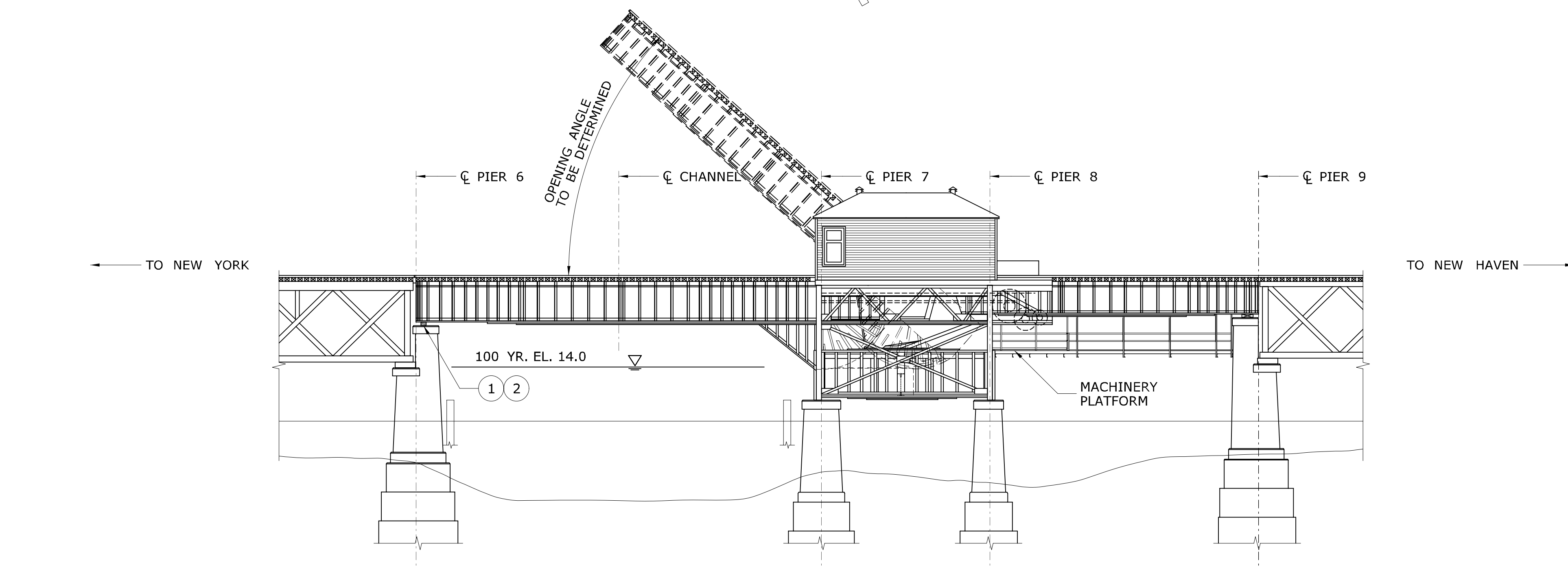


PLAN VIEW
SCALE: 1/16" = 1'-0"



ELEVATION VIEW
SCALE: 1/16" = 1'-0"

MECHANICAL REHABILITATION SCOPE ITEMS

- 1 REMOVE AND PROPERLY DISPOSE OF AIR BUFFER SYSTEMS IN CONJUNCTION WITH REPLACEMENT OF SPAN MOTORS AND DRIVES (PROPOSED REPAIR ITEM 5) USE NEW MOTOR/DRIVE COMBINATION TO REPLACE THE FUNCTION OF THE EXISTING AIR BUFFERS.
- 2 AFTER THE NEW ELECTRICAL SYSTEM IS IN PLACE, THE CONTRACTOR WILL ASSESS THE SEATING PROTOCOLS AND MAKE APPROPRIATE CHANGES TO LOCK LATCHES AND OR POSSIBLE SHIMMING OF THE LIVE LOAD SHOES TO INSURE PROPER SEATING OF THE SPAN.
- 3 REPLACE TACHOMETER/OVERSPEED SWITCHES THROUGH THE USE OF SHAFT MOUNTED ENCODERS ON NEW MOTORS. REPLACE SPAN DRIVE ROTARY CAM LIMIT SWITCHES.
- 4 REPLACE "MOTOR" BRAKES WITH NEW UNITS WITH INTERNAL HEATERS AND ADJUSTABLE SETTING TIME DELAY VALVES. BRAKES TO BE FLANGE MOUNTED TO AUXILIARY SIDE OF NEW MOTORS.
- 5 REPLACE SPAN MOTORS WITH NEW VECTOR DUTY MOTORS WITH SHAFT MOUNTED ENCODERS. REPLACE LOCK MOTORS WITH NEW MOTORS WITH INTEGRAL REAR DISC BRAKES.
- 6 REPLACE EXISTING "C1" AND "C2" COUPLINGS, INCLUDING HUBS MOUNTED TO GEAR REDUCER INPUT SHAFTS.
- 7 REPLACE "MACHINERY" BRAKES WITH NEW UNITS WITH INTERNAL HEATERS AND ADJUSTABLE SETTING TIME DELAY VALVES.
- 8 REPLACE EXISTING PRIMARY REDUCER AND BEARING "B1" WITH NEW REDUCER AND PINION ASSEMBLY USING EXISTING PINION "E". ENSURE PINION IS PROPERLY ALIGNED WITH GEAR "D".
- 9 TEMPORARILY REMOVE OPERATING STRUT ASSEMBLIES AND REPLACE BUSHINGS AND PINS. CLEAN RACK TO BARE METAL AND INSPECT FOR DAMAGE AND EXCESSIVE WEAR. TEMPORARILY REMOVE OPERATING STRUT SHEAVE AND OPERATING STRUT GUIDE SHEAVE ASSEMBLIES, CLEAN TO BARE METAL, RECONDITION AND RE-PAINT. REPLACE BEARINGS, RE-INSTALL AND RE-LUBRICATE.
- 10 REPLACE LUBRICATION PIPING WITH A COMBINATION OF SCHEDULE 40 HARD AND BRAIDED STAINLESS STEEL PIPING.
- 11 REMOVE AND REPLACE ENTIRE TOE LOCK ASSEMBLY.
- 12 REMOVE AND REPLACE HEEL LOCK DRIVE SYSTEM.
- 13 ADD COUNTERWEIGHT TO ACCOMMODATE NEW SOUTH WALKWAY DETAILED ON STRUCTURAL PLANS. MAINTAIN BALANCE THROUGHOUT CONSTRUCTION AND RE-BALANCE MOVABLE SPAN.
- 14 REPLACE THE EXISTING FULLY SEATED PLUNGER LIMIT SWITCHES.
- 15 REPLACE OPERATOR HOUSE HEATING SYSTEM AND WINDOW A/C UNITS WITH A NEW SPLIT HEAT PUMP SYSTEM TO MAKE ROOM FOR ELECTRICAL EQUIPMENT AND IMPROVE OPERATOR VISIBILITY.

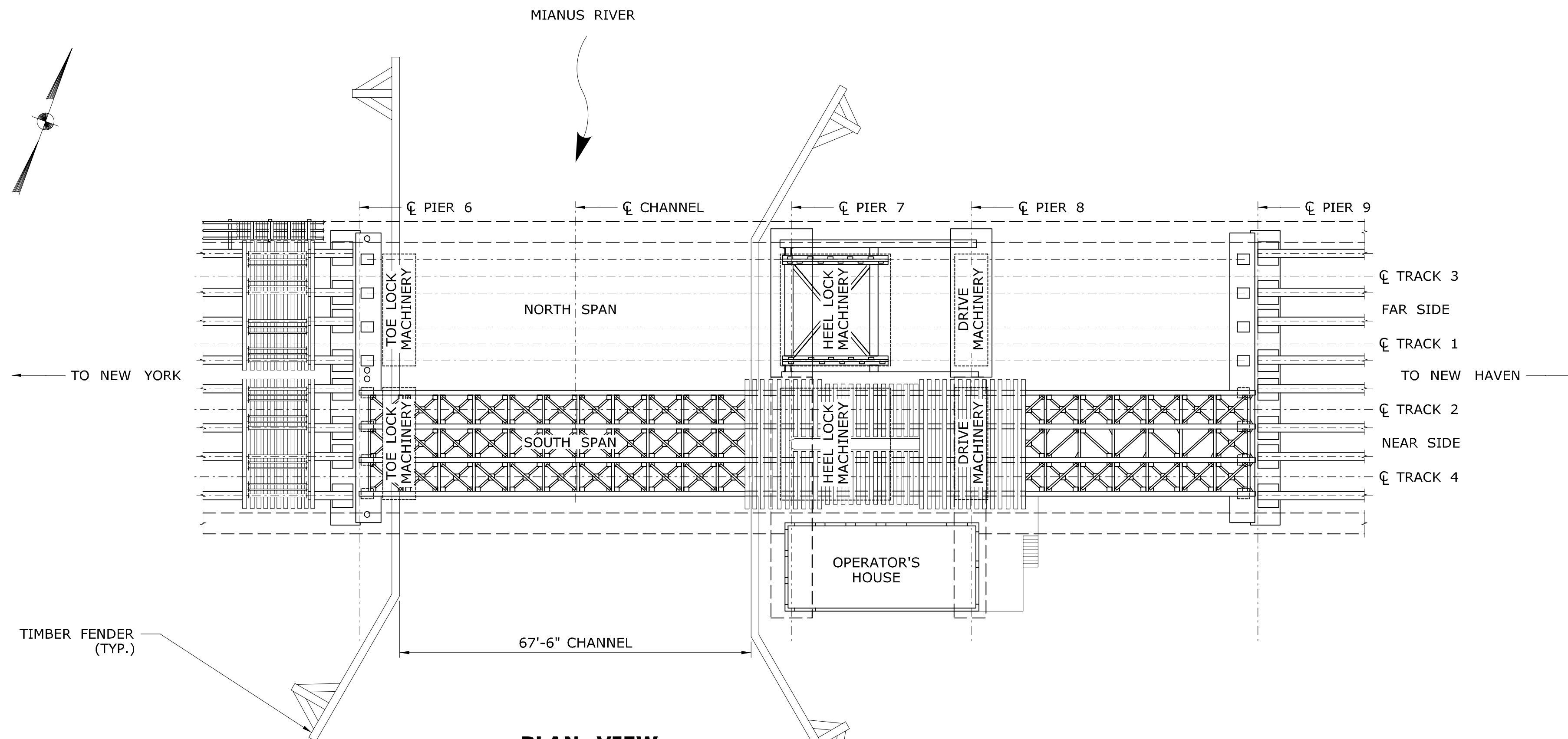
SEMI FINAL DESIGN REVIEW

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: LWN/HWC CHECKED BY: IZ SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/ BLOCK: LOCHNER <small>H. W. LOCHNER, INC. 55 HIGHLAND STREET, SUITE 401 EAST HARTFORD, CT 06105</small>	PROJECT TITLE: BRIDGE NO. 08008R COS COB NEW HAVEN MAIN LINE M.P. 29.90 OVER MIANUS RIVER	TOWN: GREENWICH	PROJECT NO. 0301-0173 DRAWING NO. MEC-02 SHEET NO.
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/22/2020	Filename: ...MEC-02 GP&E SCOPE OF WORK.dgn	DRAWING TITLE: GP&E/ SCOPE OF WORK	

PROPOSED ELECTRICAL REHABILITATION

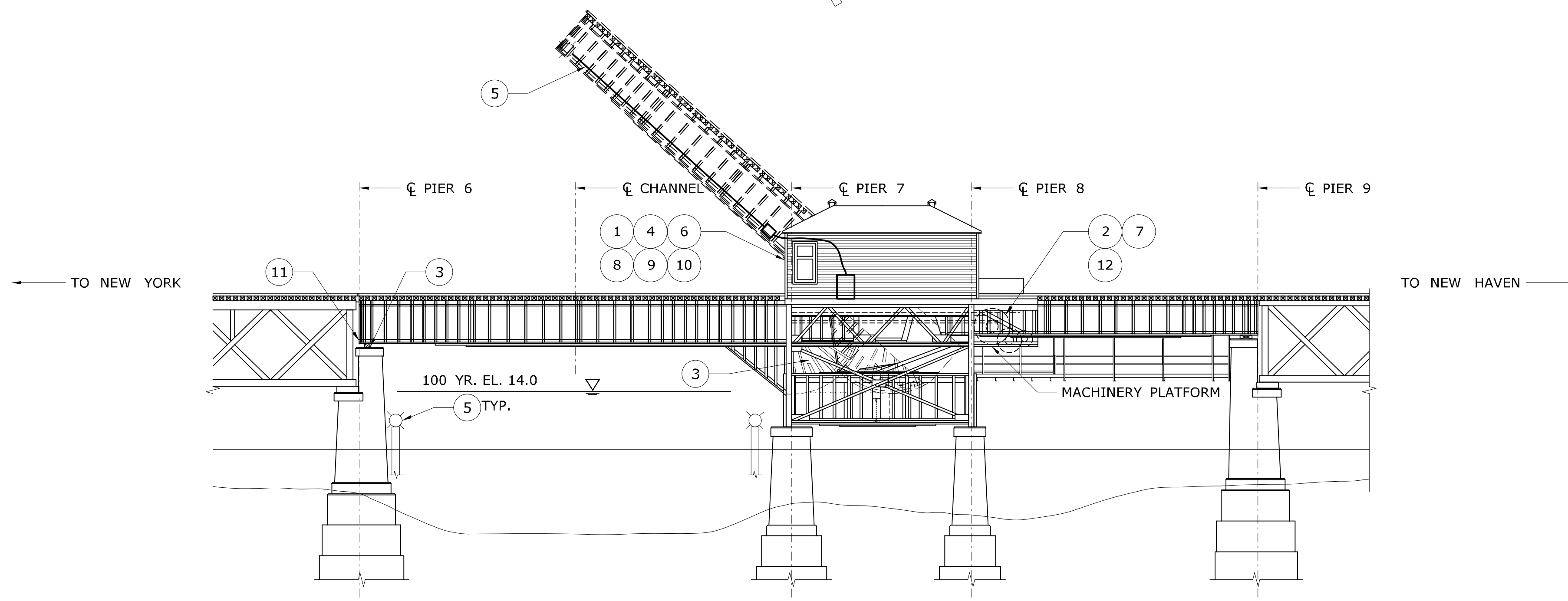
THE BRIDGE ELECTRICAL POWER AND CONTROL SYSTEMS SHALL BE REPLACED WITH NEW, MODERN SYSTEMS AS FOLLOWS:

- 1 SPAN MOTORS:
- FURNISH AND INSTALL FOUR NEW 40 HP MAIN VECTOR DUTY MOTORS. EACH MOTOR SHALL OPERATE THE SPAN INDEPENDENTLY. EACH MOTOR SHALL BE EQUIPPED WITH A VECTOR DUTY DRIVE AND ENCODER. THE EXISTING DRIVE CABINETS SHALL BE REUSED TO HOUSE THE NEW DRIVES.
- FURNISH AND INSTALL A NEW 7.5 HP AUXILIARY MOTOR AT EACH SPAN. THE AUXILIARY MOTOR SHALL BE DIRECTLY OPERATED FROM THE NEW PLC CONTROL SYSTEM.
- 2 BRAKES:
- FURNISH AND INSTALL NEW MOTOR BRAKES WITH INTERNAL HEATERS AND ADJUSTABLE TIME DELAY VALVES. NEW BRAKES SHALL BE MOUNTED TO REAR EXTENSION SHAFTS OF NEW MOTORS.
- FURNISH AND INSTALL NEW MACHINERY BRAKES WITH INTERNAL HEATERS AND ADJUSTABLE TIME DELAY VALVES.
- 3 LIMIT SWITCHES:
- FURNISH AND INSTALL FULLY SEATED PLUNGER LIMIT SWITCHES WITH NEW SIMILAR UNITS.
- 4 EQUIPMENT UNIT HEATERS:
- FURNISH AND INSTALL NEW EQUIPMENT UNIT HEATERS ON THE BRIDGE AS INDICATED IN THE DRAWINGS.
- 5 NAVIGATIONAL LIGHTING:
- FURNISH AND INSTALL NAVIGATIONAL LIGHTING CONDUIT AND WIRING SYSTEM. NAVIGATIONAL LIGHTS TO REMAIN
- 6 MANUAL TRANSFER SWITCH:
- FURNISH AND INSTALL A MANUAL TRANSFER SWITCH WITH RECEPTACLE ASSEMBLY TO ALLOW THE USE OF A PORTABLE GENERATOR TO POWER THE BRIDGE ELECTRICAL SYSTEM IN THE EVENT OF A POWER OUTAGE.
- 7 CONDUIT SYSTEM:
- RELOCATE/REPLACE THE EXISTING 2" RIGID METAL CONDUIT RUN SO AS TO NOT OBSTRUCT ACCESS TO THE SPAN DRIVE MACHINERY PLATFORMS. FURNISH AND INSTALL NEW CONDUIT AND WIRING AS INDICATED IN THE DRAWINGS.
- 8 PROGRAMMABLE LOGIC CONTROLLER:
- FURNISH AND INSTALL NEW PLC CONTROL SYSTEM.
- 9 MOTOR CONTROL CENTER:
- FURNISH AND INSTALL NEW MOTOR CONTROL CENTER (MCC).
- 10 SPAN CONTROL:
- FURNISH AND INSTALL NEW SPAN OPERATION CONTROL SYSTEM WHICH INCLUDES CP1 AND CP2.
- 11 TOE LOCK:
- FURNISH AND INSTALL NEW TOE LOCK ASSEMBLY SYSTEM AND ASSOCIATED ELECTRICAL COMPONENTS.
- 12 HEEL LOCK:
- FURNISH AND INSTALL NEW HEEL LOCK DRIVE SYSTEM AND ASSOCIATED ELECTRICAL COMPONENTS.



PLAN VIEW

SCALE: 1/16" = 1'-0"



ELEVATION VIEW

SCALE: 1/16" = 1'-0"

SEMI FINAL DESIGN REVIEW

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

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Plotted Date: 6/9/2021

DESIGNER/DRAFTER: E.I.
CHECKED BY: J.L.
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Signature/Block: [Signature]

Filename: ...\\Elec\ELE-03 Scope of Work.dgn

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LOCHNER
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EAST HARTFORD, CT 06105

PROJECT TITLE:
**BRIDGE NO. 08008R
COS COB NEW HAVEN
MAIN LINE M.P. 29.90
OVER MIANUS RIVER**

TOWN: **GREENWICH**

DRAWING TITLE:
SCOPE OF WORK

PROJECT NO. **0301-0173**
DRAWING NO. **ELE-03**
SHEET NO.