



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

March 15, 2013

Addendum No. 1

Contract No.: DA00153

TIP No.: N/A

WBS No.: 43652.3.2

Rehab to Existing Emergency Ferry Ramp at Rodanthe in Dare County.

To Whom It May Concern:

Reference is made to the proposal previously furnished for this project.

The following revisions have been made to the proposal:

Page No. 74, "Hydraulic Power Unit (HPU)," has been revised to change the OD tubing size." Please void the existing Page No. 74 in the proposal and staple revised Page No. 74 thereto.

Page No. 80, "Electrical Specifications," has been revised to change the amperage of the shore power receptacle from 60 amp to 200 amp. The Ferry power receptacle has been designated as PAULUHN type 6009B-250, **no substitutions allowed**. Please void the existing Page No. 80 in the proposal and staple revised Page No. 80 thereto.

Page No. 80A, "Existing Electrical Service Upgrade," has been included. Please include Page No. 80A in the proposal.

Plan Sheet S-12 "Dolphin Details Type-B" has been revised to change the proposed $\frac{3}{4}$ " galvanized steel wire rope, located at the bottom portion of the dolphin, to $\frac{1}{2}$ " stainless steel wire rope. Please void the existing Plan Sheet S-12 "Dolphin Details Type-B" in the proposal and staple revised Plan Sheet S-12 "Dolphin Details Type-B" thereto.

Plan Sheet "Electrical Layout" has been revised to clarify rigid conduit to be PVC and remove extraneous callout. Please void the existing Plan Sheet "Electrical Layout" in the proposal and staple revised Plan Sheet "Electrical Layout" thereto.

Plan Sheet "Control Pendant Detail" has been revised to eliminate the traffic gate control pendant. Please void the existing Plan Sheet "Control Pendant Detail" in the proposal and staple revised Plan Sheet "Control Pendant Detail" thereto.

Sincerely,

A handwritten signature in black ink, appearing to read "W. B. Hobbs", with a horizontal line extending to the right.

W. B. Hobbs, PE
Division Project Manager

WBH/ces
Attachment

cc: S. D. Baker, PE
G. A. Byrum, PE
R. W. Midgett, PE
J. S. Abel, Jr.
D. H. Stallings

Case Material	Stainless steel
Case Diameter	2-1/2"
Max Temp	60°C
Connection	1/4" NPT
Accuracy	2.5%

REVISED 3/15/13

THE FOLLOWING IS A LIST OF OTHER REQUIRED COMPONENTS WHICH ARE NOT AN INTEGRAL PART OF THE HPU:

Hydraulic Cylinders: The hydraulic cylinders shall be all stainless steel, NPTF ports, lip sealed piston, fixed NFPA MP1 cap clevis, cushioned both ends, large male unified rod end thread, Model Number 3.250CBBSHLU18AC72.000 by Parker, or approved equal.

Bore	3 1/4"
Stroke	72"
Mounting Style	MP 1
Rod Size	1 3/8" diameter
Stop Type	1"
Piston Seals	Lip Type
Rod Material	316 Stainless steel
Rod End Style	8 - Large Male
Pressure	3,000 psi

Eye Bracket and Pin

Thread Size	7/8" -14
Pin Size	1"
Load Rating	12,200 lbs
Material	Stainless Steel

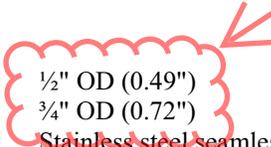
Rod End Clevis Bracket and Pin

Thread Size	1-1/4" - 12
Pin Size	1.375"
Load Rating	18,850 lbs
Material	Stainless Steel

1/2" OD (0.049")
3/4" OD (0.072")

Tubing

Nominal Size (Wall Thickness)	1/2" OD (0.49") 3/4" OD (0.72")
Material	Stainless steel seamless tubing ASTM A-269, Mil Specs 8808
Rockwell Hardness Rating	80 HRB or less for use w/ 37 degree JIC adaptors 3,000 psi



Adaptors

Nominal Size	1/2" and 3/4"
Type Connection	37 degree JIC
Material	Stainless steel
Rating	3,000 psi

Note: Terminations are to be made with manufacturer procedures and equipment

Flexible Hose

Flexible high pressure hose shall be used to connect hard mounted stainless steel tubing to the hydraulic hoist cylinders and power unit.

Nominal Size	1/2" and 3/4"
Material	Stainless steel braid with outer non-metallic sunlight resistant Outer jacket

Wire and Cable

All wire for this project shall be copper with type THWN or XHHW insulation rated 600 volts. All wire shall be UL listed and labeled, and catalog cuts are to be submitted for approval for all sizes and types.

All wire used in the hoist electrical system shall be 19 strand copper with THWN insulation. Control wiring shall be #14 AWG stranded and the motor conductors shall be #8 AWG. All terminations shall use a NEC approved method for terminating stranded conductors.

Shore Power Receptacle

One 200 amp shore power receptacle shall be installed for powering the ferry vessels from shore power at the new ramp. Provide necessary equipment including conduit, wiring, miscellaneous fittings, and stainless steel hardware. Receptacle shall be housed in a NEMA 4X box and shall be fully compatible with Ferry Division existing portable power cords. Receptacle shall be Russell and Stoll, catalog number #DBRS251620000, 3 phase Y 120/208, 200 Amps, no substitutions allowed. Contractor shall confirm specific plug type with Ferry Division personnel.

Ferry Power Receptacle

Provide a receptacle compatible with existing Ferry Division portable power cord plug for providing ferry vessel power to operate the new ramp HPU through a transfer switch in the event of commercial power failure. The new receptacle shall be located near the new ferry ramp as determined by Ferry Division personnel on site. The new receptacle with cast marine brass housing/box with weatherproof cover. Receptacle shall be PAULUHN type 6009B-250, no substitutions allowed. Confirm receptacle type/catalog number with Ferry Division prior to purchasing.

Messenger System

A messenger system is to be installed from the bulkhead cap to the ferry ramp lift structure as shown on the plans at the two ramp locations. The messenger is to be terminated at a ¾" hot dipped galvanized eye bolt at each end. The eye bolt at the bulkhead end is to be set in a stainless steel anchor. The eye bolt at the "H" pile is to be through bolted. The messenger cable is to be terminated at the eye bolts using a reliable 3/8" strand vise.

The messenger cable is to be copperweld 3/8 inch. Due to the large minimum quantity required to purchase this cable, the necessary lengths will be furnished to the contractor by NCDOT for installation. A 30-working-days-notice should be given to the Resident Engineer prior to needing the cable on the job site.

A 1 ½ inch non-metallic flexible conduit will be supported from the messenger with copperweld cable rings on 2 foot centers. These rings will also be furnished to the contractor by NCDOT for installation.

Magnetic Combination Motor Starters

A combination magnetic starter is to be furnished for the new hydraulic pump for the ramp lift system. The starter enclosure is to be constructed of stainless steel with an electropolished finish with a NEMA rating of 4. The starter is to be rated 5 horse power at 208-230 VAC Single phase. The starter is to contain a fusible disconnecting device rated 60 amps with two fuses. The coil voltage for the magnetic starter is to be rated 120 VAC. Thermal overloads sized for the full load amperage taken from the nameplate of the pump motor are to be installed. All Conduit entrances are to be made in the bottom of the enclosure using approved corrosion resistant watertight hubs.

Ferry Hydraulic System Transfer Switch

A manual transfer switch shall be provided for power the new ramp HPU from ferry vessel power during commercial power outages. The manual transfer switch shall be a two pole double throw safety switch, rated 100 amps at 240 volts, in a NEMA 4X enclosure. The new transfer switch shall be mounted on the same frame adjacent to the HPU motor starter.

Existing Electric Service Upgrade

The existing single phase electric service shall be upgraded to a 400 amp, 120/208 volt, 3-phase, 4-wire grounded service. This upgrade work shall include the following:

1. New pressure treated service pole, new service conductors, new metering equipment and cabinet(s), new 400 amp 3-pole service disconnect circuit breaker in NEMA 4X enclosure, new 200 amp 2-pole circuit breaker in NEMA 4X enclosure to feed existing electrical circuits, and new electrical equipment rack adjacent to new service pole. Electric equipment rack shall consist of stainless steel Unistrut (or similar) cross members mounted on 4x6 wooden posts sunk no less than four feet into the ground. Wooden posts shall be pressure treated for insect resistance, and all hardware shall be stainless steel. Specific location to be subject to approval at site by NCDOT Ferry Division personnel.
2. Crushed stone topping, 4 inches deep, extending four feet in front, two feet behind, and two feet beyond each end of equipment rack.
3. Direct buried feeder, 200 amp capacity, in PVC schedule 40 conduit no smaller than 2-inch diameter, from new service equipment frame to existing electrical panel.
4. Grounding of new service equipment using two 5/8 x 10-ft copper clad ground rods, one located near each wooden post.
5. Contractor shall coordinate with electric utility company, and shall include all costs and charges from the electric utility company in the bid price for this work. All metering equipment shall comply with the requirements, rules and regulations of the electric utility company.

NOTES

FOR ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE, SEE DOLPHINS SPECIAL PROVISIONS.

NO SEPARATE PAYMENT OR MEASUREMENT WILL BE MADE FOR HARDWARE, TOOLS, EQUIPMENT, OR LABOR FOR INSTALLING THE ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE. THIS WORK AND MATERIAL SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE.

THE POSITIONING INCLUDING THE FINAL ELEVATIONS OF THE ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE ON THE PILE SHALL BE AS DIRECTED BY THE ENGINEER.

INSTALL 14" MINIMUM BUTT DIAMETER TREATED TIMBER PILE DOLPHINS TO A TIP ELEVATION NO HIGHER THAN -35 FT.

DOLPHIN PILES SHALL BE DRAWN TOGETHER AT THE TOP AND WRAPPED WITH SIX TURNS OF 3/4" WIRE ROPE AT ONE POINT. THE WIRE ROPE SHALL BE SECURED WITH 3/8" SQUARE STAPLES AND TWO CABLE CLAMPS AT THE END.

NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR WIRE ROPE USED TO WRAP DOLPHINS AND INSTALLING OAK FENDERS, HARDWARE, TOOLS, EQUIPMENT, OR LABOR. THIS WORK AND MATERIALS SHALL BE INCLUDED IN THE CONTRACT UNIT BID PRICE FOR TREATED TIMBER PILES.

GALVANIZED WIRE ROPE USED FOR INSTALLING UNTREATED WHITE OAK TIMBER FENDERS SHALL CONFORM TO ASTM A603 CLASS B.

ALL HARDWARE SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.

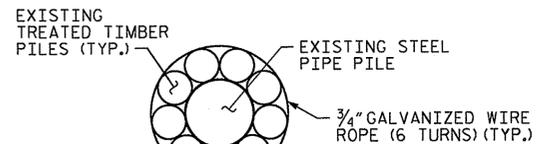
THE 6" X 12" UNTREATED WHITE OAK TIMBER FENDERS SHALL BE FACED AS SHOWN WITH 2" THICK X 12" WIDE X 5'-0" LONG ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE. SEE DOLPHIN SPECIAL PROVISIONS.

FOR TREATED TIMBER PILES, SEE DOLPHINS SPECIAL PROVISIONS.

STAINLESS STEEL WIRE ROPE USED FOR INSTALLING UNTREATED WHITE OAK TIMBER FENDERS SHALL CONFORM TO ASTM A368.

BILL OF MATERIAL

	TREATED TIMBER PILES	UNTREATED WHITE OAK TIMBER FENDER	ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE	UNTREATED STRUCTURE TIMBER	ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE
	NOS.	NOS.	NOS.	M.B.F.	SQ. FT.
TYPE B	4	24	24	1.584	120
TOTAL	4	24	24	1.584	120



REMOVE AND REPLACE DAMAGED TREATED TIMBER PILE

PROPOSED UNTREATED WHITE OAK TIMBER FENDER AND ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (TYP.)

PLAN

ELEVATION TO BE DETERMINED BY THE ENGINEER

UNTREATED WHITE OAK TIMBER FENDER TO BE DRILLED FOR GALVANIZED WIRE ROPE

ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE

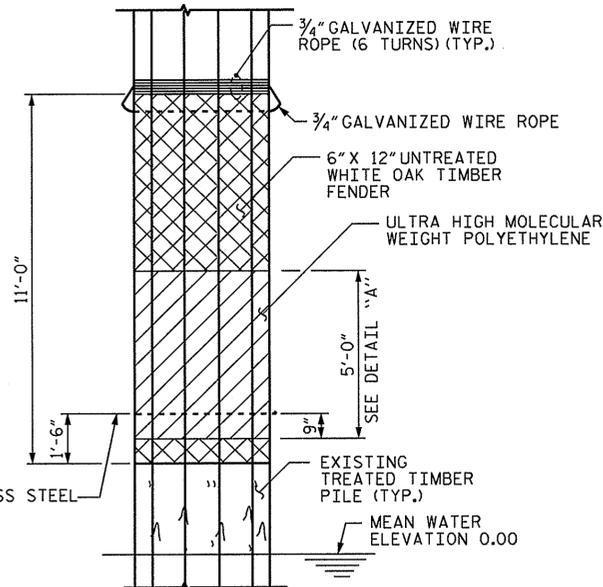
UNTREATED WHITE OAK TIMBER FENDER TO BE DRILLED FOR STAINLESS STEEL WIRE ROPE

EXISTING TREATED TIMBER PILES (TYP.)

MEAN WATER ELEVATION 0.00

END VIEW

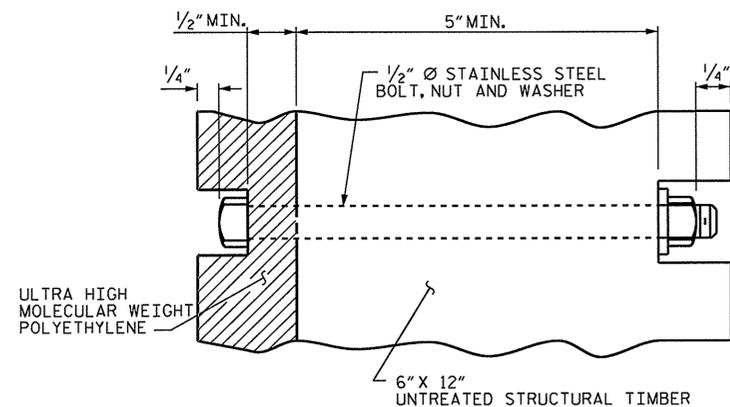
(TYPE B)



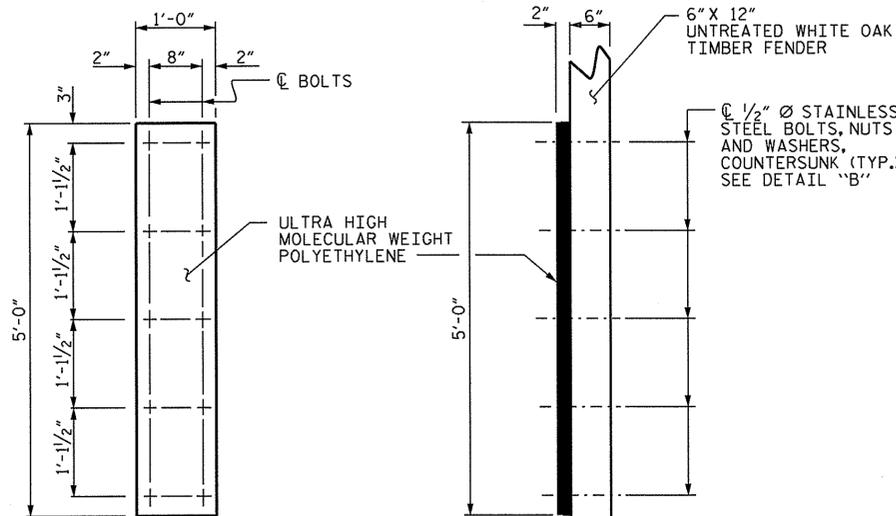
ELEVATION

DOLPHIN

(TYPE B)



DETAIL "B"



BOLT SPACING

DETAIL "A"

(SHOWING CONNECTION DETAIL FOR ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE TO WHITE OAK TIMBER FENDER)

REVISED 3/15/13

PROJECT NO. F-5503B
DARE COUNTY
 STATION: _____

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH

DOLPHIN DETAILS
 (TYPE B)

RODANTHE FERRY BASIN

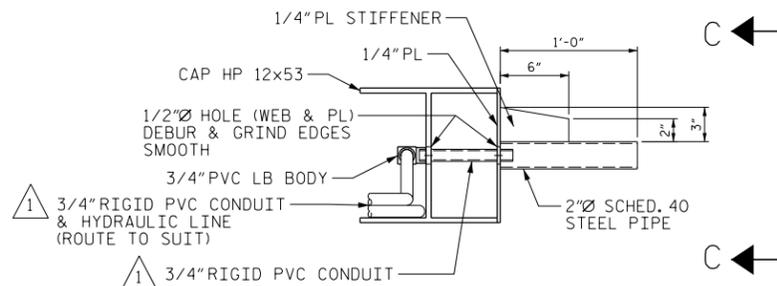
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-12
1			3			TOTAL SHEETS
2			4			13



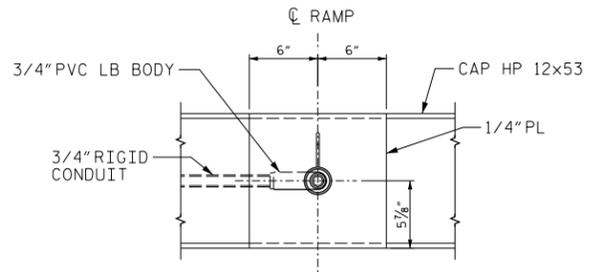
DRAWN BY : B.N.BARODAWALA DATE : 11-14-12
 CHECKED BY : K.P.SEDAI DATE : 12-20-12

NOTES:

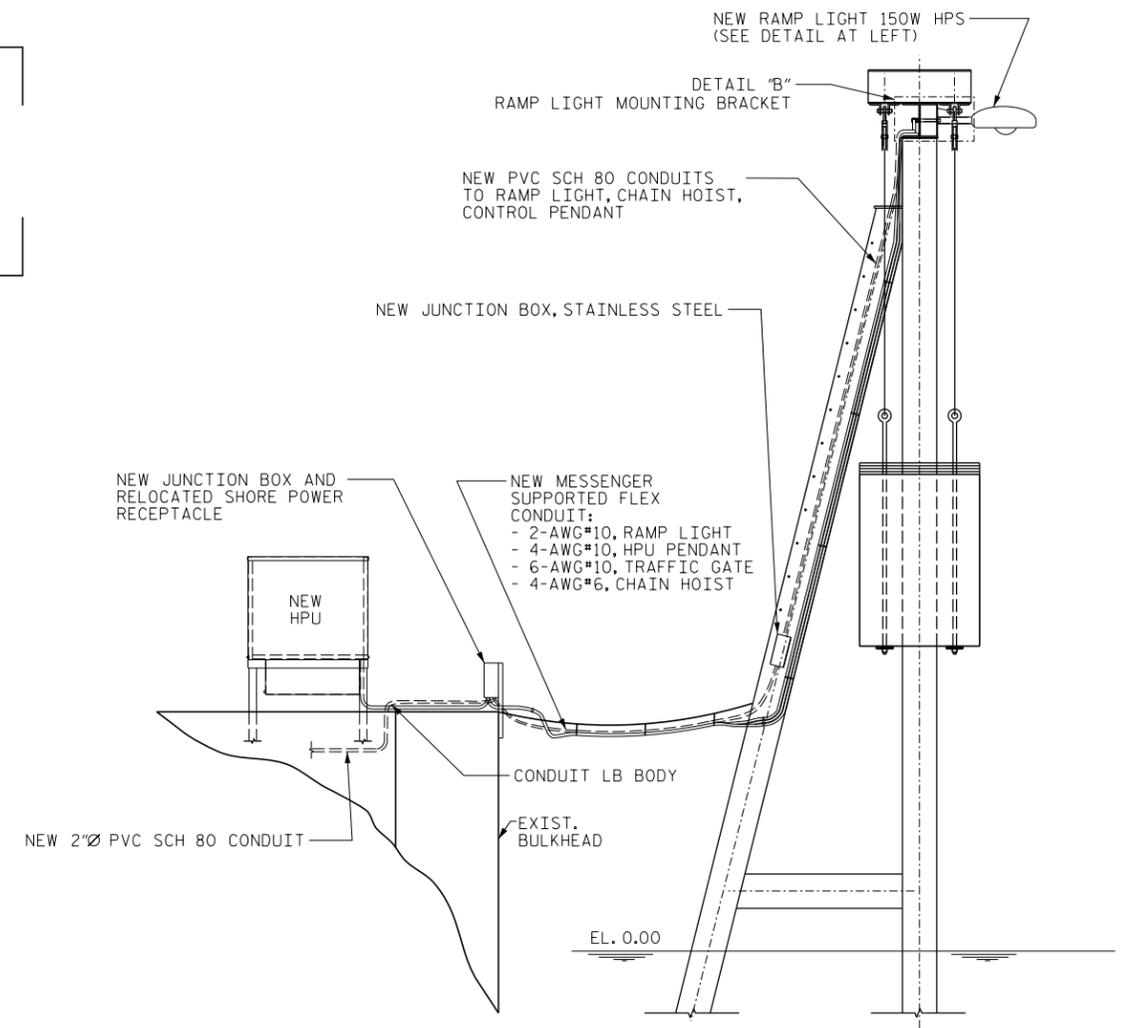
1. ALL WORK SHALL BE INSTALLED IN COMPLIANCE WITH NFPA 70, THE NATIONAL ELECTRICAL CODE.
2. NEW JUNCTION BOX AT NEW HYDRAULIC POWER UNIT SHALL BE MOUNTED ON HORIZONTAL STAINLESS STEEL UNISTRUT SUPPORTED BY TWO 4X4 TREATED TIMBER POSTS EMBEDDED AT LEAST 3 FT INTO THE GROUND. HYDRAULIC POWER UNIT MOTOR STARTER AND CHAIN HOIST DISCONNECT SWITCHES SHALL BE MOUNTED ON SAME FRAMING.
3. NEW JUNCTION BOX MOUNTED ON EXISTING BULKHEAD NEAR MESSENGER CABLE SHALL BE SUPPORTED BY 2 STAINLESS STEEL UNISTRUTS MOUNTED TO BULKHEAD BY 1/2 INCH STAINLESS ADHESIVE ANCHOR BOLTS EMBEDDED AT LEAST 6 INCHES INTO BULKHEAD CONCRETE. USE 3 BOLTS SPACED AT LEAST 18 INCHES APART FOR EACH UNISTRUT.
4. PROVIDE JUNCTION BOXES, PULL BOXES AND CONDUIT RUNS AS REQUIRED TO COMPLETE THE SYSTEM.
5. ALL RIGID PVC CONDUIT SHALL BE SUPPORTED ON STRUCTURE AND ON BULKHEAD AT INTERVALS NO TO EXCEED 6 FEET.



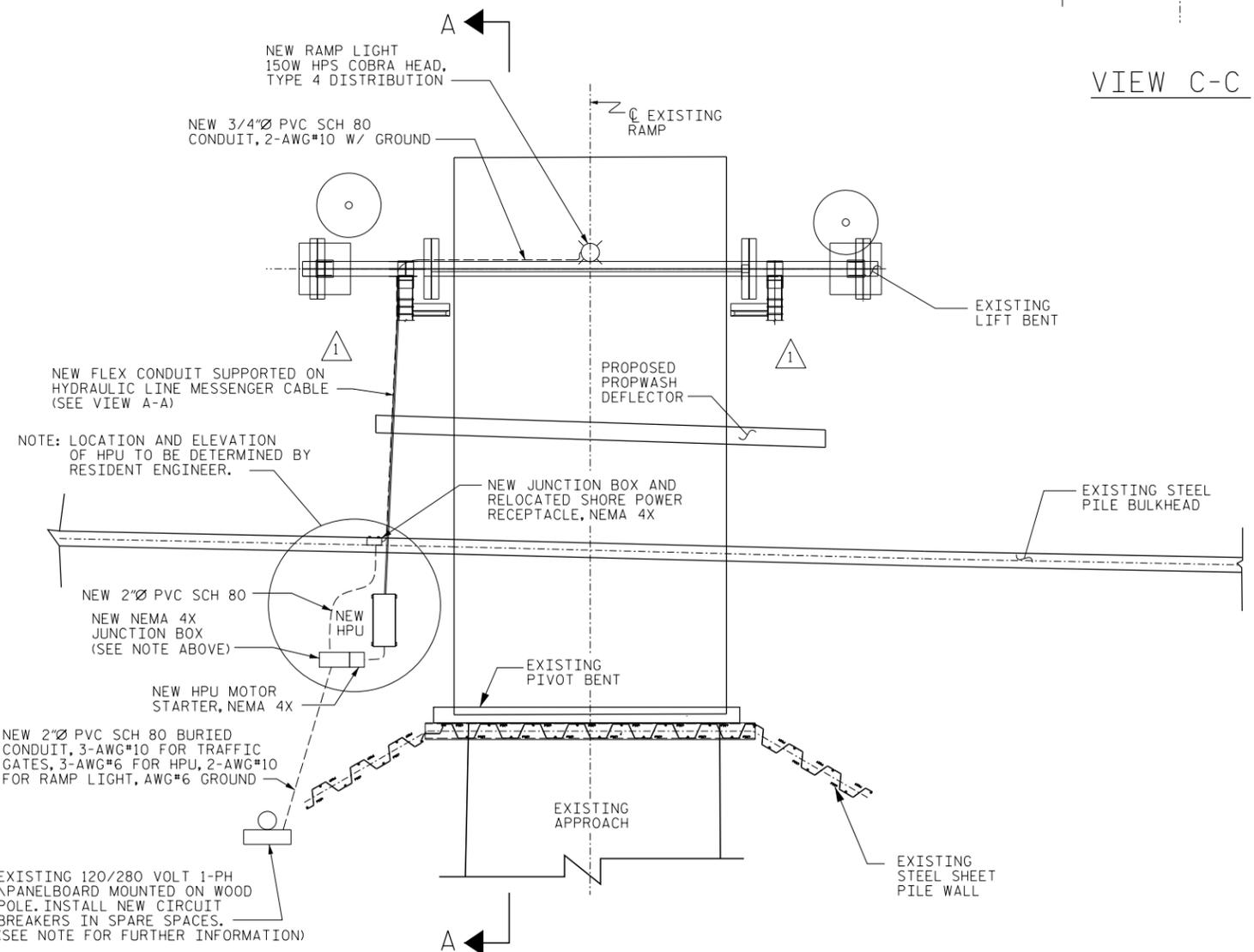
DETAIL "B"



VIEW C-C



VIEW A-A



NOTE: LOCATION AND ELEVATION OF HPU TO BE DETERMINED BY RESIDENT ENGINEER.

NEW 2" PVC SCH 80 BURIED CONDUIT, 3-AWG#10 FOR TRAFFIC GATES, 3-AWG#6 FOR HPU, 2-AWG#10 FOR RAMP LIGHT, AWG#6 GROUND

EXISTING 120/280 VOLT 1-PH PANELBOARD MOUNTED ON WOOD POLE. INSTALL NEW CIRCUIT BREAKERS IN SPARE SPACES. (SEE NOTE FOR FURTHER INFORMATION)

REVISED 3/15/13

PROJECT NO. F-5503B
DARE COUNTY
 STATION: _____

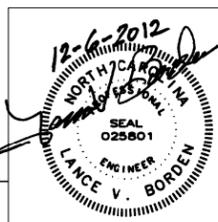
SHEET 1 OF 3

REVISIONS

- 1 CLARIFIED RIGID CONDUIT TO BE PVC; REMOVED EXTRANEOUS CALLOUT.



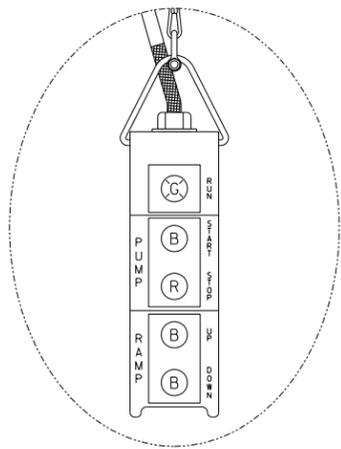
Mechanicsburg, PA NC License No. C-2979



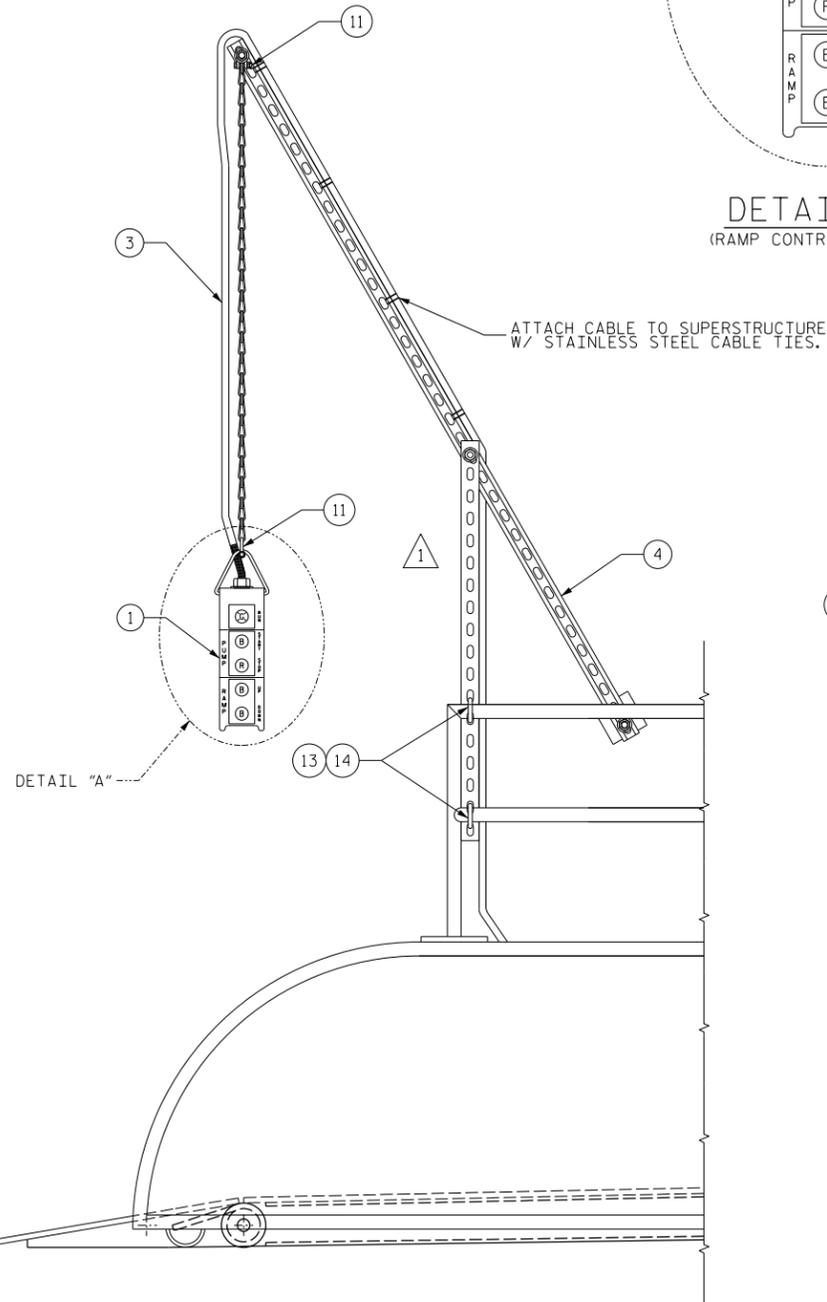
STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH					
ELECTRICAL LAYOUT					
RODANTHE FERRY BASIN					
REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1	LVB	3/12/13	3		
2			4		
					SHEET NO.
					TOTAL SHEETS

DRAWN BY : JAB DATE : 03-12-13
 CHECKED BY : LVB DATE : 03-12-13

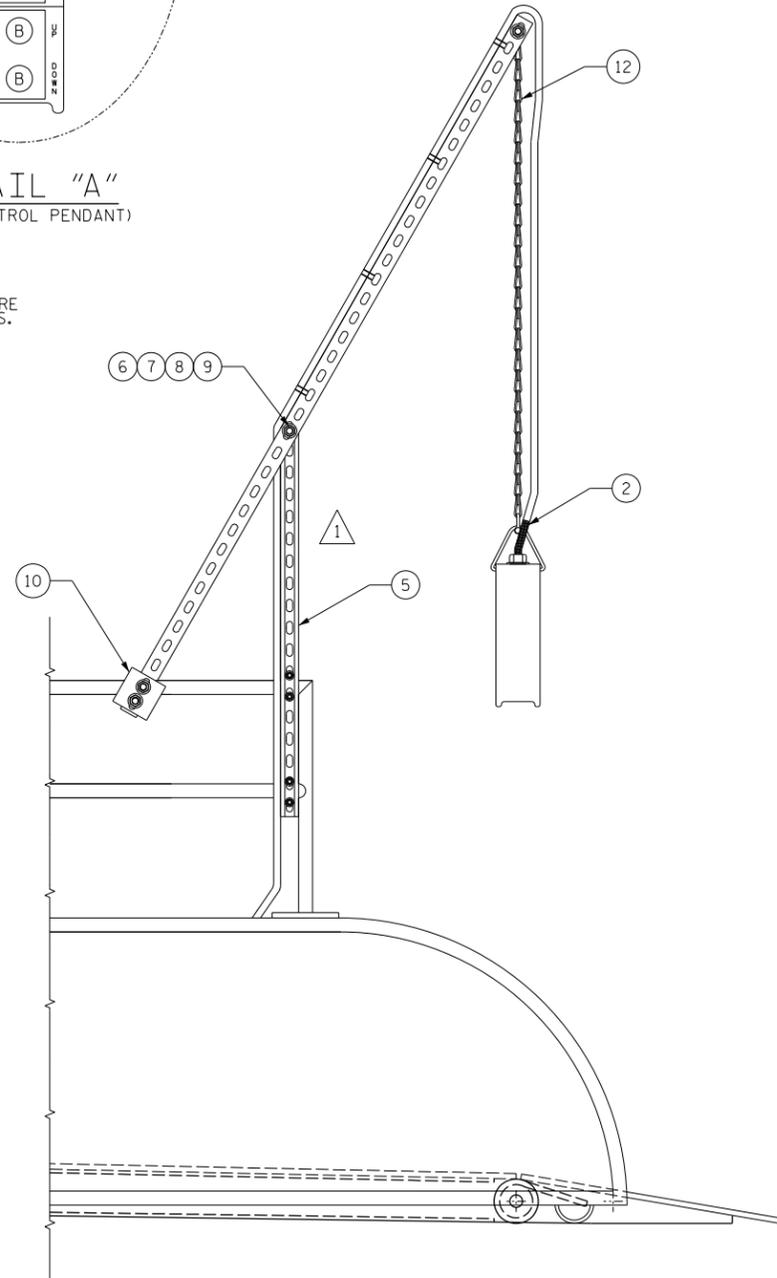
REVISED 3/15/13



DETAIL "A"
(RAMP CONTROL PENDANT)



ELEVATION



ELEVATION
(VIEW FROM OPP. SIDE)

BILL OF MATERIALS					
ITEM NO.	QUANTITY	DESCRIPTION	MANUFACTURER	PART NUMBER	
1	1	PENDANT STATION	SQUARE D	CLASS 9001	
		NEMA 4X ENCLOSURE		TYPE SKYP4	
	1	LEGEND PLATE (CUSTOM)	SQUARE D	CLASS 9001	
		RAMP - UP-DOWN		TYPE SKN299	
	1	LEGEND PLATE (CUSTOM)	SQUARE D	CLASS 9001	
		PUMP - START - STOP		TYPE SKN299	
	1	LEGEND PLATE	SQUARE D	CLASS 9001	
		RUN		TYPE SKN124	
	1	1	PILOT LIGHT (LED)	SQUARE D	CLASS 9001
					GREEN
	1	1	OPERATOR	SQUARE D	CLASS 9001
					PUSH BUTTON
	3	1	RUBBER BOOT	SQUARE D	CLASS 9001
					BLACK
1	1	RUBBER BOOT	SQUARE D	CLASS 9001	
				RED	TYPE KU-2
1	1	OPERATOR	SQUARE D	CLASS 9001	
				PUSH BUTTON	TYPE SKRU-10
2	1	KELLEMS DELUXE LIQUID-TIGHT CORD GRIP	KELLEMS	07401017	
3	12 TO 16 FT.	FLEXIBLE CABLE	A.I.W. CORP	16awg-10c-SOOW	
		10 CONDUCTOR - 16awg			
4	5 TO 6 FT.	STAINLESS-STEEL SUPERSTRUT	THOMAS & BETTS	A-1200-HS-SS	
5	3 FT.	STAINLESS-STEEL SUPERSTRUT	THOMAS & BETTS	A-1200-HS-SS	
6	3 IN.	STAINLESS STEEL PIPE	VARIOUS	N/A	
		1/2" IP (CONDUIT OR PIPE)			
7	4 IN.	STAINLESS STEEL PIPE	VARIOUS	N/A	
		1/2" IP (CONDUIT OR PIPE)			
8	10 IN.	THREADED ROD	VARIOUS	N/A	
		5/8" X 11			
9	4	HEX NUT	VARIOUS	N/A	
		5/8" X 11			
10	12 LBS.	WEIGHT - COUNTERBALANCE	CUT TO SUIT, DRILL AND TAP	LEAD	
		3.5" X 3.5" X 2.5" OF LEAD (APPROX.)	TWO 5/16" MOUNTING HOLES	INGOT	
11	2	SHACKLE	VARIOUS	N/A	
		1/4" GALVAIZED			
12	2 TO 3 FT.	CHAIN	VARIOUS	3601T38	
		SAFE AND REGISTER		(MCMMASTER-CARR)	
13	1 PACKAGE	STAINLESS STEEL U-BOLTS	VARIOUS	8896T56	
		3/8"-16 FOR 1" PIPE		(MCMMASTER-CARR)	
14	1 PACKAGE	STAINLESS STEEL FENDER WASHERS	VARIOUS	90313A114	
		3/8" X 1-1/4" OD		(MCMMASTER-CARR)	

NOTE:

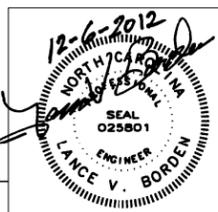
- BILL OF MATERIALS IS NOT ALL INCLUSIVE. ADDITIONAL HARDWARE AND/OR COMPONENTS MAY BE REQUIRED. CONTRACTOR TO VERIFY ALL COMPONENTS AND DIMENSIONS.
- GATE CONTROL ENCLOSURE SHALL BE A NEMA 4X STAINLESS STEEL ENCLOSURE. ALL CONDUIT CONNECTIONS SHALL BE LIQUID TIGHT AND CONNECTED TO THE BOTTOM OF THE ENCLOSURE.
- ALL HARDWARE SHALL BE STAINLESS STEEL.

PROJECT NO. F-5503B
DARE COUNTY
STATION: _____

SHEET 3 OF 3

REVISIONS

- 1 REMOVED TRAFFIC GATE CONTROL PENDANT



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

CONTROL
PENDANT DETAILS

RONDANTHE
FERRY BASIN

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	TOTAL SHEETS
1	LVB	3/12/13	3			
2			4			

DRAWN BY : JAB DATE : 03-12-13
CHECKED BY : LVB DATE : 03-12-13