CITY OF MARCO ISLAND

RE: PROPOSAL FOR BEST VALUE TECHNOLOGY METHODS TO IMPROVE WATER QUALITY AND/OR INCREASE DISSOLVED OXYGEN IN THE MARCO ISLAND WATERWAYS (CANALS)

RC SITE SOLUTIONS LLC
203 SOUTH TRASK STREET
TAMPA, FL 33609

RC Site Solutions LLC
203 S Trask Street, Tampa, FL 33609

RE: Proposal for Best Value Technology Methods to Improve Water Quality and/or Increase Dissolved Oxygen in the Marco Island Waterways (Canals)

To whom it may concern,

RC Site Solutions LLC (RC) is a Florida Limited Liability Company, and a bonded/insured State Certified General Contractor. RC was founded by a small group of experienced construction managers, who were born and raised along the Florida Gulf Coast. We combine the construction management expertise, industry knowledge, contacts, and resources developed throughout over thirty years in the heavy civil industry to provide affordable and efficient, turnkey solutions to our clients. Our goal is to develop valued symbiotic relationships with our clients and industry partners by providing exceptional solutions that are both practical and affordable.

RC's Owners have a long and successful history of providing heavy civil services throughout the southeast Gulf Coast to many large public municipalities with combined upland and marine contracts in excess of $300MM. Clients served include, but are not limited to, the US Army Corps of Engineers (multiple contracting districts from Virginia to Louisiana), state agencies (including FL Dept. of Environmental Protection, MS Dept. of Environmental Quality, LA Coastal Protection and Restoration Authority, Port Tampa Bay), local authorities from Florida to Louisiana that include Collier and Lee Counties and West Coast Inland Navigational District, as well as private clients. We look forward to providing additional client reference information at the discretion of the City of Marco Island (the City).

As a small business RC carries minimal overhead expense with RC's Owners acting as both the primary points of contact and site managers for our clients' efforts. This allows RC to provide immediate service solutions at low cost to our clients. Of course, every project is unique. Our goal is to provide the City of Marco Island with the most efficient and cost-effective methods to achieve the City's goals while maximizing the Project budget. We look forward to continued communication with regards to the information contained herein. We guarantee your project will receive the special considerations it deserves.

RC Site Solutions LLC has a high level of interest in participating with the City throughout the planning and execution of the subject Project, and is pleased to provide the attached budgetary recommendations for your review. Please do not hesitate to contact us with any questions or comments. We are available at your convenience to assist with any additional planning or partnering, and look forward to proving these methods onsite.

Sincerely,

Jared Rackley, Member

Table of Contents

Chapters:

Executive Summary:

Company Information:

Name: RC Site Solutions LLC
Address: 203 South Trask Street, Tampa, FL 33609
Point of Contact: Mr. Jared Rackley, Member
Phone – 850-643-6476
Email – Jared@RCSiteSolutions.com

Corporate Statement of Capabilities:

The Owners and Operators of RC have successfully completed over $300MM in construction contracts in the upland and marine heavy civil industry. RC typically self performs the vast majority of the work, however, there are times when certain specialty fields are required. The majority of construction specialties that are subcontracted by RC include design/permit engineering, environmental consulting and endangered species monitoring/reporting, aerial photography, and occasionally, other large and small business dredging contractors as necessary. RC's management team has a great wealth of experience with regards to scoping, soliciting, scheduling, managing, and reporting various subcontractors and vendors at all levels. RC holds subcontractor performance standards equal to or better than the requirement of the project permits and specifications.

The Owners of RC developed the Company with a focus primarily on the construction phase of the work, but in order to provide our clients with turnkey solutions, we will manage specific aspects of the Project (including design and permitting) following conceptual design and prior to construction. These services may be provided to our clients as a pass-through cost including a minimal percentage markup to cover the overhead cost required for team meetings and document processing. When our clients prefer to handle the design and permitting separately from construction, we will assist the third-party design team throughout by reviewing the Project from a constructability and budgetary standpoint.

RC's management team has operated in Florida throughout the last decade and a half during which time environmental authorities have placed an ever-growing emphasis on environmental sustainability and avoidance. We are familiar with the species of concern and specific agency requirements associated with marine work specific to the State of Florida. RC understands that requirements of permitting agencies are ever-changing and typically vary based upon project specific factors including the geographical location, environmental conditions, project type (dredge/fill methods), materials consistency, and site constraints to name a few, and RC has adapted its planning, monitoring, and testing procedures accordingly for full compliance.

Immediately prior to commencement of construction RC implements a job specific training program for its crews covering the applicable permit conditions. The training emphasizes the environmental features, testing procedures, and limits of the Project. If the need arises to modify an environmental permit RC will seek input and assistance from the project third party environmental engineers and consultants, and applicable permitting agencies so that all Project Stakeholders understand the factors present.

Introduction:

The City of Marco Island (City) has made a decision to plan future water quality improvements by reducing (or eliminating) the organic muck layer, and increasing dissolved oxygen within the City's canal system. The City has identified several contributing factors through the efforts of consulting firm, Environmental Research & Design, Inc. (ERD) which are described in ERD's Final Report – September 2021. Their analysis has indicated that nutrient loadings originating from sediment nutrient recycling, groundwater seepage, stormwater runoff, reuse irrigation, and bulk precipitation.

ERD concluded that the most feasible solution is to create a well-mixed and aerobic water column to prevent sediment nutrient release which occurs at a faster rate when lower portions of the water column become anaerobic. While RC agrees with ERD that the end goal of the Project should be to reduce or eliminate the anaerobic condition present within the water column, RC feels that the means and methods have been somewhat misconstrued. The means and methods recommended by ERD favor long-term construction solutions (addition of swale blocks, and construction/maintenance of denitrification beds and inlet filter systems, culverts), resident restrictions and construction requirements (LID systems, filter media installation, denitrification walls), as well as optimizing several passive maintenance of existing systems including (irrigation, street sweeping, fertilizer applications, public education).

Implementation of these recommendations will no doubt have a positive effect, and refine the general condition of the inputs to the waterway system. In some instances, such as connecting canals with culverts, the recommendations may actively assist in cleaning the waterway system via tidal flushing. The major flaw in this approach is the rate at which these recommendations allow the water system to recover (or maintain the current state) are difficult to assess. Additionally, these recommendations will require ongoing expenditures at the city and residential levels with presently unknown returns or timeframes. RC does not oppose all of the recommendations presented in the ERD report. Many of the best management practices proposed by ERD should be implemented to the degree the City and its residents see positive and equitable returns as compared to the financing and efforts expended to achieve the results. RC does however disagree with the dredging cost estimate represented in the Report.

If planned, and executed properly the direct action of construction dredging will provide an expedited return in the form of cleaner waterways within no more than a few years. Additionally, this method will provide a finite cost budget that the City will be able to utilize for planning and budgeting. RC's approach(es) will have a much higher up-front cost than other the other recommended methods, however the costs may be recouped in the form of additional real estate via land reclamation. This City owned land will then be utilized at the discretion of the City for parks and recreation, residential real estate, or municipal functions. RC has proposed many scenarios below for consideration, and looks forward to continued communication to explore these options in greater detail.

Conceptual Project Approach:

Project Approach:

RC has developed three distinct Project Sites that are segregated based on geographical boundaries as well as conceptual cut and fill volumes. Please find Attachment No. 1, Marco Island (Overall) Site Plan and individual Project Site Plans for each of three (3) Project Sites are appended to this document.

RC proposes to utilize dredged material from a small swinging ladder cutter suction dredge or mechanical clamshell dredge to fill confined disposal islands (fill placement areas) within the City's waterway system with organic muck dredged from the canals. The fill placement areas will be delineated with steel sheet pile walls or geotextile tubes. The final product will require periodic sand fill placement over time to surcharge the confined muck cells before the site is usable. The sand fill placement for surcharge, which is not included in this proposal, may be imported from inland pits or sourced from additional dredging borrow areas located within or near the island. There are additional factors which can expedite the rate of subgrade compaction such as well points, wick drains, or admixtures which we would like to discuss further with the city during the planning phase. RC has identified benefits to each construction methodology, and the end result may be a combination of each type of construction to achieve results that are in the City's best interest.

Dredging Methodology:

RC's primary methodology utilizes a swinging ladder hydraulic cutter suction dredge for muck removal. RC will utilize an eight-inch (8") to ten-inch (10") discharge swinging ladder dredge. RC will install a temporary ten inch (10") or twelve inch (12") high density polyethylene submerged pipeline from the dredge to the placement site being utilized. The locations and sizes of the fill placement areas have been designed based on the listed assumptions (below) to ensure the dredge will be able to fill each cell without the need for any additional booster pumps or complications associated with additional equipment. This form of dredging will cause very little impact to navigation within the Waterway, and will minimize turbid releases to the water column.

RC may also employ a barge mounted hydraulic excavator with environmental clamshell bucket. This method is not as efficient and not anticipated, however, in the event there are additional remote areas that require dredging beyond the reach of the dredge alone (approximately 4,000 feet), RC may employ a barge mounted excavator. The barge mounted excavator will have the capability to dredge and offload within an enclosed sheet pile fill placement cell or a separate barge mounted crane or excavator could be used to unload the material from shuttle barges. The environmental clamshell bucket will ensure that turbidity levels remain low at the dredging area. The specific bucket to be employed with the barge mounted excavator is a level-cut environmental clamshell bucket. This bucket will not allow splashing of effluent back into the water column as is commonly associated with a regular digging bucket. This method will be less efficient, and may create additional inconveniences and coordination with boaters as the barge(s) will need to be transported from dredge areas to fill placement areas.

Regardless of dredging methodology, RC will mark all equipment and pipeline in accordance with the requirements of the United States Coast Guard and will coordinate with the City to notify local homeowners of the presence of the dredge and equipment, and will provide the link to the Coast Guard, District 7, Local Notice to Mariners which will contain additional passing and site contact information.

Muck Removal with Sheet Pile Disposal Island (Hydraulic or Mechanical Dredging):

Prior to dredging, if muck is to placed within a confined sheet pile system (similar to a large coffer cell), a barge mounted crane or excavator will be utilized to install sheet pile. RC will work with the City and/or directly with private landowner(s) to secure a laydown area near the worksite for deliveries and barge loading activities. The sheet pile will be installed with the use of a pile driving hammer (vibration or impact). The embedment will be no less than forty percent (40%) of pile length, or one foot (1 FT) into rock in accordance with City ordinances. The top of sheet elevation is anticipated to be approximately positive four feet (+4 FT) NGVD. RC's project team will coordinate with the City to identify certain locations where the sheets will be driven (or cut off) at or near the water level to decant during dredging. With the addition of adjustable risers, these locations will be utilized as overflow weirs, to increase ponding within the fill placement cells and reduce turbid discharges. Following completion of muck placement, RC will pull the sheets, and install new sheets to proper final elevation.

Following completion of dredging and fill placement in each cell, RC will dewater the area(s), and construct a cast-in-place concrete cap with top elevation at approximately positive five feet (+5 FT) NGVD. Upland granular or subaqueous borrow area sand fill will be utilized to surcharge the subgrade until it can be utilized for construction. If additional stabilization is recommended for construction purposes, RC will inject admixture(s) such as fly ash or other material as recommended by the engineer of record which has yet to be determined.

Once the land has been properly prepared for construction, the City may choose to offer the land for sale as residential property. This Conceptual Design includes a maximum of approximately 20.8 acres of island construction. Using a conservative estimate of $3,000,000.00 per acre the reclamation project could be worth a maximum of approximately $62,400,000.00 which would pay for the reclamation as well as additional site development. This would allow the City to welcome additional immigration, and increase the tax base substantially. The additional tax base could be utilized to offset the additional reoccurring expenditures required for the ERD recommended waterway system management objectives.

Muck Removal with Geotextile Tube Disposal Island (Hydraulic Dredging Only):

RC has also provided an option for geotextile tube island construction. This method will not require any sheet pile construction leading to lower up-front costs. Additionally, less effort will be required for subgrade preparation as this type of construction will not be suitable for upland structures. This method will likely result in natural recreational area for residents to enjoy spending leisure time. As with the sheet pile method, the geotextile tube island will also require sand placement to cover the geotextile tubes from view, and to lesser extent, surcharge the muck contained within the tubes. It may be more beneficial to utilize this method for the smaller fill placement areas at site number three (3) as road, and other infrastructure expenses may be prohibitive. This method would also allow for planting of seagrasses along the boundaries of the island which would have a beneficial effect on the health of the waterway.

Seagrass Planting Methodology:

Once dredging has completed in a given location RC will plant seagrasses within ten feet (10 FT) of the existing seawalls. These areas are anticipated to be shallow enough to foster continued seagrass growth and increase dissolved oxygen to the waterway system over time. Seagrass will be planted on four foot (4 FT) center spacing throughout these areas. RC's Project Team will secure the donor site(s) for this effort during the planning phase.

Conceptual Design Assumptions:

Muck Placement Cell Assumptions:

- Approximate Top of Initial (Unconsolidated) Fill Elevation: – +5.0 NGVD
- Approximate Top of Final (Surcharged) Fill: -0.0 to -3.0 NGVD
- Approximate Total Capacity of all Cells as Designed: 691,038 CY
- Approximate Muck Fill Cell Setbacks from Seawalls; Site 1 - 120 FT, Site 2 – 150 FT, Site 3 – 80 FT
- Approximate Quantity of Imported Granular Fill to Surcharge Muck (All Cells): 55,283 CY per FT El. **Imported Fill for Surcharging is not included in this Conceptual Proposal**

Muck Dredging Assumptions:

- Approximate Average Existing Muck Layer – Elevation -6.5 NGVD
- Approximate Average Sand Layer – Elevation -8.0 NGVD
- Approximate Average Thickness of Muck Layer in Target Areas – 1.5 Feet
- Approximate Dredge Volume (In-Situ): 381,392 CY
- Dredging Setbacks for All Project Sites: 40 FT from Seawalls

Seagrass Planting Assumptions:

- Seagrass to be Planted Ten (10) FT Wide from Face of Seawalls
- Approximate Length of Seawalls for All Project Sites: 65,830 LF
- Approximate Area for Seagrass Planting 34.9 Acres

Conclusion:

This conceptual design is raw in nature as we do not have many details regarding the physical properties at the site, however, we are confident that with additional exploration and planning we will arrive at a total project cost which is a very small fraction of the City's potential gains. In addition, RC is confident that the City will begin to realize returns relatively fast, within three years or less, from groundbreaking with potential to become cash positive within five years or less.

RC has a great relationship with several exceptional coastal engineering firms in Florida and throughout the Gulf Coast that have experience in design of both marine and dredging projects. With City approval, RC would be honored to recruit a team of experienced, qualified, and acceptable professionals to continue the exploration, design, permitting, and budgeting for this effort. RC looks forward to working with the City (and subconsultants) to construct the most beneficial Project in the best interest of the City.

Several assumptions have been made, regarding this conceptual approach and budget, which were necessary since there is a very limited amount of information currently available. RC would like the opportunity to continue to develop a Project Team to explore and refine this approach, based on City objectives, and to balance cut/fill, bulking/compaction, and surcharge estimates. If the City has any additional information, surveys, samples, etc. that would help RC to refine the approach and pricing please do not hesitate to reach out. We will revise as necessary, and we look forward to gaining your business.

Attachment No. 1 – Equipment

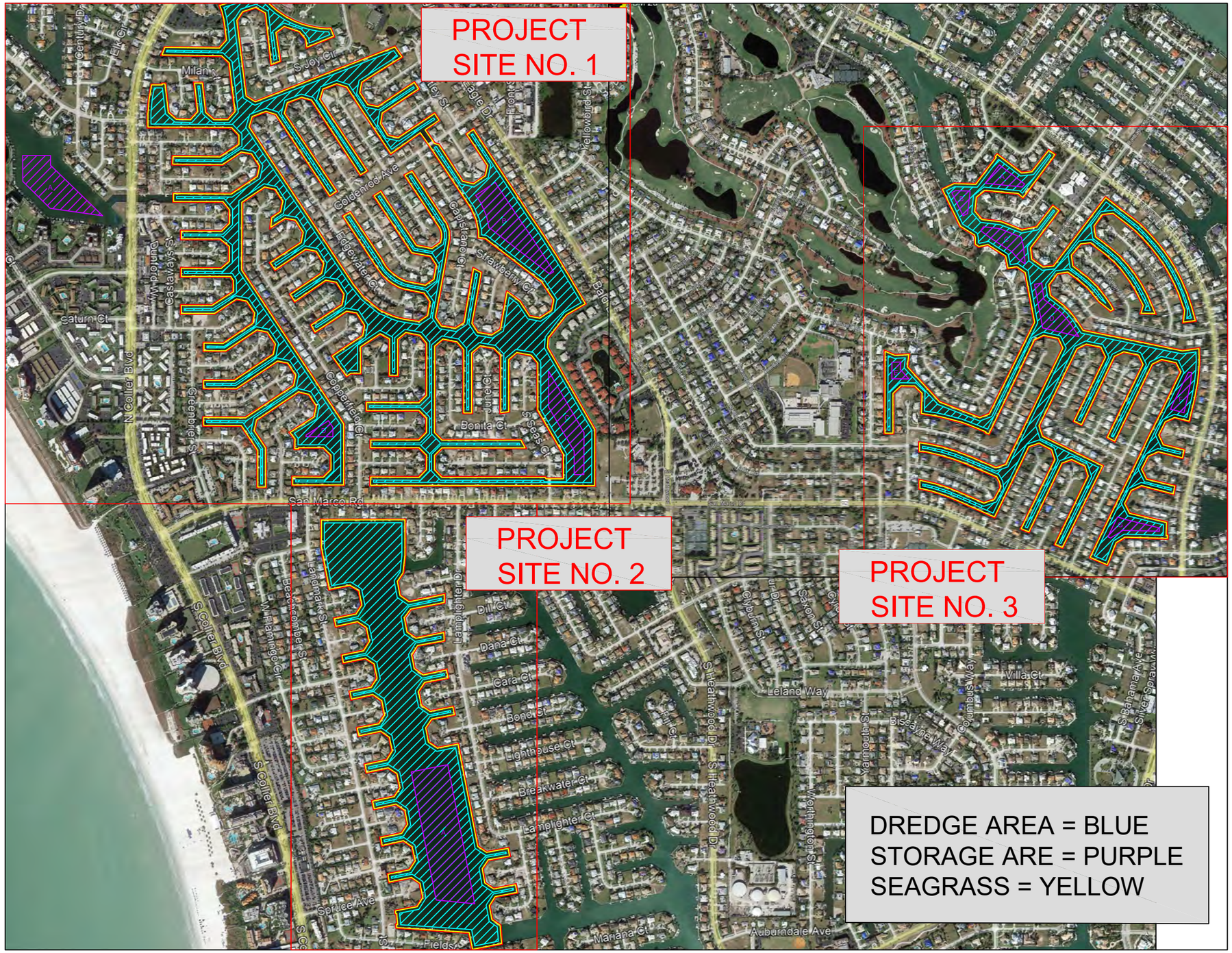
Hydraulic Dredge (Swinging Ladder):

Discharge Diameter: 6" - 10"
Draft: 2' 6"
Horsepower (Main): 300hp – 450hp
Maximum Dredge Depth: 22'
Minimum Dredge Depth: 3'
Width of Channel the Dredge Can Efficiently Operate: 20'

Barge Mounted Excavator:

Barge: 30’ x 60’ (approx.)
Draft: 2’ – 4’ 6”
Excavator: CAT 320 LR (or similar)
Bucket: 1 Cubic Yard Cable Arm Environmental Clamshell Bucket
Maximum Dredge Depth: 23’
Minimum Dredge Depth: 5’
Width of Channel the Dredge Can Efficiently Operate: 125’

Attachment No. 2 – Conceptual Design Sheets and ROM Takeoff



DRAWING TITLE:

MARCO ISLAND
(OVERALL) SITE PLAN

GENERAL NOTES:

1. Total dredge area maintaining 40 FT setback from seawalls
2. Total dredge volume at 1' 6" muck thickness = 381,392 CY
3. Maximum placement islands maintain 80-120 FT minimum setback from seawalls
4. Total fill placement area capacity at 12' 6" fill height = 691,038 CY
5. Total seagrass planting = 34.9 Acres

FIRM NAME & ADDRESS:

RC Site Solutions LLC
203 S Trask Street
Tampa, FL 33609

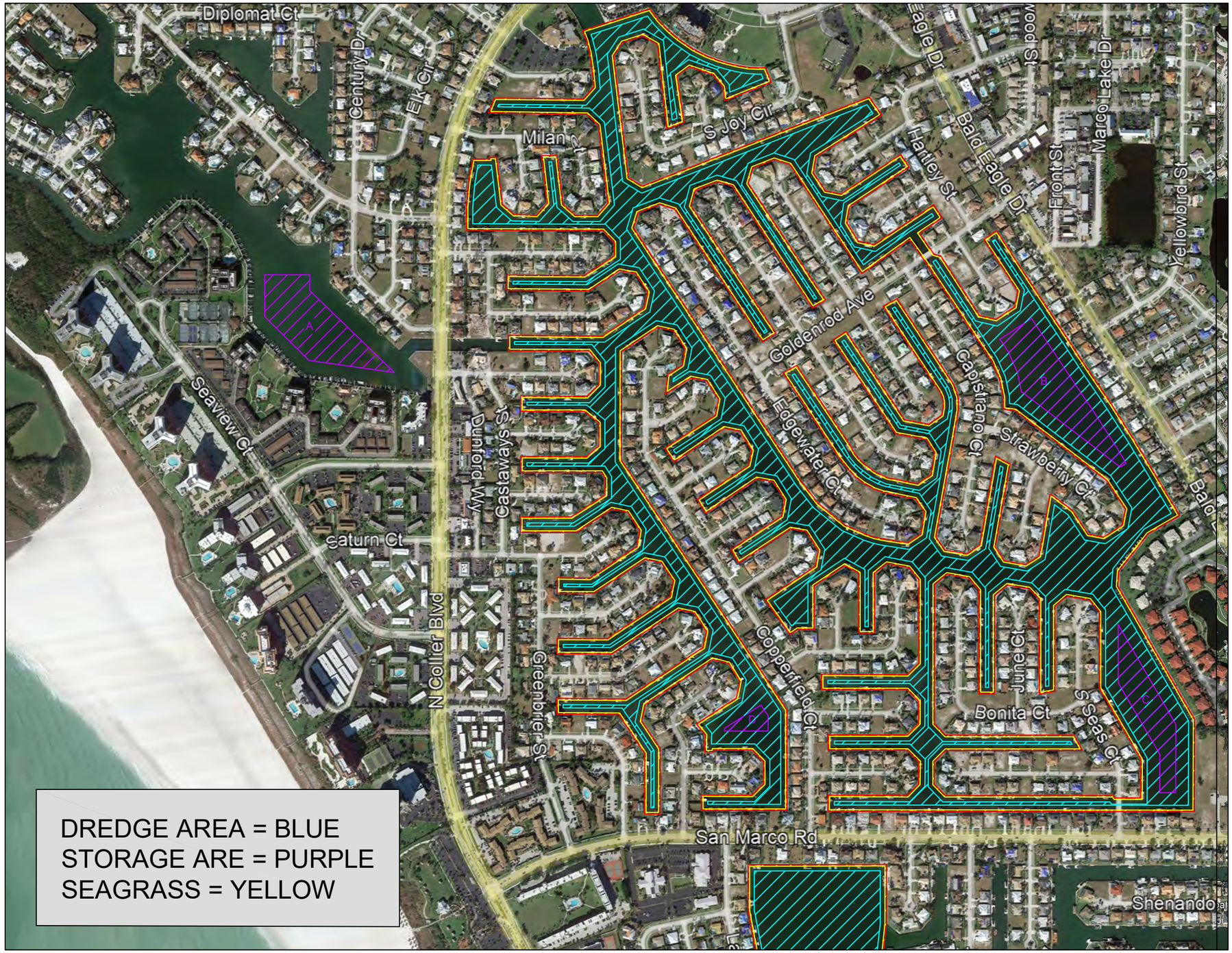
PROJECT NAME & ADDRESS:

City of Marco Island, Water Quality Improvement (Muck Removal)

PROJECT NO.: 2023-005	SHEET SIZE: 11" X 17"
DATE: 04/01/2023	SHEET:
SCALE: NTS	S-0

Total Project

	Area (SF)	Area (Acre)		
Entire Project Area	12,897,581 SF	296.1 ACRE		
	Area (SF)	**Area (Acre)**	**Volume (CY/FT El.)**	
Dredge Area	6,865,744 SF	157.6 ACRE	254,287 CY	381,430 CY
	Area (SF)	**Area (Acre)**	**Capacity (CY/FT El.)**	**Perimeter (LF)**
Total Storage	**1,492,654 SF**	**34.3 ACRE**	**55,283 CY**	**19,082 LF**
	Area (SF)	**Area (Acre)**		
Seagrass (10 FT Wide)	1,519,050 SF	34.9 ACRE		



DRAWING TITLE:

DREDGE PLAN - SITE 1

GENERAL NOTES:

1. Total dredge area maintaining 40 FT setback from seawalls = 67.8 Acre
2. Assumed existing average muck layer elevation = -6 FT NGVD.
3. Assumed muck thickness = 1.5 FT Average.
4. Assumed dredge volume = 164,042 CY.
5. Maximum placement area maintaining 120 FT setback from seawalls = 14.5 Acres.
6. Placement footprint may utilize 12-13 FT vertical from bottom to +/- 4.5-5.5 FT NGVD.
7. Maximum placement capacity = 291,853 CY.
8. Maximum neat line dredge volume (1:1 ratio) = 2' 8" muck layer.

FIRM NAME & ADDRESS:

RC Site Solutions LLC
203 S Trask Street
Tampa, FL 33609

PROJECT NAME & ADDRESS:

City of Marco Island, Water Quality Improvement (Muck Removal)

PROJECT NO.: 2023-005	SHEET SIZE: 11" X 17"
DATE: 04/01/2023	SHEET: S-1
SCALE: NTS	

Project Site No. 1

	Area (SF)	Area (Acre)		
Entire Project Area	6,379,579 SF	146.5 ACRE		

	Area (SF)	Area (Acre)	Volume (CY/FT El.)	Volume (1.5FT)
Dredge Area	2,952,763 SF	67.8 ACRE	109,362 CY	164,042 CY

	Area (SF)	Area (Acre)	Capacity (CY/FT El.)	Perimeter (LF)
Storage Area A	232,411 SF	5.3 ACRE	8,608 CY	2,330 LF
Storage Area B	222,935 SF	5.1 ACRE	8,257 CY	2,524 LF
Storage Area C	148,058 SF	3.4 ACRE	5,484 CY	2,388 LF
Storage Area D	26,999 SF	0.6 ACRE	1,000 CY	745 LF
Total Storage	**630,403 SF**	**14.5 ACRE**	**23,348 CY**	**7,987 LF**

	Area (SF)	Area (Acre)		
Seagrass (10 FT Wide)	860,768 ACRE	19.8		

DRAWING TITLE:

DREDGE PLAN - SITE 2

GENERAL NOTES:

1. Total dredge area maintaining 40 FT setback from seawalls = 56.6 Acres
2. Assumed existing average muck layer elevation = -6 FT NGVD.
3. Assumed muck thickness = 1.5 FT Average.
4. Assumed dredge volume = 136,859 CY.
5. Maximum placement area maintaining 150 FT setback from seawalls = 12.1 Acres.
6. Placement footprint may utilize 12-13 FT vertical from bottom to +/- 4.5-5.5 FT NGVD.
7. Maximum placement capacity = 244,838 CY.
8. Maximum neat line dredge volume (1:1 ratio) = 2' 8" muck layer

FIRM NAME & ADDRESS:

RC Site Solutions LLC
203 S Trask Street
Tampa, FL 33609

PROJECT NAME & ADDRESS:

City of Marco Island, Water Quality Improvement (Muck Removal)

PROJECT NO.: 2023-005	SHEET SIZE: 11" X 17"
DATE: 04/01/2023	SHEET: S-2
SCALE: NTS	

Project Site No. 2

	Area (SF)	Area (Acre)		
Entire Project Area	3,226,564 SF	74.1 ACRE		

	Area (SF)	Area (Acre)	Volume (CY/FT El.)	Volume (1.5FT)
Dredge Area	2,463,456 SF	56.6 ACRE	91,239 CY	136,859 CY

	Area (SF)	Area (Acre)	Capacity (CY/FT El.)	Perimeter (LF)
Storage Area A	528,862 SF	12.1 ACRE	19,587 CY	3,560 LF
Total Storage	**528,862 SF**	**12.1 ACRE**	**19,587 CY**	**3,560 LF**

	Area (SF)	Area (Acre)
Seagrass (10 FT Wide)	193,749 SF	4.4 ACRE

DRAWING TITLE:

DREDGE PLAN - SITE 3

GENERAL NOTES:

1. Total dredge area maintaining 40 FT setback from seawalls = 33.3 Acres
2. Assumed existing average muck layer elevation = -6 FT NGVD.
3. Assumed muck thickness = 1.5 FT Average.
4. Assumed dredge volume = 80,529 CY.
5. Maximum placement area maintaining 80 FT setback from seawalls = 7.7 Acres.
6. Placement footprint may utilize 12-13 FT vertical from bottom to +/- 4.5-5.5 FT NGVD.
7. Maximum placement capacity = 154,347 CY.
8. Maximum neat line dredge volume (1:1 ratio) = 2' 10.5" muck layer.

FIRM NAME & ADDRESS:

RC Site Solutions LLC
203 S Trask Street
Tampa, FL 33609

PROJECT NAME & ADDRESS:

City of Marco Island, Water Quality Improvement (Muck Removal)

PROJECT NO.: 2023-005	SHEET SIZE: 11" X 17"
DATE: 04/01/2023	SHEET: S-3
SCALE: NTS	

Project Site No. 3

	Area (SF)	Area (Acre)		
Entire Project Area	3,291,438 SF	75.6 ACRE		

	Area (SF)	Area (Acre)	Volume (CY/FT El.)	Volume (1.5FT)
Dredge Area	1,449,525 SF	33.3 ACRE	53,686 CY	80,529 CY

	Area (SF)	Area (Acre)	Capacity (CY/FT El.)	Perimeter (LF)
Storage Area A	044,714 SF	1.0 ACRE	1,656 CY	0,979 LF
Storage Area B	029,848 SF	0.7 ACRE	1,105 CY	0,741 LF
Storage Area C	068,051 SF	1.6 ACRE	2,520 CY	1,294 LF
Storage Area D	086,842 SF	2.0 ACRE	3,216 CY	1,602 LF
Storage Area E	019,121 SF	0.4 ACRE	0,708 CY	0,647 LF
Storage Area F	038,676 SF	0.9 ACRE	1,432 CY	1,016 LF
Storage Area G	46,138 SF	1.1 ACRE	1,709 CY	1257 LF
Total Storage	**333,389 SF**	**7.7 ACRE**	**12,348 CY**	**7,535 LF**

	Area (SF)	Area (Acre)
Seagrass (10 FT Wide)	464,533 SF	10.7 ACRE

Attachment No. 3 – ROM Pricing

Conceptual Budget Estimate (3 Sheet Pile Islands)

Site	Muck Fill Cell	Description	Quantity	Unit		Unit Price		Subtotal
		Mobilization - Dredging	1	LS	$	2,000,000.00	$	2,000,000.00
		Mobilization - Pile Driving	1	LS	$	540,000.00	$	540,000.00
1		Hydraulic Dredging	164,042	CY	$	49.66	$	8,146,325.72
1		Seagrass Planting	19.8	Acre	$	25,000.00	$	495,000.00
1	A	Sheet Pile w/ Concrete Cap	2,330	LF	$	3,984.00	$	9,282,720.00
1	B	Geotextile Tube Island	58,013	CY	$	8.75	$	507,616.47
1	C	Sheet Pile w/ Concrete Cap	2,388	LF	$	3,984.00	$	9,513,792.00
1	D	Geotextile Tube Island	7,026	CY	$	8.75	$	61,477.11
			Site No. 1 Total (Not Including Mob/Demob)				**$**	**28,006,931.30**
2		Hydraulic Dredging	136,859	CY	$	49.66	$	6,796,417.94
2		Seagrass Planting	4.4	Acre	$	25,000.00	$	110,000.00
2		Sheet Pile w/ Concrete Cap	3,560	LF	$	3,984.00	$	14,183,040.00
			Site No. 2 Total (Not Including Mob/Demob)				**$**	**21,089,457.94**
3		Hydraulic Dredging	80,529	CY	$	49.66	$	3,999,070.14
3		Seagrass Planting	10.7	Acre	$	25,000.00	$	267,500.00
3	A	Geotextile Tubes	10,801	CY	$	8.75	$	94,504.59
3	B	Geotextile Tubes	7,210	CY	$	8.75	$	63,084.07
3	C	Geotextile Tubes	16,438	CY	$	8.75	$	143,828.20
3	D	Geotextile Tubes	20,976	CY	$	8.75	$	183,543.05
3	E	Geotextile Tubes	4,619	CY	$	8.75	$	40,413.83
3	F	Geotextile Tubes	9,342	CY	$	8.75	$	81,742.16
3	G	Geotextile Tubes	11,144	CY	$	8.75	$	97,514.09
			Site No. 3 Total (Not Including Mob/Demob)				**$**	**4,971,200.12**
		Demobilization	1		$	128,518.00	$	128,518.00
1	A	Potential Real Estate Return	5.3	Acre	$	(3,000,000.00)	$	(15,900,000.00)
1	C	Potential Real Estate Return	3.4	Acre	$	(3,000,000.00)	$	(10,200,000.00)
2	A	Potential Real Estate Return	12.1	Acre	$	(3,000,000.00)	$	(36,300,000.00)
						Total Project	**$**	**(5,663,892.64)**

****Sand Fill for Overburden/Surcharge may be Dredged or Imported****

****Sand Fill not Included in this Conceptual Proposal****

Conceptual Budget Estimate (All Geotextile Tube Islands)

Site	Muck Fill Cell	Description	Quantity	Unit		Unit Price		Subtotal
		Mobilization - Dredging	1	LS	$	2,000,000.00	$	2,000,000.00
1		Hydraulic Dredging	164,042	CY	$	49.66	$	8,146,325.72
1		Seagrass Planting	19.8	Acre	$	25,000.00	$	495,000.00
1	A	Geotextile Tube Island	60,472	CY	$	8.75	$	529,133.46
1	B	Geotextile Tube Island	58,013	CY	$	8.75	$	507,616.47
1	C	Geotextile Tube Island	38,530	CY	$	8.75	$	337,140.46
1	D	Geotextile Tube Island	7,026	CY	$	8.75	$	61,477.11
			Site No. 1 Total (Not Including Mob/Demob)				**$**	**10,076,693.22**
2		Hydraulic Dredging	136,859	CY	$	49.66	$	6,796,417.94
2		Seagrass Planting	4.4	Acre	$	25,000.00	$	110,000.00
2	A	Geotextile Tube Island	136,859	CY	$	8.75	$	1,197,516.25
			Site No. 2 Total (Not Including Mob/Demob)				**$**	**8,103,934.19**
3		Hydraulic Dredging	80,529	CY	$	49.66	$	3,999,070.14
3		Seagrass Planting	10.7	Acre	$	25,000.00	$	267,500.00
3	A	Geotextile Tubes	10,801	CY	$	8.75	$	94,504.59
3	B	Geotextile Tubes	7,210	CY	$	8.75	$	63,084.07
3	C	Geotextile Tubes	16,438	CY	$	8.75	$	143,828.20
3	D	Geotextile Tubes	20,976	CY	$	8.75	$	183,543.05
3	E	Geotextile Tubes	4,619	CY	$	8.75	$	40,413.83
3	F	Geotextile Tubes	9,342	CY	$	8.75	$	81,742.16
3	G	Geotextile Tubes	11,144	CY	$	8.75	$	97,514.09
			Site No. 3 Total (Not Including Mob/Demob)				**$**	**4,971,200.12**
		Demobilization	1		$	128,518.00	$	128,518.00
						Total Project	**$**	**25,280,345.53**

****Sand Fill for Overburden/Surcharge may be Dredged or Imported****

****Sand Fill not Included in this Conceptual Proposal****