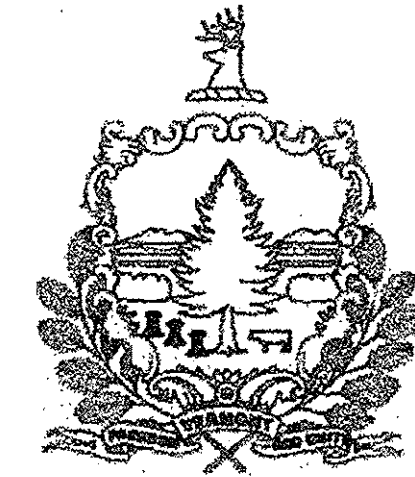


LIST OF SHEETS

SHEET NO.	TITLE
1 OF 4	TITLE SHEET
2 OF 4	PAY ITEMS AND QUANTITIES
3 OF 4	WORK PACKAGE 1--MECHANICAL
4 OF 4	WORK PACKAGE 1--ELECTRICAL

STATE OF VERMONT AGENCY OF TRANSPORTATION



PROPOSED IMPROVEMENT BRIDGE PROJECT

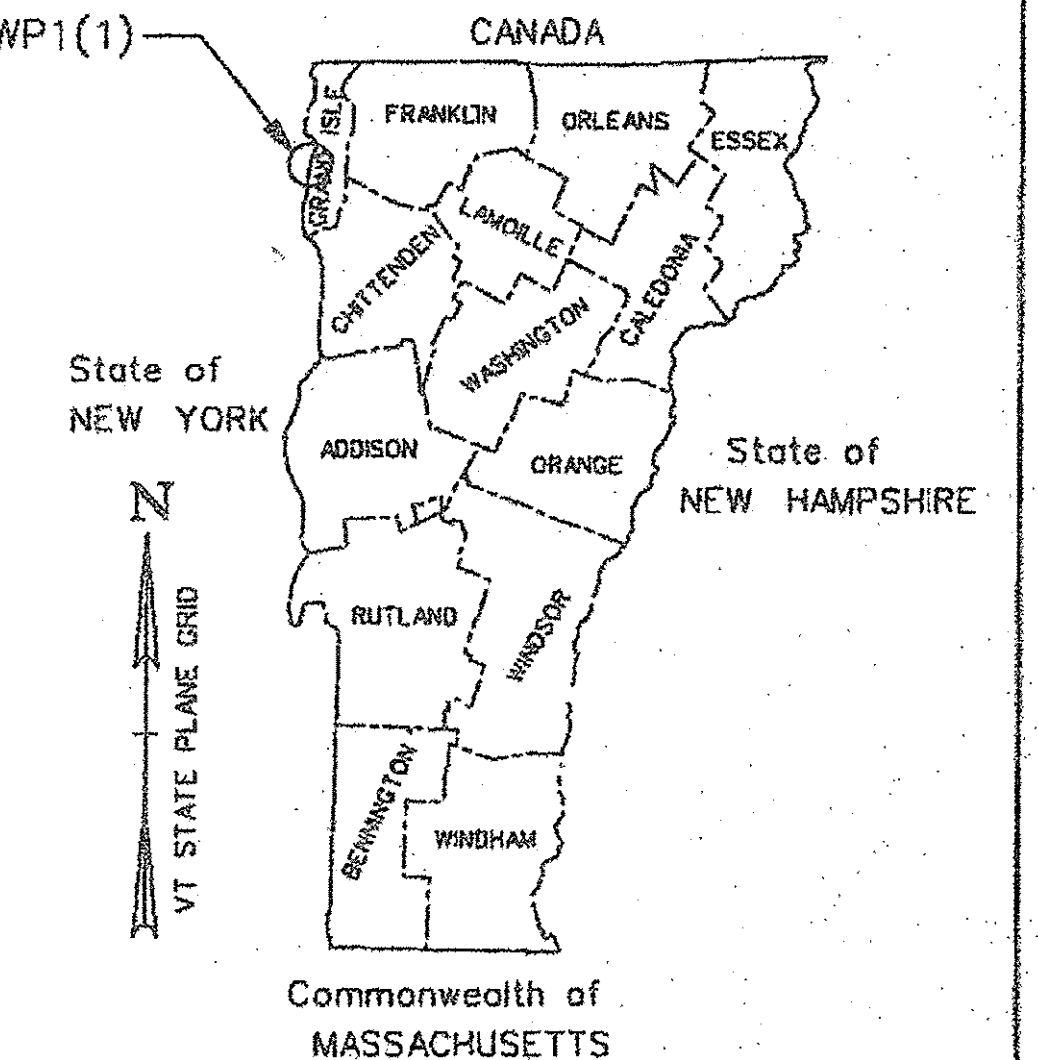
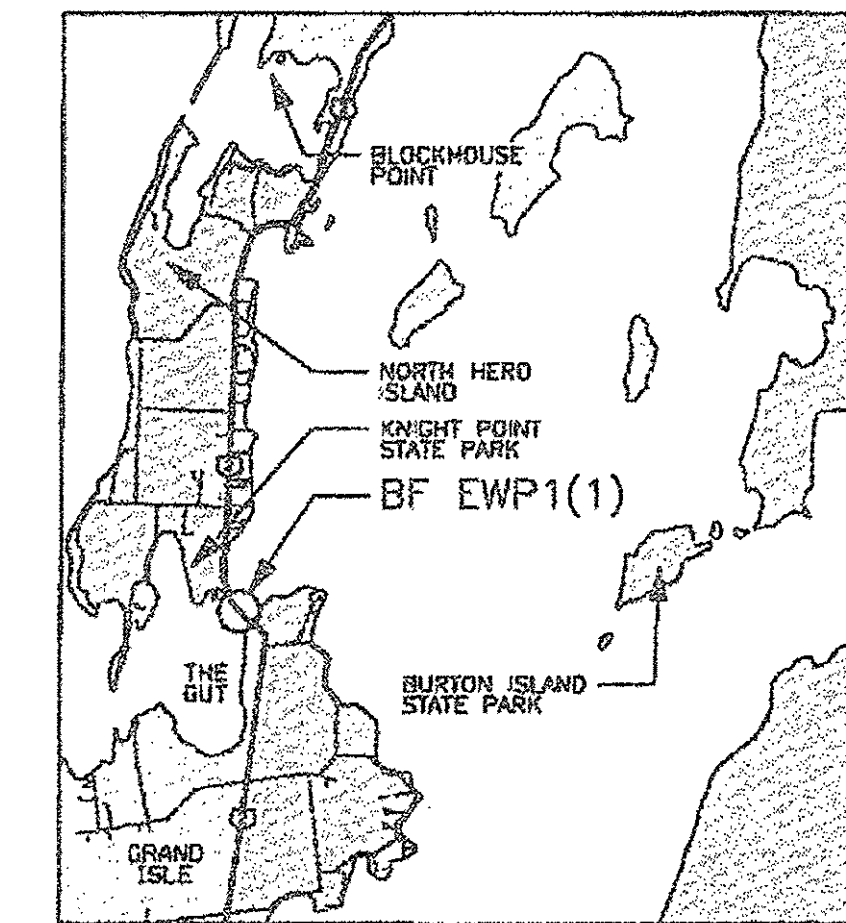
TOWN OF NORTH HERO – GRAND ISLE
COUNTY OF GRAND ISLE

ROUTE NO : US ROUTE 2 BRIDGE NO : 8

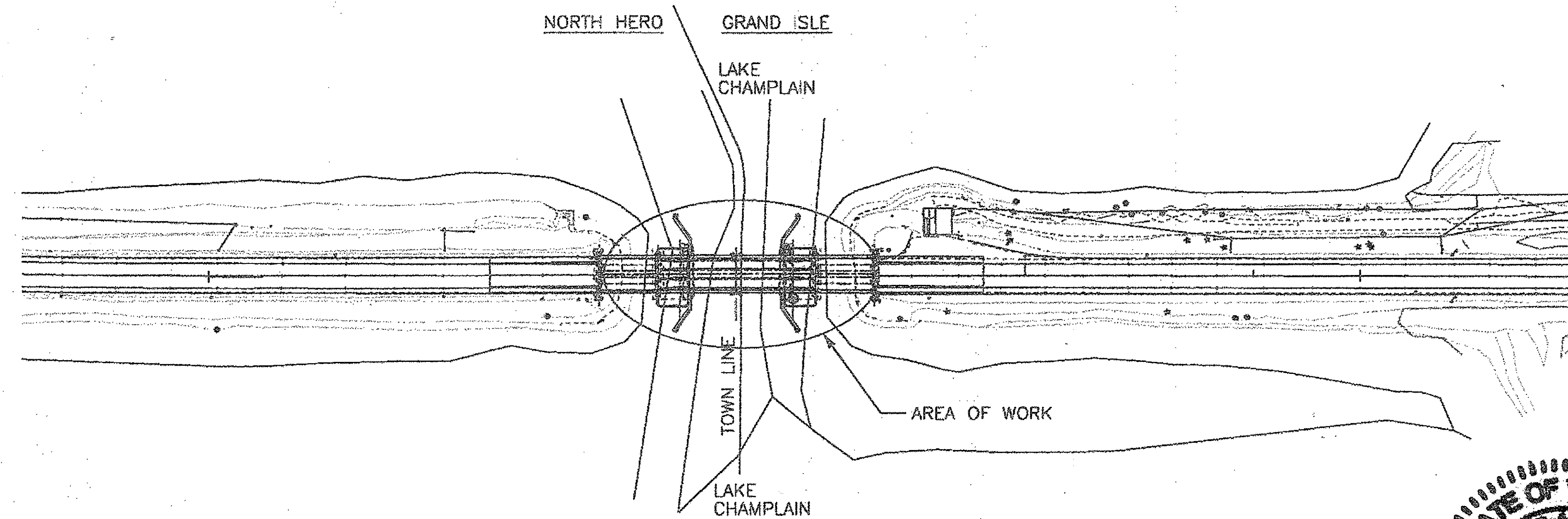
PROJECT LOCATION : LOCATED ON US ROUTE 2, APPROXIMATELY 2,000 FEET NORTH OF THE
INTERSECTION OF US ROUTE 2 AND EAST SHORE NORTH OVER LAKE CHAMPLAIN.

PROJECT DESCRIPTION : INTERIM DRAWBRIDGE REPAIRS – WORK PACKAGE 1

LENGTH OF STRUCTURE : 258.80 FEET.



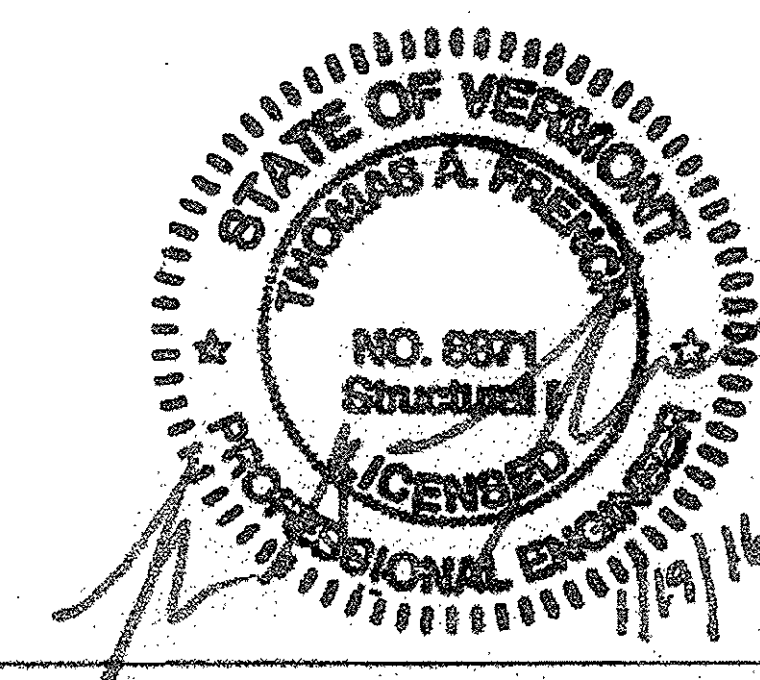
RECORD PLANS	
CONTRACTOR:	CIANBRO CORP. – PITTSFIELD, ME
RESIDENT ENGINEER:	GREG WILCOX
CONSTRUCTION BEGAN:	FEBRUARY 8, 2016
CONSTRUCTION COMPLETE:	MARCH 21, 2016
RECORD PLANS BY:	GREG WILCOX & AARON JAMES
I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.	
BY	RESIDENT ENGINEER
DATE	2/17/16
NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.	



THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT. CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL
SURVEYED BY :
SURVEYED DATE :
DATUM
VERTICAL: N/A
HORIZONTAL: N/A

SCALE 1" = 80'-0"
80 0 80



DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATOR	
APPROVED	DATE 01/20/16
DIRECTOR OF PROGRAM DEVELOPMENT	
APPROVED	DATE 01/19/2016
PROJECT MANAGER : T. FRENCH	
PROJECT NAME : NORTH HERO INTERIM REPAIRS	
PROJECT NUMBER : BF EWP1(1)	
SHEET 1 OF 4 SHEETS	

WORK PACKAGE 1				
ITEM	TITLE	DESCRIPTION OF WORK	UNITS	QTY.
635.11	MOBILIZATION/ DEMOBILIZATION	ALL PREPARATORY WORK AND APPARATUS FOR MOVEMENT OF PERSONNEL, EQUIPMENT, SUPPLIES AND INCIDENTALS TO AND FROM THE PROJECT SITE	LS	1
900.645	SPECIAL PROVISION (PARTIAL REMOVAL OF STRUCTURE)	MOTOR REMOVAL MACHINERY BRAKE THRUSTER REMOVAL	LS	1
900.645	SPECIAL PROVISION (ELECTRICAL EQUIPMENT INSPECTION AND TESTING)	TRANSPORT THE ELECTRICAL EQUIPMENT TO THE REPAIR FACILITY TEST AND INSPECT SPAN DRIVE MOTORS AND MACHINERY BRAKE THRUSTERS	LS	1

630.10 UTO'S CO/SA

630.15 FLAGGERS CO/SA

641.10 TRAFFIC CONTROL CO/SA

900.515 CRANE RENTAL CO/SA

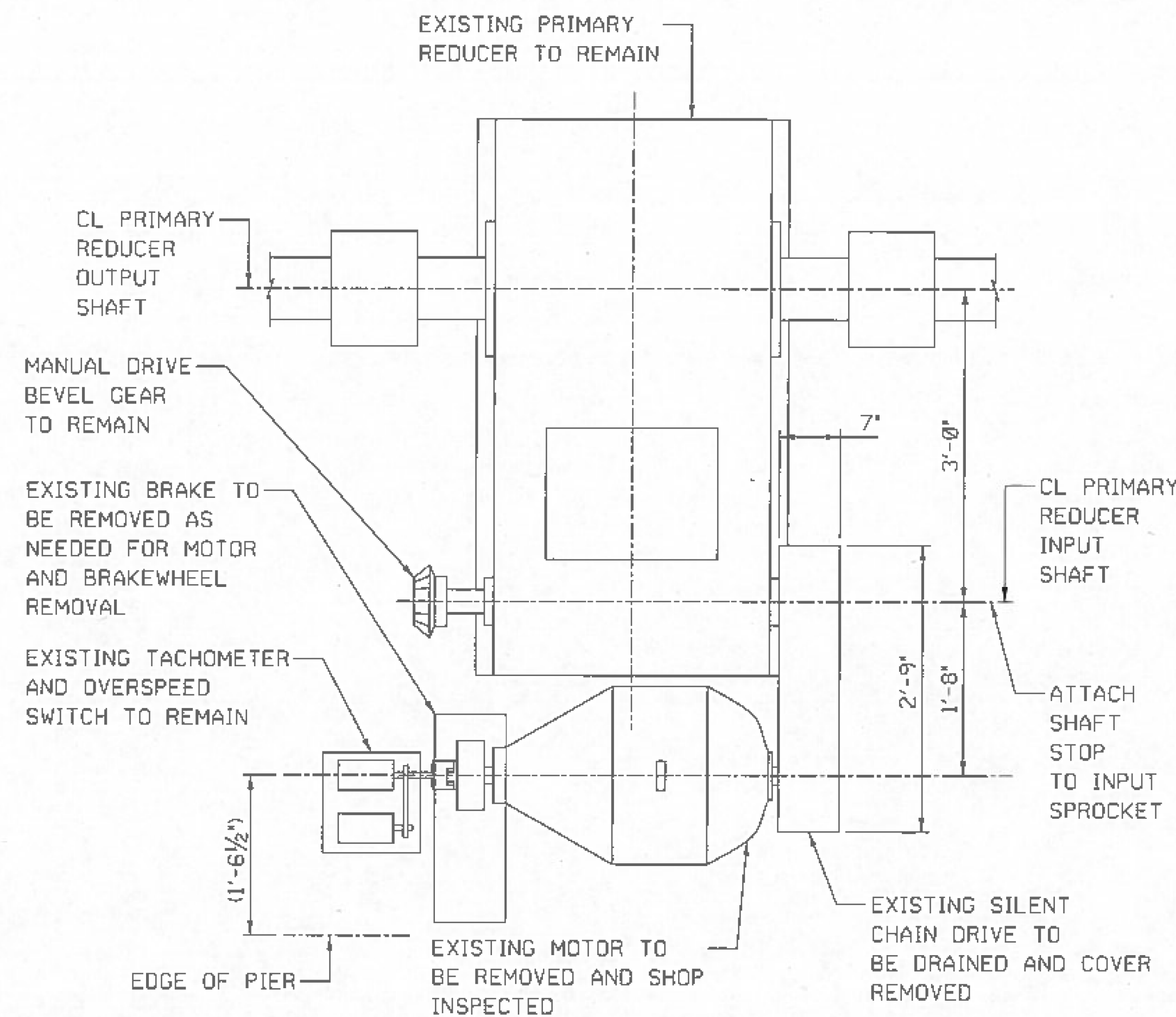
900.545 CREDIT FOR BARGE
ELIMINATION WORK

GENERAL NOTES

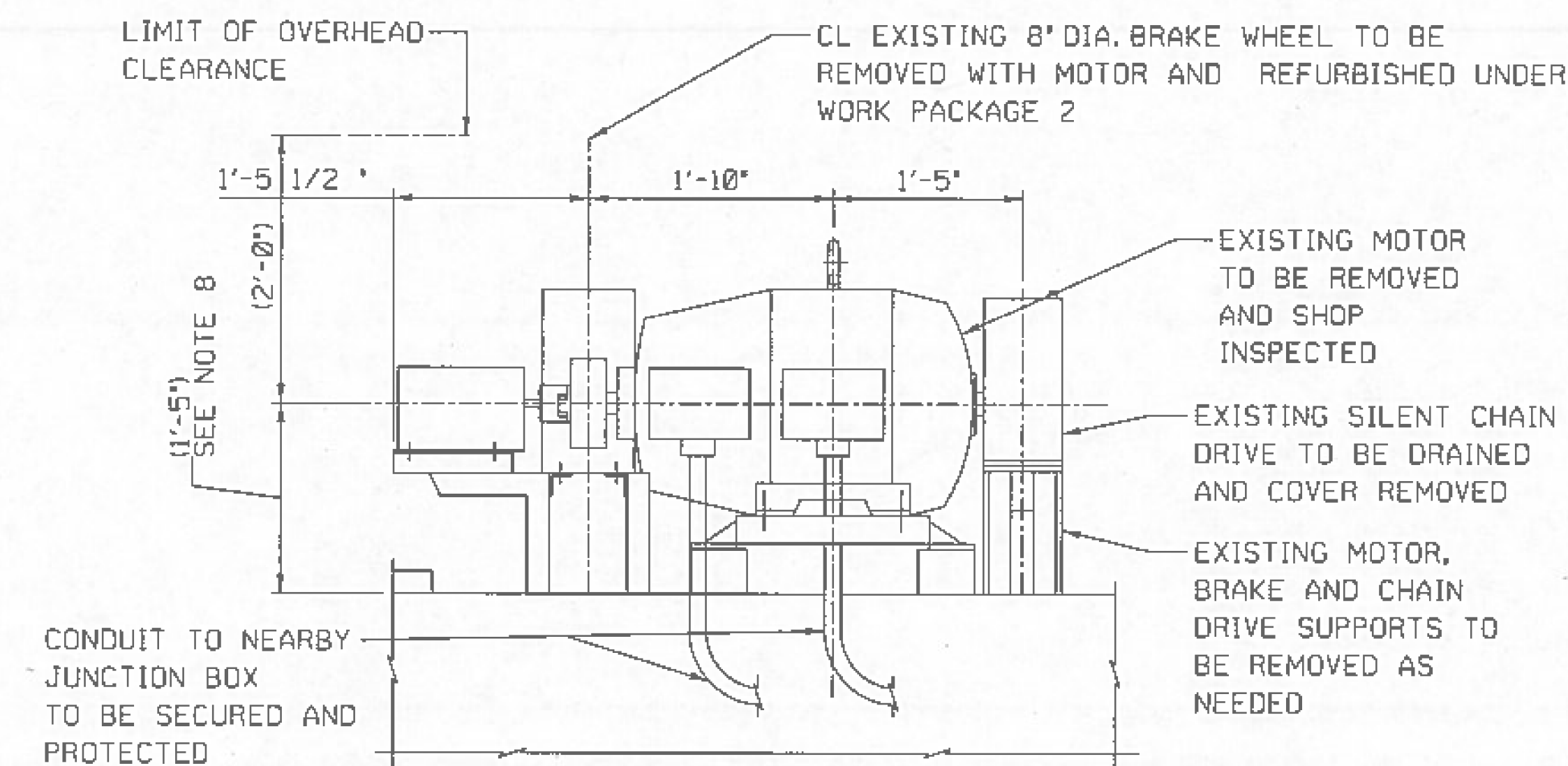
1. STEEL TO BE ASTM A709 GRADE 36 UNLESS SPECIFIED OTHERWISE.

LEPPERT-NUTMEG INC. TESTED 20 HP ELECTRICAL MOTORS. (BLOOMFIELD CT)
INDUSTRIAL BRAKE COMPANY TESTED BRAKE THRUSTERS. (MARS PA)

PROJECT NAME: NORTH HERO INTERIM REPAIRS	PLOT DATE: 01/19/2016
PROJECT NUMBER: BF EWP1(1)	DRAWN BY: C. MADDEN
FILE NAME: z12b142bdr-plq.dgn	CHECKED BY: P. DAVIS
PROJECT LEADER: T. FRENCH	SHEET 2 OF 4
DESIGNED BY: C. MADDEN	
PAY ITEMS AND QUANTITIES	



EXISTING MAIN SPAN DRIVE ASSEMBLY
PLAN VIEW
(2) LOCATIONS



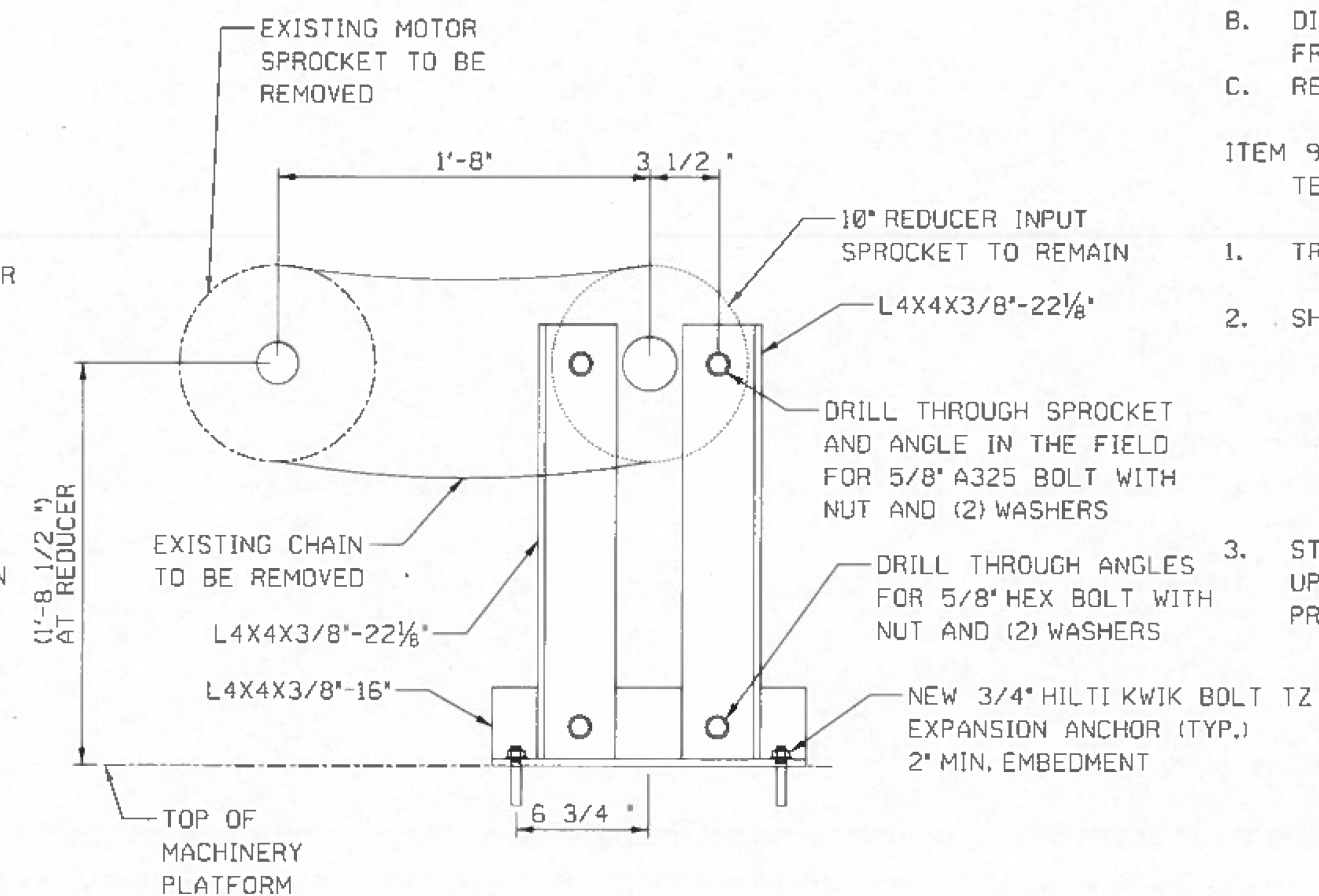
EXISTING MAIN SPAN DRIVE ASSEMBLY
ELEVATION
(2) LOCATIONS

GENERAL NOTES

1. THE DIMENSIONS PROVIDED HERE ARE APPROXIMATE AND FOR REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND MEASURING ANY AND ALL DIMENSIONS NECESSARY FOR THE COMPLETION OF THE WORK.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE PROTECTION TO ALL EXISTING AND REMAINING MACHINERY TO WHICH WORK IS BEING PERFORMED. DAMAGE TO REMAINING MACHINERY COMPONENTS OCCURRING DURING THE REMOVAL OF MACHINERY WILL BE REPAIRED AT NO COST TO THE AGENCY.
3. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. DETAILS SHOWN HERE ARE FOR REFERENCE PURPOSES ONLY AND ARE NOT TO SCALE.
5. ALL ELECTRICAL EQUIPMENT TO BE LOCKED AND TAGGED OUT PRIOR TO COMMENCEMENT OF REMOVAL WORK.
6. THE SHAFT STOP SHALL BE CONSIDERED INCIDENTAL TO THE REMOVAL WORK.
7. SEE SHEET 2 OF 4 FOR PAY ITEMS AND QUANTITIES.
8. DIMENSIONS SHOWN FOR EXISTING MOTOR SUPPORT ARE APPROXIMATE. MOTOR SUPPORT DETERIORATION HAS LOWERED THE ELEVATION OF THE MOTOR CENTER LINE BELOW DESIGNED VALUE.

SHAFT STOP BILL OF MATERIALS

NO.	ITEM	MATERIAL	MANUFACTURER/CAT NO.	QUANTITY
1	L 4"x4"x4-3/8"	ASTM A709 GR 36	-	10'-1/2"
2	5/8" BOLTS	A325	-	8
3	5/8" NUTS	A563	-	8
4	5/8" WASHERS	F436	-	16
5	3/4" ANCHOR BOLTS	CARBON STEEL	HILTI KWIK BOLT TZ	4



NEW SHAFT STOP
ELEVATION
(2) LOCATIONS

SUMMARY OF WORK PACKAGE 1

ITEM 900.645 SPECIAL PROVISION (PARTIAL REMOVAL OF STRUCTURE)

1. MOTOR REMOVAL (2 LOCATIONS) PAY ITEM 900.645

BEFORE REMOVING ANY EQUIPMENT ENSURE THAT THE MACHINERY BRAKES ARE SET AND THE SPAN LOCKS ARE DRIVEN. ENSURE THAT POWER HAS BEEN TURNED OFF TO THE MAIN SPAN DRIVE MOTORS. QUICKLY MANUALLY RELEASE AND THEN SET THE MOTOR BRAKE TO REMOVE ANY RESIDUAL TORQUE FROM THE SYSTEM.

- A. DISCONNECT MOTOR ELECTRICAL LEADS AND SECURE THEM. ENSURE THAT THE LEADS ARE PROTECTED FROM MOISTURE.
- B. REMOVE SILENT CHAIN DRIVE TOP COVER, DRAIN LUBRICANT AND DISCARD.
- C. REMOVE LOWER CHAIN GUARD AND CUT/GRIND BACK SUPPORTS FOR ACCESS.
- E. DRILL THROUGH EXISTING 10" 3 STRANDED SILENT CHAIN REDUCER INPUT SPROCKET TO ATTACH SHAFT STOP. SEE DETAIL ON THIS SHEET
- E. INSTALL SHAFT STOP TO PIER WITH ANCHOR BOLTS AS PER MANUFACTURER'S RECOMMENDATIONS.
- F. AFTER STOP IS INSTALLED AND SPROCKET IS SECURED, REMOVE MOTOR DRIVE CHAIN.
- G. REMOVE MOTOR AND ATTACHED BRAKE WHEEL.

DOCUMENT CHAIN DRIVE MEASUREMENTS. DOCUMENT CHAIN SPECIFICATIONS. MOTOR CHAIN SPROCKET TO REMAIN ON SHAFT FOR SHOP DISASSEMBLY.

2. MACHINERY BRAKE THRUSTER REMOVAL (3 LOCATIONS) PAY ITEM 900.645

THIS ITEM INCLUDES THE REMOVAL OF THE MACHINERY BRAKE THRUSTERS FOR REHABILITATION. THERE ARE A TOTAL OF THREE WORKING BRAKES ON THE BRIDGE AND ONE BRAKE WITHOUT A THRUSTER.

BEFORE STARTING REMOVAL, ENSURE THAT THE SHAFT STOP AT THE PRIMARY REDUCER INPUT SHAFT IS INSTALLED AND THAT THE SPAN LOCKS ARE DRIVEN. ALSO ENSURE THAT MACHINERY BRAKE POWER IS DISCONNECTED.

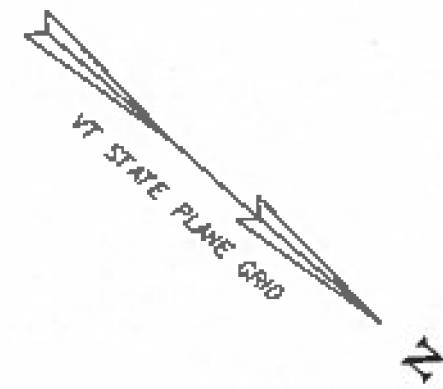
- A. ENSURE THAT THE MACHINERY BRAKES ARE SET, ASSURING THAT THE MANUAL RELEASE IS DISENGAGED.
- B. DISCONNECT POWER LEADS FROM THE BRAKE AND SECURE. PROTECT LEADS FROM MOISTURE AND OTHER CONTAMINATION.
- C. REMOVE THE THRUSTERS AND TRANSPORT FOR SHOP REHABILITATION.

ITEM 900.645 SPECIAL PROVISION (ELECTRICAL EQUIPMENT INSPECTION AND TESTING)

1. TRANSPORT SPAN MOTORS AND THRUSTERS TO REPAIR FACILITY.
2. SHOP INSPECTION
 - A) TEST AND INSPECT MOTOR FOR INSULATION RESISTANCE AND CONDITION. PROVIDE A WRITTEN REPORT WITH RECOMMENDATIONS.
 - B) TEST THRUSTER FOR INSULATION RESISTANCE, FLUID LEVEL AND CONDITION, AND OUTPUT THRUST AND STROKE. PREPARE A WRITTEN REPORT WITH FINDINGS.
3. STORAGE OF 2 SPAN MOTORS AND 3 BRAKE THRUSTERS FOR A PERIOD OF UP TO 3 MONTHS. THE MOTORS AND BRAKES SHALL BE SEGREGATED AND PROTECTED FROM DAMAGE.

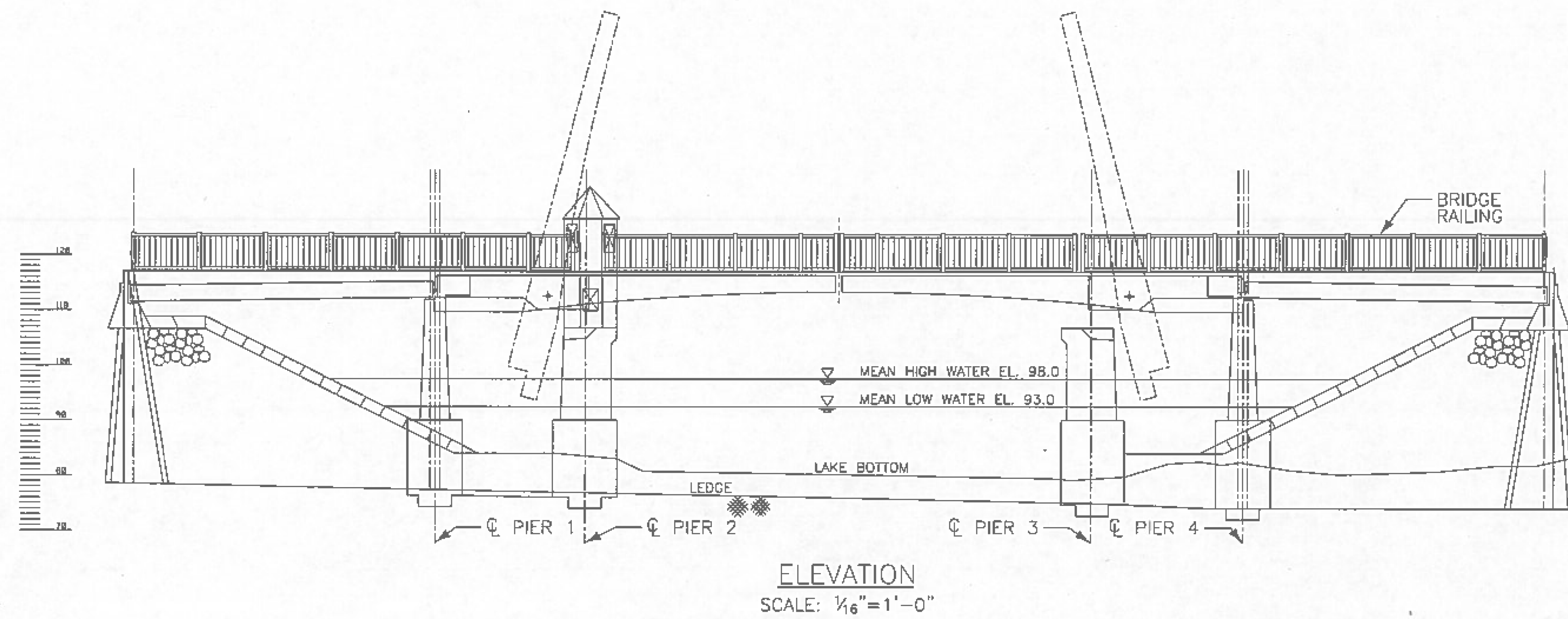
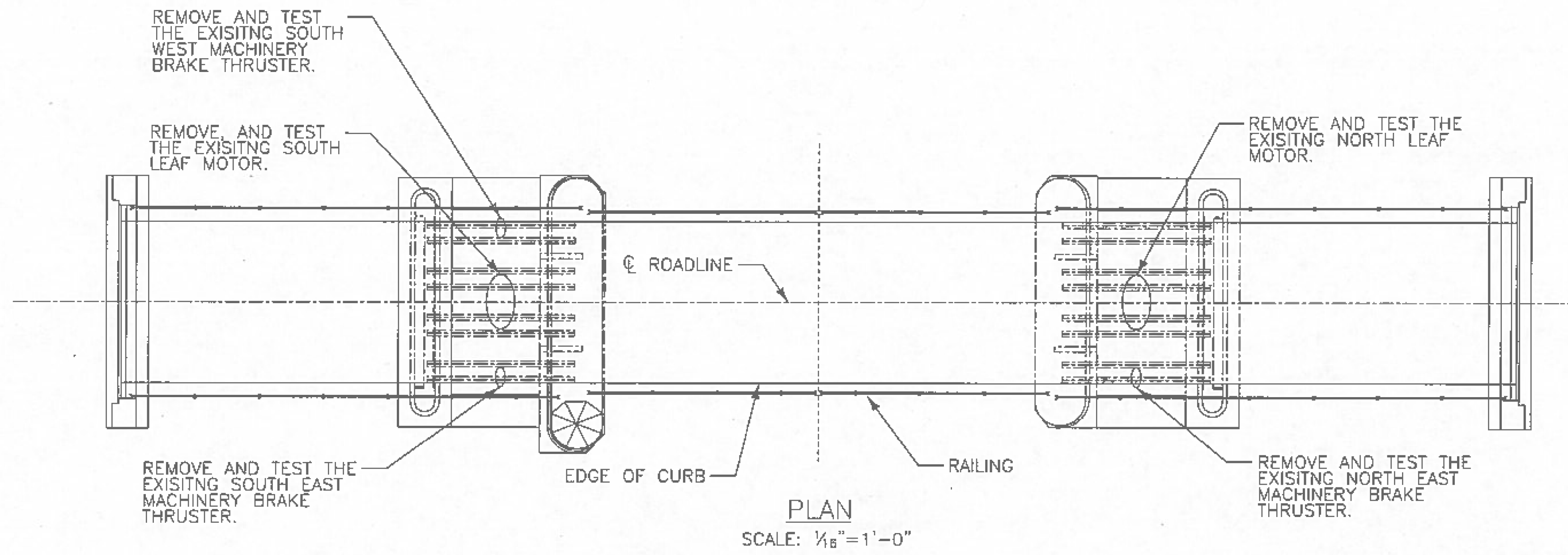
• - TWO 20 HP MOTORS REMOVED. PREPARED 18N3716 & 2-8N3716. 18N3716 COULD NOT BE LOAD TESTED PRIOR TO DISASSEMBLY BECAUSE OF VIBRATIONS (BEARING).

PROJECT NAME: NORTH HERO INTERIM REPAIRS	PLOT DATE: 01/19/2016
PROJECT NUMBER: BF EWP1(1)	DRAWN BY: C. MADDEN
FILE NAME: z12b142bdr_mwpl.dgn	CHECKED BY: P. DAVIS
PROJECT LEADER: T. FRENCH	SHEET 3 OF 4
DESIGNED BY: C. MADDEN	
WORK PACKAGE 1 - MECHANICAL	



NOTES:

1. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE STATE OF VERMONT AGENCY OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR CONSTRUCTION," DATED 2011.
2. SEE MECHANICAL WORK ITEMS ON SHEET NO. 3.
3. SEE SHEET 2 OF 4 FOR PAY ITEMS AND QUANTITIES.



PROJECT NAME: NORTH HERO INTERIM REPAIRS	PLOT DATE: 01/19/2016
PROJECT NUMBER: BF EWP1(1)	DRAWN BY: S. YEARWOOD
FILE NAME: z12b142bdr_ewp1.dgn	CHECKED BY: K. HAJJEH
PROJECT LEADER: T. FRENCH	SHEET 4 OF 4
DESIGNED BY: Y. ADELEKAN	
WORK PACKAGE 1 - ELECTRICAL	