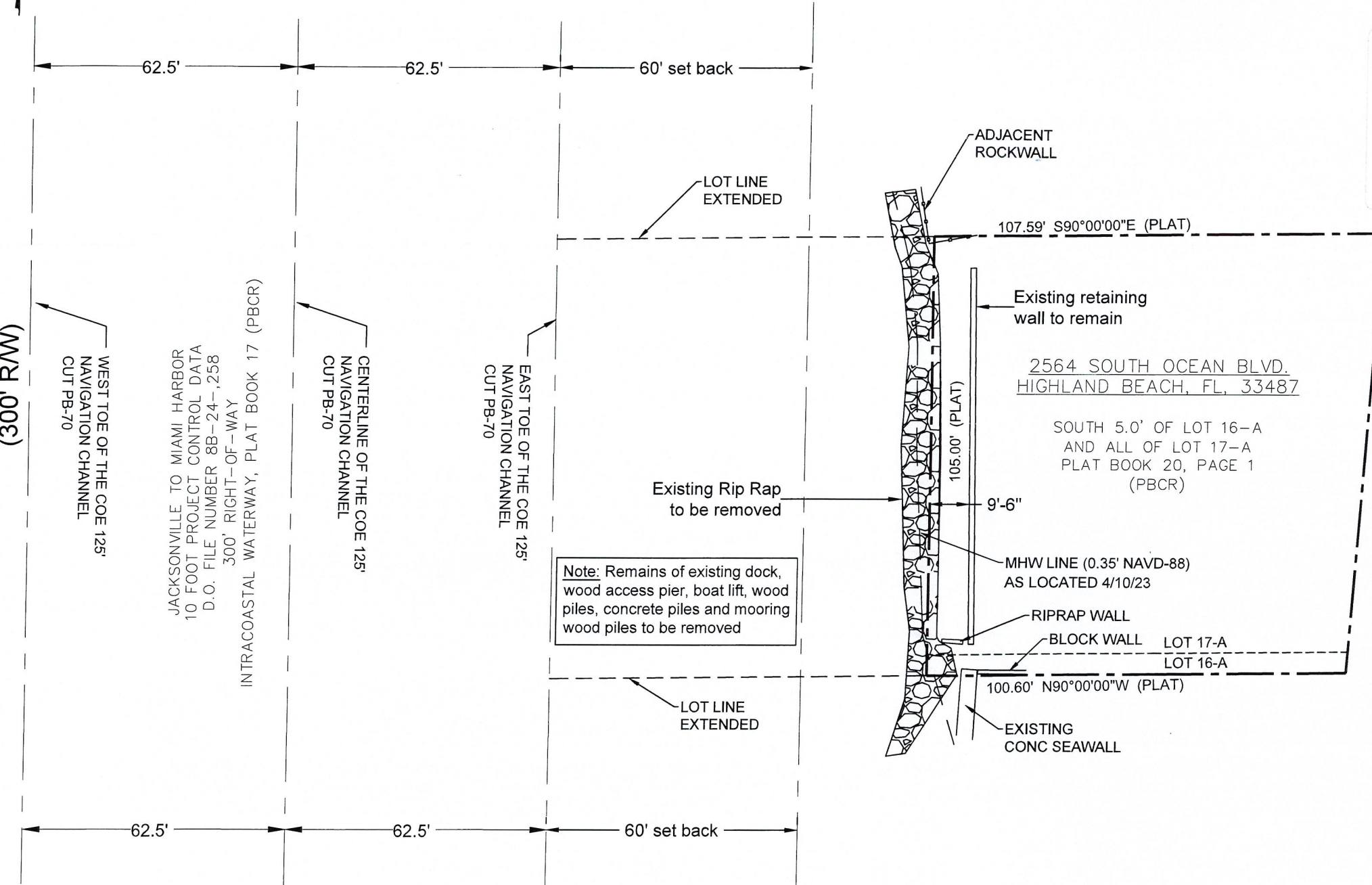






INTRACOASTAL WATERWAY  
(300' RW)



Existing Site Plan

Scale: 1" = 30'

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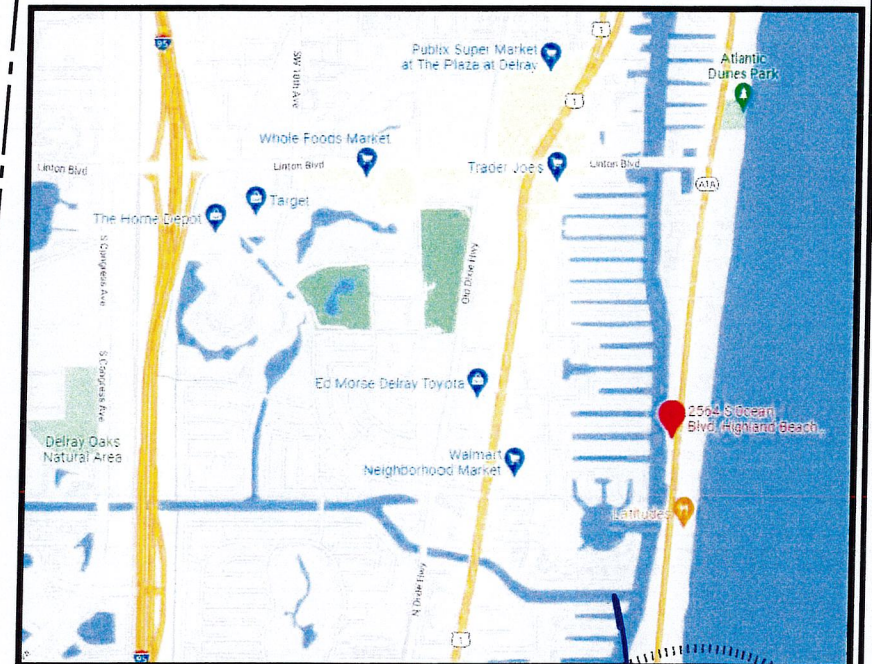
JUL 24 2025

HIGHLAND BEACH  
BUILDING DEPARTMENT

See attached survey supplied by  
owner for exact property information.

No tree will be removed or  
replanted as part of this permit

Location Address 2564 S OCEAN BLVD  
Municipality HIGHLAND BEACH  
Parcel Control Number 24-43-46-28-09-000-0161  
Subdivision BYRD BEACH SUB IN  
Official Records Book 28513 Page 220  
Sale Date AUG-2016  
Legal Description BYRD BEACH S 5 FT OF LT 16-A & LT 17-A

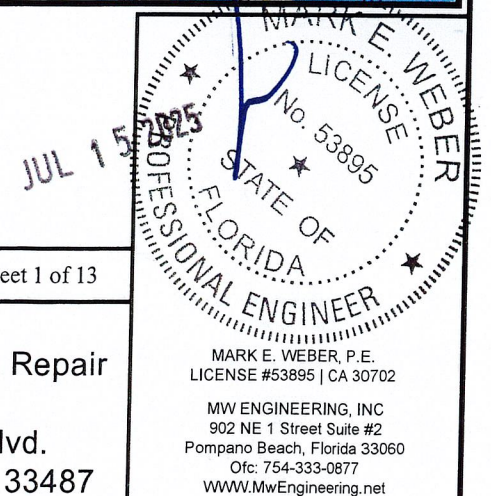


Location Map

Sheet 1 of 13

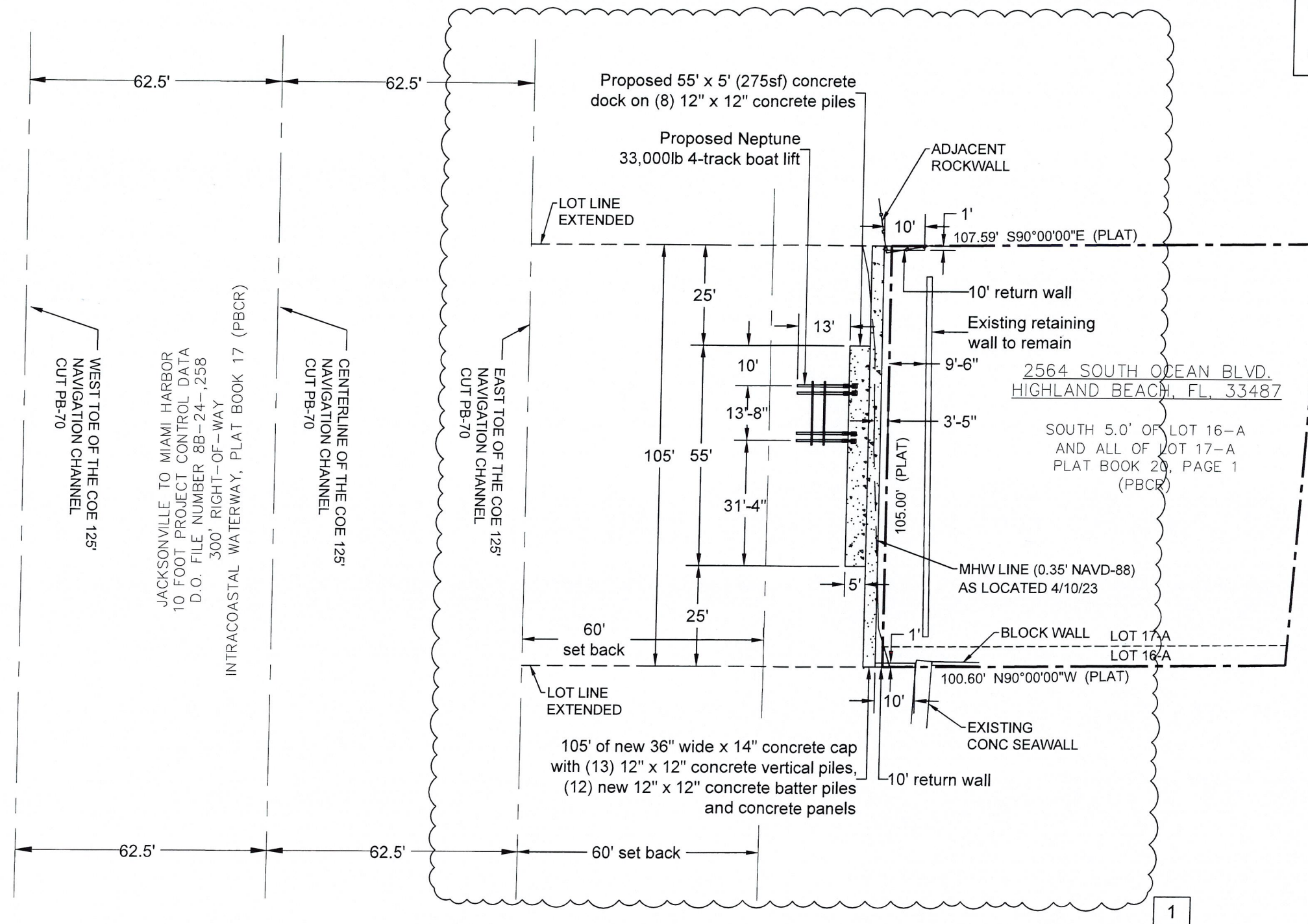
PREPARED FOR:  
B&M MARINE CONSTRUCTION INC  
1211 South Military Trail, Suite 200  
Deerfield Beach, Florida 33442  
(954) 421-1700

Project:  
Proposed Dock / Seawall Repair  
Mikhail Vesselov  
2564 South Ocean Blvd.  
Highland Beach, Florida 33487





INTRACOASTAL WATERWAY  
(300' R/W)



- Scope of Work:
- Existing rip rap removed
  - Construct 105' of 36" x 14" of new seawall, cap, batter piles, vertical piles and panels
  - Install 55' x 5' (275sf) concrete dock on (8) concrete piles
  - Install 33,000lb 4-track boat lift

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Proposed Site Plan

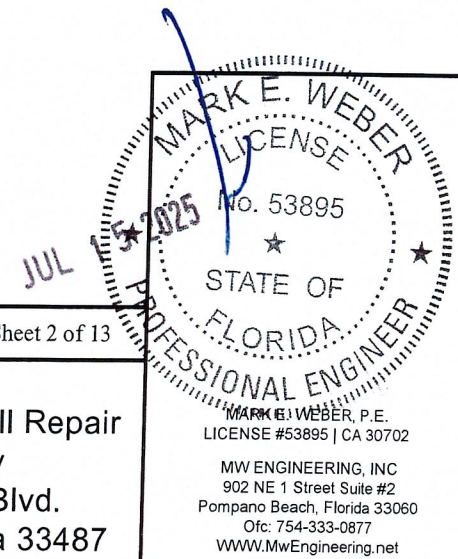
Scale: 1" = 30'

1	05.20.25	City Comments
△	REVISIONS	□ CORRECTIONS

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Sheet 2 of 13







EAST TOE OF THE COE 125'  
NAVIGATION CHANNEL  
CUT PB-70

EXTENDED  
LOT LINE

INTRACOASTAL WATERWAY  
(300' R/W)

105'

25'

55'

25'

1

22'-10"

105.00' (PLAT)

107.59' S90°00'00"E (PLAT)



For Illustrative Purposes - Boat may Change

LOT 17-A  
LOT 16-A

100.60' N90°00'00"W (PLAT)

LOT LINE  
EXTENDED



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### Plan View - Boat on Lift

Scale: 1" = 15'

1	05.20.25	City Comments
 REVISIONS		 CORRECTIONS

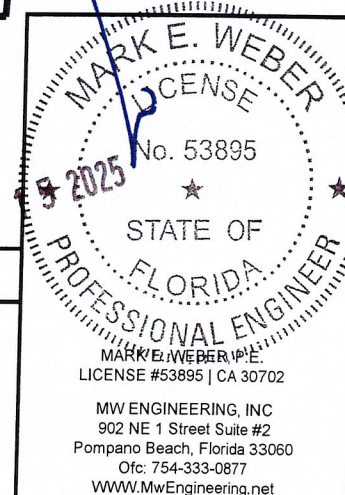
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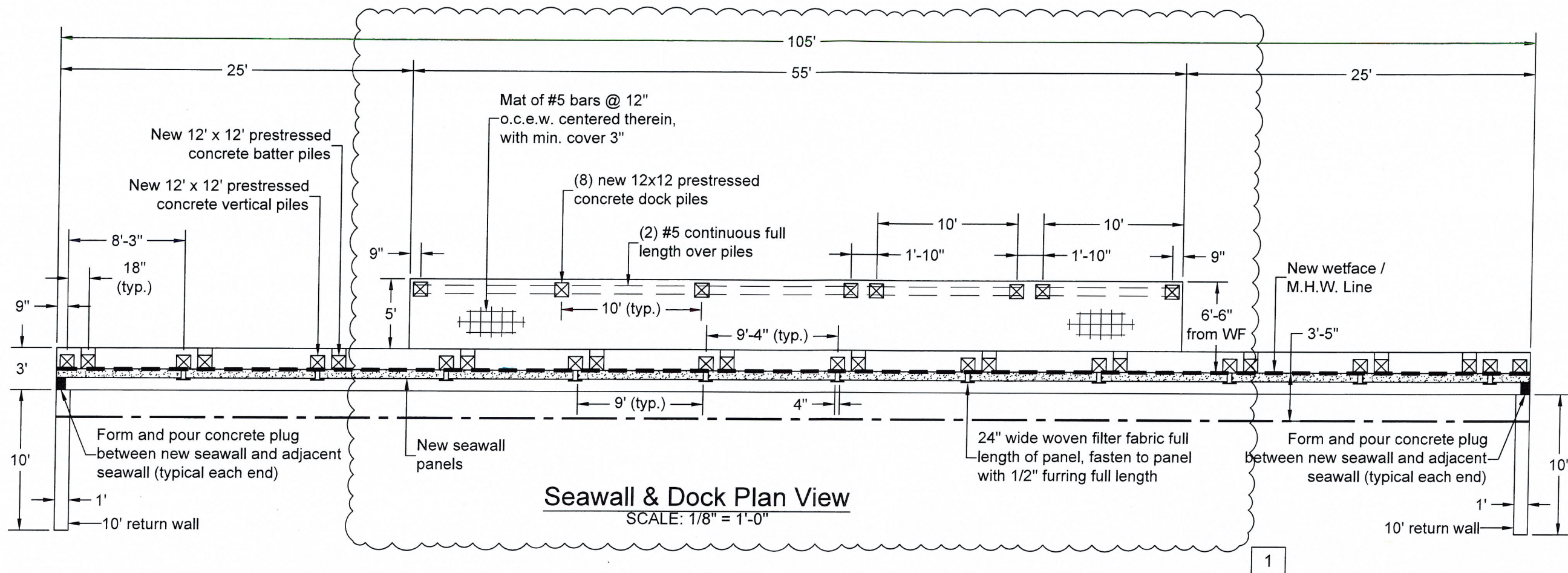
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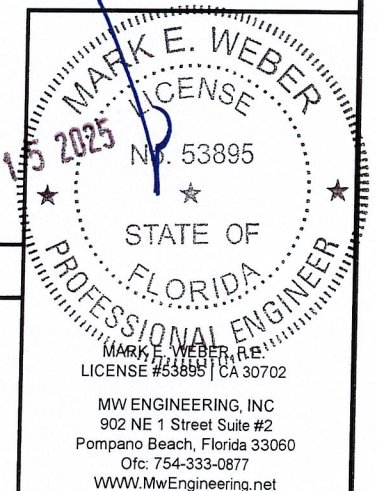
HIGHLAND BEACH  
BUILDING DEPARTMENT

Sheet 4 of 13

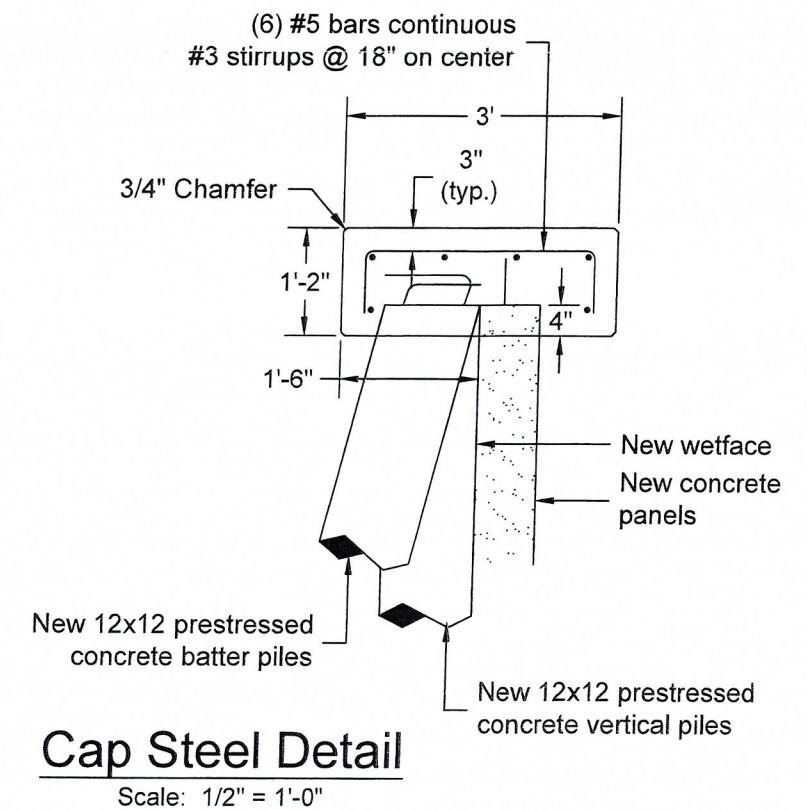
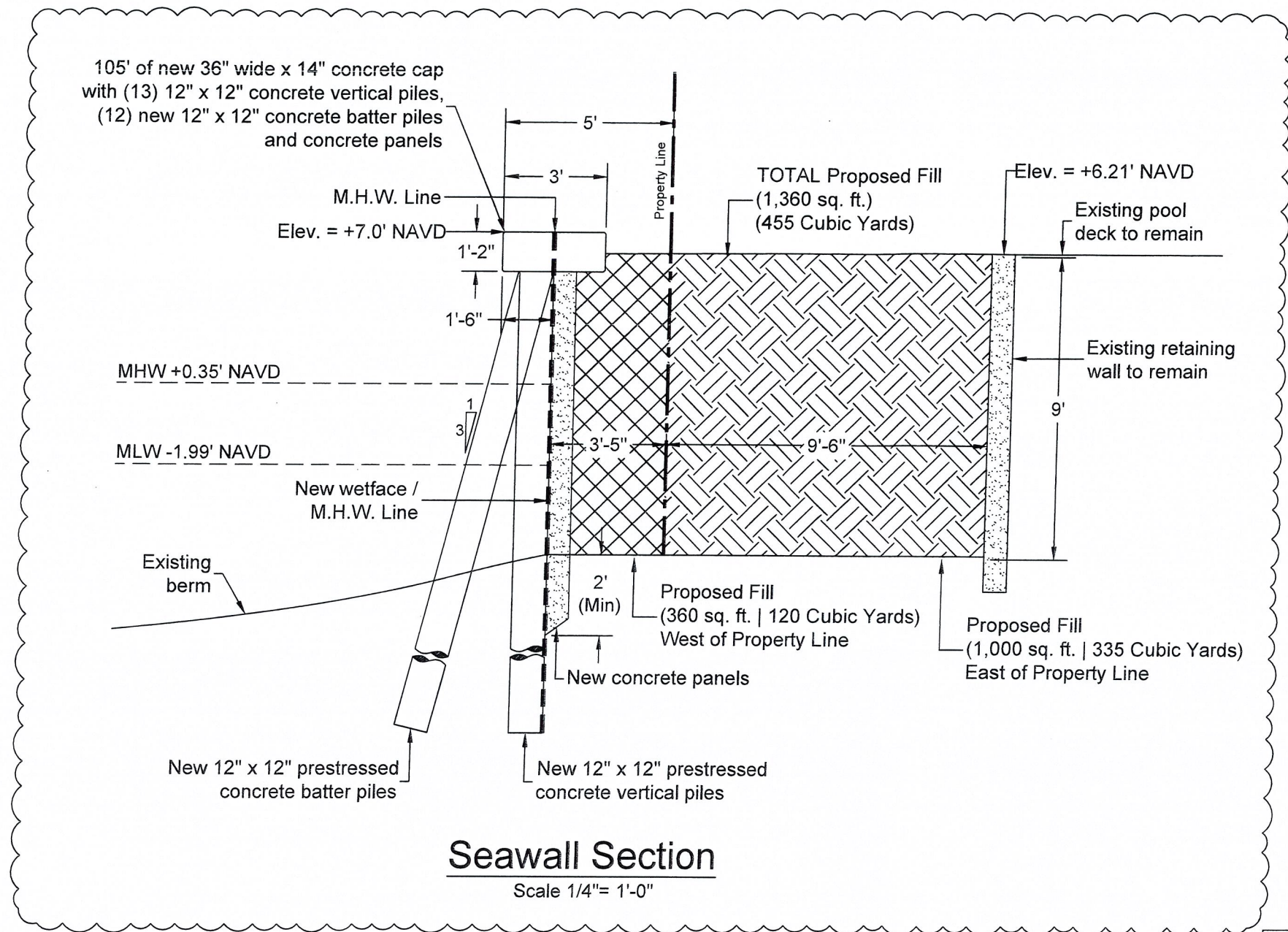
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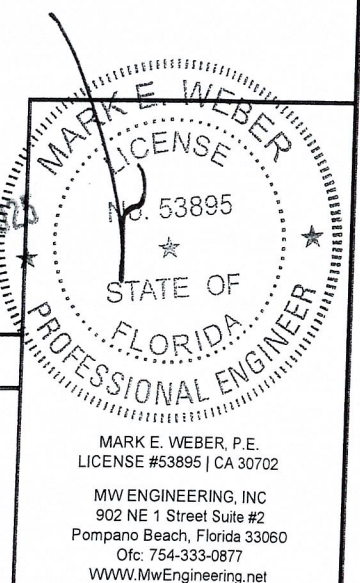
HIGHLAND BEACH  
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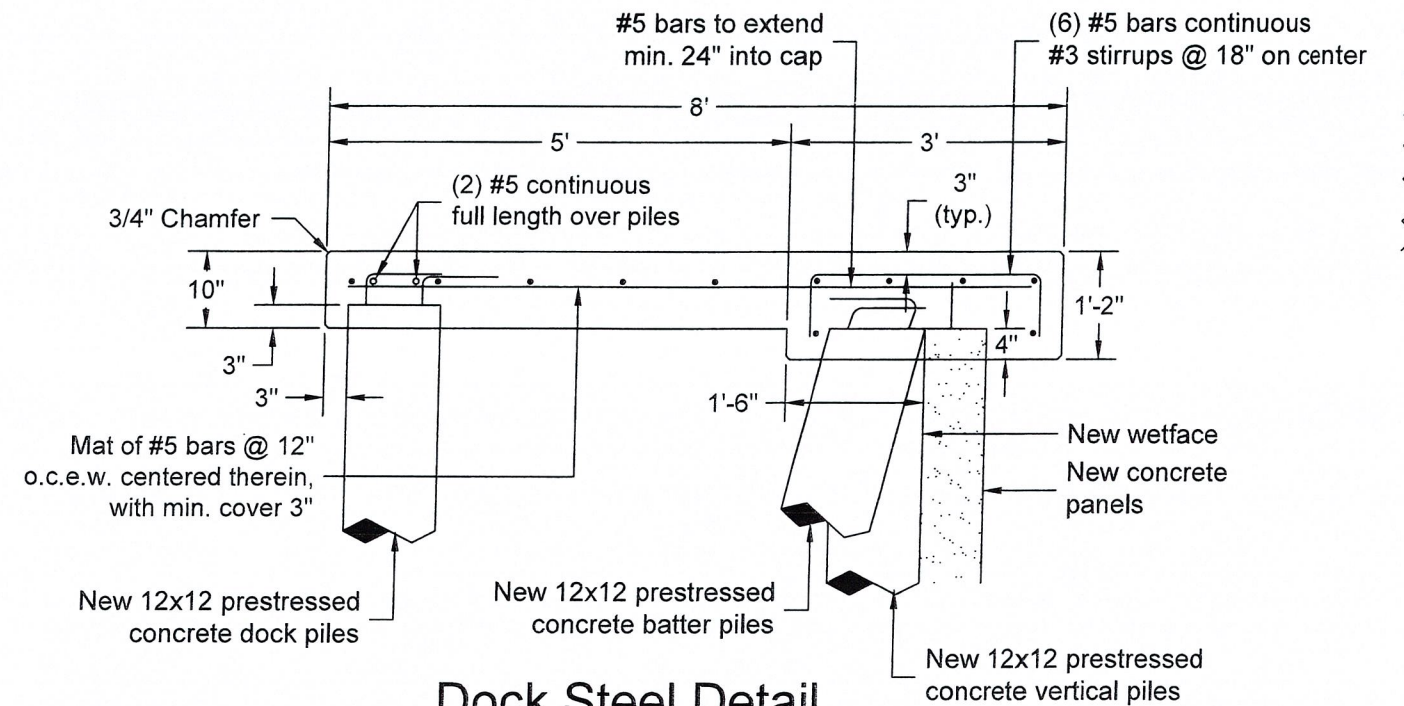
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Sheet 5 of 13

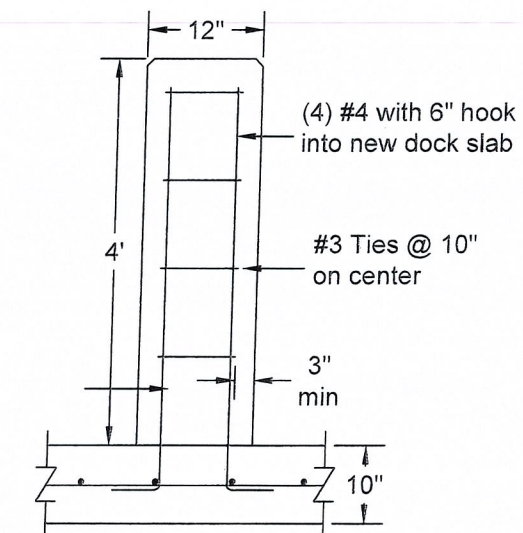






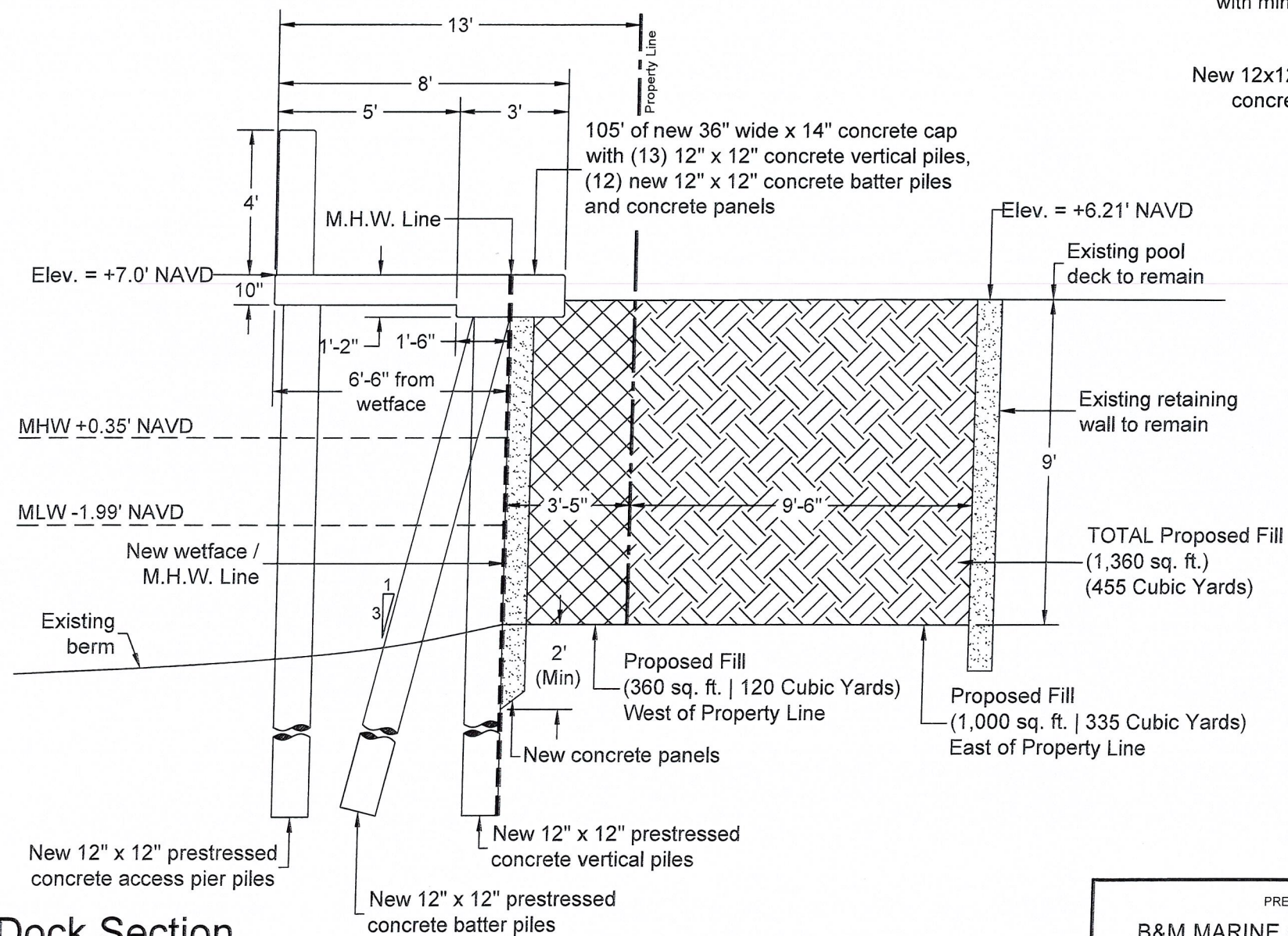
**Dock Steel Detail**

Scale: 1/2" = 1'-0"



**Column Detail**

Scale: 1/4" = 1'-0"



**Dock Section**

Scale 1/4" = 1'-0"

1

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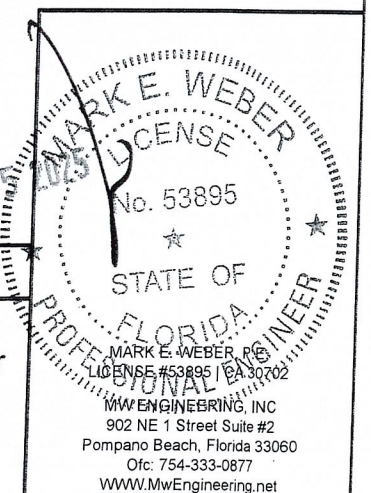
Project:  
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Mikhail Vesselov  
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Sheet 6 of 13

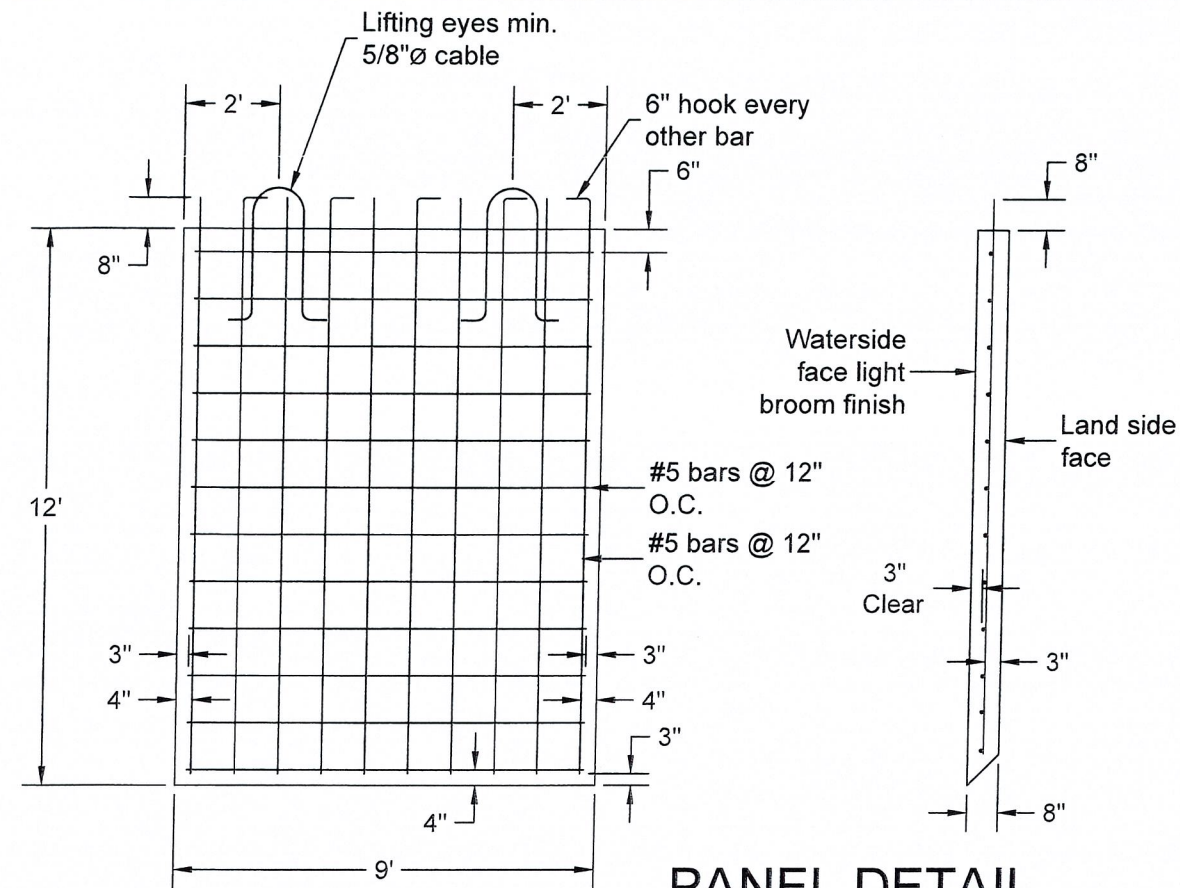
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**PANEL DETAIL**

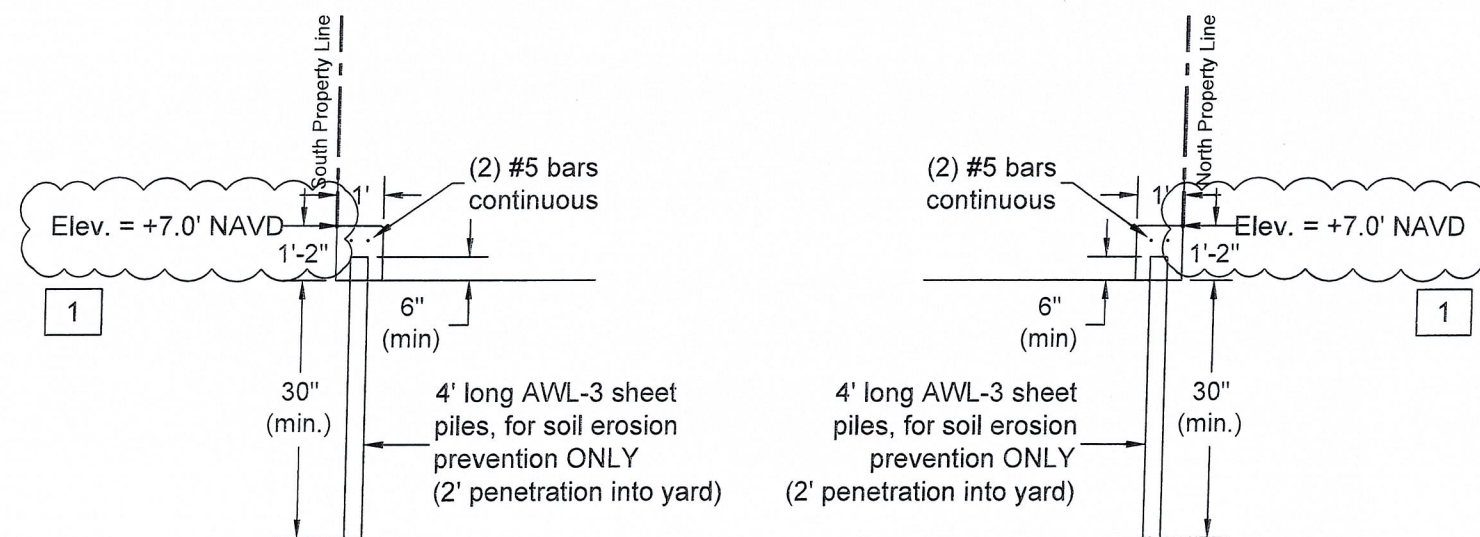
Scale 1/4" = 1'-0"

**NOTE:**  
PANEL HEIGHT TO BE VERIFIED ON SITE BY CONTRACTOR BEFORE CONSTRUCTION, TO PROVIDE A MINIMUM OF 2' EMBEDMENT INTO EXISTING GRADE.

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**Return Wall Detail**

Scale 1/4" = 1'-0"

1	05.20.25	City Comments
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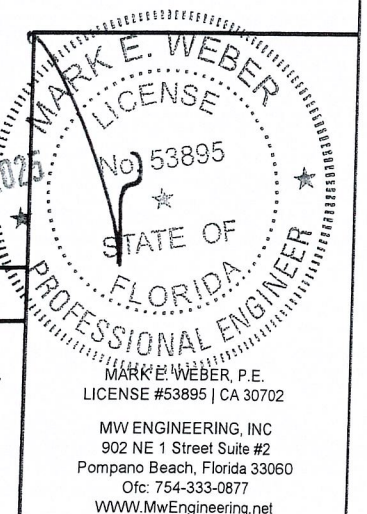
PREPARED FOR:

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Deerfield Beach, Florida 33442  
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Project:

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Sheet 7 of 13

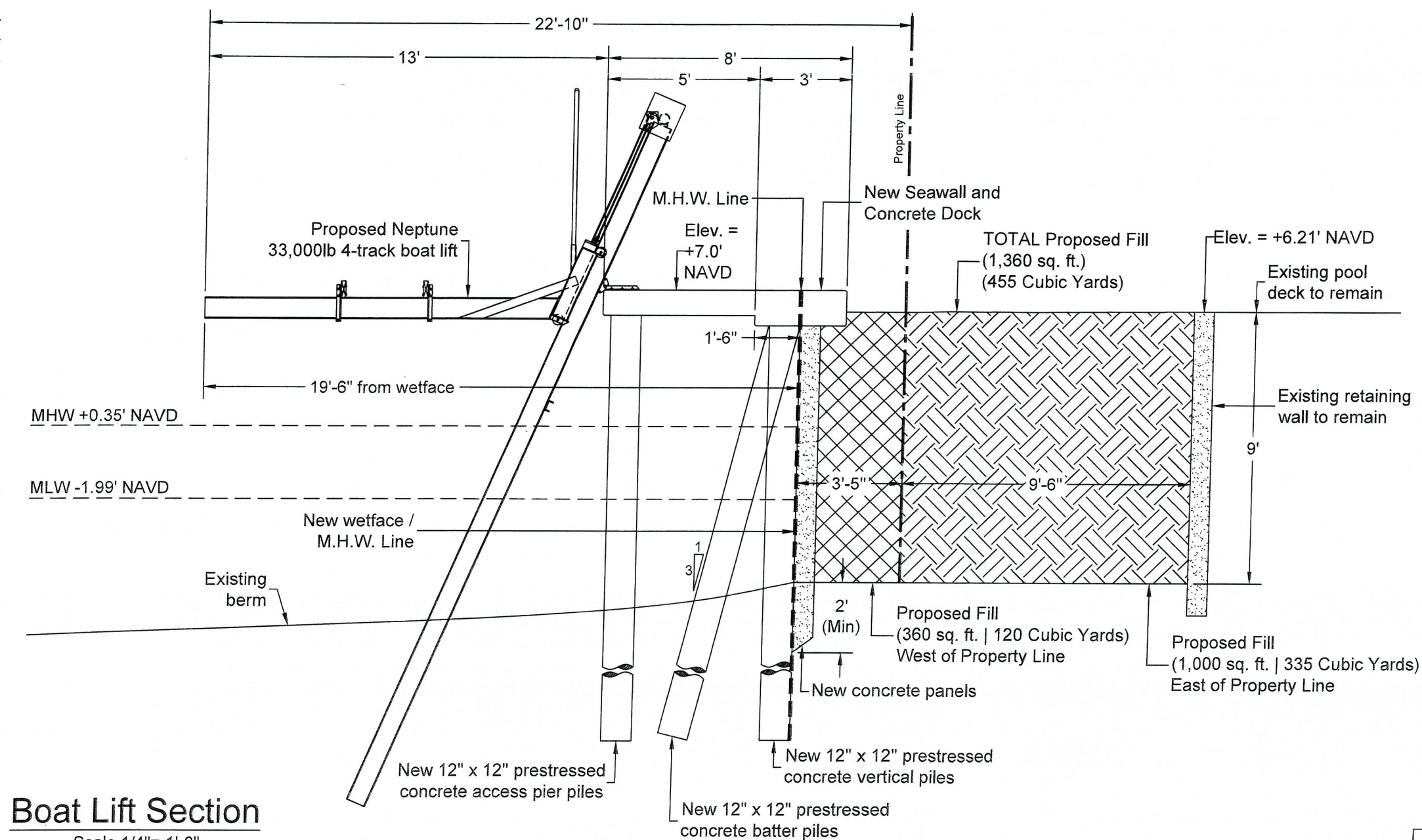




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## Boat Lift Section

Scale 1/4" = 1'-0"

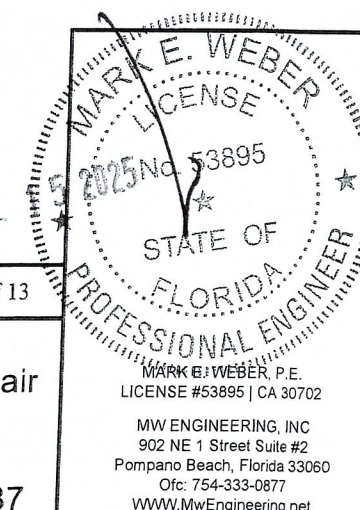
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Sheet 8 of 13

1	05.20.25	City Comments
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Highland Beach, Florida 33487





**BOAT KEEL NOTE:**

Boat Keel to be a maximum of one foot above the minimum seawall elevation when lifted.

Boat lift means the bottom of the keel of any boat shall not be hoisted greater than one foot above the minimum seawall elevation.

In no case shall the lift be higher than the superstructure of the boat when lifted.

**NOTE:**

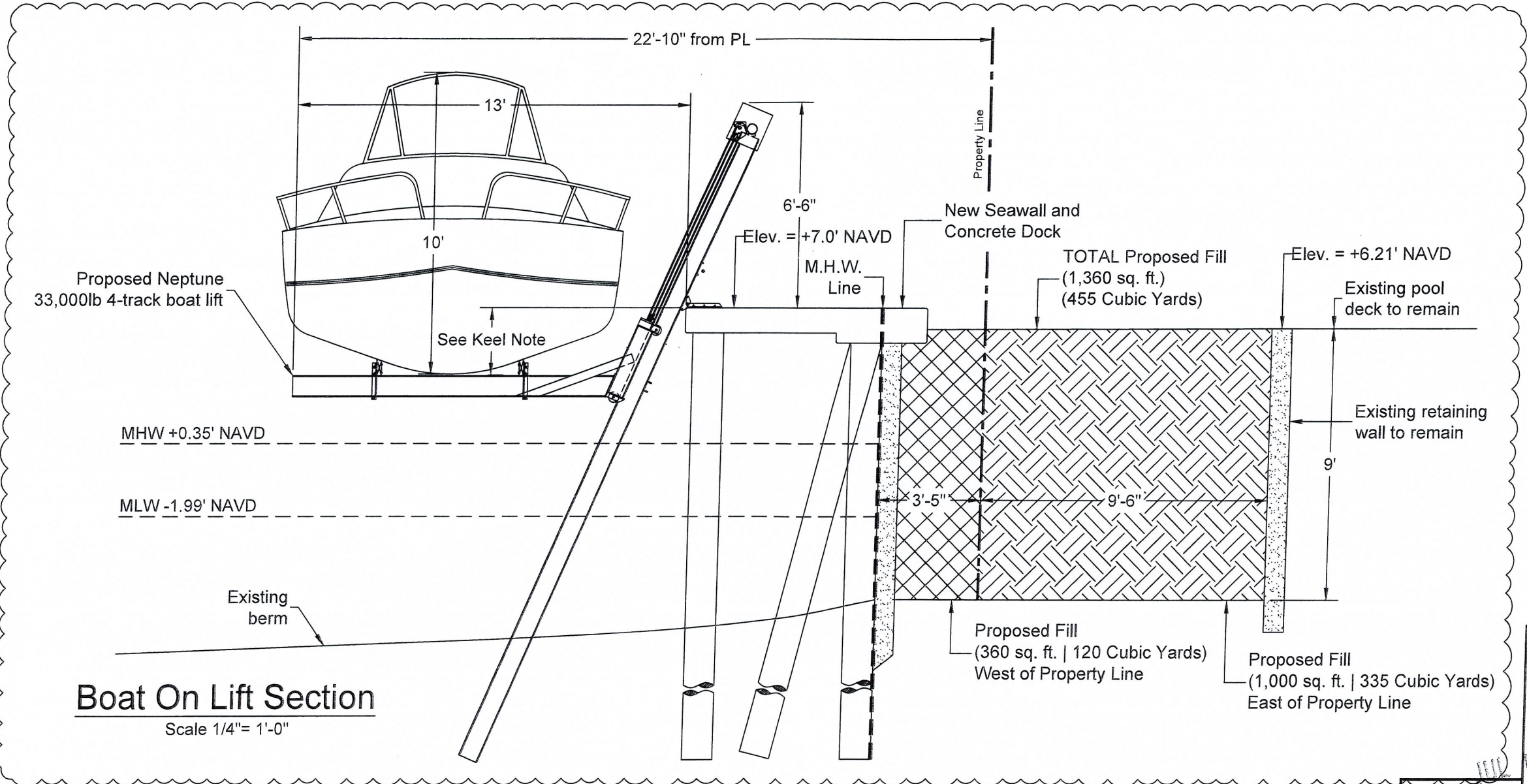
Height of superstructure of boat when lifted shall be complaint with boatlift definition is Sec. 30-131 - Definitions of terms.

*Boat lifts means the bottom of the keel of any boat shall not be hoisted greater than one foot above the minimum seawall elevation. In no case shall the lift be higher than the superstructure of the boat when lifted.*

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HIGHLAND BEACH  
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1

Sheet 9 of 13

1	05.20.25	City Comments
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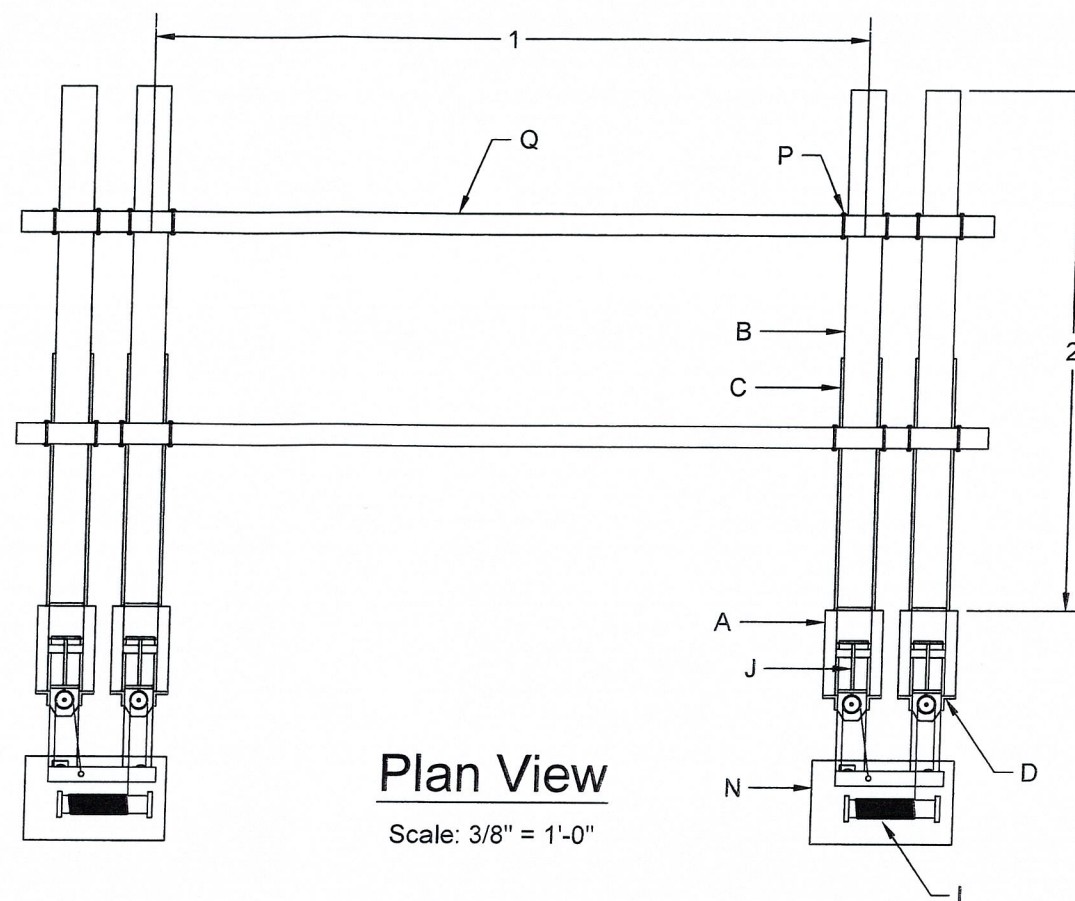
Project:  
**Proposed Dock / Seawall Repair**  
Mikhail Vesselov  
2564 South Ocean Blvd.  
Highland Beach, Florida 33487

MARK E. WEBER  
LICENSE  
No. 33895  
STATE OF  
FLORIDA  
PROFESSIONAL ENGINEER  
MARK E. WEBER, P.E.  
LICENSE #53895 | CA 30702  
MW ENGINEERING, INC  
902 NE 1 Street Suite #2  
Pompano Beach, Florida 33060  
Ofc: 754-333-0877  
WWW.MwEngineering.net



Components		
	Lift Capacity (In Pounds)	33,000
A	Carriage Boom (2 Required per Lift Arm)	AS C 12"x7.4x60"
B	Cradle Arm	AA I 12"x11.7
C	Gusset Plate (2 Required per Lift Arm)	$\frac{1}{2}$ "x6" Flat Bar
D	Upper Carriage Angle (2 Required per Lift Arm)	$\frac{3}{8}$ "x3"x4" Angle
E	Lower Carriage Angle (2 Required per Lift Arm)	$\frac{3}{8}$ "x4"x6" Angle
F	Pulley Plate (2 Required per Lift Arm)	$\frac{1}{2}$ "x8" Flat Bar
G	Upper Guide Wheel (4 Required per Lift Arm)	6" Diameter
H	Lower Guide Wheel (1 Required per Lift Arm)	6" Diameter
I	Cable Size (Stainless Steel)	7/16" Diameter 7x19 SS 304
J	Guide Track	AA I 12"x11.7
K	Guide Track To Guide Track Brace	AA CS 6"x2.8
L	Attachment Bracket	(1) $\frac{3}{8}$ "x3"x3" Angle and (1) $\frac{3}{8}$ "x3"x4" Angle Welded Together with Welded $\frac{1}{2}$ " Thick Inner Plate
M	Track Mount Connector (2 Required per Lift Arm)	$\frac{1}{2}$ "x3"x6" Angle & $\frac{3}{4}$ " Bolts
N	Motor Size (Horse Power/Voltage)	Aluminum Housing
O	Guide Post Socket	3" Diameter Schedule 80 Pipe
P	Bunk Bracket Support (2 Each Side of Lift Arm)	$\frac{1}{4}$ "x2"x2"
Q	Bunk Boards**	3"x12" Pressure Treated Southern Yellow Pine #1

\*\* Placement of bunk boards depends on beam of boat



Plan View  
Scale: 3/8" = 1'-0"

Dimensions		
	Lift Capacity (In Pounds)	33,000
Dimension Mark	1	10'
	2	12.5'
	3	-
	4	6'
	5**	1'-6"
	6	-
	7	-
	8	70"
	9	38"

\*\* Placement of bunk boards depends on beam of boat

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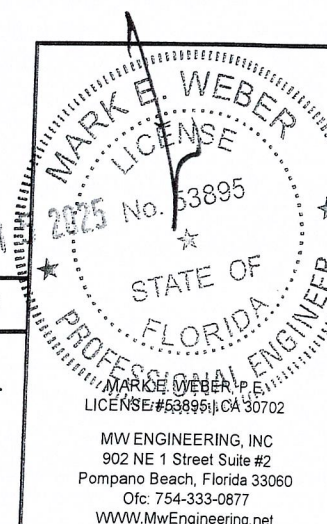
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HIGHLAND BEACH  
BUILDING DEPARTMENT

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Proposed Dock / Seawall Repair  
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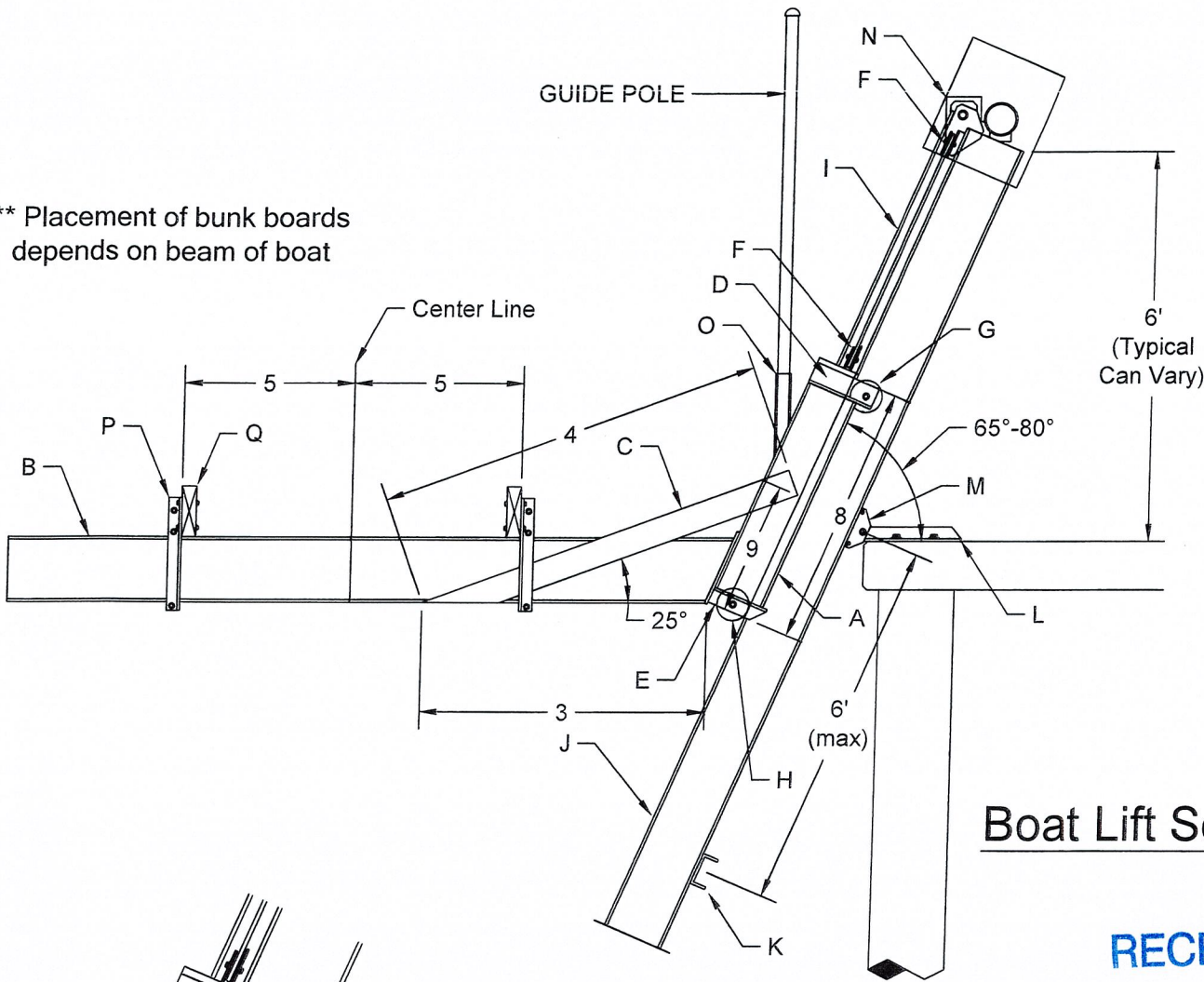


# Components

	Lift Capacity (In Pounds)	33,000
A	Carriage Boom (2 Required per Lift Arm)	AS C 12"x7.4x60"
B	Cradle Arm	AA I 12"x11.7
C	Gusset Plate (2 Required per Lift Arm)	$\frac{1}{2}$ "x6" Flat Bar
D	Upper Carriage Angle (2 Required per Lift Arm)	$\frac{3}{8}$ "x3"x4" Angle
E	Lower Carriage Angle (2 Required per Lift Arm)	$\frac{3}{8}$ "x4"x6" Angle
F	Pulley Plate (2 Required per Lift Arm)	$\frac{1}{2}$ "x8" Flat Bar
G	Upper Guide Wheel (4 Required per Lift Arm)	6" Diameter
H	Lower Guide Wheel (1 Required per Lift Arm)	6" Diameter
I	Cable Size (Stainless Steel)	7/16" Diameter 7x19 SS 304
J	Guide Track	AA I 12"x11.7
K	Guide Track To Guide Track Brace	AA CS 6"x2.8
L	Attachment Bracket	(1) $\frac{3}{8}$ "x3"x3" Angle and (1) $\frac{3}{8}$ "x3"x4" Angle Welded Together with Welded $\frac{1}{2}$ " Thick Inner Plate
M	Track Mount Connector (2 Required per Lift Arm)	$\frac{1}{2}$ "x3"x6" Angle & $\frac{3}{4}$ " Bolts
N	Motor Size (Horse Power/Voltage)	Aluminum Housing
O	Guide Post Socket	3" Diameter Schedule 80 Pipe
P	Bunk Bracket Support (2 Each Side of Lift Arm)	$\frac{1}{4}$ "x2"x2"
Q	Bunk Boards**	3"x12" Pressure Treated Southern Yellow Pine #1

\*\* Placement of bunk boards depends on beam of boat

\*\* Placement of bunk boards  
depends on beam of boat

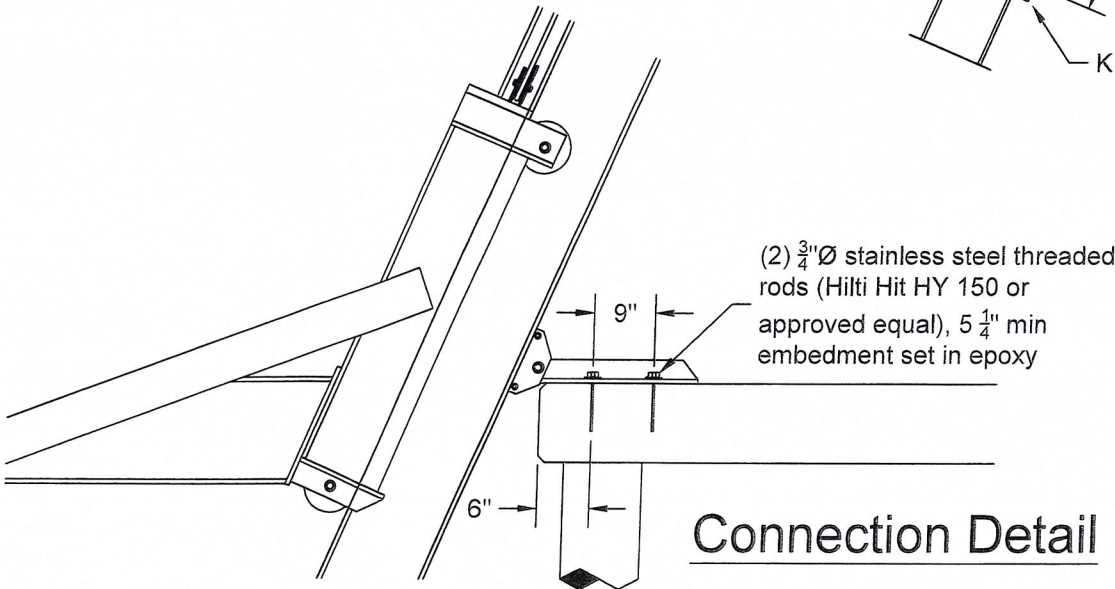


Boat Lift Section

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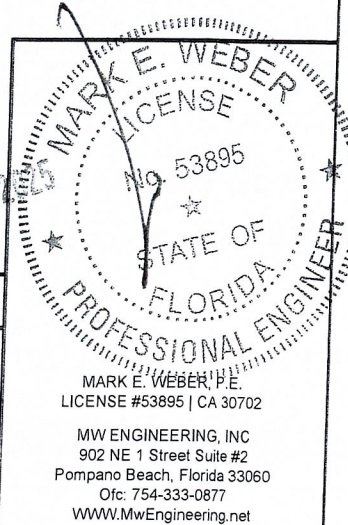


Connection Detail

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**Boat Lift Notes:**

- Design in accordance with Florida Building Code, 8th Edition (2023).
- This lifting structure has been designed to withstand wind loads associated with speeds of  $V$  (ult) = 180 MPH, (3 Second Gust) Exposure 'D' without a boat on the lift per ASCE 7-22 using above ground sign/wall method. The lifting structure including boat has been designed to withstand wind speeds of  $V$  (sustained) = 73 MPH, remove boat when winds approach this speed or for any named storm event. Boat shall not be stored on lift during high wind events.
- Do not scale drawings for dimensions. Licensed Contractor to verify location of existing utilities prior to commencing work. The Licensed contractor shall install and remove all shoring and bracing as required for the proper installation of the work. Licensed Contractor to obtain all permits as necessary from all Local, State, and Federal agencies.
- Aluminum: Material 6061 T6 Aluminum, all welds are minimum full fillet weld using 5556 filler 14 full fillet weld using 5556 filler alloy, all welding must conform to AISC steel construction manual currently adopted edition as inspected and verified by others. The contractor is responsible for insulating aluminum members from dissimilar metals to prevent electrolysis. Aluminum members in contact with concrete and wood shall be protected by "Koppers Bituminous Paint" or Polyethylene Tape UHMW (ultra-high molecular weight). 11.7 mils (0.30 mm) min. total thickness in accordance with current Florida Building Code.
- All anchors to be Hilti Brand or Approved Equal. All bolts shall be hot dipped galvanized or stainless steel & meet the requirements of ASTM A304 with hardened washers and hex nuts. Washers shall be used between wood & bolt head & between wood & nut. Where generic fasteners are labeled, capacities shall be equal to or greater than Hilti Kwik Bolt II or Red Head thru bolts SAE Grade 5 or better. Embedment depths specified herein are depths into solid substrate and do not included thickness of other finishes.
- MW Engineering Inc. has no control of the manufacturing, performance, or installation of this product. These generic plans were engineered in accordance with accepted engineering practices and data provided by the manufacturer. Use of this specification by contractor and permit holder Et al. indemnifies and saves harmless the engineer for all costs and damages from material fabrication, system erection, and construction practices beyond that which is called for by codes and from deviations from this design. Intellectual property of MW Engineering, Inc. All rights reserved. No part of this publication may be reproduced without prior written authorization.
- Piles shall be driven to minimum allowable bearing capacity of 10 tons minimum 8-foot or refusal and sufficiently penetrated sand or rock strata in pre-drilled or punched holes to support lift capacity, weight and loads. Each pile to carry commensurate load (Factor of Safety of 2). Sub-surface conditions can vary greatly.
- The contractor of record shall verify pile type, installation, and driving in compliance with FBC 8th ED (2023). Wood piles shall be a minimum diameter of 8", Miami Dade County requires minimum diameter of 12", 2.5 lb. ACQ treated in accordance with Florida Building Code. Concrete piles shall be 12" x 12" square, attain 6000 psi compressive strength in 28 days and shall be reinforced with four - 7 /16" diameter lo-lax strands, 270 kips, and 5 ga. spiral ties.
- Pilings described herein are considered to be part of the host structure and are not part of this certification. The pilings and existing host structure, if any, must be capable of supporting the loaded system as verified by the permit holder and contractor of record. No warranty, either express or implied is contained herein.

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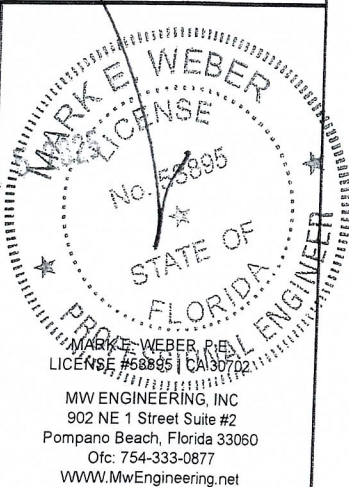
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GENERAL NOTES:

1. Construction to follow the Florida Building Code 8th Edition (2023) and amendments as applicable and all Local, State and Federal Laws.
2. Licensed contractor shall verify the existing conditions prior to the commencement of the work. Any conflicts or omissions between existing conditions or the various elements of the working drawing shall be brought to the attention of the Engineer prior to the commencement of the work. The Licensed Contractor and all subcontractors are responsible for all lines, elevations, and measurements in connection with their work.
3. Do not scale drawings for dimensions.
4. Any deviation and/or substitution from the information provided herein shall be submitted to the Engineer for approval prior to commencement of work.
5. All unanticipated or unforeseen demolition and/or new construction conditions which require deviation from the plans and notes herein shall be reported to the Engineer prior to commencement of work.
6. All new work and/or materials shall conform to all requirements of each administrative body having jurisdiction in each appertaining circumstance.
7. All new materials and/or patchwork shall be provided to match existing materials and/or adjoining work where practical except as specifically noted herein.
8. Licensed Contractor to shall use all possible care to protect all existing materials, surfaces, and furnishings from damage during all phases of construction.
9. Licensed Contractor to verify location of existing utilities prior to commencing work.
10. The Licensed contractor to install and remove all shoring and bracing as required for the proper execution of the work.
11. Licensed Contractor to obtain all permits as necessary from all Local, State, and Federal agencies.
12. Turbidity barriers to be marked with site contractor's company name using permanent markings no smaller than 3 inches in height on the top of the barrier.

PILE DRIVING:

1. Piles shall be driven using an approved cushion block consisting of material so arranged so as to provide the transmission of hammer energy.
2. Piles shall be driven to a minimum allowable bearing capacity of 10 tons for wood, 25 tons for concrete, and 5 tons for pin piles, a minimum of 8' into berm or refusal.
3. Piles shall be driven with a drop hammer or gravity hammer provided the hammer shall weight no less than 3,000 pounds, and the fall of the hammer shall not exceed 6'.
4. Piles shall be driven with a variation of not more than  $\frac{1}{4}$  inch per foot from the vertical, or from the batter line indicated, with a maximum variation of the head of the pile from the position shown on the plans of not more than three inches.
5. Where piling must penetrate strata offering high resistance to driving, the structural engineer of record or special inspector may require that the piles be set in pre-drilled or punched holes. The piles shall reach their final penetration by driving.

CONCRETE NOTES:

1. Concrete shall conform to ACI 318-19 and shall be regular weight, sulfate resistant, with a design strength of 5000 psi at 28 days with a maximum water-cementitious materials ratio, by weight aggregate concrete of 0.40.
2. Owner shall employ and pay for testing services from an independent testing laboratory for concrete sampling and testing in accordance with ASTM.
3. Licensed contractor is responsible for the adequacy of forms and shoring and for safe practice in their use and removal.
4. Concrete cover shall be 3" unless otherwise noted on the approved drawings.
5. Reinforcing steel shall be in conformance with the latest version of ASTM A615 Grade 60 specifications. All reinforcement shall be placed in accordance with ACI 315 and ACI Manual of Standard Practice.
6. Splices in reinforcing bars shall be not be less than 48 bar diameters and reinforcing shall be continuous around all corners and changes in direction. Continuity shall be provided at corners or changes in direction by bending the longitudinal steel around the corner 48 bar diameters.
7. Defective, cracked or loose concrete areas must be cut out, the rebar must be cleaned, coated with zinc and repaired with at least 3" of expoxy-concrete mix or gunnite concrete with sulfate-resistant cement.

PILE NOTES:

1. Concrete piles shall attain 6000 psi compressive strength in 28 days.
2. Concrete piles shall be reinforced with four -  $\frac{7}{16}$ "Ø lo-lax strands, 270 kips, and 5 ga. spiral ties.
3. Concrete piles shall be 12"x12" square, minimum length of 20'.
4. Concrete piles shall be cut to leave strands exposed a min. of 18" and tied to dock or cap steel or drill and epoxy (2) #5 8"x12" hook bars 6" into pile.

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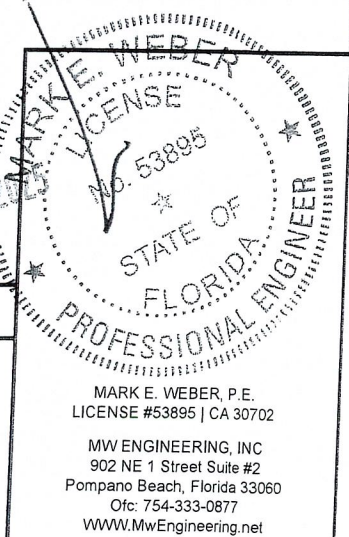
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HIGHLAND BEACH  
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Sheet 13 of 13

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