

## **APPENDIX A – Permits and Exemptions**

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**FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION**  
SOUTHEAST DISTRICT OFFICE  
400 NORTH CONGRESS AVE., THIRD FLOOR  
WEST PALM BEACH, FL 33401  
561-681-6600

RICK SCOTT  
GOVERNOR

CARLOS LOPEZ-CANTERA  
LT. GOVERNOR

HERSCHEL T. VINYARD JR.  
SECRETARY

**August 13, 2014**

U.S. Army Corps of Engineers  
c/o Eric P. Summa, Chief Environmental Branch  
P.O. Box 4970  
Jacksonville, FL 32232  
Sent via e-mail: [Eric.P.Summa@saj.usace.army.mil](mailto:Eric.P.Summa@saj.usace.army.mil)

Re: File No.: 13-0059553-012  
File Name: Department of the Army- USCG Facility

Dear Mr. Summa:

On July 7, 2014, we received your application, and on August 11, 2014, the application was complete for an exemption to maintenance dredge approximately 2,000 yd<sup>3</sup> of submerged lands within an existing slip, to a depth of -9 feet below mean low water. The spoil material shall be transported to the Miami Ocean Dredge Material Disposal Site, located outside of Florida Waters. Best management practices shall be implemented at the dredge site to prevent turbidity and toxic or deleterious substances from discharging into adjacent waters during maintenance dredging activities. The project is located in the Biscayne Bay, within the Biscayne Bay Aquatic Preserve, Outstanding Florida Waters, Class III Waters, adjacent to the U.S. Coast Guard Base located at 100 Mac Arthur Causeway, Miami Beach (Section 04, Township 53 South, Range 42 East), in Miami-Dade County (Latitude N 25° 46' 16.94", Longitude W 80° 08' 40.02").

Your request has been reviewed to determine whether it meets the requirements for any of three kinds of authorization that may be necessary for work in wetlands or waters of the United States. The kinds of authorization are (1) regulatory authorization, (2) proprietary authorization (related to state-owned submerged lands), and (3) federal authorization. The authority for review and the outcomes of the reviews are listed below. Please read each section carefully. Your project **may not** have qualified for all three forms of authorization. If your project did not qualify for one or more of the authorizations, refer to the specific section dealing with that authorization for advice on how to obtain it.

**1. Regulatory Review. –VERIFIED**

Based on the information submitted, the Department has verified that the activity as proposed is exempt under Chapter 62-330.051(7)(a), Florida Administrative Code, from the need to obtain a regulatory permit under part IV of Chapter 373 of the Florida Statutes.

This exemption verification is based on the information you provided the Department and the statutes and rules in effect when the information was submitted. This verification will expire after one year, and will not be valid at any other time if site conditions materially change, the project design is modified, or the statutes or rules governing the exempt activity are amended. However, the activity may still be conducted without further notification to or verification from the Department after the one-year expiration of this verification, provided: 1) the project design does not change; 2) site conditions do not materially change; and 3) there are no changes to the statutes or rules governing the exempt activity. In the event you need to re-verify the exempt status for the activity after the one-year expiration of this verification, a new application and verification fee will be required. Any substantial modifications to the project design should be submitted to the Department for review, as changes may result in a permit being required. Conditions of compliance with the regulatory exemption are contained in Attachment A.

## **2. Proprietary Review –NOT REQUIRED**

The activity is located with TFT Deed #'s 18618 and 18618-A, and does not appear to be location on sovereign submerged lands, and does not require further authorization under chapter 253 of the Florida Statutes, or chapters 18-20 or 18-21 of the Florida Administrative Code.

## **3. SPGP Review –NOT APPROVED**

Authority for review - an agreement with the USACOE entitled "Coordination Agreement Between the U. S. Army Corps of Engineers (Jacksonville District) and the Florida Department of Environmental Protection, or Duly Authorized Designee, State Programmatic General Permit", Section 10 of the Rivers and Harbor Act of 1899, and Section 404 of the Clean Water Act.

Your proposed activity as outlined on your notice and attached drawings **does not qualify** for Federal authorization pursuant to the State Programmatic General Permit and a **SEPARATE permit** or authorization **may be required** from the Corps. A copy of your permit application has been forwarded to the Corps for their review. The Corps will issue their authorization directly to you or contact you if additional information is needed. If you have not heard from the Corps within 30 days from the date your application was received at the local FDEP Office, contact the Corps at the Miami Regulatory Field Office at (305) 526-7181, for status and further information. **Failure to obtain Corps authorization prior to construction could subject you to federal enforcement action by that agency.**

## **Additional Information**

This letter does not relieve you from the responsibility of obtaining other federal, state, or local authorizations that may be required for the activity.

Please retain this letter. The activities may be inspected by authorized state personnel in the future to insure compliance with appropriate statutes and administrative codes. If the activities are not in compliance, you may be subject to penalties under Chapter 373, F.S., and Chapter 18-14, F.A.C.

If you have any questions, please contact Kelly Egan at (561) 681-6656 or by email at [Kelly.Egan@dep.state.fl.us](mailto:Kelly.Egan@dep.state.fl.us). When referring to your project, please use the FDEP file name and number listed above.

Executed in Palm Beach County, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION

 8/13/14

Benny Luedike  
Environmental Manager  
Submerged Lands and Environmental  
Resource Program

**Enclosures:**

Notice of Rights  
Attachment A- Specific Exemption Rule  
Attachment B- Newspaper Publication  
Project Drawings, 9 pages

**Copies furnished to:**

Rosalinda Rodriguez, USACOE- Miami-Dade, [Rosalinda.Rodriguez@usace.army.mil](mailto:Rosalinda.Rodriguez@usace.army.mil)  
Lisa Spadafina, Miami-Dade County RER, [spadaL2@miamidade.gov](mailto:spadaL2@miamidade.gov)  
Matt Miller, USACOE, [Matthew.j.miller@usace.army.mil](mailto:Matthew.j.miller@usace.army.mil)

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, pursuant to 120.52(9),  
Florida Statutes, with the designated Department  
Clerk, receipt of which is hereby acknowledged.

 8/13/14  
Clerk Date

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**US Army Corps of Engineers**  
**BUILDING STRONG®**

SAJ-1992-31007 (SP-MLC)

## ATTACHMENTS

*Posted 12/18/2014*



TO WHOM IT MAY CONCERN: This District has received an application for a Department of the Army (DA) permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403) and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. § 1413) as described below.

APPLICANT: US Coast Guard

WATERWAY & LOCATION: The proposed project is located at 100 MacArthur Causeway, Miami Beach in Miami-Dade County. The project is in Section 04, Township 54 South, Range 42 East (folio #02-4204-000-0020).

DIRECTIONS TO SITE: From Interstate 95 (I-95), exit to east I-395. Proceed east to US Coast Guard Station. The subject site is located at 100 MacArthur Causeway.

LATITUDE AND LONGITUDE: Latitude 25.7709°

Longitude - 80.144869°

PROJECT PURPOSE: To maintenance dredge an existing slip area.

EXISTING CONDITIONS: The project is located within an existing slip area known as the Hudson Boat Basin. There are seagrass (a mix of *Halophila decipiens* and *Halodule wrightii*) located inside the designated Hudson Boat Basin; however, they are located outside of the actual designated dredging/shoal area.

PROPOSED WORK: The applicant proposes maintenance dredging at the US Coast Guard (USCG) Miami, a Federal facility. The work includes maintenance dredging approximately 2,000 cubic yards of sand from the Hudson Boat Basin and placing the material in the Miami Ocean Dredged Material Management Disposal Site (ODMDS). In accordance with 33 CFR 325.6(e), the maintenance dredging construction window would not exceed 10-years if a permit is issued. Additionally, if a permit is issued under Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. § 1413), the duration of the construction window for this portion of the permit would not exceed 3-years.

COMPENSATORY MITIGATION: The applicant has provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment:

“There are seagrass (a mix of *Halophila decipiens* and *Halodule wrightii*) located inside the designated Hudson Boat Basin; however, they are located outside of the actual designated dredging/shoal area. There is potential for temporary minor secondary impacts to these resources, which are estimated to be less than 0.10 acres, if they were to occur. These secondary impacts would be due any unanticipated consequences from the dredging activity, such as the potential for minor side slope adjustments

following the dredging activity. The contractor will be directed to avoid these resources to the maximum extent possible. Nevertheless, the USCG will provide up to 0.5 acres of seagrass mitigation. This mitigation will occur, regardless of whether or not the worst case contingency of 0.10 acres of impacts was to occur.”

**CULTURAL RESOURCES:** The Corps has determined the permit area has been extensively modified by previous work and there is little likelihood a historic property may be affected; therefore, the proposed project would have “No Potential to Cause Effect”.

**ENDANGERED SPECIES:** The project site is located in an area of heightened scrutiny for the West Indian manatee (*Trichechus manatus*). The Corps of Engineers is already undergoing consultation with the U.S. Fish and Wildlife Service pursuant to Section 7 of the Endangered Species Act.

The Corps has determined the proposed project will have “no effect” on the Eastern Indigo Snake (*Drymarchon corais couperi*). The Corps has U.S. Fish and Wildlife concurrence with this determination pursuant to Section 7 of the Endangered Species Act through the utilization of the “Eastern Indigo Snake Programmatic Effect Determination Key (amended August 13, 2013).” No further consultation is required.

Using the Florida Bonneted Bat Guidelines and the Google overlay, the proposed project falls outside of the Florida Bonneted Bat Consultation Area; therefore in accordance with the FBB Guidelines, the Corps has determined that the proposed project will have “no effect” on the Florida Bonneted Bat (*Eumops floridanus*). No further consultation is required.

The project site is located in an area of heightened scrutiny for the smalltooth sawfish and swimming sea turtles. The Corps of Engineers is already undergoing consultation with the National Marine Fisheries Service – Protected Resources Division pursuant to Section 7 of the Endangered Species Act.

**ESSENTIAL FISH HABITAT:** This project has previously been coordinated with National Marine Fisheries Service –Habitat Conservation Division on July 18, 2014.

**AUTHORIZATION FROM OTHER AGENCIES:** Water Quality Certification may be required from the Florida Department of Environmental Protection and/or one of the state Water Management Districts.

**COMMENTS** regarding the potential authorization of the work proposed should be submitted in writing to the attention of the District Engineer through the Miami Permits Section, 9900 SW 107th Avenue, Suite 203, Miami, FL 33176 within 15 days from the date of this notice (i.e., on or before January 2, 2015).

The decision whether to issue or deny this permit application will be based on the information received from this public notice and the evaluation of the probable impact to the associated wetlands. This is based on an analysis of the applicant's avoidance and minimization efforts for the project, as well as the compensatory mitigation proposed.

**QUESTIONS** concerning this application should be directed to the project manager, Megan Clouser, in writing at the Miami Permits Section, 9900 SW 107th Avenue, Suite 203, Miami, FL 33176, by electronic mail at [Megan.L.Clouser@usace.army.mil](mailto:Megan.L.Clouser@usace.army.mil), by fax at (305)526-7184, or by telephone at (305) 526-7182.

**IMPACT ON NATURAL RESOURCES:** Preliminary review of this application indicates that an Environmental Impact Statement will not be required. Coordination with U.S. Fish and Wildlife Service, Environmental Protection Agency (EPA), the National Marine Fisheries Services, and other Federal, State, and local agencies, environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action will have on the natural resources of the area. By means of this notice, we are soliciting comments on the potential effects of the project on threatened or endangered species or their habitat.

**EVALUATION:** The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the Administrator, EPA, under authority of Section 404(b) of the Clean Water Act of the criteria established under authority of Section 102(a) of the Marine Protection Research and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

The US Army Corps of Engineers (Corps) is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

**COASTAL ZONE MANAGEMENT CONSISTENCY:** In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan. In Puerto Rico, a Coastal Zone Management Consistency Concurrence is required from the Puerto Rico Planning Board, in the Virgin Islands, the Department of Planning and Natural Resources permit constitutes compliance with the Coastal Zone Management Plan.

**REQUEST FOR PUBLIC HEARING:** Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

The location of the proposed disposal site and its physical boundaries

Re: The Miami ODMDS site is located offshore of Miami Harbor and is approximately 4.7 nautical miles (nmi) offshore. It has an area of approximately 1 nmi<sup>2</sup> and a depth ranging from 415 to 770 feet. The center coordinates are 25°25.02' N and 80°03.35' W (NAD 83).

The designation of the Miami ODMDS can be found in 40 CFR 228.15(h)(19). The Miami ODMDS is an approximately 1 nautical mile (nmi) by 1 nmi square area centered at the coordinates 25E45.00'N

latitude and 80E03.37'W longitude (NAD 27) or state plane coordinates 516,078 ft N and 966,926 ft E (NAD83). The site coordinates are as follows:

|           | Geographic (NAD27) |            | Geographic (NAD83) |            | State Plane<br>(FL East 0901 Ft NAD83) |           |
|-----------|--------------------|------------|--------------------|------------|----------------------------------------|-----------|
| Center    | 25E45.00'N         | 80E03.37'W | 25E45.02'N         | 80E03.35'W | 516,078 N                              | 966,926 E |
| NW Corner | 25E45.50'N         | 80E03.90'W | 25E45.52'N         | 80E03.89'W | 519,086 N                              | 963,978 E |
| NE Corner | 25E45.50'N         | 80E02.83'W | 25E45.52'N         | 80E02.82'W | 519,128 N                              | 969,829 E |
| SW Corner | 25E44.50'N         | 80E03.90'W | 25E44.52'N         | 80E03.89'W | 513,028 N                              | 964,021 E |
| SE Corner | 25E44.50'N         | 80E02.83'W | 25E44.52'N         | 80E02.82'W | 513,070 N                              | 969,874 E |

A statement about whether the disposal site has been designated pursuant to MPRSA Section 102(c)

Re: The Miami ODMDS was designated in 2005 by the Environmental Protection Agency (EPA) pursuant to Section 102(c) of the MPRSA of 1972, as amended, as suitable for the ocean disposal of dredged material.

If the proposed disposal site has not been designated by the Administrator, a statement of the basis for the proposed determination of why no previously designated site is feasible and a description of the characteristics of the proposed disposal site necessary for its designation pursuant to 40 CFR Part 228

Re: Not applicable. See response to No. 2 above.

The known historical uses of the proposed disposal site

Re: The Miami ODMDS and vicinity has been used for the ocean disposal of dredged material since 1957. The most recent disposal project was from 20 November 2013 to 31 December 2013 and comprised of 417,250 cubic yards of slurry type material.

Existence and documented effects of other authorized disposals that have been made in the disposal area (e.g., heavy metal background reading and organic carbon content)

Re: Site characterization surveys of the ODMDS have been conducted by EPA and the USACE as part of the designation process.

Surveys Conducted at the Miami ODMDS

| Survey Title                                                                     | Conducted by                   | Date | Purpose                                                          | Conclusion                                                                                                                                           |
|----------------------------------------------------------------------------------|--------------------------------|------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Environmental Survey in the Vicinity of an Ocean Dredged Material Disposal Site, | Conservation Consultants, Inc. | 1985 | Physical, Chemical and Biological Characterization of the ODMDS. | Included physical and chemical analysis of the sediments; chemical analysis of the water column; characterization of the benthic macroinvertebrates, |

|                                                                                    |                             |                      |                                                                                                                                    |                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------|-----------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Miami Harbor, Florida                                                              |                             |                      |                                                                                                                                    | meiofauna and macroepifauna; chemical analysis of fish and invertebrate tissue samples. A video survey and bathymetry of the site was also completed.                                                                                                  |
| Miami Harbor Dredged Material Disposal Project                                     | NOAA-AOML                   | 1991                 | Compare in-situ measurement of dredged material disposal plume suspended sediment concentrations to results of numerical modeling. | The material disposed, except for a low concentration residual remaining within the water column, reached the bottom within the designated site boundaries. A very rapid convective descent of the central core discharge plume was observed to occur. |
| Miami Harbor Dredge Material Disposal Project: Total Suspended Solids Measurements | NOAA-AOML                   | 1993                 | Obtain field measurements of total suspended solids (TSS) for a number of dredged material discharges.                             | Initial (1 minute after disposal) surface TSS concentration ranged from 34 to 77 mg/l. Approximately 30 minutes after discharge, plume concentrations decreased to a few mg/l. The general direction of transport was north-northeast.                 |
| Pre-Disposal Bathymetry                                                            | USACE Jacksonville District | 1995                 | Pre-disposal bathymetry                                                                                                            | No observable disposal mound.                                                                                                                                                                                                                          |
| Miami ODMDS Sidescan Sonar Survey                                                  | U.S. EPA Region 4           | 1998                 | Look for evidence of dredged material on the bottom.                                                                               | Numerous mounds of limestone rubble throughout and to the west and northwest of the ODMDS were observed.                                                                                                                                               |
| Real-Time Current Monitoring at the Miami ODMDS                                    | NOAA-AOML                   | 1995-2000, 2005-2006 | Monitor currents and cease disposal operations during shoreward directed current events.                                           | Shoreward directed currents capable of transporting disposed material towards reef are infrequent (NOAA, 2006)                                                                                                                                         |

#### Surveys Conducted at the Miami ODMDS

|                             | Conducted by      | Date      | Purpose                                                        | Conclusion                                                                                      |
|-----------------------------|-------------------|-----------|----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Survey Title                |                   |           |                                                                |                                                                                                 |
| Miami ODMDS Sediment Survey | U.S. EPA Region 4 | June 2000 | 1) Characterize sediments in anomalous areas identified in the | 1) no significant changes in sediment chemistry; 2) stations to the north of the ODMDS remained |

|                                                           |                                                  |                       |                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------|--------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                           |                                                  |                       | sidescan sonar record; 2) document environmental trends in the physical and chemical characteristics of the benthic sediments.                                                              | unchanged; 3) many areas are now coarser grained or contain limestone rubble.                                                                                                                                                                                                                                                                                              |
| Pre-disposal Bathymetry Survey                            | USACE<br>Jacksonville                            | June 2005             | Pre-disposal bathymetry                                                                                                                                                                     | No observable disposal mound.                                                                                                                                                                                                                                                                                                                                              |
| Plume Tracking/Measurement                                | EPA Region 4 /<br>NOAA-AOML                      | August & October 2005 | Obtain suspended sediment concentrations of disposal plume.                                                                                                                                 | Concentrations dropped below 10mg/l within 30 minutes from disposal at water depths of 5 and 10 meters.                                                                                                                                                                                                                                                                    |
| Coral Sediment Stress Study                               | EPA Region 4/NOAA-AOML/GATech                    | 2005-2006             | Determine if dredged material disposal is inducing a stress response in hermatypic corals on nearby coral reefs.                                                                            |                                                                                                                                                                                                                                                                                                                                                                            |
| Post-Disposal Sediment Profile Imaging at the Miami ODMDS | U.S. EPA<br>Region 4 /<br>Germano & Assoc., Inc. | May 2006              | 1) map the spatial distribution of disposed dredged material on the seafloor; 2) characterize physical changes in the seafloor resulting from disposal; 3) evaluate benthic recolonization. | 1) elliptical deposit of dredged material detected on the seafloor extending beyond the site boundaries; 2) main physical change is a shift in sediment texture to coarser sediments; 3) no adverse changes in oxygen demand, redox state detected within or around the disposal site; 4) benthos appeared in an intermediate to advanced stage of benthic recolonization. |
| Post Disposal Bathymetry Survey                           | USACE<br>Jacksonville District                   | June and August 2007  | Document bathymetric changes.                                                                                                                                                               | A mound approximately 25 meters high has formed in the center of the ODMDS. Bathymetry surveys at this depth are accurate to approximately +/-3 meters.                                                                                                                                                                                                                    |

| Survey Title                                                   | Conducted by                                 | Date         | Purpose                                                                                                                                                                                                        | Conclusion                                                                                                                         |
|----------------------------------------------------------------|----------------------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Post Disposal Status & Trends<br><br>Survey of the Miami ODMDS | EPA Region 4 and Barry Vittor and Associates | October 2007 | Assess the extent and trends of environmental impact.<br><br>(Includes assessment of the macroinfaunal communities within and outside of the ODMDS, sediment grain size, sediment chemistry and water quality) | Results pending. There exists a significant amount of limestone rubble near the center of the ODMDS that did not exist previously. |

An estimate of the length of time during which disposal would continue at the proposed site

Re: The project is anticipated to take less than three (3) days to complete.

Information on the characteristics and composition of the dredged material

Re: The U.S. Coast Guard, Meloy Channel area underwent physical testing in 1993. The 1993 testing demonstrated that the sediments were primarily sand and gravel (91%). A Tier I evaluation for the U.S. Coast Guard, Meloy Channel area was conducted by USACE in 1993 and a USEPA MPRSA 103 Concurrence provide on 25 March 1993. This concurrence expired on 25 March 1996. Material from the area contained in this evaluation of the U.S. Coast Guard, Meloy Channel area meet the requirements of exclusionary criteria under 40 CFR §227.13(b)(1).

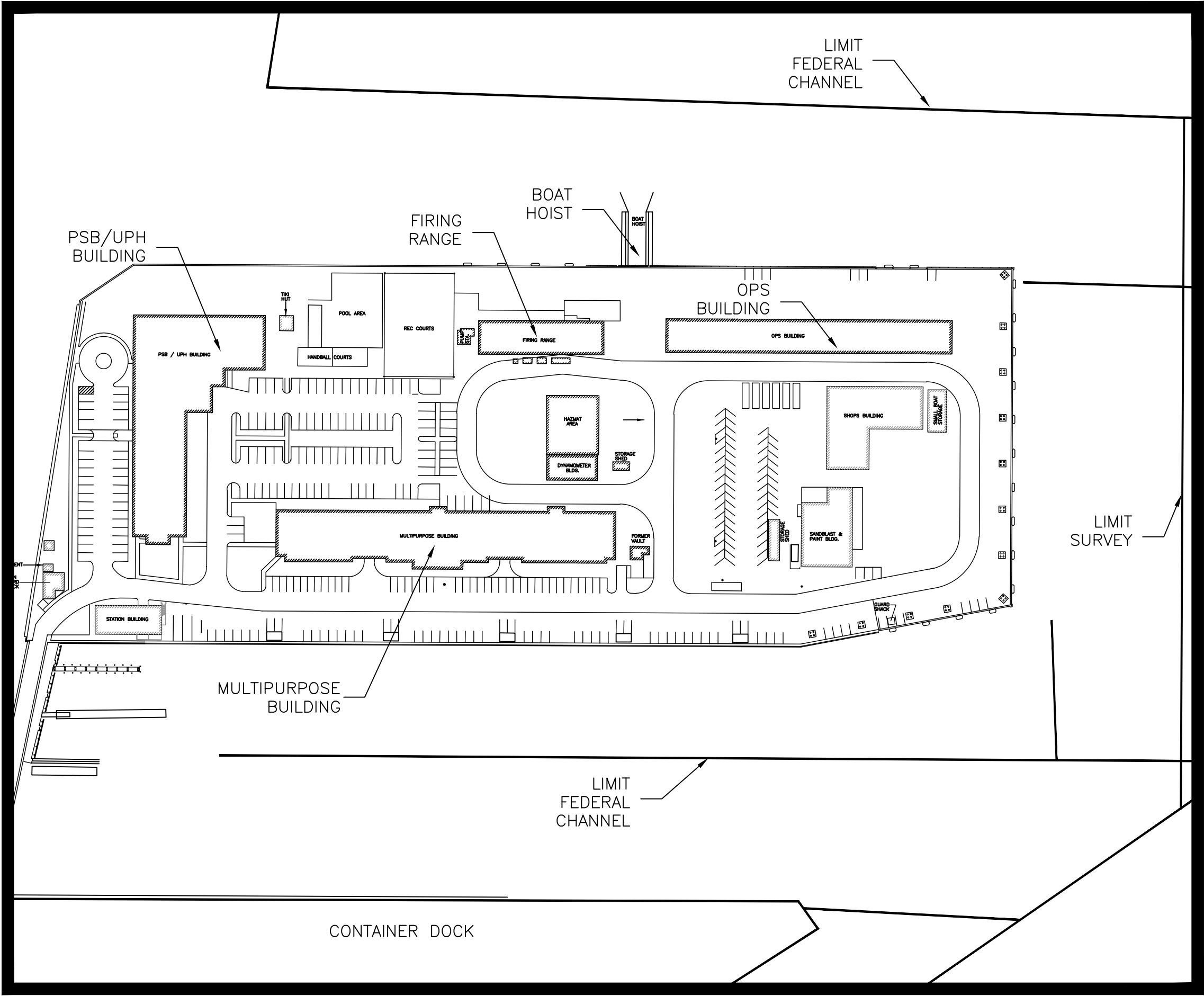
A statement concerning a preliminary determination of the need for and/or availability of an Environmental Impact Statement

Re: The Miami ODMDS site was given final designation by EPA 40 CFR 228.15(h)(19) following preparation of an EIS and determination that they met the environmentally based site selection criteria of 40 CFR Part 228, including those related to amenities (see §228.6(a)(2), (3), (8), and (11)). The proposed dredged material has been evaluated and found to meet the requirements of 40 CFR 227.13(b)(1). The proposed dredged material would not result in long-term damage to amenities or the environment due to the quantities and locations.

PRE-DREDGE PLANNING HYDROGRAPHIC SURVEY

USCG BASE MIAMI

MIAMI, FL



SITE PLAN

SCALE: 1"=120'



| DRAWING INDEX |                      |                                            |
|---------------|----------------------|--------------------------------------------|
| SHT. NO.      | DISCIPLINE SHEET NO. | TITLE                                      |
| GENERAL       |                      |                                            |
| 1             | G-01                 | COVER SHEET                                |
|               |                      | CIVIL                                      |
| 2             | C-01                 | HYDROGRAPHIC SURVEY PLAN (FULL SITE)       |
| 3             | C-02                 | HYDROGRAPHIC SURVEY PLAN (SURVEY BOUNDARY) |
| 4             | C-03                 | HYDROGRAPHIC SURVEY PLAN (SURVEY BOUNDARY) |
| 5             | C-04                 | HYDROGRAPHIC SURVEY PLAN (SURVEY BOUNDARY) |
| 6             | C-05                 | SURVEY CROSS SECTIONS                      |
| 7             | C-06                 | SURVEY CROSS SECTIONS                      |
| 8             | C-07                 | SURVEY CROSS SECTIONS                      |

APPLEDORE MARINE ENGINEERING, INC.  
PORTSMOUTH, NH  
603-766-1870

CONSULTANTS

CLE ENGINEERING, INC  
MARION, MA

U. S. COAST GUARD  
CIVIL ENGINEERING UNIT  
MIAMI



USCG. CEU MIAMI  
15608 SW 117TH AVE  
MIAMI, FLORIDA 33177

| ISSUE |        |             |
|-------|--------|-------------|
|       |        |             |
|       |        |             |
|       |        |             |
|       |        |             |
|       | 4/4/12 | DRAFT       |
| MARK  | DATE   | DESCRIPTION |

|                           |  |  |
|---------------------------|--|--|
| A/E PROJECT NO: 4016765   |  |  |
| CAD FILE NAME: XXXXXX.DWG |  |  |
| DESIGNED BY: MEC          |  |  |
| DRAWN BY: MEC             |  |  |
| EDITED BY: SNB            |  |  |
| CHECKED BY:               |  |  |

SCALE: PLOT SCALE: 1:1

SHEET TITLE

HYDROGRAPHIC SURVEY  
USCG BASE MIAMI  
MIAMI FL

CIVIL  
HYDROSURVEY PLAN

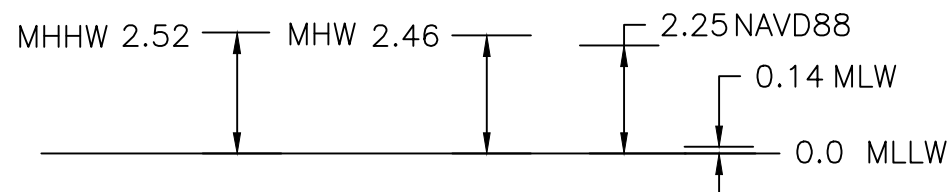
|              |              |                |
|--------------|--------------|----------------|
| REVIEWED BY: | REVIEWED BY: | REVIEWED BY:   |
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

|                   |      |
|-------------------|------|
| APPROVING OFFICER | DATE |
|-------------------|------|

| PROJECT NUMBER    | DRAWING NUMBER |
|-------------------|----------------|
| 3652081           | M1911-D        |
| DISCIPLINE/SHT NO |                |
| C-01              | SHEET 1 OF 8   |

GENERAL NOTES:

1. DATUM: MEAN LOWER LOW WATER (MLLW) = 0.00;  
MEAN LOW WATER (MLW) = 0.14; NORTH  
AMERICAN VERTICAL DATUM (NAVD88) = 2.25;  
MEAN HIGH WATER (MHW) = 2.46; MEAN  
HIGHER HIGH WATER (MHHW) = 2.52
2. COORDINATES ARE BASED ON FLORIDA EAST  
STATE PLANE COORDINATE SYSTEM, NORTH  
AMERICAN DATUM 1983 (NAD83), ON U.S. SURVEY  
FEET
3. HYDROGRAPHIC SURVEY PERFORMED BY CLE  
ENGINEERING, INC., ON MARCH 12 AND 13, 2012  
AND REPRESENTS CONDITIONS AT THE TIME OF  
THE SURVEY.
4. LANDSIDE FEATURES ARE APPROXIMATE AND  
TAKEN FROM LAND BASED SURVEY BY  
CLE ENGINEERING INC. ON MARCH 12 AND 13,  
2012 AND FROM PLANS PROVIDED BY USCG  
CEU MIAMI.
5. VERTICAL DATUM RELATIONSHIP INFORMATION  
BASED ON AVERAGE VALUES OF NEARBY  
NOAA TIDAL STATIONS. BISCAYNE BAY (#8723165),  
MIAMI BEACH (#8723170) AND MIAMI BEACH  
GOVERNMENT PIER (#8723178)
6. PROJECT BENCHMARK IS NGS PID#AC2251 DISC SET  
ON TOP OF SOUTH END OF THE WEST ABUTMENT OF  
CONCRETE CAUSWAY BRIDGE. STAMPED "V 238  
1965" NAVD88 EL.=8.68.
6. CONTOURS GENERATED FROM 5 FOOT SORTED SHOAL  
BIASED DATA SET.
7. SPOT GRADES GENERATED FROM 15 FOOT SORTED  
SHOAL BIASED DATA SET.



DATUM RELATIONSHIP

SCALE: 1" = 4'

LAWN  
EQUIPMENT  
SHED  
MAIN GUARD  
SHACK  
PIER  
FLOATING DOCK  
CAUSEWAY  
PIER  
FLOATING DOCK

PSB / UPH BUILDING

POOL AREA

TENNIS

BOAT IN DOCK  
AT TIME OF  
SURVEY

FIRING RANGE

HAZMAT AREA

STORAGE SHED

OPS BUILDING

SHOPS BUILDING

PAINT BLDG.

GUARD SHACK

MULTIPURPOSE BUILDING

STATION BUILDING

SHEET PILE  
BULKHEAD  
W/CONCRETE CAP

FENDER (TYP.)

FENDER (TYP.)

C-02 MATCH LINE C-03

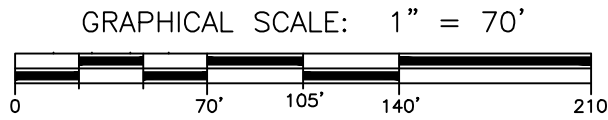
C-03 MATCH LINE C-04

FORMER VAULT

CONTAINER DOCK

HYDROGRAPHIC SURVEY PLAN  
(FULL SITE)

SCALE: 1"=70'



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CIVIL ENGINEERING UNIT  
MIAMI



USCG. CEU MIAMI  
15608 SW 117TH AVE  
MIAMI, FLORIDA 33177

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| MEC<br>MARK | DATE | DESCRIPTION |

A/E PROJECT NO: 4016765  
CAD FILE NAME: XXXXXX.DWG  
DESIGNED BY: MEC  
DRAWN BY: MEC  
EDITED BY: SNB  
CHECKED BY:  

SCALE: 1"=70'    PLOT SCALE: 1:1

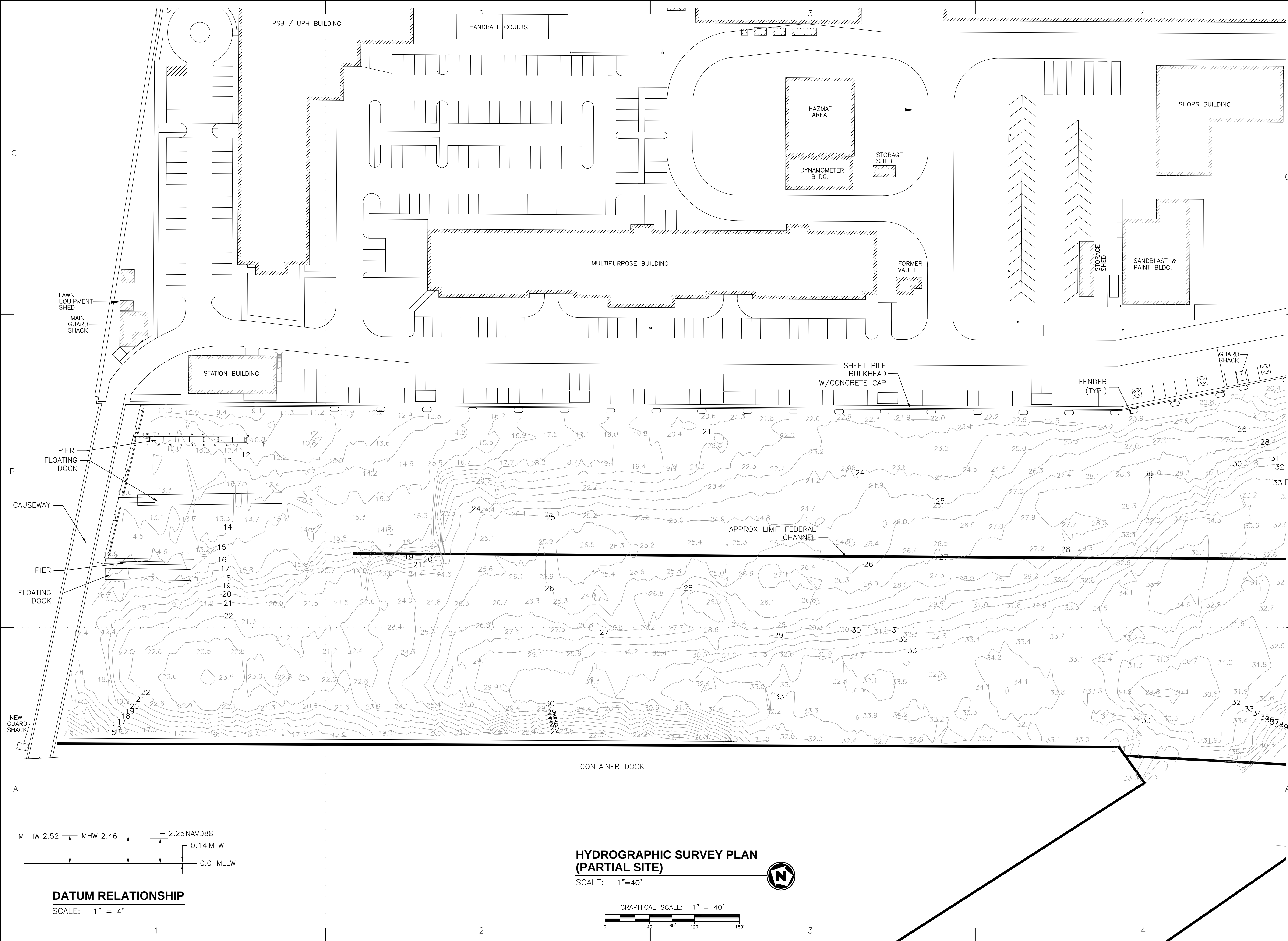
SHEET TITLE

HYDROGRAPHIC SURVEY  
USCG BASE MIAMI  
MIAMI    FL

CIVIL  
HYDROSURVEY PLAN

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|--------------|--------------|----------------|
| REVIEWED BY: | REVIEWED BY: | REVIEWED BY:   |
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

|                   |  |                |  |
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| APPROVING OFFICER |  | DATE           |  |
| PROJECT NUMBER    |  | DRAWING NUMBER |  |
| 3652081           |  | M1911-D        |  |
| DISCIPLINE/SHT NO |  | SHEET 2 OF 8   |  |
| C-01              |  |                |  |



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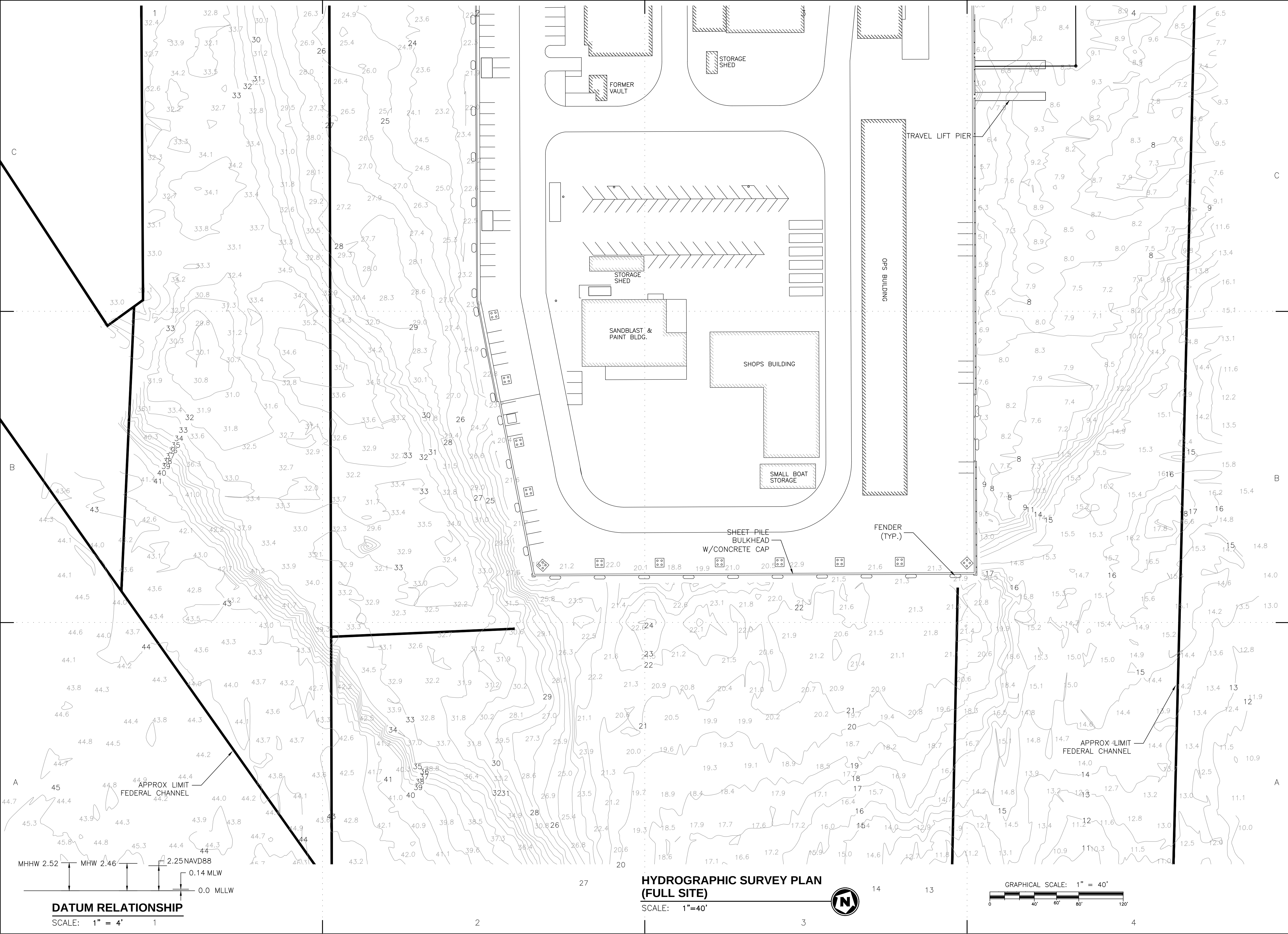
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| DRAWN BY: MEC                                      |              |                 |
| EDITED BY: SNB                                     |              |                 |
| CHECKED BY:                                        |              |                 |
| SCALE: 1"=40'                                      |              | PLOT SCALE: 1:1 |
| SHEET TITLE                                        |              |                 |
| HYDROGRAPHIC SURVEY<br>USCG BASE MIAMI<br>MIAMI FL |              |                 |
| CIVIL<br>HYDROSURVEY PLAN                          |              |                 |
| REVIEWED BY:                                       | REVIEWED BY: | REVIEWED BY:    |
| PROJECT ENG.                                       | BRANCH CHIEF | TECH. DIRECTOR  |
| APPROVING OFFICER                                  |              | DATE            |
| PROJECT NUMBER                                     |              | DRAWING NUMBER  |
| 3652081                                            |              | M1911-D         |
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| C-02                                               |              |                 |



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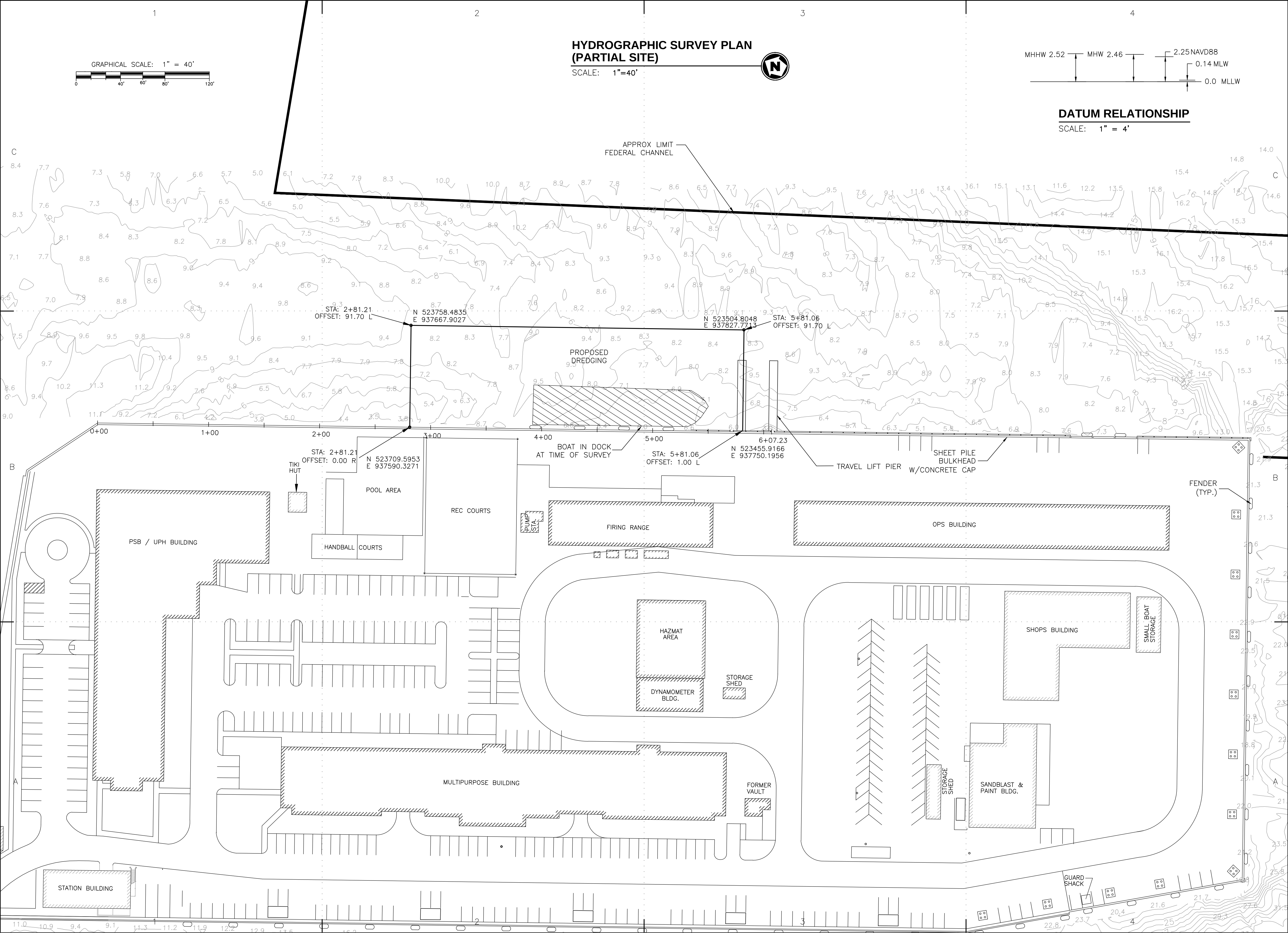
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DRAWN BY: MEC  
EDITED BY: SNB  
CHECKED BY:

SCALE: 1"=40'      PLOT SCALE: 1:1

SHEET TITLE  
HYDROGRAPHIC SURVEY  
USCG BASE MIAMI  
MIAMI      FL  
CIVIL  
HYDROSURVEY PLAN

| REVIEWED BY: | REVIEWED BY: | REVIEWED BY:   |
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| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

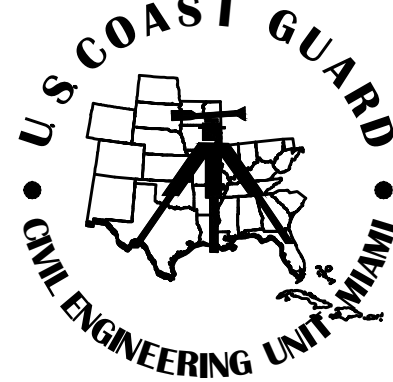
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| PROJECT NUMBER<br>3652081 |  | DRAWING NUMBER<br>M1911-D |
| DISCIPLINE/SHT NO<br>C-03 |  | SHEET 4 OF 8              |



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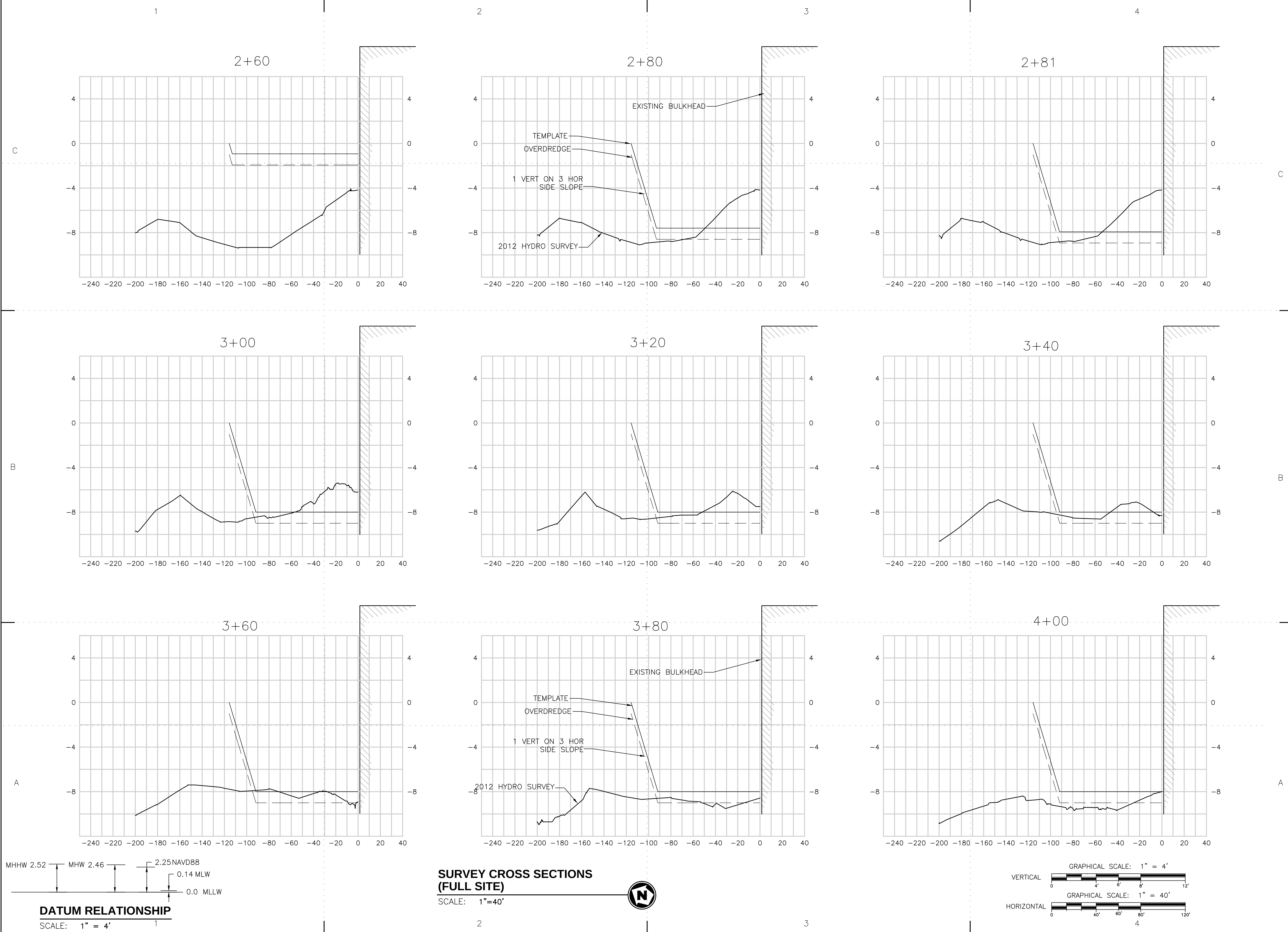
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DESIGNED BY: MEC  
DRAWN BY: MEC  
EDITED BY: SNB  
CHECKED BY:

SCALE: 1"=40'      PLOT SCALE: 1:1

SHEET TITLE  
HYDROGRAPHIC SURVEY  
USCG BASE MIAMI  
MIAMI      FL  
CIVIL  
HYDROSURVEY PLAN

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| REVIEWED BY: | REVIEWED BY: | REVIEWED BY:   |
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

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| APPROVING OFFICER         | DATE                      |
| PROJECT NUMBER<br>3652081 | DRAWING NUMBER<br>M1911-D |
| DISCIPLINE/SHT NO<br>C-04 | SHEET 5 OF 8              |



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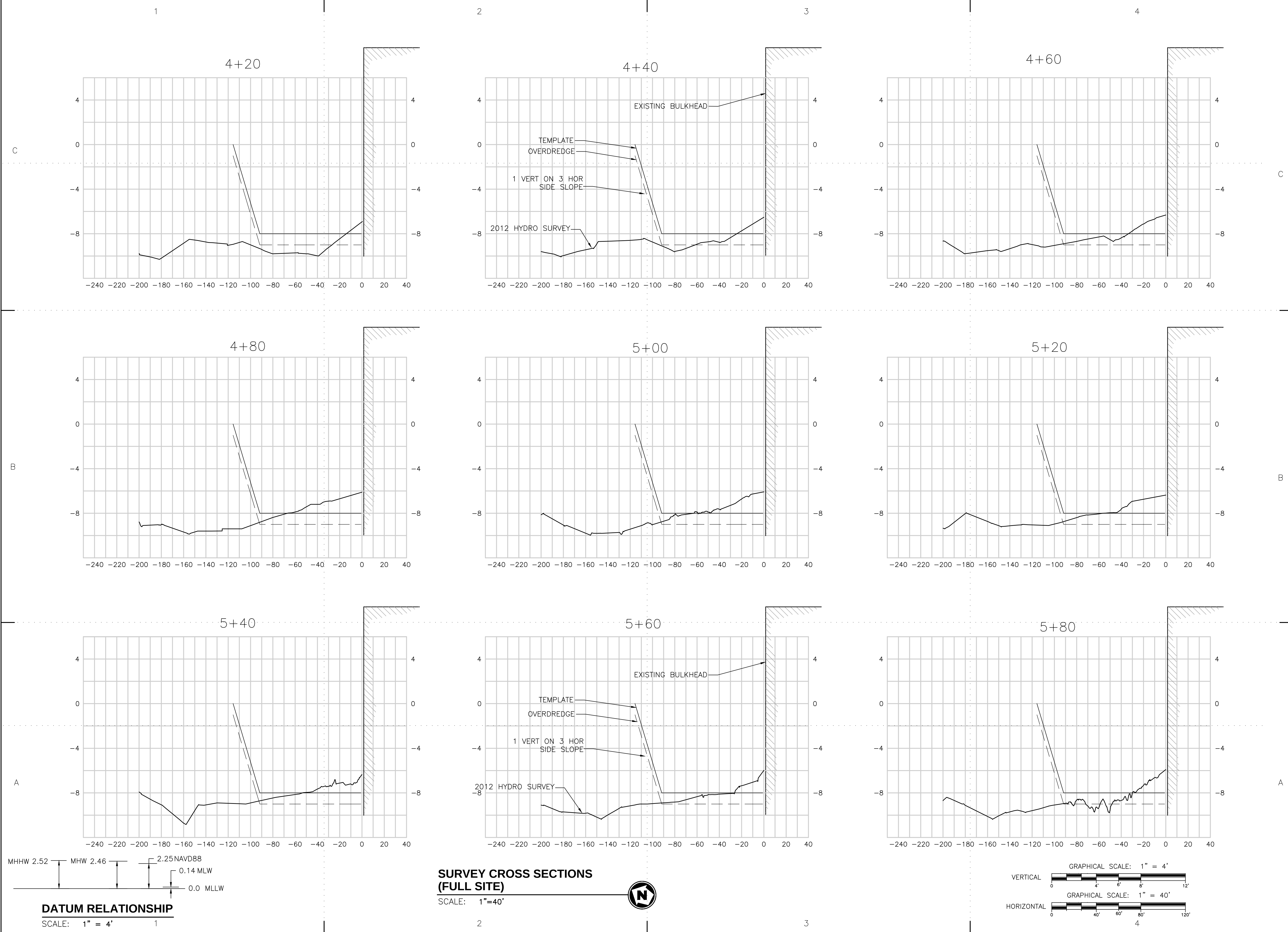
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SCALE: 1"=40'      PLOT SCALE: 1:1

SHEET TITLE  
HYDROGRAPHIC SURVEY  
USCG BASE MIAMI  
MIAMI      FL  
CIVIL  
CROSS SECTIONS

| REVIEWED BY: | REVIEWED BY: | REVIEWED BY:   |
|--------------|--------------|----------------|
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |
|              |              |                |

| APPROVING OFFICER         |  | DATE           |
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| PROJECT NUMBER            |  | DRAWING NUMBER |
| 3652081                   |  | M1911-D        |
| DISCIPLINE/SHT NO<br>C-05 |  | SHEET 6 OF 8   |



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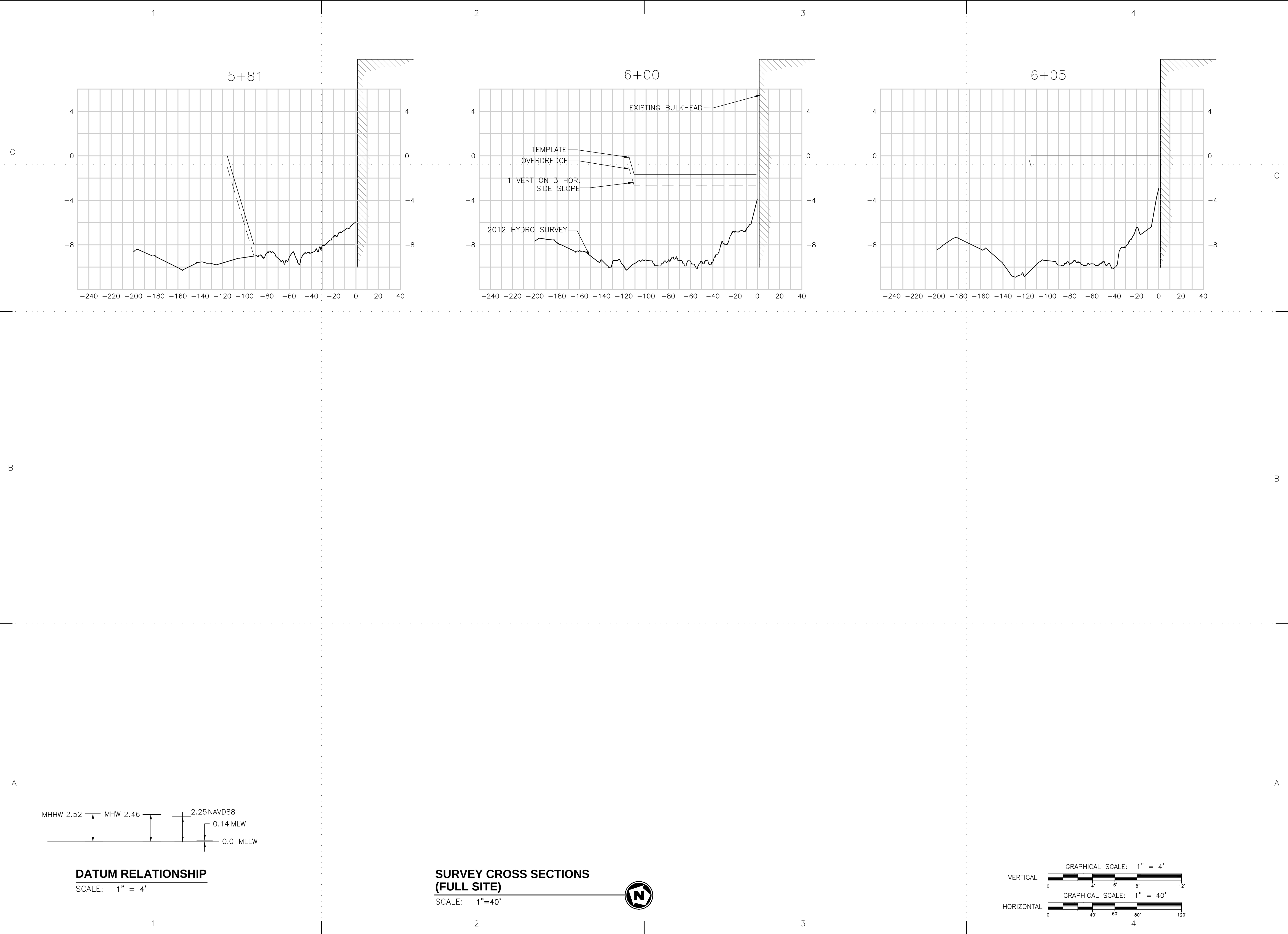
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SHEET TITLE  
HYDROGRAPHIC SURVEY  
USCG BASE MIAMI  
MIAMI      FL  
CIVIL  
CROSS SECTIONS

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| REVIEWED BY: | REVIEWED BY: | REVIEWED BY:   |
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

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| APPROVING OFFICER         |  | DATE                      |
| PROJECT NUMBER<br>3652081 |  | DRAWING NUMBER<br>M1911-D |
| DISCIPLINE/SHT NO<br>C-06 |  | SHEET 7 OF 8              |



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A/E PROJECT NO: 4016765  
CAD FILE NAME: XXXXXX.DWG  
DESIGNED BY: MEC  
DRAWN BY: MEC  
EDITED BY: SNB  
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SCALE: 1"=40' PLOT SCALE: 1:1

SHEET TITLE

HYDROGRAPHIC SURVEY  
USCG BASE MIAMI  
MIAMI FL

CIVIL  
CROSS SECTIONS

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| REVIEWED BY: | REVIEWED BY: | REVIEWED BY:   |
| PROJECT ENG. | BRANCH CHIEF | TECH. DIRECTOR |

APPROVING OFFICER

DATE

| PROJECT NUMBER    | DRAWING NUMBER |
|-------------------|----------------|
| 3652081           | M1911-D        |
| DISCIPLINE/SHT NO |                |
| C-07              | SHEET 8 OF 8   |

APPROX LOCATION OF  
SEAGRASS (REFER TO  
SHEET 10).

**BISCAYNE BAY**

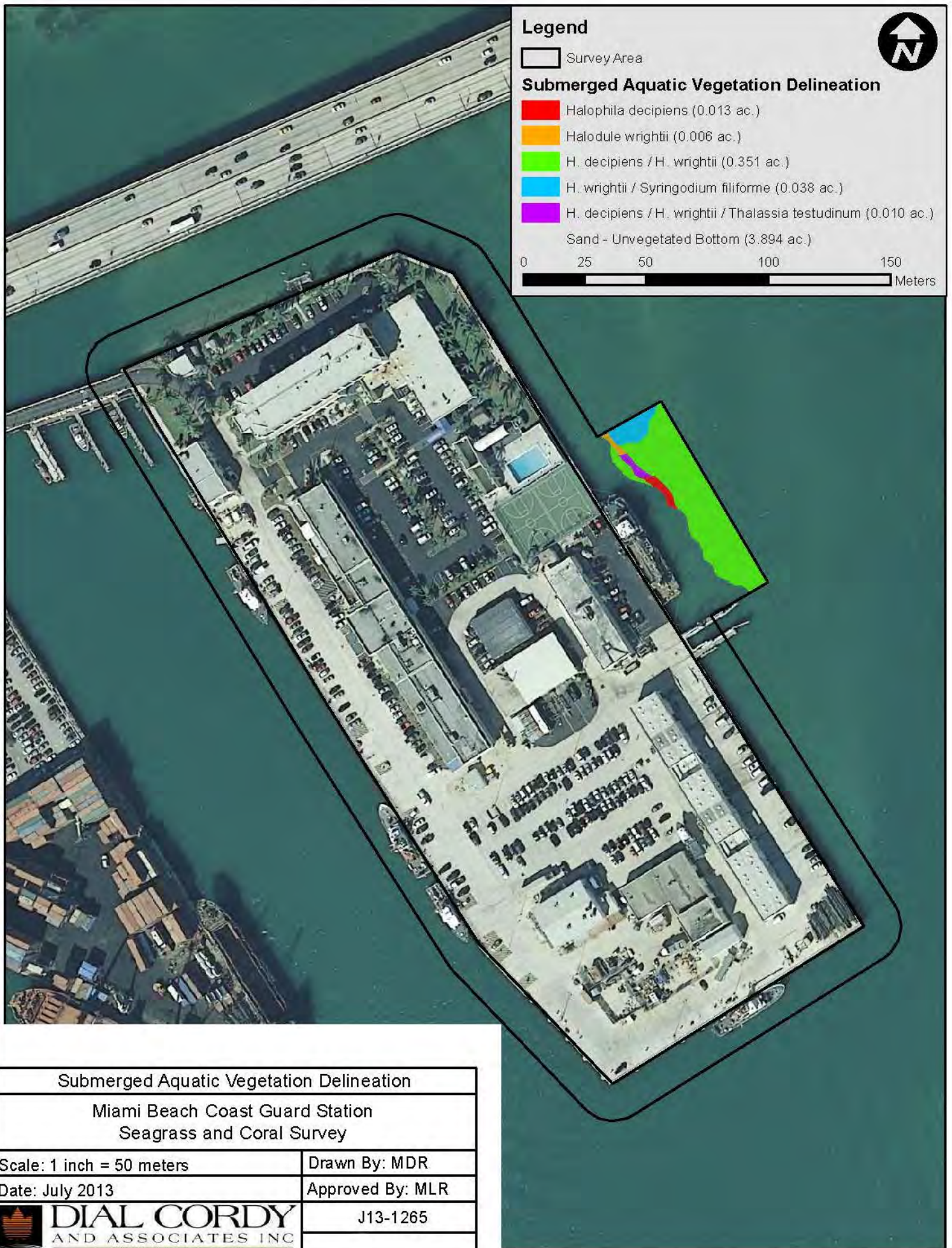
PROPOSED DREDGE AREA

APPROX LIMIT OF  
SEAGRASS SURVEY

NOTE: FROM THE CROSS SECTIONAL DRAWINGS,  
SHOALING OCCURS ALONG THE BULKHEAD.  
SEAGRASS ARE LOCATED TO THE NORTH  
OF THE OF THE SHOALING. IMPACTS WILL  
BE AVOIDED TO THE MAX. EXTENT POSSIBLE

**UNITED STATES  
COAST GUARD STATION**

SHEET 9



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

|                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                     |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Site/Project Name<br><b>USCG Miami Beach</b>                                                                                                                                                                                                                                                                                                                                                                  |  | Application Number                                  |                                                                                                                                                                                                                                                                                                                                                                         | Assessment Area Name or Number<br><b>Hudson Slip Seagrass</b>                                                                                                                                   |  |
| FLUCCs code                                                                                                                                                                                                                                                                                                                                                                                                   |  | Further classification (optional)                   |                                                                                                                                                                                                                                                                                                                                                                         | Impact or Mitigation Site?<br><b>Impact Site</b>                                                                                                                                                |  |
|                                                                                                                                                                                                                                                                                                                                                                                                               |  |                                                     |                                                                                                                                                                                                                                                                                                                                                                         | <b>0.130 acres</b>                                                                                                                                                                              |  |
| Basin/Watershed Name/Number<br><b>Biscayne Bay</b>                                                                                                                                                                                                                                                                                                                                                            |  | Affected Waterbody (Class)<br><b>Atlantic Ocean</b> |                                                                                                                                                                                                                                                                                                                                                                         | Special Classification (i.e. OFW, AP, other local/state/federal designation of importance)<br><b>Within Biscayne Bay Aquatic Preserve, OFW. Adjacent to Melloy Channel and POM Main channel</b> |  |
| <p>Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands</p> <p>Impact sites are located immediately adjacent to Melloy Channel in a slip which was previously dredged IN . All seagrasses occur within the AP boundary. The impact site and the mitigation site are separated by the MacArthur Causeway, the Venetian Causeway and the Julia Tuttle Causeway.</p> |  |                                                     |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                 |  |
| <p>Assessment area description</p> <p>Seagrass composition - Halophila decipiens, Halodule wrightii, Syngodium filaforme and Thalassia testudium. F. filaforme is the dominant species of grass in the dredging area, followed by h. decipiens.</p>                                                                                                                                                           |  |                                                     |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                 |  |
| Significant nearby features<br><b>USCG Station, Melloy Channel</b>                                                                                                                                                                                                                                                                                                                                            |  |                                                     | Uniqueness (considering the relative rarity in relation to the regional landscape.)<br><b>Travel corridor for manatees</b>                                                                                                                                                                                                                                              |                                                                                                                                                                                                 |  |
| Functions<br><b>Seagrass bed which has colonized a previously dredged slip that has shoaled in.</b>                                                                                                                                                                                                                                                                                                           |  |                                                     | Mitigation for previous permit/other historic use<br><b>none</b>                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                 |  |
| <p>Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)</p> <p><b>Fishes, manatees.</b></p>                                                                                                                                                                                                       |  |                                                     | <p>Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)</p> <p><b>Manatees travel corridor; used by loggerhead, hawksbill, green, and Kemp's ridley sea turtles. No <i>Halophila johnsonii</i> located in the project area, but near the mitigation site.</b></p> |                                                                                                                                                                                                 |  |
| <p>Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):</p> <p><b>Main types of seagrass observed at impact site:</b></p>                                                                                                                                                                                              |  |                                                     |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                 |  |
| <p>Additional relevant factors:</p>                                                                                                                                                                                                                                                                                                                                                                           |  |                                                     |                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                 |  |
| Assessment conducted by:<br><b>Applicant</b>                                                                                                                                                                                                                                                                                                                                                                  |  |                                                     | Assessment date(s):                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                 |  |

**PART II – Qualification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

|                                       |                          |                                               |
|---------------------------------------|--------------------------|-----------------------------------------------|
| Site/Project Name<br>USCG Miami Beach | Application Number       | Assessment Area Name or Number<br>Hudson Slip |
| Impact or Mitigation<br>Impact        | Assessment conducted by: | Assessment date:                              |

|                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------|
| Scoring Guidance<br>The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed |
|----------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                          |                                                                                                                 |                                                                             |                                                                                         |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Optimal (10)<br>Condition is optimal and fully supports wetlands/surface water functions | Moderate (7)<br>Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal (4)<br>Minimal level of support of wetland /surface water functions | Not Present (0)<br>Condition is insufficient to provide wetland/surface water functions |
|------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|

|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| .500(6)(a) Location and Landscape Support<br><br>w/o pres or current                      with<br><div>7</div> <div>1</div>                                          | Impact site is a previously dredged slip that has silted back in adjacent to Melloy channel. The bottom of the channel is typically soft bottom with sand and coarse material. This is a high current area, which courser material and very few fines. The site has good connectivity to the diverse seagrass communities north of the impact area. There is seagrass in Melloy channel to the south of the site and east of the slip. |
| .500(6)(b) Water Environment (n/a for uplands)<br><br>w/o pres or current                      with<br><div>8</div> <div>8</div>                                     | The impact sites are currently 6-10 feet deep, well flushed, and have short residence times. Effects from construction include sloughing of soft sediments into the slip, deepening of the substate and periodic disturbances from use of the slip by the CGC Hudson. The initial dredging will generate elevated turbidity for a few days. Dredge depth will be -8 ft MLW + 2 feet allowable overdepth                                |
| .500(6)(c) Community structure<br><br>1. Vegetation and/or<br>2. Benthic Community<br><br>w/o pres or current                      with<br><div>7</div> <div>0</div> | The proposed impact sites currently support healthy seagrass beds, which are a mixed be of climax Syngodium and pioneer Halopholia mixed with other seagrasses and macralgae. After the slip is dredged, the soft sediments currently supporting the seagrasses adjact to the channel may slough into the slip. This equilbration was included in the impact assessment. With impact would have no seagrass community.                 |

|                                                           |                  |
|-----------------------------------------------------------|------------------|
| Score = sum of above scores/30 (if uplands, divide by 20) |                  |
| current or w/o pres                                       | with             |
| <div>0.733</div>                                          | <div>0.300</div> |

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

|                                     |
|-------------------------------------|
| For impact assessment areas         |
| FL=delta x acres= <div>0.0563</div> |

|                          |
|--------------------------|
| Delta = [with - current] |
| <div>0.433</div>         |

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

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

**PART II – Qualification of Assessment Area (impact or mitigation)**  
**(See Sections 62-345.500 and .600, F.A.C.)**

|                                       |                          |                                        |
|---------------------------------------|--------------------------|----------------------------------------|
| Site/Project Name<br>USCG Miami Beach | Application Number       | Assessment Area Name or Number<br>JTMS |
| Impact or Mitigation<br>Mitigation    | Assessment conducted by: | Assessment date:                       |

| Scoring Guidance                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------|
| The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed |

| Optimal (10)                                                             | Moderate (7)                                                                                    | Minimal (4)                                                  | Not Present (0)                                                      |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------|
| Condition is optimal and fully supports wetlands/surface water functions | Condition is less than optimal, but sufficient to maintain most wetland/surface water functions | Minimal level of support of wetland /surface water functions | Condition is insufficient to provide wetland/surface water functions |

|                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>.500(6)(a) Location and Landscape Support</p> <p>w/o pres or current      with</p> <p>0      6</p>                                           | <p>The proposed seagrass mitigation would partially fill a dredged hole north of the Julia Tuttle Causeway in order to restore the bottom elevation from approximately -28 feet to -3 feet. Small boat channels exist between the causeway and the mitigation site and also east of the mitigation site. The surrounding floor of Biscayne Bay is approximately -5 to -10 feet deep, and is vegetated by extensive beds of <i>Syringodium</i>. The Applicant also reports small patches of <i>Thalassia</i> growing on the banks of the causeway. In order to avoid burial of <i>Halophila johnsonii</i>, which the Applicant reports growing on the side slopes of the hole, fill will only be placed in areas deeper than -15 feet. This will result in a moat (measuring ~ 15 feet deep and 100 feet wide) separating the mitigation from the adjacent seagrass beds. This poor connectivity will prevent vegetative recruitment (by rhizomes) and limit seed recruitment into the mitigation site.</p> |
| <p>.500(6)(b) Water Environment (n/a for uplands)</p> <p>w/o pres or current      with</p> <p>2      8</p>                                      | <p>Without project - the water in hole is too deep to support seagrasses due to restricted light penetration. It is assumed that the hole has poor water circulation, so it would have less flushing and longer residence time (~30 days) than the surrounding portions of the Bay. The original proposal included capping material for the fill that contained up to 20% fines. That would have produced unacceptable turbidity levels after construction as waves resuspend the silt. Therefore, the capping material shall be limited to sandy sediment containing no more than 3% fines. With project, a portion of the hole would be elevated to a depth that could support the growth of seagrasses. It may also improve water circulation.</p>                                                                                                                                                                                                                                                      |
| <p>.500(6)(c) Community structure</p> <p>1. Vegetation and/or<br/>2. Benthic Community</p> <p>w/o pres or current      with</p> <p>0      8</p> | <p>Other than the side slopes of the hole, which are reported to support <i>Halophila johnsonii</i> to a depth of -15 feet, the hole is not suitable for seagrass growth. The seagrass community around the hole is mostly a monoculture of <i>Syringodium</i>, with small patches of <i>Thalassia</i> growth along the causeway. Given the size of the seagrass mitigation site, the separation of the mitigation site from the surrounding seagrass beds and the low species diversity in this portion of the Bay, the seagrass mitigation project is not expected to succeed without planting. The "with project" evaluation is based on an assumption that planting will be required as part of the mitigation plan. At a minimum, six, 1-acre plots within the filled mitigation site will be planted with a pioneer seagrass species. Once those patches are securely established for at least 2 years, <i>Thalassia</i> will be planted within the stabilized plots.</p>                            |

|                                                           |       |
|-----------------------------------------------------------|-------|
| Score = sum of above scores/30 (if uplands, divide by 20) |       |
| current or w/o pres                                       | with  |
| 0.067                                                     | 0.733 |

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

|                             |
|-----------------------------|
| For impact assessment areas |
| FL=delta x acres=           |

|                          |
|--------------------------|
| Delta = [with - current] |
| 0.667                    |

|                            |
|----------------------------|
| If mitigation              |
| Time lag (t-factor) = 1.25 |
| Risk factor = 2.25         |

|                                    |
|------------------------------------|
| For mitigation assessment areas    |
| RFG=delta/(t-factor x risk)= 0.237 |

**Mitigation Determination Formulas**  
(See Section 62-345.600(3), F.A.C.)

For each impact assessment area:

**(FL)** Functional Loss = Impact Delta X Impact acres

For each mitigation assessment area:

**(RFG)** Relative Functional Gain = Mitigation Delta (adjusted for preservation, if applicable)/((t-factor)(ris

**(a) Mitigation Bank Credit Determination**

The total potential credits for a mitigation bank is the sum of the credits for each assessment area where assessment area credits equal the RFG times the acres of the assessment area scored

| Bank<br>Assessment<br>Area | RFG | X | Acres | = | Credits |
|----------------------------|-----|---|-------|---|---------|
| example                    |     |   |       |   |         |
| a.a.1                      |     |   |       |   |         |
| a.a.2                      |     |   |       |   |         |
| <b>total</b>               |     |   |       |   |         |

**(b) Mitigation needed to offset impacts, when using a mitigation bank**

The number of mitigation bank credits needed, when the bank or regional offsite mitigation area is assessed in accordance with this rule, is equal to the summation of the calculated functional loss for each impact assessment area.

| Impact<br>Assessment<br>Area | FL | = | Credits<br>needed |
|------------------------------|----|---|-------------------|
| example                      |    |   |                   |
| a.a.1                        |    |   |                   |
| a.a.2                        |    |   |                   |
| <b>total</b>                 |    |   |                   |

**(c) Mitigation needed to offset impacts, when not using a bank**

To determine the acres of mitigation needed to offset impacts when not using a bank or a regional offsite mitigation area as mitigation, divide functional loss (FL) by relative functional gain (RFG). If there are more than one impact assessment area or more than one mitigation assessment area, the total functional loss and the total relative functional gain is determined by summation of the functional loss (FL) and relative functional gain (RFG) for each assessment area.

|              | FL       | / | RFG   | = | Acres of<br>Mitigation |
|--------------|----------|---|-------|---|------------------------|
| CB           |          |   |       |   |                        |
|              | 0.056333 |   | 0.237 |   | 0.238                  |
| <b>total</b> |          |   |       |   | <b>0.238</b>           |