

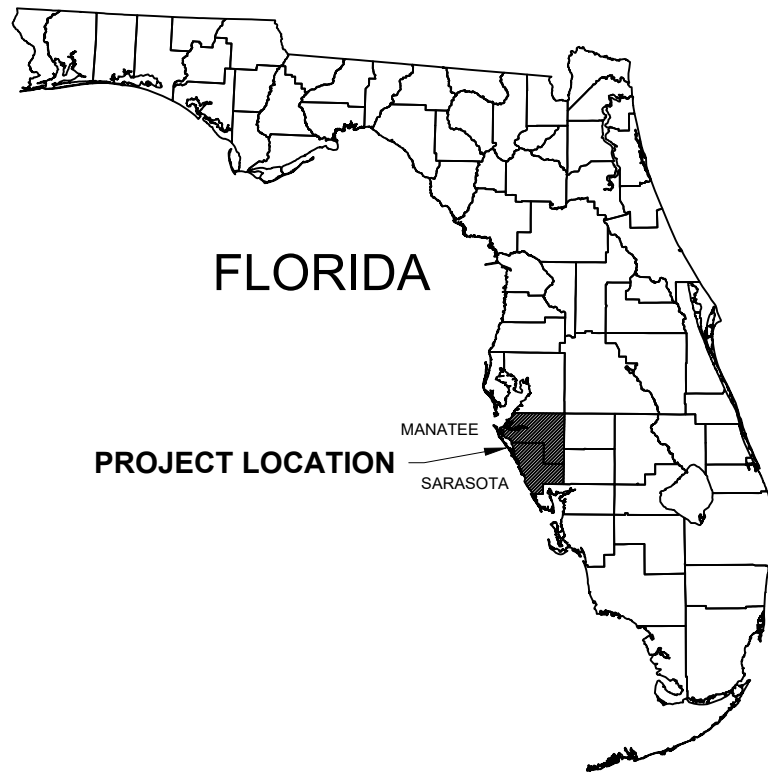
**DEPARTMENT OF THE ARMY PERMIT APPLICATION  
SEPTEMBER 2019**

**TOWN OF LONGBOAT KEY  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA**

**PERMIT DRAWINGS**

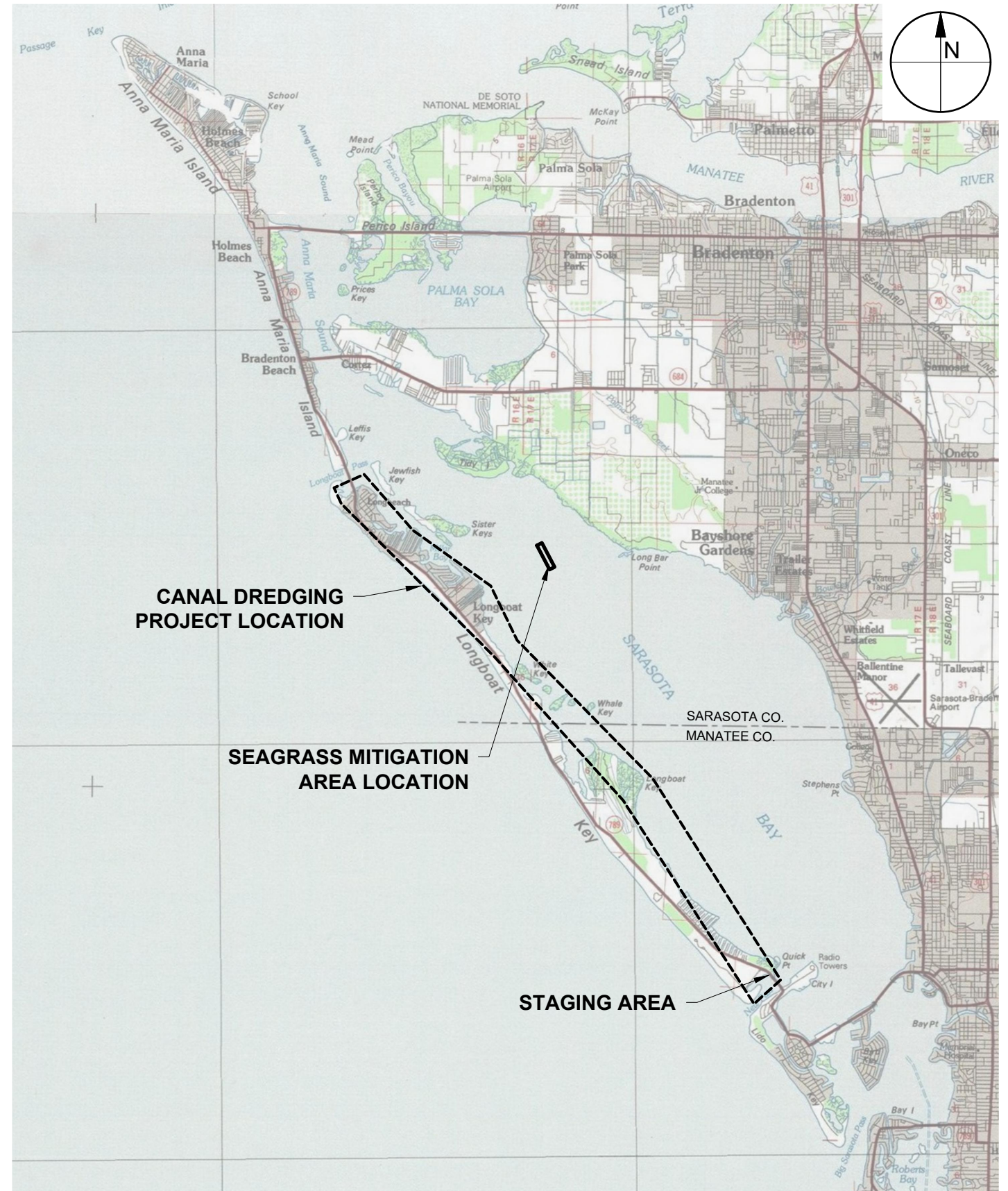
# LONGBOAT KEY CANAL MAINTENANCE DREDGING

## MANATEE & SARASOTA COUNTIES, FLORIDA



### DRAWING INDEX

- C-1 TITLE SHEET
- C-2 PROJECT OVERVIEW
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- C-12 CANAL 18 DREDGING PLAN
- C-13 CANAL 20P & 21A DREDGING PLAN
- C-14 CANAL 21P DREDGING PLAN
- C-15 CANAL 22A DREDGING PLAN
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- C-18 TYPICAL CROSS-SECTIONS
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- C-20 MITIGATION PLAN AND CROSS-SECTIONS
- C-21 EROSION CONTROL DETAILS



VICINITY MAP  
1" = 2 MILES

PROJECT	C2016-006
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FIGURE C-1  
TITLE SHEET  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

**TAYLOR ENGINEERING INC.**  
1800 2ND STREET  
SUITE 714  
SARASOTA, FLORIDA 34236  
CERTIFICATE OF AUTHORIZATION # 4815

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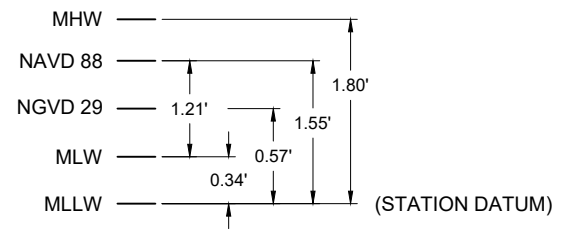
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YEHYA S. SIDDIQUI P.E. #67400

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- GENERAL NOTES:**
- ELEVATIONS REFERENCE MEAN LOW WATER (MLW) ON ALL SHEETS EXCEPT FOR SHEET C-20 "MITIGATION PLAN AND CROSS-SECTIONS", WHICH REFERENCES NAVD88
  - SURVEY BY HYATT SURVEY INC, AUGUST 2017
  - ALL DREDGE CUTS PROPOSED IN ACCORDANCE WITH REQUIRED DREDGE SUMMARY TABLE SHOWN ON SHEET C-3
  - CONTRACTOR STAGING AREA LOCATED AT OVERLOOK PARK ADJACENT TO THE NEW PASS BRIDGE ABUTMENT IN SOUTH LONGBOAT KEY
  - STAGING AREA MAY BE USED TO STOCKPILE MATERIALS AND EQUIPMENT
  - CHANNEL BOTTOM CUT WITH VARIES
  - CONTRACTOR SHALL PERFORM SPOT DREDGING ONLY AS IDENTIFIED BY CROSS-HATCHED AREAS

TIDAL DATUM REFERENCE (NOAA CORTEZ STATION 8726217):  
 NOTE: 0 NAVD-88 = +1.21 MLW



**SAV IMPACT SUMMARY TABLE**

CANAL	IMPACT AREA (SQ. FT.)	IMPACT AREA (ACRES)
1	1654	0.04
18	360	0.01
21A	9341	0.21
21P	23744	0.55
22A	18068	0.41
55	2763	0.06
55A	3945	0.09
<b>TOTAL</b>	<b>59875</b>	<b>1.37</b>

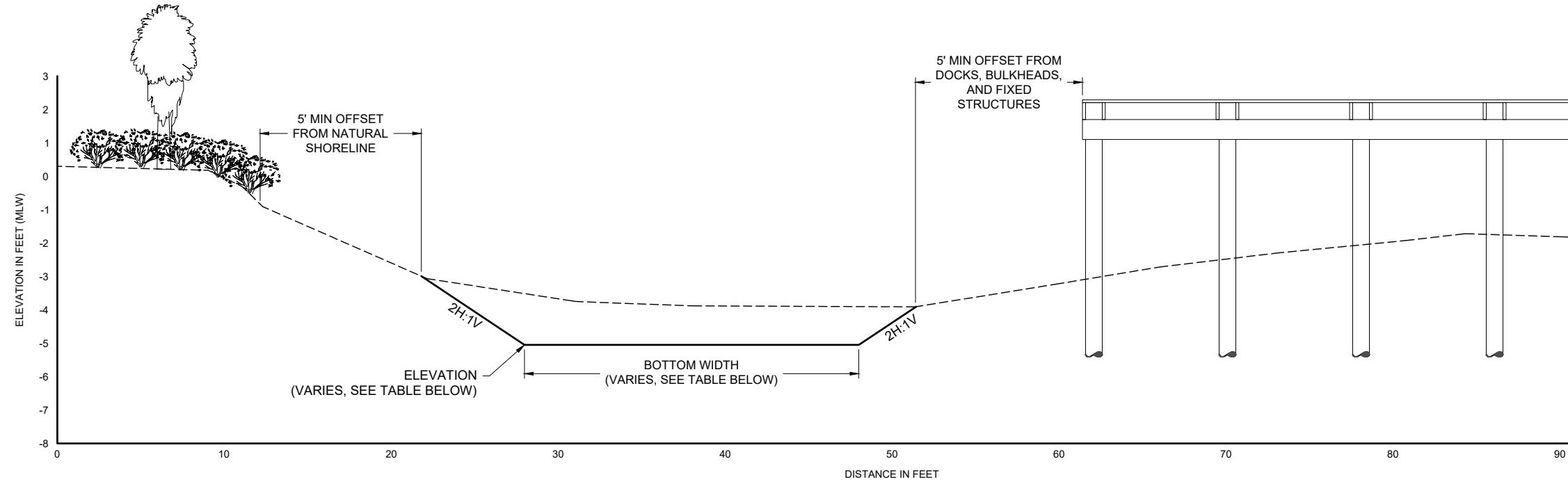


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FIGURE C-2  
 PROJECT OVERVIEW  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

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**TYPICAL CANAL DREDGING SECTION**  
NOT TO SCALE

**PROPOSED CANAL DREDGING SUMMARY TABLE**

CANAL	SEGMENT	STATION START	STATION END	BOTTOM WIDTH	ELEVATION (MLW)	CUT VOLUME (CY)	SEE SHEET
CANAL 01	1	9+14	11+29	20	-4	9	C-8
	2	11+98	13+79	20	-4	24	C-8
	3	14+68	18+08	20	-4	260	C-8
	4	18+74	19+43	20	-4	48	C-8
CANAL 02	1	0+00	3+94	30	-5	1000	C-9
	2	3+94	6+19	3	-5	99	C-9
CANAL 02B	1	0+48	1+75	15	-5	117	C-9
CANAL 03	1	0+00	7+27	2	-4	254	C-10
CANAL 06	1	0+00	4+06	4	-4	92	C-11
	2	4+06	8+96	10	-4	126	C-11
CANAL 18	1	0+00	3+03	0	-3	44	C-12
	2	3+03	18+55	4	-3	218	C-12
CANAL 20P	1	1+61	2+21	15	-5	61	C-13
	2	2+21	3+51	0	-3	37	C-13
	3	3+51	4+44	15	-5	102	C-13
CANAL 21A	1	0+46	2+94	20	-5	363	C-13
	2	6+95	8+94	20	-5	301	C-13
CANAL 21P	1	1+07	9+44	10	-5	1529	C-14
	2	10+64	13+28	10	-5	293	C-14
	3	16+16	16+70	10	-5	42	C-14
	4	16+70	17+44	0	-5	42	C-14
	5	17+44	18+72	10	-5	207	C-14
CANAL 22A	1	1+39	13+81	15	-5	1819	C-15
CANAL 32P	1	45+15	51+56	20	-5	1000	C-16
	2	64+54	67+52	20	-5	453	C-16
CANAL 49	1	0+00	0+95	15	-5	88	C-16
CANAL 55	1	20+30	22+29	15	-5	218	C-17
CANAL 55A	1	1+27	5+80	2	-5	207	C-17
TOTAL						9051	

PROJECT: C2016-006  
DRAWN BY: AF  
SHEET: 3 of 21  
DATE: SEPT 2019

FIGURE C-3  
TYPICAL SECTION AND REQUIRED DREDGING TABLE  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

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LONGBOAT PASS

SARASOTA BAY

GULF INTRACOASTAL WATERWAY (GIWW)

CANAL 01

CANAL 02

CANAL 02B

CANAL 06

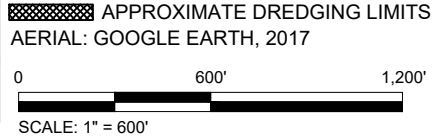
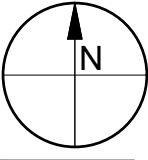
SEE FIGURE C-8

SEE P03, FIGURE C-9

SEE P04, FIGURE C-9

SEE P05, FIGURE C-10

SEE P06, FIGURE C-11



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DATE		SEPT 2019	
SEAL			
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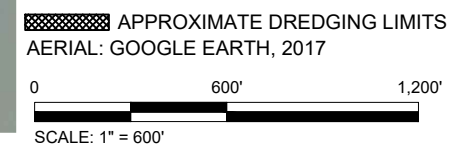
FIGURE C-4	
CANAL OVERVIEW	
LONGBOAT KEY CANAL MAINTENANCE DREDGING	
MANATEE & SARASOTA COUNTIES, FLORIDA	

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PROJECT	C2016-006
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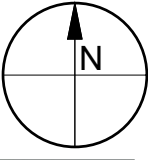
FIGURE C-5  
 CANAL OVERVIEW  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

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DATE	SEPT 2019

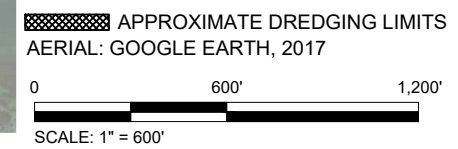
FIGURE C-6  
 CANAL OVERVIEW  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

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PROJECT	C2016-006
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DATE	SEPT 2019

FIGURE C-7  
 CANAL OVERVIEW  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

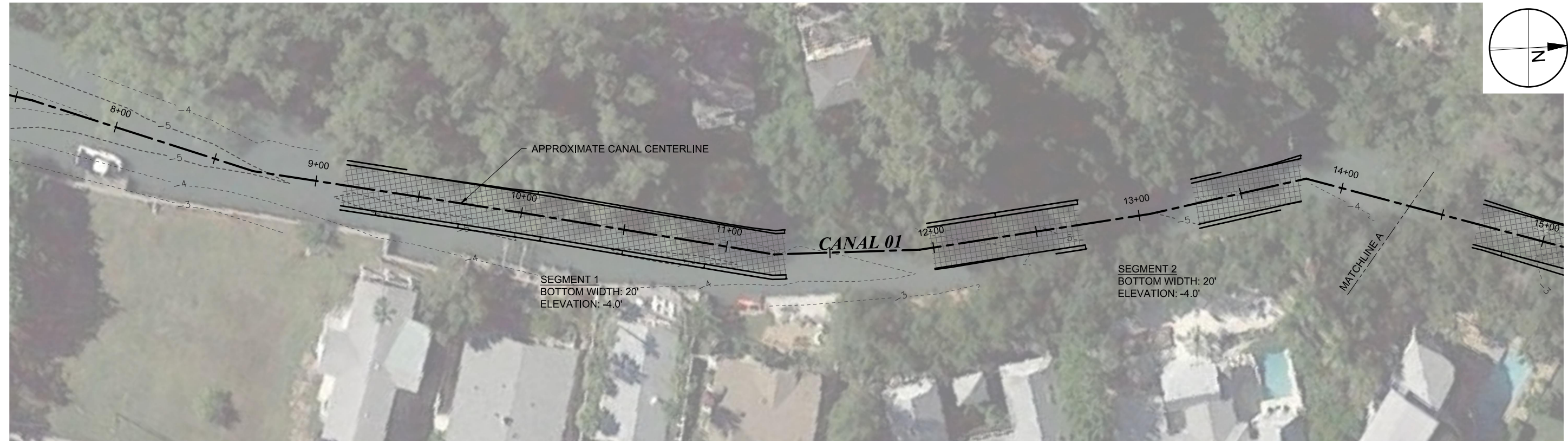
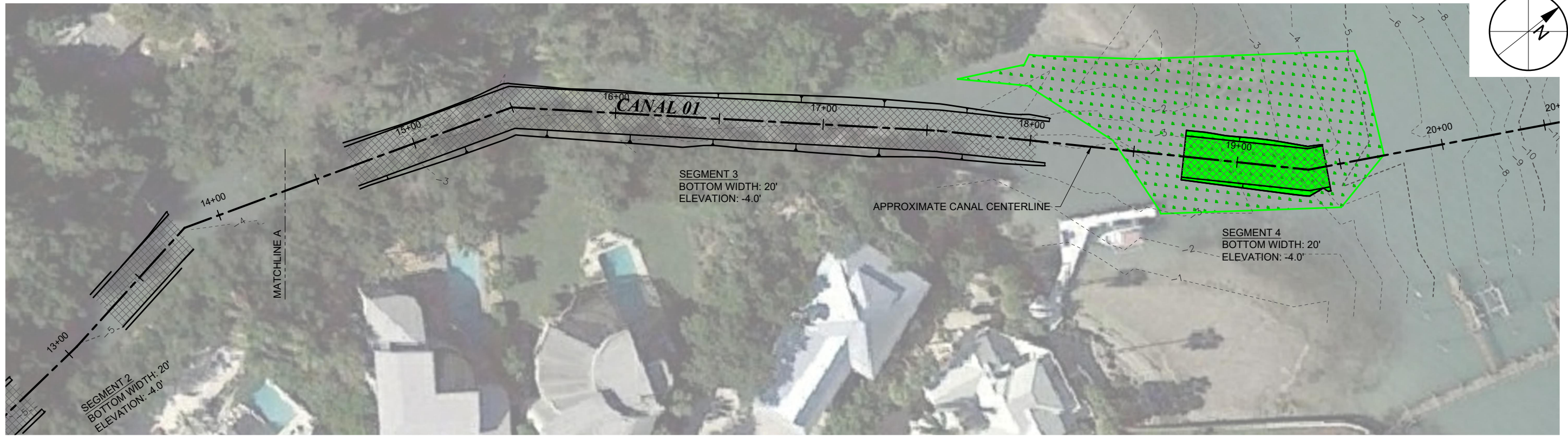
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 DATE



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**LEGEND:**

- 0 --- EXISTING BATHYMETRY
- CANAL BOTTOM LIMITS
- CANAL CENTERLINE
- APPROXIMATE DREDGING LIMITS
- SAV LIMIT
- SAV IMPACTS
- 2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017

P02 CANAL 01  
 C-4 SCALE: 1" = 50' 0 50'

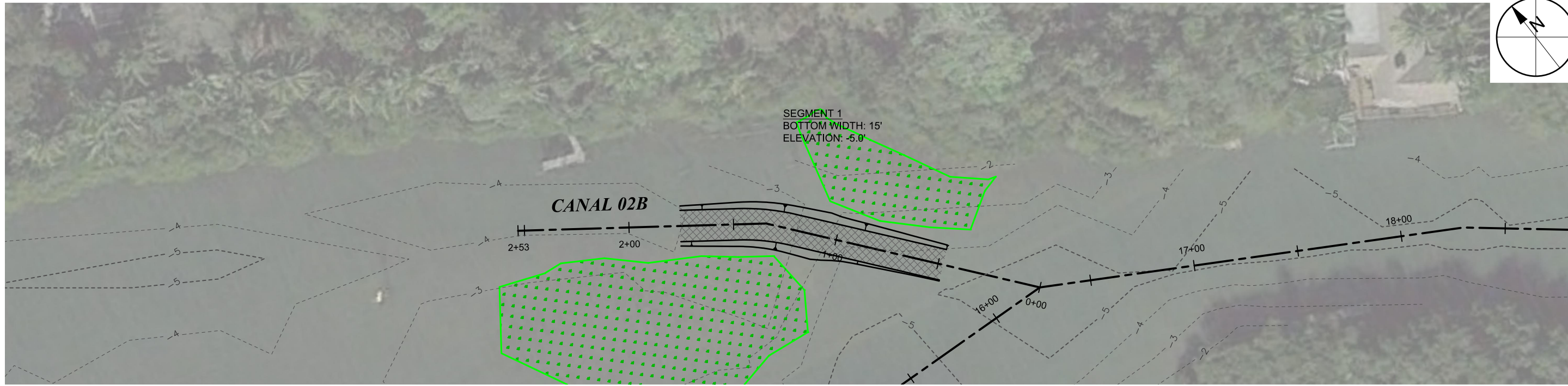
PROJECT	C2016-006
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DATE	SEPT 2019

FIGURE C-8  
 CANAL 1 DREDGING PLAN  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

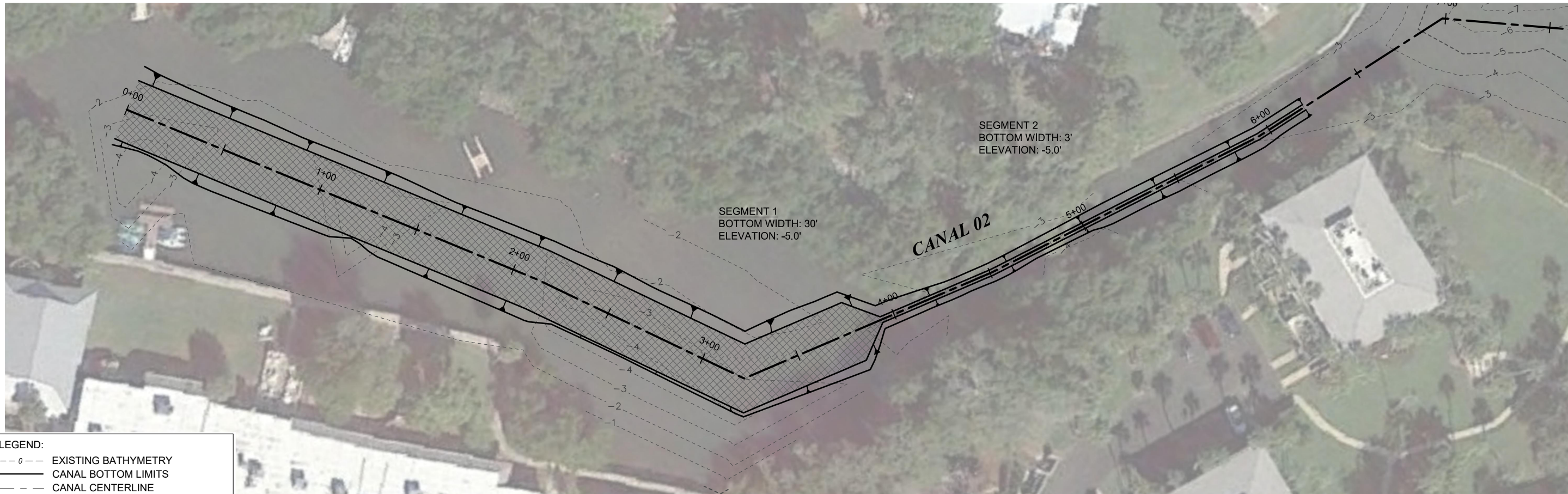
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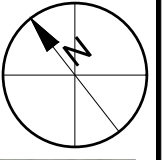
P04  
C-4 CANAL 02B  
SCALE: 1" = 50'



P03  
C-4 CANAL 02  
SCALE: 1" = 50'

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- LEGEND:**
- 0 --- EXISTING BATHYMETRY
  - CANAL BOTTOM LIMITS
  - CANAL CENTERLINE
  - APPROXIMATE DREDGING LIMITS
  - SAV LIMIT
  - SAV IMPACTS
  - 2H:1V SIDE SLOPES
- AERIAL: GOOGLE EARTH, 2017



PROJECT	C2016-006
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SEAL	
YEHYA S. SIDDIQUI P.E. #87400	

FIGURE C-9  
CANAL 2 & 2B DREDGING PLAN  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

**TAYLOR ENGINEERING INC.**  
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APPROXIMATE CANAL CENTERLINE

SEGMENT 1  
BOTTOM WIDTH: 2'  
ELEVATION: -4.0'

P05 CANAL 03  
C-4 SCALE: 1" = 50' 0 50'

LEGEND:

--- 0 ---	EXISTING BATHYMETRY
— — — — —	CANAL BOTTOM LIMITS
— — — — —	CANAL CENTERLINE
▨	APPROXIMATE DREDGING LIMITS
▨	SAV LIMIT
▨	SAV IMPACTS
▲	2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017

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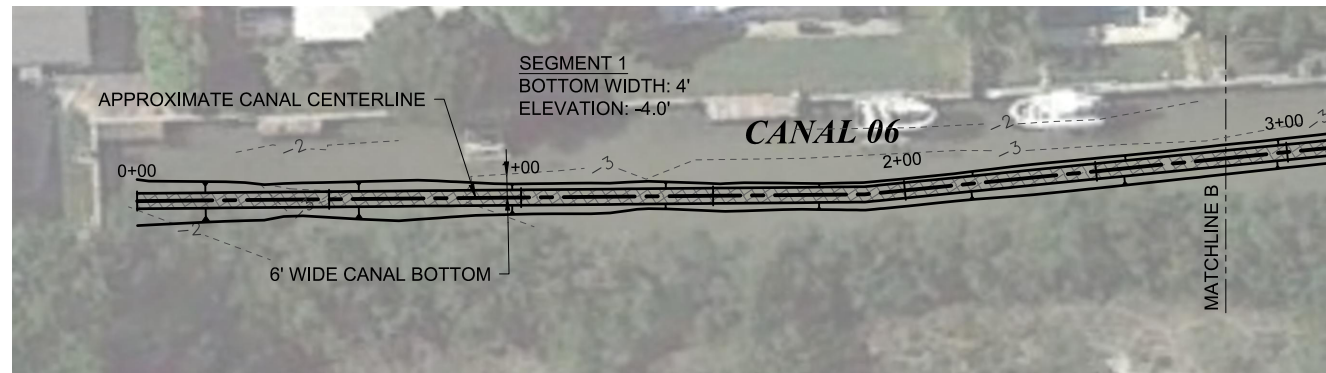
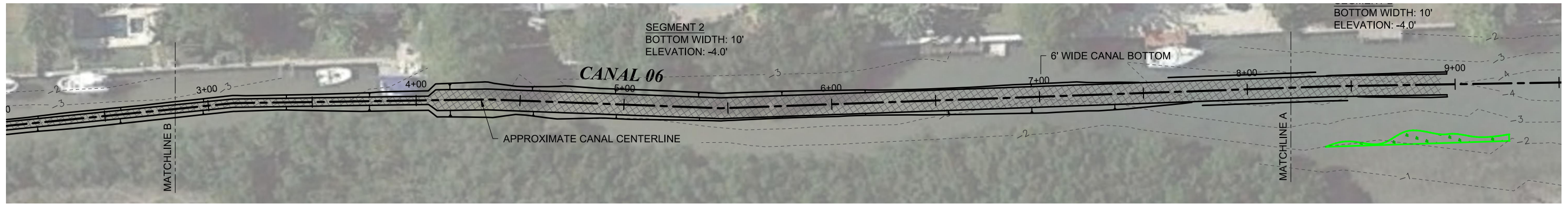
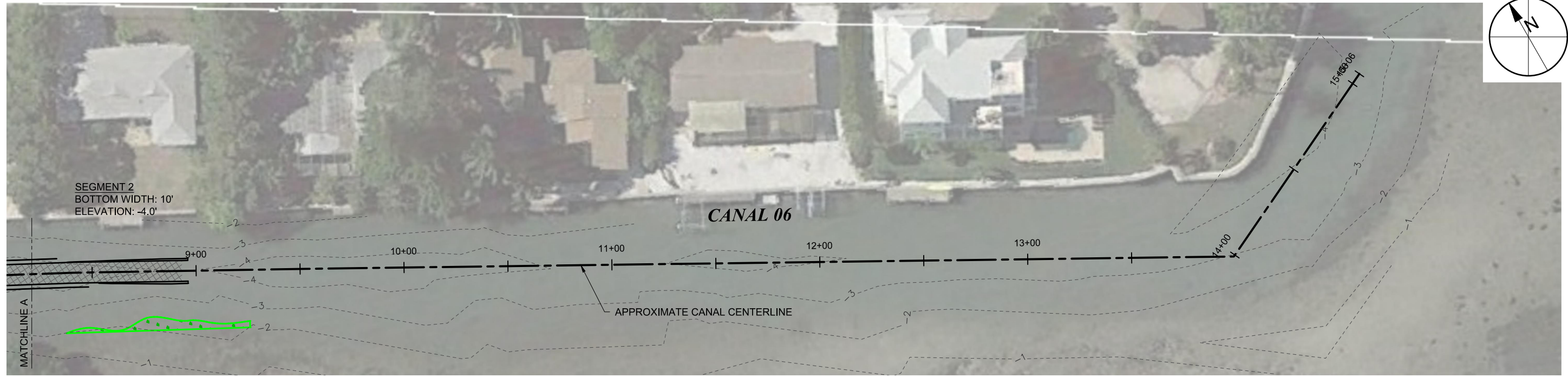
FIGURE C-10  
 CANAL 3 DREDGING PLAN  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

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**LEGEND:**

- EXISTING BATHYMETRY
- CANAL BOTTOM LIMITS
- CANAL CENTERLINE
- APPROXIMATE DREDGING LIMITS
- SAV LIMIT
- SAV IMPACTS
- 2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017

P06
C-4
**CANAL 06**  
 SCALE: 1" = 50'
 

0
50'

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DATE	SEPT 2019		

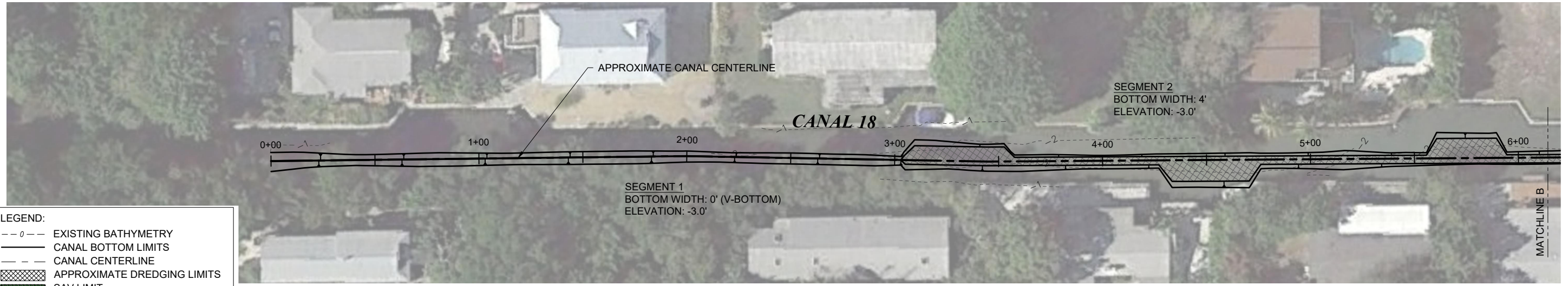
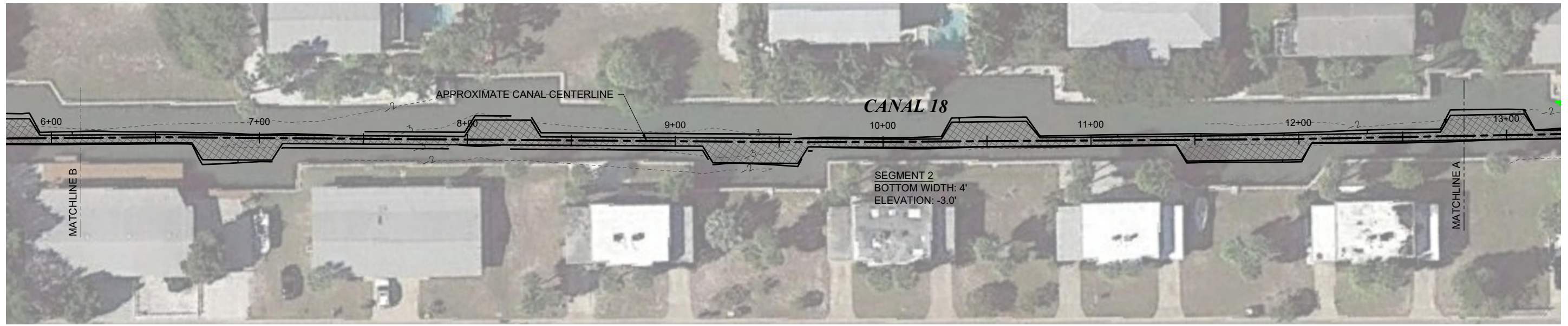
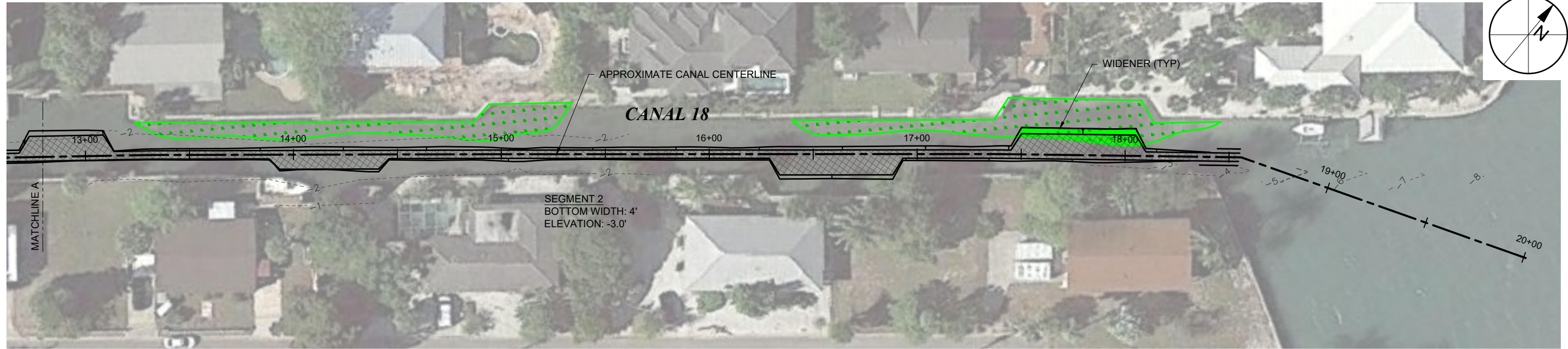
YEHYA S. SIDDIQUI P.E. #97400

**FIGURE C-11**  
**CANAL 6 DREDGING PLAN**  
**LONGBOAT KEY CANAL MAINTENANCE DREDGING**  
**MANATEE & SARASOTA COUNTIES, FLORIDA**

**TAYLOR ENGINEERING INC.**  
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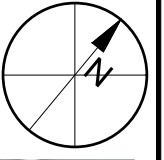


**LEGEND:**

- 0 --- EXISTING BATHYMETRY
- CANAL BOTTOM LIMITS
- CANAL CENTERLINE
- APPROXIMATE DREDGING LIMITS
- SAV LIMIT
- SAV IMPACTS
- 2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017

P07 CANAL 18  
C-5 SCALE: 1" = 50'



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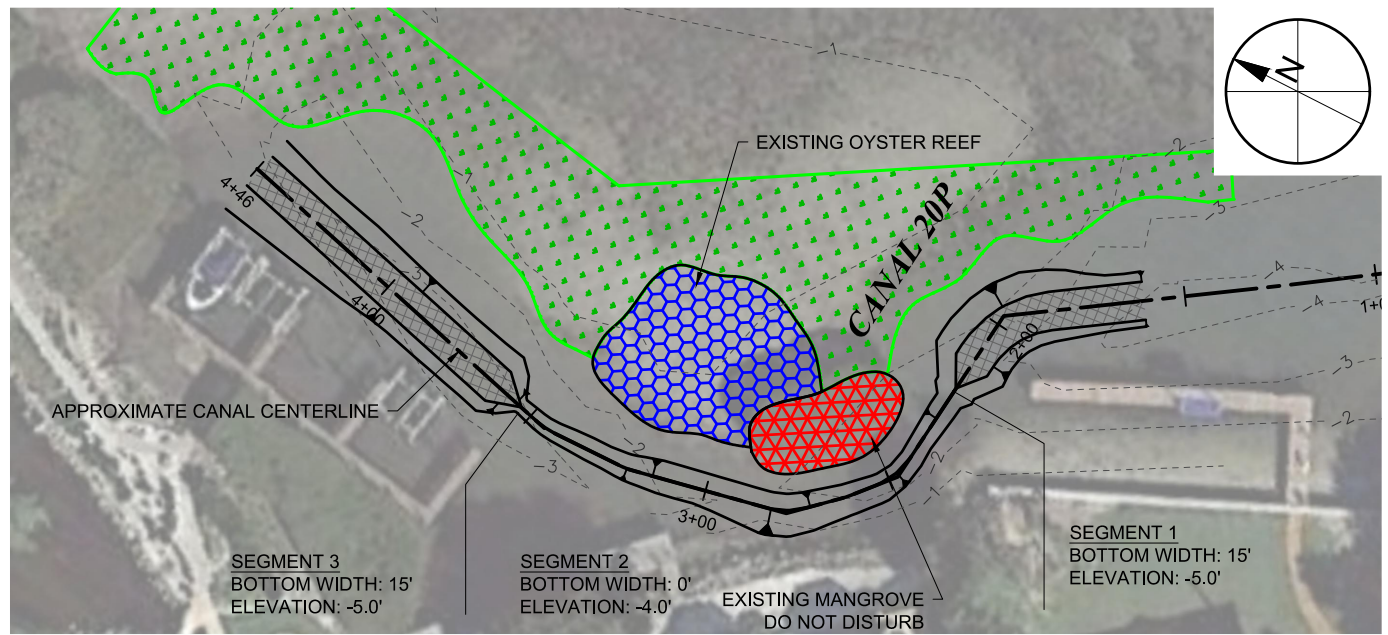
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FIGURE C-12  
CANAL 18 DREDGING PLAN  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

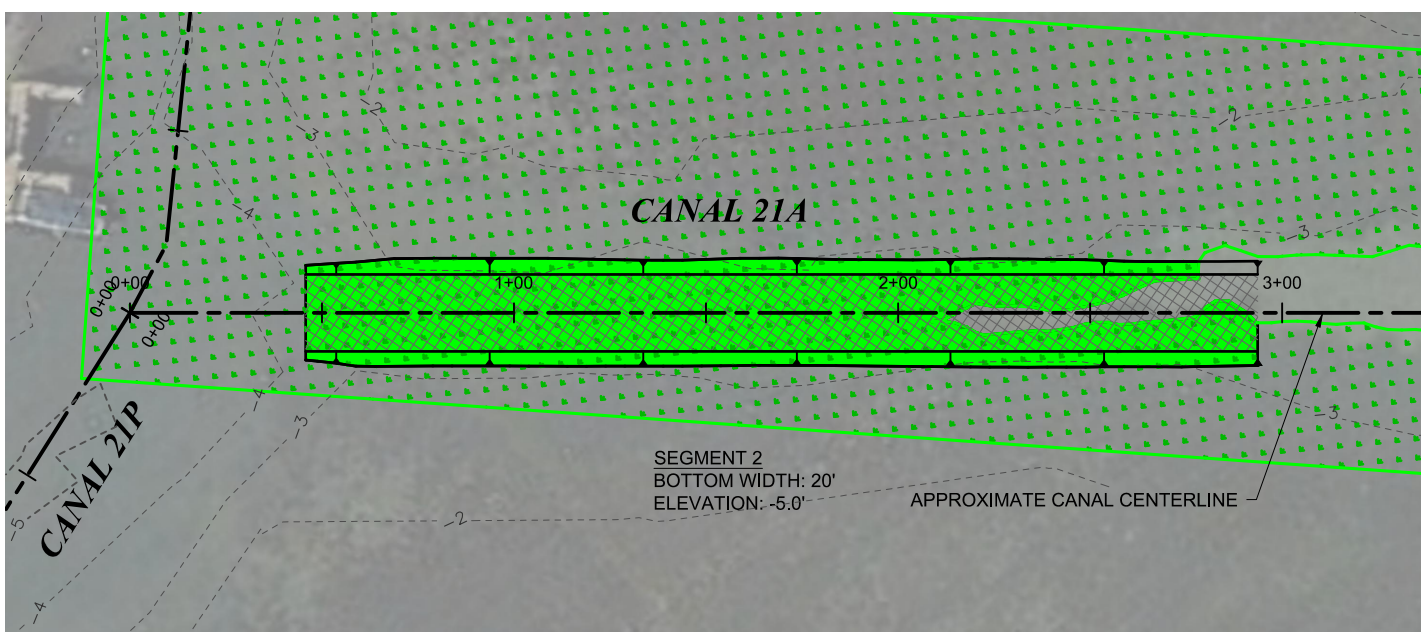
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CERTIFICATE OF AUTHORIZATION # 4815

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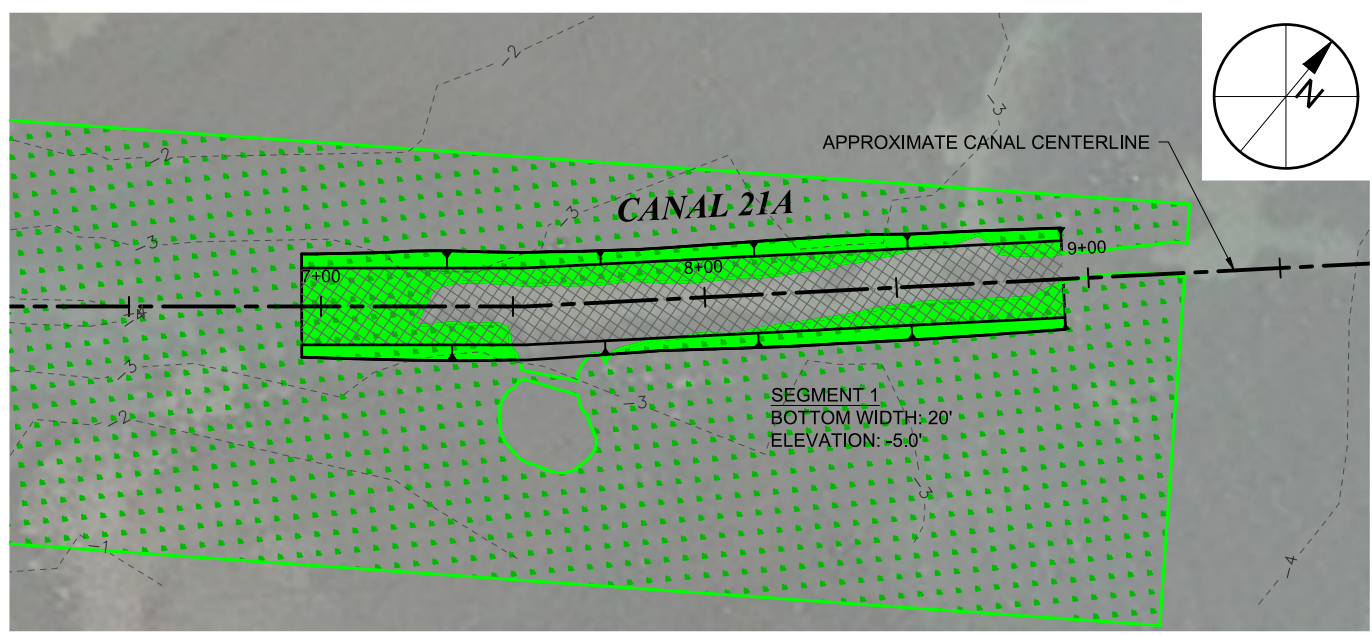
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**P08 CANAL 20P**  
C-5 SCALE: 1" = 50' 0 50'



**P09 CANAL 21A**  
C-5 SCALE: 1" = 50' 0 50'



**LEGEND:**

- 0 --- EXISTING BATHYMETRY
- CANAL BOTTOM LIMITS
- - - CANAL CENTERLINE
- APPROXIMATE DREDGING LIMITS
- SAV LIMIT
- SAV IMPACTS
- 2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017

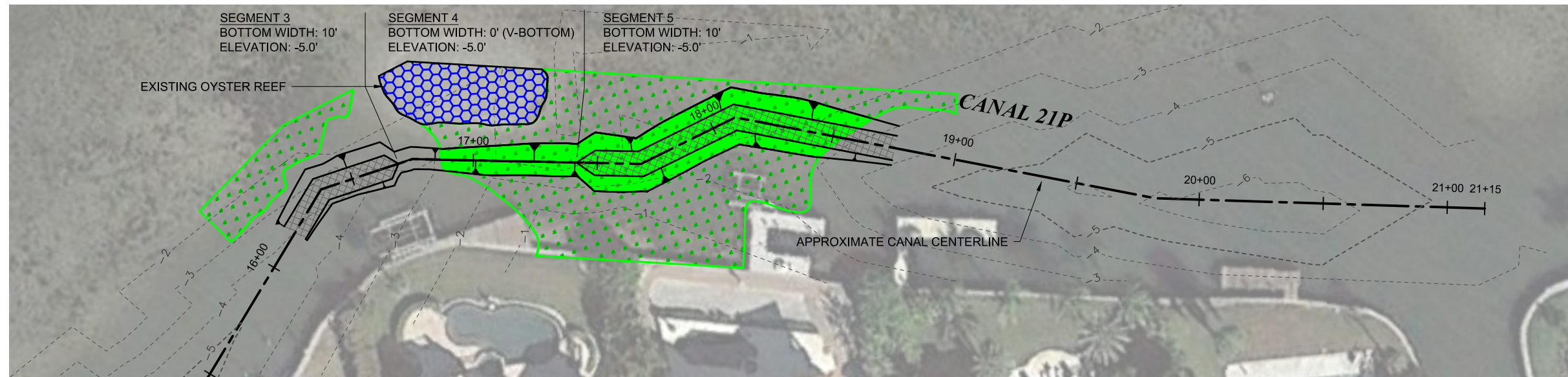
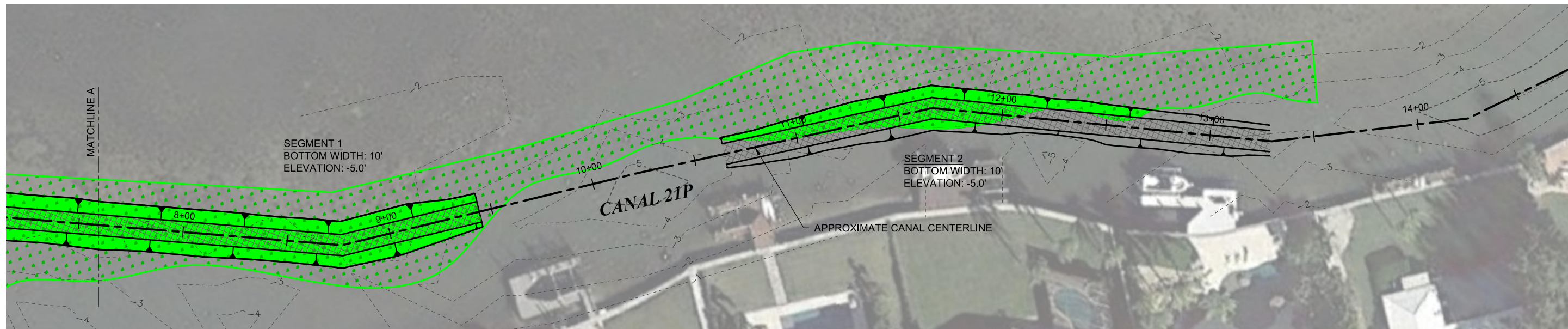
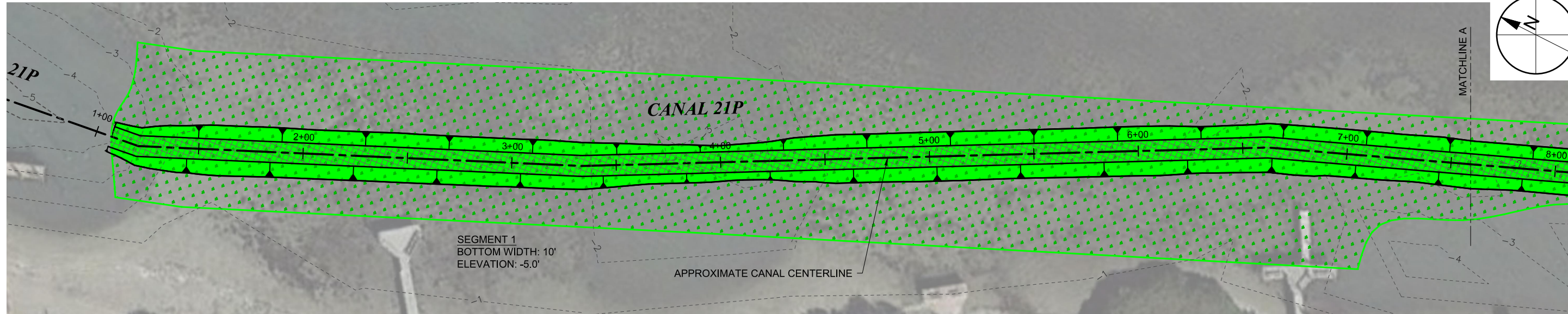
PROJECT	C2016-006
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DATE	SEPT 2019

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FIGURE C-13  
CANAL 20P & 21A DREDGING PLAN  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

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**LEGEND:**

---	EXISTING BATHYMETRY
---	CANAL BOTTOM LIMITS
---	CANAL CENTERLINE
▨	APPROXIMATE DREDGING LIMITS
▨	SAV LIMIT
▨	SAV IMPACTS
▲	2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017

P10 **CANAL 21P**  
C-5 SCALE: 1" = 50'

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SEAL

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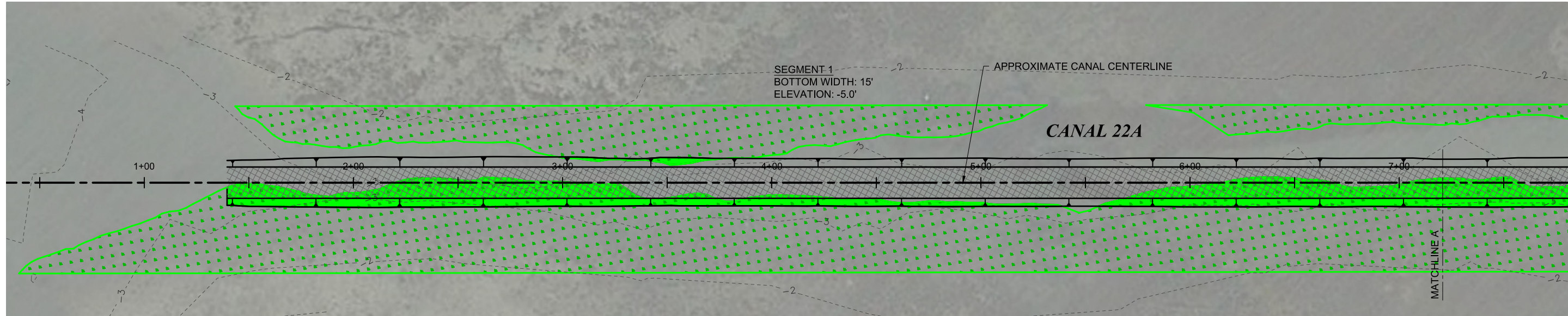
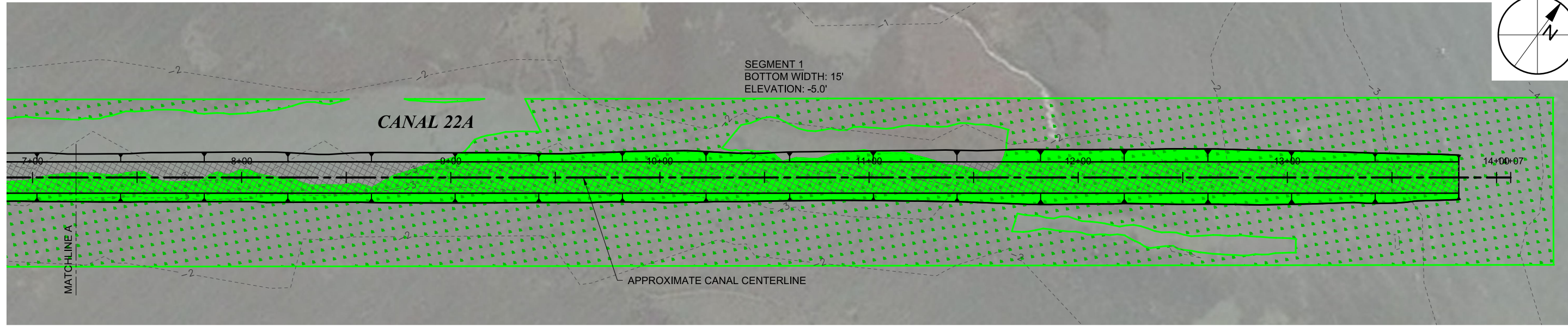
**FIGURE C-14**  
**CANAL 21P DREDGING PLAN**  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

**TAYLOR ENGINEERING INC.**  
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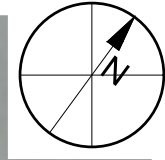


P11  
C-5 CANAL 22A  
SCALE: 1" = 50'

**LEGEND:**

---	EXISTING BATHYMETRY
---	CANAL BOTTOM LIMITS
---	CANAL CENTERLINE
▨	APPROXIMATE DREDGING LIMITS
▤	SAV LIMIT
■	SAV IMPACTS
▲	2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017



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FIGURE C-15  
CANAL 22A DREDGING PLAN  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

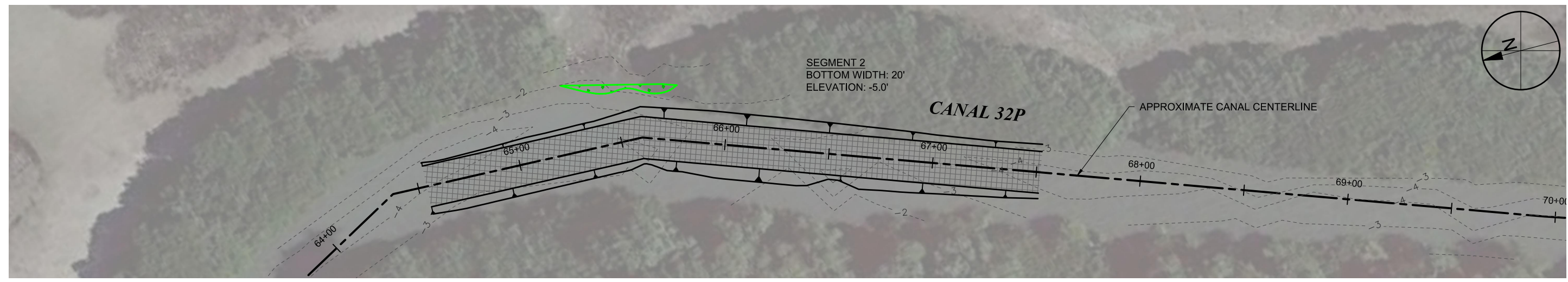
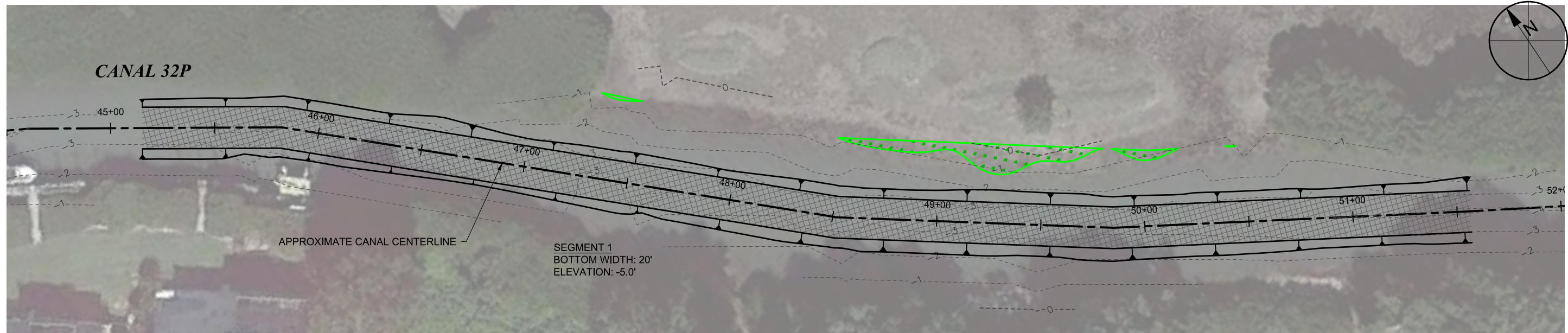
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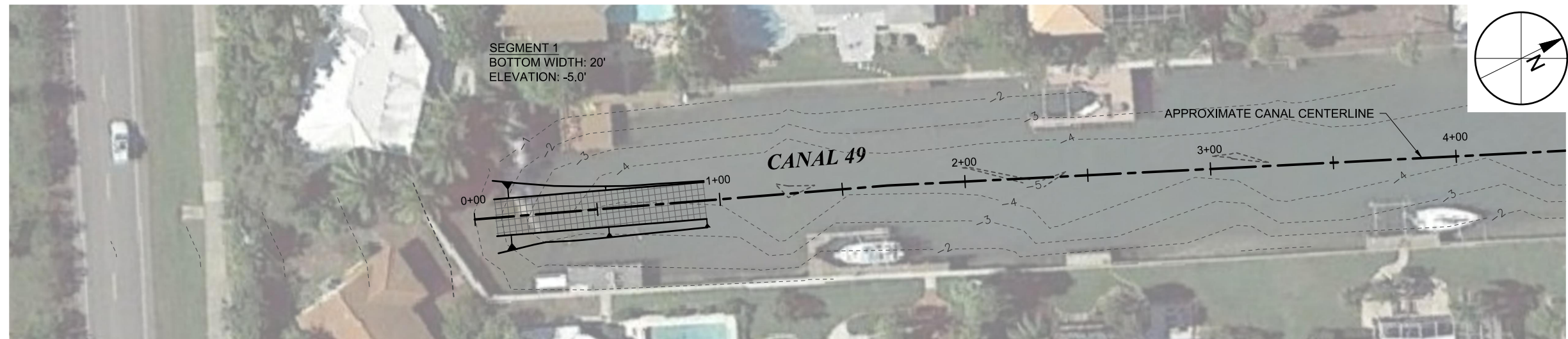
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P12  
C-6 CANAL 33P  
SCALE: 1" = 50'  
0 50'



P13  
C-7 CANAL 49  
SCALE: 1" = 50'  
0 50'

**LEGEND:**

- 0 --- EXISTING BATHYMETRY
- CANAL BOTTOM LIMITS
- CANAL CENTERLINE
- APPROXIMATE DREDGING LIMITS
- SAV LIMIT
- SAV IMPACTS
- 2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017

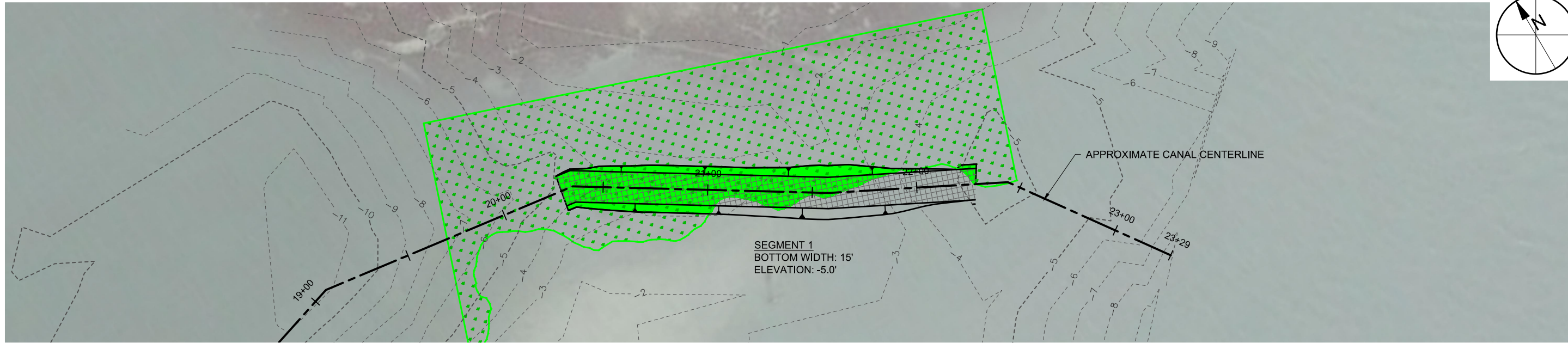
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FIGURE C-16  
CANAL 32P AND 49 DREDGING PLAN  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

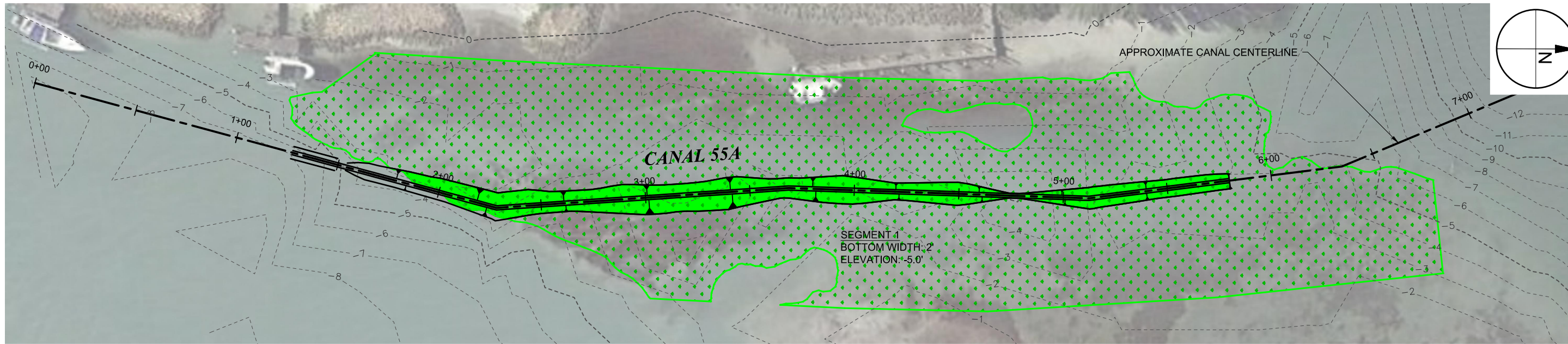
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P14 CANAL 55  
C-7 SCALE: 1" = 50'

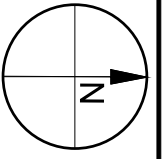
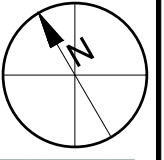


P15 CANAL 55A  
C-7 SCALE: 1" = 50'

LEGEND:

---	EXISTING BATHYMETRY
---	CANAL BOTTOM LIMITS
---	CANAL CENTERLINE
▨	APPROXIMATE DREDGING LIMITS
▤	SAV LIMIT
▥	SAV IMPACTS
▲	2H:1V SIDE SLOPES

AERIAL: GOOGLE EARTH, 2017



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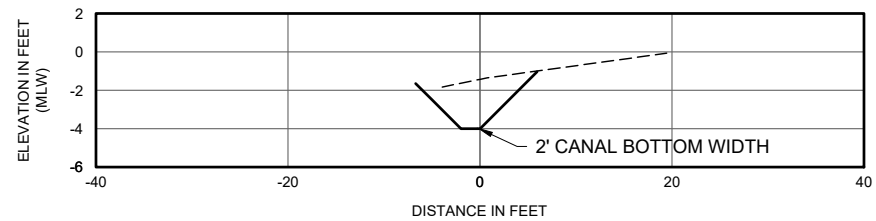
FIGURE C-17  
CANAL 55 & 55A DREDGING PLAN  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

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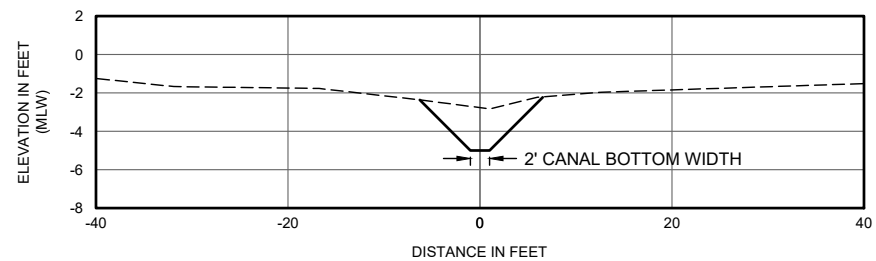
PRELIMINARY DRAWINGS: THESE DRAWINGS ARE NOT IN FINAL FORM, BUT ARE BEING TRANSMITTED FOR AGENCY REVIEW.

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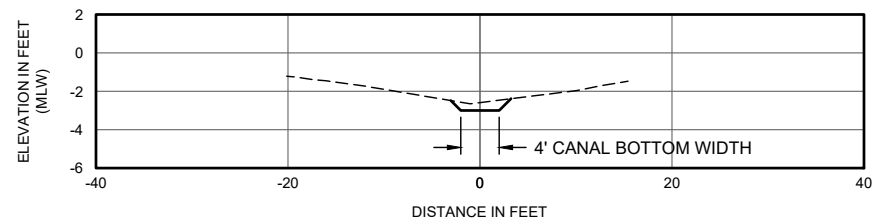
SEAL  
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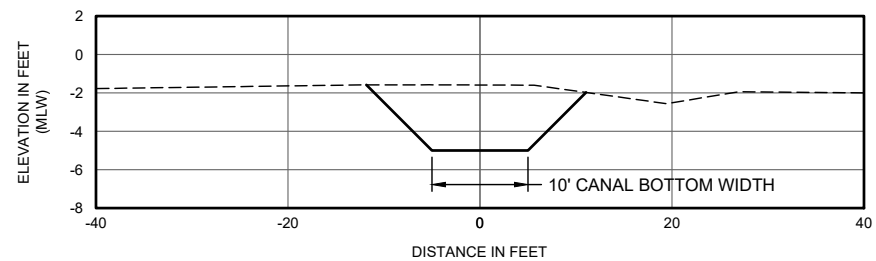
**TYPICAL 0-FT CANAL BOTTOM WIDTH  
CANAL 03 STA:2+00**



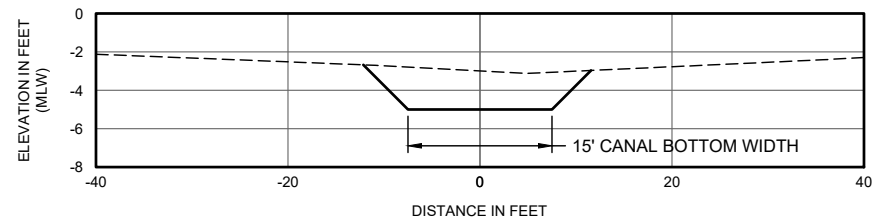
**TYPICAL 2-FT CANAL BOTTOM WIDTH  
CANAL 55A STA:4+00**



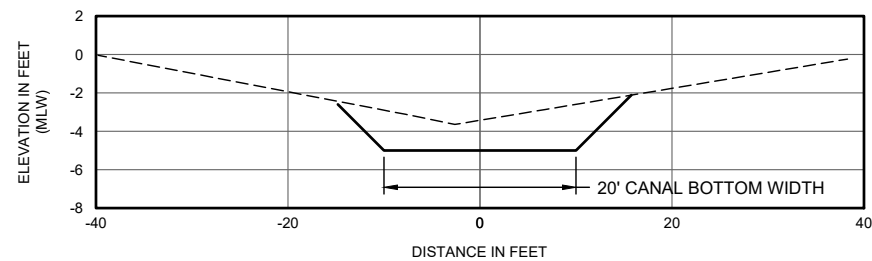
**TYPICAL 4-FT CANAL BOTTOM WIDTH  
CANAL 18 STA:15+00**



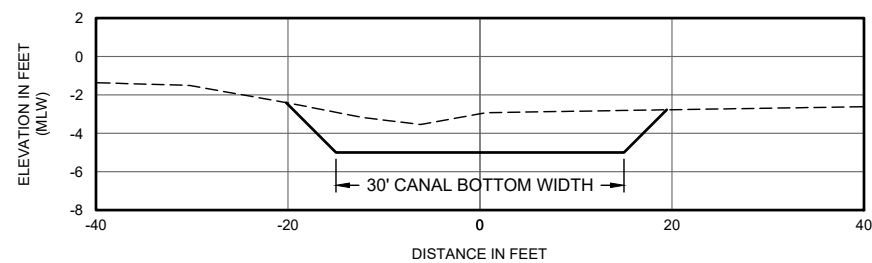
**TYPICAL 10-FT CANAL BOTTOM WIDTH  
CANAL 21P STA:7+00**



**TYPICAL 15-FT CANAL BOTTOM WIDTH  
CANAL 22A STA:8+00**

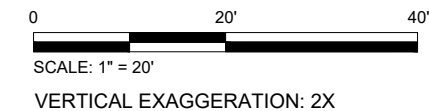


**TYPICAL 20-FT CANAL BOTTOM WIDTH  
CANAL 32P STA:49+00**



**TYPICAL 30-FT CANAL BOTTOM WIDTH  
CANAL 2 STA:1+00**

LEGEND:  
 - - - - - EXISTING GRADE  
 \_\_\_\_\_ PROPOSED GRADE  
 NOTE: ALL SIDE SLOPES 2H:1V



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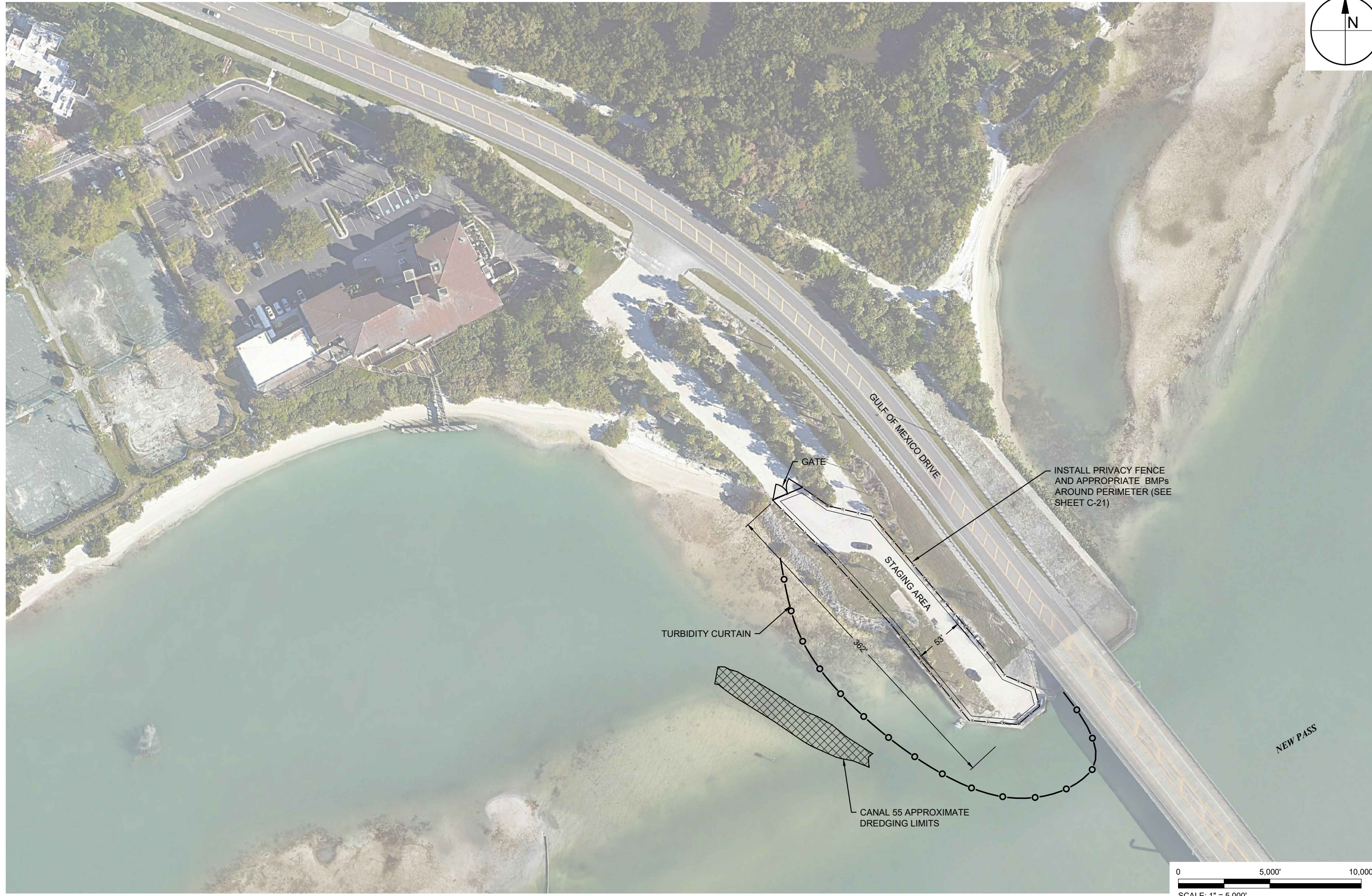
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FIGURE C-18  
 TYPICAL CROSS-SECTIONS  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

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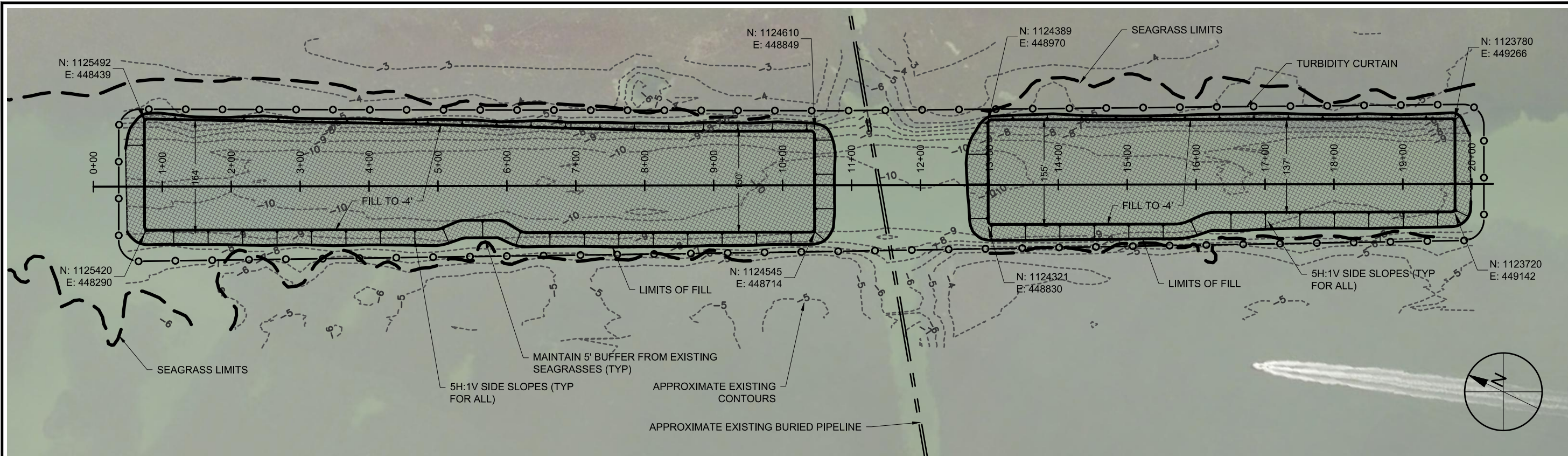
**FIGURE C-19**  
 DREDGED MATERIAL AND EQUIPMENT STAGING AREA  
 LONGBOAT KEY CANAL MAINTENANCE DREDGING  
 MANATEE & SARASOTA COUNTIES, FLORIDA

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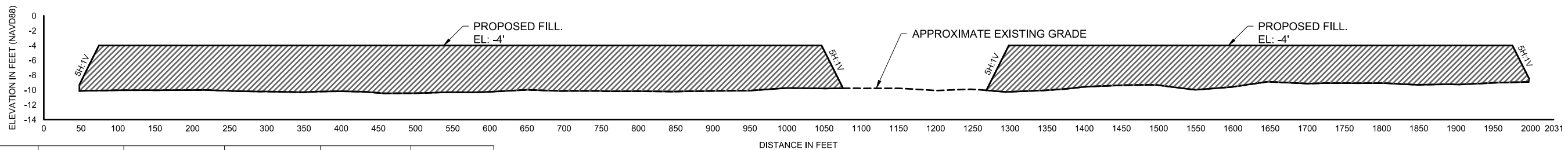
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**MITIGATION PLAN VIEW**  
SCALE: 1" = 150'

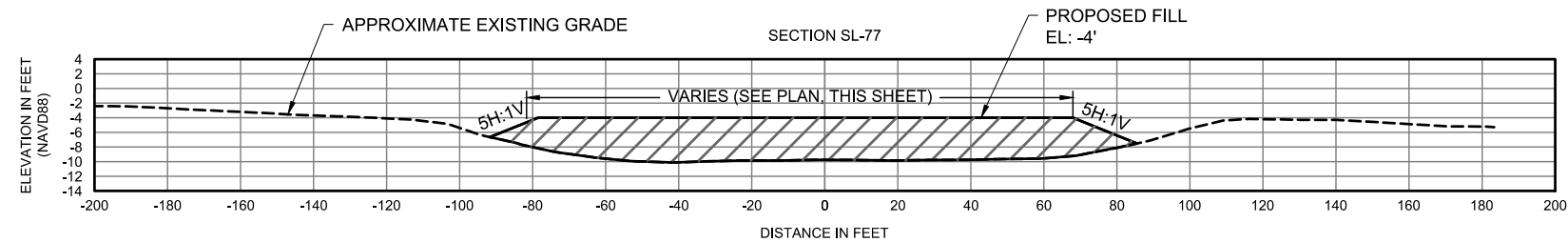


**MITIGATION PROFILE**  
SCALE: 1" = 150'  
VERTICAL EXAGGERATION: 10X

Station	Raw Area (sf)	Cum. Area (sf)	Cum. Area (acres)	Volume (CY)	Cum. Vol. (CY)
0-100	9283	9283	0.21	1729	1729
100-200	18595	27877	0.64	3428	5158
200-300	18575	46453	1.07	3419	8577
300-400	18327	64780	1.49	3463	12040
400-500	18180	82960	1.90	3547	15587
500-600	17999	100959	2.32	3481	19068
600-700	18121	119080	2.73	3421	22489
700-800	17963	137044	3.15	3508	25997
800-900	17872	154916	3.56	3542	29539
900-1000	17796	172712	3.96	3456	32995
1000-1100	12836	185548	4.26	1679	34674
1100-1200	0	185548	4.26	0	34674
1200-1300	4798	190346	4.37	1667	36341
1300-1400	18150	208496	4.79	3232	39573
1400-1500	17969	226466	5.20	3045	42618
1500-1600	17802	244268	5.61	2918	45536
1600-1700	17040	261308	6.00	2760	48296
1700-1800	16587	277896	6.38	2641	50937
1800-1900	16508	294404	6.76	2621	53558
1900-2000	15727	310131	7.12	1301	54860

**MITIGATION PLAN AREA AND VOLUME TABLE**

- NOTES**
- BATHYMETRIC SURVEY DATA SHOWN ON THIS SHEET REFERENCE TO NAVD-88
  - TOTAL SEAGRASS RESTORATION AREA IS 7.12 ACRES, OF WHICH ONLY 2.74 ACRES TO BE RESTORED FOR THIS PROJECT



**TYPICAL MITIGATION SECTION**  
SCALE: 1" = 50'  
VERTICAL EXAGGERATION: 2X

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PROJECT SEAL

PROJECT: C2016-006

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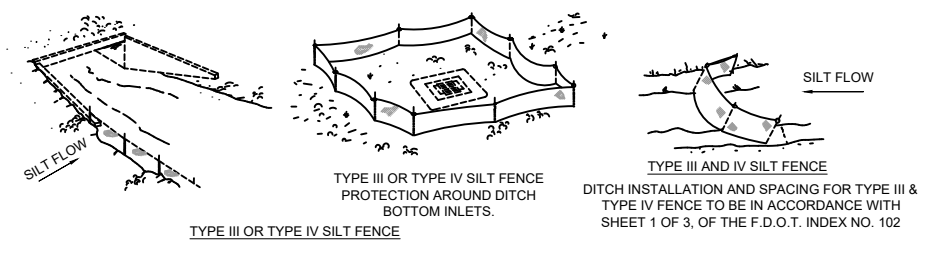
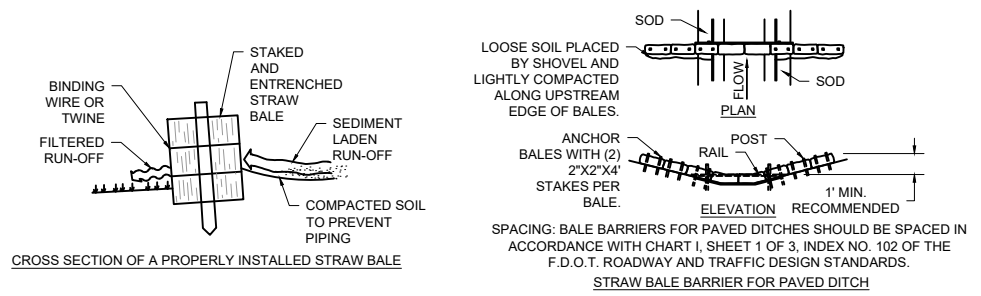
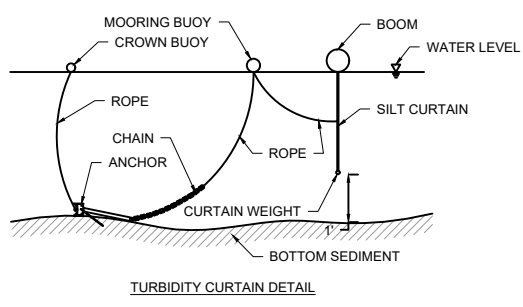
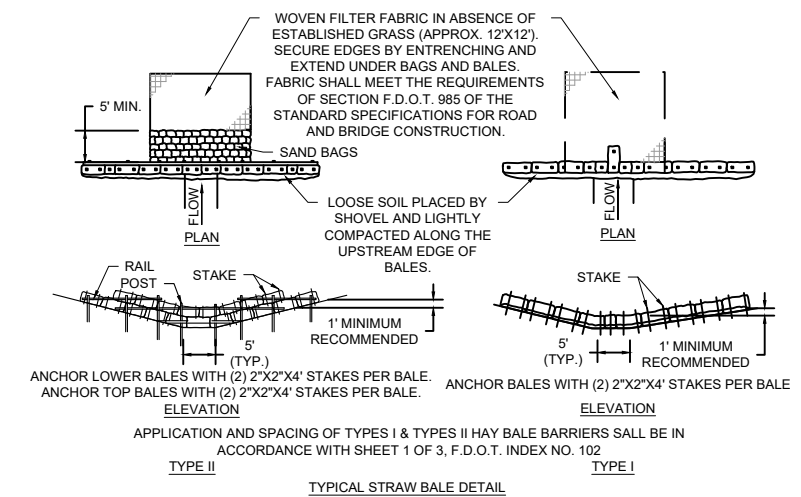
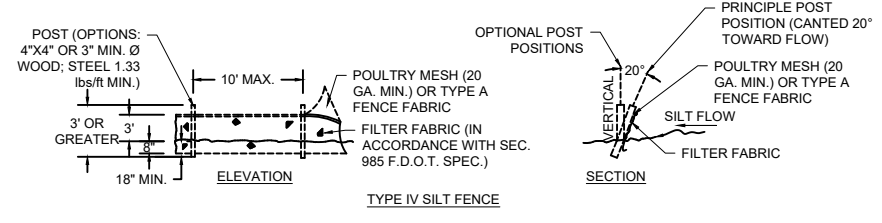
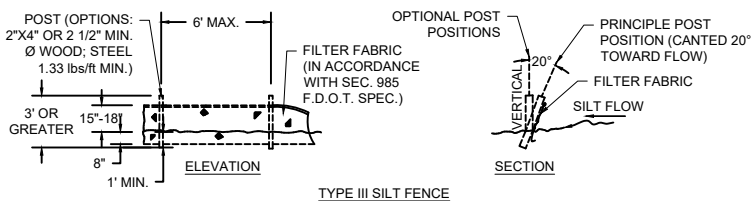
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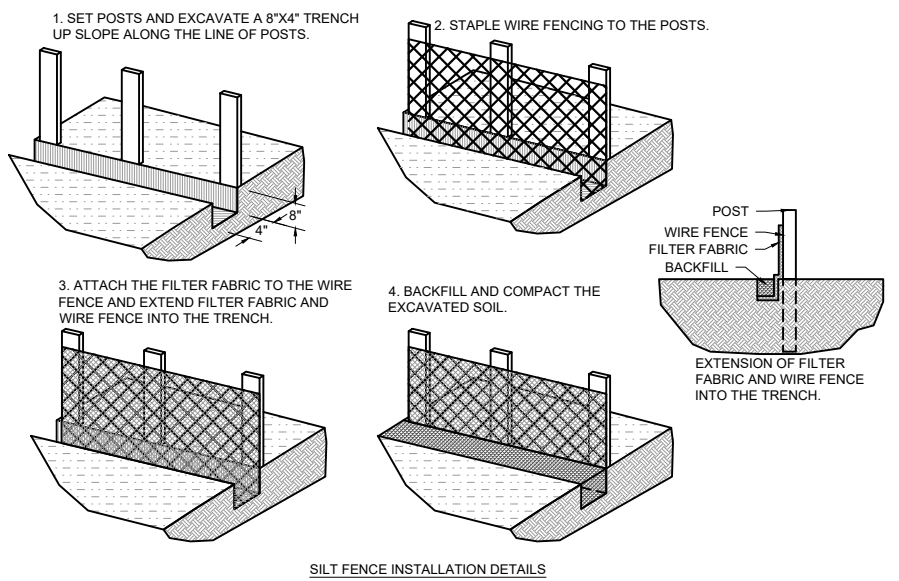
DATE: SEPT 2019

PROJECT: C2016-006

DRAWN BY: AF



DO NOT DEPLOY IN A MANNER THAT SILT FENCES WILL ACT AS A DAM ACROSS PERMANENT FLOWING WATERCOURSES. SILT FENCES ARE TO BE USED AT UPLAND LOCATIONS AND TURBIDITY BARRIERS USED AT PERMANENT BODIES OF WATER.



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FIGURE C-21  
EROSION CONTROL DETAILS  
LONGBOAT KEY CANAL MAINTENANCE DREDGING  
MANATEE & SARASOTA COUNTIES, FLORIDA

**TAYLOR ENGINEERING INC.**  
1800 2ND STREET  
SUITE 714  
SARASOTA, FLORIDA 34236  
CERTIFICATE OF AUTHORIZATION # 4815

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