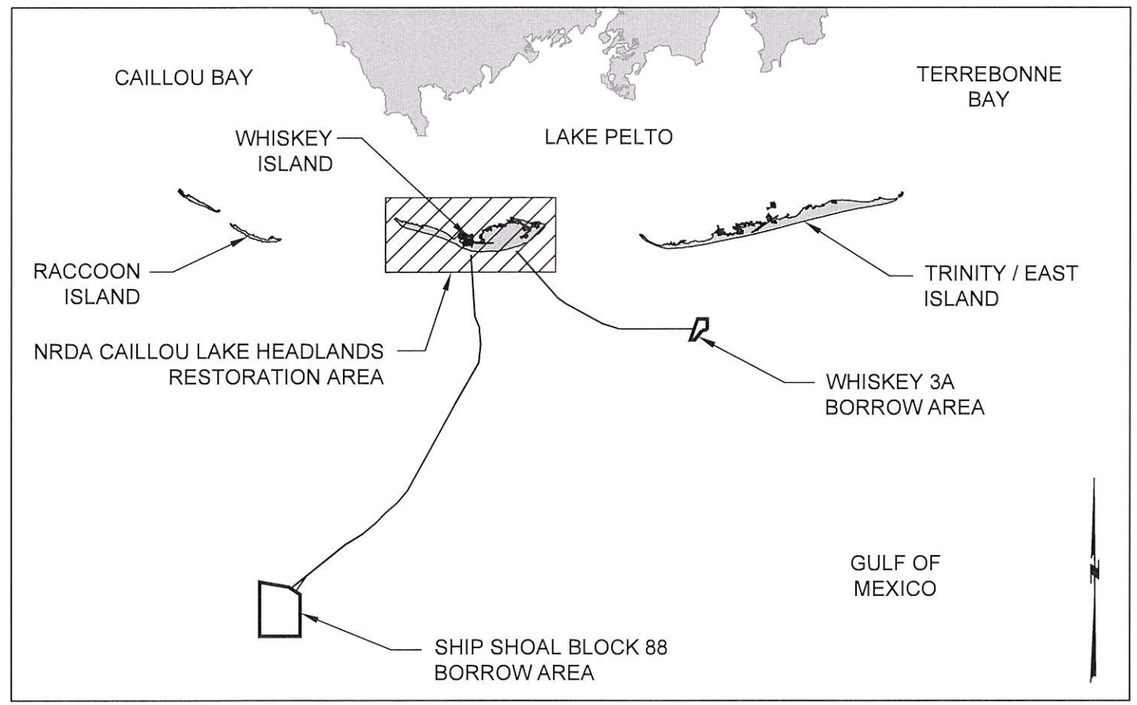
STATE OF LOUISIANA
COASTAL PROTECTION AND RESTORATION AUTHORITY

# NRDA CAILLOU LAKE HEADLANDS
# STATE PROJECT NO. TE-100
# CONSTRUCTION PLANS

## TERREBONNE PARISH, LOUISIANA

INDEX TO SHEETS


| SHEET NO. | DESCRIPTION |
|---|---|
| 1 | TITLE SHEET |
| 2 | GENERAL AND SURVEY NOTES |
| 3 | SUMMARY OF ESTIMATED QUANTITIES AND SUBMITTALS |
| 4 | PROJECT OVERVIEW |
| 5 | SHIP SHOAL BLOCK 88 BORROW AREA PLAN VIEW |
| 6-7 | SHIP SHOAL BLOCK 88 BORROW AREA TYPICAL SECTIONS |
| 8 | WHISKEY 3A BORROW AREA PLAN VIEW |
| 9 | WHISKEY 3A BORROW AREA TYPICAL SECTIONS |
| 10 | SHIP SHOAL BLOCK 88 CONVEYANCE CORRIDOR PLAN VIEW |
| 11 | SHIP SHOAL BLOCK 88 CONVEYANCE CORRIDOR TYPICAL SECTION |
| 12 | WHISKEY 3A CONVEYANCE CORRIDOR PLAN VIEW |
| 13 | WHISKEY 3A CONVEYANCE CORRIDOR TYPICAL SECTION |
| 14 | HEADLAND OVERVIEW |
| 15-17 | HEADLAND PLAN VIEW INSETS |
| 18 | HEADLAND TYPICAL SECTIONS |
| 19 | ACCESS CHANNEL PLAN VIEWS AND TYPICAL SECTIONS |
| 20-32 | FILL TEMPLATE CROSS SECTIONS |
| 33 | ALTERNATIVE MARSH FILL CONSTRUCTION |
| 34 | MARSH FILL GRADE STAKE, MONITORING SYSTEM, AND WARNING SIGN DETAILS |
| 35 | SAND FENCING DETAILS |
| 36 | OPTIONAL SEDIMENT PIPELINE CROSSING TYPICAL DETAILS |
| 37-39 | SURVEY LAYOUTS |
| 40-45 | ALIGNMENT TABLES |


NOTES:
1. RETAIN ENTIRE SET AS ONE, INDIVIDUAL SHEETS SHOULD NOT BE REMOVED.

CHIEF - ENGINEERING DIVISION

ENGINEER MANAGER

PROJECT ENGINEER

LICENSURE CLASSIFICATION REQUIREMENTS
MAJOR CATEGORY: HEAVY CONSTRUCTION

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER
10/22/15

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |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DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

TITLE SHEET
DATE: MAY 2015
SHEET 1 OF 45

## GENERAL NOTES

1. THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE WORK AREA, CONSTRUCTION PLANS, AND CONTRACT DOCUMENTS AND SHALL CONDUCT WORK IN STRICT ACCORDANCE WITH ALL PERMITS AND APPROVALS OBTAINED FOR THIS PROJECT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY ERRORS OR DISCREPANCIES IN THE CONSTRUCTION PLANS PRIOR TO BIDDING.
2. AERIAL IMAGERY FROM LOUISIANA DEPARTMENT OF HOMELAND SECURITY AND EMERGENCY PREPAREDNESS, 2010 AND MAY NOT BE INDICATIVE OF CURRENT CONDITIONS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING PIPELINE AND UTILITY OPERATORS THREE (3) WORKING DAYS PRIOR TO ANY WORK AT THE HEADLAND RESTORATION AREA AND AT LEAST FOUR (4) WEEKS PRIOR TO ANY WORK AT THE BORROW AREAS OR WITHIN THE CONVEYANCE CORRIDORS. ALL PIPELINES AND UNDERGROUND UTILITIES SHALL BE FIELD LOCATED AND MARKED BY CONTRACTOR PRIOR TO MOBILIZATION.
4. LOCATIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF THE PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. PRIOR TO MOBILIZATION, THE CONTRACTOR SHALL VERIFY AND BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS/HER FAILURE TO EXACTLY LOCATE AND PRESERVE EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES AFFECTING HIS/HER WORK. ANYTHING NOT SHOWN ON THESE PLANS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND SHALL NOT SERVE AS A BASIS FOR ADDITIONAL COMPENSATION, UNLESS APPROVED BY THE ENGINEER.
5. WATER BOTTOMS SHALL NOT BE DISTURBED DURING ACCESS TO WORK LOCATION OR BY AUTHORIZED ACTIVITIES WHETHER IT BE BY DREDGING, WHEEL WASHING , PROPWASHING, JETTING, MUCKING, PLOWING, BULL DOZING OR ANY MEANS OF MOVING BOTTOM MATERIAL, EXCEPT AS DEPICTED ON PLANS OR BY SPECIFICATIONS.
6. ALL LOGS, STUMPS, AND OTHER DEBRIS UNEARTHED DURING DREDGING SHALL BE REMOVED TO APPROVED OFFSITE DISPOSAL AREA.
7. CONTRACTOR MUST INSTALL AND MAINTAIN ANY SAFETY LIGHTS, SIGNS, AND SIGNALS ON AUTHORIZED FACILITIES, PLANT, AND EQUIPMENT AS PRESCRIBED BY U.S. COAST GUARD THROUGH REGULATIONS OR OTHERWISE.
8. ANY DAMAGE TO EXISTING U.S. COAST GUARD NAVIGATION AIDS OR PRIVATE NAVIGATION AIDS SHALL BE REPAIRED BY THE CONTRACTOR TO U.S. COAST GUARD STANDARDS AT THE EXPENSE OF THE CONTRACTOR.
9. WORK INVOLVING USE OF FLOATING CONSTRUCTION EQUIPMENT, INCLUDING BUT NOT LIMITED TO, BARGE MOUNTED CRANES, BARGE MOUNTED PILE DRIVING EQUIPMENT, FLOATING DREDGE EQUIPMENT, AND DREDGE DISCHARGE PIPELINES IN WATERS WITHIN U.S. COAST GUARD JURISDICTION SHALL REQUIRE NOTIFICATION BY THE CONTRACTOR TO THE U.S. COAST GUARD SUCH THAT A NOTICE TO MARINERS, IF REQUIRED, MAY BE PREPARED. NOTIFICATION, WITH A COPY OF PERMIT APPROVAL AND DRAWINGS, SHALL BE SUBMITTED TO THE OWNER AND ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
10. SEDIMENT PIPELINES IN OPEN WATER AND/OR NAVIGABLE WATERS SHALL BE MARKED WITH BUOYS BY THE CONTRACTOR IN ACCORDANCE WITH U.S. COAST GUARD REGULATIONS. THE CONTRACTOR SHALL MAINTAIN MARKER BUOYS DURING CONSTRUCTION OR HAVE ADEQUATE NAVIGATIONAL EQUIPMENT ON THE DREDGE TO AVOID DREDGING IN RESTRICTED AREAS. THE CONTRACTOR SHALL CONTAIN ALL ANCHORING WITHIN THE LIMITS OF THE ALLOWABLE ANCHOR AREAS. THE CONTRACTOR SHALL NOT ANCHOR OR EXCAVATE WITHIN 1,000 FEET OF PIPELINES NEAR THE SHIP SHOAL BLOCK 88 BORROW AREA AND WITHIN 500 FEET OF PIPELINES NEAR THE WHISKEY 3A BORROW AREA. NO EXCAVATION SHALL BE PERMITTED WITHIN 50 FEET OF PIPELINES IN THE FILL AREA, ACCESS CHANNELS, AND BORROW CHANNELS.
11. THE CONTRACTOR SHALL CONTACT LOUISIANA ONE CALL AT 1-800-272-3020 FIVE (5) WORKING DAYS PRIOR TO EXCAVATION TO LOCATE PIPELINES AND UTILITIES. THE CONTRACTOR SHALL WORK COOPERATIVELY WITH THE OWNER TO ADDRESS THE NOTIFICATION AND COORDINATION REQUIREMENTS WITH THE LANDOWNERS, UTILITY OPERATORS, AND PIPELINE COMPANIES. ALL KNOWN LANDOWNERS, UTILITY OPERATORS, AND PIPELINE COMPANIES WITHIN THE PROJECT AREA ARE SHOWN AND LISTED IN THE APPENDICES OF THE SPECIFICATIONS. THE CONTRACTOR SHALL REFER TO THE GENERAL PROVISIONS AND SPECIAL PROVISIONS OF THE CONTRACT DOCUMENTS FOR COORDINATION REQUIREMENTS WITH THESE LANDOWNERS, UTILITY OPERATORS, AND PIPELINE COMPANIES PRIOR TO AND DURING CONSTRUCTION.
12. CONTRACTOR SHALL BE REQUIRED TO CONFINE HIS/HER PLANT, EQUIPMENT, AND OPERATIONS OF PERSONNEL TO AREAS PERMITTED BY LAW, ORDINANCES, PERMITS, AND REQUIREMENTS OF CONSTRUCTION CONTRACT DOCUMENTS, AND SHALL NOT UNREASONABLY ENCUMBER PREMISES WITH PLANT, EQUIPMENT, OR MATERIALS. CONTRACTOR SHALL BE REQUIRED TO SUBMIT A CONSTRUCTION ACCESS PLAN AND A CONSTRUCTION ACCESS RESTORATION PLAN PRIOR TO ITS USAGE. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARATION AND RESTORATION OF CONSTRUCTION ACCESS AREAS. CONSTRUCTION ACCESS AREAS THAT FALL OUTSIDE OF THE WORK AREA SHALL BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO USE AND RESTORED TO PRE-CONSTRUCTION CONDITIONS AS PART OF DEMOBILIZATION.
13. THE CONTRACTOR SHALL FOLLOW CONVEYANCE CORRIDORS, REMAIN WITHIN APPROVED CONSTRUCTION ACCESS AREAS, AND/OR FILL TEMPLATES, AND SHALL NOT AT ANY TIME TRAVEL ON EXISTING MARSH OR VEGETATED WETLANDS UNLESS SPECIFIED IN THE PERMIT OR THROUGH WRITTEN DIRECTION FROM ENGINEER.
14. PLANS AND SPECIFICATIONS ARE COMPLEMENTARY. WHAT IS REQUIRED BY ONE IS BINDING AS IF REQUIRED BY ALL. CLARIFICATIONS, INTERPRETATIONS, AND/OR NOTIFICATIONS OF MINOR VARIATIONS AND DEVIATIONS IN THE CONTRACT DOCUMENTS, WILL BE ISSUED BY THE ENGINEER.
15. THE HEADLAND RESTORATION AREA, BORROW AREAS, AND/OR CONVEYANCE CORRIDORS MAY BE REVISED BY THE ENGINEER AT THE TIME OF CONSTRUCTION TO REFLECT CHANGES IN FIELD CONDITIONS.
16. ESTIMATED FILL QUANTITIES AND LINEAR LENGTHS SHOWN ARE FOR BIDDING PURPOSES ONLY AND WERE CALCULATED ACCORDING TO CONDITIONS AT THE TIME OF THE SURVEYS SPECIFIED IN THE SURVEY NOTES. FILL QUANTITIES WERE CALCULATED USING THE AVERAGE END AREA METHOD OF SECTIONS.

## SURVEY NOTES

1. ALL ELEVATIONS ARE GIVEN IN THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), GEOID 03(07), U.S. SURVEY FEET. ALL HORIZONTAL COORDINATES ARE GIVEN IN THE NORTH AMERICAN DATUM OF 1983 (NAD 83), LOUISIANA STATE PLANE, SOUTH ZONE, U.S. SURVEY FEET. ALL BEACH AND DUNE RESTORATION AREA ELEVATIONS ARE BASED ON NATIONAL GEODETIC SURVEY AND LOUISIANA DEPARTMENT OF NATURAL RESOURCES MONUMENTS. SEE APPENDIX F OF THE SPECIFICATIONS FOR SURVEY MONUMENT DATA SHEETS.

| MONUMENTS | ELEVATION | NORTHING | EASTING |
|---|---|---|---|
| TBBSR-SM-01 | 3.30' | 199,122.52 | 3,444,226.48 |
| TE14-SM-01 | 2.29' | 199,323.20 | 3,438,609.45 |

2. BORROW AREA BATHYMETRIC SURVEYS PERFORMED BY OCEAN SURVEYS, INC. (OSI), 2012.
3. HEADLAND RESTORATION AREA SURVEY PERFORMED BY EMC, INC. 2012.
4. VIBRACORE COLLECTION IN SHIP SHOAL BLOCK 88 BORROW AREA PERFORMED BY SOIL TESTING ENGINEERS, INC (STE), 2005. VIBRACORE COLLECTION IN WHISKEY 3A BORROW AREA PERFORMED BY OSI, 2006.
5. INFORMATION SHOWN HEREON REFLECTS CONDITIONS AS THEY EXISTED ON SURVEY DATES SHOWN AND CAN ONLY BE CONSIDERED INDICATIVE OF CONDITIONS AT THAT TIME.
6. MEAN HIGH WATER (MHW) AND MEAN LOW WATER (MLW) ARE BASED ON TIDAL DATUM OBTAINED FROM THE NOAA OPERATED TIDE STATION, "GRAND ISLE - EAST POINT", STATION DESIGNATION 8761724. TIDAL EPOCH REFERENCED AT TIDE STATION IS 1983 - 2001. TIDAL DATUM IS BASED ON 5-YEAR RECORD FROM 2002 - 2006.
7. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS IN ACCORDANCE WITH TS-6 OF THE SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE DRAWINGS SHOWING THE MAGNETOMETER SURVEY TRACK LINES AND COORDINATES, AMPLITUDE, SIGNATURE TYPE, AND SIGNATURE WIDTH OF ALL MAGNETOMETER HITS TO THE ENGINEER PRIOR TO ANY EXCAVATION AS PER SPECIFICATIONS.

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## SUMMARY OF SUBMITTALS AND NOTIFICATIONS

| DELIVERABLE | SUBMITTAL | DELIVERABLE | SUBMITTAL |
|---|---|---|---|
| WORK PLAN | 14 CALANDER DAYS PRIOR TO PRE-CONSTRUCTION CONFERENCE | NOTICE OF INTENT TO DREDGE | 14 CALENDAR DAYS PRIOR TO COMMENCEMENT OF WORK |
| PROGRESS SCHEDULE | 14 CALENDAR DAYS PRIOR TO PRE-CONSTRUCTION CONFERENCE | NOTIFY PIPELINE AND UTILITY OWNERS | AS DEFINED IN APPENDIX D OF THE SPECIFICATIONS |
| CONSTRUCTION SEQUENCE | WITH WORK PLAN | PROGRESS MEETINGS AND REPORTS | BI-WEEKLY OR AS DETERMINED AT THE PRE-CONSTRUCTION CONFERENCE |
| CONSTRUCTION ACCESS AND ACCESS RESTORATION PLAN | WITH WORK PLAN | DAILY PROGRESS REPORT | BY 12:00PM THE FOLLOWING DAY DURING CONSTRUCTION |
| DREDGE LOCATION METHODS | WITH WORK PLAN | DESCRIPTION OF DAILY NESTING BIRD PATROLS | WITH DAILY PROGRESS REPORT |
| TIDE MEASUREMENTS AND METHODS | WITH WORK PLAN | NOTICE OF MISPLACED MATERIAL | IMMEDIATELY FOR EACH OCCURRENCE |
| TURBIDITY CONTROL PLAN | WITH WORK PLAN | NOTIFICATION OF DISCOVERY OF HISTORICAL OR CULTURAL SITES | IMMEDIATELY FOR EACH OCCURRENCE |
| BORROW AREA CUT SEQUENCE | WITH WORK PLAN | CLAIM FOR INCREASE IN CONTRACT PRICE | WITHIN 14 CALENDAR DAYS OF THE EVENT NECESSITATING INCREASE |
| OIL AND FUEL STORAGE LOCATIONS | WITH WORK PLAN | CLAIM FOR EXTENSION OF CONTRACT TIME | WITHIN 14 CALENDAR DAYS OF THE EVENT NECESSITATING INCREASE |
| QUALITY CONTROL PLAN | WITH WORK PLAN | AS-BUILT SURVEY DRAWINGS | PRIOR TO FINAL ACCEPTANCE |
| COMMUNICATION PLAN | AT PRE-CONSTRUCTION CONFERENCE | NOTICE OF COMPLETION OF WORK | FOLLOWING COMPLETION OF WORK |
| CHANGE ORDER AND FIELD ORDER FORMAT | AT PRE-CONSTRUCTION CONFERENCE | | |
| NAMES OF ALL SUBCONTRACTORS | PRIOR TO AWARDING SUBCONTRACTS | | |
| CONTACT LOUISIANA ONE CALL | WITHIN 7 CALENDAR DAYS PRIOR TO CONSTRUCTION | | |
| PRE-CONSTRUCTION SURVEYS | SUBMITTED AND APPROVED PRIOR TO BEGINNING WORK | | |
| SURVEY DELIVERABLES | WITHIN 14 CALENDAR DAYS OF SURVEY COMPLETION | | |

## SUMMARY OF ESTIMATED QUANTITIES

| ITEM NO. | DESCRIPTION | UNIT | ESTIMATED QUANTITY |
|---|---|---|---|
| 1A | MOBILIZATION / DEMOBILIZATION | LUMP SUM | 1 |
| 1B | WH3A MOBILIZATION / DEMOBILIZATION | LUMP SUM | 1 |
| 2 | SURVEYS | LUMP SUM | 1 |
| 3 | BEACH AND DUNE FILL | CUBIC YARD | 9,444,700 |
| 4A | MARSH FILL - WH3A | CUBIC YARD | 1,310,800 |
| 4B | MARSH FILL - SS88 | CUBIC YARD | 1,001,100 |
| 5A | BEACH SEPARATION DIKE - WH3A | LINEAR FEET | 19,600 |
| 5B | BEACH SEPARATION DIKE - SS88 | LINEAR FEET | 13,500 |
| 6A | MARSH CONTAINMENT DIKE - WH3A | LINEAR FEET | 9,530 |
| 6B | MARSH CONTAINMENT DIKE - SS88 | LINEAR FEET | 1,600 |
| 7A | GEOTEXTILE FOUNDATION MAT - WH3A | LINEAR FEET | 1,700 |
| 7B | GEOTEXTILE FOUNDATION MAT - SS88 | LINEAR FEET | 800 |
| 8 | ACCESS CHANNELS | LUMP SUM | 1 |
| 9 | SAND FENCING | LINEAR FEET | 22,200 |
| 10 | SETTLEMENT AND OVERWASH MONITORING STATIONS | EACH | 10 |
| 11 | MARSH FILL GRADE STAKES | LUMP SUM | 1 |
| 12 | WARNING SIGNS | EACH | 20 |

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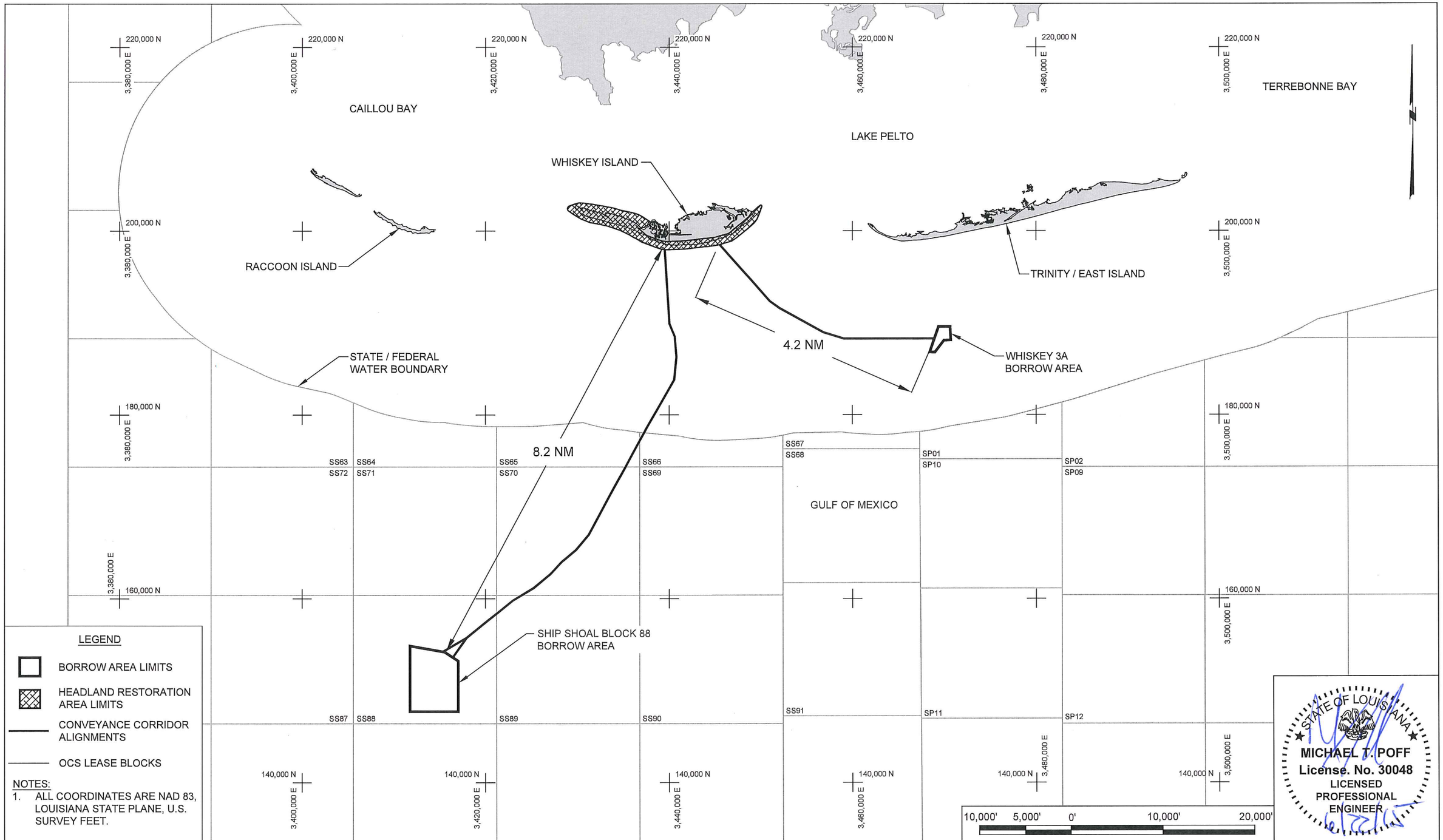


LEGEND

- BORROW AREA LIMITS
- HEADLAND RESTORATION AREA LIMITS
- CONVEYANCE CORRIDOR ALIGNMENTS
- OCS LEASE BLOCKS

NOTES:

1. ALL COORDINATES ARE NAD 83, LOUISIANA STATE PLANE, U.S. SURVEY FEET.

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DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS

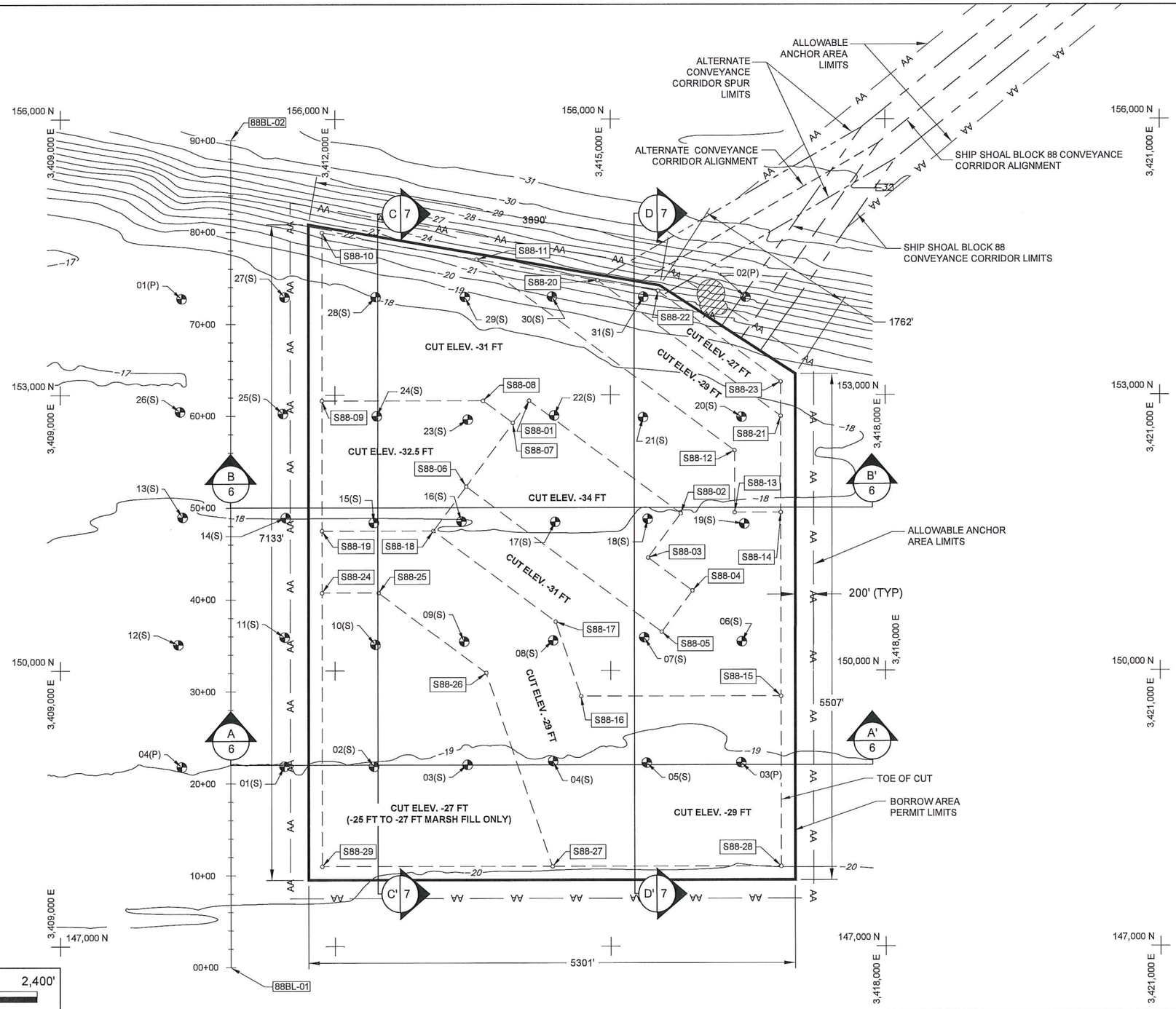
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

PROJECT OVERVIEW

DATE: MAY 2015

NOTES:

1. ALL COORDINATES ARE IN NAD 83, STATE PLANE - LOUISIANA SOUTH, U.S. SURVEY FEET.
2. ELEVATIONS ARE SHOWN IN NAVD88 U.S. SURVEY FEET.
3. BATHYMETRIC SURVEY PERFORMED BY OSI, 2012.
4. GEOTECHNICAL VIBRACORES COLLECTED BY STE, 2005.
5. SEE SHEET 44 FOR BORROW AREA BOUNDARY COORDINATES AND SURVEY BASELINE ALIGNMENT.
6. SEE SHEET 45 FOR ALLOWABLE ANCHOR AREA LIMITS COORDINATES.
7. SEE SHEET 10 FOR CONVEYANCE CORRIDOR DETAILS.
8. SEE TS-8.1 AND TS-10.1 FOR ALLOWABLE ANCHOR AREA DETAILS.
9. SEE APPENDIX G OF THE SPECIFICATIONS FOR GEOTECHNICAL DATA.
10. SEE TS-7.2.1 OF THE SPECIFICATIONS FOR THE MARSH FILL MATERIAL ONLY SEGMENT OF THE BORROW AREA.




LEGEND

| | |
|---|---|
| -18 | BATHYMETRIC CONTOUR (2012) |
| 10+00 | SURVEY BASELINE |
| | BORROW AREA PERMIT LIMITS |
| AA | ALLOWABLE ANCHOR AREA LIMITS |
| | DREDGE CUT TOE |
| | SHIP SHOAL BLOCK 88 CONVEYANCE CORRIDOR |
| | ALTERNATE CONVEYANCE CORRIDOR SPUR |
| | VIBRACORE (2005) (ALL PREFIXED 04-SS88) |
| | AVOIDANCE AREA |
| 88BL-01 | SHIP SHOAL BLOCK 88 BASELINE COORDINATE |
| S88-01 | SHIP SHOAL BLOCK 88 BORROW AREA COORDINATE |

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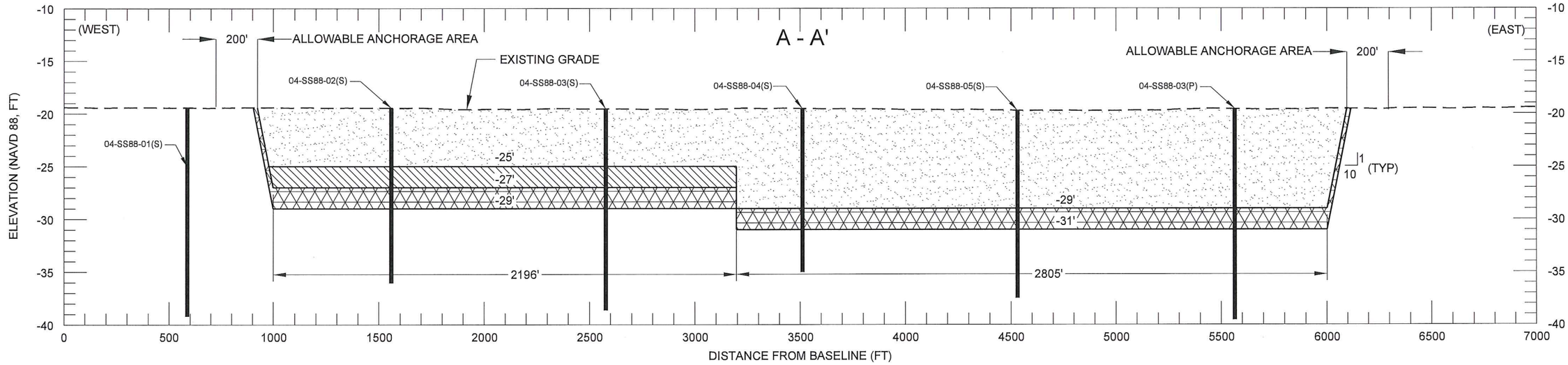
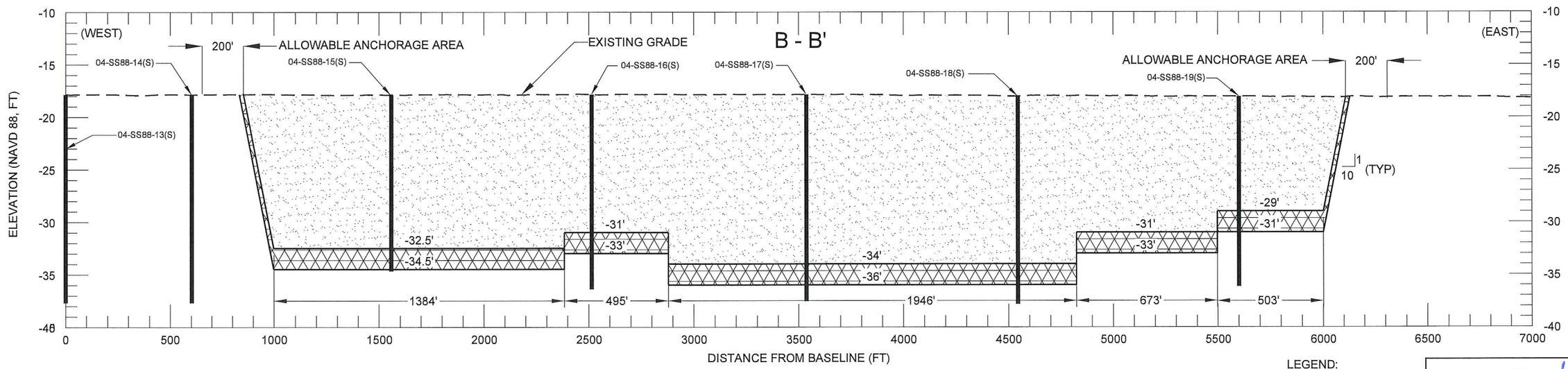
SHIP SHOAL BLOCK 88 BORROW AREA
PLAN VIEW
DATE: MAY 2015
SHEET 5 OF 45




NOTES:
1. BATHYMETRIC SURVEY PERFORMED BY OSI, INC., 2012.
2. MEAN HIGH WATER = +1.70' NAVD 88, MEAN LOW WATER = +0.66' NAVD 88.
3. ELEVATIONS ARE SHOWN IN NAVD88 U.S. SURVEY FEET.
4. REFER TO APPENDIX G FOR DETAILS CONCERNING BORROW AREA VIBRACORES.
5. SEE TS-7 AND TS-8 OF THE SPECIFICATIONS FOR BORROW AREA AND DREDGING DETAILS.
6. SEE TS-7.2.1 OF THE SPECIFICATIONS FOR THE MARSH FILL MATERIAL ONLY SEGMENT OF THE BORROW AREA.

LEGEND:
- DESIGN CUT
- OVERDREDGE TOLERANCE
- MARSH FILL MATERIAL ONLY
- EXISTING GRADE (2012)
- 04-SS88-19(S) VIBRECORE (STE 2005)

SCALE:
H: 1" = 500'
V: 1" = 10'

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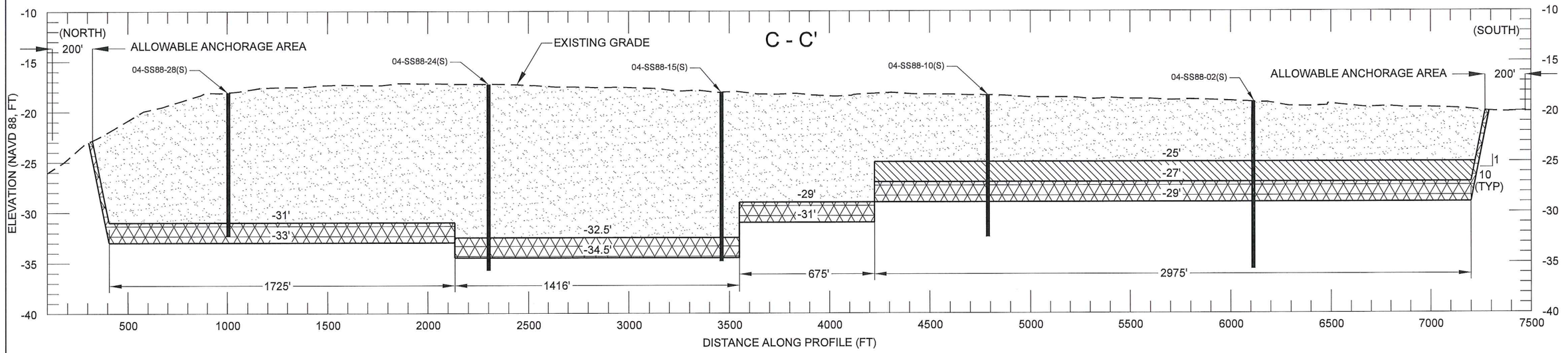
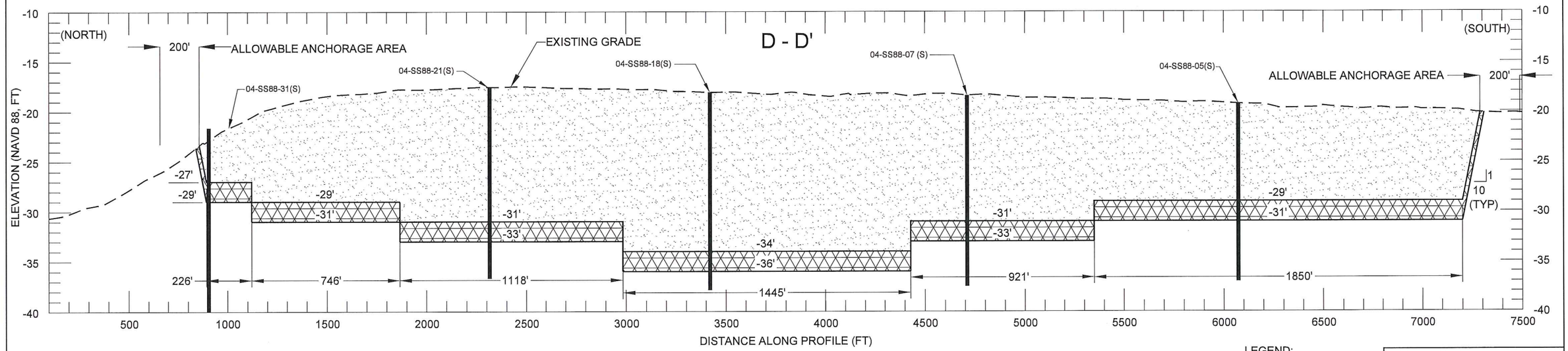
SHIP SHOAL BLOCK 88 BORROW AREA
TYPICAL SECTIONS
DATE: MAY 2015
SHEET 6 OF 45




LEGEND:

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3. ELEVATIONS ARE SHOWN IN NAVD88 U.S. SURVEY FEET.
4. REFER TO APPENDIX G FOR DETAILS CONCERNING BORROW AREA VIBRACORES.
5. SEE TS-7 AND TS-8 OF THE SPECIFICATIONS FOR BORROW AREA AND DREDGING DETAILS.
6. SEE TS-7.2.1 OF THE SPECIFICATIONS FOR THE MARSH FILL MATERIAL ONLY SEGMENT OF THE BORROW AREA.

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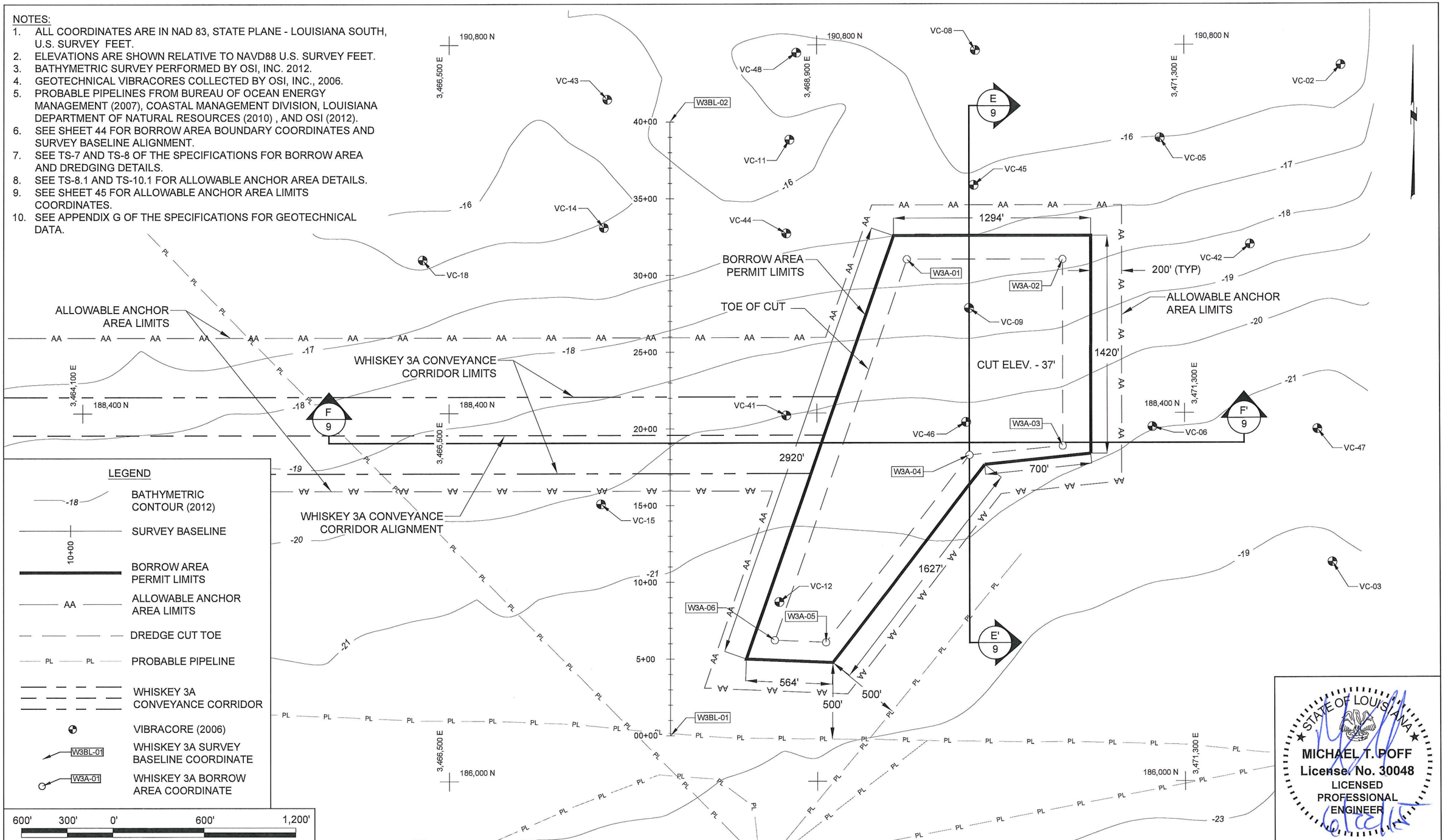
SHIP SHOAL BLOCK 88 BORROW AREA
TYPICAL SECTIONS
DATE: MAY 2015
SHEET 7 OF 45

NOTES:

1. ALL COORDINATES ARE IN NAD 83, STATE PLANE - LOUISIANA SOUTH, U.S. SURVEY FEET.
2. ELEVATIONS ARE SHOWN RELATIVE TO NAVD88 U.S. SURVEY FEET.
3. BATHYMETRIC SURVEY PERFORMED BY OSI, INC. 2012.
4. GEOTECHNICAL VIBRACORES COLLECTED BY OSI, INC., 2006.
5. PROBABLE PIPELINES FROM BUREAU OF OCEAN ENERGY MANAGEMENT (2007), COASTAL MANAGEMENT DIVISION, LOUISIANA DEPARTMENT OF NATURAL RESOURCES (2010) , AND OSI (2012).
6. SEE SHEET 44 FOR BORROW AREA BOUNDARY COORDINATES AND SURVEY BASELINE ALIGNMENT.
7. SEE TS-7 AND TS-8 OF THE SPECIFICATIONS FOR BORROW AREA AND DREDGING DETAILS.
8. SEE TS-8.1 AND TS-10.1 FOR ALLOWABLE ANCHOR AREA DETAILS.
9. SEE SHEET 45 FOR ALLOWABLE ANCHOR AREA LIMITS COORDINATES.
10. SEE APPENDIX G OF THE SPECIFICATIONS FOR GEOTECHNICAL DATA.




STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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COASTAL ENGINEERING CONSULTANTS, INC.
PH: (225) 768-1982
FAX: (225) 769-3596
5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

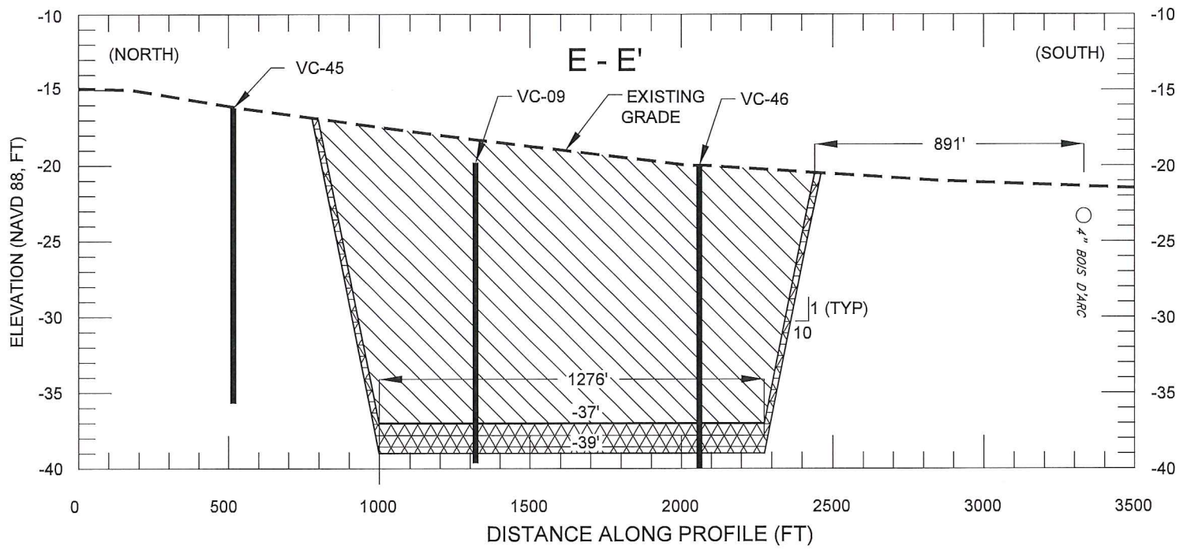
NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

WHISKEY 3A BORROW AREA
PLAN VIEW

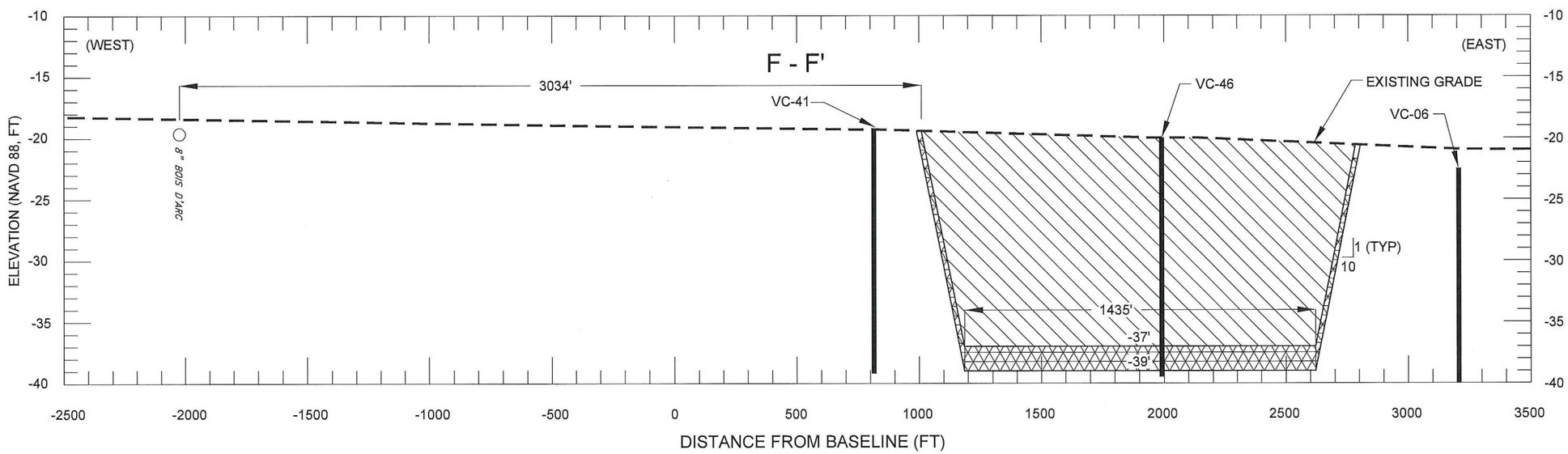
DATE: MAY 2015
SHEET 8 OF 45

SCALE:
H: 1" = 500'
V: 1" = 10'




LEGEND:

- DESIGN CUT
- OVERDREDGE TOLERANCE
- EXISTING GRADE (2012)
- VC-46 VIBRACORE (OSI, 2006)
- 4" BOIS D'ARC — PROBABLE PIPELINE (SEE NOTE 6)




NOTES:

1. BATHYMETRIC SURVEY PERFORMED BY OSI, INC. 2012.
2. MEAN HIGH WATER = +1.70' NAVD 88, MEAN LOW WATER = +0.66' NAVD 88.
3. ELEVATIONS ARE SHOWN IN NAVD88 U.S. SURVEY FEET.
4. REFER TO APPENDIX G FOR DETAILS CONCERNING BORROW AREA VIBRACORES.
5. SEE TS-7 AND TS-8 OF THE SPECIFICATIONS FOR BORROW AREA AND DREDGING DETAILS.
6. PROBABLE PIPELINES FROM BUREAU OF OCEAN ENERGY MANAGEMENT (2007), COASTAL MANAGEMENT DIVISION, LOUISIANA DEPARTMENT OF NATURAL RESOURCES (2010) , AND OSI (2012).

STATE OF LOUISIANA
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6/22/15

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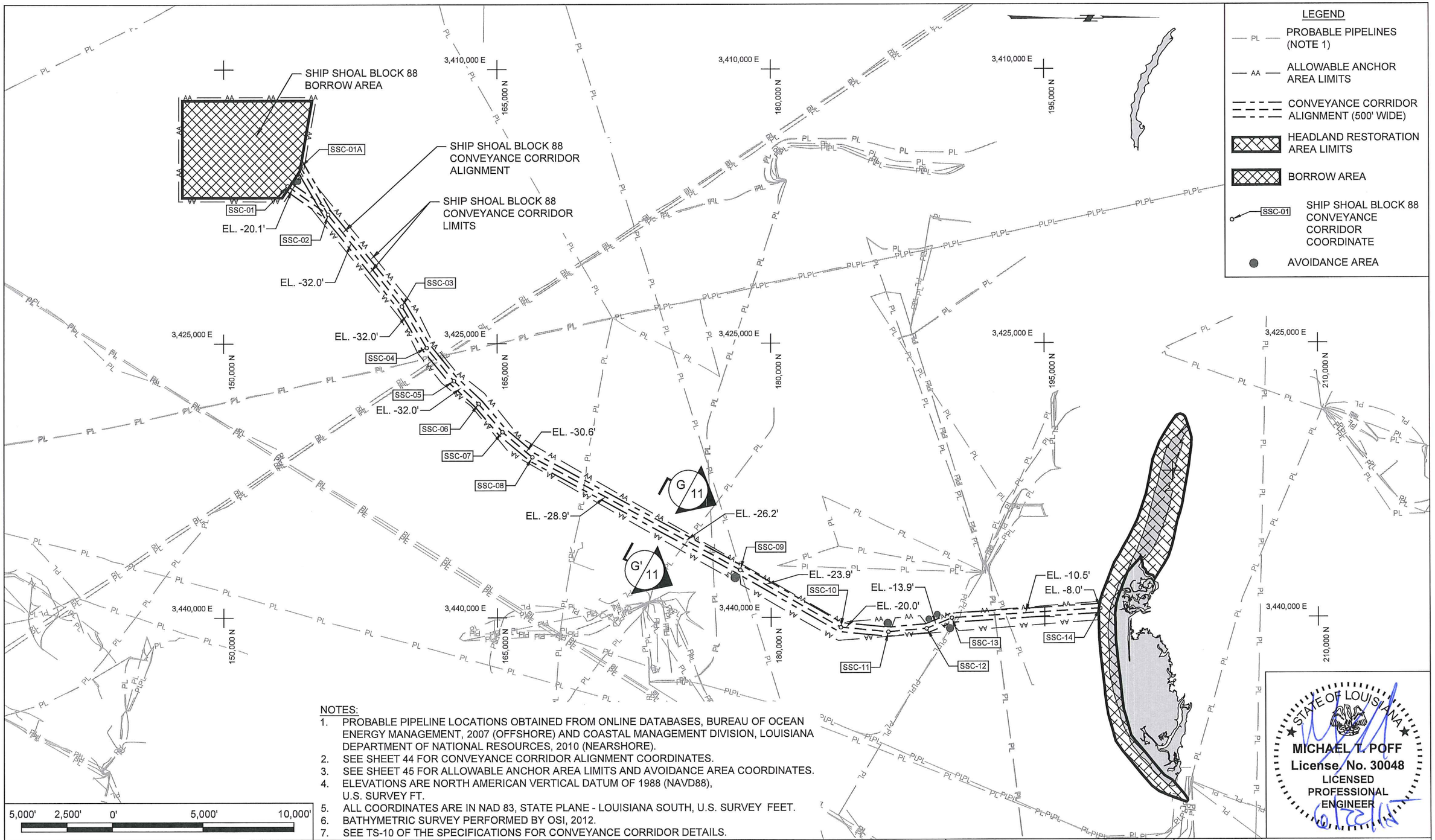
LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

WHISKEY 3A BORROW AREA
TYPICAL SECTIONS
DATE: MAY 2015
SHEET 9 OF 45




NOTES:

1. PROBABLE PIPELINE LOCATIONS OBTAINED FROM ONLINE DATABASES, BUREAU OF OCEAN ENERGY MANAGEMENT, 2007 (OFFSHORE) AND COASTAL MANAGEMENT DIVISION, LOUISIANA DEPARTMENT OF NATIONAL RESOURCES, 2010 (NEARSHORE).
2. SEE SHEET 44 FOR CONVEYANCE CORRIDOR ALIGNMENT COORDINATES.
3. SEE SHEET 45 FOR ALLOWABLE ANCHOR AREA LIMITS AND AVOIDANCE AREA COORDINATES.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.
5. ALL COORDINATES ARE IN NAD 83, STATE PLANE - LOUISIANA SOUTH, U.S. SURVEY FEET.
6. BATHYMETRIC SURVEY PERFORMED BY OSI, 2012.
7. SEE TS-10 OF THE SPECIFICATIONS FOR CONVEYANCE CORRIDOR DETAILS.

STATE OF LOUISIANA
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6/22/15

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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

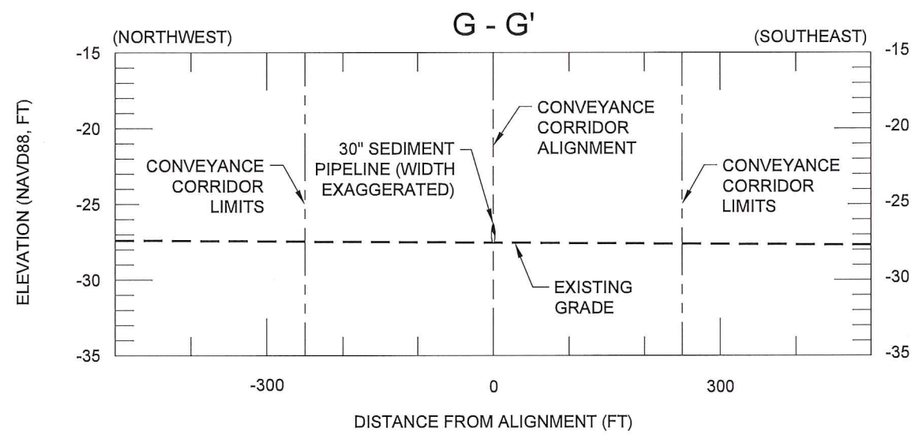
SHIP SHOAL BLOCK 88 CONVEYANCE CORRIDOR PLAN VIEW
DATE: MAY 2015
SHEET 10 OF 45

LEGEND:

EXISTING GRADE (2012)

SUBMERGED SEDIMENT PIPELINE

SCALE:
H: 1" = 200'
V: 1" = 10'




NOTES:
1. BATHYMETRIC SURVEY PERFORMED BY OSI, 2012.
2. NO EXCAVATIONS OR FILLS ARE REQUIRED FOR THE CONVEYANCE CORRIDOR.
3. SEDIMENT PIPELINE SHALL BE LIGHTED AND MARKED IN ACCORDANCE WITH U.S. COAST GUARD REGULATIONS.
4. MEAN HIGH WATER = +1.70' NAVD88, MEAN LOW WATER = +0.66' NAVD88.
5. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.
6. SEE TS-10 OF THE SPECIFICATIONS FOR CONVEYANCE CORRIDOR AND ALLOWABLE ANCHOR AREA DETAILS.
7. SEE SHEET 44 FOR CONVEYANCE CORRIDOR ALIGNMENT.
8. SEE SHEET 45 FOR ALLOWABLE ANCHOR AREA LIMITS COORDINATES.

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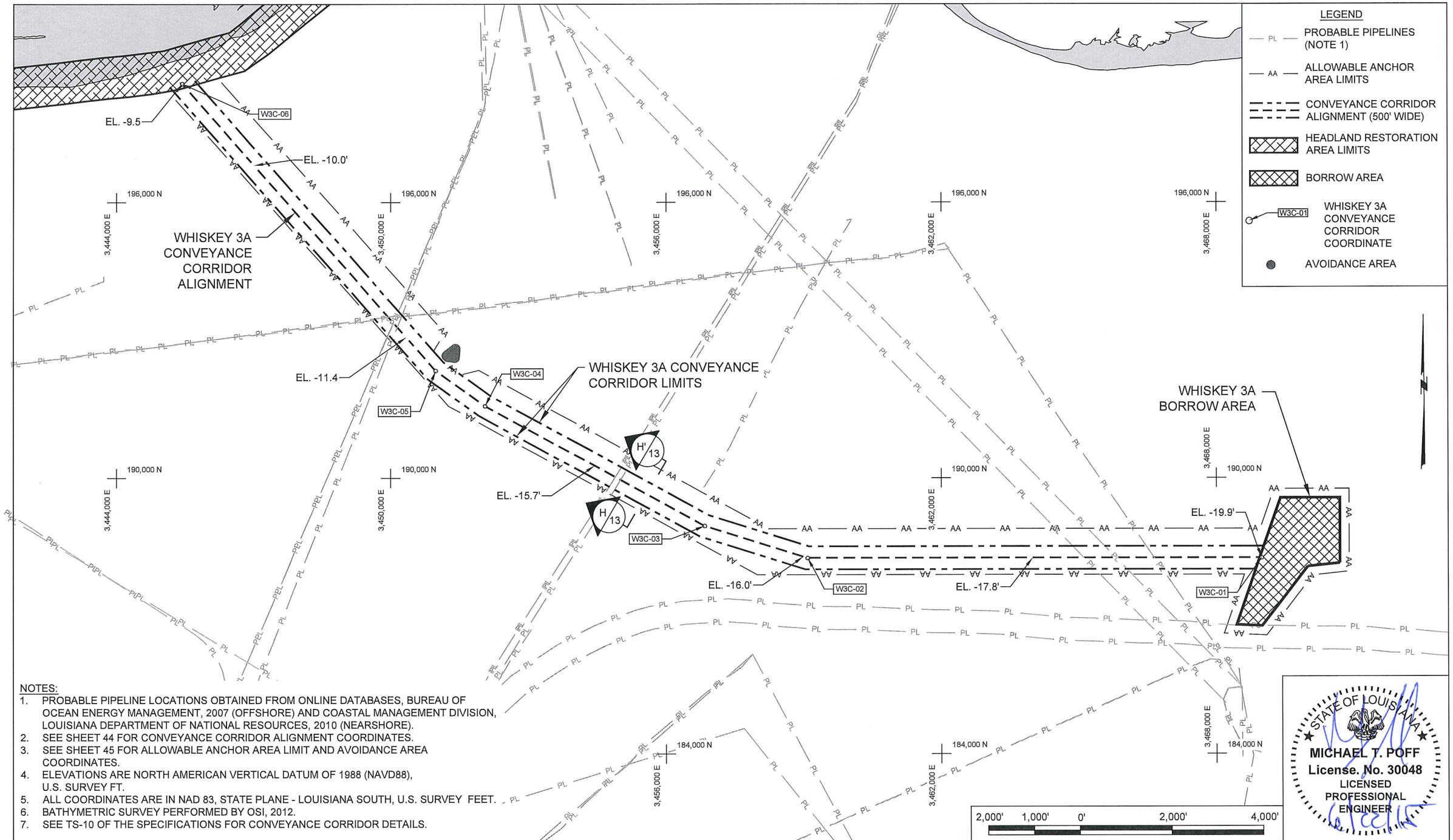
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

SHIP SHOAL BLOCK 88
CONVEYANCE CORRIDOR
TYPICAL SECTION
DATE: MAY 2015
SHEET 11 OF 45




NOTES:

1. PROBABLE PIPELINE LOCATIONS OBTAINED FROM ONLINE DATABASES, BUREAU OF OCEAN ENERGY MANAGEMENT, 2007 (OFFSHORE) AND COASTAL MANAGEMENT DIVISION, LOUISIANA DEPARTMENT OF NATIONAL RESOURCES, 2010 (NEARSHORE).
2. SEE SHEET 44 FOR CONVEYANCE CORRIDOR ALIGNMENT COORDINATES.
3. SEE SHEET 45 FOR ALLOWABLE ANCHOR AREA LIMIT AND AVOIDANCE AREA COORDINATES.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.
5. ALL COORDINATES ARE IN NAD 83, STATE PLANE - LOUISIANA SOUTH, U.S. SURVEY FEET.
6. BATHYMETRIC SURVEY PERFORMED BY OSI, 2012.
7. SEE TS-10 OF THE SPECIFICATIONS FOR CONVEYANCE CORRIDOR DETAILS.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
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6/22/15

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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

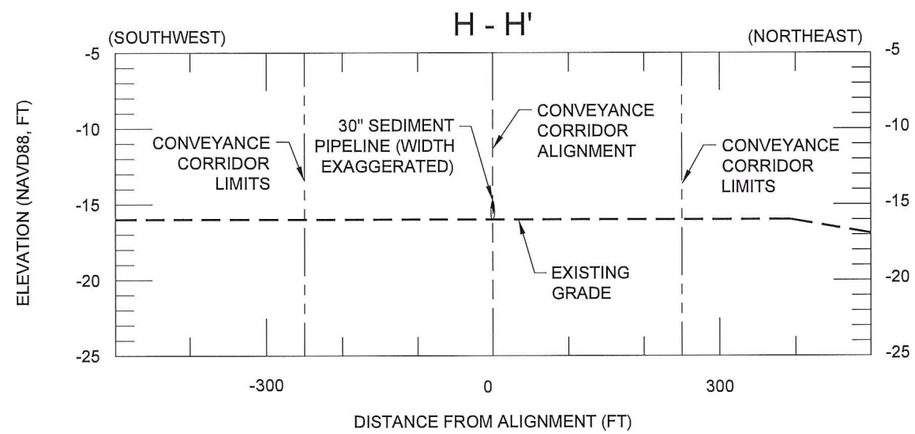
WHISKEY 3A CONVEYANCE CORRIDOR PLAN VIEW
DATE: MAY 2015
SHEET 12 OF 45

LEGEND:

EXISTING GRADE (2012)

SUBMERGED SEDIMENT PIPELINE

SCALE:
H: 1" = 200'
V: 1" = 10'




NOTES:
1. BATHYMETRIC SURVEY PERFORMED BY OSI, 2012.
2. NO EXCAVATIONS OR FILLS ARE REQUIRED FOR THE CONVEYANCE CORRIDOR.
3. SEDIMENT PIPELINE SHALL BE LIGHTED AND MARKED IN ACCORDANCE WITH U.S. COAST GUARD REGULATIONS.
4. MEAN HIGH WATER = +1.70' NAVD88, MEAN LOW WATER = +0.66' NAVD88.
5. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.
6. SEE TS-10 OF THE SPECIFICATIONS FOR CONVEYANCE CORRIDOR AND ALLOWABLE ANCHOR AREA DETAILS.
7. SEE SHEET 44 FOR CONVEYANCE CORRIDOR ALIGNMENT.
8. SEE SHEET 45 FOR ALLOWABLE ANCHOR AREA LIMITS COORDINATES.

STATE OF LOUISIANA
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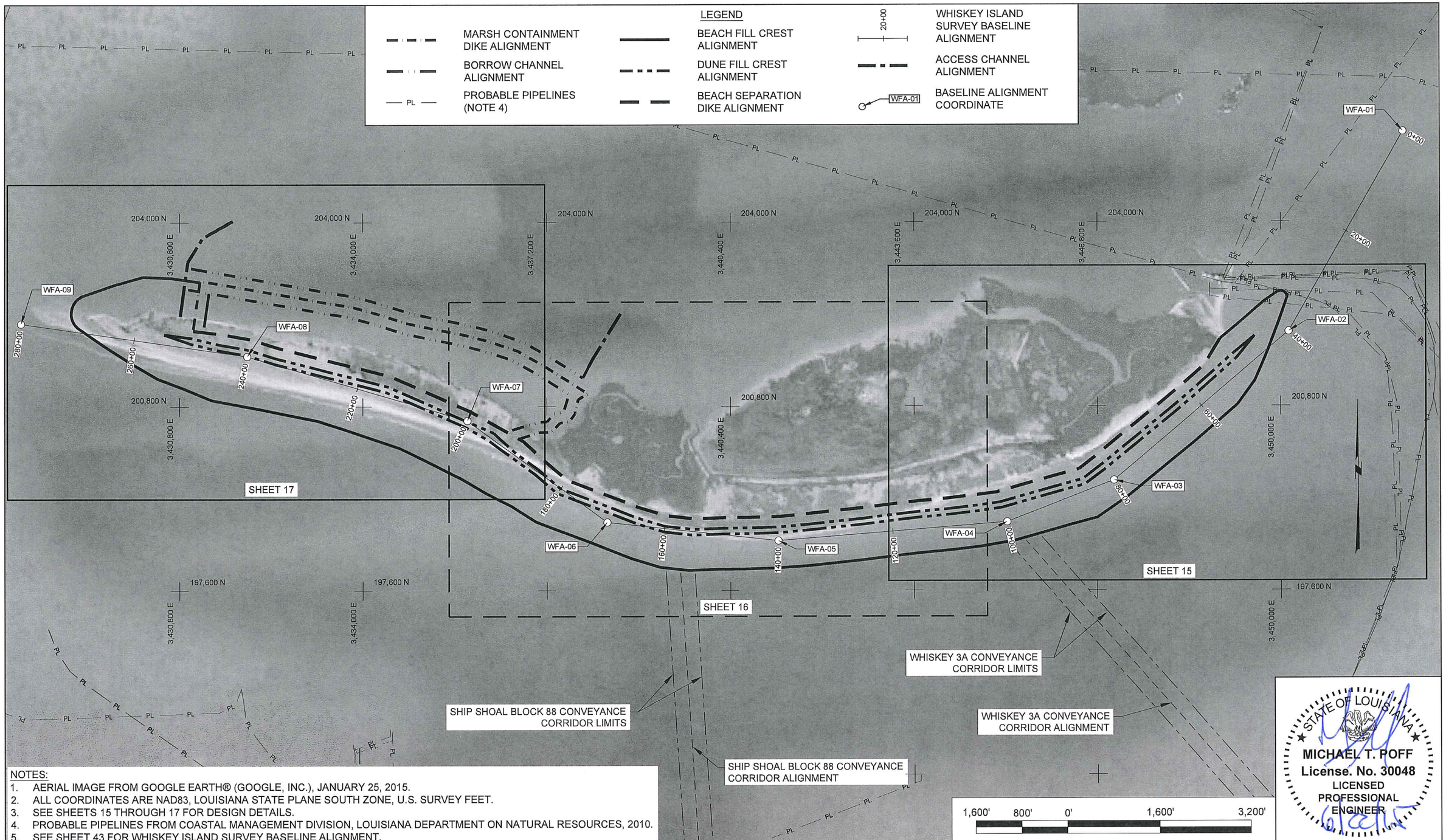
LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

WHISKEY 3A
CONVEYANCE CORRIDOR
TYPICAL SECTION
DATE: MAY 2015
SHEET 13 OF 45




NOTES:

1. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.
2. ALL COORDINATES ARE NAD83, LOUISIANA STATE PLANE SOUTH ZONE, U.S. SURVEY FEET.
3. SEE SHEETS 15 THROUGH 17 FOR DESIGN DETAILS.
4. PROBABLE PIPELINES FROM COASTAL MANAGEMENT DIVISION, LOUISIANA DEPARTMENT ON NATURAL RESOURCES, 2010.
5. SEE SHEET 43 FOR WHISKEY ISLAND SURVEY BASELINE ALIGNMENT.

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5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

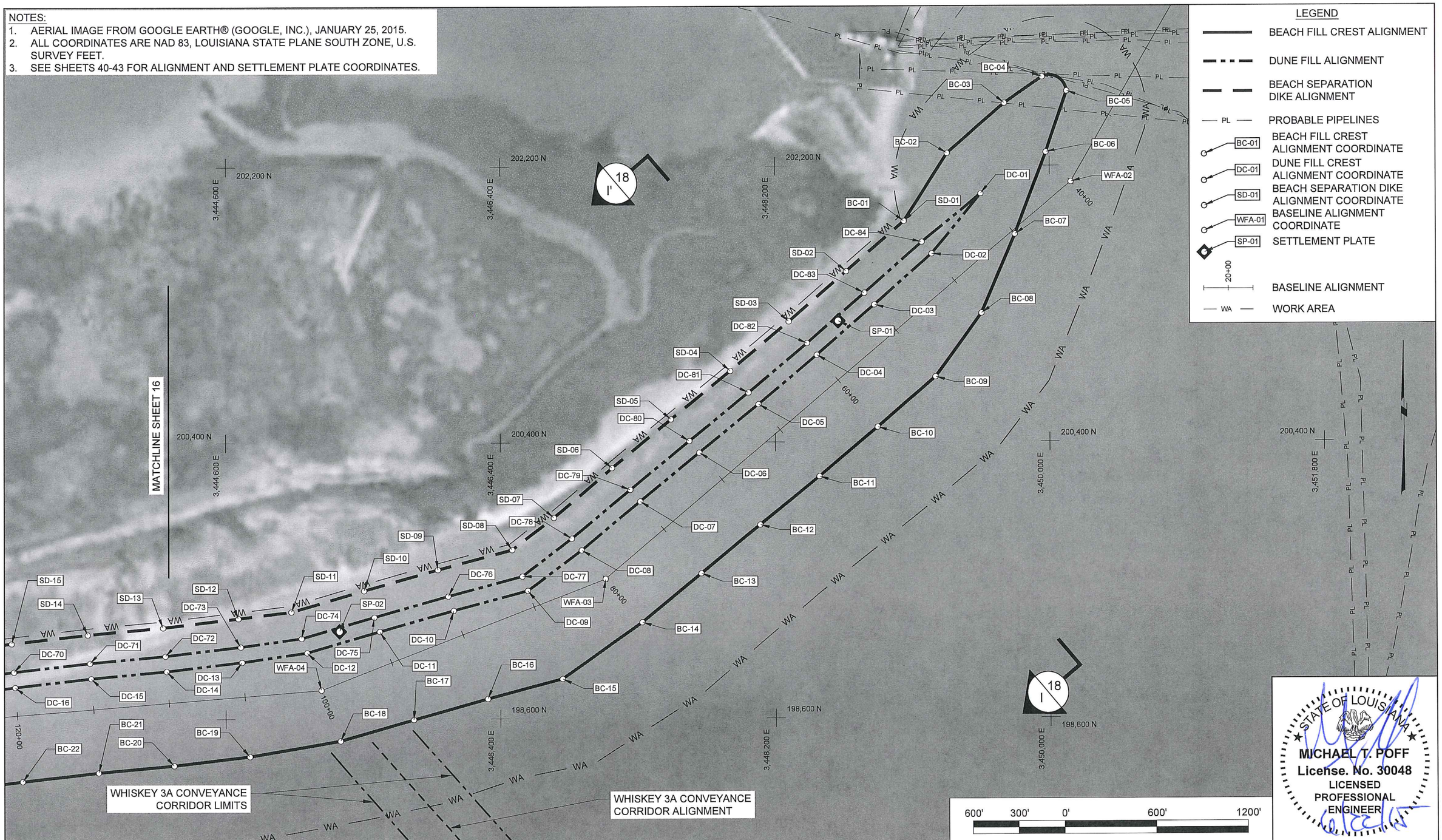
NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

HEADLAND OVERVIEW

DATE: MAY 2015
SHEET 14 OF 45

NOTES:
1. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.
2. ALL COORDINATES ARE NAD 83, LOUISIANA STATE PLANE SOUTH ZONE, U.S. SURVEY FEET.
3. SEE SHEETS 40-43 FOR ALIGNMENT AND SETTLEMENT PLATE COORDINATES.




STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER
10/22/15

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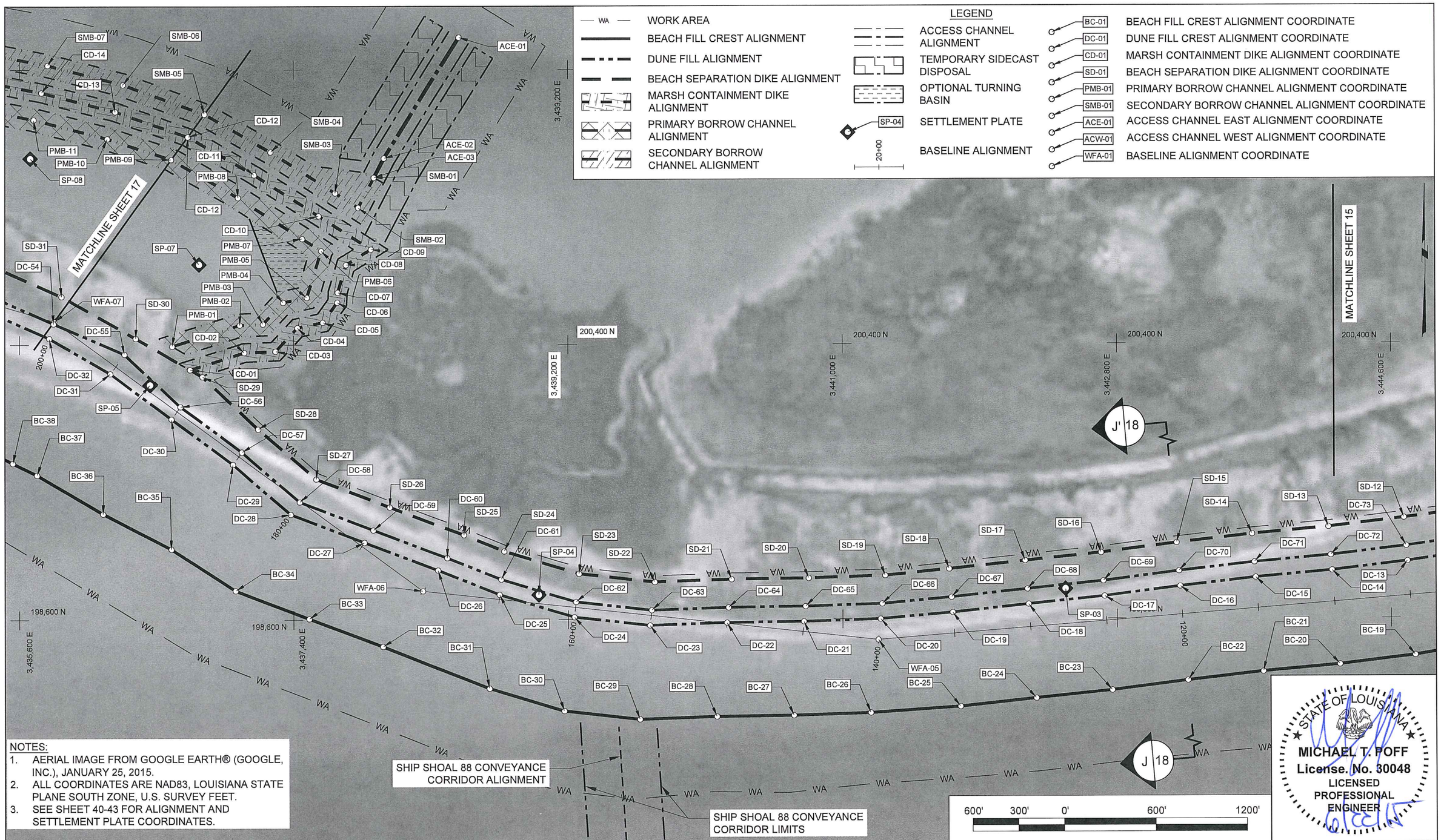
LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

HEADLAND PLAN VIEW INSET
35+00 - 110+00
DATE: MAY 2015
SHEET 15 OF 45




NOTES:

1. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.
2. ALL COORDINATES ARE NAD83, LOUISIANA STATE PLANE SOUTH ZONE, U.S. SURVEY FEET.
3. SEE SHEET 40-43 FOR ALIGNMENT AND SETTLEMENT PLATE COORDINATES.

STATE OF LOUISIANA
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6/22/15

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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

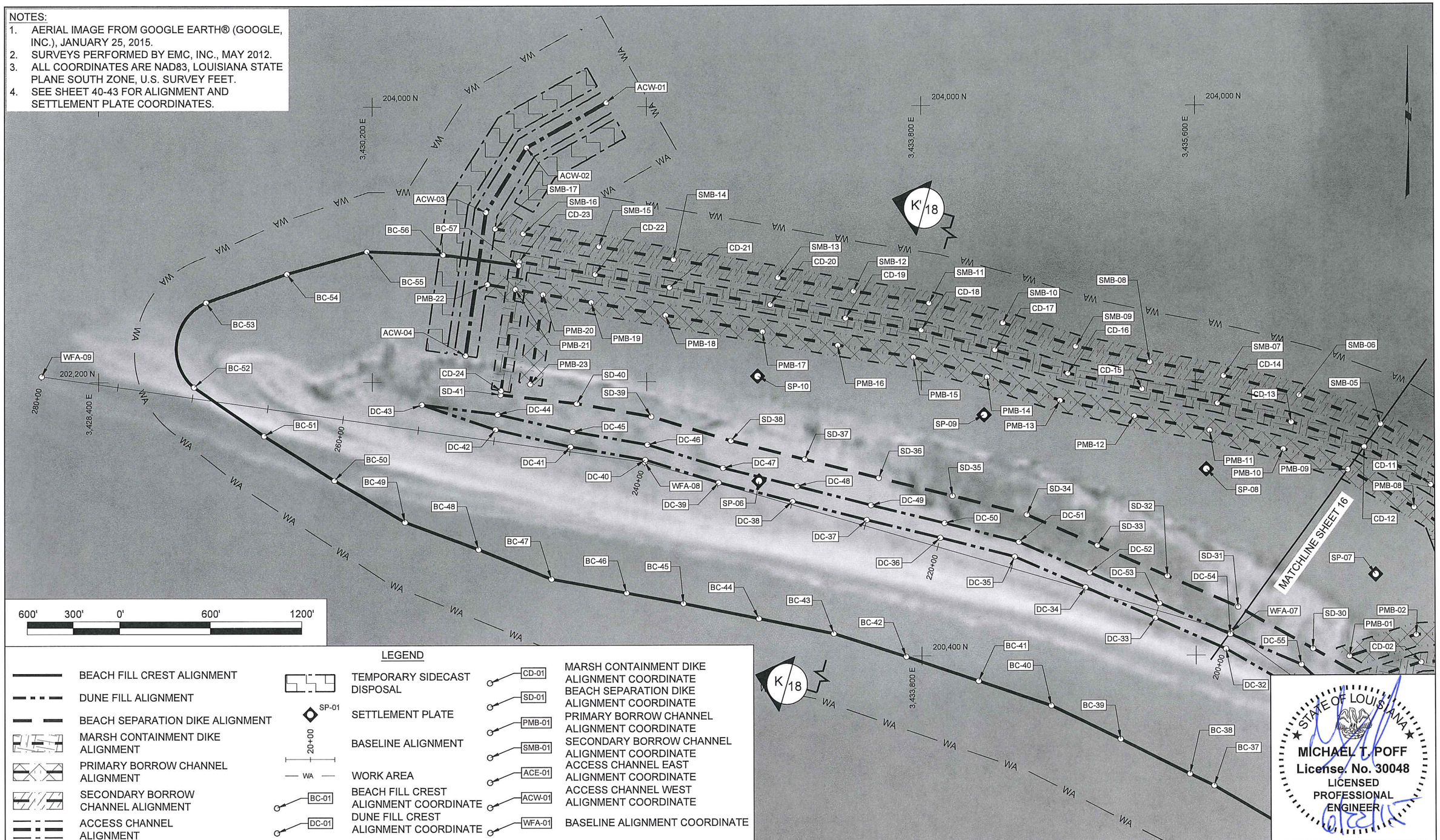
NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

HEADLAND PLAN VIEW INSET
110+00 - 200+00

DATE: MAY 2015
SHEET 16 OF 45

NOTES:
1. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.
2. SURVEYS PERFORMED BY EMC, INC., MAY 2012.
3. ALL COORDINATES ARE NAD83, LOUISIANA STATE PLANE SOUTH ZONE, U.S. SURVEY FEET.
4. SEE SHEET 40-43 FOR ALIGNMENT AND SETTLEMENT PLATE COORDINATES.




LEGEND

- BEACH FILL CREST ALIGNMENT
- DUNE FILL ALIGNMENT
- BEACH SEPARATION DIKE ALIGNMENT
- MARSH CONTAINMENT DIKE ALIGNMENT
- PRIMARY BORROW CHANNEL ALIGNMENT
- SECONDARY BORROW CHANNEL ALIGNMENT
- ACCESS CHANNEL ALIGNMENT
- TEMPORARY SIDECAST DISPOSAL
- SP-01 SETTLEMENT PLATE
- 20+00 BASELINE ALIGNMENT
- WA WORK AREA
- BC-01 BEACH FILL CREST ALIGNMENT COORDINATE
- DC-01 DUNE FILL CREST ALIGNMENT COORDINATE
- CD-01 MARSH CONTAINMENT DIKE ALIGNMENT COORDINATE
- SD-01 BEACH SEPARATION DIKE ALIGNMENT COORDINATE
- PMB-01 PRIMARY BORROW CHANNEL ALIGNMENT COORDINATE
- SMB-01 SECONDARY BORROW CHANNEL ALIGNMENT COORDINATE
- ACE-01 ACCESS CHANNEL EAST ALIGNMENT COORDINATE
- ACW-01 ACCESS CHANNEL WEST ALIGNMENT COORDINATE
- WFA-01 BASELINE ALIGNMENT COORDINATE

STATE OF LOUISIANA
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6/22/15

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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

HEADLAND PLAN VIEW INSET
200+00 - 280+00

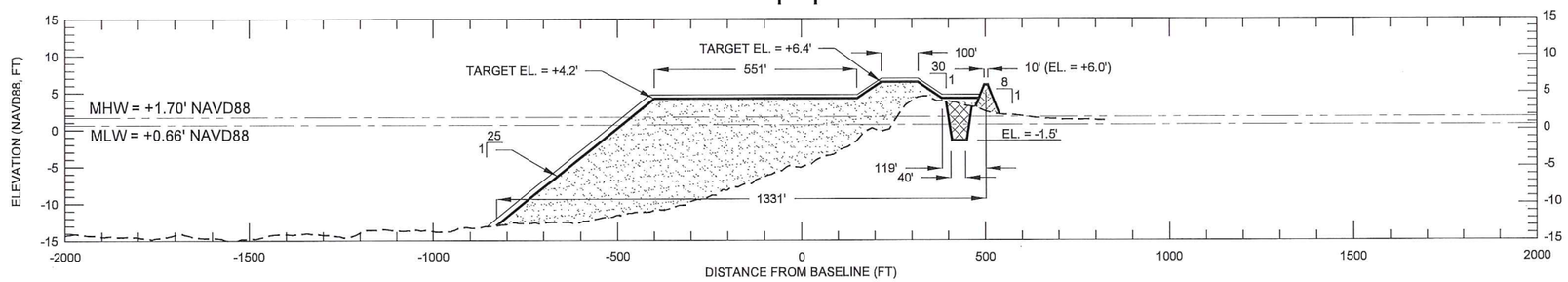
DATE: MAY 2015
SHEET 17 OF 45

LEGEND:

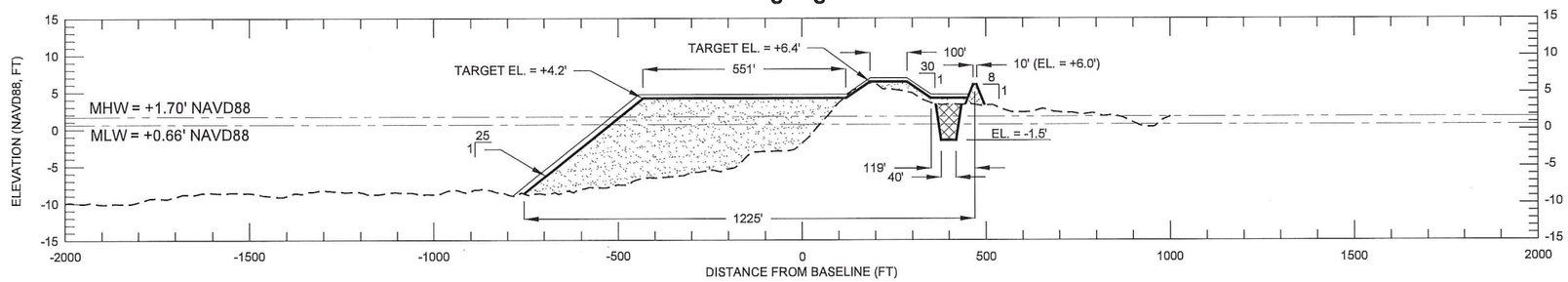
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION / MARSH CONTAINMENT DIKE
- MARSH FILL
- CONTAINMENT / SEPARATION DIKE PRIMARY BORROW CHANNELS
- CONTAINMENT DIKE SECONDARY BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'

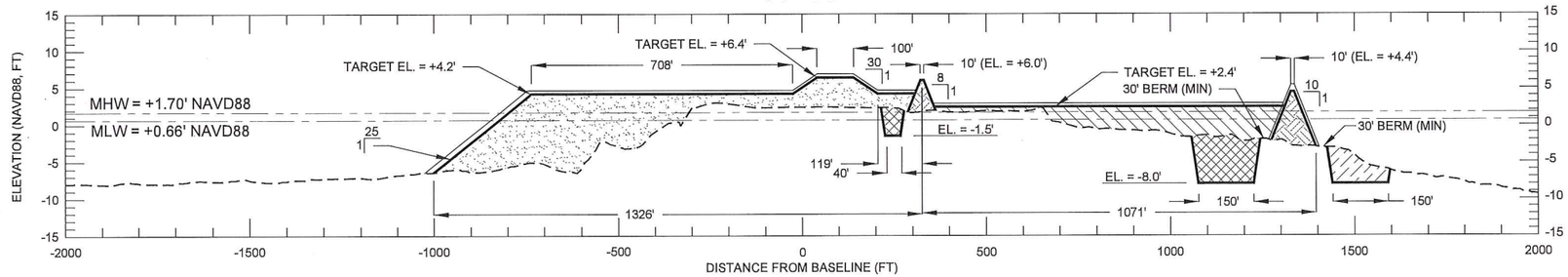
## I - I'




## J - J'




## K - K'




NOTES:

1. SECTIONS ARE VIEWED AS LOOKING WEST.
2. SURVEY PERFORMED BY EMC, INC. 2012.
3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM, DUNE FILL, MARSH FILL, AND MARSH CONTAINMENT DIKE; AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPE ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER
6/22/15

| REV. | DATE | DESCRIPTION | BY |
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DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

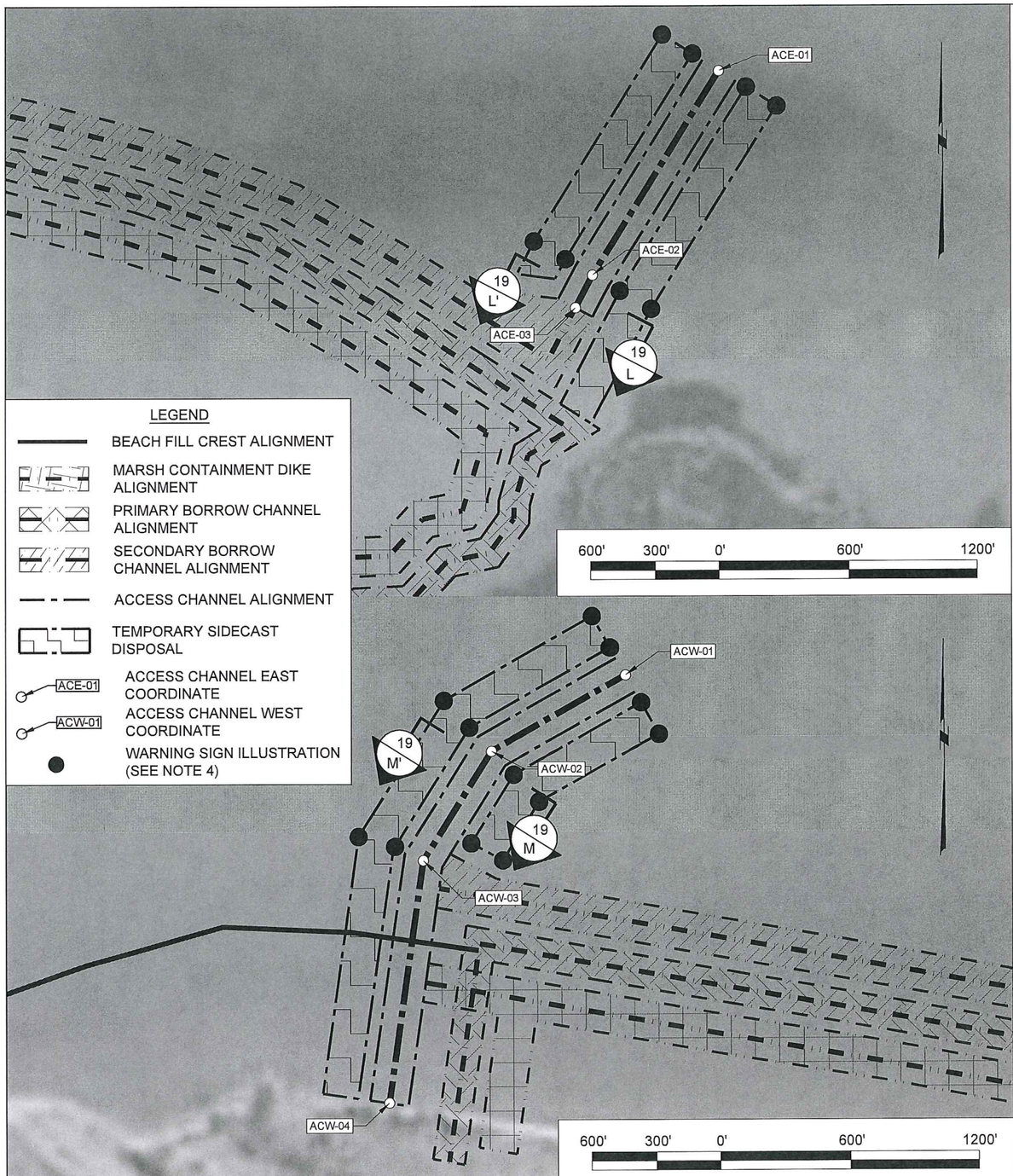

COASTAL ENGINEERING CONSULTANTS, INC.
PH: (225) 768-1982
FAX: (225) 769-3596
5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

HEADLAND
TYPICAL SECTIONS
DATE: MAY 2015
SHEET 18 OF 45

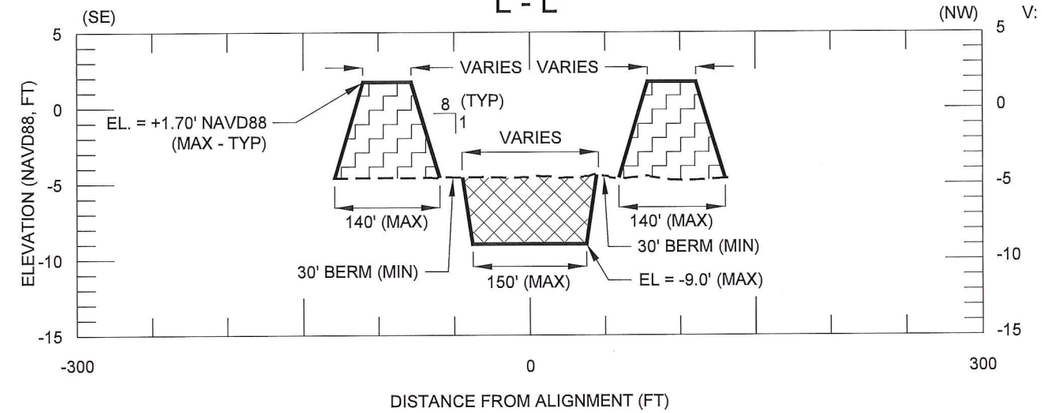



LEGEND

- ACCESS CHANNEL
- TEMPORARY SIDECAST DISPOSAL
- EXISTING GRADE (EMC 2012)
- DESIGN

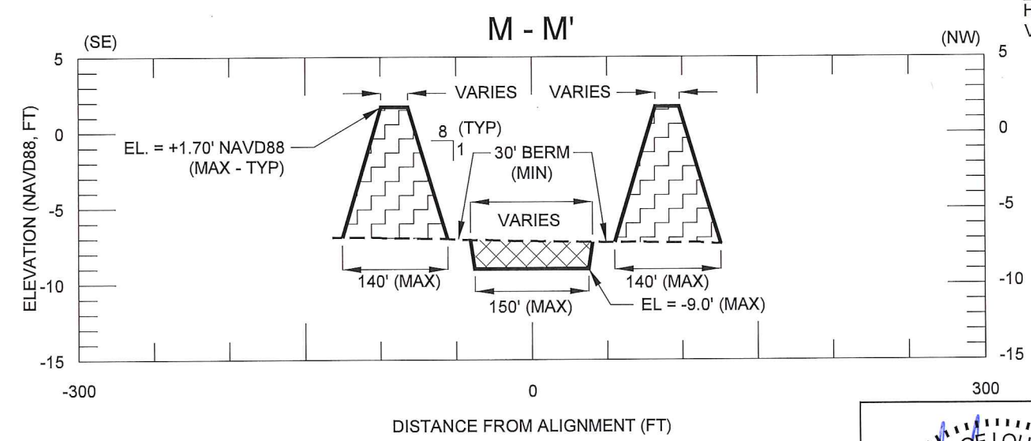
SCALE:
H: 1" = 100'
V: 1" = 10'

## L - L'




SCALE:
H: 1" = 100'
V: 1" = 10'

## M - M'




NOTES:

1. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.
2. BATHYMETRIC SURVEYS PERFORMED BY EMC, INC., 2012.
3. REFER TO SHEET 42 FOR ACCESS CHANNEL ALIGNMENTS.
4. WARNING SIGN LOCATIONS ARE FOR ILLUSTRATIVE PURPOSES ONLY. FINAL LOCATIONS TO BE DETERMINED THROUGH CONTRACTOR'S APPLICATION FOR USCG PERMIT.
5. SEE TS-14 AND TS-18 OF THE SPECIFICATIONS FOR CONSTRUCTION DETAILS.

STATE OF LOUISIANA
MICHAEL T. POFF
License No. 30048
LICENSED PROFESSIONAL ENGINEER

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

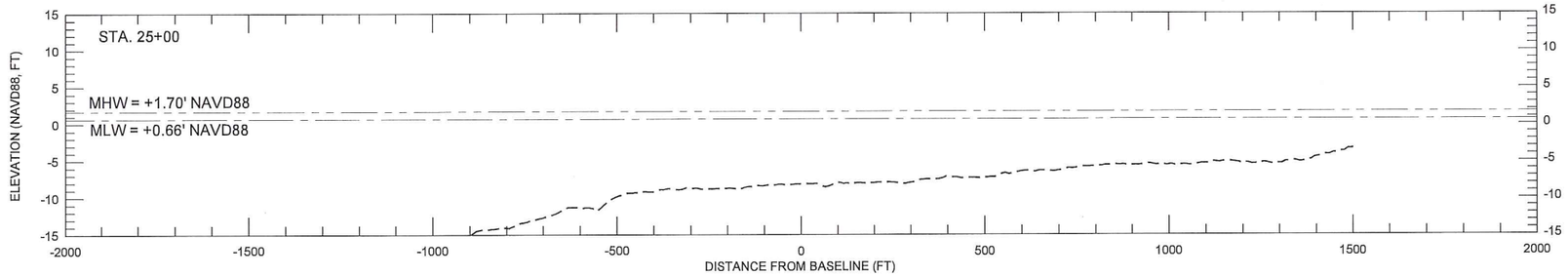
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

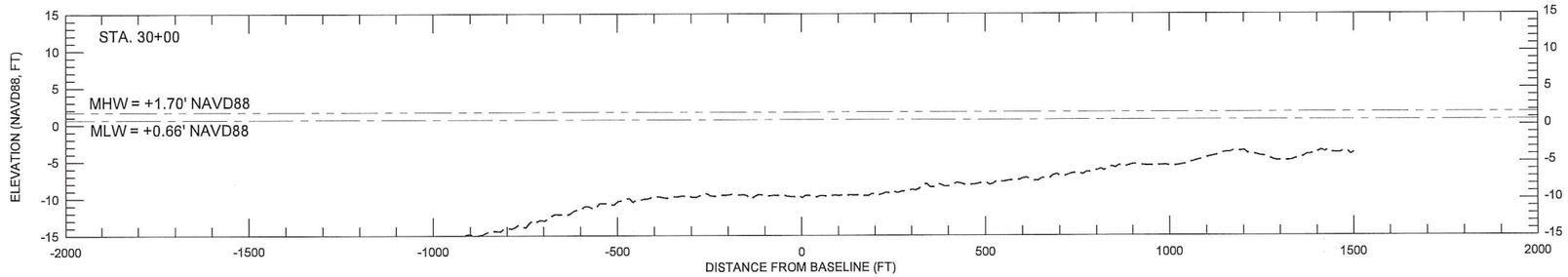
ACCESS CHANNEL PLAN VIEWS AND TYPICAL SECTIONS
DATE: MAY 2015
SHEET 19 OF 45

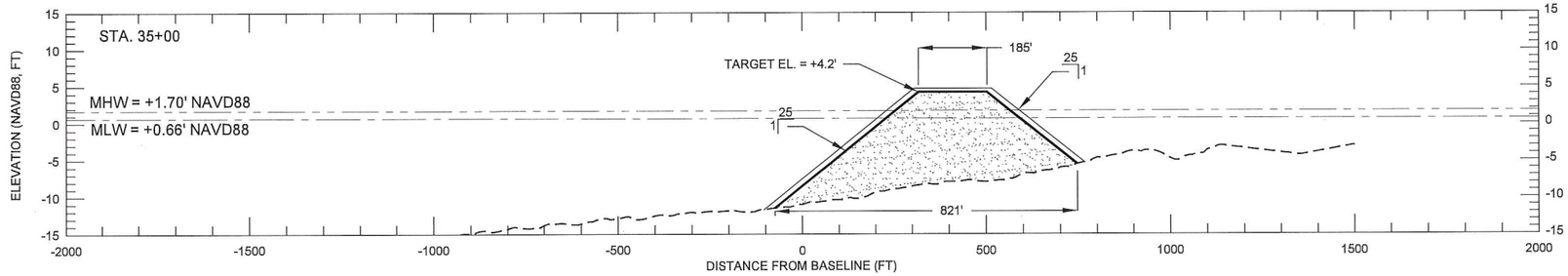
LEGEND:

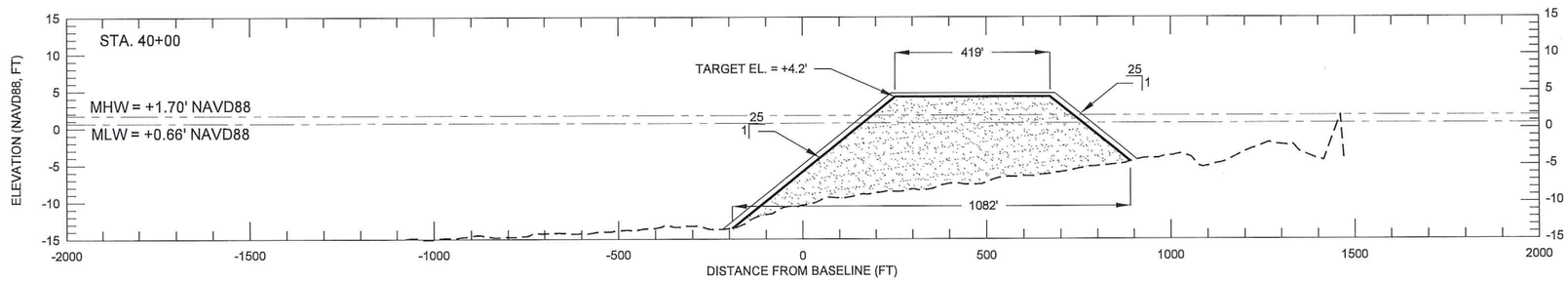
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

1. SECTIONS ARE VIEWED AS LOOKING WEST.
2. SURVEY PERFORMED BY EMC, INC. 2012.
3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPES ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

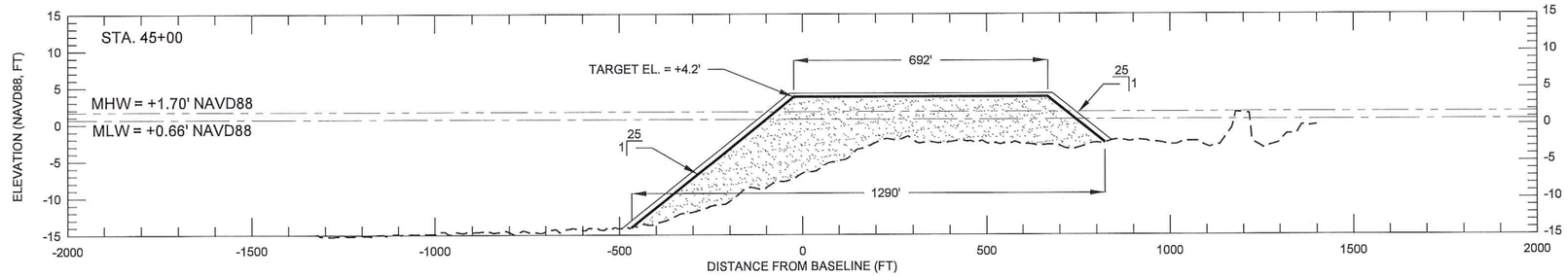
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

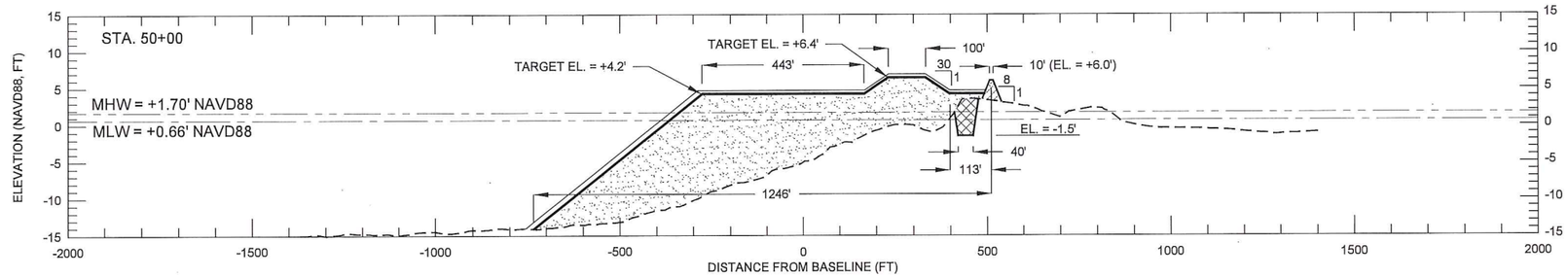
FILL TEMPLATE CROSS SECTIONS 25+00 TO 40+00
DATE: MAY 2015
SHEET 20 OF 45

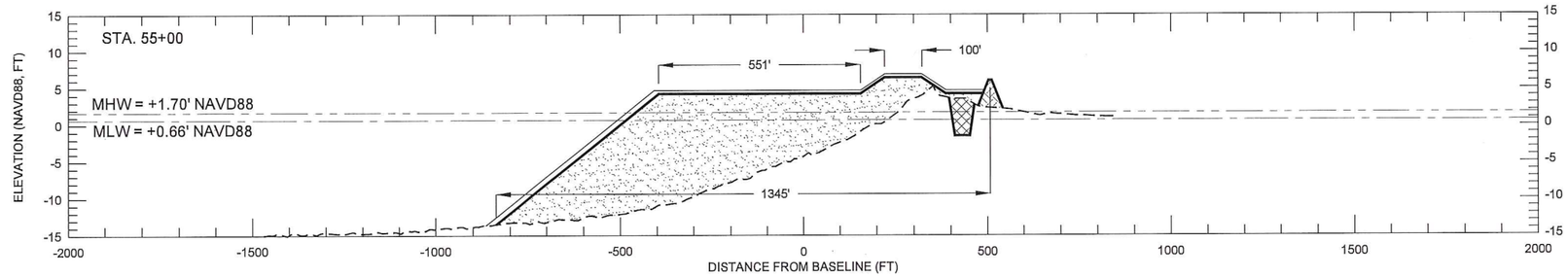
LEGEND:

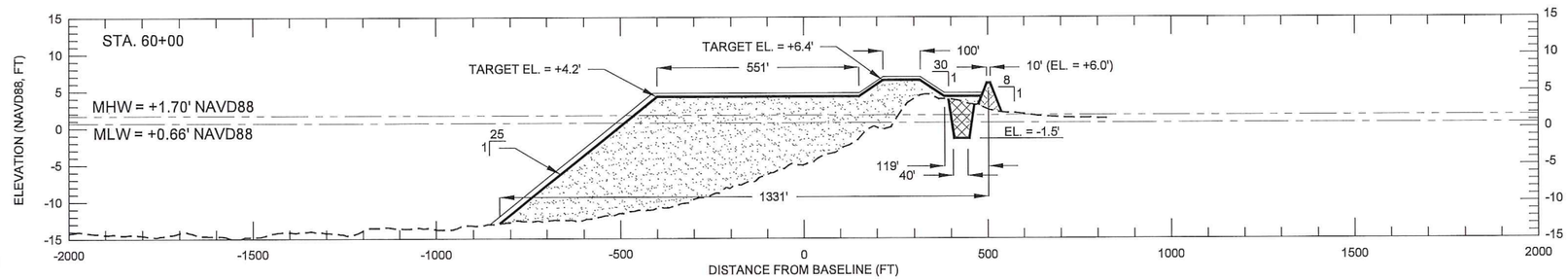
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION CONTAINMENT DIKE
- SEPARATION DIKE BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

1. SECTIONS ARE VIEWED AS LOOKING WEST.
2. SURVEY PERFORMED BY EMC, INC. 2012.
3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM AND DUNE FILL AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPES ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

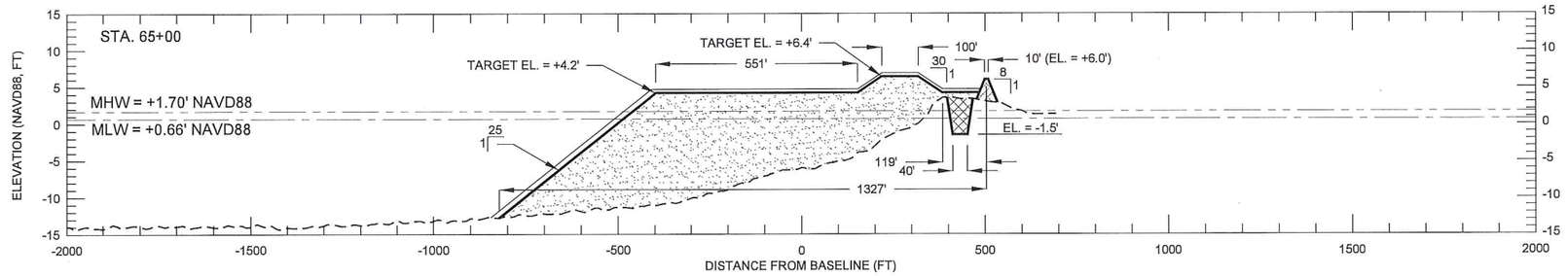
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

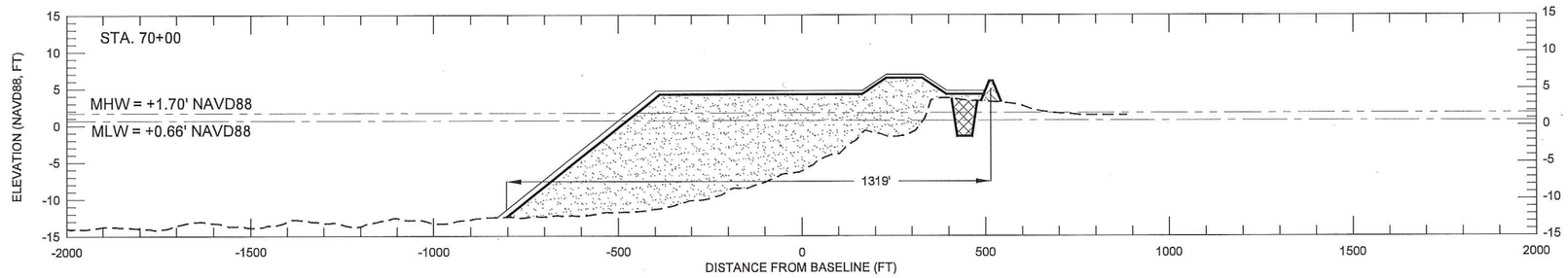
FILL TEMPLATE CROSS SECTIONS 45+00 TO 60+00
DATE: MAY 2015
SHEET 21 OF 45

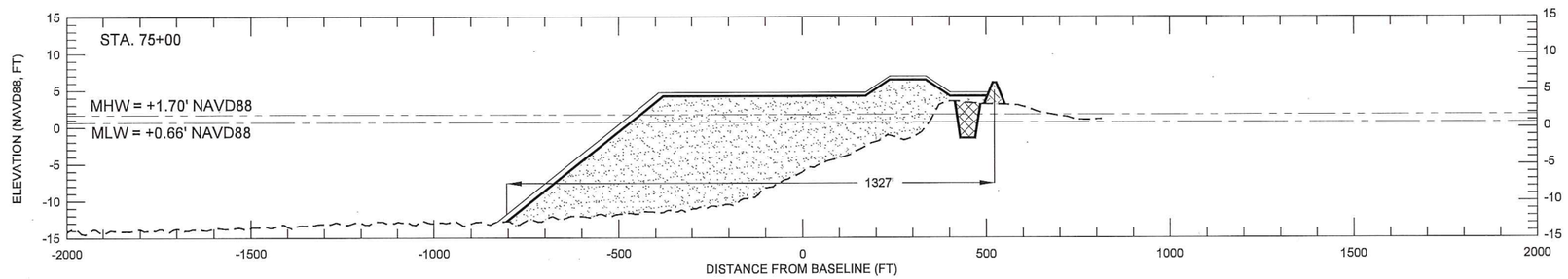
LEGEND:

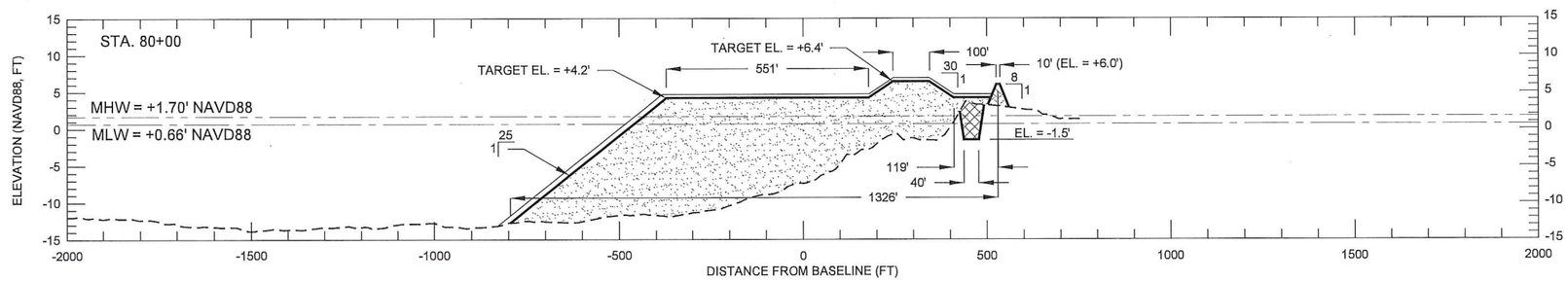
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION CONTAINMENT DIKE
- SEPARATION DIKE BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

1. SECTIONS ARE VIEWED AS LOOKING WEST.
2. SURVEY PERFORMED BY EMC, INC. 2012.
3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM AND DUNE FILL AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPE ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
MICHAEL T. POFF
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LICENSED PROFESSIONAL ENGINEER
6/22/15

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BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

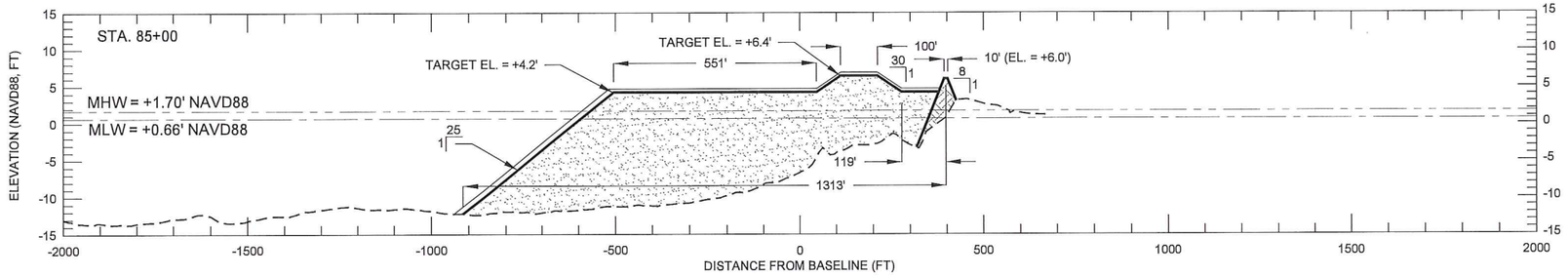
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

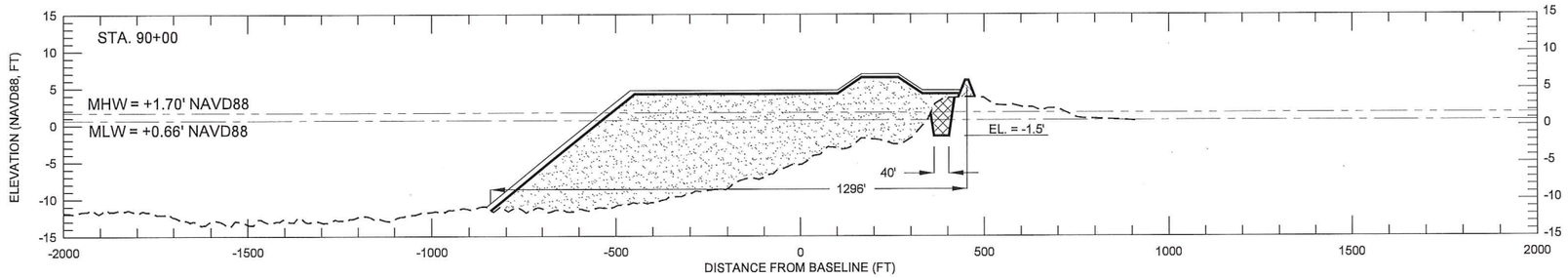
FILL TEMPLATE CROSS SECTIONS
65+00 TO 80+00
DATE: MAY 2015
SHEET 22 OF 45

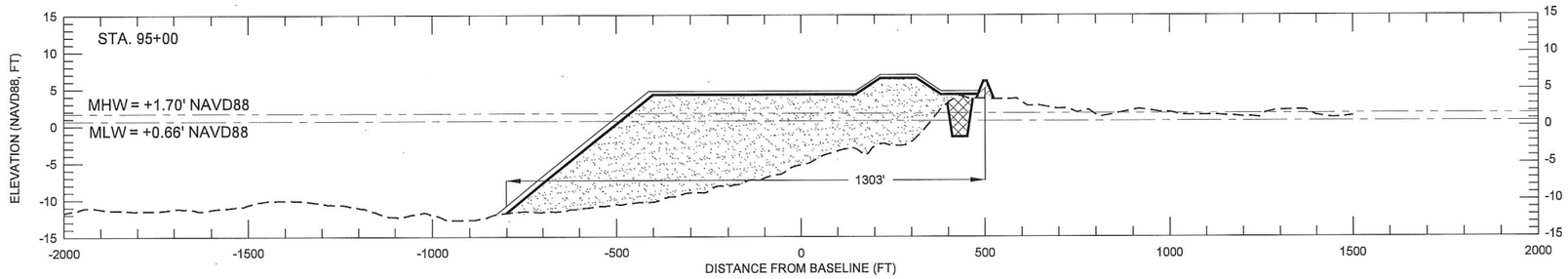
LEGEND:

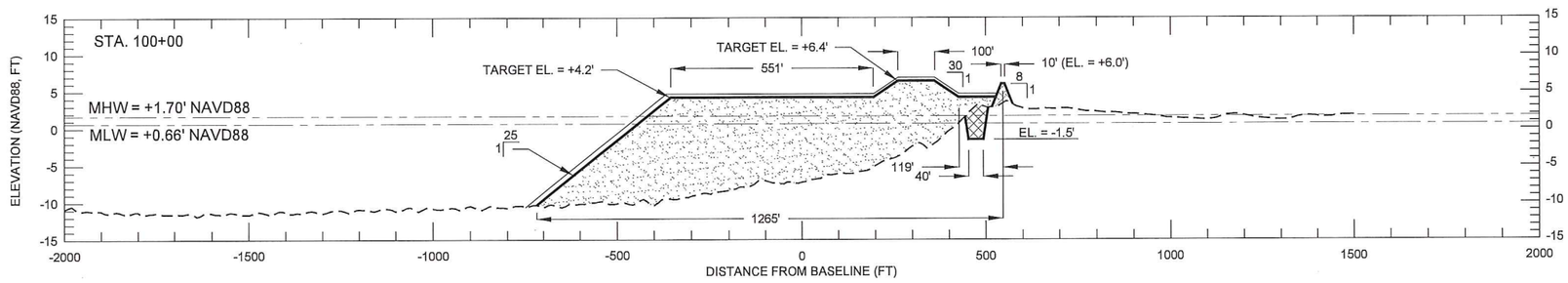
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION CONTAINMENT DIKE
- SEPARATION DIKE BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

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STATE OF LOUISIANA
MICHAEL T. POFF
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LICENSED PROFESSIONAL ENGINEER

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5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

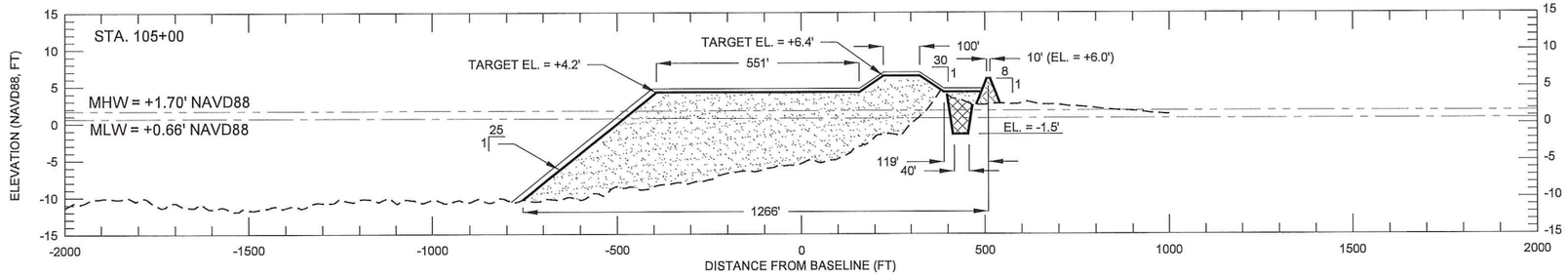
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

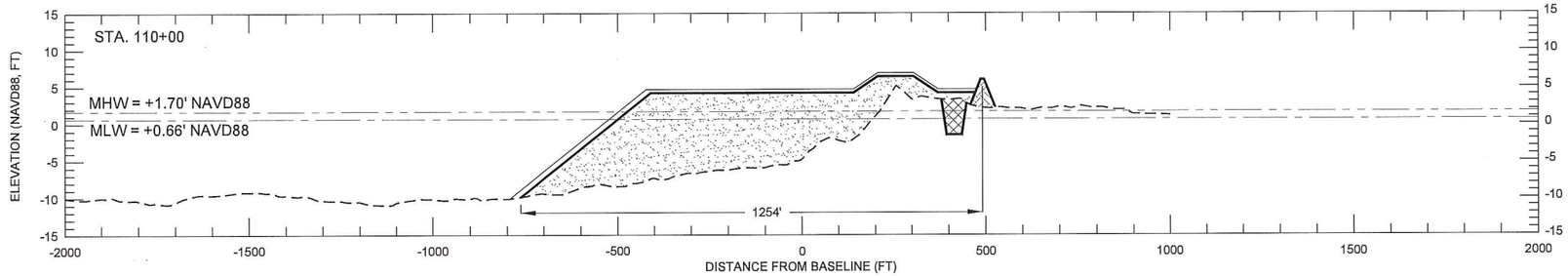
FILL TEMPLATE CROSS SECTIONS 85+00 TO 100+00
DATE: MAY 2015
SHEET 23 OF 45

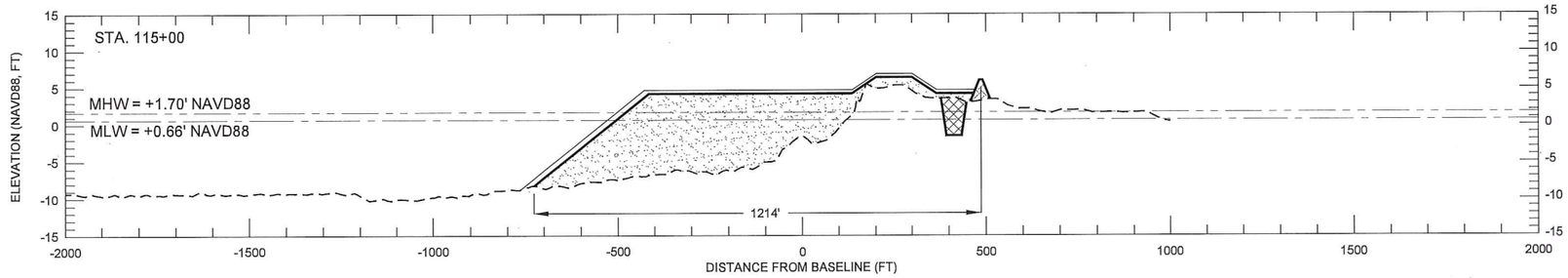
LEGEND:

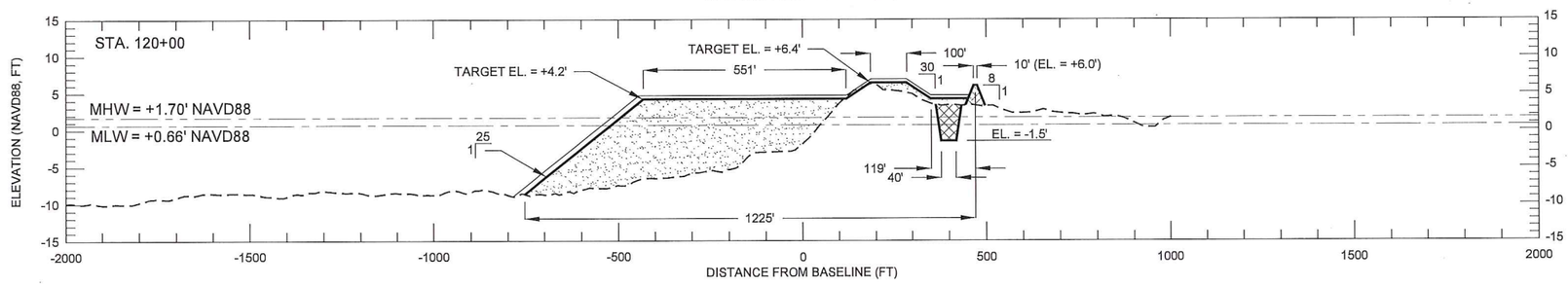
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION CONTAINMENT DIKE
- SEPARATION DIKE BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

1. SECTIONS ARE VIEWED AS LOOKING WEST.
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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

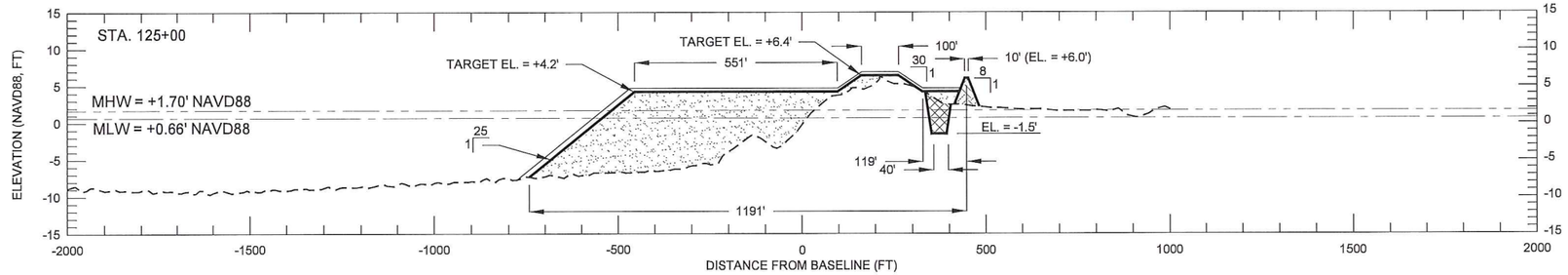
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

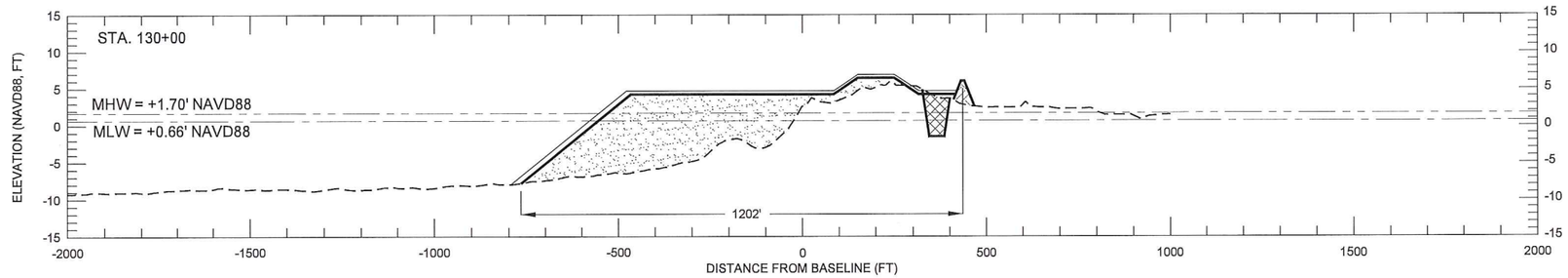
FILL TEMPLATE CROSS SECTIONS 105+00 TO 120+00
DATE: MAY 2015
SHEET 24 OF 45

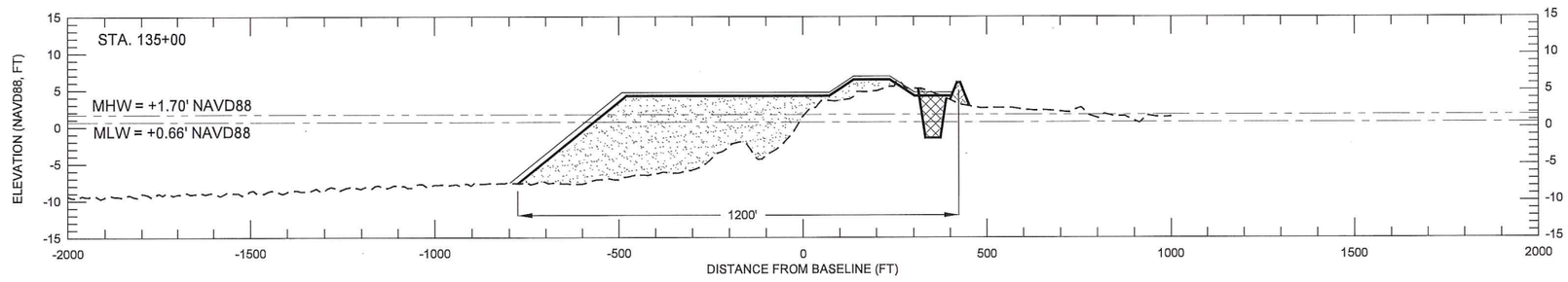
LEGEND:

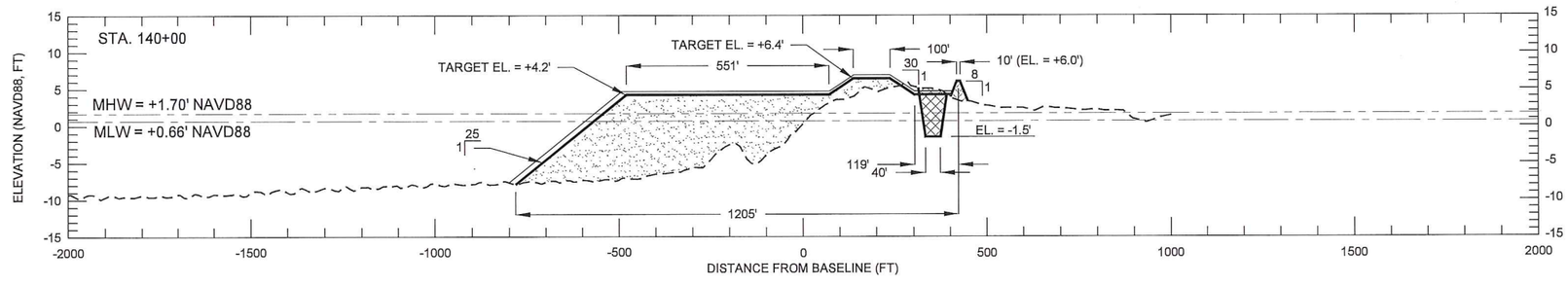
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION CONTAINMENT DIKE
- SEPARATION DIKE BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

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2. SURVEY PERFORMED BY EMC, INC. 2012.
3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM AND DUNE FILL AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPE ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

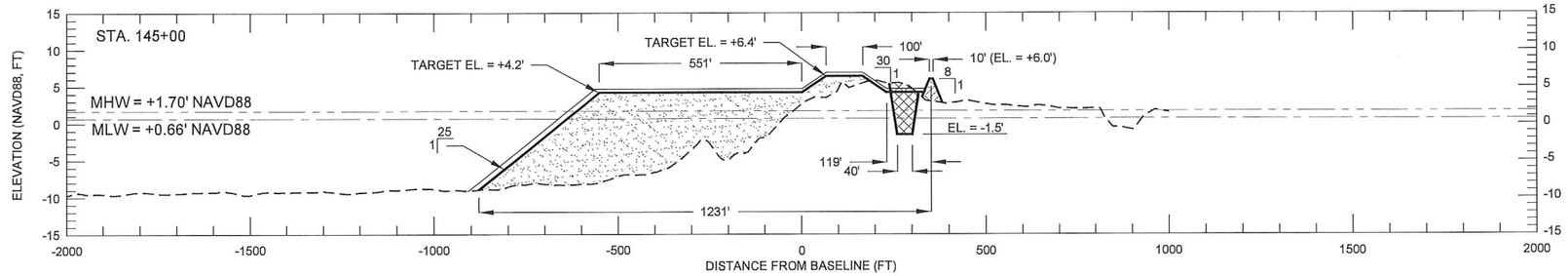
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

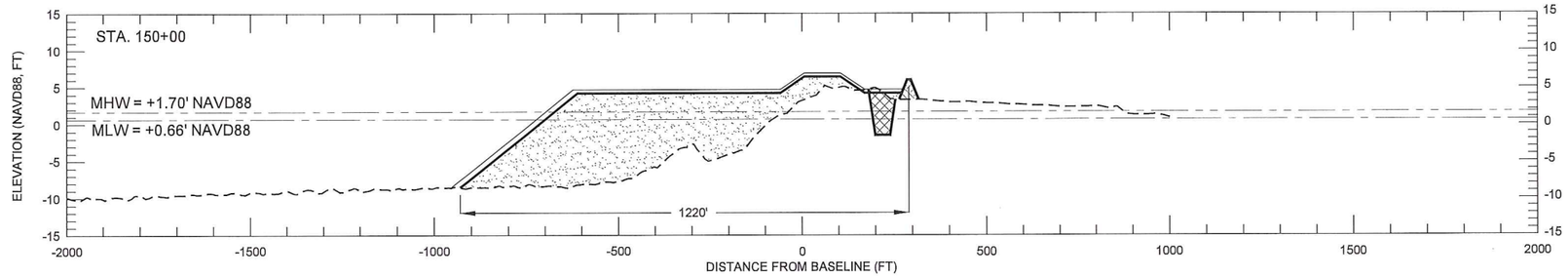
FILL TEMPLATE CROSS SECTIONS
125+00 TO 140+00
DATE: MAY 2015
SHEET 25 OF 45

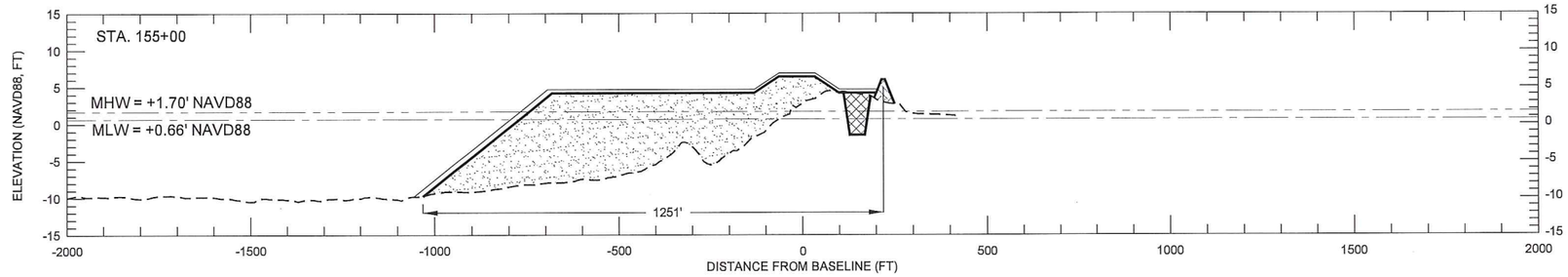
LEGEND:

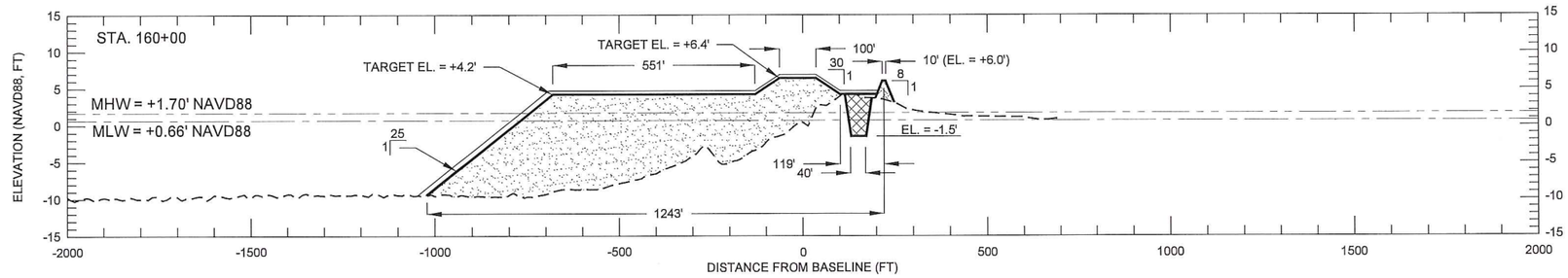
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION CONTAINMENT DIKE
- SEPARATION DIKE BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:
1. SECTIONS ARE VIEWED AS LOOKING WEST.
2. SURVEY PERFORMED BY EMC, INC. 2012.
3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM AND DUNE FILL AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPE ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |


COASTAL ENGINEERING CONSULTANTS, INC.
PH: (225) 768-1982
FAX: (225) 769-3596
5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

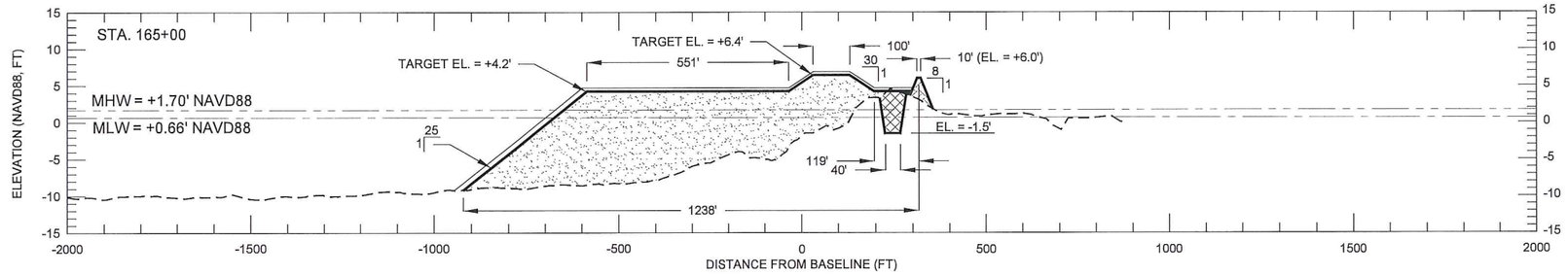
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

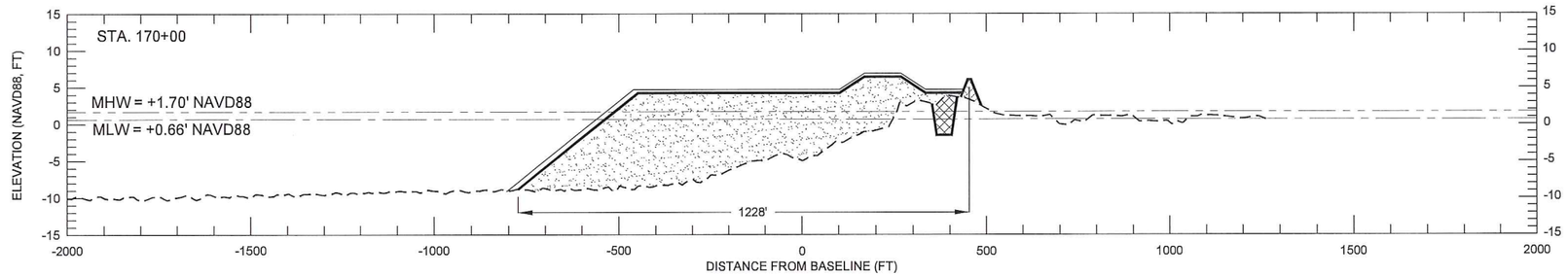
FILL TEMPLATE CROSS SECTIONS
145+00 TO 160+00
DATE: MAY 2015
SHEET 26 OF 45

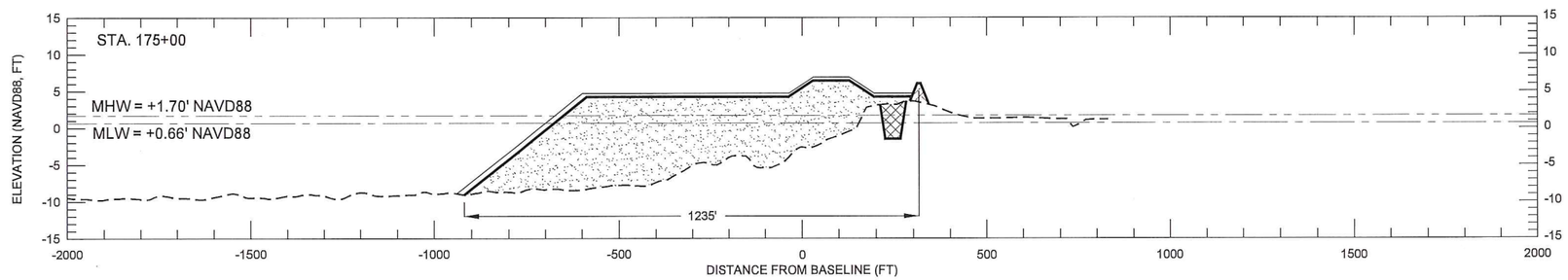
LEGEND:

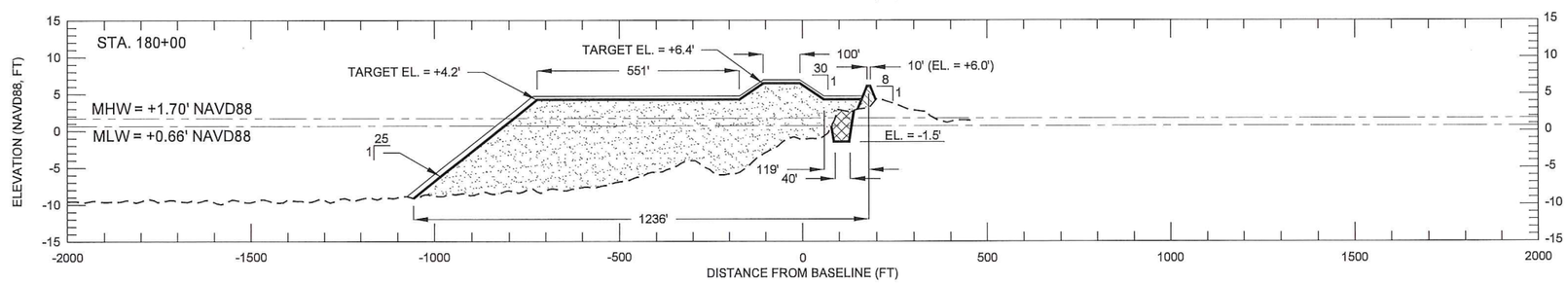
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION CONTAINMENT DIKE
- SEPARATION DIKE BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

1. SECTIONS ARE VIEWED AS LOOKING WEST.
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3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM AND DUNE FILL AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPE ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER
01/22/15

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

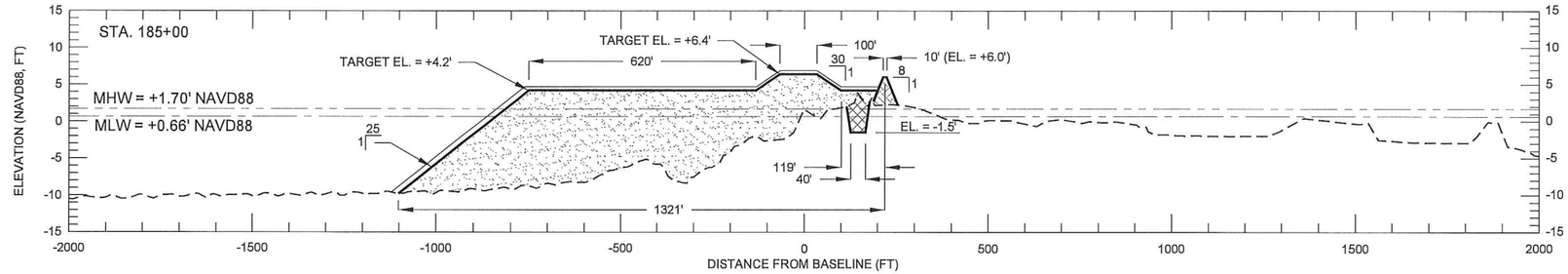
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

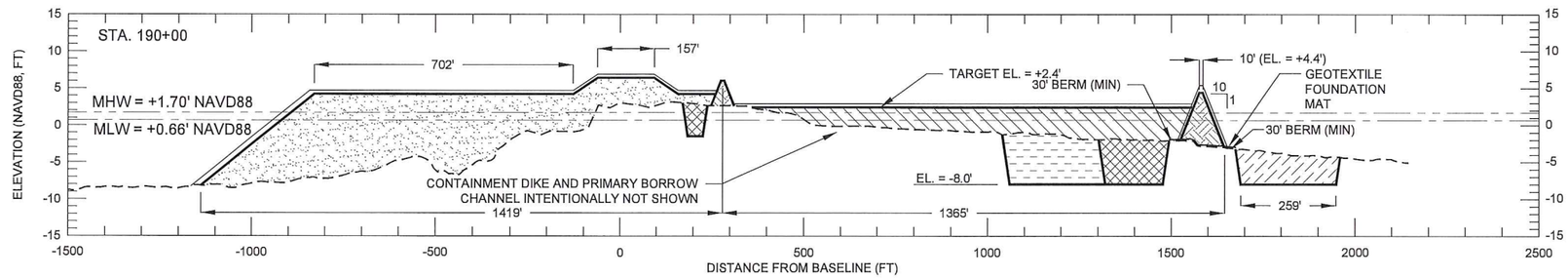
FILL TEMPLATE CROSS SECTIONS 165+00 TO 180+00
DATE: MAY 2015
SHEET 27 OF 45

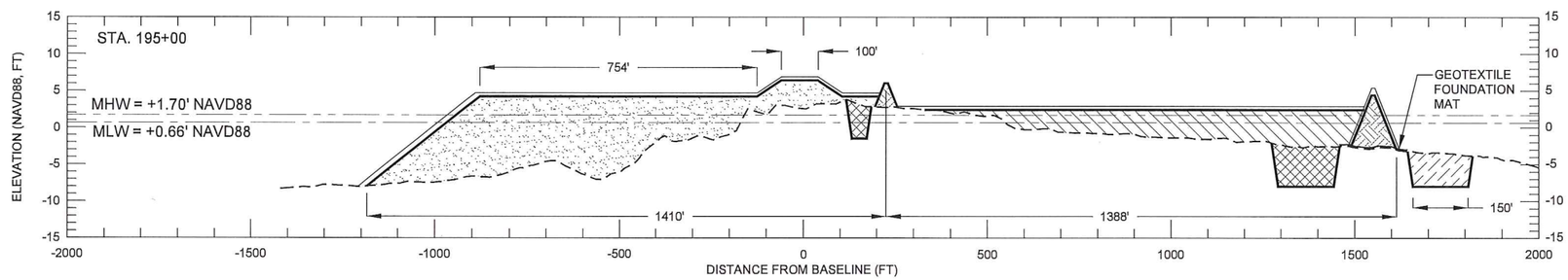
LEGEND:

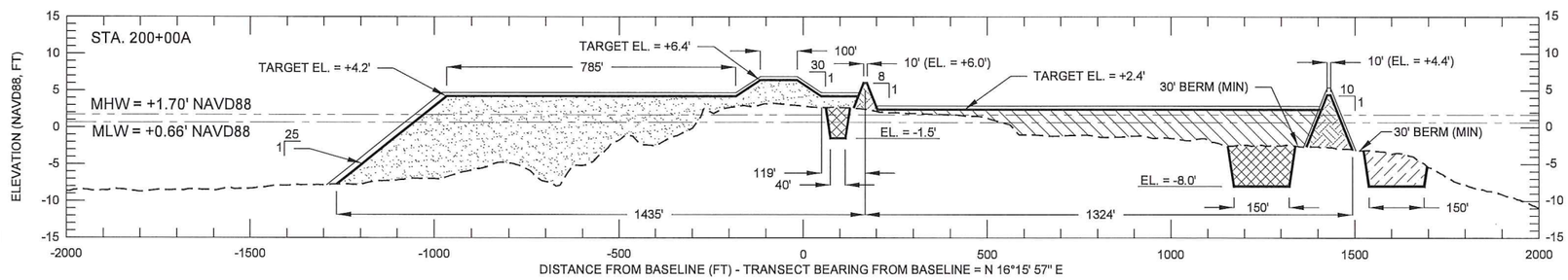
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION / MARSH CONTAINMENT DIKE
- MARSH FILL
- CONTAINMENT / SEPARATION DIKE PRIMARY BORROW CHANNELS
- CONTAINMENT DIKE SECONDARY BORROW CHANNEL
- OPTIONAL TURNING BASIN

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

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STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

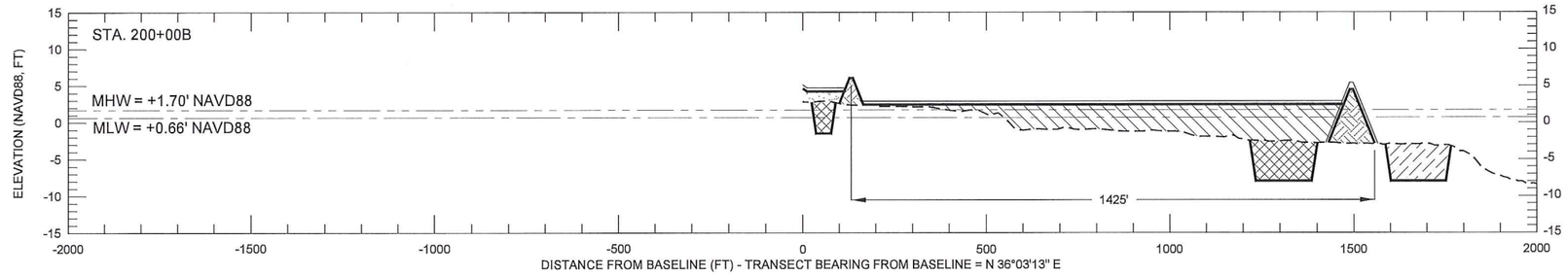
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

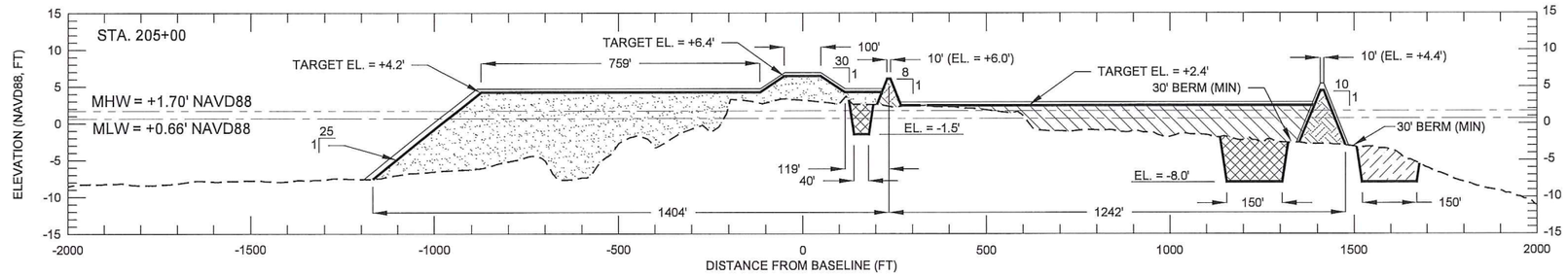
FILL TEMPLATE CROSS SECTIONS 185+00 TO 200+00A
DATE: MAY 2015
SHEET 28 OF 45

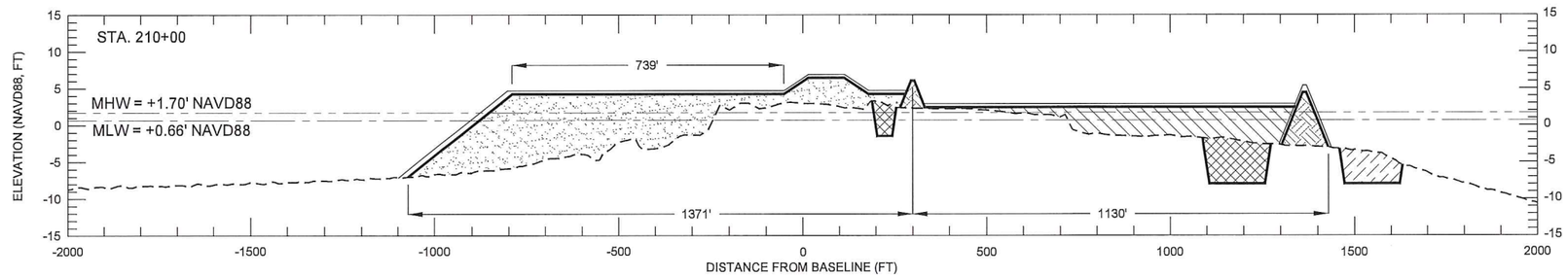
LEGEND:

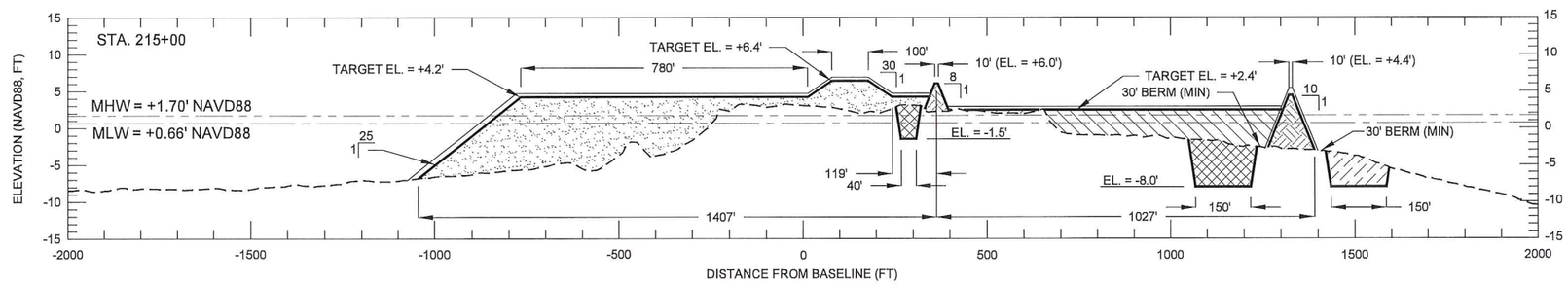
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION / MARSH CONTAINMENT DIKE
- MARSH FILL
- CONTAINMENT / SEPARATION DIKE PRIMARY BORROW CHANNELS
- CONTAINMENT DIKE SECONDARY BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

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2. SURVEY PERFORMED BY EMC, INC. 2012.
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4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER
6/26/15

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

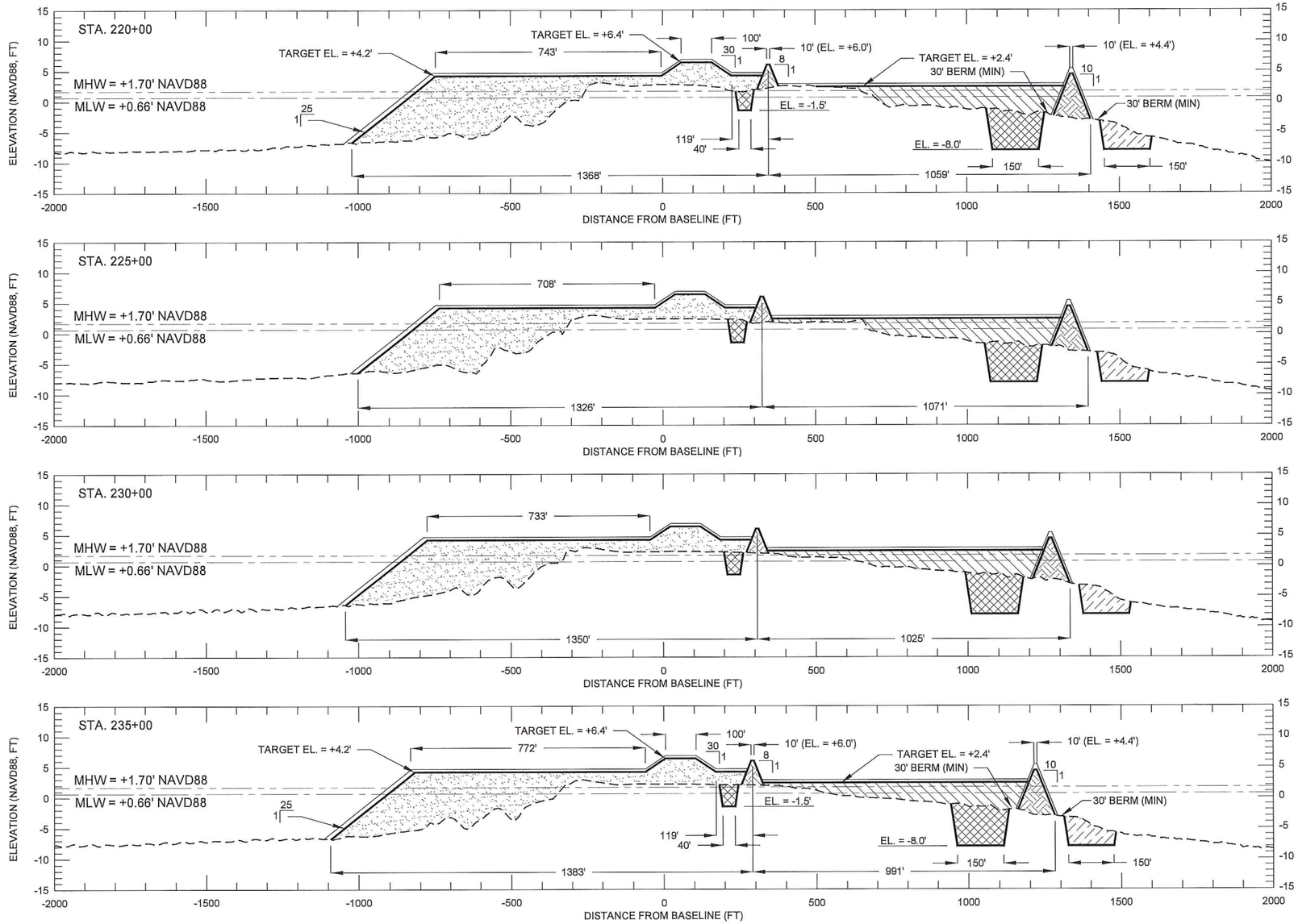
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

FILL TEMPLATE CROSS SECTIONS 200+00B TO 215+00
DATE: MAY 2015
SHEET 29 OF 45

LEGEND:

- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION / MARSH CONTAINMENT DIKE
- MARSH FILL
- CONTAINMENT / SEPARATION DIKE PRIMARY BORROW CHANNELS
- CONTAINMENT DIKE SECONDARY BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

1. SECTIONS ARE VIEWED AS LOOKING WEST.
2. SURVEY PERFORMED BY EMC, INC. 2012.
3. A PLUS 0.5 FOOT TOLERANCE FOR THE BEACH BERM, DUNE FILL, MARSH FILL, AND MARSH CONTAINMENT DIKE; AND A PLUS 1.0 FOOT TOLERANCE FOR THE BEACH SLOPE ARE INCLUDED TO ACCOUNT FOR CONSTRUCTION METHODS AND CONSOLIDATION / SETTLEMENT. SEE TS-11 AND TS-12 FOR CONSTRUCTION TOLERANCE DETAILS.
4. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88), U.S. SURVEY FT.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER
6/22/15

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

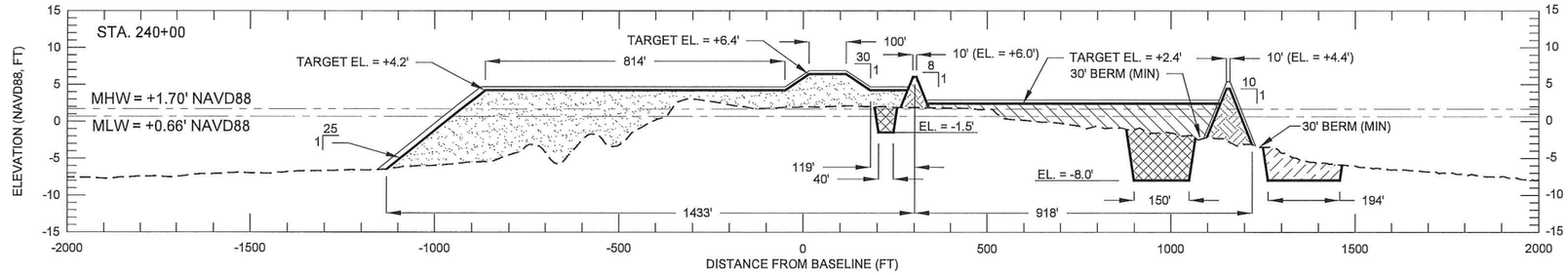
FILL TEMPLATE CROSS SECTIONS 220+00 TO 235+00

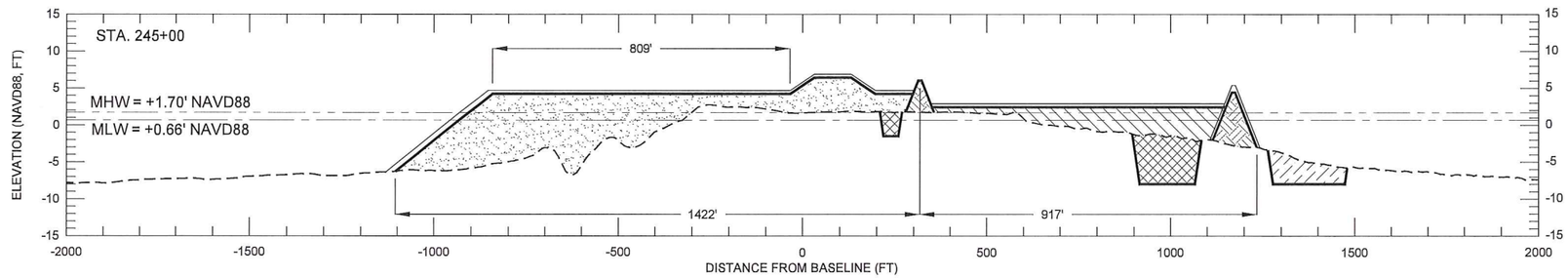
DATE: MAY 2015
SHEET 30 OF 45

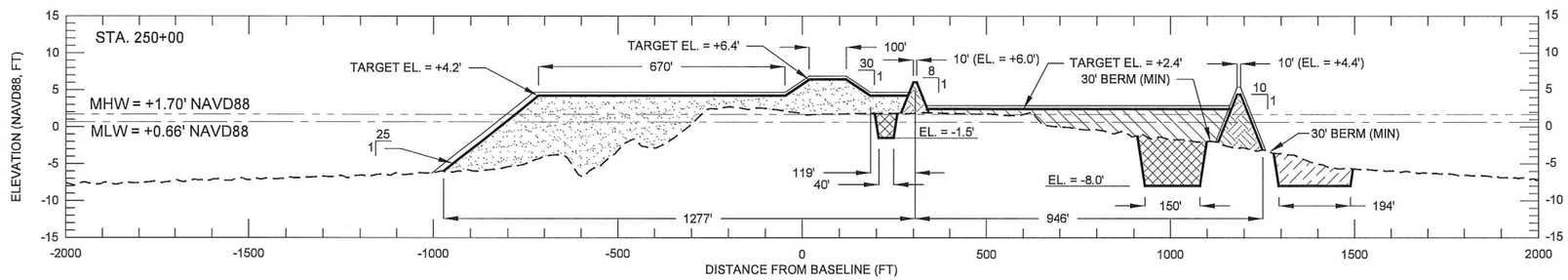
LEGEND:

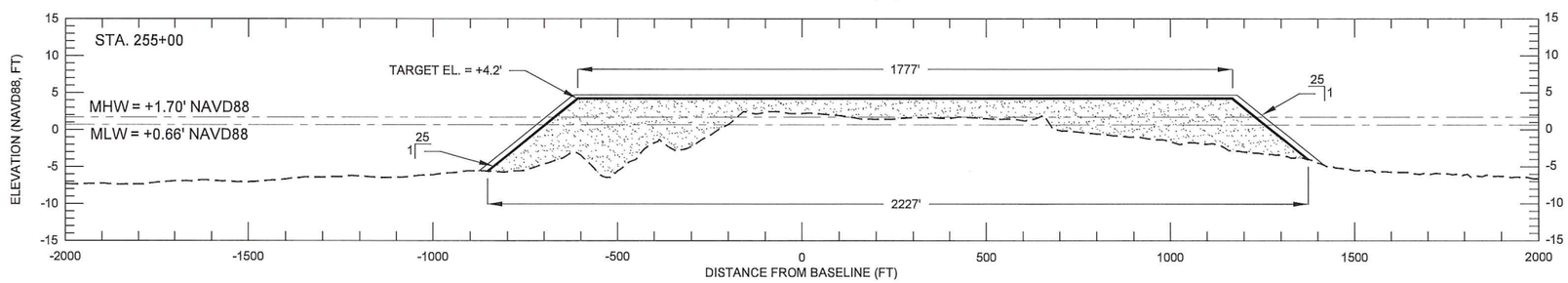
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL
- BEACH SEPARATION / MARSH CONTAINMENT DIKE
- MARSH FILL
- CONTAINMENT / SEPARATION DIKE PRIMARY BORROW CHANNELS
- CONTAINMENT DIKE SECONDARY BORROW CHANNEL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:

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STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

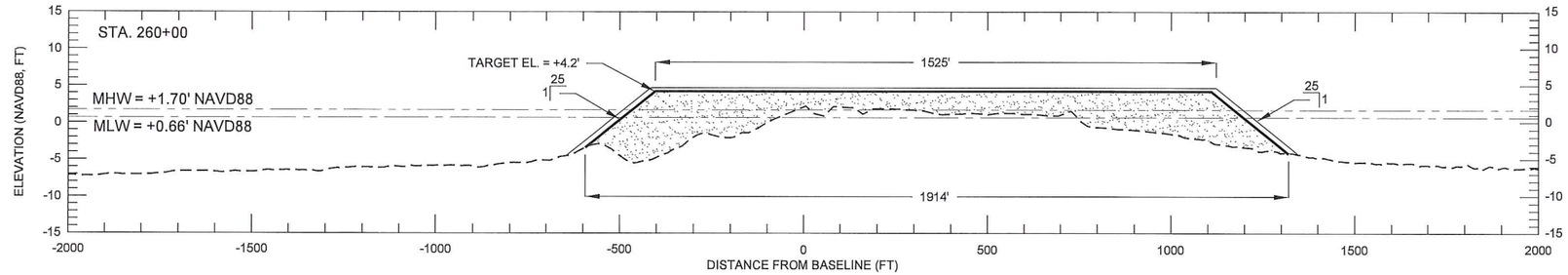
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

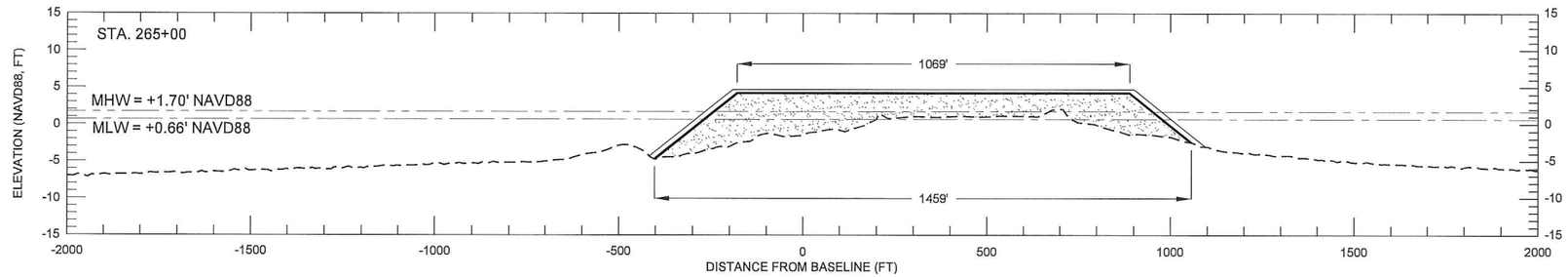
FILL TEMPLATE CROSS SECTIONS 240+00 TO 255+00
DATE: MAY 2015
SHEET 31 OF 45

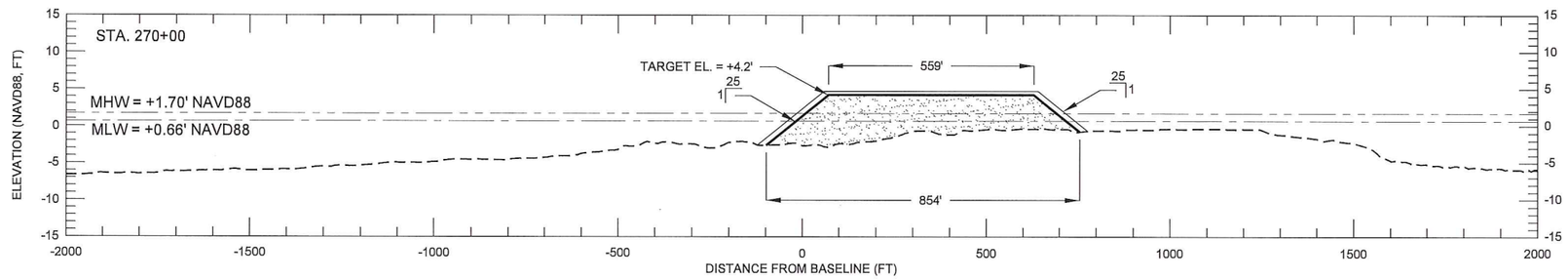
LEGEND:

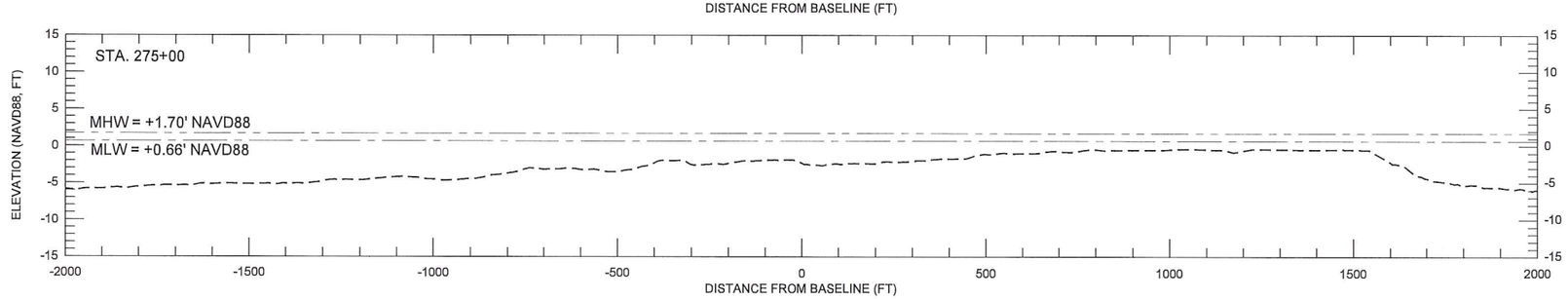
- DESIGN
- CONSTRUCTION TOLERANCE (SEE NOTE 3)
- EXISTING GRADE (2012)
- BEACH / DUNE FILL

SCALE:
H: 1" = 400'
V: 1" = 20'




NOTES:
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STATE OF LOUISIANA
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DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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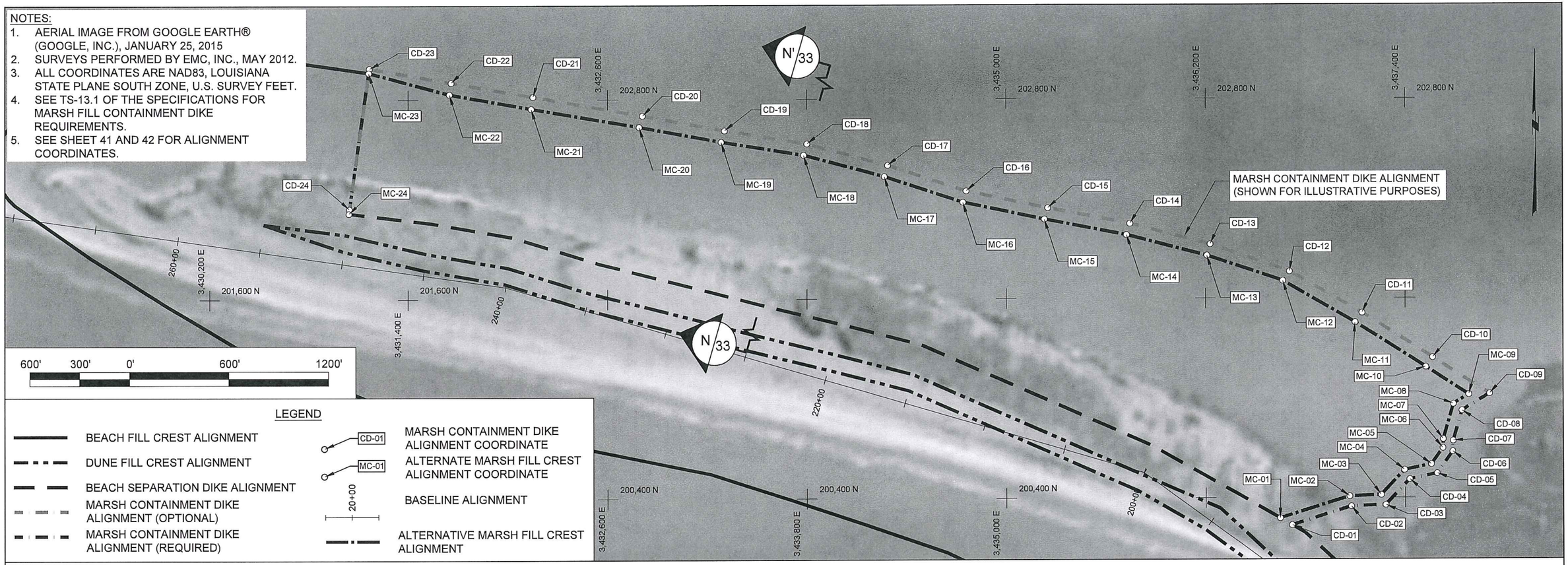
LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

FILL TEMPLATE CROSS SECTIONS 260+00 TO 275+00
DATE: MAY 2015
SHEET 32 OF 45

NOTES:
1. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015
2. SURVEYS PERFORMED BY EMC, INC., MAY 2012.
3. ALL COORDINATES ARE NAD83, LOUISIANA STATE PLANE SOUTH ZONE, U.S. SURVEY FEET.
4. SEE TS-13.1 OF THE SPECIFICATIONS FOR MARSH FILL CONTAINMENT DIKE REQUIREMENTS.
5. SEE SHEET 41 AND 42 FOR ALIGNMENT COORDINATES.




LEGEND

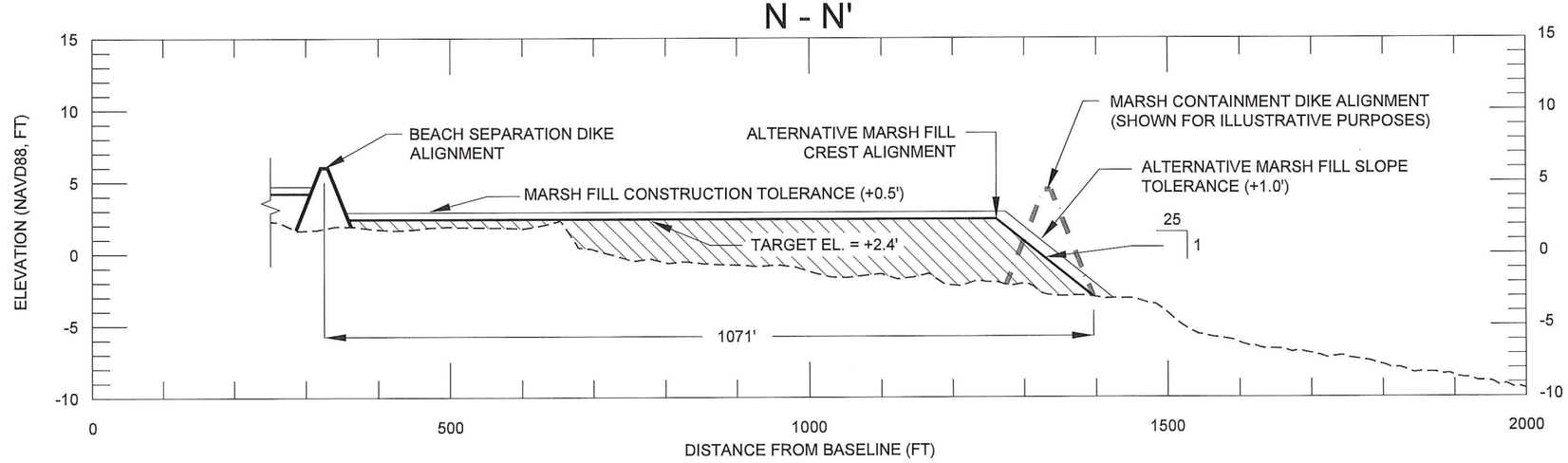
- BEACH FILL CREST ALIGNMENT
- DUNE FILL CREST ALIGNMENT
- BEACH SEPARATION DIKE ALIGNMENT
- MARSH CONTAINMENT DIKE ALIGNMENT (OPTIONAL)
- MARSH CONTAINMENT DIKE ALIGNMENT (REQUIRED)
- CD-01 — MARSH CONTAINMENT DIKE ALIGNMENT COORDINATE
- MC-01 — ALTERNATE MARSH FILL CREST ALIGNMENT COORDINATE
- 20+00 — BASELINE ALIGNMENT
- ALTERNATIVE MARSH FILL CREST ALIGNMENT

LEGEND:

- ALTERNATE MARSH FILL DESIGN
- ALTERNATE MARSH FILL CONSTRUCTION TOLERANCE
- EXISTING GRADE (2012)
- MARSH FILL

SCALE:
H: 1" = 200'
V: 1" = 10'

## N - N'




NOTES:
1. SURVEY PERFORMED BY EMC, INC. 2012.
2. SECTION IS VIEWED AS LOOKING WEST.
3. SEE TS-13.1 OF THE SPECIFICATIONS FOR MARSH FILL CONTAINMENT DIKE REQUIREMENTS.

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER
6/22/15

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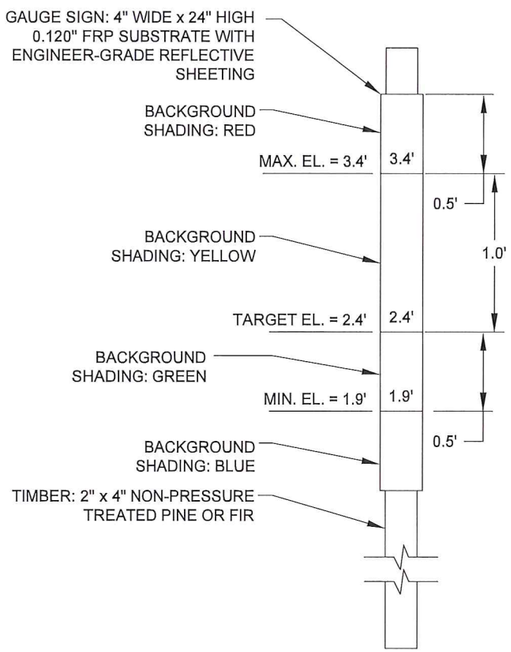
BATON ROUGE, LA 70810


LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

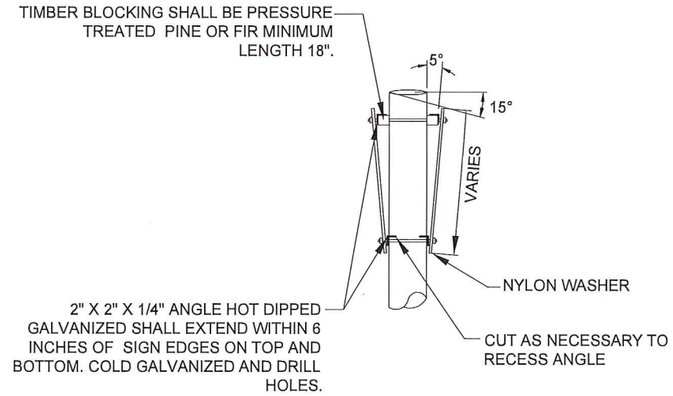
DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

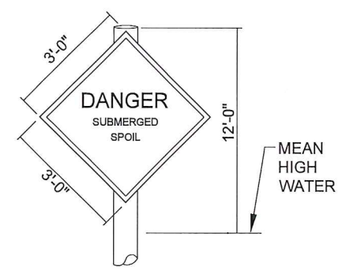
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

ALTERNATIVE MARSH FILL CONSTRUCTION
(SHIP SHOAL BLOCK 88 BORROW AREA)
DATE: MAY 2015
SHEET 33 OF 45

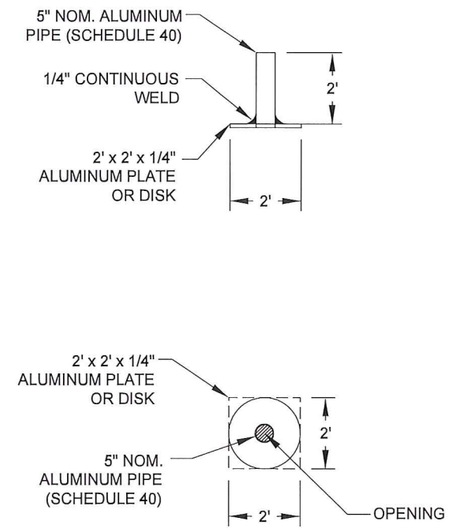



MARSH FILL GRADE STAKE
(NOT TO SCALE)

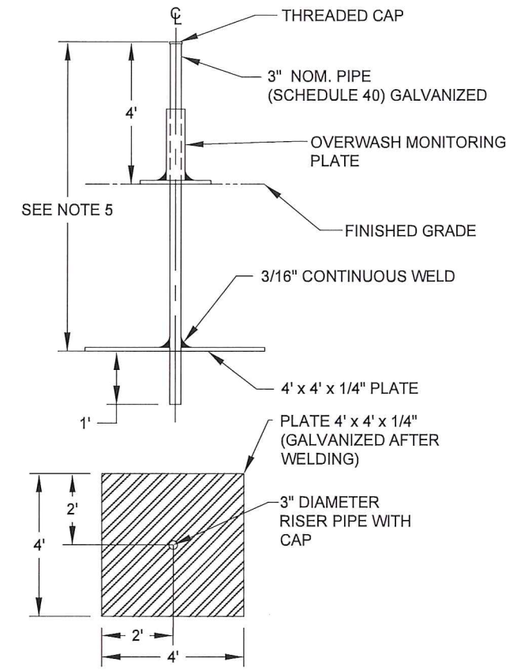



WARNING SIGN(S)
(NOT TO SCALE)




OVERWASH MONITORING PLATE
(NOT TO SCALE)




SETTLEMENT PLATE
(NOT TO SCALE)

SETTLEMENT AND OVERWASH MONITORING SYSTEM

GRADE STAKE NOTES:

1. SEE SPECIFICATION TS-17 FOR GRADE STAKE PLACEMENT, MATERIALS, AND WORK TO BE PERFORMED.
2. THE SIGNS SHALL HAVE THE DIMENSIONS, NUMBERING, AND SHADING AS SHOWN.
3. THE GAUGE SIGN SHALL BE CONSTRUCTED OF 0.120" THICK FIBERGLASS REINFORCED PLASTIC (FRP) WHICH HAS BEEN UV STABILIZED FOR OUTDOOR WEATHERABILITY. THE FRP MATERIAL SHALL BE WHITE OR GRAY IN COLOR AND BE TOTALLY DIELECTRIC AND NON-CONDUCTIVE.
4. THE MARSH FILL GRADE STAKES SHALL HAVE ELEVATION DELINEATIONS FOR MINIMUM, TARGET, AND MAXIMUM ELEVATIONS AS STATED IN SECTION TS-17.

WARNING SIGN NOTES:

1. REFER TO TS-18 OF THE SPECIFICATIONS FOR WARNING SIGN AND PILING CONSTRUCTION DETAILS.
2. WARNING SIGNS SHALL BE INSTALLED AS REQUIRED BY U.S. COAST GUARD FOR TEMPORARY SIDECAST DISPOSAL AREAS.
3. WARNING SIGNS MUST MEET U.S. COAST GUARD STANDARDS IN ACCORDANCE WITH 33 CFR 330.4 (a)(1).
4. THE CONTRACTOR HAS THE OPTION OF USING TEMPORARY BUOYS FOR WARNING AND NAVIGATION SIGNS IN LIEU OF TIMBER PILES. BUOYS MUST BE APPROVED BY THE OWNER AND ENGINEER PRIOR TO MOBILIZATION AND MUST BE TO U.S. COAST GUARD STANDARDS.
5. SIGNS AND SUPPORTS SHALL BE REMOVED AND PROPERLY DISPOSED OF PRIOR TO DEMOBILIZATION. IF PILES CANNOT BE REMOVED COMPLETELY, THEY MUST BE REMOVED TO 10 FEET BELOW THE EXISTING MUDLINE.

SETTLEMENT AND OVERWASH MONITORING SYSTEM NOTES:

1. SETTLEMENT PLATES SHALL BE CONSTRUCTED USING ASTM A36 STEEL AND HOT- DIPPED GALVANIZED AFTER FABRICATION PER SPECIFICATION TS-16.
2. ALL SETTLEMENT PLATES SHALL BE SURVEYED UNDER THE SUPERVISION OF THE RESIDENT PROJECT REPRESENTATIVE WITHIN A DAY OF INSTALLATION AND WEEKLY THROUGHOUT THE DURATION OF THE PROJECT IN ACCORDANCE WITH TS-6.
3. ALL SETTLEMENT PLATES MUST BE INSTALLED AND MAINTAINED WITHIN 10.5 DEGREES OF VERTICAL.
4. ALL SETTLEMENT PLATES SHALL BE MARKED WITH SURVEY FLAGGING.
5. LENGTH OF THE SETTLEMENT PLATE RISER PIPE SHALL BE SUCH THAT THE ELEVATION OF THE TOP CAP BE NO LESS THAN 4 FEET ABOVE MAXIMUM FINAL DESIGN GRADE FOR ITS LOCATION.
6. OVERWASH MONITORING PLATES SHALL BE FABRICATED USING 6061-TS GRADE ALUMINUM PER SPECIFICATION TS-16.
7. OVERWASH MONITORING PLATE SHALL BE INSTALLED IN ACCORDANCE WITH TS-16.4 AND SURVEYED IN ACCORDANCE WITH TS-6.

STATE OF LOUISIANA
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License. No. 30048
LICENSED PROFESSIONAL ENGINEER
11/23/15

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BATON ROUGE, LA 70810

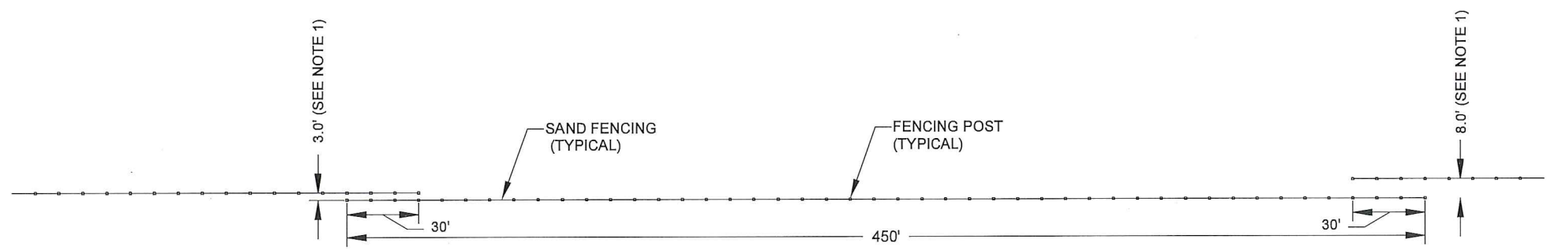
LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

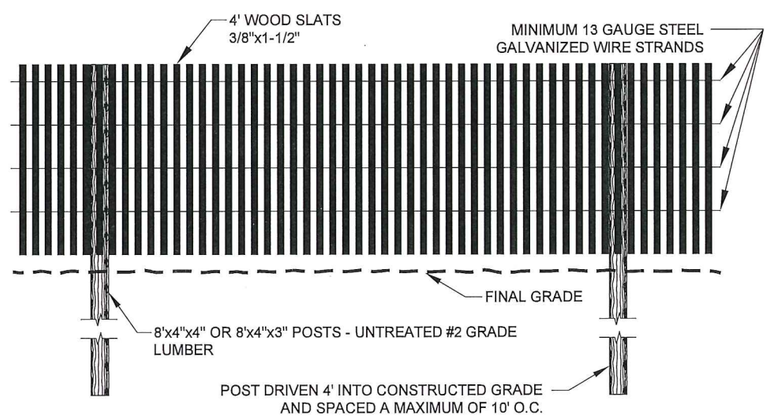
NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

MARSH FILL GRADE STAKE, MONITORING SYSTEM, AND WARNING SIGN DETAILS
DATE: MAY 2015
SHEET 34 OF 45

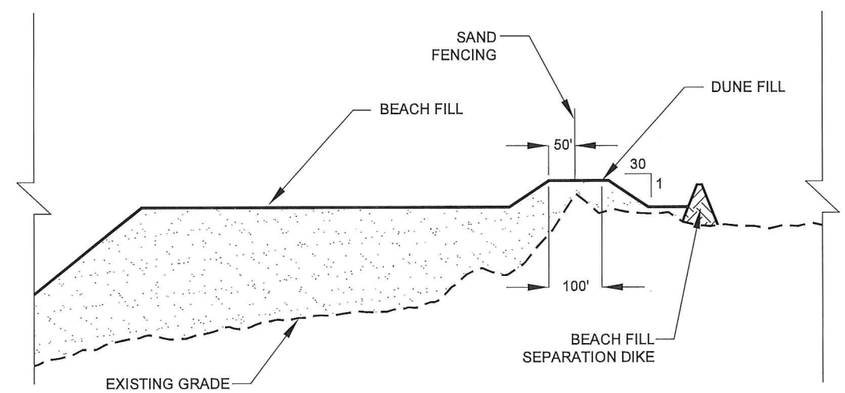
NOTES:
1. THE DISTANCE BETWEEN FENCES SHALL BE INCREASED FROM 3.0' TO 8.0' AT EVERY FIFTH GAP TO ALLOW ALL-TERRAIN VEHICLE ACCESS.
2. SEE TS-15 DETAILED MATERIAL SPECIFICATIONS.




FENCING GAPPING DIMENSIONS
NOT TO SCALE




FENCING DETAIL
NOT TO SCALE




FENCING SECTION TYPICAL
NOT TO SCALE

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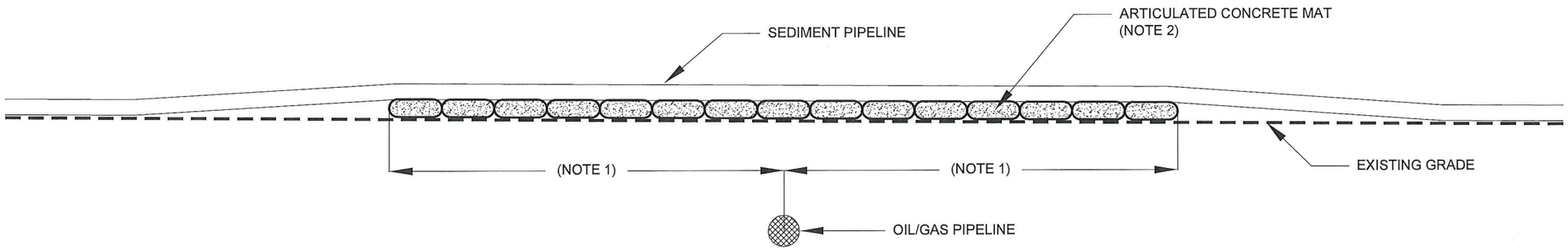
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

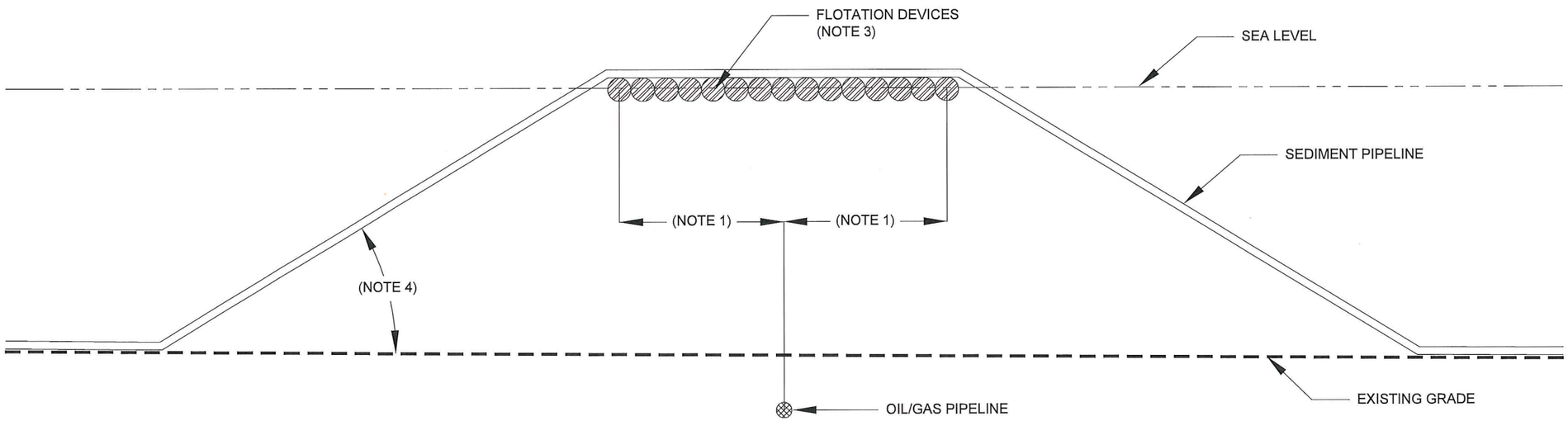
DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

SAND FENCING DETAILS
DATE: MAY 2015
SHEET 35 OF 45




OPTIONAL ARTICULATED CONCRETE MAT PROTECTION CROSSING
(NOT TO SCALE)




OPTIONAL FLOTATION CROSSING
(NOT TO SCALE)

NOTES:
1. MEANS AND METHODS OF SEDIMENT PIPELINE CROSSING OF AN OIL/GAS PIPELINE SHALL BE COORDINATED BY THE CONSTRUCTION CONTRACTOR WITH THE OIL/GAS PIPELINE OPERATOR.
2. ARTICULATED CONCRETE MAT CONSTRUCTION AND COVERAGE AREA SHALL BE COORDINATED BY THE CONSTRUCTION CONTRACTOR WITH THE OIL/GAS PIPELINE OPERATOR
3. FLOTATION DEVICE CONSTRUCTION AND PLACEMENT SHALL BE DETERMINED BY INDUSTRY STANDARDS FOR SEDIMENT PIPELINE SUPPORT AND CONSTRUCTION CONTRACTOR STANDARD EQUIPMENT.
4. ANGLE OF SEDIMENT PIPELINE DEPARTURE FROM EXISTING GRADE SHALL BE DETERMINED BY INDUSTRY STANDARDS FOR SEDIMENT PIPELINE SUPPORT AND CONSTRUCTION CONTRACTOR EQUIPMENT.
5. SEE TS-9.4 OF THE SPECIFICATIONS FOR ALL SEDIMENT PIPELINE MARKING AND LIGHTING REQUIREMENTS.

STATE OF LOUISIANA
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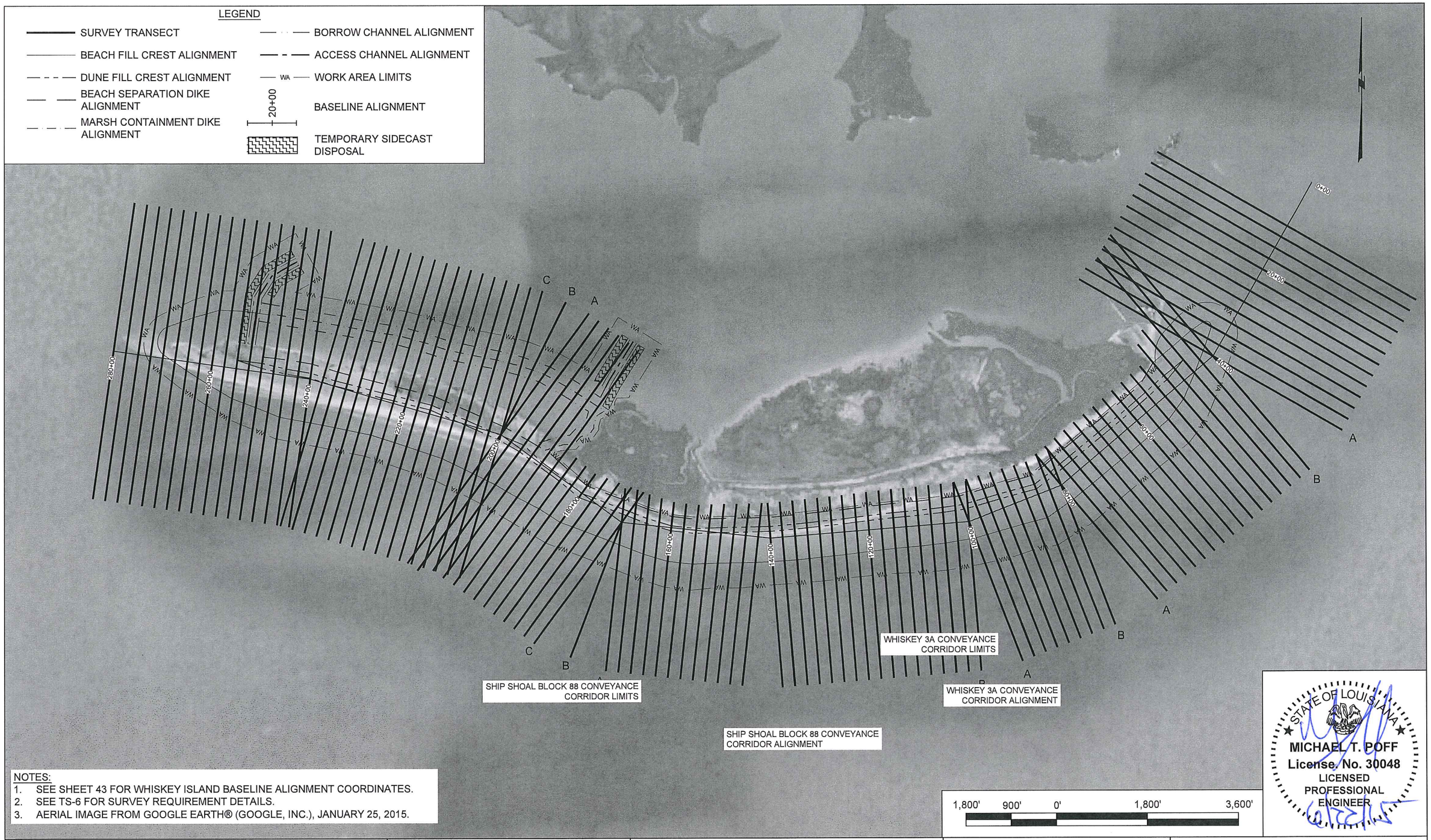
LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

OPTIONAL SEDIMENT PIPELINE CROSSING TYPICAL DETAILS
DATE: MAY 2015
SHEET 36 OF 45




NOTES:
1. SEE SHEET 43 FOR WHISKEY ISLAND BASELINE ALIGNMENT COORDINATES.
2. SEE TS-6 FOR SURVEY REQUIREMENT DETAILS.
3. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.

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MICHAEL T. POFF
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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

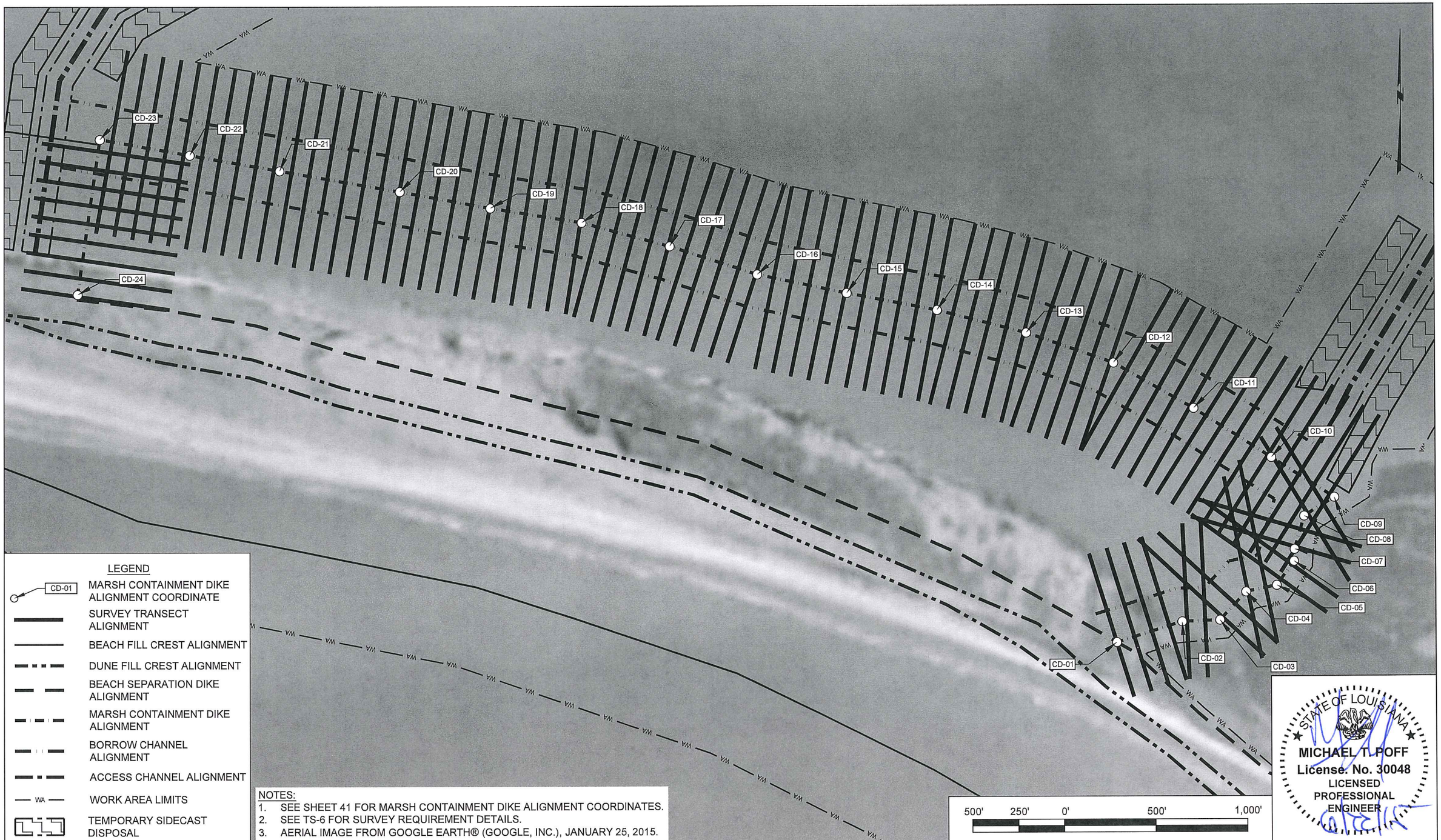
DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

BEACH/DUNE AND MARSH FILL SURVEY LAYOUT

DATE: MAY 2015
SHEET 37 OF 45




LEGEND

- CD-01 — MARSH CONTAINMENT DIKE ALIGNMENT COORDINATE
- SURVEY TRANSECT ALIGNMENT
- BEACH FILL CREST ALIGNMENT
- DUNE FILL CREST ALIGNMENT
- BEACH SEPARATION DIKE ALIGNMENT
- MARSH CONTAINMENT DIKE ALIGNMENT
- BORROW CHANNEL ALIGNMENT
- ACCESS CHANNEL ALIGNMENT
- WA — WORK AREA LIMITS
- TEMPORARY SIDECAST DISPOSAL

NOTES:
1. SEE SHEET 41 FOR MARSH CONTAINMENT DIKE ALIGNMENT COORDINATES.
2. SEE TS-6 FOR SURVEY REQUIREMENT DETAILS.
3. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.

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LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
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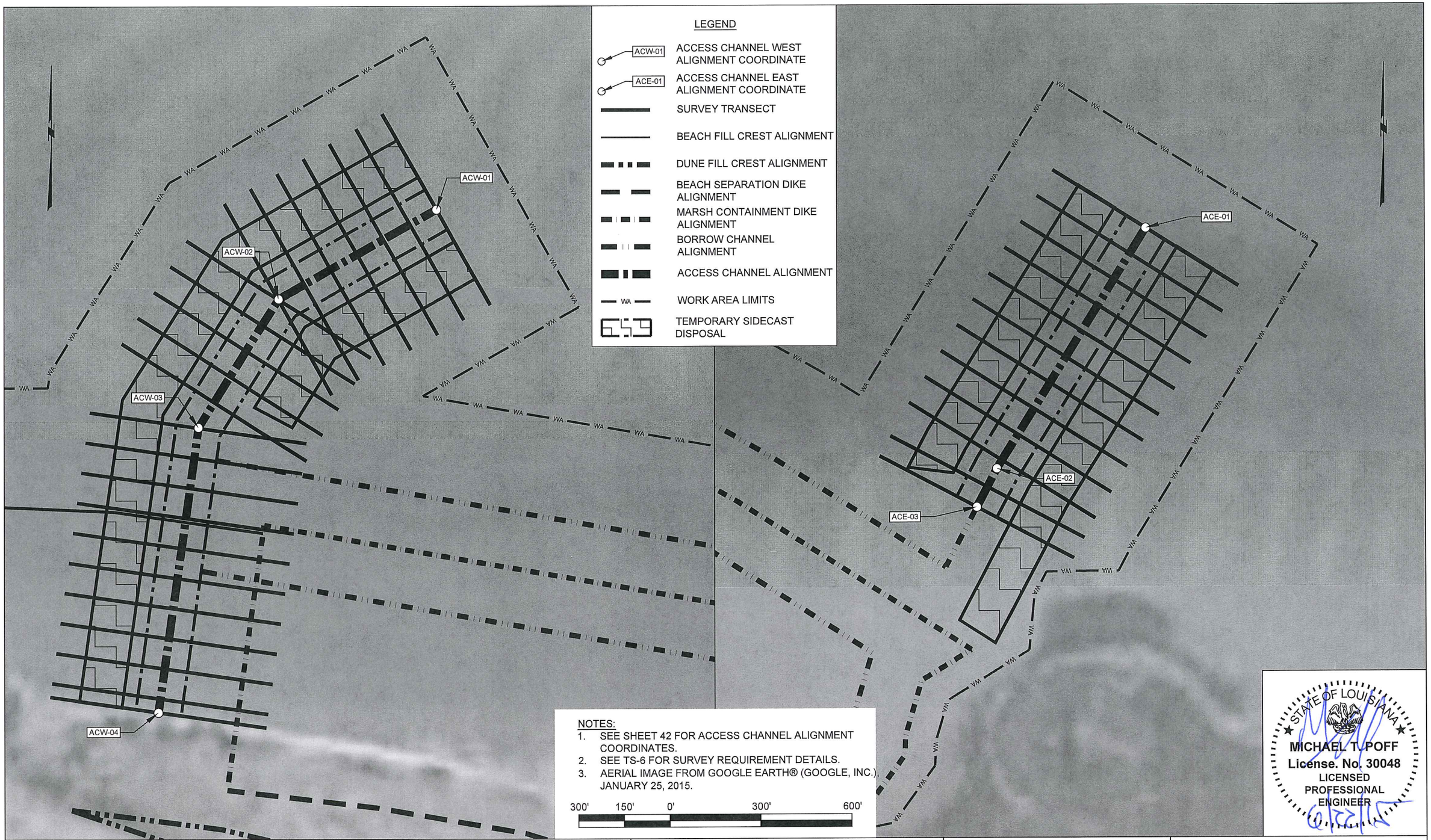
DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

CONTAINMENT DIKE SURVEY LAYOUT

DATE: MAY 2015
SHEET 38 OF 45




NOTES:
1. SEE SHEET 42 FOR ACCESS CHANNEL ALIGNMENT COORDINATES.
2. SEE TS-6 FOR SURVEY REQUIREMENT DETAILS.
3. AERIAL IMAGE FROM GOOGLE EARTH® (GOOGLE, INC.), JANUARY 25, 2015.

300' 150' 0' 300' 600'

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DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

ACCESS CHANNEL SURVEY LAYOUTS
DATE: MAY 2015
SHEET 39 OF 45

## WHISKEY ISLAND DUNE FILL CREST ALIGNMENT (SOUTH)

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| DC-01 | 202,019.06 | 3,449,550.43 | S 39° 36' 46" W | | | 507.93 |
| DC-02 | 201,627.76 | 3,449,226.57 | S 48° 31' 09" W | 08° 54' 22" | RIGHT | 500.12 |
| DC-03 | 201,296.50 | 3,448,851.89 | S 49° 09' 14" W | 00° 38' 05" | RIGHT | 500.03 |
| DC-04 | 200,969.47 | 3,448,473.64 | S 49° 58' 56" W | 00° 49' 42" | RIGHT | 500.00 |
| DC-05 | 200,647.95 | 3,448,090.71 | S 50° 59' 51" W | 01° 00' 54" | RIGHT | 500.12 |
| DC-06 | 200,333.20 | 3,447,702.06 | S 50° 39' 46" W | 00° 20' 04" | LEFT | 500.06 |
| DC-07 | 200,016.22 | 3,447,315.30 | S 50° 35' 47" W | 00° 03' 59" | LEFT | 500.05 |
| DC-08 | 199,698.80 | 3,446,928.91 | S 52° 55' 24" W | 02° 19' 37" | RIGHT | 436.74 |
| DC-09 | 199,435.50 | 3,446,580.47 | S 75° 07' 41" W | 22° 12' 16" | RIGHT | 503.06 |
| DC-10 | 199,306.38 | 3,446,094.26 | S 74° 18' 54" W | 00° 48' 46" | LEFT | 502.32 |
| DC-11 | 199,170.58 | 3,445,610.65 | S 74° 03' 59" W | 00° 14' 56" | LEFT | 502.11 |
| DC-12 | 199,032.74 | 3,445,127.82 | S 81° 45' 04" W | 07° 41' 05" | RIGHT | 426.38 |
| DC-13 | 198,971.56 | 3,444,705.86 | S 83° 15' 42" W | 01° 30' 38" | RIGHT | 500.33 |
| DC-14 | 198,912.86 | 3,444,208.98 | S 84° 48' 07" W | 01° 32' 25" | RIGHT | 500.02 |
| DC-15 | 198,867.56 | 3,443,711.02 | S 83° 29' 18" W | 01° 18' 49" | LEFT | 500.26 |
| DC-16 | 198,810.82 | 3,443,213.98 | S 82° 41' 44" W | 00° 47' 34" | LEFT | 500.54 |
| DC-17 | 198,747.18 | 3,442,717.51 | S 84° 03' 27" W | 01° 21' 43" | RIGHT | 500.13 |
| DC-18 | 198,695.40 | 3,442,220.07 | S 83° 51' 58" W | 00° 11' 28" | LEFT | 500.17 |
| DC-19 | 198,641.96 | 3,441,722.76 | S 84° 59' 24" W | 01° 07' 26" | RIGHT | 474.28 |
| DC-20 | 198,600.54 | 3,441,250.29 | S 88° 10' 02" W | 03° 10' 38" | RIGHT | 504.93 |
| DC-21 | 198,584.39 | 3,440,745.62 | S 89° 12' 45" W | 01° 02' 43" | RIGHT | 503.72 |
| DC-22 | 198,577.47 | 3,440,241.95 | S 88° 04' 55" W | 01° 07' 51" | LEFT | 505.03 |
| DC-23 | 198,560.56 | 3,439,737.20 | N 83° 37' 57" W | 08° 17' 08" | RIGHT | 500.00 |
| DC-24 | 198,616.02 | 3,439,240.28 | N 73° 08' 16" W | 10° 29' 41" | RIGHT | 508.82 |
| DC-25 | 198,763.61 | 3,438,753.34 | N 68° 18' 50" W | 04° 49' 26" | RIGHT | 431.97 |
| DC-26 | 198,923.24 | 3,438,351.94 | N 69° 28' 53" W | 01° 10' 03" | LEFT | 518.96 |
| DC-27 | 199,105.14 | 3,437,865.91 | N 69° 08' 37" W | 00° 20' 16" | RIGHT | 518.12 |
| DC-28 | 199,289.60 | 3,437,381.74 | N 49° 12' 59" W | 19° 55' 37" | RIGHT | 501.71 |
| DC-29 | 199,617.32 | 3,437,001.85 | N 53° 36' 22" W | 04° 23' 22" | LEFT | 500.01 |
| DC-30 | 199,913.99 | 3,436,599.37 | N 53° 37' 23" W | 00° 01' 01" | LEFT | 501.24 |
| DC-31 | 200,211.28 | 3,436,195.80 | N 60° 05' 05" W | 06° 27' 42" | LEFT | 462.23 |
| DC-32 | 200,441.80 | 3,435,795.16 | N 66° 13' 37" W | 06° 08' 32" | LEFT | 504.32 |
| DC-33 | 200,645.10 | 3,435,333.63 | N 66° 27' 08" W | 00° 13' 31" | LEFT | 504.07 |
| DC-34 | 200,846.48 | 3,434,871.54 | N 66° 24' 06" W | 00° 03' 03" | RIGHT | 504.12 |
| DC-35 | 201,048.29 | 3,434,409.57 | N 75° 36' 01" W | 09° 11' 55" | LEFT | 500.27 |
| DC-36 | 201,172.70 | 3,433,925.03 | N 76° 17' 00" W | 00° 40' 59" | LEFT | 500.50 |
| DC-37 | 201,291.38 | 3,433,438.80 | N 75° 42' 53" W | 00° 34' 07" | RIGHT | 500.30 |
| DC-38 | 201,414.83 | 3,432,953.98 | N 75° 42' 53" W | 00° 00' 00" | LEFT | 500.30 |
| DC-39 | 201,538.28 | 3,432,469.15 | N 72° 29' 33" W | 03° 13' 19" | RIGHT | 502.42 |
| DC-40 | 201,689.43 | 3,431,990.00 | N 80° 07' 32" W | 07° 37' 59" | LEFT | 500.23 |
| DC-41 | 201,775.21 | 3,431,497.17 | N 76° 56' 04" W | 03° 11' 28" | RIGHT | 501.86 |
| DC-42 | 201,888.66 | 3,431,008.30 | N 71° 18' 50" W | 05° 37' 14" | RIGHT | 508.61 |
| DC-43 | 202,051.61 | 3,430,526.50 | | | | |

## WHISKEY ISLAND DUNE FILL CREST ALIGNMENT (NORTH)

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| DC-43 | 202,051.61 | 3,430,526.50 | S 82° 39' 07" E | | | 500.05 |
| DC-44 | 201,987.66 | 3,431,022.44 | S 76° 56' 04" E | 05° 43' 02" | RIGHT | 501.86 |
| DC-45 | 201,874.21 | 3,431,511.31 | S 80° 07' 32" E | 03° 11' 28" | LEFT | 500.23 |
| DC-46 | 201,788.42 | 3,432,004.13 | S 72° 38' 18" E | 07° 29' 14" | RIGHT | 516.56 |
| DC-47 | 201,634.28 | 3,432,497.16 | S 75° 59' 54" E | 03° 21' 36" | LEFT | 500.39 |
| DC-48 | 201,513.21 | 3,432,982.68 | S 75° 25' 51" E | 00° 34' 04" | RIGHT | 500.22 |
| DC-49 | 201,387.38 | 3,433,466.81 | S 76° 17' 00" E | 00° 51' 09" | LEFT | 500.50 |
| DC-50 | 201,268.70 | 3,433,953.04 | S 75° 36' 01" E | 00° 40' 59" | RIGHT | 500.27 |
| DC-51 | 201,144.29 | 3,434,437.58 | S 66° 24' 06" E | 09° 11' 55" | RIGHT | 504.12 |
| DC-52 | 200,942.48 | 3,434,899.55 | S 66° 27' 08" E | 00° 03' 03" | LEFT | 504.07 |
| DC-53 | 200,741.10 | 3,435,361.64 | S 66° 13' 37" E | 00° 13' 31" | RIGHT | 504.32 |
| DC-54 | 200,537.80 | 3,435,823.17 | S 66° 47' 00" E | 00° 33' 23" | LEFT | 507.34 |
| DC-55 | 200,337.80 | 3,436,289.43 | S 47° 04' 44" E | 19° 42' 16" | RIGHT | 503.61 |
| DC-56 | 199,994.84 | 3,436,658.22 | S 53° 36' 22" E | 06° 31' 38" | LEFT | 500.01 |
| DC-57 | 199,698.17 | 3,437,060.71 | S 49° 12' 59" E | 04° 23' 22" | RIGHT | 501.71 |
| DC-58 | 199,370.45 | 3,437,440.59 | S 69° 08' 37" E | 19° 55' 37" | LEFT | 518.12 |
| DC-59 | 199,185.99 | 3,437,924.76 | S 69° 28' 52" E | 00° 20' 16" | LEFT | 518.96 |
| DC-60 | 199,004.08 | 3,438,410.80 | S 68° 14' 11" E | 01° 14' 41" | RIGHT | 380.42 |
| DC-61 | 198,863.03 | 3,438,764.10 | S 73° 08' 16" E | 04° 54' 04" | LEFT | 508.82 |
| DC-62 | 198,715.44 | 3,439,251.05 | S 83° 37' 57" E | 10° 29' 41" | LEFT | 500.00 |
| DC-63 | 198,659.98 | 3,439,747.97 | N 88° 04' 55" E | 08° 17' 08" | LEFT | 505.03 |
| DC-64 | 198,676.89 | 3,440,252.72 | N 89° 12' 45" E | 01° 07' 51" | RIGHT | 503.72 |
| DC-65 | 198,683.81 | 3,440,756.39 | N 88° 10' 02" E | 01° 02' 43" | LEFT | 504.93 |
| DC-66 | 198,699.96 | 3,441,261.06 | N 84° 45' 04" E | 03° 24' 58" | LEFT | 455.51 |
| DC-67 | 198,741.63 | 3,441,714.65 | N 83° 51' 58" E | 00° 53' 06" | LEFT | 500.17 |
| DC-68 | 198,795.07 | 3,442,211.96 | N 84° 03' 27" E | 00° 11' 28" | RIGHT | 500.13 |
| DC-69 | 198,846.85 | 3,442,709.40 | N 82° 41' 44" E | 01° 21' 43" | LEFT | 500.54 |
| DC-70 | 198,910.49 | 3,443,205.87 | N 83° 29' 18" E | 00° 47' 34" | RIGHT | 500.26 |
| DC-71 | 198,967.23 | 3,443,702.91 | N 84° 48' 07" E | 01° 18' 49" | RIGHT | 500.02 |
| DC-72 | 199,012.53 | 3,444,200.87 | N 83° 15' 42" E | 01° 32' 25" | LEFT | 500.33 |
| DC-73 | 199,071.23 | 3,444,697.75 | N 82° 05' 19" E | 01° 10' 23" | LEFT | 397.71 |
| DC-74 | 199,125.97 | 3,445,091.67 | N 74° 03' 59" E | 08° 01' 21" | LEFT | 502.11 |
| DC-75 | 199,263.82 | 3,445,574.49 | N 74° 18' 54" E | 00° 14' 55" | RIGHT | 502.32 |
| DC-76 | 199,399.62 | 3,446,058.11 | N 75° 07' 41" E | 00° 48' 46" | RIGHT | 503.06 |
| DC-77 | 199,528.73 | 3,446,544.32 | N 52° 24' 13" E | 22° 43' 28" | LEFT | 403.85 |
| DC-78 | 199,775.12 | 3,446,864.30 | N 50° 35' 47" E | 01° 48' 26" | LEFT | 500.05 |
| DC-79 | 200,092.55 | 3,447,250.69 | N 50° 39' 46" E | 00° 03' 59" | RIGHT | 500.06 |
| DC-80 | 200,409.53 | 3,447,637.45 | N 50° 59' 50" E | 00° 20' 04" | RIGHT | 500.12 |
| DC-81 | 200,724.28 | 3,448,026.10 | N 49° 58' 56" E | 01° 00' 54" | LEFT | 500.00 |
| DC-82 | 201,045.79 | 3,448,409.03 | N 49° 09' 14" E | 00° 49' 42" | LEFT | 500.03 |
| DC-83 | 201,372.83 | 3,448,787.28 | N 48° 31' 09" E | 00° 38' 05" | LEFT | 500.12 |
| DC-84 | 201,704.09 | 3,449,161.96 | N 50° 57' 53" E | 02° 26' 44" | RIGHT | 500.11 |
| DC-01 | 202019.06 | 3449550.43 | | | | |

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED PROFESSIONAL ENGINEER

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

COASTAL ENGINEERING CONSULTANTS, INC.
PH: (225) 768-1982
FAX: (225) 769-3596
5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810

LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

ALIGNMENT TABLES
DATE: MAY 2015
SHEET 40 OF 45

## WHISKEY ISLAND BEACH FILL CREST ALIGNMENT

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| BC-01 | 201,840.57 | 3,449,046.43 | N 32° 21' 20" E | | | 523.97 |
| BC-02 | 202,283.19 | 3,449,326.84 | N 49° 17' 58" E | 16° 56' 38" | RIGHT | 500.02 |
| BC-03 | 202,609.25 | 3,449,705.92 | N 55° 17' 41" E | 05° 59' 43" | RIGHT | 300.60 |
| BC-04 | 202,780.40 | 3,449,953.04 | S 60° 07' 30" E | 64° 34' 50" | RIGHT | 185.48 |
| BC-05 | 202,688.01 | 3,450,113.87 | S 18° 59' 53" W | 79° 07' 23" | RIGHT | 421.54 |
| BC-06 | 202,289.43 | 3,449,976.64 | S 20° 40' 31" W | 01° 40' 38" | RIGHT | 572.10 |
| BC-07 | 201,754.18 | 3,449,774.65 | S 23° 05' 26" W | 02° 24' 55" | RIGHT | 559.49 |
| BC-08 | 201,239.51 | 3,449,555.23 | S 36° 21' 21" W | 13° 15' 55" | RIGHT | 513.98 |
| BC-09 | 200,825.57 | 3,449,250.54 | S 49° 09' 14" W | 12° 47' 52" | RIGHT | 500.03 |
| BC-10 | 200,498.54 | 3,448,872.28 | S 49° 58' 56" W | 00° 49' 43" | RIGHT | 500.00 |
| BC-11 | 200,177.03 | 3,448,489.36 | S 50° 59' 51" W | 01° 00' 54" | RIGHT | 500.12 |
| BC-12 | 199,862.27 | 3,448,100.71 | S 50° 39' 46" W | 00° 20' 05" | LEFT | 500.06 |
| BC-13 | 199,545.29 | 3,447,713.94 | S 50° 35' 47" W | 00° 03' 59" | LEFT | 500.05 |
| BC-14 | 199,227.87 | 3,447,327.55 | S 54° 56' 52" W | 04° 21' 05" | RIGHT | 640.13 |
| BC-15 | 198,860.23 | 3,446,803.53 | S 75° 07' 41" W | 20° 10' 49" | RIGHT | 503.06 |
| BC-16 | 198,731.11 | 3,446,317.32 | S 74° 18' 54" W | 00° 48' 46" | LEFT | 502.32 |
| BC-17 | 198,595.31 | 3,445,833.70 | S 74° 03' 59" W | 00° 14' 56" | LEFT | 502.11 |
| BC-18 | 198,457.47 | 3,445,350.88 | S 80° 22' 39" W | 06° 18' 40" | RIGHT | 603.47 |
| BC-19 | 198,356.60 | 3,444,755.91 | S 83° 15' 42" W | 02° 53' 03" | RIGHT | 500.33 |
| BC-20 | 198,297.89 | 3,444,259.03 | S 84° 48' 07" W | 01° 32' 25" | RIGHT | 500.02 |
| BC-21 | 198,252.59 | 3,443,761.06 | S 83° 29' 18" W | 01° 18' 49" | LEFT | 500.26 |
| BC-22 | 198,195.86 | 3,443,264.03 | S 82° 41' 44" W | 00° 47' 34" | LEFT | 500.54 |
| BC-23 | 198,132.22 | 3,442,767.55 | S 84° 03' 27" W | 01° 21' 43" | RIGHT | 500.13 |
| BC-24 | 198,080.44 | 3,442,270.11 | S 83° 51' 58" W | 00° 11' 29" | LEFT | 500.17 |
| BC-25 | 198,026.99 | 3,441,772.81 | S 86° 07' 38" W | 02° 15' 40" | RIGHT | 590.27 |
| BC-26 | 197,987.12 | 3,441,183.89 | S 88° 10' 02" W | 02° 02' 24" | RIGHT | 504.93 |
| BC-27 | 197,970.98 | 3,440,679.22 | S 89° 12' 45" W | 01° 02' 43" | RIGHT | 503.72 |
| BC-28 | 197,964.05 | 3,440,175.55 | S 88° 04' 55" W | 01° 07' 50" | LEFT | 505.03 |
| BC-29 | 197,947.15 | 3,439,670.80 | N 83° 37' 57" W | 08° 17' 08" | RIGHT | 500.00 |
| BC-30 | 198,002.60 | 3,439,173.88 | N 73° 08' 16" W | 10° 29' 41" | RIGHT | 508.82 |
| BC-31 | 198,150.20 | 3,438,686.94 | N 68° 33' 20" W | 04° 34' 56" | RIGHT | 750.05 |
| BC-32 | 198,424.41 | 3,437,988.81 | N 69° 28' 52" W | 00° 55' 32" | LEFT | 518.96 |
| BC-33 | 198,606.32 | 3,437,502.78 | N 69° 08' 37" W | 00° 20' 16" | RIGHT | 518.12 |
| BC-34 | 198,790.78 | 3,437,018.61 | N 57° 08' 04" W | 12° 00' 32" | RIGHT | 500.78 |
| BC-35 | 199,062.54 | 3,436,597.98 | N 62° 51' 12" W | 05° 43' 08" | LEFT | 506.10 |
| BC-36 | 199,293.46 | 3,436,147.63 | N 59° 36' 29" W | 03° 14' 42" | RIGHT | 502.45 |
| BC-37 | 199,547.65 | 3,435,714.23 | N 63° 50' 03" W | 04° 13' 34" | LEFT | 175.36 |
| BC-38 | 199,624.98 | 3,435,556.83 | N 63° 19' 06" W | 00° 30' 58" | RIGHT | 508.38 |
| BC-39 | 199,853.26 | 3,435,102.59 | N 64° 13' 27" W | 00° 54' 22" | LEFT | 506.97 |
| BC-40 | 200,073.71 | 3,434,646.07 | N 71° 04' 02" W | 06° 50' 35" | LEFT | 500.54 |
| BC-41 | 200,236.12 | 3,434,172.60 | N 71° 24' 29" W | 00° 20' 27" | LEFT | 500.41 |
| BC-42 | 200,395.66 | 3,433,698.31 | N 72° 15' 10" W | 00° 50' 41" | LEFT | 500.17 |
| BC-43 | 200,548.12 | 3,433,221.94 | N 78° 30' 34" W | 06° 15' 24" | LEFT | 501.74 |
| BC-44 | 200,648.07 | 3,432,730.26 | N 78° 28' 11" W | 00° 02' 23" | RIGHT | 501.71 |
| BC-45 | 200,748.36 | 3,432,238.67 | N 79° 27' 40" W | 00° 59' 29" | LEFT | 379.53 |
| BC-46 | 200,817.78 | 3,431,865.54 | N 79° 26' 37" W | 00° 01' 03" | RIGHT | 500.45 |
| BC-47 | 200,909.46 | 3,431,373.56 | N 67° 46' 22" W | 11° 40' 15" | RIGHT | 515.53 |
| BC-48 | 201,104.48 | 3,430,896.33 | N 69° 34' 48" W | 01° 48' 26" | LEFT | 511.73 |
| BC-49 | 201,283.02 | 3,430,416.75 | N 59° 33' 27" W | 10° 01' 21" | RIGHT | 540.48 |
| BC-50 | 201,556.87 | 3,429,950.78 | N 57° 46' 09" W | 01° 47' 18" | RIGHT | 547.77 |
| BC-51 | 201,849.01 | 3,429,487.43 | N 55° 11' 39" W | 02° 34' 30" | RIGHT | 559.58 |
| BC-52 | 202,168.41 | 3,429,027.96 | N 08° 07' 34" E | 296° 40' 47" | LEFT | 558.77 |
| BC-53 | 202,721.57 | 3,429,106.95 | N 70° 42' 57" E | 62° 35' 23" | RIGHT | 563.23 |
| BC-54 | 202,907.58 | 3,429,638.58 | N 74° 23' 59" E | 03° 41' 02" | RIGHT | 546.16 |
| BC-55 | 203,054.46 | 3,430,164.62 | S 87° 29' 49" E | 18° 06' 12" | RIGHT | 502.42 |
| BC-56 | 203,032.51 | 3,430,666.56 | S 81° 52' 26" E | 05° 37' 24" | RIGHT | 500.00 |
| BC-57 | 202,961.84 | 3,431,161.54 | | | | |

## MARSH CONTAINMENT DIKE ALIGNMENT

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| CD-01 | 200237.14 | 3436720.69 | N 72° 37' 48" E | | | 374.39 |
| CD-02 | 200348.91 | 3437078.01 | N 87° 40' 53" E | 15° 03' 05" | RIGHT | 205.73 |
| CD-03 | 200357.23 | 3437283.57 | N 42° 50' 09" E | 44° 50' 44" | LEFT | 209.89 |
| CD-04 | 200511.15 | 3437426.28 | N 78° 21' 56" E | 35° 31' 47" | RIGHT | 170.72 |
| CD-05 | 200545.58 | 3437593.49 | N 36° 03' 13" E | 42° 18' 43" | LEFT | 162.50 |
| CD-06 | 200676.95 | 3437689.13 | N 02° 18' 08" E | 33° 45' 05" | LEFT | 64.47 |
| CD-07 | 200741.37 | 3437691.72 | N 16° 24' 54" E | 14° 06' 46" | RIGHT | 188.94 |
| CD-08 | 200922.61 | 3437745.11 | N 58° 32' 55" E | 42° 08' 01" | RIGHT | 193.83 |
| CD-09 | 201023.74 | 3437910.46 | N 57° 32' 07" W | 243° 54' 58" | RIGHT | 407.64 |
| CD-10 | 201242.56 | 3437566.52 | N 57° 32' 07" W | 00° 00' 00" | RIGHT | 500.98 |
| CD-11 | 201511.47 | 3437143.83 | N 60° 21' 23" W | 02° 49' 16" | LEFT | 503.15 |
| CD-12 | 201760.33 | 3436706.54 | N 71° 01' 13" W | 10° 39' 50" | LEFT | 506.15 |
| CD-13 | 201924.95 | 3436227.91 | N 75° 34' 05" W | 04° 32' 52" | LEFT | 500.26 |
| CD-14 | 202049.63 | 3435743.43 | N 79° 11' 09" W | 03° 37' 04" | LEFT | 502.27 |
| CD-15 | 202143.87 | 3435250.08 | N 78° 08' 59" W | 01° 02' 10" | RIGHT | 501.49 |
| CD-16 | 202246.85 | 3434759.28 | N 71° 59' 47" W | 06° 09' 12" | RIGHT | 500.23 |
| CD-17 | 202401.46 | 3434283.54 | N 74° 52' 35" W | 02° 52' 49" | LEFT | 500.10 |
| CD-18 | 202531.94 | 3433800.77 | N 80° 54' 36" W | 06° 02' 00" | LEFT | 503.95 |
| CD-19 | 202611.55 | 3433303.15 | N 79° 37' 22" W | 01° 17' 14" | RIGHT | 502.65 |
| CD-20 | 202702.09 | 3432808.72 | N 80° 07' 34" W | 00° 30' 12" | LEFT | 667.67 |
| CD-21 | 202816.59 | 3432150.94 | N 80° 07' 34" W | 00° 00' 00" | LEFT | 500.23 |
| CD-22 | 202902.37 | 3431658.12 | N 80° 07' 34" W | 00° 00' 00" | RIGHT | 500.23 |
| CD-23 | 202988.15 | 3431165.30 | S 08° 07' 34" W | 91° 44' 52" | LEFT | 853.19 |
| CD-24 | 202143.52 | 3431044.69 | | | | |

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED
PROFESSIONAL
ENGINEER

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

COASTAL ENGINEERING CONSULTANTS, INC.
PH: (225) 768-1982
FAX: (225) 769-3596
5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810

LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

ALIGNMENT TABLES
DATE: MAY 2015
SHEET 41 OF 45

## WHISKEY ISLAND BEACH SEPARATION DIKE ALIGNMENT

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| SD-01 | 201,963.96 | 3,448,941.98 | S 31° 24' 10" W | | | 526.78 |
| SD-02 | 201,514.34 | 3,448,667.50 | S 49° 09' 13" W | 17° 45' 03" | RIGHT | 500.04 |
| SD-03 | 201,187.30 | 3,448,289.24 | S 49° 58' 56" W | 00° 49' 43" | RIGHT | 500.00 |
| SD-04 | 200,865.79 | 3,447,906.32 | S 50° 59' 48" W | 01° 00' 52" | RIGHT | 500.12 |
| SD-05 | 200,551.03 | 3,447,517.67 | S 50° 39' 48" W | 00° 20' 00" | LEFT | 500.07 |
| SD-06 | 200,234.05 | 3,447,130.90 | S 49° 45' 05" W | 00° 54' 44" | LEFT | 500.00 |
| SD-07 | 199,911.00 | 3,446,749.28 | S 52° 24' 24" W | 02° 39' 19" | RIGHT | 343.27 |
| SD-08 | 199,701.59 | 3,446,477.29 | S 75° 07' 43" W | 22° 43' 19" | RIGHT | 503.06 |
| SD-09 | 199,572.48 | 3,445,991.08 | S 74° 18' 54" W | 00° 48' 49" | LEFT | 502.31 |
| SD-10 | 199,436.68 | 3,445,507.47 | S 74° 03' 56" W | 00° 14' 59" | LEFT | 502.11 |
| SD-11 | 199,298.83 | 3,445,024.65 | S 82° 51' 50" W | 08° 47' 54" | RIGHT | 344.61 |
| SD-12 | 199,256.02 | 3,444,682.71 | S 83° 15' 45" W | 00° 23' 55" | RIGHT | 500.34 |
| SD-13 | 199,197.32 | 3,444,185.83 | S 84° 48' 03" W | 01° 32' 18" | RIGHT | 500.02 |
| SD-14 | 199,152.01 | 3,443,687.87 | S 83° 29' 19" W | 01° 18' 44" | LEFT | 500.27 |
| SD-15 | 199,095.28 | 3,443,190.83 | S 82° 41' 43" W | 00° 47' 36" | LEFT | 500.53 |
| SD-16 | 199,031.64 | 3,442,694.36 | S 84° 03' 26" W | 01° 21' 43" | RIGHT | 500.13 |
| SD-17 | 198,979.86 | 3,442,196.92 | S 83° 52' 00" W | 00° 11' 26" | LEFT | 500.17 |
| SD-18 | 198,926.42 | 3,441,699.61 | S 84° 15' 05" W | 00° 23' 05" | RIGHT | 420.72 |
| SD-19 | 198,884.28 | 3,441,281.01 | S 88° 10' 02" W | 03° 54' 56" | RIGHT | 504.93 |
| SD-20 | 198,868.13 | 3,440,776.34 | S 89° 12' 46" W | 01° 02' 45" | RIGHT | 503.72 |
| SD-21 | 198,861.21 | 3,440,272.67 | S 88° 04' 56" W | 01° 07' 50" | LEFT | 505.03 |
| SD-22 | 198,844.31 | 3,439,767.92 | N 83° 37' 58" W | 08° 17' 05" | RIGHT | 500.00 |
| SD-23 | 198,899.76 | 3,439,271.00 | N 73° 08' 13" W | 10° 29' 45" | RIGHT | 508.82 |
| SD-24 | 199,047.36 | 3,438,784.06 | N 68° 01' 16" W | 05° 06' 57" | RIGHT | 284.85 |
| SD-25 | 199,153.97 | 3,438,519.91 | N 69° 28' 49" W | 01° 27' 33" | LEFT | 518.96 |
| SD-26 | 199,335.88 | 3,438,033.88 | N 69° 08' 39" W | 00° 20' 10" | RIGHT | 518.12 |
| SD-27 | 199,520.34 | 3,437,549.71 | N 49° 13' 00" W | 19° 55' 39" | RIGHT | 501.71 |
| SD-28 | 199,848.06 | 3,437,169.82 | N 47° 04' 39" W | 02° 08' 20" | RIGHT | 503.61 |
| SD-29 | 200,191.02 | 3,436,801.04 | N 60° 08' 41" W | 13° 04' 01" | LEFT | 92.65 |
| SD-30 | 200,237.14 | 3,436,720.69 | N 60° 29' 18" W | 00° 20' 37" | LEFT | 971.66 |
| SD-31 | 200,715.78 | 3,435,875.10 | N 66° 13' 37" W | 05° 44' 19" | LEFT | 504.32 |
| SD-32 | 200,919.08 | 3,435,413.57 | N 66° 27' 08" W | 00° 13' 31" | LEFT | 504.06 |
| SD-33 | 201,120.46 | 3,434,951.48 | N 66° 24' 07" W | 00° 03' 01" | RIGHT | 504.13 |
| SD-34 | 201,322.27 | 3,434,489.51 | N 75° 36' 01" W | 09° 11' 53" | LEFT | 500.27 |
| SD-35 | 201,446.68 | 3,434,004.96 | N 76° 16' 59" W | 00° 40' 58" | LEFT | 500.49 |
| SD-36 | 201,565.36 | 3,433,518.74 | N 75° 42' 53" W | 00° 34' 06" | RIGHT | 500.30 |
| SD-37 | 201,688.81 | 3,433,033.91 | N 75° 42' 52" W | 00° 00' 01" | RIGHT | 500.29 |
| SD-38 | 201,812.26 | 3,432,549.09 | N 72° 53' 19" W | 02° 49' 32" | RIGHT | 542.78 |
| SD-39 | 201,971.96 | 3,432,030.34 | N 80° 07' 34" W | 07° 14' 14" | LEFT | 500.23 |
| SD-40 | 202,057.74 | 3,431,537.52 | N 83° 15' 19" W | 03° 07' 46" | LEFT | 500.15 |
| SD-41 | 202,116.48 | 3,431,040.83 | | | | |

## ACCESS CHANNEL WEST ALIGNMENT

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| ACW-01 | 204,027.00 | 3,431,734.63 | S 60° 33' 09" W | | | 598.18 |
| ACW-02 | 203,732.92 | 3,431,213.73 | S 32° 17' 23" W | 28° 15' 47" | LEFT | 500.00 |
| ACW-03 | 203,310.24 | 3,430,946.63 | S 08° 07' 35" W | 24° 09' 47" | LEFT | 946.82 |
| ACW-04 | 202,372.93 | 3,430,812.79 | | | | |

## ACCESS CHANNEL EAST ALIGNMENT

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| ACE-01 | 202,410.62 | 3,438,488.98 | S 31° 54' 55" W | | | 931.86 |
| ACE-02 | 201,619.63 | 3,437,996.34 | S 27° 46' 45" W | 04° 08' 10" | LEFT | 143.14 |
| ACE-03 | 201,492.98 | 3,437,929.63 | | | | |

## MARSH CREST (SAND)

| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
|---|---|---|---|---|---|---|
| MC-01 | 200,278.51 | 3,436,648.62 | N 72° 37' 48" E | | | 438.88 |
| MC-02 | 200,409.54 | 3,437,067.49 | N 87° 40' 53" E | 15° 03' 05" | RIGHT | 188.62 |
| MC-03 | 200,417.17 | 3,437,255.96 | N 42° 50' 09" E | 44° 50' 44" | LEFT | 204.26 |
| MC-04 | 200,566.95 | 3,437,394.84 | N 78° 21' 56" E | 35° 31' 47" | RIGHT | 166.65 |
| MC-05 | 200,600.56 | 3,437,558.06 | N 36° 03' 13" E | 42° 18' 43" | LEFT | 120.39 |
| MC-06 | 200,697.89 | 3,437,628.92 | N 02° 18' 08" E | 33° 45' 05" | LEFT | 53.51 |
| MC-07 | 200,751.36 | 3,437,631.07 | N 16° 24' 55" E | 14° 06' 46" | RIGHT | 219.99 |
| MC-08 | 200,962.38 | 3,437,693.24 | N 58° 32' 55" E | 42° 08' 01" | RIGHT | 108.79 |
| MC-09 | 201,019.15 | 3,437,786.04 | N 57° 32' 07" W | 243° 54' 58" | RIGHT | 309.57 |
| MC-10 | 201,185.32 | 3,437,524.86 | N 57° 32' 07" W | 00° 00' 00" | RIGHT | 500.98 |
| MC-11 | 201,454.23 | 3,437,102.17 | N 60° 08' 40" W | 02° 36' 33" | LEFT | 502.94 |
| MC-12 | 201,704.60 | 3,436,665.97 | N 71° 35' 38" W | 11° 26' 58" | LEFT | 482.59 |
| MC-13 | 201,856.98 | 3,436,208.07 | N 75° 34' 05" W | 03° 58' 27" | LEFT | 500.26 |
| MC-14 | 201,981.66 | 3,435,723.60 | N 79° 11' 09" W | 03° 37' 04" | LEFT | 502.27 |
| MC-15 | 202,075.90 | 3,435,230.25 | N 78° 08' 59" W | 01° 02' 10" | RIGHT | 501.49 |
| MC-16 | 202,178.88 | 3,434,739.45 | N 71° 54' 58" W | 06° 14' 01" | RIGHT | 500.25 |
| MC-17 | 202,334.16 | 3,434,263.91 | N 74° 57' 24" W | 03° 02' 26" | LEFT | 500.11 |
| MC-18 | 202,463.97 | 3,433,780.94 | N 80° 56' 41" W | 05° 59' 18" | LEFT | 503.99 |
| MC-19 | 202,543.29 | 3,433,283.23 | N 79° 35' 15" W | 01° 21' 26" | RIGHT | 502.62 |
| MC-20 | 202,634.13 | 3,432,788.89 | N 80° 21' 59" W | 00° 46' 44" | LEFT | 657.56 |
| MC-21 | 202,744.17 | 3,432,140.60 | N 79° 51' 24" W | 00° 30' 35" | RIGHT | 500.31 |
| MC-22 | 202,832.28 | 3,431,648.11 | N 80° 22' 39" W | 00° 31' 15" | LEFT | 500.17 |
| MC-23 | 202,915.88 | 3,431,154.98 | S 08° 07' 34" W | 91° 29' 46" | LEFT | 807.51 |
| MC-24 | 202,116.48 | 3,431,040.83 | | | | |

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
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DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|
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COASTAL ENGINEERING CONSULTANTS, INC.
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FAX: (225) 769-3596
5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810

LOUISIANA COASTAL PROTECTION AND RESTORATION AUTHORITY
450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

ALIGNMENT TABLES
DATE: MAY 2015
SHEET 42 OF 45

| MARSH CONTAINMENT DIKE PRIMARY BORROW CHANNEL ALIGNMENT | | | | | | |
|---|---|---|---|---|---|---|
| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
| PMB-01 | 200,390.40 | 3,436,604.35 | N 72° 37' 48" E | | | 463.58 |
| PMB-02 | 200,528.80 | 3,437,046.79 | N 87° 40' 53" E | 15° 03' 05" | RIGHT | 154.96 |
| PMB-03 | 200,535.06 | 3,437,201.63 | N 42° 50' 09" E | 44° 50' 44" | LEFT | 193.19 |
| PMB-04 | 200,676.73 | 3,437,332.98 | N 78° 21' 56" E | 35° 31' 47" | RIGHT | 158.66 |
| PMB-05 | 200,708.73 | 3,437,488.38 | N 17° 12' 39" E | 61° 09' 16" | LEFT | 319.61 |
| PMB-06 | 201,014.03 | 3,437,582.95 | N 57° 31' 56" W | 285° 15' 25" | RIGHT | 148.07 |
| PMB-07 | 201,093.51 | 3,437,458.02 | N 57° 29' 42" W | 00° 02' 14" | RIGHT | 500.96 |
| PMB-08 | 201,362.71 | 3,437,035.54 | N 60° 21' 23" W | 02° 51' 41" | LEFT | 503.15 |
| PMB-09 | 201,611.57 | 3,436,598.25 | N 72° 02' 29" W | 11° 41' 06" | LEFT | 443.49 |
| PMB-10 | 201,748.31 | 3,436,176.37 | N 75° 34' 05" W | 03° 31' 36" | LEFT | 500.26 |
| PMB-11 | 201,872.99 | 3,435,691.90 | N 79° 11' 09" W | 03° 37' 04" | LEFT | 502.27 |
| PMB-12 | 201,967.23 | 3,435,198.54 | N 78° 08' 59" W | 01° 02' 10" | RIGHT | 501.49 |
| PMB-13 | 202,070.21 | 3,434,707.74 | N 71° 59' 47" W | 06° 09' 12" | RIGHT | 500.23 |
| PMB-14 | 202,224.82 | 3,434,232.01 | N 74° 52' 35" W | 02° 52' 48" | LEFT | 500.10 |
| PMB-15 | 202,355.30 | 3,433,749.23 | N 80° 54' 36" W | 06° 02' 00" | LEFT | 503.95 |
| PMB-16 | 202,434.92 | 3,433,251.61 | N 79° 37' 22" W | 01° 17' 14" | RIGHT | 502.65 |
| PMB-17 | 202,525.46 | 3,432,757.18 | N 80° 13' 14" W | 00° 35' 52" | LEFT | 641.57 |
| PMB-18 | 202,634.43 | 3,432,124.93 | N 80° 07' 34" W | 00° 05' 40" | RIGHT | 500.23 |
| PMB-19 | 202,720.21 | 3,431,632.11 | N 80° 35' 39" W | 00° 28' 05" | LEFT | 316.08 |
| PMB-20 | 202,771.87 | 3,431,320.28 | N 79° 19' 22" W | 01° 16' 17" | RIGHT | 184.18 |
| PMB-21 | 202,805.99 | 3,431,139.29 | N 80° 07' 34" W | 00° 48' 12" | LEFT | 187.09 |
| PMB-22 | 202,838.08 | 3,430,954.97 | | | | |
| | | | | | | |
| PMB-20 | 202,771.87 | 3,431,320.28 | S 08° 07' 34" W | 188° 07' 34" | RIGHT | 591.57 |
| PMB-23 | 202,186.24 | 3,431,236.66 | | | | |

| SECONDARY CONTAINMENT DIKE BORROW CHANNEL ALIGNMENT | | | | | | |
|---|---|---|---|---|---|---|
| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
| SMB-01 | 201,492.98 | 3,437,929.63 | S 27° 46' 45" W | | | 222.47 |
| SMB-02 | 201,296.15 | 3,437,825.94 | N 57° 36' 20" W | 94° 36' 55" | RIGHT | 178.55 |
| SMB-03 | 201,391.81 | 3,437,675.18 | N 57° 36' 20" W | 00° 00' 00" | LEFT | 501.02 |
| SMB-04 | 201,660.23 | 3,437,252.13 | N 60° 21' 23" W | 02° 45' 03" | LEFT | 503.15 |
| SMB-05 | 201,909.09 | 3,436,814.83 | N 70° 13' 28" W | 09° 52' 05" | LEFT | 568.94 |
| SMB-06 | 202,101.58 | 3,436,279.44 | N 75° 33' 27" W | 05° 20' 00" | LEFT | 511.96 |
| SMB-07 | 202,229.27 | 3,435,783.67 | N 79° 16' 59" W | 03° 43' 32" | LEFT | 490.60 |
| SMB-08 | 202,320.50 | 3,435,301.62 | N 78° 08' 59" W | 01° 08' 00" | RIGHT | 501.49 |
| SMB-09 | 202,423.48 | 3,434,810.82 | N 71° 59' 47" W | 06° 09' 12" | RIGHT | 500.23 |
| SMB-10 | 202,578.09 | 3,434,335.08 | N 74° 52' 35" W | 02° 52' 49" | LEFT | 500.10 |
| SMB-11 | 202,708.57 | 3,433,852.30 | N 80° 54' 36" W | 06° 02' 00" | LEFT | 503.95 |
| SMB-12 | 202,788.19 | 3,433,354.69 | N 79° 37' 22" W | 01° 17' 14" | RIGHT | 502.65 |
| SMB-13 | 202,878.73 | 3,432,860.26 | N 80° 02' 19" W | 00° 24' 57" | LEFT | 693.76 |
| SMB-14 | 202,998.74 | 3,432,176.95 | N 80° 02' 19" W | 00° 00' 00" | LEFT | 500.26 |
| SMB-15 | 203,085.28 | 3,431,684.24 | N 80° 12' 49" W | 00° 10' 29" | LEFT | 500.21 |
| SMB-16 | 203,170.30 | 3,431,191.30 | N 80° 12' 49" W | 00° 00' 00" | RIGHT | 187.08 |
| SMB-17 | 203,202.10 | 3,431,006.95 | | | | |

| WHISKEY ISLAND BASELINE ALIGNMENT | | | | | | | |
|---|---|---|---|---|---|---|---|
| PI NUMBER | STATION | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
| WFA-01 | 0+00 | 205,564.76 | 3,452,132.56 | S 29° 52' 30" W | | | 3,999.99 |
| WFA-02 | 40+00 | 202,096.31 | 3,450,140.13 | S 49° 45' 07" W | 19° 52' 37" | RIGHT | 4,000.01 |
| WFA-03 | 80+00 | 199,511.91 | 3,447,087.11 | S 68° 48' 24" W | 19° 03' 17" | RIGHT | 2,000.00 |
| WFA-04 | 100+00 | 198,788.88 | 3,445,222.38 | S 85° 20' 51" W | 16° 32' 27" | RIGHT | 4,000.00 |
| WFA-05 | 140+00 | 198,464.43 | 3,441,235.56 | N 83° 49' 18" W | 10° 49' 51" | RIGHT | 3,000.00 |
| WFA-06 | 170+00 | 198,787.30 | 3,438,252.98 | N 53° 56' 47" W | 29° 52' 31" | RIGHT | 3,000.00 |
| WFA-07 | 200+00 | 200,552.93 | 3,435,827.58 | N 73° 44' 03" W | 19° 47' 16" | LEFT | 3,999.99 |
| WFA-08 | 240+00 | 201,673.31 | 3,431,987.70 | N 81° 52' 26" W | 08° 08' 23" | LEFT | 4,000.00 |
| WFA-09 | 280+00 | 202,238.72 | 3,428,027.86 | | | | |

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DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

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450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ | DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS

STATE PROJECT NUMBER: TE-100

FEDERAL PROJECT NUMBER: TE-100

APPROVED BY: JACQUES BOUDREAUX

ALIGNMENT TABLES

DATE: MAY 2015

| SHIP SHOAL 88 BORROW AREA BOUNDARY | | |
|---|---|---|
| PI NUMBER | NORTHING | EASTING |
| S88-01 | 152,938.45 | 3,414,113.80 |
| S88-02 | 151,711.63 | 3,415,766.26 |
| S88-03 | 151,229.02 | 3,415,409.76 |
| S88-04 | 150,870.52 | 3,415,892.64 |
| S88-05 | 150,420.89 | 3,415,558.82 |
| S88-06 | 152,005.40 | 3,413,424.58 |
| S88-07 | 152,697.14 | 3,413,935.55 |
| S88-08 | 152,938.45 | 3,413,608.88 |
| S88-09 | 152,938.45 | 3,411,859.17 |
| S88-10 | 154,768.02 | 3,411,859.17 |
| S88-11 | 154,476.35 | 3,413,540.17 |
| S88-12 | 152,395.55 | 3,416,357.10 |
| S88-13 | 151,722.32 | 3,416,357.10 |
| S88-14 | 151,722.32 | 3,416,859.71 |
| S88-15 | 149,722.32 | 3,416,859.71 |
| S88-16 | 149,722.32 | 3,414,679.98 |
| S88-17 | 150,532.96 | 3,414,401.33 |
| S88-18 | 151,522.79 | 3,413,068.09 |
| S88-19 | 151,522.79 | 3,411,859.17 |
| S88-20 | 154,247.34 | 3,414,860.04 |
| S88-21 | 152,770.23 | 3,416,859.71 |
| S88-22 | 154,132.83 | 3,415,519.98 |
| S88-23 | 153,143.20 | 3,416,859.71 |
| S88-24 | 150,847.32 | 3,411,859.17 |
| S88-25 | 150,847.32 | 3,412,468.08 |
| S88-26 | 149,976.61 | 3,413,640.88 |
| S88-27 | 147,872.32 | 3,414,364.20 |
| S88-28 | 147,872.82 | 3,416,859.17 |
| S88-29 | 147,872.32 | 3,411,859.17 |

| WHISKEY 3A BORROW AREA BOUNDARY | | |
|---|---|---|
| PI NUMBER | NORTHING | EASTING |
| W3A-01 | 189,401.60 | 3,469,488.29 |
| W3A-02 | 189,401.60 | 3,470,506.63 |
| W3A-03 | 188,185.19 | 3,470,506.63 |
| W3A-04 | 188,125.50 | 3,469,897.39 |
| W3A-05 | 186,906.19 | 3,468,958.08 |
| W3A-06 | 186,920.38 | 3,468,623.58 |

| SHIP SHOAL 88 CONVEYANCE CORRIDOR ALIGNMENT | | | | | | |
|---|---|---|---|---|---|---|
| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
| SSC-01 | 153,530.87 | 3,416,369.58 | N 35° 12' 02" E | | | 2,707.99 |
| SSC-02 | 155,743.67 | 3,417,930.58 | N 51° 12' 02" E | 16° 00' 00" | RIGHT | 6,449.38 |
| SSC-03 | 159,784.83 | 3,422,956.87 | N 58° 49' 04" E | 07° 37' 02" | RIGHT | 2,650.00 |
| SSC-04 | 161,156.89 | 3,425,224.01 | N 50° 29' 51" E | 08° 19' 13" | LEFT | 2,350.00 |
| SSC-05 | 162,651.75 | 3,427,037.27 | N 43° 06' 20" E | 07° 23' 32" | LEFT | 1,825.00 |
| SSC-06 | 163,984.18 | 3,428,284.37 | N 49° 53' 35" E | 06° 47' 15" | RIGHT | 2,025.00 |
| SSC-07 | 165,288.72 | 3,429,833.18 | N 39° 59' 51" E | 09° 53' 44" | LEFT | 2,150.00 |
| SSC-08 | 166,935.78 | 3,431,215.10 | N 28° 33' 32" E | 11° 26' 19" | LEFT | 12,950.00 |
| SSC-09 | 178,310.10 | 3,437,405.99 | N 29° 45' 40" E | 01° 12' 08" | RIGHT | 6,325.00 |
| SSC-10 | 183,800.86 | 3,440,545.62 | N 05° 37' 13" E | 24° 08' 27" | LEFT | 2,600.00 |
| SSC-11 | 186,388.36 | 3,440,800.24 | N 04° 53' 48" W | 349° 28' 59" | RIGHT | 2,125.00 |
| SSC-12 | 188,505.60 | 3,440,618.85 | N 22° 32' 55" W | 17° 39' 07" | LEFT | 1,500.00 |
| SSC-13 | 189,890.94 | 3,440,043.65 | N 03° 40' 19" W | 18° 52' 36" | RIGHT | 8,150.01 |
| SSC-14 | 198,024.21 | 3,439,521.68 | | | | |
| | | | | | | |
| SSC-01A | 154,228.20 | 3,415,321.31 | N 59° 51' 06" E | | | 3,017.44 |
| SSC-02 | 155,743.67 | 3,417,930.58 | | | | |

| WHISKEY ISLAND 3A CONVEYANCE CORRIDOR ALIGNMENT | | | | | | |
|---|---|---|---|---|---|---|
| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
| W3C-01 | 188,255.48 | 3,468,989.77 | S 89° 59' 53" W | | | 9,900.00 |
| W3C-02 | 188,255.16 | 3,459,089.77 | N 72° 40' 06" W | 17° 20' 01" | RIGHT | 2,350.00 |
| W3C-03 | 188,955.23 | 3,456,846.47 | N 61° 20' 29" W | 11° 19' 37" | RIGHT | 5,450.00 |
| W3C-04 | 191,569.00 | 3,452,064.14 | N 54° 35' 53" W | 06° 44' 36" | RIGHT | 1,325.00 |
| W3C-05 | 192,336.59 | 3,450,984.12 | N 41° 34' 24" W | 13° 01' 28" | RIGHT | 8,350.00 |
| W3C-06 | 198,583.27 | 3,445,443.24 | | | | |

| SHIP SHOAL 88 BORROW AREA BASELINE ALIGNMENT | | | | | | |
|---|---|---|---|---|---|---|
| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
| 88BL-01 | 146,772.32 | 3,410,859.17 | | | | 9,000.00 |
| 88BL-02 | 155,772.32 | 3,410,859.17 | | | | |

| WHISKEY 3A BORROW AREA BASELINE ALIGNMENT | | | | | | |
|---|---|---|---|---|---|---|
| PI NUMBER | NORTHING | EASTING | BEARING TO NEXT PI | DEFLECTION | DEFLECTION LEFT OR RIGHT | DISTANCE TO NEXT PI |
| W3BL-01 | 186,298.10 | 3,467,939.03 | | | | 4,000.00 |
| W3BL-02 | 190,298.10 | 3,467,939.03 | | | | |

| SETTLEMENT PLATES | | |
|---|---|---|
| PI NUMBER | NORTHING | EASTING |
| SP-01 | 201,190.06 | 3,448,614.11 |
| SP-02 | 199,172.21 | 3,445,344.32 |
| SP-03 | 198,795.99 | 3,442,462.14 |
| SP-04 | 198,763.04 | 3,439,009.32 |
| SP-05 | 200,137.70 | 3,436,457.72 |
| SP-06 | 201,549.66 | 3,432,731.98 |
| SP-07 | 200,925.64 | 3,436,779.21 |
| SP-08 | 201,619.26 | 3,435,669.95 |
| SP-09 | 201,976.81 | 3,434,211.73 |
| SP-10 | 202,234.78 | 3,432,724.45 |

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DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

ALIGNMENT TABLES
DATE: MAY 2015
SHEET 44 OF 45

| SHIP SHOAL BLOCK 88 BORROW AREA ALLOWABLE ANCHOR AREA | | |
|---|---|---|
| PI NUMBER | NORTHING | EASTING |
| SS88-AA-01 | 155,092.64 | 3,411,509.17 |
| SS88-AA-02 | 154,379.92 | 3,415,616.78 |
| SS88-AA-03 | 154,157.63 | 3,415,958.36 |
| SS88-AA-04 | 154,139.95 | 3,415,952.31 |
| SS88-AA-05 | 154,120.37 | 3,415,948.36 |
| SS88-AA-06 | 154,100.44 | 3,415,947.00 |
| SS88-AA-07 | 154,080.50 | 3,415,948.25 |
| SS88-AA-08 | 154,060.90 | 3,415,952.08 |
| SS88-AA-09 | 154,041.96 | 3,415,958.44 |
| SS88-AA-10 | 154,024.01 | 3,415,967.21 |
| SS88-AA-11 | 154,007.36 | 3,415,978.24 |
| SS88-AA-12 | 153,989.71 | 3,415,976.14 |
| SS88-AA-13 | 153,971.94 | 3,415,976.60 |
| SS88-AA-14 | 153,954.42 | 3,415,979.61 |
| SS88-AA-15 | 153,937.52 | 3,415,985.12 |
| SS88-AA-16 | 153,921.59 | 3,415,993.01 |
| SS88-AA-17 | 153,906.97 | 3,416,003.11 |
| SS88-AA-18 | 153,893.95 | 3,416,015.22 |
| SS88-AA-19 | 153,882.82 | 3,416,029.07 |
| SS88-AA-20 | 153,873.79 | 3,416,044.38 |
| SS88-AA-21 | 153,867.07 | 3,416,060.84 |
| SS88-AA-22 | 153,862.79 | 3,416,078.09 |
| SS88-AA-23 | 153,861.05 | 3,416,095.78 |
| SS88-AA-24 | 153,861.86 | 3,416,113.53 |
| SS88-AA-25 | 153,865.23 | 3,416,130.98 |
| SS88-AA-26 | 153,871.08 | 3,416,147.77 |
| SS88-AA-27 | 153,879.29 | 3,416,163.53 |
| SS88-AA-28 | 153,879.29 | 3,416,163.53 |
| SS88-AA-29 | 153,874.30 | 3,416,176.26 |
| SS88-AA-30 | 153,871.55 | 3,416,189.66 |
| SS88-AA-31 | 153,871.12 | 3,416,203.32 |
| SS88-AA-32 | 153,873.02 | 3,416,216.86 |
| SS88-AA-33 | 153,877.20 | 3,416,229.88 |
| SS88-AA-34 | 153,883.54 | 3,416,242.00 |
| SS88-AA-35 | 153,891.85 | 3,416,252.86 |
| SS88-AA-36 | 153,901.89 | 3,416,262.15 |
| SS88-AA-37 | 153,913.36 | 3,416,269.59 |
| SS88-AA-38 | 153,925.93 | 3,416,274.97 |
| SS88-AA-39 | 153,939.23 | 3,416,278.13 |
| SS88-AA-40 | 153,949.14 | 3,416,278.74 |
| SS88-AA-41 | 153,337.30 | 3,417,218.94 |
| SS88-AA-42 | 147,522.32 | 3,417,209.38 |
| SS88-AA-43 | 147,522.32 | 3,411,509.17 |
| ORIGIN AT NORTHWEST CORNER ROTATING CLOCKWISE | | |

| SHIP SHOAL BLOCK 88 CONVEYANCE CORRIDOR ALLOWABLE ANCHOR AREA | | |
|---|---|---|
| PI NUMBER | NORTHING | EASTING |
| SSC-AA-01 | 197,957.03 | 3,440,167.19 |
| SSC-AA-02 | 190,258.21 | 3,440,756.88 |
| SSC-AA-03 | 189,867.36 | 3,440,324.13 |
| SSC-AA-04 | 189,514.94 | 3,440,470.46 |
| SSC-AA-05 | 189,329.43 | 3,440,828.02 |
| SSC-AA-06 | 183,657.67 | 3,441,262.45 |
| SSC-AA-07 | 178,326.36 | 3,438,203.46 |
| SSC-AA-08 | 178,282.12 | 3,437,677.98 |
| SSC-AA-09 | 177,986.00 | 3,437,514.22 |
| SSC-AA-10 | 177,519.45 | 3,437,740.47 |
| SSC-AA-11 | 165,613.95 | 3,430,909.34 |
| SSC-AA-12 | 163,597.05 | 3,428,420.43 |
| SSC-AA-13 | 161,991.36 | 3,427,147.39 |
| SSC-AA-14 | 160,662.84 | 3,425,507.95 |
| SSC-AA-15 | 159,750.19 | 3,423,673.30 |
| SSC-AA-16 | 154,811.69 | 3,417,579.06 |
| SSC-AA-17 | 155,123.57 | 3,416,375.60 |
| SSC-AA-18 | 160,596.47 | 3,423,129.30 |
| SSC-AA-19 | 161,509.12 | 3,424,963.94 |
| SSC-AA-20 | 162,698.94 | 3,426,432.22 |
| SSC-AA-21 | 164,304.63 | 3,427,705.26 |
| SSC-AA-22 | 166,269.79 | 3,430,130.33 |
| SSC-AA-23 | 183,920.64 | 3,440,263.80 |
| SSC-AA-24 | 185,907.41 | 3,440,107.82 |
| SSC-AA-25 | 186,131.05 | 3,440,523.72 |
| SSC-AA-26 | 186,574.27 | 3,440,533.40 |
| SSC-AA-27 | 186,767.11 | 3,440,040.32 |
| SSC-AA-28 | 188,154.01 | 3,439,931.43 |
| SSC-AA-29 | 188,474.54 | 3,440,361.06 |
| SSC-AA-30 | 189,833.45 | 3,439,796.83 |
| SSC-AA-31 | 198,087.77 | 3,439,151.52 |
| ORIGIN AT WHISKEY ISLAND ROTATING CLOCKWISE | | |

| SHIP SHOAL BLOCK 88 AVOIDANCE AREAS | | | |
|---|---|---|---|
| TARGET | NORTHING | EASTING | RADIUS |
| 88 TARGET 04 | 189,076.69 | 3,439,854.62 | 164 FT |
| 88 TARGET 06 | 154,100.00 | 3,416,100.00 | 153 FT |
| | 153,983.00 | 3,416,182.00 | 68 FT |
| | 153,984.00 | 3,416,099.00 | 123 FT |
| | 154,130.00 | 3,416,096.00 | 80 FT |
| | 154,012.00 | 3,416,112.00 | 101 FT |
| | 153,951.00 | 3,416,199.00 | 80 FT |

| WHISKEY 3A CONVEYANCE CORRIDOR AND BORROW AREA ALLOWABLE ANCHOR AREA | | |
|---|---|---|
| PI NUMBER | NORTHING | EASTING |
| W3A-AA-01 | 198,609.41 | 3,446,305.68 |
| W3A-AA-02 | 193,165.51 | 3,451,179.39 |
| W3A-AA-03 | 192,768.10 | 3,450,935.55 |
| W3A-AA-04 | 192,523.83 | 3,451,152.21 |
| W3A-AA-05 | 192,253.19 | 3,451,533.01 |
| W3A-AA-06 | 192,349.18 | 3,451,924.05 |
| W3A-AA-07 | 192,349.18 | 3,451,924.05 |
| W3A-AA-08 | 188,892.37 | 3,458,245.67 |
| W3A-AA-09 | 188,892.37 | 3,468,957.10 |
| W3A-AA-10 | 189,755.02 | 3,469,257.74 |
| W3A-AA-11 | 189,755.02 | 3,470,894.33 |
| W3A-AA-12 | 187,954.56 | 3,470,891.72 |
| W3A-AA-13 | 187,873.09 | 3,470,101.67 |
| W3A-AA-14 | 186,569.96 | 3,469,097.80 |
| W3A-AA-15 | 186,609.69 | 3,468,161.57 |
| W3A-AA-16 | 187,892.37 | 3,468,608.59 |
| W3A-AA-17 | 187,892.37 | 3,457,990.11 |
| W3A-AA-18 | 191,569.02 | 3,451,266.47 |
| W3A-AA-19 | 198,226.25 | 3,445,306.51 |
| ORIGIN AT WHISKEY ISLAND ROTATING CLOCKWISE | | |

| WHISKEY 3A AVOIDANCE AREA | | | |
|---|---|---|---|
| TARGET | NORTHING | EASTING | RADIUS |
| 3A TARGET 10 | 192,667.00 | 3,451,218.00 | 98 FT |
| | 192,639.00 | 3,451,249.00 | 98 FT |
| | 192,621.00 | 3,451,402.00 | 98 FT |
| 3A TARGET 11 | 192,817.98 | 3,451,418.20 | 98 FT |

STATE OF LOUISIANA
MICHAEL T. POFF
License. No. 30048
LICENSED
PROFESSIONAL
ENGINEER
10/22/15

DWH CONFIDENTIAL INFORMATION: PRIVILEGED & CONFIDENTIAL WORK PRODUCT

| REV. | DATE | DESCRIPTION | BY |
|---|---|---|---|

COASTAL ENGINEERING CONSULTANTS, INC.
PH: (225) 768-1982
FAX: (225) 769-3596
5745 ESSEN LANE, SUITE 200
BATON ROUGE, LA 70810

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450 LAUREL STREET
BATON ROUGE, LOUISIANA 70801

DRAWN BY: STEVE DARTEZ
DESIGNED BY: MICHAEL T. POFF, P.E.

NRDA - CAILLOU LAKE HEADLANDS
STATE PROJECT NUMBER: TE-100
FEDERAL PROJECT NUMBER: TE-100
APPROVED BY: JACQUES BOUDREAUX

ALIGNMENT TABLES
DATE: MAY 2015
SHEET 45 OF 45