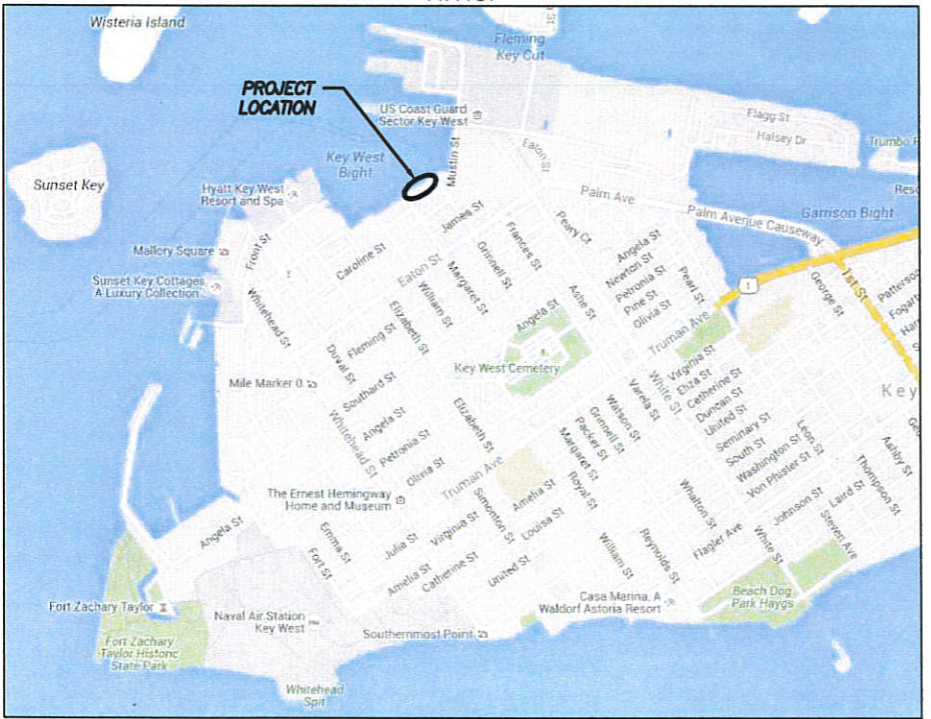


# HALF SHELL RAW BAR PROPOSED SEAWALL REPAIRS ITB #17-002



**LOCATION MAP**  
N.T.S.



**VICINITY MAP**  
N.T.S.

## SHEET INDEX

Sheet Number	Sheet Title
S1.0	COVER SHEET
S1.1	GENERAL NOTES
S1.2	STANDARD MANATEE CONDITION SIGN
S2.0	PLAN VIEW
S2.1	ENLARGED PLAN VIEW
S3.0	TYPICAL SECTIONS (SHEET 1 OF 3)
S3.1	TYPICAL SECTIONS (SHEET 2 OF 3)
S3.2	TYPICAL SECTIONS (SHEET 3 OF 3)
S4.0	TYPICAL DETAILS AND SECTIONS

NOTE: ELEVATIONS SHOWN HEREON ARE BASED ON NGVD '29 DATUM. TO CONVERT TO NAVD '88 SUBTRACT 1.34' FROM THE NGVD VALUE.

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NO. 2429

NO.	REVISION	DATE	BY

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Cert No. 6091 - LB No. 7055

**PROPOSED SEAWALL REPAIRS FOR:  
HALF SHELL RAW BAR  
231 MARGARET STREET  
KEY WEST, FLORIDA**

DRAWN D.A.M.		<b>SHEET</b> <b>S1.0</b>
CHECKED C.B.L.		
DATE MARCH 2017		
SCALE AS NOTED		
PROJECT NO. 16162144.00		

BID PLAN SET



GENERAL NOTES:

1. DESIGNED IN ACCORDANCE WITH FLORIDA BUILDING CODE (2014 EDITION) HIGH VELOCITY HURRICANE ZONE.

CONCRETE:

1. CONCRETE SHALL CONFORM TO SECTION 346 OF THE FDOT STANDARD SPECIFICATIONS. THE PROVISIONS OF SECTION 346 SHALL APPLY EXCEPT AS AMENDED IN THIS TECHNICAL SPECIFICATION.
2. NO FLYASH OR SLAG WILL BE PERMITTED AS A SUBSTITUTE FOR CEMENT.
3. ENVIRONMENT: EXTREMELY AGGRESSIVE
4. MATERIAL: MINIMUM 28 DAY STRENGTH: f'c  
CLASS IV: 5,500 PSI (CAST IN PLACE CONCRETE)
5. MAXIMUM WATER TO CEMENT RATIO 0.40.
6. MINIMUM CEMENT CONTENT 658 LBS PER CUBIC YARD OF CONCRETE.
7. FINISH: ALL EXPOSED EXTERIOR SURFACES SHALL RECEIVE AN APPROVED FDOT CLASS 5 APPLIED FINISH COATING, COLOR TO BE SELECTED BY OWNER.
8. PROVIDE 3/4 INCH CHAMFERS ON ALL EDGES AND CORNERS.
9. 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.
10. MINIMUM CONCRETE COVER: UNFORMED AND EXPOSED TO EARTH:  
4 INCHES  
FORMED AND EXPOSED TO EARTH:  
4 INCHES
11. CONTROL JOINTS TO BE 1/8" x 1" DEEP TOOLED JOINT @ 30'-0" O.C. (MAX.) AND 1/4" EXPANSION JOINT TO BE SPACED TO MATCH EXISTING..

DESIGN LOAD:

SURCHARGE LIVE LOAD = 100 PSF

PILE LOAD = 4 TON (SERVICE)

GROUND SNOW LOAD = 0 PSF

FLOOD ZONE VE

WIND DESIGN:

WIND DESIGN PER ASCE 7-10  
V<sub>ULT</sub> = 180 MPH (3 SEC.)  
V<sub>ASD</sub> = 139 MPH (3 SEC.)  
RISK CATEGORY II  
K<sub>z</sub> = 1.0  
K<sub>d</sub> = 0.85  
G = 0.85  
q<sub>h</sub> = 43.6 PSF (SERVICE)  
EXPOSURE D

SEISMIC DESIGN DATA:

RISK CATEGORY II  
I<sub>e</sub> = 1.0  
S<sub>s</sub> = 0.05  
S<sub>i</sub> = 0.02  
SITE CLASS = D  
S<sub>DS</sub> = 0.053  
S<sub>D1</sub> = 0.032  
SEISMIC DESIGN CATEGORY = A  
R = 4 (ORDINARY REINFORCED CONCRETE SHEAR WALL)  
C<sub>s</sub> = 0.013

GENERAL SPECIFICATIONS:

FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (2017 EDITION)

FLORIDA DEPARTMENT OF TRANSPORTATION DESIGN STANDARDS (2017 EDITION)

CONSTRUCTION NOTES:

1. CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO ANY PILE DRIVING.
2. THE CONTRACTOR SHALL REMOVE ALL LOOSE MATERIAL AND CONSTRUCTION DEBRIS ON THE SEAWARD FACE OF THE WALL EACH NIGHT AND DISPOSE OF MATERIAL AND DEBRIS AT AN UPLAND DISPOSAL LOCATION APPROVED BY THE CITY.
3. CONTRACTOR TO SUBMIT CONSTRUCTION SHORING PLAN FOR THE SUPPORT OF DECK AND BOARDWALK PRIOR TO COMMENCING CONSTRUCTION. SHORING PLAN SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.
4. CONTRACTOR TO PRE-AUGER OR JET PILES A MINIMUM OF 5'-0".

GLASS FIBER REINFORCED POLYMER REINFORCEMENT:

1. REINFORCEMENT IS TO BE GFRP (GLASS FIBER REINFORCED POLYMER) BARS DESIGNED IN ACCORDANCE WITH ACI 440.1R-06.
2. GFRP BARS TO BE PULTRALL V-ROD FRP BARS OR ENGINEER APPROVED EQUIVALENT.
3. BARS TO HAVE A MINIMUM TENSILE STRENGTH OF 66 KSI FOR #4 BARS AND 65 KSI FOR #5 BARS.
4. ALL REINFORCEMENT TO BE PLACED AND SUPPORTED USING NON-CORROSIVE MATERIALS.
5. REINFORCEMENT TO BE SECURED AGAINST DISPLACEMENT WHILE CONCRETE IS BEING PLACED.
6. REINFORCING IN CONCRETE WALLS SHALL BE CONTINUOUS-LAP BARS 36 DIAMETERS. HORIZONTAL BAR LAPS SHALL BE STAGGERED.
7. REINFORCEMENT SHALL BE CAREFULLY PLACED, RIGIDLY SUPPORTED, AND WELL TIED WITH BAR SUPPORTS AND SPACERS.
8. REINFORCEMENT SHALL BE ASSEMBLED AS MATS WITH BARS EQUALLY SPACED AND WIRED TOGETHER AT EACH INTERSECTION BEFORE CONCRETE IS PLACED.

TIMBER SPECIFICATIONS:

1. WOOD PRESERVATIVE AND RETENTION (PCF):  
STRINGERS AND BLOCKING ACQ 0.6 CCA 0.6  
TIMBER PILE CCA 2.5  
SUBMIT PRESERVATIVE TREATMENT AND RETENTION FOR APPROVAL.
2. SOUTHERN YELLOW PINE (SYP) GRADE NO. 1 DIMENSIONAL LUMBER.
3. LUMBER SIZES INDICATED ARE NOMINAL.
4. ALL SCREWS, NAILS, NUTS, BOLTS, WASHERS AND FASTENERS TO BE TYPE 316 STAINLESS STEEL (SS) UNLESS NOTED OTHERWISE.  
SIMPSON HARDWARE TO USE TYPE 316 STAINLESS STEEL CONNECTORS AND FASTENERS.  
STAINLESS STEEL DECK SCREWS SHALL BE ALIGNED WITH CHALK SNAP LINE.
5. EXISTING DECKING TO BE SALVAGED AND REUSED AS POSSIBLE. REPLACEMENT DECK LUMBER SHALL BE KILN DRIED BRAZILIAN HARDWOOD CLEAR GRADE (IPE), TABEULA IMPELIGINOSA. CONTRACTOR TO RE-LEVEL ANY DECK UNITS THAT ARE ALTERED DURING CONSTRUCTION.
- KILN DRIED LUMBER SHALL HAVE A MOISTURE CONTENT OF 15% OR LESS FOR 2" NOMINAL THICKNESS OR LESS & A MOISTURE CONTENT OF 19% OR LESS FOR A NOMINAL THICKNESS GREATER THAN 2".
6. FASTEN IPE CLEAR SOLID WOOD DECKING (HEART SIDE DOWN) TO STRINGERS WITH #8 x 3" STAINLESS STEEL SCREWS, TWO PER STRINGER LOCATION. DECKING MUST BE PRE-DRILLED FOR A FLUSH SCREW SET. SPACING BETWEEN DECK BOARDS IS 20d NAIL (0.203") OR LESS.

7. SOUTHERN YELLOW PINE GRADE NO. 1 STRINGERS AND PILE CAP TIMBERS (ALTERNATE PILE CAP DESIGN) TO BE WRAPPED IN GRACE VYCOR DECK PROTECTOR AT ALL POINTS OF CONTACT BETWEEN WOOD AND GALVANIZED CONNECTORS AND BENEATH IPE DECKING.
8. CANTILEVERED DECK WOOD PILES SHALL BE WRAPPED IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) REGULATIONS. TOP OF PILES TO BE CAPPED WITH CONICAL SHAPED CAP.

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK - 2011:

THE PERMITTEE SHALL COMPLY WITH THE FOLLOWING CONDITIONS INTENDED TO PROTECT MANATEES FROM DIRECT PROJECT EFFECTS:

- a. ALL PERSONNEL ASSOCIATED WITH THE PROJECT SHALL BE INSTRUCTED ABOUT THE PRESENCE OF MANATEES AND MANATEE SPEED ZONES, AND THE NEED TO AVOID COLLISIONS WITH AND INJURY TO MANATEES. THE PERMITTEE SHALL ADVISE ALL CONSTRUCTION PERSONNEL THAT THERE ARE CIVIL AND CRIMINAL PENALTIES FOR HARMING, HARASSING, OR KILLING MANATEES WHICH ARE PROTECTED UNDER THE MARINE MAMMAL PROTECTION ACT, THE ENDANGERED SPECIES ACT, AND THE FLORIDA MANATEE SANCTUARY ACT.
- b. ALL VESSELS ASSOCIATED WITH THE CONSTRUCTION PROJECT SHALL OPERATE AT "IDLE SPEED/NO WAKE" AT ALL TIMES WHILE IN THE IMMEDIATE AREA AND WHILE IN WATER WHERE THE DRAFT OF THE VESSEL PROVIDES LESS THAN A FOUR-FOOT CLEARANCE FROM THE BOTTOM. ALL VESSELS WILL FOLLOW ROUTES OF DEEP WATER WHENEVER POSSIBLE.
- c. SILTATION OR TURBIDITY BARRIERS SHALL BE MADE OF MATERIAL IN WHICH MANATEES CANNOT BECOME ENTANGLED, SHALL BE PROPERLY SECURED, AND SHALL BE REGULARLY MONITORED TO AVOID MANATEE ENTANGLEMENT OR ENTRAPMENT. BARRIERS MUST NOT IMPEDE MANATEE MOVEMENT.
- d. ALL ON-SITE PROJECT PERSONNEL ARE RESPONSIBLE FOR OBSERVING WATER-RELATED ACTIVITIES FOR THE PRESENCE OF MANATEE(S). ALL IN-WATER OPERATIONS, INCLUDING VESSELS, MUST BE SHUTDOWN IF A MANATEE(S) COMES WITHIN 50 FEET OF THE OPERATION. ACTIVITIES WILL NOT RESUME UNTIL THE MANATEE(S) HAS MOVED BEYOND THE 50-FOOT RADIUS OF THE PROJECT OPERATION, OR UNTIL 30 MINUTES ELAPSES IF THE MANATEE(S) HAS NOT REAPPEARED WITHIN 50 FEET OF THE OPERATION. ANIMALS MUST NOT BE HERDED AWAY OR HARASSED INTO LEAVING.
- e. ANY COLLISION WITH OR INJURY TO A MANATEE SHALL BE REPORTED IMMEDIATELY TO THE FWC HOTLINE AT 1-888-404-3922. COLLISION AND/OR INJURY SHOULD ALSO BE REPORTED TO THE U.S. FISH AND WILDLIFE SERVICE IN JACKSONVILLE (1-904-731-3336) FOR NORTH FLORIDA OR VERO BEACH (1-772-562-3909) FOR SOUTH FLORIDA, AND TO FWC AT [ImperiledSpecies@myFWC.com](mailto:ImperiledSpecies@myFWC.com)
- f. TEMPORARY SIGNS CONCERNING MANATEES SHALL BE POSTED PRIOR TO AND DURING ALL IN-WATER PROJECT ACTIVITIES. ALL SIGNS ARE TO BE REMOVED BY THE PERMITTEE UPON COMPLETION OF THE PROJECT. TEMPORARY SIGNS THAT HAVE ALREADY BEEN APPROVED FOR THIS USE BY THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION (FWC) MUST BE USED (SEE [MYFWC.COM/MANATEE](http://MYFWC.COM/MANATEE)). ONE SIGN WHICH READS CAUTION: BOATERS MUST BE POSTED. A SECOND SIGN MEASURING AT LEAST 8 1/2" BY 11" EXPLAINING THE REQUIREMENTS FOR "IDLE SPEED/NO WAKE" AND THE SHUT DOWN OF IN-WATER OPERATIONS MUST BE POSTED IN A LOCATION PROMINENTLY VISIBLE TO ALL PERSONNEL ENGAGED IN WATER-RELATED ACTIVITIES. QUESTIONS CONCERNING THESE SIGNS CAN BE SENT TO THE EMAIL ADDRESS LISTED ABOVE.
- g. FLOATING TURBIDITY BARRIER WITH FINE MESH SHALL BE USED IN ACCORDANCE WITH FDOT STANDARD SPECIFICATIONS, SECTION 104. BARRIER SHALL BE PLACED AROUND THE ENTIRE WORK SITE AND REMAIN IN PLACE FOR THE PROJECT DURATION.

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NO.	REVISION	DATE	BY



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FL Cert No. 6091 - LB No. 7055

PROPOSED SEAWALL REPAIRS FOR:  
HALF SHELL RAW BAR  
231 MARGARET STREET  
KEY WEST, FLORIDA

DRAWN D.A.M.	SEAL STATE OF FLORIDA	SHEET S1.1
CHECKED C.B.L.	DATE MARCH 2017	PROJECT NO. 18162144.00
SCALE AS NOTED	FLORIDA P.E. NAME & NUMBER Christopher B. Lafortune 16791	

BID PLAN SET



# CAUTION: MANATEE HABITAT

All project vessels  
**IDLE SPEED / NO WAKE**

When a manatee is within 50 feet of work  
all in-water activities must

## SHUT DOWN

Report any collision with or injury to a manatee:



**Wildlife Alert:**  
**1-888-404-FWCC(3922)**

cell \*FWC or #FWC

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KEY WEST, FLORIDA

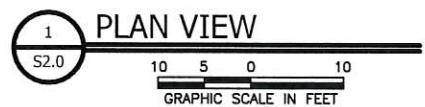
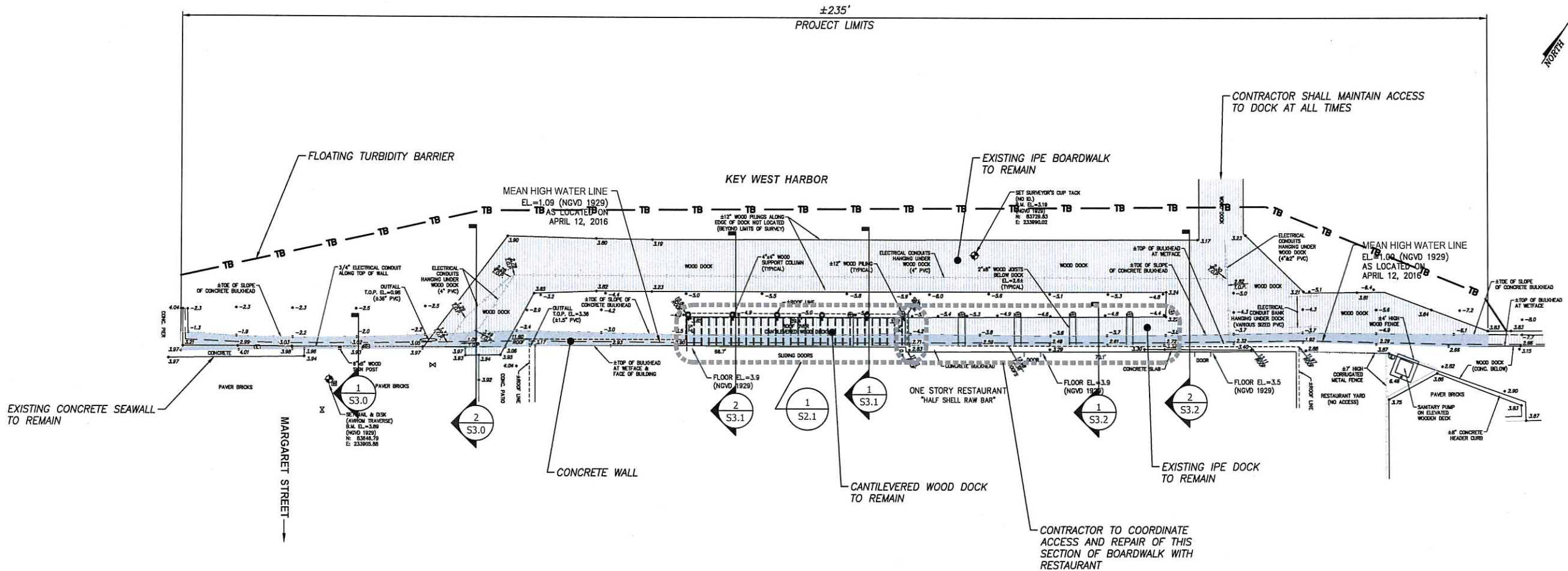
DRAWN:  
D.A.M.  
CHECKED:  
C.B.L.  
DATE:  
MARCH 2017  
SCALE:  
AS NOTED

STATE OF FLORIDA  
Christopher B. LaForta-76797  
FLORIDA P.E. NAME & NUMBER

SHEET  
S1  
PROJECT NO.  
16162144.00

BID PLAN SET





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 KEY WEST, FLORIDA**

DRAWN  
 D.A.M.  
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 C.B.L.  
 DATE  
 MARCH 2017  
 SCALE  
 AS NOTED

SEAL  
 Christopher B. LaForte-16167  
 FLORIDA P.E. NAME & NUMBER

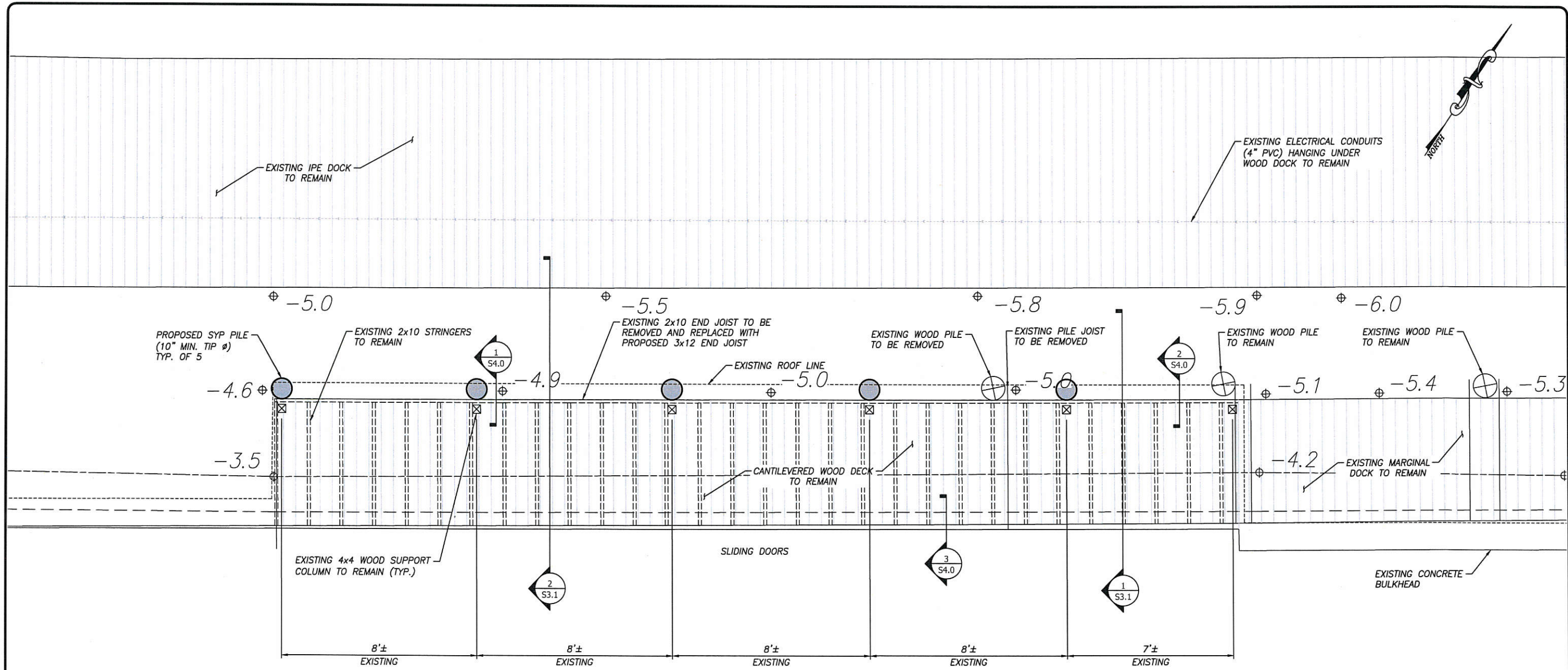
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 PROJECT NO.  
 16162144.00

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BID PLAN SET

3/10/17





ONE STORY RESTAURANT  
 "HALF SHELL RAW BAR"  
 FLOOR EL. = 3.9



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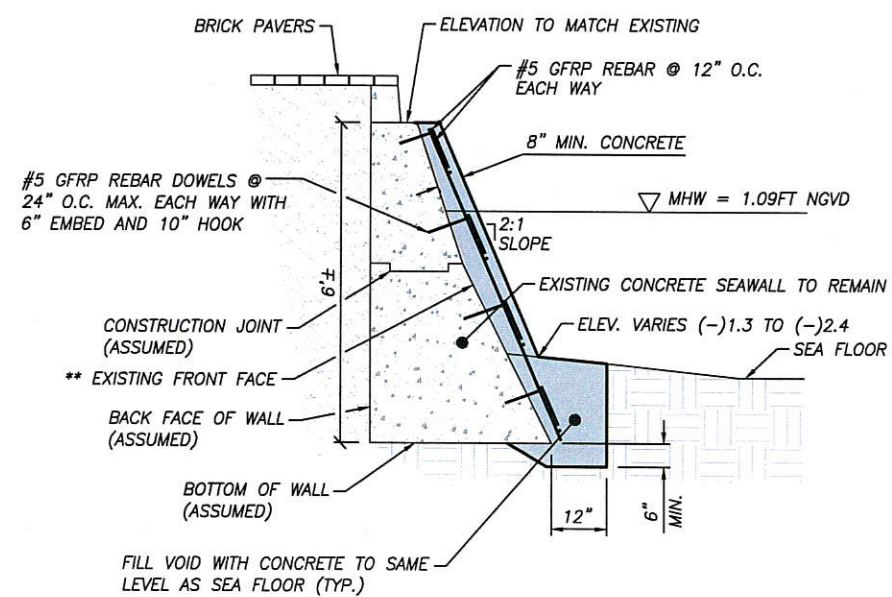
SEAL  
 CHRISTOPHER B. LAFORET  
 LICENSE  
 76307  
 3/10/17

SHEET  
**S21**  
 PROJECT NO.  
 16162144.00

BID PLAN SET



DOCK/BOARDWALK NOTE:  
EXISTING STRINGER SUPPORT ANCHORAGES TO BE  
REMOVED AND REPLACED WITH STAINLESS STEEL ANCHORS  
EMBEDDED FOR PROPOSED SEAWALL CONCRETE REPAIRS

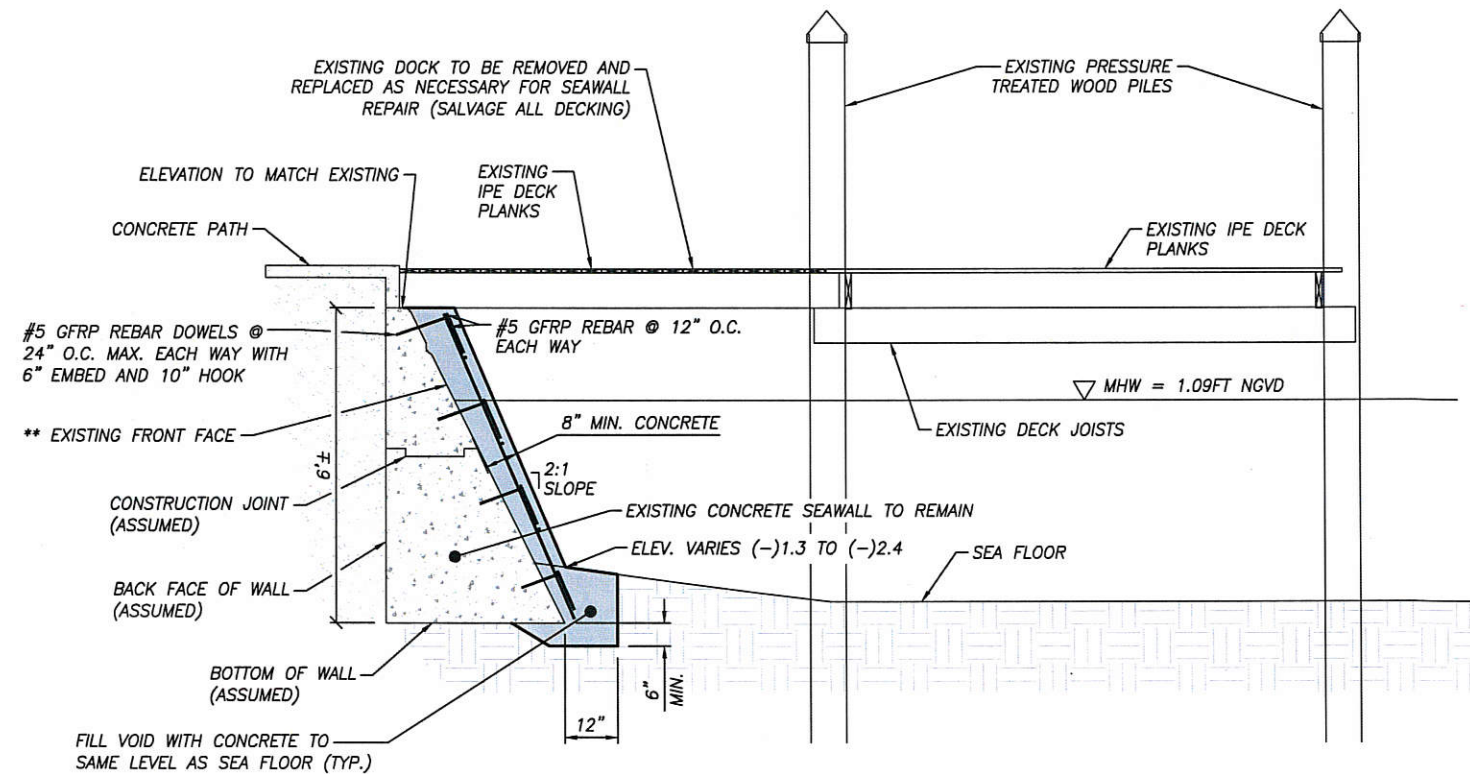


1  
53.0

TYPICAL SECTION

2 1 0 2

GRAPHIC SCALE IN FEET



2  
S3.0

TYPICAL SECTION

2 1 0 2

GRAPHIC SCALE IN FEET

ALL MARINE LIFE AND LOOSE AND/OR DELAMINATED  
CONCRETE TO BE REMOVED BACK TO SOUND MATERIAL

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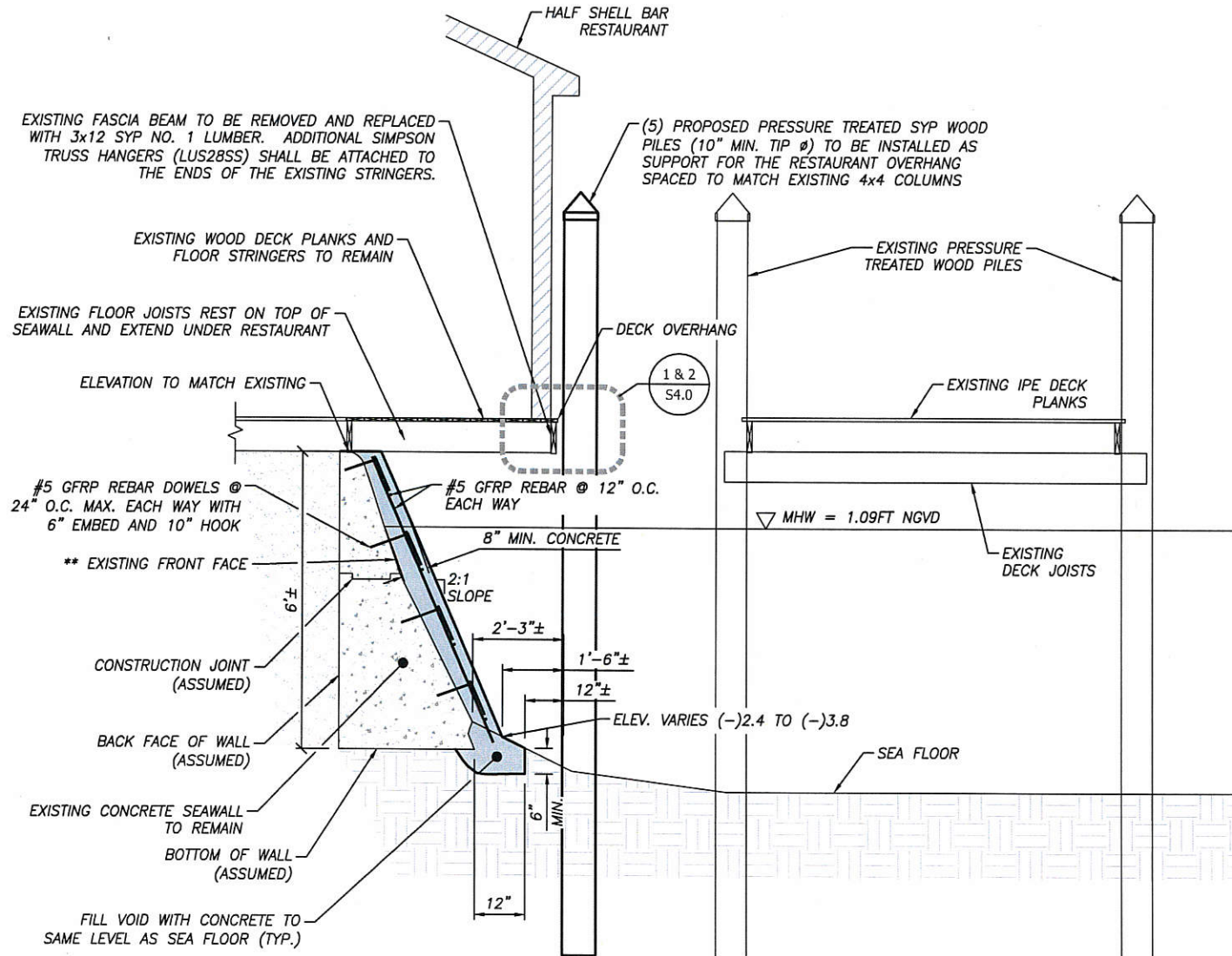
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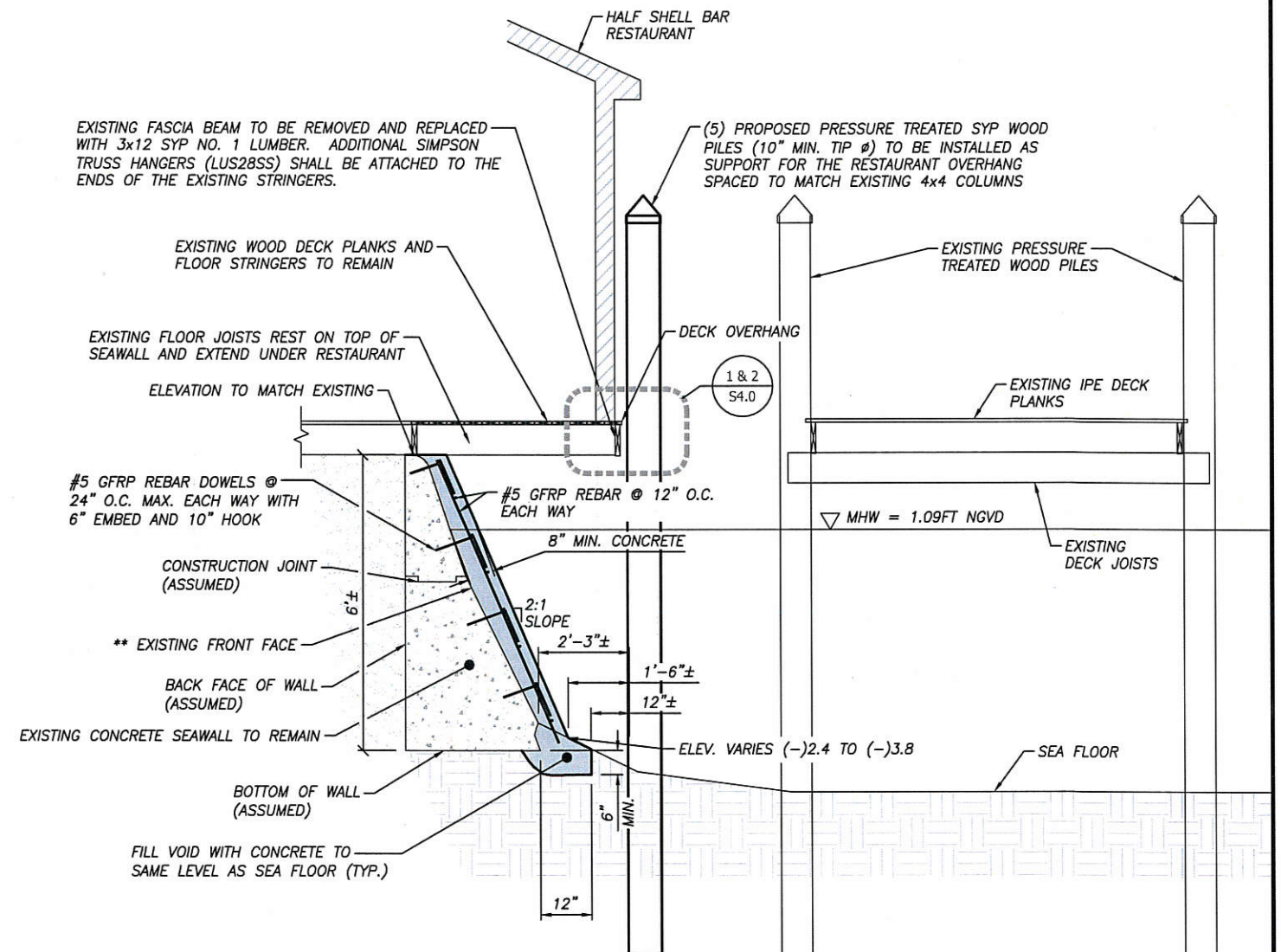
DRAWN D.A.M.	SEAL <i>[Signature]</i>	SHEET \$3.0
CHECKED C.B.L.		
DATE MARCH 2017		
SCALE AS NOTED	Christopher B. LaForte - 76797 FLORIDA P.E. NAME & NUMBER	PROJECT NO. 16162144.00

BID PLAN SET





1 TYPICAL SECTION  
S3.1  
GRAPHIC SCALE IN FEET



2 TYPICAL SECTION  
S3.1  
GRAPHIC SCALE IN FEET

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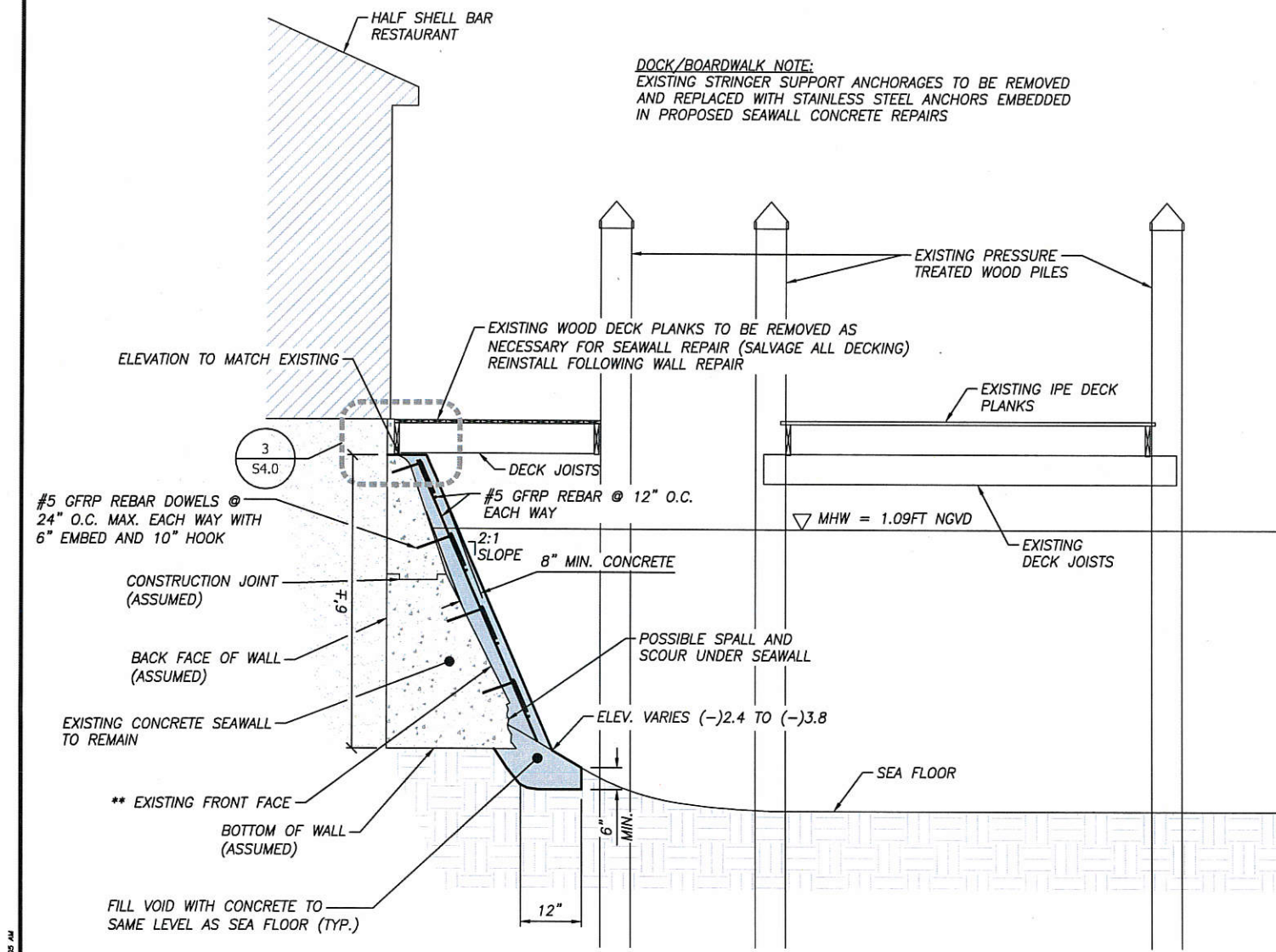
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SHEET S3.1

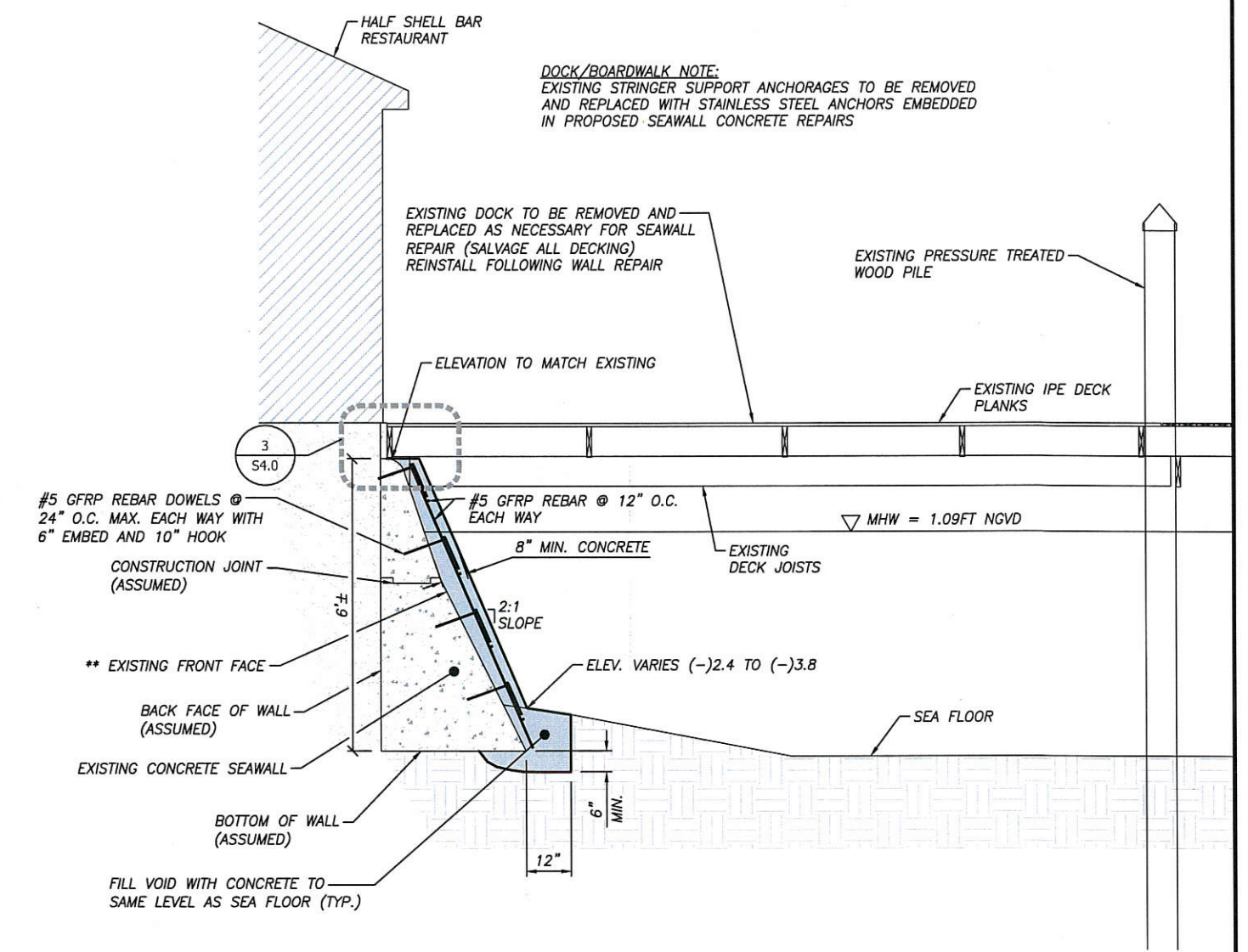
CHRISTOPHER B. LAFORTE  
LICENSE NO. 76797  
STATE OF FLORIDA  
3/10/17

BID PLAN SET





1 TYPICAL SECTION  
S3.2  
2 1 0 2  
GRAPHIC SCALE IN FEET



2 TYPICAL SECTION  
S3.2  
2 1 0 2  
GRAPHIC SCALE IN FEET

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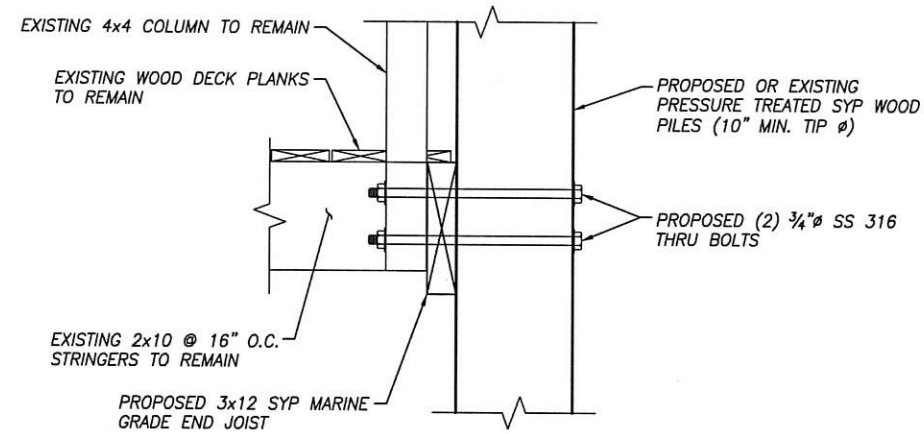
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SEAL  
No. 76797  
Christopher B. LaForte  
FLORIDA P.E. NAME & NUMBER

SHEET  
S3.2  
PROJECT NO.  
16162144.00

BID PLAN SET



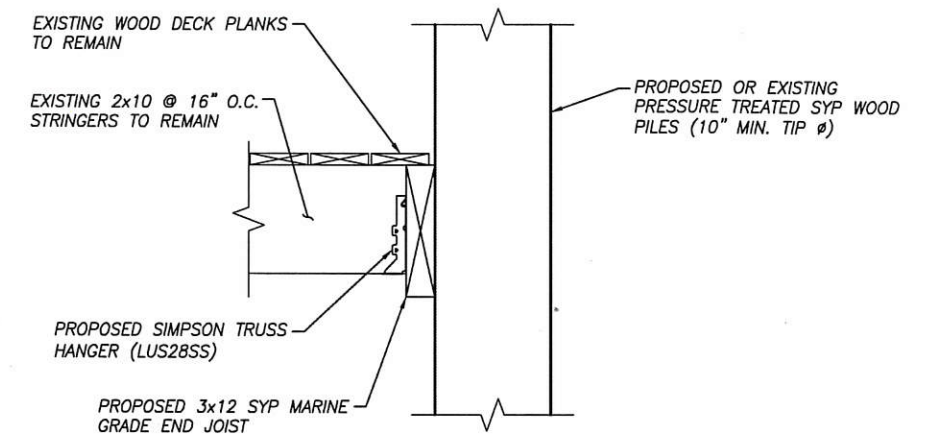


1 TYPICAL COLUMN CONNECTION DETAIL

S4.0

1 0.5 0 1

GRAPHIC SCALE IN FEET

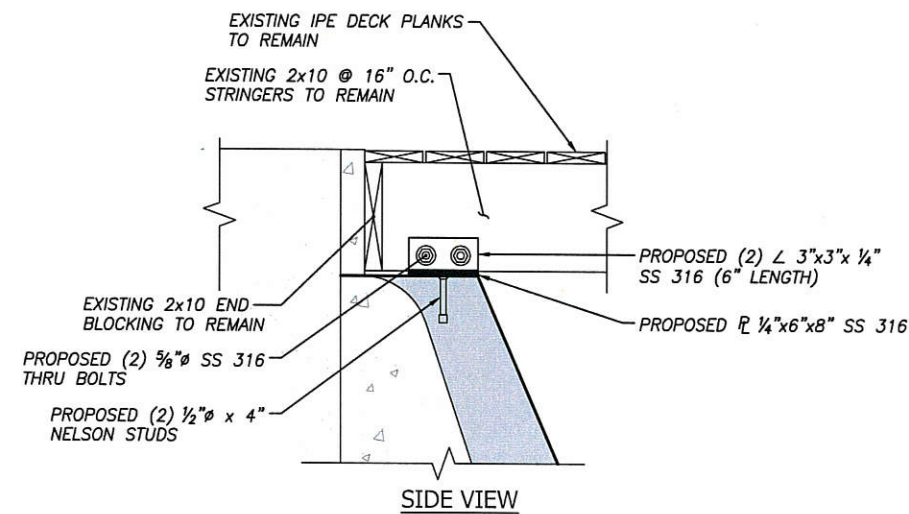


2 TYPICAL JOIST CONNECTION DETAIL

S4.0

1 0.5 0 1

GRAPHIC SCALE IN FEET

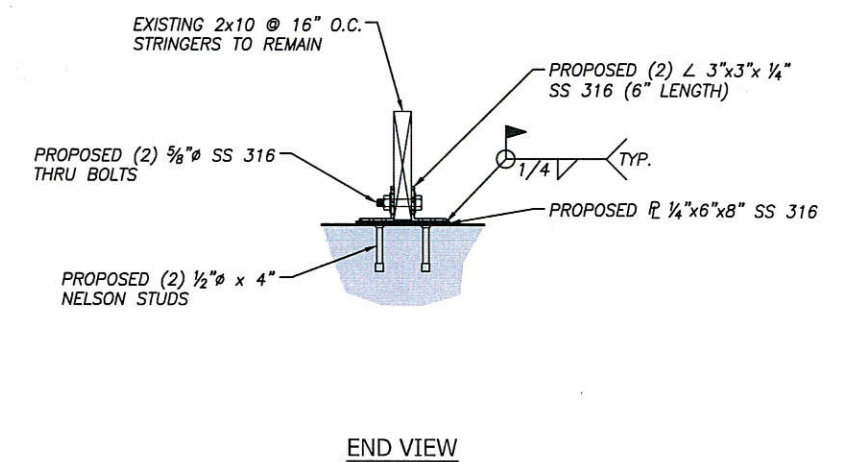


3 TYPICAL JOIST CONNECTION DETAIL

S4.0

1 0.5 0 1

GRAPHIC SCALE IN FEET



NOTE: ELEVATIONS SHOWN HEREON ARE BASED ON NGVD '29 DATUM. TO CONVERT TO NAVD '88 SUBTRACT 1.34' FROM THE NGVD VALUE.

NOTE: THE SCALE OF THESE DRAWINGS MAY HAVE CHANGED DUE TO REPRODUCTION.



**TETRA TECH INC.**  
759 SOUTH FEDERAL HWY  
SUITE 314  
STUART, FL 34994-2936  
TEL: (772) 781-3400  
FAX: (772) 781-3411  
CERTIFICATE OF AUTHORIZATION  
NO. 2429

NO.	REVISION	DATE	BY



ENGINEERING // SURVEYING // ENVIRONMENTAL // PLANNING

2035 Vista Parkway  
West Palm Beach, FL 33411  
Phone No. 561.687.2220  
Fax No. 561.687.1110  
Cert No. 6091 - L.B. No. 7055

PROPOSED SEAWALL REPAIRS FOR:  
**HALF SHELL RAW BAR**  
231 MARGARET STREET  
KEY WEST, FLORIDA

DRAWN  
D.A.M.  
CHECKED  
C.B.L.  
DATE  
MARCH 2017  
SCALE  
AS NOTED

SEAL  
No. 76797  
CHRISTOPHER B. LAFORET  
LICENSE  
FLORIDA P.E. NAME & NUMBER

SHEET  
S4.0  
PROJECT NO.  
16162144.00

BID PLAN SET