

**ENGINEER PROBABLE COST ESTIMATE  
100 PERCENT SUBMITTAL  
CITY OF NAPLES LAKES 19, 11, 31 RESTORATION PROJECT**

**Lake 11**

ITEM NO.	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	1	LS	\$195,869.98	\$195,870
2	Erosion and Sediment Control	1	LS	\$4,297.50	\$4,298
3	Dredging and Dewatering	1	LS	\$1,279,294.80	\$1,279,295
4	Stormwater Infrastructure Modifications	1	LS	\$152,879.01	\$152,879
5	Public Outreach Ammenties	1	LS	\$4,000.00	\$4,000
6	Vegetation Measures	1	LS	\$13,141.70	\$13,142
7	Construction Surveys	1	LS	\$17,600.00	\$17,600
<b>SubTotal Construction Estimate</b>					<b>\$1,667,083</b>
<b>Contingency (10%)</b>					<b>\$166,708</b>
<b>Total Construction Estimate</b>					<b>\$1,833,791</b>

**Lake 19**

ITEM NO.	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	1	LS	\$195,869.98	\$195,870
2	Erosion and Sediment Control	1	LS	\$8,863.60	\$8,864
3	Dredging and Dewatering	1	LS	\$1,005,160.20	\$1,005,160
4	Stormwater Infrastructure Modifications	1	LS	\$77,130.35	\$77,130
5	Public Outreach Ammenties	1	LS	\$116,578.61	\$116,579
6	Vegetation Measures	1	LS	\$32,459.50	\$32,460
6	Construction Surveys	1	LS	\$17,600.00	\$17,600
<b>SubTotal Construction Estimate</b>					<b>\$1,453,662</b>
<b>Contingency (10%)</b>					<b>\$145,366</b>
<b>Total Construction Estimate</b>					<b>\$1,599,028</b>

**Lake 31**

ITEM NO.	SUPPLIES/SERVICES	ESTIMATED QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Mobilization and Demobilization	1	LS	\$29,116.00	\$29,116
2	Erosion and Sediment Control	1	LS	\$1,585.00	\$1,585
3	Dredging and Dewatering	1	LS	\$10,000.00	\$10,000
4	Stormwater Infrastructure Modifications	1	LS	\$155,574.98	\$155,575
5	Public Outreach Ammenties	1	LS	\$900.00	\$900
6	Vegetation Measures	1	LS	\$21,733.75	\$21,734
7	Construction Surveys	1	LS	\$8,800.00	\$8,800
<b>SubTotal Construction Estimate</b>					<b>\$227,710</b>
<b>Contingency (10%)</b>					<b>\$22,771</b>
<b>Total Construction Estimate</b>					<b>\$250,481</b>

Bid Item Quantities and Cost

Project:	<u>City of Naples - Lake 19, 11, 31 Restoration</u>		
Prepared by:	<u>M. Szoka</u>	Date:	<u>4/10/2020</u>
Check by:	<u>G. Corning</u>	Date:	<u>4/15/2020</u>
Bid Item:	<u>1 Mobilization and Demobilization</u>		

**1. Quantity**

- I. Lake 19
  - Construction Staging Area
  - Hydraulic Dredge Hauling and Pickup
  - Roll off Containers Hauling and Pickup
  - Polymer System Hauling and Pickup
- II. Lake 11
  - Construction Staging Area
  - Hydraulic Dredge Hauling and Pickup
  - Roll off Containers Hauling and Pickup
  - Polymer System Hauling and Pickup
- III. Lake 31
  - Mobilization/Demobilization

**1. Mobilization**

Mobilization/Demobilization	<u>\$20,116</u>	Source: 10% of total project
Construction Staging Area	<u>\$148,160</u>	Source: 5% of total project
Hydraulic Dredge Hauling and Pickup	<u>\$10,927.00</u> LS	SRS Crisafulli 2014, Source: adjusted for 2020\$ Round trip freight (estimated)
Roll off Containers Hauling and Pickup	<u>\$17,482.97</u> LS	Baker Tanks 2014, Source: adjusted for 2020\$ Delivery and Pickup
Polymer System Hauling and Pickup	<u>\$10,300.00</u> LS	SNF Environmental Source: 2014, adjusted for 2020\$ Delivery and Setup
Pre-Construction Video	<u>\$2,000.00</u> LS	Lake Manor Restoration Source: Bids
Maintenance of Traffic	<u>\$7,000.00</u> LS	Lake Manor Restoration Source: Bids

**2. Total Cost**

I. Lake 19	Construction Staging Area	1 LS x	<u>\$148,160</u>	<u>\$148,160</u>
	Hydraulic Dredge Hauling and Pickup	1 LS x	<u>\$10,927</u>	<u>\$10,927</u>
	Roll off Containers Hauling and Pickup	1 LS x	<u>\$17,483</u>	<u>\$17,483</u>
	Polymer System Hauling and Pickup	1 LS x	<u>\$10,300</u>	<u>\$10,300</u>
	Pre-Construction Video	1 LS x	<u>\$2,000</u>	<u>\$2,000</u>
	Maintenance of Traffic	1 LS x	<u>\$7,000</u>	<u>\$7,000</u>
			<u>Subtotal</u>	<u>\$195,870</u>
II. Lake 11	Construction Staging Area	1 LS x	<u>\$148,160</u>	<u>\$148,160</u>
	Hydraulic Dredge Hauling and Pickup	1 LS x	<u>\$10,927</u>	<u>\$10,927</u>
	Roll off Containers Hauling and Pickup	1 LS x	<u>\$17,483</u>	<u>\$17,483</u>
	Polymer System Hauling and Pickup	1 LS x	<u>\$10,300</u>	<u>\$10,300</u>
	Pre-Construction Video	1 LS x	<u>\$2,000</u>	<u>\$2,000</u>
	Maintenance of Traffic	1 LS x	<u>\$7,000</u>	<u>\$7,000</u>
			<u>Subtotal</u>	<u>\$195,870</u>
III. Lake 31	Mobilization/demobilization	1 LS x	<u>\$20,116</u>	<u>\$20,116</u>
	Pre-Construction Video	1 LS x	<u>\$2,000</u>	<u>\$2,000</u>
	Maintenance of Traffic	1 LS x	<u>\$7,000</u>	<u>\$7,000</u>
			<u>Subtotal</u>	<u>\$29,116</u>
			<b>Total Cost</b>	<b><u>\$420,856</u></b>

Bid Item Quantities and Cost

Project:	City of Naples - Lake 19, 11, 31 Restoration		
Prepared by:	M.Szoka	Date:	4/10/2020
Check by:	G. Corning	Date:	4/15/2020
Bid Item:	2	Erosion and Sediment Control	

**1. Quantity**

A. Silt Fence

1. Approximate Length:

I. Lake 19

Along Western southside of sidewalk	210 LF
Along Eastern southside of sidewalk	210 LF
	420 LF

B. Floating Turbidity Barrier

1. Approximate Length:

I. Lake 19

Around dewatering effluent, littoral shelf, and stormwater upgrades	600 LF
In front of outfall	100 LF
	700 LF

II. Lake 11

Around dewatering effluent, littoral shelf, and stormwater upgrades	275 LF
In front of outfall	75 LF
	350 LF

III. Lake 31

Around Inlet	75 LF
In front of outfall	25 LF
	100 LF

**2. Bid Estimate**

A. Unit Cost: Silt Fence

\$1.83 per LF  
 Source: FDOT 6 Month  
 Statewide Average  
 Source: (2019/08/01 to 2020/01/31)  
 0104 10 3  
 Sediment Barrier

B. Unit Cost: Floating Turbidity Barrier

\$10.85 per LF  
 Source: FDOT 6 Month  
 Statewide Average  
 Source: (2019/08/01 to 2020/01/31)  
 0104 11  
 Floating Turbidity Barrier

Unit Cost: NPDES Fee

\$500  
 Source: NPDES Fee Schedule

**3. Total Cost**

I. Lake 19

Silt Fence	420 LF x	\$1.83	\$769
Floating Turbidity Barrier	700 LF x	\$10.85	\$7,595.00
NPDES Fee	1 LS x	\$500.00	\$500.00
			Subtotal <b>\$8,863.60</b>

II. Lake 11

Floating Turbidity Barrier	350 LF x	\$10.85	\$3,797.50
NPDES Fee	1 LS x	\$500.00	\$500.00
			Subtotal <b>\$4,297.50</b>

III. Lake 31

Floating Turbidity Barrier	100 LF x	\$10.85	\$1,085.00
NPDES Fee	1 LS x	\$500.00	\$500.00
			Subtotal <b>\$1,585.00</b>

**Total Cost** **\$14,746**

Bid Item Quantities and Cost

Project:	City of Naples - Lake 19, 11, 31 Restoration		
Prepared by:	M. Szoka	Date:	4/12/2020
Check by:	G. Corning	Date:	4/15/2020
Bid Item:	3 Dredging and Dewatering		

**1. Dredging Scheme**

Hydraulic Dredge - Muck and Sand Removal	Construction Length - 29999.9/140 = 215 days + 60 days(mobilization and demobilization) 29999 CY Muck and Sand at 1000 GPM at 5 percent solids, remove 140 CY per day	9 Month
Mechanical Dredge - Littoral Edge and Invasive Exotic Species Removal	Back hoe on barge to sculpt the lake bank and remove exotic invasive species	2,000 CY

**2. Dewatering Scheme**

Roll off Containers	2- Sand Containers with Screens and 10- Lined with Geotextile Bags	24 EA
Muck and Sand Hauling(To City Designated Area)	Roundtrips Equal - 29999 CY x .32 = 7716 CY / 14 CY per container =690 roundtrips 29999 CY Muck and Sand with 32 % solids with dewatered solids at 40 % solids hauling to City provided staging area, 14 CY per container, assume a 1.5 FS	1,030 Roundtrips
Geotextile Bags	Roundtrips Equal - 24112 CY x .32 = 7716 CY / 14 CY per container = 690 bags Assume 14 CY material per bag, per container, assume a 1.5 FS	1,030 EA
Polymer	Roundtrips Equal - 29999 CY x .32 = 9599.68 CY * 1.08 ton/cy = 10,368 tons * 13 lbs per dry ton = 134779 13 lbs per dry ton dosage according to manufacturer specifications, assume a 1.5 FS	134,779 LB
Polymer System	Provided by manufacturer of polymer	9 Month

**2. Bid Estimate**

A. Rental Cost - Rotomite 6000 Dredge	\$29,885.00 per Month
	Source: SRS Crisafulli
	Initial month rental (includes dredge, 200' of floating discharge pipe, and optional traverse system)
	\$6,655.00 per Month
	Source: SRS Crisafulli
	Additional float pipe (800' of floating discharge pipe)
B. Rental Cost - Roll off Container	\$6,720.00 per Month
	Source: Baker Tanks
	20 yd roll off container
	\$200.00 per Roundtrip
	Source: Loading and Unloading
	20 yd roll off container
C. Unit Cost - Geotextile Bags	\$275.00 EA
	Source: US Fabrics
D. Unit Cost - Polymer System	\$10.00 LB
	Source: SNF Environmental
	Flopam C-6237and A6267
	\$4,375.00 per Month
	Source: SNF Environmental
	Monthly Lease
E. Unit Cost - Excavation	\$9.35 per CY
	Source:FDOT-2020
	subsoil Excavation

**3. Total Cost**

Dredge Rental	9 months x	\$29,885.00 per Month =	\$268,965
Dredge Pipe Rental	1 EA x 9 month	\$6,655.00 per Month =	\$59,895
Roll of Containers Rental	1 LS x 9 month	\$6,720.00 per Month =	\$60,480
Roll of Containers Muck Loading and Unloading	1,030 Roundtrips x	\$200.00 per Roundtrip =	\$206,000
Geotextile Bags	1,030 EA x	\$275.00 per EA =	\$283,250
Polymer	134,779 LB x	\$10.00 per LB =	\$1,347,790
Polymer System Rental	9 x month	\$4,375.00 per Month =	\$39,375
Littoral Edge and Remove Invasive Exotic Species	2,000 CY x	\$9.35 per CY =	\$18,700
		<b>Total Cost</b>	<b>\$2,284,455 LS</b>

Assumptions:

Construction Schedule - 10 hr day, 7 am - 5pm, 5 days a week  
2 days to dewater per container  
5 containers hauled/day

Bid Item Quantities and Cost

Project: City of Naples - Lake Manor Restoration  
 Prepared by: M. Szoka Date: 4/12/2020  
 Check by: G. Corning Date: 4/15/2020  
 Bid Item: 4 Stormwater Infrastructure Modifications

**1. Quantity**

A. Structures

I. Lake 19

1) Rectangular Inlet Filter	5 EA
2) Nutrient Separating Baffle Box	1 EA
3) Skimmer Plate	1 EA
4) FDOT Type C Inlet	1 EA
5) Reinforced Concrete Pipe	20 LF

II. Lake 11

1) Rectangular Inlet Filter	3 EA
2) Nutrient Separating Baffle Box	1 EA

III. Lake 31

1) Rectangular Inlet Filter	2 EA
2) Overflow Bypass Structure 5' x 1' x 6" reinforced concrete 210 sf x 1.5' deep x 160 lb/cf/2000 = *assume 160 lb/cf for riprap	5 CY 50 TN
3) Overflow Weir 5' x 10' x 6" reinforced concrete 128 sf x 1.5' deep x 160 lb/cf/2000 = *assume 160 lb/cf for riprap	50 CY 30 TN

B. Earthwork

I. Lake 19

1) Littoral Shelf/Shoreline Reconstruction	0.3 AC
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II. Lake 11

1) Littoral Shelf/Shoreline Reconstruction	0.4 AC
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III. Lake 31

1) Wetland Construction	3678.4 CY
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(0.57 ac \* 43560 \* 4)/27

**2. Unit Cost**

Rectangular Inlet Filter	\$559.67 per EA	Source: Flexstorm Inlet, \$550 in 2014, adjusted for \$ in 2020
Nutrient Separating Baffle Box	varies by size per EA	City of Naples- Spring Lake Restoration Assessment, 2019 Nutrient Separating Baffle Box, Oldcastle
Skimmer for Outlet Control Structure	\$2,000.00 per EA	Source: Previous Bids for Lake Manor Restoration Project
Reinforced Concrete	\$1,094.20 per CY	FDOT Class IV, Bulkhead
Littoral Shelf Reconstruction	\$30,000.00 per AC	City of Naples- Spring Lake Restoration Assessment, 2019 Littoral Shelf
Riprap	\$100.78 per TN	Source: FDOT 6 Month Statewide Average (2019/08/01 to 2020/01/31)
Wetland Plantings	\$8,000.00 per AC	Riprap, Bank and Shore Item: 0530 3 3
Reinforced Concrete Pipe	\$84.50 per LF	City of Naples- Costing Analysis for WQ Projects, 2019 Wetland Plantings
FDOT Type C Inlet	\$3,742.00 per EA	Source: FDOT-2012
Excavation	\$9.35 per CY	Source: FDOT-2020 subsoil Excavation
Hauling	\$3.24 per CY	Source: RSMeans - 2019 L# 312323200016 Hauling 8 C.Y. Truck, 1 mile RT, 10 min wait/Ld/Unld.
Compaction	\$1.76 per CY	Source: RSMeans - 2019 L# 312323240600 Compaction, structural vibratory plate, 8" lifts
	\$8.00 per CY	Source: FDOT 6 Month Statewide Average Fill

**3. Total Cost**

I. Lake 19

Rectangular Inlet Filter	5.00 EA	x	\$559.67	\$2,798.35
Nutrient Separating Baffle Box	1.00 EA	x	\$55,500.00	\$55,500.00
Skimmer Plate	1.00 EA	x	\$2,000.00	\$2,000.00
Littoral Shelf/Shoreline Reconstruction	0.30 AC	x	\$30,000.00	\$9,000.00
FDOT Type C Inlet	1.00 EA	x	\$3,742.00	\$3,742.00
Reinforced Concrete Pipe	20.00 LF	x	\$84.50	\$1,690.00
Wetland Plantings	0.30 AC	x	\$8,000.00	\$2,400.00
			<b>Subtotal</b>	<b>\$77,130.35</b>

II. Lake 11

Rectangular Inlet Filter	3.00 EA	x	\$559.67	\$1,679.01
Nutrient Separating Baffle Box	1.00 EA	x	\$136,000.00	\$136,000.00
Littoral Shelf/Shoreline Reconstruction	0.40 AC	x	\$30,000.00	\$12,000.00
Wetland Plantings	0.40 AC	x	\$8,000.00	\$3,200.00
			<b>Subtotal</b>	<b>\$152,879.01</b>

III. Lake 31

Rectangular Inlet Filter	2.00 EA	x	\$559.67	\$1,119.34
Overflow Bypass Structure	5.00 CY	x	\$1,094.20	\$5,471.00
	50.00 TN	x	\$100.78	\$5,039.00
Overflow Weir	50.00 CY	x	\$1,094.20	\$54,710.00
	30.00 TN	x	\$100.78	\$3,023.40
Wetland Construction	3678.40 CY	x	\$22.35	\$82,212.24
Wetland Plantings	0.50 AC	x	\$8,000.00	\$4,000.00
			<b>Subtotal</b>	<b>\$155,574.98</b>
			<b>Total Cost</b>	<b>\$385,584.34</b>

**Bid Item Quantities and Cost**

Project: City of Naples - Lake 19, 11, 31 Restoration

Prepared by: M. Szoka Date: 4/12/2020

Check by: G. Corning Date: 4/15/2020

Bid Item: 5 Public Outreach Amenities

**1. Quantity**

Lake 19		
5' Concrete Sidewalk	2500 SF	
	<u>277.78 SY</u>	
5' Pervious Asphalt Sidewalk	3,000 SF	
Swale	4800 SF	
Pedestrian Crosswalk Striping	2 EA	
Pedrestrian Crossing Sign	2 EA	
Educational Info Sign	1 EA	
Bench	2 EA	
Light Pole	3 EA	
Aeration System	1 EA	
Lake 11		
Educational Info Sign	1 EA	
Aeration System	1 EA	
Lake 31		
Aeration System	1 EA	

**2. Unit Cost**

5' Concrete Sidewalk	<u>\$57.55 SY</u>	Source: FDOT 6 Month Statewide Average (2019/08/01 to 2020/01/31) Concrete Sidewalk and Driveways, 6" 0522 2
5' Pervious Asphalt Sidewalk	<u>\$13.00 SF</u>	Source: American Society of Civil Engineers (ASCE). 2015. Permeable Pavements.
Swale	<u>\$7.25 per SF</u>	Source: FDOT 6 Month Statewide Average (2019/08/01 to 2020/01/31) and EasyPave Grid
Pedestrian Crosswalk Striping	<u>\$75.00 EA</u>	Source: SealMaster.net
Pedrestrian Crossing Sign	<u>\$46.25 EA</u>	Source: roadtrafficsigns.com Pedestrian crosswalk sign
Educational Info Sign	<u>\$1,500.00 EA</u>	Source: Artsignworks.com custom sign for parks
Light Pole	<u>\$3,350.00 EA</u>	Source: City of Naples Previous Bids
Aeration System - Lake 19	<u>\$11,000.00 EA</u>	Source: FL Keys Aeration

Aeration System - Lake 11	\$2,500.00	EA
		Source: FL Keys Aeration
Aeration System - Lake 31	\$900.00	EA
		Source: FL Keys Aeration
Bench	\$2,000.00	EA
		Source: City of Naples Previous Bids

**3. Total Cost**

Lake 19		
5' Concrete Sidewalk	\$15,986.11	
5' Pervious Asphalt Sidewalk	\$39,000.00	
Swale	\$34,800.00	
Pedestrian Crosswalk Striping	\$150.00	
Pedestrian Crossing Sign	\$92.50	
Educational Info Sign	\$1,500.00	
Bench	\$4,000.00	
Light Pole	\$10,050.00	
Aeration System	\$11,000.00	
	<b>Subtotal</b>	<b>\$116,578.61</b>
Lake 11		
Educational Info Sign	\$1,500.00	
Aeration System	\$2,500.00	
	<b>Subtotal</b>	<b>\$4,000.00</b>
Lake 31		
Aeration System	\$900.00	
	<b>Subtotal</b>	<b>\$900.00</b>
	<b>Total Cost</b>	<b>\$121,478.61</b>



Bid Item Quantities and Cost

Project: City of Naples - Lake 19, 11, 31 Restoration

Prepared by: M. Szoka Date: 4/12/2020

Check by: G. Corning Date: 4/15/2020

Bid Item: 6 Vegetative Measures

**1. Quantity**

<u>Lake 19</u>			
Dahoon Holly			<u>6</u> Trees
25 Gal, 5' MIIN. SPRD			
Golden leather fern			<u>9</u> Plants
1 Gal., 12" O.C.			
Muhly Grass			<u>24</u> Plants
3 Gal., 30" O.C.			
Golden Creeper			<u>5</u> Plants
3 Gal., 30" O.C.			
Lemon bacopa			<u>19</u> Plants
3 Gal., 36" O.C.			
Dwarf Firebush			<u>5</u> Plants
3 Gal., 36" O.C.			
Beach Sunflower			<u>24</u> Plants
7 Gal., 4' O.C.			
Marshhay Cordgrass			<u>18</u> Plants
7 Gal., 4' O.C.			
Bahia Sod			<u>4,000</u> SF
Littoral Mix A.			
Waterlily	Bare root, 18" O.C.		<u>894</u> Plants
Littoral Mix B.			
Bullrush	Bare root, 18" O.C.		<u>232</u> Plants
Spikerush	Bare root, 18" O.C.		<u>232</u> Plants
Littoral Mix C.			
Duck Potato	1 Gal., 24" O.C.		<u>169</u> Plants
Arrowhead	Bare root, 18" O.C.		<u>169</u> Plants
Littoral Mix D.			
Cinnamon fern	1 Gal., 24" O.C.		<u>169</u> Plants
Swamp Rosemallow	1 Gal., 24" O.C.		<u>169</u> Plants
<u>Lake 11</u>			
Dahoon Holly			<u>1</u> Trees
25 Gal, 5' MIIN. SPRD			
Golden leather fern			<u>5</u> Plants
1 Gal., 24" O.C.			
Muhly Grass			<u>8</u> Plants
3 Gal., 30" O.C.			
Golden Creeper			<u>2</u> Plants
3 Gal., 30" O.C.			
Lemon bacopa			<u>2</u> Plants
3 Gal., 36" O.C.			
Dwarf Firebush			<u>2</u> Plants
3 Gal., 36" O.C.			
Beach Sunflower			<u>4</u> Plants
7 Gal., 4' O.C.			
Marshhay Cordgrass			<u>6</u> Plants
7 Gal., 4' O.C.			
Bahia Sod			<u>2,000</u> SF
Littoral Mix A.			
Waterlily	Bare root, 18" O.C.		<u>212</u> Plants
Littoral Mix B.			
Bullrush	Bare root, 18" O.C.		<u>103</u> Plants
Spikerush	Bare root, 18" O.C.		<u>103</u> Plants
Littoral Mix C.			
Duck Potato	1 Gal., 24" O.C.		<u>90</u> Plants
Arrowhead	Bare root, 18" O.C.		<u>90</u> Plants
Littoral Mix D.			
Cinnamon fern	1 Gal., 24" O.C.		<u>90</u> Plants
Swamp Rosemallow	1 Gal., 24" O.C.		<u>90</u> Plants

Lake 31

Muhly Grass			9 Plants
3 Gal., 30" O.C.			
Golden Creeper			9 Plants
3 Gal., 30" O.C.			
Lemon bacopa			7 Plants
3 Gal., 36" O.C.			
Dwarf Firebush			9 Plants
3 Gal., 36" O.C.			
Beach Sunflower			9 Plants
7 Gal., 4' O.C.			
Marshhay Cordgrass			7 Plants
7 Gal., 4' O.C.			
Bahia Sod			2,000 SF
Littoral Mix A.			
Waterlily	Bare root, 18" O.C.		1,067 Plants
Littoral Mix B.			
Bullrush	Bare root, 18" O.C.		360 Plants
Spikerush	Bare root, 18" O.C.		360 Plants
Littoral Mix C.			
Duck Potato	1 Gal., 24" O.C.		150 Plants
Arrowhead	Bare root, 18" O.C.		150 Plants
Littoral Mix D.			
Cinnamon fern	1 Gal., 24" O.C.		170 Plants
Swamp Rosemallow	1 Gal., 24" O.C.		170 Plants

**2. Unit Cost**

Dahoon Holly			\$174.95 per tree	
2.5" CAL., 10, MIN. HT., 5' MIIN. SPRD				Source: Florida Nursery Mart
Golden leather fern			\$8.95 per container	
3 Gal., 24" O.C.				Source: Dave's Garden
Muhly Grass			\$8.75 per container	
3 Gal., 30" O.C.				Source: Florida Nursery Mart
Golden Creeper			\$15.00 per container	
3 Gal., 30" O.C.				Source: Florida Nursery Mart
Lemon bacopa			\$168.00 Plants	
3 Gal., 36" O.C.				Source: the pond guy
Dwarf Firebush			\$8.75 per container	
3 Gal., 36" O.C.				Source: Florida Nursery Mart
Beach Sunflower			\$46.00 Plants	
7 Gal., 4' O.C.				Source: Burpee
Marshhay Cordgrass			\$3.75 per container	
7 Gal., 4' O.C.				Source: TN Wholesale Nursery
Bahia Sod			\$4.00 SF	
				Source: Sod Depot
Littoral Mix A.				
Waterlily	Bare root, 18" O.C.		\$5.00 each	
				Source: the pond guy
Littoral Mix B.				
Bullrush	Bare root, 18" O.C.		\$2.00 each	
Spikerush	Bare root, 18" O.C.		\$2.00 each	
				Source: the pond guy
Littoral Mix C.				
Duck Potato	1 Gal., 24" O.C.		\$6.00 each	
Arrowhead	1 Gal., 24" O.C.		\$5.00 each	
				Source: the pond guy
Littoral Mix D.				
Cinnamon fern	1 Gal., 24" O.C.		\$10.00 per container	
Swamp Rosemallow	1 Gal., 24" O.C.		\$10.00 per container	
				Source: the pond guy

**3. Total Cost**

<u>Lake 19</u>			
Dahoon Holly			\$1,049.70 Trees
25 Gal., 5' MIIN. SPRD			
Golden leather fern			\$80.55 Plants
1 Gal., 12" O.C.			
Muhly Grass			\$210.00 Plants
3 Gal., 30" O.C.			
Golden Creeper			\$75.00 Plants
3 Gal., 30" O.C.			
Lemon bacopa			\$3,192.00 Plants
3 Gal., 36" O.C.			
Dwarf Firebush			\$43.75 Plants
3 Gal., 36" O.C.			
Beach Sunflower			\$1,104.00 Plants
7 Gal., 4' O.C.			
Marshhay Cordgrass			\$67.50 Plants
7 Gal., 4' O.C.			
Bahia Sod			\$16,000.00 SF
Littoral Mix A.			
Waterlily	Bare root, 18" O.C.		\$4,470.00 Plants
Littoral Mix B.			
Bullrush	Bare root, 18" O.C.		\$464.00 Plants
Spikerush	Bare root, 18" O.C.		\$464.00 Plants
Littoral Mix C.			
Duck Potato	1 Gal., 24" O.C.		\$1,014.00 Plants
Arrowhead	Bare root, 18" O.C.		\$845.00 Plants
Littoral Mix D.			
Cinnamon fern	1 Gal., 24" O.C.		\$1,690.00 Plants
Swamp Rosemallow	1 Gal., 24" O.C.		\$1,690.00 Plants
	<b>Subtotal</b>		<b>\$32,459.50</b>
<u>Lake 11</u>			
Dahoon Holly			\$174.95 Trees
25 Gal., 5' MIIN. SPRD			
Golden leather fern			\$44.75 Plants
1 Gal., 24" O.C.			
Muhly Grass			\$70.00 Plants
3 Gal., 30" O.C.			
Golden Creeper			\$30.00 Plants
3 Gal., 30" O.C.			
Lemon bacopa			\$336.00 Plants
3 Gal., 36" O.C.			
Dwarf Firebush			\$17.50 Plants
3 Gal., 36" O.C.			
Beach Sunflower			\$184.00 Plants
7 Gal., 4' O.C.			
Marshhay Cordgrass			\$22.50 Plants
7 Gal., 4' O.C.			
Bahia Sod			\$8,000.00 SF
Littoral Mix A.			
Waterlily	Bare root, 18" O.C.		\$1,060.00 Plants
Littoral Mix B.			
Bullrush	Bare root, 18" O.C.		\$206.00 Plants
Spikerush	Bare root, 18" O.C.		\$206.00 Plants
Littoral Mix C.			
Duck Potato	1 Gal., 24" O.C.		\$540.00 Plants
Arrowhead	Bare root, 18" O.C.		\$450.00 Plants
Littoral Mix D.			
Cinnamon fern	1 Gal., 24" O.C.		\$900.00 Plants
Swamp Rosemallow	1 Gal., 24" O.C.		\$900.00 Plants
	<b>Subtotal</b>		<b>\$13,141.70</b>
<u>Lake 31</u>			
Muhly Grass			\$78.75 Plants
3 Gal., 30" O.C.			
Golden Creeper			\$135.00 Plants
3 Gal., 30" O.C.			
Lemon bacopa			\$1,176.00 Plants
3 Gal., 36" O.C.			
Dwarf Firebush			\$78.75 Plants
	<b>WOOD</b>		

3 Gal., 36" O.C.			
Beach Sunflower			<u>\$414.00</u> Plants
7 Gal., 4' O.C.			
Marshhay Cordgrass			<u>\$26.25</u> Plants
7 Gal., 4' O.C.			
Bahia Sod			<u>\$8,000.00</u> SF
Littoral Mix A.			
Waterlily	Bare root, 18" O.C.		<u>\$5,335.00</u> Plants
Littoral Mix B.			
Bullrush	Bare root, 18" O.C.		<u>\$720.00</u> Plants
Spikerush	Bare root, 18" O.C.		<u>\$720.00</u> Plants
Littoral Mix C.			
Duck Potato	1 Gal., 24" O.C.		<u>\$900.00</u> Plants
Arrowhead	Bare root, 18" O.C.		<u>\$750.00</u> Plants
Littoral Mix D.			
Cinnamon fern	1 Gal., 24" O.C.		<u>\$1,700.00</u> Plants
Swamp Rosemallow	1 Gal., 24" O.C.		<u>\$1,700.00</u> Plants
	<b>Subtotal</b>		<b>\$21,733.75</b>
	<b>Total Cost</b>		<b>\$112,936.15</b>

Bid Item Quantities and Cost

Project: City of Naples - Lake 19, 11, 31 Restoration

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Prepared by: M. Szoka Date: 4/10/2020

Check by: G. Corning Date: 4/15/2020

Bid Item: 7 Construction Surveys

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**1. Quantity**

A. Construction Surveys

Survey Stake Out and Construction Layout	<u>120</u> hours
As-built and Record Drawings	<u>80</u> hours

**2. Bid Estimate**

Survey Stake Out and Construction Layout	
Rodman	\$50 hour
Instrument	\$70 hour
Licensed Surveyor	<u>\$120</u> hour
	\$240 hour
As-built and Record Drawings	Source: Wood, 2020
Licensed Surveyor	\$120 hour
Draftsman	<u>\$70</u> hour
	\$190 Source: Wood, 2020

**3. Total Cost**

Survey Stake Out and Construction Layout		
<u>120</u> hours x	<u>\$240</u> per hour =	<u>\$28,800</u>
As-built and Record Drawings		
<u>80</u> hours x	<u>\$190</u> per hour =	<u>\$15,200</u>
	<b>Total Cost</b>	<b><u>\$44,000</u></b>