

Field Observation Report

Project Name: MDC Miami Marine Stadium Boat Ramp

Date: 8/2/2017

Date of Survey: 7/17/2017

Biologist: Ms. Elizabeth Jones and Ms. Abby Tinari

Introduction

A qualitative marine resource survey was performed on July 17, 2017, by Cummins Cederberg, Inc., at the proposed Project site. The Project site is located at 3501 Rickenbacker Causeway (folio no. 01-4217-000-0110), City of Miami, Miami Dade County, Florida. Construction is proposed along approximately 96 linear feet of shoreline, east of the existing docks. The overall purpose of the proposed Project is to construct three concrete boat ramps with a finger pier in-between each boat ramp. Along the shoreline, adjacent to the proposed construction, mangroves and other vegetation were observed. The upland area consists of rock, concrete bags and asphalt. The purpose of this survey was to document the general extent, species, and height of the vegetation growing along the shoreline and the extent, species, and general density of seagrasses, as well as identify any corals, sponges, algae and other potential marine resources of concern, that may be growing on the submerged substrate, and may be impacted as a result of the proposed Project. Please refer to Figure 1 for a location map of the survey area.

Methodology – Marine Resource Survey

The marine resource survey was performed by a qualified marine biologist and field technician and encompassed approximately 6,000 square feet (0.1377 acre) of submerged lands which included 110 linear feet of shoreline and the adjacent submerged area extending out 50 feet. The submerged lands were surveyed via snorkel using the belt Transect method. Data was collected on underwater paper and representative photographs were taken. To facilitate the marine resource survey, 12 temporary transects were established perpendicular to shore, approximately every 10 feet along 110 linear feet of shoreline. Transect 1 was located at the westernmost end of the Project site, at the shoreline, with Transect 12 established at the easternmost end of the Project site.

The shoreline was used as a reference point to determine the location of marine resources. The NOAA Tides and Currents datum was utilized to determine the approximate shoreline location at the time of the survey. Refer to Figure 1 for a map of the surveyed area.

A field technician secured a survey tape to the shoreline, while the biologist walked it waterward, perpendicular to the shoreline, 50 feet from the starting point. The biologist waded in the water, using mask and snorkel, and recorded information relating to the seagrasses observed and documented any other marine resources observed within the survey area. Data was collected on prepared data sheets printed on underwater paper. The data sheet prompted the biologist to record the beginning and end of each area that contained

seagrass along the transect tape, noted whether seagrass or macroalgae was the dominant resource observed, and estimate the density of the entire seagrass community. Density of the seagrass community was collected based on the following scale:

- a. 1-20% Coverage Sparse
- b. 21-60% Coverage Moderate
- c. 61-100% Coverage Dense

The density estimated in mixed beds was for all species of seagrass. In addition to collecting data, the biologist took representative photographs of existing benthic communities. The areas of sparse, moderate, and dense seagrass were plotted onto a map in the office and used to extrapolate seagrass coverage and density in the areas between the 12 surveyed transects. The estimates of seagrass density are therefore conservative, since seagrass data was extrapolated between transects, which were spaced approximately every 10 feet. The basemap assumes that there is seagrass present in the areas between transects where seagrass was observed (refer to Figure 2 for the basemap) for seagrass coverage.

Methodology – Vegetation Survey

The vegetation survey was conducted by a qualified biologist and field technician and encompassed approximately 60 linear feet of shoreline east of the Project site (approximately .01 acre). To facilitate the vegetation survey, 7 temporary transects were established approximately every 10 feet along 60 linear feet of shoreline. Transect 1 was located at the easternmost end of the vegetation survey area, with Transect 7 established to the west and near Transect 10 of the marine resource survey. The landward asphalt parking lot was used as a reference point to determine the location of vegetative resources. Representative photographs of the vegetative community were also taken.

Data was collected in a field notebook by the biologist, while the field technician provided support (refer to Table 1 for stations and corresponding vegetation). Representative photographs were taken to document the vegetative communities. Data was recorded relative to species, overall species dominance, change in vegetation zones and the density of the overall community

Summary of Findings – Marine Resource Survey

The qualitative marine resource survey was conducted on Monday July 17, 2017 between 10:05 am and 11:30 am. The survey was conducted during an incoming tide with minimal current. Low tide was at approximately 10:04 am. It was partly cloudy, 85 °F and visibility in the water was approximately 3 feet.

The substrate consisted of a sandy/silty, muck bottom layer with scattered shell and rock and dense macroalgae (refer to Photos 1-2). Three (3) species of seagrass were observed within the project boundaries including, turtle grass (*Thalassia testudinum*), shoal grass (*Halodule wrightii*) and manatee grass

(*Syringodium filiforme*) (refer to Photos 3-4). Seagrass was observed in varying densities (sparse, moderate and dense) along all Transects, except Transect 6, which was devoid of marine resources. Seagrass was

observed mainly within 10 to 35 feet from the shoreline and concentrated at the east and west ends of the Project site, with the middle of the Project site predominantly barren of seagrass. Patches of moderate density seagrass were observed along Transects 2, 3, 11 and 12 (refer to Photo 4). A patch of dense shoal grass was observed along Transect 3, approximately 10-14 feet from the shoreline.

A diversity of macroalgae species, including; *Penicillus capitatus*, *Halimeda* sp., *Udotea* sp. and *Caulerpa* sp. dominated the submerged environment. Seagrass was dominant only in Transect 3, between 10-22 feet waterward of the shoreline. Shoal grass was present in all transects with seagrass, while manatee grass was only observed in Transects 10-12. Turtle grass was found in sparse patches along Transects 1, 2, 11 and 12. Refer to the Figure 2 for the basemap.

Approximately 52 massive starlet corals (*Siderastrea siderea*) corals were observed on the existing boat ramp, within 18 feet waterward of the shoreline. Most corals were observed within 8 to 10 feet waterward of the shoreline (refer to Photo 7). Two (2) corals were approximately 3 inches in diameter, 5 corals were between 1.5 and 2.5 inches in diameter, while the remaining corals were 1 inch or less in diameter (refer to Table 3). Two (2) small sponges were observed on the existing boat ramp between Transects 6 and 7. No other marine resources of significance were observed during the survey.

Summary of Findings – Vegetation Survey

The qualitative vegetation survey was conducted on July 17, 2017 between 9:30 am and 10:00 am. Low tide was at approximately 10:04 am. The survey started east of the Project site. The landward asphalt parking lot was used as a reference point to determine the location of vegetative resources. The vegetation borders the asphalt parking lot, landward of the existing boat ramp. The area between the water and asphalt parking lot is comprised of concrete, rock, sand and sparse, mostly native vegetation (refer to table 1 for a list of species observed).

Vegetation begins waterward of the concrete bags, adjacent to the asphalt parking lot, approximately 15 feet landward of the waterline at the time of the survey. Three (3) white mangroves (*Laguncularia racemosa*), 1 black mangrove (*Avicennia germinans*), 4 silver buttonwood trees (*Conocarpus erectus*) and 3 seagrape (*Coccoloba uvifera*) saplings were observed within this area, as well as saltmeadow cordgrass (*Spartina patens*), sea-oxeye-daisy (*Borrchia frutescens*), an Australian pine (*Casuarina* sp.) and seaside mahoe (*Thespesia populnea*) (refer to Photos 6 and 7).

Vegetation was observed in varying densities along the easternmost section of the Project area, landward of the proposed construction activities and waterward of the existing concrete bags, rock and asphalt parking lot. Vegetation was observed approximately 25-30 feet landward of marine transects 10-12.

Approximately 33 linear feet of vegetation is located east of the proposed Project boundaries encompassing Transects 4 through 7. Vegetation is relatively sparse and varies in width from approximately 5-10 feet, narrowing towards the westernmost extent of the vegetation (refer to photo 6). Vegetation is relatively uniform in height, with a maximum canopy height of approximately 10 feet. Average canopy height of all trees observed along the survey area is approximately 5 feet. Refer to the Figure 1 for a map of the surveyed area.

Table 1. The following table includes characteristics and location of trees observed at the Project site.

Station (E-W)	Distance Waterward of Concrete Bags	Species	Approximate Height	DBH
0+00	6'	<i>Coccoloba uvifera</i>	2'	< 1"
0+00	6'	<i>Coccoloba uvifera</i>	2'	< 1"
0+10	17'	<i>Laguncularia racemosa</i>	8'	< 1"
0+15	17'	<i>Laguncularia racemosa</i>	2.5'	< 1"
0+15	14'	<i>Coccoloba uvifera</i>	2'	< 1"
0+22	15	<i>Laguncularia racemosa</i>	4'	< 1"
0+22.5	15	<i>Avicennia germinans</i>	4'	< 1"
0+22	10.5'	<i>Conocarpus erectus</i>	3.5'	< 1"
0+35	7'	<i>Conocarpus erectus</i>	10'	< 1"
0+40	2	Casuarina sp.	10'	< 1"
0+40	8	<i>Conocarpus erectus</i>	6'	< 1"
0+41	8	<i>Conocarpus erectus</i>	6'	< 1"

Table 2. The following table includes a list of vegetation observed at the Project site.

Common Name	Scientific Name
Saltmeadow cordgrass	<i>Spartina patens</i>
Sea-oxeye-daisy	<i>Borrchia frutescens</i>
White mangrove	<i>Laguncularia racemosa</i>
Black mangrove	<i>Avicennia germinans</i>
Buttonwood	<i>Conocarpus erectus</i>
Seagrape	<i>Coccoloba uvifera</i>
Bahia grass	<i>Paspalum</i> spp.
Australian Pine	<i>Casuarina</i> spp.
Seaside mahoe	<i>Thespesia populnea</i>

Table 3. The following table includes a list of corals observed on site.

Coral Species	Number of Corals	Diameter	Station	Distance Waterward	Transect
<i>Siderastrea siderea</i>	1	2.5"	0+80	10'	9
<i>Siderastrea siderea</i>	1	< 1"	0+70	11'	8
<i>Siderastrea siderea</i>	4	< 1"	0+67	10'	Between 8-9
<i>Siderastrea siderea</i>	1	1"	0+60	12'	7
<i>Siderastrea siderea</i>	2	1-1" and 1-2"	0+60	11'	7
<i>Siderastrea siderea</i>	1	1"	0+60	10'	7
<i>Siderastrea siderea</i>	2	1.5"	0+57	10'	Between 6-7
<i>Siderastrea siderea</i>	1	1"	0+56	10'	Between 6-7
<i>Siderastrea siderea</i>	1	1"	0+55	10'	Between 6-7
<i>Siderastrea siderea</i>	1	1	0+54	8'	Between 6-7
<i>Siderastrea siderea</i>	11	9 < 1" and 2-2"	0+51	8-10'	Between 6-7
<i>Siderastrea siderea</i>	17	15-1" and 2-3"	0+42	9'	Between 5-6
<i>Siderastrea siderea</i>	1	1"	0+50	14'	6
<i>Siderastrea siderea</i>	3	2-1" and 1- < 1"	0+40	13'	5
<i>Siderastrea siderea</i>	4	1"	0+10	9'	2
<i>Siderastrea siderea</i>	1	1"	0+09	18'	2



Photo 1. Dense *Halimeda* sp. macroalgae commonly found throughout the marine survey area.



Photo 2. *Halimeda* sp. with sand, muck, crushed rock and shell. Typical conditions throughout the survey area.



Photo 3. *Syringodium filiforme*, *Thalassia testudinum* and *Halimeda* sp.

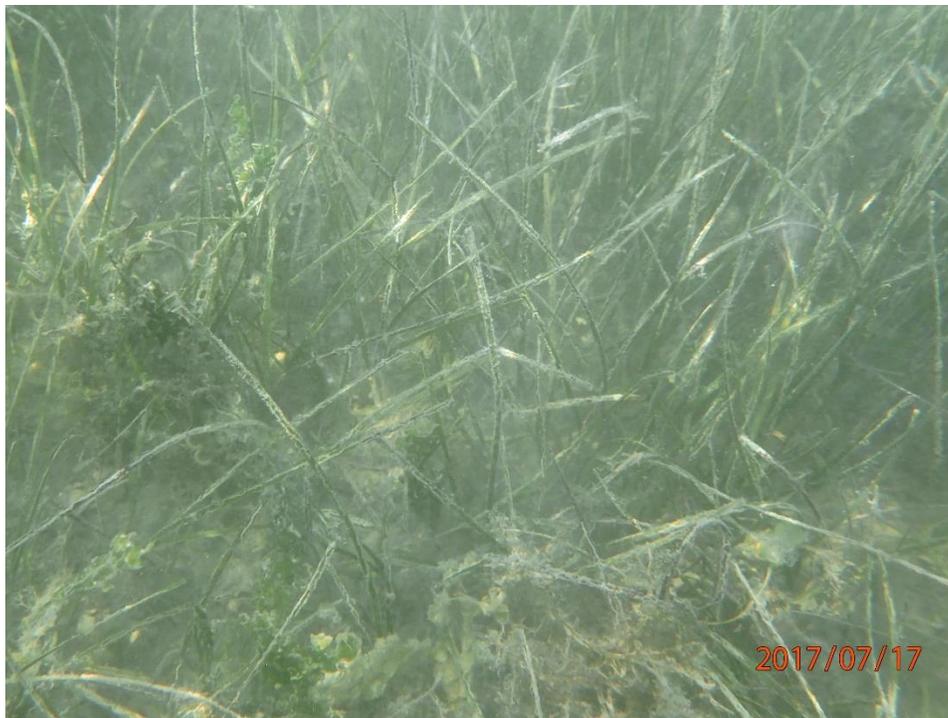


Photo 4. Moderate density *Halodule wrightii* and *Halimeda* sp. macroalgae.



Photo 5. *Siderastrea siderea* coral observed on the existing concrete boat ramp.

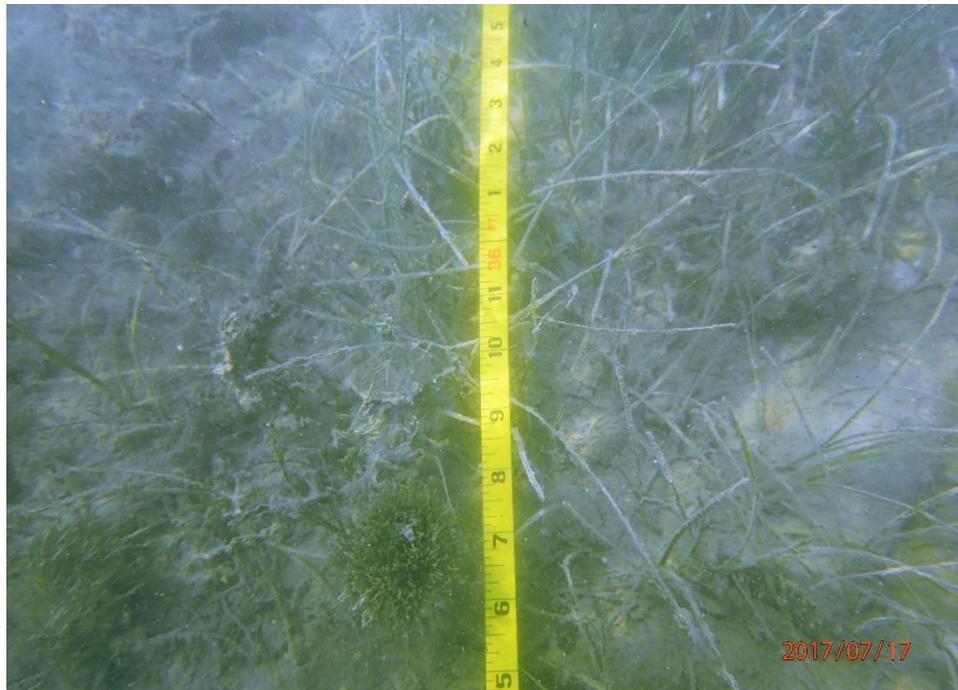


Photo 6. Sparse *Halodule wrightii* and *Penicillus capitatus*.



Photo 7. *Laguncularia racemosa*, *Conocarpus erectus* and *Avicennia germinans*.



Photo 8. View of the adjacent shoreline (looking east).

Figure 1. Map of Marine and Vegetation Survey Areas



Figure 2. Basemap Depicting Marine Resources and Vegetation

