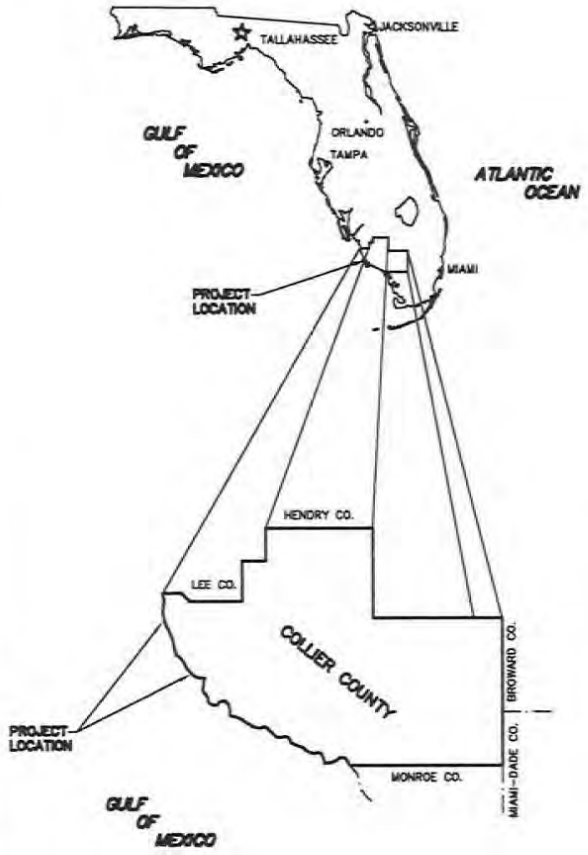
COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
COLLIER COUNTY, FLORIDA



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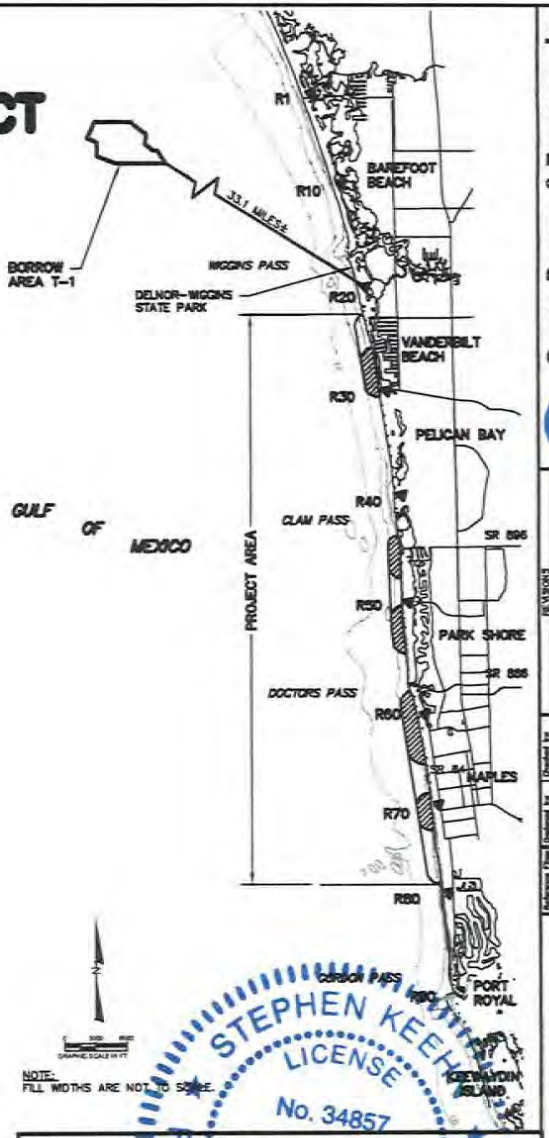

NOTE:
FILL WIDTHS ARE NOT TO SCALE.

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STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

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REVISIONS

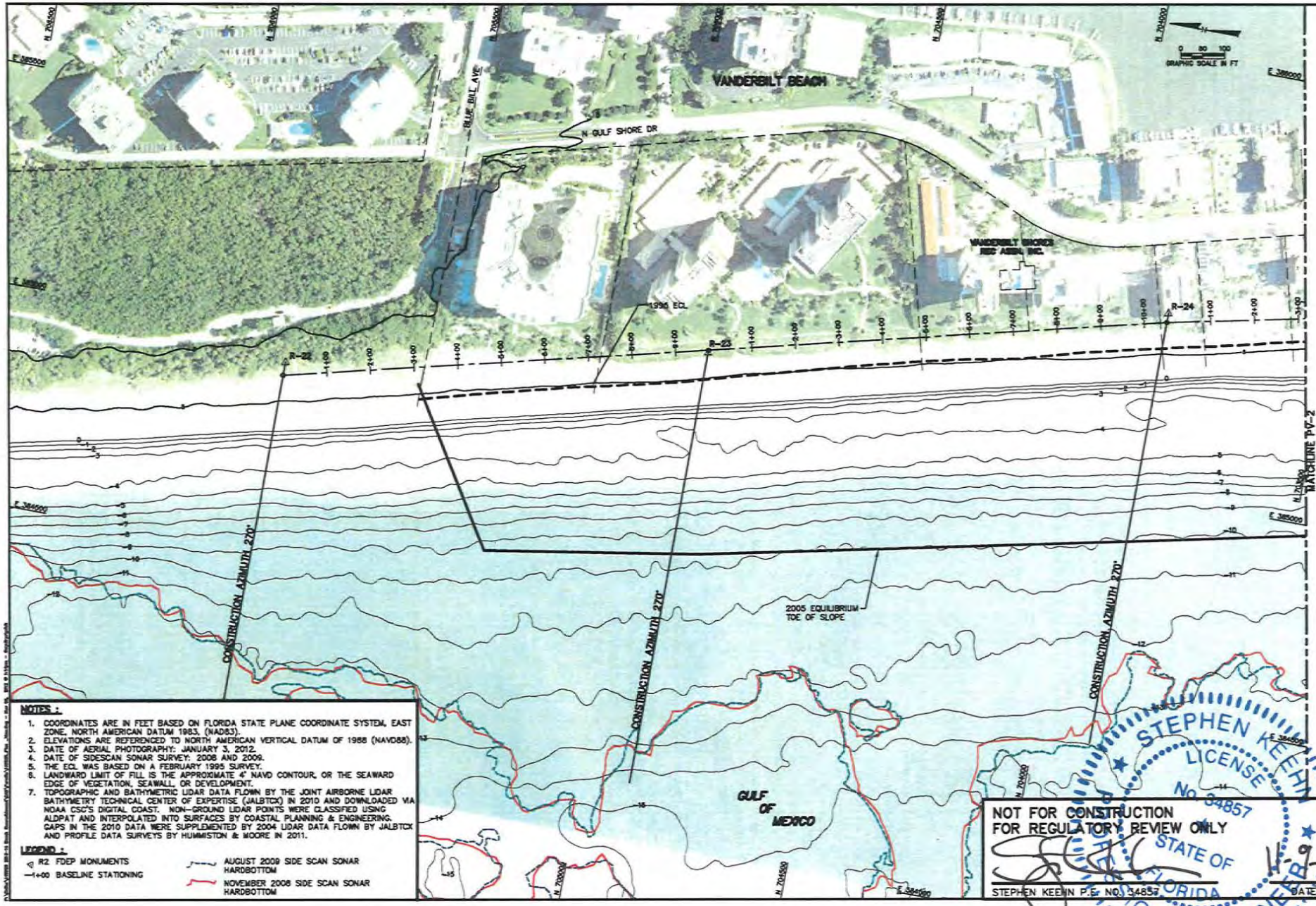
No.	Date	Description

Designed by: SK | Drawn by: JRC | Date: 7/25/12 | Plot Scale: AS NOTED | Checked by: AMB | Reviewed by: HS | Submitted by: SK | Drawn No.: 146925

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
COVER SHEET

DRAWING NO.
CS-1

SHEET 1 OF 29



NOTES :

1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM 1983, (NAD83).
2. ELEVATIONS ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
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LEGEND :

- R2 FDEP MONUMENTS
- 1+00 BASELINE STATIONING
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

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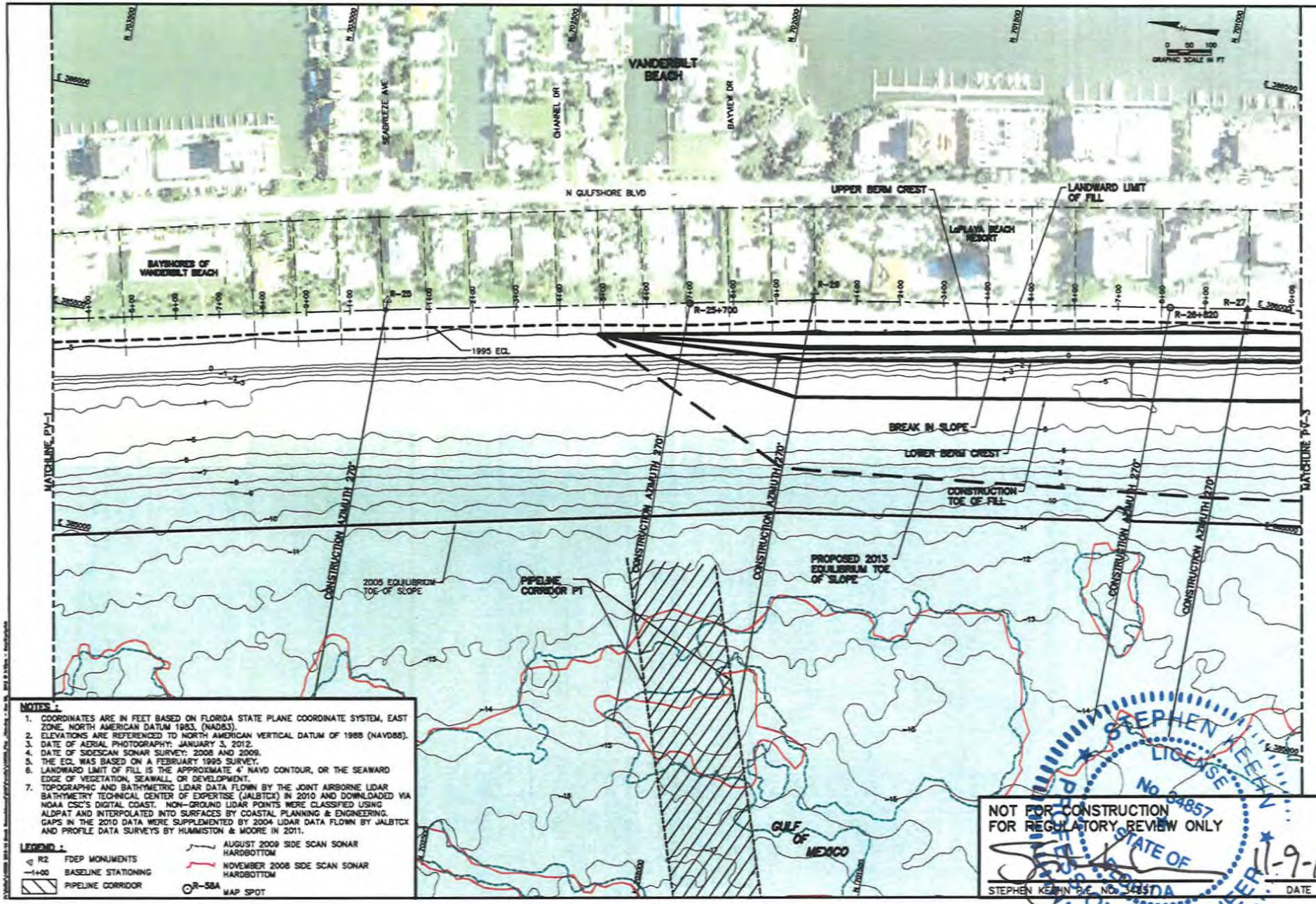
COLLIER COUNTY
BEACH REMOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-1
SHEET 2 OF 29



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LEGEND :

- R2 FDEP MONUMENTS
- 1+00 BASELINE STATIONING
- PIPELINE CORRIDOR
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM
- R-58A MAP SPOT

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STEPHEN KEEHN P.E. NO. 34857

11-9-12
DATE

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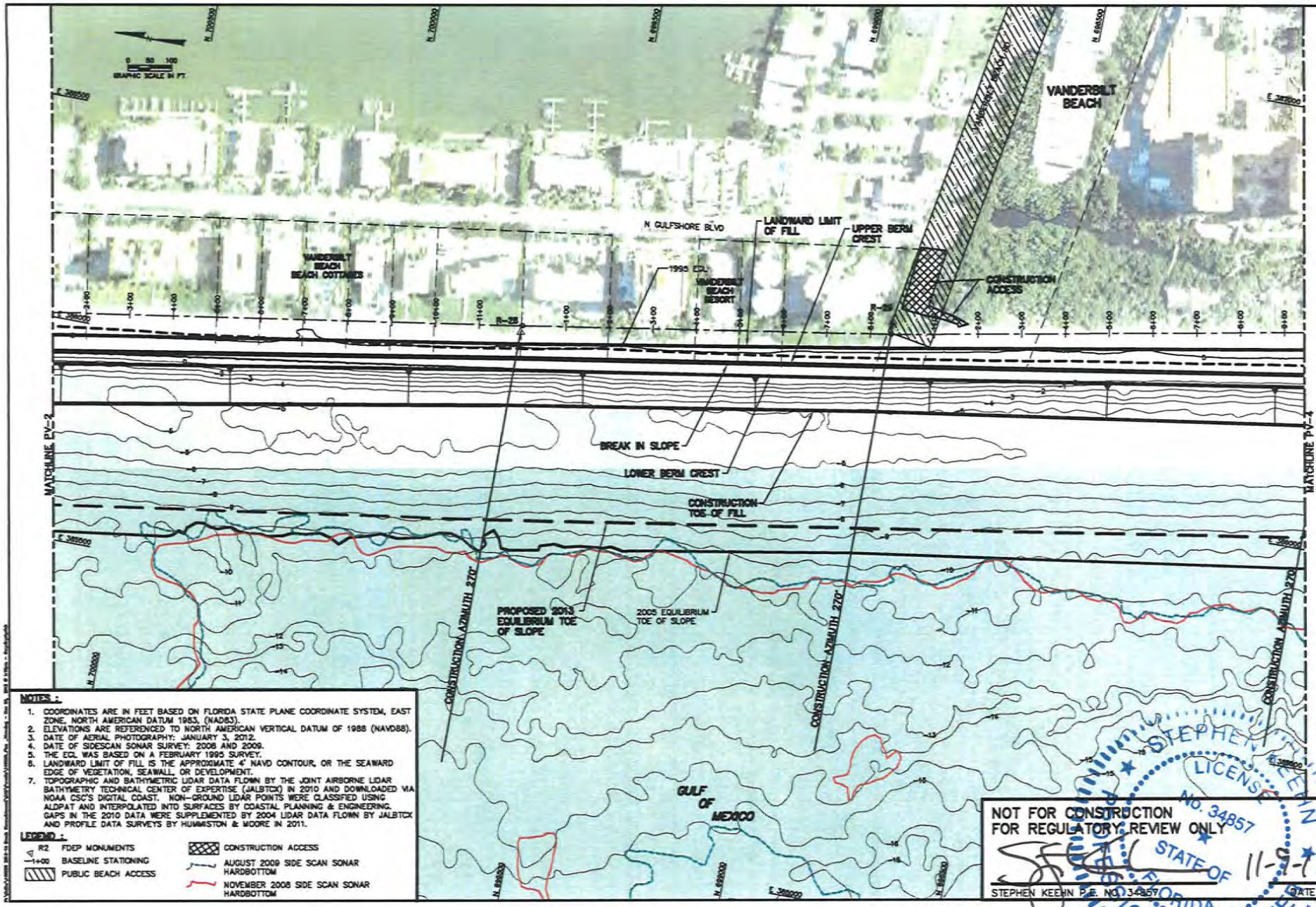
REVISIONS		
No.	Date	Description

Checked by: AMB
Reviewed by: MS
Submitted by: SK
Designed by: SK
Drawn by: DK
Date: 7/23/12
Plot Scale: AS NOTED
Comm. No: 140525

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-2
SHEET 3 OF 29



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LEGEND :

- R2 FDEP MONUMENTS
- 1+00 BASELINE STATIONING
- PUBLIC BEACH ACCESS
- CONSTRUCTION ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

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STEPHEN KEEHN P.E. NO. 34857 — DATE: 11-8-12

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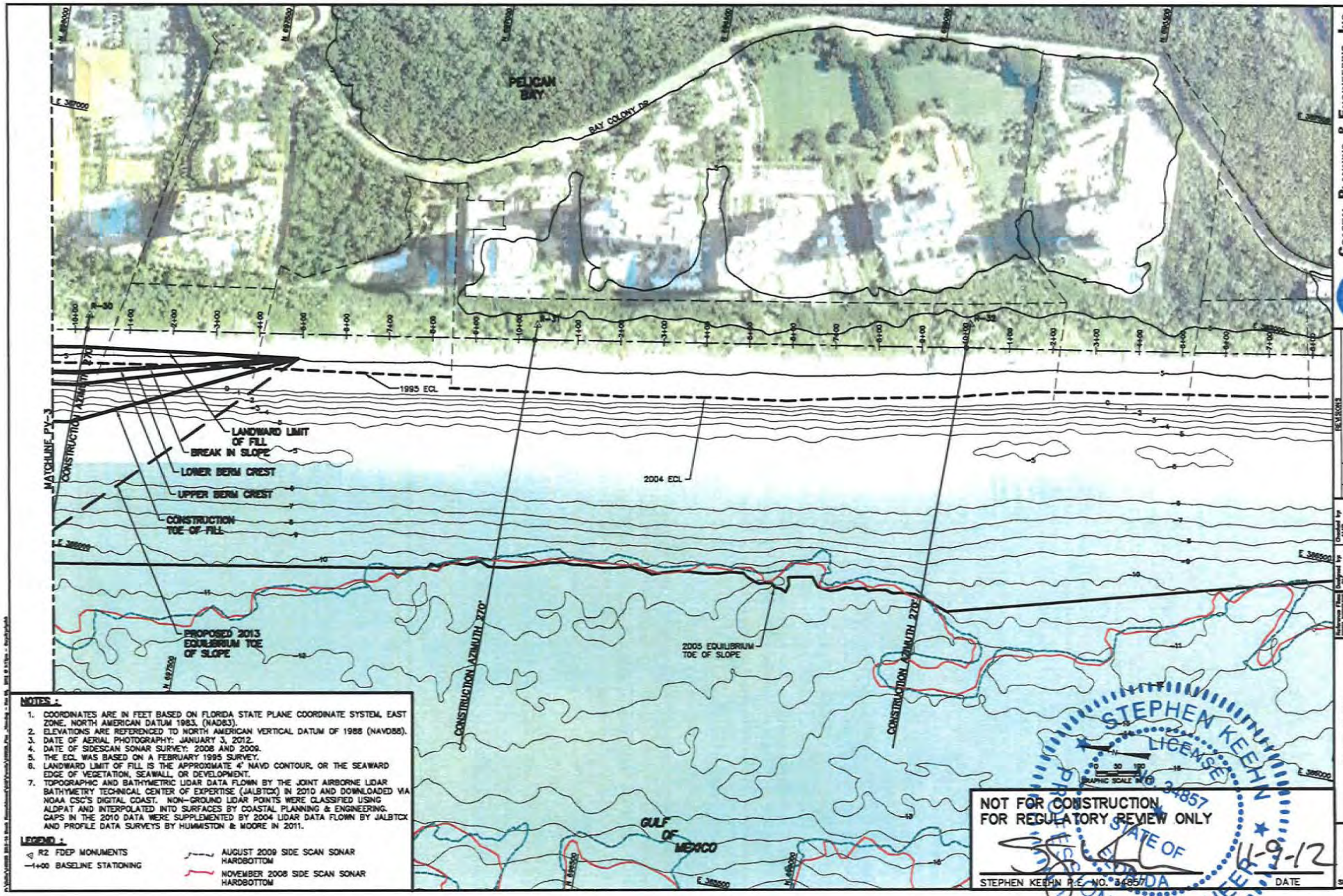
REVISIONS

No.	Date	Description

Designed by SK | Checked by AMB
Drawn by SK | Approved by MS
Date 7/20/12 | Submitted by SK
Plot Scale As NOTED | Drawn, Rev' 16625

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-3
SHEET 4 OF 29



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LEGEND :

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- 1+00 BASELINE STATIONING
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

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STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

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REVISIONS

No.	Date	Description

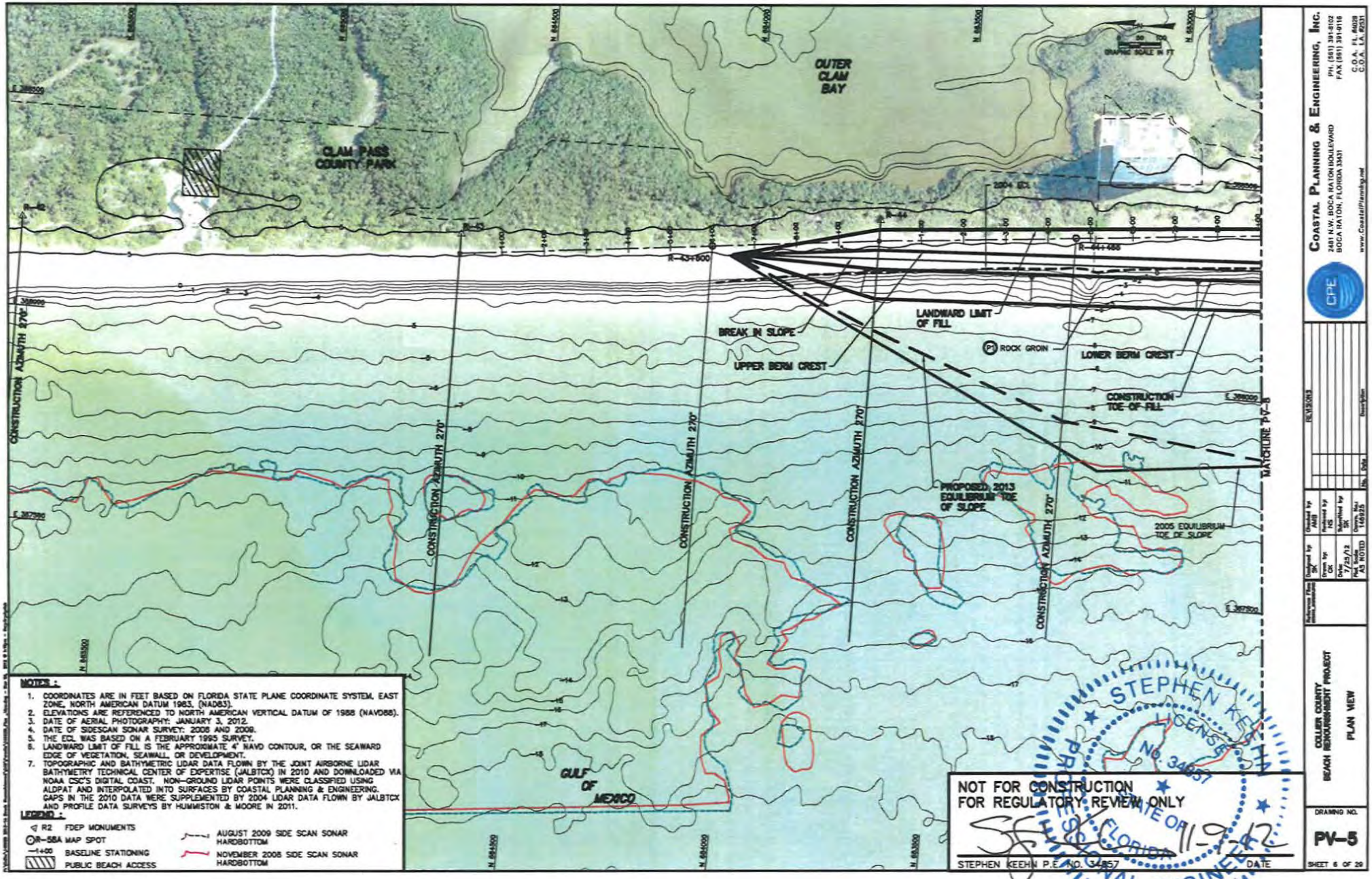
Reference Files: Designed by: SK; Drawn by: GK; Date: 7/25/12; Plot Scale: AS NOTED; Checked by: AMB; Reviewed by: KS; Submitted by: SK; Drawing No.: 146925

COLLIER COUNTY BEACH RENOURISHMENT PROJECT

PLAN VIEW

DRAWING NO. PV-4

SHEET 5 OF 29



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LEGEND :

- R2 FDEP MONUMENTS
- R-58A MAP SPOT
- 1+00 BASELINE STATIONING
- PUBLIC BEACH ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

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FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

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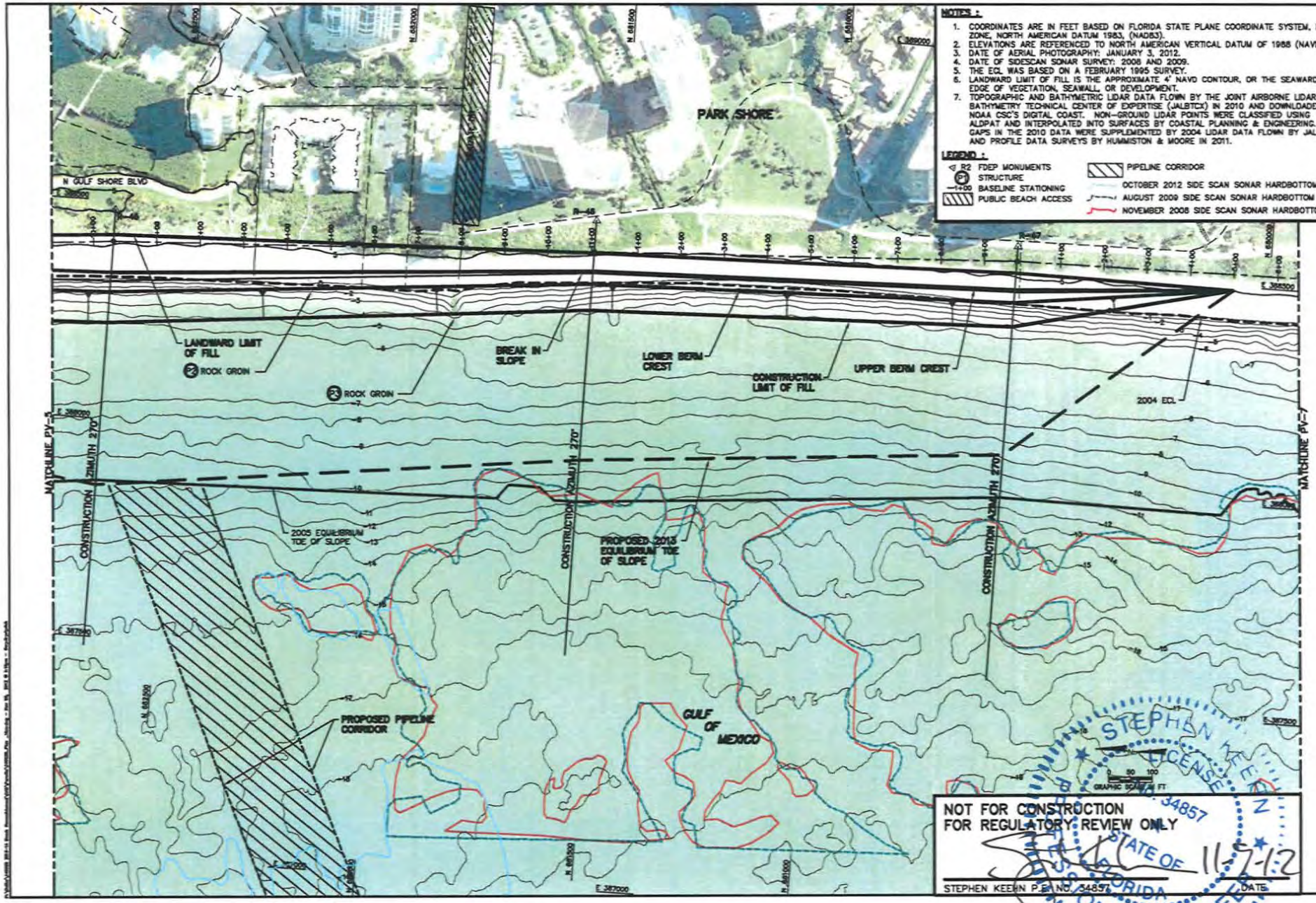
Rev	Description

Checked by: MS
Approved by: MS
Submitted by: SK
Drawn by: SK
Chkd by: CH
Date: 7/23/12
Plot Scale: AS NOTED
Drawing File: 14935

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-5
SHEET 5 OF 29



NOTES :

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LEGEND :

- R2 FDEP MONUMENTS
- R7 STRUCTURE
- 1+00 BASELINE STATIONING
- PUBLIC BEACH ACCESS
- PIPELINE CORRIDOR
- OCTOBER 2012 SIDE SCAN SONAR HARDBOTTOM
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

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FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-7-12

STEPHEN KEEHN LICENSE NO. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

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REVISIONS

No.	Date	Description

Reference Files: Drawn by SK; Designed by SK; Checked by MS; Approved by SK; Date 7/25/13; Plot Scale 1"=50'; Drawing No. 1642.5; Plot Date AS NOTED

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-6
SHEET 7 OF 29

NOTES :

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- 1+00 BASELINE STATIONING
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

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STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE NO. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

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REVISIONS

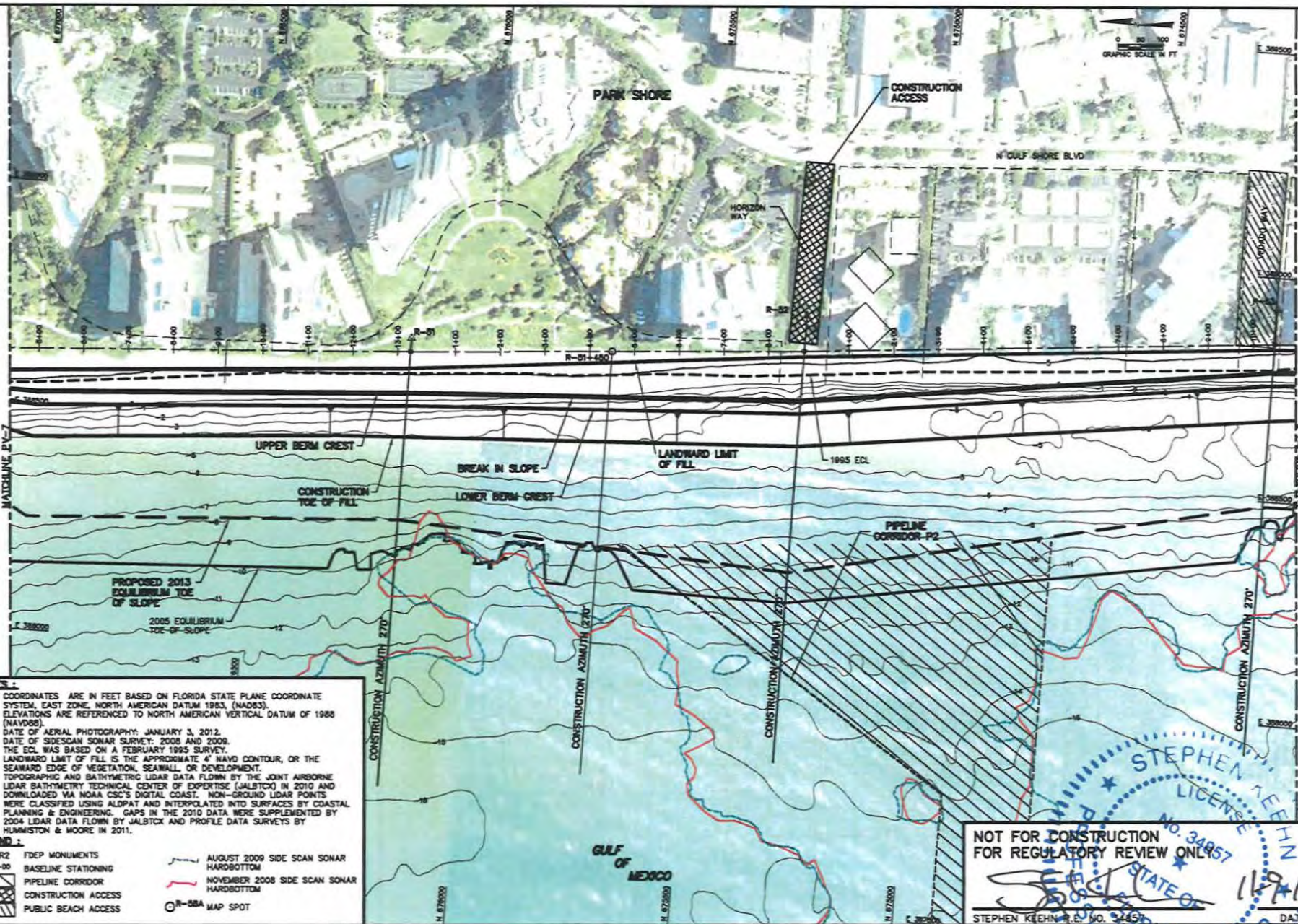
No.	Date	Description

Reference Files: Designed by: SK; Drawn by: CK; Date: 7/25/12; Plot Scale: AS NOTED; Checked by: AMB; Reviewed by: NS; Submitted by: SK; Drawn No.: 146925

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-7

SHEET 8 OF 29



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LEGEND :

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- 1+00 BASELINE STATIONING
- PIPELINE CORRIDOR
- CONSTRUCTION ACCESS
- PUBLIC BEACH ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM
- R-58A MAP SPOT

NOT FOR CONSTRUCTION
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STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

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REVISIONS

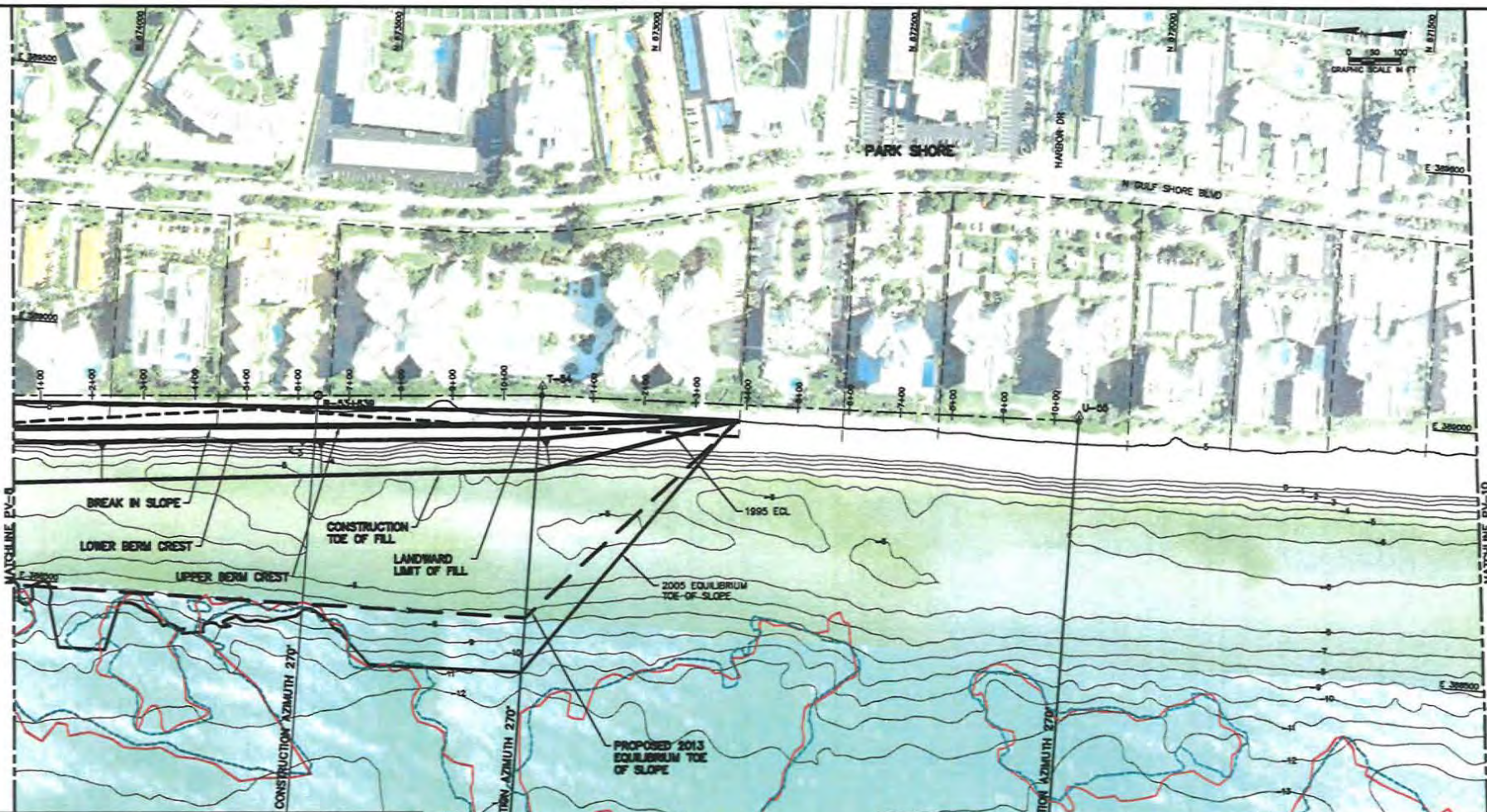
No.	Date	Description

Reference Files: dates, descriptions
Designed by: SK
Drawn by: GK
Date: 7/25/12
Plot Scale: AS NOTED
Checked by: AMB
Reviewed by: NS
Submitted by: SK
Comm. No.: 146925

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-8

SHEET 9 OF 29



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LEGEND :

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- 1+00 BASELINE STATIONING
- R-58A MAP SPOT
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
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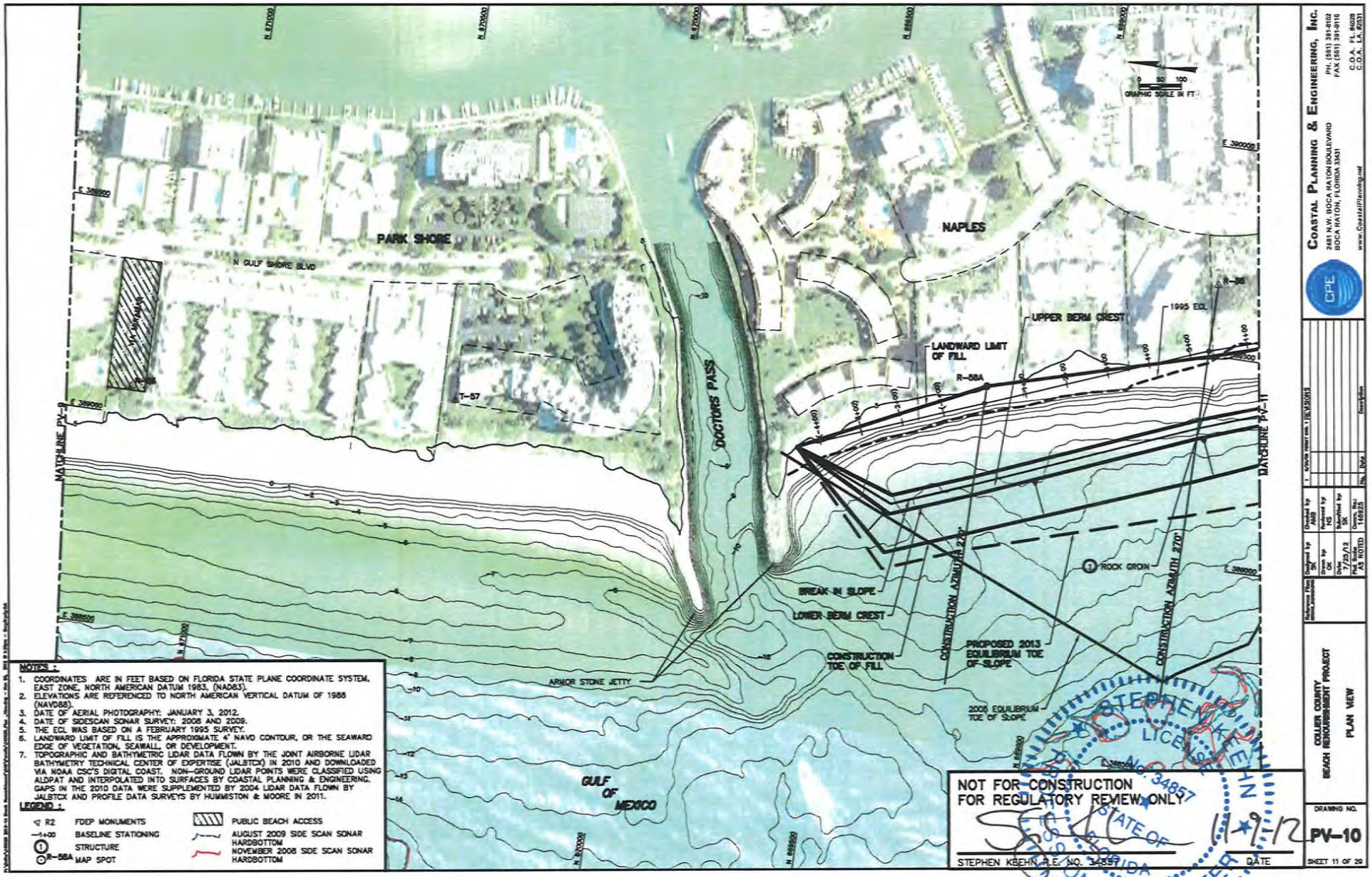
No.	Date	Description

Designed by: SK | Checked by: AMB
Drawn by: GK | Reviewed by: NS
Date: 7/25/12 | Submitted by: SK
Plot Scale: AS NOTED | Dwng. No.: 146925

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-9

SHEET 10 OF 29



NOTES :

1. COORDINATES ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM 1983, (NAD83).
2. ELEVATIONS ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. DATE OF AERIAL PHOTOGRAPHY: JANUARY 3, 2012.
4. DATE OF SIDESCAN SONAR SURVEY: 2008 AND 2009.
5. THE EOL WAS BASED ON A FEBRUARY 1995 SURVEY.
6. LANDWARD LIMIT OF FILL IS THE APPROXIMATE 4' NAVD CONTOUR, OR THE SEAWARD EDGE OF VEGETATION, SEAWALL, OR DEVELOPMENT.
7. TOPOGRAPHIC AND BATHYMETRIC LIDAR DATA FLOWN BY THE JOINT AIRBORNE LIDAR BATHYMETRY TECHNICAL CENTER OF EXPERTISE (JALBTCX) IN 2010 AND DOWNLOADED VIA NOAA CSC'S DIGITAL COAST. NON-GROUND LIDAR POINTS WERE CLASSIFIED USING ALDPAT AND INTERPOLATED INTO SURFACES BY COASTAL PLANNING & ENGINEERING. GAPS IN THE 2010 DATA WERE SUPPLEMENTED BY 2004 LIDAR DATA FLOWN BY JALBTCX AND PROFILE DATA SURVEYS BY HUMMISTON & MOORE IN 2011.

LEGEND :

- R2 — FDEP MONUMENTS
- 1+00 — BASELINE STATIONING
- 1 — STRUCTURE
- R-58A — MAP SPOT
- PUBLIC BEACH ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
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C.O.A. LA. #231
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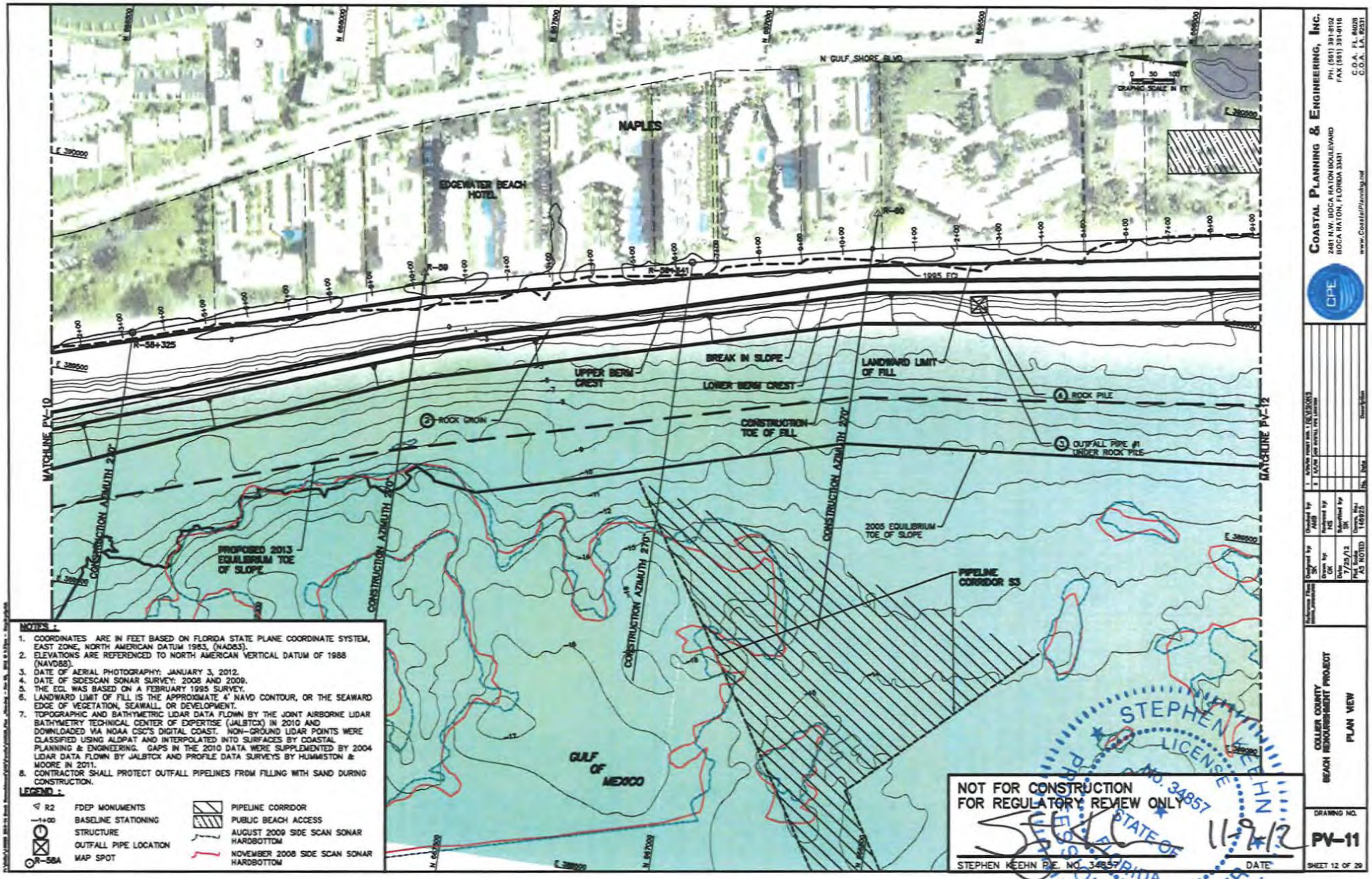
No.	Description	Date
1	w/wide insert refs.	11/9/12

Designed by: SK
Drawn by: SK
Date: 7/25/12
Plot Scale: AS NOTED
Checked by: ASB
Approved by: MS
Submitted by: SK
Comm. No.: 1408.25

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-10
SHEET 11 OF 29



NOTES :

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LEGEND :

- R2 — FDEP MONUMENTS
- —1+00 — BASELINE STATIONING
- STRUCTURE
- OUTFALL PIPE LOCATION
- R-58A — MAP SPOT
- PIPELINE CORRIDOR
- PUBLIC BEACH ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN PE, NO. 34857 — DATE 11/9/12

STEPHEN KEEHN LICENSE NO. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. LA 6511
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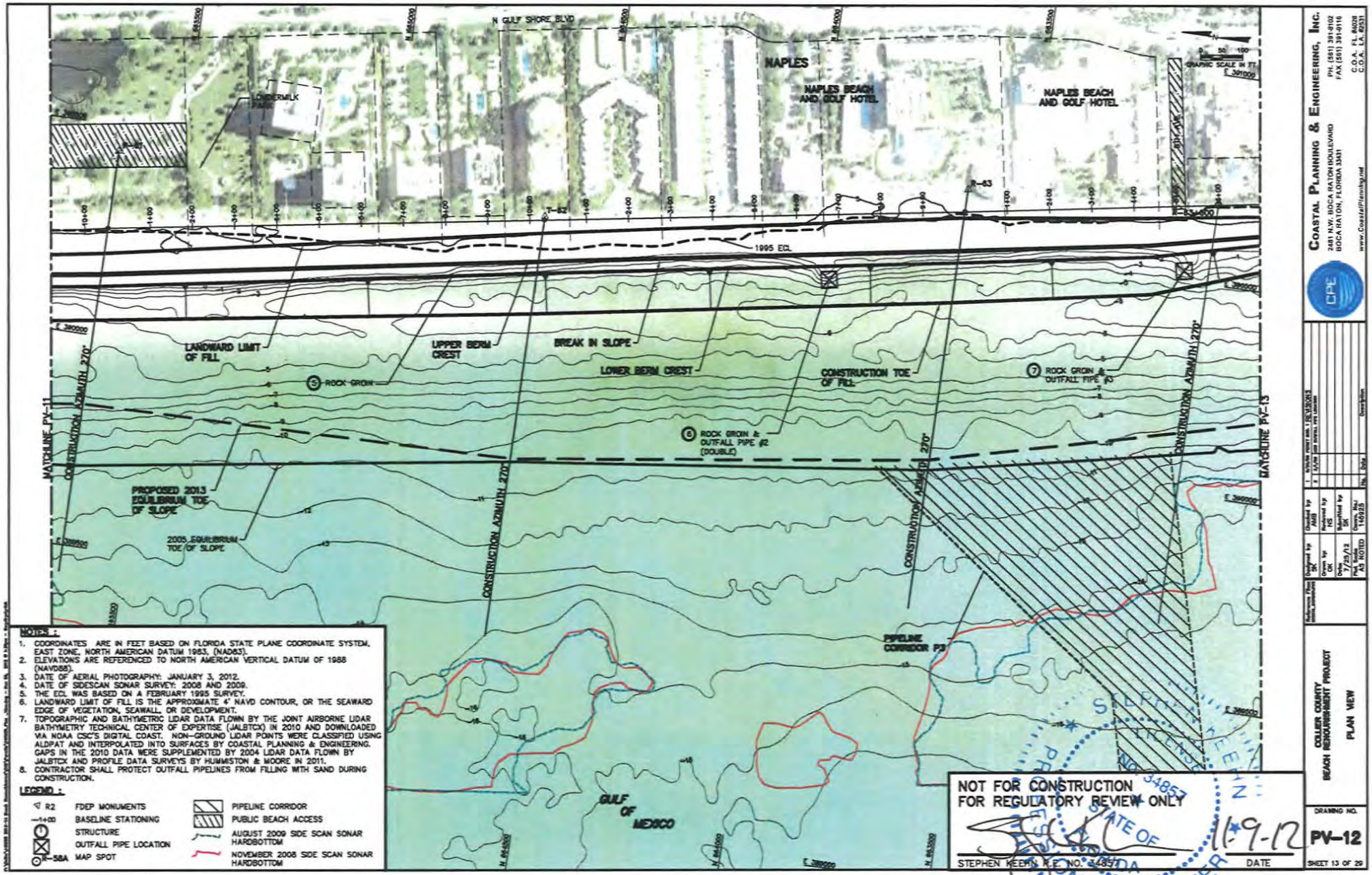
No.	Revision	Date	Drawn by
1	100% per SOVEL Pre Letter		
2			

Designed by: AMB
Drawn by: CK
Checked by: HS
Submitted by: SK
Date: 7/29/13
Plot Scale: As NOTED
Corps No: 199215

Reference Plans / Amendments

COLLIER COUNTY
BEACH REMOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-11
SHEET 12 OF 29



NOTES :

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LEGEND :

- R2 — FDEP MONUMENTS
- 1+00 — BASELINE STATIONING
- STRUCTURE
- OUTFALL PIPE LOCATION
- R-58A — MAP SPOT
- PIPELINE CORRIDOR
- PUBLIC BEACH ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEENAN, P.E. NO. 34857 — DATE 11-9-12

STATE OF FLORIDA — STEPHEN KEENAN — No. 34857 — PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. LA #2531
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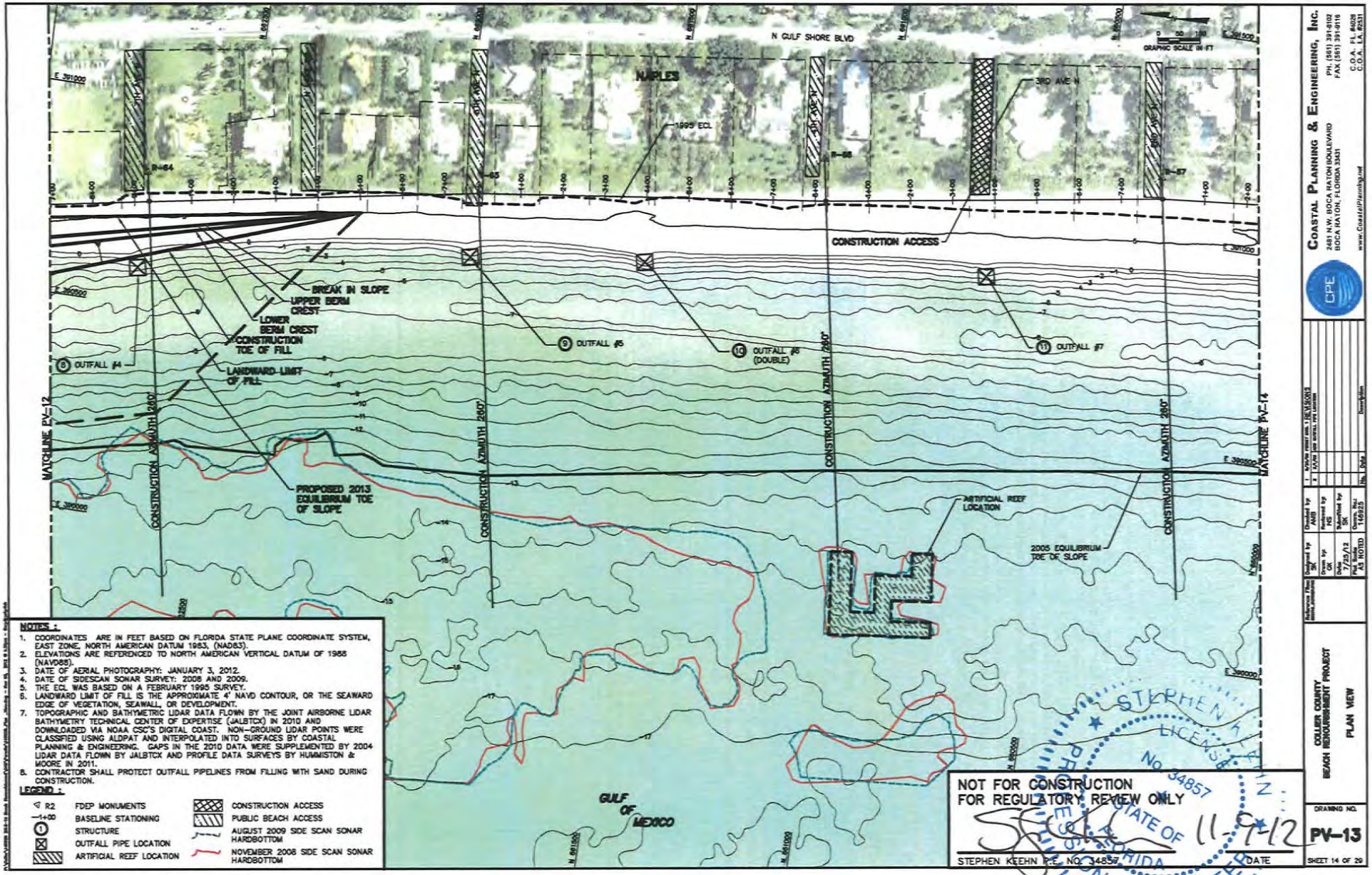
No.	Date	Description
1	10/08	ADD PIPE #3
2	12/08	ADD SURVEY, PIPE LOCATION

Reference Files: Design Level — Designed by: SK — Drawn by: GK — Date: 7/25/12 — Plot Scale: AS NOTED — Checked by: SK — Prepared by: KS — Submitted by: SK — Comm. No.: 1492S

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-12

SHEET 13 OF 29



NOTES :

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LEGEND :

- R2 — FDEP MONUMENTS
- 1+00 — BASELINE STATIONING
- STRUCTURE
- OUTFALL PIPE LOCATION
- ARTIFICIAL REEF LOCATION
- CONSTRUCTION ACCESS
- PUBLIC BEACH ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-7-12

STATE OF FLORIDA — PROFESSIONAL ENGINEER — STEPHEN A. KEEHN — LICENSE No. 34857

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C.O.A. LA #231
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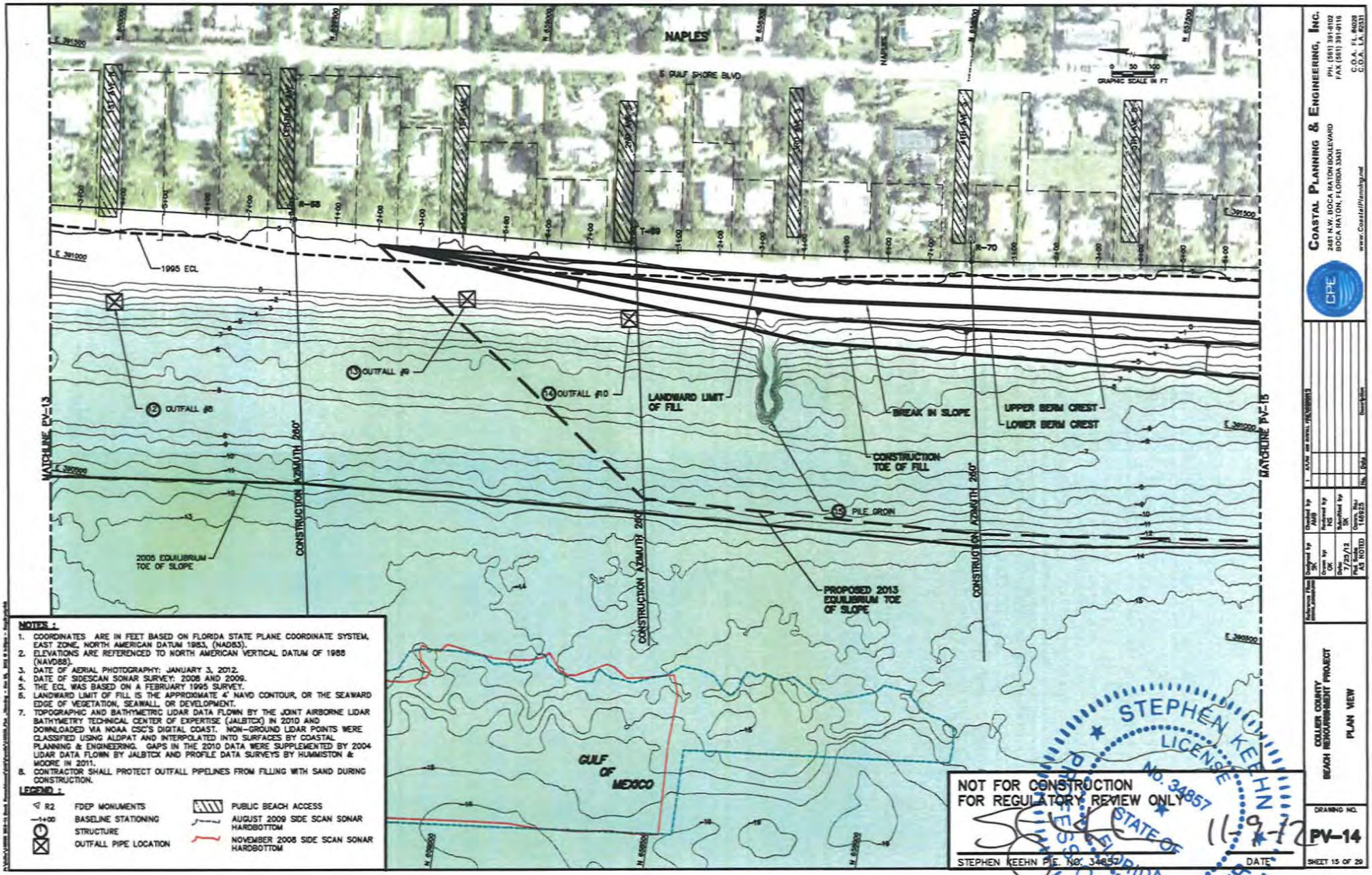
No.	Date	Description
1	10/26	per comments, new locations

Designed by: MMD
Drawn by: GK
Checked by: MS
Submitted by: SK
Date: 7/25/13
Plot Scale: AS NOTED
Drawing No.: 16923

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO. PV-13

SHEET 14 OF 29



NOTES :

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2. ELEVATIONS ARE REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
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LEGEND :

- R2 — FDEP MONUMENTS
- —1+00 — BASELINE STATIONING
- STRUCTURE
- OUTFALL PIPE LOCATION
- PUBLIC BEACH ACCESS
- AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
- NOVEMBER 2008 SIDE SCAN SONAR HARDBOTTOM

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. LA. #2511
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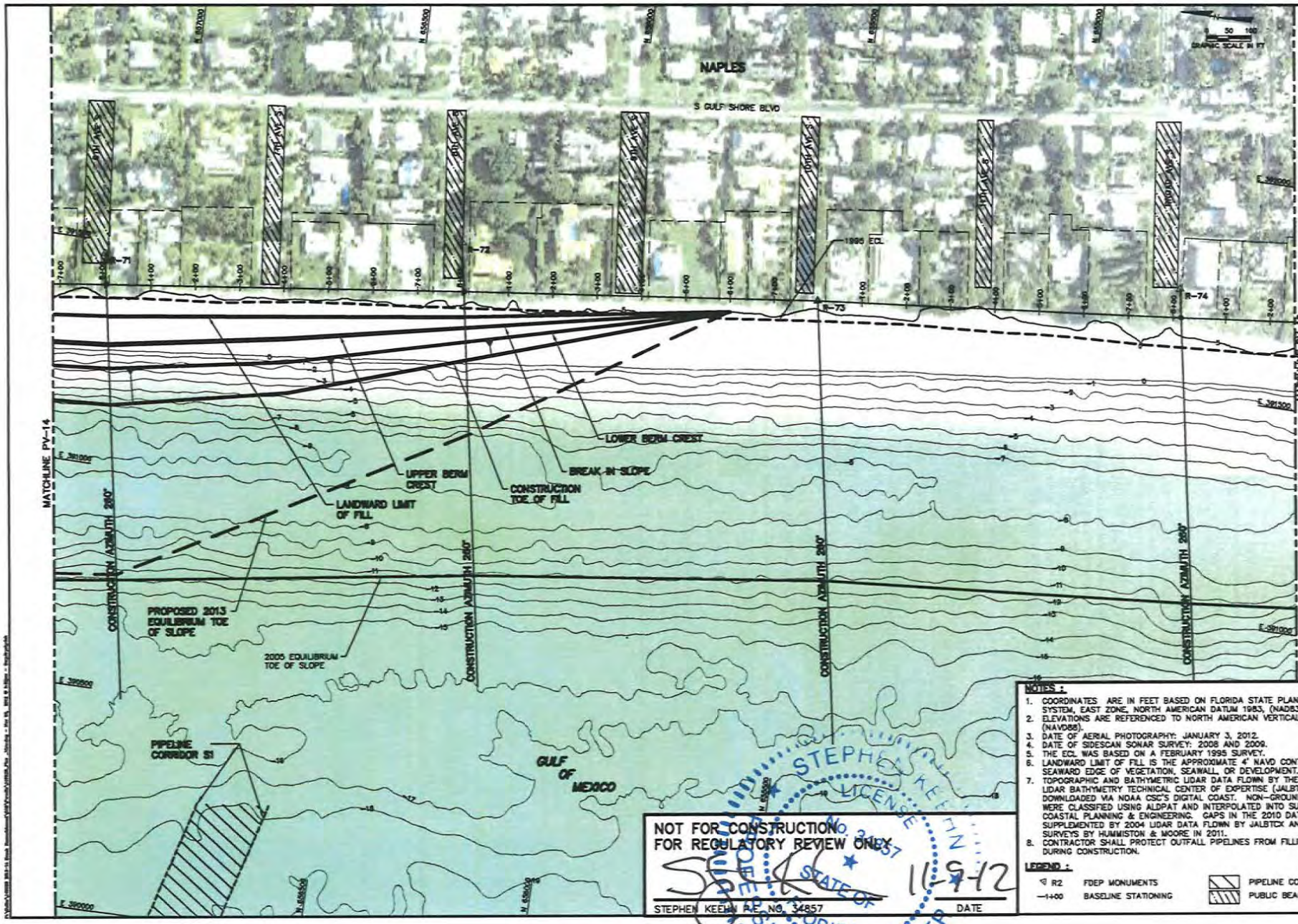
Reference Files	Designed by	Drawn by	Checked by	Approved by	Submitted by	Drawn No.	File No.	Description
	OK	OK	JMB	NS	SK	1667.23		1 AVOR per email 09/28/2012
	Date: 7/25/12	Date: Plot Date: AS NOTED						

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-14

SHEET 15 OF 29



NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

NOTES :

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LEGEND :

R2	FDEP MONUMENTS		PIPELINE CORRIDOR
—1+00	BASELINE STATIONING		PUBLIC BEACH ACCESS

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. FL #4028
C.O.A. LA #2531
www.CoastalPlanning.net

REVISIONS

No.	Date	Description

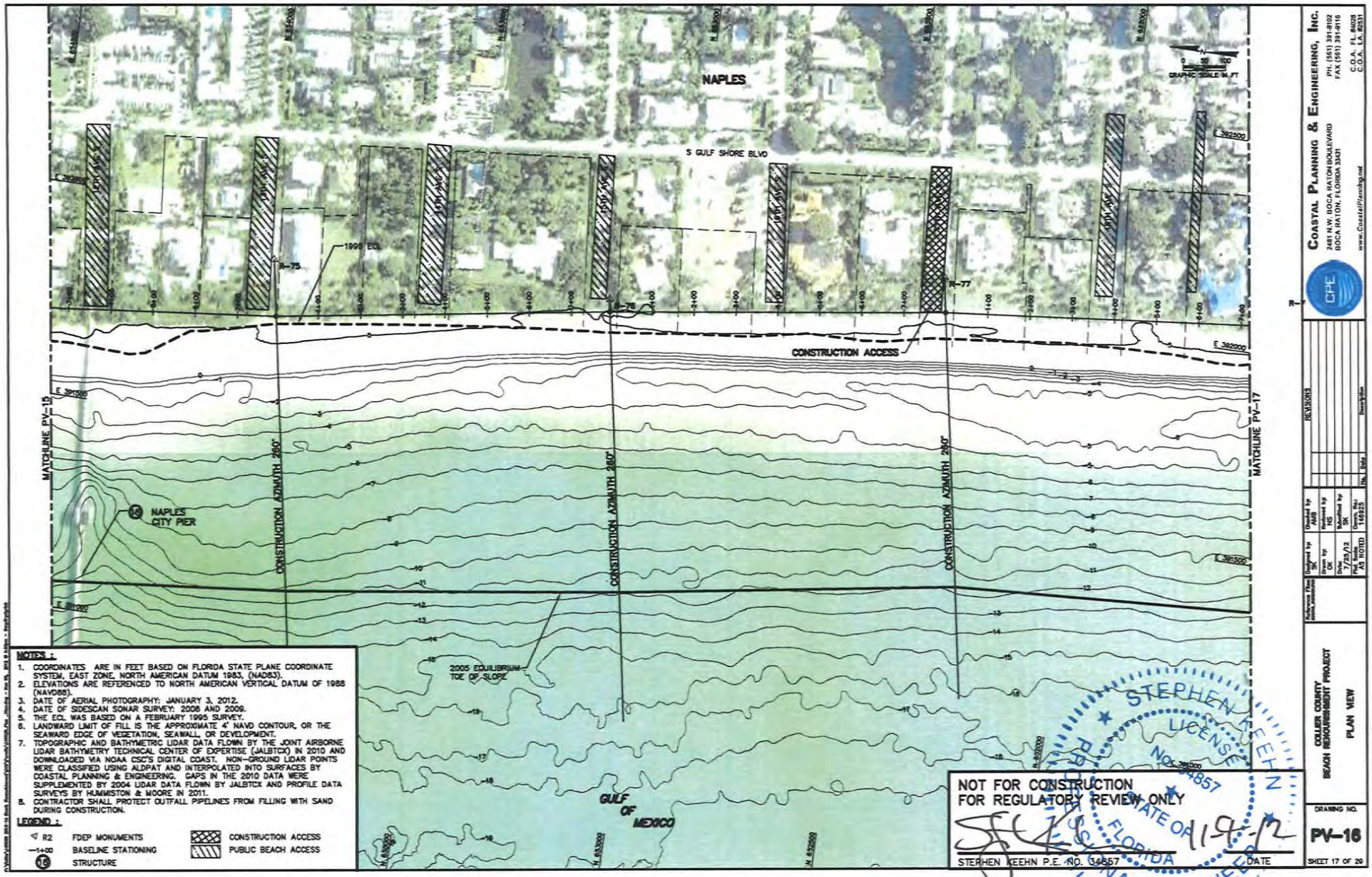
Reference Files: Designed by SK; Drawn by OK; Date 7/25/12; Plot Scale AS NOTED; Checked by AMB; Reviewed by NS; Submitted by SK; Dwgs. No. 146925

COLLIER COUNTY BEACH RENOURISHMENT PROJECT

PLAN VIEW

DRAWING NO. PV-15

SHEET 16 OF 29



NOTES :

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5. THE ECL WAS BASED ON A FEBRUARY 1995 SURVEY.
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LEGEND :

- R2 — FDEP MONUMENTS
- R+00 — BASELINE STATIONING
- 15 — STRUCTURE
- CONSTRUCTION ACCESS
- PUBLIC BEACH ACCESS

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE NO. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. FL #6028
C.O.A. LA #2531
www.CoastalPlanning.net

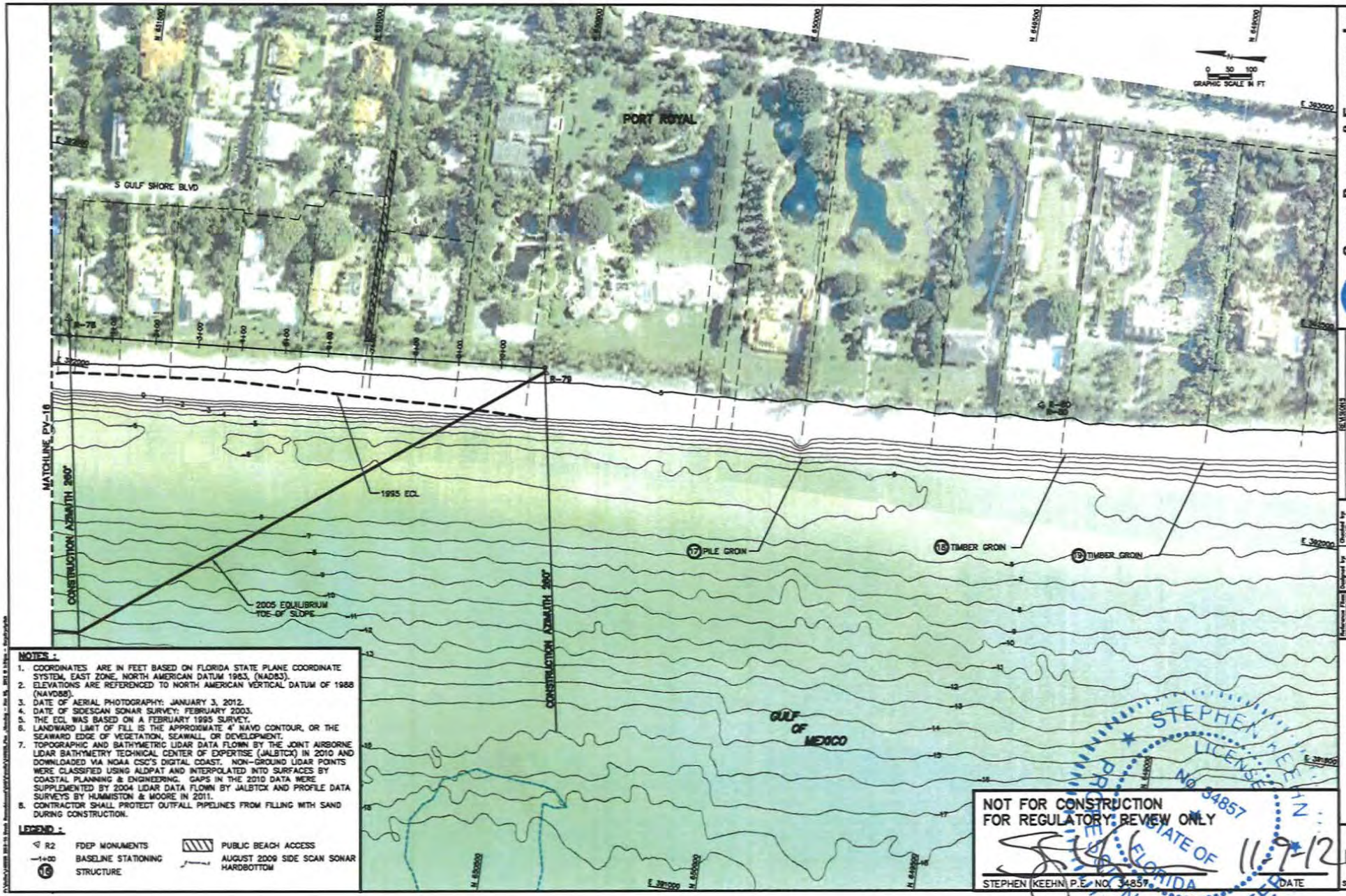
REVISIONS

No.	Description

Reference Files: Horizontal Datum
Designed by: Date: Drawn by: CK
Checked by: SK
Reviewed by: NS
Submitted by: SK
Date: 7/25/12
Drawing No.: 164125
Plot Scale: AS NOTED
File Dir.:

COLLIER COUNTY
BEACH REMOURISHMENT PROJECT
PLAN VIEW

DRAWING NO.
PV-16
SHEET 17 OF 29



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LEGEND :

◁ R2	FDEP MONUMENTS		PUBLIC BEACH ACCESS
—1+00	BASELINE STATIONING		AUGUST 2009 SIDE SCAN SONAR HARDBOTTOM
16	STRUCTURE		

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
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C.O.A. LA #2531
www.CoastalPlanning.net

REVISIONS

No.	Date	Description

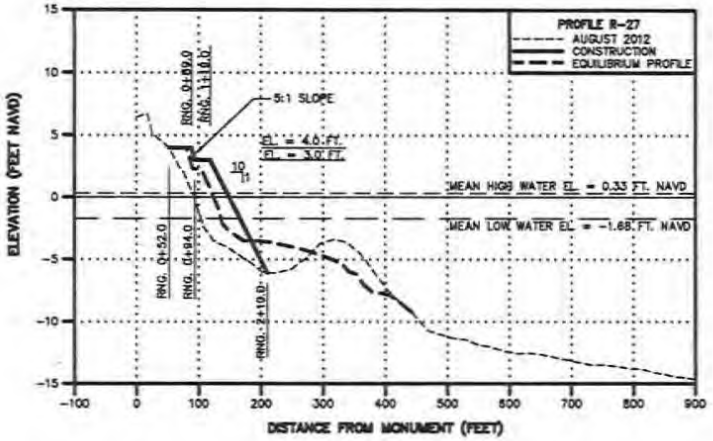
Designed by: SK
Drawn by: CK
Date: 7/25/12
Plot Scale: AS NOTED
Checked by: AMB
Reviewed by: NS
Submitted by: SK
Comm. No.: 146925

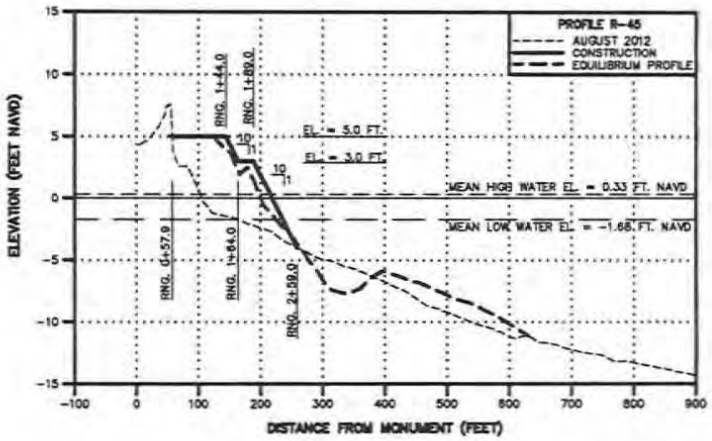
COLLIER COUNTY BEACH RENOURISHMENT PROJECT

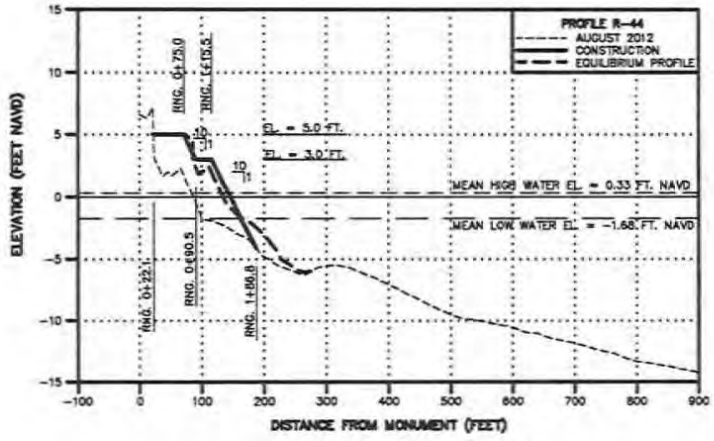
PLAN VIEW

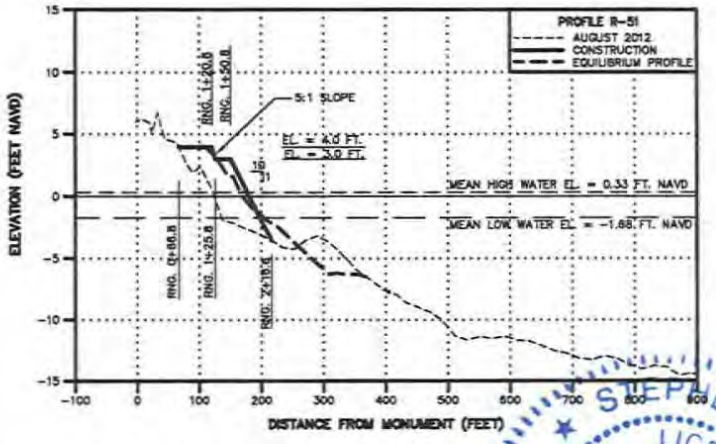
DRAWING NO. PV-17

SHEET 18 OF 29









NOTE:
1. SELECTED CROSS SECTIONS DEPICTED AS EXAMPLES IN EACH REACH.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. - LB 2511
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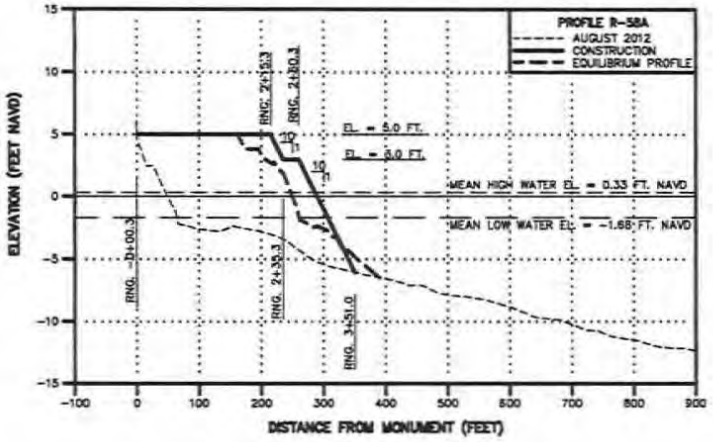
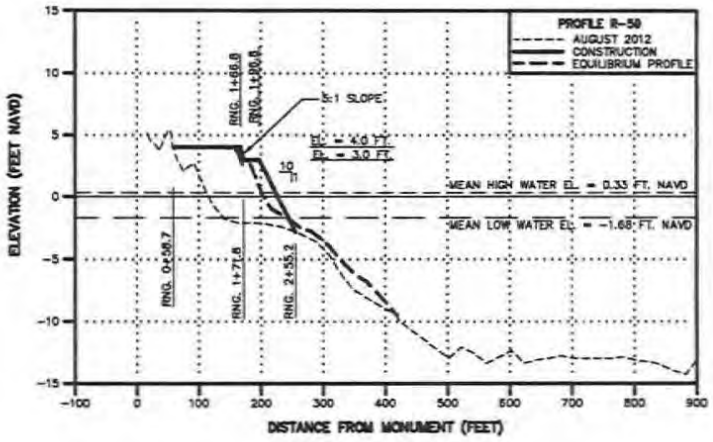
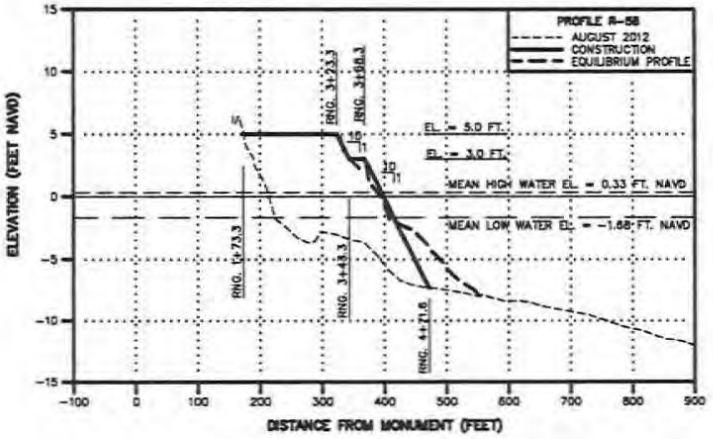
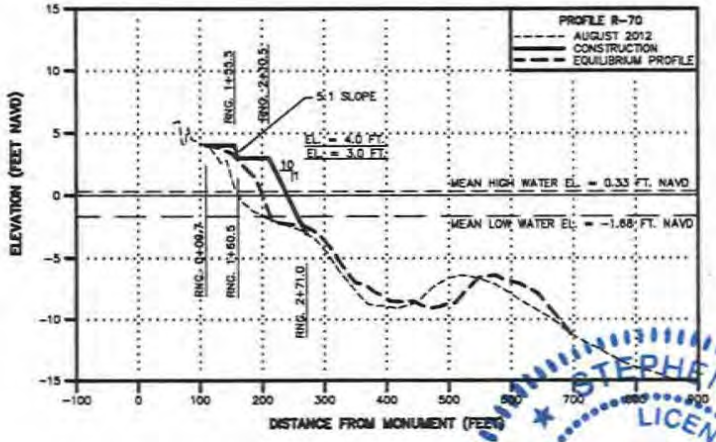
COLLIER COUNTY
BEACH NOURISHMENT PROJECT
TYPICAL
FILL CROSS SECTIONS

DRAWING NO.
PR-1
SHEET 19 OF 29









NOTE:
1. SELECTED CROSS SECTIONS DEPICTED AS EXAMPLES IN EACH REACH.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. FL #4020
C.O.A. LA #2531
www.CoastalPlanning.net

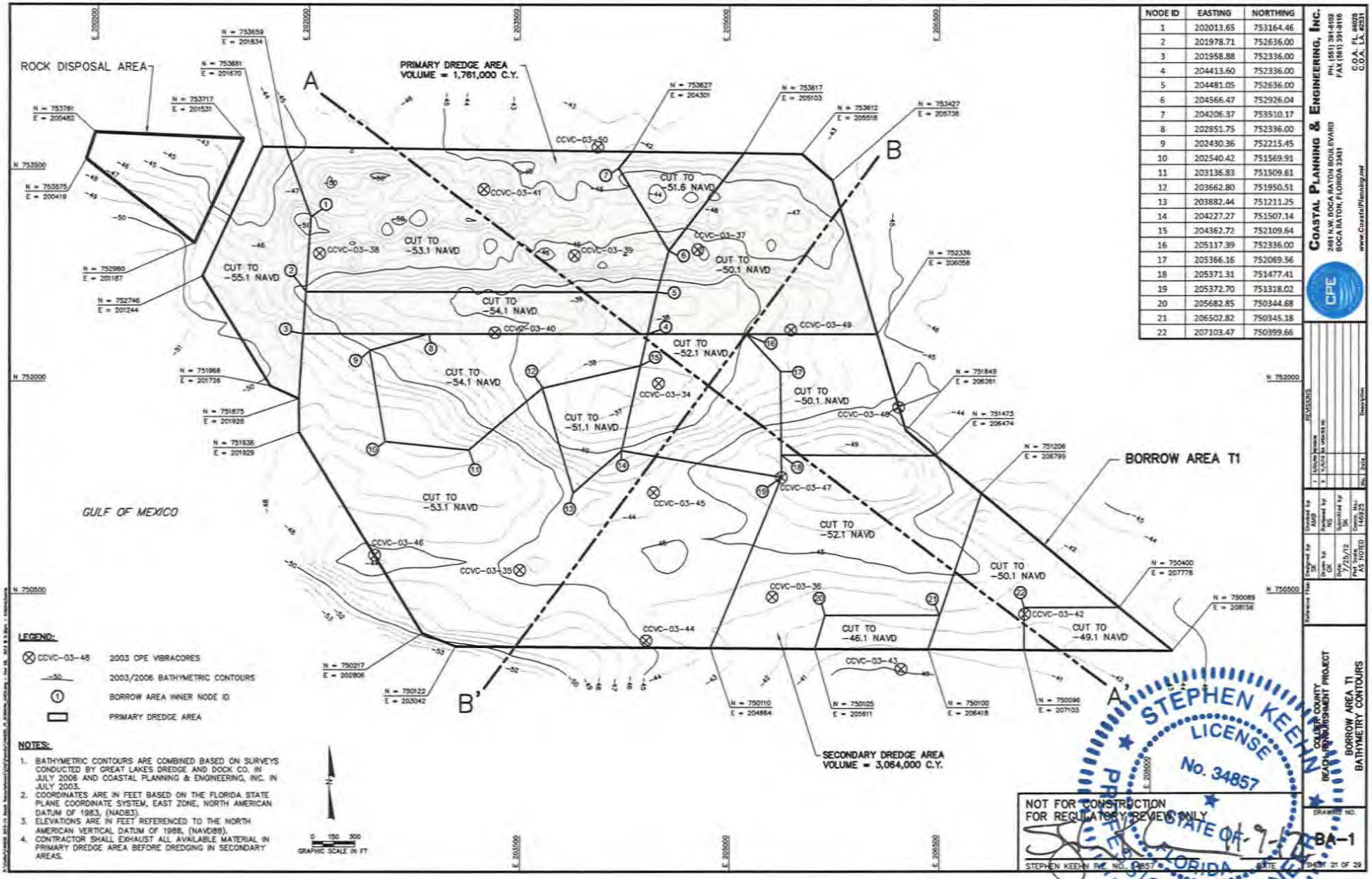
No.	Date	Description
1		Revisions

Reference Files: Designed by SK; Drawn by JRC; Date 7/25/12; Plot Scale AS NOTED; Checked by AMB; Reviewed by NS; Submitted by SK; Drawing No. 146925

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
TYPICAL
FILL CROSS SECTIONS

DRAWING NO.
PR-2

SHEET 20 OF 29



NODE ID	EASTING	NORTHING
1	202013.65	753164.46
2	201978.71	752636.00
3	201958.88	752336.00
4	204413.60	752336.00
5	204481.05	752636.00
6	204566.47	752926.04
7	204206.37	753510.17
8	202851.75	752336.00
9	202430.36	752215.45
10	202540.42	751569.91
11	203136.83	751509.61
12	203662.80	751950.51
13	203882.44	751211.25
14	204227.27	751507.14
15	204362.72	752109.64
16	205117.39	752336.00
17	205366.15	752069.56
18	205371.31	751477.41
19	205372.70	751318.02
20	205682.85	750344.68
21	206502.82	750345.18
22	207103.47	750399.66

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C.O.A. LA #2231
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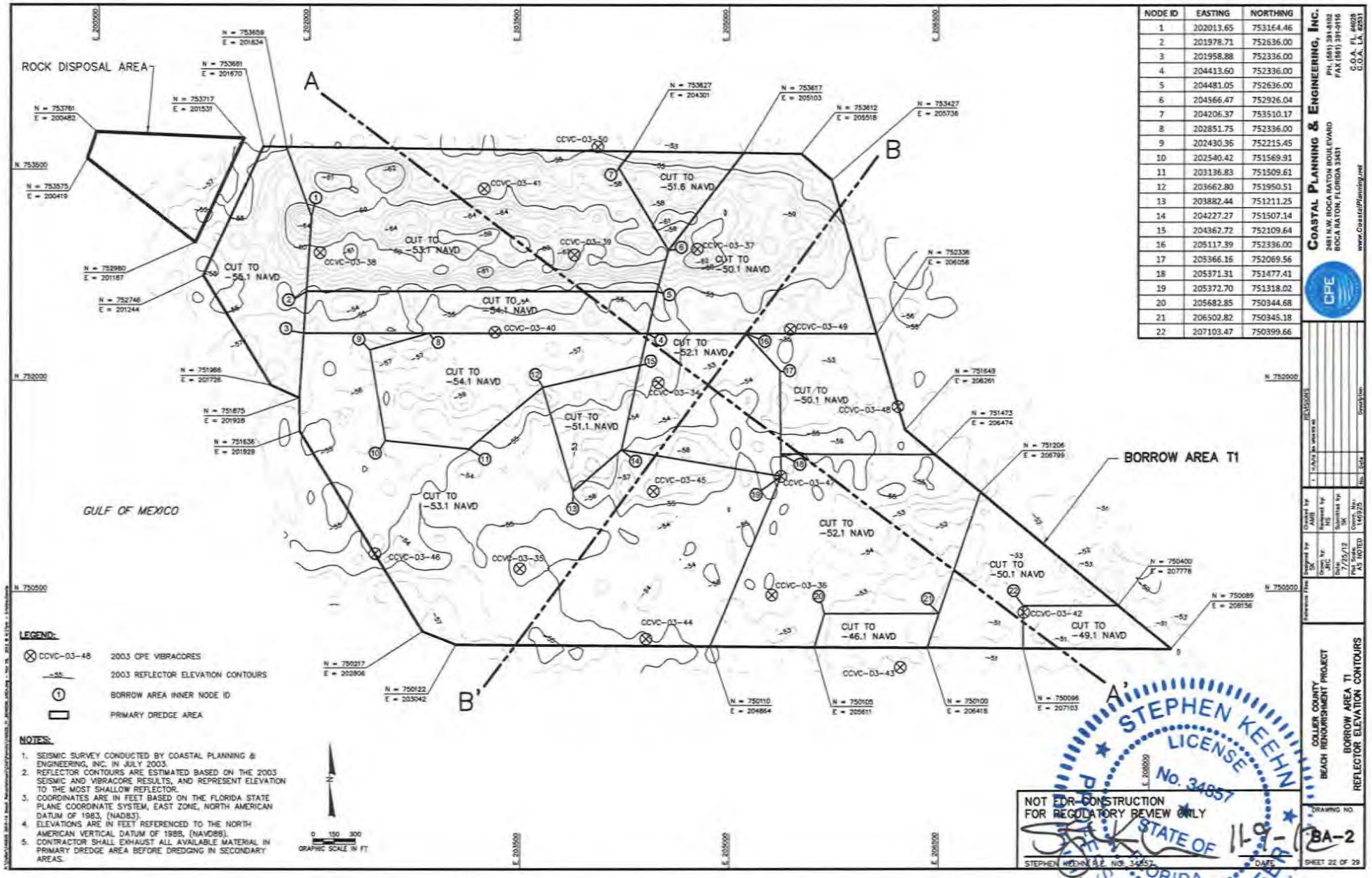
COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
BORROW AREA T1
BATHYMETRY CONTOURS
DRAWING NO. BA-1
SHEET 21 OF 29



NODE ID	EASTING	NORTHING
1	202013.65	753164.46
2	201978.71	752636.00
3	201958.88	752336.00
4	204413.60	752336.00
5	204481.05	752636.00
6	204566.47	752926.04
7	204206.37	753510.17
8	202851.75	752336.00
9	202430.36	752215.45
10	202540.42	751569.91
11	203136.83	751509.61
12	203662.80	751950.51
13	203882.44	751211.25
14	204227.27	751507.14
15	204362.72	752109.64
16	205117.39	752336.00
17	205366.16	752069.56
18	205371.31	751477.41
19	205372.70	751318.02
20	205682.85	750344.68
21	206502.82	750345.18
22	207103.47	750399.66

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COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
BORROW AREA T1
REFLECTOR ELEVATION CONTOURS

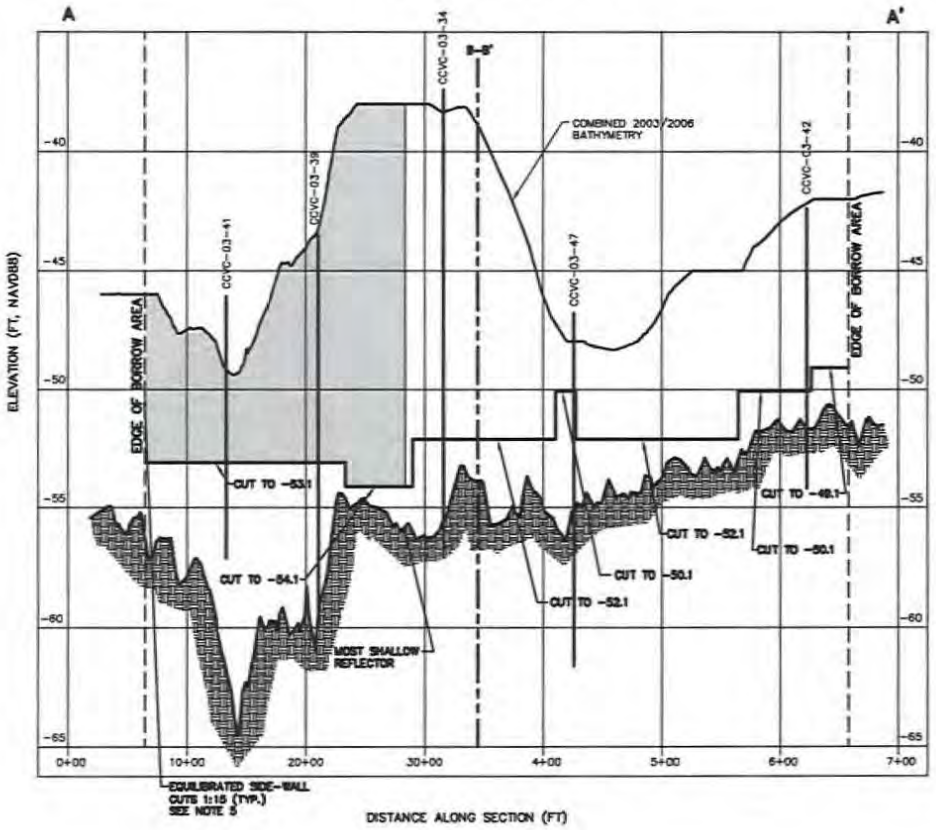
NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

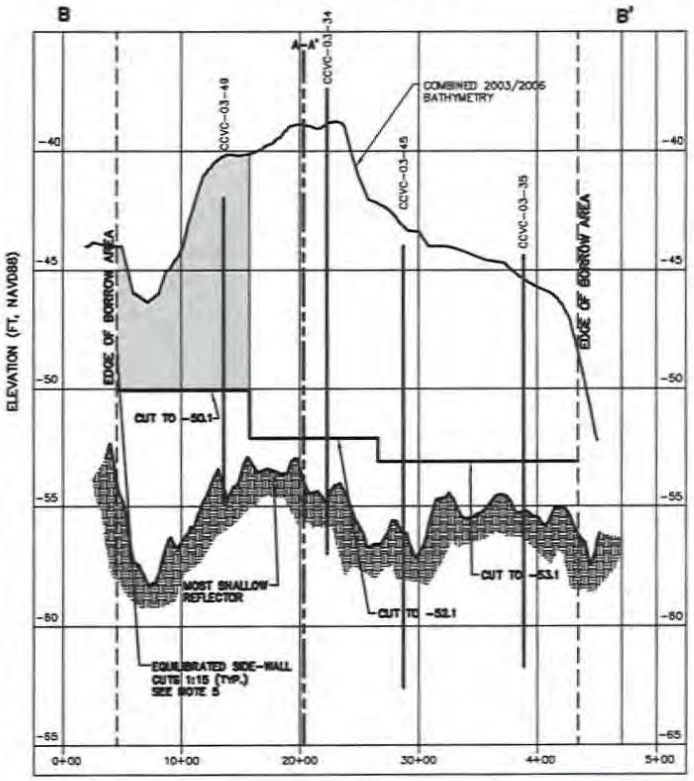
STEPHEN KEEHN, P.E. NO. 34857 DATE 11-9-12

DRAWING NO. BA-2
SHEET 22 OF 29

BORROW AREA T1 A–A'



BORROW AREA T1 B–B'



NOTES:

1. ELEVATIONS ARE IN FEET REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988, (NAVD88).
2. CORES MAY NOT FALL DIRECTLY ON CROSS SECTION LINE, BUT ARE LOCATED SUFFICIENTLY CLOSE TO REPRESENT SIMILAR MATERIAL.
3. WIDTH OF LAYERS IS REPRESENTATIVE ONLY. ACTUAL MATERIAL MAY VARY.
4. SEE SHEETS 21 AND 22 FOR LOCATION OF CROSS SECTION LINE.
5. SIDE-WALL SLOPE NOT VISIBLE DUE TO EXAGGERATED SCALE.

LEGEND:

- PRIMARY DREDGE AREA
- MOST SHALLOW REFLECTOR AS IDENTIFIED BY SEISMIC SURVEY

0 1.25 2.5 VERTICAL SCALE IN FT

0 250 500 HORIZONTAL SCALE IN FT

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

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STEPHEN KEEHN, P.E. NO. 34857 DATE 11-8-12

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No.	Date	Description
1	8/29/12	PCN'S Comments
2	11/8/12	PCN'S Comments

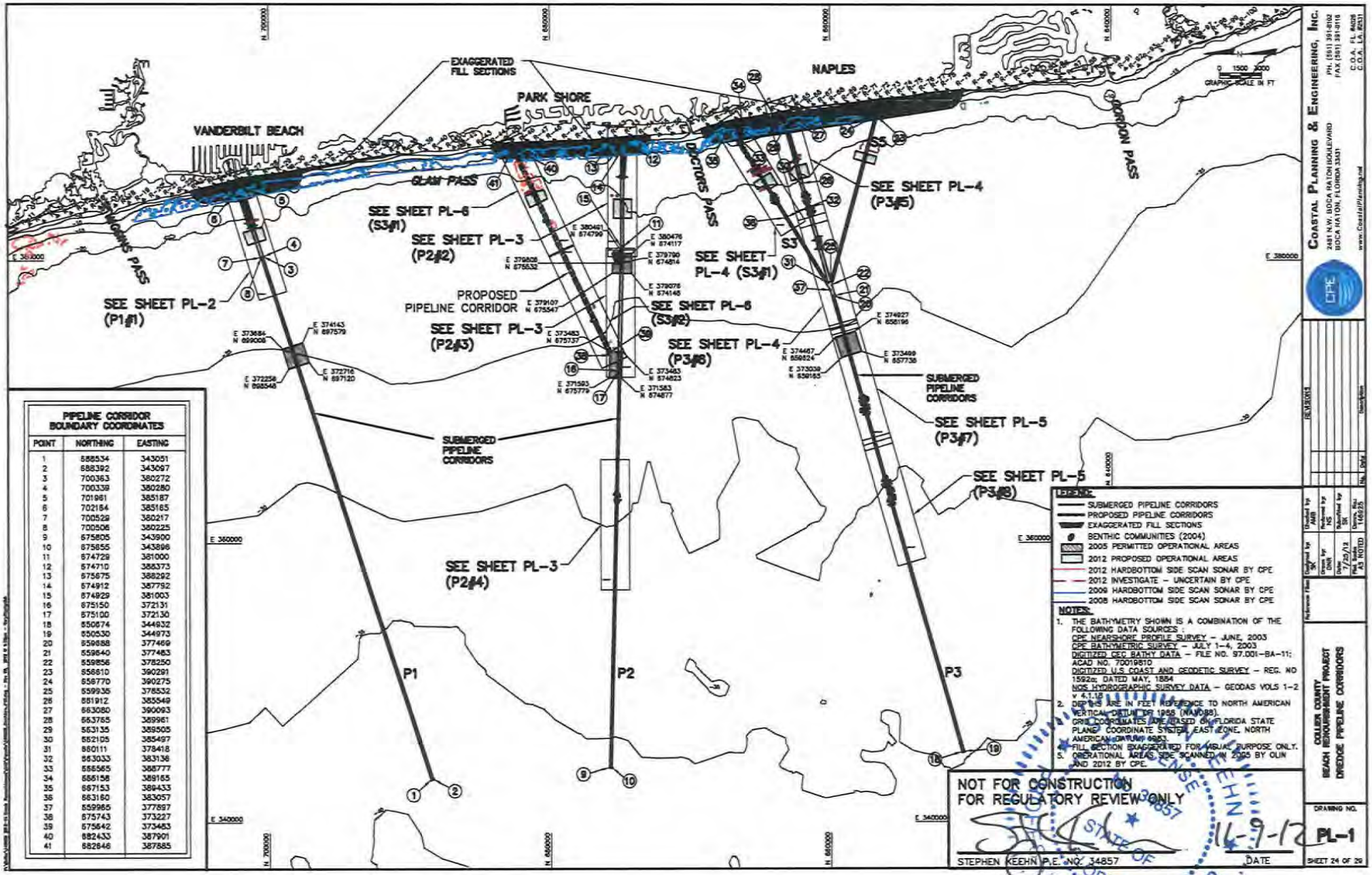
Designed by: SK
Drawn by: CW
Checked by: AMS
Approved by: MS
Submitted by: SK
Date: 7/25/12
PLS TESTED
Grant No.: 1469-30

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT

BORROW AREA T1
CROSS SECTIONS

DRAWING NO.
BA-3

SHEET 23 OF 29



PIPELINE CORRIDOR BOUNDARY COORDINATES		
POINT	NORTHING	EASTING
1	688534	343051
2	688392	343097
3	700363	380272
4	700339	380280
5	701961	385187
6	702164	385165
7	700529	380217
8	700506	380225
9	675805	343900
10	675655	343896
11	674729	381000
12	674710	388373
13	675675	388292
14	674912	387792
15	674929	381003
16	675150	372131
17	675100	372130
18	650674	344932
19	650530	344973
20	659688	377469
21	659640	377483
22	659856	378250
23	656610	390291
24	656770	390275
25	659935	378532
26	661912	385549
27	663080	390093
28	663765	389961
29	663135	389505
30	662105	385497
31	660111	378418
32	663033	383136
33	666565	388777
34	666158	389165
35	667153	389433
36	663160	383057
37	659965	377897
38	675743	373227
39	675642	373483
40	682433	387901
41	682646	387885

LEGEND:

- SUBMERGED PIPELINE CORRIDORS
- PROPOSED PIPELINE CORRIDORS
- EXAGGERATED FILL SECTIONS
- BENTHIC COMMUNITIES (2004)
- 2005 PERMITTED OPERATIONAL AREAS
- 2012 PROPOSED OPERATIONAL AREAS
- 2012 HARDBOTTOM SIDE SCAN SONAR BY CPE
- 2012 INVESTIGATE – UNCERTAIN BY CPE
- 2009 HARDBOTTOM SIDE SCAN SONAR BY CPE
- 2008 HARDBOTTOM SIDE SCAN SONAR BY CPE

NOTES:

1. THE BATHYMETRY SHOWN IS A COMBINATION OF THE FOLLOWING DATA SOURCES :
   CPE NEARSHORE PROFILE SURVEY – JUNE, 2003
   CPE BATHYMETRIC SURVEY – JULY 1–4, 2003
   DIGITIZED GEC BATHY DATA – FILE NO. 97.001–BA–11; ACAD NO. 70019810
   DIGITIZED U.S COAST AND GEODETIC SURVEY – REG. NO 1592a; DATED MAY, 1884
   NOS HYDROGRAPHIC SURVEY DATA – GEODAS VOLS 1–2 v 4.1.18
2. DEPTHS ARE IN FEET REFERENCE TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. GRID COORDINATES ARE BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM 1983.
4. FILL SECTION EXAGGERATED FOR VISUAL PURPOSE ONLY.
5. OPERATIONAL AREAS SIDE SCANNED IN 2005 BY OLIN AND 2012 BY CPE.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STATE OF FLORIDA — KEEHN — PROFESSIONAL ENGINEER — LICENSE No. 34857

COASTAL PLANNING & ENGINEERING, INC.
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C.O.A. LA #2531
www.CoastalPlanning.net

REVISIONS

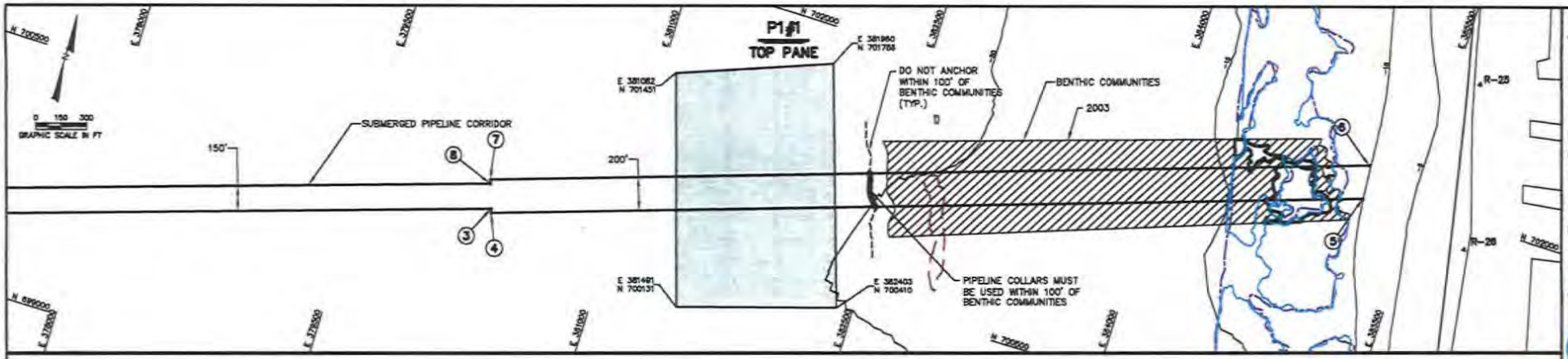
No.	Date	Description

Reference Files: Designed by: SK; Drawn by: DNR; Date: 7/25/12; Plot Scale: AS NOTED; Drawn, Rev: 146925; Checked by: AMB; Reviewed by: NS; Submitted by: SK

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
DREDGE PIPELINE CORRIDORS

DRAWING NO. PL-1

SHEET 24 OF 29



LEGEND:

- PIPELINE COLLAR LIMITS
- DO NOT ANCHOR LIMITS
- SUBMERGED PIPELINE CORRIDOR
- 2012 INVESTIGATE – UNCERTAIN BY CPE
- 2009 HARDBOTTOM FINAL SIDE SCAN SONAR BY CPE
- 2008 HARDBOTTOM FINAL SIDE SCAN SONAR BY CPE
- BENTHIC COMMUNITIES (2004)
- (8) PIPELINE CORRIDOR BOUNDARY COORDINATES (SEE PL-1 FOR TABLE)
- PROPOSED OPERATIONAL AREA

NOTES:

1. CONTRACTOR MUST AVOID PLACING PIPELINE ON OR NEAR HARDBOTTOM RESOURCES AND BENTHIC COMMUNITIES WHEREVER POSSIBLE.
2. RADIAL PIPELINE COLLARS MUST BE INSTALLED ON ALL PIPELINES ABOVE OR WITHIN 100' OF BENTHIC COMMUNITIES. COLLARS MUST BE INSTALLED WITH A SPACING NOT TO EXCEED 50 FEET.
3. BENTHIC COMMUNITIES MUST BE CONSIDERED TO EXTEND LATERALLY PARALLEL TO SHORE. NO ANCHORS, CABLES, SPUDS, JACK-UP BARGES OR SIMILAR EQUIPMENT WILL BE PLACED ON OR WITHIN BENTHIC COMMUNITIES OR THEIR BUFFERS.
4. ANCHORS, CABLES, SPUDS, JACK-UP BARGES, ETC. SHOULD BE PLACED WITHIN THE OPERATIONAL AREAS OR PIPELINE CORRIDORS TO THE MAXIMUM EXTENT POSSIBLE.
5. THE CONTRACTOR SHALL CLEAR ANY EXCEPTION TO THE ABOVE WITH THE ENGINEER.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

COASTAL PLANNING & ENGINEERING, INC.
2481 N.W. BOCA RATON BOULEVARD
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C.O.A. LA #2531
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REVISIONS

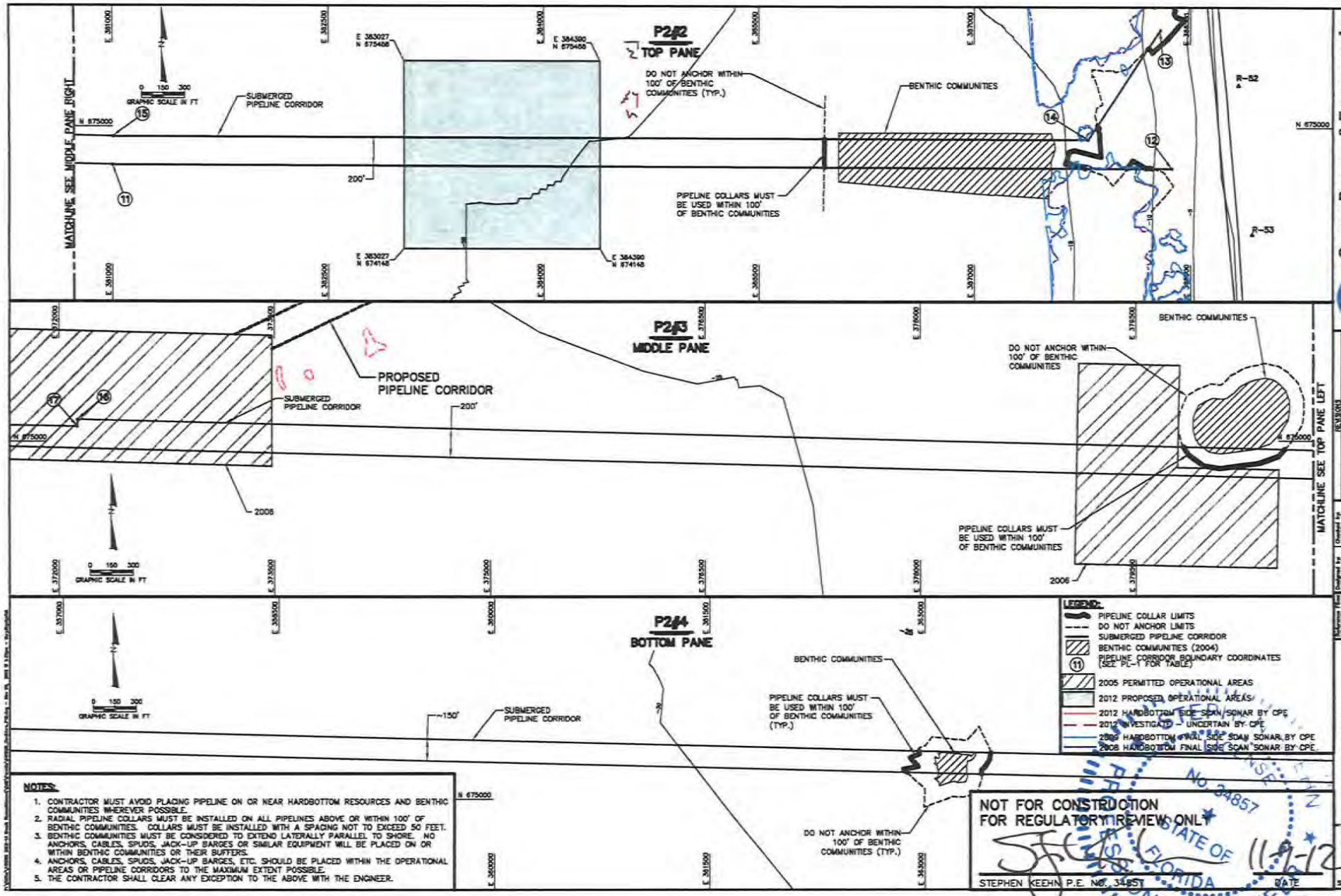
No.	Date	Description

Designed by SK | Checked by AMB
Drawn by RDO | Reviewed by NS
Date 7/25/12 | Submitted by SK
Plot Scale AS NOTED | Comm. No. 148925

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PIPELINE CORRIDOR P1

DRAWING NO.
PL-2

SHEET 25 OF 29



NOTES:

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5. THE CONTRACTOR SHALL CLEAR ANY EXCEPTION TO THE ABOVE WITH THE ENGINEER.

NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. No. 34857 — STATE OF FLORIDA — PROFESSIONAL ENGINEER — 11-9-12 DATE

COASTAL PLANNING & ENGINEERING, INC.
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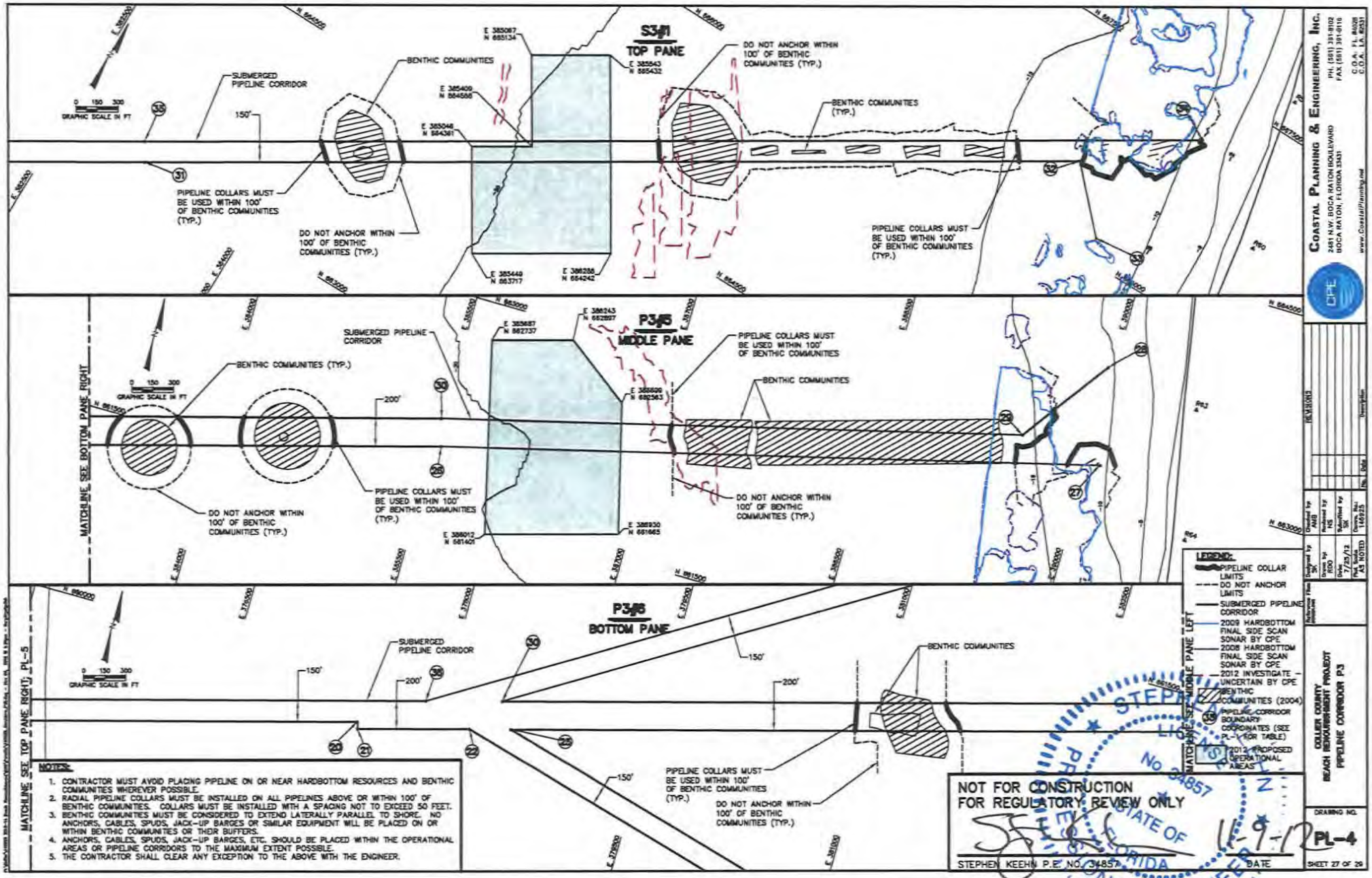
C.O.A.: LA. #2511

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PIPELINE CORRIDOR P2

DRAWING NO.
PL-3
SHEET 25 OF 29



NOTES:

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NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STATE OF FLORIDA — PROFESSIONAL ENGINEER — STEPHEN A. KEEHN — LICENSE NO. 34857

COASTAL PLANNING & ENGINEERING, INC.
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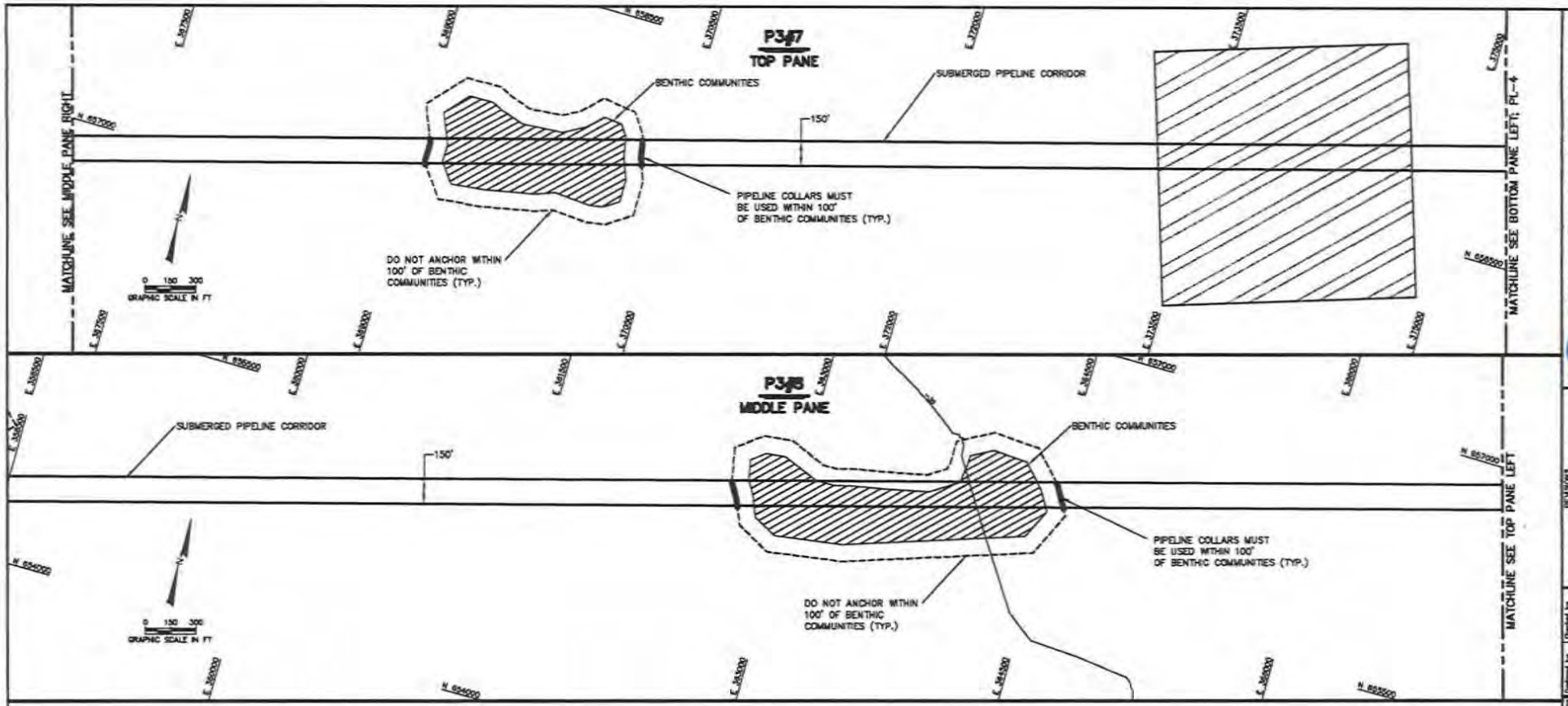
COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PIPELINE CORRIDOR P3

DRAWING NO. PL-4
SHEET 27 OF 29



LEGEND:

- PIPELINE COLLAR LIMITS
- DO NOT ANCHOR LIMITS
- SUBMERGED PIPELINE CORRIDOR
- BENTHIC COMMUNITIES (2004)
- 2005 PERMITTED OPERATIONAL AREA

NOTES:

1. CONTRACTOR MUST AVOID PLACING PIPELINE ON OR NEAR HARDBOTTOM RESOURCES AND BENTHIC COMMUNITIES WHEREVER POSSIBLE.
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NOT FOR CONSTRUCTION
FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

STEPHEN KEEHN LICENSE No. 34857 STATE OF FLORIDA PROFESSIONAL ENGINEER

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REVISIONS

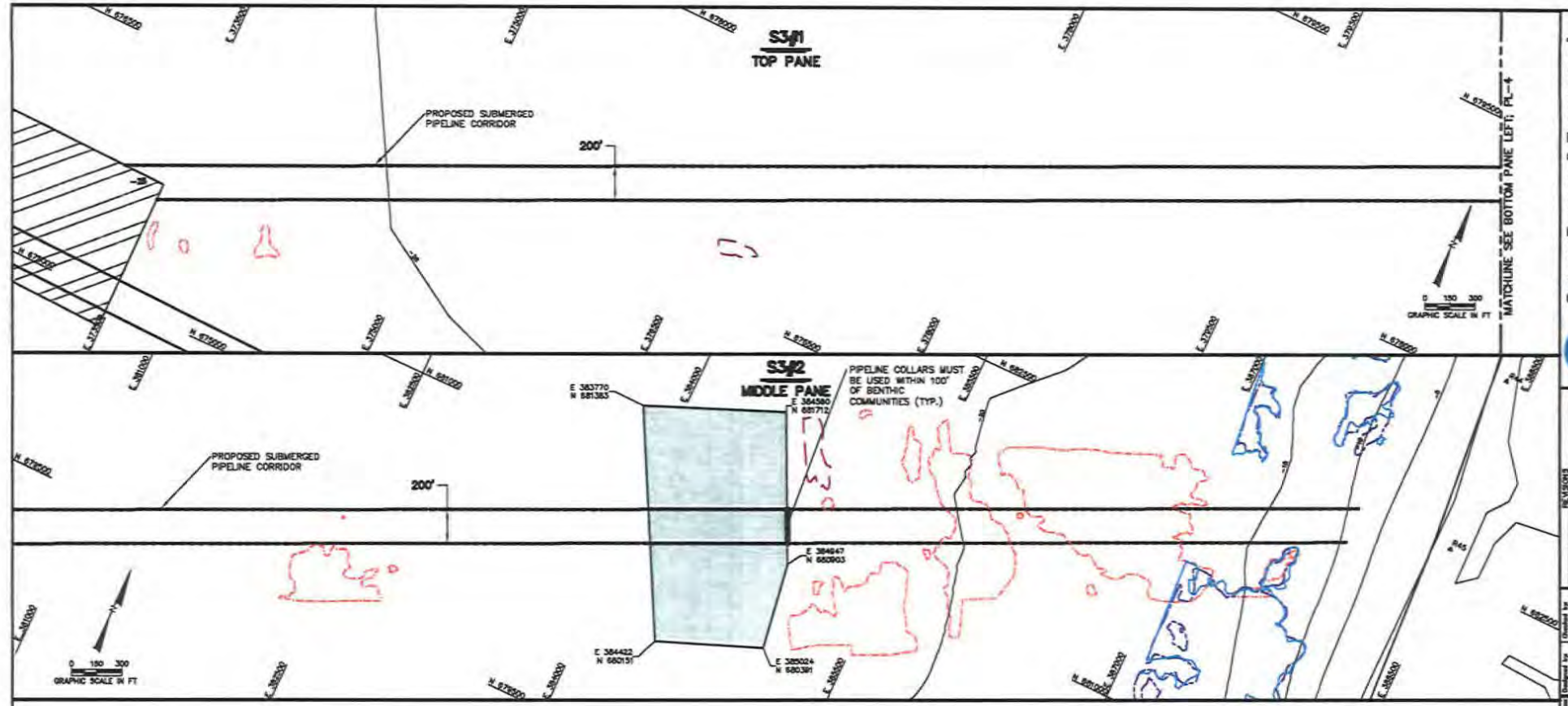
No.	Date	Description

Designed by: SK | Drawn by: RDO | Date: 7/23/12 | Plot Scale: AS NOTED | Checked by: AMB | Reviewed by: NS | Submitted by: SK | Comm. No.: 146925

COLLIER COUNTY
BEACH RENOURISHMENT PROJECT
PIPELINE CORRIDOR P3 (CONT)

DRAWING NO.
PL-5

SHEET 28 OF 29



LEGEND:

- PIPELINE COLLAR LIMITS
- DO NOT ANCHOR LIMITS
- PROPOSED PIPELINE CORRIDOR
- SUBMERGED PIPELINE CORRIDOR
- 2012 HARDBOTTOM SIDE SCAN SONAR BY CPE
- 2012 INVESTIGATE – UNCERTAIN BY CPE
- 2009 HARDBOTTOM FINAL SIDE SCAN SONAR BY CPE
- 2008 HARDBOTTOM FINAL SIDE SCAN SONAR BY CPE
- BENTHIC COMMUNITIES (2004)
- 2005 PERMITTED OPERATIONAL AREAS
- 2012 PROPOSED OPERATIONAL AREAS

NOTES:

1. CONTRACTOR MUST AVOID PLACING PIPELINE ON OR NEAR HARDBOTTOM RESOURCES AND BENTHIC COMMUNITIES WHEREVER POSSIBLE.
2. RADIAL PIPELINE COLLARS MUST BE INSTALLED ON ALL PIPELINES ABOVE OR WITHIN 100' OF BENTHIC COMMUNITIES. COLLARS MUST BE INSTALLED WITH A SPACING NOT TO EXCEED 50 FEET.
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FOR REGULATORY REVIEW ONLY

STEPHEN KEEHN P.E. NO. 34857 — DATE 11-9-12

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COLLIER COUNTY
BEACH REMOURISHMENT PROJECT
PIPELINE CORRIDOR S3

DRAWING NO.
PL-6
SHEET 29 OF 29