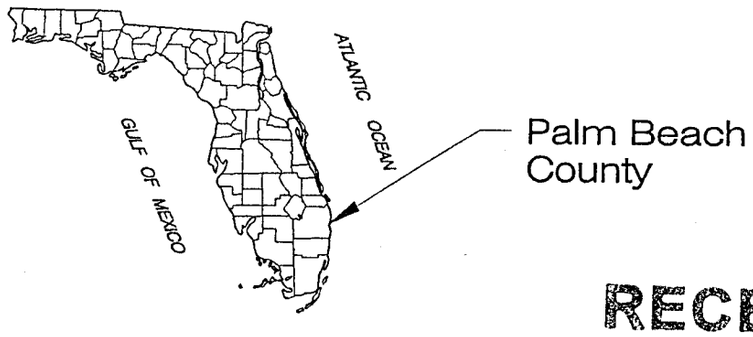
Town of Palm Beach

Phipps Ocean Park Beach Restoration

Palm Beach County, Florida



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INDEX OF SHEETS

SHEET	DESCRIPTION
1.	Cover Sheet
2.	Project Location
3.	Plan View - Fill Area
4.	Profiles - Fill Template R-116 & R-117
5.	Profiles - Fill Template R- 120 & R-122
6.	Profiles - Fill Template R- 125 & R-126
7.	Plan View - Borrow Area No. III
8.	Plan View - Borrow Area No. IV
9.	Geologic Cross-Section A-A - Borrow Area No. III
10.	Geologic Cross-Section B-B - Borrow Area No. III
11.	Geologic Cross-Section C-C - Borrow Area No. IV
12.	Geologic Cross-Section D-D - Borrow Area IV
13.	Mitigation Area - Plan & Cross-Section
14.	Notes & Alternate Bid: Composite Fill Template

PERMIT NO. 169332-001-JC

Stephen W. Boehning 10/06/00
Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Ocean Park Beach Restoration	COVER SHEET			SHEET 1 OF 14 SHEETS
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 6/26/2000	JOB NO. 93710

93710-Cover2

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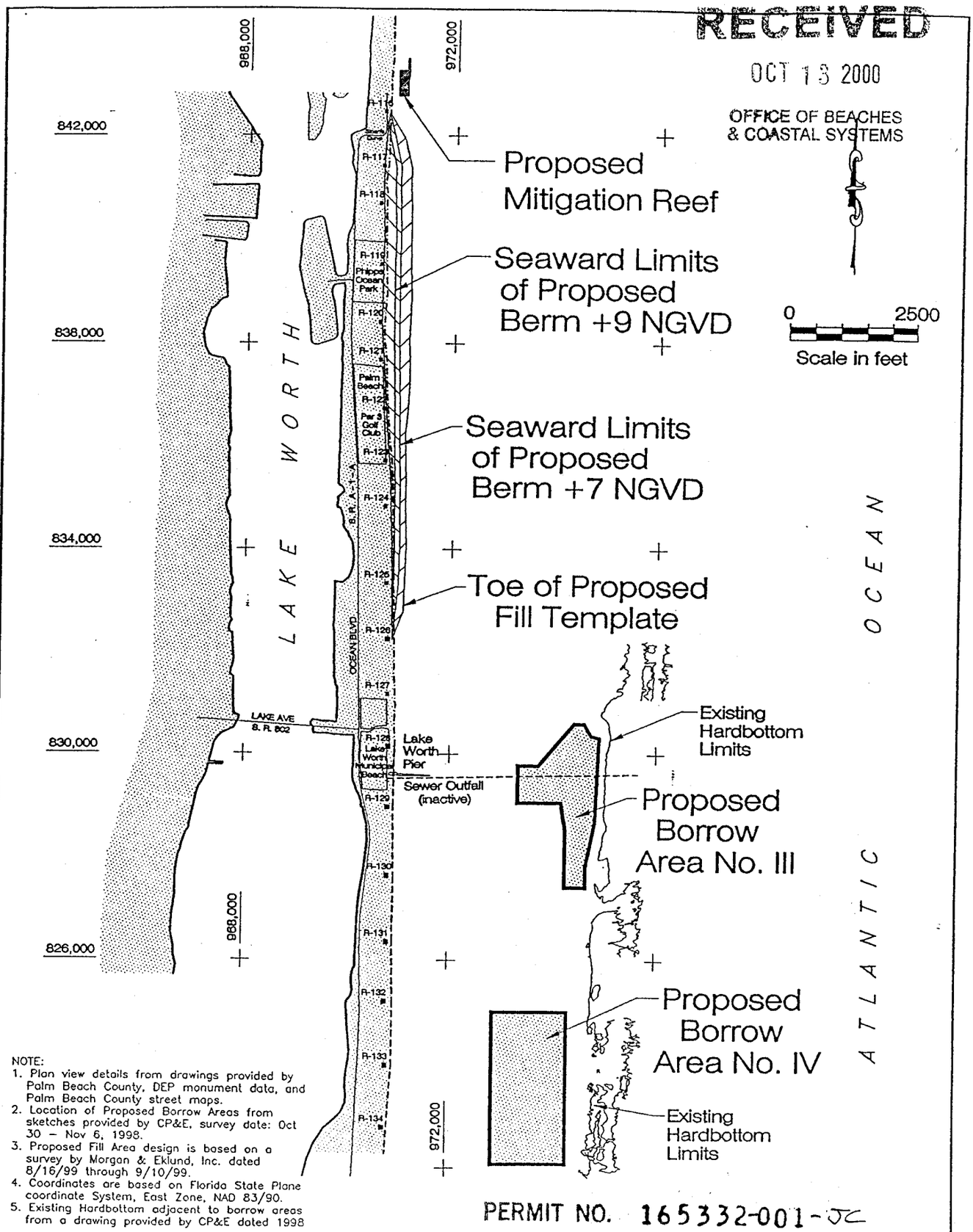

NOTE:
1. Plan view details from drawings provided by Palm Beach County, DEP monument data, and Palm Beach County street maps.
2. Location of Proposed Borrow Areas from sketches provided by CP&E, survey date: Oct 30 – Nov 6, 1998.
3. Proposed Fill Area design is based on a survey by Morgan & Eklund, Inc. dated 8/16/99 through 9/10/99.
4. Coordinates are based on Florida State Plane coordinate System, East Zone, NAD 83/90.
5. Existing Hardbottom adjacent to borrow areas from a drawing provided by CP&E dated 1998

PERMIT NO. 165332-001-JC

Town of Palm Beach Phipps Beach Ocean Park Restoration	PROJECT LOCATION			SHEET 2 OF 14 SHEETS	
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 10/10/2000	JOB NO. 93710	

93710_Plan_Proj_Area2

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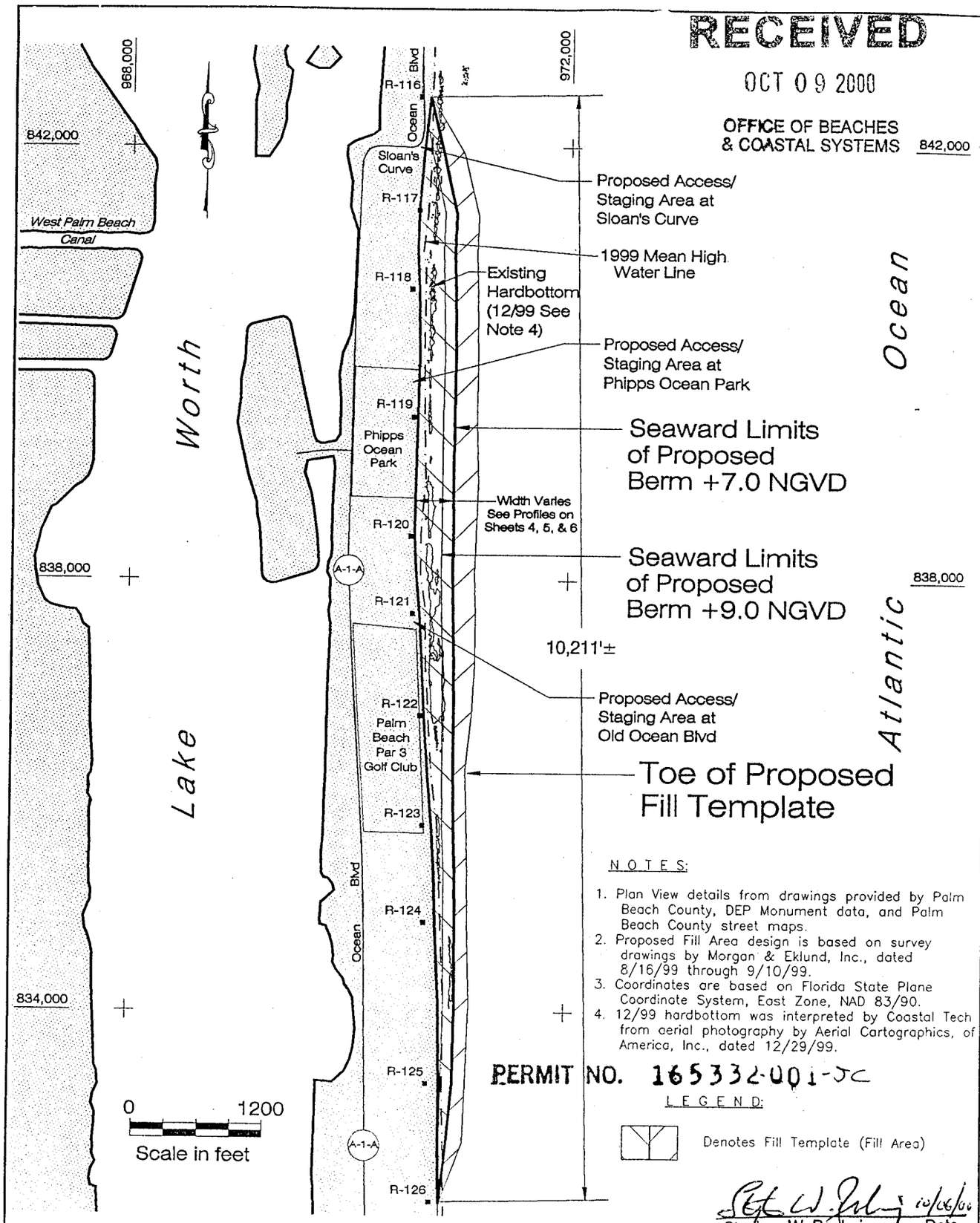
& COASTAL SYSTEMS



NOTES:

1. Plan View details from drawings provided by Palm Beach County, DEP Monument data, and Palm Beach County street maps.
2. Proposed Fill Area design is based on survey drawings by Morgan & Eklund, Inc., dated 8/16/99 through 9/10/99.
3. Coordinates are based on Florida State Plane Coordinate System, East Zone, NAD 83/90.
4. 12/99 hardbottom was interpreted by Coastal Tech from aerial photography by Aerial Cartographics, of America, Inc., dated 12/29/99.

PERMIT NO. 165332-001-JC

LEGEND:

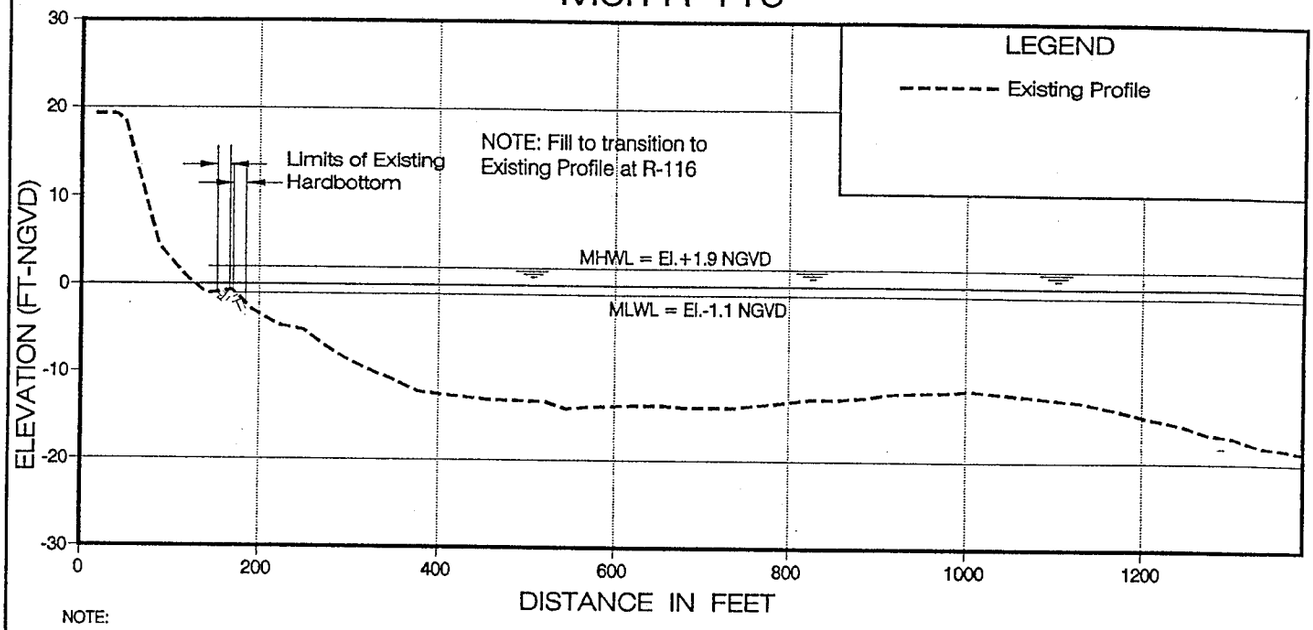
Denotes Fill Template (Fill Area)

10/06/00
Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Ocean Park Beach Restoration	PLAN VIEW - FILL AREA			SHEET 3 OF 14 SHEETS	
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 9/26/2000	JOB NO. 93710	

93710-Fill Area3

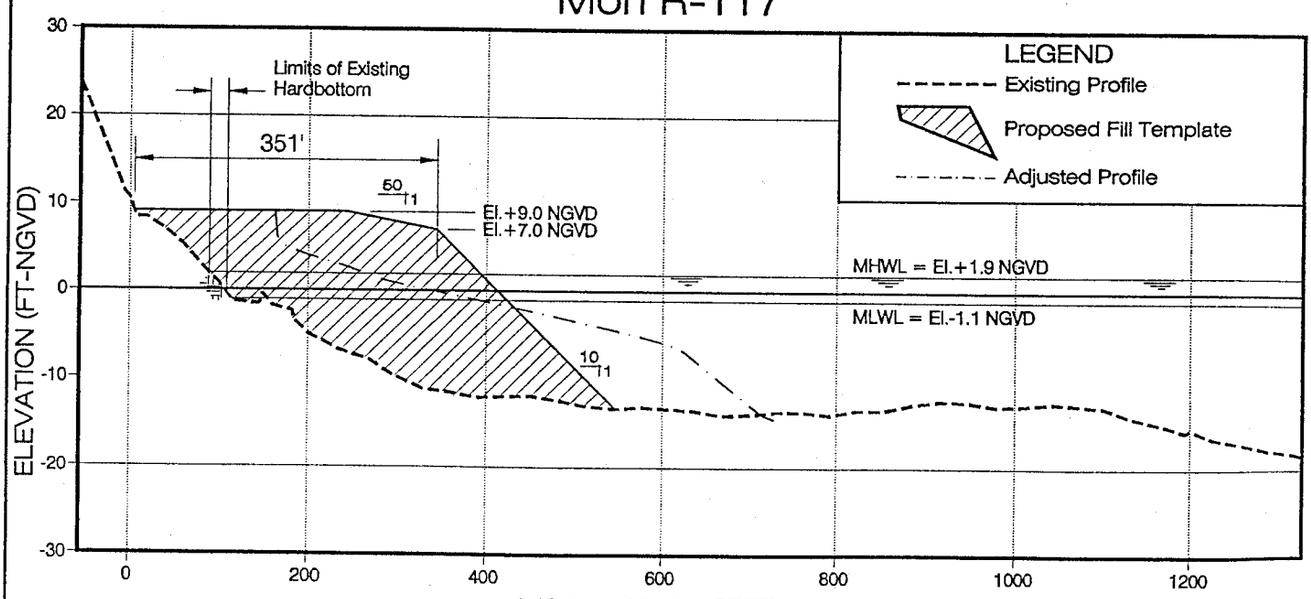
Mon R-116



NOTE:

1. Elevations refer to National Geodetic Vertical Datum (NGVD 1929)
2. Profiles from a survey by Morgan & Eklund, Inc. dated 8/16/99 through 9/10/99
3. Hardbottom was interpreted by Coastal Tech from aerial photographs by Aerial Cartographics of America dated 12/29/99

Mon R-117



NOTE:

1. Elevations refer to National Geodetic Vertical Datum (NGVD 1929)
2. Profiles from a survey by Morgan & Eklund, Inc. dated 8/16/99 through 9/10/99
3. Hardbottom was interpreted by Coastal Tech from aerial photographs by Aerial Cartographics of America dated 12/29/99

PERMIT NO. 165332-001-JC

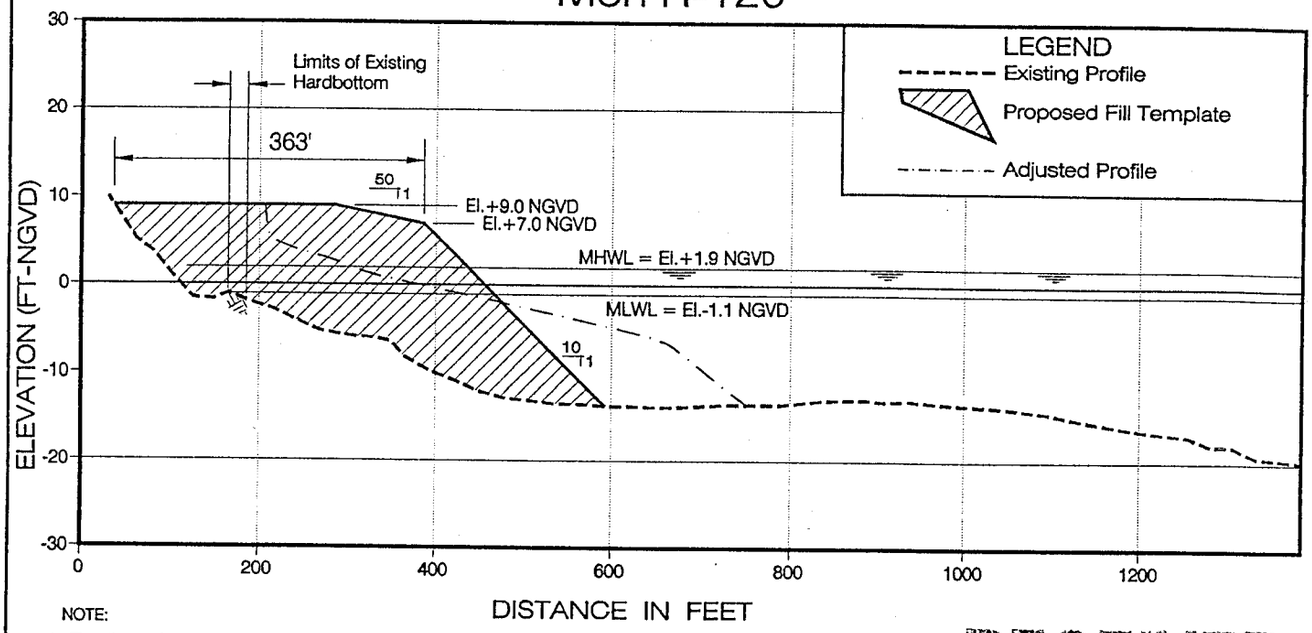
10/04/00

Stephen W. Boehning — Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Ocean Park Beach Restoration	PROFILES - FILL TEMPLATE R-116 & R-117				SHEET 4 OF 14 SHEETS
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEW MPW	DATE 1/28/2000 REV 6/26/2000		JOB NO. 93710

93710-P-Profiles-R116-R117

Mon R-120



NOTE:

1. Elevations refer to National Geodetic Vertical Datum (NGVD 1929)
2. Profiles from a survey by Morgan & Eklund, Inc. dated 8/16/99 through 9/10/99
3. Hardbottom was interpreted by Coastal Tech from aerial photographs by Aerial Cartographics of America dated 12/29/99

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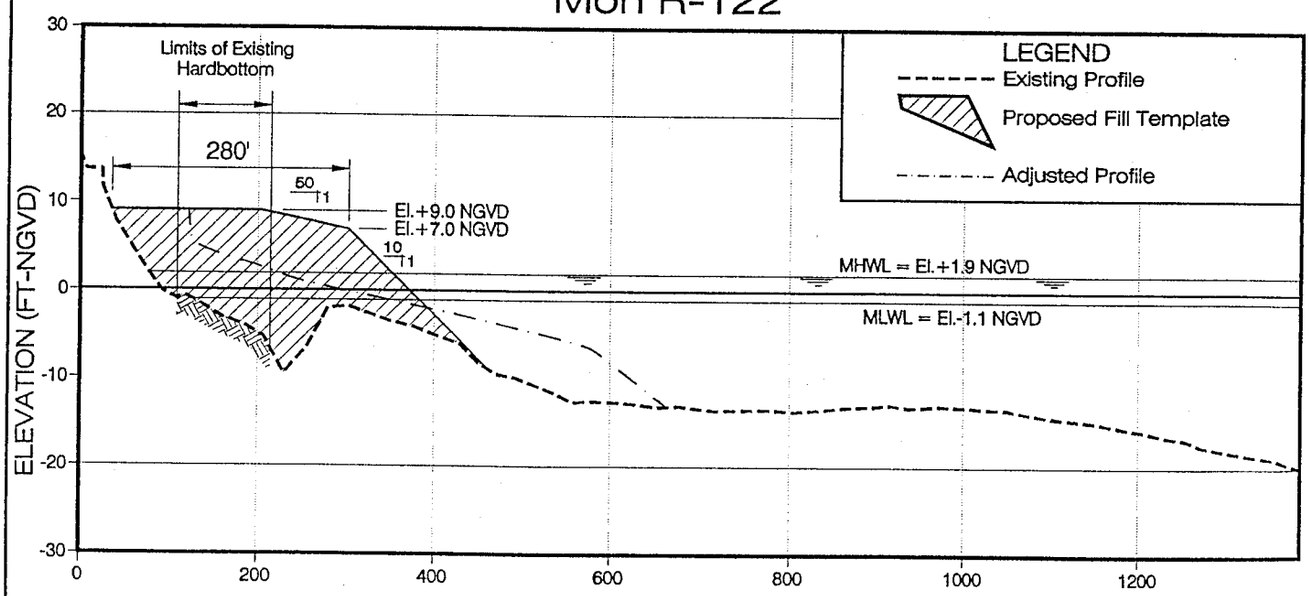
Mon R-122



NOTE:

1. Elevations refer to National Geodetic Vertical Datum (NGVD 1929)
2. Profiles from a survey by Morgan & Eklund, Inc. dated 8/16/99 through 9/10/99
3. Hardbottom was interpreted by Coastal Tech from aerial photographs by Aerial Cartographics of America dated 12/29/99

PERMIT NO. 165332-001-JC

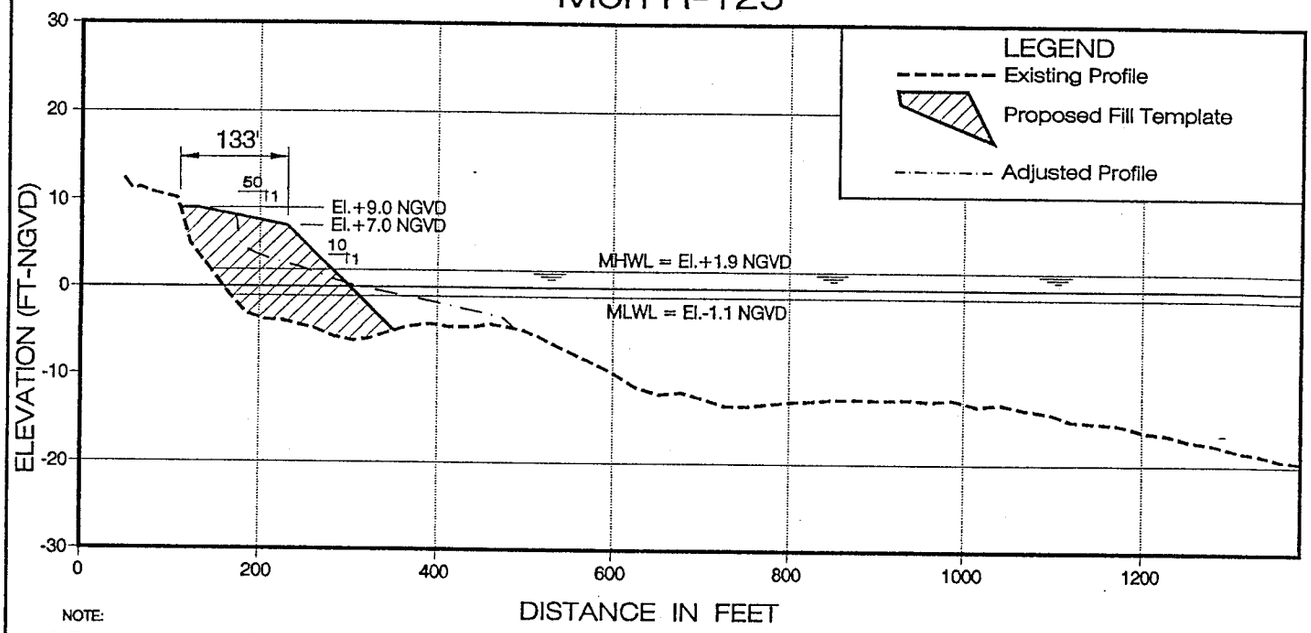
10/26/00

Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Ocean Park Beach Restoration	PROFILES - FILL TEMPLATE R-120 & R-122			SHEET 5 OF 14 SHEETS	
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 6/26/2000	JOB NO. 93710	

93710-P-Profiles-R120-R122

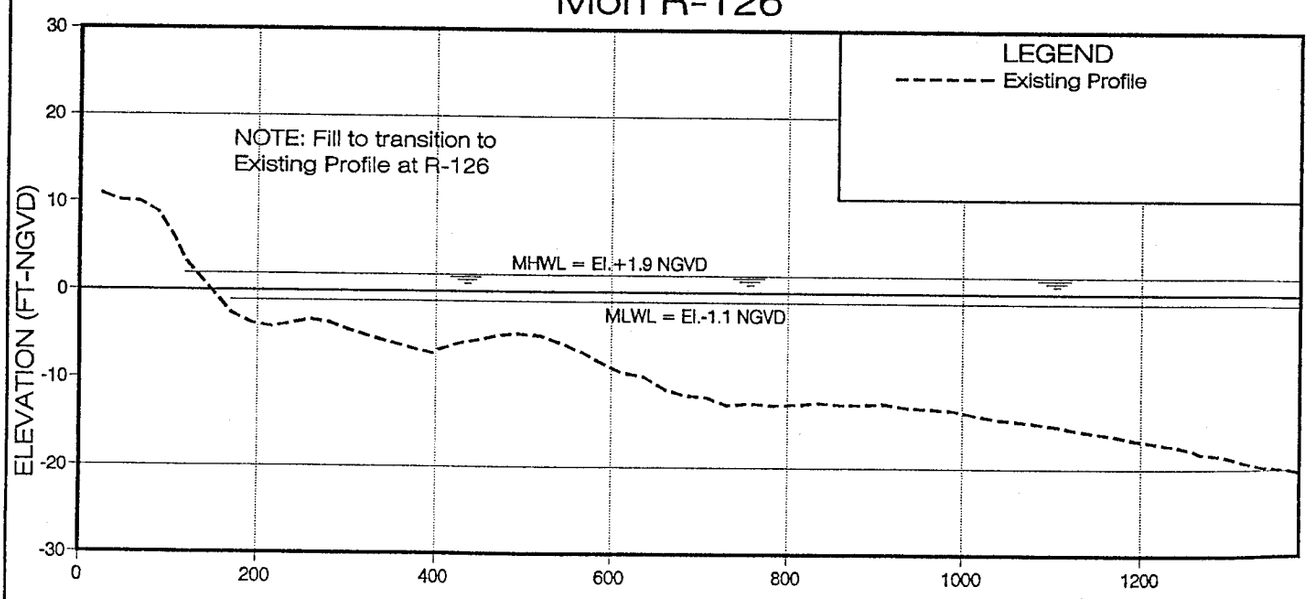
Mon R-125



NOTE:

1. Elevations refer to National Geodetic Vertical Datum (NGVD 1929)
2. Profiles from a survey by Morgan & Eklund, Inc. dated 8/16/99 through 9/10/99

Mon R-126



NOTE:

1. Elevations refer to National Geodetic Vertical Datum (NGVD 1929)
2. Profiles from a survey by Morgan & Eklund, Inc. dated 8/16/99 through 9/10/99

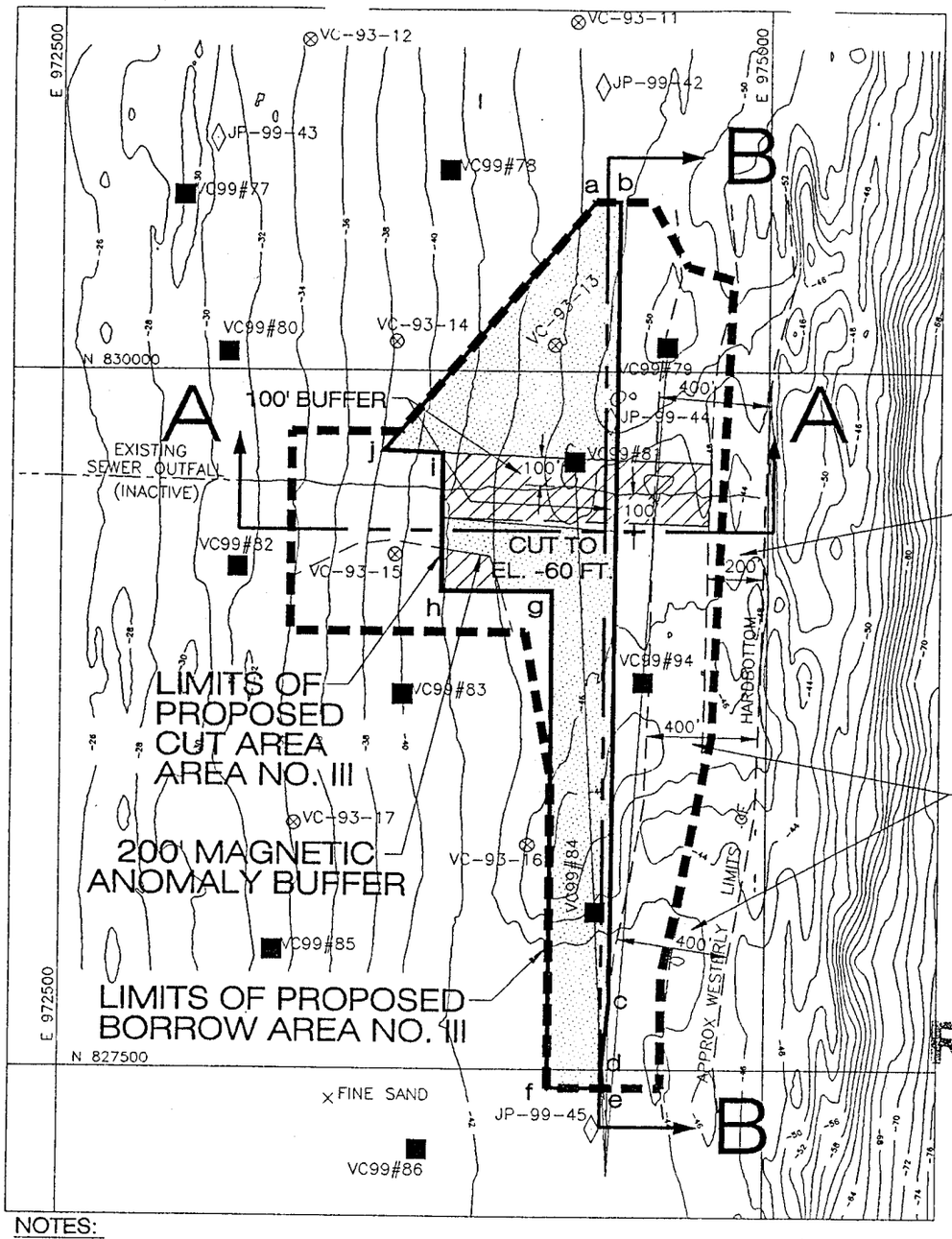
PERMIT NO. 165332-001-JC

10/06/00

Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Ocean Park Beach Restoration	PROFILES - FILL TEMPLATE R-125 & R-126				SHEET 6 OF 14 SHEETS
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 6/26/2000		JOB NO. 93710

93710-P-Profiles-R125-R126



NO ANCHORING WITHIN 200' EAST OF WESTERLY LIMITS OF HARDBOTTOM

400' HARDBOTTOM BUFFER (NO CONSTRUCTION WITHIN 400' EAST OF WESTERLY LIMITS OF HARDBOTTOM)

(SEE SHEET 2 FOR FOR LOCATION OF EXISTING HARDBOTTOM)

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OCT 09 2000

OFFICE OF BEACHES & COASTAL SYSTEMS

NOTES:

1. EXISTING CONDITIONS AND DATA FROM DRAWINGS BY COASTAL PLANNING & ENGINEERING (CP&E)
2. DATE OF BATHYMETRIC SURVEY: OCT. 30 – NOV. 6, 1998
3. COORDINATES SHOWN HEREON ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, 1983/90 NAD.
4. ELEVATIONS SHOWN HEREON ARE IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM, 1929.
5. OUTFALL LOCATION PROVIDED BY CP&E DRAWING (LOCATED FROM SEISMIC DATA WITHIN THE BORROW AREA).
6. 200 FOOT BUFFER FOR MAGNETIC ANOMALIES HITS ARE FROM A DRAWING BY CP&E.

LEGEND:

■ VC99#1	DENOTES 1999 CPE VIBRACORE LOCATION
⊗ VC-93-18	DENOTES 1993 PALM BEACH CO. VIBRACORE LOCATION
◇ JP-99-45	DENOTES 1999 CPE JET PROBE LOCATION

Cut Area Coordinates

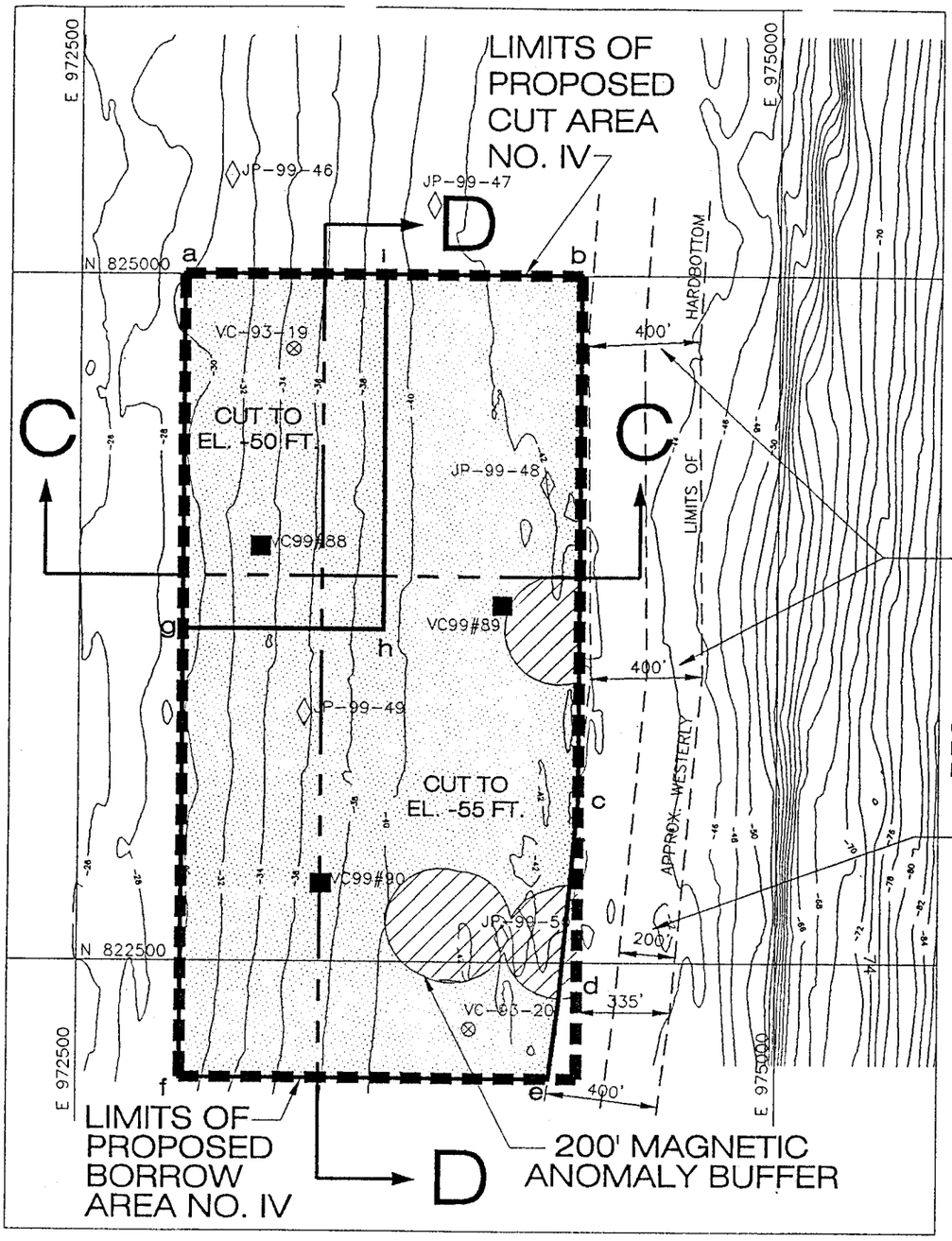
Point	x	y
a	974,377.66	830,601.23
b	974,463.53	830,601.23
c	974,446.71	827,739.38
d	974,421.27	827,504.36
e	974,430.20	827,433.79
f	974,231.84	827,433.79
g	974,231.84	829,213.76
h	973,846.80	829,213.76
i	973,846.80	829,704.77
j	973,638.02	829,712.53

PERMIT NO. 165332-001-JC

Stephen W. Boehning
Florida P.E. License Number 52201

93710-Borrow Areas3

Town of Palm Beach Phipps Ocean Park Beach Restoration	PLAN VIEW BORROW AREA NO. III		SHEET 7 OF 14 SHEETS
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 9/26/2000	JOB NO. 93710



PERMIT NO. 165332-001-JC

NOTES:

1. EXISTING CONDITIONS AND DATA FROM DRAWINGS BY COASTAL PLANNING & ENGINEERING (CP&E)
2. DATE OF BATHYMETRIC SURVEY: OCT. 30 – NOV. 6, 1998
3. COORDINATES SHOWN HEREON ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, 1983/90 NAD.
4. ELEVATIONS SHOWN HEREON ARE IN FEET BASED ON NATIONAL GEODETIC VERTICAL DATUM, 1929.
5. 200 FOOT BUFFER FOR MAGNETIC ANOMALIES HITS ARE FROM A DRAWING BY CP&E.

LEGEND :

VC99#1	DENOTES 1999 CPE VIBRACORE LOCATION
VC-93-18	DENOTES 1993 PALM BEACH CO. VIBRACORE LOCATION
JP-99-45	DENOTES 1999 CPE JET PROBE LOCATION

Cut Area Coordinates

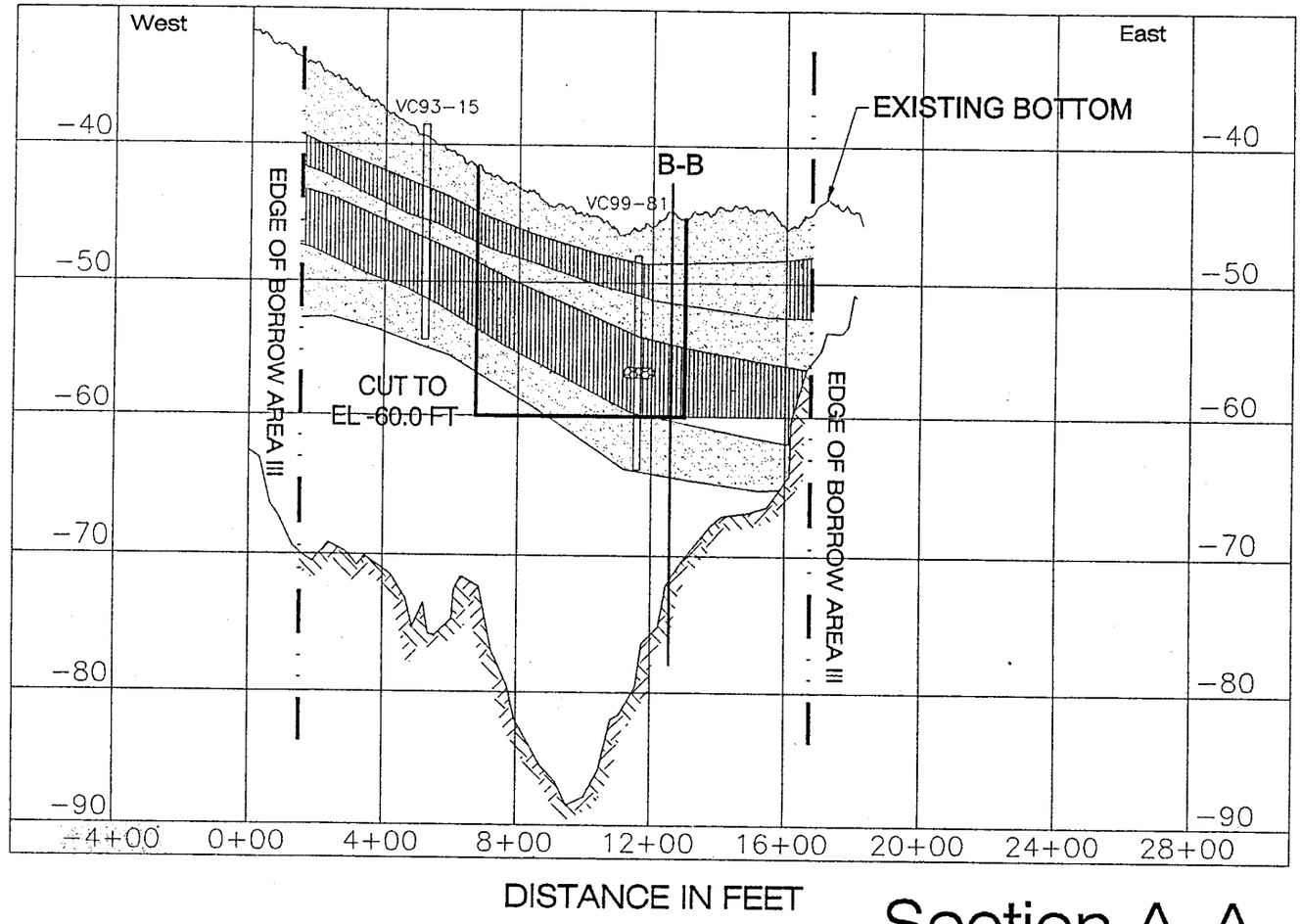
Point	x	y
a	972,871.09	825,000.00
b	974,286.09	825,000.00
c	974,286.09	823,092.25
d	974,223.29	822,367.07
e	972,871.09	822,079.62
f	972,871.09	822,079.62
g	972,871.09	823,712.25
h	973,578.15	823,712.25
i	973,578.15	825,000.00

Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Ocean Park Beach Restoration	PLAN VIEW BORROW AREA NO. IV			SHEET 8 OF 14 SHEETS	
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 9/26/2000	JOB NO. 93710	

93710-Borrow Areas3

93710-Borrow Geologic Sections2



Section A-A

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OCT 09 2000
OFFICE OF BEACHES & COASTAL SYSTEMS

PERMIT NO. 165332-001-JC

Stephen W. Boehning 10/06/00
Florida P.E. License Number 52201
Date

NOTE:
1. EXISTING CONDITIONS FROM DRAWINGS BY COASTAL PLANNNING & ENGINEERING ENGINEERING (CP&E) BASED ON CP&E SURVEYS DATED OCT. 30 THROUGH NOV. 6, 1998
2. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929)
3. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
4. WIDTH OF LAYERS IS REPRESENTATIVE ONLY, ACTUAL MATERIAL MAY VARY.
5. SEE SHEETS 7 & 8 FOR LOCATION OF CROSS-SECTIONS
6. INTERPRETATION BY CP&E BASED ON VIBRACORE AND SUBBOTTOM DATA.

LEGEND:
- FINE TO MEDIUM GRAY SAND
- FINE TO MEDIUM GRAY SAND WITH CORAL SAND
- SHELL HASH AND CORAL FRAGMENTS WITH FINE GRAY SAND
- ROCK - LIMESTONE/ CORAL BOULDER/COBBLE
- FINE-MED GRAY SAND WITH CORAL SAND + CORAL FRAGMENTS
- RESISTANCE SUBSTRATE
- BELOW CORE PENETRATION, UNKNOWN UNCONSOLIDATED SEDIMENT

Town of Palm Beach
Phipps Ocean Park Beach Restoration

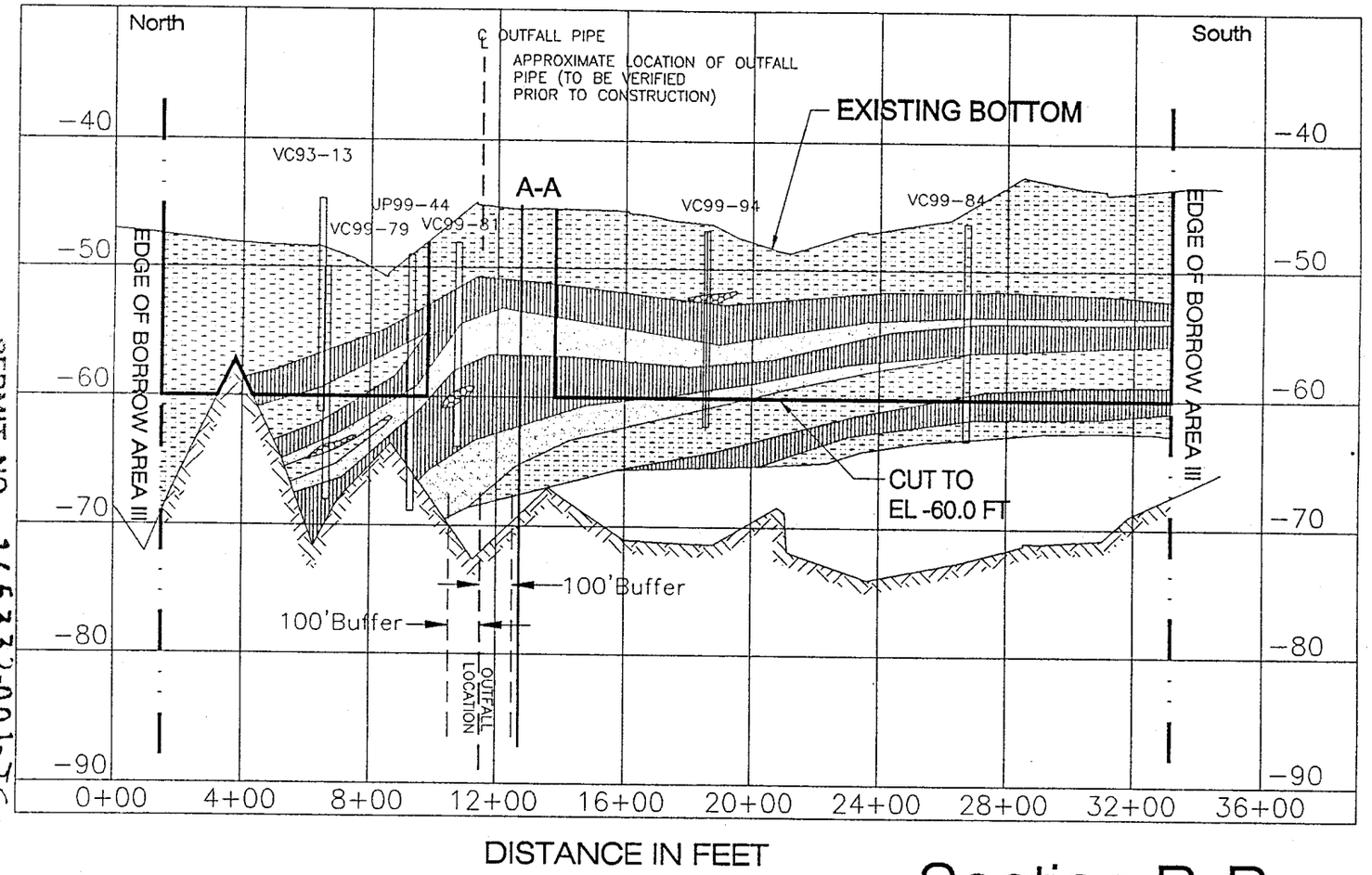
COASTAL TECH
VERO BEACH SARASOTA DESTIN AUSTIN

GEOLOGIC SECTION A-A
BORROW AREA NO. III

ENGR SWB | REVIEWED MPW | DATE 1/28/2000 | REV 9/28/2000

SHEET 9 OF 14 SHEETS

JOB NO. 93710



Section B-B

NOTE:
1. EXISTING CONDITIONS FROM DRAWINGS BY COASTAL PLANNNING & ENGINEERING ENGINEERING (CP&E) BASED ON CP&E SURVEYS DATED OCT. 30 THROUGH NOV. 6, 1998
2. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929)
3. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
4. WIDTH OF LAYERS IS REPRESENTATIVE ONLY, ACTUAL MATERIAL MAY VARY.
5. SEE SHEETS 7 & 8 FOR LOCATION OF CROSS-SECTIONS
6. INTERPRETATION BY CP&E BASED ON VIBRACORE AND SUBBOTTOM DATA.

LEGEND:
- FINE TO MEDIUM GRAY SAND
- FINE TO MEDIUM GRAY SAND WITH CORAL SAND
- SHELL HASH AND CORAL FRAGMENTS WITH FINE GRAY SAND
- ROCK – LIMESTONE/ CORAL BOULDER/COBBLE
- FINE-MED GRAY SAND WITH CORAL SAND + CORAL FRAGMENTS
- RESISTANCE SUBSTRATE
- BELOW CORE PENETRATION, UNKNOWN UNCONSOLIDATED SEDIMENT

PERMIT NO. 1653320001-JC

Stephen W. Boehning
Florida P.E. License Number 52201
Date 10/06/00

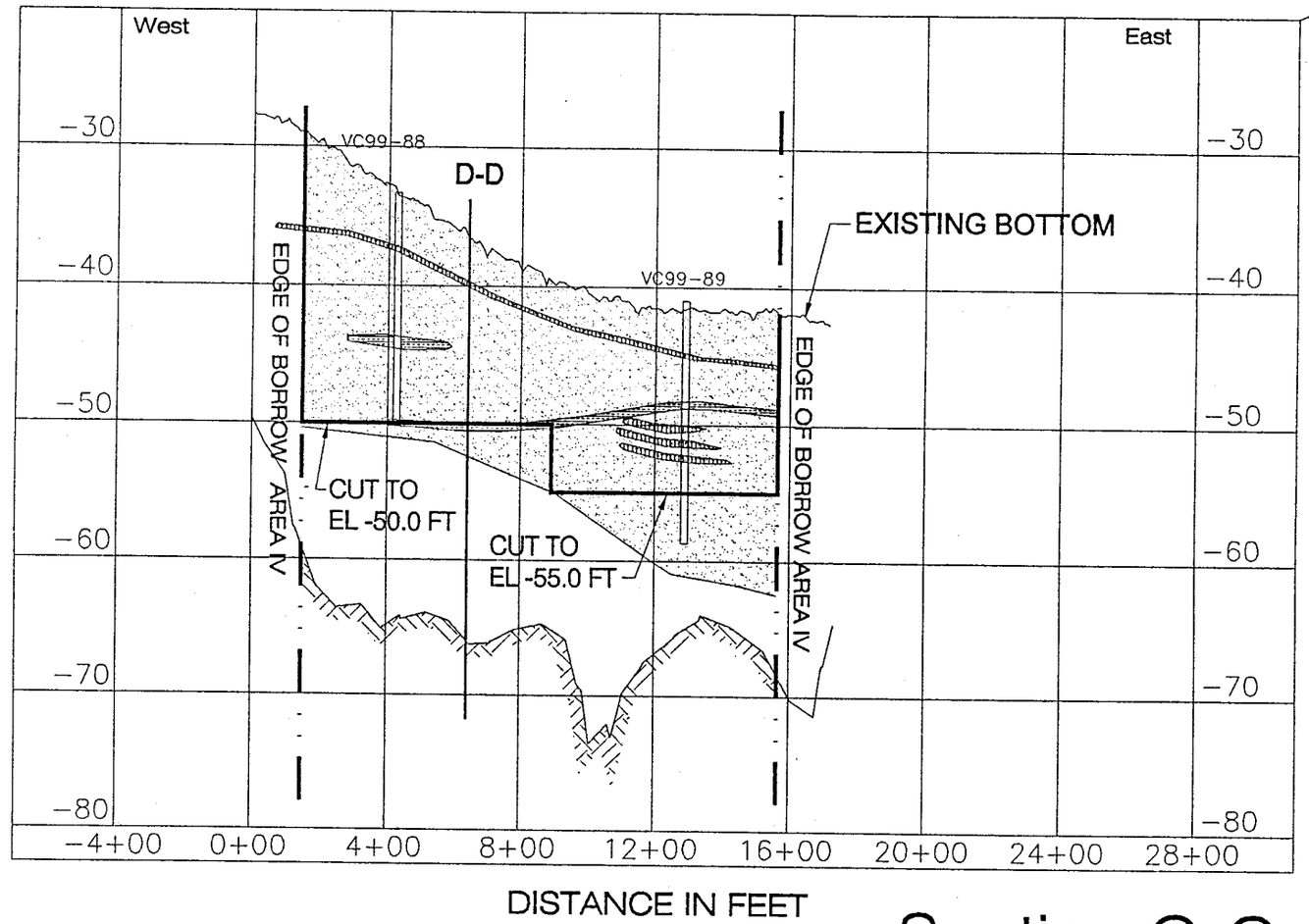
Town of Palm Beach
Phipps Ocean Park Beach Restoration

COASTAL TECH
VERO BEACH SARASOTA DESTIN AUSTIN

GEOLOGIC SECTION B-B
BORROW AREA NO. III

ENGR	REVIEWED	DATE	REV	SHEET	OF	SHEETS	JOB NO.
SWB	MPW	1/28/2000	9/28/2000	10	14		93710

93710-Borrow Geologic Sections2



Section C-C

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OCT 09 2000
OFFICE OF BEACHES & COASTAL SYSTEMS

PERMIT NO. 165332-001-JC

Stephen W. Boehning
Florida P.E. License Number 52201
Date 10/06/00

NOTE:
1. EXISTING CONDITIONS FROM DRAWINGS BY COASTAL PLANNNING & ENGINEERING ENGINEERING (CP&E) BASED ON CP&E SURVEYS DATED OCT. 30 THROUGH NOV. 6, 1998
2. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929)
3. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
4. WIDTH OF LAYERS IS REPRESENTATIVE ONLY, ACTUAL MATERIAL MAY VARY.
5. SEE SHEETS 7 & 8 FOR LOCATION OF CROSS-SECTIONS
6. INTERPRETATION BY CP&E BASED ON VIBRACORE AND SUBBOTTOM DATA.

LEGEND:
- FINE TO MEDIUM GRAY SAND
- FINE TO MEDIUM GRAY SAND WITH CORAL SAND
- SHELL HASH AND CORAL FRAGMENTS WITH FINE GRAY SAND
- ROCK – LIMESTONE/ CORAL BOULDER/COBBLE
- FINE-MED GRAY SAND WITH CORAL SAND + CORAL FRAGMENTS
- RESISTANCE SUBSTRATE
- BELOW CORE PENETRATION, UNKNOWN UNCONSOLIDATED SEDIMENT

Town of Palm Beach
Phipps Ocean Park Beach Restoration

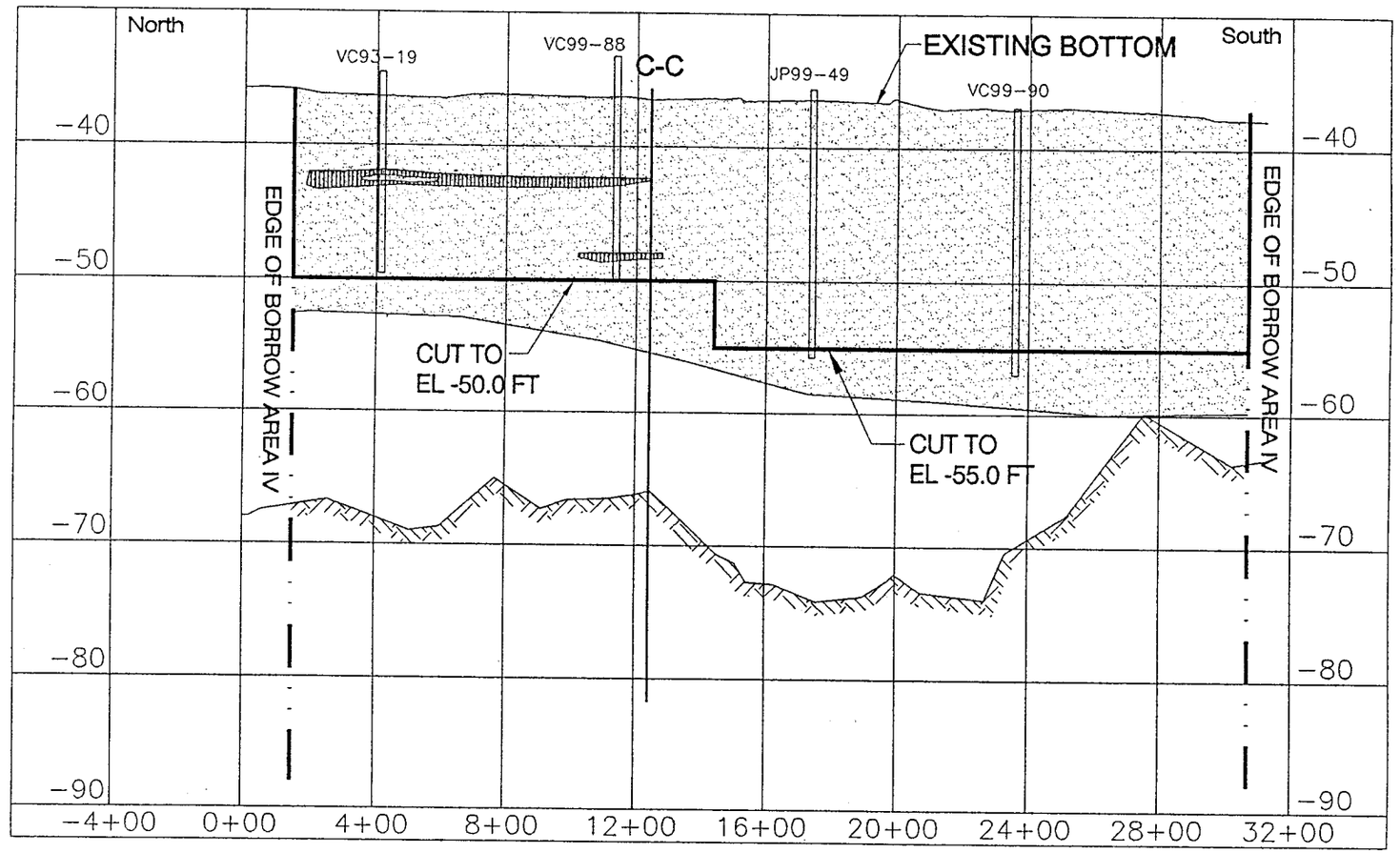
COASTAL TECH
VERO BEACH SARASOTA DESTIN AUSTIN

GEOLOGIC SECTION C-C
BORROW AREA NO. IV

ENGR	REVIEWED	DATE	REV
SWB	MPW	1/28/2000	6/28/2000

SHEET 11 OF 14 SHEETS
JOB NO. 93710

93710-Borrow Geologic Sections2



Section D-D

NOTE:
1. EXISTING CONDITIONS FROM DRAWINGS BY COASTAL PLANNNING & ENGINEERING ENGINEERING (CP&E) BASED ON CP&E SURVEYS DATED OCT. 30 THROUGH NOV. 6, 1998
2. ELEVATIONS BASED ON NATIONAL GEODETIC VERTICAL DATUM (NGVD 1929)
3. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
4. WIDTH OF LAYERS IS REPRESENTATIVE ONLY, ACTUAL MATERIAL MAY VARY.
5. SEE SHEETS 7 & 8 FOR LOCATION OF CROSS-SECTIONS
6. INTERPRETATION BY CP&E BASED ON VIBRACORE AND SUBBOTTOM DATA.

LEGEND:
- FINE TO MEDIUM GRAY SAND
- FINE TO MEDIUM GRAY SAND WITH CORAL SAND
- SHELL HASH AND CORAL FRAGMENTS WITH FINE GRAY SAND
- ROCK - LIMESTONE/ CORAL BOULDER/COBBLE
- FINE-MED GRAY SAND WITH CORAL SAND + CORAL FRAGMENTS
- RESISTANCE SUBSTRATE
- BELOW CORE PENETRATION, UNKNOWN UNCONSOLIDATED SEDIMENT

PERMIT NO. 165332-001-JC

Stephen W. Boehning 4/06/00
Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach
Phipps Ocean Park Beach Restoration

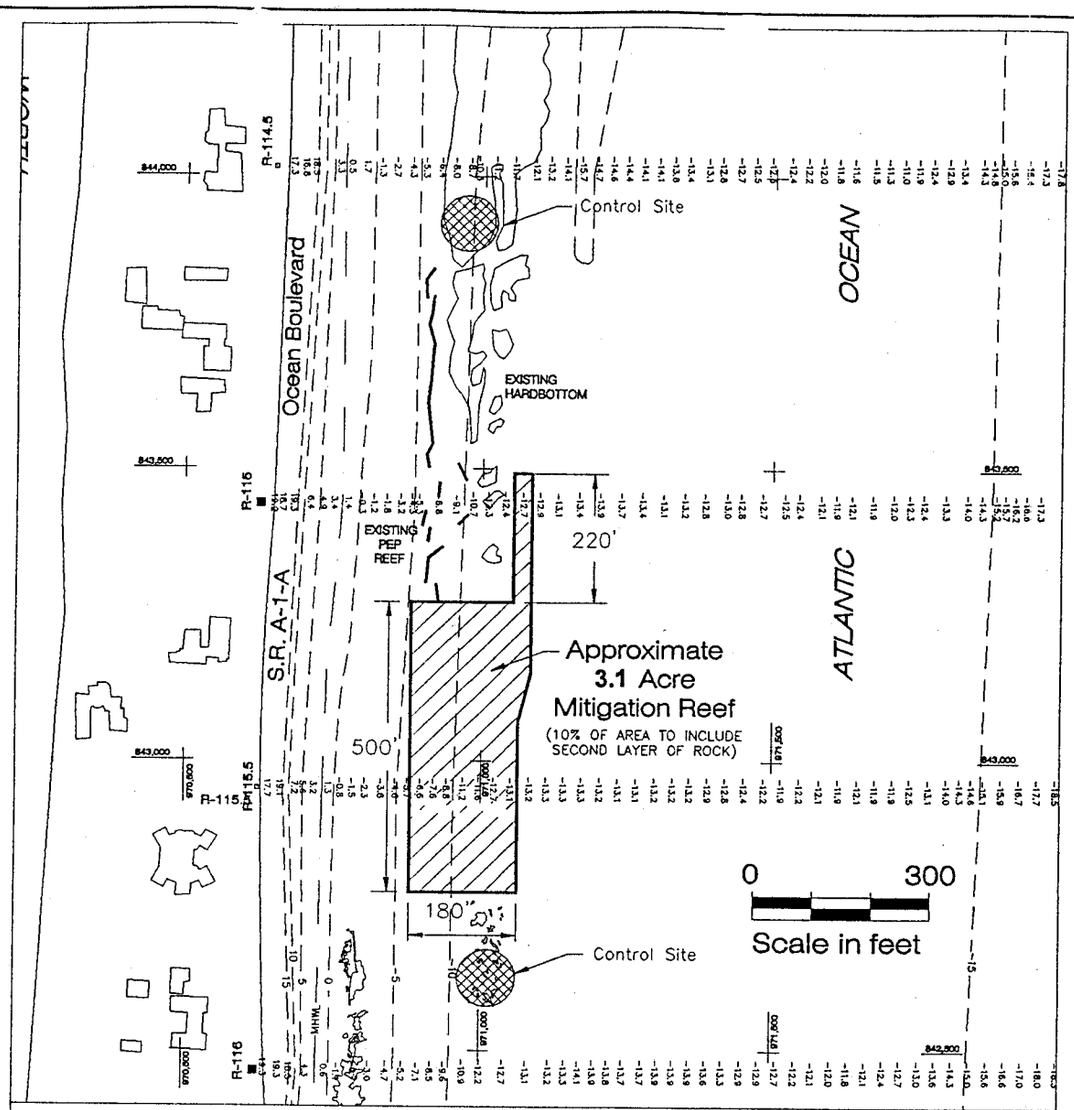
COASTAL TECH
VERO BEACH SARASOTA DESTIN AUSTIN

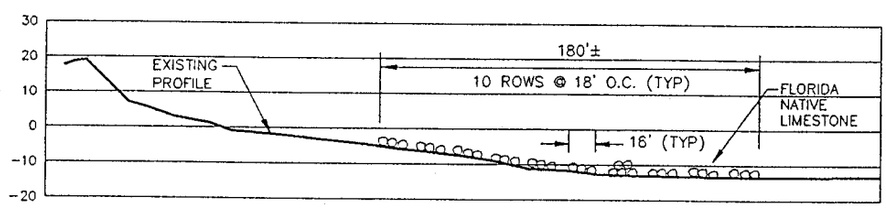
GEOLOGIC SECTION D-D
BORROW AREA NO. IV

ENGR	REVIEWED	DATE	REV
SWB	MPW	1/28/2000	9/28/2000

SHEET 12 OF 14 SHEETS

JOB NO. 93710





Mon R-115.5 Profile
Not to Scale

NOTE:

1. Plan View features from drawings provided by Palm Beach County, DEP Monument data, and Palm Beach County street maps
2. MHWL from a survey by Morgan & Eklund, Inc., titled "Topographic & Bathymetric Survey of Phipps Ocean Park", dated 8/16-9/10 2000
3. Hardbottom was interpreted by Coastal Tech from aerial photography by Aerial Cartographics of America, Inc. Dated 12/29/99.
4. Coordinates are based on Florida State Plane Coordinate System, East Zone, NAD 83/90

RECEIVED
OCT 09 2000
OFFICE OF BEACHES & COASTAL SYSTEMS

PERMIT NO. 165332-001-JC

Stephen W. Boehning 10/10/00
Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Ocean Park Beach Restoration	Mitigation Area - Plan & Cross-Section			SHEET 13 OF 14 SHEETS
COASTAL TECH VERO BEACH SARASOTA DESTIN AUSTIN	ENGR MPW	REVIEWED SWB	DATE 6/26/2000 REV 10/6/2000	JOB NO. 93710

SWB Proposed Mit-Reef

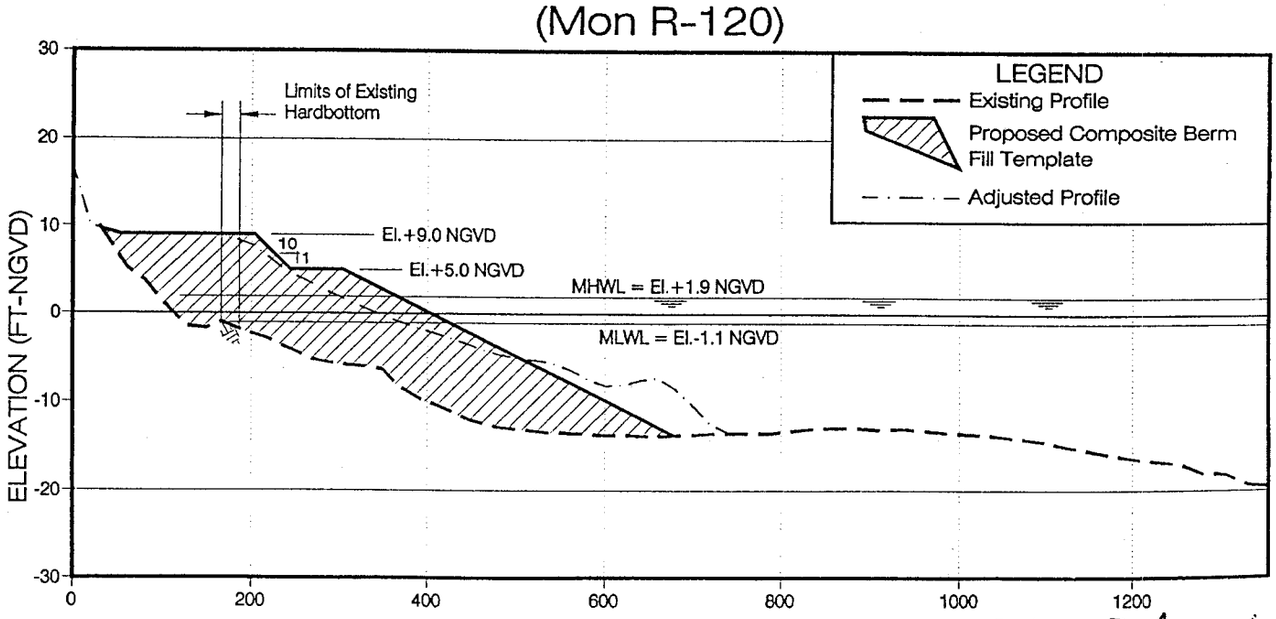
1) These drawings are "Permit Sketches" intended to provide sufficient data to facilitate evaluation of the "Proposed Phipps Ocean Park Beach Restoration in the Town of Palm Beach, Palm Beach County, Florida. THESE DRAWINGS ARE PERMIT SKETCHES ONLY AND ARE NOT INTENDED FOR CONSTRUCTION.

2) Elevations refer to National Geodetic Vertical Datum (NGVD 1929).

3) Approximately 1.5 million c.y. of sand is proposed to be dredged from Borrow Areas No. III & IV and placed on the beach within the Town of Palm Beach between DNR Monuments R-116 through R-126 as shown on Sheet 3 (Plan View-Fill Area) and Sheets 4, 5, and 6 (Profiles - Fill Template)

4) DETAILS OF CONSTRUCTION: The selected Contractor will either pump by hydraulic dredge directly from the borrow area onto the beach. The Contractor will maintain a minimum 150 foot long shore-parallel sand dike at the beach disposal area at all times during hydraulic discharge on the beach as may be required to meet State Water Quality Standards. The opening of the discharge pipe shall be landward of the dike and at least 150 feet from the end of the dike where discharge water flows into waters of the State. Staging areas are proposed on the uplands at Sloan's Curve, Phipps Ocean Park, or Old Ocean Boulevard. Proposed equipment to be located on the upland staging areas include front end loaders, dozers, fueling and oiling facillities, and possibly, booster pumps and a construction trailer.

REPRESENTATIVE COMPOSITE BERM - ALTERNATE BID
(Mon R-120)



PERMIT NO. 165332-001-JC

Stephen W. Boehning 10/06/00
Stephen W. Boehning Date
Florida P.E. License Number 52201

Town of Palm Beach Phipps Beach Restoration Project	NOTES & ALTERNATE BID: COMPOSITE FILL TEMPLATE			SHEET 14 OF 14 SHEETS
COASTAL TECH VERO BEACH SARASOTA DESTIN	ENGR SWB	REVIEWED MPW	DATE 1/28/2000 REV 6/26/2000	JOB NO. 93710

93710-Notes2