugosity provided by the limerock boulders to be used for construction of the mitigation project will provide much greater surface area than that lost.

Macroalgae Community: As discussed above, there is an area of approximately 2.93 acres that contains sparse coverage of macroalgae outside of the communities noted previously. To compensate for impacts to the macroalgae community, a ratio of 1 cubic yard per 10 square feet of vegetated submerged lands is proposed. Therefore, approximately 12,763 cubic yards of riprap are proposed to be placed at the Brickell Artificial Reef Site as mitigation for impacts to the macroalgae community. This ratio is consistent with DERM guidelines and precedent in projects previously permitted. In addition, the South Florida Water Management District has confirmed that this ratio would be acceptable.

Unvegetated Bottom: The unvegetated substrate covers an area of approximately 6.93 acres. To compensate for impacts to the unvegetated bottom communities, a ratio of 1 cubic yard per 100 square feet of unvegetated bottom is proposed. Therefore, approximately 3,018 cubic yards of riprap are proposed to be placed at the Brickell Artificial Reef Site as mitigation for impacts to the macroalgae community. This ratio is consistent with DERM guidelines and precedent in projects previously permitted. In addition, the South Florida Water Management District has confirmed that this ratio would be acceptable.

Seagrass Impact Mitigation – Out of Kind Habitat Creation: Pursuant to discussions with South Florida Water Management District staff, mitigation for 1.92 acres of unavoidable

seagrass impacts at the Project site is required at a 3.5:1 ratio. This mitigation will be provided at a 3:1 ratio through restoration of seagrass habitat within Biscayne Bay by filling a deep dredge hole from –25 feet NGVD up to –5 feet NGVD with clean dredge spoil from the Island Gardens project site, and transplanting healthy seagrass (see the revised Submerged Aquatic Vegetation Mitigation Plan for additional information regarding the seagrass mitigation project); the remaining 0.5:1 ratio of mitigation will be permitted by SFWMD staff through habitat creation at an artificial reef site. Therefore, the applicant is proposing to add 0.96 acre of benthic community habitat to the Brickell Artificial Reef site to complete the seagrass mitigation requirements.

Summary: The total benthic community mitigation to be provided at the Brickell Artificial Reef site is 5.43 acres of surface area. The total benthic mitigation for sponge impacts is approximately 3.62 acres to be mitigated for at the Julia Tuttle mitigation site. The final design will be adjusted based upon coordination with all regulatory agencies. As noted above, DEP and DERM permits, including a Consent of Use proprietary authorization relative to state lands, are active for the Brickell Artificial Reef site. Authorization will be issued by the U.S. Army Corps of Engineers as part of the Flagstone Island Gardens project permit and/or to DERM under a separate pending permit.

BENTHIC ORGANISM RELOCATION

The purpose of the benthic organism relocation plan is to minimize impacts to submerged marine resources to the greatest extent practicable. This relocation plan is estimated to benefit up to 25-30 sponges and approximately 14 and 10 hard and soft corals, respectively..

Relocation Site and Conditions: Two relocation sites are proposed outside of the dredging mixing zone, based on two different types of environments organisms will potentially be salvaged from.

Sponge Community Organisms: The first relocation site is located north of the Project site and north of the MacArthur Causeway Bridge; this area will be utilized for relocated sponge community organisms (see sheet 2 of the attached permit sketches for location). The sponge relocation area contains populations of sponges and macroalgae in the sparse to medium density range (see Mixing Zone Survey in Appendix D of the April 15, 2004 submittal). No sponge or macroalgae resources at the relocation site will be supplanted by the relocation process. This site was chosen because it maintains the same characteristics as that of the Project site, and is outside of the proposed dredging mixing zone. These site characteristics include water depths, temperature, salinity, current velocities, and light penetration.

Bulkhead/Turning Basin Wall Organisms: The second relocation site was chosen as a suitable location for the placement of relocated hard/soft corals currently attached to the turning basin wall (see sheet 2 of the attached permit sketches for location). This second site is located west and slightly north of the Project site, along the northern turning basin wall outside of the mixing zone. This relocation choice maintains similar characteristics to those identified at the western

turning basin wall. These characteristics include vertical habitat (instead of horizontal to maintain natural orientation), light penetration, water depth, temperature, salinity, and current velocity. Once removed, the organisms will be relocated to similar depths along the northern turning basin wall.

These submerged lands are owned by the City of Miami (see Deed No. 19447 in Appendix of the July 11, 2004 SFWMD application submittal package).

Relocation Methodology:

Sponge Community Organism Relocation Techniques

1. The relocation area will be staked off with buoys during benthic organism relocation. GPS coordinates will be collected to confirm the four corners of the area. Underwater markers will be permanently installed to delineate the relocation area for the life of the monitoring project.
2. Sponges and corals attached to discrete debris within the sponge community will be relocated utilizing a shovel, pick, or other dislodging device. Where possible, the debris will be dislodged with sponge community organisms attached, and transported in plastic trays by boat north to the relocation area. Sponges and corals will be restored on debris with the same or similar physical orientation as when removed.

Turning Basin Coral and Sponge Relocation Techniques

1. The relocation site will be flagged using buoys and other submerged markers. The submerged markers will remain in place for future monitoring and evaluation.
2. To the greatest extent practicable, corals (hard and soft) and sponges will be dislodged from the Turning Basin Wall with a piece of substrate attached. If necessary, the base of the hard coral will be dislodged from the substrate utilizing a hand pick and hammer. All handling of coral will be done in conjunction with best management practices and relocation techniques, such as utilizing gloves to handle the corals, and keeping the corals submerged in water to avoid desiccation during transport.
3. The subject corals will then be transported via boat to the Turning Basin Wall relocation area.
4. A two-part epoxy will be used to re-attach the rock or other debris containing the coral, or the coral base itself to suitable substrate.

Relocation Monitoring:

Monitoring Schedule: Monitoring is proposed for a total of 5 years. A baseline survey will be completed and for the first year, monitoring should consist of quarterly updates, followed by bi-annual reporting for the remaining 4 years. The following is the proposed schedule for submission of reports, if relocation work was to be completed by August 2004:

- 1st Report - December 2004
- 2nd Report – March 2005
- 3rd Report - June 2005
- 4th Report – September 2005
- 5th Report - December 2005
- 6th Report - June 2006
- 7th Report - December 2006
- 8th Report – June 2007
- 9th Report - December 2007
- 10th Report – June 2008
- 11th Report - December 2008
- 12th Report – June 2009

Monitoring Criteria: The following are monitoring criteria for sponges and corals. Ten percent of each relocated organism type, or 5 organisms of each type (sponge, soft coral, hard coral), whichever is greater, will be monitored to provide data that may be useful for consideration of future projects by the regulatory agencies.

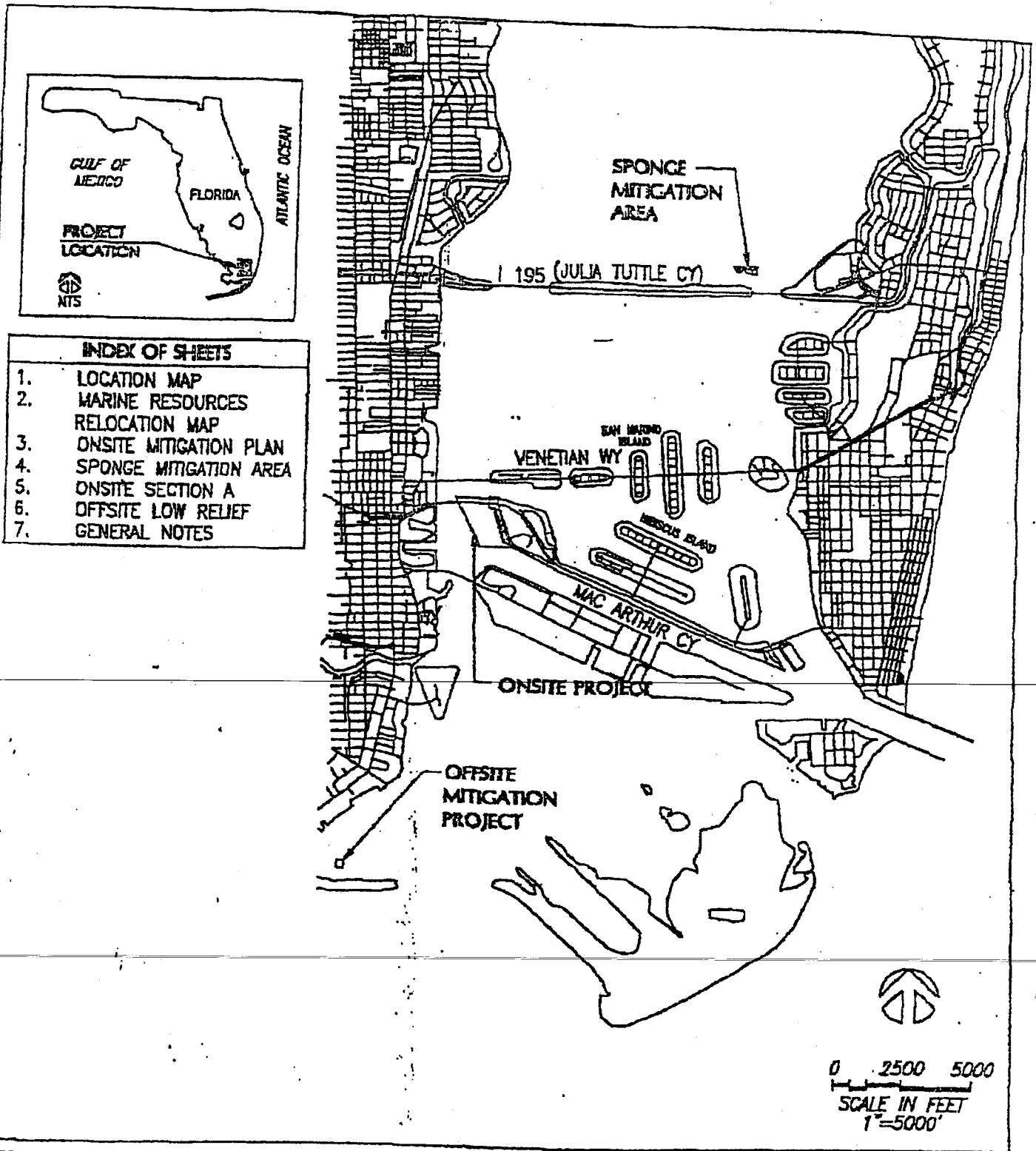
- Visible signs of stress including but not limited to color (dying or dead membrane), bleaching, alga or fungus growth (to include measurements of the area impacted to evaluate increase/decrease in size of area over time)
- Signs of new growth/size of organism (width/height)
- Additional colonization of new organisms adjacent to the relocated resources

Success Criteria: No success criteria are proposed, as the number of organisms to be salvaged is relatively small and this benefit is not considered within the habitat creation mitigation components. The reporting regarding success can be used by the agencies to evaluate feasibility of larger scale relocation efforts for future projects.

ADDITIONAL MITIGATION MONITORING

Onsite Invertebrate/Pelagic Habitat Creation: To be determined, as applicable.

Offsite Mitigation: Monitoring for placement of riprap at an established Miami-Dade County reef project site is not proposed, as the area has been established as an acceptable location for artificial reef creation and the success of artificial reef projects in southeast Florida is well documented.



INDEX OF SHEETS

1.	LOCATION MAP
2.	MARINE RESOURCES RELOCATION MAP
3.	ONSITE MITIGATION PLAN
4.	SPONGE MITIGATION AREA
5.	ONSITE SECTION A
6.	OFFSITE LOW RELIEF
7.	GENERAL NOTES

201701/PERMIT SKETCHES/MORNING/(2004-07-16) BENTHIC COMMUNITY .../201701-PM-01.dwg

T.K. BLANKENSHIP
FL.REG.55210

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS,LLC
1040 MACARTHUR CAUSEWAY
MIAMI, FL 33132

COASTAL SYSTEMS INTERNATIONAL, INC.

ISLAND GARDENS MEGA-YACHT HARBOR
BENTHIC COMMUNITY MITIGATION

LOCATION PLAN

JOB: 201701 DATE: 07/16/04

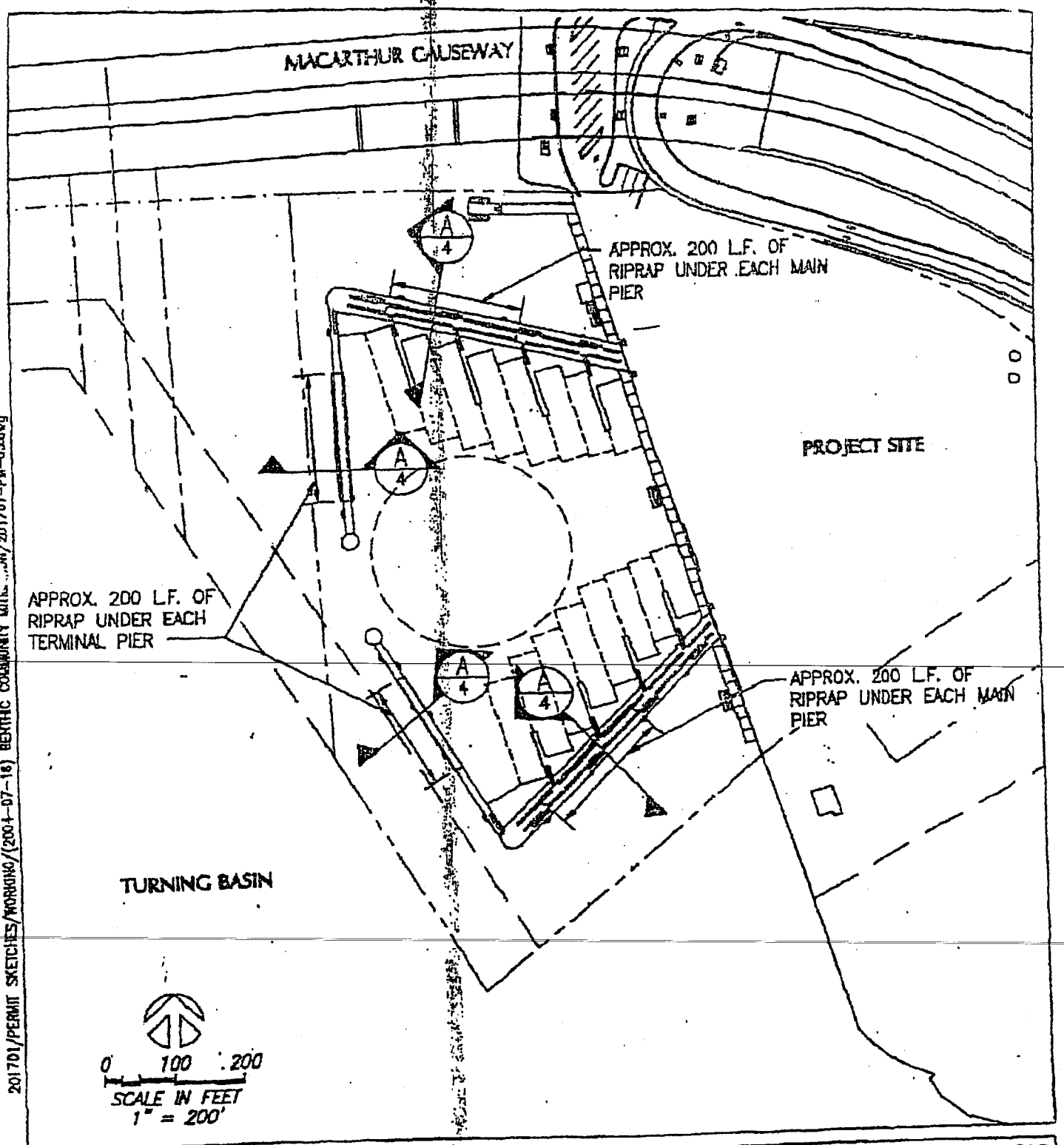
103
10/13/04

T.K. BLANKENSHIP
FLREG.55910

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS, LLC
WATSON ISLAND
MIAMI, FL 33132

COASTAL SYSTEMS INTERNATIONAL, INC.

ISLAND GARDENS MEGAYACHT HARBOR	
MARINE RESOURCES RELOCATION MAP	
JOB: 201701	DATE: 07/16/04
BY: SR	SHEET 2 OF 7



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T.K. BLANKENSHIP
FL.REG.56910

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS, LLC
WATSON ISLAND
MIAMI, FL 33132

COASTAL SYSTEMS INTERNATIONAL, INC
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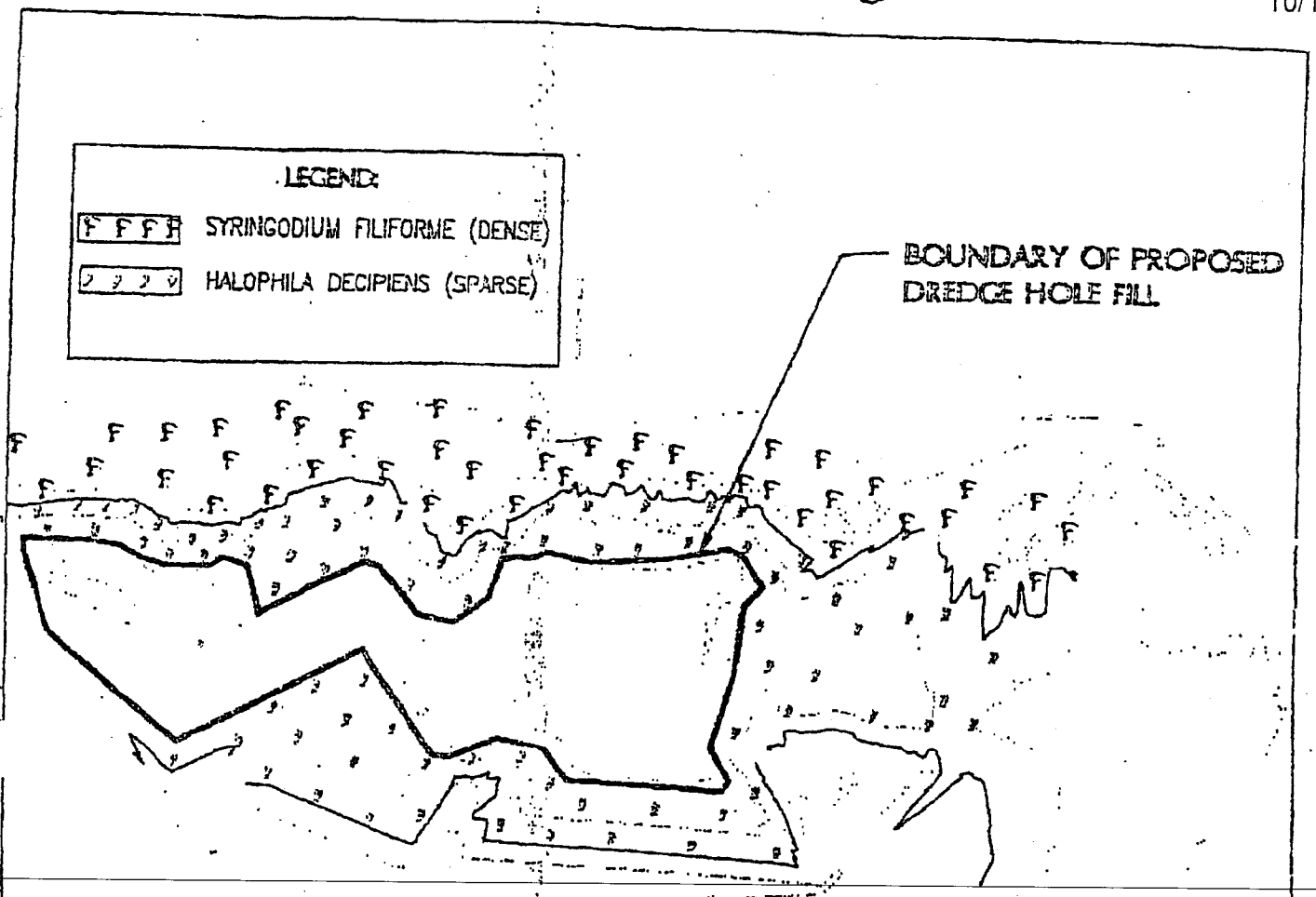
STATE OF FLORIDA, ID #7007

ISLAND GARDENS MEGA-YACHT HARBOR BENTHIC COMMUNITY MITIGATION	
ONSITE MITIGATION PLAN	
JOB: 201701	DATE: 07/16/04
BY: MJP	SHEET 3 OF 7

105/133
10/13/0



NOTES:

1. HYDROGRAPHIC SURVEY PERFORMED BY COASTAL SYSTEMS INT, INC. ON JUNE 24, 2003. SEAGRASS SURVEY CONDUCTED ON AUGUST 6 & 7, 2003.
2. COORDINATES ARE IN FEET RELATIVE TO FLORIDA STATE PLANE ZONE EAST (-901) REFERENCED TO NORTH AMERICAN DATUM 1983 (NAD 83).
3. ELEVATIONS ARE GIVEN RELATIVE TO NGVD (1929).
4. CONTOURS ARE AT 1 FOOT INTERVALS.
5. THE INFORMATION ON THIS CHART REPRESENTS THE RESULTS OF THE SURVEY ON THE DATES INDICATED AND CAN ONLY BE CONSIDERED INDICATIVE OF THE GENERAL CONDITIONS EXISTING AT THAT TIME.
6. APPROXIMATE AREA TO -14 FT CONTOUR IS 3.62 ACRES.
7. NO SEAGRASS WAS OBSERVED AT DEPTHS GREATER THAN APPROXIMATELY -14 NGVD.

0 100 200
SCALE IN FEET
1" = 200'

T.K. BLANKENSHIP
FL.REG.5910

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS, LLC
1040 MACARTHUR CAUSEWAY
MIAMI, FL 33132

COASTAL SYSTEMS INTERNATIONAL, INC.

ISLAND GARDENS MEGA-YACHT HARBOR
BENTHIC COMMUNITY MITIGATION

SPONGE MITIGATION AREA

JOB: 201701	DATE: 2004/07/16
BY: MH	SHEET 4 OF 7

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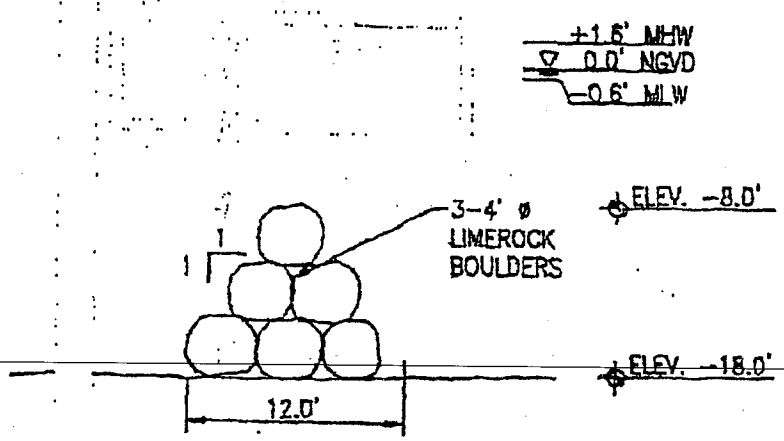
10/13/04



A ONSITE MITIGATION
SCALE 1" = 10'

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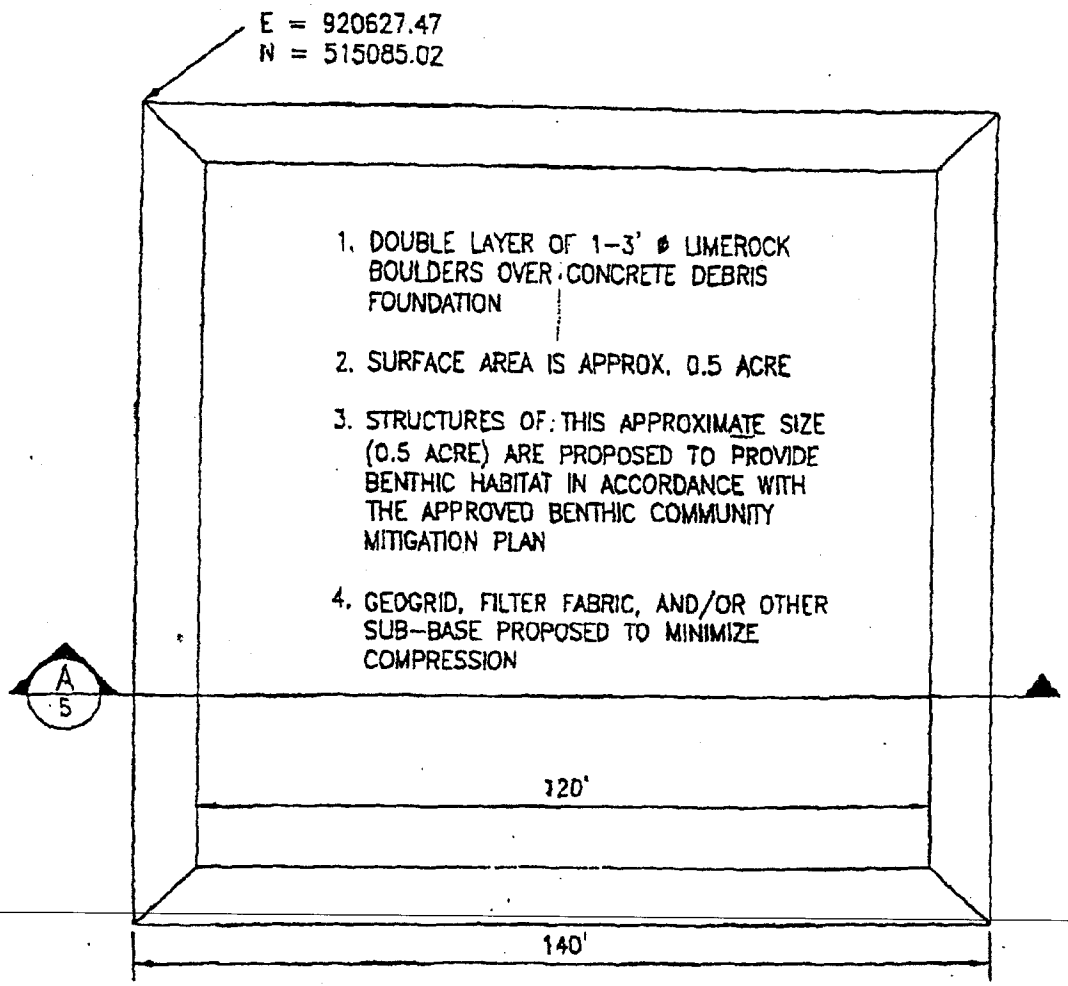
201701/PERMIT SKETCHES/WORKING/(2004-07-16) BENTHIC COMMUNITY MI

T.K. BLANKENSHIP
FL REG. 55910

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS, LLC
WATSON ISLAND
MIAMI, FL 33132

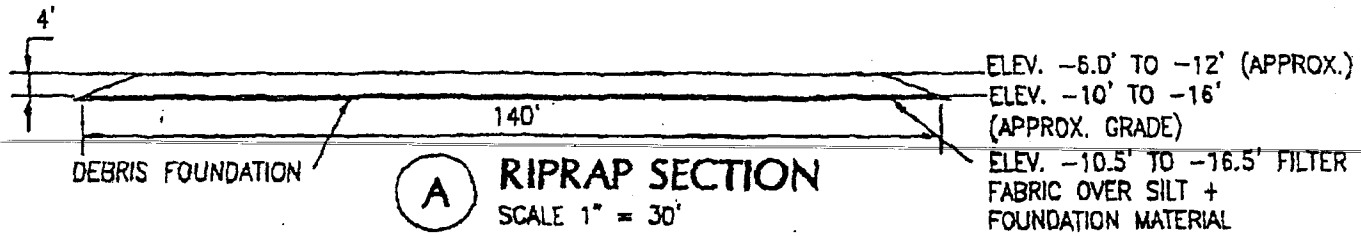
COASTAL SYSTEMS INTERNATIONAL, INC.

ISLAND GARDENS MEGA-YACHT HARBOR BENTHIC COMMUNITY MITIGATION	
ONSITE SECTIONS A	
JOB: 201701	DATE: 07/15/04
BY: MJP/VC	SHEET 5 OF 7



PROPOSED BRICKELL ARTIFICIAL REEF CONFIGURATION

SCALE 1" = 30'



A **RIPRAP SECTION**

SCALE 1" = 30'

T.K. BLANKENSHIP
FL.REG.56010

CITY OF MIAMI & FLAGSTONE ISLAND GARDENS, LLC
WATSON ISLAND
MIAMI, FL 33132

COASTAL SYSTEMS INTERNATIONAL, INC.

ISLAND GARDENS MEGA-YACHT HARBOR BENTHIC COMMUNITY MITIGATION	
OFFSITE LOW RELIEF MITIGATION	
JOB: 201701	DATE: 07/16/04
BY: MJP	SHEET 6 OF 7

GENERAL NOTES

1. PERMIT SET – REVIEW CONSTRUCTION PLANS AND SPECIFICATIONS PRIOR TO COMMENCING CONSTRUCTION ACTIVITY.
2. ELEVATIONS REFERENCED TO NATIONAL GEODETIC VERTICAL DATUM, (1929).
3. HORIZONTAL CONTROL COORDINATES ARE REFERENCED TO FLORIDA STATE PLANE GRID NAD–83.
4. RIPRAP BOULDERS TO BE INSTALLED AT THE BRICKELL ARTIFICIAL REEF SITE IN ACCORDANCE WITH MIAMI–DADE DERM PERMITS.
5. PRIOR TO INSTALLATION, CONFIRMATION OF CORPS PERMIT ISSUANCE FOR ARTIFICIAL REEF SITE REQUIRED.

201701/PERMIT SKETCHES/WORKING/(2004-07-16) BENTHIC COMMUNITY /201701-PM-07.dwg

T.K. BLANKENSHIP
FLREG.56819

FLAGSTONE PROPERTIES, LLC
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Tel 305/661-3616 Fax 305/661-1914 www.CoastalSystemsIntl.com
STATE OF FLORIDA CA #28128

ISLAND GARDENS MEGA–YACHT HARBOR
BENTHIC COMMUNITY MITIGATION

GENERAL NOTES

JOB: 201701	DATE: 07/16/04
PM: MJP	SHEET 7 OF 7

	Island Gardens				
	Uniform Mitigation Assessment - Combined Turning Basin Wall				
Scoring Guide	Optimal (10): Condition is optimal and fully supports wetland/surface water functions	Moderate (7): condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal (4): Minimal level of support of wetland/surface water functions	Not Present (0): Condition is insufficient to provide wetland/surface water functions	Notes
Impact Area Size (Acres):	0.53				
	Impact Area		Mitigation Area		
	current conditions	w/proposed impacts	current conditions	w/proposed mitigation	
Location and Landscape Support: 500(6)(a)	8	4	4	6	
Water Environment (n/a for uplands): 500(6)(b)	8	5	4	6	
Community Structure: 500(6)(c)	8	2	2	7	
Sum:	24	11	10	19	
Score (Sum/30):	0.8	0.366666667	0.333333333	0.633333333	
Impact Delta (with - current):	0.433333333				
Mitigation Delta (with - current):	0.3				
Preservation Adjustment Factor - 0 (no preservation) to 1 (optimal preservation):					
Adjusted Mitigation Delta (Mitigation Delta x Adjustment Factor):					
Time lag (time): number of years between the time the impacts are anticipated to occur and the time when the mitigation is anticipated to *fully* offset the impacts:	11		Time (yrs)	T factor	
T factor:(see table to the right):	1.46		< or =1	1	
Risk factor - 1 (no risk) to 3 (high risk):	1.5		2	1.03	
Functional Loss (impact delta x acres):	0.229666667		3	1.07	
Relative Functional Gain (mitigation delta/(t factor x risk):	0.136986301		4	1.1	
Mitigation Acres Needed (FL/RFG):	1.88		5	1.14	
			6 to 10	1.25	
			11 to 15	1.46	
			16 to 20	1.68	
			21 to 25	1.92	
			26 to 30	2.18	
			31 to 35	2.45	
			36 to 40	2.73	
			41 to 45	3.03	
			46 to 50	3.34	
			51 to 55	3.65	
			>55	3.91	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-Yacht Harbor		Turning Basin Wall (Combined)

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
		Impact	0.53 acre

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Biscayne Bay	Class III	Aquatic Preserve, Outstanding Florida Waters

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Open waters of Biscayne Bay adjacent to Port of Miami, Miami Harbor Turning Basin, and the Intracoastal Waterway

Assessment area description

The turning basin wall represents the submerged portion of the Flagstone Island Gardens project site which was created by dredging of the Port of Miami turning basin. The moderately consolidated limerock face of the turning basin provides hard bottom habitat for benthic organisms and refuge for pelagic fish and mobile macroinvertebrates. The upper turning basin wall contains approximately 20% coverage on average by benthic organisms (primarily sponges and soft corals). The lower turning basin wall contains less than 10% coverage by epibenthic species.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The significant features nearby are the areas of the shoal containing seagrasses and sponges, and the turning basin wall.	The turning basin wall is artificially created; the potential uniqueness of the area is its presence near the Port inlet, which acts as a conduit between ocean and bay waters/habitats.

Functions	Mitigation for previous permit/other historic use
The turning basin wall provides substrate for sessile benthic and epibenthic organisms and refuge for mobile organisms.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Primary benthic organisms include sponges and soft corals with very rare hard corals; pelagic and macroinvertebrate species utilizing the area, at least on a temporary basis for foraging and refuge, include snappers, snook, other fish, macroinvertebrates, etc.	Mantees (E - low - travel corridor); marine turtles (E/P - very low - travel corridor); fish (various - moderate - refuge and foraging). This area serves as primary and temporary habitat.

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Observed wildlife usage includes fish and sessile/mobile benthic organism foraging and refuge.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Coastal Systems International, Inc.	5/12/2004

PART II – Quantification of Asses (See Sections 62-345

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-yacht Harbor		Turning Basin Wall (combined)
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	Coastal Systems International, Inc.,	7/15/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

	w/o pres or current	with	
.500(6)(a) Location and Landscape Support	8	4	The turning basin wall feature was artificially created by dredging, and is moderately isolated, limited by the Intracoastal Waterway and slope changes at either end. Location adjacent to the Port of Miami and turning basin with its associated anthropogenic impacts due to cruise ship and other marine vessel activity is not ideal and may limit utilization. The impacted condition will not significantly modify the connectivity or utility of nearby habitats (sponge and soft coral communities under the adjacent bridge and in the Intracoastal Waterway).
.500(6)(b)Water Environment (n/a for uplands)	8	5	The turning basin area is submerged in water depths between approximately -10 and -30 feet NGVD. The area has good flushing, as it is tidally influenced, but low water clarity, particularly at depth. Water clarity in the area may be impacted in a minor way due to proposed construction activities (temporary elevated turbidity, shading from structures, etc.).
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	8	2	The current conditions noted above only allow for the presence of a community with a moderate structure and diversity (approximately 20% average coverage with organisms); a current score of 8 is very conservative because the habitat is only operating at approximately 50% or less of optimal conditions for hardbottom substrate in Biscayne Bay. This value is scored higher than it would be otherwise due to the refuge function served by the vertical nature of the wall for permanent or migrating pelagic and benthic species. Proposed (post-impact) conditions will only support a very limited benthic community due to increased water depths and reduced water clarity.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres	with
	0.8	0.366667

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
-0.433333333

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART I – Qual
(See Section 6

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-Yacht Harbor		Brickell Artificial Reef Mitigation Site

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
		Mitigation	Approx. 14 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Biscayne Bay	Class III	Aquatic Preserve, Outstanding Florida Waters

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Open waters of Biscayne Bay

Assessment area description

The Brickell artificial reef site is an area dredged below natural depths and is characterized by water depths ranging between approximately 10 and 16 feet, with substrate containing approximately 2 to 3 feet of silt at the surface. No seagrasses or other resources of signficance are present within the assessment area (seagrasses present above approximately elevation -10 feet NGVD).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The significant nearby features are adjacent seagrass beds to the north and south (primarily paddle grass).	The assessment area is similar to other dredge holes/channels in Biscayne Bay.

Functions	Mitigation for previous permit/other historic use
The proposed mitigation area provides habitat for infaunal organisms, such as worms, and potentially temporary habitat for epibenthic organisms.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
There are sub-areas within the assessment area already containing rock placed for the purpose of creating hardbottom habitat; sponges, soft coral, hard coral, fish, and macroinvertebrates are utilizing these areas.	Mantees (E - low - side corridor to nearby foraging habitat); fish (various - moderate - travel to nearby foraging/refugia)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Existing observed wildlife use consists of minor utilization of the water column and benthos.

Additional relevant factors:

Existing turbid water, poor water clarity. Scattered clusters of debris (concrete columns/construtions debris) exists with moderate coverage by sponges and corals.

Assessment conducted by:	Assessment date(s):
Coastal Systems International, Inc.	5/12/2004

Form 62-345.900(1), F.A.C. [effective date]

PART II – Quantification of Assessm
(See Sections 62-345.50(

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-yacht Harbor		Offsite Benthic Mitigation (Reef)
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation - for combined turning basin impacts	Coastal Systems International, Inc.,	7/15/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with: 6	The Brickell artificial reef site is in the open waters of Biscayne Bay, adjacent to healthy seagrass beds. Landscape support for benthic organisms is extremely impaired under current conditions due to the silty bottom; adding rock will greatly improve existing conditions without removing the existing function for infaunal organisms, as silt is anticipated to settle between the lower rocks. Landscape support for a variety of organisms will be improved, and will help to functionally connect the refuge and foraging habitat for juvenile and mature pelagic and epibenthic organisms by adding habitat in the existing chasm between grass beds.	
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 4 with: 6	The area is submerged in water depths ranging between approximately 10 and 16 feet. The area has moderate water clarity. Water clarity at the surface of the artificial reef will be greater than existing water clarity as rock will be placed higher than the existing substrate and re-suspension of silt will be reduced by placement of filter fabric and rock.	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 2 with: 7	The existing silty substrate provides essentially no community structure for hardbottom benthic habitat. The proposed project, utilizing natural limerock boulders, will provide high quality rugosity and interstitial spaces for sessile benthic organism attachment, boring organism use, and refuge for pelagic and epibenthic species. A diverse community structure is expected to develop, including sponges, soft corals, and possibly some hard corals; it is estimated to take approximately 10 years for the artificial reef community to develop to the level of maturity required to adequately offset the impacts to the upper turning basin resources.	

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.33333 with: 0.633333	Preservation adjustment factor = 0.9 Adjusted mitigation delta = 0.3	FL = delta x acres =

Delta = [with–current]	If mitigation	For mitigation assessment areas
0.3	Time lag (t-factor) = 1.46 Risk factor = 1.5	RFG = delta/(t-factor x risk) =

Form 62-345.900(2), F.A.C. [effective date]

PART II – Quantification of Assess (See Sections 62-345.

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-yacht Harbor		Onsite Benthic Mitigation (Reef/Pelagic Refugia) for Turning Basin Wall Impacts
Impact or Mitigation	Assessment conducted by:	Assessment date:
Mitigation - for combined turning basin wall impacts	Coastal Systems International, Inc.,	7/15/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 4	with: 6
The sponge-dominated habitat is moderately isolated, limited by slopes to greater depths on three sides. The area is in the passage between the inlet and Biscayne Bay. Location adjacent to the Port of Miami with its associated anthropogenic impacts diue t		
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 4	with: 6
The area is submerged in water depths between approximately -8 and -12 feet NGVD. The area has good flushing, as it is tidally influenced, but only moderate water clarity. Water depth will be increased due to dredging and therefore water clarity decrease		
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 2	with: 7
As the area of the sponge community is estimated based on nearly 100% coverage due to its patchiness, current community structure is given an optimal value to account for the quantification method used.		

Score = sum of above scores/30 (If uplands, divide by 20)	
current or w/o pres: 0.33333	with: 0.633333

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.3

If mitigation
Time lag (t-factor) = 1.46
Risk factor = 1.5

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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PART I – Quali
(See Section 6

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-Yacht Harbor		Sponge-dominated Community

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
		Impact	3.5 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Biscayne Bay	Class III	Aquatic Preserve, Outstanding Florida Waters

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Open waters of Biscayne Bay adjacent to Port of Miami and the Intracoastal Waterway

Assessment area description

The sponge-dominated community is located on top of the shoal within areas containing debris or exposed hard bottom. The sponge community provides habitat for other species such as macroalgae and mobile benthic resources.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The significant features nearby are the areas of the shoal containing seagrasses and sponges, and the turning basin wall.	Horizontal hardbottom habitat is somewhat unique in Biscayne Bay, although this area appears to have been created artificially through the placement of limerock material as spoil from the adjacent turning basin dredging was deposited into a shoal that has become

unctions	Mitigation for previous permit/other historic use
The sponge-dominated community provides water filtration functions as well as foraging habitat and refuge for pelagic and benthic organisms.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Primary benthic organisms within the sponge-dominated community are sponges, macroalgae, a few soft corals and rare hard coral (1 observed to date); pelagic and macroinvertebrate species utilizing the area, at least on a temporary basis for foraging and refuge, include snappers, snook, macroinvertebrates, etc.	Mantees (E - low - travel corridor); marine turtles (E/P - very low - travel corridor); fish (various - moderate - refuge and foraging). This area serves as primary and temporary habitat.

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Observed wildlife usage includes fish foraging and all facets of sessile benthic organism utilization.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Coastal Systems International, Inc.	7/15/2004

	Island Ga				
	Uniform Mitigation Assessment - Sponge Community				
Scoring Guide	Optimal (10): Condition is optimal and fully supports wetland/surface water functions	Moderate (7): condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal (4): Minimal level of support of wetland/surface water functions	Not Present (0): Condition is insufficient to provide wetland/surface water functions	Notes
Impact Area Size (Acres):	3.5				
	Impact Area		Mitigation Area		
	current conditions	w/proposed impacts	current conditions	w/proposed mitigation	
Location and Landscape Support: 500(6)(a)	7	6	3	7	
Water Environment (n/a for uplands): 500(6)(b)	7	5	3	7	
Community Structure: 500(6)(c)	6	2	2	7	
Sum:	20	13	8	21	
Score (Sum/30):	0.666666667	0.433333333	0.266666667	0.7	
Impact Delta (with - current):	0.233333333				
Mitigation Delta (with - current):	0.433333333				
Preservation Adjustment Factor - 0 (no preservation) to 1 (optimal preservation):					
Adjusted Mitigation Delta (Mitigation Delta x Adjustment Factor):					
Time lag (time): number of years between the time the impacts are anticipated to occur and the time when the mitigation is anticipated to *fully* offset the impacts:	10		Time (yrs)	T factor	
T factor:(see table to the right):	1.25		< or =1	1	
Risk factor - 1 (no risk) to 3 (high risk):	1.5		2	1.03	
unctional Loss (impact delta x acres):	0.816666667		3	1.07	
Relative Functional Gain (mitigation delta/(t-factor x risk):	0.231111111		4	1.1	
Mitigation Acres Needed (FL/RFG):	3.53		5	1.14	
			6 to 10	1.25	
			11 to 15	1.46	
			16 to 20	1.68	
			21 to 25	1.92	
			26 to 30	2.18	
			31 to 35	2.45	
			36 to 40	2.73	
			41 to 45	3.03	
			46 to 50	3.34	
			51 to 55	3.65	
			>55	3.91	

PART II – Quantification of Asse:
(See Sections 62-34!

ite/Project Name	Applicatio	
Flagstone Island Gardens Mega-yacht Harbor		Sponge-dominated Habitat
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	Coastal Systems International, Inc.,	7/15/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support w/o pres or current: 7 / with: 6	The sponge-dominated habitat is moderately isolated, limited by slopes to greater depths on three sides. The area is in the passage between the Inlet and Biscayne Bay. Location adjacent to the Port of Miami with its associated anthropogenic impacts due to cruise ship and other marine vessel activity may limit utilization. The impacted condition will not significantly modify the function of nearby habitats (sponge and soft coral communities under the adjacent bridge and in the Intracoastal Waterway).
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 7 / with: 5	The area is submerged in water depths between approximately -8 and -12 feet NGVD. The area has good flushing, as it is tidally influenced, but only moderate water clarity. Water clarity to the area may be impacted in a minor way due to proposed construction activities (temporary elevated turbidity, shading from structures, etc.).
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 6 / with: 2	As the area of sponges within the sponge community assessment area is low (7.5%), the current community structure is given a lower value (ie. for the 3.5 acre of assessment area). The remaining habitat at the Project site may also provide some habitat (as there are sponges at the -18 foot NGVD contour, and is given a value of 2.

Score = sum of above scores/30 (If uplands, divide by 20)		If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.66667	with: 0.433333	Preservation adjustment factor =	FL = delta x acres =
		Adjusted mitigation delta =	
Delta = [with-current]	If mitigation		For mitigation assessment areas
-0.233333333	Time lag (t-factor) =		RFG = delta/(t-factor x risk) =
	Risk factor =		

PART I – Qualit
(See Section 62

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-Yacht Harbor		Sponge Mitigation Site

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
		Mitigation	Approx. 3.62 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Biscayne Bay	Class III	Aquatic Preserve, Outstanding Florida Waters

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Open waters of Biscayne Bay

Assessment area description

The Sponge Mitigation Area is an area dredged below natural depths and is characterized by water depths ranging between approximately 15 and 22 feet, with substrate containing approximately 2 to 3 feet of silt at the surface. No seagrasses or other resources were present in the assessment area.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The significant nearby features are adjacent seagrass beds to the north and south (primarily manatee grass and paddle grass).	The assessment area is similar to other dredge holes/channels in Biscayne Bay.

unctions	Mitigation for previous permit/other historic use
The proposed mitigation area provides habitat for infaunal organisms, such as worms, and potentially temporary habitat for epibenthic organisms.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
The outer edges of the assessment area contain some sponges. Seagrasses are directly adjacent, but not contained within the assessment area.	Mantees (E - low - side corridor to nearby foraging habitat); fish (various - moderate - travel to nearby foraging/refugia)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Existing observed wildlife use consists of minor utilization of the water column and benthos.

Additional relevant factors:

Existing turbid water, poor water clarity.

Assessment conducted by:	Assessment date(s):
Coastal Systems International, Inc.	7/16/2004

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PART II – Quantification of Assess
(See Sections 62-345.

ite/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-yacht Harbor		Sponge Mitigation Area
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Mitigation - for sponge-dominated community impacts	Coastal Systems International, Inc.,	7/15/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The sponge mitigation area is in the open waters of Biscayne Bay, adjacent to healthy seagrass beds. Landscape support for benthic organisms is extremely impaired under current conditions due to the silty bottom; filling the dredge hole and adding dredge spoil will greatly improve existing conditions, as silt will no longer be such a major problem. Lanscape support for a variety of organisms will be extremely improved, and will help to functionally connect the refuge and foraging habitat for juvenile and mature pelagic and epibenthic organisms by adding habitat in the existing chasm between grass beds.	3	7
.500(6)(b)Water Environment (n/a for uplands)	The area is submerged in water depths ranging between approximately 15 and 22 feet. The area has moderate water clarity. Water clarity at the surface of the mitigation area will be greater than existing water clarity as spoil debris will reduce the resuspension of silt.	3	7
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The existing silty substrate provides essentially no community structure for hardbottom benthic habitat. The proposed project, utilizing rubble and sand from dredge spoil, will provide high quality rugosity and interstitial spaces for sessile benthic organisms as well as macroalgae, seagrass, and infaunal organisms. It is estimated to take approximately 10 years for the community to develop to the level of maturity required to adequately offset the impacts to the sponge-dominated community at the project site.	2	7

Score = sum of above scores/30 (If uplands, divide by 20)	current or w/o pres	with
	0.26667	0.7

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.433333333

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.5

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

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	Island Gardens				
	Uniform Mitigation Assessment - Bulkhead Resources				
Scoring Guide	Optimal (10): Condition is optimal and fully supports wetland/surface water functions	Moderate (7): condition is less than optimal, but sufficient to maintain most wetland/surface water functions	Minimal (4): Minimal level of support of wetland/surface water functions	Not Present (0): Condition is insufficient to provide wetland/surface water functions	Notes
Impact Area Size (Acres):	0.13				
	Impact Area		Mitigation Area		
	current conditions	w/proposed impacts	current conditions	w/proposed mitigation	
Location and Landscape Support: 500(6)(a)	7	5	4	6	
Water Environment (n/a for uplands): 500(6)(b)	8	6	4	6	
Community Structure: 500(6)(c)	8	6	2	7	
Sum:	23	17	10	19	
Score (Sum/30):	0.766666667	0.566666667	0.333333333	0.633333333	
Impact Delta (with - current):	0.2				
Mitigation Delta (with - current):	0.3				
Preservation Adjustment Factor - 0 (no preservation) to 1 (optimal preservation):	0				
Adjusted Mitigation Delta (Mitigation Delta x Adjustment Factor):	0				
Time lag (time): number of years between the time the impacts are anticipated to occur and the time when the mitigation is anticipated to *fully* offset the impacts:	11		Time (yrs)	T factor	
T factor:(see table to the right):	1.46		< or =1	1	
Risk factor - 1 (no risk) to 3 (high risk):	1.5		2	1.03	
Functional Loss (impact delta x acres):	0.026		3	1.07	
Relative Functional Gain (mitigation delta/(t-factor x risk):	0.136986301		4	1.1	
Mitigation Acres Needed (FL/RFG):	0.19		5	1.14	
			6 to 10	1.25	
			11 to 15	1.46	
			16 to 20	1.68	
			21 to 25	1.92	
			26 to 30	2.18	
			31 to 35	2.45	
			36 to 40	2.73	
			41 to 45	3.03	
			46 to 50	3.34	
			51 to 55	3.65	
			>55	3.91	

PART I – Qua
(See Section

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-Yacht Harbor		Bulkhead Community

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
		Impact	0.13 acre

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Biscayne Bay	Class III	Aquatic Preserve, Outstanding Florida Waters

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Open waters of Biscayne Bay adjacent to Port of Miami and the Intracoastal Waterway

Assessment area description

The bulkhead community is located on the hard substrate provided by the face of a vertical sheetpile wall.

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The significant features nearby are the areas of the shoal containing seagrasses and sponges, and the turning basin wall.	Only perhaps the age of the wall and therefore relative maturity of the resources thereon.

Functions	Mitigation for previous permit/other historic use
The sponges and corals on the bulkhead provide water filtration functions as well as foraging habitat and refuge for small pelagic and epibenthic organisms.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Primary benthic organisms within the bulkhead community are sponges, macroalgae, a few soft corals and rare hard corals.	Fish (various - low - refuge and foraging).

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Observed wildlife usage includes small pelagic and mobile benthic organism foraging and refuge.

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
Coastal Systems International, Inc.	5/12/2004

Form 62-345.900(1), F.A.C. [effective date]

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(See Sections 62-345.50(

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-yacht Harbor		Bulkhead Community
Impact or Mitigation	Assessment conducted by:	Assessment date:
Impact	Coastal Systems International, Inc.,	7/15/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The bulkhead community is an artificial habitat, connected to adjacent bulkheads supporting resources. At the base of the wall, there is disconnectivity because the substrate is barren. The area is in the passage between the inlet and Biscayne Bay.	7	5
.500(6)(b)Water Environment (n/a for uplands)	The area has good flushing, as it is tidally influenced, but only moderate water clarity. The area of the bulkhead impacts will be replaced with other vertical hard surface similar to the existing, but will be shaded by a marginal dock; therefore, water clarity decrease slightly due to shading.	8	6
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The bulkhead community contains nearly 100% coverage by sessile benthic organisms.	8	6

Score = sum of above scores/30 (If uplands, divide by 20)		If preservation as mitigation,	For impact assessment areas
current or w/o pres	with	Preservation adjustment factor =	FL = delta x acres =
0.76667	0.566667	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
-0.2	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

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PART I – Qualita
(See Section 62-...)

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-Yacht Harbor		Brickell Artificial Reef Mitigation Site

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
		Mitigation	Approx. 14 acres

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
Biscayne Bay	Class III	Aquatic Preserve, Outstanding Florida Waters

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Open waters of Biscayne Bay

Assessment area description

The Brickell artificial reef site is an area dredged below natural depths and is characterized by water depths ranging between approximately 10 and 16 feet, with substrate containing approximately 2 to 3 feet of silt at the surface. No seagrasses or other resources of signficance are present within the assessment area (seagrasses present above approximately elevation -10 feet NGVD).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
The significant nearby features are adjacent seagrass beds to the north and south (primarily paddle grass).	The assessment area is similar to other dredge holes/channels in Biscayne Bay.

Functions	Mitigation for previous permit/other historic use
The proposed mitigation area provides habitat for infaunal organisms, such as worms, and potentially temporary habitat for epibenthic organisms.	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
There are sub-areas within the assessment area already containing rock placed for the purpose of creating hardbottom habitat; sponges, soft coral, hard coral, fish, and macroinvertebrates are utilizing these areas.	Mantees (E - low - side corridor to nearby foraging habitat); fish (various - moderate - travel to nearby foraging/refugia)

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

Existing observed wildlife use consists of minor utilization of the water column and benthos.

Additional relevant factors:

Existing turbid water, poor water clarity. Scattered clusters of debris (concrete columns/construtions debris) exists with moderate coverage by sponges and corals.

Assessment conducted by:	Assessment date(s):
Coastal Systems International, Inc.	5/12/2004

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PART II – Quantification of Assessm
(See Sections 62-345.50

Site/Project Name	Application Number	Assessment Area Name or Number
Flagstone Island Gardens Mega-yacht Harbor		Offsite Benthic Mitigation (Reef)
Impact or Mitigation	Assessment conducted by:	Assessment date:
Mitigation - for bulkhead resource impacts	Coastal Systems International, Inc.,	7/15/2004

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

		w/o pres or current	with
.500(6)(a) Location and Landscape Support	The Brickell artificial reef site is in the open waters of Biscayne Bay, adjacent to healthy seagrass beds. Landscape support for benthic organisms is extremely impaired under current conditions due to the silty bottom; adding rock will greatly improve existing conditions without removing the existing function for infaunal organisms, as silt is anticipated to settle between the lower rocks. Landscape support for a variety of organisms will be improved, and will help to functionally connect the refuge and foraging habitat for juvenile and mature pelagic and epibenthic organisms by adding habitat in the existing chasm between grass beds.	4	6
.500(6)(b)Water Environment (n/a for uplands)	The area is submerged in water depths ranging between approximately 10 and 16 feet. The area has moderate water clarity. Water clarity at the surface of the artificial reef will be greater than existing water clarity as rock will be placed higher than the existing substrate and re-suspension of silt will be reduced by placement of filter fabric and rock.	4	6
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	The existing silty substrate provides essentially no community structure for hardbottom benthic habitat. The proposed project, utilizing natural limerock boulders, will provide high quality rugosity and interstitial spaces for sessile benthic organism attachment, boring organism use, and refuge for pelagic and epibenthic species. A diverse community structure is expected to develop, including sponges, soft corals, and possibly some hard corals; it is estimated to take approximately10 years for the artificial reef community to develoop to the level of maturity required to adequately offset the impacts to the bulkhead resources.	2	7

Score = sum of above scores/30 (If uplands, divide by 20)	
current or w/o pres	with
0.33333	0.633333

If preservation as mitigation,
Preservation adjustment factor = 0.9
Adjusted mitigation delta = 0.3

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.3

If mitigation
Time lag (t-factor) = 1.25
Risk factor = 1.5

For mitigation assessment areas
RFG = delta/(t-factor x risk) = 0.144

Form 62-345.900(2), F.A.C. [effective date]

ATTACHMENT G:

Harbor Operations Plan

110/133
10/13/04

Flagstone Island Gardens Mega-yacht Harbor

General Harbor Operations Plan

Revised July 9, 2004

PROJECT DESCRIPTION

The project consists of the re-configuration of an existing marina into a 50-slip international mega-yacht harbor to accommodate vessels up to 500 feet in length on 13.35 acres of submerged land owned by the City of Miami. Two symmetrical piers form the inner harbor basin and external marginal dockage. The double-level main (inner) pier arms extend 455 feet into the Bay, connecting at an "elbow" to two terminal pier arms extending approximately 375 feet each, for a total linear length of approximately 1,660 feet. The lower level of the main pier arms provide a secure corridor for incoming international passengers and cargo, as well as access for security-cleared harbor service personnel to supply and offload the vessels. The upper level of the main pier provides a public access corridor into Biscayne Bay, a key component of the City of Miami's public referendum for this facility; this upper level also provides passenger access to mega-yachts once they have cleared customs by way of stairs/lifts. A marginal dock supports mooring of service vessels within the harbor and Mediterranean-moored vessels along the bulkhead exterior to the main piers. A separate dock has slips for fishing and charter water taxi vessels. Both the upland facilities that will support the harbor and submerged lands owned by the City have been leased to Flagstone Island Gardens, LLC.

Dredging 217,000 cubic yards of submerged shoal area is required to provide adequate water depths for safe navigation and mooring of mega-yachts. The proposed water depths are primarily – 18 feet NGVD, ranging down to – 25 feet NGVD to accommodate deep keeled vessels.

Miami-Dade County governs variances for prohibited floating structures and prohibited fixed structures. The Applicant has requested a variance in order to complete the project in accordance with the terms of Code Section 24-59.1, governing the prohibition of non-water dependent structures. Pursuant to discussions with agency staff, the following project elements that are required for the function of the marina may require a variance from this code provision:

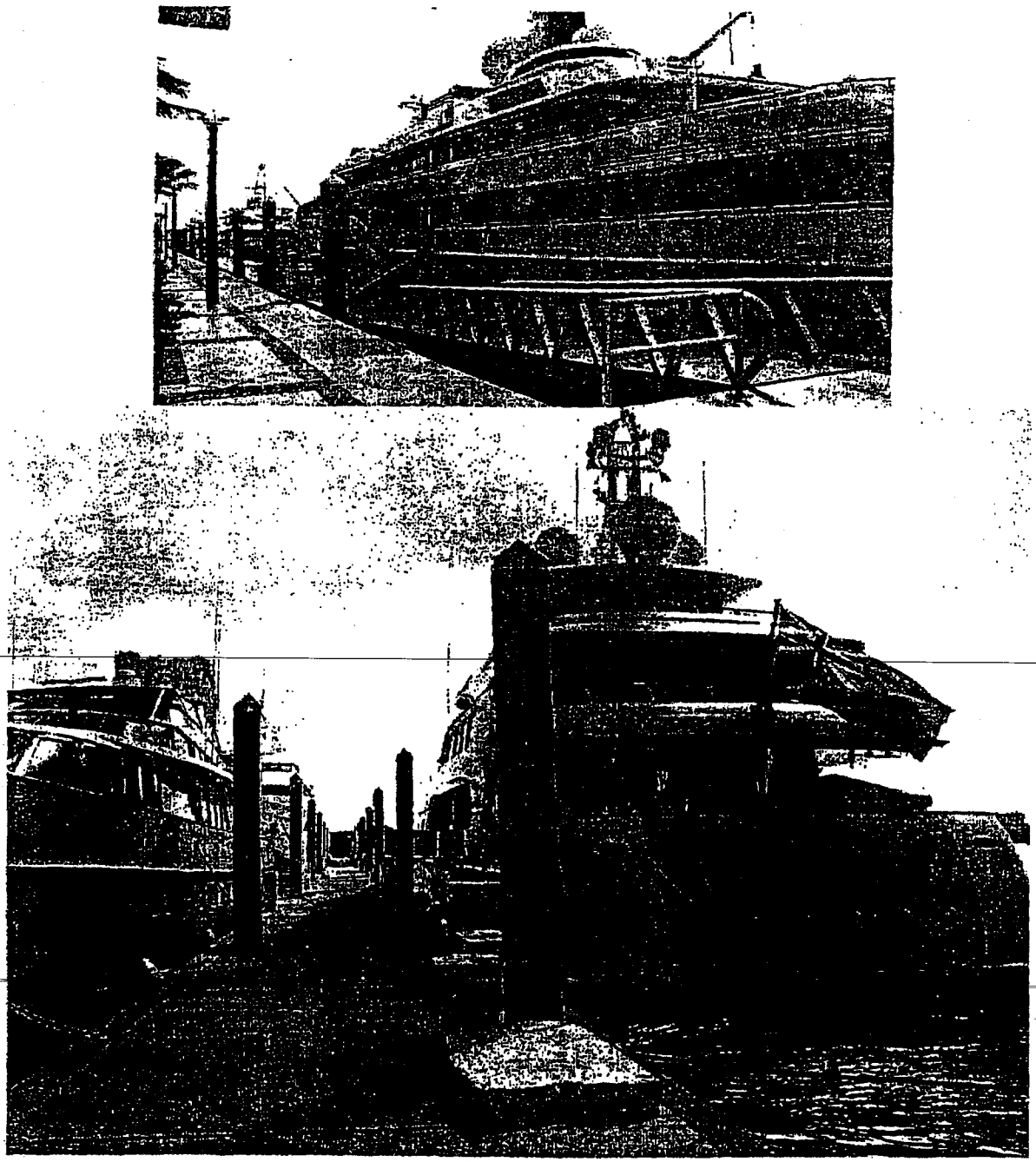
1. Planters and associated landscaping of approximately 240 linear feet along each edge of the two upper level main piers. These planters improve the aesthetics of required security devices (10' high fencing – planter buffer in lieu of razor wire), provide shade for pedestrian benches recessed into the planters, and provide a corridor for conduit (planters will be drained by pipe to the uplands);
2. Security fences along both edges of the upper deck of the main pier arms. Eighteen (18) gates are located on the main pier arms, which limit access to the lower pier to individuals with security clearance. Additionally, approximately 4 ADA compliant lift features for wheelchairs are proposed on the main pier arms;

3. Eighteen (18) equipment/maintenance storage lockers located beneath the 18 sets of access stairs on the main piers containing hoses, trash receptacles, recycling receptacles, and other equipment required to service the docks and mega-yachts;
4. Two (2) metal pylons/towers defining the entrance to the harbor on the terminal pier arms (see attached sketch sheet 25); and
5. Two roofed observation and security stations at the waterward end of the upper level piers; these structures provide shade for pedestrians and a security node. The City of Miami has requested the roofed structure (see attached sketch sheet 24).

NAVIGATION

Slip Configuration: For the Flagstone Island Gardens Mega-Yacht Harbor (Harbor), marginal dockage along the south and north side of the piers provides opportunities to accommodate vessels ranging from approximately 70' to 465.' This slip mix will be adjusted to meet market demand and to maintain revenues for the Harbor operation. Larger vessels are preferred since they provide the highest revenue per foot of slip space. Options for on/off season slip mixes are provided, and will be adjusted as directed by Flagstone Management.

The center portion of the harbor has specific slip dimensions to accommodate vessels ranging from approximately 100' to 160.' A turning basin within the confines of the pier arms is provided to facilitate vessel maneuvering. Most modern vessels of this size are equipped with thrusters in conjunction with twin engines to provide very efficient turning capabilities. Mooring piles are provided in the center harbor area for breasting of vessels during docking operations. The Harbor Master or local pilots will provide docking assistance with harbor personnel trained in the safe mooring of these vessels as the vessel is positioned into its slip. The captain of each vessel will specify the safe mooring configuration at his discretion based on the cleats and piles provided. Fenders are provided to maintain 4 feet of standoff at full compression for the deep drafted floating docks, and yachts may provide their own supplemental fendering as shown in the following photographs.



Channels/Markers: The Harbor will have a web site with slip mix and channel/slip depths for review by incoming vessels; or copies can be transmitted via hard copy delivery or facsimile. Inland rules of navigation will apply to the harbor and approach channels. Captains of incoming

vessels will rely on this data in addition to nautical charts for navigation. The Harbor Master will also serve as a source of information for safe navigation, and vessels can rely on his expertise. Most of these vessels are also represented by brokers or management representatives who are professional consultants. Arrangements are made well in advance at all ports of call.

Draft of Harbor/Draft Limitations: In order to address and ensure that water quality is preserved within and adjacent to the Harbor, at least 3 feet of clearance will be required for all vessels between the deepest part of the vessel and the submerged land. In those areas dredged to –18 feet NGVD, the maximum vessel draft will be limited to –15 feet NGVD. For the southwest area dredged to –25 feet NGVD, the maximum vessel draft will be limited to –22 feet NGVD. The Harbor Master will ensure draft limitations are enforced.

Piloting of Vessels: The majority of vessels calling on the harbor will be piloted by licensed captains. Vessels of a certain tonnage, average size approximately 120' or greater, will be navigated by Biscayne Bay Pilots in accordance with local vessel traffic rules. All vessels in excess of 90' will likely be piloted by licensed captains and have a professional crew to assist in docking and securing the vessel in the slip.

The Harbor Master, employed by Flagstone, will only allow one vessel to enter/exit the harbor at any given time under management supervision. The Harbor may employ a small tug to assist larger vessels upon request. Vessels docking on the outer docks will use the cruise ship turning basin for additional maneuvering area. Larger vessels will likely back into the marginal slips.

No operations will be conducted when cruise ships are in transit through Government Cut, as directed by the Captain of the Port.

HARBOR SECURITY AND INSPECTIONS PROCEDURES

Security and Federal Inspections: All conditions of arrival and departure of vessels from or to foreign ports, as well as design of and access to all parts of the Harbor are subject to the Island Gardens Security Plan, required by the U.S. Department of Homeland Security (USDHS) consistent with Federal Statutes. This Security Plan was developed consistent with consultation with the USDHS; the final security plan will be reviewed and coordinated with the USDHS approximately 6 months prior to opening the harbor. Due to the nature of the information included in the Plan, the security document and any subsequent revisions will be exempt from public disclosure in accordance with the Maritime Transportation Security Act, 46 U.S.C. Section 70101 (d).

Ninety-nine percent of all large yachts are foreign-flagged. All foreign arrival ships will provide prior notice to the U.S. Coast Guard (USCG) consistent with current prevailing US Department of Homeland Security policies (96-hour advanced notice typical). Under current policies, vessels in excess of 120 feet will be piloted into the Harbor by Biscayne Bay Pilots or other USCG approved registered pilots. Mega-yachts arriving from the Atlantic Ocean will travel through

Government Cut to reach the Harbor, unless otherwise restricted to alternate routes by the U.S. Coast Guard and the Department of Homeland Security. All vessels arriving from foreign ports will be under the jurisdiction of the USCG until they are docked in their slips, at which point they are turned over to the jurisdiction of the City of Miami Police Department.

All baggage, passengers, and refuse from vessels from foreign ports will be escorted from the ship under secure conditions through a "sanitized corridor" connecting each slip to the landside Federal Inspection Station. This corridor will be isolated from all other non-secure areas, persons, and material. This corridor will be the portion of the lower level of each pier that is below the upper pier level. It will be rendered secure by retractable security grilles that will enclose this corridor during the processing of vessels arriving from and departing to foreign ports, as well as by other operational security procedures, and will minimize negative operational impacts to the balance of the harbor slips and operations. The sanitized corridor at the lower level of each pier is directly connected to a landside sanitized corridor that leads directly to the Federal Inspection Station. All persons, staff, baggage, and other material will be processed through landside immigration, customs, and U.S. Department of Agriculture inspection procedures at the landside Federal Inspection Station on the basement level (see attached basement level design – sheet A2.200). Simultaneously, federal customs and agricultural inspectors will inspect the vessels. All trash will be disposed of consistent with procedures required by the US Department of Agriculture.

Security Equipment: Security equipment such as camera/video monitors are located throughout the Project facilities. The harbor entrance pylons and other high vantage points (including the control tower on the uplands) house lights that are required to illuminate the harbor during elevated security periods. Radar devices are also required to confirm the facility is adequately secured. The specifics regarding security features of the site are confidential.

Secure Harbor Access: All sanitized corridor (lower pier) intersections with service circulation will be secured by means of gates that remain closed until passage of all arrivals/departures are secured within the Federal Inspection Station and the vessels are cleared. Once cleared, passengers are free to either return to the vessel or depart the Federal Inspection Station either to ground transportation or to landside hotel, restaurants, or service facilities. The use of the lower levels of both piers will be primarily restricted to service access and facilities as well as handicapped access at all other times. Once vessels and passengers have been cleared, primary guest access to vessels will be by means of the upper levels of both piers. To gain access to vessels from upper piers, secure stairs are proposed, spaced at convenient intervals including at the terminus of the main piers for access to the lower terminal pier arms.

Identical procedures in reverse will be required for all vessels departing to foreign ports.

Public Access and Support: Controlled public access to the upper levels of both main piers will be permitted. Supporting amenities include benches recessed into the planter walls and shade beneath the terminal roofed structure with views out onto Biscayne Bay. Protection from the

elements (by the roofed structure at the end of the main piers) is required by the City; the planter trees that buffer the impact of the security fencing will also provide public benefit by adding shade to the public accessway. Those individuals with security clearance to the lower level can access via gates to specific slip areas or to the terminal pier from the security checkpoint at the terminal end of the main piers. Stairs and bridges from the upper level pier will access each set of slips. Security clearance procedures will be determined by the US Department of Homeland Security.

VESSEL PROVISIONING AND SERVICE

In-water Service Vessels: Three service vessels and one non-motorized small barge, controlled by the harbormaster, are proposed to assist with facility operations. These service vessels will range in size but typically be approximately 30 feet in length. The service vessels will not leave the harbor area, but may travel to and from the fishing/water taxi pier. Services include deploying fuel containment booms (from the barge), security services, and providing tug-type assistance to incoming and outgoing mega-yachts.

Provisioning: All provisioning of vessels will be serviced from the basement Central Loading Dock where goods will be unloaded from service trucks to dry and refrigerated storage areas, where special holding areas for customs inspections will be provided. Provisioning goods will be transported to the vessels through the basement and onto the lower service level of both piers by means of electric forklifts, electric tow-motors, and palletized carts. Each side of each lower level of each pier will be sufficiently wide enough to permit the passage of these electric service vehicles, pedestrian service personnel, as well as any necessary dock utilities.

Fueling and Sewage Pumpout: In order to minimize ship movements, in-slip fueling will be provided at all slips. Fuel will be pumped from basement above-ground fuel tanks contained within secured protected vaults. Gas pumping stations will be remote, one along the perimeter road right of way and a barge connection at the end of the southern pier (see Fuel Spill Containment Plan attached for your review).

Sewage pump-out services will also be provided at each slip by means of vacuum pumps with permanent piping connected to sanitary sewers.

UPLAND HARBOR SUPPORT FACILITIES

Fishing Pier/Water Taxi Operations: Consistent with USDHS review, local fishing vessels, water taxis, and any other transient vessels will utilize the separate "Fishing Pier" at the north end of the harbor. Fishing vessels will be serviced by fork lifts and palletized carts that will transport fish crates from the pier to the basement Fish Market processing area where they will be cleaned for display and sale in the Fish Market retail area.

Upland Security Monitoring: The Dockmaster Control Tower is situated on the landside and will rise above the public Promenade by 25 to 35 feet to provide a clear view of the harbor. All landside and waterside security, control, alarm, fire, secure communication and emergency management of the entire property including the harbor will be managed from this location. Adequate space will be provided for each jurisdictional agency as well as an emergency management center within the Tower. Secured emergency access stair and elevators will directly access the Ground and Basement levels. In the basement, secured access and parking will be provided for jurisdictional agencies and emergency teams. Additionally, emergency access routes will circumnavigate the entire property. Security measures are in operation 24 hours per day, 7 days per week.

Additional Support Facilities: Other landside support facilities include a Yacht Chandlery, supplies and services, charter offices, land transportation offices and facilities, harbormaster's offices and stores, crew lounges, showers, and toilets. All harbor personnel may utilize the landside hotels, restaurants, retail shops, as well as recreational, cultural, and entertainment activities. Services provided to the vessels will be similar to those provided to hotel guests including room service, catering, and concierge services, in addition to Internet access, TV cable, land phone lines, housekeeping, laundry, and security.

ATTACHMENT H:

Manatee Protection Plan

118/133
10/13/04

Flagstone Island Gardens Mega-Yacht Harbor

Manatee Protection Plan

Revised May 7, 2004

The Flagstone Island Gardens Mega-yacht Harbor project ("Project") proposes a 50-slip international mega-yacht facility on Watson Island with supporting upland amenities adjacent to the turning basin at the west end of the Port of Miami/Government Cut. This document confirms the proposed Project's compliance with the approved Miami-Dade County Manatee Protection Plan (MDCMPP) and notes the Project-specific measures being taken to protect manatees.

The MDCMPP designates the area between the Project shoreline and the Port turning basin for "Freight Terminals/Large Vessel (>100') Berthing". Additionally, the Watson Island shoreline itself is designated as a "Special Use" Marina or Transitory Dock area. The MDCMPP states that this designation is "for mooring vessels for special uses such as commercial fishing, charter fishing boats, and ocean-going luxury yachts" (page 96). Both of these designations are based on the site's nearby access to deep water and short route to the Atlantic Ocean. The proposed Project is compliant with the "Large Vessel Berthing" and "Special Use" designations of the MDCMPP and all uses that are proposed for vessels that are not over 100 feet in length are consistent with the functions that currently exist onsite. This is one of the most preferable sites in Miami-Dade County to accommodate the public demand for vessel mooring with minimal risk to the manatee population. Additional information regarding the historic and proposed marina functions onsite and manatee protection measures are discussed below.

Existing Marina Function

The existing Watson Island Marina facility includes 43 wet slips authorized under a Miami-Dade County Marine Facilities Operating Permit (MOP), and which have been leased out by the City of Miami (property owner) for commercial and recreational uses. These uses include commercial and charter fishing, boat rental/cruise operations, and transient recreational slips. The marina facility has been used historically by vessels ranging in length between 20 and 150 feet in length. The commercial vessels using the facility are estimated to average 2 trips per day. Transient recreational vessels average fewer trips per day. A public fuel dock is also located at the Watson Island Marina.

Reviews of aerial photography and dock records indicate that the Watson Island Marina facility has been used extensively by commercial and recreational vessels.

According to dock check records provided by the City's dockmaster, an average of 20 vessels have moored at Watson Island Marina at any given time over the past 6 years. This data does not differentiate between power and sailing vessels.

Follow-up discussions with the City's dockmaster for Watson Island Marina indicate that the 43 slips were fully leased to vessel owners between 1987 and 1992. Prior to 1998, records are

scarce. However, a review of aerial photography provides some data regarding mooring history. Since 1985 when the MPP was being developed, 23 or more powerboats have been documented at the marina in aerial photographs reviewed with Miami-Dade County Department of Environmental Resources Management (DERM) staff.

Proposed Mega-Yacht Harbor Facility Manatee Protection Compliance

The state-approved MDCMPP provides marine facility siting recommendations based on criteria including minimal manatee/boat travel pattern overlap, minimal benthic community disturbance, and compatibility with surrounding land use. As noted above, the Project uses are consistent with the MDCMPP designations and historic uses onsite.

The greatest potential risk to manatees would occur as vessels travel north or south within the Intracoastal Waterway. The fact that mega-yachts, which are the primary constituent of the proposed facility, travel at slower speeds with ingress/egress patterns in the vicinity of the turning basin and Government Cut, serves to avoid potential manatee impacts. Given the size and typical travel patterns of these vessels, it is not likely that they would travel north or south in the Intracoastal Waterway, particularly not for significant distances or at significant speeds. Vessels proposed that are less than 100 feet in length will also primarily travel out to sea and/or function consistently with historic travel patterns.

Construction

Marina construction will comply with all standard manatee protection conditions.

Manatee habitat (seagrass beds) is proposed to be dredged to accommodate the mega-yacht drafts; these unavoidable impacts will be mitigated through restoration of seagrass habitat within Biscayne Bay.

Design and Operations

The proposed mega-yacht facility will accommodate vessels up to approximately 450 feet in length. Of the maximum vessel number of 50, no more than 23 vessels less than 100 feet in length will be moored at any point in time, with specific sub-categories noted below. Even vessels less than 100 feet in length mooring at the Project site are anticipated to primarily consist of oceangoing luxury yachts, although this 23-vessel count includes service vessels that will not leave the facility, water taxis, and launched yacht tenders.

Speed Zones: Vessel speed restrictions in the vicinity of the Project provide valuable protection to manatees within their foraging areas and travel corridors. These speed zones are well enforced by local, state, and federal agencies.

Fendering: A minimum of 4 feet of standoff at maximum compression from vertical components (deep draft floating docks) is provided through installation of fenders above the mean high water line in compliance with the MDCMPP. The marginal dock provides the required standoff from the bulkhead at the Project site.

Small Yachts and Tenders: As market studies conducted relative to the proposed Project indicate that it may not be economically viable to fill all proposed slips year-round with vessels greater than 100 feet in length, the applicant is requesting authorization to maintain onsite a maximum of 14 slips (consistent with the historic use by powerboats) for powerboat vessels including tenders less than 100 feet in length at any given point in time.

Tenders may be launched from yachts to conduct inspections of their vessels and provide other service functions. Launching of these tenders will be controlled by the dockmaster, and strictly supervised. Due to strict security controls, these vessels will likely be limited in their movement.

Water Taxis: Two slips are proposed for water taxis that will be on call to convey upland hotel and harbor guests to local waterfront destinations. There is not a public fuel dock proposed at the Project site; fuel services will only be provided to vessels leasing a slip at the facility (and public agency vessels, such as the Florida Marine Patrol, etc.). As discussed during meetings with DERM staff, the applicant agrees to limit fuel services in this manner to compensate for the proposed transient water taxi use for no net increase in potential for impacts to manatees.

Fishing Vessels: Four slips are proposed for use by commercial fishing vessels. It is anticipated that their travel patterns and function will be similar to the existing/historic commercial and charter fishing vessels onsite.

Service Vessels: Three service vessels and one non-motorized small barge, controlled by the harbormaster, are proposed to assist with facility operations. These service vessels will range in size but typically be approximately 30 feet in length. The service vessels will not leave the harbor area, but may travel to and from the fishing/water taxi pier. Services include deploying fuel containment booms (from the barge), security services, and providing tug-type assistance to incoming and outgoing mega-yachts.

Again, at no time will the total number of vessels in the harbor exceed 50 (including all proposed vessels in the preferred design), and at no time will the total number of vessels less than 100 feet in length exceed 23 in harbor waters.

Conclusions

New mega-yacht slips associated with the proposed Project are compliant with the "Large Vessel Berthing" and "Special Use" designations of the MDCMPP. Slips for vessels less than 100 feet in length (23 total: 14 for non fishing vessels and yacht tenders, 2 for water taxis, 4 for fishing vessels, and 3 for service vessels) do not impose a significant potential for elevated risk to manatees as compared to historic slips/uses noted above. Other manatee protection means are provided and MDCMPP criteria are met as noted above.

ATTACHMENT I:

Restrictive Covenant Running with the Land

RESTRICTIVE COVENANT RUNNING WITH THE LAND IN FAVOR OF MIAMI-DADE COUNTY

The undersigned, the City of Miami, being the present owner(s), of the following real property (hereinafter called "the Property"), lying, being and situated in Miami-Dade County, Florida, to wit:

SEE ATTACHED LEGAL DESCRIPTION (Exhibit A)

pursuant to Section 24-48.2(I) (B) (2) (b) of the Code of Miami-Dade County, hereby proffers this executed Restrictive Covenant Running With The Land In Favor of Miami-Dade County, Florida in conjunction with Miami-Dade County Department of Environmental Resources Standard Form Class I Permit application number CC06-259 and variance request, for construction of a 50 slip mega-yacht marina:

1. The undersigned agree(s) and covenant(s) that all docking facilities located at the subject property shall be used for the mooring of vessels in a manner that is consistent with the conditions of this covenant, with the Flagstone Island Gardens Mega-Yacht Harbor Manatee Protection Plan, a copy of which is attached hereto as Exhibit B, and which is incorporated herein by reference hereto, and with the recommendation memorandum from the Director of the Miami-Dade County Department of Environmental Resources Management with all accompanying attachments, a copy of which is attached hereto as Exhibit C, and which is incorporated herein by reference hereto.

2. The undersigned agree(s) and covenants(s) that all vessels utilizing the docking facilities located at the Property shall have a minimum of three (3) feet of clearance between the bottom of Biscayne Bay at said facilities and the deepest draft of the vessel as measured at mean low water.

3. The undersigned agree(s) and covenant(s) that the vessel fueling services provided at the Property shall be utilized only by the lessees of the docking facilities located at the Property, and for use by public agency law enforcement vessels.

4. The undersigned agree(s) and covenant(s) that the maximum number of vessels which shall be moored at the docking facilities located at the Property shall not exceed fifty (50) vessels at any time.

5. The undersigned agree(s) and covenant(s) that as a subset of the maximum of fifty (50) vessels authorized for mooring at the docking facilities, the maximum number of powerboats that are less than one-hundred (100) feet in length as measured at the water line that will be moored at the docking facilities located at the Property shall not exceed a total of twenty-three (23) at any time. Of the maximum allowable of twenty-three (23) powerboats less than one-hundred (100) feet in length as measured at the waterline, not more than two (2) shall be water taxis, four (4) shall be commercial fishing or diving charter boats, and three (3) shall be marina service vessels. This provision shall not apply to sailboats with ancillary motors, non-motorized vessels or any rowboat.

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6. The undersigned agree(s) and covenant(s) that the marina service vessels allowed pursuant to this Restrictive Covenant shall only be permitted to be used for service operations at the marina including but not limited to deploying fuel containment booms, marina security services, and tugboat-type of operations. Marina service vessels shall not travel away from the marina, and shall at all times operate within one-thousand (1000) feet of the docking facilities located at the Property. This restriction shall not apply to travel of the marina service vessels necessary for the maintenance or repairs of said marina service vessels, or to travel of these marina service vessels necessary for safety reasons during emergencies such as storms or hurricanes.

7. The undersigned agree(s) and covenant(s) to comply in full at all times with the restrictions and prohibitions on non-water dependant floating structures as set forth in Chapter 24 of the Code of Miami-Dade County.

8. For the purposes of this Restrictive Covenant, "vessel" is herein defined as any watercraft designed to float or navigate upon water, or which may be used or is capable of being used as a means of transportation on water including, but not limited to, sailboats, powerboats, ships, barges, boats, skiffs, rowboats, houseboats, jet skis and inflatable boats.

9. For the purposes of this Restrictive Covenant, "docking facility" is herein defined as any structure, landward or waterward of the mean high waterline, designed for or capable of mooring a vessel, and requiring a Miami-Dade County Class I Permit, pursuant to Chapter 24 of the Code of Miami-Dade County, including but not limited to, docks, piers, piles, boat elevators and davits.

10. This Restrictive Covenant shall run with the land and shall be recorded in the Public Records of Miami-Dade County, Florida, at the expense of the undersigned, and shall remain in full force and effect and be binding upon the undersigned, and their heirs, successors, grantees and assigns until such time as the same is modified in writing by the undersigned and Miami-Dade County or released in writing by Miami-Dade County.

11. This Restrictive Covenant shall be subject to specific enforcement by Miami-Dade County, Florida. In the event that the provisions of the Covenant are not complied with by the undersigned or their heirs, successors, grantees, and assigns, an action at law or in equity may be commenced by Miami-Dade County against any person violating, causing, permitting, allowing or suffering the violation of this Covenant.

IN WITNESS WHEREOF, the undersigned has caused this Covenant to be executed this ____ day of _____, 200_.

Witnesses:

sign _____
print _____
sign _____
print _____

City of Miami

sign _____
print _____
Title _____
Address _____
_____

STATE OF FLORIDA, COUNTY OF MIAMI-DADE

The foregoing instrument was acknowledged before me this _____ day of _____, 2004, by _____ as _____, who is personally known to me or who has produced _____ as identification and who did take an oath.

NOTARY PUBLIC:

sign _____
print _____
State of Florida at Large (Seal)
My Commission Expires:

Attachments: Exhibit A: Legal Description of subject property
Exhibit B: Flagstone Island Gardens Mega-Yacht Harbor Manatee Protection Plan
Exhibit C: Recommendation Memorandum from Director of Environmental Resources Management

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EXHIBIT A

A. LEGAL DESCRIPTION (SUBMERGED AREA)

COMMENCE AT A POINT, MARKED BY A 5/8" DIAMETER IRON ROD AND CAP STAMPED F.D.O.T., SHOWN AS P.T. STA. 25+50 ON THE "OFFICIAL MAP OF LOCATION AND SURVEY OF A PORTION OF SECTION 8706, DESIGNATED AS PART OF STATE ROAD A-1-A IN DADE COUNTY, FLORIDA", PREPARED BY THE STATE ROAD DEPARTMENT OF THE STATE OF FLORIDA, AS RECORDED IN MAP BOOK 56 AT PAGE 71 OF THE PUBLIC RECORDS OF DADE COUNTY, FLORIDA SAID POINT BEING THE POINT OF TANGENCY OF THE ORIGINAL CENTER LINE OF THE DOUGLAS MACARTHUR CAUSEWAY RUNNING EASTERLY AND SOUTH EASTERLY FROM THE WESTERLY LIMITS (WEST BRIDGE) OF WATSON ISLAND AS SHOWN ON SHEET 3 OF THE STATE ROAD DEPARTMENT RIGHT-OF-WAY MAP SECTION NO. (8706-112) 87060-2117, REVISED MARCH 25,1959, SAID MOST NORTHERLY CURVE HAVING A RADIUS OF 1432.69 FEET AND A CENTRAL ANGLE OF 62°00'00"; THENCE SOUTH 59°51'26" WEST DEPARTING RADIALLY FROM SAID CENTERLINE A DISTANCE OF 987.36 FEET TO A PROJECTED BULKHEAD LINE; THENCE NORTH 17°12'21" WEST ALONG SAID BULKHEAD LINE A DISTANCE OF 238.66 FEET TO THE POINT AND PLACE OF BEGINNING; THENCE SOUTH 49°32'57" WEST DEPARTING SAID BULKHEAD LINE A DISTANCE OF 550.92 FEET TO A POINT OF INTERSECTION OF THE TURNING BASIN LIMIT AS ESTABLISHED BY U.S. ARMY CORPS OF ENGINEERS AND POSITIONED BY COORDINATES NORTH 527,878.62 FEET, EAST 926,135.22 FEET (BASED ON NORTH AMERICAN DATUM 1983-NAD83) WITH THE NORTHERLY LINE OF THE MIAMI MAIN SHIP CHANNEL; THENCE NORTH 31°03'50" WEST ALONG THE LIMITS OF SAID TURNING BASIN A DISTANCE OF 428.44 FEET TO A POINT OF INTERSECTION WITH THE EAST RIGHT-OF-WAY LINE OF THE INTRACOASTAL WATERWAY; THENCE NORTH 03°27'54" WEST ALONG SAID EAST RIGHT-OF-WAY LINE A DISTANCE OF 874.43 FEET TO A POINT OF INTERSECTION WITH THE SOUTHERLY RIGHT-OF-WAY LINE OF SAID DOUGLAS MACARTHUR CAUSEWAY, SAID POINT OF INTERSECTION BEING A POINT ON A CURVE CONCAVE SOUTHERLY AND HAVING A RADIUS OF 10,716.59 FEET, A RADIAL LINE TO SAID POINT BEARS SOUTH 01°15'15" EAST; THENCE RUN EASTERLY FOR 387.46 FEET ALONG THE ARC OF SAID CURVE AND ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE, THROUGH A CENTRAL ANGLE OF 02°04'17" TO A POINT OF TANGENCY; THENCE SOUTH 89°10'58" EAST CONTINUING EASTERLY ALONG THE SAID SOUTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 32.06 FEET MORE OR LESS TO A POINT OF INTERSECTION WITH AN EXISTING BULKHEAD LINE; THENCE SOUTH 17°12'21" EAST ALONG SAID BULKHEAD LINE A DISTANCE OF 924.74 FEET TO THE POINT OF BEGINNING.

CONTAINING 13.35 ACRES OF SUBMERGED LAND MORE OR LESS.

B. LEGAL DESCRIPTION (ADDITIONAL SUBMERGED AREA E)

PORTIONS OF SUBMERGED LANDS LYING WESTERLY OF WATSON ISLAND, CITY OF MIAMI, MIAMI-DADE COUNTY, FLORIDA. BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT POINT OF TANGENCY STATION 25+50 ON THE CENTERLINE OF GENERAL DOUGLAS Mac ARTHUR CAUSEWAY (S.R. A-1-A) STATE PROJECT SECTION No. (8706-112) 87060-2117 RIGHT OF WAY MAP AS RECORDED IN PLAT BOOK 56 AT PAGE 71 OF THE PUBLIC RECORDS OF MIAMI DADE COUNTY, FLORIDA; THENCE S66°10'14"W FOR 1384.81 FEET TO THE POINT OF BEGINNING OF TEMPORARY EASEMENT "E"; THENCE S49°32'57"W FOR 101.36 FEET TO A POINT ON THE EASTERLY LIMITS OF A TURNING BASIN; THENCE N 31°03'50"W ALONG SAID EASTERLY LIMITS FOR 968.07 FEET TO A POINT ON THE CENTERLINE OF THE INTERCOASTAL WATERWAY; THENCE N03°27'54"W ALONG SAID CENTERLINE FOR 402.93 FEET TO A POINT ON THE SOUTHERLY RIGHT OF WAY LINE OF STATE ROAD A-1-A SAID POINT ALSO BEING ON A CURVE THAT IS CONCAVE TO THE NORTH HAVING A RADIUS OF 10,716.59 FEET, THENCE EASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 1°20'14" FOR AN ARC DISTANCE OF 250.10 FEET TO A POINT ON THE EAST RIGHT OF WAY LINE OF SAID INTERCOASTAL WATERWAY; THENCE S03°27'54"E ALONG SAID EAST RIGHT OF WAY LINE FOR 658.57 FEET TO A POINT ON THE EASTERLY LINE OF AN EASEMENT THAT IS RECORDED IN OFFICIAL RECORDS BOOK 3622 AT PAGE 751 OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA; THENCE S31°03'50"E ALONG SAID EASTERLY LINE FOR 603.20 FEET TO THE POINT OF BEGINNING.
CONTAINING 4.85 ACRES MORE OR LESS (211,373 SQUARE FEET)

C. LEGAL DESCRIPTION (UPLAND AREA)

COMMENCE AT A POINT SHOWN MARKED BY A 5/8" DIAMETER IRON ROD AND CAP STAMPED F.D.O.T., SHOWN AS P.T. STA. 25+50 ON THE "OFFICIAL MAP OF LOCATION AND SURVEY OF A PORTION OF SECTION 8706, DESIGNATED AS PART OF STATE ROAD A-1-A IN DADE COUNTY, FLORIDA", PREPARED BY THE STATE ROAD DEPARTMENT OF THE STATE OF FLORIDA, AS RECORDED IN MAP BOOK 56 AT PAGE 71 OF THE PUBLIC RECORDS OF DADE COUNTY, FLORIDA SAID POINT BEING THE POINT OF TANGENCY OF THE ORIGINAL CENTER LINE OF THE DOUGLAS MACARTHUR CAUSEWAY RUNNING EASTERLY AND SOUTH EASTERLY FROM THE WESTERLY LIMITS (WEST BRIDGE) OF WATSON ISLAND AS SHOWN ON SHEET 3 OF THE STATE ROAD DEPARTMENT RIGHT-OF-WAY MAP SECTION NO. (8706-112) 87060-2117, REVISED MARCH 25, 1959, SAID MOST NORTHERLY CURVE HAVING A RADIUS OF 1432.69 FEET AND A CENTRAL ANGLE OF 62°00'00"; THENCE SOUTH 59°51'26" WEST DEPARTING RADIALLY FROM SAID CENTERLINE A DISTANCE OF 987.36 FEET TO A PROJECTED BULKHEAD LINE; THENCE NORTH 17°12'21" WEST ALONG SAID BULKHEAD LINE A DISTANCE OF 238.86 FEET TO THE POINT AND PLACE OF BEGINNING; THENCE NORTH 17°12'21" WEST CONTINUING ALONG SAID BULKHEAD LINE A DISTANCE OF 924.74 FEET TO THE SOUTHERLY RIGHT-OF-WAY LINE OF STATE ROAD A-1-A - DOUGLAS MACARTHUR CAUSEWAY; THENCE ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE THE FOLLOWING COURSES AND DISTANCES; SOUTH 89°10'55" EAST A DISTANCE OF 72.89 FEET; THENCE NORTH 86°39'49" EAST A DISTANCE OF 67.31 FEET TO NON-TANGENT CURVE CONCAVE TO THE NORTHEAST WHOSE RADIAL LINE BEARS NORTH 39°29'18" EAST HAVING A RADIUS OF 160.00 FEET AND CENTRAL ANGLE OF 22°09'28"; THENCE ALONG SAID CURVE AN ARC LENGTH OF 61.88 FEET; THENCE SOUTH 72°40'15" EAST CONTINUING ALONG SAID SOUTHERLY RIGHT-OF-WAY LINE A DISTANCE OF 276.49 FEET; TO A CURVE CONCAVE TO THE SOUTHWEST HAVING A RADIUS OF 600.00 FEET AND CENTRAL ANGLE OF 46°17'39"; THENCE ALONG SAID CURVE AN ARC LENGTH OF 484.79 FEET TO A POINT OF TANGENCY; THENCE SOUTH 26°22'36" EAST CONTINUING ALONG THE SOUTHWESTERLY RIGHT-OF-WAY LINE OF STATE ROAD A-1-A A DISTANCE OF 196.59 FEET; THENCE SOUTH 54°07'39" WEST DEPARTING SAID RIGHT-OF-WAY LINE A DISTANCE OF 532.16 FEET; THENCE NORTH 35°54'03" WEST A DISTANCE OF 132.74 FEET; THENCE SOUTH 54°07'39" WEST A DISTANCE OF 150.14 FEET TO THE POINT OF BEGINNING.

CONTAINING 10.79 ACRES OF LAND MORE OR LESS.

ATTACHMENT J:

Zoning Memorandum

Memorandum

MIAMI-DADE COUNTY

Date: August 18, 2006

To: Luis C. Otero, Manager LO
Coastal Resources
Environmental Resources Management

From: Molly Messer, ERPS MM
Coastal Resources
Environmental Resources Management

Subject: Class I Permit application CC06-259 and Variance request by Flagstone Island Gardens, LLC and the City of Miami and Covenant Running with the Land in favor of Miami-Dade County

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Pursuant to Section 24-48.2(II)(A)(7), Code of Miami-Dade County, Florida, a substantiating letter shall be submitted by the applicant stating that the proposed project does not violate any zoning laws. Said letter will be submitted after approval by the Miami-Dade County Board of County Commissioners and prior to issuance of the Class I Permit.

ATTACHMENT K:

Project Report for Proposed Work

PROJECT REPORT

CLASS I PERMIT APPLICATION NO. CC06-259

FLAGSTONE ISLAND GARDENS, LLC / CITY OF MIAMI
APPLICATION FOR A CLASS I PERMIT TO DREDGE
15.81 ACRES OF SUBMERGED BAY BOTTOM
FOR THE CREATION OF A 50 SLIP MEGA YACHT MARINA LOCATED ON WATSON ISLAND IN THE CITY OF MIAMI, AND ACCEPTANCE OF A RESTRICTIVE COVENANT RUNNING WITH THE LAND IN FAVOR OF MIAMI DADE COUNTY

DATE: AUGUST 9, 2006

Staff's recommendation of approval for the above-referenced permit application is based on the applicable evaluation factors under Section 24-48.3 of the Code of Miami-Dade County, Florida. The following is a summary of the proposed project with respect to each applicable evaluation factor:

1. **Potential Adverse Environmental Impact** – The proposed project includes dredging a total of 15.81 acres of submerged Bay bottom that provides habitat for a variety of marine flora and fauna including areas containing seagrasses, macro algae, hard bottom/sponge habitat, and benthic infaunal communities. The proposed dredging will result in the elimination of 15.81 acres of Bay bottom designated as habitat for Johnson's seagrass (*Halophila johnsonii*), a Federally Listed Threatened Species. In addition, 0.53 acres of vertical ledge, 2.93 acres of macro-algal habitat, 0.13 acres of sponge and coral habitat located on the existing bulkhead, and 6.93 acres of benthic infaunal habitat will also be eliminated as a result of the proposed project. The applicants shall mitigate for these impacts as described in Number 14 below.

2. **Potential Cumulative Adverse Environmental Impact** – Not applicable.

3. **Hydrology** - The proposed project will not negatively affect existing patterns and/or volumes of flow in Biscayne Bay adjacent to the main and terminal pier arms, as well as the marginal dock of the mega-yacht docking facility.

4. **Water Quality** – The proposed project will not adversely affect surface or groundwater quality. The applicants shall be required to install turbidity curtains and shall monitor for the presence of turbidity in the mixing zones adjacent to the project during construction to minimize potential water quality impacts resulting from turbidity. All operations shall be temporarily suspended if turbidity exceeds background levels, and will not resume until turbidity levels return to background. If the turbidity cannot be contained by the proposed turbidity measures, the applicants shall provide an alternative turbidity plan to ensure compliance with water quality standards subject to approval by DERM. The applicants shall submit turbidity monitor reports on a periodic basis as required by DERM.

5. **Wellfields** – Not applicable.

6. **Water Supply** – Not applicable.

7. **Aquifer Recharge** – Not Applicable.

8. **Aesthetics** – The applicants are proposing a fifty (50) slip mega yacht marina. The nearby uses include the Port of Miami and the Miamarina at Bayside. The applicants are proposing several non-water dependent fixed structures such as planters, canopies, and pylons with statues that may negatively affect views of the Bay from the uplands. However, the applicants propose to provide public access to the upper level of the docking facility.

9. **Navigation** – The proposed main piers will be located approximately 50 feet east of the eastern right of way line of the Intracoastal Waterway and immediately adjacent to the Port of Miami turning basin. The United States Coast Guard (USCG) has reviewed the "proposed in-season slip mix" design layout and is requiring the relocation of a lighted navigational marker currently located at the edge of the Port of Miami Turning Basin. In addition, the USCG is requiring the applicants to place an additional navigational light on the terminus of the main pier arm located on the southwest side of the proposed marina basin. Because the proposed project includes alternative mooring layouts dependent on the size of vessels present at the marina at any given time, DERM will require the applicants to provide USGS approval for alternative slip layouts prior to issuance of the Class I permit.

10. **Public Health** - The proposed project will not adversely affect the public health.

11. **Historic Values -** The proposed project is located in the vicinity of Miami's oldest marina. However, the project is not expected to adversely affect historic values. Specifically, a letter has been received from the State Historic Preservation Office indicating that this area does not contain any resources of historical significance. However, in the event that artifacts of historical significance are found, the applicants shall notify the City of Miami Archeologist prior to recommencing work.

12. **Archaeological Values** – The proposed project is located in the vicinity of Miami's oldest marina. However, the project is not expected to adversely affect archaeological values. Specifically, a letter has been received from the State Historic Preservation Office indicating that this area does not contain any resources of archeological significance. However, in the event that artifacts of archeological significance are found, the applicants shall notify the City of Miami Archeologist prior to recommencing work.

13. **Air Quality** – The proposed project is not expected to negatively affect air quality.

14. **Marine and Wildlife Habitats** – The proposed project includes dredging a total of 15.81 acres of submerged Bay bottom that provides habitat for a variety of marine flora and fauna including areas containing seagrasses, macro algae, hard bottom/sponge habitat, and benthic infaunal communities. The project will result in the elimination of 15.81 acres Biscayne Bay bottom designated as habitat for Johnson's seagrass (*Halophila johnsonii*), a Federally Listed Threatened Species.

    In order to mitigate for the removal of 1.92 acres of seagrass resources, the applicants propose to create and plant 5.76 acres of seagrass habitat in Biscayne Bay. Creation of seagrass habitat shall be accomplished by filling a previously dredged area of the Bay to a shallower depth, and then capping it with clean sand to support seagrass growth.

    To mitigate for the removal of benthic resources such as sponges and corals, the applicants propose to create 3.62 acres of hardbottom/sponge habitat. This will be accomplished by partially filling a previously dredged area of the Bay and capping it with a coarse material suitable for the growth of a hard bottom/sponge community.

In addition, 0.53 acres of vertical ledge, 2.93 acres of macro-algal habitat, 0.13 acres of sponge and coral habitat located on the existing bulkhead, and 6.93 acres of benthic infaunal habitat will also be impacted as a result of the proposed project. The applicants have proposed to mitigate for these impacts by providing 0.56 acres of onsite habitat through the placement of 2439 cubic yards of limerock riprap boulders under the proposed dock structure, and by providing 5.89 acres of offsite habitat through the placement of 25,670 cubic yards of limerock riprap boulders at an approved artificial reef site in Biscayne Bay.

In addition to the above mitigation, the applicants shall also be relocating coral and sponge resources found throughout the site to an area of similar light and depth regime located immediately to the north of the proposed project area. Sedimentation in this area will be monitored for the duration of the proposed construction to ensure survival of the relocated resources. If the relocated resources do not meet the required survivorship over a period of 3 years from the completion of the project, then alternative mitigation acceptable to DERM will be required.

A mitigation bond equal to the actual cost of the mitigation shall be required to ensure that all mitigation requirements are met.

15. **Wetland Soils Suitable for Habitat** – The proposed project will remove approximately 217,000 cubic yards of benthic soils during dredging for the marina. Impacts to benthic communities will be mitigated as described in Number 14 above. Approximately twenty-five (25) percent of the submerged soils will be utilized on the uplands as fill. A soil expert has certified this dredged material as suitable material for filling which is free from toxic pollutants. Any fill material used on the uplands shall be required to meet the definition of clean fill as defined in Chapter 24 of the Code of Miami-Dade County.

16. **Floral Values** – The proposed project will eliminate 1.92 acres of existing seagrass communities, which include, *Halodule wrightii* (shoal grass), *Halophila decipiens* (paddle grass), *Thalassia testudinum* (turtle grass) and *Halophila johnsonii* (Johnson's seagrass). In addition, 2.93 acres of diverse macroalgae communities, including numerous species of red, green and brown algae are located within the project area. DERM staff has documented no less than seventeen (17) different species of macro-algae at the proposed project site. The elimination of these resources shall be mitigated as described in Number 14 above.

17. **Faunal Values** – In addition to the seagrass and hardbottom/sponge communities present at this site, several species of fish including, grouper, snapper, tarpon and grunts and numerous species of invertebrates including, stone crabs, sponges, anemones, bi-valves, crustaceans. were also observed. The proposed project will result in the elimination of 3.5 acres of hardbottom/sponge community. In order to mitigate for the loss of this habitat, the applicants are proposing to create 3.62 acres of hardbottom/sponge habitat by filling an existing dredge hole to an elevation suitable for sponges to grow. In addition, the proposed project will result in the elimination of an additional 0.53 acres of fish habitat provided by a vertical ledge adjacent to the Port of Miami Turning Basin and the Intracoastal Waterway (ICW). These impacts shall be mitigated as described in Number 14 above.

18. **Rare, Threatened and Endangered Species** – The project is located on Watson Island and is bordered by Government Cut, the Port of Miami Turning Basin, and the Intracoastal Waterway (ICW). Although this area of Biscayne Bay is not designated as Essential Manatee Habitat, the West Indian Manatee (*Trichechus manatus*) does utilize this area. Therefore in order to prevent an increased risk to the West Indian Manatee, the Miami-Dade County Manatee Protection Plan (MDCMPP) recommends this area of the Bay for the expansion and creation of docking facilities for large vessels (over one-hundred (100) feet in length) which generally travel outside of Biscayne Bay. The Plan also recognizes and authorizes continuation of existing uses. The applicants are requesting approval for a fifty (50) slip mega yacht marina, which is generally consistent with this recommendation. However, the applicants have also expressed a desire for mooring of a limited number of smaller vessels.

In order to maintain consistency with the Manatee Protection Plan, and allow continuation of an existing use at the site, this approval shall authorize mooring of up to a total of fifty (50) vessels, with a limit of no more than twenty-three (23) power vessels less than one hundred (100) feet in length to be moored at this facility at any one time. Of the maximum allowable of twenty-three (23) powerboats less than one-hundred (100) feet in length as measured at the waterline, not more than two (2) shall be water taxis, four (4) shall be commercial fishing or diving charter boats, and three (3) shall be marina service vessels. This restriction shall not apply to sailboats equipped with auxiliary motors, or to non-motorized vessels. In order to ensure compliance with this condition of the approval, the City of Miami has proffered the attached covenant as part of DERM's Class I Permit requirements. DERM shall require the acceptance of this covenant running with the land in favor of Miami-Dade County to ensure that no more than twenty-three (23) power vessels less than one hundred (100) feet in length are moored at the subject property at any one time. Therefore, no adverse impacts to the West Indian Manatee are anticipated. Furthermore, for the purposes of manatee protection during the construction phase of the project, specific conditions shall be included in the Class I Permit that require the implementation of standard manatee protection measures including, but not limited to, prohibiting dredging activities from dusk to dawn, manatee spotters, and education of construction staff. When the proposed marina is completed, additional manatee protection measures will be implemented including, but not limited to the placement of fenders in all of the slips to provide a minimum four (4) foot standoff. The marina shall also have manatee educational signs located on the uplands for the public. A Marine Facility Annual Operating Permit (MOP) shall also be required and shall be issued for a maximum use of 50 vessels.

In addition, the project site is located in an area of Biscayne Bay designated as critical habitat for Johnson's seagrass (*Halophila johnsonii*), a State and Federally Listed Threatened Species. The applicants propose to eliminate 15.81 acres of critical habitat for Johnson's seagrass. However, during DERM staff assessments of the proposed project site in 2003, less than ten individual Johnson's seagrass shoots were observed at the site.

19. **Natural Flood Damage Protection** - The proposed project is related to an overall upland site development plan which will incorporate a stormwater drainage system that shall provide adequate surface water drainage and flood damage protection. The Class I permit shall require that the cap of the new seawall shall be a minimum of six (6) inches above the finished grade and the uplands shall be sloped landward to prevent positive stormwater drainage.

20. **Wetland Values** - The proposed project will not result in any net loss of wetland values in Miami-Dade County.

21. **Land Use Classification** – Pursuant to Section 24-48.2(II)(A)(7), Code of Miami-Dade County, Florida, a substantiating letter shall be submitted by the applicants stating that the proposed project does not violate any zoning laws. Said letter shall be submitted after approval by the Board of County Commissioners and prior to issuance of the Class I Permit.

22. **Recreation** - The proposed project does not conflict with the Miami-Dade County Comprehensive Development Master Plan and Biscayne Bay Management Plan recreation elements.

23. **Other Environmental Values Affecting the Public Interest** – The City of Miami (one of the applicants) owns all of the submerged lands involved in construction of the proposed 50-slip mega-yacht marina. The submerged lands were originally deeded to the City of Miami by the State of Florida Board of Trustees of the Internal Improvement Trust Fund (BOTIITF) with a requirement that these lands be used for the public purposes only. However, the applicants have received approval from the State of Florida BOTIITF to modify the deed restrictions that require the use of the lands for public purposes only. There are no other environmental values affecting the public interest.

24. **Standard Construction Procedures and Practices and Design and Performance Standards** - The proposed project complies with the construction practices and performance standards set forth in:

    a) Miami-Dade County Public Works Manual (Section D-5)
    b) Biscayne Bay Management Plan (Section 33D-1 through 33D-4)
    c) Chapter 33B of the Code of Miami-Dade County

25. **Comprehensive Environmental Impact Statement (CEIS)** – During the Class I permit application process, the applicants have submitted a biological survey including resources mapping, a pre-project and post project flushing and pollutant dispersal analysis, an excavation and turbidity management plan, a seagrass mitigation plan, a benthic community mitigation plan, and a harbor operations plan. Therefore, in the opinion of the Director, a CEIS was not required to evaluate the applications.

26. **Conformance with All Applicable Federal, State and Local Laws and Regulations** – The proposed project is in conformance with the following applicable Federal, State and local laws and regulations.

a) Biscayne Bay Management Plan (Section 33D-1 through 33D-2)
b) Biscayne Bay Aquatic Preserve Act
c) United States Clean Water Act (Army Corps of Engineers Permit)
d) Federal Endangered Species Act (US Fish & Wildlife Service)
e) Florida Department of Environmental Protection Regulations
f) Chapter 24 of the Code of Miami-Dade County
g) Rules of the South Florida Water Management District
h) Basis of Review for Surface Water Management Permit Applications Within the South Florida Water Management District

27. **Conformance with the Miami-Dade County Comprehensive Development Master Plan (CDMP)** - In the opinion of DERM, the proposed project is consistent with the CDMP. The following is a summary of the proposed project as it relates to the CDMP:

LAND USE ELEMENT I:

Objective 2/Policy 2A - Level of Service. The proposed project does not involve new or significant expansion of existing urban land uses.

Objective 3/Policies 3A, 3B, 3C - Protection of natural resources and systems. – The proposed project is consistent with the Conservation and Coastal Management Elements of the County's CDMP. The proposed project is compatible with surrounding land uses in Biscayne Bay and does not involve development in the Big Cypress area of Critical State concern or the East Everglades.

TRANSPORTATION ELEMENT II

Aviation Subelement/Objective 9 - Aviation System Expansion - There is no aviation element to the proposed project.

Port of Miami River Subelement/Objective 3 – Minimization of impacts to estuarine water quality and marine resources. The proposed project is not located in the Miami River.

CONSERVATION, AQUIFER RECHARGES AND DRAINAGE ELEMENT IV:

Objective 3/Policies 3A, 3B, 3D - Wellfield protection area protection. - The proposed project is not located within a wellfield protection area and does not involve agricultural uses.

Objective 3/Policy 3E - Limestone mining within the area bounded by the Florida Turnpike, the Miami-Dade/Broward Levee, N.W. 12 Street and Okeechobee Road. - The proposed project is not located within this area.

Objective 4/Policies 4A, 4B, 4C - Water storage, aquifer recharge potential and maintenance of natural surface water drainage. - The proposed project will not adversely affect water storage, aquifer recharge potential or natural surface water drainage. The applicants are required to obtain a drainage permit to ensure that these objectives are met.

Objective 5/Policies 5A, 5B, 5F - Flood protection and cut and fill criteria. – The proposed project does not compromise flood protection, involve filling for development purposes and is not related to cut and fill activities.

Objective 6/Policy 6A - Areas of highest suitability for mineral extraction. - The proposed project is not located in an area proposed or suitable for mineral extraction.

Objective 6/Policy 6B - Guidelines for rock quarries for the re-establishment of native flora and fauna. - The proposed project is not located in a rock quarry.

Objective 6/Policy 6D - Suitable fill material for the support of development. – The proposed project involves the removal of suitable fill for the support of development. Specifically, approximately 50,000 cubic yards of the dredge spoil will be used for the upland development. Any spoil used on the uplands will comply with the criteria for clean fill as defined in Section 24-5 of the Code of Miami-Dade County and with this policy.

Objective 7/Policy 7A - No net loss of high quality, relatively unstressed wetlands. – Not applicable.

Objective 9/Policy 9A - Protection of habitat critical to Federal or State-designated threatened or endangered species. – The proposed project is located in Critical Habitat for Johnson's seagrass *(Halophila johnsonii)*, a State and Federally designated Threatened Species of seagrass. The proposed project will result in the elimination of 15.81 acres of area designated as critical habitat for Johnson's seagrass. However these impacts will be mitigated as described in Number 14 above.

In addition, the proposed project is located in an area that may be utilized by the West Indian Manatee (*Trichecus manatus*). The proposed project is not expected to result in adverse impacts to this endangered species provided standard manatee protection measures are implemented. Said standard manatee protection measures shall be implemented during construction and the facility shall be limited to a maximum number of powerboats less than one-hundred feet in length as measured at the waterline that may be moored at the facility consistent with recommendations in the Miami-Dade County Manatee Protection Plan, and as described in Number 19 above.

Objective 9/Policies 9B & 9C – Protection of habitat critical to federal and State designated threatened or endangered species of birds – The proposed project will not affect the nesting, roosting, and feeding habitats or rookeries for threatened species of birds.

COASTAL MANAGEMENT ELEMENT VII:

Objective 1/Policy 1A - Tidally connected mangroves in mangrove protection areas – The proposed project is not located within a designated "Mangrove Protection Area".

Objective 1/ Policy 1B - Natural surface flow into and through coastal wetlands. – The proposed project is not located in or near coastal wetlands and therefore will not affect natural surface flow into and through coastal wetlands.

Objective 1/ Policy 1C - Elevated boardwalk access through mangroves. - The proposed project does not involve access through mangroves.

Objective 1/Policy 1D - Protection and maintenance of mangrove forests and related natural vegetational communities. - The proposed project does not involve work in mangrove forests or related natural vegetational communities.

Objective 1/Policy 1E - Mitigation for the degradation and destruction of coastal wetlands. Monitoring and maintenance of mitigation areas. – The proposed project will not result in the degradation or destruction of coastal wetlands.

Objective 1/Policy 1G - Prohibition of dredging or filling of grass/algal flats, hard bottom or other viable benthic communities except as provided for in Section 24-48, of the Code of Miami-Dade County, Florida. – The proposed project involves the dredging of grass/algal flats, hardbottom, and viable benthic communities. However, pursuant to Section 24-48.3(2)(b), the proposed project involves dredging to accommodate mega-yacht vessel drafts requiring water depths ranging between 18 feet and 25 feet NGVD. Impacts to grass/algal flats, hard bottom or other viable benthic communities as a result of the proposed dredging will be mitigated as described in Number 14 above.

Objective 2/Policies 2A, 2B - Beach restoration and renourishment objectives. - The proposed project does not involve beach restoration or renourishment.

Objective 3/Policy 3E, 3F - Location of new cuts and spoil areas for proper stabilization and minimization of damage from tidal currents and wave scour. – The proposed project does not involve the development or identification of new cut or spoil areas.

Objective 5/Policy 5B - Existing and new areas for water-dependent uses. – The proposed project involves the reconstruction and expansion of an existing water dependent marina into a mega yacht marina.

Objective 5/Policy 5D - Consistency with Chapter 33D, Miami-Dade County Code (shoreline access, environmental compatibility of shoreline development) – The proposed marina and upland development projects have been reviewed by the Shoreline Development Review Committee and received approval.

Objective 5/Policy 5F - The siting of water dependent facilities. – The proposed project does not involve the siting of a new water dependent facility, but rather the reconstruction and expansion of an existing water dependent facility. The proposed project will result in the destruction of seagrass and hardbottom communities which is not consistent with Sections (i)(c) and (i)(d) of this policy. However, the applicants have proposed to mitigate for these impacts as described in Number 14 above. In addition, the project is located immediately adjacent to Government Cut which provides deep water access to vessels using this docking facility as recommended in Section (ii)(a) of this policy. The applicants have also agreed to provide public visual access to the docking facility to preserve its existing public use.

Objective 6/Policy 6E – Water dependent fixed or floating structures – The proposed project involves the renovation and expansion of an existing water dependent facility.

Objective 6/Policy 6F – Advertisements or signs over tidal waters – The proposed project shall not have any advertisements or signs over tidal waters

28. **Conformance with Chapter 33B, Miami-Dade County Code** (East Everglades Zoning Overlay Ordinance) – Not applicable.

29. **Conformance with Miami-Dade County Ordinance 81-19** (Biscayne Bay Management Plan Section 33D-1 through 33D-4) - The proposed project is consistent with the Biscayne Bay Management Plan.

30. **Conformance with the Manatee Protection Plan** - Although this area of the Bay is not designated as Essential Manatee Habitat, the West Indian Manatee (*Trichechus manatus*) does utilize this area. Therefore, in order to prevent an increased risk to the West Indian Manatee, the Miami-Dade County Manatee Protection Plan (MDCMPP) recommends this area of the Bay for the expansion and creation of docking facilities for large vessels (over one-hundred (100) feet in length) which generally travel outside of Biscayne Bay. The Plan also recognizes and authorizes continuation of existing uses. The applicants are requesting approval for a fifty (50) slip mega yacht marina, which is generally consistent with this recommendation. However, the applicants have also expressed a desire for mooring of a limited number of smaller vessels.

    In order to maintain consistency with the Manatee Protection Plan, and allow continuation of an existing use at the site, this approval shall authorize mooring of up to a total of fifty (50) vessels, with a limit of no more than twenty-three (23) power vessels less than one hundred (100) feet in length to be moored at this facility at any one time. Of the maximum allowable of twenty-three (23) powerboats less than one-hundred (100) feet in length as measured at the waterline, not more than two (2) shall be water taxis, four (4) shall be commercial fishing or diving charter boats, and three (3) shall be marina service vessels. This restriction shall not apply to sailboats equipped with auxiliary motors, or to non-motorized vessels. In order to ensure compliance with this condition of the approval, the City of Miami has proffered the attached covenant as part of DERM's Class I Permit requirements. DERM shall require the acceptance of this covenant running with the land in favor of Miami-Dade County to ensure that no more than twenty-three (23) power vessels less than one hundred (100) feet in length

are moored at the subject property at any one time. Therefore, no unacceptable adverse impacts to the West Indian Manatee are anticipated. Furthermore, for the purposes of manatee protection during the construction phase of the project, specific conditions shall be included in the Class I Permit that require the implementation of standard manatee protection measures including, but not limited to, the placement of fenders to provide a minimum of four (4) feet of standoff between the mega yachts and the docks.

31. **Consistency with Miami-Dade County Criteria for Lake Excavation** – Not applicable.

32. **Municipality Recommendation** – Pursuant to Section 24-48.2(II)(A)(7), Code of Miami-Dade County, Florida, a substantiating letter shall be submitted by the applicants stating that the proposed project does not violate any zoning laws of the City of Miami. Said letter will be submitted after the approval by the Board of County Commission and prior to issuance of the Class I Permit.

33. **Coastal Resources Management Line** - A coastal resources management line was not required for the proposed project, pursuant to Section 24-48.2(II)(A)(10)(b) of the Code of Miami-Dade County, Florida.

34. **Maximum Protection of a Wetland's Hydrological and Biological Functions** – Not Applicable.

35. **Class I Permit Applications Proposing to Exceed the Boundaries Described in Section D-5.03(2)(a) of the Miami-Dade County Public Works Manual** – DERM has considered the following factors:

Whether the proposed exceedance is the minimum necessary to avoid seagrasses or other valuable environmental resources – The proposed exceedance is not required for the purposes of avoiding seagrasses or other valuable environmental resources. The exceedance is proposed to accommodate mega yachts that will use the marina.

Whether the proposed exceedance is the minimum necessary to achieve adequate water depth for mooring of a vessel – The proposed exceedance is not required to achieve adequate water depth for the mooring of vessels. The exceedance is proposed to accommodate mega yachts that will use the marina.

Whether the applicant has provided notarized letters of consent to DERM from adjoining riparian property owners – The adjoining riparian properties are owned by one of the applicants (i.e. City of Miami), therefore letters of consent are not necessary.

Whether any letters of objection from adjoining riparian property owners were received by DERM – The Department has not received any letters of objection from adjoining riparian property owners because the adjoining riparian properties are owned by one of the applicants (i.e. City of Miami).

The proposed project was also evaluated for compliance with the minimum required standards contained in Section 24-48.3 (2), (3) and (4) of the Code of Miami-Dade County, Florida. The following is a summary of how the standards relate to the proposed project:

24-48.3 (2)(b) Dredging and/or Filling for Class I Permit - The proposed dredging for the project is consistent with Section 24-48.3(2)(c) which allows for the minimum necessary dredging for the creation and maintenance of a marina.

24-48.3 Minimum Water Depth Required for Boat Slips Created by the Construction of Placement of Fixed or Floating Docks and Piers, Piles and Other Structures Requiring a Permit Under Article IV, Division 1 of Chapter 24 of the Code of Miami-Dade County - The proposed project involves dredging to depths of – 18 feet and – 25 feet NGVD. Section 24-48.3(3) requires that no permit be issued for the proposed work unless adequate water depth exists. Vessels utilizing the proposed marina shall have a maximum draft of 15 and 22 feet at Mean Low Water respectively.

24-48.3 (4) Clean Fill in Wetlands – The proposed project does not involve the placement of fill in wetlands.

SUMMARY

BASED ON THE FOREGOING, IT IS RECOMMENDED THAT A CLASS I PERMIT BE APPROVED.

Luis C. Otero
Manager
Coastal Resources Section

Molly A. Messer
Environmental Resources Project Supervisor
Coastal Resources Section

ATTACHMENT L:

Project Report for Variance Request

PROJECT REPORT

CLASS I PERMIT APPLICATION NO. CC06-259

FLAGSTONE ISLAND GARDENS, LLC AND THE CITY OF MIAMI APPLICATION REQUESTING A VARIANCE FROM SECTION 24-48.24 OF THE CODE OF MIAMI-DADE COUNTY, FLORIDA TO ALLOW FOR THE PLACEMENT OF NON-WATER DEPENDENT FIXED STRUCTURES OVER TIDAL WATERS

DATE: AUGUST 7, 2006

Staff's recommendation of approval for the above-referenced permit application is based on the applicable evaluation factors under Section 24-48.3 and Section 24-48.25 of the Code of Miami-Dade County, Florida. The following is a summary of the proposed project with respect to each applicable evaluation factor:

1. **Potential Adverse Environmental Impact** – The potential of adverse environmental impact from the installation of the proposed non-water dependent fixed structures is minimal.

2. **Potential Cumulative Environmental Impact** – Not applicable.

3. **Hydrology** - The proposed non-water dependent fixed structures will not negatively affect existing patterns and/or volumes of flow in Biscayne Bay.

4. **Water Quality** – The proposed non-water dependent fixed structures will not cause surface or groundwater quality to be adversely affected.

5. **Wellfields** – Not Applicable

6. **Water Supply** – Not Applicable

7. **Aquifer Recharge** – Not Applicable

8. **Aesthetics** – The applicants are proposing a fifty (50) slip mega yacht marina. The nearby uses include the Port of Miami and the Miamarina at Bayside. The applicants are proposing several non-water dependent fixed structures such as planters, covered structures, and pylons with statues that may negatively affect views of the Bay from the uplands. However, the applicants propose to provide public access to the upper level of the docking facility in order to view the Bay.

9. **Navigation** – The proposed non-water dependent fixed structures will not interfere with navigation.

10. **Public Health** - The proposed non-water dependent fixed structures will not adversely affect the public health.

11. **Historic Values** - The proposed project is located in the vicinity of Miami's oldest marina. However, the proposed non-water dependent fixed structures did not historically exist. The non-water dependent fixed structures are not expected to adversely affect historical values of Biscayne Bay.

12. **Archaeological Values** – The proposed non-water dependent fixed structures will be located in the vicinity of Miami's oldest marina, however, they did not historically exist. Since the non-water dependent fixed structures will be placed on the proposed marina piers, they will not affect archeological values of the Bay.

13. **Air Quality** – Not Applicable

14. **Marine and Wildlife Habitats** – The proposed non-water dependent fixed structures will not cause any additional impacts to marine and wildlife habitats other than those expected from the proposed dredging and construction of the marina.

15. **Wetland Soils Suitable for Habitat** – The proposed non-water dependent fixed structures will not require the removal of marine soils and the associated benthic habitats.

16. **Floral Values** – The proposed non-water dependent fixed structures will not cause any impacts to marine flora other than those expected from the proposed dredging and construction of the marina.

17. **Faunal Values** – The proposed non-water dependent fixed structures will not cause any impacts to marine fauna other than those expected from the proposed dredging and construction of the marina project.

18. **Rare, Threatened and Endangered Species** – The proposed non-water dependent fixed structures are not expected to negatively affect rare, threatened and/or endangered species.

19. **Natural Flood Damage Protection** - The proposed non-water dependent fixed structures will not negatively affect natural flood damage protection.

20. **Wetland Values** - The proposed non-water dependent fixed structures will not cause any loss of wetland values in Miami-Dade County.

21. **Land Use Classification** – Pursuant to Section 24-58.2(II)(A)(7), Code of Miami-Dade County, Florida, a substantiating letter shall be submitted by the applicants stating that the proposed project does not violate any zoning laws. Said letter shall be submitted after approval by the Board of County Commissioners and prior to issuance of the Class I Permit.

22. **Recreation** - The proposed non-water dependent fixed structures do not conflict with the Miami-Dade County Comprehensive Development Master Plan and Biscayne Bay Management Plan recreation elements.

23. **Other Environmental Values Affecting the Public Interest** – The City of Miami owns all of the submerged lands where the proposed non-water dependent fixed structures will be installed in connection with the construction of the proposed 50-slip mega-yacht marina. The submerged lands were originally deeded to the City of Miami by the State of Florida Board of Trustees of the Internal Improvement Trust Fund (BOTIITF) with a requirement that these lands be used for the public purposes only. However, the applicants have received approval from the State of Florida BOTIITF to modify the deed restrictions that require the use of the lands for public purposes only.

24. **Conformance with Standard Construction Procedures and Practices and Design and Performance Standards** - The proposed non-water dependent fixed structures comply with the construction practices and performance standards set forth in:

- Miami-Dade County Public Works Manual
- Biscayne Bay Management Plan (Section 33D-1 through 33D-4)
- Chapter 33B of the Miami-Dade County Code

25. **Comprehensive Environmental Impact Statement (CEIS)** – During the Class I permit application process, the applicants have submitted a biological survey including resource mapping, a pre-project and post-project flushing and pollutant dispersal analysis, an excavation and turbidity management plan, and a harbor operations plan. Therefore, in the opinion of the Director, a CEIS was not required to evaluate the applications.

26. **Conformance with All Applicable Federal, State and Local Laws and Regulations** – DERM staff believes that the proposed project is consistent with the Biscayne Bay Aquatic Preserve Act, as well as other state and local laws and regulations listed below. Permits for the proposed project, including the proposed non-water dependent fixed structures requiring a variance, have been issued by the United States Army Corps of Engineers and the State of Florida Department of Environmental Protection.

a) Biscayne Bay Aquatic Preserve Act
b) Federal Endangered Species Act (US Fish & Wildlife Service)
c) Florida Department of Environmental Protection Regulations
d) United States Clean Water Act (Army Corps of Engineers)

e) Chapter 24 of the Code of Miami-Dade County
f) Rules of the South Florida Water Management District
g) Basis of Review for Surface Water Management Permit Applications Within the South Florida Water Management District

27. **Conformance with the Miami-Dade County Comprehensive Development Master Plan (CDMP)** - In the opinion of DERM, the proposed project is consistent with the CDMP. The following is a summary of the proposed project as it relates to the CDMP:

LAND USE ELEMENT I:

Objective 2/Policy 2A - Level of Service. All other relevant Miami-Dade County departments have generically approved this category of proposed projects, including the proposed non-water dependent fixed structures requiring a variance, as consistent with the Miami-Dade County Concurrency Ordinance.

Objective 3/Policies 3A, 3B, 3C - Protection of natural resources and systems. – The proposed project, including the proposed non-water dependent fixed structures requiring a variance, is consistent with the Coastal Management Elements of the County's CDMP and is not related to the development in the East Everglades.

TRANSPORTATION ELEMENT II

Aviation Sub-element/Objective 9 - Aviation System Expansion – Not Applicable.

Port of Miami River Sub-element/Objective 3 – Not Applicable.

CONSERVATION, AQUIFER RECHARGES AND DRAINAGE ELEMENT IV:

Objective 3/Policies 3A, 3B, 3D - Wellfield protection area protection. - The proposed non-water dependent fixed structures are not located within a wellfield protection area.

Objective 3/Policy 3E - Limestone mining within the area bounded by the Florida Turnpike, the Miami-Dade/Broward Levee, N.W. 12 Street and Okeechobee Road. - The proposed project, which includes the proposed non-water dependent fixed structures requiring a variance, is not located within this area and does not include limestone mining.

Objective 4/Policies 4A, 4B, 4C - Water storage, aquifer recharge potential and maintenance of natural surface water drainage. - The proposed non-water dependent fixed structures will not adversely affect water storage, aquifer recharge potential or natural surface water drainage. The applicants are required to obtain a drainage permit to ensure that these objectives are met.

Objective 5/Policies 5A, 5B, 5F - Flood protection and cut and fill criteria. – Not Applicable.

Objective 6/Policy 6A - Areas of highest suitability for mineral extraction. – Not Applicable.

Objective 6/Policy 6B - Guidelines for rock quarries for the re-establishment of native flora and fauna. – Not Applicable.

Objective 6/Policy 6D - Suitable fill material for the support of development. – The proposed non-water dependent fixed structures do not require the removal of suitable fill for the support of development.

Objective 7/Policy 7A - No net loss of high quality, relatively unstressed wetlands. – Not Applicable.

Objective 9/Policy 9A - Protection of habitat critical to Federal or State-designated threatened or endangered species. – The proposed non-water dependent fixed structures are located in Critical Habitat for Johnson's seagrass *(Halophila johnsonii),* a State and Federally designated Threatened Species of seagrass. In addition, the proposed project is located in an area that may be utilized by the West Indian Manatee (*Trichecus manatus*). However, the construction and installation of the non-water dependent fixed structures is not expected to result in adverse environmental impacts to these endangered species.

Objective 9/Policies 9B & 9C – Protection of habitat critical to federal and State designated threatened or endangered species of birds – The proposed non-water dependent fixed structures will not adversely affect the nesting, roosting, and feeding habitats or rookeries for threatened species of birds.

COASTAL MANAGEMENT ELEMENT VII:

Objective 1/Policy 1A - Tidally connected mangroves in mangrove protection areas – The proposed non-water dependent fixed structures are not located within a designated "Mangrove Protection Area".

Objective 1/ Policy 1B - Natural surface flow into and through coastal wetlands. – Not Applicable.

Objective 1/ Policy 1C - Elevated boardwalk access through mangroves. – Not Applicable.

Objective 1/Policy 1D - Protection and maintenance of mangrove forests and related natural vegetational communities. – Not Applicable.

Objective 1/Policy 1E - Mitigation for the degradation and destruction of coastal wetlands. Monitoring and maintenance of mitigation areas. – The construction and installation of the proposed non-water dependent fixed structures will not result in the degradation or destruction of coastal wetlands. In addition, the non-water dependent fixed structures do not require mitigation other that which is required for the dredging and construction of the proposed mega yacht marina.

Objective 1/Policy 1G - Prohibition of dredging or filling of grass/algal flats, hard bottom or other viable benthic communities except as provided for in Section 24-58, of the Code of Miami-Dade County, Florida. – The construction and installation of the proposed non-water dependent fixed structures does not involve the dredging of grass/algal flats, hardbottom, and viable benthic communities. However, said fixed structures will be associated with the non-maintenance dredging of these types of areas for the construction of a proposed mega yacht marina.

Objective 2/Policies 2A, 2B - Beach restoration and renourishment objectives. – Not Applicable.

Objective 3/Policy 3E, 3F – Location and maintenance of active spoil sites. Location of new cuts and spoil areas for proper stabilization and minimization of damage from tidal currents and wave scour. – Not Applicable.

Objective 5/Policy 5B - Existing and new areas for water-dependent uses. – The proposed non-water dependent fixed structures will be located in a proposed mega yacht marina that is being constructed in an area where a previously existing marina was located.

Objective 5/Policy 5D - Consistency with Chapter 33D, Code of Miami-Dade County (shoreline access, environmental compatibility of shoreline development) – The proposed marina facility and upland development project has been reviewed by and received approval from the Shoreline Development Review Committee.

Objective 5/Policy 5F - The siting of water dependent facilities. – The proposed non-water dependent fixed structures are a part of a proposed marina project that does not involve the siting of a new water dependent facility, but rather the reconstruction and expansion of an existing water dependent facility. The proposed non-water dependent fixed structures will not result in any additional destruction of seagrass and hardbottom communities other than that which is associated with the proposed marina project as a whole.

Objective 6/Policy 6E – Water dependent fixed or floating structures – The proposed project involves the renovation and expansion of an existing water dependent facility. However, the structures proposed are non-water dependent fixed structures to be located on the piers. These include the installation of 960 linear feet of planters, roof structures over the terminus of the second level, awnings, storage closets, vessel fueling service lines and two 70-foot high pier pylons with decorative statues on top. Section 24-48.24 prohibits the installation of non-water dependent fixed structures. However, the applicants are seeking a variance from this section of the Code to authorize placement of these non-water dependent fixed structures on the piers.

Objective 6/Policy 6F – Advertisements or signs over tidal waters – The proposed non-water dependent fixed structures will not include any advertisements or signs over tidal waters

22. **Conformance with Chapter 33B, Miami-Dade County Code** (East Everglades Zoning Overlay Ordinance) – Not Applicable.

23. **Conformance with Miami-Dade County Ordinance 81-19** (Biscayne Bay Management Plan) - The proposed non-water dependent fixed structures are consistent with the Biscayne Bay Management Plan.

24. **Consistency with Miami-Dade County Criteria for Lake Excavation** – Not Applicable

25. **Municipality Recommendation** – Pursuant to Section 24-48.2(II)(A)(7), Code of Miami-Dade County, Florida, a substantiating letter shall be submitted by the applicants stating that the proposed project does not violate any zoning laws. Said letter shall be submitted after approval by the Board of County Commissioners and prior to issuance of the Class I Permit.

26. **Coastal Resources Management Line** - A coastal resources management line was not required for the proposed non-water dependent fixed structures, pursuant to Section 24-48.2(II)(A)(10)(b) of the Code of Miami-Dade County, Florida.

27. **Wetland Fill Limits** - The proposed non-water dependent fixed structures do not involve the placement of fill in wetlands.

The proposed project was also evaluated for compliance with the minimum required standards contained in Section 24-48.3 (B), (C), and (D) of the Code of Miami-Dade County, Florida. However, these standards do not apply to the variance request. The following is a summary of how the standards relate to the proposed project:

24-48.25 Procedure governing variances for prohibited floating and prohibited fixed structures – The non-water dependent fixed structures proposed have been evaluated using the evaluation factors set forth in Section 24-58.3 of the Code and the following factors:

1. **Visual or physical access by the general public to Biscayne Bay and its adjacent tidal waters** – The proposed non-water dependent planters, storage closets, covered structures, security fences and pylons may negatively affect views of Biscayne Bay from the uplands. However, the applicants propose to provide public access to the upper level of the docking facility to provide visual access to Biscayne Bay.

2. **Historical significance** – The existing marina did not have non-water dependent fixed structures. There is no historical significance achieved by the installation of the proposed non-water dependent fixed structures.

3. **The need for a covered vessel repair facility** – The proposed non-water dependent fixed structures do not include a covered vessel repair facility.

4. **Environmental impact or cumulative environmental impact** – The non-water dependent fixed structures are not expected to have an adverse environmental impact or an adverse cumulative environmental impact.

5. **Navigation or public safety** – The proposed non-water dependent fixed structures do not aid in navigation. However, the applicants have stated that some of said fixed structures, including, but not limited, to covered structures, security fences and pylons, are necessary for security purposes.

6. **The Biscayne Bay Management Plan** – The proposed non-water dependent fixed structures are consistent with the Biscayne Bay Management Plan.

7. **Aesthetics** – The non-water dependent fixed structures are designed to be as aesthetically pleasing as possible. In addition, the applicants have stated that the proposed planters will improve the aesthetics of the proposed security devices.

8. **The Biscayne Bay Aquatic Preserve Act** – The proposed non-water dependent fixed structures are not prohibited by said Act.

9. **The Rules of the Biscayne Bay Aquatic Preserve** – The placement of fixed structures over submerged lands owned by the State of Florida must be water dependent. However, the proposed non-water dependent fixed structures will be located over submerged lands owned by the City of Miami.

SUMMARY

BASED ON THE FOREGOING, IT IS RECOMMENDED THAT A VARIANCE BE APPROVED.

Luis C. Otero
Manager
Coastal Resources Section

Molly A. Messer
Environmental Resources Project Supervisor
Coastal Resources Section