Public Utilities Commission of Ohio

Memo

To: Docketing Division

From: Jill Henry, Chief, Rail Division

Cc: PUCO Legal Department

Date: 5/9/2022

Re: PUCO Case No. 22-490-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the Chicago Ft. Wayne & Eastern Railroad Crossing, CR 108D, DOT#532-626Y in Wyandot County, Ohio.

On February 8, 2021, the Ohio Rail Development Commission (ORDC) authorized funding for Chicago Ft. Wayne & Eastern Railroad to install lights and gates at CR 108D, DOT#532-626Y, in Wyandot County, Ohio. The crossing was surveyed, on July 28, 2020, and found to warrant the upgrade. The electric utility provider for this crossing is AEP-Ohio.

The project will be paid for with federal funds and is actual cost. The plans and estimates in the amount of $253,449.00 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in nine months.** Staff requests that the following language be incorporated in the Finding & Order:

It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the railroad will be responsible for this work. This work includes, but is not limited to:

- **Any ancillary work to make the warning devices function as designed and visible to the roadway user, and**
- **MUTCD compliance, including minor roadway work if necessary.**

Please serve the following parties of record:

Genesee & Wyoming Railroad Services, Inc.
Dale Summers
AVP Engineering Northern
47849 Papermill Road
Coshocton, OH 43812

Ohio Rail Development Commission
Allen Bell
Manager Grade Crossing Safety Programs
1980 West Broad Street
Mail Stop #3140
Columbus, OH 43223

Wyandot County Engineer
Michael Kohl
County Engineer
320 N Warpole Street
Upper Sandusky, OH 43351

AEP-Ohio

OHIO RAIL DEVELOPMENT COMMISSION
INTER-OFFICE COMMUNICATION

TO: **John Williams, Transportation Director, PUCO**

FROM: **Allen Bell, Manager, Safety Section, ORDC**

BY: **James Tucker, Project Manager, ORDC** J.T.

SUBJECT: **Wyandot County, County Road 108D.**
DOT #532-626Y, PID 113988

DATE: **March 25, 2022**

The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on July 28, 2020. The Ohio Rail Development Commission (ORDC) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and the plan and estimate are attached

PE has already been provided by the railroad. ORDC approves the site plans and estimates as provided. Please issue a construction-only order for the project outlined above for nine months. This construction authorization is made with the stipulation and understanding that any field work needs prior approval before the work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the railroad will be responsible for this work. This work includes, but is not limited to:

- any ancillary work to make warning devices function as designed and visible to the roadway user, and
- MUTCD compliance – including minor roadway work if necessary.

Thank you for your assistance with these matters.

Attachment: Diagnostic Review
PE Authorization
Plan & Estimate
Letter Agreement

c: Jill Henry, Rail Division Chief, PUCO
ORDC Project Manager (file)

Ohio | Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

March 25, 2022

Mr. Dale Summers
Chicago, Ft. Wayne & Eastern Railroad
2715 Wayne Trace
Ft. Wayne, IN 46803

RE: Wyandot County, CR108D, DOT#532-626Y, PID#113988

Dear Mr. Summers:

The bid process for the referenced project is acceptable. Chicago, FT. Wayne & Eastern Railroad (CFE) may proceed with the construction of the proposed grade crossing warning system in accordance with the abbreviated plan stamped 2/23/22 and estimate dated 2/24/22. This authorization is made with the stipulation and understanding that the approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit. Reimbursement of eligible actual cost is limited to $253,449.00. Additional costs must be approved in writing by the Ohio Rail Development Commission (ORDC) prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon CFE accepting the following instructions:

1. CFE's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to James Tucker, ORDC, email james.tucker@dot.ohio.gov and to the Public Utilities Commission of Ohio at Jill.henry@puco.ohio.gov. CFE's project foreman will also notify the same of any stops and re-starts of the work activity and of the date work was completed for the project.

2. CFE will arrange for utilities to be located at the project site by the Ohio Utilities Protection Service (OUPS) prior to any construction activities at the site. Utilities that are not participating members of the service must be contacted directly by CFE.

3. CFE's project foremen will notify James Tucker at 614-398-6897 (telephone) or james.tucker@dot.ohio.gov (email) of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.

4. Open cut of roadways is *not permitted* except in unusual circumstances and must be coordinated with the local highway authority and preapproved by ORDC.

5. CFE shall send copies of each partial bill to ORDC.Invoice@dot.ohio.gov. Please find the enclosed ODOT Purchase Order to reference when billing.

6. CFE will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.

7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

Thank you for your assistance with these matters.

Sincerely,

James Tucker
Project Manager

C: John Williams, Director, Transportation Department, PUCO
Jill Henry, Rail Division Chief, PUCO
Heather Hamilton, ORDC
ORDC (file)

Force Account Estimate

Estimate to Complete

Railroad:	Chicago, Ft. Wayne & Eastern Railroad (CFER)	**Region:**	NORTHERN
Agency:	ORDC	**State:**	OH
DOT #:	532626Y	**COUNTY:**	Wyandot
ROADWAY:	CR 108D	**CITY:**	Upper Sandusky
DESCRIPTION:	Installation of 12" LED FLS&G, bell, new 6'x6' bungalow w/berm wall, XP4-R w/CWT on Main and Siding. 1-way side light on doll-arm on SW warning device. NBS on approaches. Renew Ijs and switch insulations.		
AGENCY PROJECT NUMBER:	PID# 113988	**ESTIMATE SUBJECT TO REVISION AFTER:**	**08/23/22**

PRELIMINARY ENGINEERING:				
Contracted & Administrative Engineering Services			$	14,800
Subtotal			**$**	**14,800**
CONSTRUCTION & CLOSEOUT:				
Contracted & Administrative Engineering Services			$	12,100
Subtotal			**$**	**12,100**
FLAGGING SERVICE:				
Contracted or Railroad Flagmen Services	10	Days	$	14,000
Subtotal			**$**	**14,000**
UTILITY WORK:				
Power Service			$	10,000
Other			$	-
Subtotal			**$**	**10,000**
CONTRACT WORK:				
Outside Services			$	-
Design & Labor & Material			$	202,549
Subtotal			**$**	**202,549**
RAILROAD TRACK:				
Labor & Material			$	-
Subtotal			**$**	**-**
RAILROAD SIGNAL & COMMUNICATION:				
Labor & Material			$	-
Subtotal			**$**	**-**
PROJECT SUBTOTAL:			**$**	**253,449**
Public Project Admin:	**0.00%**		$	-
Contingencies:	**0.00%**		$	-
PROJECT TOTAL:	**********		**$**	**253,449**
CURRENT AUTHORIZED BUDGET:	**********		$	-
TOTAL SUPPLEMENT REQUESTED:	**********		**$**	**253,449**

DIVISION OF COST:

Agency	100.00%	$	253,449
Railroad	0.00%	$	-

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces & Contractors.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for the railroad work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work.

Estimated prepared by: BPB **Approved by:** **Public Project Department**

DATE: 02/09/21 **REVISED:** 02/24/22 **DATE:** 02/24/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

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SHEET	DESCRIPTION
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01	CROSSING TRACK LAYOUT
02	XP4 CIRCUIT PLAN
03	XP4 PROGRAM
04	XP4 VITAL PROGRAM LOGIC
05	XTI-1S CIRCUITS
06	VIO-44R CIRCUITS
07	IXC-20S CIRCUITS
08	XIP-20 CIRCUITS
09	DATA RECORDER CIRCUITRY
10	GATE LIGHTING CIRCUITRY
11	GATE MECH CIRCUITRY
12	DC POWER DISTRIBUTION
13	SIDE D DETAIL - AC POWER DISTRIBUTION
14	SIDE B DETAIL - TERMINAL BOARD
15	SIDE A DETAIL
16	SIDE C DETAIL
17	TRACK AND CABLE LAYOUT
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REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
2/23/22

CHICAGO, FORT WAYNE
C·F·E
EASTERN RAILROAD

TITLE AND INDEX

CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
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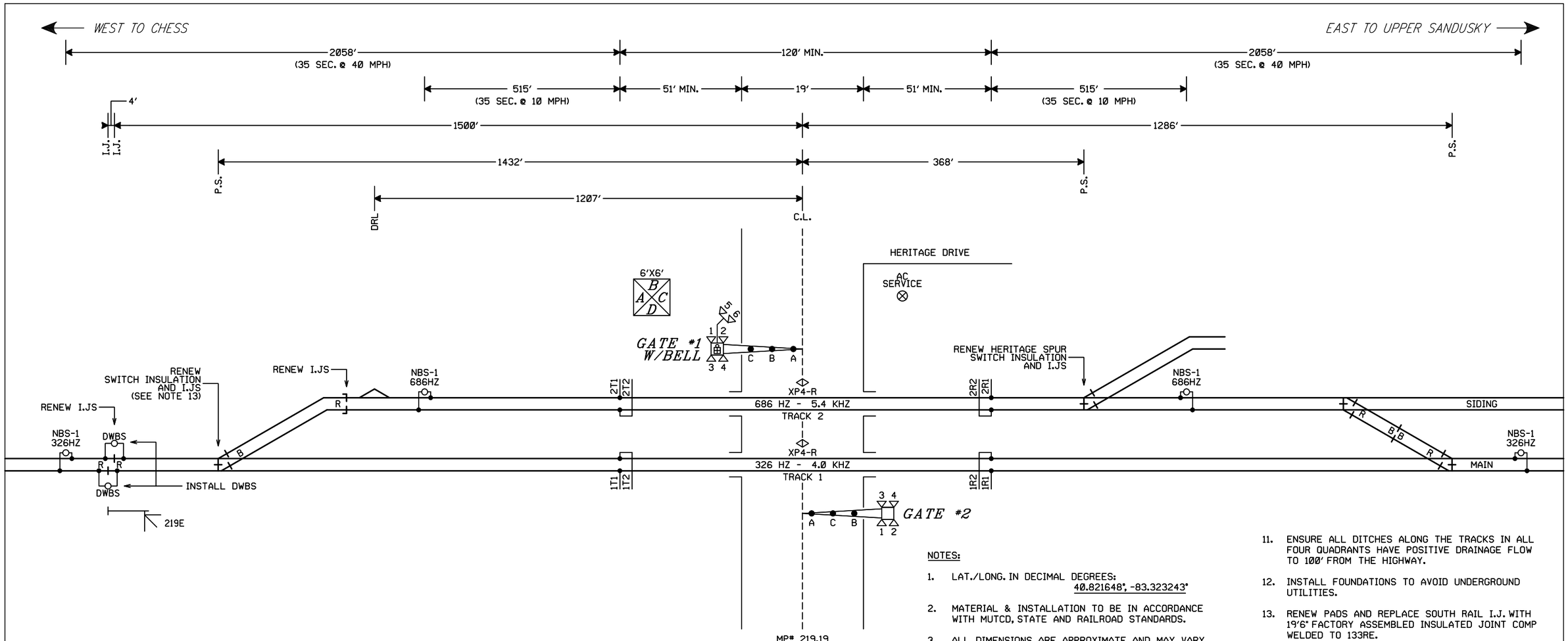

APPROACH DISTANCE CALCULATION

	MAIN	SIDING
ACTUAL PRIME CROSSING WARNING TIME	30 SEC	30 SEC
TIME FOR CROSSING CLEARANCE DISTANCE > 35′	+ 1 SEC	+ 1 SEC
TRAFFIC PRE-EMPTION TIME	+ 0 SEC	+ 0 SEC
TOTAL CALCULATED DESIGN WARNING TIME	31 SEC	31 SEC
EQUIPMENT RESPONSE TIME	+ 4 SEC	+ 4 SEC
BUFFER TIME	+ 0 SEC	+ 0 SEC
TOTAL WARNING TIME FOR APPROACH DISTANCE CALCULATION	35 SEC	35 SEC
CALCULATED AT MAXIMUM TRAIN SPEED	× 40 MPH	× 10 MPH
RATIO OF FEET PER SECOND TO MILES PER HOUR	× 1.47	× 1.47
APPROACH LENGTH (ROUNDED UP TO THE NEXT FOOT)	2058 FEET	515 FEET

LEGEND:

- TEST TERMINAL
- EQUALIZER
- ARRESTOR TO GROUND
- TWISTED WIRE 2 TURNS PER FOOT
- INSULATED NUT
- PVC SCHEDULE 80 CONDUIT (INSTALLED AT MIN 36" DEEP)
- LOCATION OF AC SERVICE

NOTES:

1. LAT./LONG. IN DECIMAL DEGREES: 40.821648°, -83.323243°
2. MATERIAL & INSTALLATION TO BE IN ACCORDANCE WITH MUTCD, STATE AND RAILROAD STANDARDS.
3. ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS. VENDOR TO VERIFY ALL CONDITIONS.
4. FLASHING LIGHT SIGNALS & GATE LIGHTS TO BE LIGHT EMITTING DIODE ASSEMBLIES (LED).
5. BEWARE OF OVERHEAD WIRES.
6. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
7. APPROACH DISTANCES ARE TO BE MEASURED FROM THE TERMINATIONS TO CLOSEST SET OF TRACK LEADS AT CROSSING.
8. CONDUIT MUST BE BORED.
9. VENDOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES WITHIN LIMITS OF CONSTRUCTION.
10. CAMERA SYSTEM TO BE SUPPLIED BY VENDOR AND INSTALLED BY RR.
11. ENSURE ALL DITCHES ALONG THE TRACKS IN ALL FOUR QUADRANTS HAVE POSITIVE DRAINAGE FLOW TO 100′ FROM THE HIGHWAY.
12. INSTALL FOUNDATIONS TO AVOID UNDERGROUND UTILITIES.
13. RENEW PADS AND REPLACE SOUTH RAIL I.J. WITH 19′6" FACTORY ASSEMBLED INSULATED JOINT COMP WELDED TO 133RE.
14. SIDING SWITCH (132RE) POINTS ARE 1,432′ WEST OF CENTER OF CR 108D.
15. I.Js AT APPROACH SIGNAL 219E ARE 1,550′ AND 1,554′ WEST OF CENTER OF CR 108D.
16. DERAIL ON SIDING IS 1,207′ WEST OF CENTER OF CR 108D. I.JS WEST OF DERAIL ARE 131RE.
17. HERITAGE SPUR SWITCH (140RE) POINTS ARE 368′ FROM CENTER OF CR 108D. THE RAILS ON SPUR COMP TO SMALLER RAIL TWICE.
18. CROSSOVER SWITCH POINTS 1,286′ EAST OF CENTER OF CR 108D. TIME TABLE SPEED 25 MPH AT M.P. 218 FOR INTERLOCKING.
19. MAIN ELECTRICAL PANEL TO ACCOUNT FOR 240VAC/100A AC SERVICE.
20. GATE LENGTHS: GATE #1: 17′ GATE #2: 17′

REVISIONS

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STATE OF OHIO — SCOTT L WERTANS E-73435 — REGISTERED PROFESSIONAL ENGINEER — 2/23/22

CROSSING TRACK LAYOUT

CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

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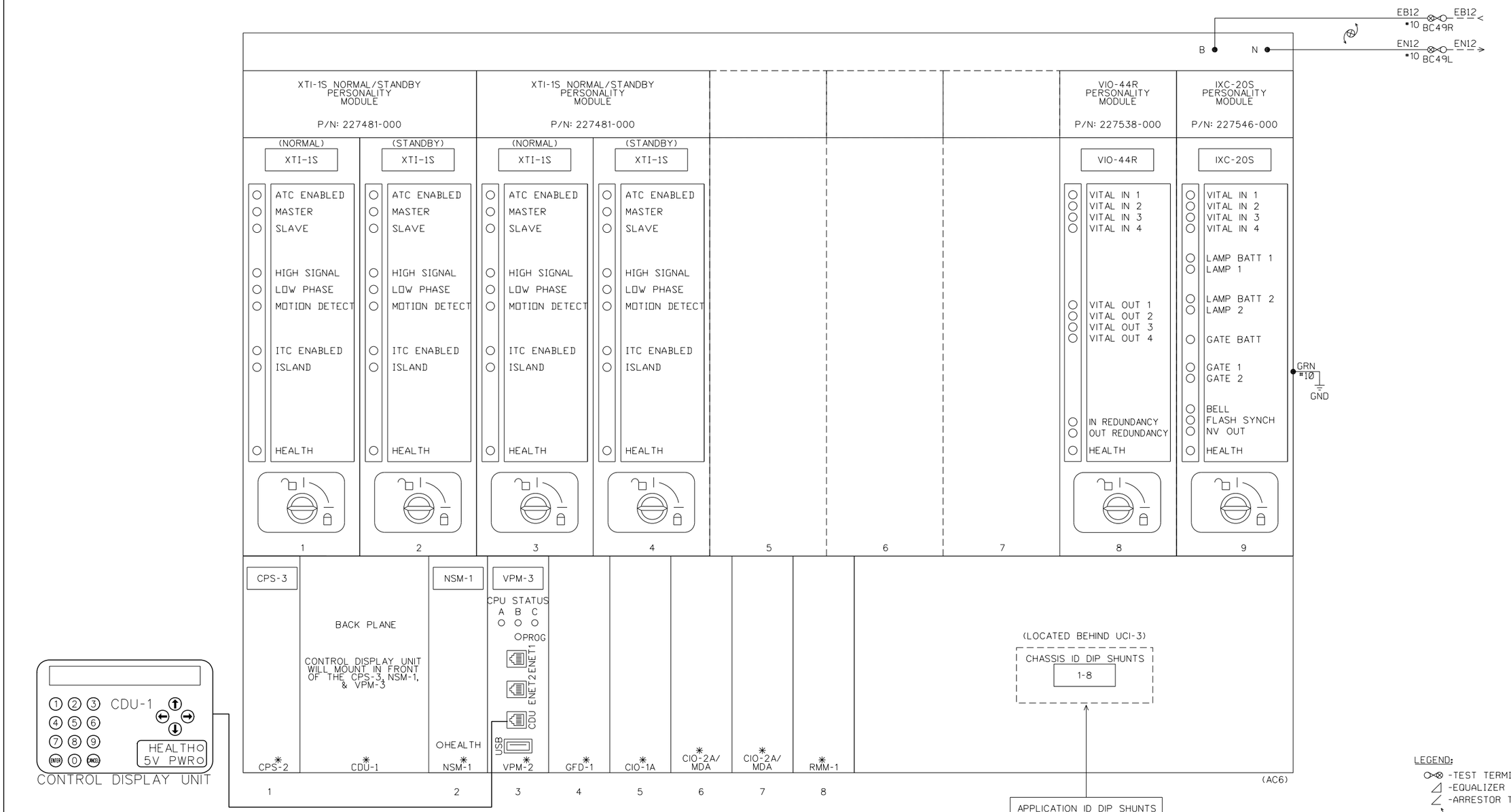

MODULE LEGEND:

CDU-1 = CONTROL DISPLAY UNIT (P/N: 251124-000)
CPS-3 = CENTRAL POWER SUPPLY (P/N: 251456-000)
NSM-1 = NORMAL STANDBY MODULE (P/N: 251346-000)
VPM-3 = VITAL PERIPHERAL MASTER (P/N: 251432-200)
XTI-1S = CROSSING TRACK INTERFACE (P/N: 251336-000)
IXC-20S = CROSSING CONTROL (P/N: 251384-000)
VIO-44R = VITAL INPUTS/OUTPUTS (P/N: 251379-000)

LEGEND:

-TEST TERMINAL
-EQUALIZER
-ARRESTOR TO GROUND
-TWISTED WIRE 2 TURNS PER FOOT
-INSULATED NUT

NOTES:

1. ✳ = LABEL SHOWN ON BACK PLANE.

REVISIONS

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
2/23/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

XP4 CIRCUIT PLAN

CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

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APPLICATION SOFTWARE INFO

TYPE	REDUNDANT			
NAME	532626Y_219.19			
VERSION	1			
CHECKSUM	VITAL	092C	NON VITAL	7AE7
CRC		7A69		F9B7
VALIDATION CRC	6E375CDB			

CHASSIS ID

DIP NO.	1	2	3	4	5	6	7	8
SHUNT	X	X	X	I	I	X	I	X
CHASSIS ID DECIMAL	26							

I = TAB INTACT
X = TAB PUNCHED OUT

ACE VERSION: 5.8.16.526

*=FIELD ADJUSTMENT TO BE MADE ACCORDING TO THE LATEST XP4 INSTRUCTION MANUAL & SUPPLEMENTS.

BASIC TRACK SETUP

ADJUSTMENT NAME	TRACK 1	TRACK 2
FREQUENCY	326 HZ	686 HZ
MASTER/SLAVE	MASTER	MASTER
RX ADJUST	100	100
TCA (TRANSMITTER CHECK)	*	*
DIRECTION MODE	BI	BI
LIA (LUMPED IMPEDANCE)	*	*
ADVANCED APR. CAL	INACTIVE	INACTIVE
NBS COMP RX	*	*
TRK ISLAND ASSIGNMENT	ISL1 ASSIGN	ISL2 ASSIGN
APPROACH LENGTH	2058 FT.	515 FT.
AUTO RX	ENABLE	ENABLE

ADVANCED TRACK SETUP

ADJUSTMENT NAME		TRACK 1	TRACK 2
MOTION DET TIMER	MDEN	DISABLE	DISABLE
	MDTT	10 MIN.	10 MIN.
FALSE SHUNT	FSEN	DISABLE	DISABLE
	FSRX	0	0
	FST	10 MIN.	10 MIN.
APPROACH RELEASE	AREN	DISABLE	DISABLE
	ARRX	0	0
	ART	10 MIN.	10 MIN.
LOSS OF SHUNT TIMER		16 SEC.	16 SEC.
IJ-LOS TIME		5 SEC.	5 SEC.
NRML_SHRT_VRYSHRT		NRML	NRML

ISLAND SETUP

TRACK #	TRACK 1	TRACK 2
ENABLE/DISABLE	ENABLE	ENABLE
FREQUENCY	4000 HZ	5400 HZ
LOS	2 SEC.	2 SEC.
FAULT DELAY	1	1

MAINTENANCE MENU

TRACK #	TRACK 1	TRACK 2
ENABLE/DISABLE	ENABLE	ENABLE
DISABLE TIMEOUT	*	*
BALLAST COMP.	*	*
PHASE COMP.	*	*

NOTE: DL = DEFAULT LEVEL
NA = NON APPLICABLE

MDR SETUP

MDR #		MDR 1		MDR 2	
WARNING TIME		31 SEC.		31 SEC.	
CW/MD		CW		CW	
AUX RECVR DLY		5 SEC.		5 SEC.	
ADV-PRE TIME		0 SEC.		0 SEC.	
CWE-WT		80 SEC.		80 SEC.	
TRACK #		TK1	TK2	TK1	TK2
TRACK ASSIGNED		ASSIGNED	NOT ASSIGNED	NOT ASSIGNED	ASSIGNED
OFFSET DISTANCE		0 FT.	NA	NA	0 FT.
MD RESTART		*0	NA	NA	*0
SUDDEN SHUNT ZONE		0	NA	NA	0
POSITIVE START	PSEN	DISABLE	NA	NA	DISABLE
	PSRX	0	NA	NA	0
	PST	0 MIN.	NA	NA	0 MIN.
POST JOINT DET.	PJEN	DISABLE	NA	NA	DISABLE
	PJRX	15	NA	NA	15
	PJDT	15 SEC.	NA	NA	15 SEC.
CLEAR JOINT	CJ	STANDARD	NA	NA	STANDARD
	CJRX	15	NA	NA	15
	CJT	99 SEC.	NA	NA	99 SEC.

NOTE: IF ENTRY FIELD READS NA (NON APPLICABLE) THAT OPTION WILL NOT BE DISPLAYED IN THE PROGRAM MENU SCREEN.

VITAL I/O
SLOT 9 INPUTS

INPUT #	PROGRAM NAME	FUNCTION	RANGE	ON DEBOUNCE	OFF DEBOUNCE
INPUT 1	S9_IN1_1GP	GATE 1 UP REPEATER	0-10 SEC	0 SEC	0 SEC
INPUT 2	S9_IN2_2GP	GATE 2 UP REPEATER	0-10 SEC	0 SEC	0 SEC
INPUT 3	S9_IN3_1GD	GATE 1 DOWN REPEATER	0-10 SEC	0 SEC	0 SEC
INPUT 4	S9_IN4_2GD	GATE 2 DOWN REPEATER	0-10 SEC	0 SEC	0 SEC

SLOT 9 OUTPUTS

OUTPUT #	PROGRAM NAME	FUNCTION
GATE 1	S9_G1_CNTRL	GATE OUTPUT #1
GATE 2	S9_G2_CNTRL	GATE OUTPUT #2
BELL	S9_BELL_OUT	SLOT 9 BELL OUTPUT
NVOUT	(NOT USED)	(NOT USED)

VITAL CONFIG SWITCHES AND APPLICATION ID JUMPERS

#	VITAL CONFIG SWITCH	APP ID JUMPERS	SET TO	FUNCTION
1	GATES	VID1	TRUE	WHEN TRUE GATES ARE UTILIZED AT THE CROSSING WHEN FALSE ONLY FLASHERS ARE UTILIZED AT THE CROSSING.
2	BELL_ON_G_UP	VID2	TRUE	WHEN TRUE BELL OUTPUT IS ACTIVE ON GATE DESCENDING AND GATE RISING ONLY.
3	BELL_ON_CONT	VID3	FALSE	WHEN TRUE BELL OUTPUT ALWAYS ACTIVE.

VITAL I/O
SLOT 8 INPUTS

INPUT #	NAME	FUNCTION
INPUT 1	S8_IN1_AUX1	AUX/CWE For MDR1 & MDR2
INPUT 2	S8_IN2_AUX1	AUX/CWE For MDR1 & MDR2
INPUT 3	S8_IN3_OOS	OUT OF SERVICE
INPUT 4	(NOT USED)	(NOT USED)

SLOT 8 OUTPUTS

OUTPUT #	NAME	FUNCTION
OUTPUT 1	S8_OUT1_MDR1	RELAY OUTPUT-MDR1
OUTPUT 2	S8_OUT2_MDR2	RELAY OUTPUT-MDR2
OUTPUT 3	S8_OUT3_ISL1	RELAY OUTPUT-ISL1
OUTPUT 4	S8_OUT4_ISL2	RELAY OUTPUT-ISL2

APPLICATION ID

DIP NO.	1	2	3	4	5	6	7	8
SHUNT	I	I	I	I	I	I	I	I
DIP NO.	9	10	11	12	13	14	15	16
SHUNT	I	I	I	I	I	I	I	I

I = TAB INTACT
X = TAB PUNCHED OUT

NOTE:
ALL APPLICATION ID DIP SHUNTS ARE INTACT

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO — SCOTT L WERTANS E-73435 — REGISTERED PROFESSIONAL ENGINEER — 2/03/22

XP4 PROGRAM

CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

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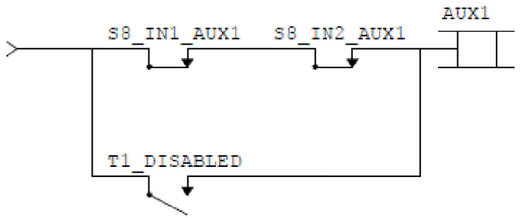

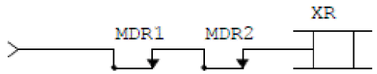

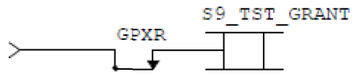

APPLICATION SOFTWARE INFO				
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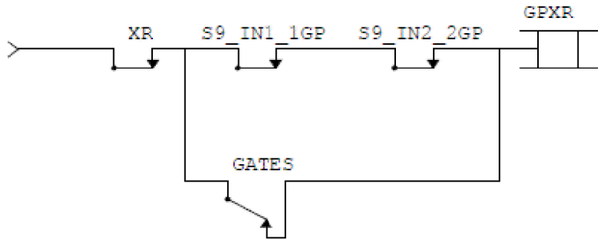
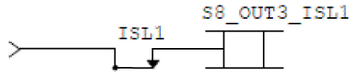
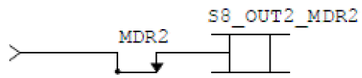
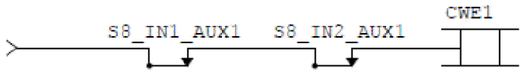
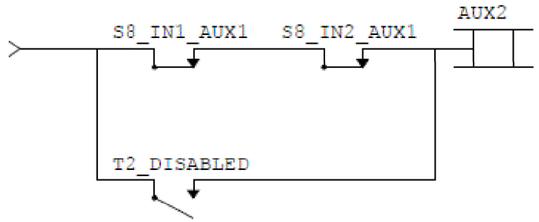
CHECKSUM	VITAL	092C	NON VITAL	7AE7
CRC		7A69		F9B7
VALIDATION CRC	6E375CDB			

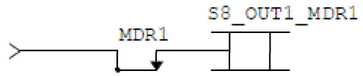


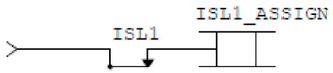


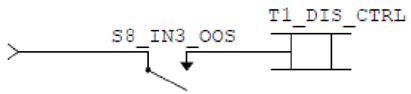


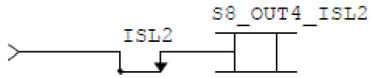


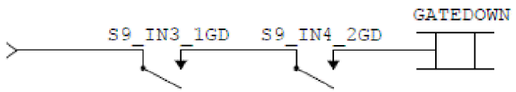


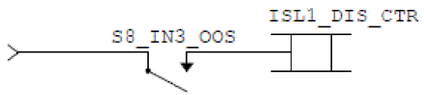


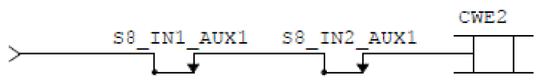


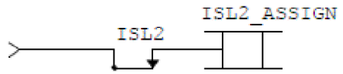


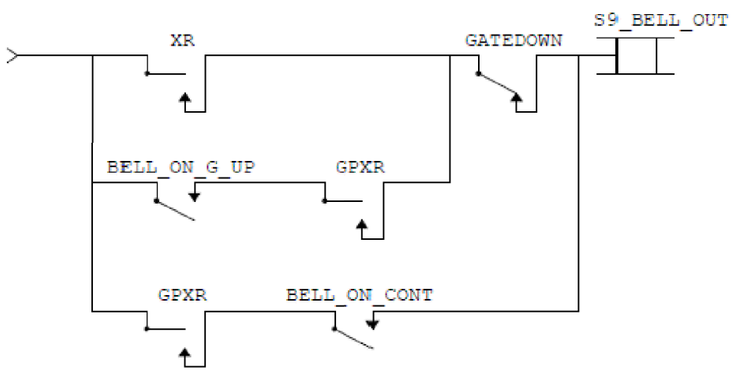


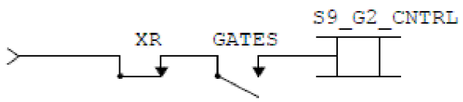


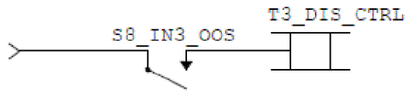


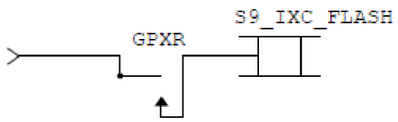


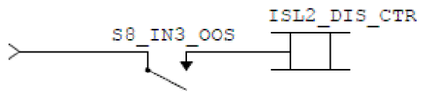


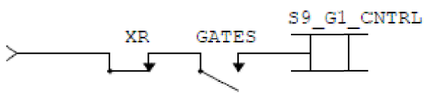












REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
2/03/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

XP4 VITAL PROGRAM LOGIC

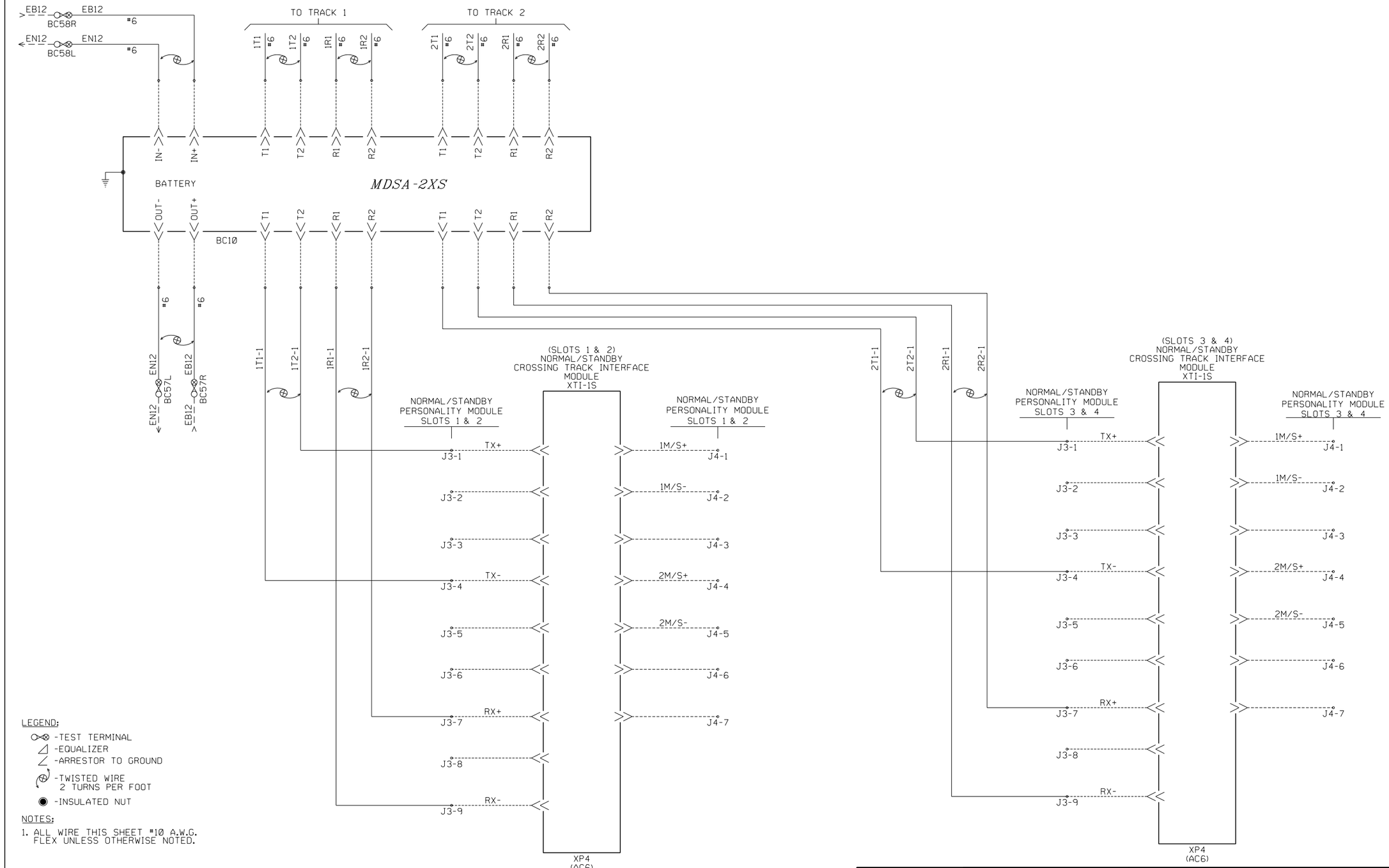
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
04 OF 17

CFER219_19x04.dgn



LEGEND:

- -TEST TERMINAL
- -EQUALIZER
- -ARRESTOR TO GROUND
- -TWISTED WIRE 2 TURNS PER FOOT
- -INSULATED NUT

NOTES:

1. ALL WIRE THIS SHEET #10 A.W.G. FLEX UNLESS OTHERWISE NOTED.

REVISIONS

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STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
2/23/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

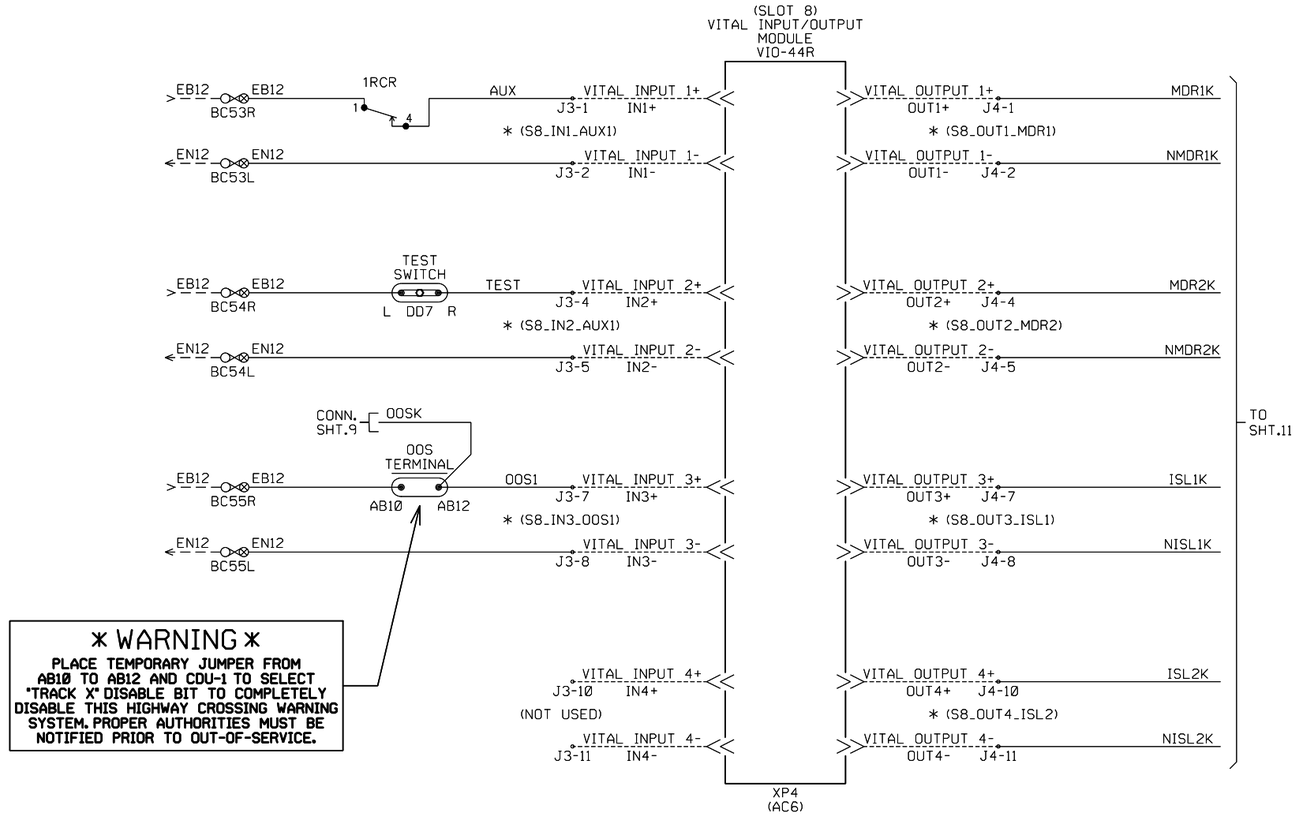
XTI-1S CIRCUITS

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
05 OF 17

CFER219_19x05.dgn



LEGEND:

-TEST TERMINAL
-EQUALIZER
-ARRESTOR TO GROUND
-TWISTED WIRE 2 TURNS PER FOOT
-INSULATED NUT

NOTES:

1. ALL WIRE THIS SHEET #14 A.W.G. FLEX UNLESS OTHERWISE NOTED.
2. * = LABEL SHOWN ON BACK PLANE.
3. ( ) = INDICATES PROGRAM NAME.

REVISIONS

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STATE OF OHIO
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E-73435
REGISTERED PROFESSIONAL ENGINEER
2/02/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

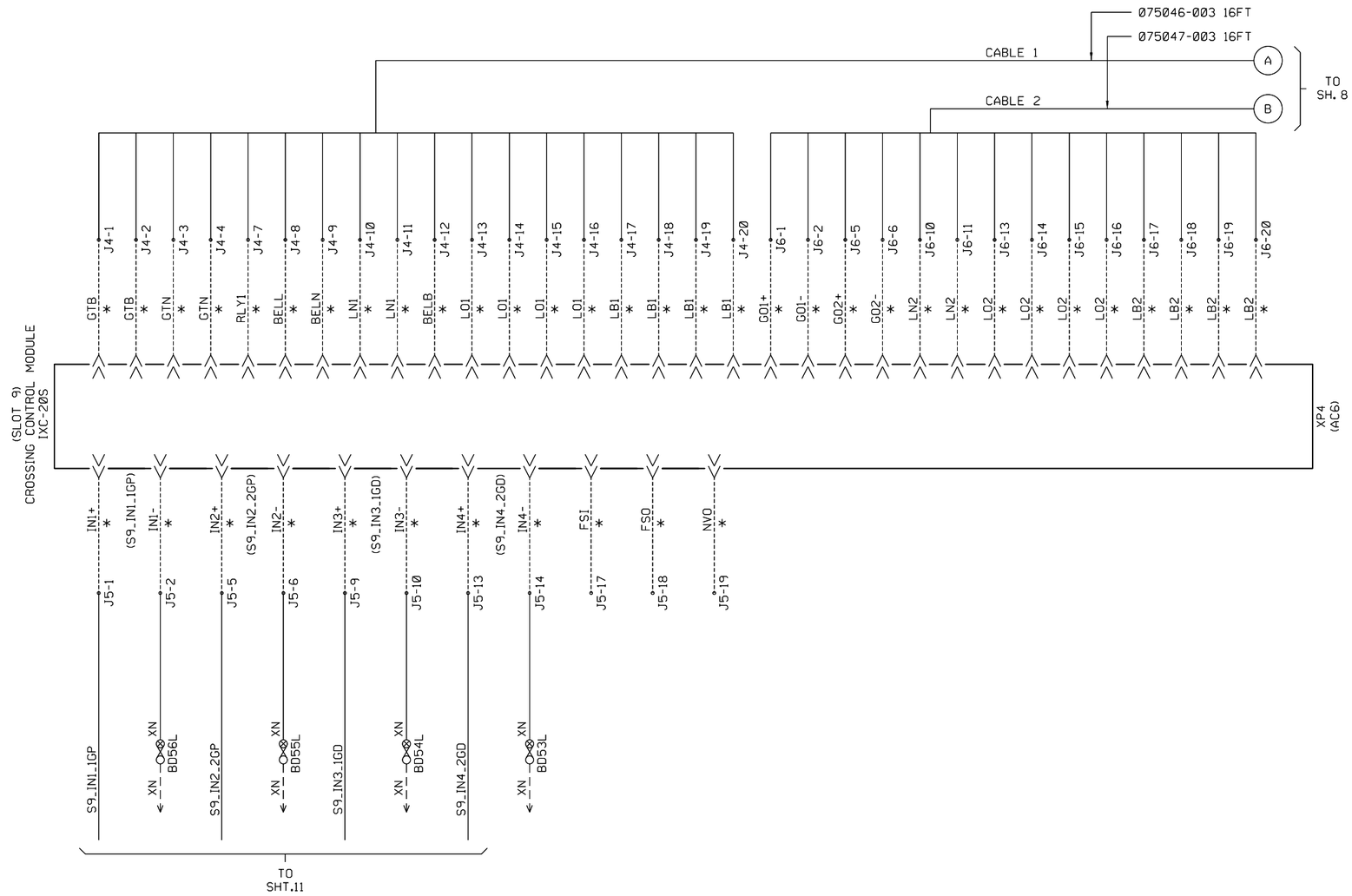
VIO-44R CIRCUITS

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
06 OF 17

CFER219_19x06.dgn



NOTES:

1. ALL WIRE THIS SHEET #14 A.W.G. FLEX UNLESS OTHERWISE NOTED.
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STATE OF OHIO
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REGISTERED PROFESSIONAL ENGINEER
2/23/22

IXC-20S CIRCUITS

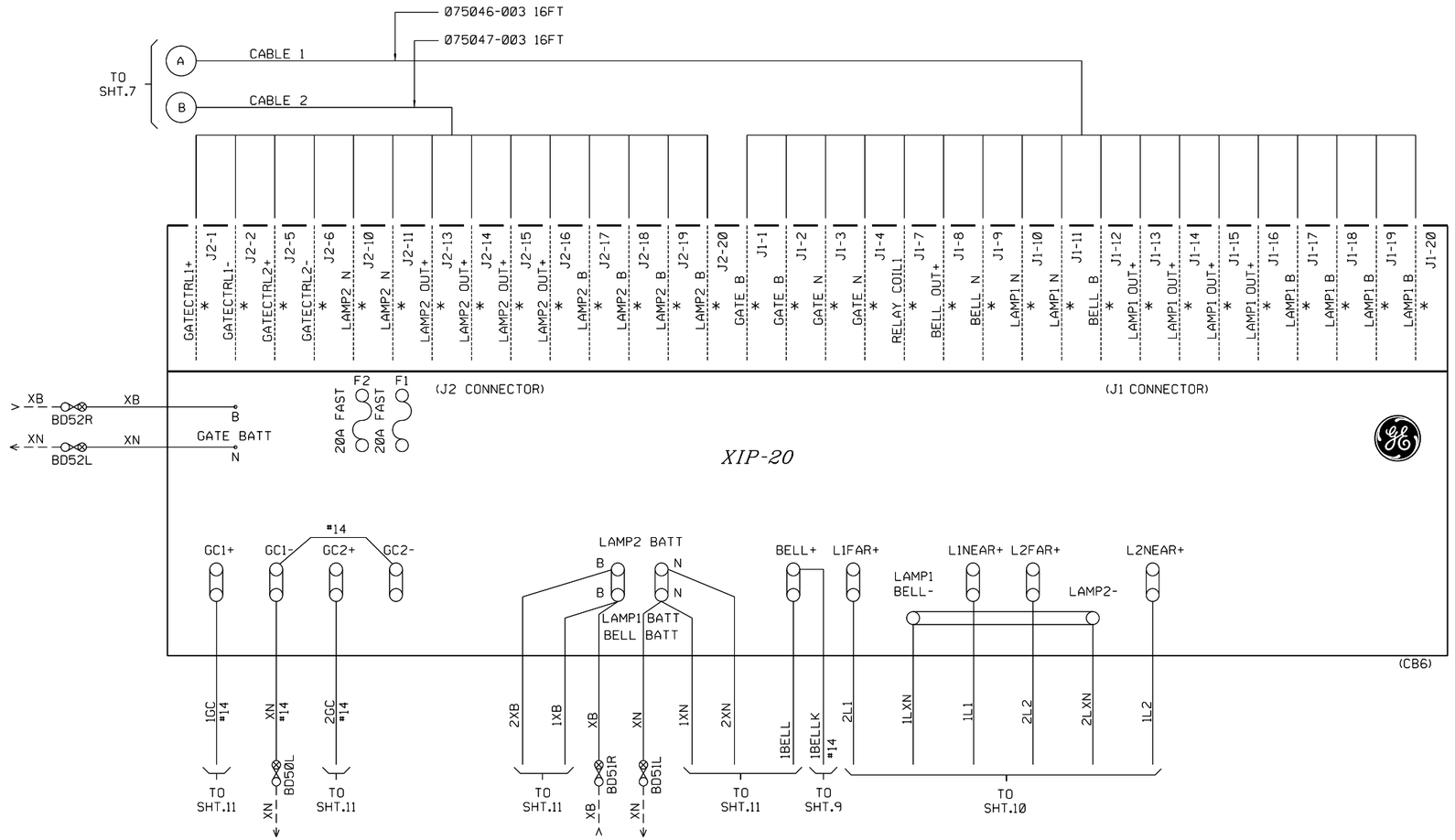
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
07 OF 17

CFER219_19x07.dgn



NOTES:

1. ALL WIRE THIS SHEET #10 A.W.G. FLEX UNLESS OTHERWISE NOTED.
2. * = LABEL SHOWN ON BACK PLANE.

REVISIONS

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2/03/22

CHICAGO, FORT WAYNE EASTERN RAILROAD

XIP-20 CIRCUITS

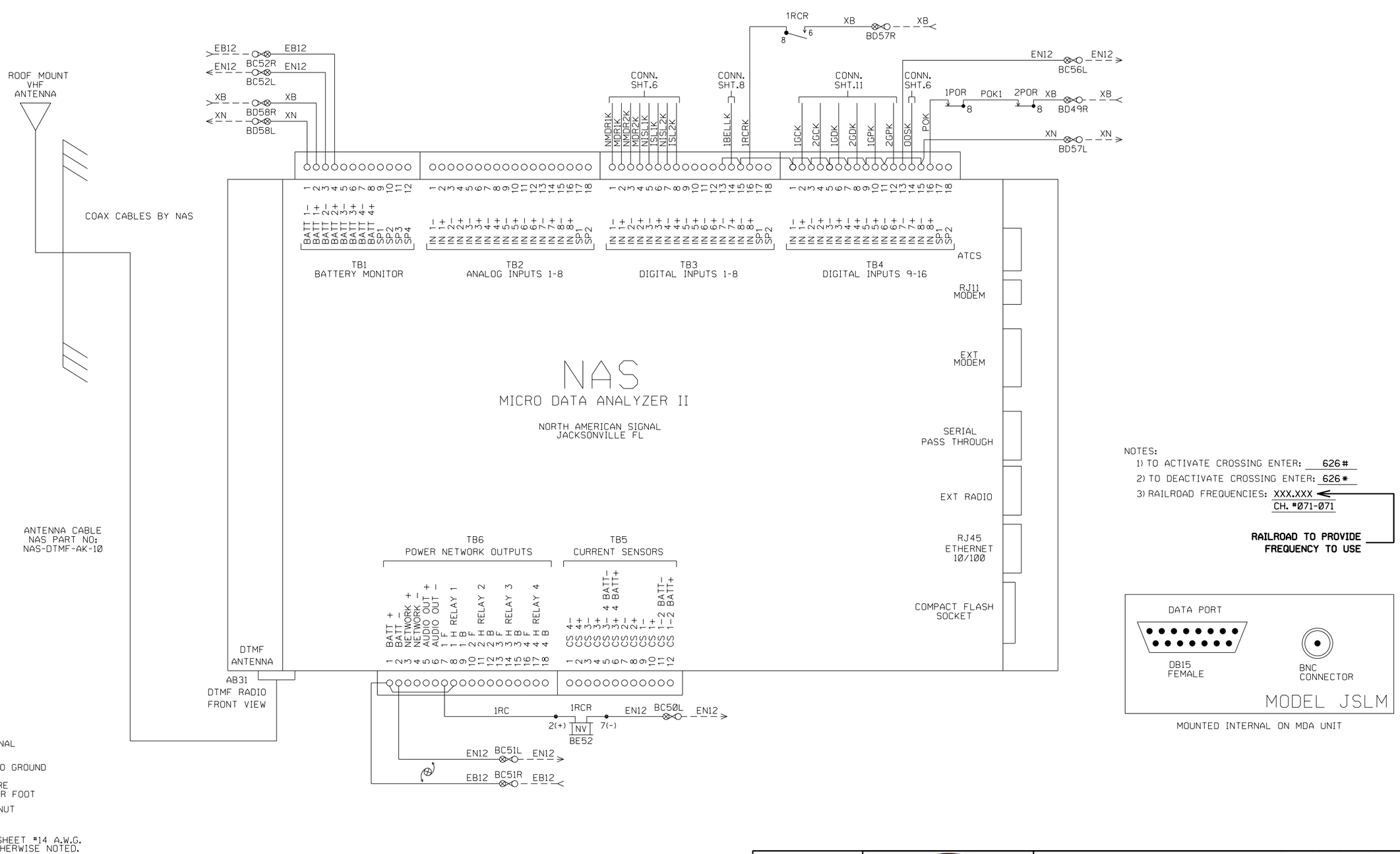
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET 08 OF 17

CFER219_19x08.dgn



REVISIONS

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STATE OF OHIO
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2/02/22

CHICAGO, FORT WAYNE EASTERN RAILROAD

DATA RECORDER CIRCUITRY

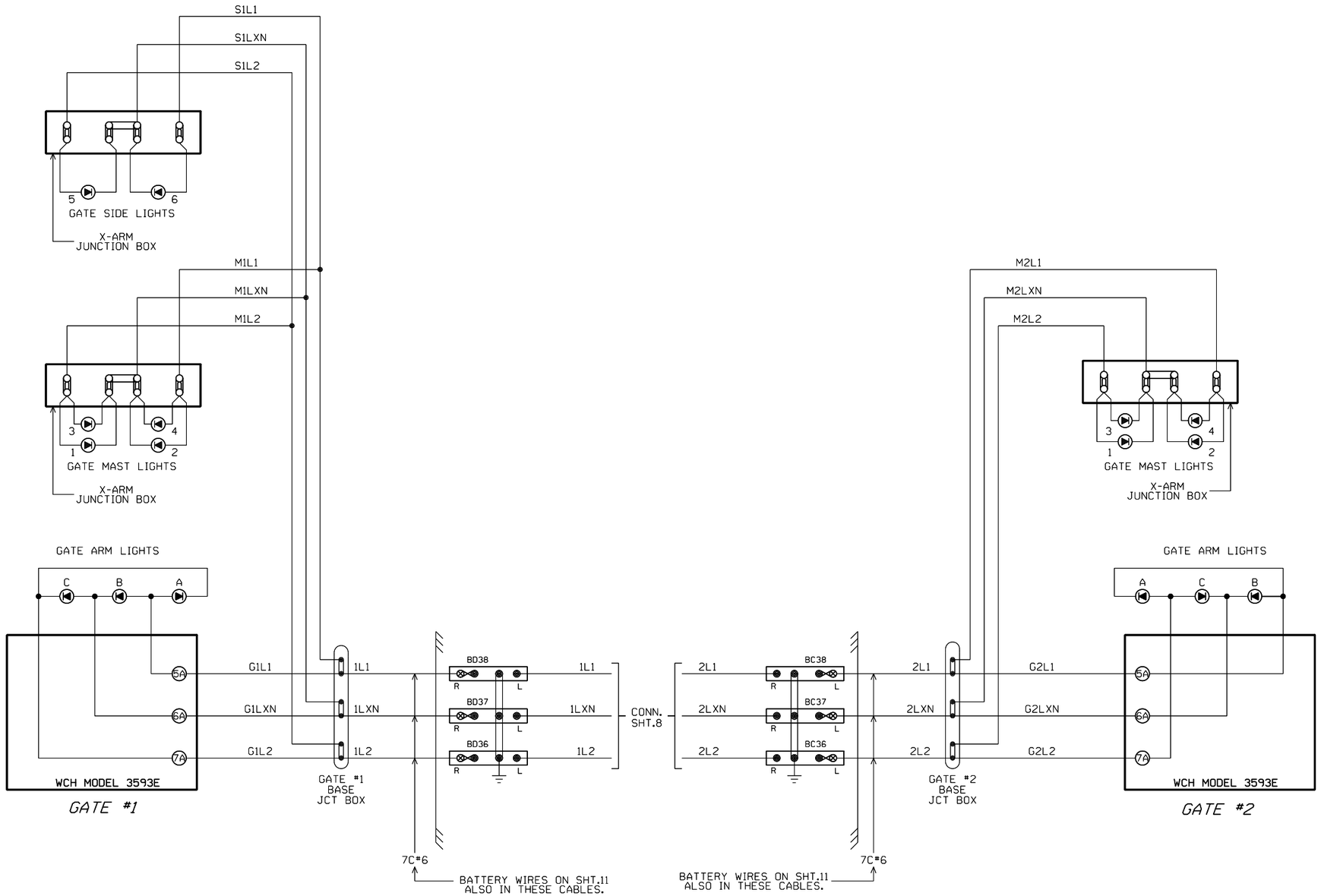
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
09 OF 17

CFER219_19x09.dgn



LEGEND:

-TEST TERMINAL
-EQUALIZER
-ARRESTOR TO GROUND
-TWISTED WIRE
2 TURNS PER FOOT
-INSULATED NUT

NOTES:

1. ALL WIRE THIS SHEET #10 A.W.G. FLEX UNLESS OTHERWISE NOTED.

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
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E-73435
REGISTERED
PROFESSIONAL ENGINEER
2/02/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

GATE LIGHTING CIRCUITRY

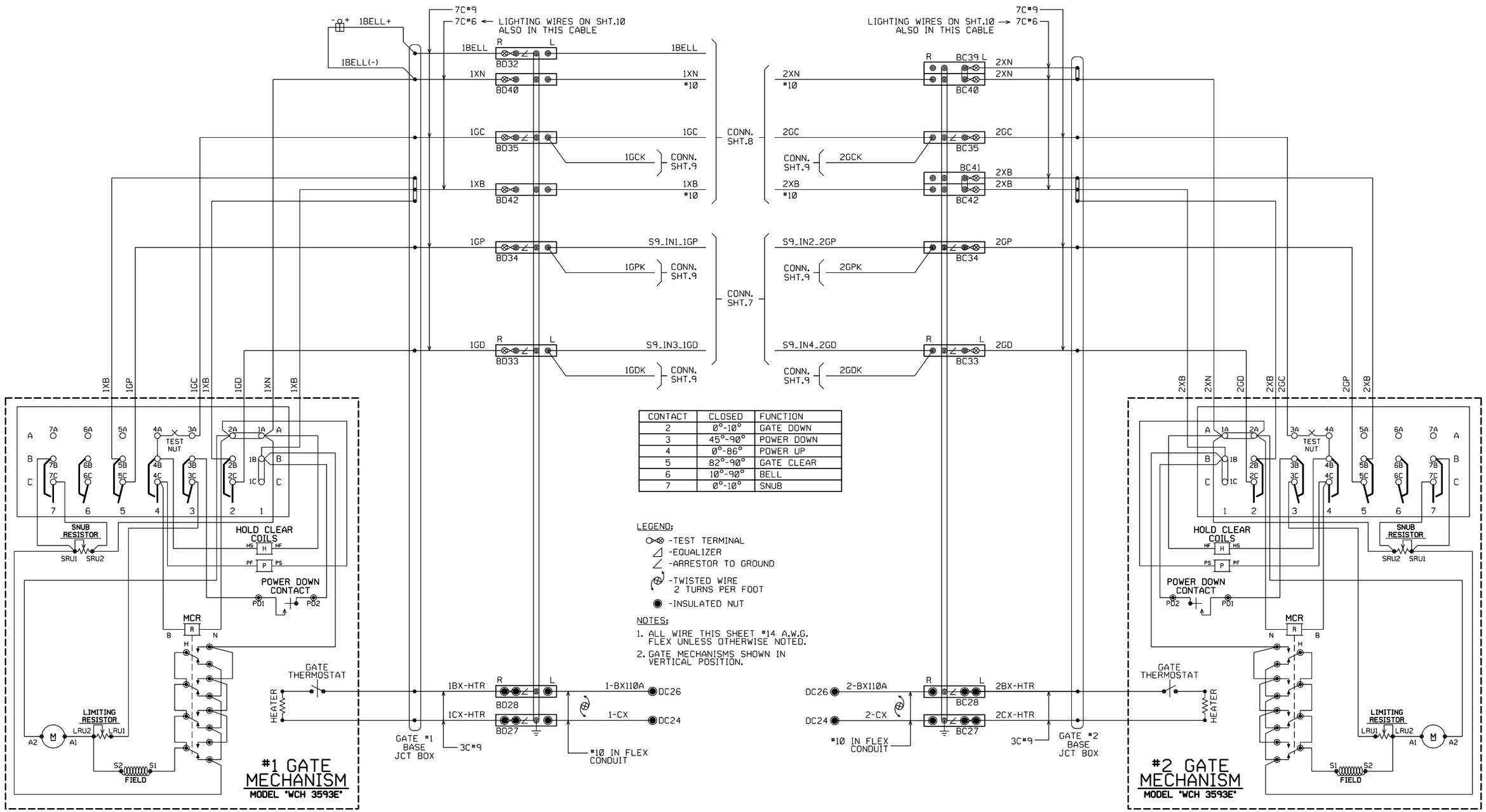
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
10 OF 17

CFER219_19x10.dgn



CONTACT	CLOSED	FUNCTION
2	0°-10°	GATE DOWN
3	45°-90°	POWER DOWN
4	0°-86°	POWER UP
5	82°-90°	GATE CLEAR
6	10°-90°	BELL
7	0°-10°	SNUB

LEGEND:

-TEST TERMINAL
-EQUALIZER
-ARRESTOR TO GROUND
-TWISTED WIRE 2 TURNS PER FOOT
-INSULATED NUT

NOTES:

1. ALL WIRE THIS SHEET #14 A.W.G. FLEX UNLESS OTHERWISE NOTED.
2. GATE MECHANISMS SHOWN IN VERTICAL POSITION.

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

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2/23/22

CHICAGO, FORT WAYNE EASTERN RAILROAD

GATE MECH CIRCUITRY

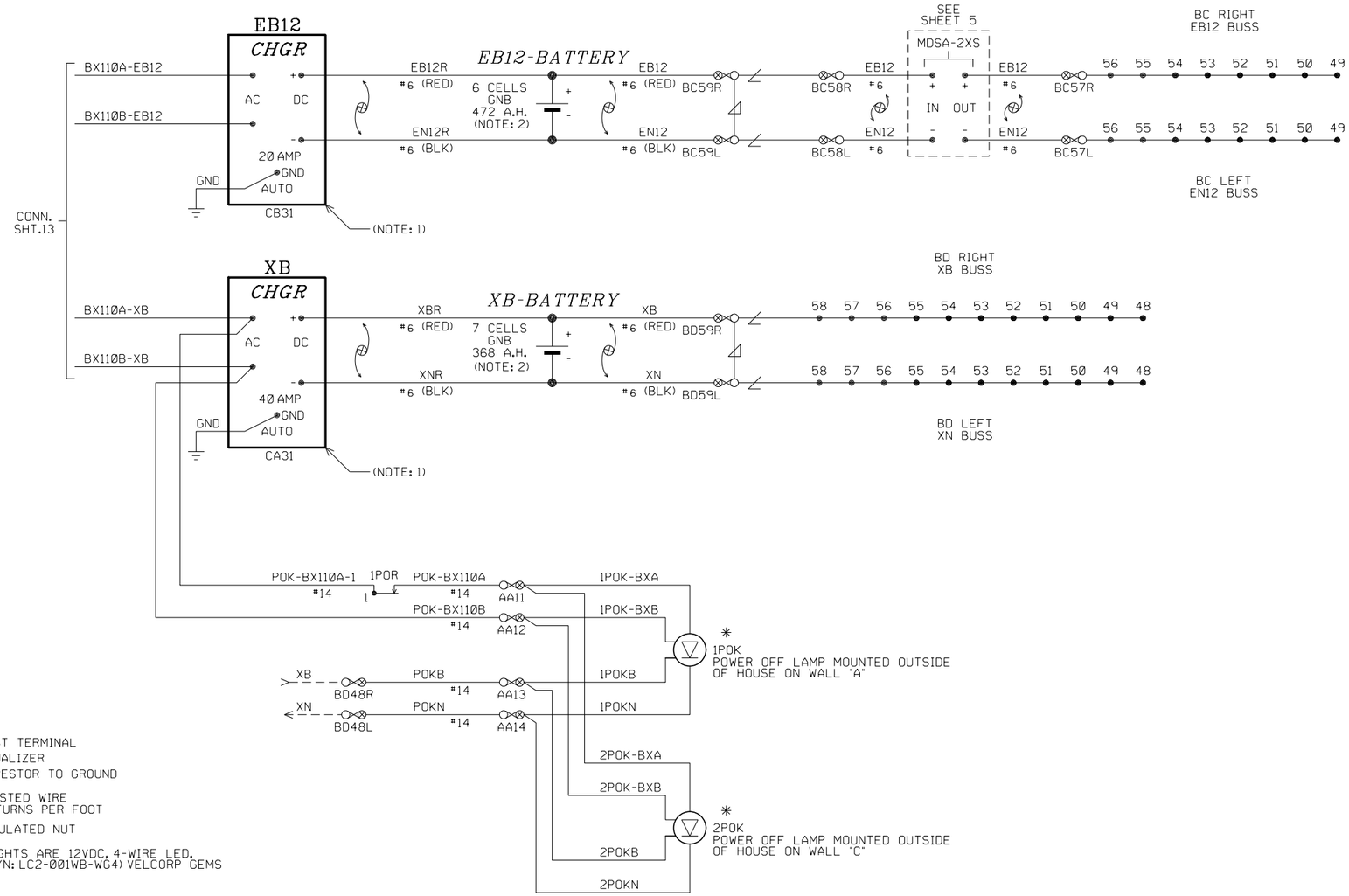
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET 11 OF 17

CFER219_19x11.dgn



LEGEND:

- -TEST TERMINAL
- -EQUALIZER
- -ARRESTOR TO GROUND
- -TWISTED WIRE 2 TURNS PER FOOT
- -INSULATED NUT
- * - LIGHTS ARE 12VDC, 4-WIRE LED. (P/N: LC2-Ø01WB-WG4) VELCORP GEMS

NOTES:

1. USE 220VAC INPUT FOR CHARGERS.
2. USE 1/4" TERMINALS AT BATTERY CONNECTIONS.
3. ALL WIRE THIS SHEET #10 A.W.G. FLEX UNLESS OTHERWISE NOTED.

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STATE OF OHIO
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E-73435
REGISTERED PROFESSIONAL ENGINEER
2/03/22

DC POWER DISTRIBUTION

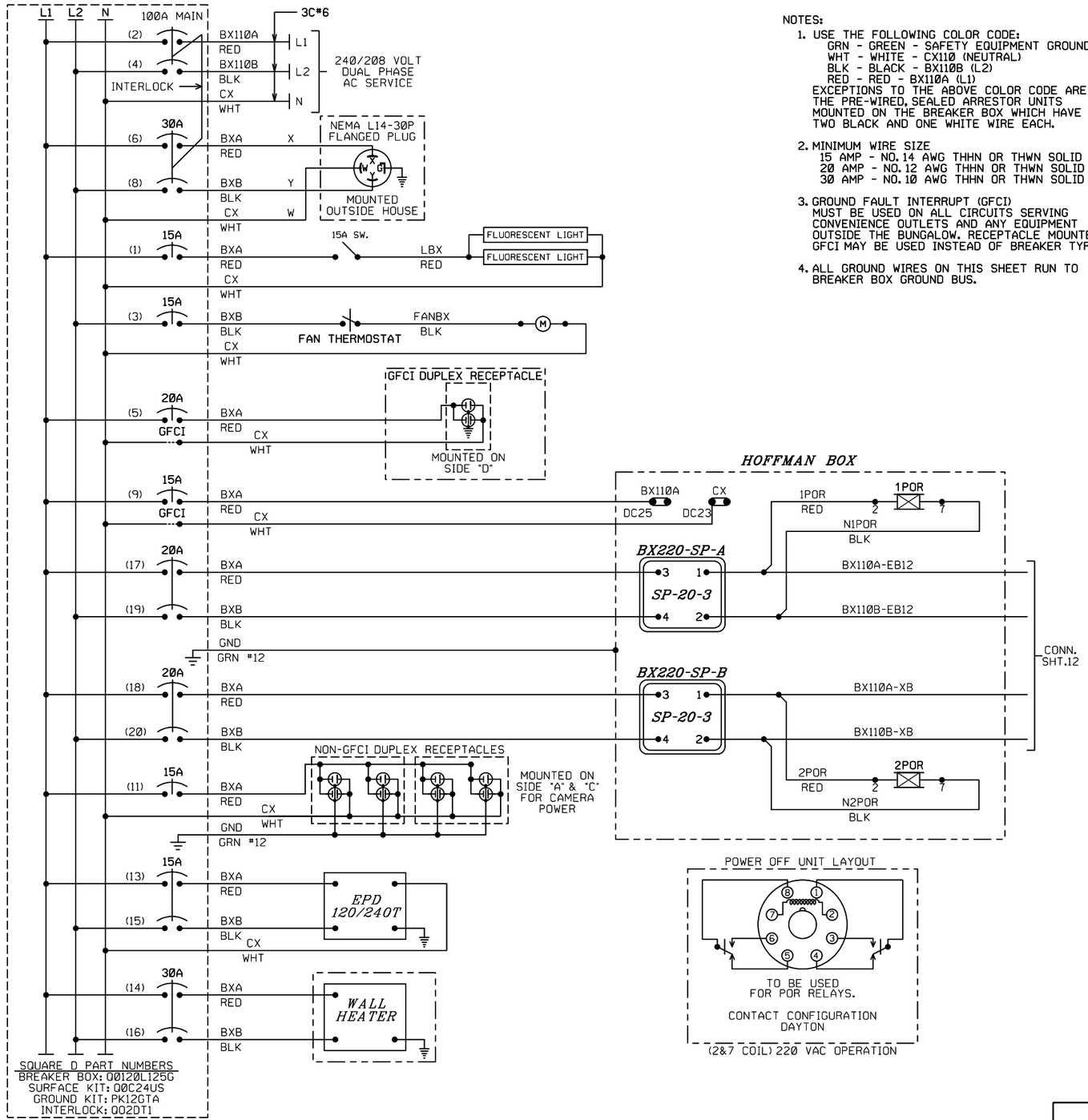
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
12 OF 17

CFER219_19x12.dgn



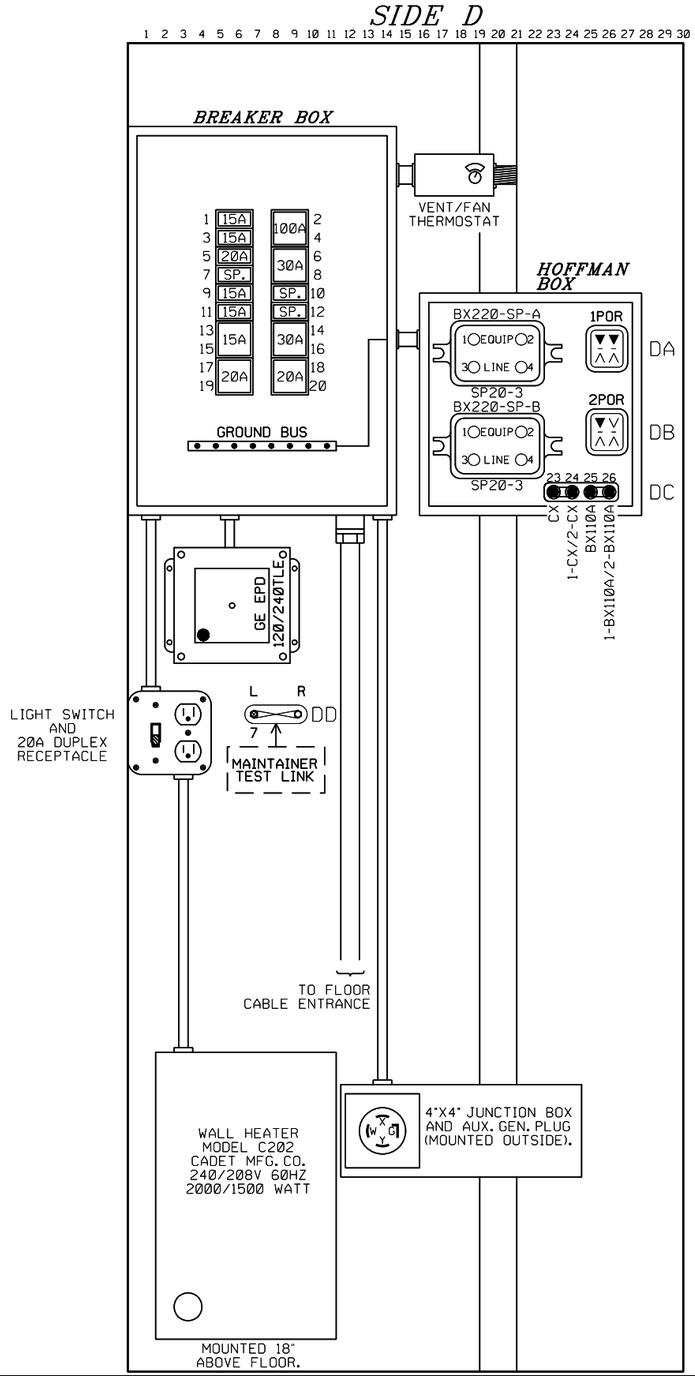
NOTES:

1. USE THE FOLLOWING COLOR CODE:
   GRN - GREEN - SAFETY EQUIPMENT GROUND
   WHT - WHITE - CX110 (NEUTRAL)
   BLK - BLACK - BX110B (L2)
   RED - RED - BX110A (L1)
   EXCEPTIONS TO THE ABOVE COLOR CODE ARE THE PRE-WIRED, SEALED ARRESTOR UNITS MOUNTED ON THE BREAKER BOX WHICH HAVE TWO BLACK AND ONE WHITE WIRE EACH.

2. MINIMUM WIRE SIZE
   15 AMP - NO. 14 AWG THHN OR THWN SOLID
   20 AMP - NO. 12 AWG THHN OR THWN SOLID
   30 AMP - NO. 10 AWG THHN OR THWN SOLID

3. GROUND FAULT INTERRUPT (GFCI) MUST BE USED ON ALL CIRCUITS SERVING CONVENIENCE OUTLETS AND ANY EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USED INSTEAD OF BREAKER TYPE.

4. ALL GROUND WIRES ON THIS SHEET RUN TO BREAKER BOX GROUND BUS.



REVISIONS

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2/23/22

CHICAGO, FORT WAYNE EASTERN RAILROAD

SIDE D DETAIL - AC POWER DISTRIBUTION

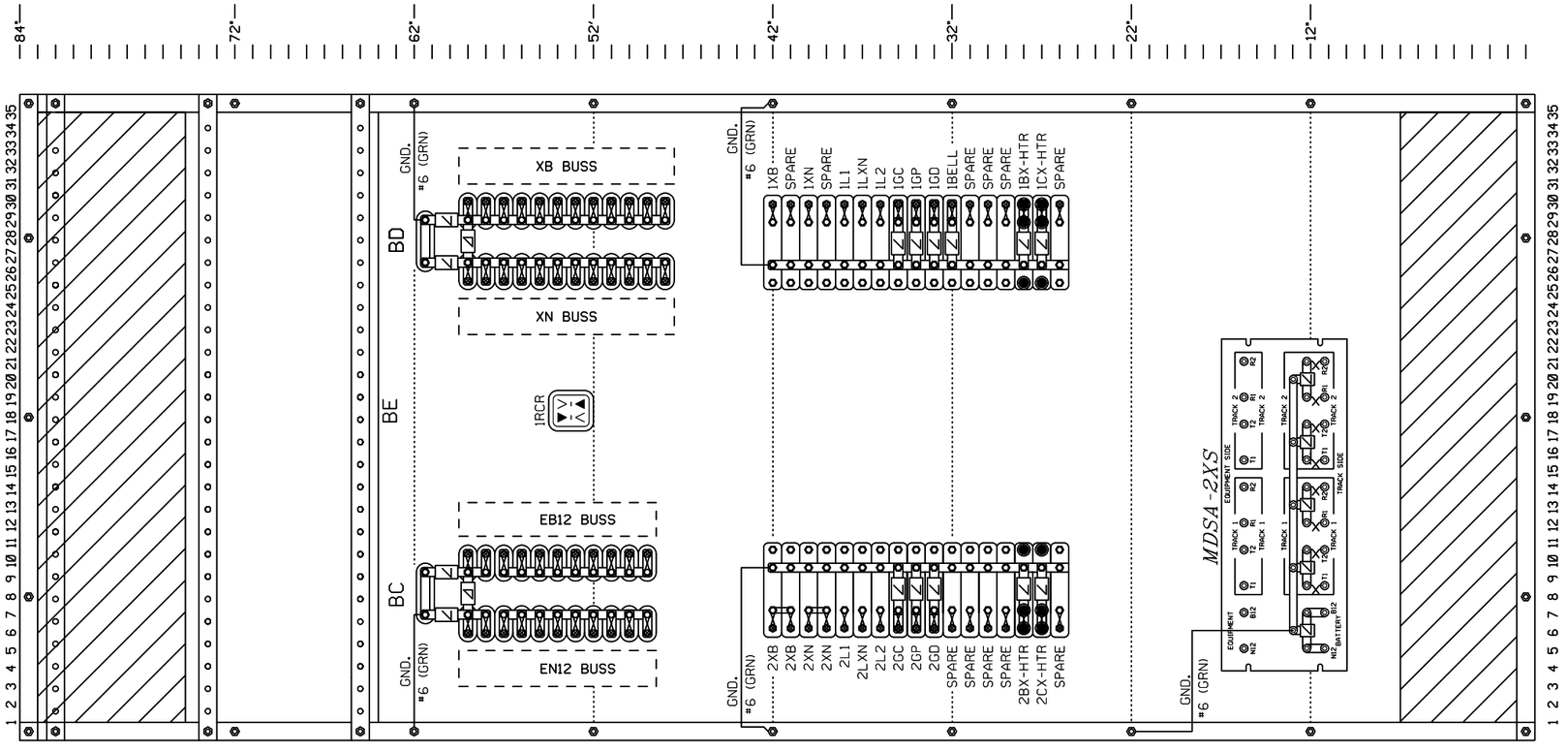
CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

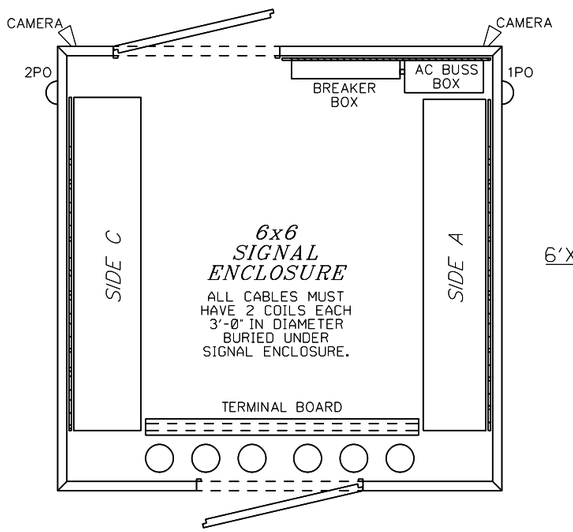
SHEET 13 OF 17

CFER219_19x13.dgn



7'Ø" X 36" TERMINAL BOARD

SIDE D

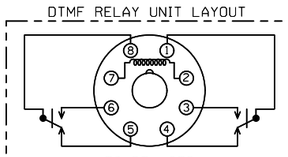


SIDE B

6'X6' SIGNAL ENCLOSURE LAYOUT

"NOT TO SCALE"

DTMF RELAY UNIT LAYOUT



TO BE USED FOR 1RCR RELAY.

CONTACT CONFIGURATION DAYTON

(2&7 COIL) 12VDC OPERATING VOLTAGE

BATTERY BUSS DETAILS

ROW BC

EB12 BATT(-)	59	EB12 BATT(+)
MDSA-2XS IN-	58	MDSA-2XS IN+
MDSA-2XS OUT-	57	MDSA-2XS OUT+
MDA II TB4 IN 7(-)	56	
XP4-S8_IN3-	55	AB10
XP4-S8_IN2-	54	DD7L
XP4-S8_IN1-	53	1RCR_1
MDA II TB1 BATT 2(-)	52	MDA II TB1 BATT 2(+)
MDA II TB6 BATT-	51	MDA II TB6 BATT+
1RCR_7(-)	50	
XP4_N	49	XP4_B

EN12 BUSS (LEFT) — EB12 BUSS (RIGHT)

ROW BD

XB BATT(-)	59	XB BATT(+)
MDA II TB1 BATT 1(-)	58	MDA II TB1 BATT 1(+)
MDA II TB4 IN 8(-)	57	1RCR_6
XP4-S9_IN1-	56	
XP4-S9_IN2-	55	
XP4-S9_IN3-	54	
XP4-S9_IN4-	53	
XIP-20_N	52	XIP-20_B
XIP-20_LMPN	51	XIP-20_LMPB
XIP-20_GC1-	50	
	49	2POR_8
AA14	48	AA13

XN BUSS (LEFT) — XB BUSS (RIGHT)

NOTE: NO EQUIPMENT ALLOWED IN SHADED AREAS.

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO — SCOTT L WERTANS E-73435 — REGISTERED PROFESSIONAL ENGINEER — 2/03/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

SIDE B DETAIL - TERMINAL BOARD

CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET 14 OF 17

CFER219_19x14.dgn

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55

POK LIGHTS

POK-BX110A
POK-BX110B
POK-B
POK-N

ROOF MOUNT DMTF ANTENNA

AA

*** WARNING ***

PLACE TEMPORARY JUMPER FROM AB10 TO AB12 AND CDU-1 TO SELECT "TRACK X" DISABLE BIT TO COMPLETELY DISABLE THIS HIGHWAY CROSSING WARNING SYSTEM. PROPER AUTHORITIES MUST BE NOTIFIED PRIOR TO OUT-OF-SERVICE.

AB

OOS TERMINAL
L R
10 12

NAS MDA II

B N

1	2	3	4	5	6	7	8	9
P.M.	P.M.	P.M.	P.M.	VACANT	VACANT	VACANT	P.M.	P.M.
XTI-1S (NORMAL)	XTI-1S (STANDBY)	XTI-1S (NORMAL)	XTI-1S (STANDBY)	VACANT	VACANT	VACANT	VIO-44R	IXC-20S

ELECTROLOGIXS

CPS-3 | NSM-1 | VPM-3 | VACANT | VACANT | VACANT | VACANT | VACANT | UC1-3

AC

CDU-1

CDU-1 IS PLACED ABOVE CPS-3, NSM-1 & VPM-3 MODULES

32"

EB12 BATTERY

24" BATTERY TRAY

38" BATTERY TRAY

HOUSE FLOOR

SIDE A

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO
SCOTT L WERTANS
E-73435
REGISTERED PROFESSIONAL ENGINEER
2/03/22

CHICAGO, FORT WAYNE EASTERN RAILROAD

SIDE A DETAIL

CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET
15 OF 17

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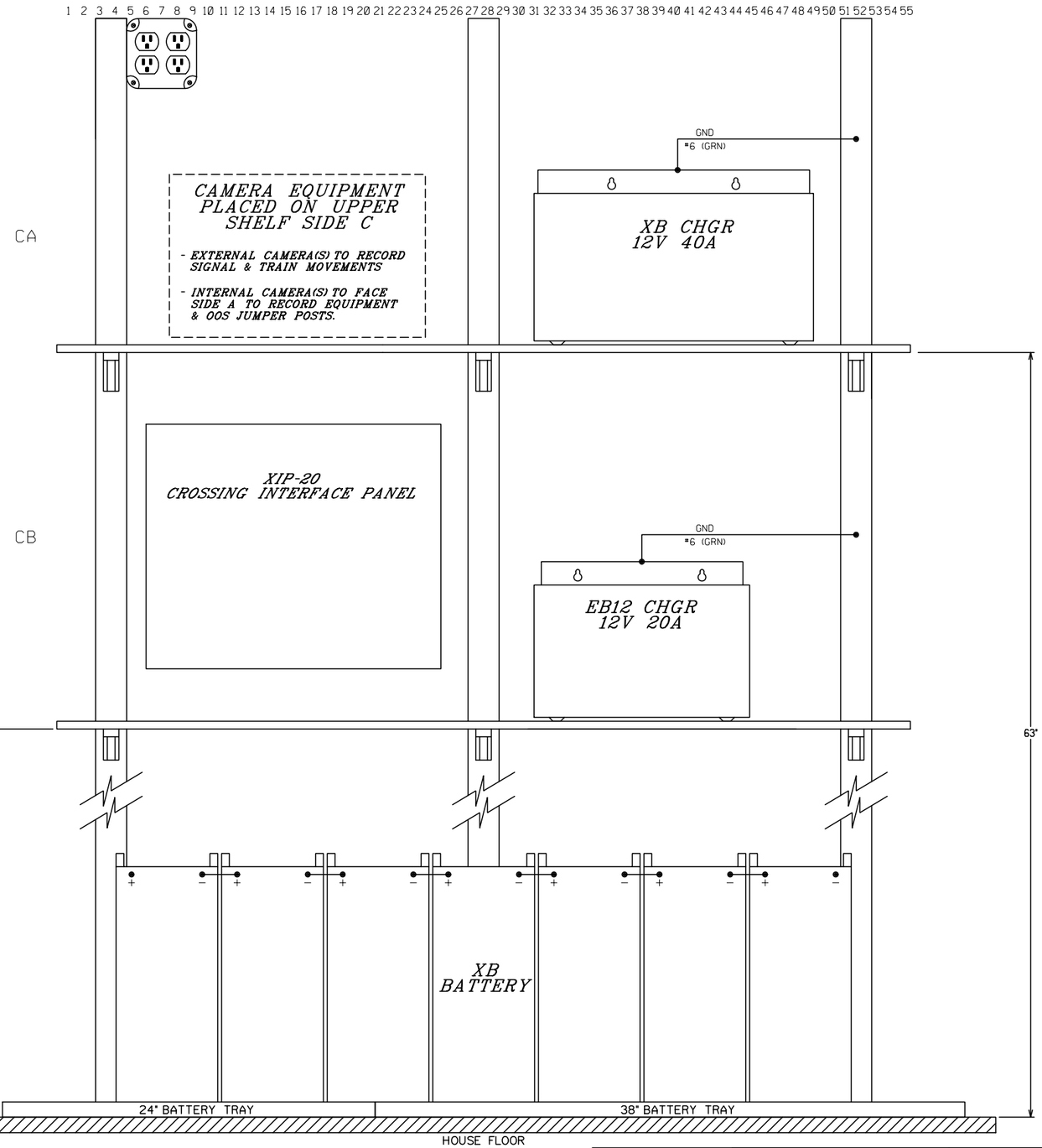

SIDE C

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO — SCOTT L WERTANS E-73435 — REGISTERED PROFESSIONAL ENGINEER — 2/03/22

CHICAGO, FORT WAYNE & EASTERN RAILROAD

SIDE C DETAIL

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET 16 OF 17

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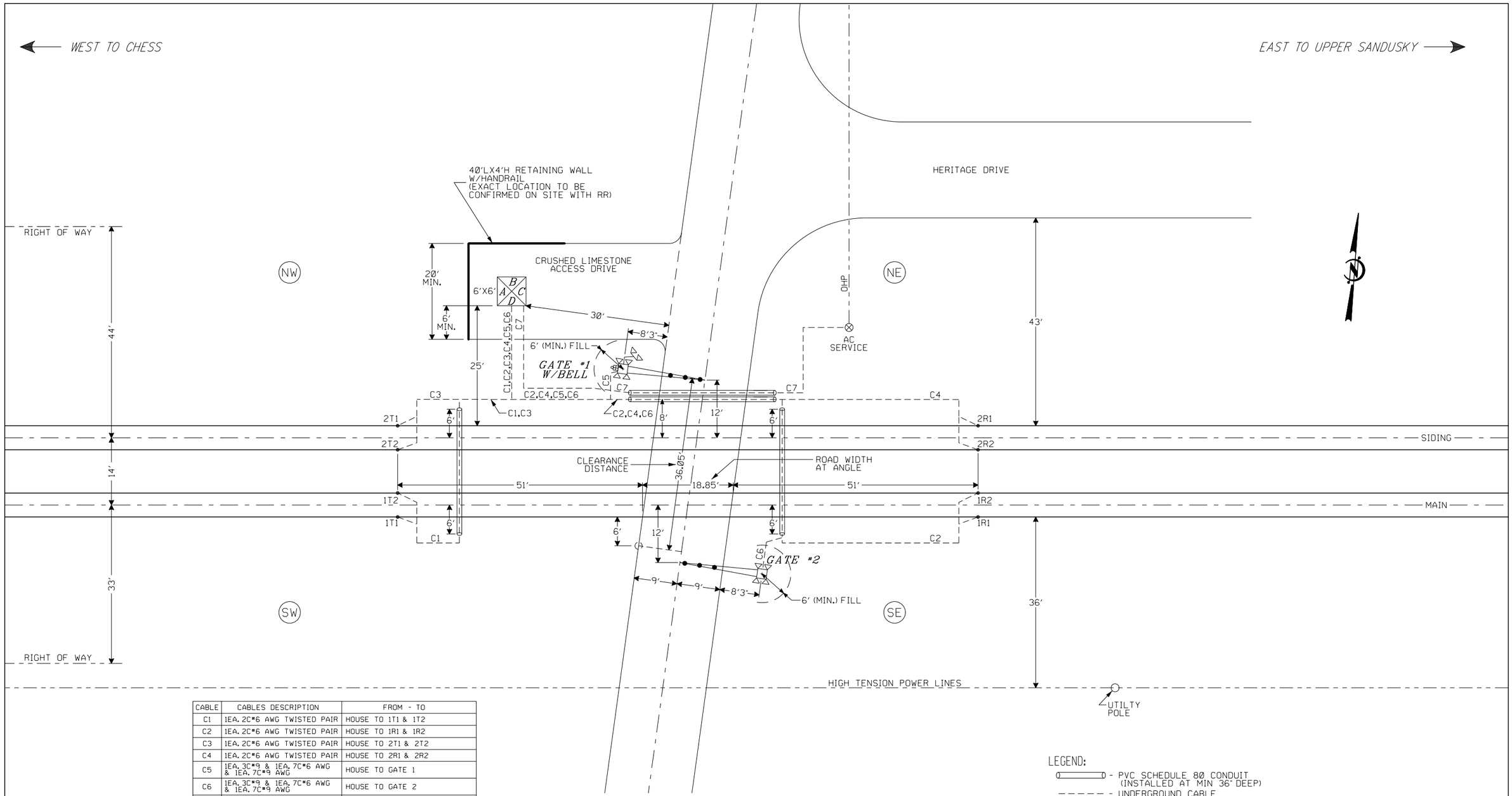

CABLE	CABLES DESCRIPTION	FROM - TO
C1	1EA. 2C#6 AWG TWISTED PAIR	HOUSE TO 1T1 & 1T2
C2	1EA. 2C#6 AWG TWISTED PAIR	HOUSE TO 1R1 & 1R2
C3	1EA. 2C#6 AWG TWISTED PAIR	HOUSE TO 2T1 & 2T2
C4	1EA. 2C#6 AWG TWISTED PAIR	HOUSE TO 2R1 & 2R2
C5	1EA. 3C#9 & 1EA. 7C#6 AWG & 1EA. 7C#9 AWG	HOUSE TO GATE 1
C6	1EA. 3C#9 & 1EA. 7C#6 AWG & 1EA. 7C#9 AWG	HOUSE TO GATE 2
C7	1EA. 3C#6 AWG	HOUSE TO AC POWER SERVICE

LEGEND:

- PVC SCHEDULE 80 CONDUIT (INSTALLED AT MIN 36" DEEP)
- UNDERGROUND CABLE
- OHP
- ⊗ - LOCATION OF AC SERVICE
- ○ - UTILITY POLE

(NE) (SE) (NW) (SW) = QUADRANT MARKERS

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

REVISIONS

THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

STATE OF OHIO — SCOTT L WERTANS E-73435 — REGISTERED PROFESSIONAL ENGINEER — 2/03/22

CHICAGO, FORT WAYNE EASTERN RAILROAD

TRACK AND CABLE LAYOUT

CHICAGO, FORT WAYNE & EASTERN RAILROAD

REDRAWN: PRS
DESIGNED: MST
CHECKED: JMW
DATE: 10-15-21

CR 108D
UPPER SANDUSKY, (WYANDOT), OHIO
DOT# 532 626Y MILEPOST# 219.19

SHEET 17 OF 17

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Ohio | Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

February 8, 2021

Chicago Ft. Wayne & Eastern Railroad
Mr. Jarrod Rishell
AVP Engineering Northern Region
Genesee & Wyoming Inc.
4349 Easton Way, Suite 110
Columbus, OH 43219

RE: Authorization for Design, Plans and Estimates and bid package for Grade Crossing Warning Device Upgrade, Wyandot County, CR 108D, DOT# 532626Y; PID# 113988

Dear Mr. Rishel:

A diagnostic review was held at the above grade crossing on 7/28/2020. The crossing has been recommended for the installation of automatic flashing lights and roadway gates. The crossing is located near multiple turnouts and a siding and may require special attention to the design of the circuitry.

The Chicago Ft. Wayne & Eastern Railroad is authorized to proceed with the design, site plans and cost estimates or bid package for this project. This authorization is made with the stipulation and understanding that any field work needs prior approval before work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit. Please note that Chicago Ft. Wayne & Eastern must provide ORDC with a plan stamped by a professional engineer licensed in the State of Ohio prior to acceptance and close out of the project.

The ORDC is not requesting that the PUCO issue an Order at-this-time. Please submit the preliminary engineering plans and or the bid package to ORDC within 90 days of receipt of this letter.

The diagnostic review form is attached. Please note any recommendations made by the team about requirements for this location. Any minor roadway work necessary for MUTCD compliance should be incorporated into the plans and estimates and such costs will flow through the CSX reimbursement process.

The Project Manager for this project is Don Damron. I can be reached at (614) 917-8466 (cell), or don.damron@dot.ohio.gov, if you have any questions.

Sincerely,

Donald J Damron
Project Manager

C: John Williams, Director, Transportation Department, PUCO
Jill Henry, Rail Specialist, PUCO
Heather Hamilton, ORDC
ORDC (file)

Attachments: 3 (diagnostic review team survey form, letter agreement, purchase order)

Ohio | Public Utilities Commission
Mike DeWine, Governor
Sam Randazzo, Chairman

November 13, 2020

Chicago Ft. Wayne & Eastern Railroad
Mr. Jared Rishel
AVP Engineering Northern Region
Genesee & Wyoming Inc.
4349 Easton Way
Suite 110
Columbus, OH 43219

Re: Wyandot County, CR 108D,
DOT#532-626Y, hereinafter
referred to as the "Project"

Dear Mr. Rishel:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on July 28, 2020, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and roadway gates.

The Project shall comply with Agreement No. 00037-C, dated August 27, 2004, entered into by the State of Ohio and Chicago Ft. Wayne & Eastern Railroad ("RAILROAD"). Furthermore, the RAILROAD shall comply with all applicable state and federal laws governing grade crossing safety programs.

Reimbursable costs will be limited by ORDC based upon approved estimates and bid tabulations, if applicable. These limits will be quantified by the ORDC in its construction authorization to the RAILROAD and may be amended by the ORDC based upon revised estimates and bid tabulations. Additional costs must be approved in writing by the ORDC prior to being incurred. Emergency verbal authorizations by ORDC may be permitted but must be confirmed in writing within ten (10) business days of the verbal approval.

The RAILROAD shall complete plans and estimates for the Project within ninety (90) days after the RAILROAD is notified of authorization to proceed unless otherwise agreed by ORDC/PUCO and the RAILROAD.

The RAILROAD shall not commence construction prior to PUCO's Order and ORDC's construction authorization. The RAILROAD shall provide written notification of the construction start date to PUCO and ORDC no later than five (5) business days prior to such date.

Please indicate your acceptance of the terms and conditions of this Letter of Agreement by signing and returning one (1) copy to Ms. Jill Henry, Rail Specialist, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793.

Sincerely,

John D. Williams
Director, Transportation
Public Utilities Commission of Ohio

Chicago Ft. Wayne & Eastern Railroad

By _____

Title President

Date 01/19/2021

Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Date _____

Please indicate your acceptance of the terms and conditions of this Letter of Agreement by signing and returning one (1) copy to Ms. Jill Henry, Rail Specialist, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793.

Sincerely,

John D. Williams
Director, Transportation
Public Utilities Commission of Ohio

Chicago Ft. Wayne & Eastern Railroad

Matthew Dietrich
Executive Director
Ohio Rail Development Commission

By _____

Title _____

Date _____

Date November 20, 2020

CR 108D (DOT #532626Y), Wyandot County at the Chicago, Fort Wayne & Eastern
7/28/2020

Crossing at a glance:

ORDC Notes:

Please Sign In

Name	Title	Organization
Don Damron	SAFETY PROJECT MANAGER	ORDC
Phone Number	Email	Signature
614 917 8466	don.damron@dot.ohio.gov	Donald J Damron
Cathy Stout		ORDC
Phone Number	Email	Signature
		Cathy Stout
Nathan Howell		Fort Wayne & Eastern
Phone Number	Email	Signature
Terry Wright		Wyandot County
Phone Number	Email	Signature
Timothy Flessner		PUCO
419-204-7337		Timothy F
Phone Number	Email	Signature
RONALD WALTER		CF&E RR
513 805-1342		
Phone Number	Email	Signature
Mike Kohl	Wya. Co. Engineer	
419-294-2330	mkohl@co.wyandot.oh.us	
Phone Number	Email	Signature

Reason for Request: Formula
(e.g. formula, accident, constituent, etc.)

Date: 7/28/2020

Street or Road Name:	CR 108D	
County: Wyandot	Township:	US DOT No.: 532626Y
City (in or near): near Upper Sandusky	Railroad Name: CFE	RR Milepost: 219.19

	Initial Information (from database)	Revised
Number & dates of vehicle crashes in previous 5 years:	n/a	
Number & dates of pedestrian/bicycle crashes in previous 5 years:	n/a	
Hazard Ranking: 874	Date Run: 04/08/2020	

Existing Traffic Control Devices

Type of Warning Devices	Installed?	Quantity/Comments
HIGHWAY		
Advance Warning Signs (condition?)	☒ Yes ☐ No	
'Stop' Signs	☐ Yes ☒ No	
'Stop Ahead' Signs	☐ Yes ☒ No	
Pavement Markings (condition?)	☐ Yes ☒ No	
Dynamic Envelope Markings (condition?)	☐ Yes ☒ No	
Illumination	☐ Yes ☒ No	
'No Turn' Signs (highway/passive)	☐ Yes ☒ No	
Barriers/fencing (pedestrian/bicycle)	☐ Yes ☒ No	
LOOK Sign	☐ Yes ☒ No	
Do Not Stop On Track Sign	☐ Yes ☒ No	
RAILROAD		
Crossbucks	☒ Yes ☐ No	
Crossbucks – assembly with Stop	☒ Yes ☐ No	
Crossbucks – assembly with Yield	☐ Yes ☒ No	
Mast-Mounted Flashing Lights	☐ Yes ☒ No	
Cantilever Flashing Lights	☐ Yes ☒ No	Number: Length:
Side Lights	☐ Yes ☒ No	
LED or Incandescent Lights? Size?	☐ Yes ☒ No	
Automatic Gates	☐ Yes ☒ No	Number: Length:
Bells	☐ Yes ☒ No	Number:
Sidewalk/Pedestrian Gate Arms	☐ Yes ☒ No	Number: Length:
'No Turn' Signs (railroad/active)	☐ Yes ☒ No	
Is crossing flagged by train crew?	☒ Yes ☐ No	SIDING AT CROSSING.
OTHER	☐ Yes ☒ No	

Railroad Data

Type of Train: [✓] Freight [ ] Intercity Passenger [ ] Transit [ ] Shared Use Transit [ ] Commuter [ ] Tourist/Other

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	10	"10 IS HIGH" 1-2 PER DAY
<1 per day? Trains per week	-	
Day thru trains	5	
Night thru trains	5	
Switching	0	NOTE: SIDING IS USED TO STORE CARS. NO SERVICE TO HERITAGE.
Total number of tracks	2	1 MAIN TRACK / 1 SIDING TRACK
Number of main tracks	1	OKAY
Number of other tracks	1	OKAY
Maximum train speed	40	OKAY
Typical train speed	10-40	OKAY
Amtrak		

Are there other track(s) crossing this same roadway within 100ft of this crossing? [ ] Yes [✓] No

If yes, Crossing DOT# (if different) _____

If yes, distance _____ (take measurement between track centerlines at closest point along roadway)

If multiple tracks, can two trains occupy crossing at the same time? [✓] Yes [ ] No

Can one train block the motorists' view of another train at the crossing? [✓] Yes (explain below) [ ] No

Can one or more tracks be eliminated through the crossings? [ ] Yes [✓] No

Comments: STORED CARS ON SIDING TRACK MAY BLOCK VISABILITY OF SECOND TRAIN ON MAIN TRACK.

Circuitry: [ ] Constant Warning Time [ ] Motion Detection [ ] AFO [ ] PTC [ ] DC [ ] Other CIRCUITS FOR SIDING

Roadway Data

Local Highway Authority: Wyandot County

Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	416 (2011)	OKAY
Highway Paved	☒ Yes ☐ No	☐ Yes ☐ No

Roadway Surface: ☒ Blacktop ☐ Gravel ☐ Concrete Other _____

Roadway width (paved/travelled way): 18' ft

Number of Highway Lanes	2	
Urban or Rural	Rural - Local	
Vehicle Speed: n/a MPH		55 MPH

School Bus Operation: ☐ Yes ☑ No Amount _____ UNKNOWN AT TIME OF SURVEY.

Location of nearby schools: UPPER SANDUSKY, EAST OF CROSSING.

Hazardous Materials Trucks: ☑ Yes ☐ No Amount (from FRA) 5% LHA verified/changed?

Shoulders: ☐ Yes ☒ No

Is the Shoulder Surfaced? ☐ Yes ☒ No If yes, shoulder width: _____ft.

Is there existing guardrail along the roadway in crossing vicinity? ☐ Yes ☒ No

Crossing Angle ☐ 0-29° ☐ 30-59° ☒ 60-90° Measured in _____ Quadrant?

Quadrant _____ Curb & Gutter:	Quadrant _____ Curb & Gutter:
☐ Functional (Curb height = 4" or more)	☐ Functional (Curb height = 4" or more)
☐ Non-functional (Curb height = less than 4")	☐ Non-functional (Curb height = less than 4")
☑ None	☒ None

Is there a nearby intersection that could cause queuing over the crossing? ☐ Yes ☒ No

If yes, distance _____

Is this intersection signalized? ☐ Yes ☑ No

Are there signals currently interconnected with the existing crossing warning devices? ☐ Yes ☒ No

Is there a 'Do Not Stop on Track' sign? ☐ Yes ☑ No

Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? ☐ Yes ☒ No

If yes:

Improvement type_____ Lead Agency_____ Timeline/completion_____

Pedestrian / Bicycle Use

Regular pedestrian usage: ☐ Yes ☒ No Volumes: ☐ Occasional ☐ <20 ☐ 20-60 ☐ >60

Is sidewalk present in the approach? ☐ Yes ☐ No Quadrants:

Does crossing surface accommodate pedestrians? ☐ Yes ☐ No

Both sides of roadway? ☐ Yes ☐ No If no, which side is paved?

Pedestrian generators in close proximity (e.g. schools, sports/entertainment venues)? ☐ Yes ☒ No

Comments:

Regular bicycle usage: ☐ Yes ☒ No

☐ Roadway ☐ Dedicated Lane (on street) ☐ Dedicated Path (off street) ☐ Shared Use (pedestrian/bicycle) Path
☐ Bikes must use sidewalk

Future plans for pedestrian or bicycle routes? ☐ Yes ☒ No

Comments:

Utility Information

Is commercial power available? ☒ Yes ☐ No AEP

Utility Provider (Company Name) AEP

Nearest Available Power Source AT-SITE

What other utilities are present? ☐ Gas ☐ Cable ☐ Telephone ☒ Fiber Optic Cable (add locations to sketch)
☐ Petroleum ☐ Water ☐ Sanitary Sewer ☐ Other ↳ ALONG ROADWAY

Comments:

Sketch

Surface review form completed? ☐ Yes ☐ No

Sight Preview (REFER TO TABLES)

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☒ Yes ☐ No 2-TRUCKS

Is stopping sight distance adequate? (See Table 2) ☒ Yes ☐ No If no, which quadrant? _____

When considering recommendations for bicycle treatments:

Bicycle sight distance adequate? ☐ Yes ☐ No If no, which quadrant? _____

When considering recommendations for pedestrian treatments:

Pedestrian sight distance adequate? ☐ Yes ☐ No If no, which quadrant? _____

Potential Red Flags / Project Challenges

Traffic Signal Preemption (include traffic signal intersection name and LHA with jurisdiction over traffic signal, if known):

NA

Crossing Consolidation or Closure:

NA

Real Estate or ROW:

NA

Culvert / Drainage / Ballast Conditions:

NA

Roadway and/or Sidewalks:

NA

Circuitry (e.g. reaches out to other crossings, specific needs, etc.):

SIGNAL CIRCUIT ON MAIN TRACK AND SIDING. MAIN TRACK IS ALWAYS ON.
TURNOUT ON WEST SIDE OF CROSSING - ~~OPEN~~
TOTAL OF 3 SWITCHES ON SIDING.

Environmental:

NA

Utilities:

NA

Other:

NA

Potential Closure

Is it the consensus of the Diagnostic Review Team that this is a potential closure project?

Explain reasons: No. ROADWAY IS NECESSARY.

Diagnostic Team Recommendations

☐ **No improvements needed**	Quadrants Needed
☒ **Install/upgrade active devices**	
☒ Automatic Flashing Lights (AFLS)	
☐ AFLS /Cants	
☒ AFLS / Gates	
☐ AFLS / Gates / Cants	
☒ Bells / number	ONE BELL
☐ Upgrade circuitry / type	
☐ Sidelights	
☐ LED Upgrades	
☐ Guardrail Needed	
☐ Install/Replace curb	
☒ Bungalow placement & offset from rail & highway	SW QUADRAND
☐ Other (define)	

Comments: CONSENSUS: UPGRADE TO AFLS AND GATES.
RAILROAD REQUESTS HEAD BOND AND WEB BOND ON MAIN IN DURATION OF APPROACHES TRACK

☐ Install/upgrade traffic signal preemption

Other (define):

Diagnostic Team Recommendations (cont.)

PEDESTRIAN/BICYCLE Treatments (additional, not included above)

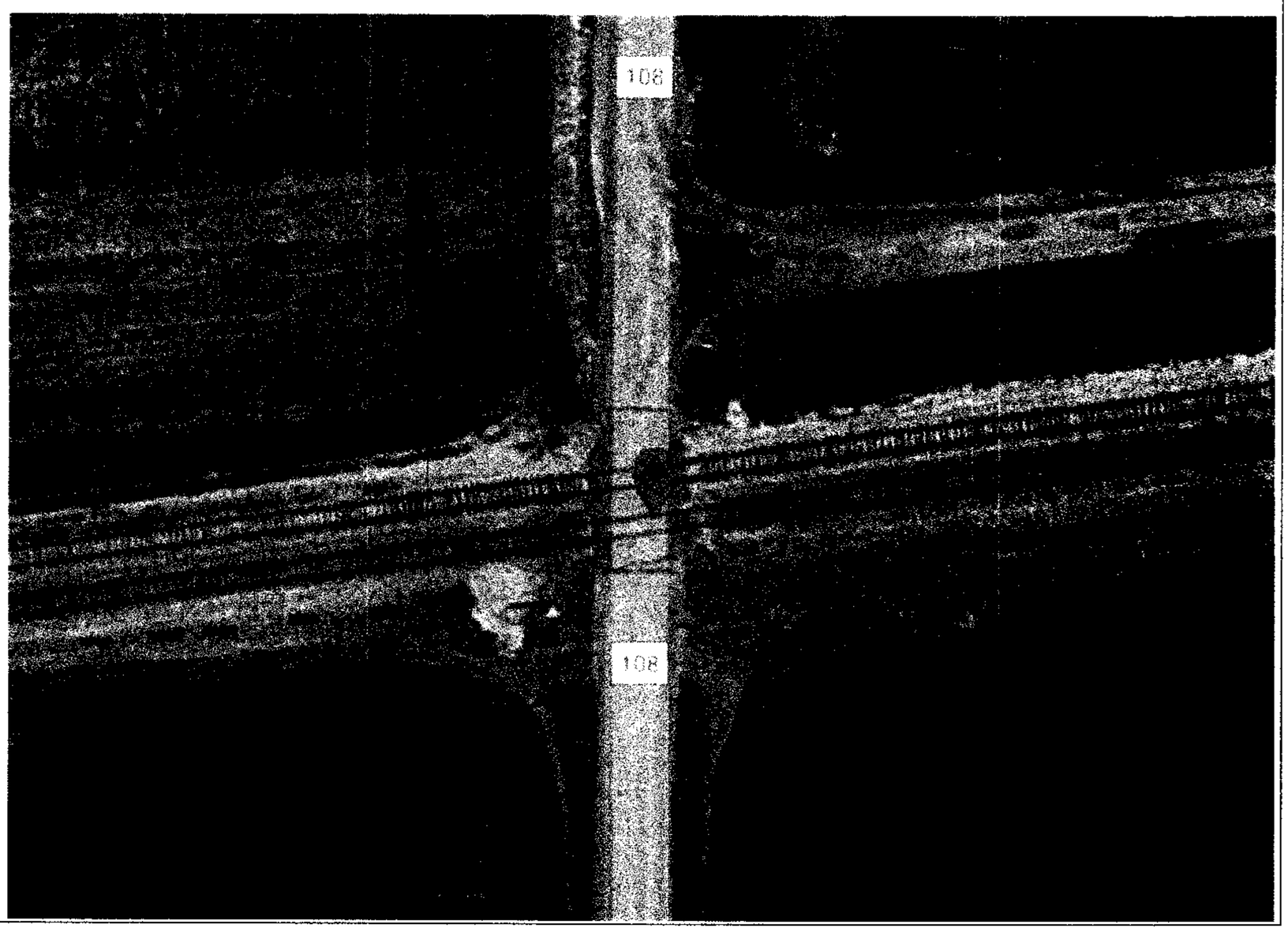
☐ Crossing Surface (specify)	☐ Sidewalk (specify)
☐ Detectable warning surfaces	☐ LOOK Sign (R15-8)
☐ Stop lines	☐ Illumination
☐ Dynamic envelop markings	☐ Channelization
☐ Path delineation	☐ Fencing/barriers
☐ Other	

Comments:

Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature/initial acknowledgement):

Field Sketch (optional)

Include utilities as marked by OUPS and LHA; include ROW boundaries as indicated by railroad and LHA.



Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
30	720
35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers on dry level pavements.

Stopping Sight Distance is to be measured on each roadway approach to crossing from stop bar.

Bicycle & Pedestrian Clearing Sight Distances

Clearing Sight Distance from Stop Position*											
Crossing of one track								Crossing 2 Tracks		Crossing 3 Tracks	
Train Speed	**Car**	**Single-unit Truck**	**Bus**	**WB-50 Semitruck**	**65-foot Double Truck**	**Pedestrian[1]**	**Bicyclist[2]**	**Pedestrian[1]**	**Bicyclist[2]**	**Pedestrian[1]**	**Bicyclist[2]**
10	105	185	200	225	240	120	100	180	120	240	140
20	205	365	400	450	485	240	200	360	240	480	270
25	255	455	500	560	605	300	250	450	290	590	340
30	310	550	600	675	725	360	290	530	350	710	410
40	410	730	795	895	965	480	390	710	470	950	540
50	515	910	995	1,120	1,205	590	490	890	580	1180	670
60	615	1,095	1,195	1,345	1,445	710	580	1060	700	1420	810
70	715	1,275	1,395	1,570	1,680	830	680	1240	810	1650	940
80	820	1,460	1,590	1,790	1,925	950	780	1420	930	1890	1080
90	920	1,640	1,790	2,015	2,165	1060	870	1590	1040	2120	1210

*A single track, 90-degree, level crossing

[1] Walking 3.5 feet per second across tracks 15 feet apart, with a 2-second reaction time to reach a decision point 10 feet before the center of the first track, and clearing 10 feet beyond the centerline of the second track.

[2] Bicycling 8 miles per hour across tracks 15 feet apart, from a stopped position 10 feet before the center of the first track with an acceleration of 2.5 feet per second, and clearing 10 feet beyond the centerline of the second track on a bike of 6 feet length.

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Chicago Ft. Wayne & Eastern Railroad Crossing, CR 108D, DOT#532-626Y in Wyandot County, Ohio. electronically filed by Mrs. Jill A. Henry on behalf of PUCO/Rail Division