

# MIAMARINA PIER 5 IMPROVEMENTS

## CITY OF MIAMI, FLORIDA

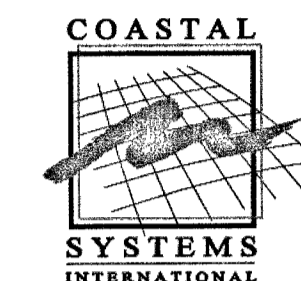
Daniel Rotenberg - Director

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SEP 24 2018

NATURAL RESOURCES DIVISION  
DEPARTMENT OF REGULATORY  
AND ECONOMIC RESOURCES

MIAMARINA PIER 5  
IMPROVEMENTS  
CITY OF MIAMI,  
FLORIDA

PERMIT PLANS



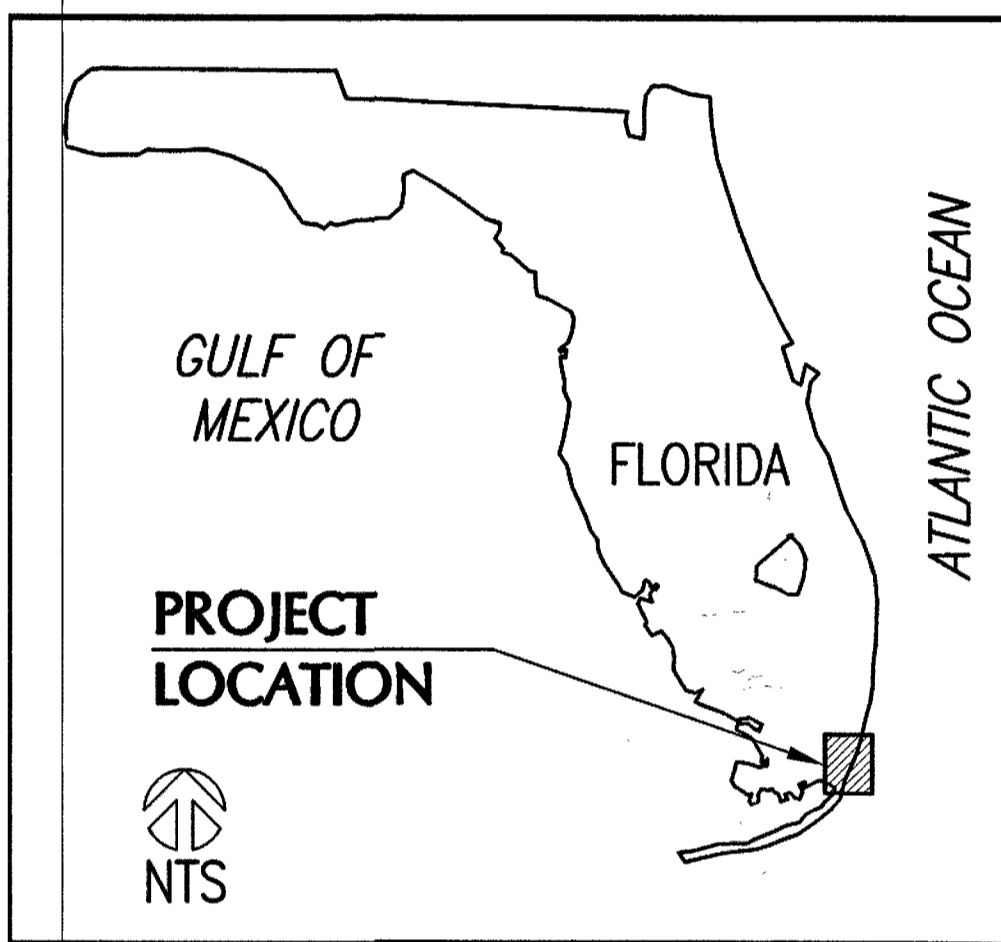
COASTAL SYSTEMS INTERNATIONAL, INC.

464 South Dixie Highway  
Coral Gables, Florida 33146  
Tel: 305-661-3655  
Fax: 305-661-1914  
www.CoastalSystemsInt.com  
State of Florida EB #7087  
Coastal, Environmental,  
Civil Engineering and Management

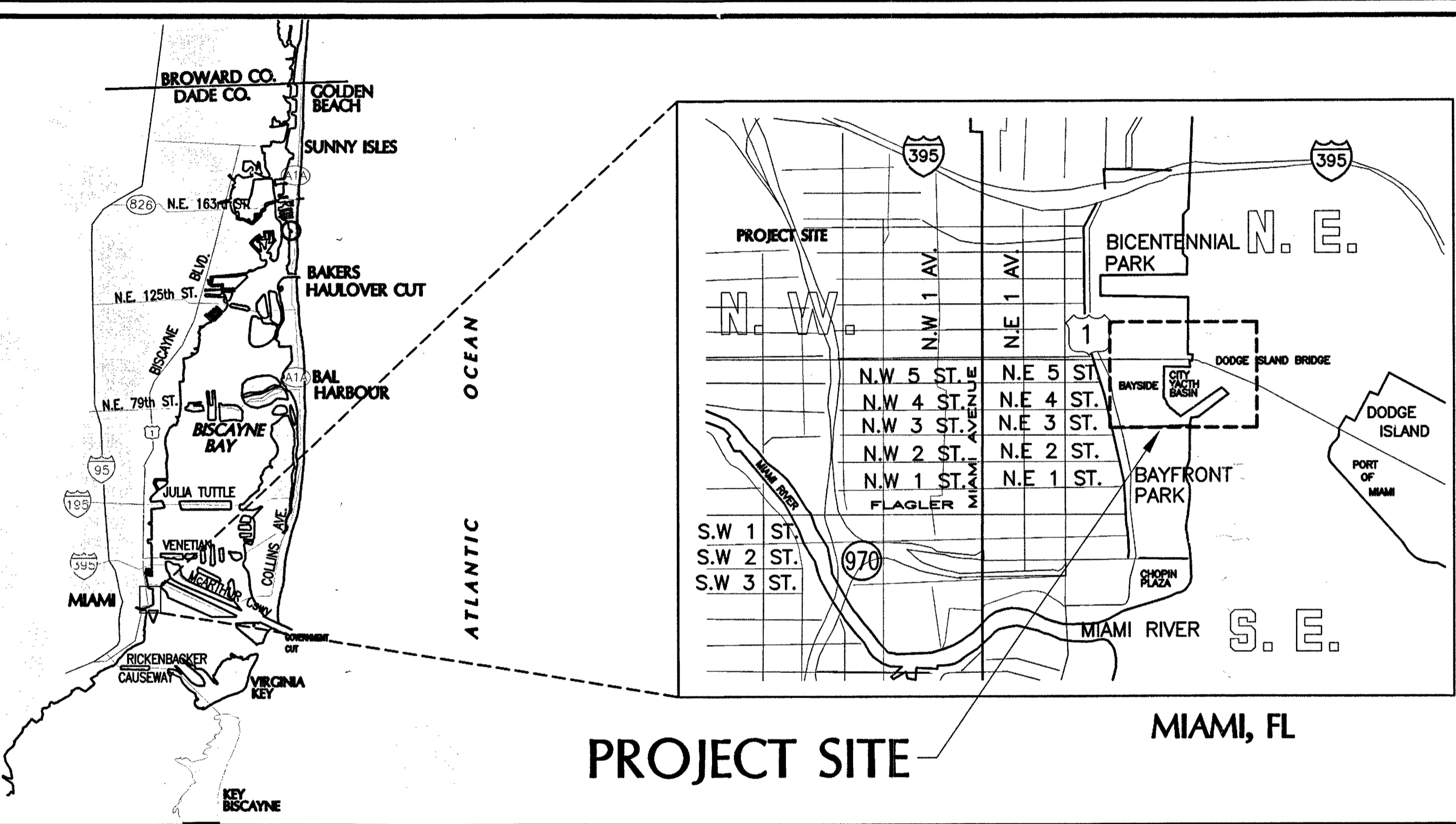
CONSULTANTS

**basulto & associates, inc.**  
consulting engineers  
Mechanical/Electrical Reg. # CA0006722  
Rene I. Basulto, P.E. #40869

14160 Palmetto Frontage Road (305) 698-3988  
Suite 22 Miami Lakes, Florida 33016 Fax (305) 698-3989



LOCATION MAP



VICINITY MAP

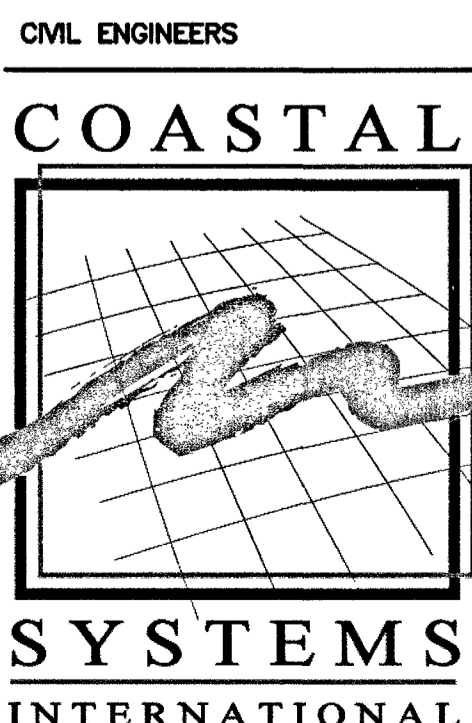
PROJECT SITE  
MIAMI, FL

LOCATION SITE PLAN

### COMMISSION

- |                      |                 |
|----------------------|-----------------|
| Mayor                | Francis Suarez  |
| Commissioner Dist. 1 | Wifredo Gort    |
| Commissioner Dist. 2 | Ken Russell     |
| Commissioner Dist. 3 | Joe Carollo     |
| Commissioner Dist. 4 | Manolo Reyes    |
| Commissioner Dist. 5 | Keon Hardemon   |
| City Attorney        | Victoria Mendez |
| City Clerk           | Todd B. Hannon  |

CALL 48 HOURS BEFORE DIGGING  
CALL TOLL FREE  
1-800-432-4770  
SUNSHINE STATE ONE CALL OF FLORIDA, INC.



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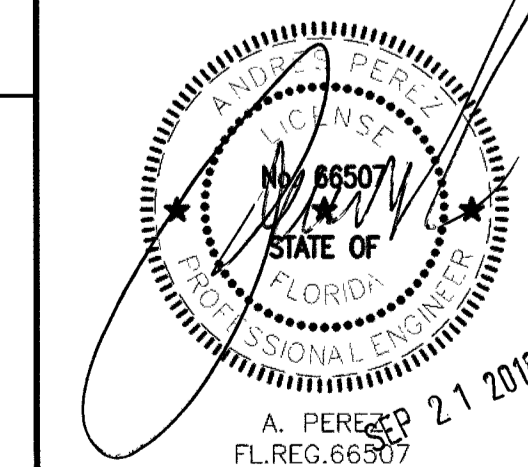
Sheet Number	Sheet Title
G-1	COVER
G-2	GENERAL NOTES
.	SURVEY
G-3	MARINA SLIP COUNT
S-1	DEMOLITION PLAN
S-2	DOCK REPLACEMENT PLAN I
S-3	DOCK REPLACEMENT PLAN II
S-4	DOCK REPLACEMENT STRUCTURAL SECTIONS & DETAILS
S-5	TURBIDITY CURTAIN & ADT'L DETAILS
UT-1	TEMPORARY WATER PLAN
UT-2	PROPOSED UTILITIES PLAN
UT-3	PROPOSED UTILITIES PLAN

### Sheet List Table

ISSUE	DATE	DESCRIPTION
.	09/21/18	DERM REVS.
.	08/03/18	REPLACEMENT REV.
.	12/18/17	PERMIT SET

PROJECT NO: 220260.07  
DATUM: NAVD88  
DRAWN BY: SV  
CHECKED BY: AP

ENGINEER OF RECORD



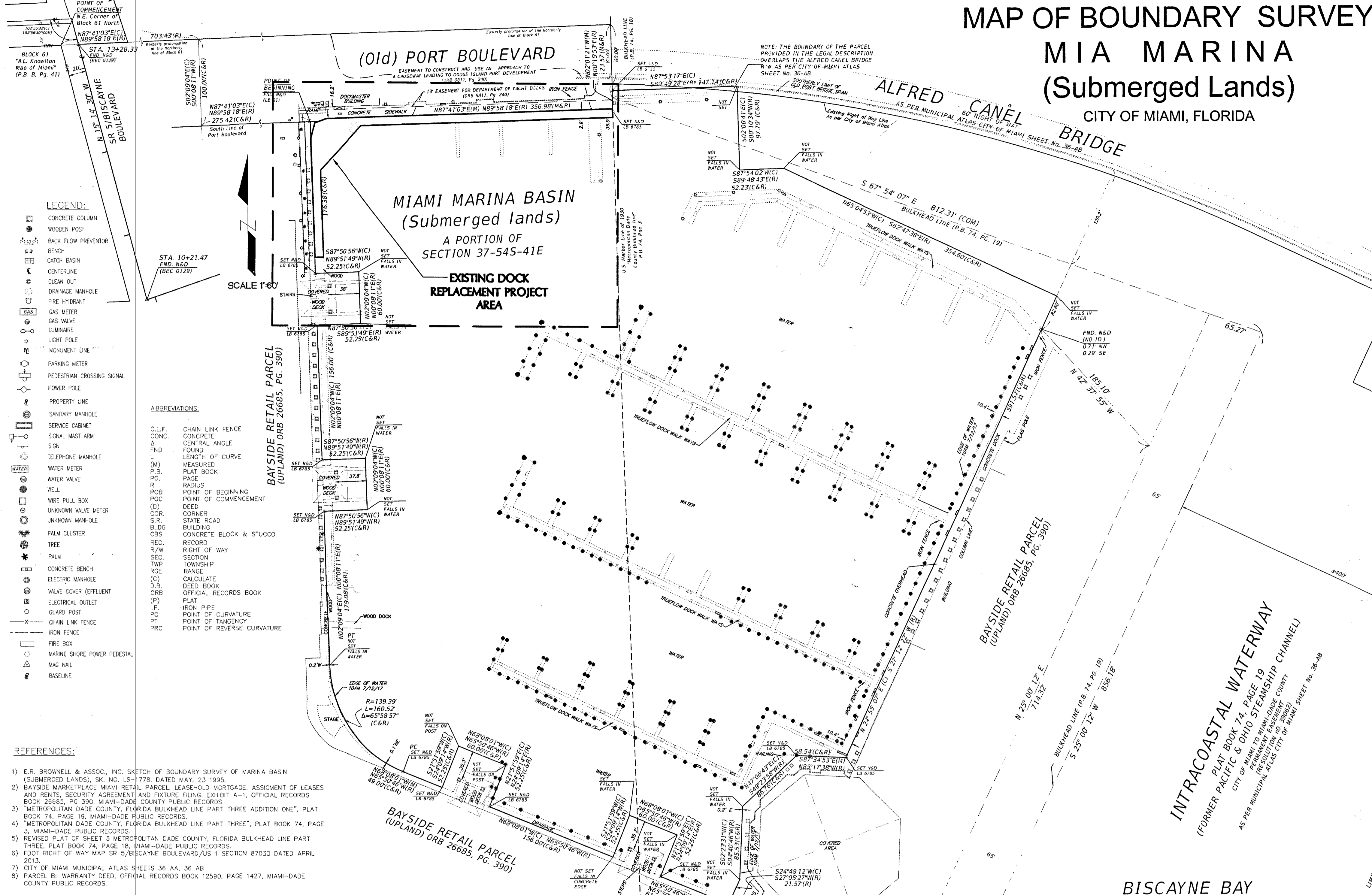
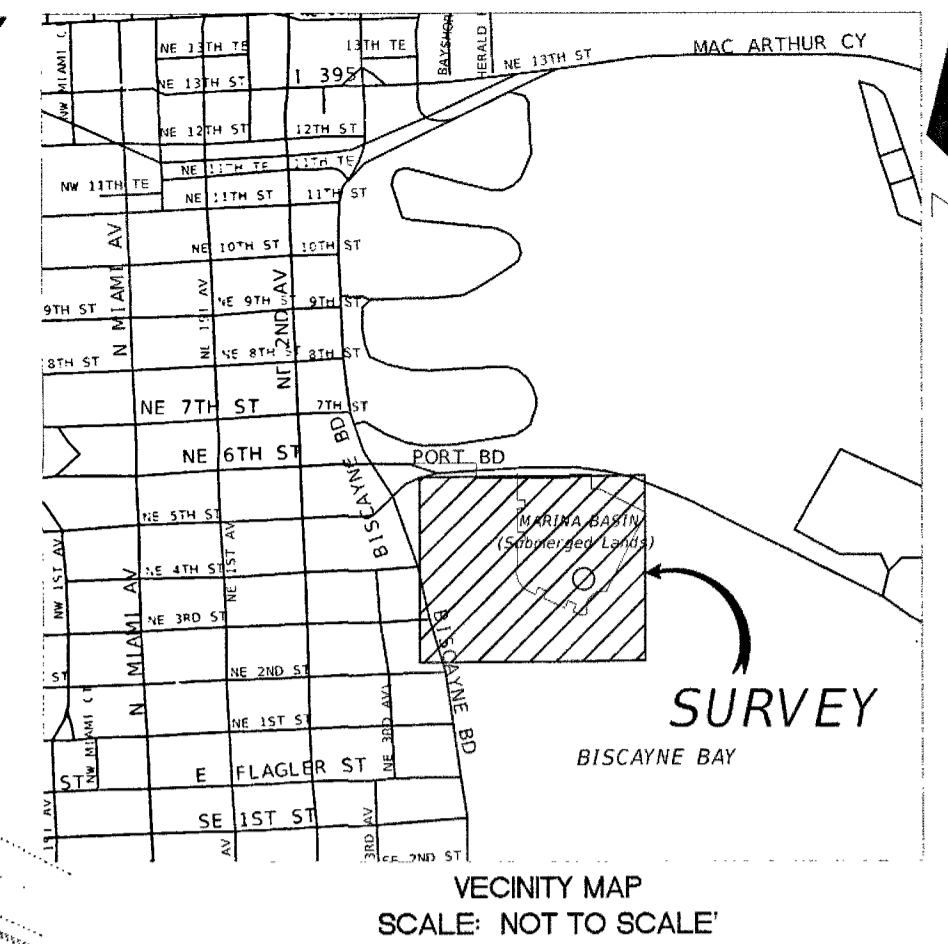
SEP 2017-2017  
RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL  
NAME: [Signature]  
DATE: 9/24/18

COVER

G-1

NOTE:  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")

# MAP OF BOUNDARY SURVEY MIA MARINA (Submerged Lands) CITY OF MIAMI, FLORIDA



- LEGEND:**
- CONCRETE COLUMN
  - WOODEN POST
  - BACK FLOW PREVENTOR
  - BENCH
  - CATCH BASIN
  - CENTERLINE
  - CLEAN OUT
  - DRAINAGE MANHOLE
  - FIRE HYDRANT
  - GAS METER
  - GAS VALVE
  - LUMINAIRE
  - LIGHT POLE
  - MONUMENT LINE
  - PARKING METER
  - PEDESTRIAN CROSSING SIGNAL
  - POWER POLE
  - PROPERTY LINE
  - SANITARY MANHOLE
  - SERVICE CABINET
  - SIGNAL MAST ARM
  - SIGN
  - TELEPHONE MANHOLE
  - WATER METER
  - WATER VALVE
  - WELL
  - WIRE PULL BOX
  - UNKNOWN VALVE METER
  - UNKNOWN MANHOLE
  - PALM CLUSTER
  - TREE
  - PALM
  - CONCRETE BENCH
  - ELECTRIC MANHOLE
  - VALVE COVER EFFLUENT
  - ELECTRICAL OUTLET
  - GUARD POST
  - CHAIN LINK FENCE
  - IRON FENCE
  - FIRE BOX
  - MARINE SHORE POWER PEDESTAL
  - MAG NAIL
  - BASELINE
- ABBREVIATIONS:**
- C.L.F. CHAIN LINK FENCE
  - CONC. CONCRETE
  - FND FOUND
  - L LENGTH OF CURVE
  - M MEASURED
  - P.B. PLAT BOOK
  - P.C. POINT OF BEGINNING
  - R RADIUS
  - POB POINT OF BEGINNING
  - POC POINT OF COMMENCEMENT
  - D DEED
  - COR. CORNER
  - S.R. STATE ROAD
  - B.L.D.G. BUILDING
  - CBS CONCRETE BLOCK & STUCCO
  - REC. RECORD
  - R/W RIGHT OF WAY
  - SEC. SECTION
  - TWP. TOWNSHIP
  - RGE RANGE
  - (C) CALCULATE
  - D.B. DEED BOOK
  - ORB OFFICIAL RECORDS BOOK
  - (P) PLAT
  - I.P. IRON PIPE
  - P.C. POINT OF CURVATURE
  - P.T. POINT OF TANGENCY
  - PRC POINT OF REVERSE CURVATURE

- REFERENCES:**
- 1) E.R. BROWNELL & ASSOC., INC. SKETCH OF BOUNDARY SURVEY OF MARINA BASIN (SUBMERGED LANDS), SK. NO. LS-1778, DATED MAY, 23, 1995.
  - 2) BAYSIDE MARKETPLACE MIAMI RETAIL PARCEL LEASEHOLD MORTGAGE, ASSIGNMENT OF LEASES AND RENTS, SECURITY AGREEMENT AND FUTURE FILING, EXHIBIT A-1, OFFICIAL RECORDS BOOK 26685, PG. 390, MIAMI-DADE COUNTY PUBLIC RECORDS.
  - 3) "METROPOLITAN DADE COUNTY, FLORIDA BULKHEAD LINE PART THREE ADDITION ONE", PLAT BOOK 74, PAGE 19, MIAMI-DADE PUBLIC RECORDS.
  - 4) "METROPOLITAN DADE COUNTY, FLORIDA BULKHEAD LINE PART THREE", PLAT BOOK 74, PAGE 3, MIAMI-DADE PUBLIC RECORDS.
  - 5) REVISED PLAT OF SHEET 3 METROPOLITAN DADE COUNTY, FLORIDA BULKHEAD LINE PART THREE, PLAT BOOK 74, PAGE 18, MIAMI-DADE PUBLIC RECORDS.
  - 6) FOOT RIGHT OF WAY MAP SR 5/BISCAYNE BOULEVARD/US 1 SECTION 87030 DATED APRIL 2013.
  - 7) CITY OF MIAMI MUNICIPAL ATLAS SHEETS 36 AA, 36 AB
  - 8) PARCEL B. WARRANTY DEED, OFFICIAL RECORDS BOOK 12580, PAGE 1427, MIAMI-DADE COUNTY PUBLIC RECORDS.

**SURVEYORS' NOTES:**

A PORTION OF SECTION 37, TOWNSHIP 54 SOUTH, RANGE 41 EAST OF THE JAMES HAGAN DONATION, DADE COUNTY FLORIDA, BEING AN AREA OF SUBMERGED LAND SOUTHERLY OF OLD PORT BOULEVARD AND EASTERLY OF BISCAYNE BOULEVARD COMPRISING THE BASIN OF MIAMI MARINA, SAID SUBMERGED LANDS BEING MORE PARTICULARLY

DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF BLOCK 61 NORTH OF THE "A.L. KNOWLTON MAP OF MIAMI", AS RECORDED IN PLAT BOOK "B" AT PAGE 41 OF THE PUBLIC RECORDS OF DADE COUNTY, FLORIDA; THENCE RUN N 89°58'18" E ALONG THE EASTERLY PROLONGATION OF THE NORTHERLY LINE OF BLOCK 61 NORTH OF SAID "A.L. KNOWLTON MAP OF MIAMI" FOR A DISTANCE OF 703.43 FEET TO A POINT; THENCE RUN S 0°08'11" W FOR A DISTANCE OF 100.00 FEET TO A POINT; THENCE INTERSECT WITH THE SOUTH LINE OF PORT BOULEVARD AS RECORDED IN OFFICIAL RECORDS BOOK 6811 AT PAGE 240 OF THE PUBLIC RECORDS OF DADE COUNTY, FLORIDA; THENCE N 89°58'18" E FOR A DISTANCE OF 275.42 FEET TO THE POINT OF BEGINNING OF THE FOLLOWING PARCEL OF LAND HERIN DESCRIBED: THENCE CONTINUE N 89°58'18" E FOR A DISTANCE OF

356.98 FEET TO A POINT; THENCE N 0°15'53" E FOR A DISTANCE OF 23.57 FEET TO A POINT; THENCE S 89°49'28" E FOR A DISTANCE OF 147.14 FEET TO A POINT; THENCE S 0°07'34" W FOR A DISTANCE OF 97.79 FEET TO A POINT; THENCE S 89°48'43" E FOR A DISTANCE OF 52.23 FEET TO A POINT; THENCE S 62°47'38" E FOR A DISTANCE OF 354.60 FEET TO A POINT; THENCE S 27°12'22" W FOR A DISTANCE OF 591.54 FEET TO A POINT; THENCE N 85°17'38" W FOR A DISTANCE OF 58.54 FEET TO A POINT; THENCE S 49°23'58" W FOR A DISTANCE OF 86.76 FEET TO A POINT; THENCE S 04°40'46" W FOR A DISTANCE OF 85.53 FEET TO A POINT; THENCE S 27°05'27" W FOR A DISTANCE OF 21.57 FEET TO A POINT; THENCE N 85°48'03" W FOR A DISTANCE OF 26.87 FEET TO A POINT; THENCE N 65°50'46" W FOR A DISTANCE OF 61.23 FEET TO A POINT; THENCE N 24°09'14" E FOR A DISTANCE OF 52.25 FEET TO A POINT; THENCE N 65°50'46" W FOR A DISTANCE OF 60.00 FEET TO A POINT; THENCE S 24°09'14" W FOR A DISTANCE OF 52.25 FEET TO A POINT; THENCE N 65°50'46" W FOR A DISTANCE OF 156.00 FEET TO A POINT; THENCE N 24°09'14" E FOR A DISTANCE OF 52.25 FEET TO A POINT; THENCE N 89°58'18" E FOR A DISTANCE OF 275.42 FEET TO A POINT; THENCE N 89°58'18" E FOR A DISTANCE OF

60.00 FEET TO A POINT; THENCE S 24°09'14" W FOR A DISTANCE OF 52.25 FEET TO A POINT; THENCE N 65°50'46" W FOR A DISTANCE OF 49.00 FEET TO A POINT OF CURVATURE WITH A CIRCULAR CURVE CONCAVE TO THE NORTH-EAST, SAID CURVE HAVING A RADIUS OF 139.39 FEET; THENCE ALONG SAID CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 65°58'57" BY AN ARC DISTANCE OF 160.52 FEET TO A POINT OF TANGENCY; THENCE N 0°08'11" E FOR A DISTANCE OF 179.08 FEET TO A POINT; THENCE S 89°51'49" E FOR A DISTANCE OF 52.25 FEET TO A POINT; THENCE N 0°08'11" E FOR A DISTANCE OF 60.00 FEET TO A POINT; THENCE N 89°51'49" W FOR A DISTANCE OF 52.25 FEET TO A POINT; THENCE N 0°08'11" E FOR A DISTANCE OF 156.00 FEET TO A POINT; THENCE S 89°51'49" E FOR A DISTANCE OF 26.87 FEET TO A POINT; THENCE N 0°08'11" E FOR A DISTANCE OF 60.00 FEET TO A POINT; THENCE N 89°51'49" W FOR A DISTANCE OF 52.25 FEET TO A POINT; THENCE N 0°08'11" E FOR A DISTANCE OF 176.38 FEET TO THE POINT OF BEGINNING. SAID LANDS CONTAINING 12.93 ACRES MORE OR LESS. SAID LANDS LYING IN AND BEING IN THE CITY OF MIAMI, DADE COUNTY, FLORIDA.

**SURVEYORS' NOTES:**

- 1) SURVEY TYPE: BOUNDARY SURVEY. BOUNDARY SURVEY FOR THE CITY OF MIAMI MARINA (SUBMERGED LANDS).
- 2) LAST DAY OF FIELD WORK JULY 12th, 2012.
- 3) THIS SURVEY IS CERTIFIED TO COASTAL SYSTEMS INTERNATIONAL, INC.
- 4) BEARINGS AND COORDINATES ARE RELATIVE TO FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983, ADJUSTMENT 1993 (NAD83/90).
- 5) THIS SURVEY IS SUBJECT TO EASEMENTS AND OTHER RESTRICTIONS OR DEDICATIONS WHICH MIGHT BE REFLECTED IN A SEARCH OF TITLE TO THE SUBJECT LANDS.
- 6) LEGAL DESCRIPTION WAS FURNISHED BY CLIENT. THE SURVEYOR MAKES NO REPRESENTATION AS TO OWNERSHIP OR POSSESSION OF THE SUBJECT PROPERTY BY ANY ENTITY OF INDIVIDUAL 1-2" V.S. APPEAR ON THE PUBLIC RECORDS OF THIS COUNTY. THE PARCEL OF LAND DESCRIBED HEREIN IS THE MARINA BASIN (SUBMERGED LAND), PARCEL SHOWN ON SKETCH OF BOUNDARY SURVEY PREPARED BY ER BROWNELL & ASSOCIATES, INC. SK. NO. LS-1778, DATED 05-23-95.
- 7) FLOOD ZONE: AE  
BASE FLOOD ELEVATION: 11.0 AND 12.0  
AS PER FORM: COMMUNITY NUMBER: 120650 (CITY OF MIAMI)  
PANEL: 318  
SUFFIX: L  
DATE: 9/11/2009  
MAP NUMBER: 1205800318L
- 8) RELATED REPAIR CLOSURE BETTER THEN 1 FEET IN 10,000 FEET.
- 9) WELL IDENTIFIED FEATURES AS DEPICTED ON THE SURVEY MAP WERE MEASURED TO AN ESTIMATED HORIZONTAL POSITION ACCURACY OF 1/10 OF A FOOT.

**CERTIFICATION:**

I HEREBY CERTIFY THIS "BOUNDARY" SURVEY IS CORRECT AND MEETS THE STANDARDS OF PRACTICE FOR SURVEYING AND MAPPING IN THE STATE OF FLORIDA AS SET FORTH IN CHAPTER 472.027 (F.S.) AND RULE 53-17 OF THE FLORIDA ADMINISTRATIVE CODE.

LiR Toljary, PSM (LS#6759)  
STATE OF FLORIDA

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL BASED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

ADDITION OR DELETIONS TO THIS SURVEY OTHER THAN THE SIGNING PARTY OR PARTIES IS PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SIGNING PARTY OR PARTIES AS PER RULE 472.027 FLORIDA STATUTES AND CHAPTER 517 OF THE FLORIDA ADMINISTRATIVE CODE.

**SURVEY SHOWN FOR INFORMATION PURPOSES ONLY.  
NOT TO SCALE.**

REVISIONS BY

FOR: Coastal Systems International, Inc.  
464 South Dixie Highway Coral Gables,  
Florida 33146, www.coastalsystemsintl.com

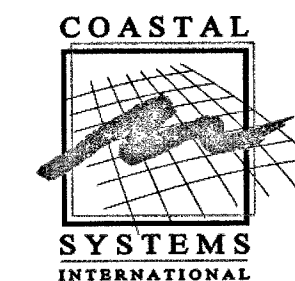
**F.R. Aleman And Associates, Inc. LB #6785**  
Consulting Engineers and Surveyors  
10305 NW 41ST STREET, SUITE 200  
MIAMI, FLORIDA 33178  
TEL. (305) 591-8777 FAX. (305) 599-8749

FOLIO No.: 01-0100-000-0520  
PROPERTY ADDRESS:  
401 BISCAYNE BLVD.  
MIAMI, FL 33132

DATE 07-14-17  
SCALE 1"=60'  
DRAWN: F.O.  
JOB #2848W01  
SHEET 1  
OF 1 SHEETS

**MIAMARINA PIER 5 IMPROVEMENTS  
CITY OF MIAMI, FLORIDA**

**PERMIT PLANS**



**COASTAL SYSTEMS INTERNATIONAL, INC.**

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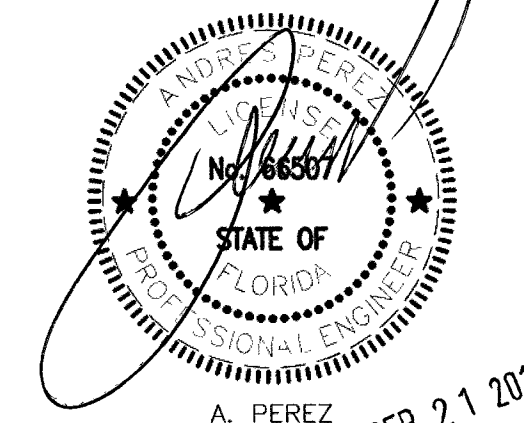
CONSULTANTS

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Rene I. Basulto, P.E. #40999  
14180 Palmetto Frontage Road (305) 698-9898  
Suite 22 Miami Lakes, Florida 33016 Fax (305) 698-9899

09/21/18	DERM REVS.	
08/03/18	REPLACEMENT REV.	
12/18/17	PERMIT SET	
ISSUE	DATE	DESCRIPTION

PROJECT NO:	220260.07
DATUM:	NAVD88
DRAWN BY:	JD
CHECKED BY:	AP

ENGINEER OF RECORD



**GENERAL NOTES**

**GENERAL NOTES:**

- THE WORK CONSISTS OF FURNISHING ALL CONSTRUCTION, LABOR, EQUIPMENT AND MATERIALS AND PERFORMING ALL OPERATIONS IN CONNECTION WITH MARINA CONSTRUCTION AS SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL ABIDE BY ALL NOTES AND CONDITIONS INDICATED ON THE CONSTRUCTION PLANS AND PERMITS. IF THE CONTRACTOR VIOLATES ANY CONDITION OF THE PERMIT AND WORK IS STOPPED BY THE STATE OR OTHER PUBLIC ENTITY, THEN ANY ADDITIONAL COSTS INCURRED BY THE CONTRACTOR SHALL BE PAID BY THE CONTRACTOR AND NOT CHARGED TO THE OWNER.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL LOCAL PERMITS NECESSARY FOR THIS WORK. A PRECONSTRUCTION MEETING WILL BE HELD ON-SITE TO VERIFY DETAILS AND METHODS OF CONSTRUCTION.
- ALL ELEVATIONS ARE IN FEET AND ARE REFERRED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1929.
- CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OTHER UPLAND CONTRACTORS ON SITE.
- CONTRACTOR SHALL ADHERE TO THE CONSTRUCTION GUIDELINES IN FLORIDA FOR MINOR PILING-SUPPORTED STRUCTURES CONSTRUCTED OVER SUBMERGED AQUATIC VEGETATION (SAV), MARSH OR MANGROVE HABITAT U.S. ARMY CORPS OF ENGINEERS/NATIONAL MARINE FISHERIES SERVICE AUGUST 2001, THE NMFS SEA TURTLE AND SMALL TOOTH SAWFISH CONSTRUCTION GUIDELINES, THE MANATEE PROTECTION PLAN FROM MAIMI-DADE COUNTY, DERM AND FWC FOR THE IN WATER WORK AND NMFS JOHNSON'S SEAGRASS DOCK CONSTRUCTION GUIDELINES.
- ENGINEER IS RESPONSIBLE FOR OBTAINING ENVIRONMENTAL PERMITS FOR THE PROJECT. A COPY WILL BE PROVIDED TO THE CONTRACTOR, AND THE CONTRACTOR SHALL ABIDE BY ALL REGULATIONS AND PERMIT CONDITIONS.
- ANY DISCREPANCIES IN THE PLANS WITH FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. CONSTRUCTION SHALL NOT CONTINUE UNTIL THE ENGINEER HAS ADDRESSED THE DISCREPANCIES.
- FOR LEGEND SYMBOLS REFER TO INDIVIDUAL PLAN SHEETS.
- MIAMARINA IS AN OPERATING MARINA, AND CONTRACTOR SHALL COORDINATE CONSTRUCTION OPERATIONS WITH MARINA MANAGEMENT. CONTRACTOR SHALL PROTECT CONSTRUCTION AREA WITH TEMPORARY FENCING AND SIGNAGE AND PREVENT PEDESTRIAN ACCESS.

**DESIGN LOADS:**

- DOCKS ARE DESIGNED FOR 100 PSF LIVE LOAD.

**SURVEY NOTES:**

- UPLAND SURVEY DATA OBTAINED FROM F.R. ALEMAN AND ASSOCIATES, INC. DATED: 07/14/17.
- BATHYMETRIC DATA BY COASTAL SYSTEMS INTERNATIONAL, INC. DATED JUNE 22, 2017.

**DEMOLITION NOTES:**

- CONTRACTOR SHALL VERIFY THE EXTENTS, LOCATION AND QUANTITIES OF EXISTING ELEMENTS TO BE REMOVED.
- ALL DEBRIS WITHIN THE LIMITS OF THE PROJECT SHALL BE TRUCKED AND HAULED OFFSITE BY THE CONTRACTOR AND DISPOSED OF AT AN APPROVED SITE.
- CONTRACTOR SHALL NOT DAMAGE ANY STRUCTURAL COMPONENTS BEYOND THE DEMOLITION REQUIREMENTS OF THESE DRAWINGS. ANY DAMAGE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

**LAYOUT AND TESTING:**

- ALL CONSTRUCTION STAKEOUT SHALL BE PERFORMED BY AND PAID FOR BY THE CONTRACTOR UNDER THE SUPERVISION OF A FLORIDA REGISTERED SURVEYOR.
- ALL TESTING AND INSPECTION FOR CONCRETE AND PILE DRIVING MATERIALS AND PILE DRIVING SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATIONS, AND SHALL BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY PROVIDED BY THE OWNER.
- CONTRACTOR SHALL PROVIDE THE ENGINEER WITH A SET OF AS-BUILT DRAWINGS IN SUFFICIENT DETAILS TO ILLUSTRATE THE HORIZONTAL AND VERTICAL COMPONENTS OF ABOVE AND BELOW GROUND STRUCTURES AND WALLS RELATIVE TO THE CONSTRUCTION BASELINE.

**REINFORCING STEEL**

- REINFORCEMENT SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:  
DEFORMED BARS = A615 GR. 60  
WELDED DEFORMED BARS = A706  
WWF = A185

**TIMBER NOTES:**

- ALL TIMBER SHALL BE PRESSURE TREATED, SOUTHERN YELLOW PINE UNLESS OTHERWISE NOTED. PILES SHALL BE DRIVEN TO ACHIEVE A MINIMUM BEARING CAPACITY OF 10 KIPS WITH THE FOLLOWING PENETRATION CRITERIA:  
SOFT SOIL: 15 FEET  
LIME ROCK: 5 FEET
- TIMBER PILES SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES:  
FB = 1,200 PSI (EXTREME FIBER BENDING MEMBER)  
FT = 500 PSI (TENSION PARALLEL TO GRAIN)  
FV = 90 PSI (HORIZONTAL SHEAR)  
E = 1,500,000 PSI (MODULUS OF ELASTICITY)
- ALL TIMBER SHALL BE PRESSURE TREATED WITH CHROMATED COPPER ARSENATE (CCA) FOR MARINE USE WITH MINIMUM RETENTION.
- TREATMENT SHALL BE IN CONFORMANCE WITH THE STANDARDS OF AWPA C2 AND C18. CUT OR SAWED SURFACES IN PRESERVATIVE TREATED MEMBERS SHALL RECEIVE TWO COATS OF THE SAME PRESERVATION USED IN THE ORIGINAL TREATMENT.

**CONCRETE NOTES:**

- ALL CONCRETE MATERIALS REINFORCEMENT AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH FDOT SPECIFICATION 346, 400, AND 415 EXCEPT AS NOTED.
- PROVIDE CHAMFERS ON ALL EXPOSED EDGES AND CORNERS EXCEPT AS OTHERWISE NOTED.
- CONSTRUCTION JOINTS WILL BE PERMITTED ONLY AT THE LOCATIONS INDICATED ON THE PLANS. ADDITIONAL CONSTRUCTION JOINTS OR ALTERATIONS TO THOSE SHOWN WILL REQUIRE APPROVAL BY THE ENGINEER.
- ALL DIMENSIONS PERTAINING TO LOCATION OF REINFORCING ARE TO CENTER LINE OF BARS EXCEPT WHERE THE CLEAR DIMENSION IS SHOWN TO FACE OF CONCRETE.
- NO CHAIRS OR OTHER METAL SHALL PROTRUDE FROM SURFACE OF CONCRETE.
- MINIMUM CONCRETE COVER SHALL BE 3" TO OUTSIDE OF BAR.
- ALL CAST-IN-PLACE CONCRETE TO BE A MINIMUM OF 5,500 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
- PROVIDE AN FDOT-APPROVED MIX DESIGN FOR A CLASS IV CONCRETE FOR AN EXTREMELY AGGRESSIVE (MARINE) ENVIRONMENT. PROVIDE SUFFICIENT AMOUNT OF FLY ASH, MICROSILICA, OR SLAG TO THE CEMENT CONTENT TO INCREASE IMPERMEABILITY OF CONCRETE. W/C RATIO SHALL BE LESS THAN 0.40.
- CURE PLACED CONCRETE IN ACCORDANCE WITH FDOT SPECIFICATION 400-16.1.
- PROVIDE ADHESIVE BONDED DOWELS IN ACCORDANCE WITH FDOT SECTION 416.

**CONCRETE REPAIR NOTES:**

- REPAIR CONCRETE CAPS AS NEEDED.
- CONTRACTOR TO NOTIFY ENGINEER OF ADDITIONAL DAMAGE/REPAIR AREAS.
- REMOVE ALL UNSOUND CONCRETE AROUND DEMOLITION AREA BY CHIPPING WITH PICKS OR LIGHTWEIGHT PNEUMATIC IMPACT TOOLS TO EXPOSE SOUND CONCRETE FREE OF LOOSE AND UNSOUND MATERIALS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO SOUND CONCRETE BEYOND THE LIMITS OF THE DEMOLITION AND TO AVOID DISLODGING OR DAMAGING EXPOSED, EXISTING REINFORCING STEEL.
- SAW CUT EDGES OF REPAIR AREA TO A DEPTH OF AT LEAST 3/8" TO PROVIDE SQUARE EDGE.
- CLEAN ALL EXPOSED SURFACES, INCLUDING THE EXPOSED SURFACES OF THE REINFORCEMENT BY ABRASIVE BLASTING. SURFACES SHALL BE FREE OF ANY BOND INHIBITING OR OTHER DELETERIOUS MATERIALS.
- APPLY THOROC HB2 REPAIR MORTAR, TWO-COMPONENT, POLYMER-MODIFIED, SHRINKAGE-COMPENSATED HIGH BUILD REPAIR MORTAR IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
- CURE REPAIR MATERIAL TO KEEP MOIST FOR 7 DAYS IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

**PRESTRESSED CONCRETE PILING:**

- PROVIDE AND INSTALL CONCRETE PILING IN ACCORDANCE WITH FDOT SPECIFICATION 455.
- PILES SHALL BE MANUFACTURED IN ACCORDANCE WITH FDOT SPECIFICATIONS.
- CONCRETE SHALL BE FDOT CLASS IV (SPECIAL) FOR AN EXTREMELY AGGRESSIVE (MARINE) ENVIRONMENT. PROVIDE SUFFICIENT FLY ASH, MICROSILICA OR SLAG TO THE CEMENT CONTENT TO INCREASE IMPERMEABILITY OF CONCRETE.
- CONCRETE SHALL HAVE A MINIMUM OF 75% SPECIFIED COMPRESSIVE STRENGTH PRIOR TO DRIVING.
- ALL PILES SHALL BE DRIVEN TO THE MINIMUM TIP ELEVATIONS INDICATED AND TO ACHIEVE THE BEARING CAPACITIES INDICATED. CONTRACTOR SHALL BE PREPARED TO PRE-PUNCH OR PRE-DRILL HOLES AS NECESSARY TO INSTALL PILING INTO LIMESTONE.

- CONTRACTOR TO INSTALL INDICATOR PILES AND CONDUCT TEST PILES AT LOCATIONS INDICATED IN THE S-SHEETS.
- PILE DRIVING, INCLUDING TEST PILES, SHALL BE INSPECTED BY AN INDEPENDENT GEOTECHNICAL ENGINEER HIRED BY THE CONTRACTOR.
- CONTRACTOR SHALL RETAIN SPECIALTY ENGINEER TO MONITOR VIBRATIONS AND SETTLEMENT DURING PILE DRIVING IN ACCORDANCE WITH FDOT SPECIFICATION 455-1.1.

**HARDWARE NOTES:**

- ALL BOLTS AND HARDWARE SHALL BE 316 STAINLESS FOR MARINE APPLICATIONS UNLESS OTHERWISE NOTED.
- ALL ALUMINUM LADDERS SHALL BE INTERNATIONAL DOCK PRODUCTS OR EQUIVALENT, 6 STEPS.
- ALUMINUM WELDS SHALL UTILIZE FILLER TYPE 5356.
- ALUMINUM ANGLE SHALL BE 6061-T6 ALLOY
- ALL CLEATS SHALL BE MARITIME INTERNATIONAL OR SCHOELLHORN-ALBRECHT, SIZE 12, THROUGH 16 INCH. SEE STRUCTURAL PLANS FOR RESPECTIVE LOCATIONS AND QUANTITIES.
- ALUMINUM RAMP SHALL BE 6063-T6 ALLOY OR APPROVED ALT. RAMP SURFACE SHALL BE RAISED "DIAMOND" PATTERN.

**GRATING MATERIALS:**

- FIBERGLASS DECKING MATERIAL AS INDICATED IN THE DECKING PLANS SHALL BE DURADEK 5500 (2") AS MANUFACTURED BY STRONGWELL OR APPROVED EQUAL.

**UTILITIES**

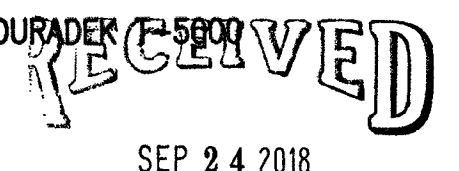
REFER TO PLUMBING AND ELECTRICAL SHEETS.

**SHOP DRAWINGS:**

PROVIDE SHOP DRAWINGS AND/OR CATALOG CUTS FOR THE FOLLOWING ITEMS FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION:

- A. DEMOLITION METHODS AND DISPOSAL PLAN
- B. CONCRETE MIX DESIGN FOR CAST-IN-PLACE CONCRETE
- C. CURING COMPOUND
- D. REINFORCING STEEL

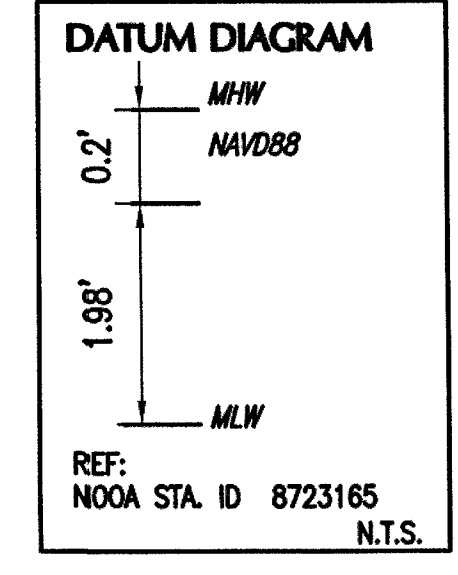
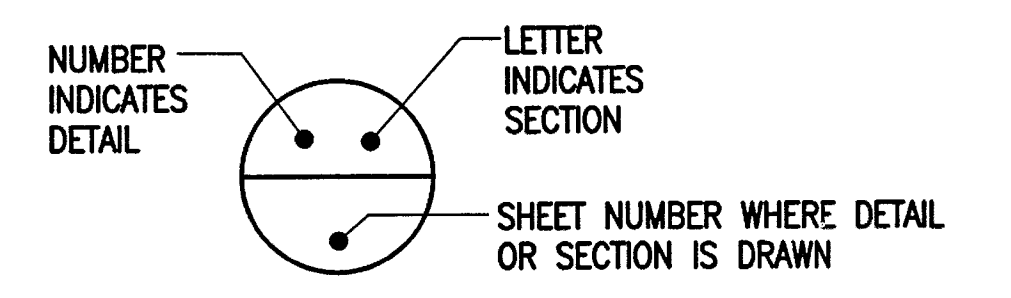
- E. PILE DRIVING MEANS AND METHODS INCLUDING PILE HAMMER DATA
- F. FORMWORK
- G. SCHEDULE FOR COMPLETION OF WORK WITH TASKS AND DURATIONS DEFINED
- H. TIMBER PILING
- I. UTILITY PEDESTAL INFORMATION
- J. EPOXY ANCHORING SYSTEM FOR BOLTS
- K. CLEATS
- L. NEOPRENE BEARING PAD
- M. FIBERGLASS GRATING
- N. PEDESTRIAN PROTECTION



**ABBREVIATIONS**

APPROX. _____	APPROXIMATE	MIN. _____	MINIMUM
AL _____	ALUMINUM	MHW _____	MEAN HIGH WATER
B _____	BOTTOM	MHHW _____	MEAN HIGHER HIGH WATER
BLT. _____	BUILT	MLW _____	MEAN LOW WATER
BM _____	BEAM	NO. _____	NORTH
BRG. _____	BEARING	O.C. _____	ON CENTER
C.Y. _____	CUBIC YARD	OA _____	OVERALL
CL/℄ _____	CENTER LINE	P.E. _____	PROFESSIONAL ENGINEER
C.O. _____	CLEAN OUT	P _____	PROPERTY LINE
CONC. _____	CONCRETE	PSF _____	POUNDS PER SQUARE FOOT
CONT. _____	CONTINUOUS	PSI _____	POUNDS PER SQUARE INCH
DIA./Ø _____	DIAMETER	S.L. _____	SLOPE
EW _____	EACH WAY	S.O.G. _____	SLAB ON GRADE
EA. _____	EACH	SS _____	STAINLESS STEEL
EE. _____	EACH END	STL. _____	STEEL
ELEV. _____	ELEVATION	STA. _____	STATION
E.F. _____	EACH FACE	TE _____	THICKENED EDGE
EJ. _____	EXPANSION JOINT	T _____	TOP
EXIST. _____	EXISTING	TYP. _____	TYPICAL
GALV. _____	GALVANIZED	UNO. _____	UNLESS OTHERWISE NOTED
M _____	MID-DEPTH	WWF. _____	WELDED WIRE FABRIC
MAX. _____	MAXIMUM		

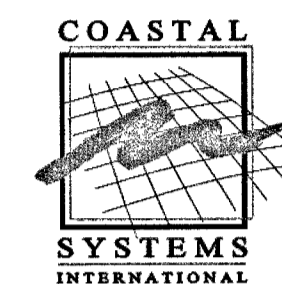
**SECTION DETAIL LABEL**



**NOTE:**  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")

F:\Project\220260.07\Construction Drawings\Working\GENERAL NOTES.dwg





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State of Florida EB #7087  
Coastal, Environmental,  
Civil Engineering and Management

CONSULTANTS

**b** **Benutto & associates, inc.**  
consulting engineers  
Mechanical/Electrical Reg. # C40000728  
Jose I. Benutto, P.E. #40589  
14160 Palmetto Frontage Road  
Suite 22  
Miami Lakes, Florida 33016 Fax (305) 698-9898  
Miami Lakes, Florida 33016 Fax (305) 698-9898

ISSUE DATE DESCRIPTION

ISSUE	DATE	DESCRIPTION
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08/03/18	REPLACEMENT REV.	
12/18/17	PERMIT SET	

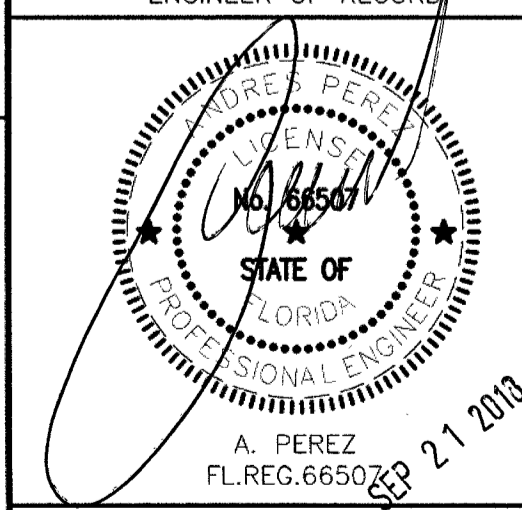
PROJECT NO: 220260.07

DATUM: NAVD88

DRAWN BY: JD

CHECKED BY: AP

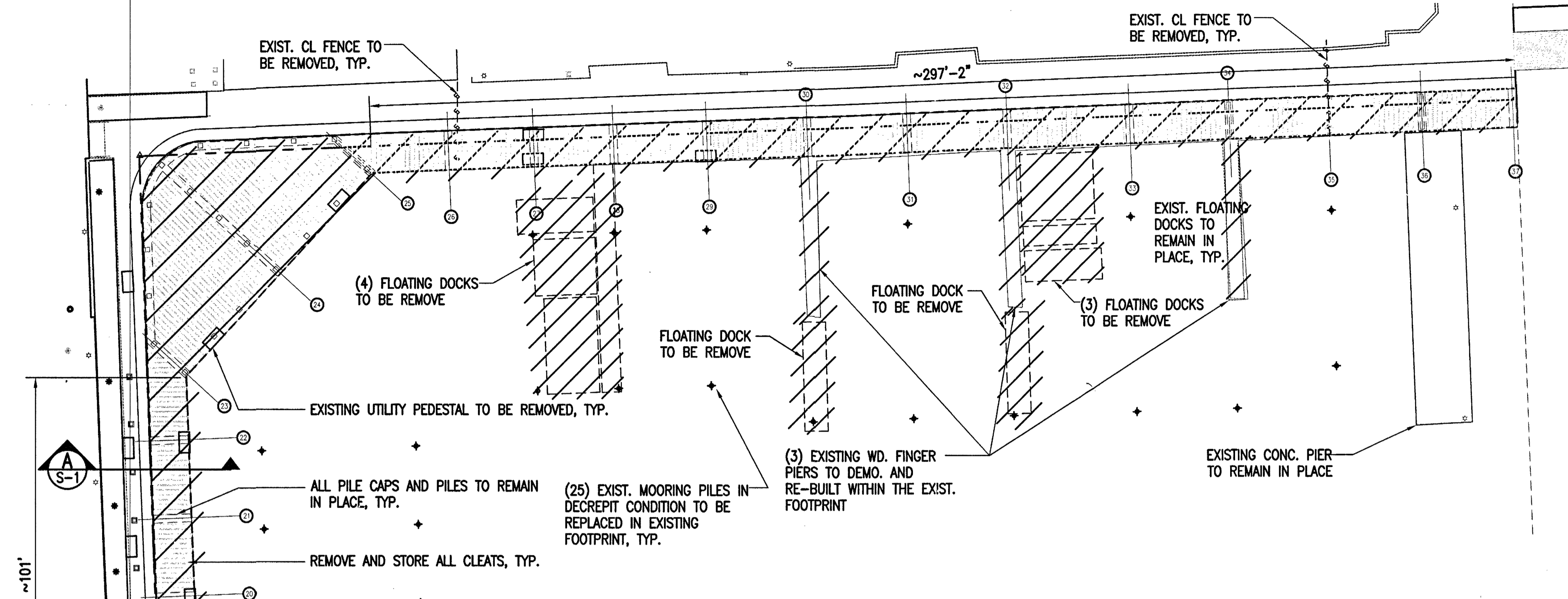
ENGINEER OF RECORD



DEMOLITION PLAN

S-1

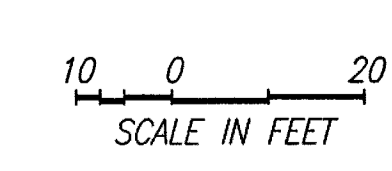
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BISCAYNE BAY

A DOCK SECTION  
SCALE: 1"=2'

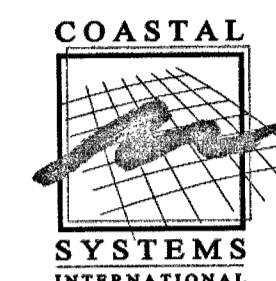
- DEMOLITION NOTES:**
- CONTRACTOR TO REMOVE ALL VENDOR KIOSKS AND ASSOCIATED EQUIPMENT AND STORE AT A SECURE LOCATION (DESIGNATED BY OWNER).
  - CONTRACTOR TO PROPERLY DISCONNECT ALL UTILITIES PRIOR TO REMOVAL/DEMOLITION ONLY WITHIN DESIGNATED CONSTRUCTION AREAS.
  - CONTRACTOR TO COORDINATE DEMOLITION/CONSTRUCTION PHASING WITH OWNER PRIOR TO COMMENCEMENT.
  - ALL FLOATING DOCKS TO BE REMOVED.
  - CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND SIGNAGE TO PREVENT ACCESS TO WORK AREA BY PEDESTRIANS.
  - DEMOLITION EFFORTS ARE NOT TO EXCEED THE LIMITS DEPICTED IN THESE PLANS.
  - EXISTING STRUCTURES INFORMATION OBTAINED FROM UPLAND SURVEY DATA BY F.R. ALEMAN & ASSOC., INC. SURVEYORS AND FIELD MEASUREMENTS OBTAINED BY COASTAL SYSTEMS INTERNATIONAL, INC.
  - ALL TIMBER DECKING AND CONCRETE DECK SUPPORT BEAMS ARE TO BE DEMOLISHED AND COMPLETELY REMOVED, WITHIN THE LIMITS OF DEMOLITION DEPICTED IN THESE PLANS.
  - REPAIR ALL CONCRETE CAPS WITH NON-SHRINK GROUT AT REMOVED BEAM LOCATIONS TO PROVIDE BEARING FOR NEW SLABS.



DEMOLITION PLAN  
SCALE: 1" = 20'

NOTE:  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")

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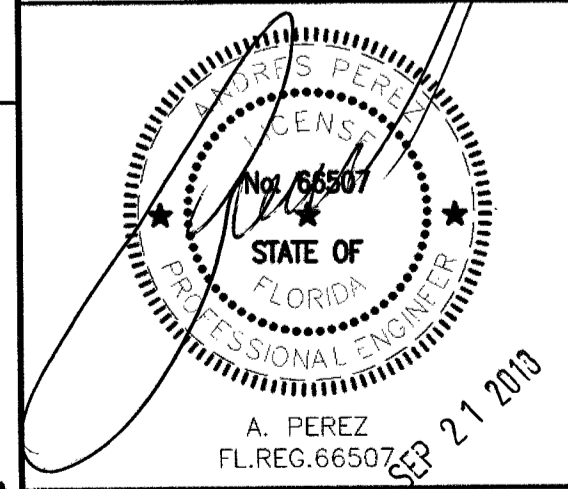
CONSULTANTS

**b. basulto & associates, inc.**  
consulting engineers  
Mechanical/Electrical Reg. # CA000722  
Rene I. Basulto, P.E. #40889  
14160 Palmetto Frontage Road  
Suite 22  
Miami Lakes, Florida 33016 Fax (305) 688-9898

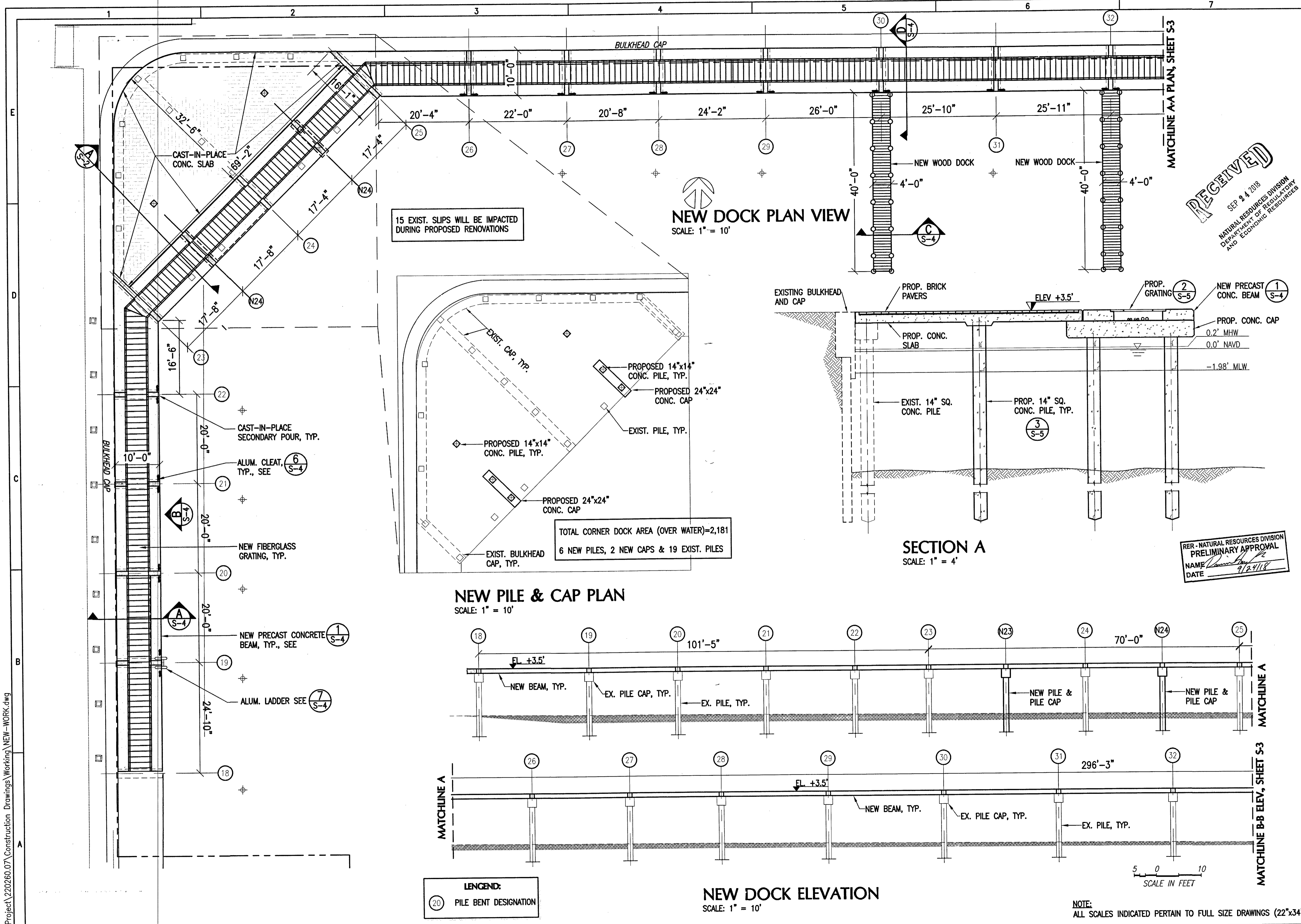
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PROJECT NO:	220260.07
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DOCK REPLACEMENT  
PLAN I



15 EXIST. SLIPS WILL BE IMPACTED  
DURING PROPOSED RENOVATIONS

TOTAL CORNER DOCK AREA (OVER WATER)=2,181  
6 NEW PILES, 2 NEW CAPS & 19 EXIST. PILES

LEGEND:  
20 PILE BENT DESIGNATION

NOTE:  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")

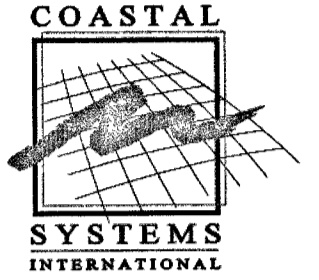
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DATE: 9/24/18

MIAMARINA PIER 5  
IMPROVEMENTS  
CITY OF MIAMI,  
FLORIDA

PERMIT PLANS



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Civil Engineering and Management

CONSULTANTS

**b** **basulto & associates, inc.**  
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Rene L. Basulto, P.E. #10669  
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	12/18/17	PERMIT SET

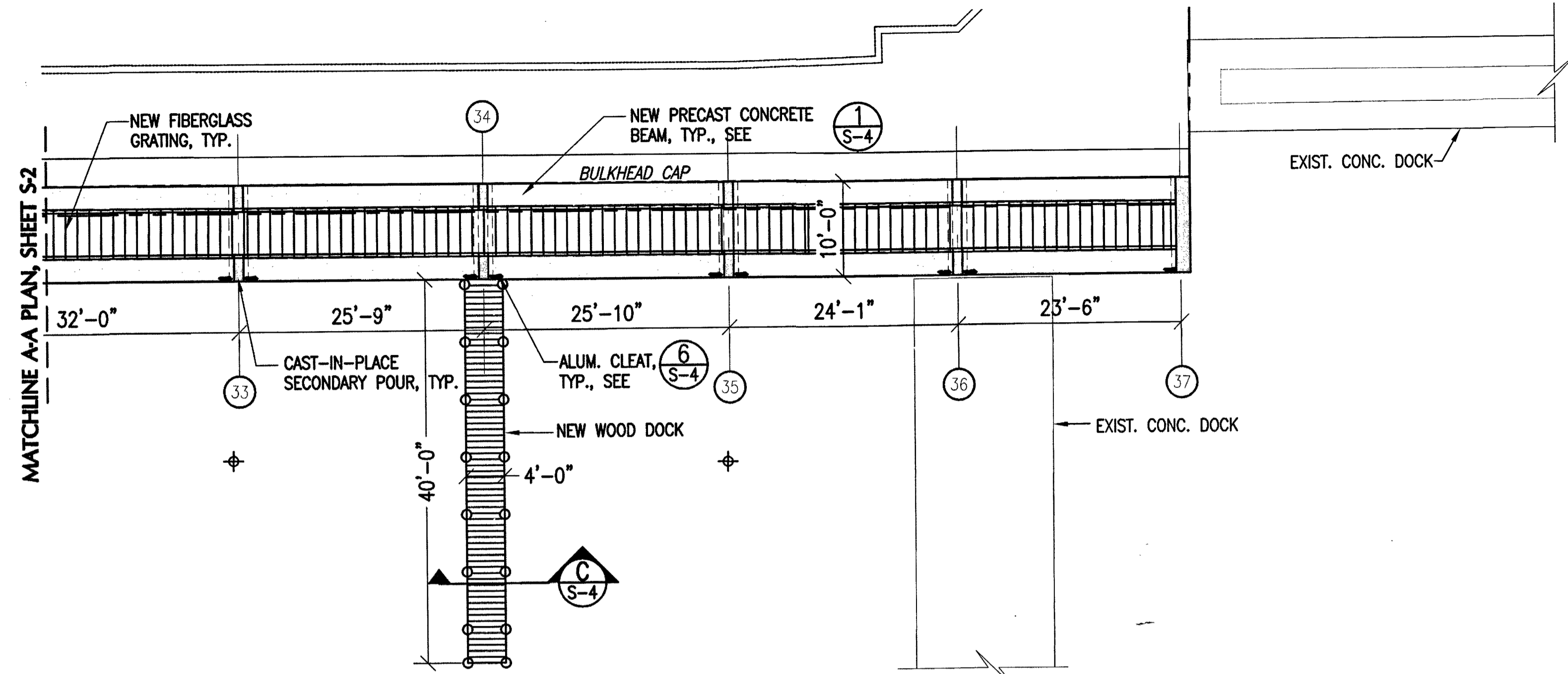
PROJECT NO:	220260.07
DATUM:	NAVD88
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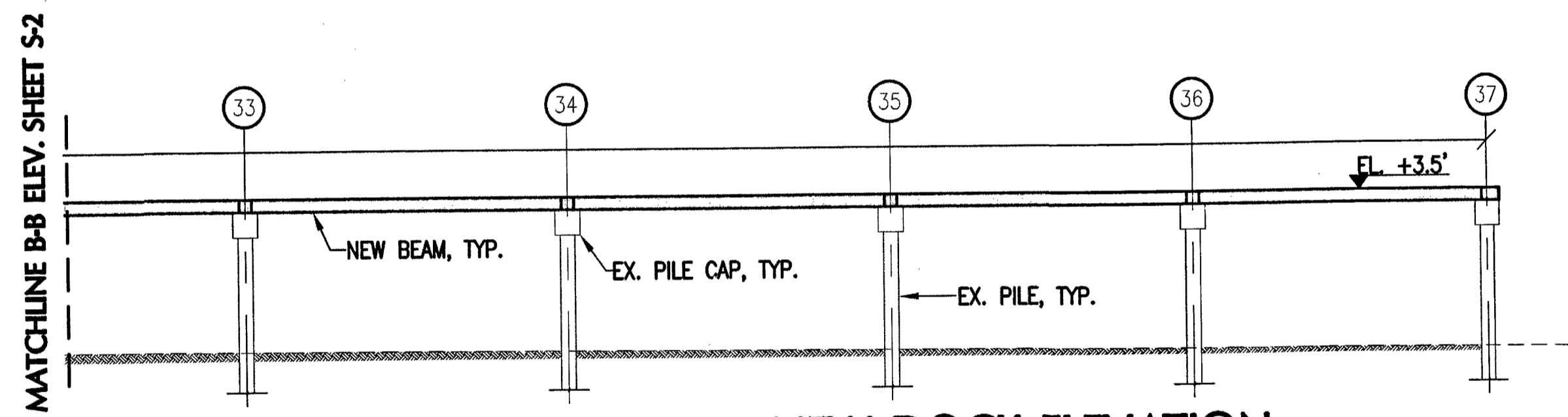
**A. PEREZ**  
FL.REG.66507 SEP 21 2018

DOCK REPLACEMENT  
PLAN II

S-3



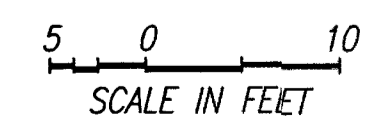
**NEW DOCK PLAN VIEW**  
SCALE: 1" = 10'



**NEW DOCK ELEVATION**  
SCALE: 1" = 10'

RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL  
NAME: [Signature]  
DATE: 9/24/18

**LEGEND:**  
②0 PILE BENT DESIGNATION



**NOTE:**  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")

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CONSULTANTS

bsuuto & associates, inc.  
consulting engineers  
Mechanical/Electrical Reg. # CA0000722  
Rene I. Basulto, P.E. #40989  
14100 Palmetto Frontage Road  
Suite 202  
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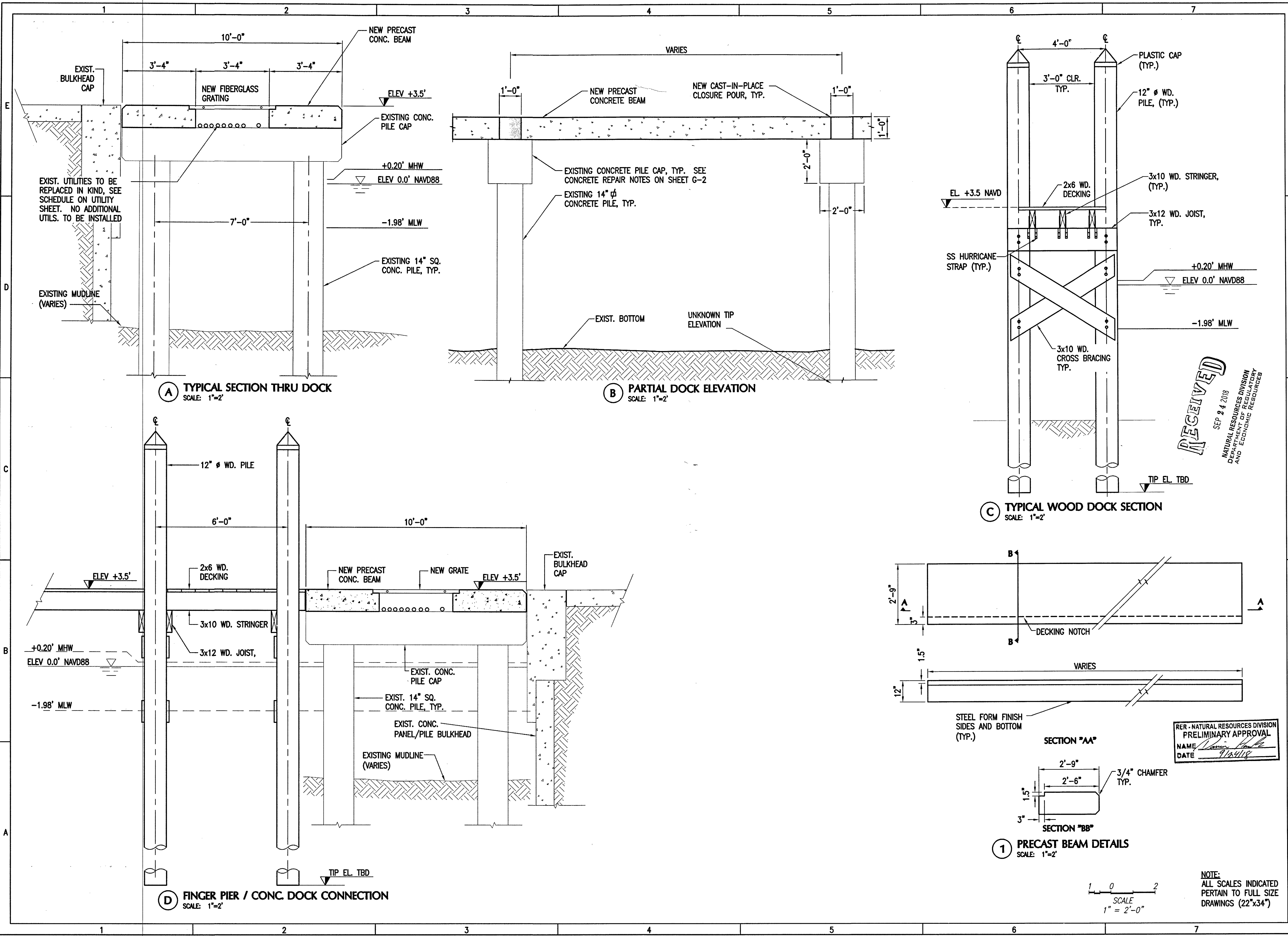
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	08/03/18	REPLACEMENT REV.
	12/18/17	PERMIT SET

PROJECT NO: 220260.07  
DATUM: NAVD88  
DRAWN BY: JD  
CHECKED BY: AP

ENGINEER OF RECORD  
PRELIMINARY APPROVAL  
NAME: *[Signature]*  
DATE: 9/24/18  
A. PEREZ  
FL REG. 66507  
SEP 21 2018

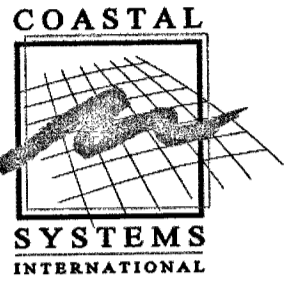
DOCK REPLACEMENT  
STRUCTURAL SECTIONS  
& DETAILS

S-4



F:\Project\220260.07\Construction Drawings\Working\DEMOLITION DETAILS.dwg





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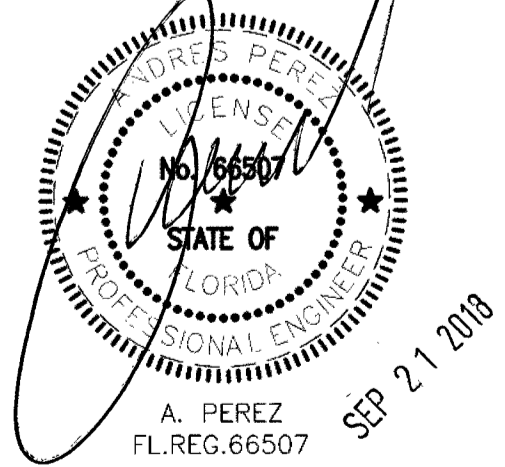
CONSULTANTS

**b**basulto & associates, inc.  
consulting engineers  
Mechanical/Electrical/Plumbing  
41490 Palmetto Frontage Road (305) 898-8988  
Suite 52 Miami Lakes, Florida 33016 Fax (305) 898-8988

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	08/03/18	REPLACEMENT REV.
	12/18/17	PERMIT SET

PROJECT NO:	220260.07
DATUM:	NVD
DRAWN BY:	SV
CHECKED BY:	AP

ENGINEER OF RECORD



TURBIDITY CURTAIN & ADD'L DETAILS

**TURBIDITY CONTROL AND MONITORING NOTES:**

- CONTRACTOR SHALL SUBMIT TURBIDITY CONTROL PLAN FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION IN ACCORDANCE WITH REGULATORY PERMITS.
- TURBIDITY SHALL BE MONITORED AS OUTLINED IN THE REGULATORY PERMITS.
- CONTRACTOR SHALL CONDUCT TURBIDITY MONITORING UTILIZING APPROPRIATE TURBIDITY METER WHICH TESTS IN ACCORDANCE WITH EPA METHOD 180 (OR EQUIVALENT).
- TURBIDITY LEVELS IN WATER COLUMN SHALL BE MONITORED AND RECORDED AT LEAST EVERY 4 HOURS DURING DREDGING OPERATIONS; OR MORE FREQUENTLY DEPENDING UPON THE FREQUENCY OF ANY POTENTIAL FOR WATER QUALITY VIOLATIONS AT THE CONSTRUCTION SITE.
- SAMPLES SHALL BE COLLECTED ONE FOOT ABOVE THE BOTTOM, AT MID-DEPTH, AND ONE FOOT BELOW THE WATER SURFACE AT MONITORING STATIONS LOCATED AS FOLLOWS:

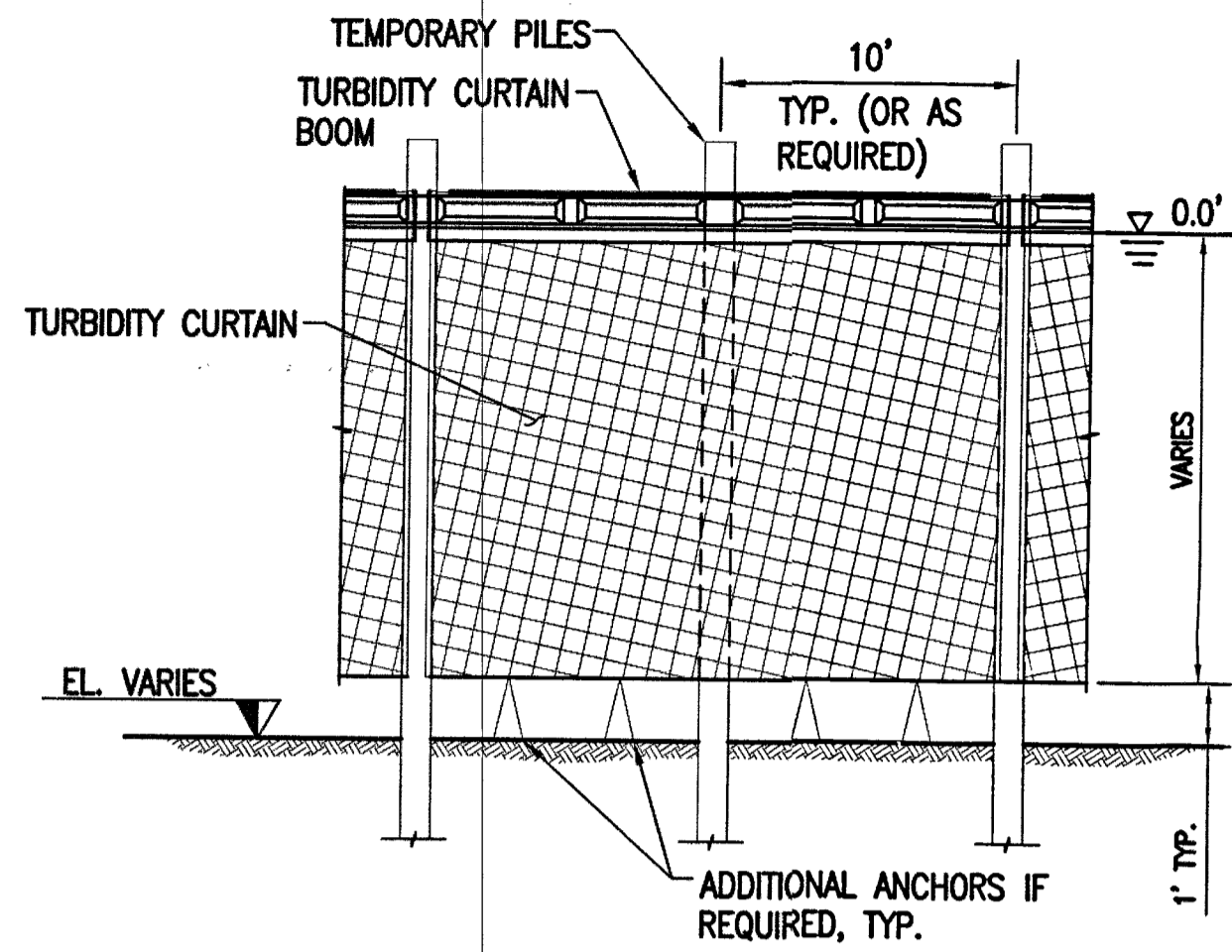
A MINIMUM OF 100 FEET OUTSIDE OF THE DREDGING FOOTPRINT, NEAR THE ENTRANCE TO THE BASIN, AND CLEARLY OUTSIDE THE INFLUENCE OF DREDGING ACTIVITIES. THIS SAMPLE SHALL SERVE AS THE NATURAL BACKGROUND SAMPLE AGAINST WHICH OTHER TURBIDITY READINGS WILL BE COMPARED.

DIRECTLY OUTSIDE THE TURBIDITY CURTAINS SURROUNDING THE WORK SITE AND WITHIN THE DENSEST PORTION OF ANY VISIBLE TURBIDITY PLUME. THIS SAMPLE SHALL SERVE AS THE COMPLIANCE SAMPLE.

- IF THE COMPLIANCE SAMPLE MEASURES ABOVE THE BACKGROUND SAMPLE (MEASURED IN NEPHELOMETRIC TURBIDITY UNITS (NTUS)), ALL OPERATIONS THAT ARE CAUSING THE WATER QUALITY VIOLATION WILL CEASE, AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP), MIAMI-DADE DERM, AND U.S. ARMY CORPS OF ENGINEERS SHALL BE NOTIFIED OF THE VIOLATION (AS REQUIRED IN THE ENVIRONMENTAL PERMITS ISSUED FOR THE PROJECT). WORK THAT IS CAUSING THE WATER QUALITY VIOLATION WILL NOT COMMENCE UNTIL SUCH TIME AS THE WATER QUALITY READINGS RETURN TO NTUS ABOVE BACKGROUND, OR UPON THE APPROVAL OF THE AGENCIES.

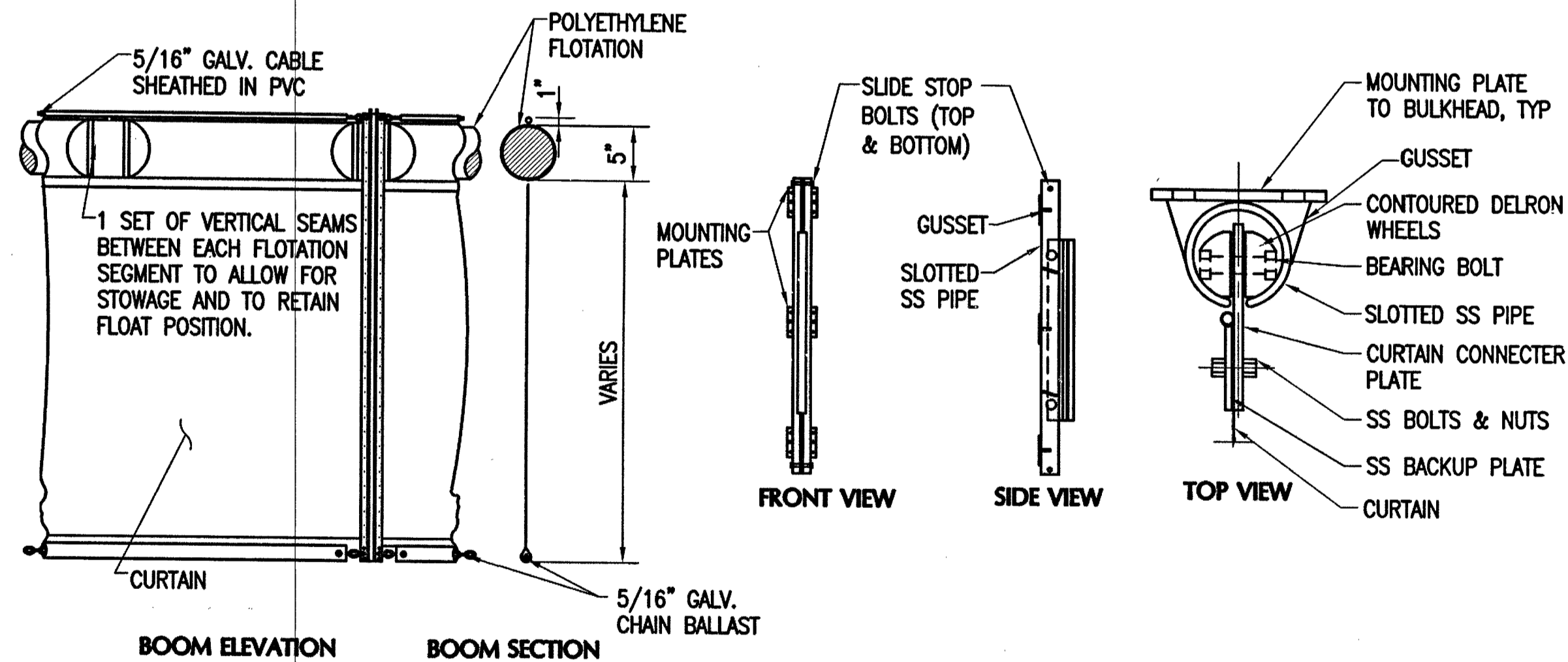
- CONTRACTOR SHALL COMPILE AND SUBMIT MONITORING REPORTS TO OWNER AND TO THE AGENCIES, AS REQUIRED IN THE ENVIRONMENTAL PERMITS.

- UPLAND SILT FENCING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SWPPP PLANS.



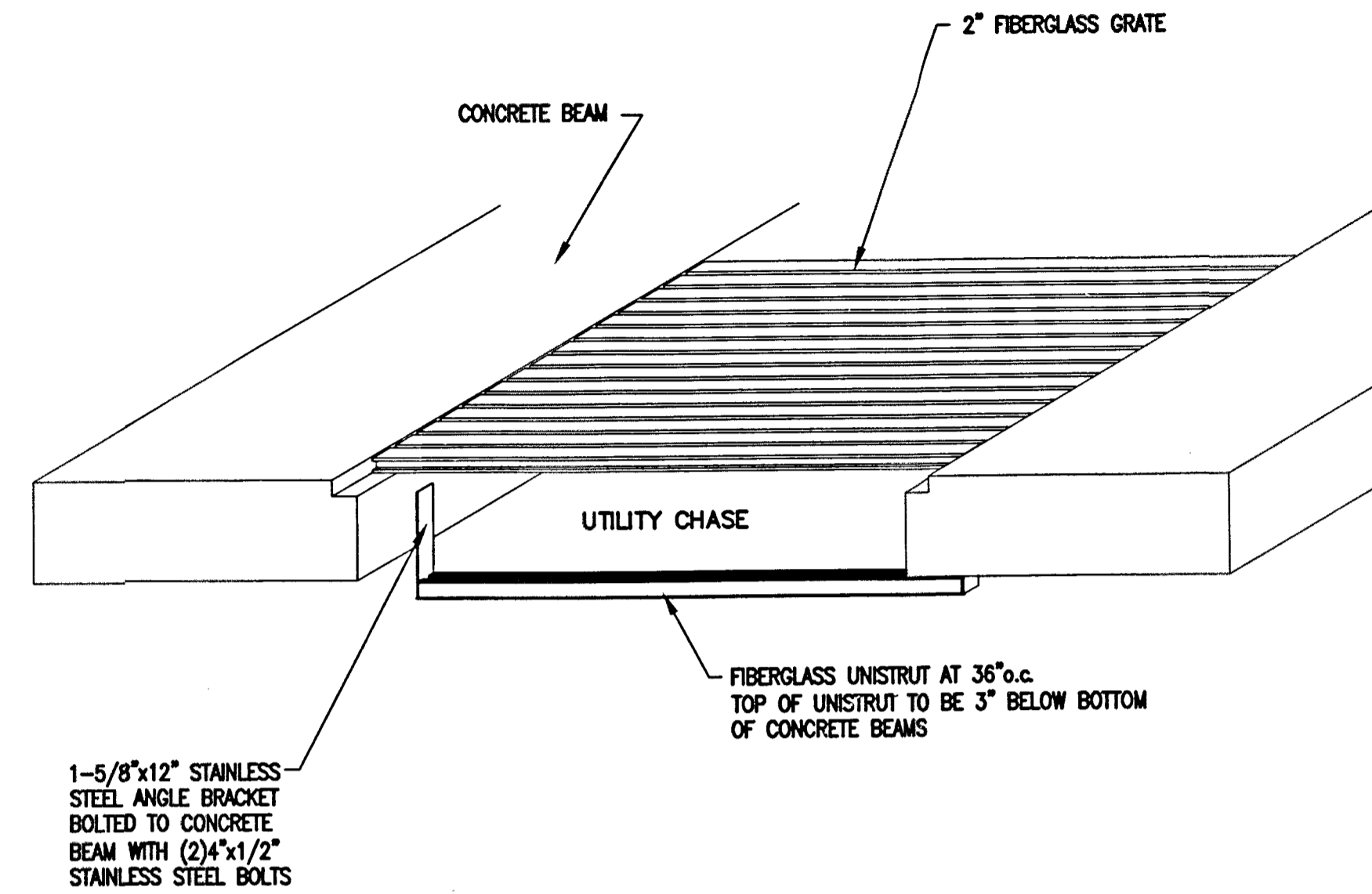
**TURBIDITY CURTAIN**

NTS



**1 TURBIDITY CURTAIN DETAILS**

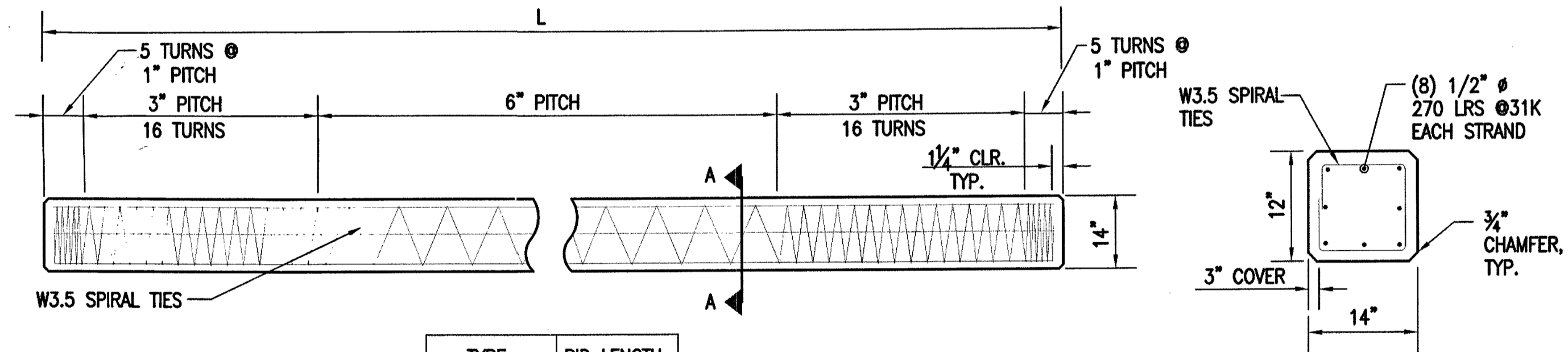
NTS.



**2 UTILITY GRATE DETAIL**

NTS.

NOTE: COAT ALL PILING WITH THOROCOAT FROM TOP OF PILING TO ELEV. -2.0'



**A-A PILE SECTION**

NTS

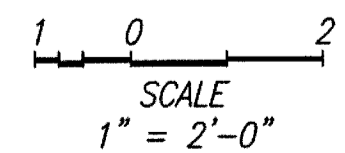
TYPE	BID LENGTH
12" SQ. CONC.	

REFER TO SHEET G-2 FOR PILE GENERAL NOTES.

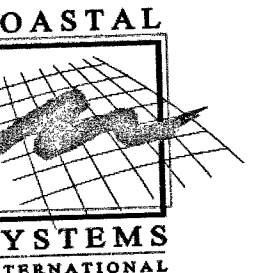
**3 12" SQ. CONCRETE PILE DETAILS**

NTS.

RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL  
NAME: *A. Perez*  
DATE: 9/24/18



NOTE:  
ALL SCALES INDICATED  
PERTAIN TO FULL SIZE  
DRAWINGS (22"x34")



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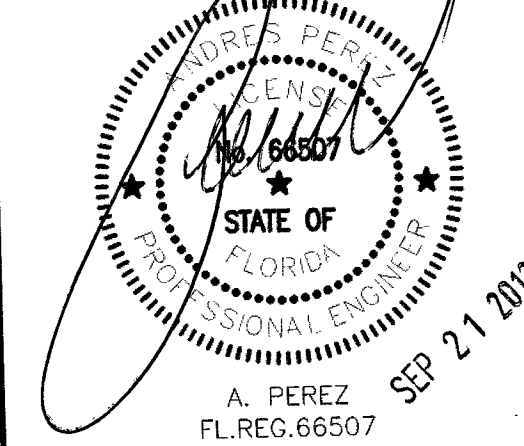
CONSULTANTS

**beaulieu & associates, inc.**  
consulting engineers  
Mechanical/Electrical Reg. # CA0006722  
Beno J. Beaulieu, P.E. #40989  
14160 Palmetto Frontage Road  
Suite 22  
Miami Lakes, Florida 33016 Fax (305) 668-3989

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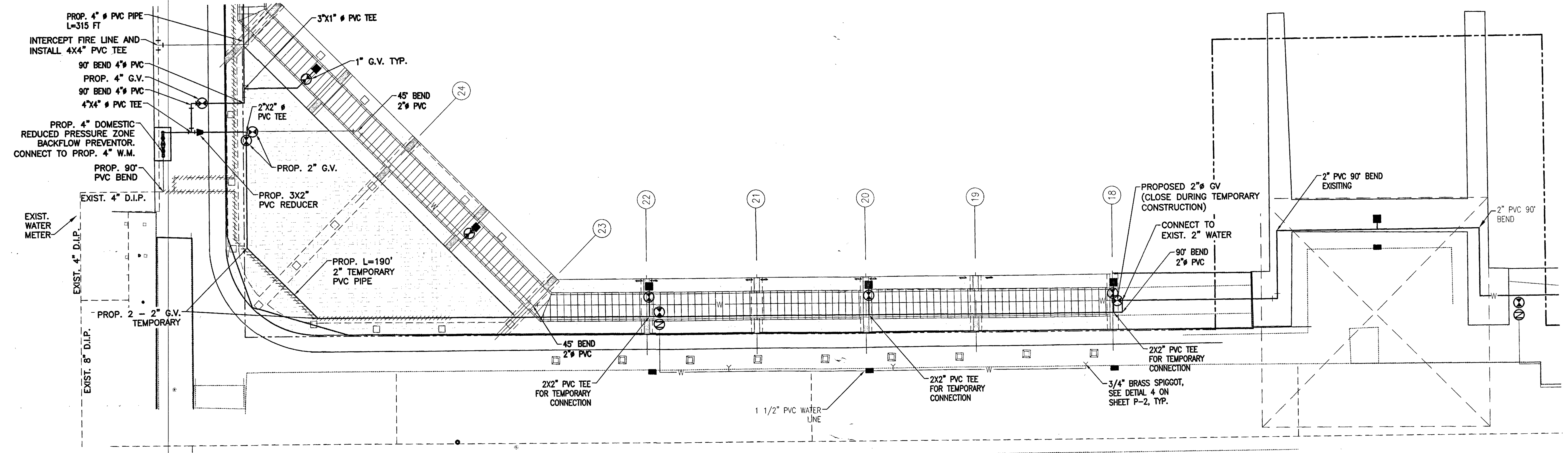
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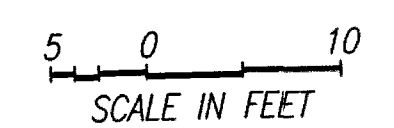


TEMPORARY WATER PLAN

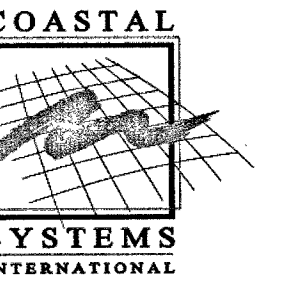
UT-1



**TEMPORARY WATER PLAN**  
SCALE: 1" = 10'



NOTE:  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")



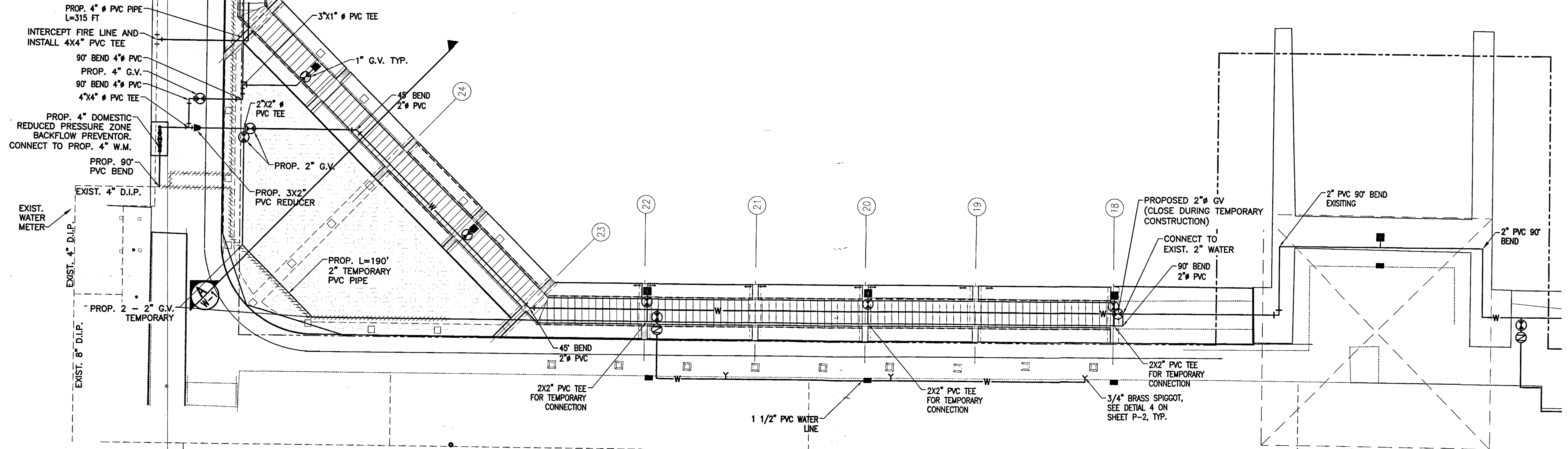
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consulting engineers  
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Rene L. Basulto, P.E. #10889  
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Suite 52 Miami Lakes, Florida 33016 Fax (305) 898-8988

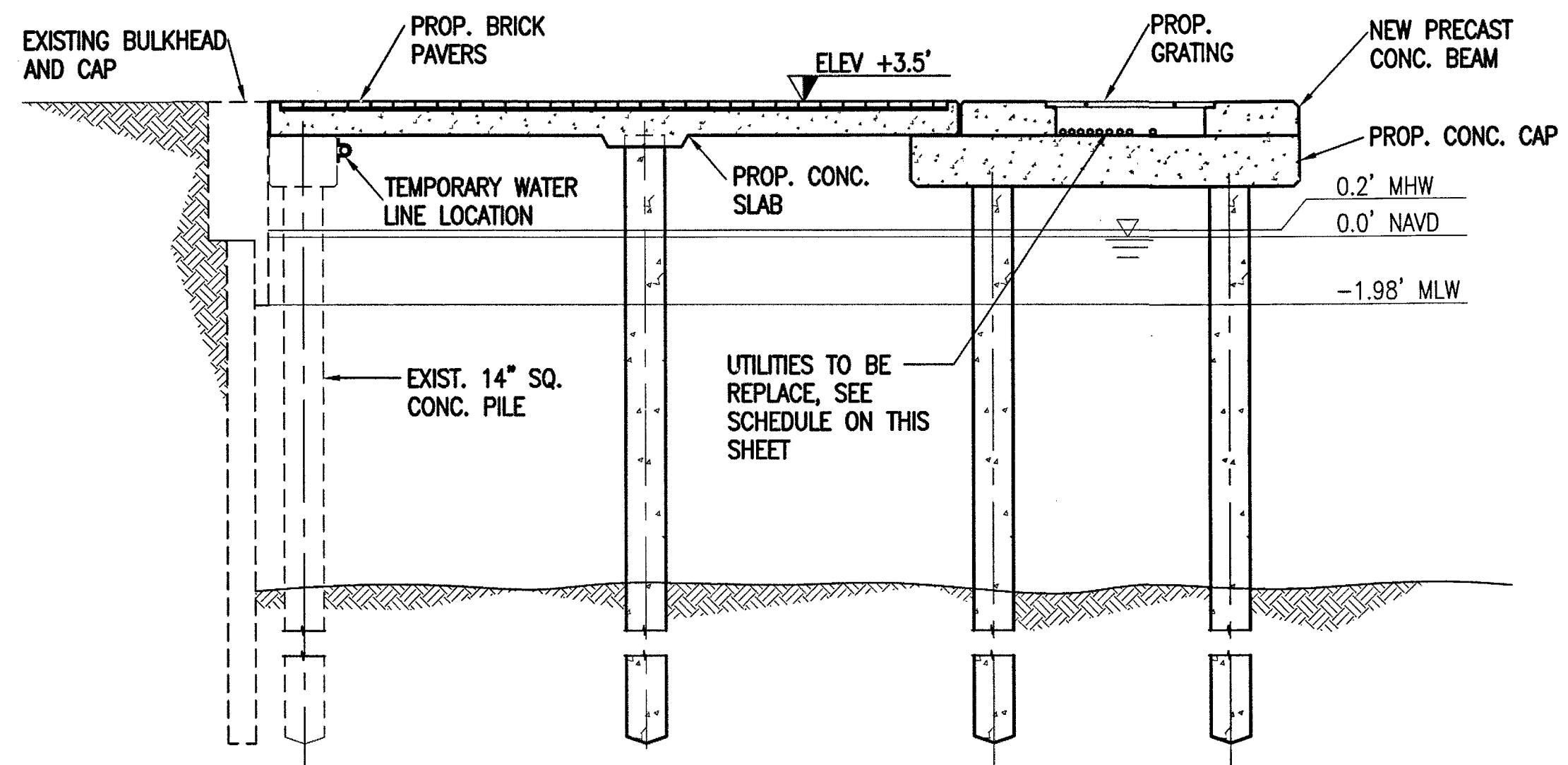
MATCHLINE A-A PLAN, SHEET #####



**PROPOSED UTILITIES PLAN**  
SCALE: 1" = 10'

**SCHEDULE OF UTILITIES TO BE REPLACED IN KIND**

- 2 INCH PVC SCHED. 900 WATER LINE
- 2 INCH PVC SDR 40 ELECT. CONDUIT
- (3) 2 1/2 INCH PVC SDR 40 ELECT. CONDUIT
- (2) 3/4 INCH PVC SDR 40 LIGHTING CONDUIT
- 2 INCH PVC SDR 40 PHONE CONDUIT
- 2 INCH PVC SDR 40 CATV CONDUIT



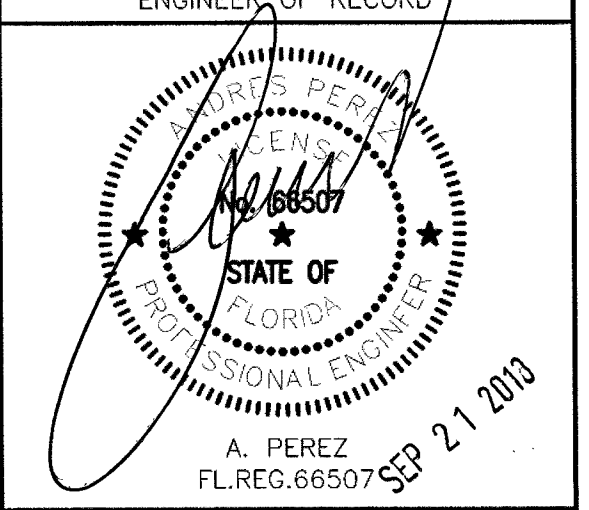
**SECTION A**  
SCALE: 1" = 4'

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09/21/18	DERM REVS.
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12/18/17	PERMIT SET

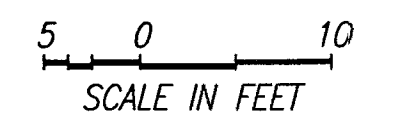
ISSUE	DATE	DESCRIPTION
PROJECT NO:	220260.07	
DATUM:	NAVD	
DRAWN BY:	CR	
CHECKED BY:	AP	

RER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL  
NAME: *[Signature]*  
DATE: 9/24/18



**PROPOSED UTILITIES  
PLAN**

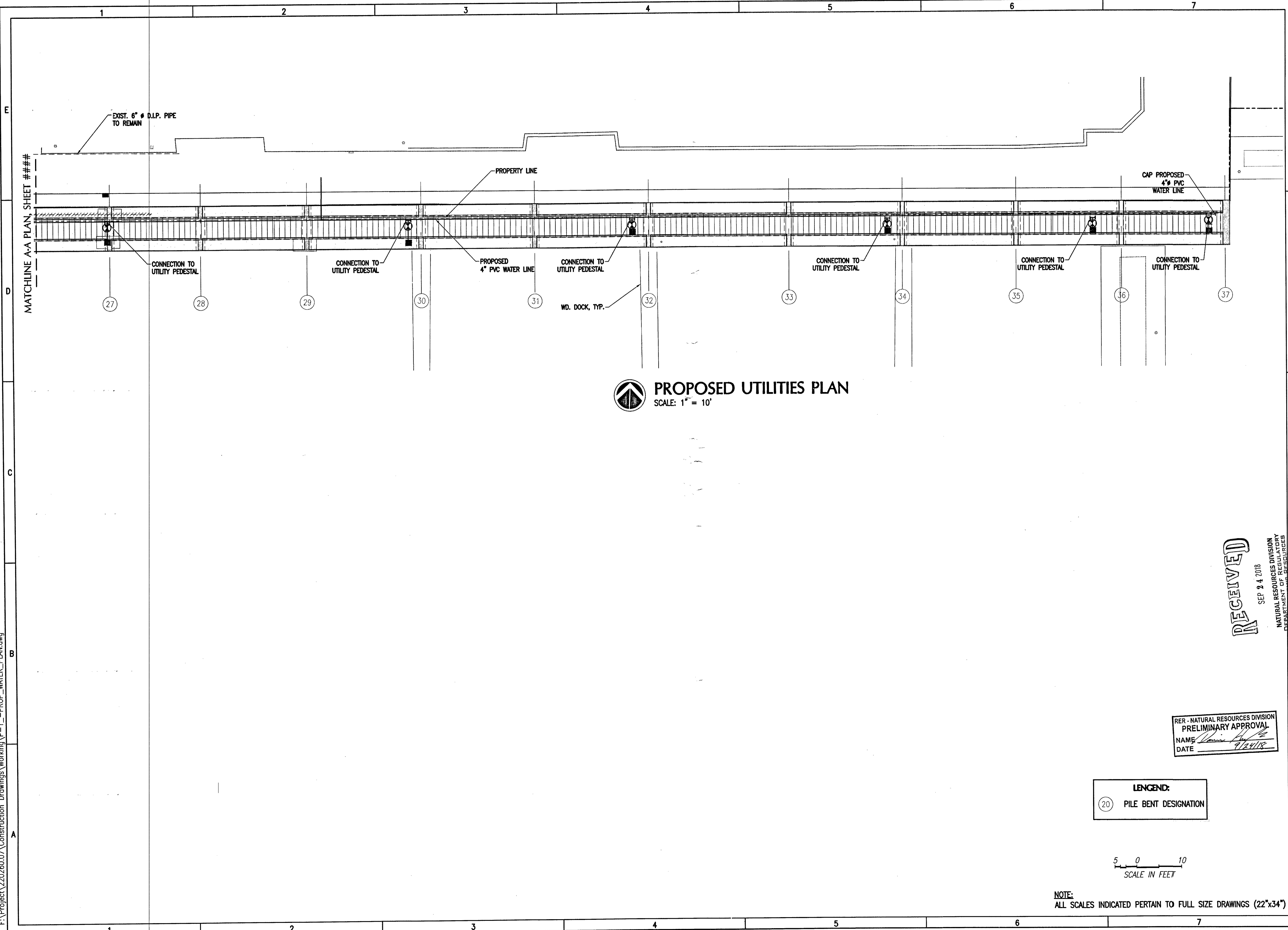
**UT-2**



NOTE:  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")

F:\Project\220260.07\Construction Drawings\Working\P-1\_-PROP\_WATER\_PLAN.dwg

F:\Project\220260.07\Construction Drawings\Working\1-PROP\_WATER\_PLAN.dwg



**PROPOSED UTILITIES PLAN**  
SCALE: 1" = 10'

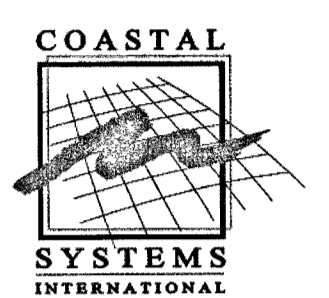
**LEGEND:**  
(20) PILE BENT DESIGNATION

5 0 10  
SCALE IN FEET

**NOTE:**  
ALL SCALES INDICATED PERTAIN TO FULL SIZE DRAWINGS (22"x34")

**MIAMARINA PIER 5  
IMPROVEMENTS  
CITY OF MIAMI,  
FLORIDA**

**PERMIT PLANS**



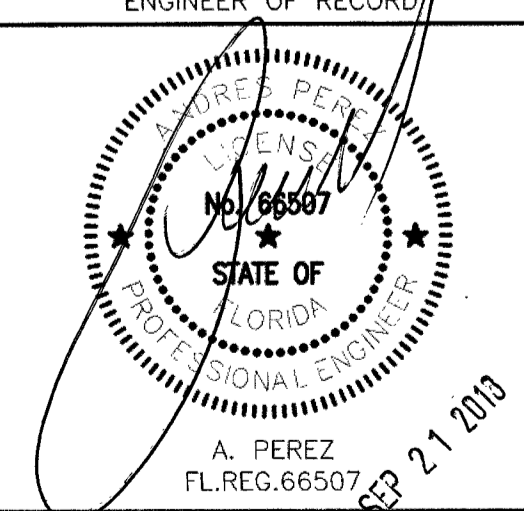
**COASTAL SYSTEMS INTERNATIONAL, INC.**  
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consulting engineers  
Mechanical/Electrical Reg. # CA0008722  
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09/21/18		DERM REVS.

**PER - NATURAL RESOURCES DIVISION  
PRELIMINARY APPROVAL**  
NAME: *[Signature]*  
DATE: 9/24/18



**PROPOSED UTILITIES  
PLAN**

**UT-3**