ATTACHMENT NO. 24

PERMIT SKETCHES

DESIGN AUTHENTICATION

PROJECT: Hurricane Damage Storm Reduction Project, Lido Key
Sarasota County, Florida

ATTACHED PLAN SHEETS: 31 Plates

The attached plan was prepared by the Jacksonville District, U.S. Army Corps of Engineers (USACE). The initials or signatures and registrations designations of the signatory below or that appear on these project documents are within the scope of employment as required by USACE Engineering Regulation 1110-1-8152, PROFESSIONAL REGISTRATION, 8 Aug 1995, and are not made in the individual capacity of the signatories.

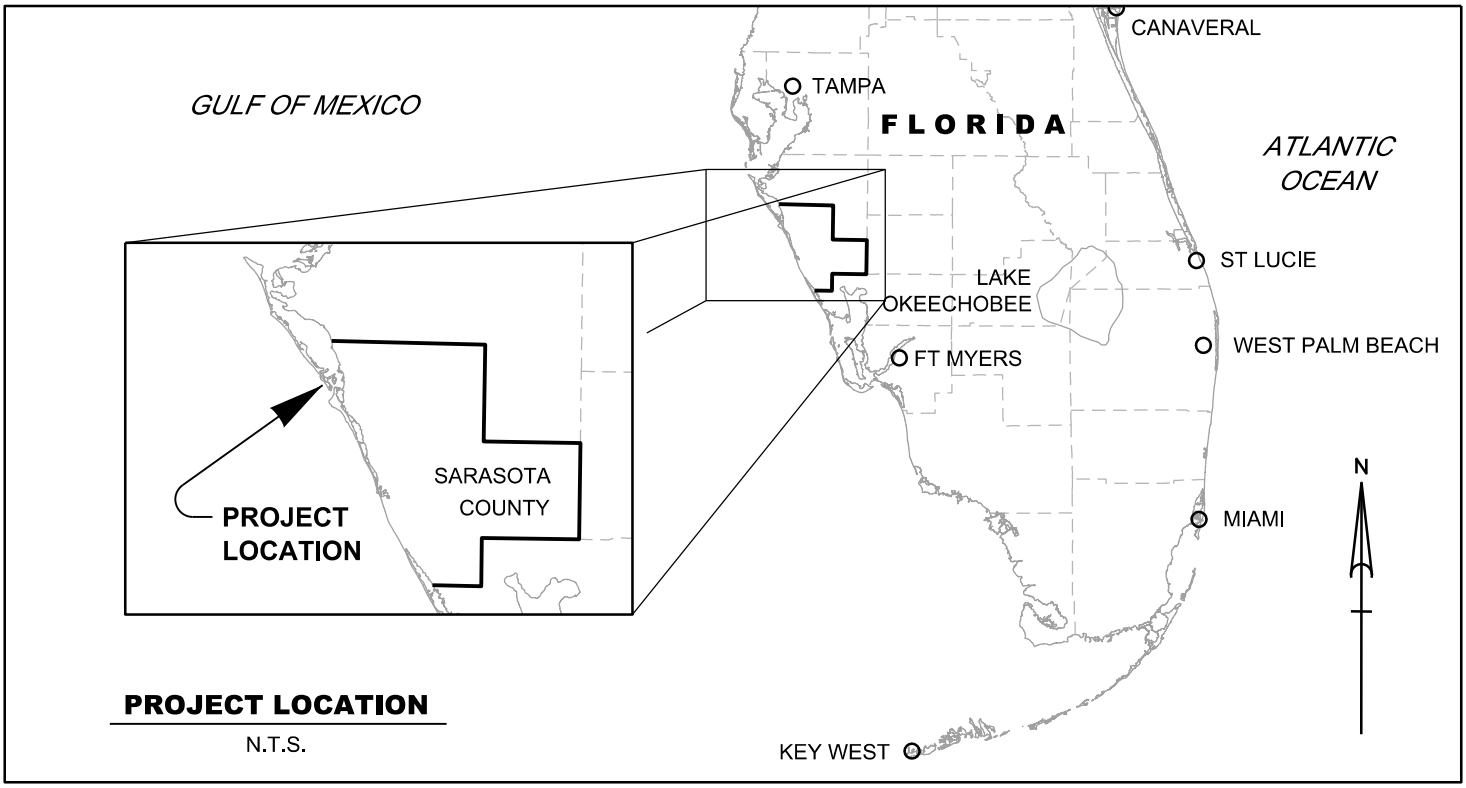
USACE employee signatures are provided in support of the "Interagency Coordination Agreement for Civil Works Projects", signed 28 Feb 2006 by the Florida Department of Environmental Protection, the USACE Jacksonville District, and USACE Mobile District.

These plans are for permitting purposes only and are not for construction.

David Dudley P.E.
Chief, Design Branch (CH EN-D)
Engineering Division

3/2/15
DATE

31 plates dated Feb. 2014.



PROJECT LOCATION

N.T.S.

INDEX TO DRAWINGS

PLATE	TITLE
01	PROJECT OVERVIEW
02	PROJECT VICINITY
03	PROJECT TIDAL DATUM RELATIONSHIPS
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20 - 22	BORROW AREA CROSS SECTIONS
23 - 27	SEAGRASS - BORROW AREA PLANS
28	GROIN PLAN OVERALL
29 - 30	GROIN PLAN VIEW
31	GROIN CROSS SECTIONS

ABBREVIATIONS

B/N = BETWEEN
CBL = CONSTRUCTION BASELINE
EL. = ELEVATION
ECL. = EROSION CONTROL LINE
FDEP. = FLORIDA DEPARTMENT OF ENV. PROTECTION
FDOT. = FLORIDA DEPARTMENT OF TRANSPORTATION
FT. = FOOT/FEET
MHW. = MEAN HIGH WATER
MLW. = MEAN LOW WATER
NAD. = NORTH AMERICAN DATUM
NAVD88. = NORTH ATLANTIC VERTICAL DATUM OF 1988.
NTS. = NOT TO SCALE
TYP. = TYPICAL

GENERAL NOTES:

1. REFER TO THIS PLATE FOR PROJECT LOCATION, PLATE INDEX, ABBREVIATIONS AND LEGEND
2. THE PLANE COORDINATES SHOWN ARE BASED ON THE FLORIDA STATE PLANE WEST COORDINATE SYSTEM (0902) AND REFERENCED TO THE 1990 ADJUSTMENT OF THE NAD OF 1983 (NAD83(90)).
3. ELEVATIONS SHOWN ON ALL PLATES ARE IN FEET AND ARE BASED ON NAVD88. ELEVATIONS ARE BELOW THE DATUM UNLESS PRECEEDED BY A (+) SIGN.
4. FDOT SURVEY AND MAPPING OFFICE PROVIDED THE 2014 AERIAL PHOTOGRAPHY SHOWN ON THESE PLATES.
5. THE REQUIRED BERM HEIGHT FOR THE PROJECT WILL BE +4.0' REFERENCING NAVD88.
6. TIDAL RELATIONSHIPS SHOWN ON PLANS ARE BASED ON NOAA'S VDATUM MODEL VERSION 3.4. REFER TO PLATE 03 FOR OBSERVED TIDAL RELATIONSHIPS WITHIN THE AREA.
7. REFER TO PLATE 04 FOR BEACH SURVEY NOTES AND FOR BORROW AREA SURVEY NOTES REFER TO PLATE 15.

LEGEND

- BEACH FILL AREA (PLAN VIEW)
- BEACH FILL AREA (PROFILE VIEW)
- EXISTING GROUND (PROFILE VIEW)
- DNR RANGE MONUMENT
- SLOPE INDICATOR SYMBOL W/ FILL
- CONSTRUCTION BASELINE W. STATIONING
- EROSION CONTROL LINE
- FDEP AZIMUTH BEARING
- MEAN HIGH WATER LINE
- BORING
- BORROW AREA
- SEAGRASS

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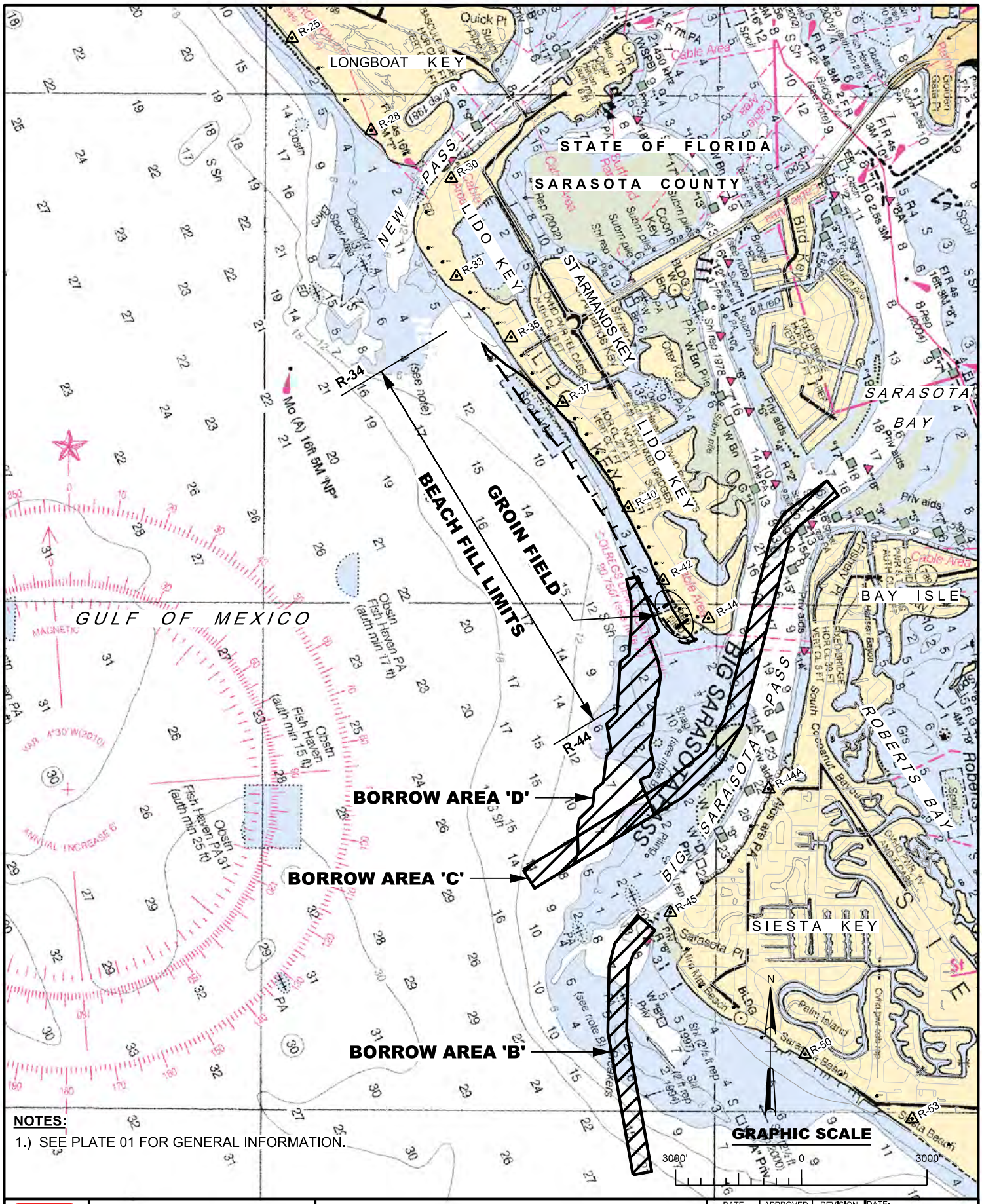

NOTES:

1.) SEE PLATE 01 FOR GENERAL INFORMATION.

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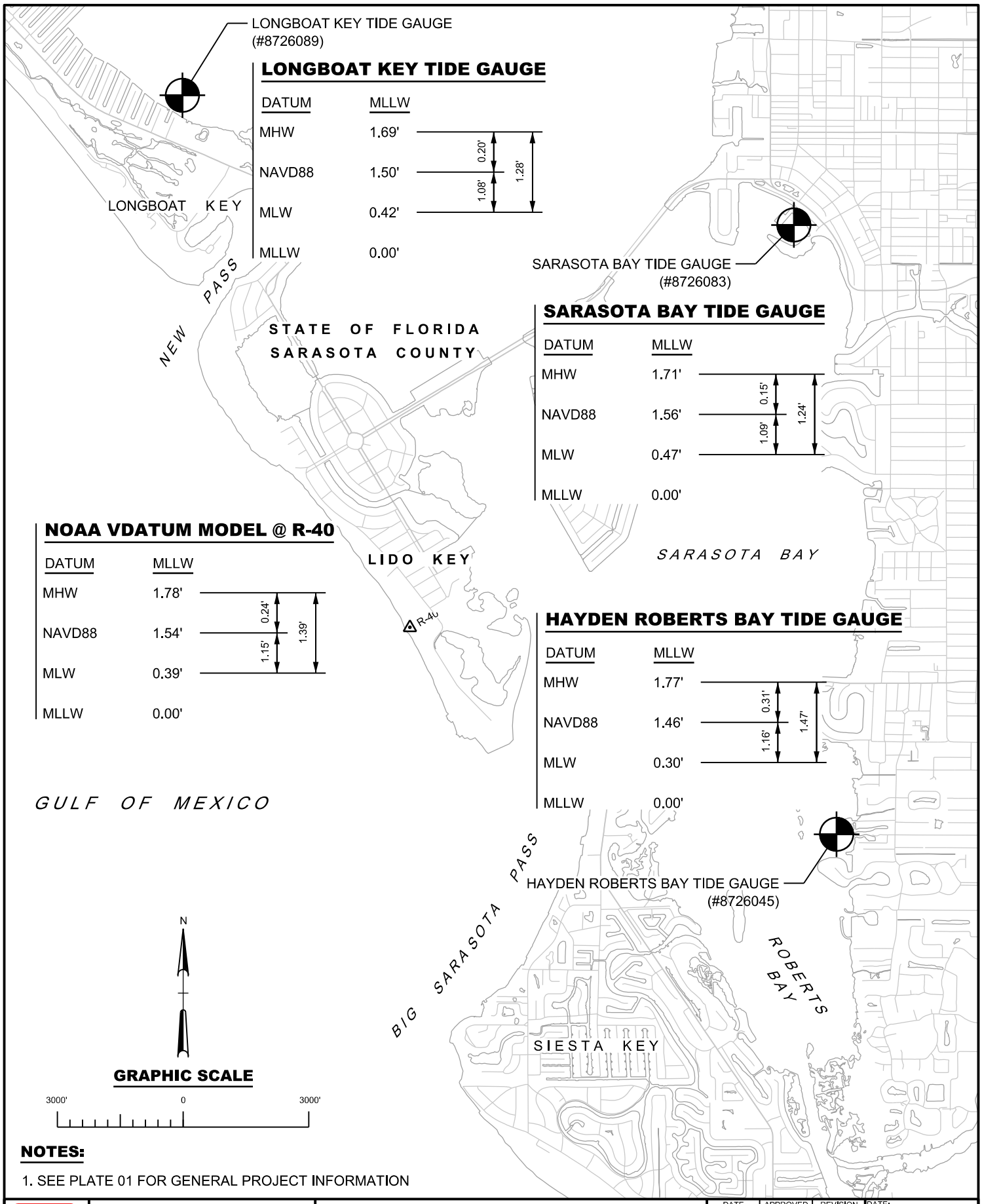

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION

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BEACH SURVEY NOTES:

1. SURVEY, 13-152, WAS PERFORMED BY WHIDDEN SURVEYING AND MAPPING, INC. B/N 14-16 AUGUST, 2013.

2. ONSHORE AND OFFSHORE PROFILES WERE CONDUCTED B/N FDEP RANGES R-32 TO R-44 AND INTERMEDIATE MONUMENT.

3. ALL LEVELING AND BATHYMETRIC SURVEYING CONFORMED TO THE FDEP SPECIFICATIONS FOR MONITORING SURVEYS.

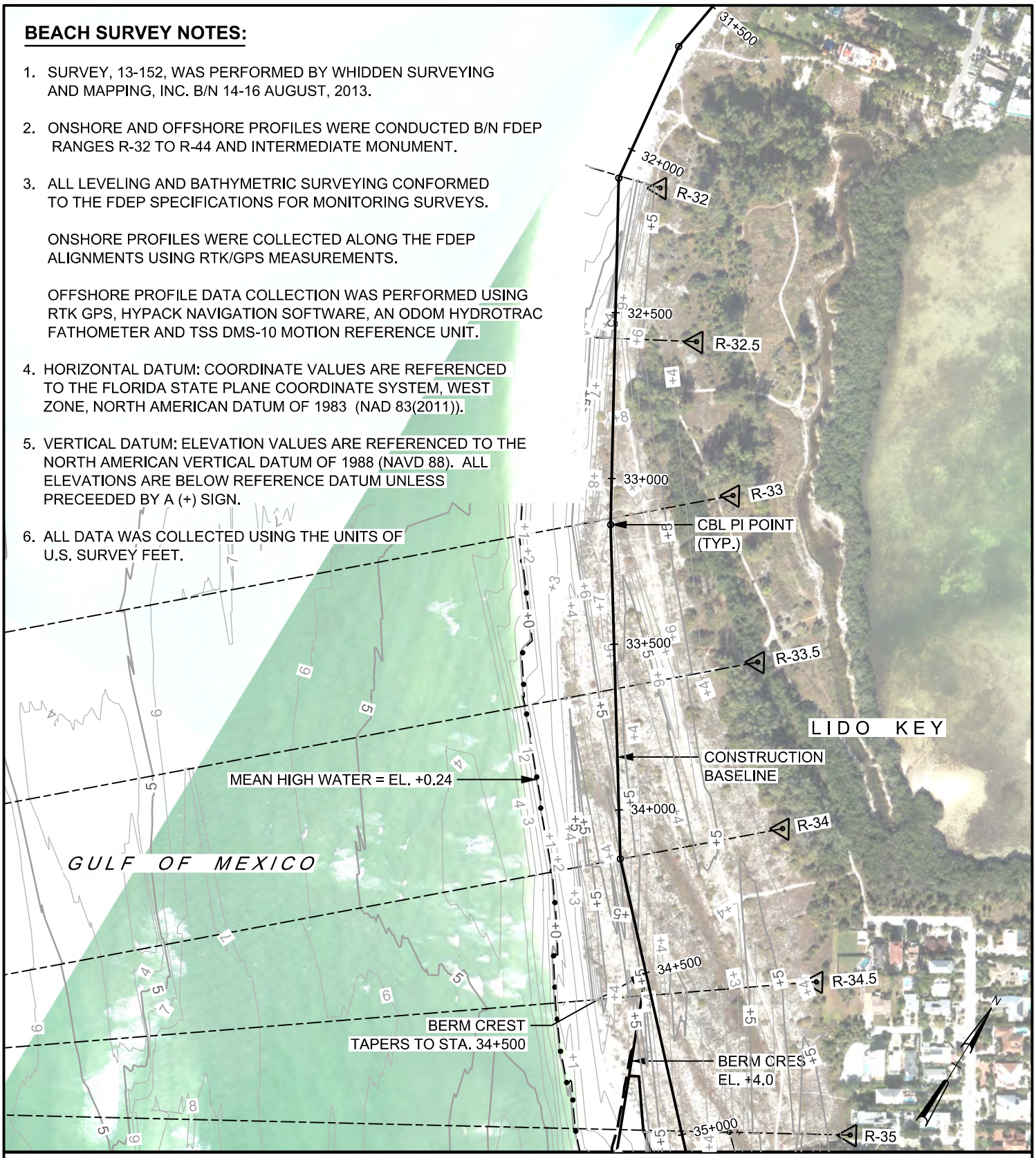
   ONSHORE PROFILES WERE COLLECTED ALONG THE FDEP ALIGNMENTS USING RTK/GPS MEASUREMENTS.

   OFFSHORE PROFILE DATA COLLECTION WAS PERFORMED USING RTK GPS, HYPACK NAVIGATION SOFTWARE, AN ODOM HYDROTRAC FATHOMETER AND TSS DMS-10 MOTION REFERENCE UNIT.

4. HORIZONTAL DATUM: COORDINATE VALUES ARE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD 83(2011)).

5. VERTICAL DATUM: ELEVATION VALUES ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88). ALL ELEVATIONS ARE BELOW REFERENCE DATUM UNLESS PRECEEDED BY A (+) SIGN.

6. ALL DATA WAS COLLECTED USING THE UNITS OF U.S. SURVEY FEET.



MATCHLINE PLATE 05

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. BERM CREST WIDTH IS 200' FROM CBL.

GRAPHIC SCALE

400' 0 400'

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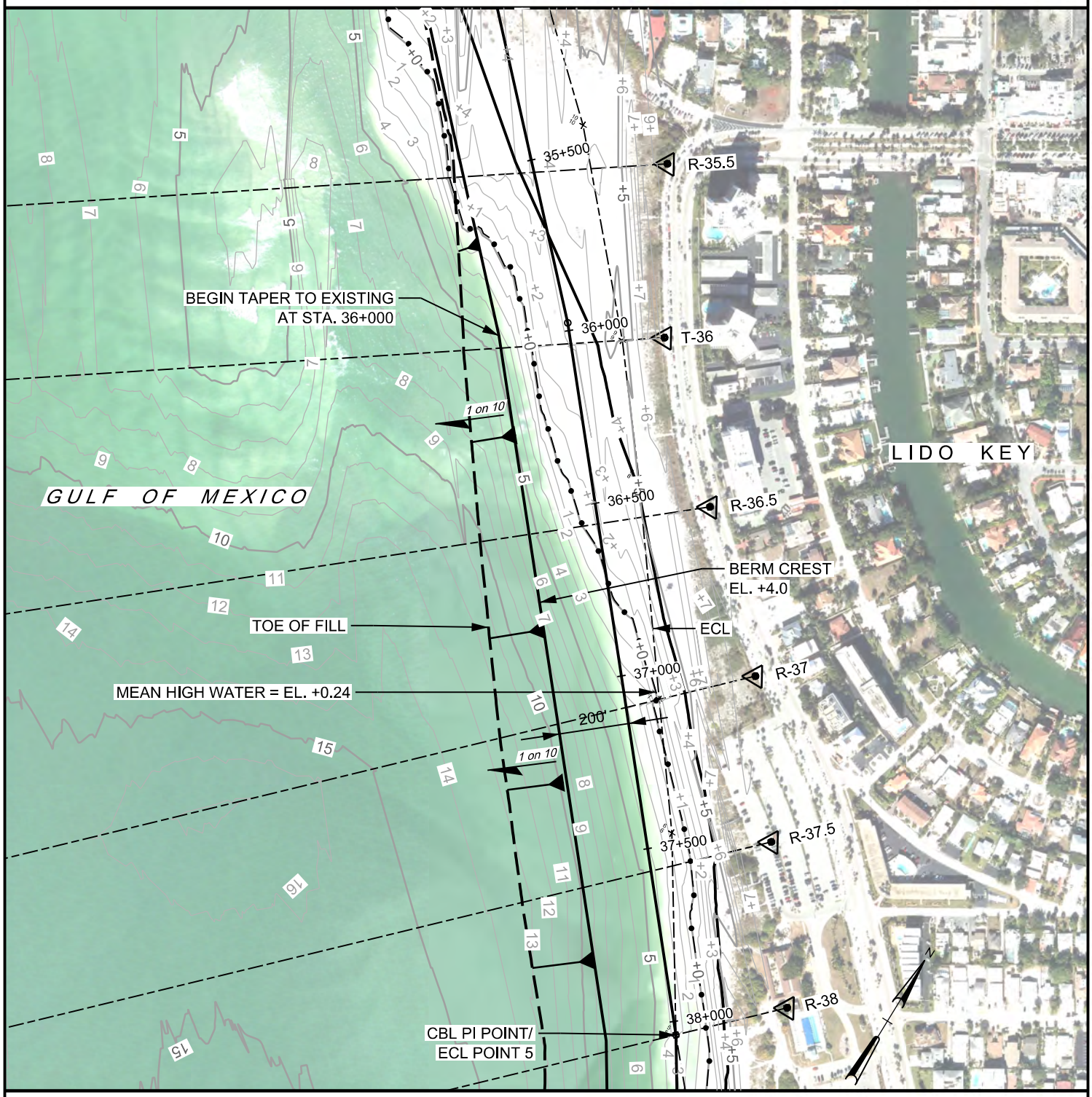
			DATE: FEB. 2015	DWN BY: M.R.2	PLATE: **04 OF 31**

MATCHLINE PLATE 04



MATCHLINE PLATE 06

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. BERM CREST WIDTH IS 200' FROM CBL.

GRAPHIC SCALE

400' 0 400'

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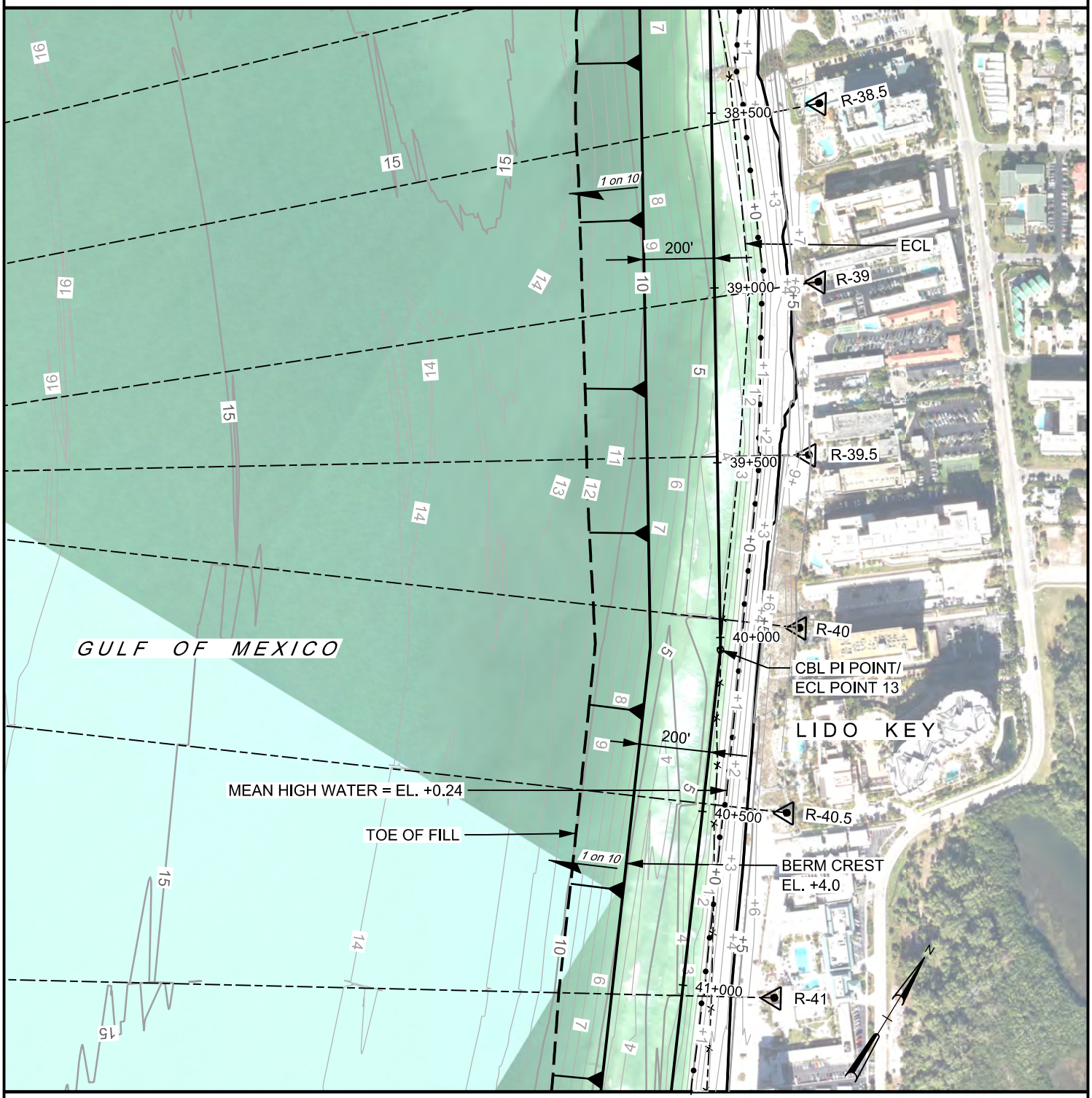
MATCHLINE PLATE 05



MATCHLINE PLATE 07

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. BERM CREST WIDTH IS 200' FROM CBL.

GRAPHIC SCALE

400' 0 400'

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NOT FOR CONSTRUCTION PERMIT DRAWINGS

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT, CORPS OF ENGINEERS
JACKSONVILLE, FLORIDA

BEACH EROSION CONTROL PROJECT
SARASOTA COUNTY, FLORIDA

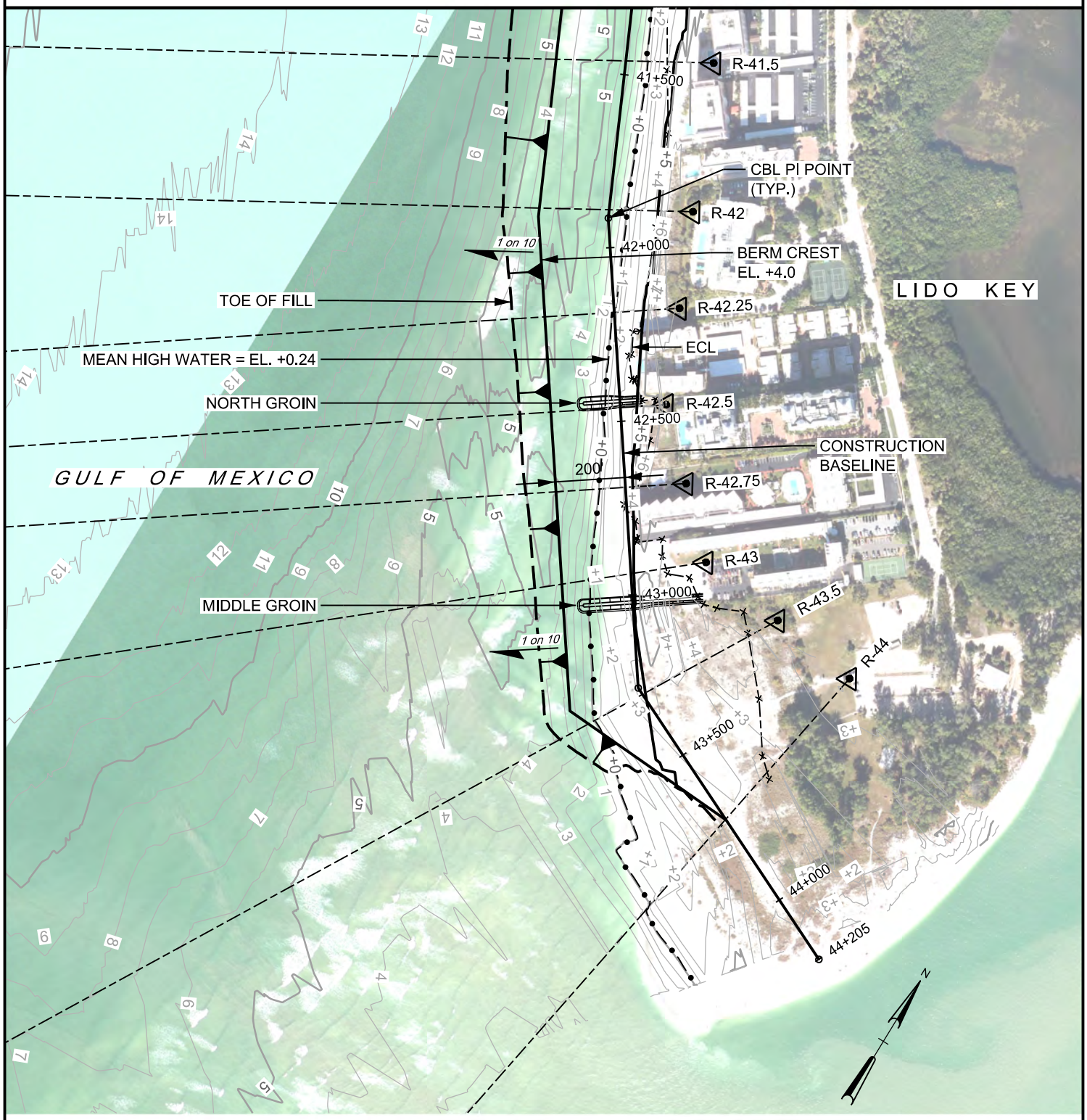
LIDO KEY BEACH EROSION CONTROL PROJECT

BEACH FILL - PLAN VIEW

DATE	APPROVED	REVISION
2/26/15	J.W.L.	

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: 06 OF 31

MATCHLINE PLATE 06



NOTES:

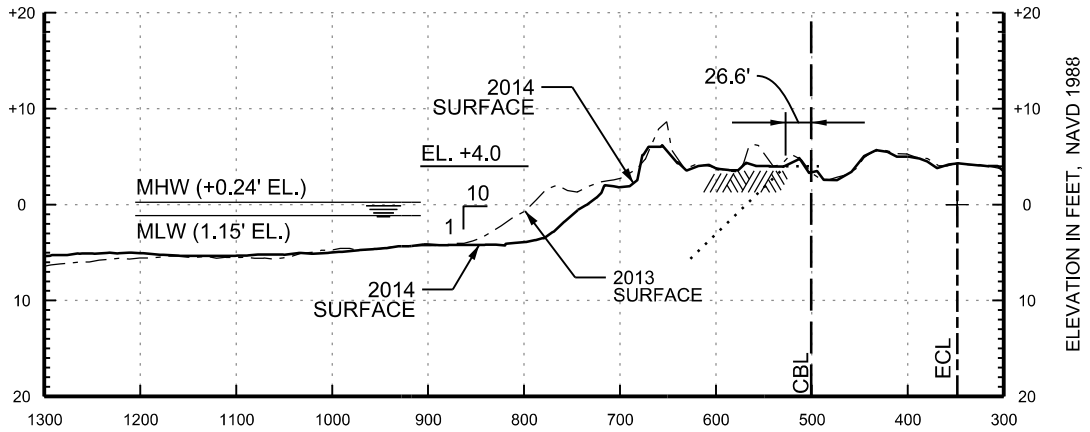
1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. BERM CREST WIDTH IS 200' FROM CBL.

GRAPHIC SCALE

400' 0 400'

US Army Corps of Engineers © Jacksonville District	**NOT FOR CONSTRUCTION PERMIT DRAWINGS** DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	BEACH EROSION CONTROL PROJECT SARASOTA COUNTY, FLORIDA **LIDO KEY BEACH EROSION CONTROL PROJECT** **BEACH FILL - PLAN VIEW**	DATE 2/26/15	APPROVED J.W.L.	REVISION

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: **07 OF 31**



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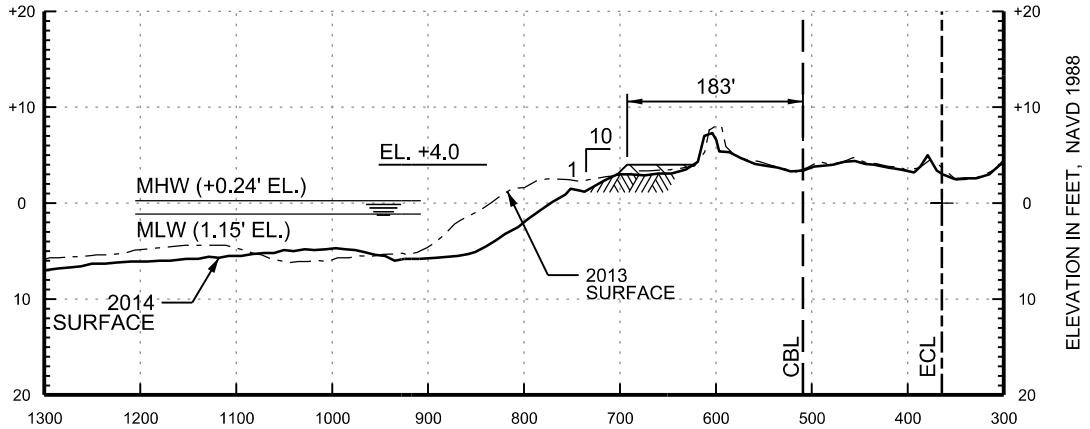

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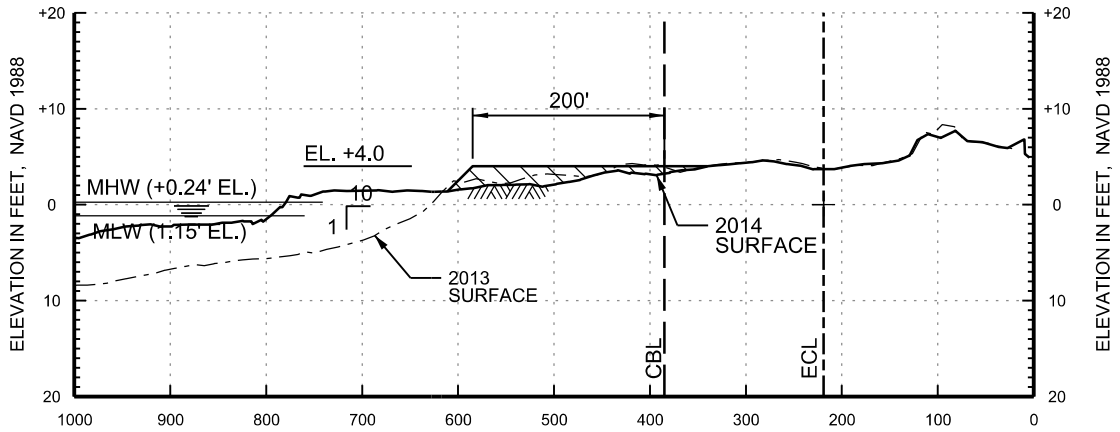


R-35-5

NOTES:

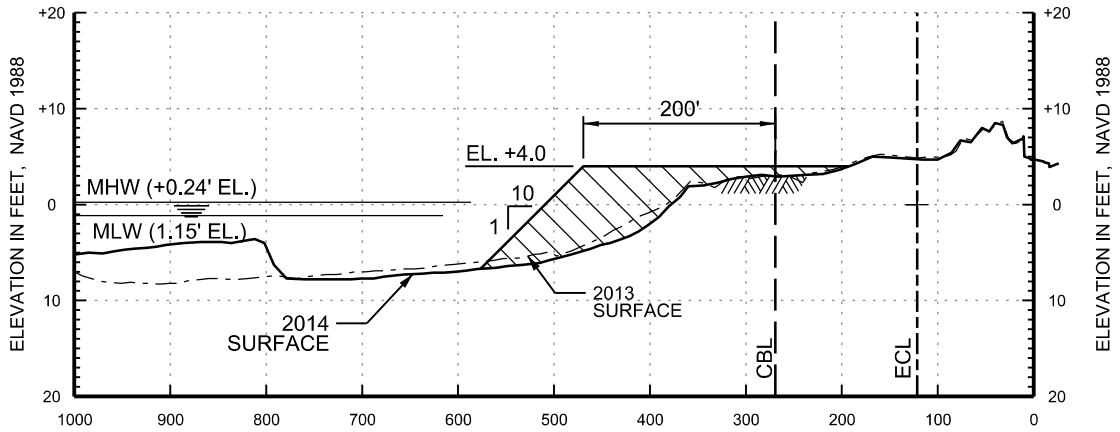
1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. THE HORIZONTAL DISTANCES ARE IN FEET AND FOLLOW FDEP RANGE MONUMENT AZIMUTH.

GRAPHIC SCALES

HORIZONTAL 200' 0 200'

VERTICAL 20' 0 20'

US Army Corps of Engineers © Jacksonville District	**NOT FOR CONSTRUCTION PERMIT DRAWINGS**	BEACH EROSION CONTROL PROJECT SARASOTA COUNTY, FLORIDA	DATE 2/26/15	APPROVED J.W.L.	REVISION
	DEPARTMENT OF THE ARMY JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	**LIDO KEY BEACH EROSION CONTROL PROJECT**			DATE: FEB. 2015
		BEACH FILL - PROFILE VIEW			DWN BY: M.R.2
					PLATE: **08 OF 31**



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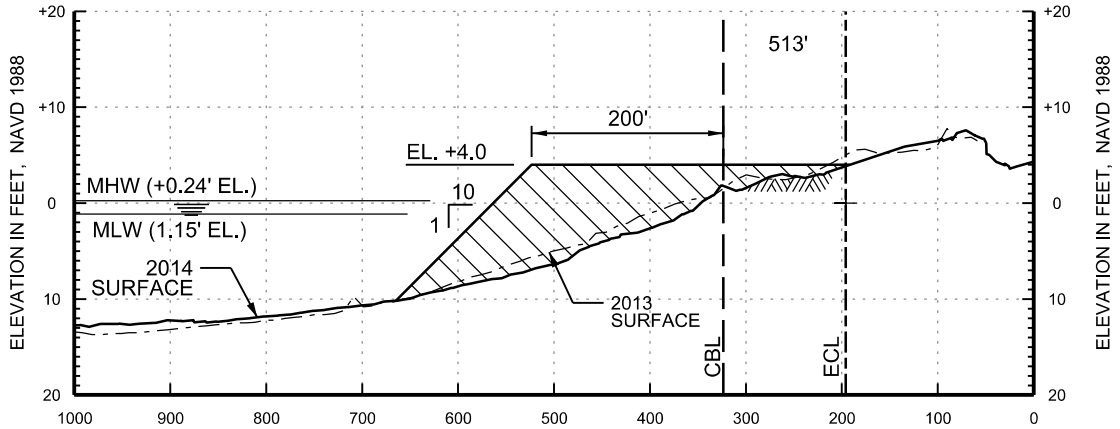

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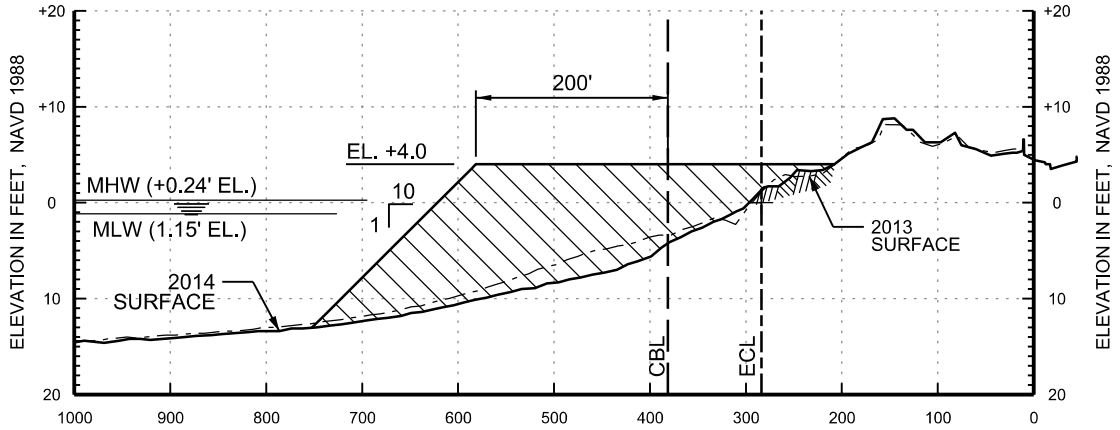

R-37

GRAPHIC SCALES

HORIZONTAL: 200' 0 200'

VERTICAL: 20' 0 20'

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. THE HORIZONTAL DISTANCES ARE IN FEET AND FOLLOW FDEP RANGE MONUMENT AZIMUTH.

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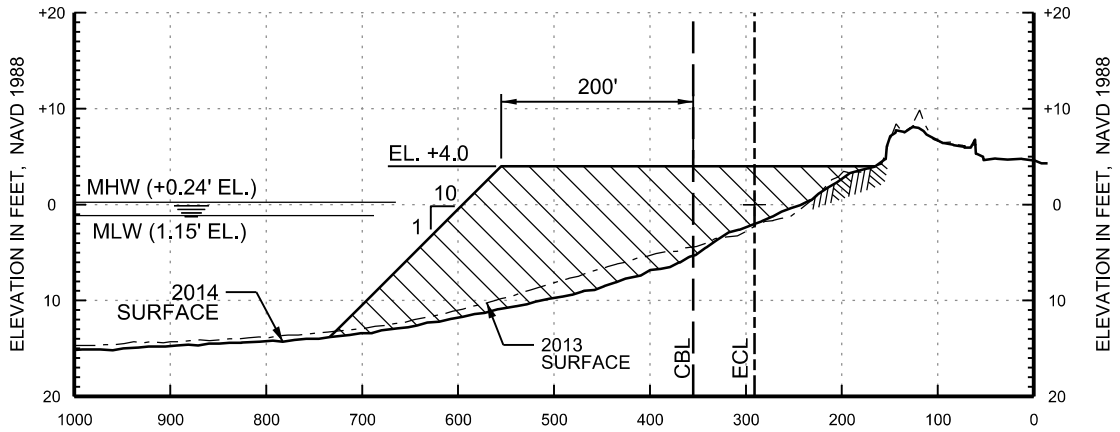

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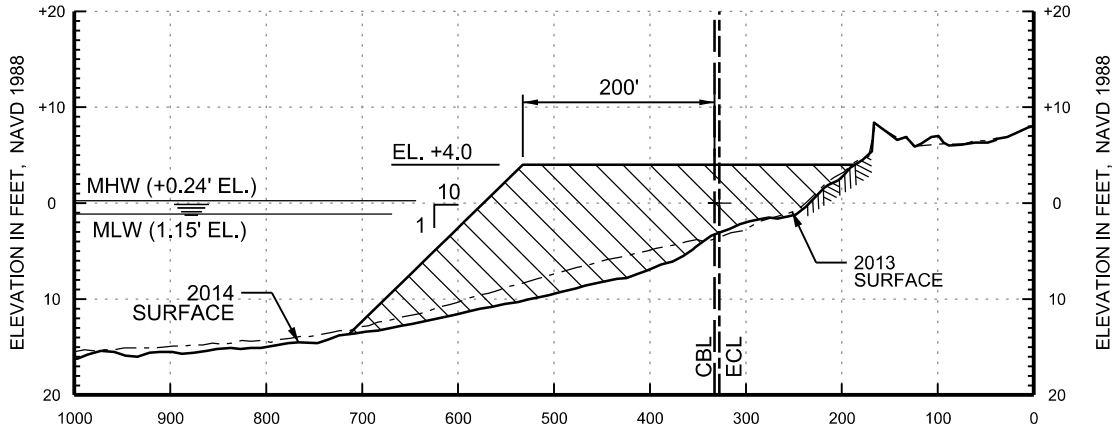

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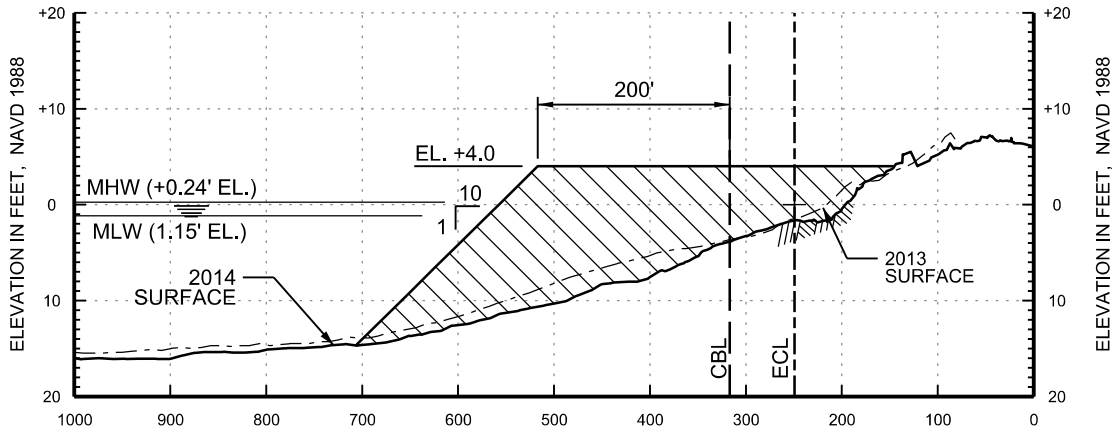

R-38-5

GRAPHIC SCALES

HORIZONTAL: 200' 0 200'

VERTICAL: 20' 0 20'

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. THE HORIZONTAL DISTANCES ARE IN FEET AND FOLLOW FDEP RANGE MONUMENT AZIMUTH.

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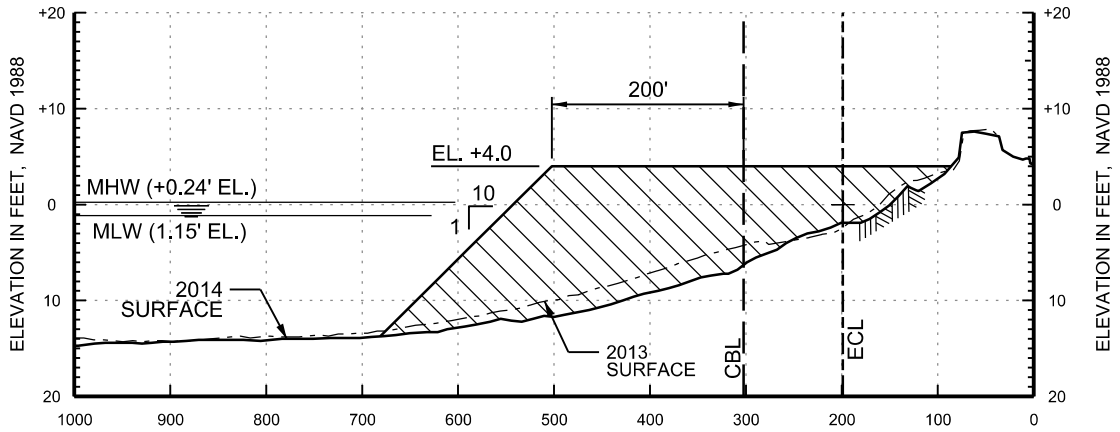

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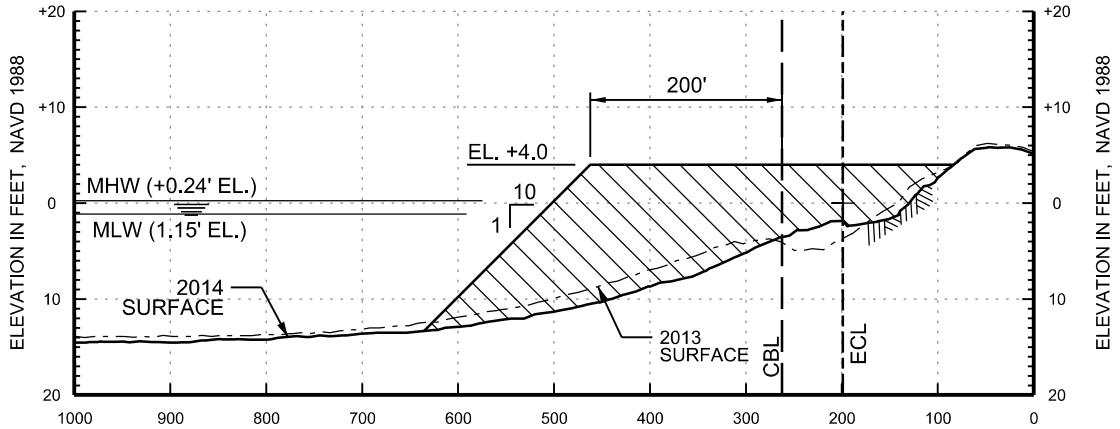
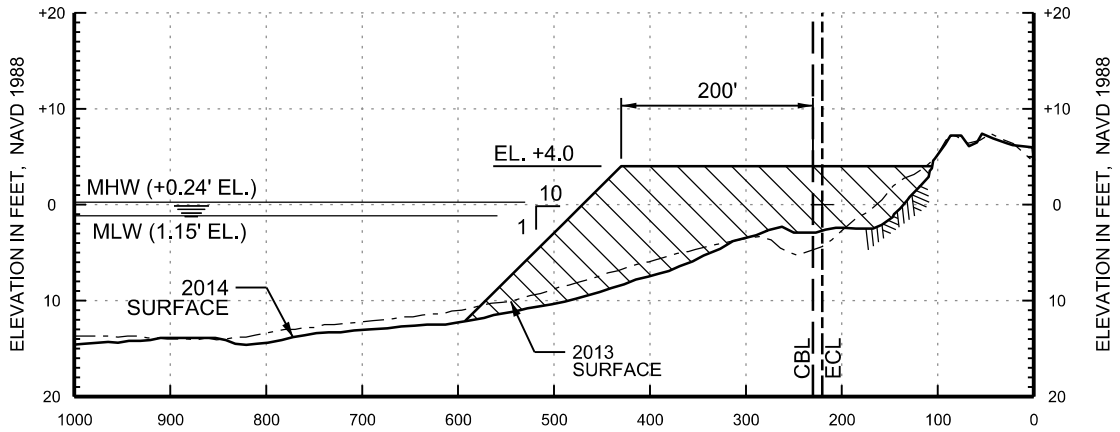


R-39-5



R-40

GRAPHIC SCALES

HORIZONTAL: 200' 0 200'

VERTICAL: 20' 0 20'

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. THE HORIZONTAL DISTANCES ARE IN FEET AND FOLLOW FDEP RANGE MONUMENT AZIMUTH.

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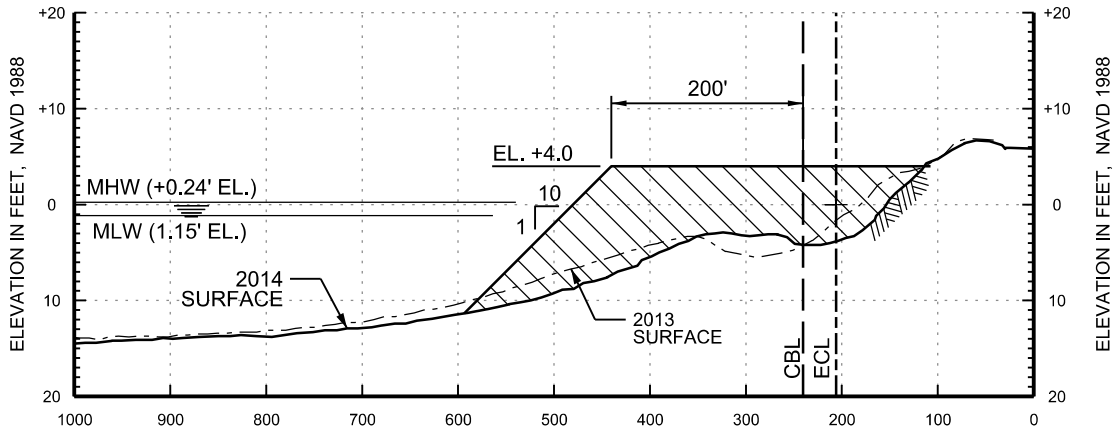

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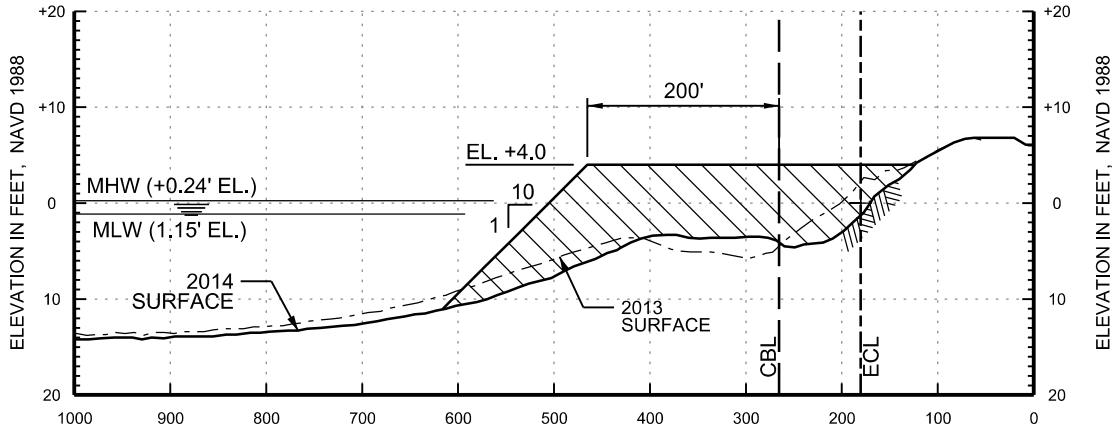

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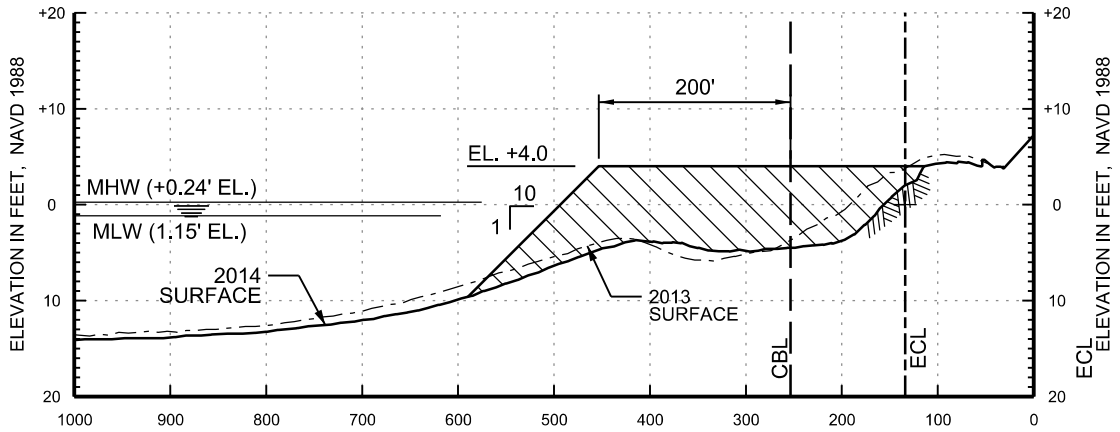

R-41-5

GRAPHIC SCALES

HORIZONTAL: 200' 0 200'

VERTICAL: 20' 0 20'

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. THE HORIZONTAL DISTANCES ARE IN FEET AND FOLLOW FDEP RANGE MONUMENT AZIMUTH.

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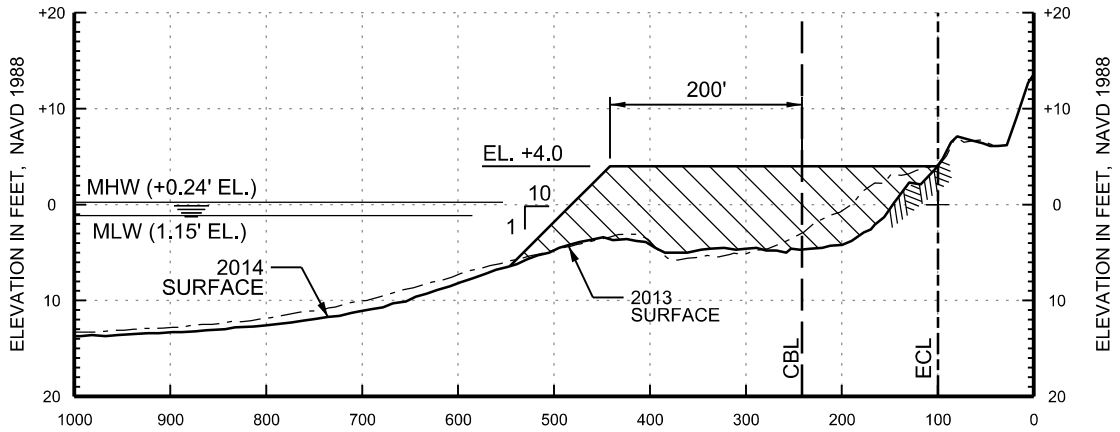
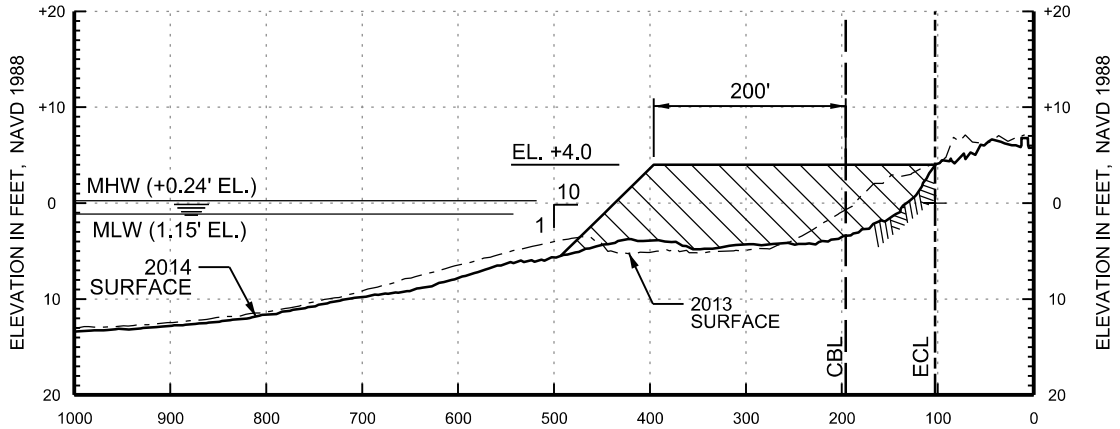


R-42



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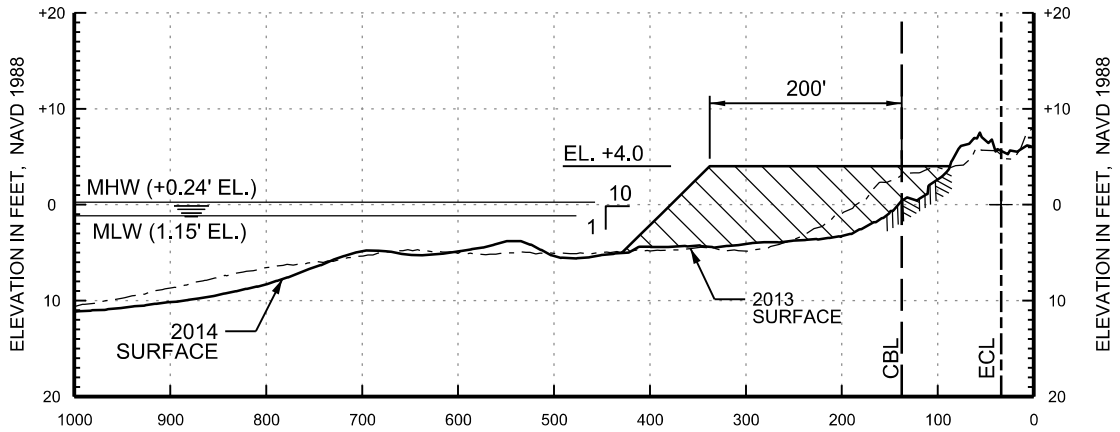

R-42-5

GRAPHIC SCALES

HORIZONTAL: 200' 0 200'

VERTICAL: 20' 0 20'

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. THE HORIZONTAL DISTANCES ARE IN FEET AND FOLLOW FDEP RANGE MONUMENT AZIMUTH.

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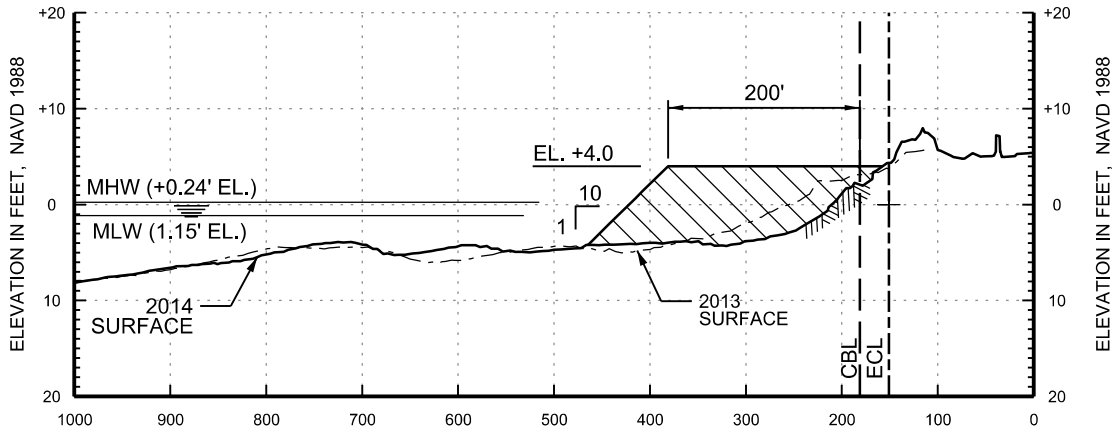

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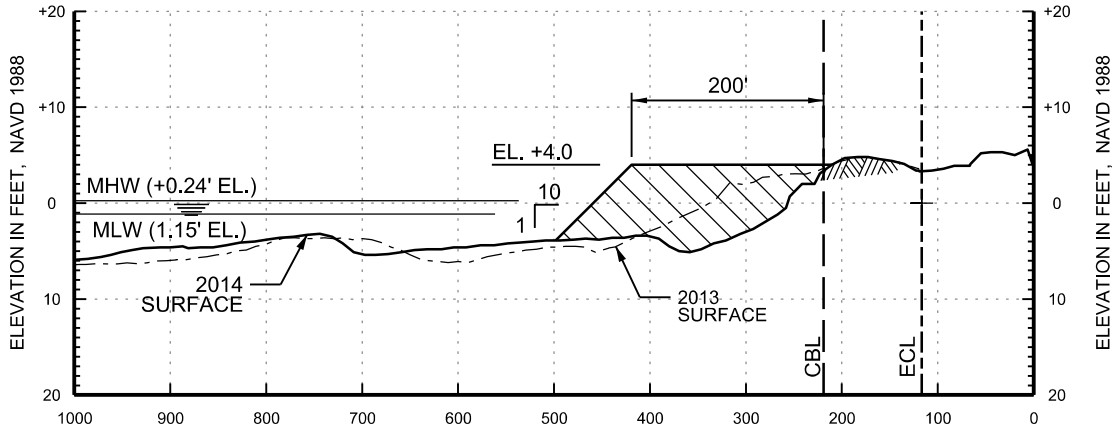

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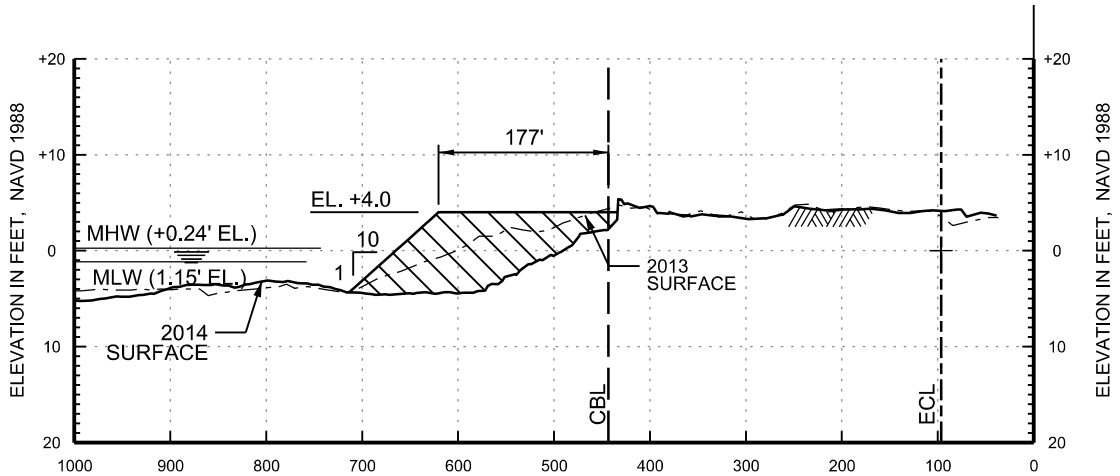

R-43-5

GRAPHIC SCALES

HORIZONTAL: 200' 0 200'

VERTICAL: 20' 0 20'

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION
2. THE HORIZONTAL DISTANCES ARE IN FEET AND FOLLOW FDEP RANGE MONUMENT AZIMUTH.

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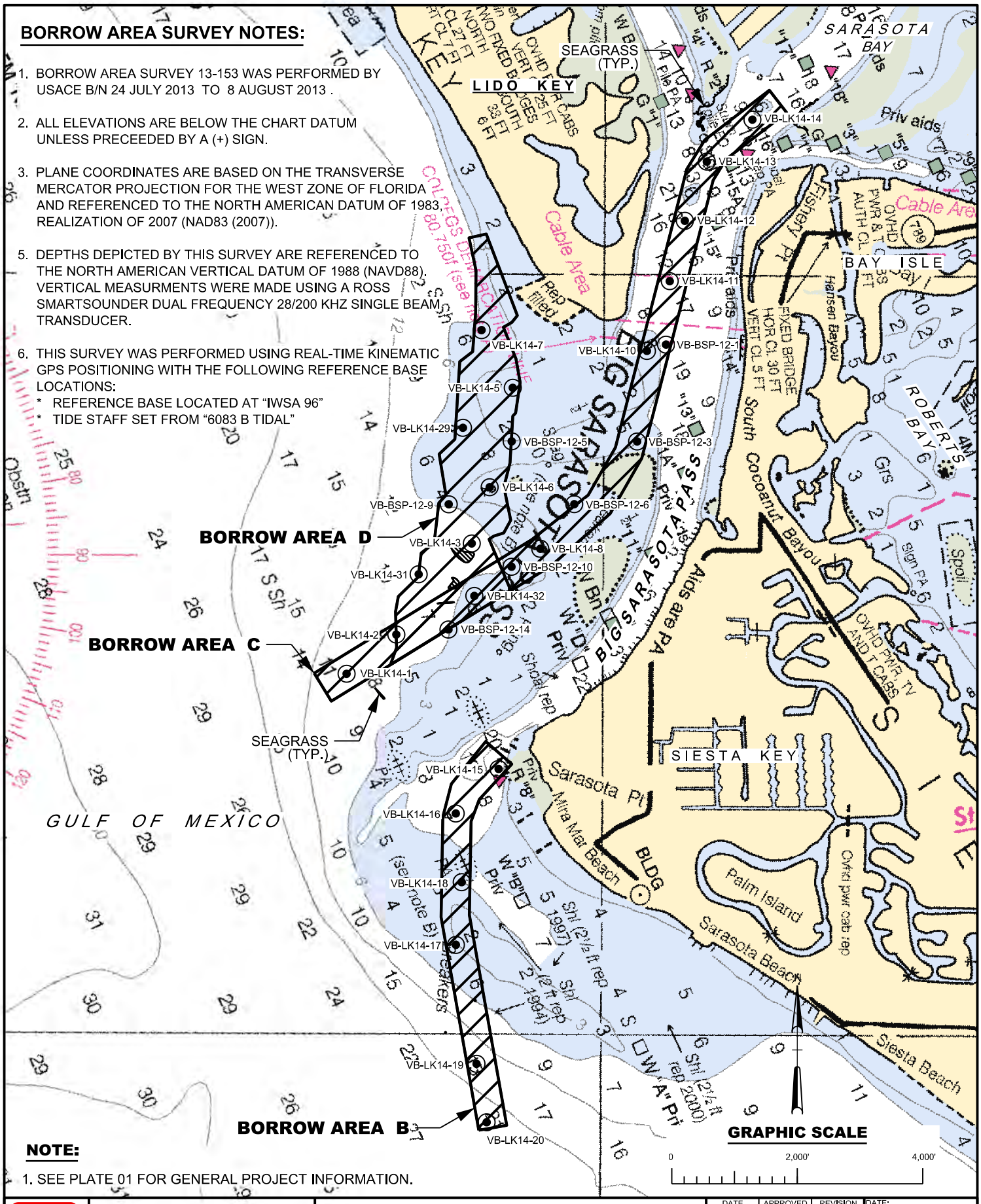
BORROW AREA SURVEY NOTES:

1. BORROW AREA SURVEY 13-153 WAS PERFORMED BY USACE B/N 24 JULY 2013 TO 8 AUGUST 2013 .
2. ALL ELEVATIONS ARE BELOW THE CHART DATUM UNLESS PRECEEDED BY A (+) SIGN.
3. PLANE COORDINATES ARE BASED ON THE TRANSVERSE MERCATOR PROJECTION FOR THE WEST ZONE OF FLORIDA AND REFERENCED TO THE NORTH AMERICAN DATUM OF 1983, REALIZATION OF 2007 (NAD83 (2007)).
5. DEPTHS DEPICTED BY THIS SURVEY ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88). VERTICAL MEASURMENTS WERE MADE USING A ROSS SMARTSOUNDER DUAL FREQUENCY 28/200 KHZ SINGLE BEAM TRANSDUCER.
6. THIS SURVEY WAS PERFORMED USING REAL-TIME KINEMATIC GPS POSITIONING WITH THE FOLLOWING REFERENCE BASE LOCATIONS:
   * REFERENCE BASE LOCATED AT "IWSA 96"
   * TIDE STAFF SET FROM "6083 B TIDAL"



NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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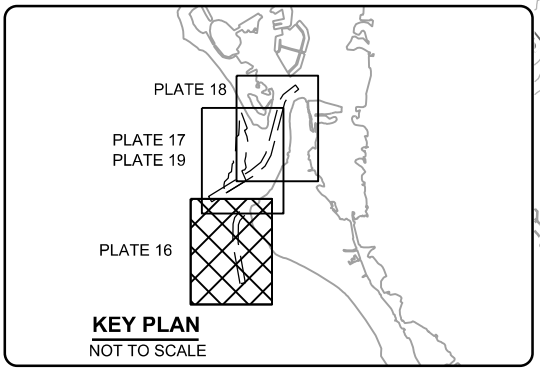

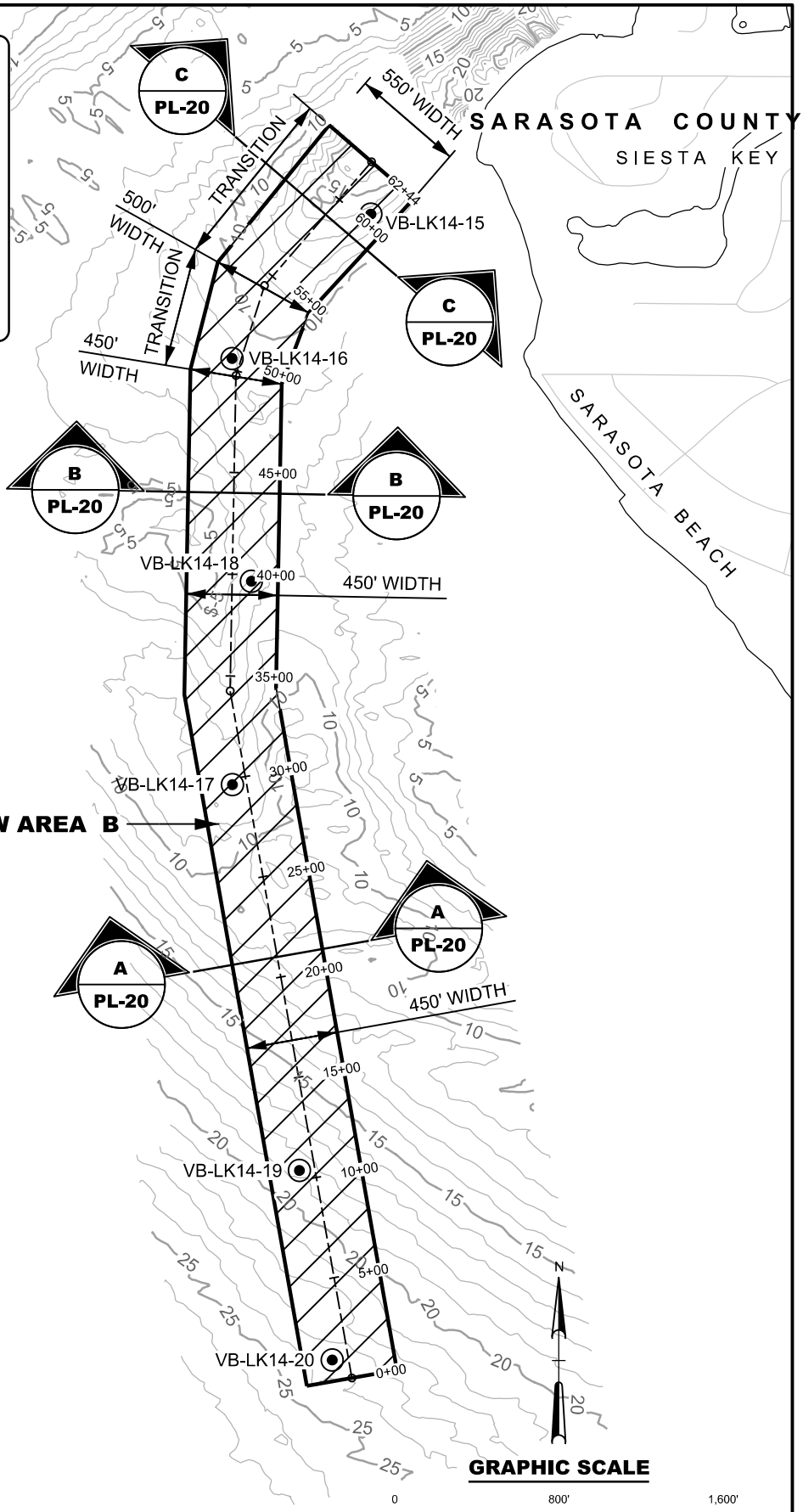

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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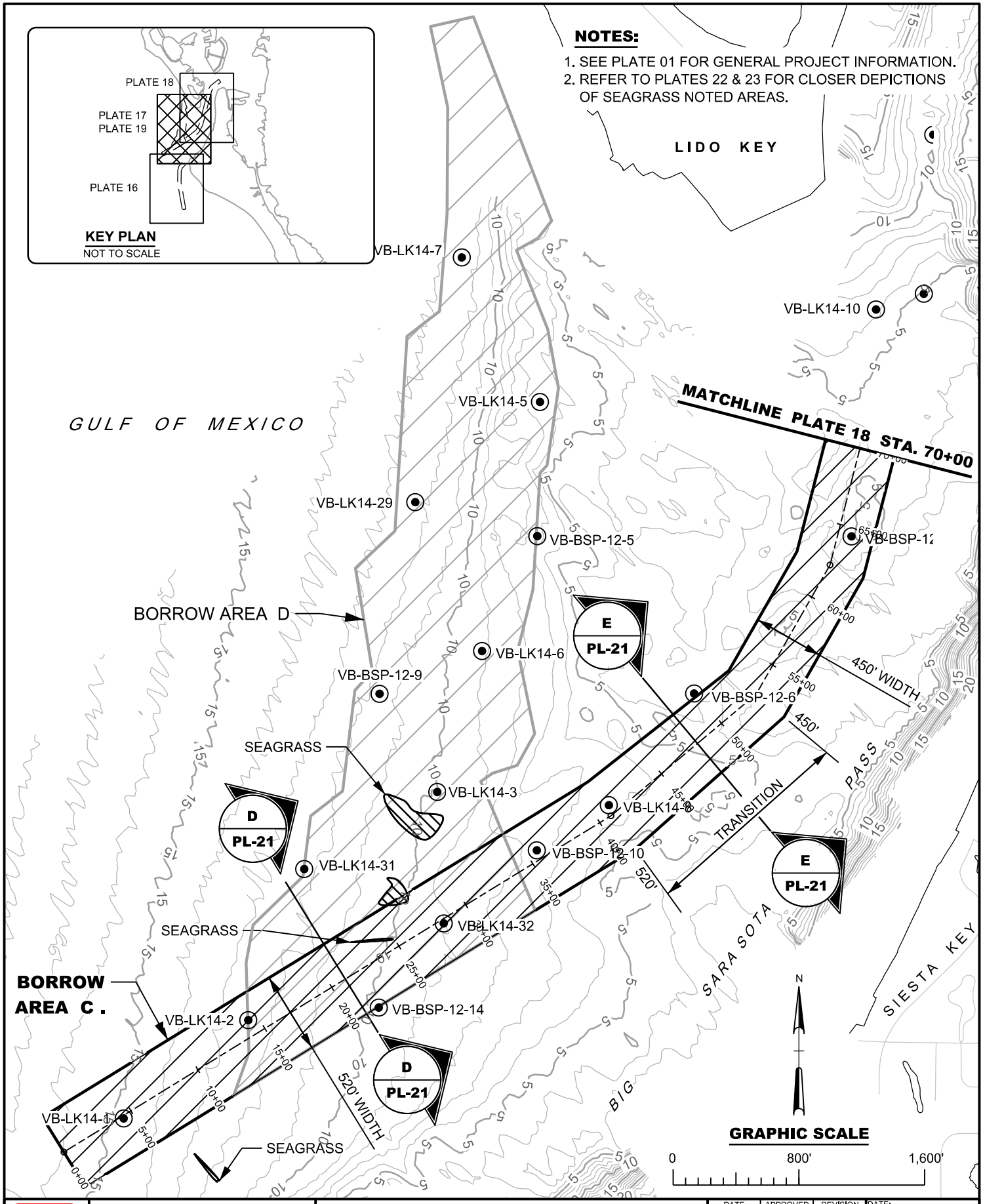

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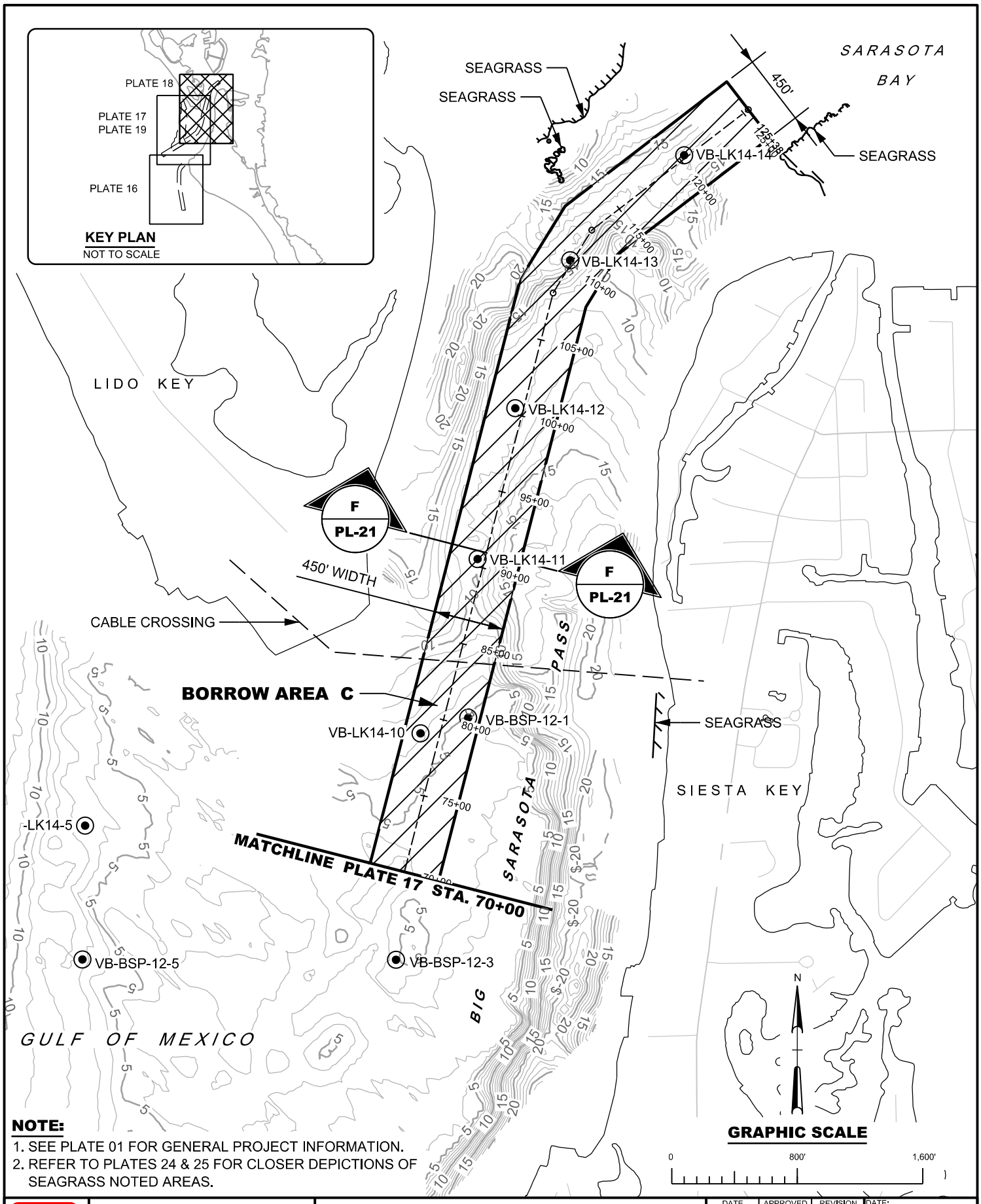
BEACH EROSION CONTROL PROJECT
SARASOTA COUNTY, FLORIDA

LIDO KEY BEACH EROSION CONTROL PROJECT

BORROW AREA C - PLAN VIEW

DATE	APPROVED	REVISION
2/26/15	J.W.L.	

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: 17 OF 31



NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.
2. REFER TO PLATES 24 & 25 FOR CLOSER DEPICTIONS OF SEAGRASS NOTED AREAS.

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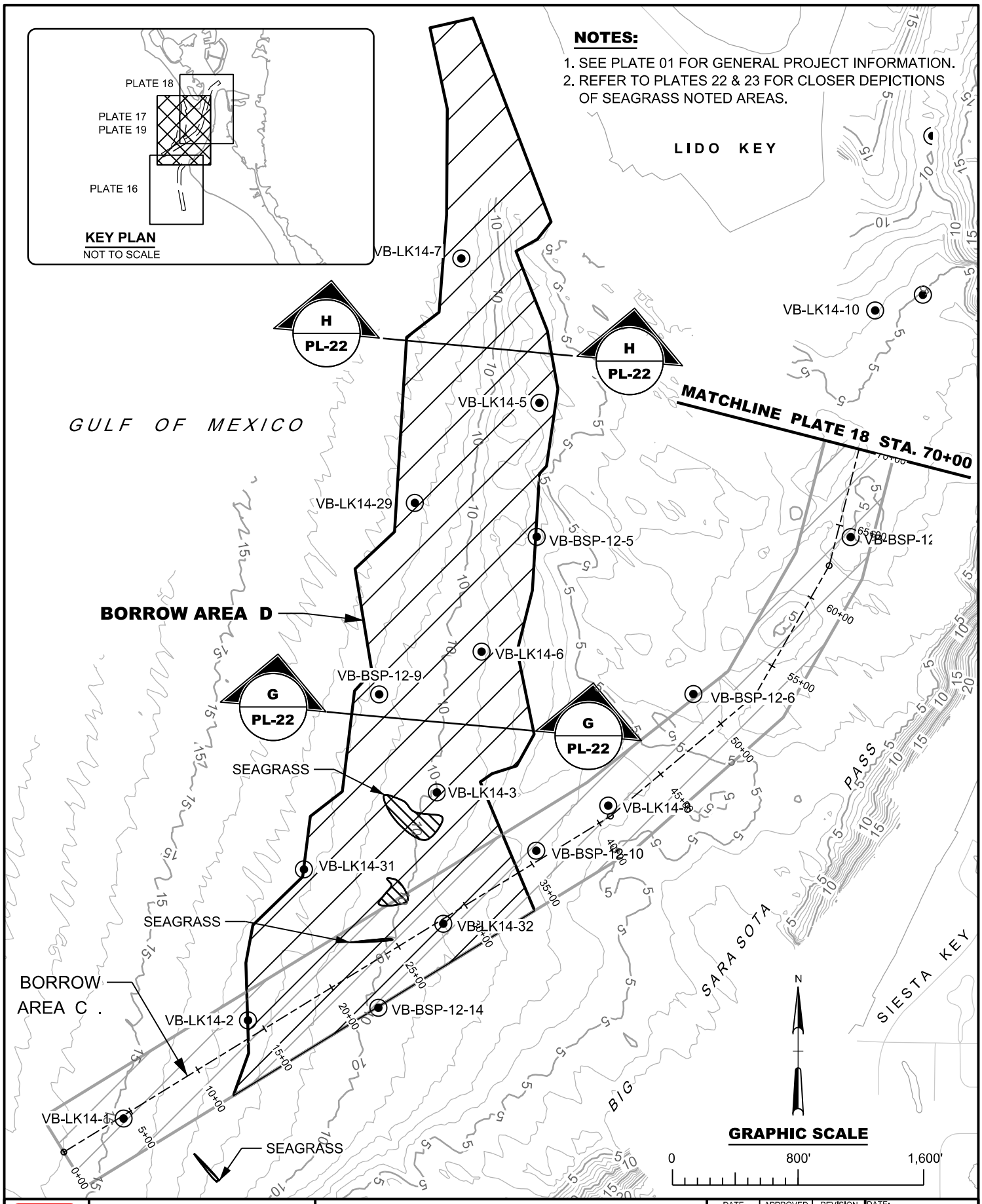

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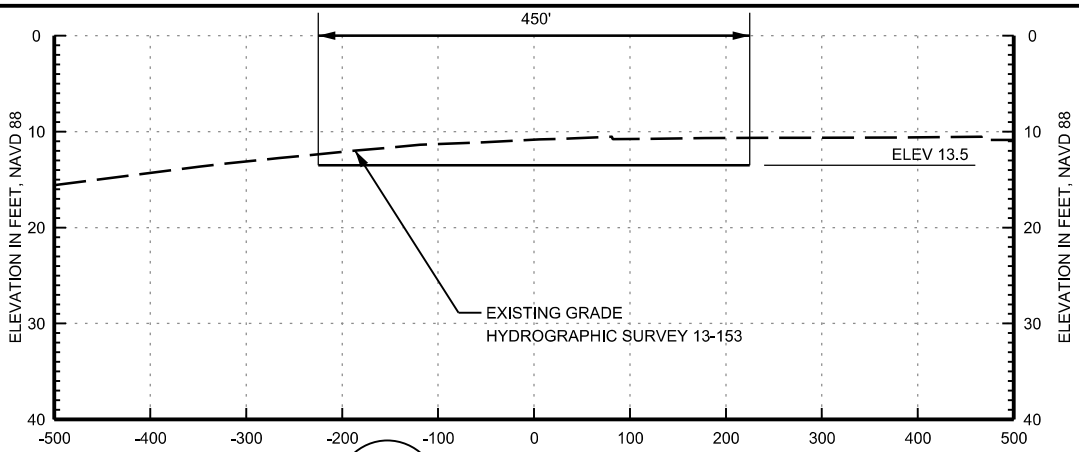
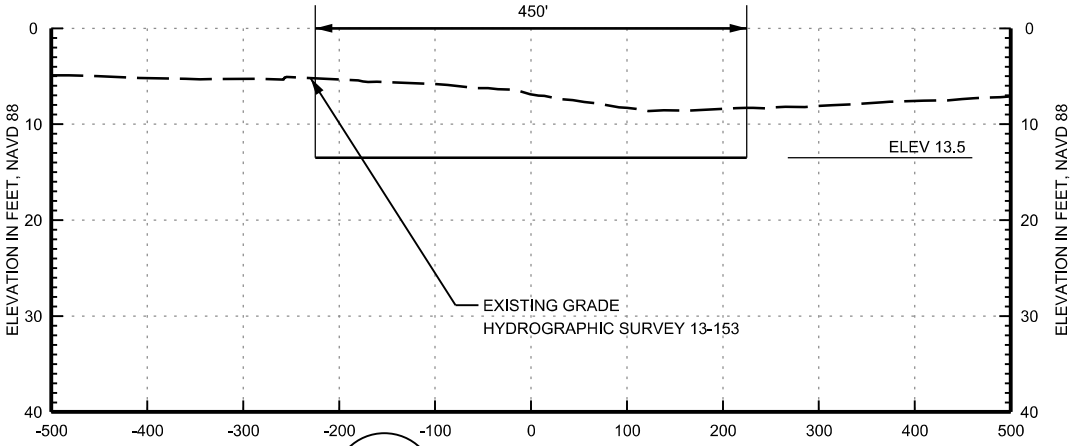
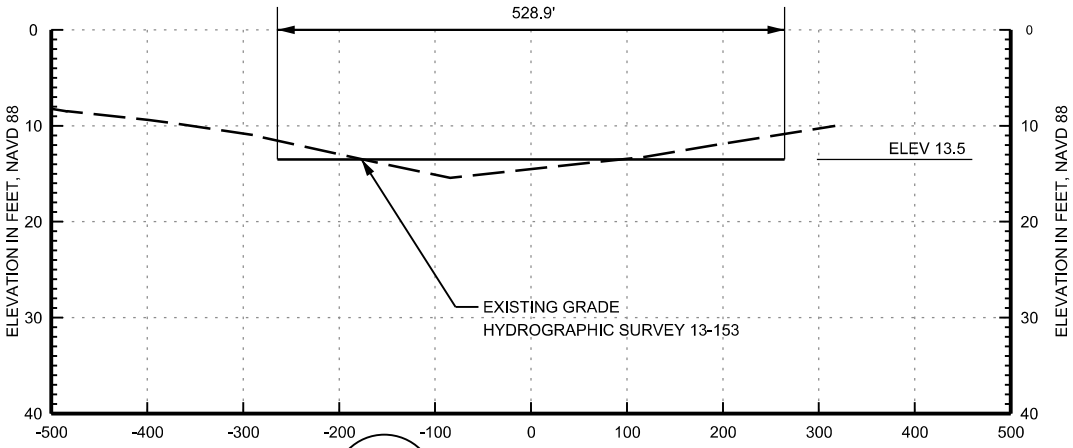


A
PL-16



B
PL-16



C
PL-16

GRAPHIC SCALES

HORIZONTAL 0 200' 400'

VERTICAL 0 20' 40'

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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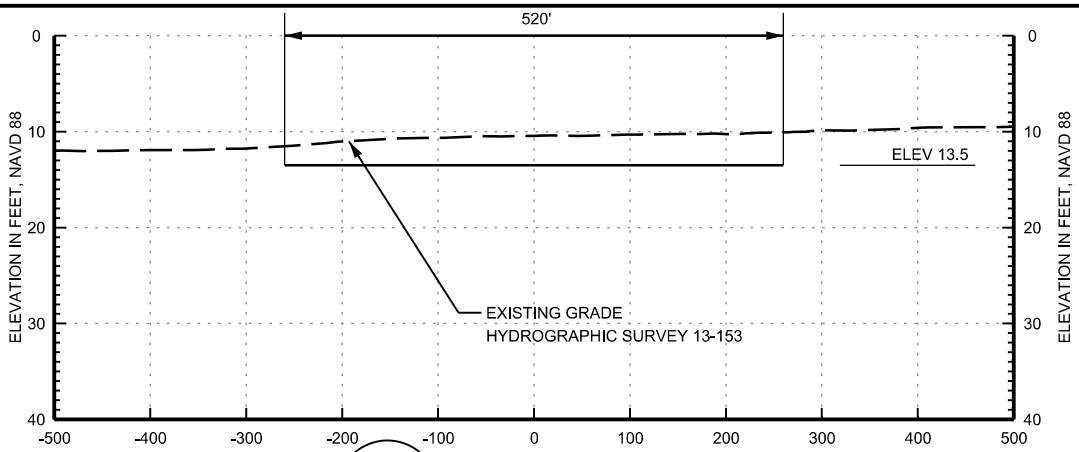
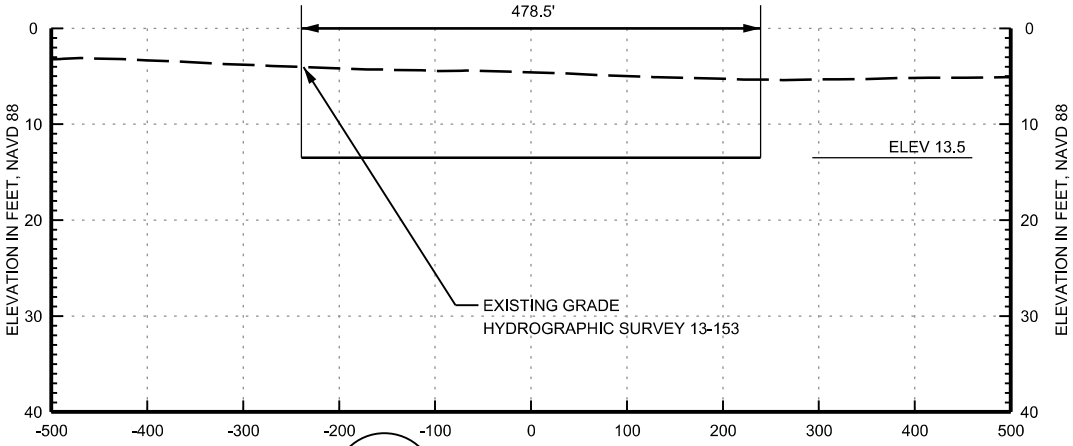
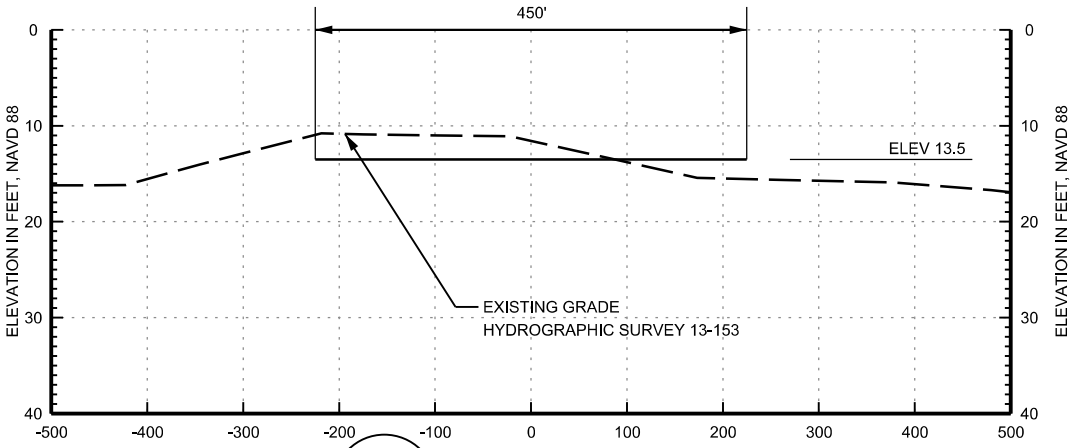
	DEPARTMENT OF THE ARMY	**LIDO KEY BEACH EROSION CONTROL PROJECT**	2/26/15	J.W.L.		DWN BY: M.R.2
	JACKSONVILLE DISTRICT, CORPS OF ENGINEERS JACKSONVILLE, FLORIDA	**BORROW AREA B - CROSS SECTIONS**				PLATE: **20 OF 31**



D
PL-17



E
PL-17



F
PL-18

GRAPHIC SCALES

HORIZONTAL 0 200' 400'

VERTICAL 0 20' 40'

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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JACKSONVILLE, FLORIDA

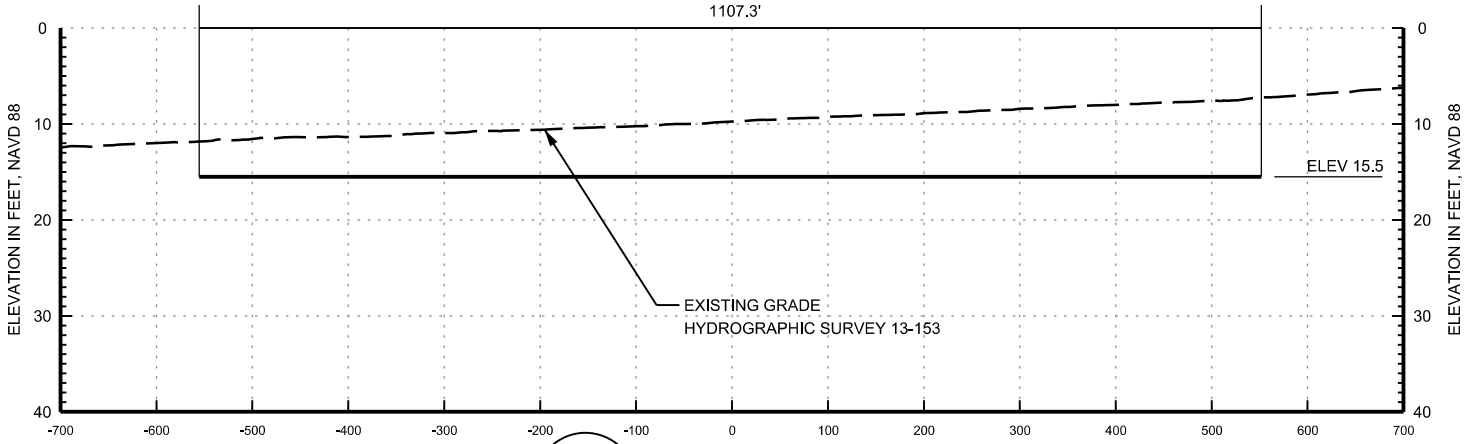
BEACH EROSION CONTROL PROJECT
SARASOTA COUNTY, FLORIDA

LIDO KEY BEACH EROSION CONTROL PROJECT

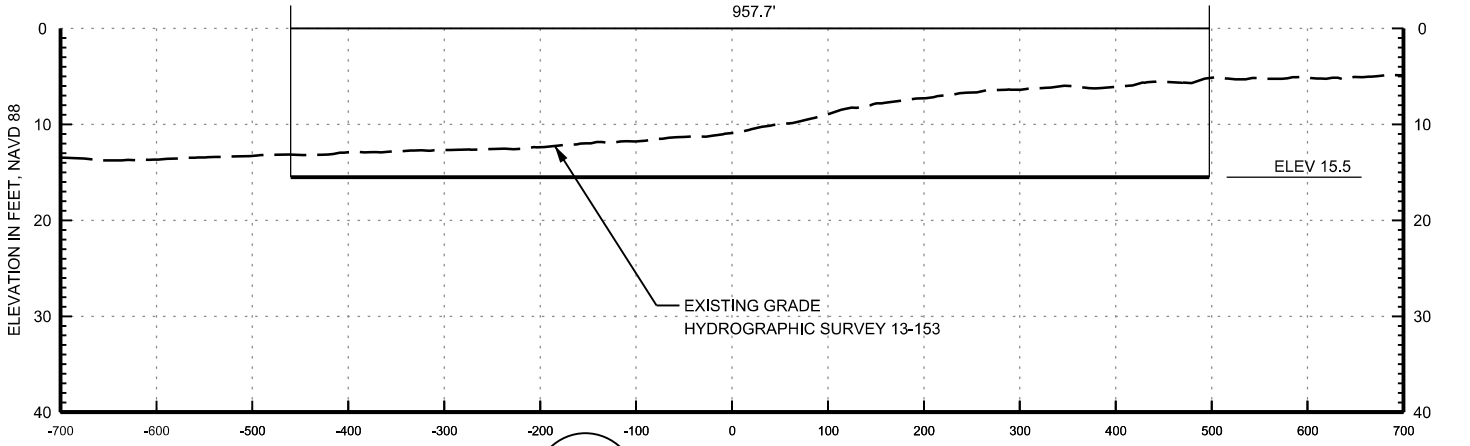
BORROW AREA C - CROSS SECTIONS

DATE	APPROVED	REVISION
2/26/15	J.W.L.	

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: 21 OF 31



G
PL-19



H
PL-19

GRAPHIC SCALES

HORIZONTAL 0 200' 400'

VERTICAL 0 20' 40'

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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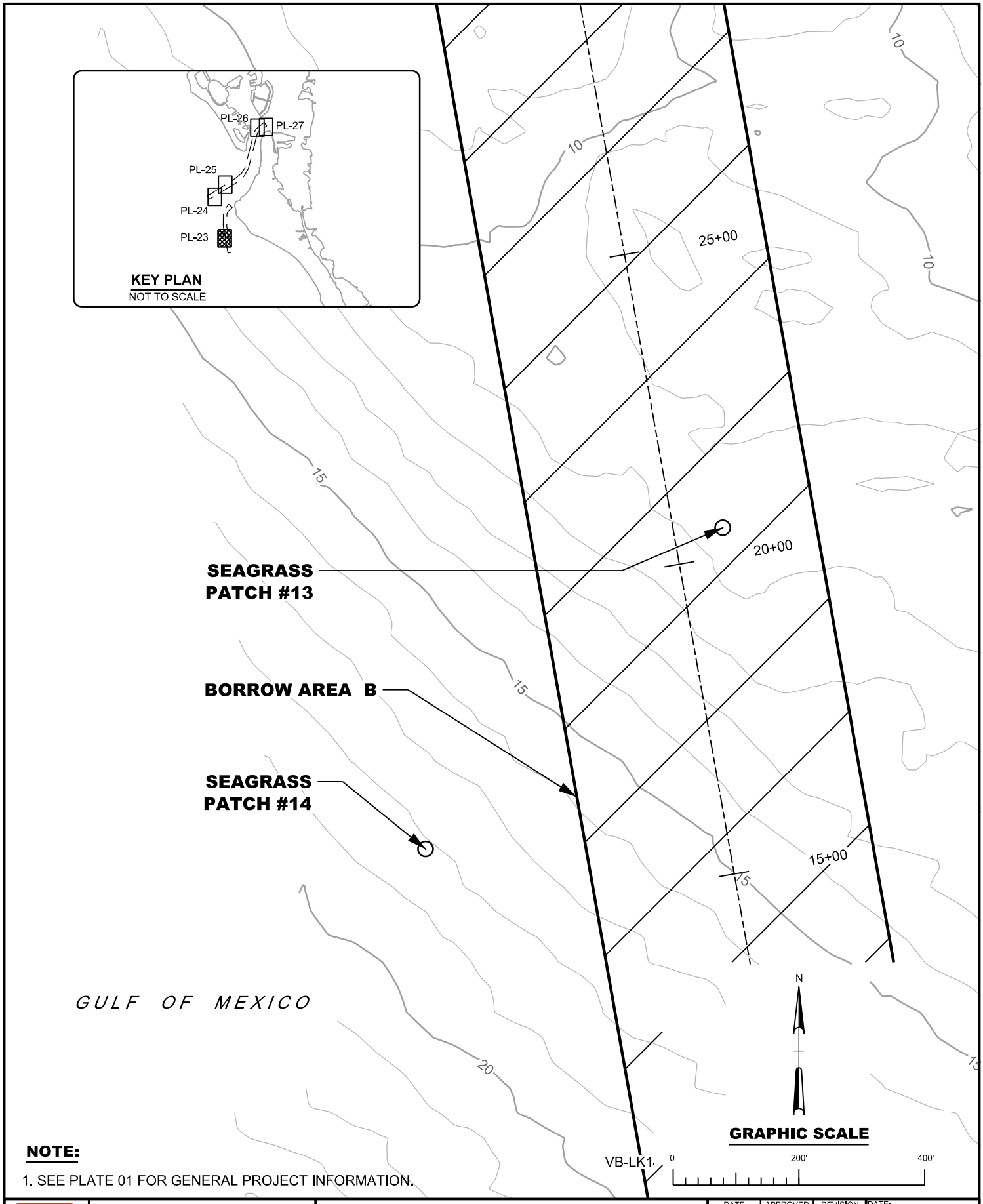
SARASOTA COUNTY, FLORIDA

LIDO KEY BEACH EROSION CONTROL PROJECT

BORROW AREA D - CROSS SECTIONS

DATE	APPROVED	REVISION
2/26/15	J.W.L.	

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: **22 OF 31**



NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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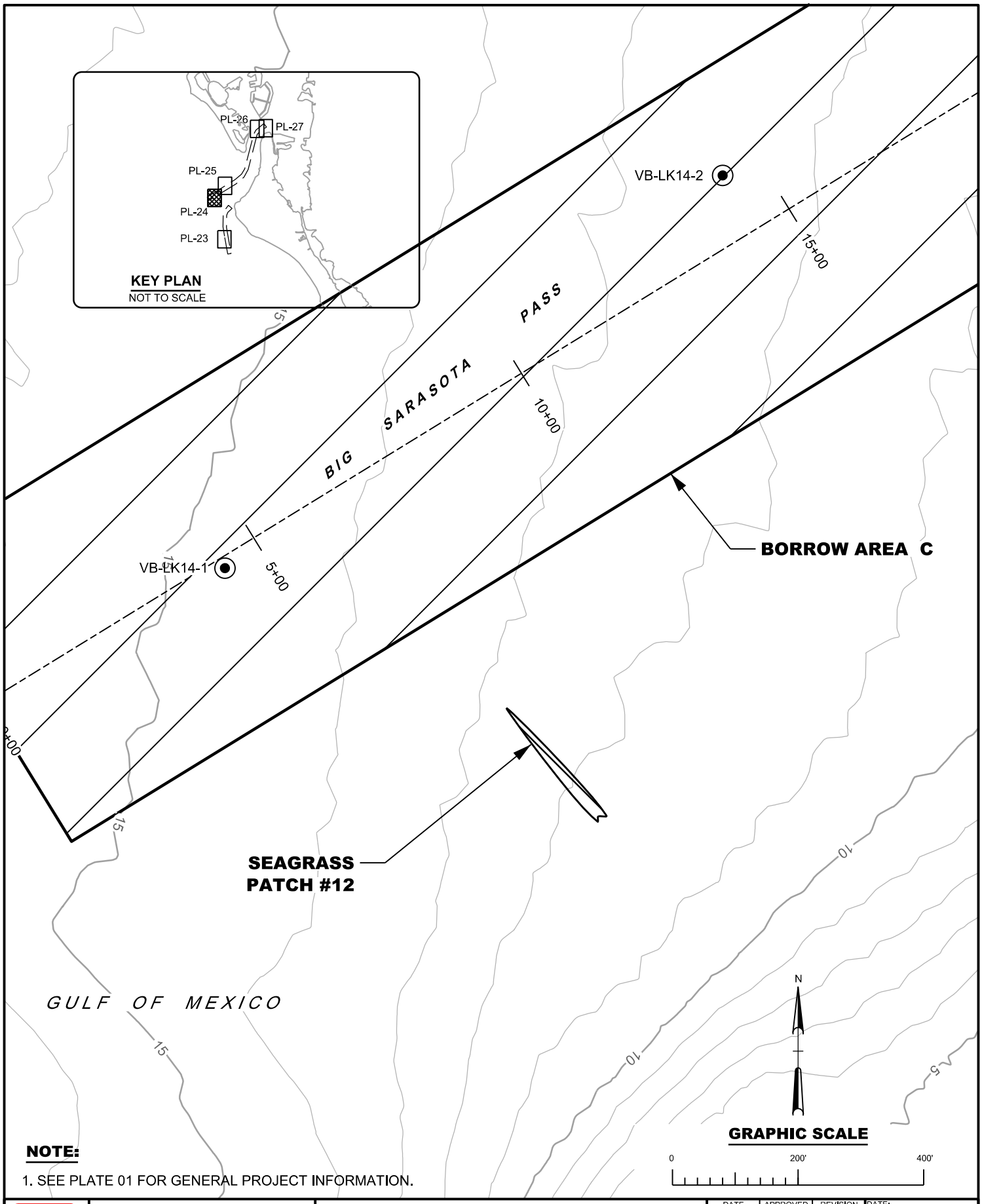

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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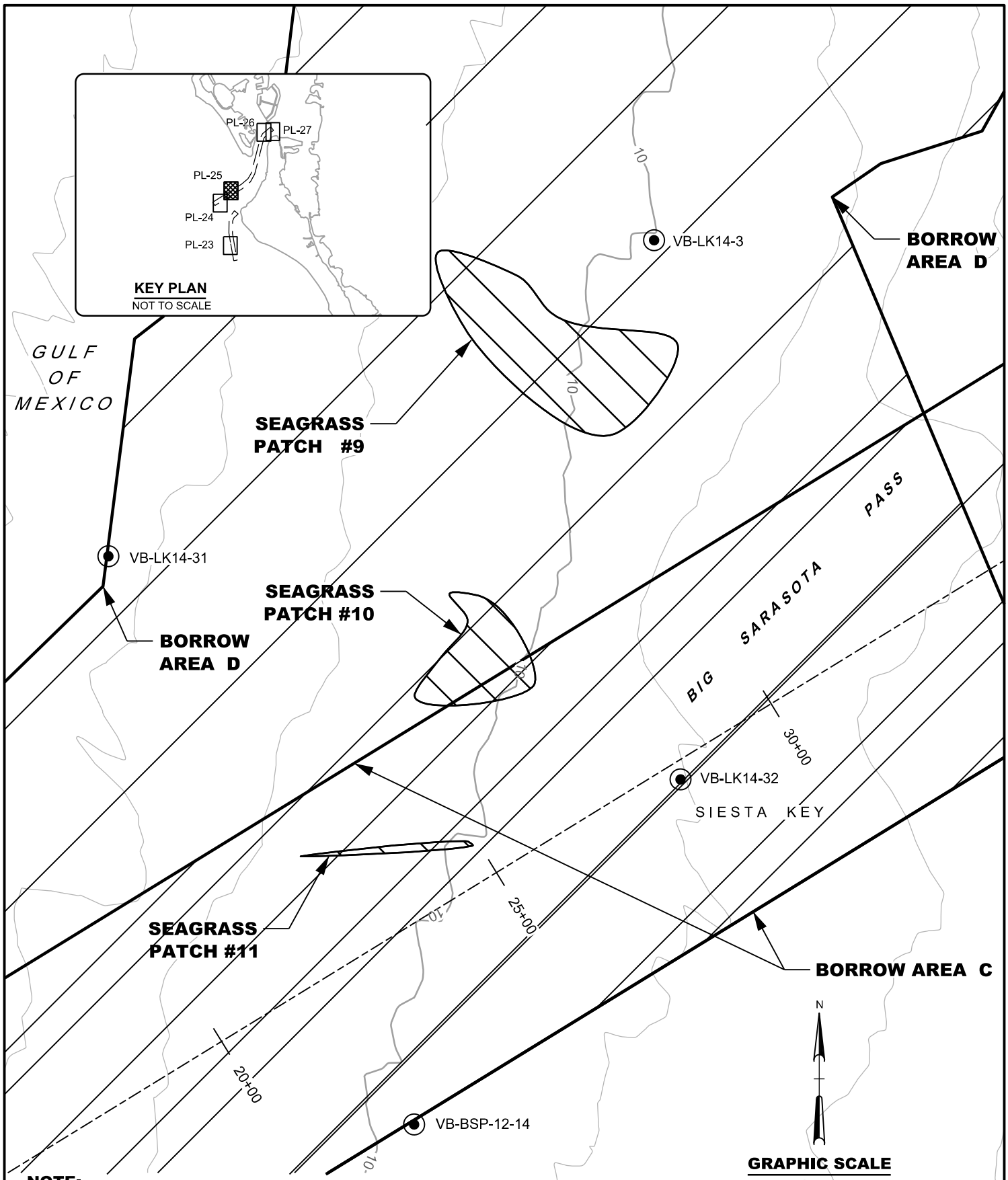

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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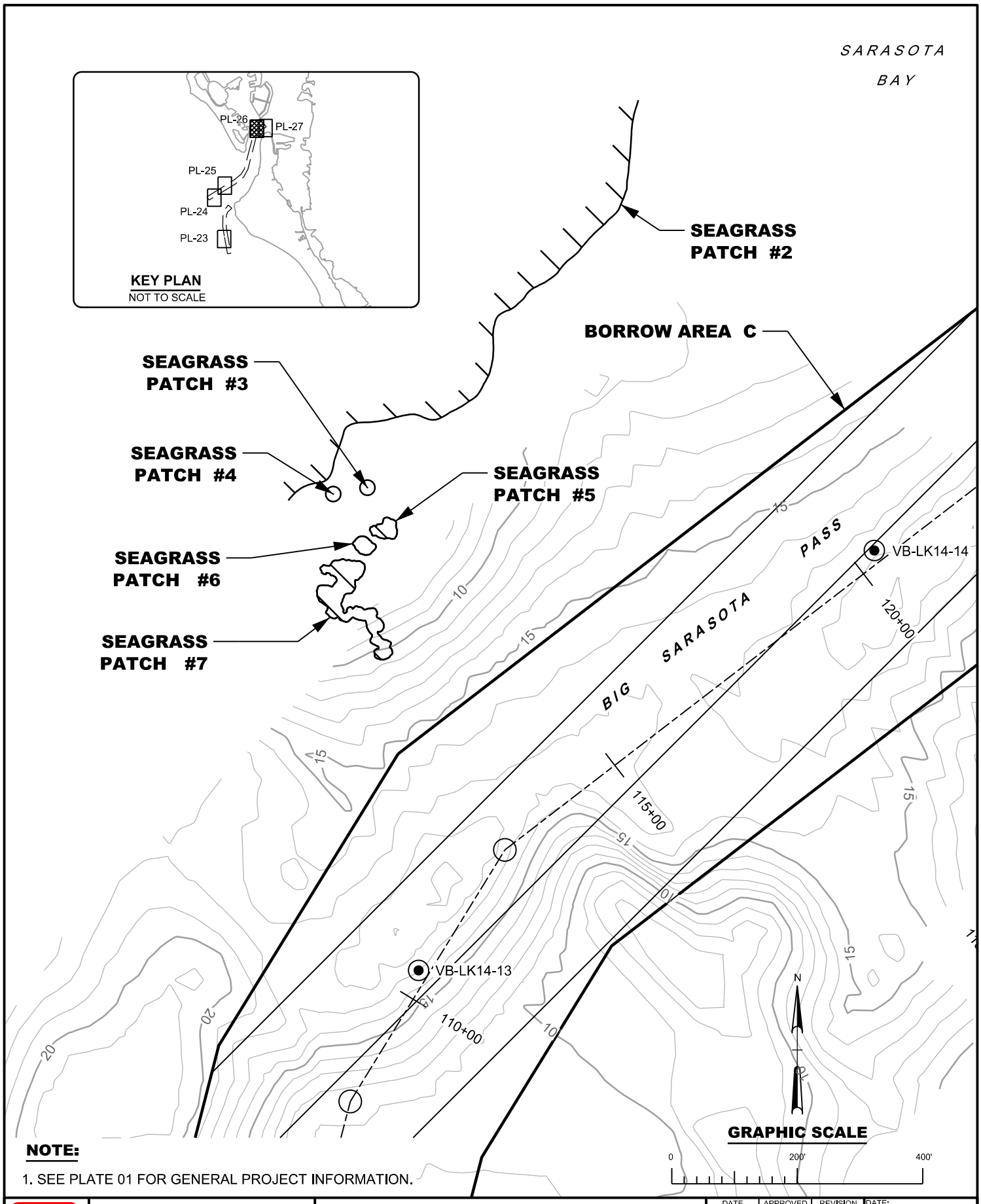
SARASOTA COUNTY, FLORIDA

LIDO KEY BEACH EROSION CONTROL PROJECT

SEAGRASS - BORROW AREAS C & D - PLAN VIEW

DATE	APPROVED	REVISION
2/26/15	J.W.L.	

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: **25 OF 31**



NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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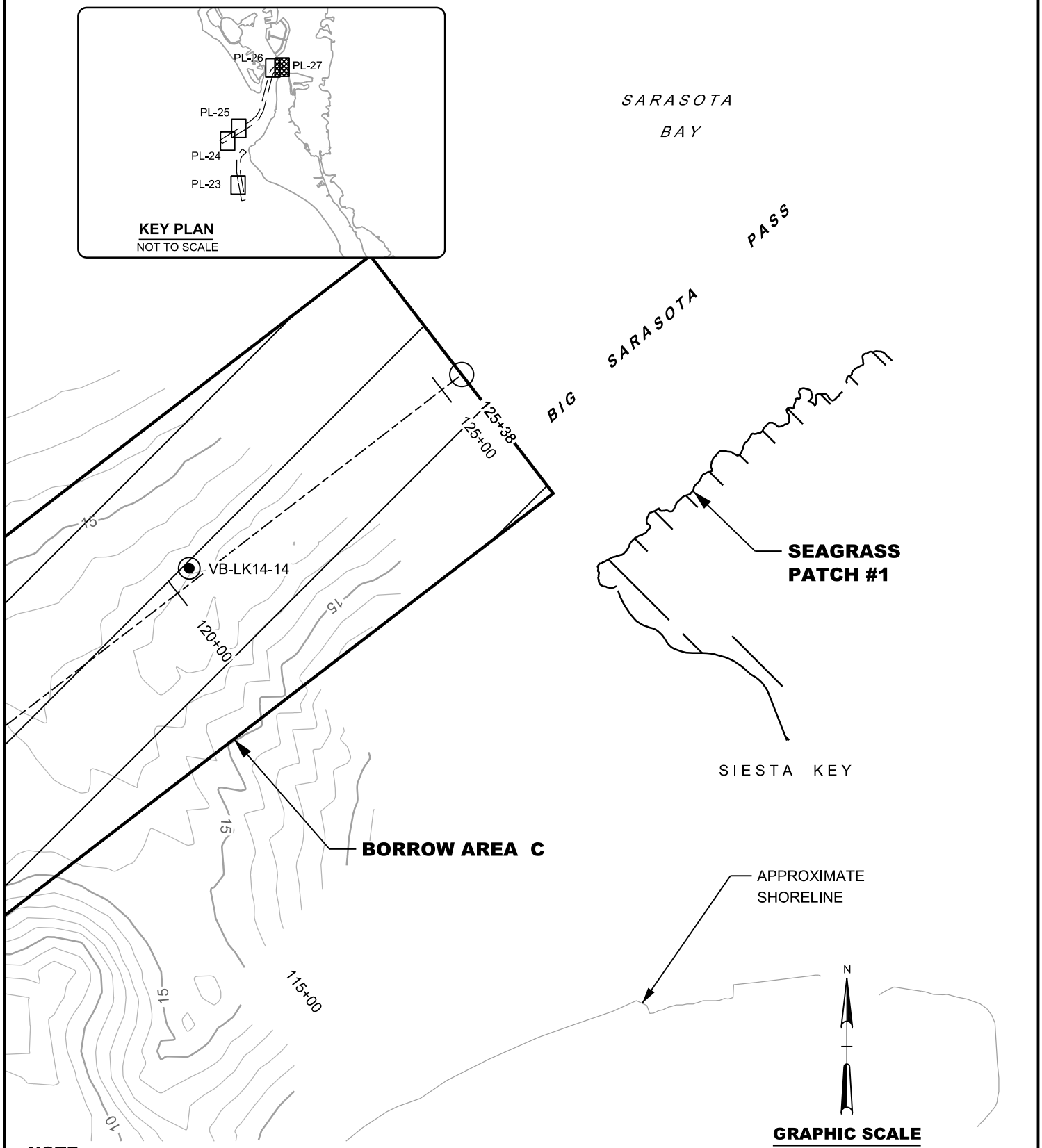

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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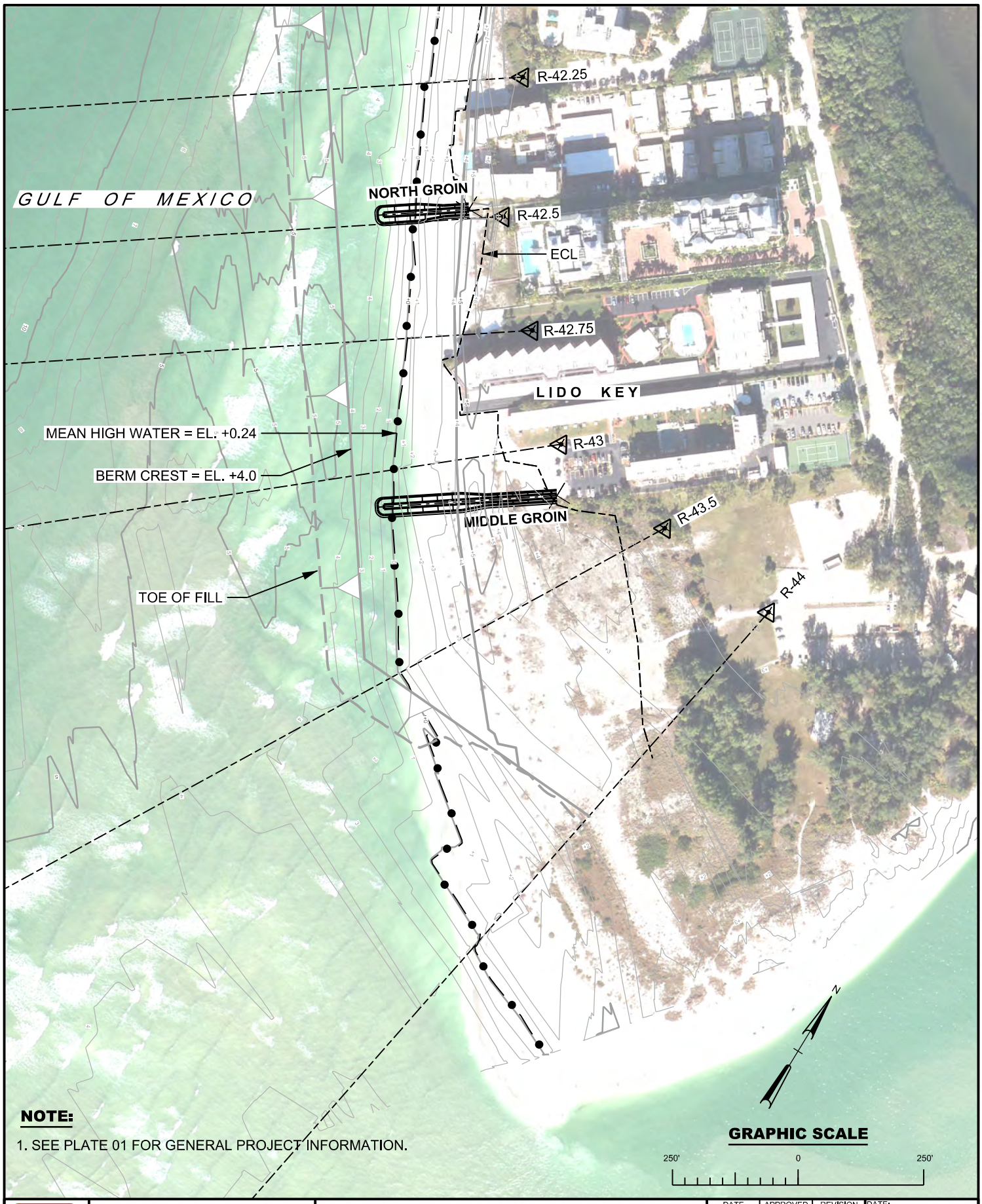

NOTE:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.

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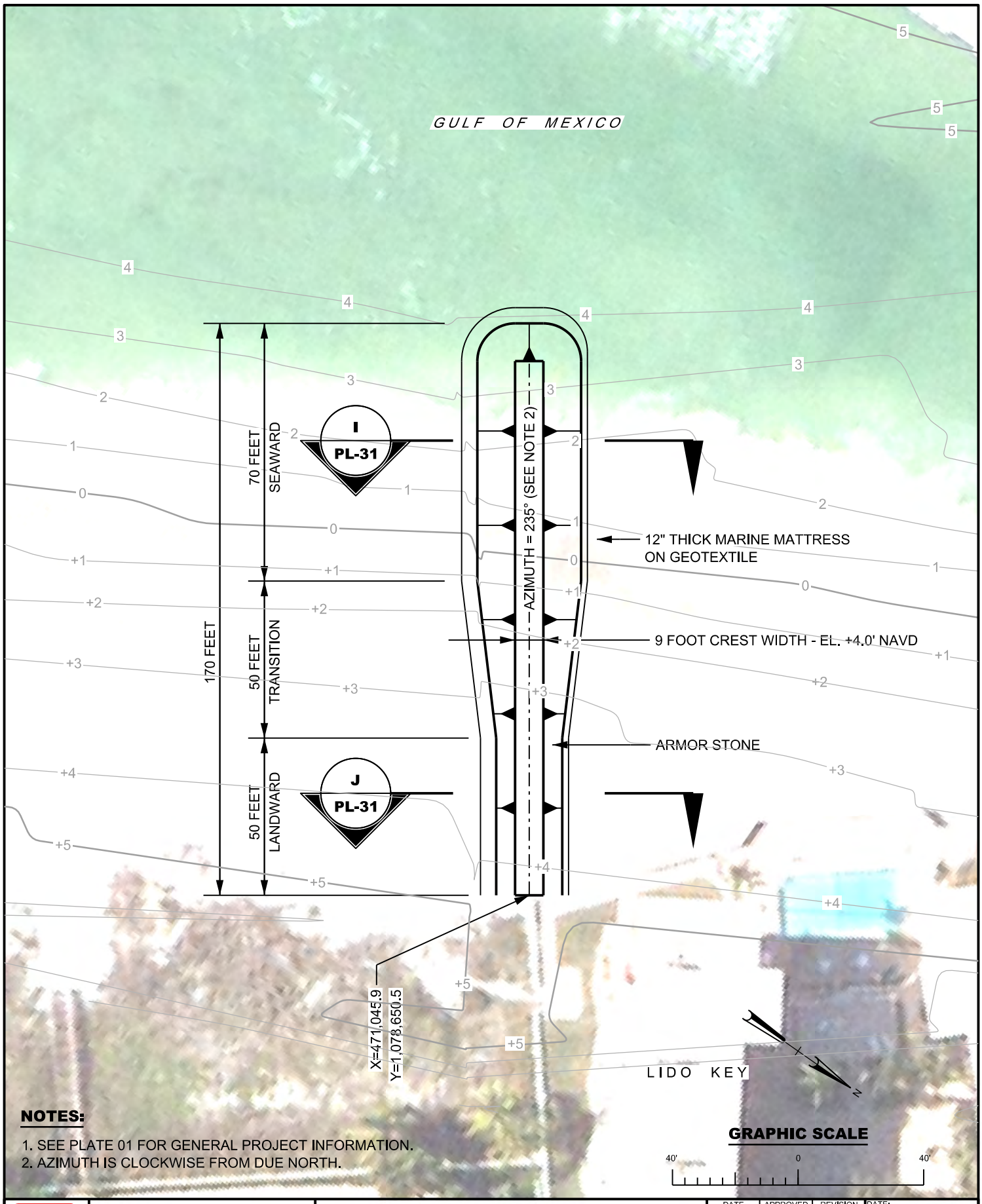

NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.
2. AZIMUTH IS CLOCKWISE FROM DUE NORTH.

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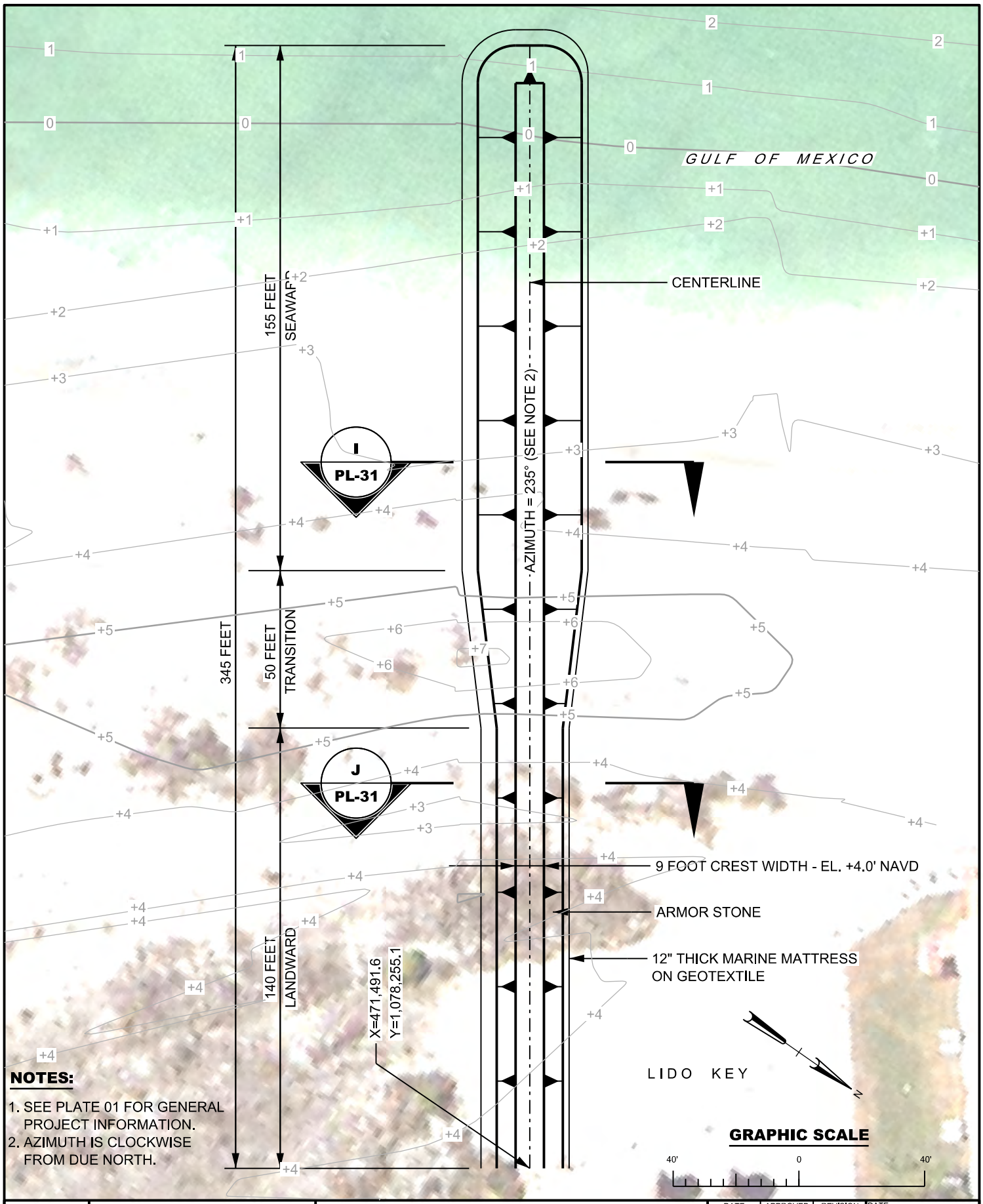
SARASOTA COUNTY, FLORIDA

LIDO KEY BEACH EROSION CONTROL PROJECT

NORTH GROIN - PLAN VIEW

DATE	APPROVED	REVISION
2/26/15	J.W.L.	

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: **29 OF 31**



NOTES:

1. SEE PLATE 01 FOR GENERAL PROJECT INFORMATION.
2. AZIMUTH IS CLOCKWISE FROM DUE NORTH.

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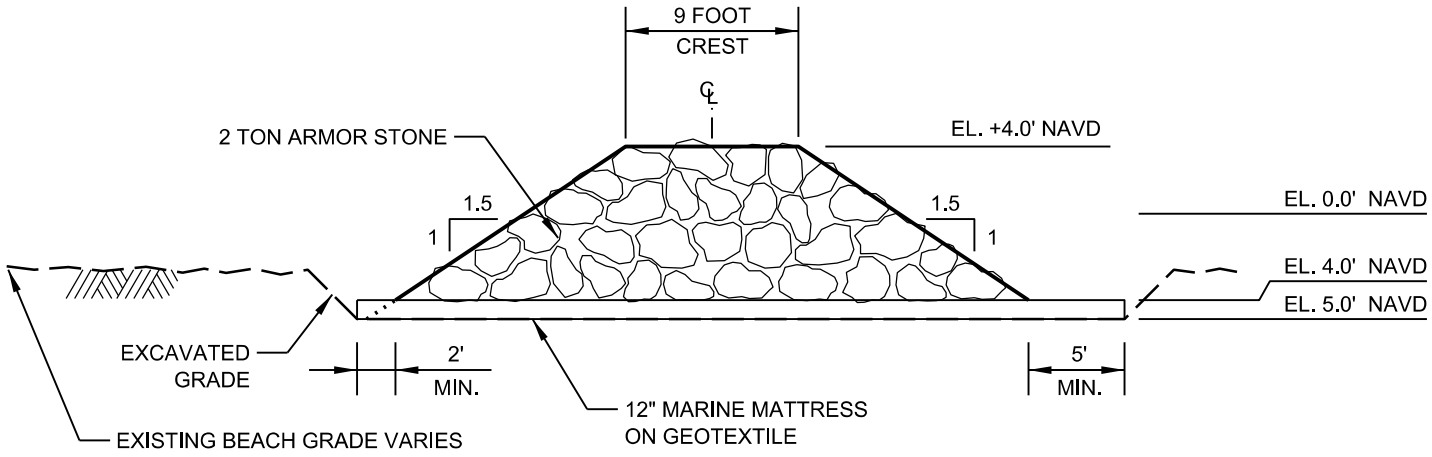
SARASOTA COUNTY, FLORIDA

LIDO KEY BEACH EROSION CONTROL PROJECT

MIDDLE GROIN - PLAN VIEW

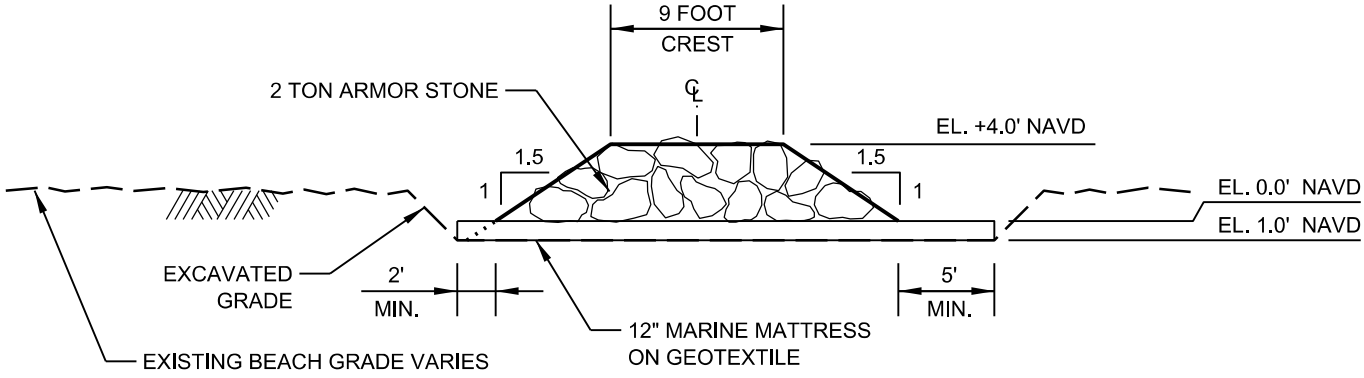
DATE	APPROVED	REVISION
2/26/15	J.W.L.	

DATE: FEB. 2015
DWN BY: M.R.2
PLATE: 30 OF 31



SEAWARD GROIN SECTION - I

LOOKING LANDWARD



LANDWARD GROIN SECTION - J

LOOKING LANDWARD

NOTES:

1. ARMOR STONE: W=1.5 TO 2.5 TONS WITH 50% GREATER THAN 2.0 TONS, 165 PCF MINIMUM.
2. EXCAVATE AND/OR FILL AS NECESSARY TO PLACE MARINE MATTRESS AND ARMOR STONE TO ACHIEVE THE SPECIFIED CREST ELEVATION.

GRAPHIC SCALE

0 10' 20'

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