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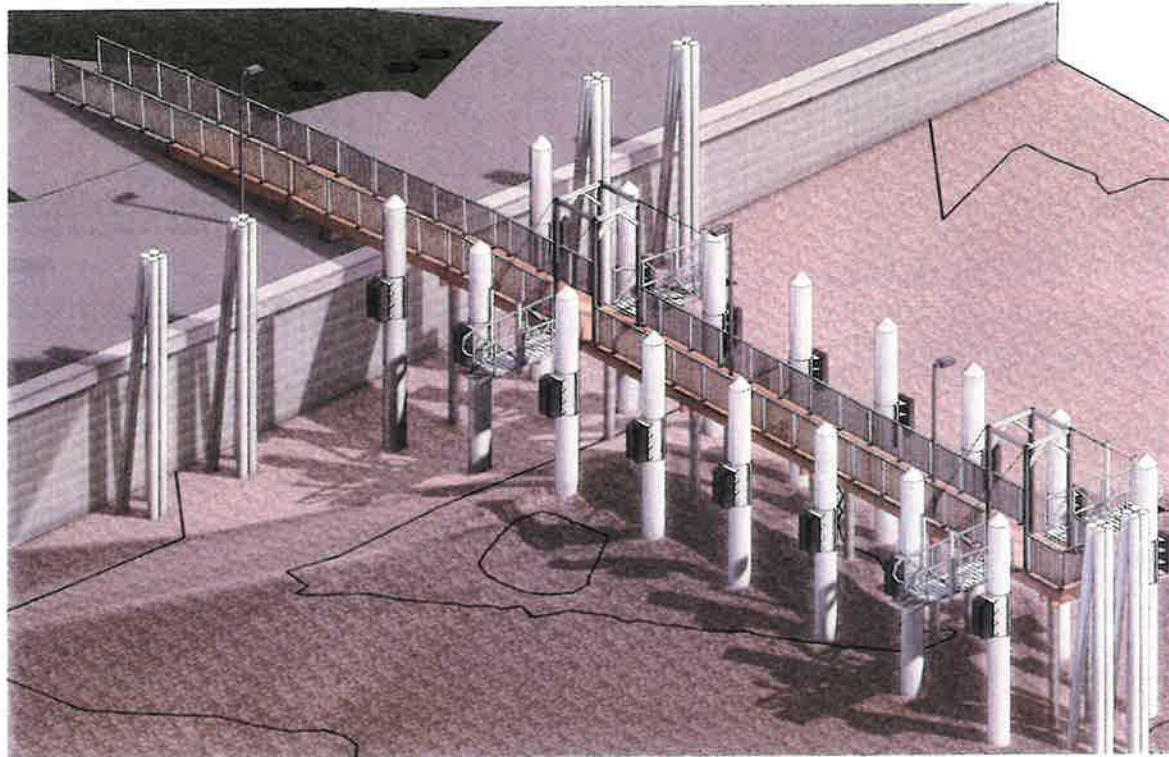
TIP PROJECT: FF-0001A

CONTRACT: DA-00645

NCDOT HATTERAS FERRY DOCK REPLACEMENT

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
		1	26
STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION	
50801.1.2	5080111	PE	
50801.3.2	5080111	CON	

LOCATION: Hatteras Island, NC



3D VIEW

NCDOT HATTERAS FERRY DOCK REPLACEMENT PROJECT



LOCATION MAP

NCDOT HATTERAS FERRY DOCK REPLACEMENT PROJECT



VICINITY MAP

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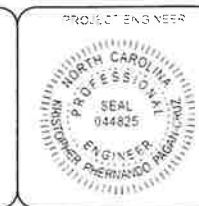
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GRAPHIC SCALE

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Designer By:	JAWER QUIROS	County:	DARE COUNTY		
Entered By:	VICTOR PADILLA	Division:	FERRY DIVISION		
Project Engineer:	KRISTOPHER PAGAN	Plan Date:	1-14-26		
Project Manager:	ALLISON THORBURN				
Rev.	Date	Drawn	Description	Ch'k'd	App'd

SHEET 1 OF 26

NCDOT HATTERAS FERRY DOCK REPLACEMENT

G-001 COVER SHEET

GENERAL NOTES:

GENERAL CONSTRUCTION

- CONTRACTOR SHALL VERIFY ALL INFORMATION PROVIDED HEREIN WITH TECHNICAL SPECIFICATIONS AND OTHER DOCUMENTS AND SHALL NOTIFY ENGINEER, OF ANY CONFLICTS, IN WRITING, BEFORE WORK IS INITIATED.
- ALL DIMENSIONS AND DETAILS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO FABRICATION AND CONSTRUCTION.
- CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF OSHA AND ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL CODES, STANDARDS, REGULATIONS AND LAWS.
- THE CONTRACTOR SHALL MAINTAIN MARINE AND LAND TRAFFIC IN ACCORDANCE WITH AND SUBJECT TO ALL MARINE, COAST GUARD, AND NCDOT REQUIREMENTS DURING THE ENTIRETY OF PROJECT. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN TO ENGINEER, NCDOT FERRIES, AND COAST GUARD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INCLUDE IN THE BID ANY AND ALL COSTS ASSOCIATED WITH TRAFFIC MAINTENANCE INCLUDING BUT NOT LIMITED TO DAILY COMMUNICATIONS WITH COAST GUARD, ISSUANCE OF ADVISORIES OF LANE CLOSURES, AND MOVING IN AND OUT OF NAVIGATION CHANNELS AS REQUIRED TO ALLOW PASSAGE OF MARINE VESSELS.
- CONSTRUCTION ACTIVITIES SHALL BE PLANNED AND COORDINATED FREQUENTLY WITH NCDOT AND THE EOR TO ALLOW FERRY TERMINAL OPERATIONS TO CONTINUE DURING CONSTRUCTION. ANY CONSTRUCTION ACTIVITY THAT MAY PREVENT FERRY TERMINAL OPERATIONS FROM BEING PERFORMED SHALL BE NOTIFIED WITH AMPLE ADVANCE NOTICE TO NCDOT AND THE EOR FOR COORDINATION WITH THE FERRIES.
- THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES, AND UTILITY LINES FROM ALL DAMAGE. THE CONTRACTOR SHALL ALSO PROTECT HIS WORK, ADJACENT PROPERTY, AND THE PUBLIC. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DAMAGE OR INJURY DUE TO HIS ACT OR NEGLIGENCE.
- THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE LOCAL ENVIRONMENTAL PROTECTION STANDARDS, PERMITTING LAWS, AND REGULATIONS.
- ALL APPLICABLE SAFETY REGULATIONS SHALL BE STRICTLY FOLLOWED. METHODS OF DEMOLITION, CONSTRUCTION, AND INSTALLATION OF STRUCTURAL MATERIAL ARE THE CONTRACTOR'S RESPONSIBILITY.
- LIMITED STAGING AREA WILL BE PROVIDED ON-SITE FOR CONTRACTOR'S USE. CONTRACTOR SHALL CONFIRM THE EXTENT AND LOCATION OF STAGING AREAS WITH NCDOT, PRIOR TO MOBILIZATION EXCEPT THAT WHICH SHALL BE PERFORMED OFF SHORE, SHALL BE CONDUCTED FROM BARGES, WORK BOATS, OR OTHER TEMPORARY PLATFORMS PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL RESPECT THE LIMITATIONS OF THE PROJECT SITE FOR STAGING MATERIAL. CONTRACTOR SHALL COORDINATE WORK IN SUCH A WAY AS TO LIMIT THE NEED FOR STORED MATERIALS OR SHALL BE RESPONSIBLE FOR ALL ARRANGEMENTS AND COSTS FOR OBTAINING LAYDOWN AREA OR BARGES AS MAY BE REQUIRED.
- UTILITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR BEFORE DISTURBING ACTIVITIES. ANY UTILITY LINES LOCATED IN THE PROJECT AREA SHALL BE PROTECTED UNLESS SPECIFICALLY CALLED OUT TO BE DEMOLISHED.
- CONTRACTOR IS RESPONSIBLE TO REVIEW SITE CONDITIONS TO DEVELOP AN APPROPRIATE WORK PLAN FOR MOBILIZING AND CONDUCTING WORK AT THE SITE.
- CONTRACTOR SHALL VERIFY LAYOUT AND DIMENSIONS OF THE EXISTING PIERS PRIOR TO COMMENCING THE CONSTRUCTION.
- CARE MUST BE TAKEN SO AS TO NOT DAMAGE THE EXISTING PIERS AND OTHER STRUCTURES, FROM CONSTRUCTION LOADING, OR OTHERWISE. IF ANY DAMAGE IS OBSERVED ON THE EXISTING STRUCTURES DURING THE EXECUTION OF CONSTRUCTION WORK, ALL WORK AT SUCH LOCATION SHALL CEASE AND THE NCDOT SHALL BE CONTACTED TO REVIEW SUCH DAMAGES PRIOR TO WORK RESUMPTION.
- CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO EXISTING STRUCTURES THAT RESULT FROM CONSTRUCTION ACTIVITIES AT NO COST TO THE COUNTY AND STATE.

SUBMITTALS

- CONTRACTOR SHALL PROVIDE TO THE ENGINEER ALL SUBMITTALS (SHOP DRAWINGS, SAMPLES, MATERIAL CERTIFICATIONS, ETC.) REQUIRED BY THE TECHNICAL SPECIFICATIONS FOR REVIEW PRIOR TO PURCHASE OR FABRICATION.

ENVIRONMENTAL PERMITS

- CONTRACTOR SHALL IMPLEMENT AND ABIDE BY ALL REGULATORY ENVIRONMENTAL REQUIREMENTS AS SPECIFIED IN THE ENVIRONMENTAL PERMITS SECURED BY NCDOT FOR THE PROJECT. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO COMPLY WITH ALL REGULATORY PERMIT REQUIREMENTS.
- CONTRACTOR SHALL ENSURE THAT TEMPORARY MEASURES AND REGULATORY MITIGATION REQUIREMENTS ARE IMPLEMENTED PRIOR TO INITIATING ANY CONSTRUCTION.

CONSTRUCTION LOADS

- CONTRACTOR IS RESPONSIBLE FOR ADEQUATE SHORING, BRACING, AND GUYING OF ALL COMPONENTS AS REQUIRED FOR SAFETY AND STRUCTURAL INTEGRITY THROUGHOUT CONSTRUCTION IN ACCORDANCE WITH SOUND PRACTICE.

CODES AND STANDARDS

- ALL METHODS AND MATERIALS SHALL CONFORM TO LOCAL BUILDING CODES AS AMENDED AND ADOPTED BY THE LOCAL COUNTY AND STATE AUTHORITIES.
- REFERENCE TO ASTM AND OTHER STANDARDS SHALL MEAN THE LATEST EDITION IN EFFECT ON THE BID DATE, UNLESS NOTED OTHERWISE IN THESE DOCUMENTS.
- AMERICANS WITH DISABILITIES ACT, ADA STANDARDS FOR ACCESSIBLE DESIGN, 2010
- AMERICAN SOCIETY OF CIVIL ENGINEERS, ASCE /SEI 7-16, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES"
- ALL WORK SHALL CONFORM TO THE NCDOT STANDARD SPECIFICATIONS FOR ROAD AND STRUCTURES.

WATER LEVELS

WATER LEVELS DEFINED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY AND DO NOT INDICATE CONDITIONS DURING CONSTRUCTION. WATER LEVELS LISTED BELOW ARE REFERENCED TO NAVD88 DATUM AND WERE SOURCED FROM NOAA'S TIDE STATION 8654467, USCG HATTERAS, NC.

DATUM	NAVD88
MEAN HIGHER HIGH WATER (MHHW)	+0.26'
MEAN TIDE LEVEL	+0.53'
MEAN LOWER LOW WATER (MLLW)	-0.39'

SURVEY INFORMATION

- TOPOGRAPHIC AND BATHYMETRIC SURVEY WAS PROVIDED BY NCDOT. FILE NAME: Hatteras Passenger_LS_SSG_210628_dtl.dgn
- THE ELEVATIONS SHOWN ON THIS MAP ARE ACCURATE FOR THE DATE OF THAT SURVEY ONLY AND SHOULD NOT BE DEPENDENT ON FOR ACCURACY AFTER THE DATE.

GEOTECHNICAL

- GEOTECHNICAL RECOMMENDATIONS WERE DEVELOPED BASED STRUCTURE SUBSURFACE INVESTIGATION CONDUCTED BY CATLIN ENGINEERS AND SCIENTISTS AND DATED SEPTEMBER 2017 AND THE TECHNICAL MEMORANDUM PREPARED BY THE EASTERN REGIONAL OFFICE GEOTECHNICAL ENGINEERING UNIT DATED FEBRUARY 13, 2018.

DESIGN CRITERIA:

- DEAD LOAD CONSISTS OF THE SELF-WEIGHT OF THE STRUCTURE AND ALL PERMANENT ATTACHMENTS, INCLUDING MARINA ACCESSORIES (CLEATS, DOCK BOXES, LIGHTS, ETC.), UTILITIES (POTABLE WATER, FIREWATER, AND ELECTRIC/COMMUNICATIONS) AND FENDERING SYSTEMS.

MATERIAL WEIGHTS	
MATERIAL	UNIT WEIGHT
SELF-WEIGHT OF NORMAL WEIGHT CONCRETE	150 LB/FT ³
SELF-WEIGHT OF STRUCTURAL STEEL	480 LB/FT ³
TIMBER (TREATED)	60 LB/FT ³
ALUMINUM ALLOYS:	175 LB/FT ³
DD300 FENDERS:	60 LB/LF
COMPOSITE WOOD DECK:	28 LB/FT ³

FIXED LANDING AREAS (LIVE LOAD)

CONCENTRATED	650 LBS
UNIFORM:	100 PSF

BOARDING RAMP/ GANGWAY (LIVE LOAD)

UNIFORM:	50 PSF
DEFLECTION:	MAXIMUM L/240 (DEAD + LIVE)

FERRY DOCK OPERATION PARTICULARS:

DESIGN VESSEL:

VESSEL TYPE:	FERRY
CAPACITY:	125 PASSENGERS
LOA:	92 FEET
BEAM:	27 FEET
IMPACT SPEED:	0.6 KNOTS
FREEBORD (LADE)	7.0 FEET
FREEBORD (LIGHT)	7.5 FEET
MIN. DRAFT:	4.0 FEET
MAX. DRAFT:	4.5 FEET

DESIGN COASTAL CONDITIONS

THE FOLLOWING COASTAL CONDITIONALS HAVE BEEN USED TO DETERMINE THE WAVE LOADS USED IN THE DESIGN OF THE FIXED DOCK AND FENDER PILES. DESIGN STORM EVENT FOR VACANT CONDITION - NO VESSEL MOORED

WIND SPEED:	85 KNOTS (98 MPH)
SIGNIFICANT WAVE HEIGHT:	4.32 FEET
CURRENT:	<2.0 KNOTS
WATER SURFACE ELEVATION:	3.1 FEET (NAVD88)
Tp	2.7 SEC

DESIGN STORM EVENT FOR OPERATIONAL LIMITS - MOORING (5-YR TROPICAL STORM EVENT)

WIND SPEED:	35 KNOTS (40 MPH)
SIGNIFICANT WAVE HEIGHT:	2.15 FEET
CURRENT:	<2.0 KNOTS
Tp:	4.0 SEC

THE FOLLOWING PARAMETERS WERE USED IN THE DESIGN OF THE FENDER SYSTEM, BERTHING ANALYSIS AND DESIGN PARAMETERS:

MAXIMUM BERTHING VELOCITY:	1 FT/S
MAXIMUM BERTHING ANGLE:	10 DEGREES
DISPLACEMENT ESTIMATED:	201.8 TONNES
ECCENTRICITY FACTOR (CE) 1/4 POINT:	0.40
VIRTUAL MASS FACTOR:	1.50
NORMAL BERTHING HULL PRESSURE	<4.2 KSF

WIND LOADS (ON STRUCTURE)

- WIND LOADS ARE IN ACCORDANCE WITH ASCE 7-16.
- BASIC WIND SPEED IS 141 MPH FOR DESIGN CATEGORY II.

MATERIALS:

STRUCTURAL AND MISCELLANEOUS STEEL

- ALL MISCELLANEOUS STEEL SHAPES AND PLATES SHALL CONFORM TO STAINLESS STEEL TYPE 316 ASTM A36.
- ALL FASTENERS AND CONNECTORS INCLUDING BOLTS, NUTS, WASHERS, LAG SCREWS, SCREWS PLATES, AND ANGLES SHALL BE TYPE 316 STAINLESS STEEL.
- ALL MISCELLANEOUS STEEL SHALL RECEIVE A PROTECTIVE PAINT COATING EQUAL TO THE COATING SPECIFIED FOR THE STEEL FENDER PILES.

ALUMINUM BOARDING RAMPS:

- THE ENGINEER OF RECORD DELEGATES THE RESPONSIBILITY FOR THE DESIGN OF THE ALUMINUM BOARDING RAMPS TO A SPECIALTY ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA. ALL BOARDING RAMPS SUBMITTALS INCLUDING BUT NOT LIMITED TO DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. ALL SHOP DRAWING SUBMITTALS SHALL BE SIGNED, SEALED AND DATED BY THE SPECIALTY ENGINEER.
- ALUMINUM BOARDING RAMPS SHALL BE PREFABRICATED FROM ALUMINUM MEETING THE FOLLOWING REQUIREMENTS.
 - THE DESIGN SHALL CONFORM TO IBC CODE AND ALUMINUM DESIGN MANUAL REQUIREMENTS AND TECHNICAL SPECIFICATION SECTION 05 51 38.
 - THE ALUMINUM BOARDING RAMP FABRICATION SHALL CONFORM TO ALUMINUM ALLOY 6061-T6 OR 6063-T6 AND WELDING SHALL BE IN ACCORDANCE WITH AWS D1.2.
 - GRATING, HANDRAILS, AND TRANSITION PLATES SHALL BE ADA COMPLIANT.
 - LOCATIONS, LENGTHS, AND CLEARANCES INDICATED IN THE DRAWINGS ARE APPROXIMATE.
 - FINAL BOARDING RAMP LENGTHS, CLEARANCES, AND CONNECTIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE DESIGN AND FABRICATION.

WOOD FIXED DOCK:

- ALL LUMBER SHALL BE MANUFACTURED AND GRADED IN ACCORDANCE WITH THE CURRENT EDITION OF THE STANDARD GRADING RULES FOR SOUTHERN PINE TIMBER, OF THE SOUTHERN PINE INSPECTION BUREAU. THE REQUIREMENTS OF NO. 1 DENSE SHALL APPLY. ALL LUMBER AND TIMBER SHALL CONFORM TO GRADE NO. 1 DENSE OR SELECT STRUCTURAL (SEL STR.) AS APPLICABLE AND SHALL BEAR THE GRADE MARK OF AN AISC-ACCREDITED AGENCY.
- TIMBER AND LUMBER SHALL BE SOUTHERN PINE AND SHALL BE IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS.
 - PILES - ROUND TIMBER WITH A MINIMUM TIP CIRCUMFERENCE OF 38" (12" DIAMETER) IN ACCORDANCE WITH ASTM D25. PILES SHALL BE SOUTHERN PINE, GRADED IN ACCORDANCE WITH SPIB RULES AS NO. 1 DENSE OR SEL STR., AND KILN-DRIED TO MC-19 OR LESS. LENGTH SHALL BE IN ACCORDANCE WITH THE PILE SCHEDULE.
 - DIAGONAL BRACING - MARINE GRADE NO. 1. BRACING SHALL BE SOUTHERN PINE, GRADED IN ACCORDANCE WITH SPIB RULES AND KILN-DRIED TO MC-19 OR LESS.
 - SPLIT PILE CAPS, JOISTS AND HAND RAILS - NO. 1 DENSE SOUTHERN PINE. MATERIAL SHALL BE GRADED IN ACCORDANCE WITH SPIB RULES AND KILN-DRIED TO MC-19 OR LESS.
 - DECKING - 2"x6" COMPOSITE WOOD DECK EQUAL OR SIMILAR TO WEARDECK COMPOSITE DECKING.

TIMBER TREATMENT:

- ALL LUMBER AND TIMBER MATERIALS SHALL BE PRESSURE TREATED IN ACCORDANCE WITH AASHTO M 133, AND AMERICAN WOOD PROTECTION ASSOCIATION (AWPA) STANDARD U1 AND THE FOLLOWING USE CATEGORY DESIGNATIONS 5B. PROVIDE A MINIMUM RETENTION OF 2.5 POUNDS PER CUBIC FOOT.
 - PILES - USE CATEGORY 5B. PRESSURE TREATED USING CHROMATE COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION REQUIREMENT OF 2.5 POUNDS PER CUBIC FEET.
 - DIAGONAL BRACING - USE CATEGORY 5B. PRESSURE TREATED USING CHROMATE COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION REQUIREMENT OF 2.5 POUNDS PER CUBIC FEET.
 - SPLIT PILE CAPS AND JOISTS - USE CATEGORY 4B. PRESSURE TREATED USING CHROMATE COPPER ARSENATE (CCA) WITH A MINIMUM RETENTION REQUIREMENT OF 0.60 POUNDS PER CUBIC FEET.
- INSPECTION OF PRESERVATIVE-TREATED MATERIAL SHALL BE PERFORMED IN ACCORDANCE WITH AWPA M2 BY AN INSPECTION AGENCY LISTED ON THE DEPARTMENT'S PRE-APPROVED PRODUCER/SUPPLIER LIST, EACH PIECE SHALL BEAR THE QUALITY MARK OF AN AISC-ACCREDITED AGENCY IN ACCORDANCE WITH AWPA M5.
- PROVIDE TYPE 4 CERTIFIED TEST REPORTS AND TYPE 6 SUPPLIER CERTIFICATIONS IN ACCORDANCE WITH ARTICLE 106-3, INCLUDING CHAIN-OF-CUSTODY DOCUMENTATION.

STEEL PILES

- STEEL PILES SHALL CONFORM TO ASTM A252 GRADE 3 WITH MINIMUM YIELD STRENGTH OF 50 KSI.
- PIPE PILING SPLICES SHALL BE FABRICATED WITH FULL PENETRATION WELDS ACCORDING TO DETAIL ON DRAWINGS.
- PILES SHALL MEET THE MARINE COATING REQUIREMENTS LISTED IN TECHNICAL SPECIFICATION SECTION 31 62 16.

TREATED TIMBER PILES

- ALL TIMBER PILES SHALL BE IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES SECTION 1084 AS MODIFIED BY SP10 R82 PILES.
- TIMBER PILES SHALL CONFORM TO ASTM D25. TIMBER PILES SHALL BE SOUTHERN PINE, GRADED IN ACCORDANCE WITH SPIB RULES AS NO. 1 DENSE OR SEL STR. AND SHALL MEET SUMMERWOOD REQUIREMENTS OF SP10 R82.
- THE TREATING OF SOUTHERN YELLOW PINE SHALL BE IN CONFORMANCE WITH NCDOT STANDARD SPECIFICATIONS ROADS AND BRIDGES SECTION 1082 STRUCTURAL TIMBER AND LUMBER AND SECTION 1084 PILES.
- TIMBER SHALL BE NO. 1 DENSE OR SELECT STRUCTURAL AND SHALL BEAR THE MARK OF AN AISC-ACCREDITED AGENCY.

FENDERS

- FENDERS SHALL BE EXTRUSION TYPE DD300 SECTION FENDERS BY TRELLEBORG OR APPROVED EQUAL, WITH A MINIMUM ENERGY ABSORPTION CAPACITY OF 12.9 kNm/m AND MAXIMUM REACTION OF 230 kNm/m. COMPLETE WITH ANCHORING MECHANISM TO INSTALL ON THE FENDER PILES AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL SUBMIT MANUFACTURER'S PRODUCT LITERATURES AND SHOP DRAWINGS TO THE COUNTY FOR REVIEW AND APPROVAL.

MOORING

- CLEATS ALL CLEATS SHALL BE CONNECTED TO THE FENDER PILES TO MOOR THE VESSEL WITHIN OPERATIONAL WIND SPEED LIMITS AS SPECIFIED IN THE FERRY DOCK OPERATIONS PARTICULARS.

PILE INSTALLATION

- PILES SHALL BE INSTALLED TO ACHIEVE THE SPECIFIED PILE TIP ELEVATIONS. CONTRACTOR IS RESPONSIBLE FOR THE SELECTION OF THE APPROPRIATE PILE HAMMER OR DRILL TO ACHIEVE THE PILE TIP ELEVATION. CONTRACTOR SHALL BE FAMILIAR WITH THE PROJECT SITE CONDITIONS AND SHALL REVIEW THE SUPPLIED GEOTECHNICAL DATA.
- PILES HITTING OBSTACLES, MISALIGNED PILES AND PILES THAT HAVE NOT ACHIEVED MINIMUM PENETRATION SHALL BE PULLED BY THE CONTRACTOR AND REINSTALLED AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL BE RESPONSIBLE OF MONITORING ADJACENT STRUCTURES FOR VIBRATION, MOVEMENT, OR DAMAGES DURING THE PILE INSTALLATION OPERATIONS. IF MOVEMENT OR DAMAGES TO THE STRUCTURES ARE DETECTED, THE PILE INSTALLATION SHALL BE HALTED IMMEDIATELY. PHOTOS OF THE STRUCTURES SHALL BE TAKEN BEFORE AND AFTER THE PILE DRIVING OPERATION BY CONTRACTOR.

CONCRETE

- CONCRETE SHALL BE CLASS AA WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI AND A MAXIMUM WATER CEMENT RATIO OF 0.426.
- ALL CONCRETE WORK SHALL CONFORM TO ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AND COMMENTARY".
- PROVIDE 3/4" CHAMFERS ON ALL EXPOSED EDGES AND CORNERS UNLESS OTHERWISE NOTED.
- REINFORCING BARS SHALL CONFORM TO ASTM 615, GRADE 60, UNLESS OTHERWISE NOTED.
- CONCRETE COVER OVER REINFORCEMENT AND TIES, UNLESS OTHERWISE NOTED, SHALL BE AS FOLLOWS:
 - CAST AGAINST EARTH 3"
 - EXPOSED TO WEATHER 2"
- DEVELOPMENT AND SPLICE LENGTH FOR REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI AND THE "REINFORCEMENT SPLICE AND DEVELOPMENT LENGTH" TABLE INCLUDED IN THIS SET OF DRAWINGS.
- ALL DEVELOPMENT AND SPLICE LENGTHS SHALL BE CATEGORY 1 UNLESS OTHERWISE NOTED ON DRAWINGS.
- ALL REINFORCING BARS WITH HOOKS SHALL BE PROVIDED WITH ACI STANDARD HOOKS UNLESS OTHERWISE NOTED. STANDARD HOOKS SHALL BE IN ACCORDANCE WITH "STANDARD HOOK FOR DEVELOPMENT TABLE" INCLUDED IN THIS SET OF DRAWINGS.
- BENDING OF REBAR SHALL BE IN ACCORDANCE WITH ACI AND "MINIMUM INSIDE BEND DIAMETERS AND STANDARD HOOK GEOMETRY FOR STRIRUPS, TIES AND HOOKS TABLE" INCLUDED IN THIS SET OF DRAWINGS.
- ALL FORMWORK, FINISHES AND CONSTRUCTION JOINTS SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 03 30 00

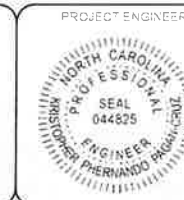
STANDARD ABBREVIATIONS:

BOT	BOTTOM
T.O	TOP OF
B.O	BOTTOM OF
M.L.L.W	MEAN LOWER LOW WATER
M.H.H.W	MEAN HIGHER HIGH WATER
EL	ELEVATION
CL	CENTER LINE
PL	PLATE
EA	EACH
TYP	TYPICAL
'	FEET
"	INCHES
STA	STATION
PSF	POUNDS PER SQUARE FOOT
DIA	DIAMETER
MIN	MINIMUM
MAX	MAXIMUM
DL	DEAD LOAD
LL	LIVE LOAD
ULL	UNIFORM LIVE LOAD
CLL	CONCENTRATED LIVE LOAD

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GRAPHIC SCALE



Designed By	JAMER QUIROS	County	DARE COUNTY		
Entered By	VICTOR PADILLA	Division	FERRY DIVISION		
Project Engineer	KRISTOPHER PAGAN	Plan Date	01/14/26		
Project Manager	ALLISON THORBURN				
Rev.	Date	Drawn	Description	Ch'kd	App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

G-002 MARINE GENERAL NOTES (1 OF 2)

STANDARD HOOK FOR DEVELOPMENT TABLE				
Type of standard hook	Bar size	Minimum inside bend diameter, in.	Straight extension ¹⁾ ℓ_{ext} , in.	Type of standard hook
90-degree hook	No. 3 through No. 8	$6d_b$	$12d_b$	
	No. 9 through No. 11	$8d_b$		
	No. 14 and No. 18	$10d_b$		
180-degree hook	No. 3 through No. 8	$6d_b$	Greater of $4d_b$ and 2.5 in.	
	No. 9 through No. 11	$8d_b$		
	No. 14 and No. 18	$10d_b$		

¹⁾A STANDARD HOOK FOR DEFORMED BARS IN TENSION INCLUDES THE SPECIFIC INSIDE BEND DIAMETER AND STRAIGHT EXTENSION LENGTH. IT SHALL BE PERMITTED TO USE A LONGER STRAIGHT EXTENSION AT THE END OF A HOOK. A LONGER EXTENSION SHALL NOT BE CONSIDERED TO INCREASE THE ANCHORAGE CAPACITY OF THE HOOK.

REINFORCEMENT SPLICE AND DEVELOPMENT LENGTH (INCHES) TABLE (FOR 4000 PSI CONCRETE) (IN)										
CATEGORY		#3	#4	#5	#6	#7	#8	#9	#10	#11
1	L.d	18	25	31	37	54	62	69	77	85
	L.st	14	19	24	28	42	47	53	59	65
2	L.d	28	37	45	55	81	92	104	116	127
	L.st	21	28	35	43	62	71	80	89	98
	L.dh	35	48	60	72	105	120	135	150	165
	L.dh	7	11	15	19	24	30	36	42	48

NOTES:
A. DEVELOPMENT AND SPLICE LENGTHS SHOWN IN TABLE ARE CALCULATED IN ACCORDANCE WITH ACI 318-19
B. TOP BARS ARE DEFINED AS HORIZONTAL REINFORCEMENT SO PLACED THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE BAR.
C. d_b STANDS FOR NOMINAL BAR DIAMETER.
 L_d STANDS FOR DEVELOPMENT LENGTH
 L_{st} STANDS FOR SPLICE LENGTH
 L_{dh} STANDS FOR DEVELOPMENT LENGTH OF BAR WITH STANDARD HOOK
D. CATEGORIES DEFINITIONS:
CATEGORY 1: CLEAR SPACING OF BARS OR WIRES BEING DEVELOPED OR LAP SPICED NOT LESS THAN d_b , CLEAR COVER AT LEAST d_b , AND STIRRUPS OR TIES THROUGHOUT L_d NOT LESS THAN THE CODE MIN OR CLEAR SPACING OF BARS OR WIRES BEING DEVELOPED OR LAP SPICED AT LEAST $2d_b$ AND CLEAR COVER AT LEAST d_b .
CATEGORY 2: ALL OTHERS

MIN. INSIDE BEND DIAMETERS AND STANDARD HOOK GEOMETRY FOR STIRRUPS, TIES AND HOOPS TABLE				
Type of standard hook	Bar size	Minimum inside bend diameter, in.	Straight extension ¹⁾ ℓ_{ext} , in.	Type of standard hook
90-degree hook	No. 3 through No. 8	$6d_b$	$12d_b$	
	No. 9 through No. 11	$8d_b$		
	No. 14 and No. 18	$10d_b$		
135-degree hook	No. 3 through No. 5	$4d_b$	Greater of $6d_b$ and 3 in.	
	No. 6 through No. 8	$6d_b$		
180-degree hook	No. 3 through No. 5	$6d_b$	Greater of $4d_b$ and 2.5 in.	
	No. 6 through No. 8	$8d_b$		

¹⁾A STANDARD HOOK FOR STIRRUPS, TIES, AND HOOPS INCLUDES THE SPECIFIC INSIDE BEND DIAMETER AND STRAIGHT EXTENSION LENGTH. IT SHALL BE PERMITTED TO USE A LONGER STRAIGHT EXTENSION AT THE END OF A HOOK. A LONGER EXTENSION SHALL NOT BE CONSIDERED TO INCREASE THE ANCHORAGE CAPACITY OF THE HOOK.

Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:18:16-05'00'

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GRAPHIC SCALE

PROJECT ENGINEER

Designed By	JAVIER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	01/14/26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description
			Ch'kd App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

G-003 MARINE GENERAL NOTES
(2 OF 2)

ANSI D (8 1/2 x 11)

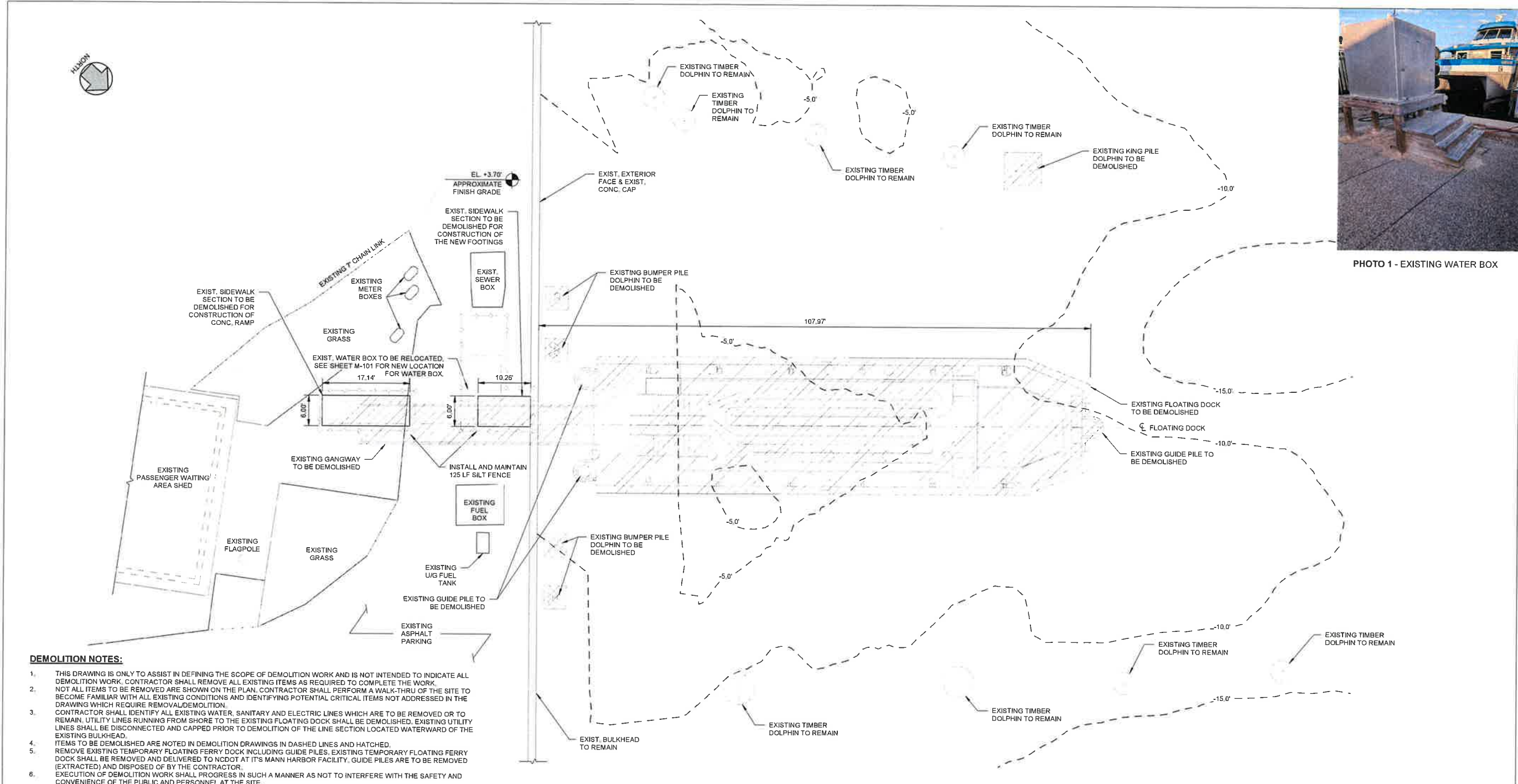


PHOTO 1 - EXISTING WATER BOX

DEMOLITION NOTES:

- THIS DRAWING IS ONLY TO ASSIST IN DEFINING THE SCOPE OF DEMOLITION WORK AND IS NOT INTENDED TO INDICATE ALL DEMOLITION WORK. CONTRACTOR SHALL REMOVE ALL EXISTING ITEMS AS REQUIRED TO COMPLETE THE WORK.
- NOT ALL ITEMS TO BE REMOVED ARE SHOWN ON THE PLAN. CONTRACTOR SHALL PERFORM A WALK-THRU OF THE SITE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS AND IDENTIFYING POTENTIAL CRITICAL ITEMS NOT ADDRESSED IN THE DRAWING WHICH REQUIRE REMOVAL/DEMOLITION.
- CONTRACTOR SHALL IDENTIFY ALL EXISTING WATER, SANITARY AND ELECTRIC LINES WHICH ARE TO BE REMOVED OR TO REMAIN. UTILITY LINES RUNNING FROM SHORE TO THE EXISTING FLOATING DOCK SHALL BE DEMOLISHED. EXISTING UTILITY LINES SHALL BE DISCONNECTED AND CAPPED PRIOR TO DEMOLITION OF THE LINE SECTION LOCATED WATERWARD OF THE EXISTING BULKHEAD.
- ITEMS TO BE DEMOLISHED ARE NOTED IN DEMOLITION DRAWINGS IN DASHED LINES AND HATCHED.
- REMOVE EXISTING TEMPORARY FLOATING FERRY DOCK INCLUDING GUIDE PILES. EXISTING TEMPORARY FLOATING FERRY DOCK SHALL BE REMOVED AND DELIVERED TO NCDOT AT ITS MANN HARBOR FACILITY. GUIDE PILES ARE TO BE REMOVED (EXTRACTED) AND DISPOSED OF BY THE CONTRACTOR.
- EXECUTION OF DEMOLITION WORK SHALL PROGRESS IN SUCH A MANNER AS NOT TO INTERFERE WITH THE SAFETY AND CONVENIENCE OF THE PUBLIC AND PERSONNEL AT THE SITE.
- WASTE AND RUBBISH FROM DEMOLITION WORK SHALL BE REMOVED FROM THE SITE AS RAPIDLY AS POSSIBLE AND SHALL NOT BE ALLOWED TO ACCUMULATE ON PREMISES.
- IT IS NOT EXPECTED THAT HAZARDOUS MATERIAL WILL BE ENCOUNTERED DURING DEMOLITION WORK. IF MATERIALS SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE IDENTIFIED OR ENCOUNTERED, STOP WORK AND DO NOT DISTURB, AND IMMEDIATELY NOTIFY IN WRITING THE OWNER AND ENGINEER.
- SIDEWALK DEMOLITION SHALL BE CONDUCTED BY SAWCUTTING FULL DEPTH EXISTING SIDEWALK AREA TO BE REMOVED AT STRAIGHT LINES/EDGES. CONCRETE CUTTING SHALL BE ACCOMPLISHED IN A NEAT WORKMANLIKE MANNER.
- IN THE EVENT SIDEWALK IS NOT CUT AT STRAIGHT LINES, THE CONTRACTOR SHALL PATCH AS NEEDED TO PROVIDE STRAIGHT AND SQUARE EDGES.
- PILE DEMOLITION SHALL CONSIST OF PULLING (EXTRACTION) OF THE PILES FROM THE GROUND.
- AREA TO BE DREDGED SHOWN IN THE DEMOLITION PLAN CONSISTS OF APPROXIMATELY 59,500 SF AREA WITH AN ESTIMATED 74,000 CF OF SHOALED MATERIAL TO BE DREDGED. SHOALED MATERIAL SHALL BE REMOVED FROM WITHIN THE DREDGING AREA TO A BOTTOM GRADE ELEVATION OF -10.0' MLLW. TO FACILITATE DREDGING DOWN TO THE REQUIRED DEPTH CONTRACTOR MAY DISTURB ONE (1) FOOT BELOW THE REQUIRED DEPTH SHOWN ON THE DRAWINGS. TOTAL AREA TO BE DREDGED CONSISTS OF THE BOX AREA MARKED ON THE DRAWING PLUS SIDE SLOPES NO FLATTER THAN 1 VERTICAL TO 3 HORIZONTAL.
- DEBRIS SHALL BE REMOVED FROM THE WORK AREA ON A DAILY BASIS TO ENSURE NO ENVIRONMENTAL IMPACT. DISPOSAL OF ALL MATERIALS REMOVED AND/OR DEMOLISHED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND BE PERFORMED LEGALLY AND SAFELY AT AN APPROVED DISPOSAL FACILITY.
- THE EXISTING WATER BOX IS TO BE RELOCATED BY THE CONTRACTOR. THE RELOCATED WATER BOX LOCATION SHOWN IN SHEET M-101 IS INDICATIVE. FINAL WATER BOX LOCATION SHALL BE COORDINATED WITH NCDOT BY THE CONTRACTOR. PHOTO 1 SHOWS THE EXISTING WATER BOX.
- THE REMOVING OF SIDEWALK, SLAB ON GRADE OR ASPHALT PAVEMENT REQUIRES SAWCUTTING. AREAS TO BE DEMOLISHED SHALL BE SQUARED OFF AND SHALL CONSIDER REPATCHING WORK AFTER THE DEMO AND CONSTRUCTION WORK IS COMPLETED. AREAS TO REMAIN SHALL BE PROTECTED.
- EROSION CONTROL MEASURES SHOWN SHALL BE CONSIDERED TO BE THE MINIMUM INSTALLATION REQUIREMENT. THE CONTRACTOR SHALL PROVIDE ANY MATERIAL ITEM OR WORK EFFORT NECESSARY TO PREVENT EROSION AND MAINTAIN SEDIMENT ON SITE AT ALL TIMES DURING CONSTRUCTION.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTROLLING EROSION AND SEDIMENTATION WITHIN ITS WORK AREAS. FAILURE TO PREVENT EROSION AND MAINTAIN SEDIMENT ON SITE MAY RESULT IN REGULATORY ENFORCEMENT ACTIONS AND/OR CIVIL PENALTIES/FINES. THE CONTRACTOR SHALL BEAR THE COSTS OF ANY ENFORCEMENT ACTION, PENALTIES, AND/OR FINES AT NO ADDITIONAL COST TO THE OWNER.
- A PHOTO OF THE EXISTING WATER BOX TO BE RELOCATED IS INCLUDED IN THIS SHEET FOR REFERENCE, AS PHOTO 1.

1 EXISTING CONDITIONS AND DEMOLITION - PLAN
1" = 10'-0"

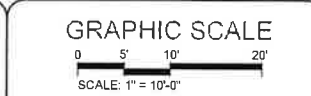
DEMOLITION LEGEND:

	EXISTING TO REMAIN
	EXISTING TO BE DEMOLISHED
	EXISTING TO BE RELOCATED
	NEW SILT FENCE

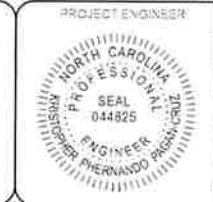
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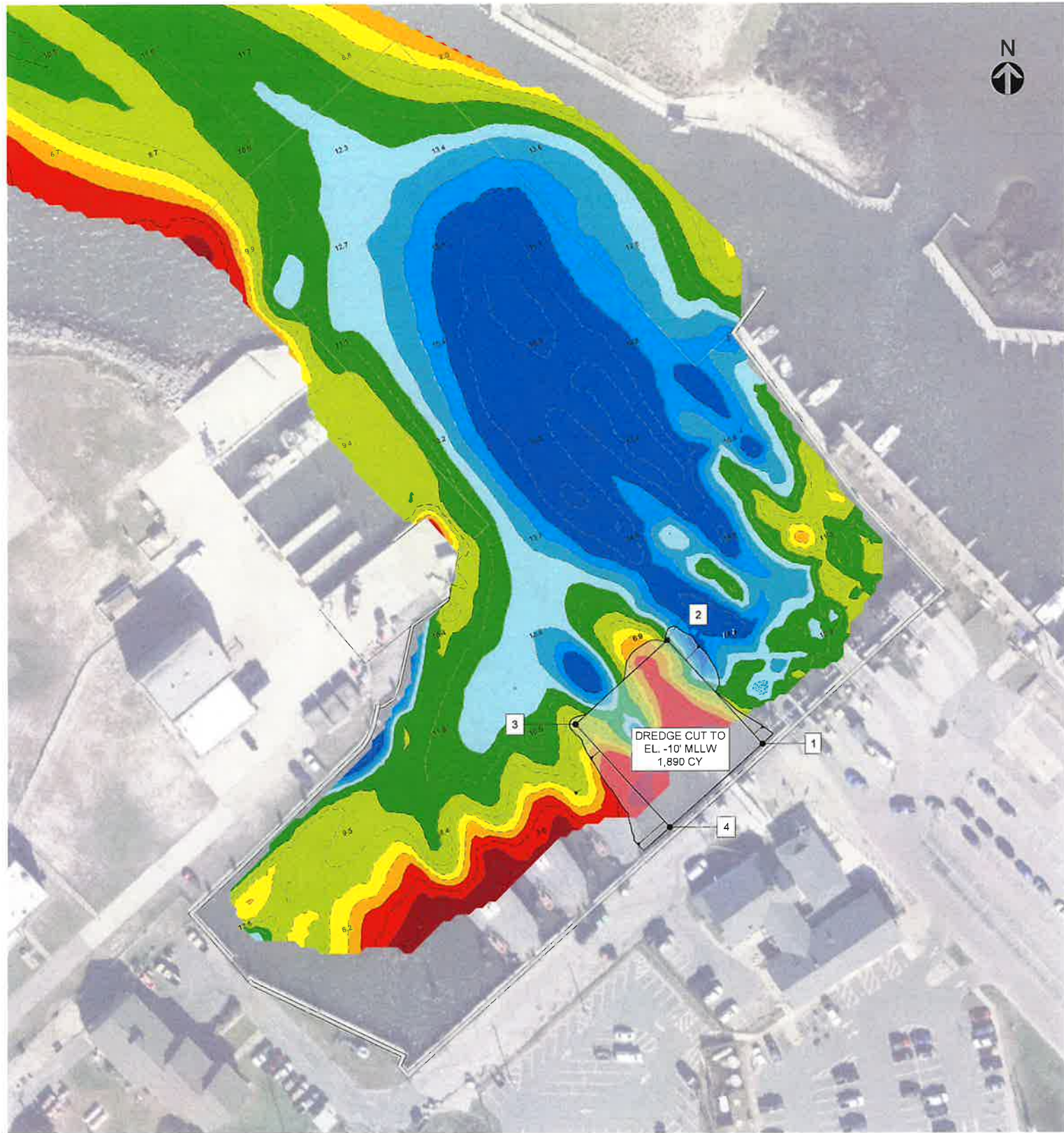
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Date: 2026.02.17 11:16:24-05'00'



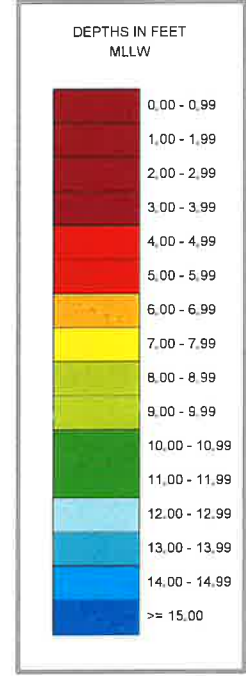
Designed By	JAVIER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description
			Ch'k'd App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

D-101 EXISTING CONDITIONS AND DEMOLITION PLAN



DREDGE BOUNDARY		
POINT NUMBER	NORTHING	EASTING
1	546971.82	2984711.65
2	547052.11	2984638.01
3	546987.21	2984567.05
4	546907.32	2984640.11

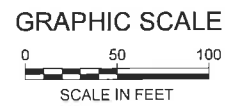


Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:18:33-05'00'

NOTES

- BATHYMETRY SHOWN IN DREDGING PLAN WAS PROVIDED BY NCDOT.
- COORDINATES ARE REFERENCED TO NAD83 STATE PLANE, NORTH CAROLINA, FT.
- VERTICAL DATUM USED IS NCINNER83 1101 MLLW.
- VOLUME CALCULATIONS DO NOT TAKE INTO ACCOUNT NORMAL TIDE OR WEATER EVENT LOSS/GAIN BETWEEN SURVEYS.

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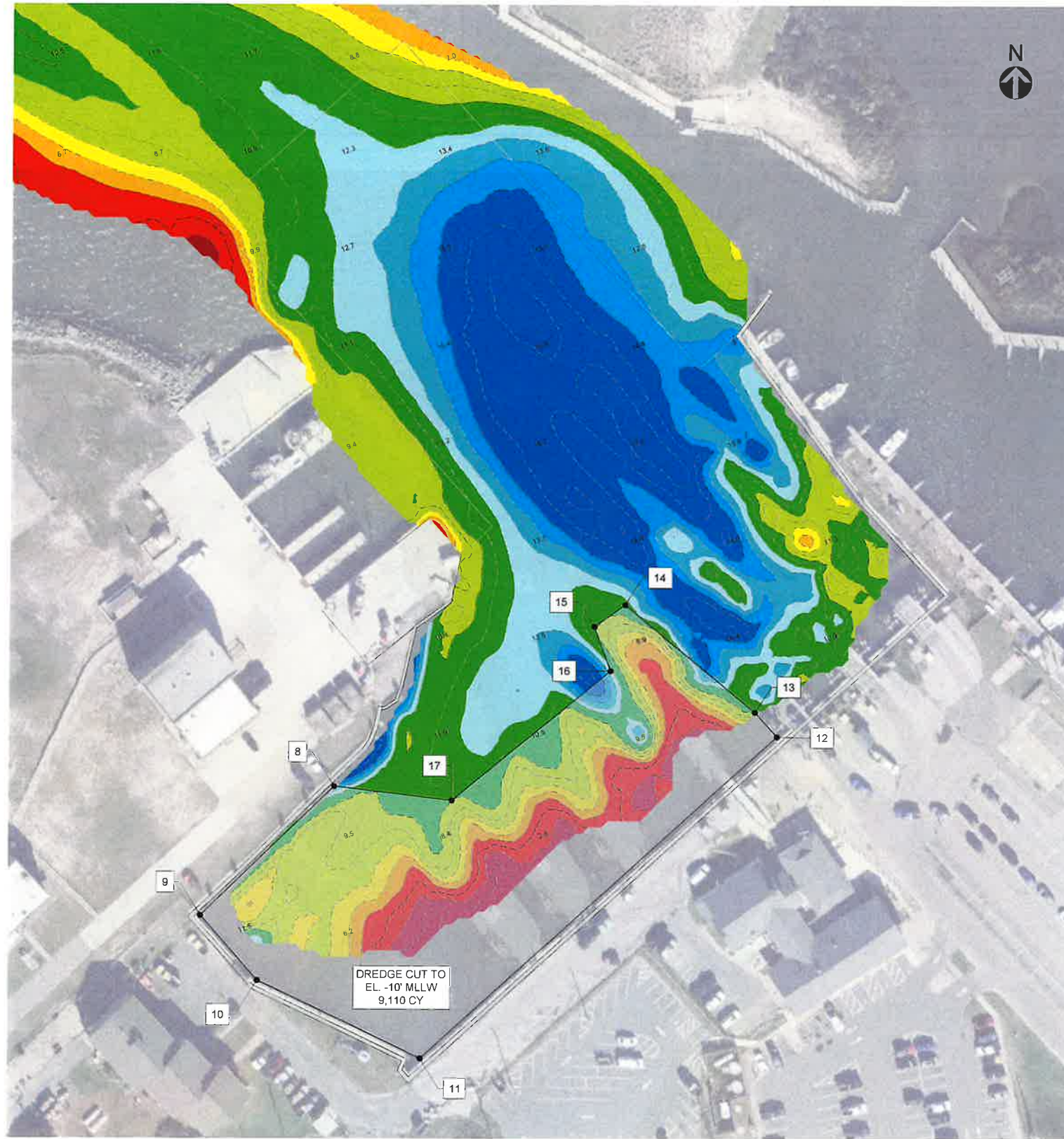
PROJECT ENGINEER
 NORTH CAROLINA PROFESSIONAL ENGINEER
 SEAL
 044825
 KRISTOPHER P. PAGAN-CRUZ

Designed By	JAVIER QUIROS	County	DARE COUNTY		
Entered By	TYLER MORRISON	Division	FERRY DIVISION		
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26		
Project Manager	ALLISON THORBURN				
Rev.	Date	Drawn	Description	Ch'kd	App'd

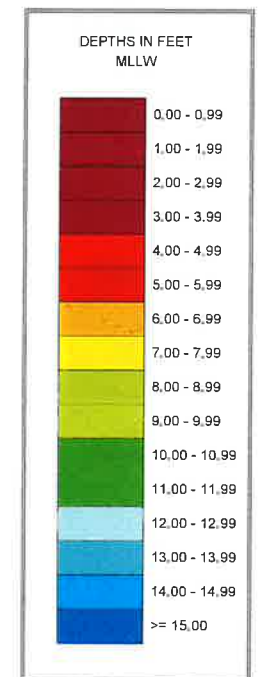
NCDOT HATTERAS FERRY DOCK REPLACEMENT

D-102
DREDGING PLAN
(BASE BID)

ANSI 0 04-1271



DREDGE BOUNDARY		
POINT NUMBER	NORTHING	EASTING
8	546941.49	2984378.99
9	546842.03	2984276.70
10	546792.11	2984320.84
11	546732.12	2984446.22
12	546980.10	2984720.67
13	546998.83	2984703.76
14	547081.65	2984602.80
15	547064.98	2984578.94
16	547030.70	2984591.64
17	546930.81	2984470.00



Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:18:41-05'00'

NOTES

- BATHYMETRY SHOWN IN DREDGING PLAN WAS PROVIDED BY NCDOT.
- COORDINATES ARE REFERENCED TO NAD83 STATE PLANE, NORTH CAROLINA, FT.
- VERTICAL DATUM USED IS NCINNER83 1101 MLLW.
- VOLUME CALCULATIONS DO NOT TAKE INTO ACCOUNT NORMAL TIDE OR WEATER EVENT LOSS/GAIN BETWEEN SURVEYS.

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GRAPHIC SCALE
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SCALE IN FEET

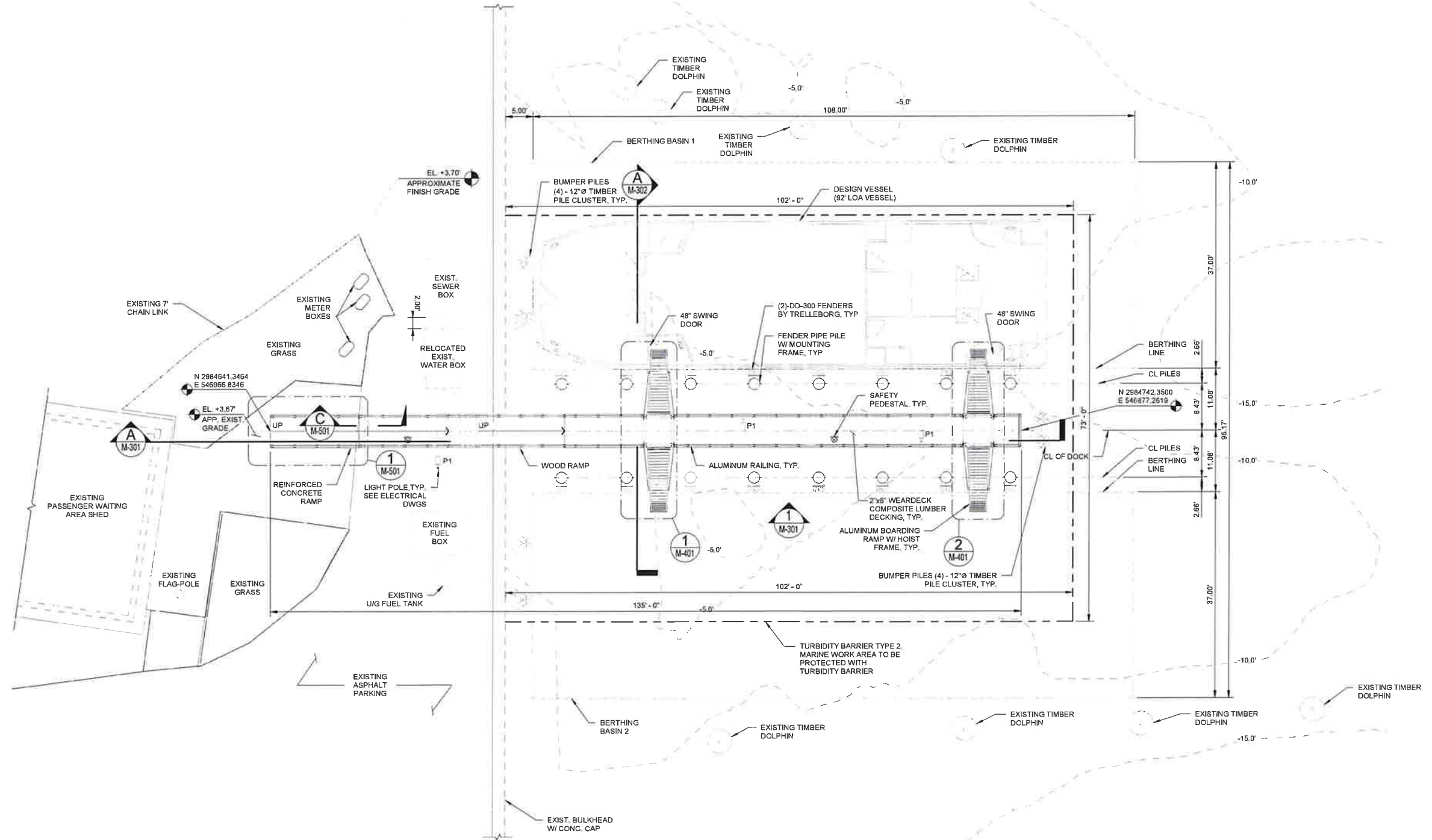
PROJECT ENGINEER
NORTH CAROLINA PROFESSIONAL SEAL
044825
KRISTOPHER P. PAGAN-CRUZ

Designed By	JAVIER QUIROS	County	DARE COUNTY
Entered By	TYLER MORRISON	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT HATTERAS FERRY DOCK REPLACEMENT

D-103
DREDGING PLAN
(ALTERNATE 1)

ANSI D (9/1/27)



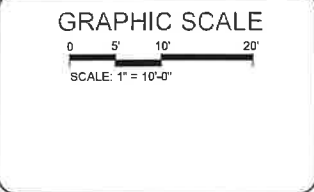
NOTES:

- EXISTING WATER BOX TO BE RELOCATED BY CONTRACTOR. LOCATION SHOWN IN PLAN IS INDICATIVE AND FOR REFERENCE ONLY. FINAL LOCATION TO BE COORDINATED WITH NCDOT BY THE CONTRACTOR. WATER BOX RELOCATION WORK SHALL INCLUDE RELOCATION OF EXISTING ITEMS AND CONSTRUCTION OF NEW ITEMS THAT ARE NEEDED TO REPLACE THOSE THAT CANNOT BE RELOCATED. WORK RELATED TO NEW ITEMS INCLUDES: EXCAVATION AND CONSTRUCTION OF NEW CONCRETE FOOTINGS, NEW WOOD POSTS TO REPLACE EXISTING POSTS, NEW WATER CONNECTION AND EXTENSION OF SUPPLY PIPE TO NEW LOCATION SLAB ON GRADE TO REPLACE REQUIRED DEMOLITION OF AREA, AND NEW STAIRS. RECONSTRUCTION OF NEW ITEMS SHALL BE IN KIND FOR FOOTING DETAILS SEE SHEET M-505.
- COMPOSITE LUMBER DECKING SHALL BE 2"x6" WEARDECK COMPOSITE LUMBER DECKING BY OWENS CORNING OR EQUAL.
- CONTOURS SHOWN ARE FOR EXISTING MUDLINE DEPTHS.

1 MARINE OVERALL SITE - PLAN
1" = 10'-0"

Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:19:11-05'00'

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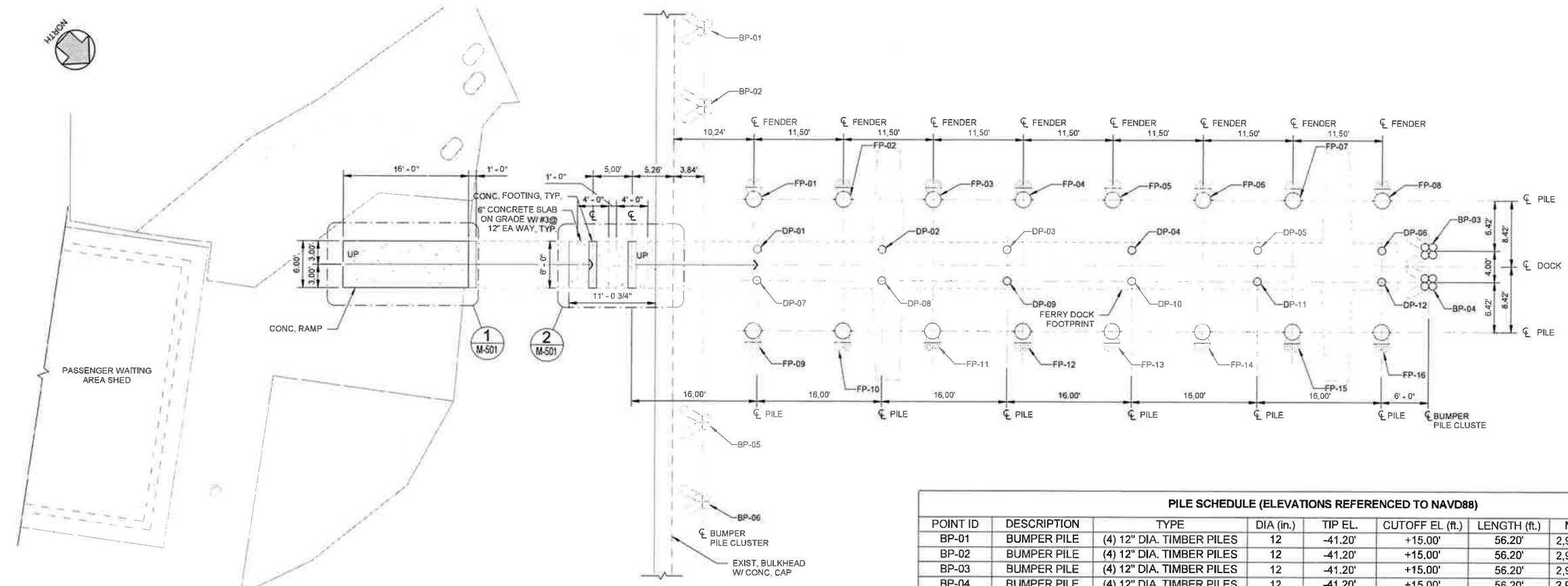


Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT HATTERAS FERRY DOCK REPLACEMENT

M-101 MARINE OVERALL SITE PLAN

ANSI D 04x247



1 FOUNDATION AND PILE LAYOUT - PLAN
1" = 8'-0"

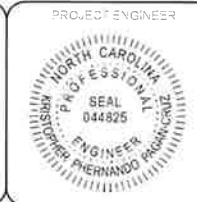
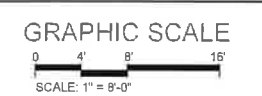
- LEGEND:**
- NEW CONCRETE RAMP OR SLAB ON GRADE
 - NEW CONCRETE FOOTING
 - NEW DOCK FOOTPRINT

- NOTES:**
- BUMPER PILE CLUSTER CONSISTS OF 2 PLUMB PILES AND 2 BATTER PILES. SEE DETAIL IN SHEET M-504.
 - LENGTH OF PILES FOR BUMPER PILES IS 56.20' FOR PLUMB PILES AND 56.39' FOR BATTER PILES.
 - FOR SLAB ON GRADE DETAILS, SEE SHEET M-505.

PILE SCHEDULE (ELEVATIONS REFERENCED TO NAVD88)								
POINT ID	DESCRIPTION	TYPE	DIA (in.)	TIP EL.	CUTOFF EL. (ft.)	LENGTH (ft.)	NORTHING	EASTING
BP-01	BUMPER PILE	(4) 12" DIA. TIMBER PILES	12	-41.20'	+15.00'	56.20'	2,984,655.6850	546,913.5293
BP-02	BUMPER PILE	(4) 12" DIA. TIMBER PILES	12	-41.20'	+15.00'	56.20'	2,984,662.4411	546,921.1476
BP-03	BUMPER PILE	(4) 12" DIA. TIMBER PILES	12	-41.20'	+15.00'	56.20'	2,984,744.0157	546,873.1115
BP-04	BUMPER PILE	(4) 12" DIA. TIMBER PILES	12	-41.20'	+15.00'	56.20'	2,984,746.6720	546,876.1068
BP-05	BUMPER PILE	(4) 12" DIA. TIMBER PILES	12	-41.20'	+15.00'	56.20'	2,984,689.2273	546,951.3522
BP-06	BUMPER PILE	(4) 12" DIA. TIMBER PILES	12	-41.20'	+15.00'	56.20'	2,984,695.9834	546,958.9705
DP-01	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,679.6726	546,930.1727
DP-02	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,691.6434	546,919.5567
DP-03	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,703.6142	546,908.9406
DP-04	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,715.5851	546,898.3245
DP-05	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,727.5558	546,887.7086
DP-06	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,739.5266	546,877.0925
DP-07	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,682.3267	546,933.1654
DP-08	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,694.2999	546,922.5471
DP-09	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,706.2682	546,911.9333
DP-10	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,718.2390	546,901.3173
DP-11	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,730.2098	546,890.7013
DP-12	FIXED DOCK PILE	TIMBER PILES	12	-41.20'	+6.02'	47.22'	2,984,742.1806	546,880.0852
FP-01	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,675.0342	546,925.6959
FP-02	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,683.6385	546,918.0653
FP-03	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,692.2422	546,910.4353
FP-04	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,700.8462	546,902.8051
FP-05	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,709.4505	546,895.1745
FP-06	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,718.0542	546,887.5445
FP-07	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,726.6582	546,879.9143
FP-08	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,735.2626	546,872.2837
FP-09	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,686.2169	546,938.3057
FP-10	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,694.8213	546,930.6751
FP-11	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,703.4249	546,923.0452
FP-12	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,712.0290	546,915.4149
FP-13	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,720.6333	546,907.7843
FP-14	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,729.2370	546,900.1543
FP-15	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,737.8410	546,892.5241
FP-16	FENDER PILE	STEEL PIPE PILE	24	-62.0'	+15.00'	77.00'	2,984,746.4453	546,884.8935

Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:19:23-05'00'

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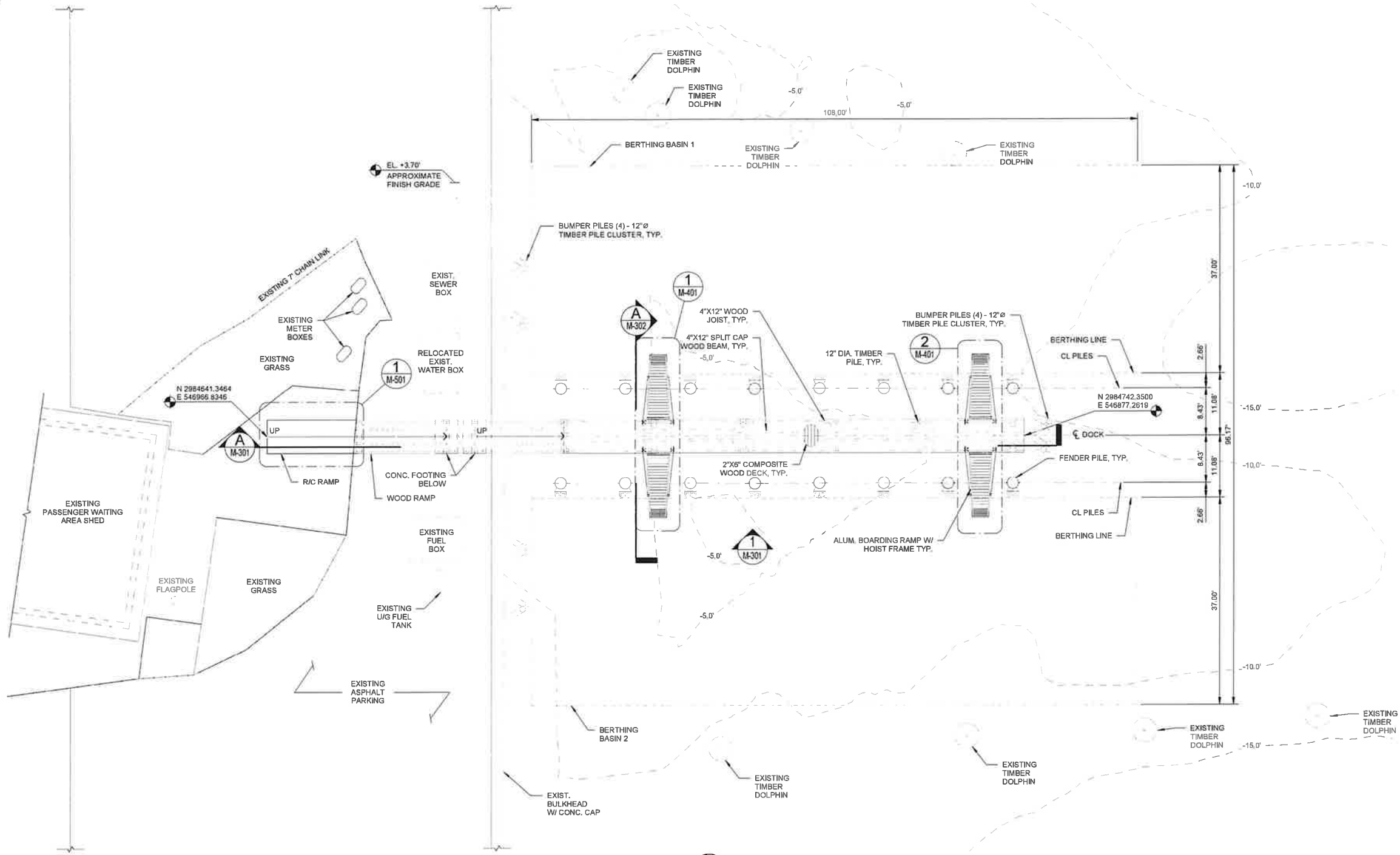


Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description
			Chk'd
			App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

M-102 FOUNDATION AND PILE LAYOUT PLAN

ANSI D 84Y227



NOTES:
 1. CONTOURS SHOWN ARE FOR EXISTING MUDLINE DEPTHS.

1 PIER FRAMING PLAN
 1" = 10'-0"

Digitally signed by Kristopher P Pagan-Cruz
 Date: 2026.02.17 11:19:32-05'00'

ANSI D 60927

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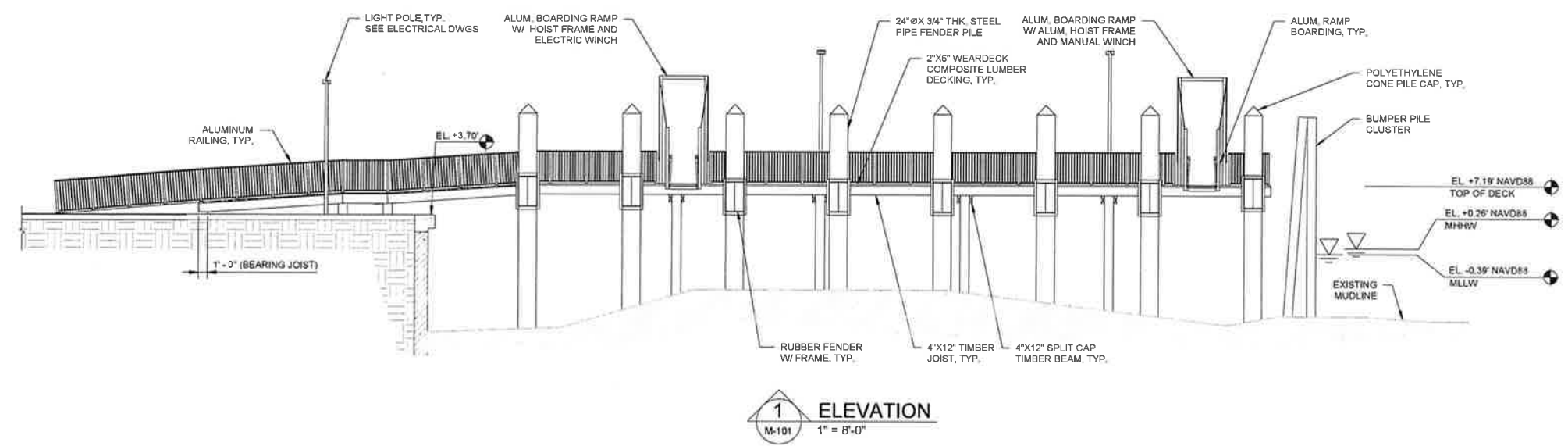
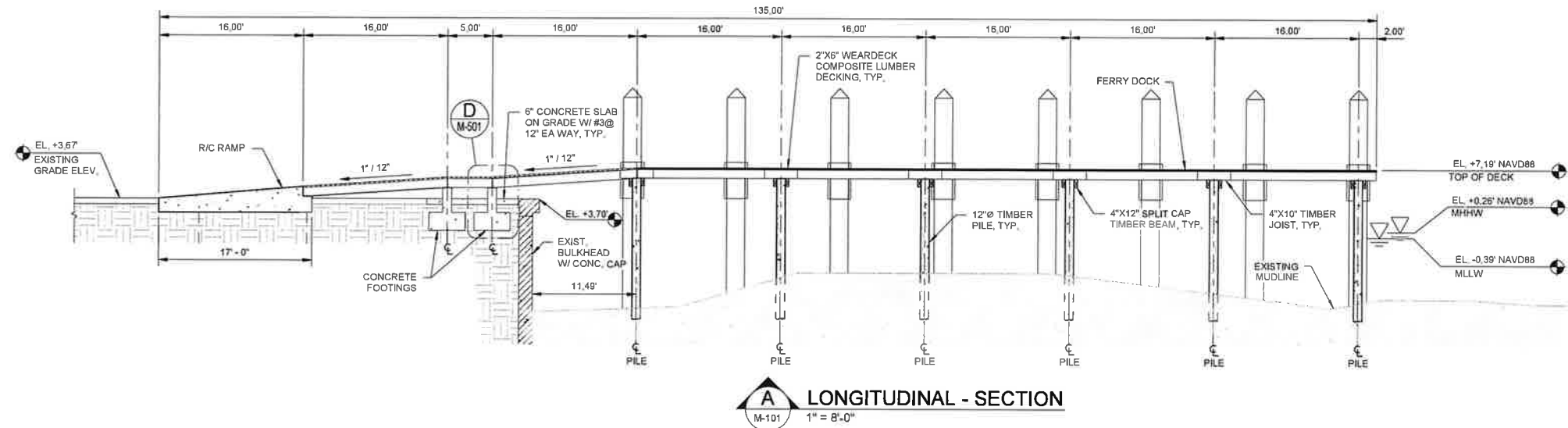
GRAPHIC SCALE
 0 5' 10' 20'
 SCALE: 1" = 10'-0"

PROJECT ENGINEER
 SEAL
 044825
 KRISTOPHER P. PAGAN-CRUZ

Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT HATTERAS FERRY DOCK REPLACEMENT

M-103 PIER FRAMING PLAN

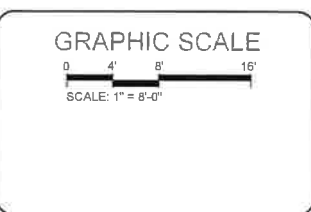


LEGEND

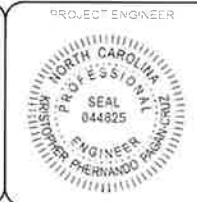
INDICATES EXISTING CONCRETE

INDICATES NEW CONCRETE

M M
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 930 Main Campus Drive,
 Suite 200
 Raleigh, NC 27605
 License No. F-0669
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 F +1 (919) 552 2254
 www.mottmacamericas.com



Digitally signed by Kristopher P Pagan-Cruz
 Date: 2026.02.17 11:19:40-05'00'



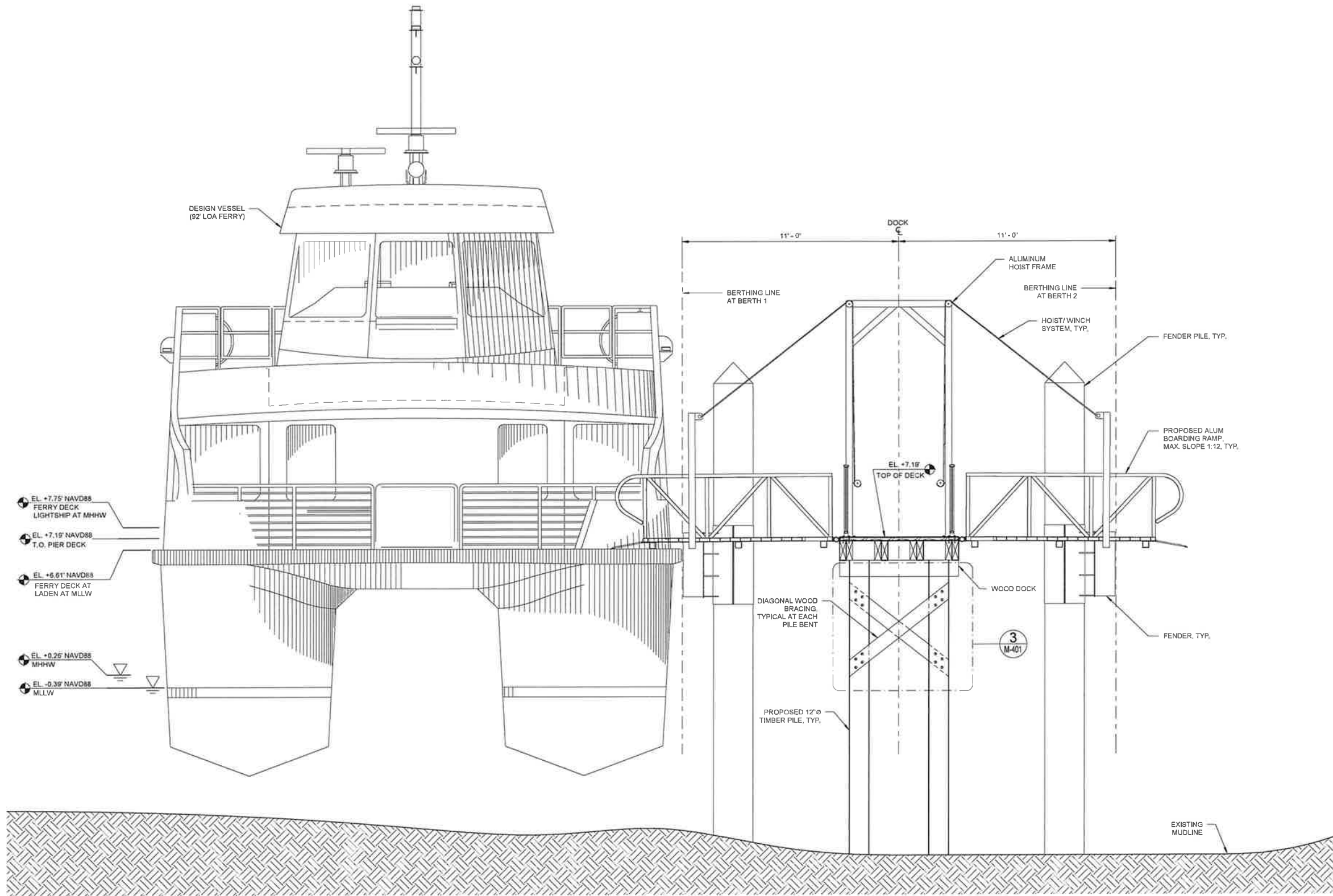
Rev.	Date	Drawn	Description	Chk'd	App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

M-301 LONGITUDINAL SECTION & ELEVATION

Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		

ANSI D (34"x22")



A TRANSVERSE - SECTION
 M-101 1" = 2'-8"

Digitally signed by Kristopher P Pagan-Cruz
 Date: 2026.02.17 11:19:48-05'00'

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GRAPHIC SCALE
 0 1' 3' 5'
 SCALE 1" = 2'-8"

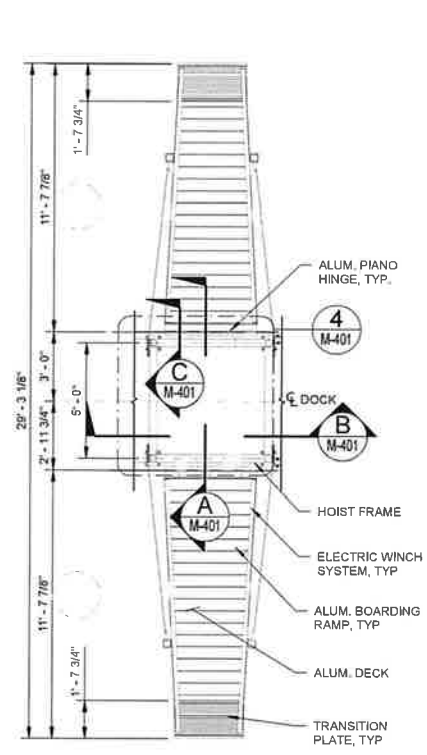
PROJECT ENGINEER
 KRISTOPHER PAGAN-CRUZ
 SEAL
 044825
 PROFESSIONAL ENGINEER
 STATE OF NORTH CAROLINA

Designed By	JAMIER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

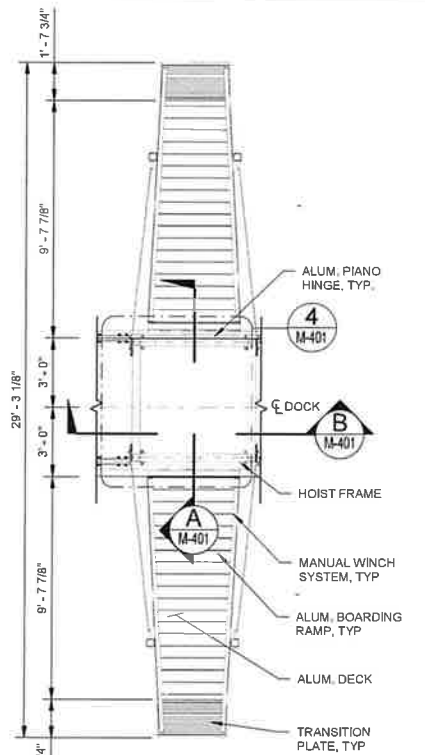
NCDOT HATTERAS FERRY DOCK REPLACEMENT

M-302 TRANSVERSE SECTION

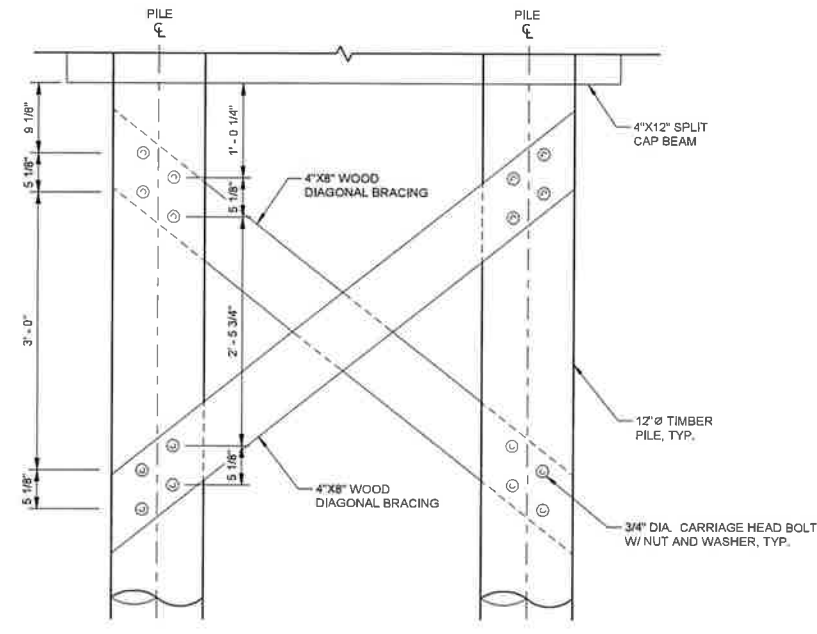
ANSI D 67-27



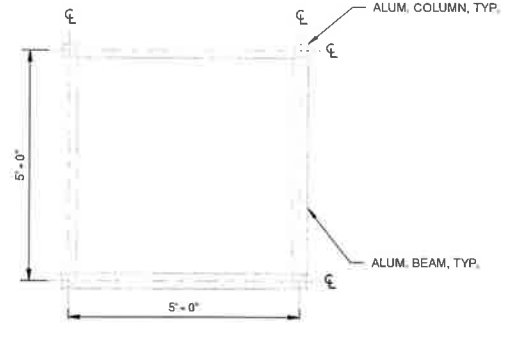
1 ENLARGED PLAN RAMP DETAIL
M-101 1" = 4'-0"



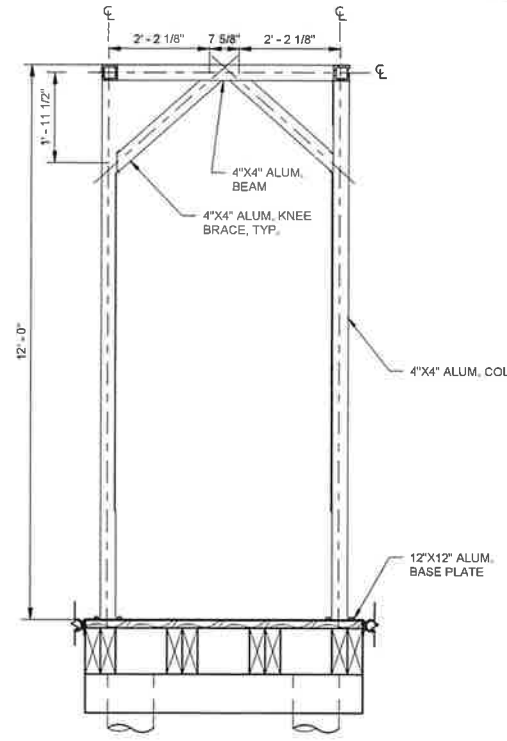
2 ENLARGED PLAN RAMP DETAIL
M-101 1" = 4'-0"



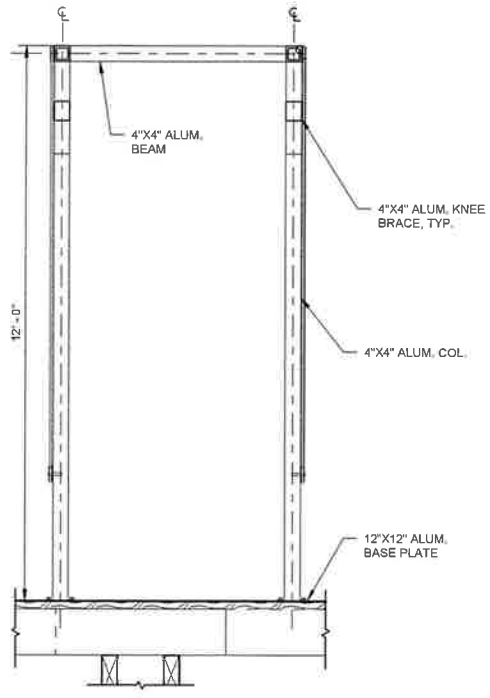
3 LATERAL BRACING DETAIL
M-302 1" = 1'-0"



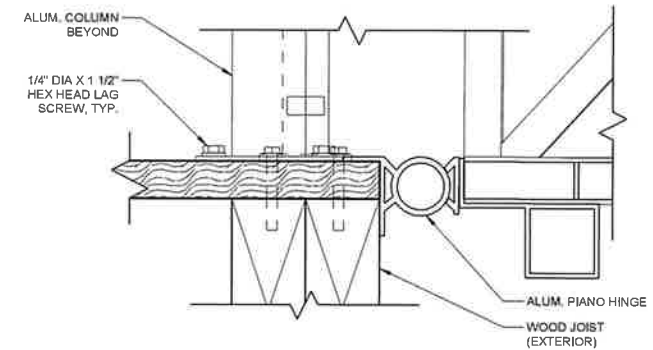
4 ENLARGED HOIST FRAME PLAN
M-401 1" = 2'-0"



A ENLARGED HOIST FRAME SECTION
M-401 1" = 2'-0"



B ENLARGED HOIST FRAME SECTION
M-401 1" = 2'-0"



C SECTION
M-401 1" = 0'-5"

Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:20:36-05'00'

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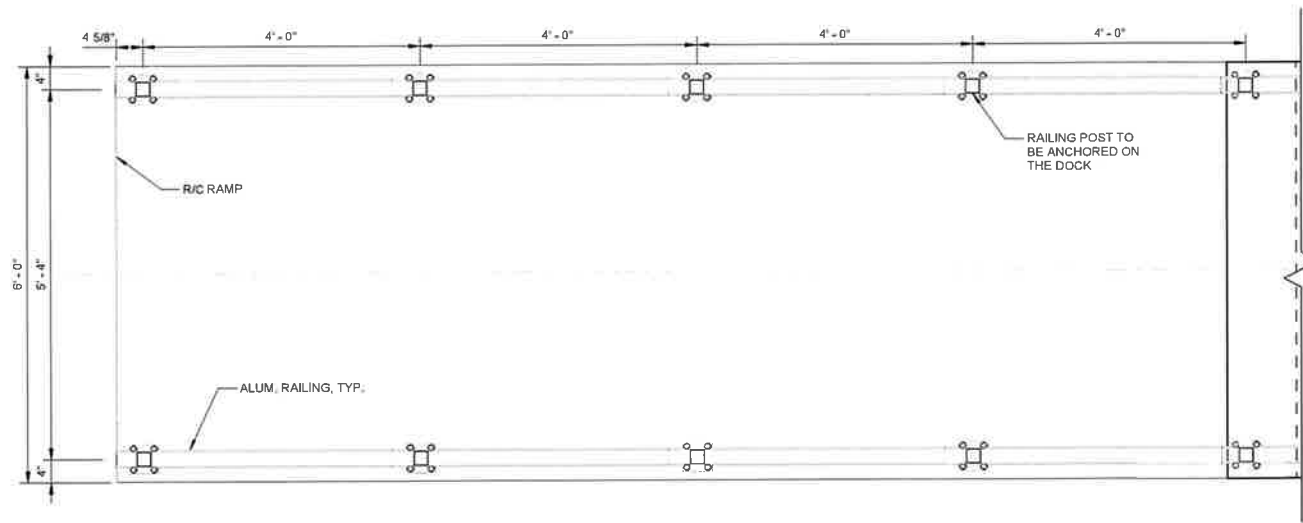
GRAPHIC SCALE
0 1' 1' 2'
SCALE: 1" = 1'-0"
0 1' 2' 4'
SCALE: 1" = 2'-0"
0 2' 4' 8'
SCALE: 1" = 4'-0"

PROJECT ENGINEER
NORTH CAROLINA
PROFESSIONAL SEAL
044825
KRISTOPHER P. PAGAN-CRUZ

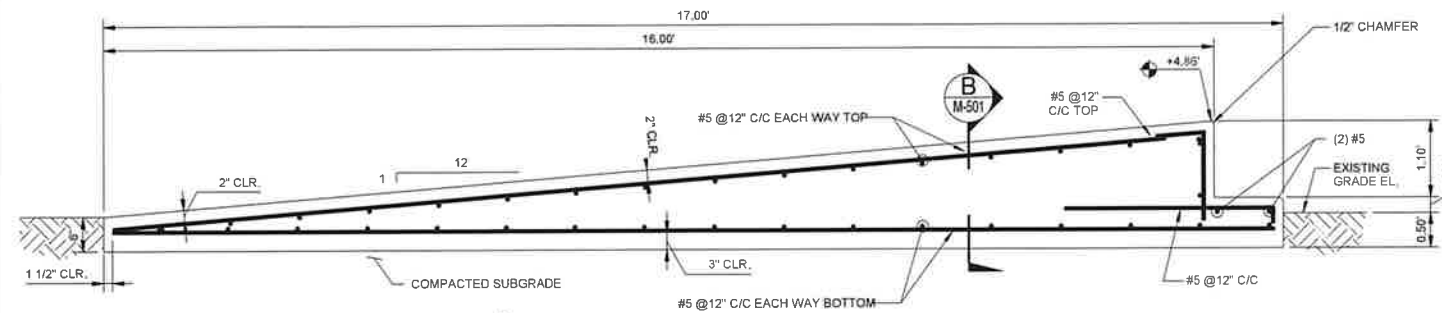
Designed By	JAVIER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description
			Ch'kd
			App'd

SHEET 12 OF 26
NCDOT HATTERAS FERRY DOCK REPLACEMENT
M-401 HOIST FRAME DETAILS

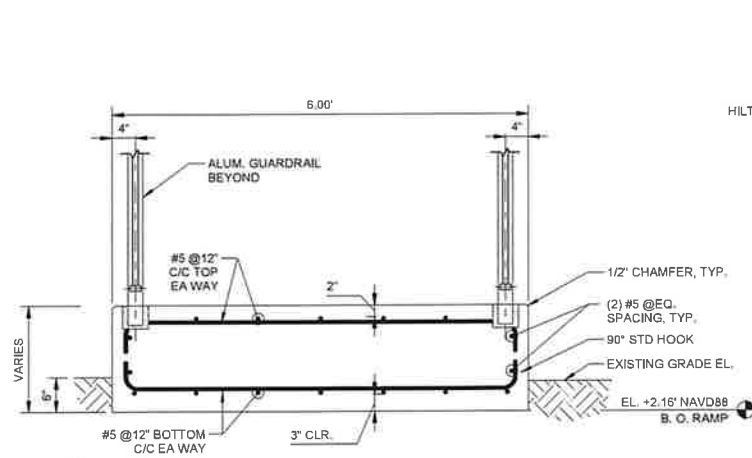
ANSI D 04'x27'



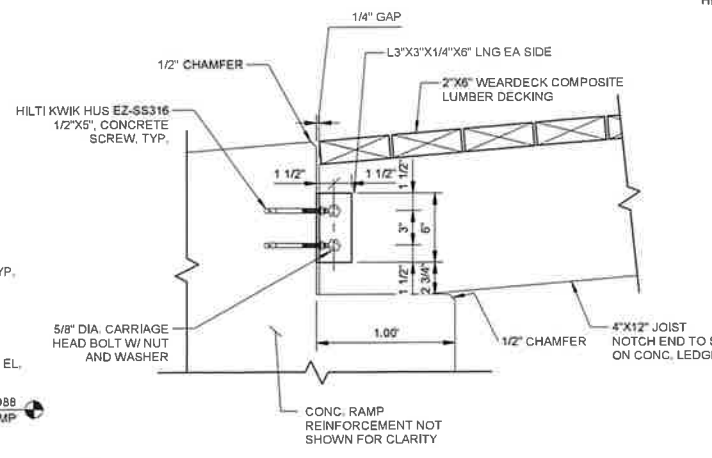
1 CONC. RAMP ENLARGED - PLAN
M-101 1" = 1'-4"



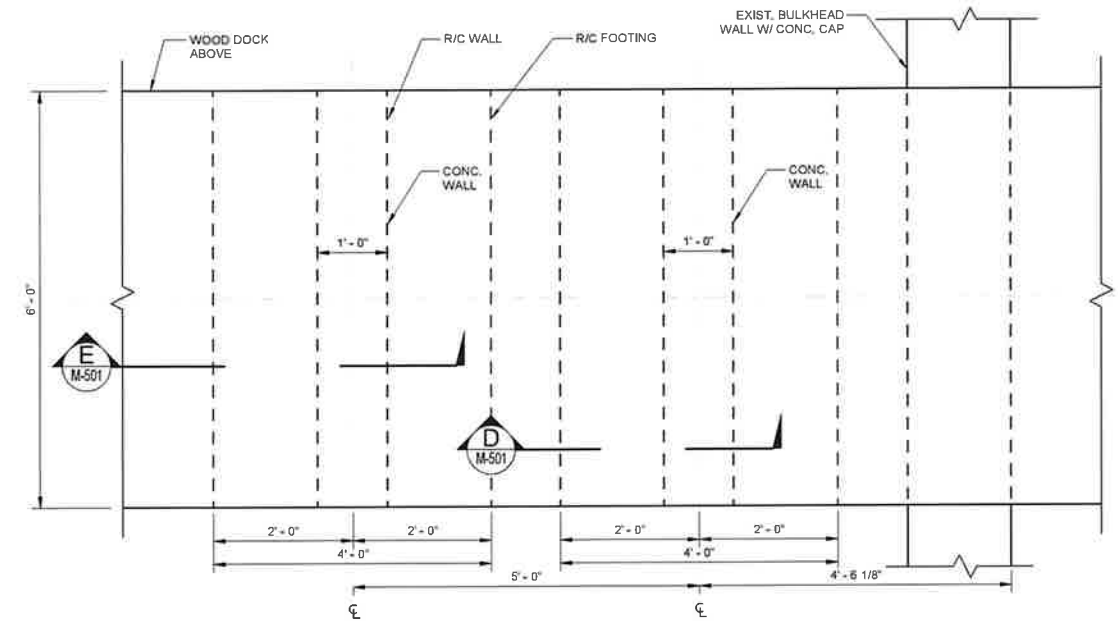
A CONC. RAMP LONGITUDINAL - SECTION
1" = 1'-4"



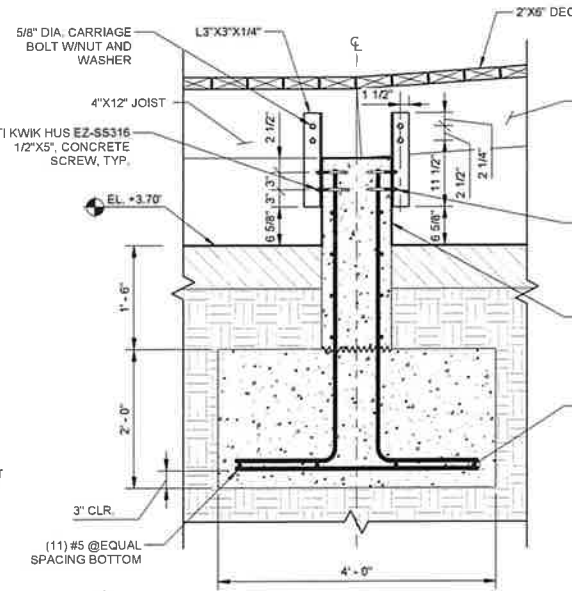
B CONC. RAMP TRANSVERSE - SECTION
M-501 1" = 1'-4"



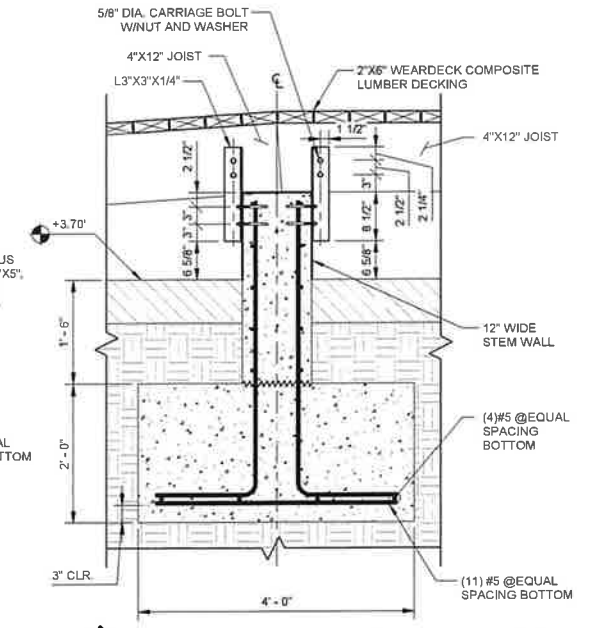
C CONC. RAMP TO JOIST CONNECTION DETAIL
M-101 1" = 0'-8"



2 ENLARGED FOUNDATION AND PILE LAYOUT - PLAN
M-102 1" = 1'-4"



D CONCRETE FOOTING 2 - SECTION
M-301 1" = 1'-4"



E CONCRETE FOOTING - SECTION
M-501 1" = 1'-4"

Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:20:53-05'00'

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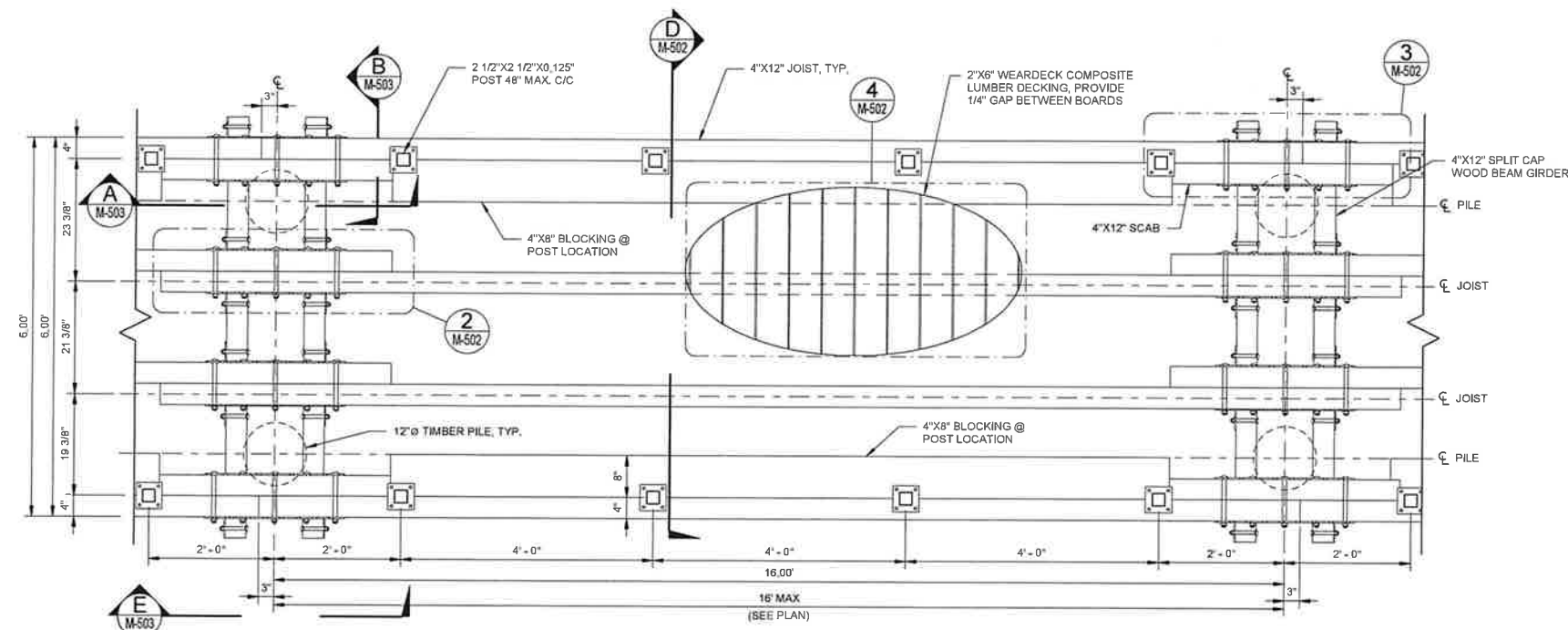
GRAPHIC SCALE
0 1' 1'
SCALE: 1" = 0'-8"
0 1' 1' 3'
SCALE: 1" = 1'-4"
0 1' 2' 4'
SCALE: 1" = 2'-0"

PROJECT ENGINEER
NORTH CAROLINA
PROFESSIONAL
SEAL
044825
KRISTOPHER P. PAGAN-CRUZ

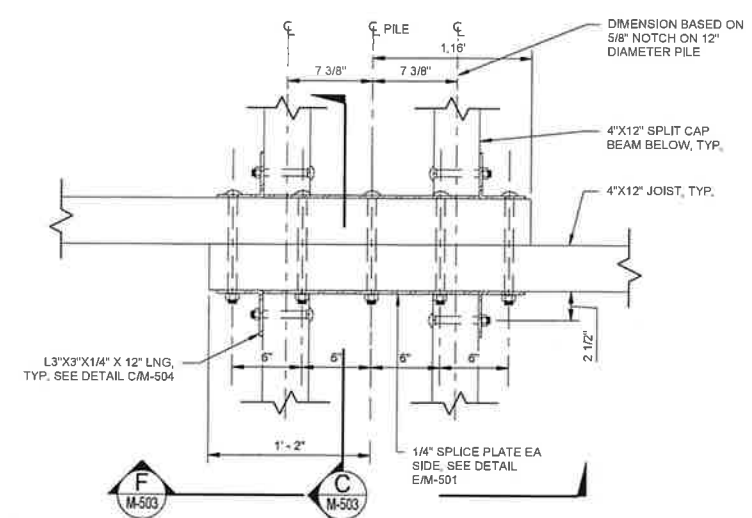
Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT HATTERAS FERRY DOCK REPLACEMENT

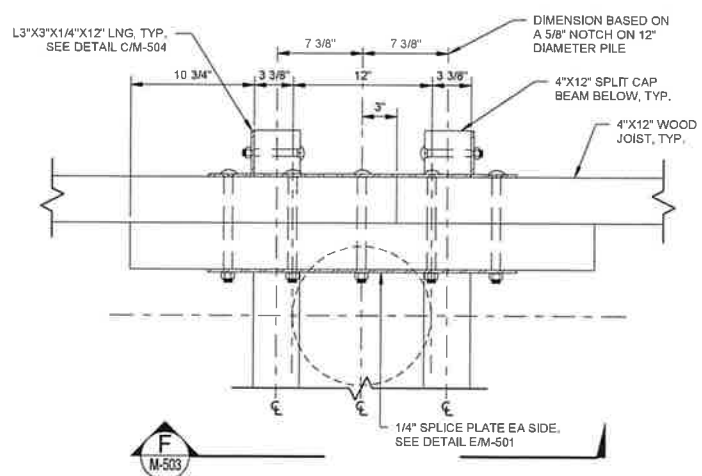
M-501 MISCELLANEOUS DETAILS (1 OF 5)



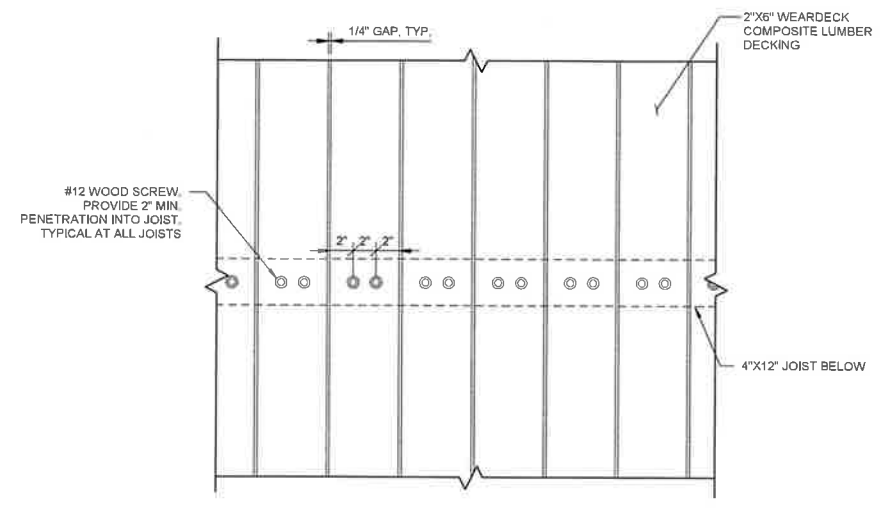
1 TYPICAL PIER PARTIAL FRAMING - PLAN
1" = 1'-4"



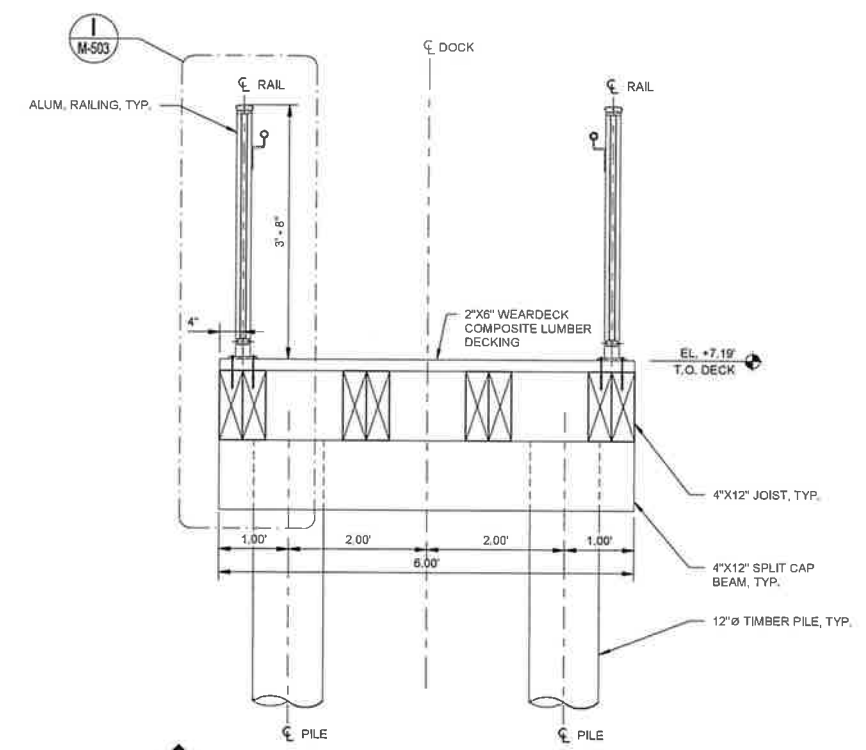
2 JOIST LAP SPLICE - DETAIL
1" = 0'-8"



3 JOIST SCAB SPLICE - DETAIL
1" = 0'-8"



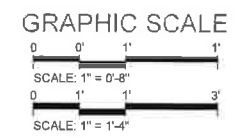
4 TYPICAL DECKING ANCHOR PATTERN - DETAIL
1" = 0'-8"



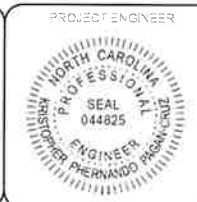
D TYPICAL PIER SECTION AT PILE BENT
1" = 1'-4"

ANSI D 04'x27'

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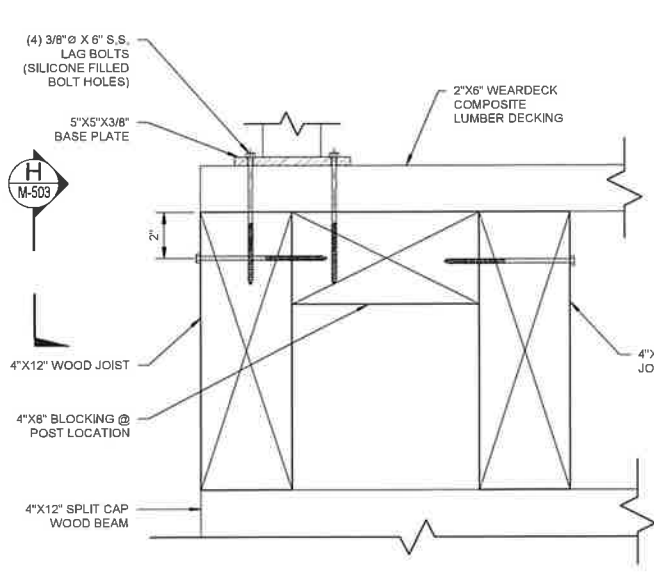
Digitally signed by Kristopher P Pagan-Cruz
Date: 2026.02.17 11:21:06-05'00'



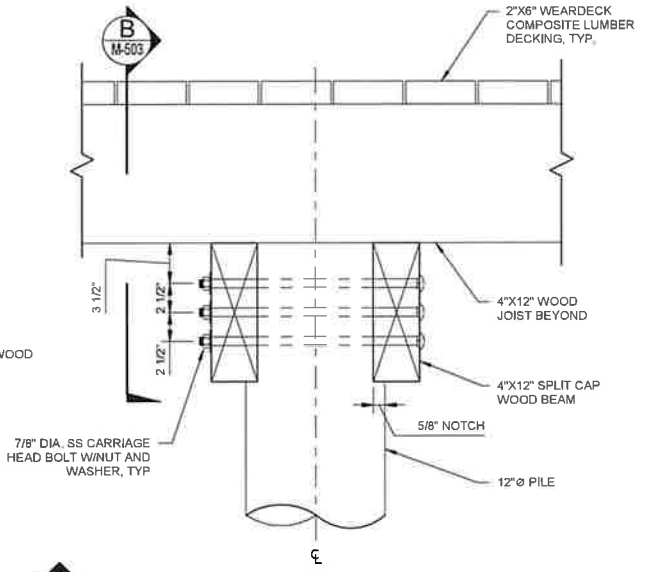
Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT HATTERAS FERRY DOCK REPLACEMENT

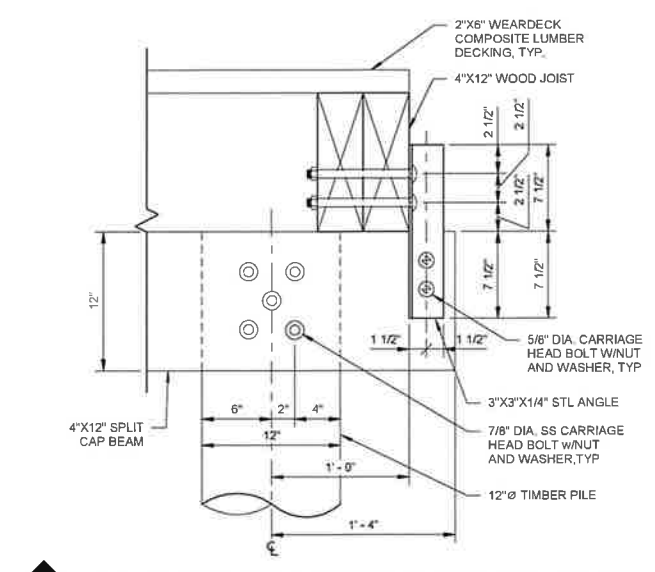
M-502 MISCELLANEOUS DETAILS (2 OF 5)



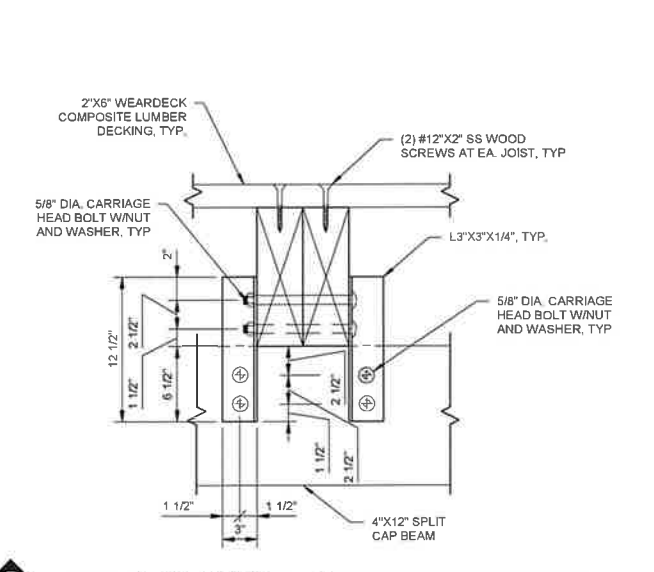
1 TYPICAL DETAIL
M-503 1" = 0'-4"



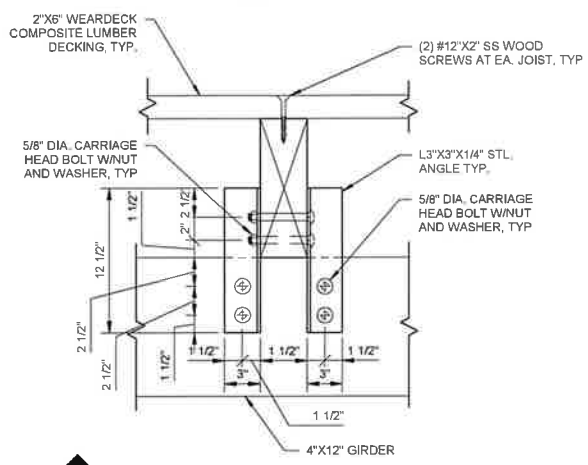
A SPLIT CAP BEAM CONNECTION - SECTION
M-502 1" = 0'-8"



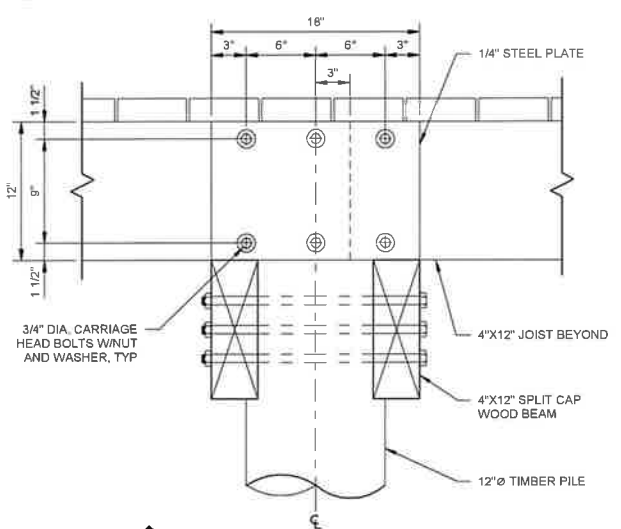
B SPLIT CAP BEAM CONNECTION SIDE VIEW
M-502 1" = 0'-8"



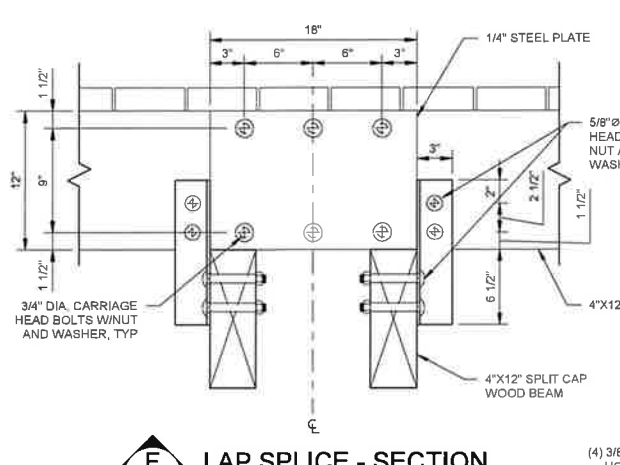
C JOIST LAP SPLICE TO BEAM CONNECTION
M-502 1" = 0'-8"



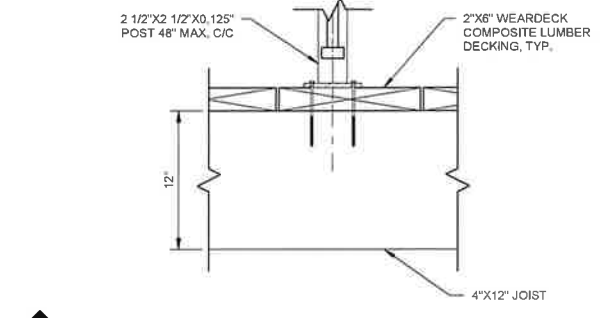
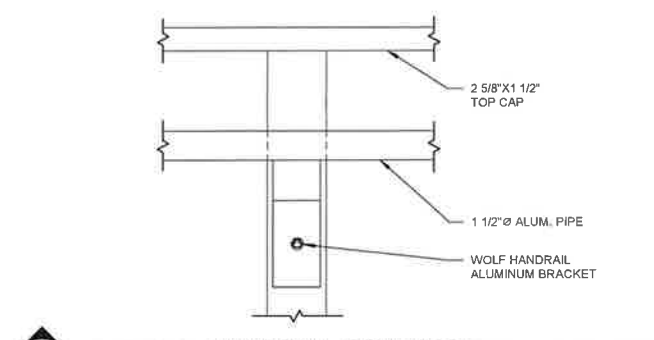
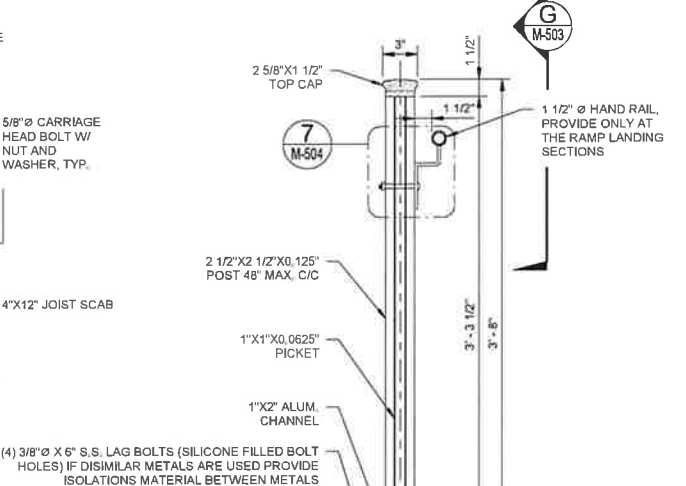
D JOIST TO BEAM CONNECTION
1" = 0'-8"



E SCAB SPLICE - SECTION
M-502 1" = 0'-8"



F LAP SPLICE - SECTION
M-502 1" = 0'-8"



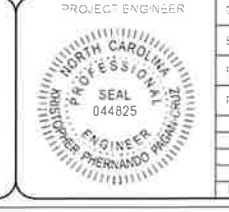
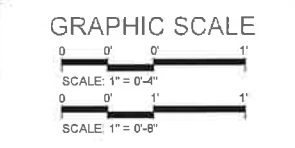
H GUARD RAILING POST CONNECTION - SECTION
M-503 1" = 0'-8"

I TYPICAL RAILING - SECTION
M-502 1" = 0'-8"

G TYPICAL HANDRAIL CONNECTION - SECTION
M-503 1" = 0'-4"

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Date: 2026.02.17 11:29:50-05'00"

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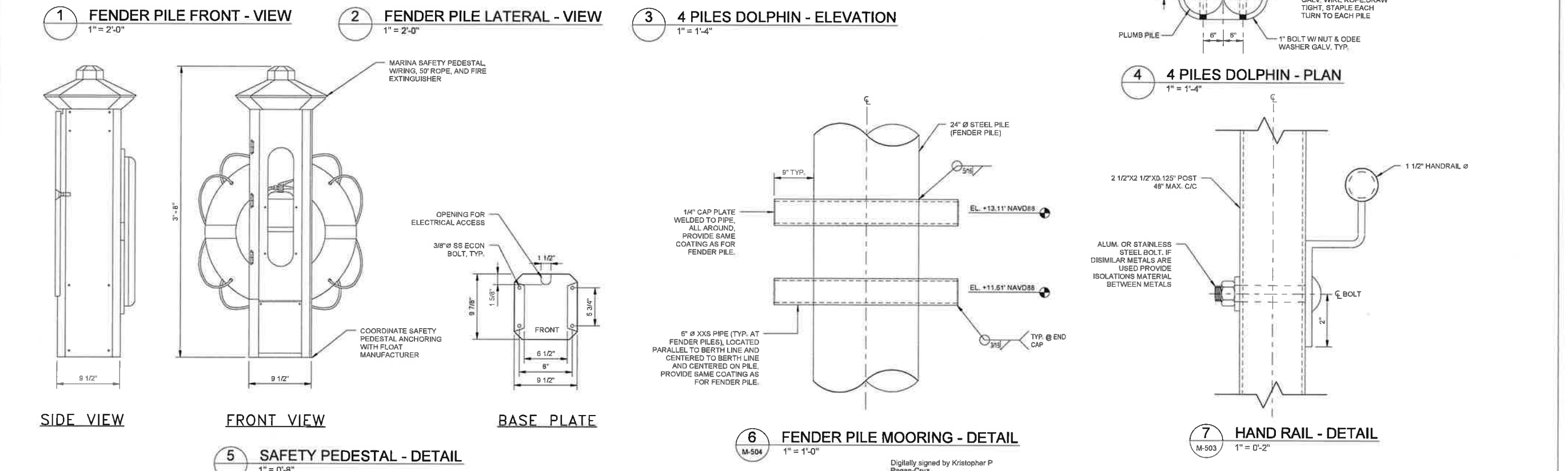
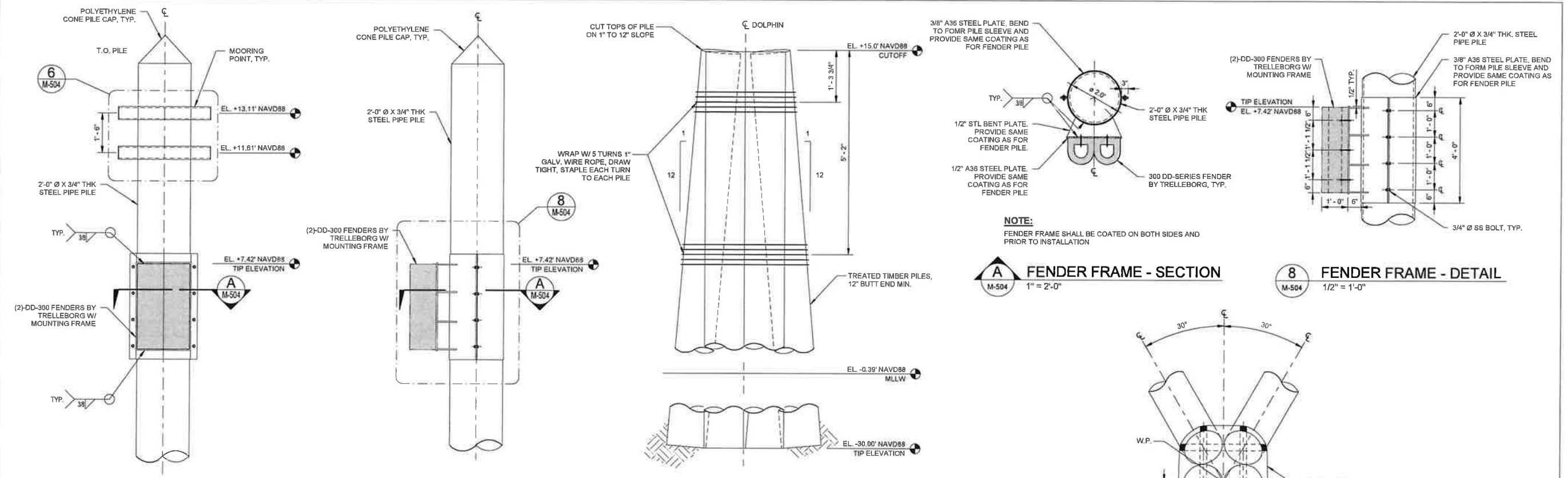


Project Engineer	Designer By	JAMER QUIROS	County	DARE COUNTY
	Entered By	VICTOR PADILLA	Division	FERRY DIVISION
	Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
	Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description	CHK'd
				App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

M-503 MISCELLANEOUS DETAILS (3 OF 5)

ANSI D (04/22)



ANSI D (9/1/27)

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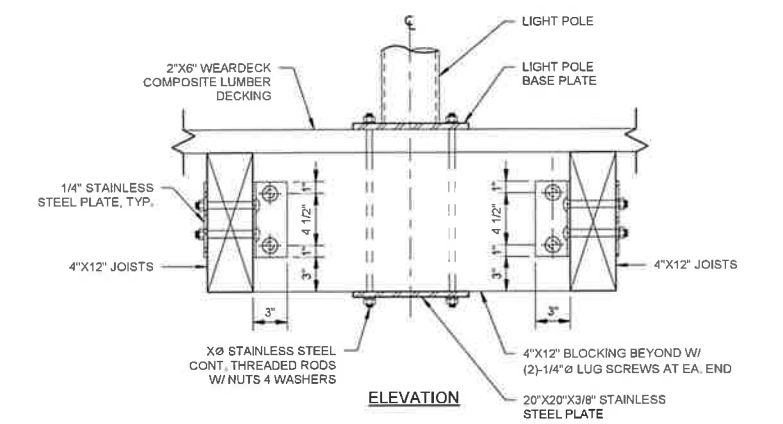
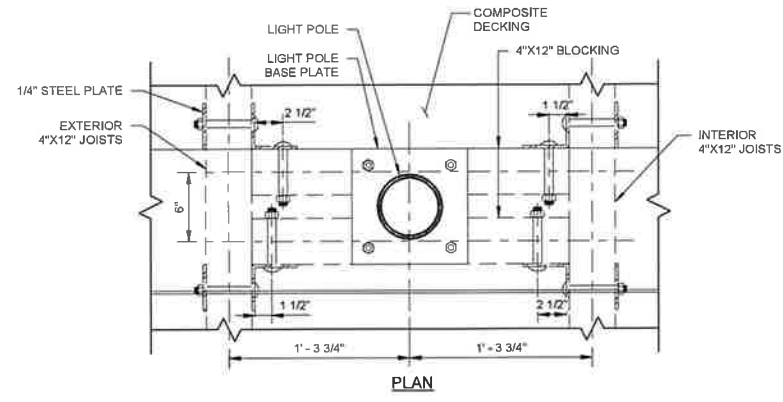
GRAPHIC SCALE
0 0' 1' 1'
SCALE: 1" = 0'-8"
0 1' 1' 2'
SCALE: 1" = 1'-0"
0 1' 1' 3'
SCALE: 1" = 1'-4"

PROJECT ENGINEER
NORTH CAROLINA
PROFESSIONAL
SEAL
044825
KRISTOPHER P. PAGAN-CRUZ

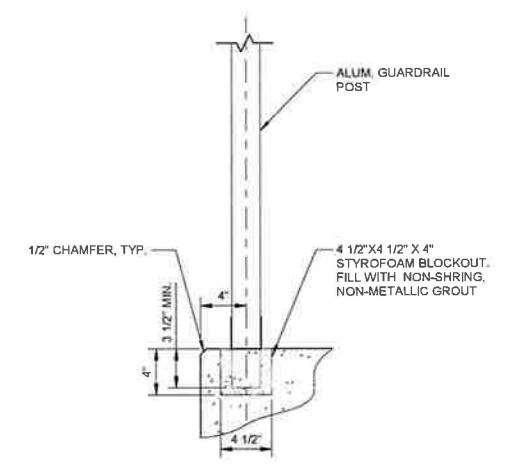
Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT HATTERAS FERRY DOCK REPLACEMENT

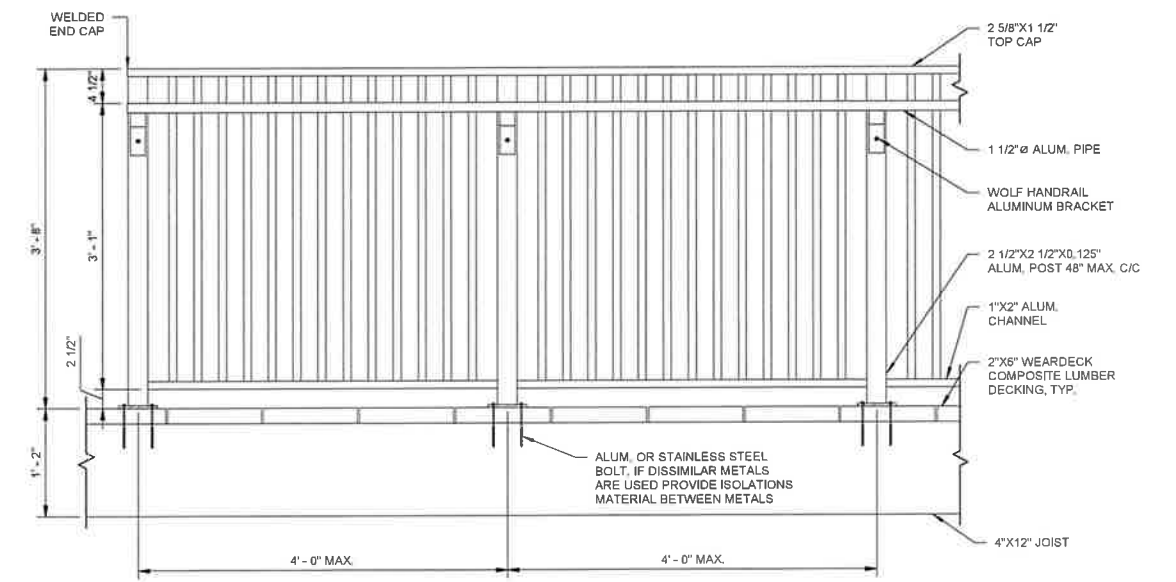
M-504 MISCELLANEOUS DETAILS (4 OF 5)



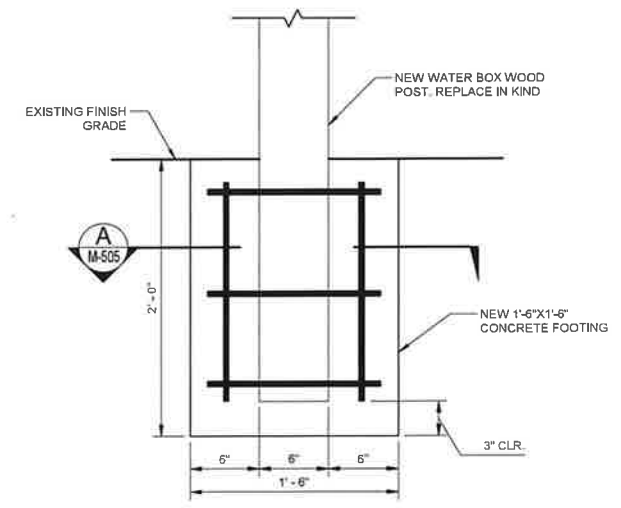
1 LIGHT POLE - DETAIL
1 1/2" = 1'-0"



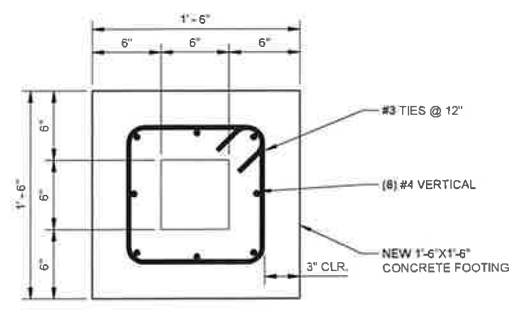
2 GUARDRAIL POST INSTALLATION IN CONCRETE
1 1/2" = 1'-0"



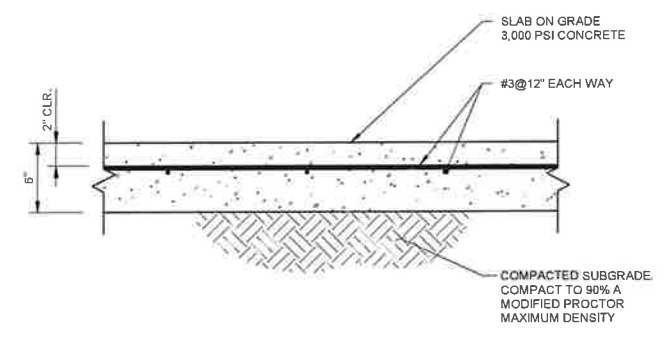
3 PICKET RAIL - ELEVATION
1" = 1'-0"



4 WATER BOX FOOTING - DETAIL
1 1/2" = 1'-0"



A SECTION A
1 1/2" = 1'-0"

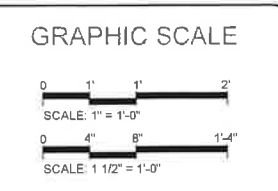


5 SLAB ON GRADE TYPICAL - DETAIL
1 1/2" = 1'-0"

NOTES:
1. CONTRACTOR TO COORDINATE FINAL LOCATION OF 4\"/>

ANSI D 647-27

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Date: 2025.02.17 11:30:21-0500

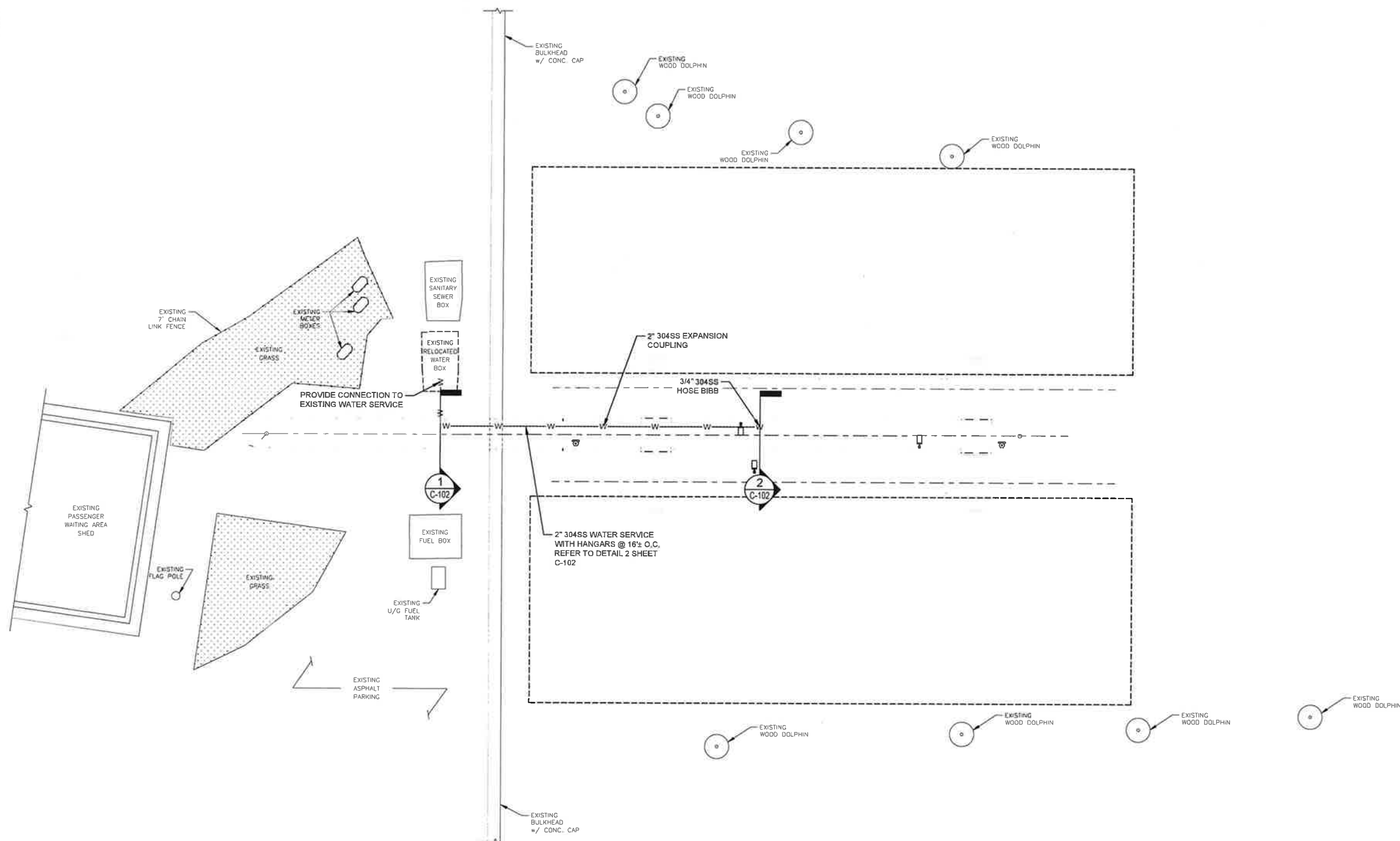
PROJECT ENGINEER
SEAL
044825
K. P. PAGAN-CRUZ
REGISTERED PROFESSIONAL ENGINEER
STATE OF NORTH CAROLINA

Designed By	JAMER QUIROS	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

SHEET 17 OF 26

NCDOT HATTERAS FERRY DOCK REPLACEMENT

M-505 MISCELLANEOUS DETAILS (5 OF 5)

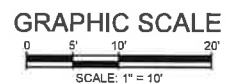


NOTES:

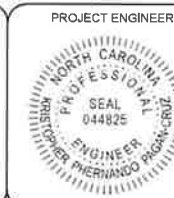
1. THE EXISTING WATER BOX SHALL BE RELOCATED BY CONTRACTOR. LOCATION SHOWN IN PLAN IS INDICATIVE AND FOR REFERENCE ONLY. FINAL LOCATION TO BE COORDINATED BY THE CONTRACTOR WITH NCDOT. SEE SHEETS D-101 AND M-101 FOR ADDITIONAL INFORMATION.
2. BELOW GRADE PIPING SHALL BE SOLVENT WELD 2" SCH. 80 PVC MEETING NSF/ANSI STANDARD 61.
3. ABOVE GRADE WATER PIPING AND FITTINGS SHALL BE SCH. 80 304 STAINLESS STEEL MEETING NSF/ANSI STANDARD 61.
4. PLANS DO NOT PURPORT THAT ALL REQUIRED FITTINGS OR PIPING CONFIGURATIONS ARE SHOWN. CONTRACTOR SHALL INVESTIGATE EXISTING WATER SYSTEM AND PROVIDE ALL PIPING AND/OR FITTINGS NECESSARY TO MAKE LINE AND GRADE ADJUSTMENTS TO CONNECT TO THE EXISTING WATER SYSTEM AND TO PROVIDE A COMPLETE AND FUNCTIONAL WATER SERVICE/HOSE BIBB.

1 WATER SERVICE - PLAN
1" = 10'

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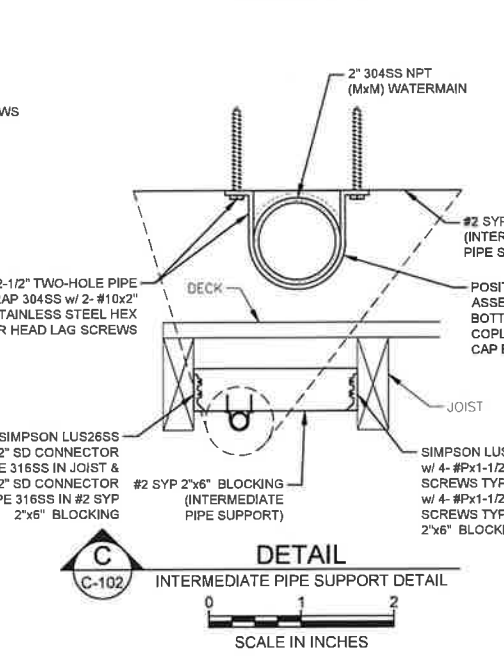
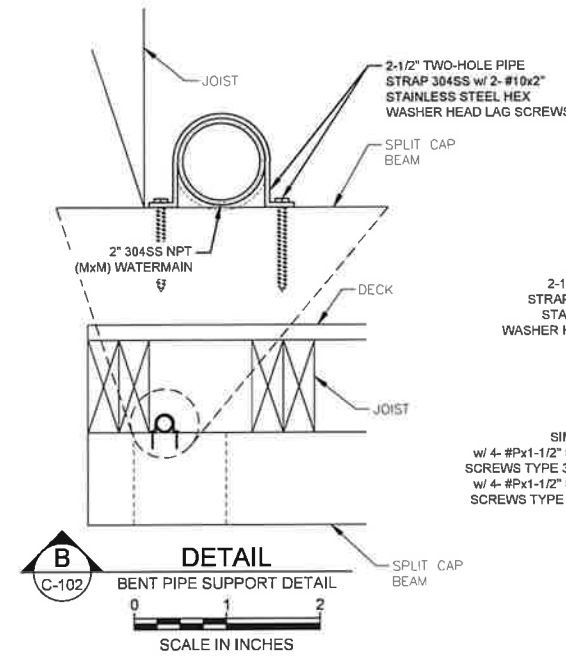
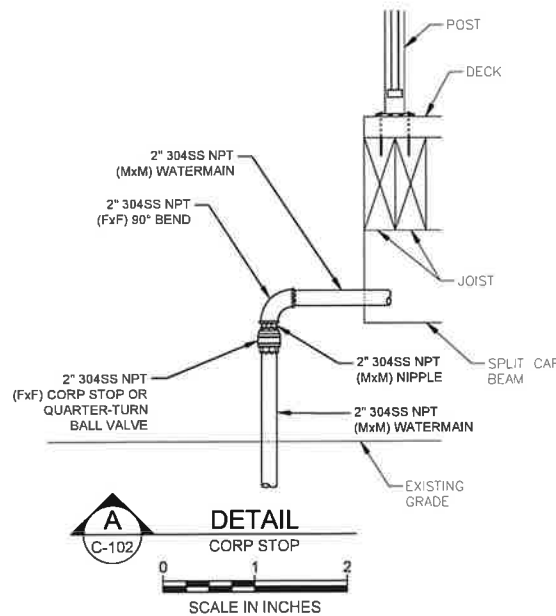
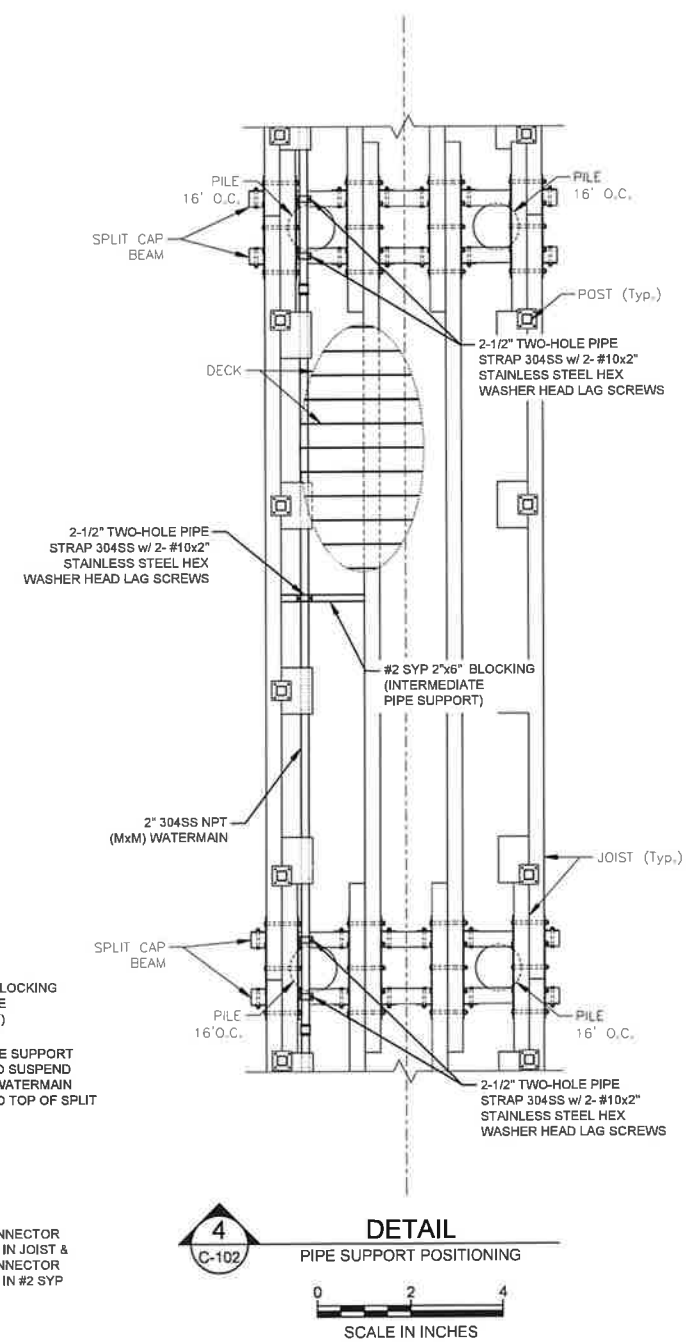
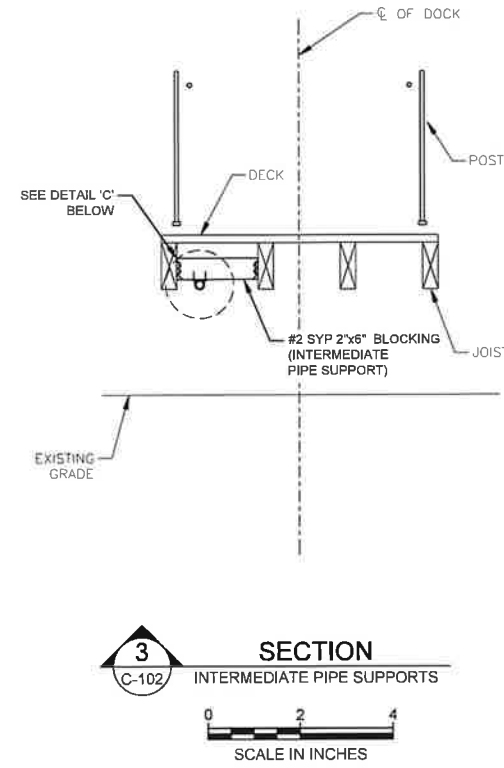
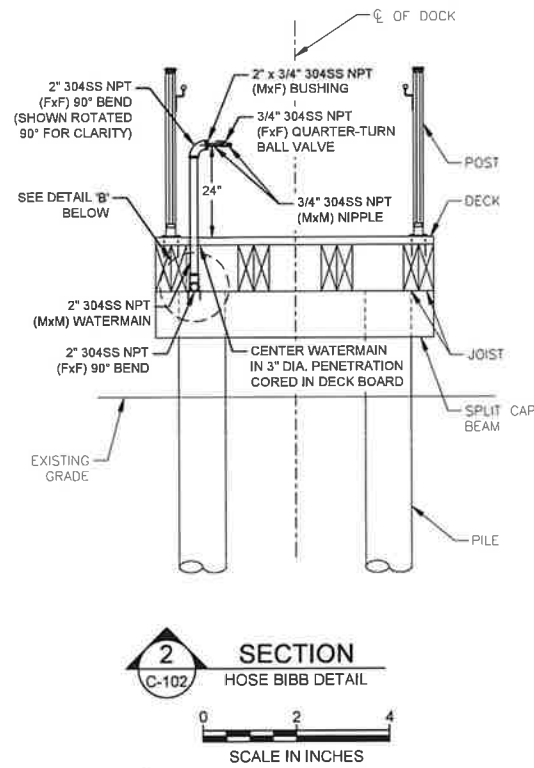
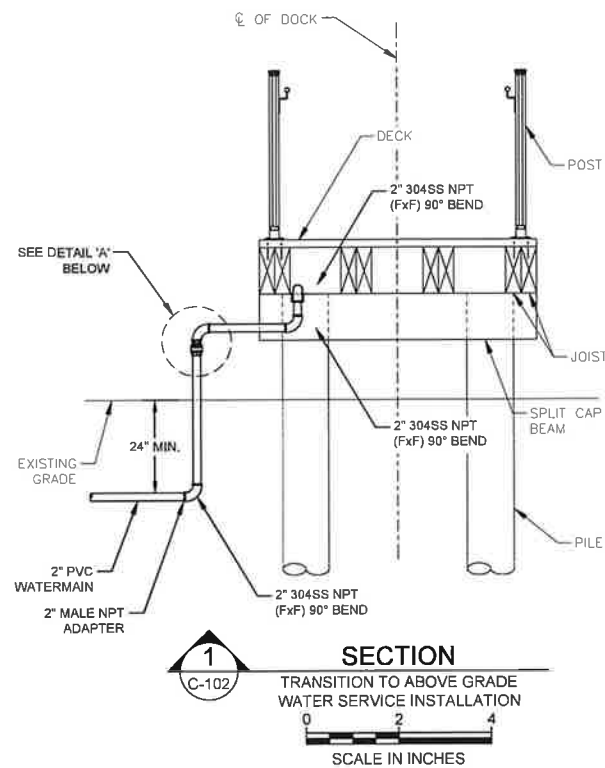
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PROJECT ENGINEER	Designed By	STEVEN WHITE	County	DARE COUNTY
	Entered By	GORDON EDWARDS	Division	FERRY DIVISION
	Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
	Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description	Ch'cd
				App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

C-101 WATER SERVICE PLAN



NOTES:

1. THE EXISTING WATER BOX SHALL BE RELOCATED BY CONTRACTOR. LOCATION SHOWN IN PLAN IS INDICATIVE AND FOR REFERENCE ONLY. FINAL LOCATION TO BE COORDINATED BY THE CONTRACTOR WITH NCDOT. SEE SHEETS D-101 AND M-101 FOR ADDITIONAL INFORMATION.
2. BELOW GRADE PIPING SHALL BE SOLVENT WELD 2" SCH. 80 PVC MEETING NSF/ANSI STANDARD 61.
3. ABOVE GRADE WATER PIPING AND FITTINGS SHALL BE SCH. 80 304 STAINLESS STEEL MEETING NSF/ANSI STANDARD 61.
4. PLANS DO NOT PURPORT THAT ALL REQUIRED FITTINGS OR PIPING CONFIGURATIONS ARE SHOWN. CONTRACTOR SHALL INVESTIGATE EXISTING WATER SYSTEM AND PROVIDE ALL PIPING AND/OR FITTINGS NECESSARY TO MAKE LINE AND GRADE ADJUSTMENTS TO CONNECT TO THE EXISTING WATER SYSTEM AND TO PROVIDE A COMPLETE AND FUNCTIONAL WATER SERVICE/HOSE BIBB.

1 WATER SERVICE DETAILS
1" = 2'

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GRAPHIC SCALE
0 1 2 4
SCALE: 1" = 2'

PROJECT ENGINEER
SEAL
044825
KRISTOPHER P. PAGAN-CRUZ
REGISTERED PROFESSIONAL ENGINEER

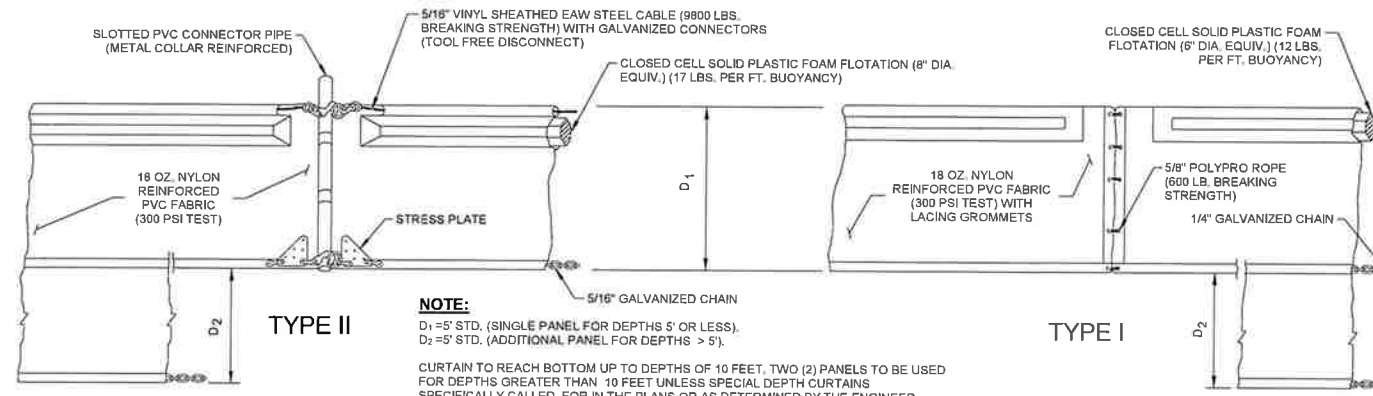
Designed By	STEVEN WHITE	County	DARE COUNTY
Entered By	GORDON EDWARDS	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT HATTERAS FERRY DOCK REPLACEMENT
C-102 WATER SERVICE DETAILS

GENERAL NOTES FOR SOIL EROSION AND SEDIMENT CONTROL:

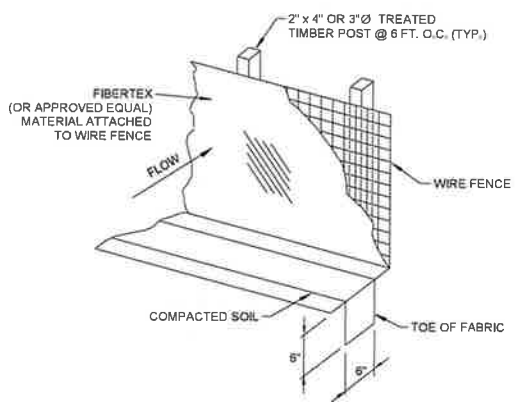
1. ALL EROSION AND SEDIMENT CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN 30 DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
3. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).
4. A CRUSHED LIMEROCK, VEHICLE WHEEL-CLEANING BLANKET SHALL BE INSTALLED AT THE CONTRACTOR'S STAGING YARD AND/OR STOCKPILE AREAS TO PREVENT OFF-SITE TRACKING OF SEDIMENT BY CONSTRUCTION VEHICLES ONTO PUBLIC ROADS. BLANKET SHALL BE 15FT. X 50FT. X 8IN. (MINIMUM), CRUSHED LIMEROCK 2 1/2 INCHES IN DIAMETER. SAID BLANKET SHALL BE UNDERLAIN WITH A FDOT CLASS 3 SYNTHETIC FILTER FABRIC AND MAINTAINED IN GOOD ORDER.
5. CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.
6. UNFILTERED DEWATERING IS NOT PERMITTED, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER.
7. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET.
8. ALL SOIL WASHED, DROPPED, SPILLED OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHTS-OF-WAY WILL BE REMOVED IMMEDIATELY.
9. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.
10. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE NUMBER 2 (ABOVE).
11. THE SITE SHALL AT ALL TIMES BE GRADED AND MAINTAINED SUCH THAT ALL STORM WATER RUNOFF IS DIVERTED TO SOIL EROSION AND SEDIMENT CONTROL FACILITIES.
12. ALL SEDIMENTATION STRUCTURES SHALL BE INSPECTED AND MAINTAINED REGULARLY.
13. ALL CATCH BASIN INLETS SHALL BE PROTECTED WITH HAY BALES AS SHOWN ON DETAIL.
14. ANY AREAS USED FOR THE CONTRACTOR'S STAGING, INCLUDING BUT NOT LIMITED TO, TEMPORARY STORAGE OF STOCKPILED MATERIALS (E.G. CRUSHED STONE, QUARRY PROCESS STONE, SELECT FILL, EXCAVATED MATERIALS, ETC.), SHALL BE ENTIRELY PROTECTED BY A SILT FENCE ALONG THE LOW ELEVATION SIDE TO CONTROL SEDIMENT RUNOFF.

* WHERE APPLICABLE

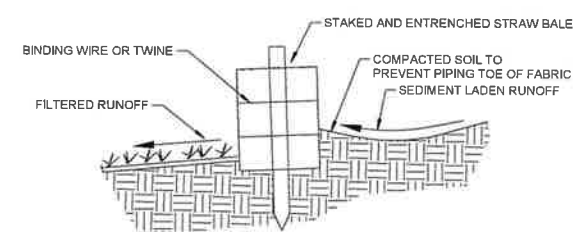


NOTE:
 D1 = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS).
 D2 = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5').
 CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET, TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.

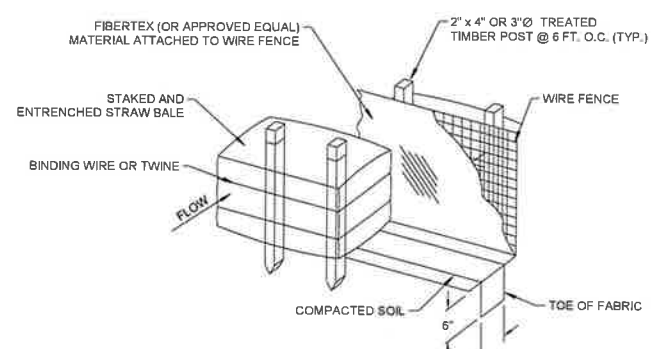
NOTICE:
 COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.



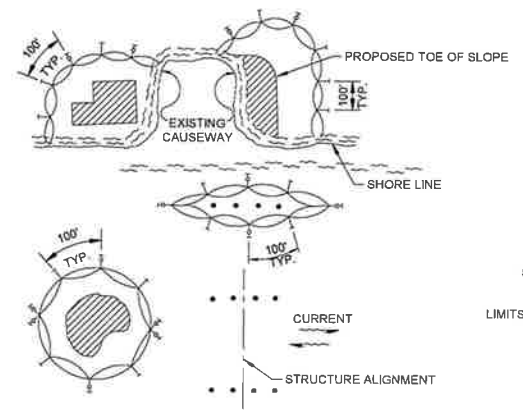
2 SILT FENCE DETAIL
 N.T.S.



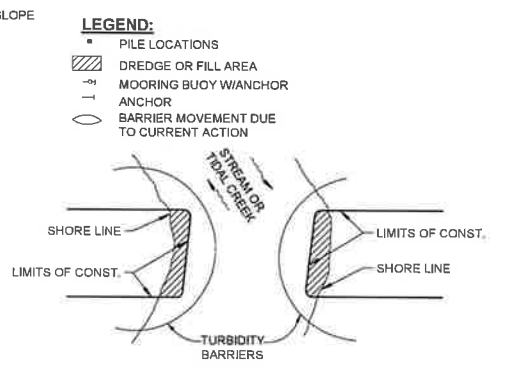
3 DETAIL OF PROPERLY INSTALLED STRAW BALE
 N.T.S.



4 SILT FENCE W/ HAYBALES DETAIL
 N.T.S.



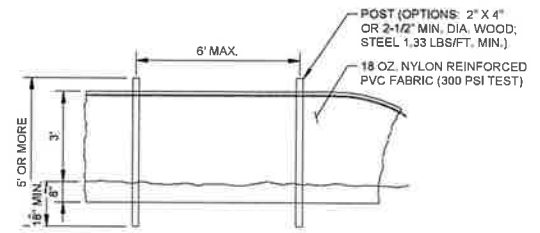
5 STAKED TURBIDITY BARRIER
 N.T.S.



6 TURBIDITY BARRIER APPLICATIONS
 N.T.S.

1. TURBIDITY BARRIERS ARE TO BE USED IN ALL PERMANENT BODIES OF WATER REGARDLESS OF WATER DEPTH.
2. NUMBER AND SPACING OF ANCHORS DEPENDENT ON CURRENT VELOCITIES.
3. DEPLOYMENT OF BARRIER AROUND PILE LOCATIONS MAY VARY TO ACCOMMODATE CONSTRUCTION OPERATIONS.
4. NAVIGATION MAY REQUIRE SEGMENTING BARRIER DURING CONSTRUCTION OPERATIONS.
5. FOR ADDITIONAL INFORMATION SEE SECTION 104 OF THE STANDARD SPECIFICATIONS.

NOTE:
 TURBIDITY BARRIERS FOR FLOWING STREAMS AND TIDAL CREEKS MAY BE EITHER FLOATING, OR STAKED TYPES OR ANY COMBINATIONS OF TYPES THAT WILL SUIT SITE CONDITIONS AND MEET EROSION CONTROL AND WATER QUALITY REQUIREMENTS. THE BARRIER TYPE(S) WILL BE AT THE CONTRACTOR'S OPTION UNLESS OTHERWISE SPECIFIED IN THE PLANS. HOWEVER PAYMENT WILL BE UNDER THE PAY ITEM(S) ESTABLISHED IN THE PLANS FOR FLOATING TURBIDITY BARRIER AND/OR STAKED TURBIDITY BARRIER. POSTS IN STAKED TURBIDITY BARRIERS TO BE INSTALLED IN VERTICAL POSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



Digitally signed by Kristopher P Pagan-Cruz
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GRAPHIC SCALE

PROJECT ENGINEER
 SEAL
 044825
 KRISTOPHER P. PAGAN-CRUZ
 PROFESSIONAL ENGINEER

Designed By	STEVEN WHITE	County	DARE COUNTY
Entered By	VICTOR PADILLA	Division	FERRY DIVISION
Project Engineer	KRISTOPHER PAGAN	Plan Date	1-14-26
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description
			Ch'kd
			App'd

NCDOT HATTERAS FERRY DOCK REPLACEMENT

C-103 EROSION CONTROL DETAILS

SHEET 20 OF 26

ANSI D 64X27

GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRIC SAFETY CODE, N.F.P.A., O.S.H.A. REGULATIONS AND ALL OTHER EXISTING CODES AND REGULATIONS OF AUTHORITIES WHICH HAVE JURISDICTION.
- THE CONTRACT DRAWINGS ARE DIAGRAMMATIC IN NATURE AND NOT EVERY DETAIL OR CONDUIT IS SHOWN. EXISTING CONDITIONS AND DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE COMMENCING ANY FABRICATION, ORDERING ANY MATERIAL, OR PERFORMING ANY WORK. ANY DEPARTURE FROM CONCEPT SHOWN ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. ALL ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS AND/OR REQUIRED FOR THE FULL INTEGRITY OF THE CONTRACT SHALL BE FURNISHED, INSTALLED AND CONNECTED BY THE CONTRACTOR, EXCEPT WHERE EQUIPMENT SHOWN IS IDENTIFIED AS "EXISTING" OR OTHERWISE NOTED ON THE DRAWINGS.
- UNLESS OTHERWISE NOTED, EQUIPMENT AND MATERIALS TO BE PROVIDED SHALL BEAR LISTING AND LABELING BY A NATIONALLY RECOGNIZED TESTING AGENCY WHERE SUCH STANDARD HAD BEEN ESTABLISHED FOR THAT TYPE OF EQUIPMENT/MATERIAL.
- THE CONTRACTOR SHALL SUBMIT DETAILED EQUIPMENT LAYOUT PLANS, SECTIONS, AND MOUNTING DETAILS SHOWING PROPOSED LOCATION OF ALL EQUIPMENT AND REQUIRED WORKING/SERVICE CLEARANCES PRIOR TO INSTALLATION.
- CONTRACTOR SHALL VISIT THE PROJECT SITE AND EXAMINE AND CONFIRM EXISTING CONDITIONS. ALL CHANGES SHALL BE PRESENTED DURING SHOP DRAWING SUBMITTALS FOR ENGINEER'S APPROVAL.
- CONDUITS SHALL CONTAIN AN INSULATED GROUND WIRE BONDED TO ENCLOSURES AND SIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE NEC, IF SIZE IS NOT SHOWN ON THE CONTRACT DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE CONDUIT FITTINGS, CONNECTORS, CLAMPS, HARDWARE, HANGERS, AND SUPPORTS AS NECESSARY FOR A COMPLETE INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE TAGS FOR EQUIPMENT, CONDUITS, AND CABLES THAT ARE INSTALLED UNDER THIS CONTRACT. TAG IDENTIFICATIONS SHALL BE IN ACCORDANCE WITH CONTRACT DRAWINGS. TAGS FOR CONDUITS SHALL BE AS DESCRIBED IN SPECIFICATIONS.
- UNUSED OPENINGS IN CONDUITS, BOXES, DISCONNECT SWITCHES, CABINETS, AND PANEL BOARDS SHALL BE CAPPED OR PLUGGED.
- UPDATE EXISTING PANELBOARD DIRECTORIES TO REFLECT THE CIRCUITING IN EXISTING PANELBOARDS AFFECTED BY THIS ALTERATION.
- CONTRACTOR SHALL PROVIDE THE NECESSARY MATERIALS, LABOR AND ATTENDANCE FOR THE OPERATION OF TEMPORARY LIGHT AND CONSTRUCTION POWER AS REQUIRED DURING WORKING HOURS FOR THE ENTIRE CONSTRUCTION PERIOD.
- CONTRACTOR SHALL MAINTAIN CONTINUITY OF ANY EXISTING CIRCUITS AFFECTED BY THIS ALTERATION. RECONNECT ALL ALTERED OR REROUTED WORK TO ITS FULLY FUNCTIONAL STATE PRIOR TO ALTERATION.
- PROVIDE ALL NECESSARY TEMPORARY WIRING TO MAINTAIN EXISTING INSTALLATIONS WHICH MUST REMAIN IN SERVICE DURING CONSTRUCTION PERIOD.
- ALL BRANCH CIRCUITS OVER 75 FEET IN LENGTH SHALL BE RUN WITH #10 CONDUCTOR, UNLESS OTHERWISE NOTED.
- SCHEDULE ALL DISCONNECTION AND INTERRUPTIONS OF ELECTRICAL SERVICE, COMMUNICATIONS AND SUPERVISORY SYSTEMS WITH THE OWNER AND ENGINEER.
- CONTRACTORS SHALL FOLLOW ALL OWNER SITE SAFETY WORK PROCESSES AND PROCEDURES. FOR EXAMPLE, WORK PERMITS, SAFETY TASK ANALYSES, LOCKOUT TAGOUT (LOTO), LOCK, TAG AND TRY, AND RED TAG, ETC.
- CONTRACTORS SHALL COORDINATE ALL WORK ACTIVITIES WITH OPERATIONS, MAINTENANCE, AND OTHER CONTRACTORS.
- UNLESS SPECIFICALLY NOTED, ALL ELECTRICAL EQUIPMENT (GENERATORS, AUTOMATIC TRANSFER SWITCHES, PANELBOARDS, MOTOR CONTROLLERS, WIRE, PANELBOARDS, SWITCHBOARDS, DISCONNECTS, LIGHTING, INSTRUMENTS, CONTROL PANELS, MOTOR, ETC.) THAT MAY BE SHOWN AS TO BE REMOVED ARE THE PROPERTY OF THE OWNER AND SHALL BE RETURNED TO THE OWNER.

ABBREVIATIONS

A OR AMP	AMPERES
ACT	ABOVE COUNTER TOP (6")
AF	AMP FRAME
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AM	AMMETER
APPROX	APPROXIMATELY
AS	ASYMMETRICAL
ASYM	ASYMMETRICAL
AT	AMP TRIP
ATC	AUTOMATIC TRANSFER CONTROLLER
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BLDG	BUILDING
C	CONDUIT
C, CDT	CONDUIT
C, /C	CONDUCTOR
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLF	CURRENT LIMITING FUSE
CO	COMPANY
COL	COLUMN
CONTR	CONTROL
CNTL	CONTINUOUS STATISTICAL LEAK DETECTION
CSLSD	CURRENT TRANSFORMER
CT	CABLE
Cu	DEPTH
D	DIAMETER
DIA	DISCONNECT SWITCH
DS OR DISC	DRAWING(S)
DWG(S)	ELECTRIC, ELECTRICAL
ELEC	EMERGENCY
EM	ELECTRICAL METALLIC TUBING
EMT	EMERGENCY STOP
ESTOP	EXISTING
EX, EXIST.	EXPLOSION PROOF
EXP	EXHAUST FAN
EF	EQUIPMENT GROUND
EG	EQUIPMENT GROUND CONDUCTOR
EGC	ET CETERA
ETC	EXISTING
EXIST	FUSE
F	FLOAT CONTROL RELAY
FCR	FLOOR
FL, FLR	FEET
FT	G OR GND
G OR GND	GAUGE
GA	GALVANIZED
GALV	GROUNDING ELECTRODE CONDUCTOR
GEC	GENERATOR
GEN	GROUND FAULT
GF	GROUND FAULT CIRCUIT INTERRUPT
GFCI	GROUND FAULT INTERRUPTING
GFI	HAND-OFF-AUTOMATIC HORSEPOWER
H-O-A	HEATING, VENTILATION & AIR ISOLATED GROUND
HP	INTRINSICALLY SAFE BARRIER RELAY
HVAC	INTERMEDIATE METAL CONDUIT
IG	INCH
ISBR	INFRARED
IMC	INSTANTANEOUS SHORT CIRCUIT AVAILABLE
IN	JUNCTION BOX
IR	KILOVOLT - AMPS
ISCA	KILOWATTS
JB OR J	KILOWATT-HOUR
KVA	LENGTH
KW	LIGHTNING ARRESTOR
KWH	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
L	LIGHTING
LA	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
LPMC	LIGHTING
LTG	MAXIMUM
LTG	MAXIMUM
MAX	MAIN CIRCUIT BREAKER
MCB OR MB	MOTOR CONTROL CENTER
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MER	MECHANICAL EQUIPMENT ROOM
MFR	MANUFACTURER
MH OR MTG	MOUNTING HEIGHT
MIN	MINIMUM
MLO	MINIMUM
MTD	MAIN LUGS ONLY
N	MOUNTED
NC	NEUTRAL
NEC	NORMALLY CLOSED
NEMA	NATIONAL ELECTRICAL CODE
NF	NATIONAL ELECTRICAL MFRS ASSOCIATION
NFPA	NON-FUSIBLE
No.	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NUMBER
NTS	NORMALLY OPEN
O.C.	NOT TO SCALE
OCPD	ON CENTER
OIF	OVERCURRENT PROTECTIVE DEVICE
OSHA	OVERFILL
P	OVERHEAD ELECTRICAL
PERM	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
PFC	POLE
PH, Ø	PERMANENT
PLC	POWER FACTOR CAPACITOR
PNL	PHASE
PR	PROGRAMMABLE LOGIC CONTROLLER
	PANEL
	PAIR

ABBREVIATIONS

PVC	POLYVINYLCHLORIDE CONDUIT
PWR	POWER
R&R	REMOVE AND RELOCATE
R	RELOCATE
RE	RELOCATED
RECEPT	RECEPTACLE
REF	REFERENCE
RGS	RIGID GALVANIZED STEEL
RMS	ROOT MEAN SQUARE
SE	SERVICE ENTRANCE
SF	SEAL FITTING
SH	SHIELDED
SS	STAINLESS STEEL
SPD	SURGE PROTECTION DEVICE
SW	SWITCH
SWBD	SWITCHBOARD
SYM	SYMMETRICAL
TEL	TELEPHONE
TMS	TWISTED INDIVIDUAL SHIELD
TWOS	TWISTED OUTER SHIELD
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITER'S LABORATORIES
UV	ULTRAVIOLET
V	VOLTS
VA	VOLT AMPS
VAC	VOLTS ALTERNATING CURRENT
VDC	VOLTS DIRECT CURRENT
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER
VMS	VOLTMETER SELECTOR SWITCH
W	WATT
W/	WITH
W/O	WITHOUT
WM	WATTMETER
WP	WEATHER PROOF
XFMR	TRANSFORMER

ONE-LINE DIAGRAM

CONNECTION TO ELECTRICAL UTILITY. VOLTAGE, PHASES AS INDICATED

UTILITY METER

GENERATOR
- 'XX' DESIGNATES POWER RATING
- 'YY' DESIGNATES VOLTAGE

CURRENT TRANSFORMER (CT).
'X.Y' INDICATES RATIO
'Z' INDICATES QUANTITY (1 PER PHASE UNLESS OTHERWISE INDICATED)

POTENTIAL TRANSFORMER (PT).
'X.Y' INDICATES RATIO
'Z' INDICATES QUANTITY (1 PER PHASE UNLESS OTHERWISE INDICATED)

TWO WINDING TRANSFORMER, PHASES AS DETERMINED BY OCPD
- 'Z' INDICATES % IMPEDANCE ANSI STANDARD IF NOT SPECIFIED
- 'WW' INDICATES STRUCTURE DESIGNATION
- 'XX' INDICATES POWER RATING
- 'YY' INDICATES PRIMARY VOLTAGE
- 'ZZ' INDICATES SECONDARY VOLTAGE WINDINGS AS INDICATED
- 'Δ' INDICATES DELTA CONNECTION
- 'Y' INDICATES WYE CONNECTION WITH GROUNDED NEUTRAL

THREE WINDING TRANSFORMER
- 'W' INDICATES STRUCTURE DESIGNATION
- 'XX' INDICATES POWER RATING (BY WINDING)
- 'YY' INDICATES VOLTAGE RATING (BY WINDING)
- 'Z' INDICATES IMPEDANCE (BY WINDING)
- 'Δ' INDICATES DELTA CONNECTION
- 'Y' INDICATES WYE CONNECTION WITH GROUNDED NEUTRAL

TRANSFER SWITCH
- 'W' INDICATES
A: AUTOMATIC
M: MANUAL
D: DOUBLE THROW
- 'XX' INDICATES RATING IN AMPS
- 'Y' INDICATES NUMBER OF POLES

BYPASS ISOLATION TRANSFER SWITCH
- 'XX' INDICATES AMPERE RATING
- 'Y' INDICATES NUMBER OF POLES

SWITCH
- 'XX' INDICATES AMPERE RATING
- 'Y' INDICATES NUMBER OF POLES

MEDIUM & HIGH VOLTAGE CIRCUIT BREAKER
- 'XX' INDICATES TRIP RATING IN AMPS
- 'YY' INDICATES FRAME RATING

LOW VOLTAGE MOLDED CASE CIRCUIT BREAKER
- 'XX' INDICATES TRIP RATING IN AMPS (IF TRIP INTEGRAL)
- 'YY' INDICATES FRAME RATING, ID SPECIFIED
- 'W' INDICATES NUMBER OF POLES (3 UNLESS OTHERWISE NOTED)
- 'Z' DESIGNATES TYPE:
BLANK: THERMAL MAGNETIC
LSI: ELECTRONIC TRIP
MCP: MOTOR CIRCUIT PROTECTOR
GFI: GROUND FAULT INTERRUPTING

ONE-LINE DIAGRAM

FUSE
- 'XX' INDICATES TRIP RATING IN AMPS
- 'Z' INDICATES CLASSIFICATION (IF SPECIFIED)

ANGLED BRACKETS INDICATE DRAWOUT DEVICE

PROTECTIVE RELAY, METERING, OR INTERLOCKING DEVICE.
'XX' DESIGNATIONS:
A: AMMETER
V: VOLTMETER
PF: POWER FACTOR
K: KIRK KEY INTERLOCK
I: ELECTRICAL INTERLOCK
2S: SYNCHRONISM CHECK
27: UNDER VOLTAGE
4B: CURRENT UNBALANCE
47: PHASE SEQUENCE VOLTAGE
50: INSTANTANEOUS OVERCURRENT
51: TIME OVERCURRENT
52: AC CIRCUIT BREAKER
55: POWER FACTOR
59: OVER VOLTAGE
64: GROUND PROTECTIVE RELAY
81: FREQUENCY
86: LOCKING OUT RELAY
* SPECIFIC MINIMUM FUNCTIONS TO BE LISTED BY ANSIIIEEE DEVICE NUMBERS

FULL VOLTAGE NON REVERSING CONTACTOR
'X' DESIGNATES NEMA SIZE OR:
BC: BYPASS CONTACTOR
OC: OUTPUT ISOLATION CONTACTOR
IC: INPUT ISOLATION CONTACTOR

LIGHTING CONTACTOR
- 'XX' DESIGNATES AMPERE RATING
- 'Y' DESIGNATES NUMBER OF POLES

LIGHTING CONTACTOR
- 'XX' DESIGNATES AMPERE RATING
- 'Y' DESIGNATES NUMBER OF POLES

MOTOR OVERLOAD, RATED FOR DEVICE PROTECTING. CLASS 20 UNLESS OTHERWISE INDICATED.
- 'X' DESIGNATES TYPE:
T-THERMAL
E-ELECTRONIC.

FULL VOLTAGE REVERSING CONTACTOR
- 'X' DESIGNATES NEMA SIZE.
- 'F' INDICATES FORWARD CONTACTOR.
- 'R' INDICATES REVERSING CONTACTOR.

TWO SPEED STARTER
- 'X' DESIGNATES NEMA SIZE.
- 'H' INDICATES HIGH SPEED CONTACTOR.
- 'L' INDICATES LOW SPEED CONTACTOR.

REDUCED VOLTAGE AUTOTRANSFORMER
- 'X' DESIGNATES NEMA SIZE.
- 'Y' INDICATES TAP PERCENTAGE.

VARIABLE FREQUENCY DRIVE.
- 'XX' INDICATES MINIMUM AMP RATING (IF NOT SPECIFIED, VFD TO MATCH HORSEPOWER RATING OF MOTOR SUPPLIED).

REDUCED VOLTAGE SOFT START.
- 'XX' INDICATES MINIMUM AMP RATING (IF NOT SPECIFIED, RVSS TO MATCH HORSEPOWER RATING OF MOTOR SUPPLIED).

NON-FUSED DISCONNECT SWITCH
- 'XX' DESIGNATES AMPERE RATING OF DISCONNECT.
- 'Y' DESIGNATES NUMBER OF POLES

FUSED DISCONNECT SWITCH
- 'XX' DESIGNATES AMPERE RATING OF FUSE.
DISCONNECT AMPERE RATING TO BE EQUAL TO FUSE RATING OR THE NEXT LARGEST TRADE SIZE.
- 'Y' DESIGNATES NUMBER OF POLES

ONE-LINE DIAGRAM

INDUCTION MOTOR
- 'WW' INDICATES EQUIPMENT DESIGNATION.
- 'XX' INDICATES HORSEPOWER RATING.

SYNCHRONOUS MOTOR
- 'WW' INDICATES EQUIPMENT DESIGNATION.
- 'XX' INDICATES HORSEPOWER RATING.

PANELBOARD
- 'X' INDICATES STRUCTURE DESIGNATION.

UNINTERRUPTIBLE POWER SUPPLY.

SURGE SUPPRESSION DEVICE.

LIGHTNING ARRESTORS
- 'XX' INDICATES
IC: INTERMEDIATE CLASS
DC: DISTRIBUTION CLASS
SC: STATION CLASS

EARTH GROUND

LINE OR LOAD REACTOR.
'Z' DESIGNATES % IMPEDANCE.

CAPACITOR
- 'XX' INDICATES KVAR RATING

RESISTOR
- 'ZZ' INDICATES IMPEDANCE IN OHMS

MISCELLANEOUS ELECTRICAL EQUIPMENT, SUCH AS PANEL, ETC. EQUIPMENT TYPE AND RATINGS TO BE INDICATED.

ELECTRICAL EQUIPMENT BOUNDARY. INDICATES MULTIPLE DEVICES ENCLOSED WITHIN BORDER ARE LOCATED WITHIN THE SAME ENCLOSURE, OR MOUNTED TO SAME PANEL RACK.

PORTABLE POWER CONNECTION
- 'XX' INDICATES AMPERE RATING
- 'Y' DESIGNATES TYPE:
3: 3 WIRE + GROUND
4: 4 WIRE + GROUND

ANSI D 047422

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GRAPHIC SCALE

Digitally signed by Andrew K Gibbs
Date: 2026.02.17 08:02:04-0600

PROJECT ENGINEER
ANDREW K. GIBBS, P.E.
NC LICENSE: 041677

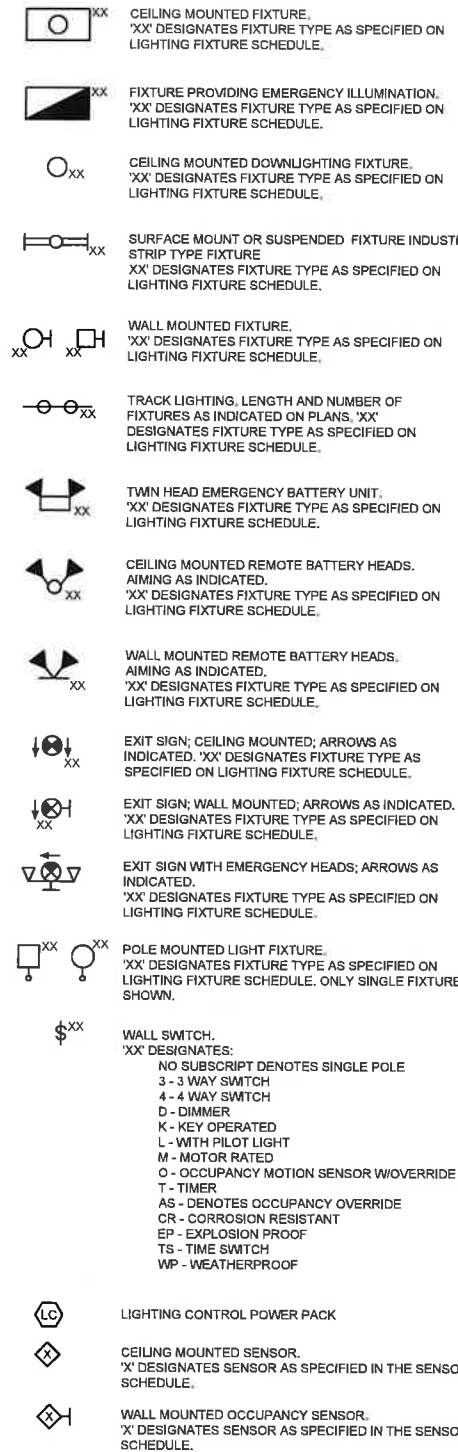
Designed By	RICHARD FERREIRA	County	DARE COUNTY		
Entered By	RICHARD FERREIRA	Division	FERRY DIVISION		
Project Engineer	ANDREW GIBBS	Plan Date	1-14-2026		
Project Manager	ALLISON THORBURN				
Rev.	Date	Drawn	Description	Ch'kd	App'd

NCDOT PASSENGER FERRY DOCK REPLACEMENT - HATTERAS ISLAND

E-001 ELECTRICAL LEGEND AND NOTES 1

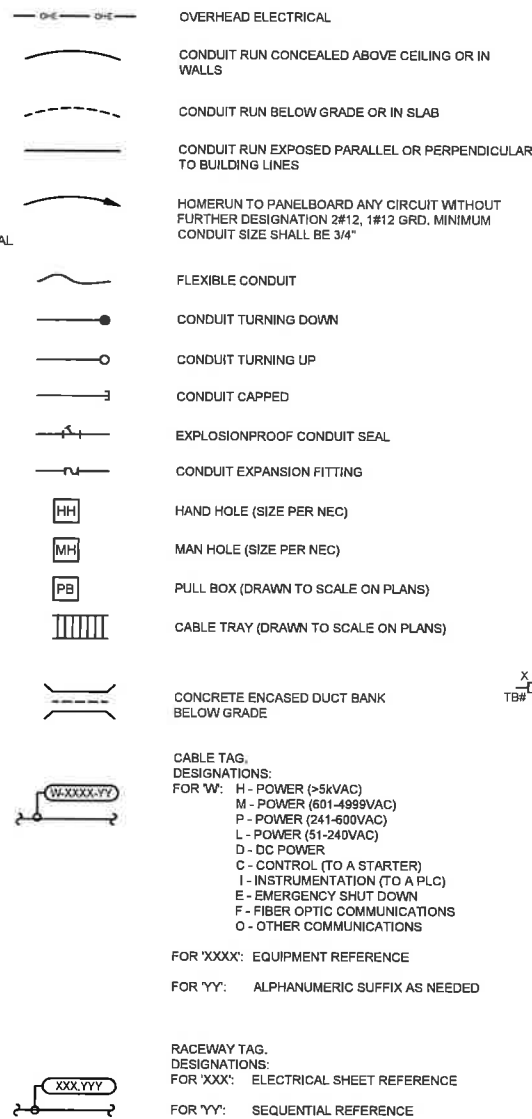
SHEET 21 OF 26

LIGHTING

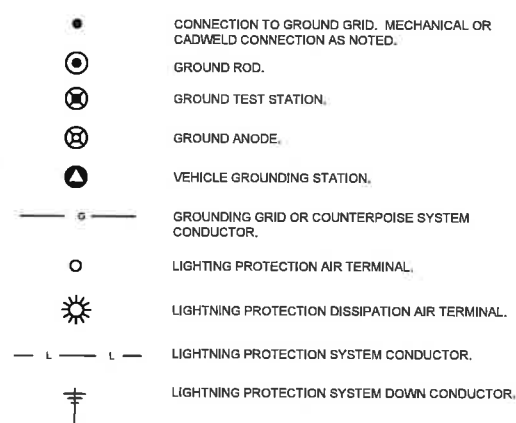


ALL DEVICES/PLATES TO BE IN OWNERS CHOICE OF COLORS.

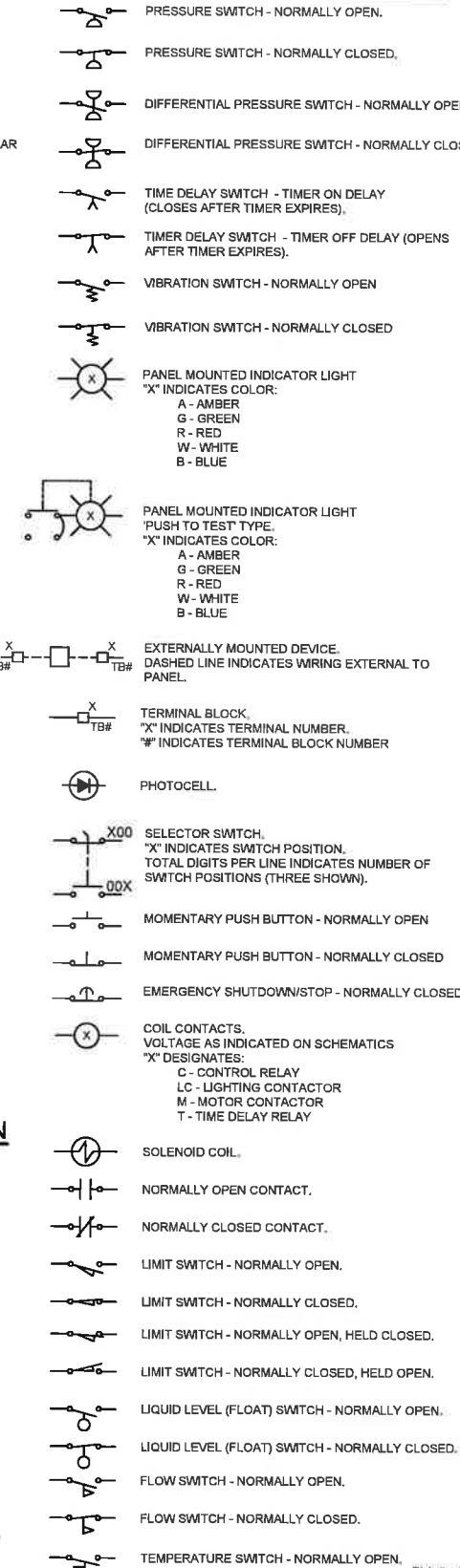
RACEWAYS



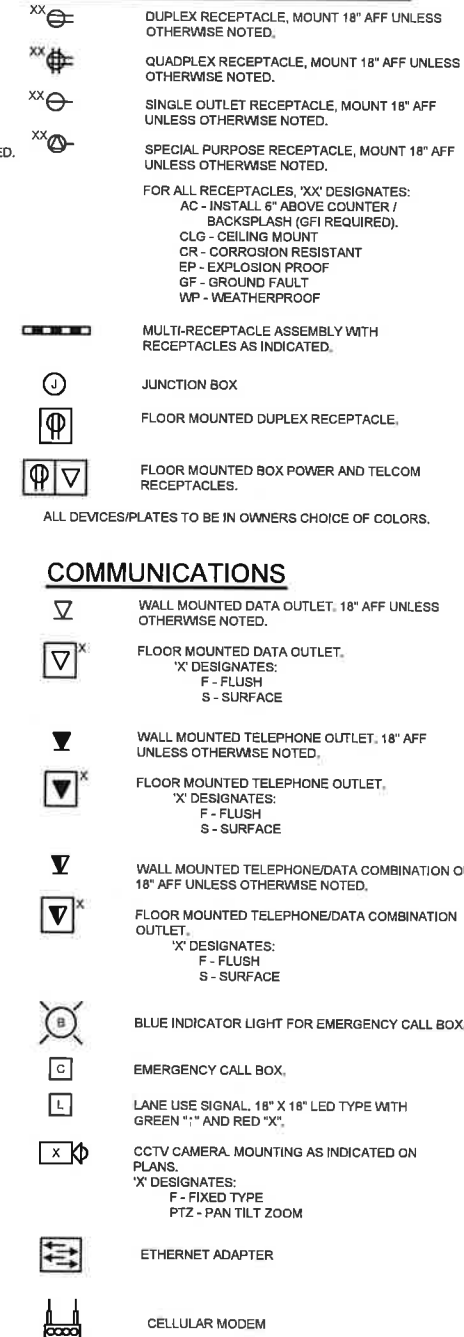
GROUNDING & LIGHTNING PROTECTION



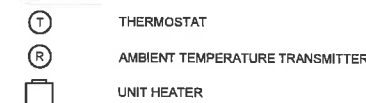
ELEMENTARY WIRING SCHEMATICS



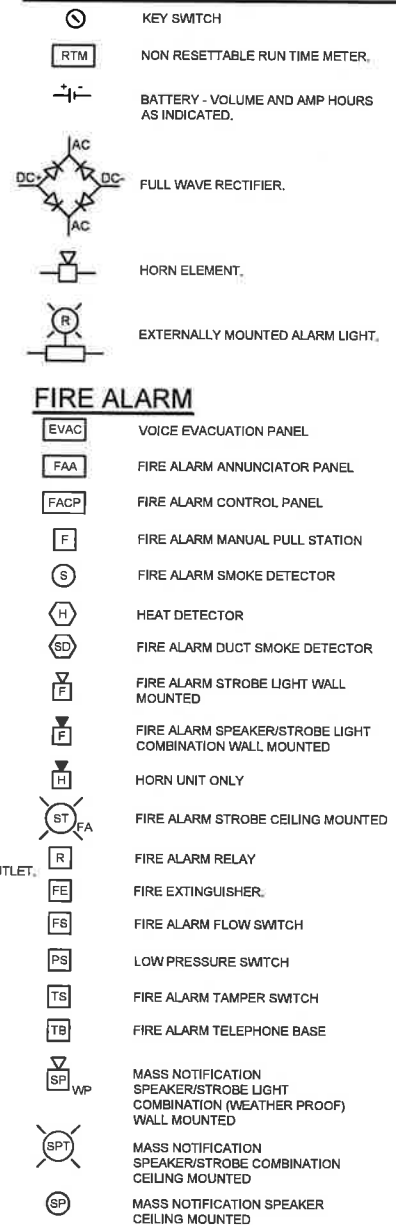
OUTLETS AND RECEPTACLES



HVAC



ELEMENTARY WIRING SCHEMATICS



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GRAPHIC SCALE

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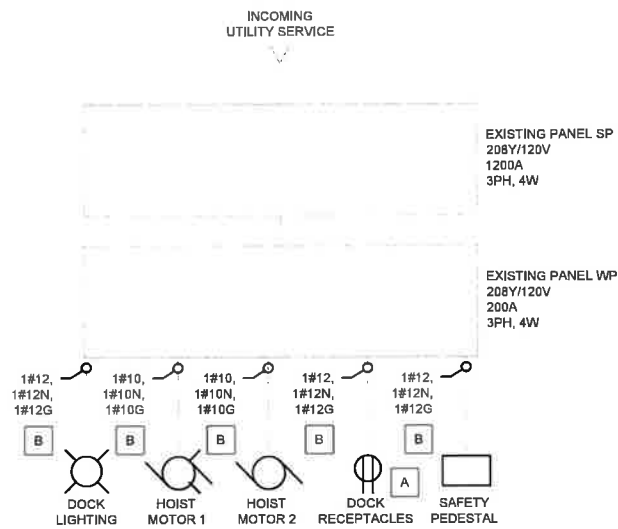
Designed By	RICHARD FERREIRA	County	DARE COUNTY
Entered By	RICHARD FERREIRA	Division	FERRY DIVISION
Project Engineer	ANDREW GIBBS	Plan Date	1-14-2026
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

NCDOT PASSENGER FERRY DOCK REPLACEMENT - HATTERAS ISLAND

E-002
ELECTRICAL LEGEND AND NOTES 2

KEY NOTES

- A. RECEPTACLES SHALL BE:
WP-WEATHERPROOF
CR-CORROSION RESISTANT
GF-GROUND FAULT.
- B. SEE PLANS FOR CONDUIT ROUTING.



LIGHTING FIXTURE SCHEDULE									
MARK	MANUFACTURER	CATALOG NUMBER	LAMPS-NUMBER/TYPE	FIXTURE WATTS	LUMEN OUTPUT	TOTAL LLF	CCT	MOUNTING	REMARKS
P1	LITHONIA LIGHTING	DSX0 LED P1 AMBLW AMCRI AFR	LED	27.42	1359	0.8	2,700K	POLE	15' MH

NOTES

1. THE FIXTURES LISTED ABOVE ARE THE BASIS OF DESIGN. TO SUPPLY EQUIVALENT FIXTURES PROVIDE THE FOLLOWING WITH BID DOCUMENTS:
 1) COMPLETE PRODUCT SPECIFICATION SHEETS MARKED WITH CATALOG NUMBER AND FIXTURE TYPE,
 2) CALCULATION REPORTS SHOWING THE DESIGN CRITERIA HAS BEEN MET,
 3) A SUMMARY OF ALL ALTERATIONS DEVIATING FROM THE BASIS OF DESIGN,
 4) ELECTRONIC COPIES OF THE IES FILES USED,
 5) WRITTEN VERIFICATION THAT THE SUBMITTED FIXTURES MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.
 EQUIVALENT FIXTURES SHALL BE VERIFIED BY THE ENGINEER FOR ADEQUACY DURING THE BID REVIEW PHASE. THE CONTRACTOR SHALL STILL BEAR THE RESPONSIBILITY OF PROVIDING AND INSTALLING FIXTURES THAT MEET THE DESIGN CRITERIA AND THE QUALITY OF THE BASIS OF DESIGN PRODUCTS, AT NO ADDITIONAL COST.

LIGHTING DESIGN CRITERIA								
APPLICATION	HORIZONTAL TARGETS			VERTICAL TARGETS			UNIFORMITY TARGETS	
	E (ft)	TYPE	ELEV.	E (ft)	TYPE	ELEV.	MAX:MIN	AVG:MIN
HATTERAS DOCK	0.5	AVG	FLOOR	N/A	N/A	N/A	4:1	10:1


1. DESIGN CRITERIA ARE BASED ON THE UFC 3-530-01

A:\BID (04/22/21)

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GRAPHIC SCALE

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PROJECT ENGINEER

 ANDREW K. GIBBS, P.E.
 NC LICENSE: 041677

Designed By	RICHARD FERREIRA	County	DARE COUNTY
Entered By	RICHARD FERREIRA	Division	FERRY DIVISION
Project Engineer	ANDREW GIBBS	Plan Date	1-14-2026
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

SHEET 23 OF 26

**NCDOT PASSENGER FERRY
DOCK REPLACEMENT -
HATTERAS ISLAND**

**E-003
ELECTRICAL DIAGRAMS**

PANEL:		LOCATION:		HATTERAS DOCK										
OPTIONS														
VOLTS L-L:	208	MAIN OVERCURRENT:	1200A MCB	BUS MATERIAL:	Cu									
VOLTS L-N:	120	MAIN BUS RATING:	1200A	NEUTRAL SIZE:	100%									
PHASE:	3	MINIMUM A.I.C.:		MOUNTING:	GROUND									
WIRE:	4			ENCLOSURE TYPE:	NEMA 4X									
				GROUND:	SEPARATELY DERIVED									
LOAD DATA														
CKT#	BKR.	POLE	TYPE	DESCRIPTION	VA	PHASE A	PHASE B	PHASE C	VA	DESCRIPTION	TYPE	POLE	BKR.	CKT#
1				SPACE		1921			1921					2
3				SPACE			1921		1921	GATE OPERATOR/TOP RIGHT BREAKER		3	20 A	4
5				SPACE				1921	1921					6
9				SPACE		0				SPACE				10
11				SPACE			0			SPACE				12
13				SPACE				0		SPACE				14
15				SPACE		1921			1921					16
17				SPACE			1921		1921	IQ BOX NORTH FUEL PUMPS		3	20 A	18
19				SPACE				1921	1921					20
21				SPACE	1921	1921				SPACE				22
23	20 A	3		IQ BOX SOUTH FUEL PUMPS	1921		1921			SPACE				24
25				SPACE	1921			1921		SPACE				26
27				SPACE	1921			1921		SPACE				28
29	200 A	3		SHORE POWER #6	19214	21136			1921	LIGHT ON POLES		1	20 A	30
31				SPACE	19214		21136		1921	PUMP CONTROLLER		1	20 A	32
33				SPACE	19214			21136	1921	DISPENSER		1	20 A	34
35	200 A	3		SHORE POWER #5 (CENTER RAMP)	19214	38428			19214					36
37				SPACE	19214		38428		19214	PUMP #2		3	200 A	38
39				SPACE	19214			38428	19214					40
41	200 A	3		SHORE POWER (SOUTH RAMP)	19214	38428			19214					42
43				SPACE	19214		38428		19214	PUMP #1		3	200 A	44
45				SPACE	19214			38428	19214					46
47	200 A	3		PANEL WP FEED	24155	43369			19214					48
49				SPACE	22179		41393		19214	SHORE POWER #2 & #4		3	200 A	50
51				SPACE	22355			41569	19214					52
53	400 A	3		OPERATIONS BUILDING PANEL BOARD	38428	57643			19214					54
55				SPACE	38428		57643		19214	SHORE POWER #7		3	200 A	56
TOTAL CONNECTED LOAD (VA) PER PHASE:					204769	202793	202969							
CONNECTED LOAD (AMPS) PER PHASE:					1708	1690	1691							
TOTAL CONNECTED LOAD (VA):					610530	NEC ARTICLE 220 LOAD (VA):		342049						
AVERAGE CONNECTED LOAD (AMPS):					1695	AVERAGE ARTICLE LOAD (AMPS):		949						
NOTES:														
1.	DEMAND LOAD CALCULATIONS BASED ON REMOVING REDUNANT LOADING AND RECEPTACLES VA.													
2.	PROVIDE MANUFACTURER'S STANDARD SPD.													
3.	PANEL SCHEDULES ARE BASED ON RECORD DRAWINGS PROVIDED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY CONNECTED LOADS PRIOR TO MODIFICATION OF PANELS.													
4.	LOADS DEPICTED IN ITALICIZED FONT ARE REPRESENTATIVE OF EXISTING LOADS. LOADS DEPICTED IN BOLD FONT ARE REPRESENTATIVE OF NEW LOADS TO BE CONNECTED.													


PANEL:		LOCATION:		HATTERAS DOCK										
OPTIONS														
VOLTS L-L:	208	MAIN OVERCURRENT:	225A MCB	BUS MATERIAL:	Cu									
VOLTS L-N:	120	MAIN BUS RATING:	225A	NEUTRAL SIZE:	100%									
PHASE:	3	MINIMUM A.I.C.:		MOUNTING:	GROUND									
WIRE:	4			ENCLOSURE TYPE:	NEMA 4X									
				GROUND:	SEPARATELY DERIVED									
LOAD DATA														
CKT#	BKR.	POLE	TYPE	DESCRIPTION	VA	PHASE A	PHASE B	PHASE C	VA	DESCRIPTION	TYPE	POLE	BKR.	CKT#
1				60 AMP SHORE POWER ON REC	9607	11307			1700	HOIST MOTOR 1 (3/4HP)		1	20 A	2
3	100 A	3		ON LEFT REC A	9607		9607			SPACE		1		4
5				SPACE	9607			9607				1		6
7		1		SPACE		9607			9607	60 AMP SHORE POWER ON REC		3	100 A	8
9		1		SPACE			9607		9607	ON RIGHT REC B		3	100 A	10
11		1		SPACE				9607	9607			1		12
13	15 A	1		SEWER HOSE REEL	1440	1440				SPACE		1		14
15	20 A	1		RAIL LTS	84		84			SPACE		1		16
17		1		SPACE				0		SPACE		1		18
19		1		SPACE		1441			1441					20
21	15 A	1		WATER HOSE REEL	1440		2881		1441	FUEL HOSE REEL		3	15 A	22
23		1		SPACE				1441	1441					24
25		1		SPACE		360			360	DOCK RECEPTACLES		1	20 A	26
27		1		SPACE			20		20	SAFETY PEDESTAL		1	15 A	28
29	20 A	1		HOIST MOTOR 2 (3/4HP)	1700			1700		SPACE		1		30
TOTAL CONNECTED LOAD (VA) PER PHASE:					24155	22199	22355							
CONNECTED LOAD (AMPS) PER PHASE:					201	185	186							
TOTAL CONNECTED LOAD (VA):					68710	NEC ARTICLE 220 LOAD (VA):		45815						
AVERAGE CONNECTED LOAD (AMPS):					191	AVERAGE ARTICLE LOAD (AMPS):		127						
NOTES:														
1.	DEMAND LOAD CALCULATIONS BASED ON REMOVING REDUNANT LOADING AND RECEPTACLES VA.													
2.	PROVIDE MANUFACTURER'S STANDARD SPD.													
3.	PANEL SCHEDULES ARE BASED ON RECORD DRAWINGS PROVIDED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY CONNECTED LOADS PRIOR TO MODIFICATION OF PANELS.													
4.	LOADS DEPICTED IN ITALICIZED FONT ARE REPRESENTATIVE OF EXISTING LOADS. LOADS DEPICTED IN BOLD FONT ARE REPRESENTATIVE OF NEW LOADS TO BE CONNECTED.													

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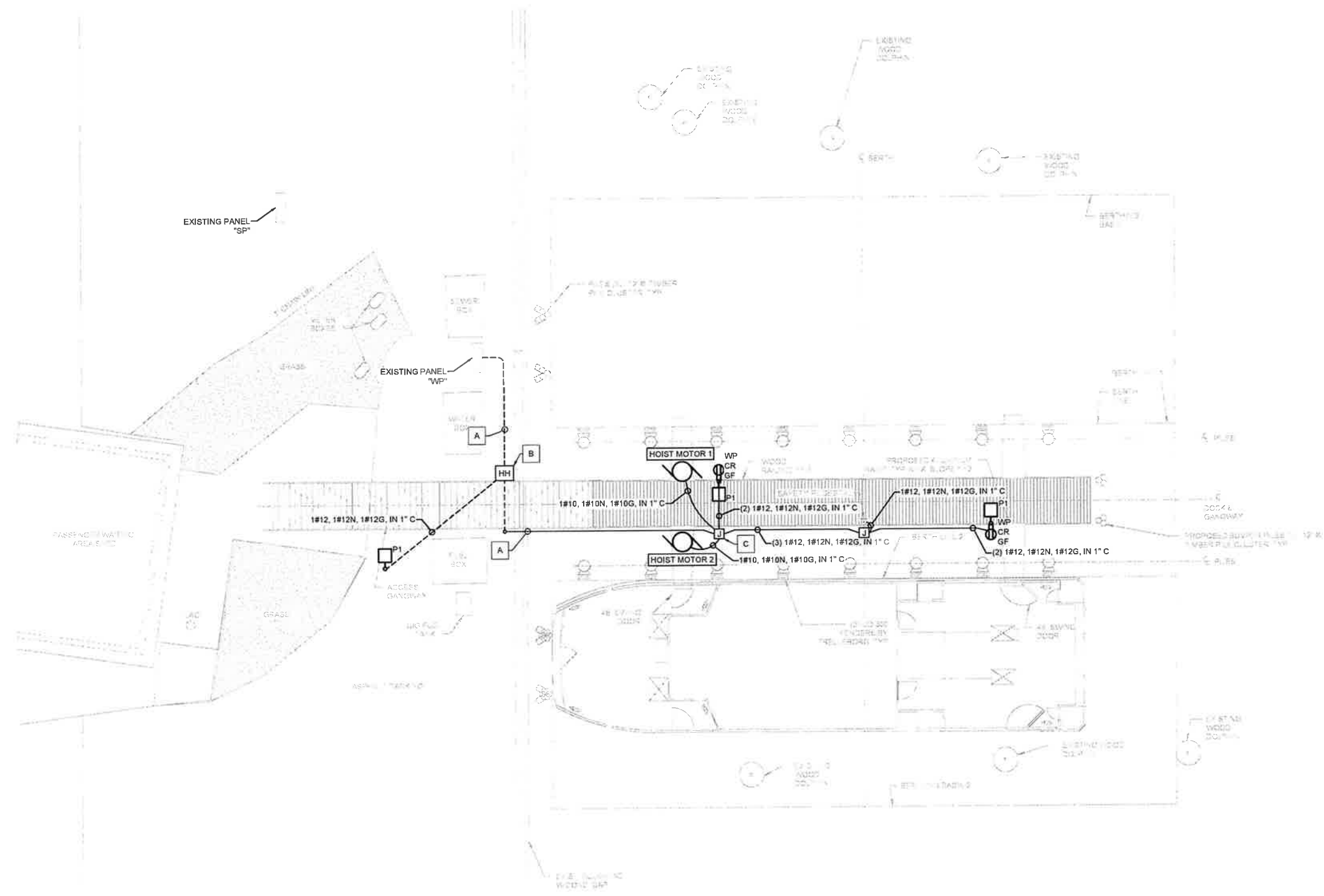
PROJECT ENGINEER

 ANDREW K. GIBBS, P.E.
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Designed By	RICHARD FERREIRA	County	DARE COUNTY
Entered By	RICHARD FERREIRA	Division	FERRY DIVISION
Project Engineer	ANDREW GIBBS	Plan Date	1-14-2026
Project Manager	ALLISON THORBURN		
Rev.	Date	Drawn	Description

SHEET 24 OF 26

NCDOT PASSENGER FERRY DOCK REPLACEMENT - HATTERAS ISLAND

E-004 ELECTRICAL SCHEDULES



GENERAL NOTES

1. A SINGLE CIRCUIT WITH THE HIGHEST RATED CABLE SHALL CARRY GROUND. GROUND SHALL BE ESTABLISHED AND PULLED FROM CLOSEST JUNCTION BOX TO EACH PIECE OF EQUIPMENT RECEIVING POWER.

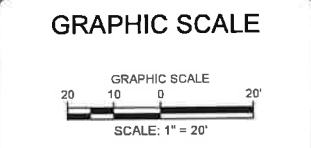
KEY NOTES

- A. ONE 1" CONDUIT, RECEPTACLES, SAFETY PEDESTAL, LIGHTS, AND MOTOR CIRCUITS SHALL BE COMBINED.
- B. 12"X12"X12" (INSIDE DIMENSIONS) ELECTRIC, HEAVY DUTY, GASKETED, AND ANSI TIER 15 HAND HOLE.
- C. 12"X12"X6" JUNCTION BOX, NEMA 4X, SS.

ELECTRICAL SITE PLAN
SCALE: 1"=20'-0"

Digitally signed by Andrew K Gibbs
Date: 2026.02.17 08:02:09-06'00'

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Project Engineer	ANDREW GIBBS	Plan Date	1-14-2026
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Rev.	Date	Drawn	Description

NCDOT PASSENGER FERRY DOCK REPLACEMENT - HATTERAS ISLAND

E-100 ELECTRICAL SITE PLAN

ANSI D (P4227)

