

SEAWALL REINFORCED  
CONCRETE CAP REPLACEMENT

RER - NATURAL RESOURCES DIVISION

PRELIMINARY APPROVAL

NAME Micaela Soldi

DATE 03/10/2021



1710 BAY DRIVE  
MIAMI BEACH, FLORIDA

Yisel Mantilla

FLORIDA

PROFESSIONAL ENGINEER

STATE OF

No. 88475

Yisel Mantilla

FLORIDA LICENSE # 88475

2775 W 52ND ST. UNIT 405

HALEAH GARDENS, FL 33016

(305)-609-1181

job name:

MR. DAMIAN MARTINEZ  
1710 BAY DRIVE. MIAMI BEACH FL.

title:

REPLACEMENT OF EXISTING  
CONCRETE SEAWALL CAP

MARIN & MARIN

CONSTRUCTION

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Miami, Florida 33166

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date

11-23-20

issued

drawn

SAMIR K.

checked

project no.

revisions:

sheet no.

C-0

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GENERAL STRUCTURAL NOTES

- 2020 Florida Building Code, Sixth Edition has been used as the governing code for this project. Structural drawings and specifications for this project comply with Florida Building Code and regulations, to the best of the engineer's knowledge.
- Any construction work for this project shall comply with 2020 Florida Building Code's requirements as well as with ASCE 7-16 and all local codes, standards, and regulations. It is the intent of these plans and the responsibility of the contractor to comply with local, federal and state environmental permits issued for this project. It is the contractor responsibility to familiarize and govern himself by all provisions of these permits.
- Contractors shall immediately notify the engineer when discrepancies between the structural drawings and the existing condition in the field are found. Engineer must be notified immediately in case of any error or/and omission is found in the structural drawings.
- It is the responsibility of the contractor to always protect adjoining properties, materials, surfaces, furnishings, and public from harm during construction. Licensed contractor shall be responsible for adequate sediment and erosion control measurements to protect Biscayne Bay from sediments and debris from construction.
- Contractor shall be responsible for construction means and methods, as well as for ensuring jobsite safety including but not limited to all OSHA requirements applicable for the job.
- It is the responsibility of the contractor to verify location of existing utilities in the field prior commencing any work. Area of work shall be protected by fence and barricades at all times.
- Stability of the structure and temporary bracing, including but not limited to masonry walls, is the responsibility of the contractor, who shall ensure that the bracing system used is the adequate for the job. The contractor, can also retain a licensed Florida engineer to design and inspect the bracing system required to be used for the job.
- Structure for this project has been designed to be structurally sound.
- Elevations shown refer to the National Geodetic Vertical Datum (NGVD) of 1929.
- All dimensions on plans are subject to verification in the field.
- No change to these plans can be made without a written authorization from the engineer.

REINFORCED CONCRETE

- Structural design and construction shall comply with ACI 318 and ACI 301.
- Minimum ultimate 28 days compressive design strength,  $f'_c$ , of 5000 PSI for all concrete, except precast piles, shall be used in this project. The maximum w/c ratio shall be 0.4 (Normal weight aggregate concrete).
- Normal weight concrete shall be used for all concrete structural members, u.o.m.
- Concrete construction shall always be inspected as required by FBC 2020 and ACI 318. Owner shall employ and pay an independent testing laboratory for testing service of materials and concrete shall be retained for at least two years after job's completion by inspector. The building official shall have the right to request record of these tests and/or to order testing of any material to determine if it meets the specified quality.
- Cementitious materials shall be per ACI 318 and corresponding ASTM.
- Concrete reinforcement shall be per ASTM A615. Provide ASTM A615 Grade 60, fy = 60,000 PSI reinforcing steel. All Reinforcement shall be placed in accordance with ACI315 and ACI Manual of Standard Practice, latest versions.
- Welded plain wire reinforcement shall be per ASTM A185. Supply welded plain wire reinforcement, where specified in plans, in flat sheets with lap splice to cross wire spacing. Concrete cover shall be minimum 3", unless otherwise noticed.
- Reinforcement shall be free of materials deleterious to bond when concrete is placed.
- Reinforcement shall be placed, supported and fastened to maintain its location during concrete placement. Tolerances specified in ACI 117 shall not be exceeded before concrete is placed.
- Concrete shall be maintained above 50 °F and in a moist condition for minimum 7 days after its placement, unless it is high-early strength concrete.
- Forms used for cast-in place structural elements shall be substantial and sufficiently tight to prevent mortar's leakage. Forms must be adequately braced and tied to maintain its position in place or the shape of the structural element. The contractor is responsible to ensure the forms used for the job are the adequate. It is also the responsibility of the contractor to ensure the removal of forms, shores, and re-shoring is done by ACI 318 specifications.
- Conduits, pipes, sleeves passing through any structural element shall be approved by the licensed design engineer.
- Construction joints in floors shall be located within the middle third of span of slabs, beams, and girders. For the case of girders, construction joints shall be offset a minimum of two times.
- Beams, girders, or slabs supported by columns or walls shall not be cast until the concrete in the supporting member is no longer plastic.
- 3" chamfer shall be provided for all exposed corners.
- Reinforcement splices shall be minimum 30 times the diameter of the reinforcement bar. Reinforcement shall be continuous around all corners (48 times the diameter of the bars banded around the corners).

CODES

- Florida Building Code (FBC) 2020.
- ASCE7-16- Minimum Design Loads for Buildings and Other Structures.
- ACI 318-14-Building Code Requirements for Structural Concrete.
- EM-1110-2-1100 (Part V): Coastal Engineering Manual 2011

DESIGN LOADS

- Design loads used on this project are based on FBC 2020 and ASCE 7-16.

Super Imposed Gravity Loads:

Dead Load (DL): 10 PSF  
Live Load (LL): 100 PSF

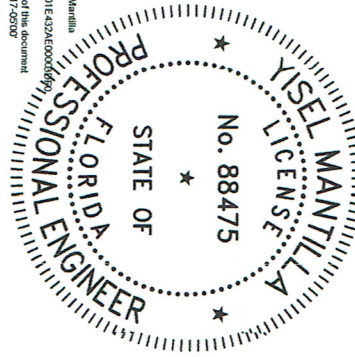
PILE DRIVING:

- Pile driving shall be observed by special inspector. This includes testing piles to determine the approximate length required to meet minimum design capacity.
- Concrete piles shall be driven to required minimum 30 TON bearing capacity.
- Piles shall be driven with a drop or gravity hammer, which weight is no less than 3,000 lb and the drop shall not exceed 6 FT.
- Precast concrete piles are 12"x12" with (4)  $\frac{1}{4}$ "  $\varnothing$  270 KSI steel strands, with minimum of 20" penetration into firm material below silt layer, unless otherwise specified in the soil report for the project site. Minimum compressive concrete strength shall be 5,000 psi.
- Piles shall be cut off at elevations and sections shown in the plans.

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DATE 03/10/2021

Yisel Mantilla

Digitally signed by Yisel Mantilla  
DN: cn=Yisel Mantilla, o=Professional Engineer  
Reason: I am the approver of this document  
Date: 2021.02.12 9:10:17-0500'



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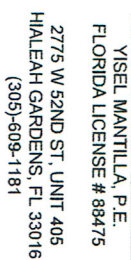
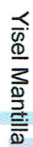
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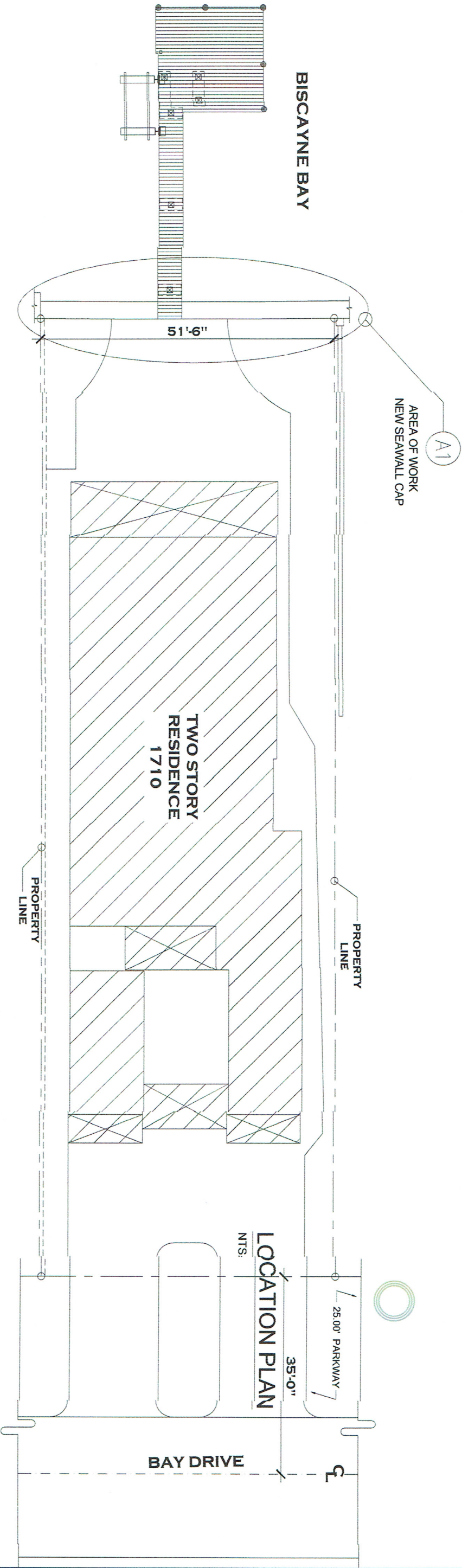
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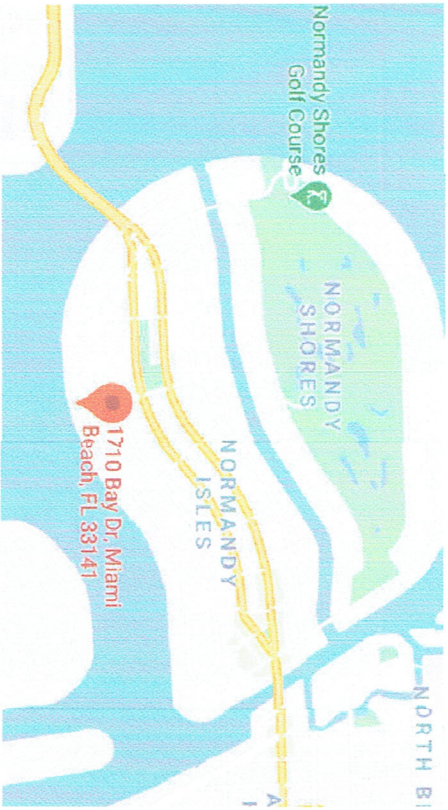




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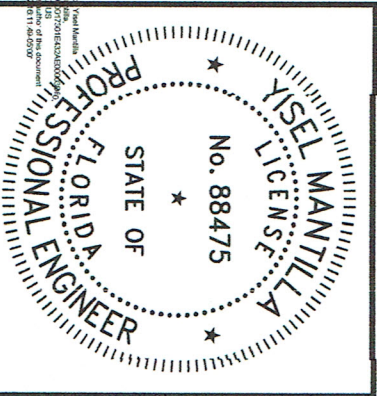
**PROPOSED NEW  
SEAWALL CAP SITE PLAN**

SCALE : 1/8" = 1'-0"

**SCOPE OF WORK :**

(A1) EXISTING SEAWALL CAP TO BE REPLACED AND RAISING WITH NEW CAP, REFER TO PLANS FOR DETAILS.

**Yisel Mantilla**  
Professional Engineer  
No. 88475  
State of Florida



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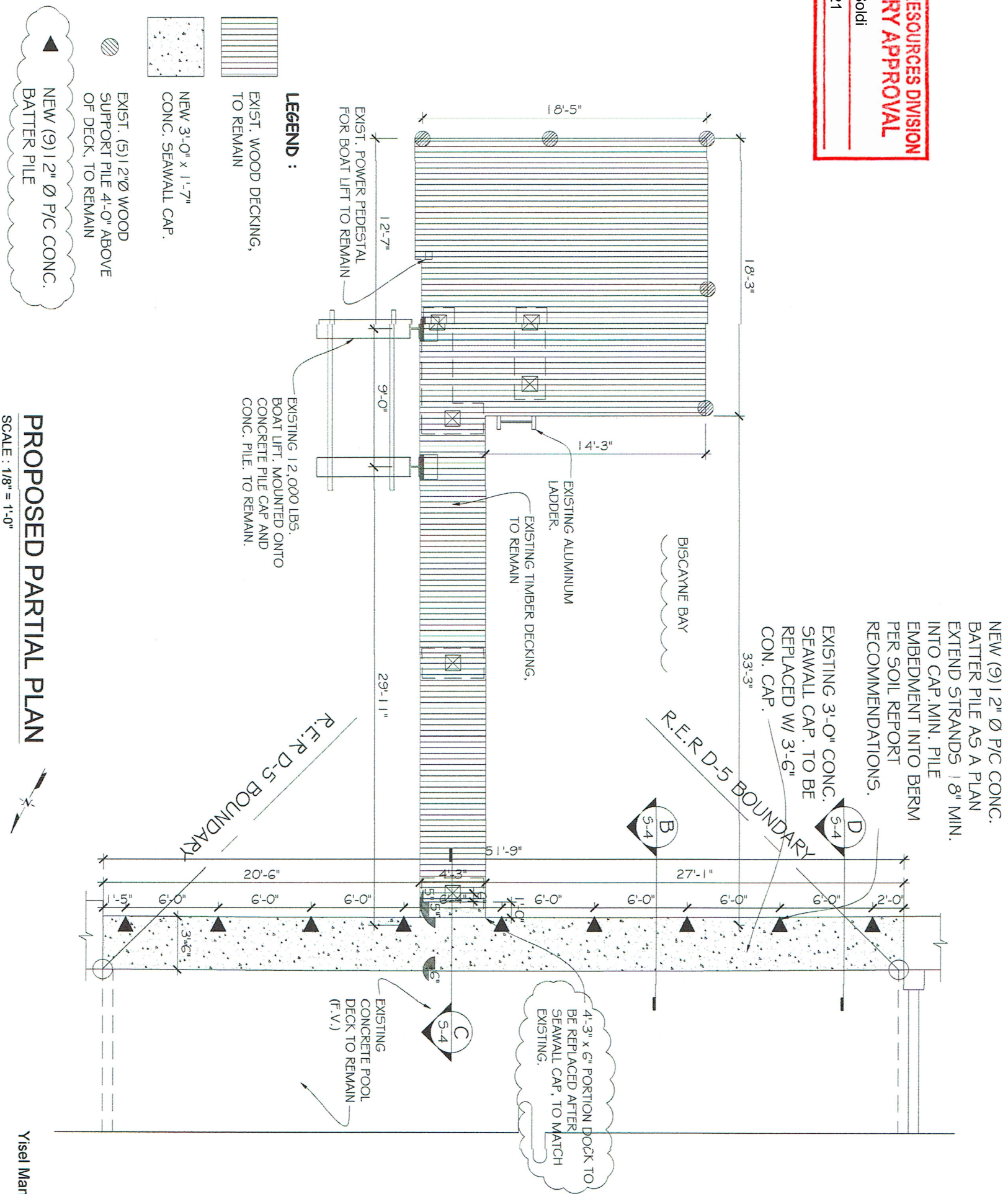
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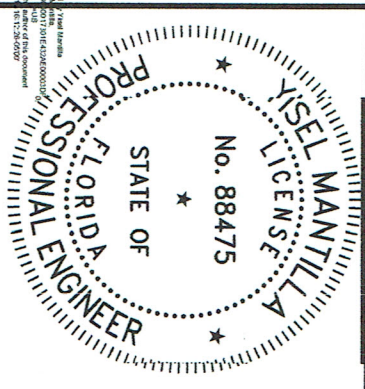
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PROPOSED PARTIAL PLAN

SCALE : 1/8" = 1'-0"

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4'-3" x 6" PORTION DOCK TO BE REPLACED AFTER SEAWALL CAP, TO MATCH EXISTING.

NEW 3'-6" x 1'-7" CONCRETE SEAWALL PILE CAP w/6#5 T&B & #3 TIES @ 12" O.C., PLUS 2#3 TIES EA. SIDE OF EA.

EXIST. WOOD DECK W/ 5/4 X 6" IPE FASTENED TO 2"X4" P.T. WOOD W/ 2-10d STAINLESS STEEL WOOD NAILS @ E.A. SUPPORT. TO BE PARTIAL REMOVE AND REINSTALL.

EXIST. CONC. POOL DECK SLAB TO REMAIN

EXIST. PRECAST CONC. DOCK SLAB TO REMAIN (F.V.)

+5'-7" N.G.V.D. TOP CAP.

+4'-6" N.G.V.D. TOP SLAB.

DRILL & EPOXY GROUT 6" INTO EXIST. CONC. INSTALL 18"X18" #6 HOOKS SPACED AT 12" O.C MAX. HOOKS SHALL EXTEND 18" TYP.

CONTRACTOR TO VERIFY THE EXISTENCE OF DOWELS AND SPACING IN THE FIELD). TYP.

EXIST. CONC. WALL (FILLED ON SITE), TO REMAIN (F.V.)

EXIST. CONC. FOOTING TO REMAIN (F.V.)

EXIST. CONC. BAGS RIP-RAP, TO REMAIN. (F.V.)

M.H.W. EL +1'-6" NGVD

M.L.W. EL -1'-6" NGVD

EXIST. PRECAST CONC. PILING, TO REMAIN (F.V.)

BERM EL. VARIES

SECTION C  
S-4

SCALE: 3/8"=1'-0"

EXIST. GRADE ELEVATION

DRILL & EPOXY GROUT 6" INTO EXIST. CONC. INSTALL 18"X18" #6 HOOKS SPACED AT 12" O.C MAX. HOOKS SHALL EXTEND 18" TYP.

(CONTRACTOR TO VERIFY THE EXISTENCE OF DOWELS AND SPACING IN THE FIELD). TYP.

SECTION D  
S-4

SCALE: 3/8"=1'-0"

EXIST. CONC. POOL DECK SLAB TO REMAIN (F.V.)

NOTE: 3" STEEL CLEAR TO CONC.

NEW 3'-6" x 1'-7" CONCRETE SEAWALL PILE CAP w/6#5 T&B & #3 TIES @ 12" O.C., PLUS 2#3 TIES EA. SIDE OF EA. PILE, EXTEND VERT. PILE HOOKS TO EXTEND 18" MIN. INTO CAP.

NEW 5#5 BARS LONG. T. & B.  
NEW #3@12" O.C STIRRUPS.  
3/4" CHAMFER (TYP)

EXIST. CONC. FOOTING TO REMAIN

M.H.W. EL +1'-6" NGVD

M.L.W. EL -1'-6" NGVD

EXIST. CONC. BAGS RIP-RAP, TO REMAIN

BERM EL. VARIES

SECTION B  
S-4

SCALE: 3/8"=1'-0"

NEW 3'-6" x 1'-7" CONCRETE SEAWALL PILE CAP w/6#5 T&B & #3 TIES @ 12" O.C., PLUS 2#3 TIES EA. SIDE OF EA. PILE, EXTEND VERT. PILE REINF. 16" MIN. INTO CAP.

+5'-7" N.G.V.D. TOP CAP.

NEW 6#5 BARS LONG. T. & B.

1 # 5 SKIM BAR

NEW #3@12" O.C STIRRUPS.

3/4" CHAMFER (TYP).

EXIST. CONC. FOOTING TO REMAIN (F.V.)

M.H.W. EL +1'-6" NGVD

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