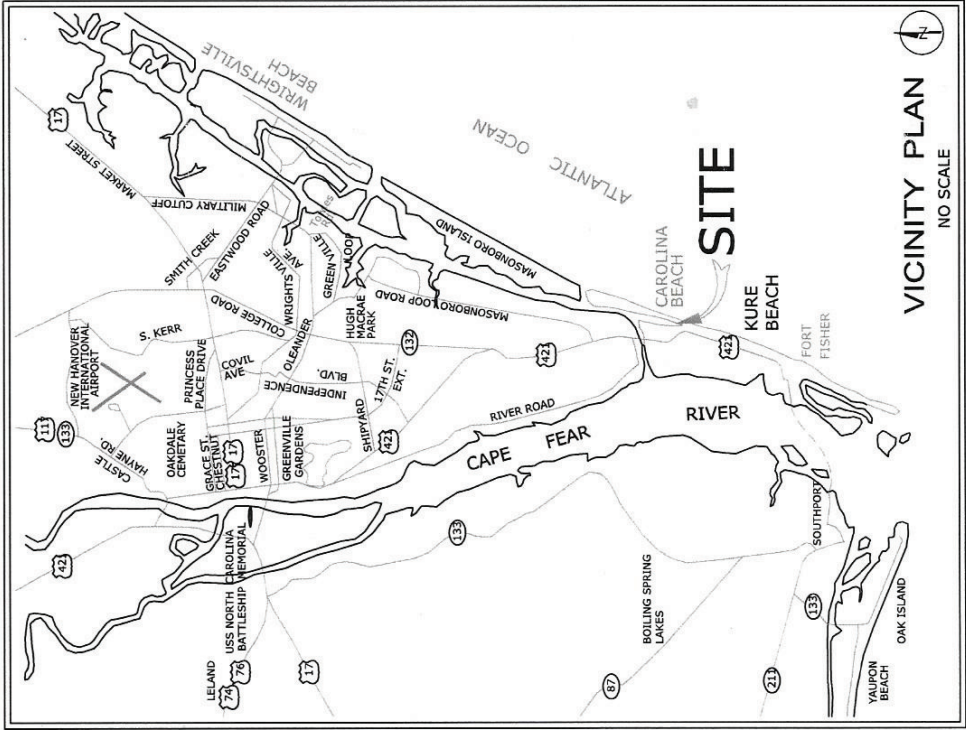


TOWN OF CAROLINA BEACH BOAT BASIN Bulkhead Replacement

TOWN OF CAROLINA BEACH
1121 NORTH LAKE PARK BLVD.
CAROLINA BEACH, NEW HANOVER COUNTY
NORTH CAROLINA 28428
Town Manager
Bruce Oakley



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APR 21 2021

DCM WILMINGTON, NC

SHT	DRAWING INDEX	TITLE
C0	COVER SHEET	
C1	OVERALL SITE and EXISTING CONDITIONS PLAN	
C2	DEMOLITION AND EROSION CONTROL PLAN	
C3	PROPOSED SITE PLAN	
C4	TEMPORARY TRAFFIC CONTROL PLAN	
C5	CIVIL DETAILS	
S1.0	PROPOSED MARINA LAYOUT & BULKHEADS	
S1.1	PHASES 1 & 2 STRUCTURAL NOTES AND SPECIAL INSPECTIONS	
S2.0	ENLARGED PLATFORM PLANS	
S3.0	PLATFORM ELEVATIONS	
S4.0	SECTION & DETAILS	
S5.0	SECTION & DETAILS	
S6.0	SECTION & DETAILS	

ADJACENT PROPERTY OWNERS (NOW OR FORMERLY)

- HARBOR MASTERS PROPERTIES LLC
PARID: R08818-006-027-000
BOOK: 6193; PAGE: 1951
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 957-Vacant Floors
- CBP3 INC
PARID: R08818-016-011-000
BOOK: 5843; PAGE: 1458
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 752-Auto Parking
- MARVEL, CATHERINE A
PARID: R04813-013-036-000
BOOK: 5615; PAGE: 0766
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 958-Unused Land
- BEACH HARBOUR HOA INC
PARID: R08818-016-006-000
BOOK: 5586; PAGE: 2183
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 961-Condominium Common Area
- TROUTMAN, BILL
PARID: R08818-016-007-000
BOOK: 5447; PAGE: 0648
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 11-2 Fam Res
- ROSE FAMILY PROPERTIES LLC
PARID: R08818-019-003-001
BOOK: 3664; PAGE: 0312
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 547-CONVENIENCE GROCERY
- CAROLINA BEACH TOWN OF
PARID: R09006-005-001-000
BOOK: 1240; PAGE: 0536
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 752-Auto Parking
- CAROLINA BEACH TOWN OF
PARID: R09006-005-002-000
BOOK: 1240; PAGE: 0536
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 752-Auto Parking
- CAROLINA BEACH TOWN OF
PARID: R09006-005-003-000
BOOK: 1240; PAGE: 0536
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 752-Auto Parking
- CAROLINA BEACH TOWN OF
PARID: R09006-004-007-000
BOOK: 0000; PAGE: 0000
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 752-Auto Parking
- NANAK INCORPORATED
PARID: R09006-003-001-000
BOOK: 5875; PAGE: 1868
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 547-CONVENIENCE GROCERY
- CBP3 INC
PARID: R08818-006-031-000
BOOK: 5843; PAGE: 1458
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 752-Auto Parking
- THE ICE PLANT LLC
PARID: R08818-006-032-000
BOOK: 5563; PAGE: 2145
ZONED: CBD-CENTRAL BUSINESS DIS
USE: 542-Fish & Seafood Retail

ARDURRA
ARDURRA GROUP NORTH CAROLINA
3509 Peachtree Avenue, Suite 102
Wilmington, North Carolina 28403
Phone: (910) 357-2829
www.ardurra.com

TOWN of CAROLINA BEACH
BOAT BASIN
OWNER ADDRESS:
1121 NORTH LAKE PARK BLVD.
CAROLINA BEACH
NORTH CAROLINA 28428

NO.	DATE	REVISION
A	02.03.2021	ISSUED FOR PERMIT ONLY - NOT FOR CONSTRUCTION

TOWN of CAROLINA BEACH - BOAT BASIN
PROJECT ADDRESS:
CANAL DRIVE and CARL WINNER DRIVE, CAROLINA BEACH, NORTH CAROLINA

ISSUED FOR PERMIT ONLY

NOT FOR CONSTRUCTION

JOB NO: 2019-3549-00
DATE: 02.03.21

C0

COVER SHEET

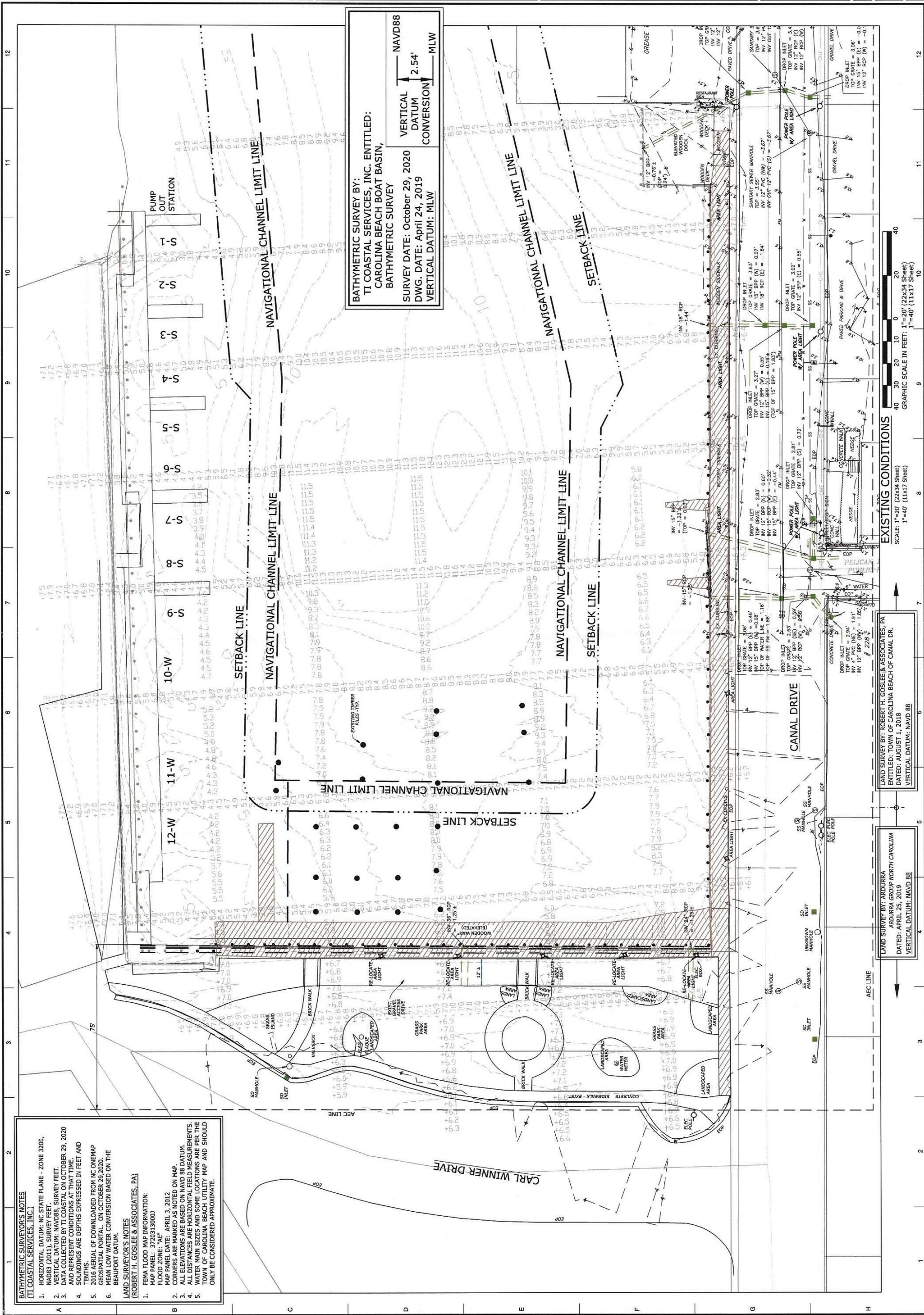


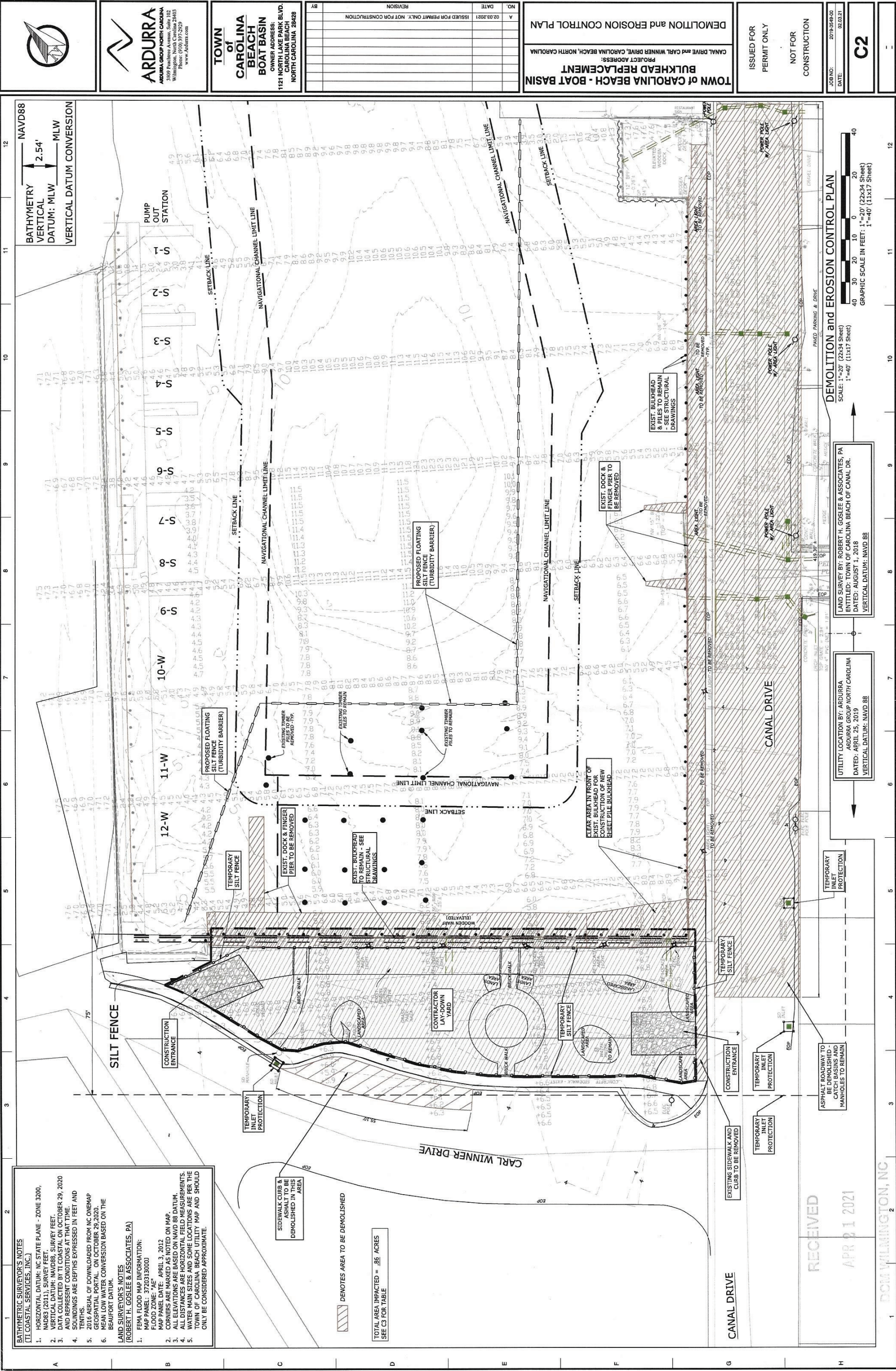
TOWN
of
CAROLINA
BEACH
BOAT BASIN
OWNER ADDRESS:
21 NORTH LAKE PARK BLVD
CAROLINA BEACH
NORTH CAROLINA 28428

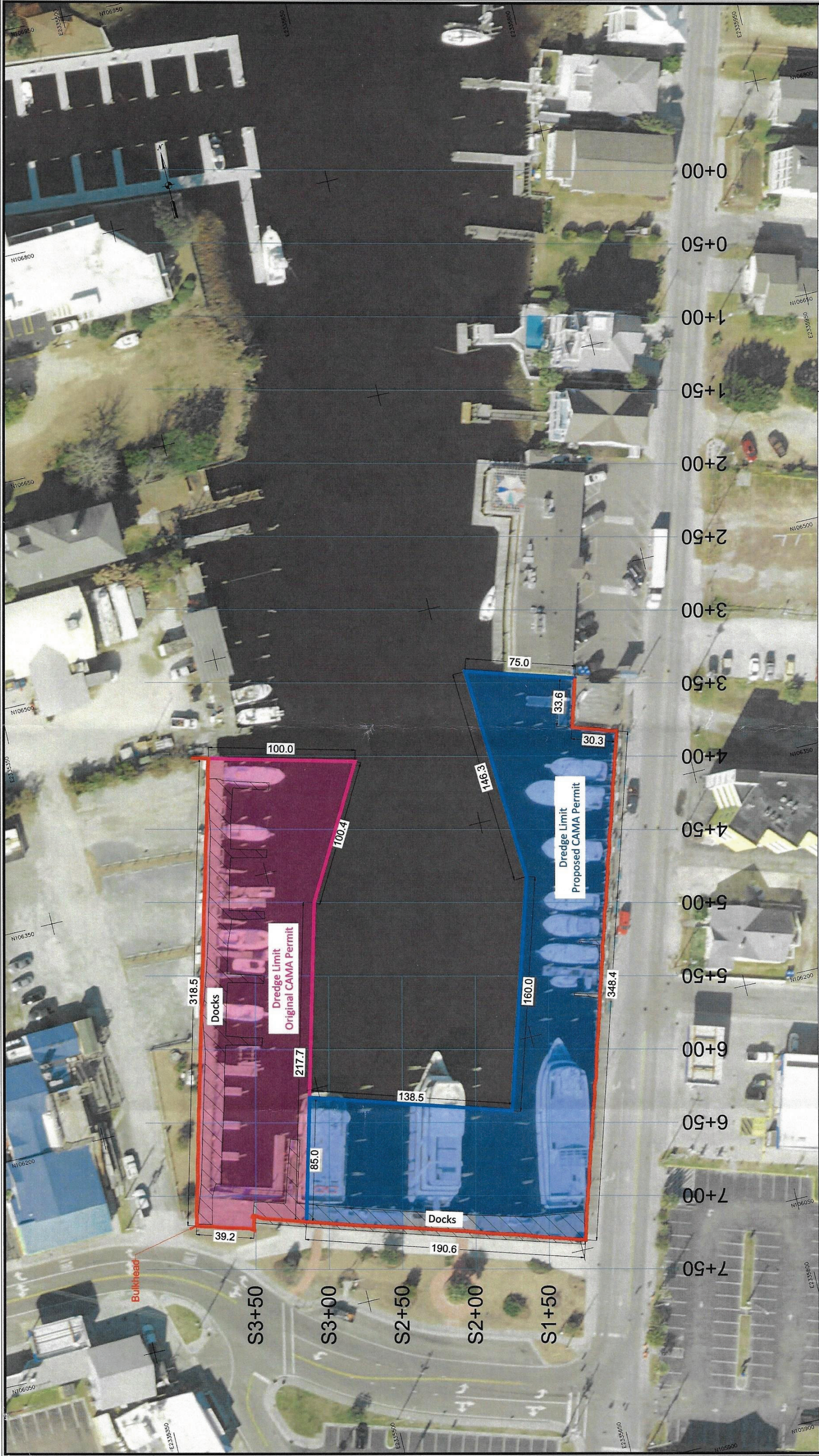
LOWN OF CAROLINA BEACH - BOAT BASIN
BULKHEAD REPLACEMENT
PROJECT ADDRESS:
CANAL DRIVE AND CARL WINNER DRIVE, CAROLINA BEACH, NORTH CAROLINA

DOB NO:	2019-3549-00
DATE:	02.03.21

C1









TI Coastal
TI Coastal Services, Inc.
387-B N. Green Meadows Drive
Wilmington, NC 28405
910.821.1358

RECEIVED
Vertical Datum
Conversion
NAVD83
APR 21 2021
MEAN LOW WATER

CAROLINA BEACH MARINA UPLIFT
CAROLINA BEACH
NEW HANOVER COUNTY, NORTH CAROLINA

PRE-CONSTRUCTION SURVEY - OCTOBER 29, 2020

PROJECT LAYOUT

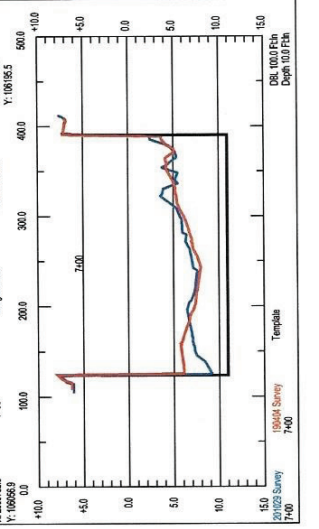
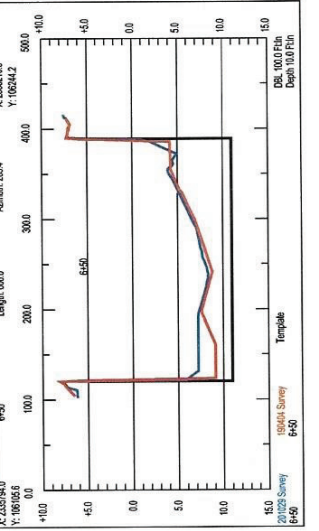
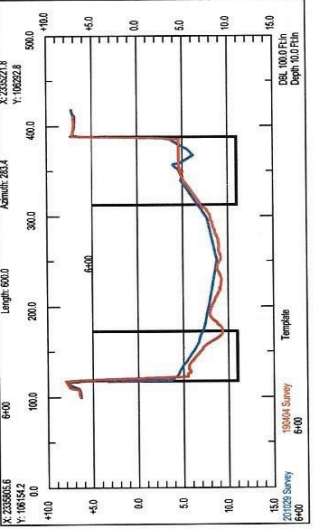
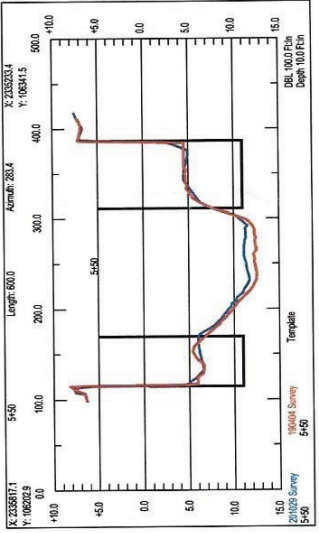
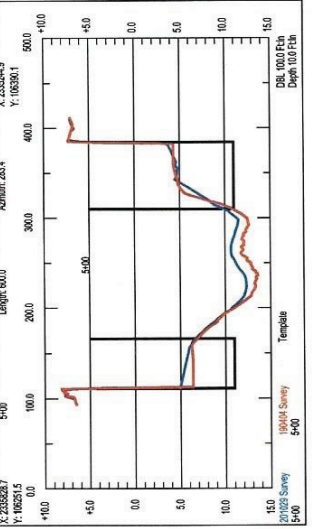
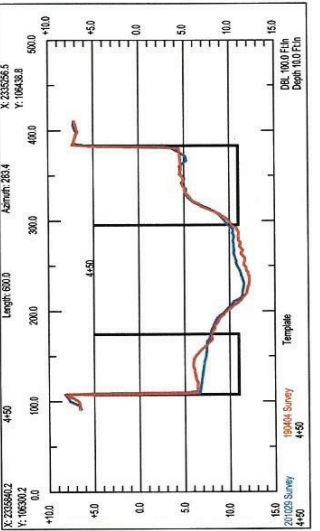
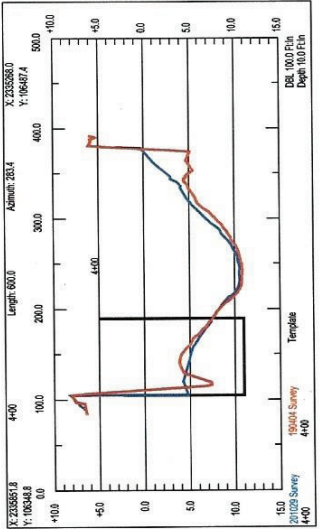
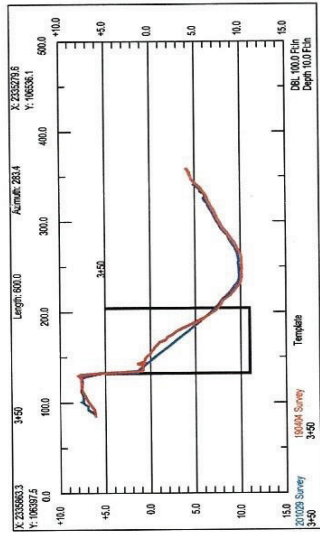
Notes:
1. Horizontal Datum: NC State Plane - Zone 3200, NAD83 (2011), Survey Feet
2. Vertical Datum: NAVD83, Survey Feet
3. Data collected by TI Coastal on October 29, 2020 and represent conditions at that time.
4. Spot elevations are expressed as depths in feet and tenths.
5. 2016 Aerial of downloaded from NC OneMap GeoSpatial Portal on October 27, 2020.
6. Mean low water conversion based on the Beaufort Datum.

Graphic Scale
0' 15' 30' 60'
Scale: 1" = 30'

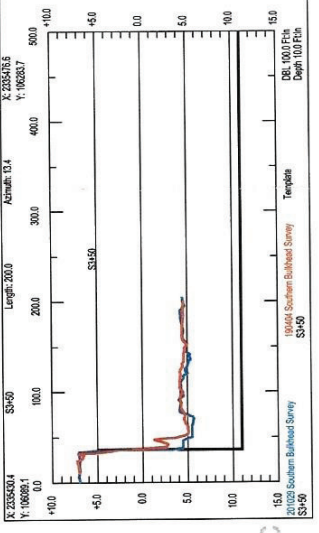
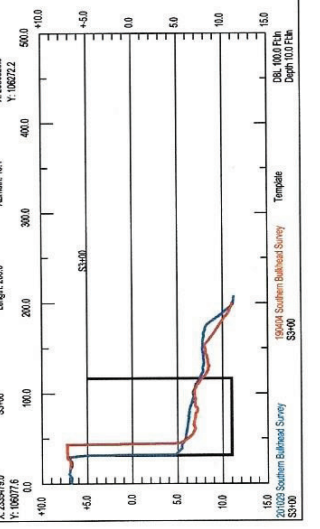
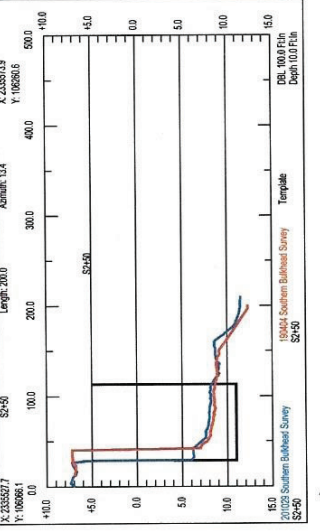
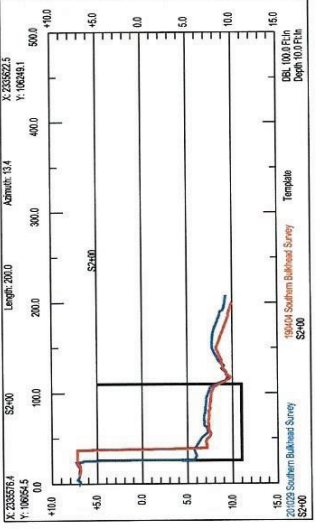
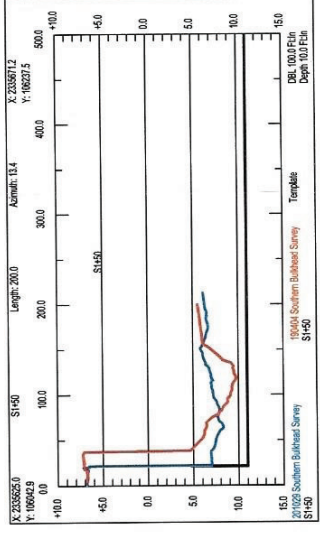
DWG NAME: CB Marina PreConstruction Survey_2020.dwg
DWG DATE: November 6, 2020
SCALE: 1" = 30'

SURVEY DATE: October 29, 2020
SHEET: 2 OF 4

Cross Sections - East & West Bulkheads



Cross Sections - Southern Bulkhead



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DOI WILMINGTON, NC



TI Coastal Services, Inc.
357-B N. Green Meadows Drive
Wilmington, NC 28405
910.621.1556

Vertical Datum
Conversion



CAROLINA BEACH MARINA UPLIFT

CAROLINA BEACH
NEW HANOVER COUNTY, NORTH CAROLINA

PRE-CONSTRUCTION SURVEY - OCTOBER 29, 2020

CROSS SECTIONS

Graphic Scale



- Notes:
1. Horizontal Datum: NC State Plane - Zone 3200, NAD83 (2011), Survey Feet
 2. Vertical Datum: NAVD88, Survey Feet
 3. Data collected by TI Coastal on October 29, 2020 and represent conditions at that time.
 4. Soundings are expressed as depths in feet and tenths.
 5. 2016 Aerial or downloaded from NC OneMap Geospatial Portal on October 27, 2020.
 6. Mean low water conversion based on the Beaufort Datum.

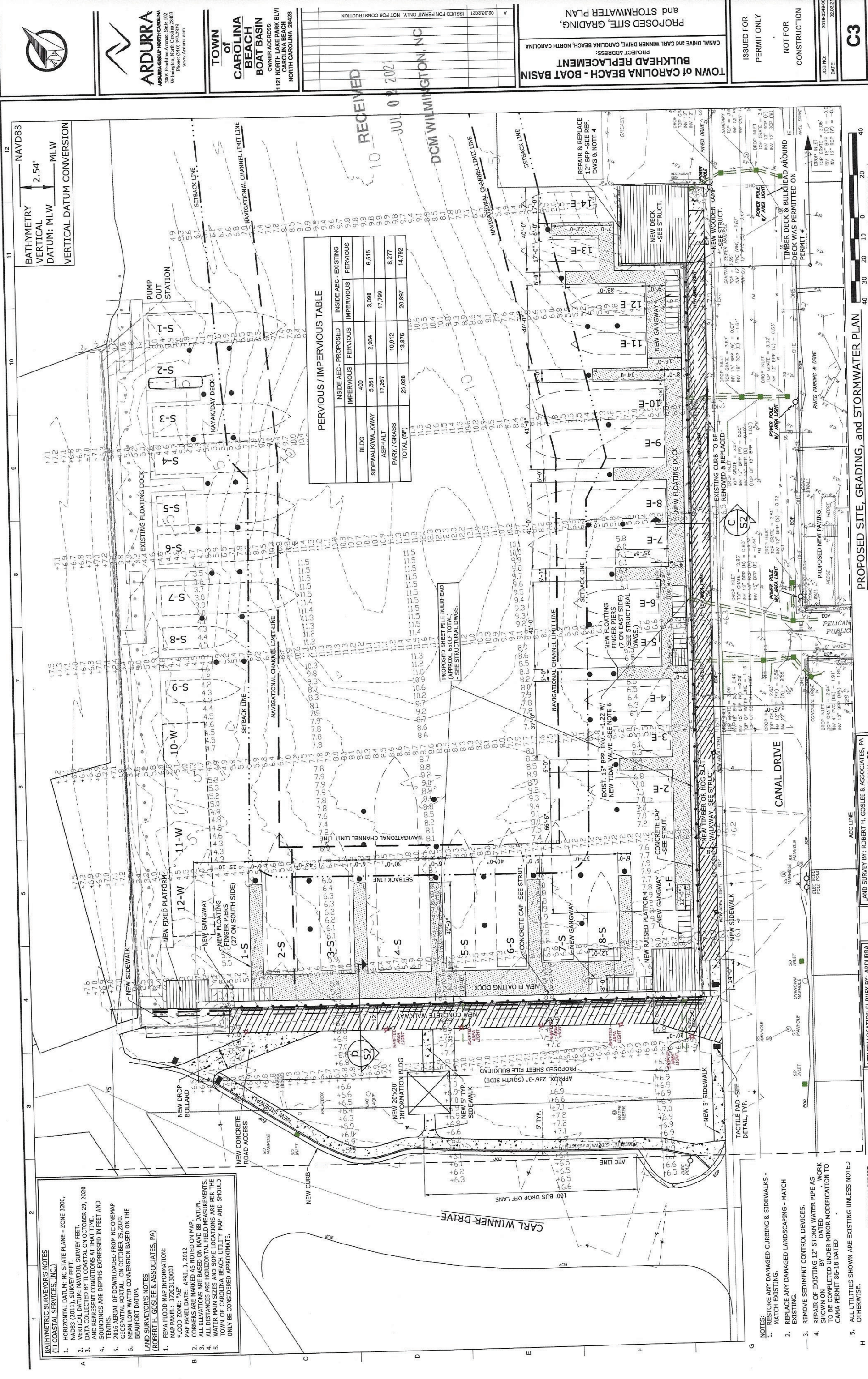
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DWG DATE: November 6, 2020

SURVEY DATE: October 29, 2020

SCALE: As Noted

SHEET: 4 OF 4



BATHYMETRY
VERTICAL
DATUM: MLW
2.54'
VERTICAL DATUM CONVERSION



TOWN of CAROLINA BEACH
BOAT BASIN
OWNER ADDRESS:
1121 NORTH LAKE PARK BLVD
CAROLINA BEACH
NORTH CAROLINA 28428

ISSUED FOR PERMIT ONLY, NOT FOR CONSTRUCTION
02.03.21
A

TOWN of CAROLINA BEACH - BOAT BASIN
BULKHEAD REPLACEMENT
PROJECT ADDRESS:
CANAL DRIVE and CARL WINNER DRIVE, CAROLINA BEACH, NORTH CAROLINA
PROPOSED SITE, GRADING,
and STORMWATER PLAN

ISSUED FOR
PERMIT ONLY
NOT FOR
CONSTRUCTION
JOB NO: 2018-3549-00
DATE: 02.03.21
C3

PERVIOUS / IMPERVIOUS TABLE				
	INSIDE AEC - PROPOSED	INSIDE AEC - EXISTING		
	IMPERVIOUS	PERVIOUS	IMPERVIOUS	PERVIOUS
BLDG	400	2,984	3,098	6,515
SIDEWALK/WALKWAY	5,361	17,799	98	98
ASPHALT	17,287	10,912	8,277	14,792
PARK / GRASS	23,028	13,876	20,887	
TOTAL (SF)				

GRAPHIC SCALE: 1"=20' (22x34 Sheet)
1"=40' (11x17 Sheet)

PROPOSED SITE, GRADING, and STORMWATER PLAN
SCALE: 1"=20' (22x34 Sheet)
1"=40' (11x17 Sheet)

LAND SURVEY BY: ROBERT H. GOSLEE & ASSOCIATES, PA
ENTITLED: TOWN OF CAROLINA BEACH OF CANAL DR.
DATED: AUGUST 1, 2018

UTILITY LOCATION SURVEY BY: ARDURRA
ARDURRA GROUP NORTH CAROLINA
DATED: APRIL 25, 2019

BATHYMETRIC SURVEYOR'S NOTES
(T) COASTAL SERVICES, INC.
1. HORIZONTAL DATUM: NC STATE PLANE - ZONE 3200,
NAD83 (2011), SURVEY FEET.
2. VERTICAL DATUM: NAVD88, SURVEY FEET.
3. DATA COLLECTED BY T) COASTAL ON OCTOBER 29, 2020
AND REPRESENT CONDITIONS AT THAT TIME.
4. SOUNDINGS ARE DEPTHS EXPRESSED IN FEET AND
TENTHS.
5. 2016 AERIAL OF DOWNLOADED FROM NC ONE MAP
GEOSPATIAL PORTAL, ON OCTOBER 29, 2020.
6. MEAN LOW WATER CONVERSION BASED ON THE
BEAUFORT DATUM.
LAND SURVEYOR'S NOTES
(ROBERT H. GOSLEE & ASSOCIATES, PA)
1. FLOOD MAP INFORMATION:
MAP PANEL: 372031.3000J
FLOOD ZONE: "AE"
2. MAP PANEL DATE: APRIL 3, 2012
3. CORNERS ARE MARKED AS NOTED ON MAP.
4. ALL ELEVATIONS ARE BASED ON NAVD 88 DATUM.
5. ALL DISTANCES ARE HORIZONTAL FIELD MEASUREMENTS.
6. WATER MAIN SIZES AND SOME LOCATIONS ARE PER THE
TOWN OF CAROLINA BEACH MAP AND SHOULD
ONLY BE CONSIDERED APPROXIMATE.

- NOTES:**
- RESTORE ANY DAMAGED CURBING & SIDEWALKS - MATCH EXISTING.
 - REPLACE ANY DAMAGED LANDSCAPING - MATCH EXISTING.
 - REMOVE SEDIMENT CONTROL DEVICES.
 - REPAIR OF EXISTING 12" STORM WATER PIPE AS SHOWN ON 35-1 DATE MODIFICATION TO BE COMPLETED UNDER MINOR MODIFICATION TO CANA PERMIT 36-18 DATED
 - ALL UTILITIES SHOWN ARE EXISTING UNLESS NOTED OTHERWISE.
 - CONTRACTOR SHALL INSTALL NEW TIDFLEX SERIES 35-1 CHECK "FLOOD" VALVE AT SIX (6) STORM WATER PIPE LOCATIONS.



ARDURRA
ARDURRA GROUP NORTH CAROLINA
3809 Peachtree Avenue, Suite 102
Wilmington, North Carolina 28403
Phone: (910) 397-2929
www.Ardurra.com

TOWN
of
CAROLINA
BEACH
BOAT BASIN

[illegible]

TOWN of CAROLINA BEACH - BOAT BASIN
BULKHEAD REPLACEMENT
PROJECT ADDRESS:
CANAL DRIVE and CARL WINNER DRIVE, CAROLINA BEACH, NORTH CAROLINA

ISSUED FOR
PERMIT ONLY

NOT FOR
CONSTRUCTION

JOB NO:	2019-3549-00
DATE:	02.03.21

C4

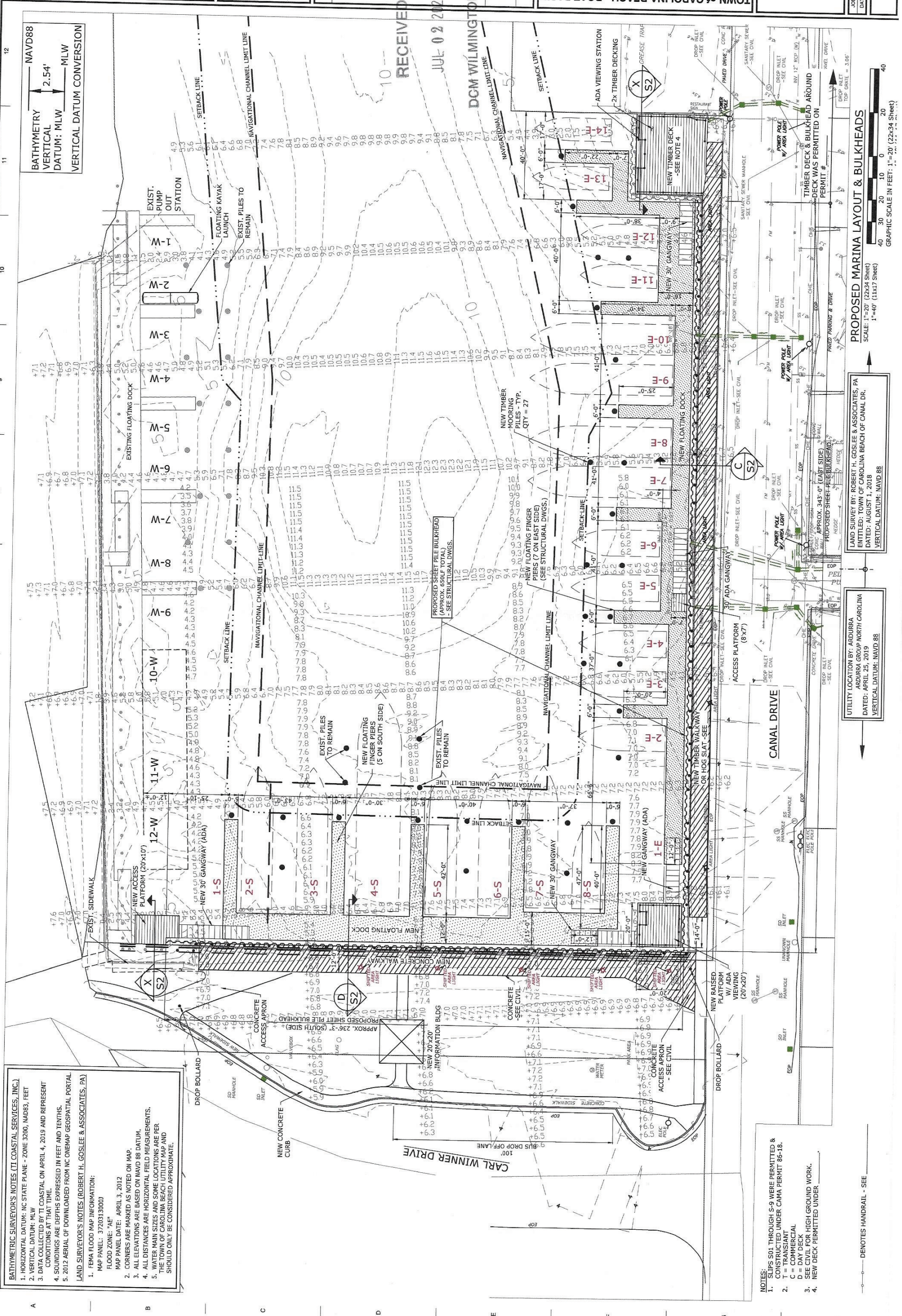


BATHYMETRIC SURVEYOR'S NOTES (T) COASTAL SERVICES, INC.)
1. HORIZONTAL DATUM: NC STATE PLANE - ZONE 3200, NAD83, FEET
2. VERTICAL DATUM: MLW
3. DATA COLLECTED BY T) COASTAL ON APRIL 4, 2019 AND REPRESENT CONDITIONS AT THAT TIME.
4. SOUNDINGS ARE DEPTHS EXPRESSED IN FEET AND TENTHS.
5. 2012 AERIAL OF DOWNLOADED FROM NC ONEMAP GEOSPATIAL PORTAL
LAND SURVEYOR'S NOTES (ROBERT H. GOSLEE & ASSOCIATES, PA)
1. FEMA FLOOD MAP INFORMATION:
MAP PANEL: 3720313000
FLOOD ZONE: "AE"
MAP PANEL DATE: APRIL 3, 2012
2. CORNERS ARE MARKED AS NOTED ON MAP.
3. ALL ELEVATIONS ARE BASED ON NAVD 88 DATUM.
4. ALL DISTANCES ARE HORIZONTAL FIELD MEASUREMENTS.
5. WATER MAIN SIZES AND SOME LOCATIONS ARE PER THE TOWN OF CAROLINA BEACH UTILITY MAP AND SHOULD ONLY BE CONSIDERED APPROXIMATE.



ARDURRA
ARDURRA GROUP NORTH CAROLINA
10000 Redwood Avenue, Suite 102
Wilmington, NC 28405
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www.ardurra.com

TOWN of CAROLINA BEACH BOAT BASIN
OWNER ADDRESS:
1121 NORTH LAKE PARK BLVD
CAROLINA BEACH
NORTH CAROLINA 28428



- NOTES:
1. SLIPS S01 THROUGH S-9 WERE PERMITTED & CONSTRUCTED UNDER CMAA PERMIT 86-18.
 2. C = TRANSIENT
D = DAY DECK
 3. SEE CIVIL FOR HIGH GROUND WORK.
 4. NEW DECK PERMITTED UNDER

— DENOTES HANDRAIL - SEE

UTILITY LOCATION BY: ARDURRA
ARDURRA GROUP NORTH CAROLINA
DATED: APRIL 25, 2019
VERTICAL DATUM: NAVD 88

LAND SURVEY BY: ROBERT H. GOSLEE & ASSOCIATES, PA
ENTITLED: TOWN OF CAROLINA BEACH OF CANAL DR.
DATED: AUGUST 1, 2018
VERTICAL DATUM: NAVD 88

PROPOSED MARINA LAYOUT & BULKHEADS
SCALE: 1"=20' (22x34 Sheet)
1"=40' (11x17 Sheet)

GRAPHIC SCALE IN FEET: 1"=20' (22x34 Sheet)
40 30 20 10 0 20 40

\$1.0

ISSUED FOR
PERMIT ONLY

NOT FOR
CONSTRUCTION

TOWN OF CAROLINA BEACH
PROJECT ADDRESS:
CANAL DRIVE AND CARL WINNER DRIVE, CAROLINA BEACH, NORTH CAROLINA

PROPOSED MARINA LAYOUT
& BULKHEADS

02.03.2021	ISSUED FOR PERMIT ONLY, NOT FOR CONSTRUCTION
------------	--

Statement of Special Inspections

Project: Carolina Beach Town Marina
Location: 110 Carl Winner Dr.
Owner's Representative: Mr. Bruce Oakley
Owner's Address: 1121 N. Lake Park Blvd
Carolina Beach, North Carolina 28428

Architect of Record: N/A
Structural Engineer of Record: Mark F. Weiss, PE

This Statement of Special Inspections is submitted as a condition for permit issuance in accordance with the Special Inspection requirements of the 2018 North Carolina State Building Code. It includes a Schedule of Special Inspection Services applicable to this project as well as the name of the Special Inspector and the identity of other approved agencies intended to be retained for conducting these inspections.

The Special Inspector shall keep records of all inspections and shall furnish inspection reports to the Local Building Official, Structural Engineer and Architect of Record. Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Local Building Official, Structural Engineer and Architect of Record. The Special Inspections program does not relieve the Contractor of the or her responsibilities.

Interim reports shall be submitted to the Local Building Official, Owner, Structural Engineer and Architect of Record.

Interim Report Frequency: Monthly

A Final Report of Special Inspections documenting completion of all required Special Inspections and correction of any discrepancies should be submitted prior to issuance of a Certificate of Use and Occupancy.

Job Site safety and means and methods of construction are solely the responsibility of the Contractor.

Statement of Special Inspections Prepared by (Structural Engineer of Record):

(Type or print name)

Signature

Owner's Authorization

Signature

Date

Date

Signature

Date

Accepted for the SCO by:

Schedule of Special Inspection Services

The following sheets comprise the required schedule of special inspections for this project. The construction divisions which require special inspections for this project are as follows:

☒ Structural Steel

☒ Cold-Formed Steel Framing

☒ Masonry

☐ Wood Construction

☒ Soils

☒ Special Foundations (Piles or Piers)

☐ Rail Panels/Retaining Walls

☐ Structural Precast Concrete

☐ Exterior Insulation & Finish System

☐ Smoke Control

☐ Seismic Requirements

☐ Fire Rated Penetrations

Inspection Agents	Qualifications	Address
1. Special Inspector	SI	
2. Structural Engineer of Record	SER	
3. Testing Laboratory	ITL	
4. Other		

Note: The inspection and testing agent shall be engaged by the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be discussed to the Town or the engineer, prior to commencing work.

Schedule of Special Inspection Services
Structural Steel

Item	Qualifications	Scope
1. Fabricator Certification/Quality Control Procedures	SI	• Existing fabricator meets requirements of NC-SBC 1704.2.2 • Collect Certificate of Compliance from fabricator at completion of fabrication
2. Welding	SI	• Collect Certificate of Compliance from fabricator with NC-SBC Table 1704.3 • Collect certificate of compliance for weld filler material • Collect log of approved filler material and in accordance with AWS D1.1
4. Structural Details	SER / SI	• Periodic inspection of steel framing and joint details
5. Bolting	SI	• Collect material data sheets for bolts, nuts, and washers
6. Material Certification	SER / SI SI	• Collect certificate of compliance from bolt supplier • Periodic inspection of bolted connections • Collect Certified mill test reports

Cast-in-Place Concrete

Item	Qualifications	Scope
1. Mix Design/Material Certifications	SER / SI	• Collect mix designs and verify appropriate mix use during specific installation
2. Reinforcement Installation	SER / SI	• Periodic inspection of reinforcing steel and welded mesh
3. Concrete Placement/Monitoring	SI	• Collection of certified mill test reports
Sampling & prep of test samples	SI / ITL	• Continuous inspection of cast-in-place concrete placement • Witness and packaging of samples of fresh concrete, slump test, air content test, temperature of concrete and creation of strength test specimens
4. Curing & Protection	SI	• Periodic inspection of bays to be installed in concrete prior to and during placement
5. Structural Precast Concrete Members	SER / SI	• Periodic inspections of curing techniques

Schedule of Special Inspection Services
Soils

Item	Qualifications	Scope
1. Site Preparation	SI	• Determine that site has been prepared in accordance with the approved soils report
2. Fill Placement	SI	• Determine that fillers used and maximum fill thickness are in accordance with approved soils report
3. Density Evaluation	SI / ITL	• Determine that in-place dry density of the compacted fill complies with approved soils report

Schedule of Special Inspection Services
Special Foundations (Piles or Piers)

Item	Qualifications	Scope
1. Pile Foundations	SI / SER	• Inspect to verify when pile foundations are being installed and during load tests.
2. Pier Foundations	SI	• Record cutoff and tip elevation of each pile relative to a permanent reference
	SI / SER	• Inspect placement and location of pier foundations

BULKHEAD & PILING NOTES

LAYOUT:

THE GENERAL CONTRACTOR SHALL PROVIDE ALL LAYOUT REQUIREMENTS TO CONSTRUCT HIS WORK TO THE LINES AND GRADES AS SHOWN ON THE PLANS.

STRUCTURAL STEEL:

- DESIGN, DETAILING FABRICATION, AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE STEEL CONSTRUCTION MANUAL OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, NINTH EDITION, UNLESS OTHERWISE MODIFIED ON THE DRAWINGS OR IN THE SPECIFICATIONS.
- STRUCTURAL STEEL: ASTM A36
- BOLTS: A325 3/4-INCH DIAMETER H.S. BOLTS H.D. GALV., U.N.O.
- WELDING ELECTRODES: A233 E70 SERIES
- ALL WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STANDARDS, LATEST EDITION.
- DESIGN CONNECTIONS FOR FULL STRENGTH MEMBER.
- STRUCTURAL STEEL CLEANING: STEEL STRUCTURES PAINTING COUNCIL LATEST EDITION: TO SUIT PAINT CO. REQUIREMENTS.
- PAINT ALL STRUCTURAL STEEL AND MISCELLANEOUS STEEL WHICH IS NOT GALVANIZED. CLEAN, PRIME, AND PAINT WITH TWO-COATS OF EXTERIOR MARINE GRADE PAINT.
- TOUCH UP AS REQUIRED IN FIELD AFTER ERECTION.
- NO SHOP PAINTING ALLOWED WITHIN 3-INCHES OF FIELD WELDS.
- ALL ERECTION WORK FOR STRUCTURAL STEEL SHALL BE CARRIED OUT IN STRICT ACCORDANCE WITH LATEST OSHA REQUIREMENTS.

CONCRETE:

- CONCRETE WORK SHALL CONFORM TO ACI 318, LATEST EDITION.
- PRE-CAST, PRESTRESSED CONCRETE: 5,000 PSI AT 28 DAYS WITH CORROSION INHIBITOR.
- CAST-IN-PLACE CONCRETE: CONCRETE PLUG 4,000 PSI TYPE I WITH CORROSION INHIBITOR.
- PRESTRESSED STRAND: ASTM A416, GRADE 270 INITIAL PRESTRESS FORCE FOR 7/16" DIA. STRAND = 21.7 KIPS AND FOR 1/2" DIA. STRAND = 28.9 KIPS.
- REINFORCING STEEL BARS: ASTM A615, GRADE 60 EPOXY COATED, UNLESS NOTED OTHERWISE. EPOXY COATING ON REINFORCING SHALL CONFORM TO ASTM A775.
- CONCRETE COVER FOR MAIN REINFORCING AS FOLLOWS:
CONCRETE SURFACE EXPOSED TO SOIL:
UNFORMED SURFACE: 3 INCHES
FORMED SURFACE: 2 INCHES

CONCRETE SURFACE EXPOSED TO SEA WATER IMMERSION: 3 INCHES
CONCRETE SURFACE EXPOSED TO WEATHER:
SLABS: 2 INCHES
BEAMS: 2 INCHES

- CHAMFER ALL EXPOSED CONCRETE CORNERS 3/4" x 45 DEGREES.
- CONCRETE SHALL HAVE AN APPROVED ADMIXTURE TO PROVIDE 4 PERCENT TO 6 PERCENT ENTRAINED AIR.

- CONCRETE FINISH:
EXPOSED BEAM SIDES AND TOPS: WOOD FLOAT AND RUB SLABS AND CURBS: WOOD FLOAT AND BROOM PER DETAIL.
STEEL SHEET PILES: SECTION P222
CONFORMING TO ASTM A572 – GR. 50.

COATINGS: BY GLIDDEN OR APPROVED EQUAL
GLID GUARD BITUMASTIC, 2 COATS, 6 MILS DRY/COAT, BLACK, NO. 61778.

- UNLESS NOTED OTHERWISE, COAT AS FOLLOWS:
A. SHEET PILES: BOTH SIDES – UPPER 20'
B. MOORING PILES: (STEEL PIPE) – UPPER 30'
C. ALL BULKHEAD WALERS, RODS, MISCELLANEOUS PLATES.
D. HARDWARE: GALVANIZED. COAT ALL SURFACES (PLATES, BOLTS, WASHERS, NUTS, ETC.) EXPOSED TO EXTERIOR.

- E. ALUMINUM: NONE
F. CONCRETE: NONE
G. RAILING POSTS: NONE
H. RAILING AND HARDWARE: SEE DETAIL

TOWN of CAROLINA BEACH - BOAT BASIN

BULKHEAD REPLACEMENT

PROJECT ADDRESS:
CANAL DRIVE and CARL WINNER DRIVE, CAROLINA BEACH, NORTH CAROLINA

- PHASES 1 & 2 -
STRUCTURAL NOTES and
SPECIAL INSPECTIONS

ISSUED FOR
PERMIT ONLY

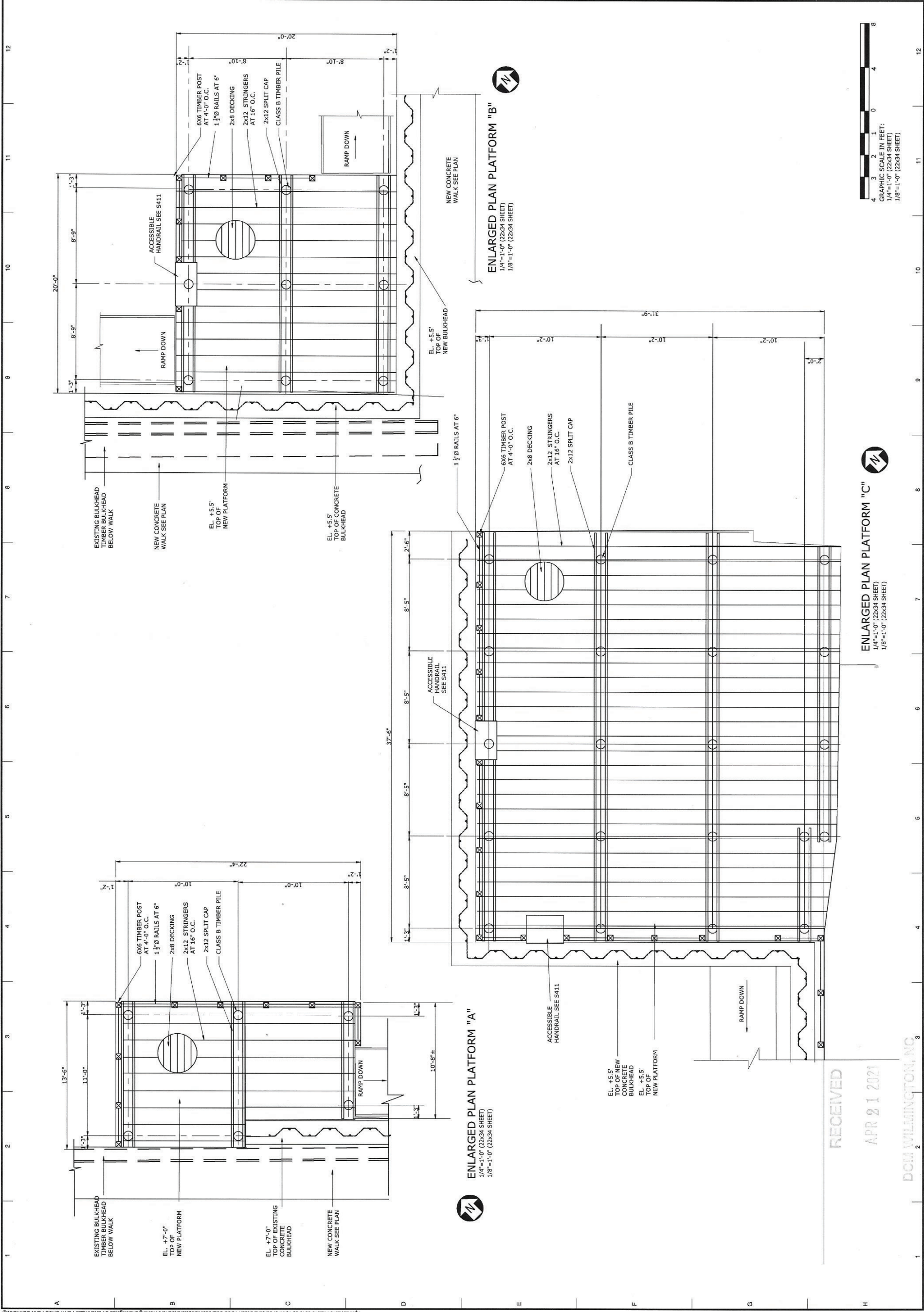
NOT FOR
CONSTRUCTION

JOB NO: 2019-2549-00

DATE: 02.03.21

\$1.1

Apr 23, 2019 10:54:40 Town of Carolina Beach-TOCB Boat Basin-Structural-Current Working Drawings-S2-S4 ENLARGED PLATFORMS PLAN-DETAIL.dwg



ARDURRA
ARDURRA GROUP NORTH CAROLINA
3809 Piedmont Avenue, Suite 102
Wilmington, North Carolina 28403
Phone: (910) 344-1029
Fax: (910) 344-1030
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TOWN of CAROLINA BEACH
BOAT BASIN
OWNER ADDRESS:
1121 NORTH LAKE PARK BLVD.
CAROLINA BEACH
NORTH CAROLINA 28428

NO.	DATE	REVISION
A	02.03.2021	ISSUED FOR PERMIT ONLY. NOT FOR CONSTRUCTION

TOWN of CAROLINA BEACH - BOAT BASIN
BULKHEAD REPLACEMENT
PROJECT ADDRESS:
CANAL DRIVE and CARL WINNER DRIVE, CAROLINA BEACH, NORTH CAROLINA

ENLARGED PLATFORM PLANS

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JOB NO: 2019-3545-00
DATE: 02.03.21

S2.0



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TOWN
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CAROLINA
BEACH
BOAT BASIN

OWNER ADDRESS:
1121 NORTH LAKE PARK BLVD
CAROLINA BEACH
NORTH CAROLINA 28428

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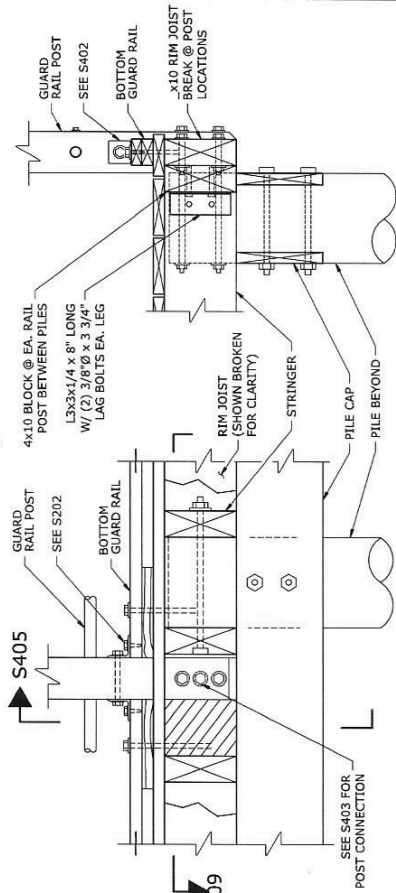
SECTION & DETAILS

ISSUED FOR
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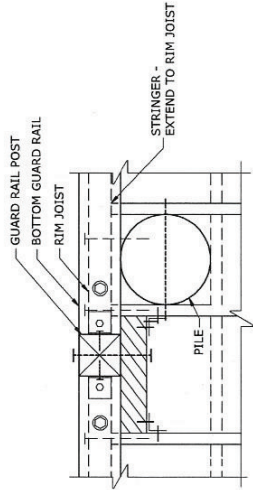
NOT FOR
CONSTRUCTION

JOB NO:	2019-3549-00
DATE:	02.03.21

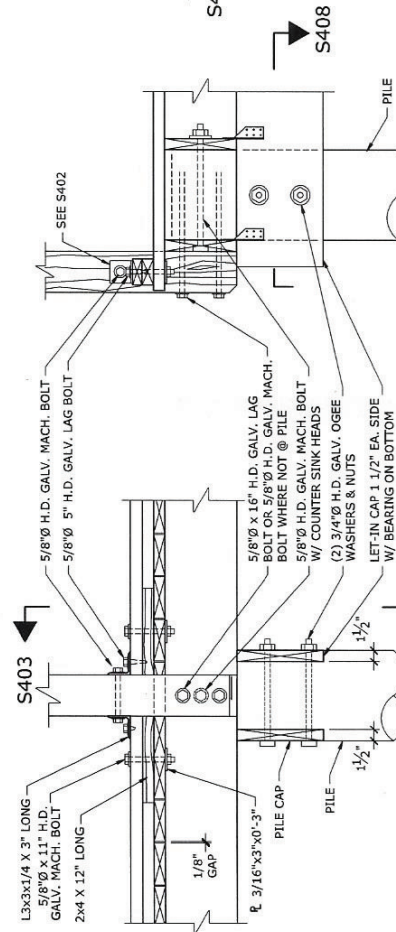
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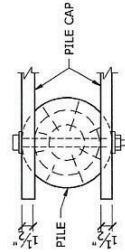
S405 SETION
SCALE: 1"=1'-0" (22x34 Sheet)
1/2"=1'-0" (11x17 Sheet)



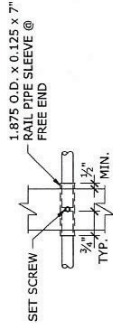
S409 PLAN - GUARDRAIL POST AT JOIST END
SCALE: 1"=1'-0" (22x34 Sheet)
1/2"=1'-0" (11x17 Sheet)



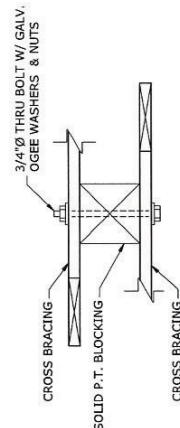
S403 SECTION
SCALE: 1"=1'-0" (22x34 Sheet)
1/2"=1'-0" (11x17 Sheet)



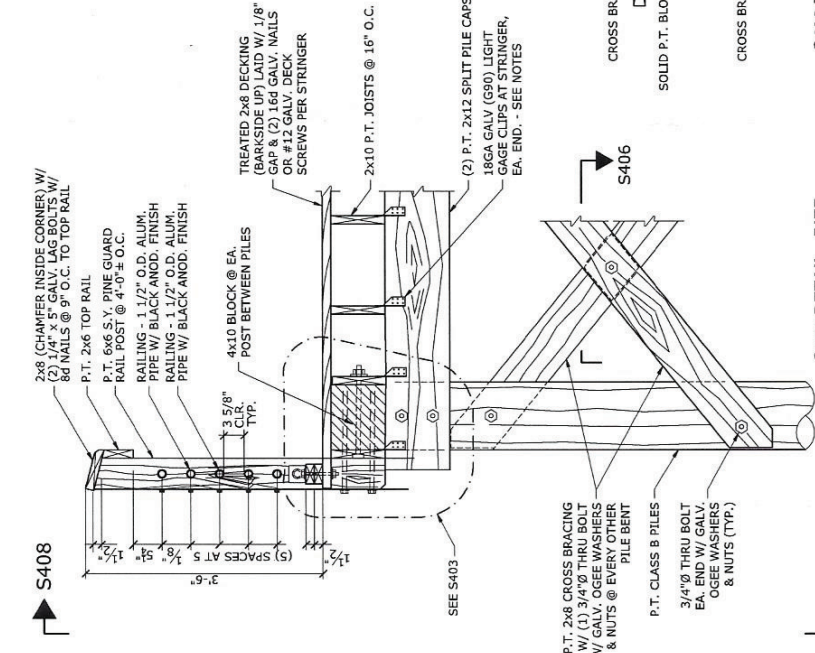
S408 PLAN - PILE CAP
SCALE: 1"=1'-0" (22x34 Sheet)
1/2"=1'-0" (11x17 Sheet)



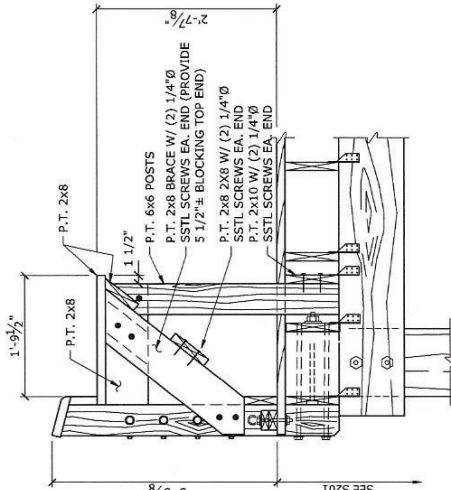
S407 DETAIL - RAIL PIPE SLEEVE
SCALE: 1"=1'-0" (22x34 Sheet)
1/2"=1'-0" (11x17 Sheet)



CROSS-BRACING
S406 DETAIL - MIDSPAN CONNECTION
SCALE: 1"=1'-0" (22x34 Sheet)
1/2"=1'-0" (11x17 Sheet)



S401 DETAIL - PIER
SCALE: 3/4"=1'-0" (22x34 Sheet)
3/8"=1'-0" (11x17 Sheet)



S411 SECTION - ACCESSIBLE GUARDRAIL
SCALE: 3/4"=1'-0" (22x34 Sheet)
3/8"=1'-0" (11x17 Sheet)

RECEIVED

APR 21 2021

DCM WILMINGTON, NC

