

Memo

To: Docketing Division

From: Thomas Persinger, Rail Project Specialist, Rail Division

Cc: PUCO Legal Department

Date: 3-14-2023

Re: PUCO Case No. 23-208-RR-FED In the Matter of a Request for the Installation of Active Warning Devices at the Indiana & Ohio Railway Grade Crossing, DOT# 151-959W at Cuba Road in Clinton County, Ohio.

On March 24, 2022, the Ohio Rail Development Commission (ORDC) authorized funding for Indiana & Ohio Railway (IORY) to install lights and gates at Cuba Road (DOT#151-959W) in Clinton County, Ohio. The crossing was surveyed, on August 17, 2021, and was found to warrant the upgrade. The electric utility provider for this crossing is AES-Ohio.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$289,852.00 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:

Indiana & Ohio Railway Co.
Jared Rishel
AVP Engineering Northern Region
Genessee & Wyoming Inc.
47849 Papermill Road
Coshocton, OH 43812

Alfred Benesch & Company
Ben Biesterveld
G&W Consultant
4614 Red Fox Road
Oshkosh, WI 54904

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

City of Wilmington
Brian Shidaker
Service/Safety Director
69 N. South Street
Wilmington, OH 45177

AES-Ohio

**OHIO RAIL DEVELOPMENT COMMISSION
INTER-OFFICE COMMUNICATION**

TO: John Williams, Chief, Motor Carrier & Rail Enforcement, PUCO
FROM: Allen Bell, Manager, Safety Section, ORDC
BY: Eric Thompson ET
SUBJECT: CLI-Cuba Road, DOT # 151959W PID# 116035
DATE: 2/28/2023

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on 8/17/2021. The Public Utilities Commission of Ohio (PUCO) 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 accepts the site plans and estimates as provided. Please issue a construction-only order for the project outlined above. ORDC recommends a nine (9) month construction timeline. 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
Letter Agreement
PE Authorization
Plan, Estimate & Material List
Construction Authorization

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



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chairman

Date: 2/28/23

Mr. Len Wagner
President & Legal Official (SVP)
Genesee & Wyoming/ORY
200 Meridian Centre Suite 270
Rochester, NY 14618

RE: Construction Authorization Grade Crossing Warning Device Improvements
Clinton County, Cuba Road, DOT#151959W, PID#116035

Dear Mr. Wagner:

The plan dated 1/30/2023 and estimate dated 12/20/2022, for the referenced project is acceptable. Genesee & Wyoming/ORY may proceed with the construction of the proposed grade crossing warning system in accordance with the abbreviated plan.

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 \$289,852.00. 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 IORY accepting the following instructions:

1. IORY's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to IORY, ORDC, Eric.Thompson@dot.Ohio.Gov (513) 520-2687, and to the Public Utilities Commission of Ohio, email Thomas.persinger@puco.ohio.gov. IORY'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. IORY 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 IORY.
3. IORY's project foremen will notify Eric Thompson at (513) 520-2687 or Eric.Thompson@dot.Ohio.gov 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. IORY will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed Purchase Order to reference when billing.
6. IORY 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.

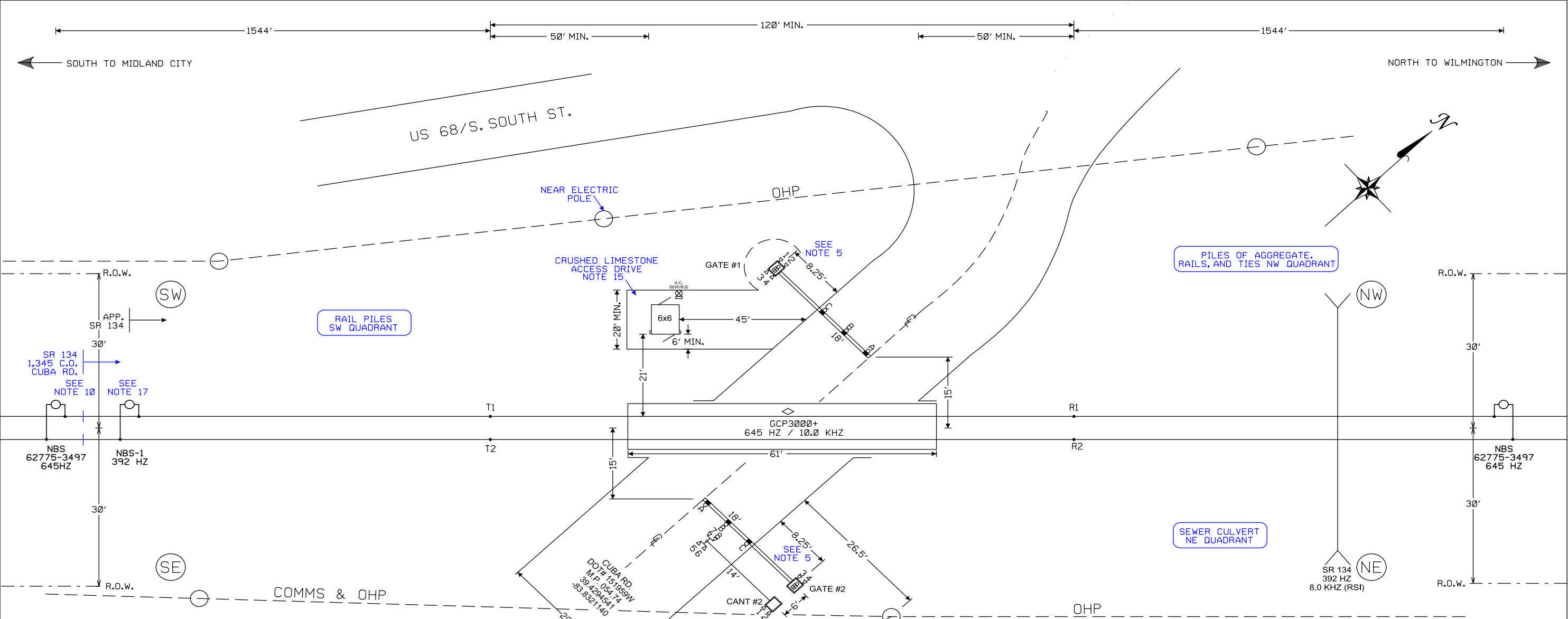
Sincerely,



Eric Thompson
Project Manager

Attachment: ODOT P.O.

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



- NOTES:
1. TRACK WIRE LEADS FROM THE CONTROL SHELTER TO TERMINATION AT RAIL SHOULD FOLLOW THE MANUFACTURER'S RECOMMENDATION AND STANDARD PRACTICES FOR THE TYPE OF EQUIPMENT BEING INSTALLED.
 2. TRANSMITTER WIRES T1 AND T2 MUST BE RUN TO THE TRACK ON THE CONTROL SHELTER SIDE OF CROSSING
 3. APPROACH DISTANCES ARE TO BE MEASURED FROM THE CIRCUIT FEED POINTS (TRACK WIRE CONNECTIONS).
 4. ALL CONTROL SHELTER WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE SPECIFIED.
 5. SIGNAL FOUNDATION PLACEMENT AND SIGNAL STANDARDS ARE TO BE PER THE MOST CURRENT M.U.T.C.D., STATE AND LOCAL REQUIREMENTS WHEN APPLICABLE. THE TOP OF THE SIGNAL FOUNDATION SHOULD BE NO MORE THAN 4 INCHES ABOVE THE GROUND AND SHOULD BE AT THE SAME ELEVATION AS THE CROWN OF THE ROADWAY. IN THE EVENT THESE MEASUREMENTS ARE NOT OBTAINABLE CONSULT THE CURRENT M.U.T.C.D. MANUAL, STATE AND LOCAL REQUIREMENTS.

6. ALL LIGHT UNITS TO BE LED TYPE.
7. 2' SHOULDER WIDTH
8. ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS.
9. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
10. TWO INSULATED JOINTS 1,350' SOUTH OF CUBA RD. TO BE CUT OUT AND REPLACED BY TWO 40' 115RE STICKS WELDED IN PLACE.
11. CONDUIT MUST BE BORED.
12. VENDOR RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES WITHIN LIMITS OF CONSTRUCTION.
13. CAMERA SYSTEM TO BE SUPPLIED BY AND INSTALLED BY VENDOR.
14. ENSURE ALL DITCHES ALONG THE TRACKS IN ALL FOUR QUADRANTS HAVE POSITIVE DRAINAGE FLOW TO 100' FROM HIGHWAY.
15. FILL AND RIP RAP NEEDED TO HOLD STONE IN PLACE.
16. LOWEST OHP CABLE IS 23' ABOVE GRADE.
17. REPLACE EXISTING DHWS WITH ALSTOM NBS-1.

APPROACH CIRCUIT DISTANCE CALCULATION TABLE	TRACK 1
BASE WARNING TIME	30 SEC
PLUS TIME FOR CLEARANCE DISTANCE > 35'	7 SEC
EQUALS PLANNED WARNING TIME	37 SEC
PLUS TIME FOR EQUIPMENT RESPONSE	5 SEC
PLUS TIME FOR TRAFFIC SIGNAL PRE-EMPTION	0 SEC
EQUALS CIRCUIT APPROACH TIME	42 SEC
TIMES MAXIMUM PLANNED TRAIN SPEED	25 MPH
TIMES RATIO OF FEET PER SECOND TO MILES PER HOUR	1.47
EQUALS APPROACH CIRCUIT DISTANCE	1544 FT
ACTUAL MEASURED APPROACH CIRCUIT DISTANCE	FT

- LEGEND:
- SLIDE TEST TERMINAL
 - GOLD NUT TEST TERMINAL
 - INSULATED NUT
 - 4 POST TERMINAL SEE DETAIL A SHEET 10
 - UTILITY POLE
 - HD EQUALIZER
 - HD ARRESTER TO GROUND
 - TWISTED WIRE (2 TURNS PER FOOT)
 - LOCATION OF AC SERVICE

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.

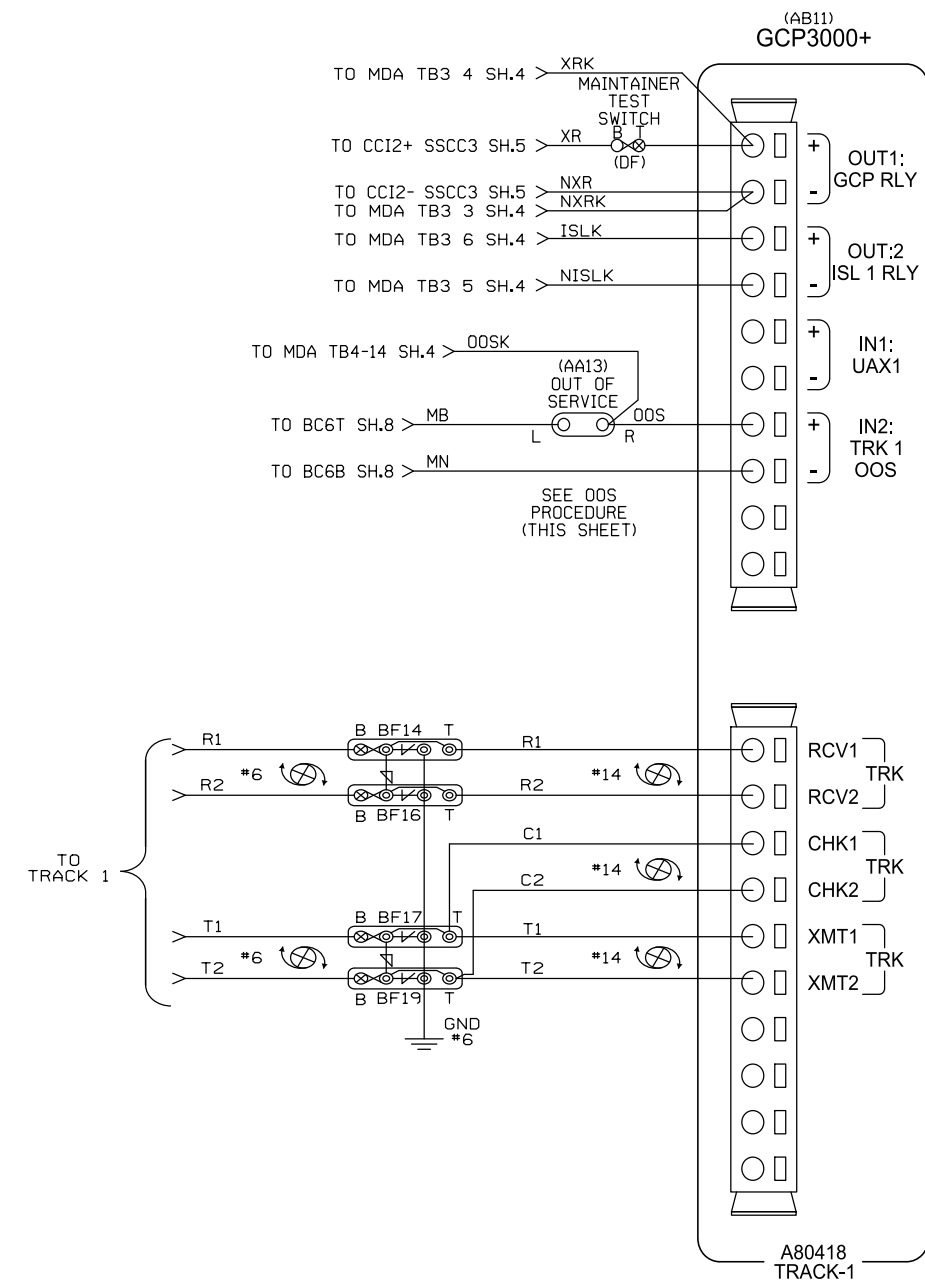
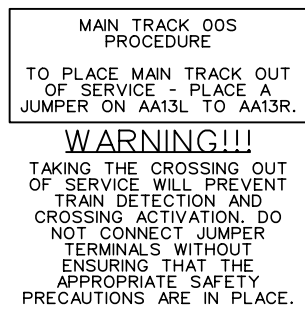




INDIANA & OHIO RAILWAY
(IORY)

DRAWN: KDF
DESIGNED: SMI
CHECKED: STL
DATE: 01-30-23

CUBA RD. - WILMINGTON, (CLINTON), OHIO
MIDLAND SUBDIVISION
LOCATION & TRACK LAYOUT
DOT# 151-959W MILEPOST • 054.74

DRAWING NO.
IORY05474-01
SHEET 1 OF 12



				REVISIONS					<p>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.</p>			<p>INDIANA & OHIO RAILWAY (IORY)</p>		<p>DRAWN: KDF DESIGNED: SMI CHECKED: STL DATE: 01-30-23</p>	<p>CUBA RD. - WILMINGTON, (CLINTON), OHIO MIDLAND SUBDIVISION GCP3000+ CPU AND TRACK CIRCUITS DOT* 151-959W MILEPOST * 054.74</p>	<p>DRAWING NO. IORY05474-02 SHEET 2 OF 12</p>
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ATCS ADDRESS: 762010010016


GCP PROGRAMMING PARAMETER	PROGRAM	RANGE	DEFAULT VALUE
NUMBER OF TRACKS	1	1-2	2
RIO MODULE USED	NO	YES, NO	YES
NUMBER OF DAXS	0	NONE, 1-4	NONE
ADV PREEMPT TIMER (SEC)	0 (OFF)	0S (OFF), 1-500	0 (OFF)
OOS CONTROL	OOS IPS	DISPLAY, DISPLAY+OOS IPS, OOS IPS	DISPLAY
OOS TIMEOUT (HRS)	1	0-23	1
EXTERNAL EVT RECORDER	YES	YES, NO	NO
T1 GCP FREQUENCY	645 HZ	NOT SET, 86-999HZ (SEE LATER FOR SPECIFIC VALUES)	NOT SET
T2 GCP FREQUENCY	NOT SET	NOT SET, 86-999HZ (SEE LATER FOR SPECIFIC VALUES)	NOT SET
T1 UNIDIRNL/BIDIRNL	BIDIRNL	BIDIRNL/UNIDIRNL	BIDIRNL
T2 UNIDIRNL/BIDIRNL	NA	BIDIRNL/UNIDIRNL	BIDIRNL
T1 GCP XMIT LEVEL	MEDIUM	MEDIUM, HIGH	MEDIUM
T2 GCP XMIT LEVEL	NA	MEDIUM, HIGH	MEDIUM
T1 PREDICTION/MS MODE	PRED	PRED, MS	PRED
T2 PREDICTION/MS MODE	NA	PRED, MS	PRED
T1 APPROACH DISTANCE (FT)	1544	0-9999	9999
T2 APPROACH DISTANCE (FT)	NA	0-9999	9999
T1 ISLAND USED	INTERNAL	INTERNAL, EXTERNAL NOT USED	INTERNAL
T2 ISLAND USED	NA	INTERNAL, EXTERNAL NOT USED T1ISL	INTERNAL
T1 ISLAND DISTANCE (FT)	162	0-999	120
T2 ISLAND DISTANCE (FT)	NA	0-999	120
T1 ISL FREQUENCY	10.0 KHZ	NOT SET, 2.14kHz - 20.2kHz (SEE LATER FOR SPECIFIC VALUES)	NOT SET
T2 ISL FREQUENCY	NA	NOT SET, 2.14kHz - 20.2kHz (SEE LATER FOR SPECIFIC VALUES)	NOT SET
T1 ISL PICKUP DELAY (2S+) (SEC)	OS	0-6S	OS
T2 ISL PICKUP DELAY (2S+) (SEC)	NA	0-6S	OS
T1 PRIME WARNING TIME (SEC)	37S	23-99S	25S
T2 PRIME WARNING TIME (SEC)	NA	23-99S	25S
T1 PRIME PREDICTION OFFSET (FT)	0 FT	0-9909FT	0 FT
T2 PRIME PREDICTION OFFSET (FT)	NA	0-9909FT	0 FT

GCP PROGRAMMING PARAMETER	PROGRAM	RANGE	DEFAULT VALUE
T1 PICKUP DELAY MODE	FIXED	AUTO, FIXED	FIXED
T2 PICKUP DELAY MODE	NA	AUTO, FIXED	FIXED
T1 PRIME PICKUP DELAY (SEC)	15S	8-500S	15S
T2 PRIME PICKUP DELAY (SEC)	NA	8-500S	15S
T1 UAX PICKUP DELAY (SEC)	0	0 (NOT USED), 1-500	0 (NOT USED)
T2 UAX PICKUP DELAY (SEC)	NA	0 (NOT USED), 1-500	0 (NOT USED)
T1 ENHANCED DETECTION	ON (HIGH)	ON (MAX), ON (HIGH), ON (MED), ON (LOW), OFF	ON (HIGH)
T2 ENHANCED DETECTION	NA	ON (MAX), ON (HIGH), ON (MED), ON (LOW), OFF	ON (HIGH)
T1 SPEED LIMITING USED	YES	YES, NO	YES
T2 SPEED LIMITING USED	NA	YES, NO	YES
T1 STATION STOP TIMER (SEC)	20	10-120	20
T2 STATION STOP TIMER (SEC)	NA	10-120	20
T1 TRAILING SWITCH LOGIC	ON	ON, OFF	ON
T2 TRAILING SWITCH LOGIC	NA	ON, OFF	ON
T1 LOW EZ DETECTION USED (EZ=70)	OFF	OFF, ON	OFF
T2 LOW EZ DETECTION USED (EZ=70)	NA	OFF, ON	OFF
T1 LOW EZ DETECTION TIME (MINS)	20	2-99	20
T2 LOW EZ DETECTION TIME (MINS)	NA	2-99	20
T1 POSITIVE START EZ LEVEL	0 (OFF)	0 (OFF), 1-80	0 (OFF)
T2 POSITIVE START EZ LEVEL	NA	0 (OFF), 1-80	0 (OFF)
T1 POSITIVE START TIMEOUT	0 (NONE)	0-99	0 (NONE)
T2 POSITIVE START TIMEOUT	NA	0-99	0 (NONE)
T1 SUDDEN SHUNT DETN LEVEL	0 (OFF)	0 (OFF), 0-75	0 (OFF)
T2 SUDDEN SHUNT DETN LEVEL	NA	0 (OFF), 0-75	0 (OFF)
T1 SUDDEN SHUNT DETN OFFSET	0	0-9999	0
T2 SUDDEN SHUNT DETN OFFSET	NA	0-9999	0
DAX A TRACK ASSIGNMENT	NA	TRACK 1, TRACK 2	TRACK 1
DAX A WARNING TIME (SEC)	NA	0-99	25
DAX A OFFSET DISTANCE (FT)	NA	0-9999	99
DAX A PICKUP DELAY MODE	NA	FIXED, AUTO	AUTO
DAX A PICKUP DELAY (SEC)	NA	8-500	15

GCP PROGRAMMING PARAMETER	PROGRAM	RANGE	DEFAULT VALUE
DAX B TRACK ASSIGNMENT	NA	TRACK 1, TRACK 2	TRACK 1
DAX B WARNING TIME (SEC)	NA	0-99	25
DAX B OFFSET DISTANCE (FT)	NA	0-9999	99
DAX B PICKUP DELAY MODE	NA	FIXED, AUTO	AUTO
DAX B PICKUP DELAY (SEC)	NA	8-500	15
DAX C TRACK ASSIGNMENT	NA	TRACK 1, TRACK 2	TRACK 1
DAX C WARNING TIME (SEC)	NA	0-99	25
DAX C OFFSET DISTANCE (FT)	NA	0-9999	99
DAX C PICKUP DELAY MODE	NA	FIXED, AUTO	AUTO
DAX C PICKUP DELAY (SEC)	NA	8-500	15
DAX D TRACK ASSIGNMENT	NA	TRACK 1, TRACK 2	TRACK 1
DAX D WARNING TIME (SEC)	NA	0-99	25
DAX D OFFSET DISTANCE (FT)	NA	0-9999	99
DAX D PICKUP DELAY MODE	NA	FIXED, AUTO	AUTO
DAX D PICKUP DELAY (SEC)	NA	8-500	15
T1 MS SENSITIVITY LEVEL	NORMAL	NORMAL, 20,40,60,80,100	NORMAL
T2 MS SENSITIVITY LEVEL	NA	NORMAL, 20,40,60,80,100	NORMAL
T1 SWITCH MS EZ LEVEL	10	0-100	10
T2 SWITCH MS EZ LEVEL	NA	0-100	10
T1 XFER DELAY MS TO GCP (MIN)	0 (NOT USED)	0 (NOT USED), 1- 60MINS	0 (NOT USED)
T2 XFER DELAY MS TO GCP (MIN)	NA	0 (NOT USED), 1- 60MINS	0 (NOT USED)
PRIME XFER MS TO GCP	OFF	OFF, ON	OFF
DAX A XFER MS TO GCP	OFF	OFF, ON	OFF
DAX B XFER MS TO GCP	OFF	OFF, ON	OFF
DAX C XFER MS TO GCP	OFF	OFF, ON	OFF
DAX D XFER MS TO GCP	OFF	OFF, ON	OFF
T1 LOW EX ADJUSTMENT	0	0-5	0
T2 LOW EX ADJUSTMENT	NA	0-5	0
T1 COMPENSATION VALUE	1300	1000-2000	1300
T2 COMPENSATION VALUE	NA	1000-2000	1300

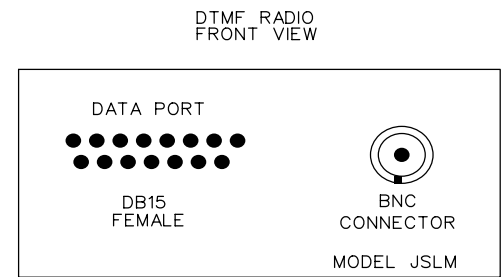
NOTES

- 1) REFER TO MODEL+ GCP INSTRUCTION AND INSTALLATION MANUAL FOR PROGRAMMING PARAMETERS
- 2) STANDARD APPROACH FREQUENCIES: 86,114,156,211,285,348,430,525,645,790,970
CONTACT DESIGN OFFICE FOR OTHER OPTIONS
- 3) STANDARD ISLAND FREQUENCIES: 2.14,2.63,3.24,4.0,4.9,5.9,7.1,8.3,10.0,11.5,13.2,15.2,17.5,20.2

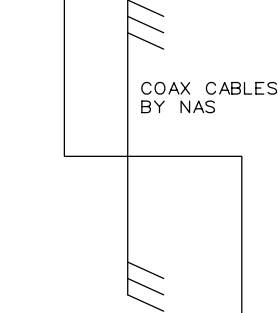
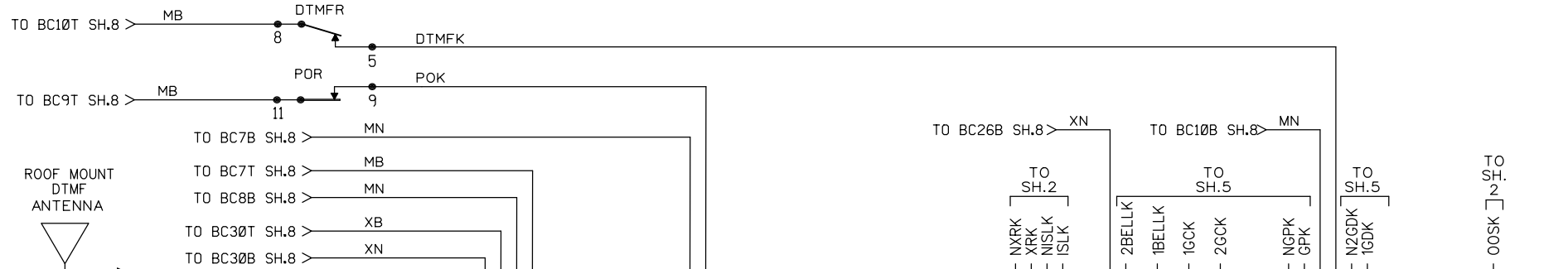
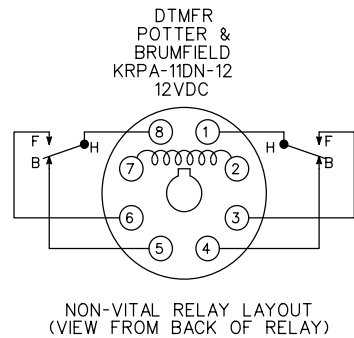
REVISIONS								THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.		INDIANA & OHIO RAILWAY (IORY)		
										DRAWN: KDF DESIGNED: SMI CHECKED: STL DATE: 01-30-23	CUBA RD. - WILMINGTON, (CLINTON), OHIO MIDLAND SUBDIVISION GCP3000+ PROGRAMMING DOT* 151-959W MILEPOST * 054.74	DRAWING NO. IORY05474-03 SHEET 3 OF 12

OPERATING FREQUENCY - 160.545

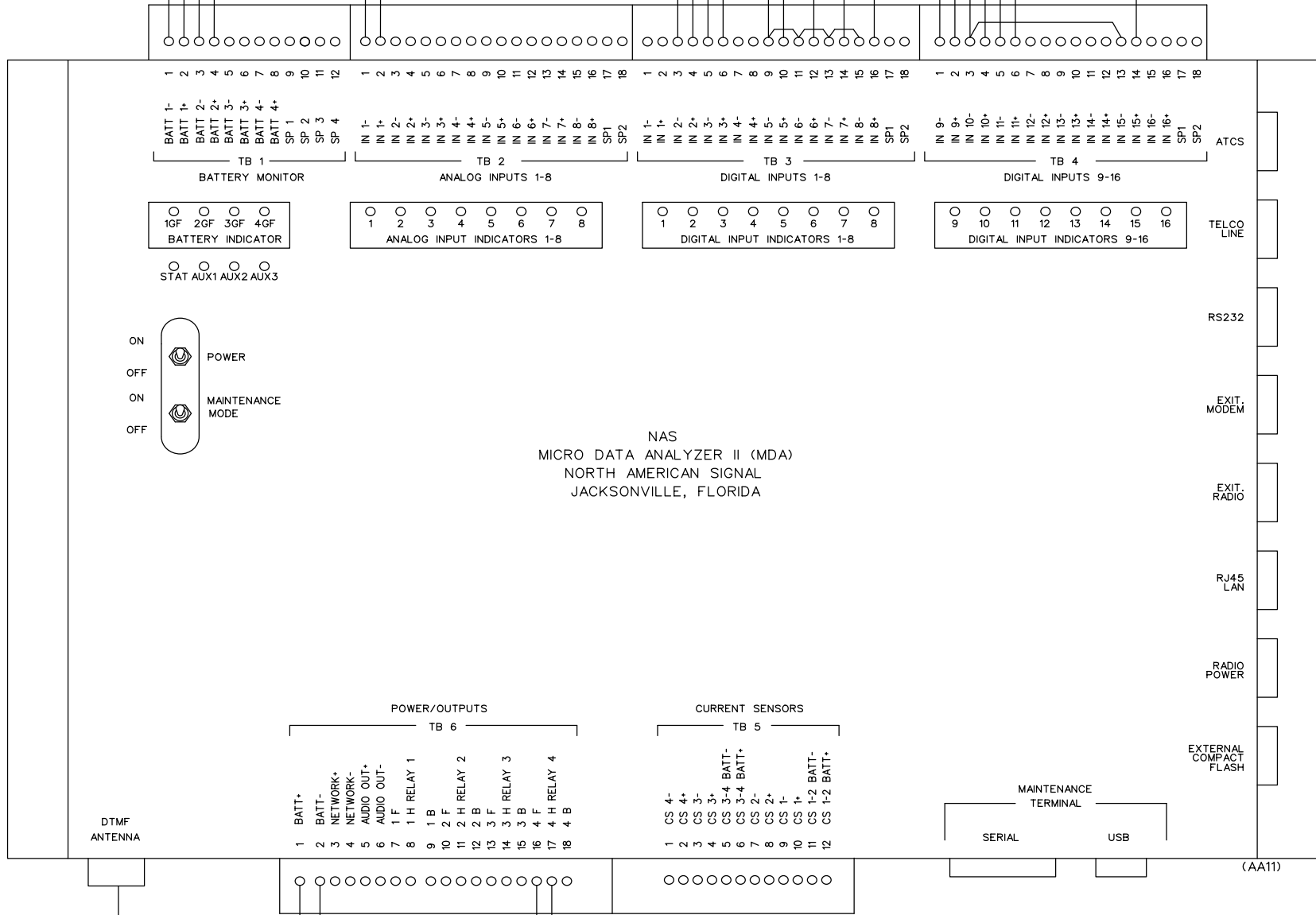
CODE	DESCRIPTION
9591*	ACTIVATE CROSSING W/60 SEC TIMER
9591*	DE-ACTIVATE CROSSING
9599*	ACTIVATE CROSSING
9599*	DE-ACTIVATE CROSSING



NOTE: MOUNTED INTERNAL ON MDA UNIT



ANTENNA CABLE
NAS PART NO:
NAS-DTMF-AK-10



REVISIONS

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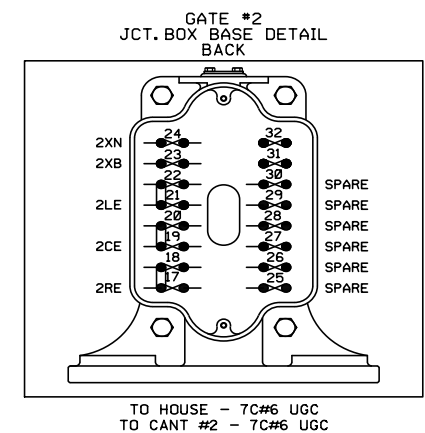
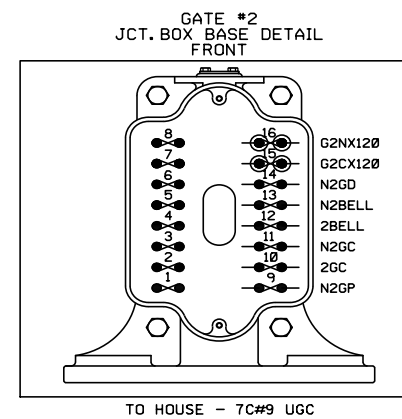
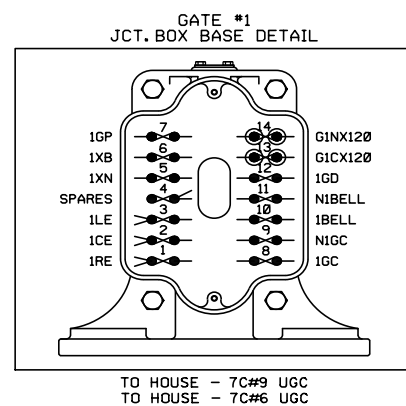
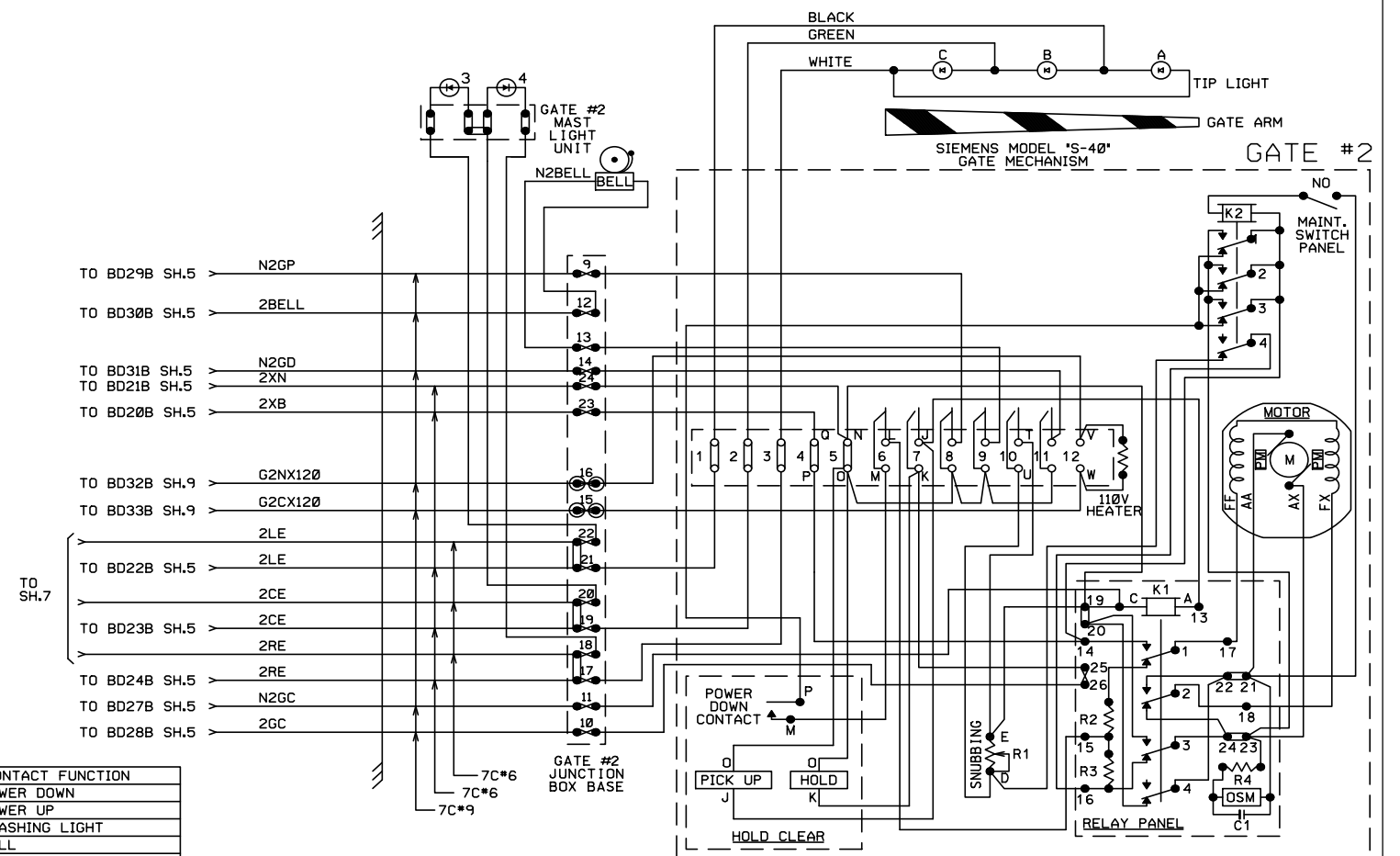
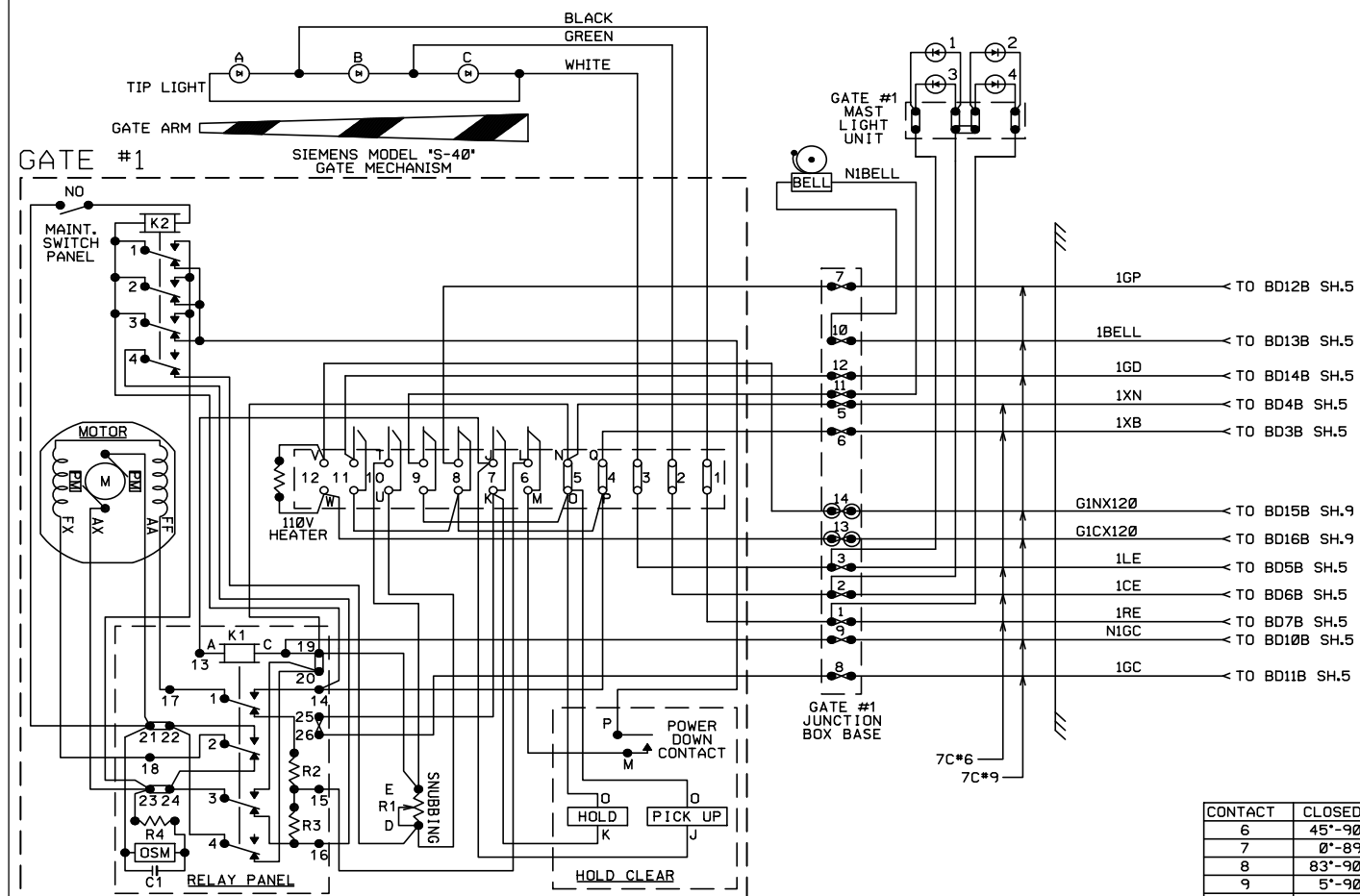


INDIANA & OHIO RAILWAY
(IORY)

DRAWN: KDF
DESIGNED: SMI
CHECKED: STL
DATE: 01-30-23

CUBA RD. - WILMINGTON, (CLINTON), OHIO
MIDLAND SUBDIVISION
MICRO DATA ANALYZER CIRCUITS
DOT* 151-959W MILEPOST * 054.74

DRAWING NO.
IORY05474-04
SHEET 4 OF 12



NOTES

1. ALL WIRING FROM MASTS JUNCTION BOX BASES TO GATE MECHANISMS, BELL, AND FLASHING LIGHT UNITS TO BE #10 AWG FLEX, UNLESS OTHERWISE NOTED.
2. ALL CASE WIRING TO BE #10 AWG. FLEX UNLESS OTHERWISE NOTED.

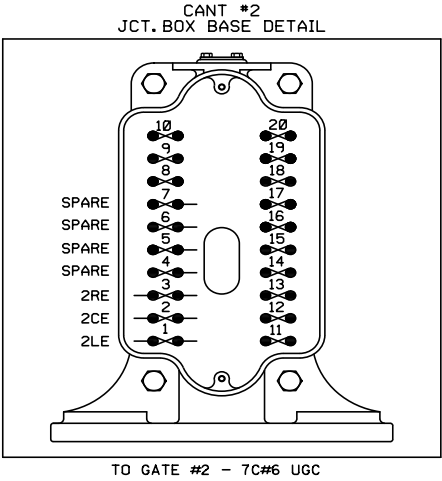
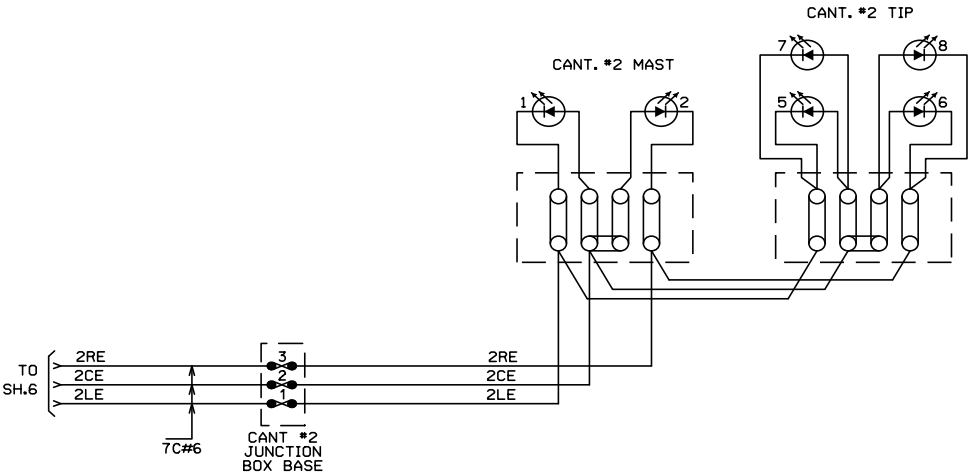
REVISIONS							

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.



INDIANA & OHIO RAILWAY
(IORY)

DRAWN: KDF	CUBA RD. - WILMINGTON, (CLINTON), OHIO	DRAWING NO.
DESIGNED: SMI	MIDLAND SUBDIVISION	10RY05474-06
CHECKED: STL	GATE AND SIGNAL LIGHTING CIRCUITS	SHEET 6 OF 12
DATE: 01-30-23	DOT * 151-959W MILEPOST * 054.74	



- NOTES:
1. (LED) IS SYMBOL ONLY. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS
 2. ALL WIRING ON THIS SHEET TO BE #10 AWG 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.

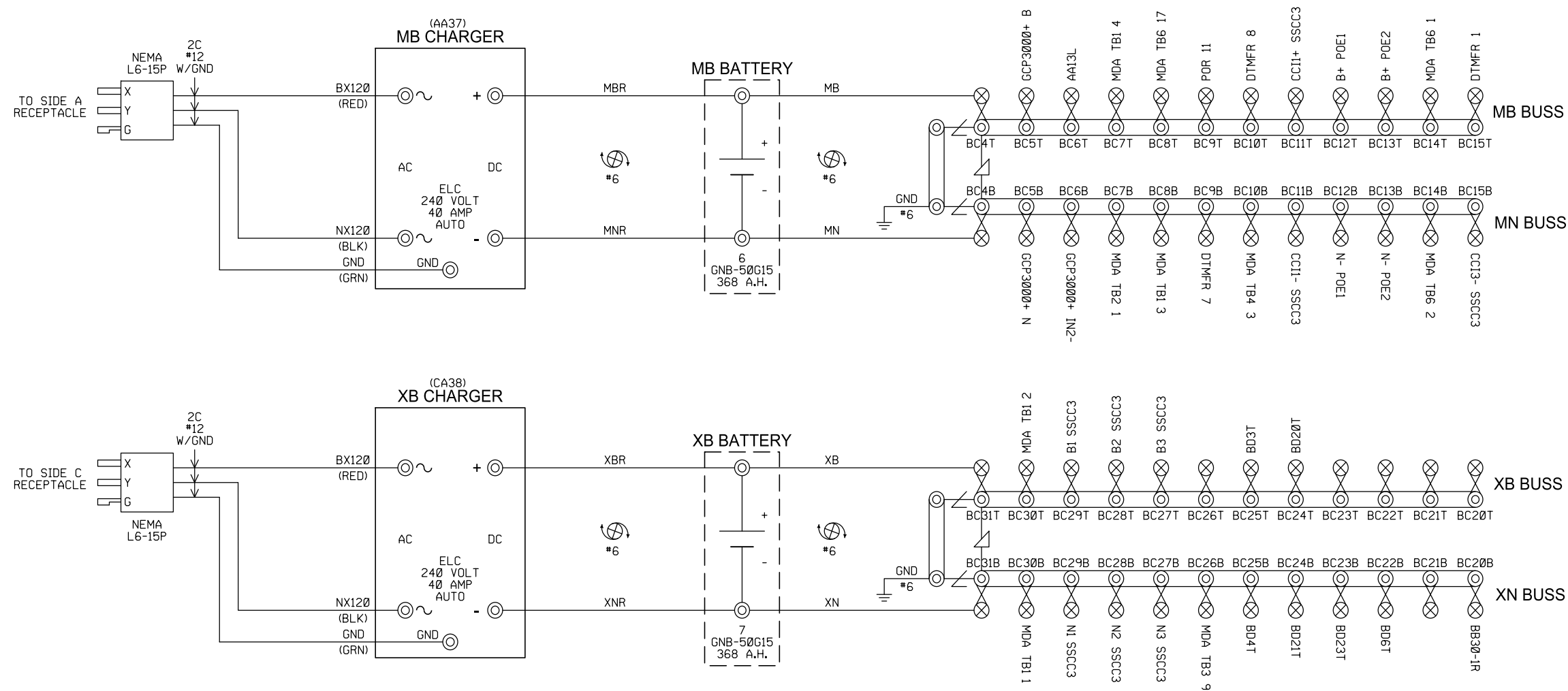


INDIANA & OHIO RAILWAY
(IORY)



DRAWN: KDF
DESIGNED: SMI
CHECKED: STL
DATE: 01-30-23

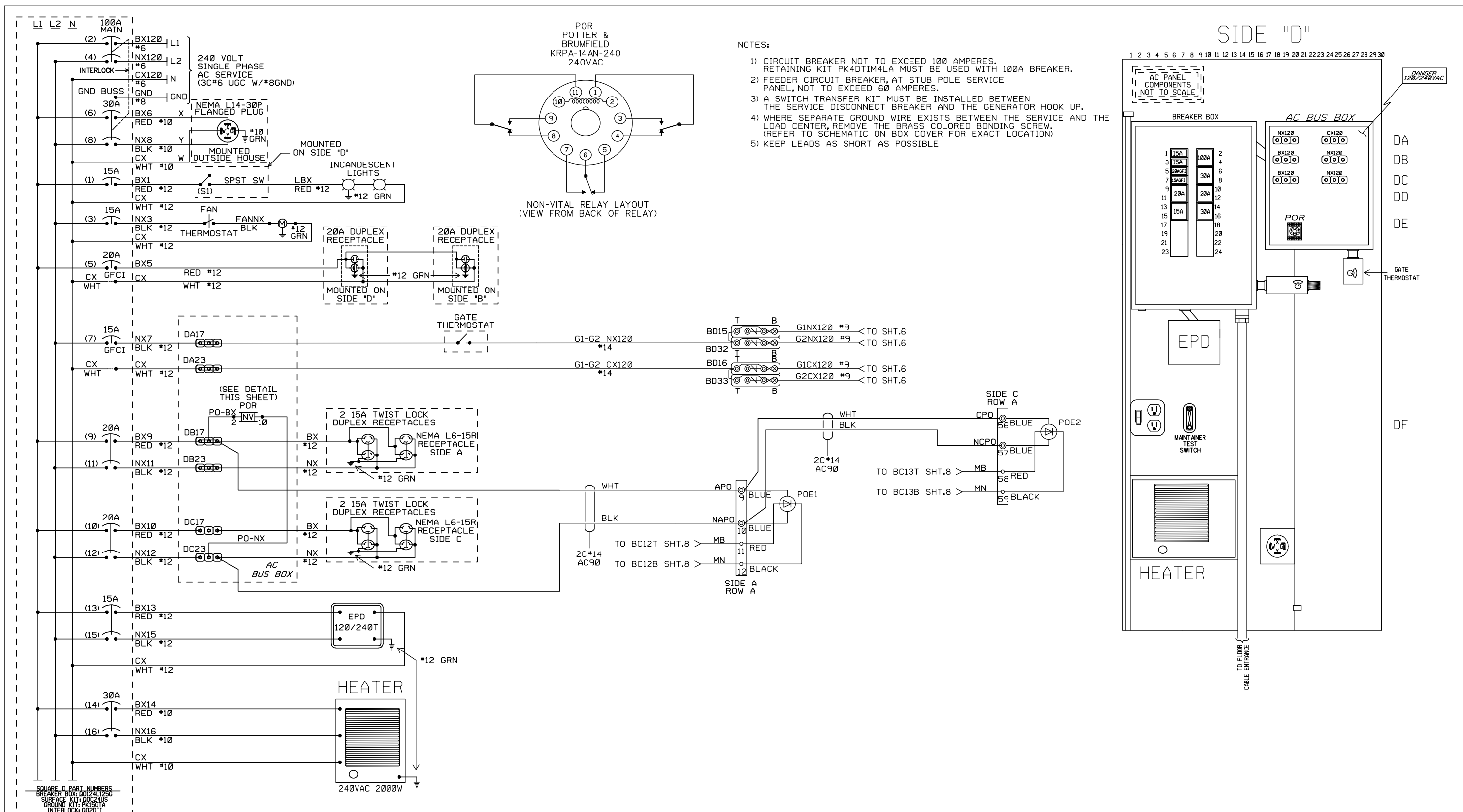
CUBA RD. - WILMINGTON, (CLINTON), OHIO
MIDLAND SUBDIVISION
CANT FLASHER LIGHTING CIRCUITS
DOT# 151-959W MILEPOST • 054.74

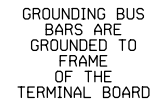
DRAWING NO.
IORY05474-07
SHEET 7 OF 12



NOTE:
BATTERIES MAY BE REPLACED WITH
BATTERIES OF EQUAL OR GREATER
A.H. RATING AND EQUIVALENT
TOTAL VOLTAGE.

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 TESTS BEFORE BEING PLACED IN REGULAR OPERATION.			INDIANA & OHIO RAILWAY (IORY)		DRAWING NO. IORY05474-08 SHEET 8 OF 12
											DRAWN: KDF DESIGNED: SMI CHECKED: STL DATE: 01-30-23	CUBA RD. - WILMINGTON, (CLINTON), OHIO MIDLAND SUBDIVISION CHARGERS & BATTERY CIRCUITS DOT* 151-959W MILEPOST * 054.74	





The diagram illustrates the connection of a 4 Post Terminal. It is divided into two parts: **PHYSICAL LAYOUT** and **SCHEMATIC LAYOUT**.

PHYSICAL LAYOUT: Shows a vertical terminal block with four posts. The connections are labeled as follows:

- EQP:** Connected to the top post.
- GND:** Connected to the second post from the top.
- LINE:** Connected to the third post from the top.
- TEST:** Connected to the bottom post.

SCHEMATIC LAYOUT: Shows the electrical circuit. The **INTERNAL WIRE** connects the **EQP** terminal to the **LINE** terminal. The **GND** terminal is connected to ground. The **TEST** terminal is connected to ground through a test point symbol (a circle with an 'X').

DETAIL "A"



POE1

POE2

SIDE A

6' X 6' HOUSE LAYOUT

SIDE C

SIDE B

TERMINAL BOARD

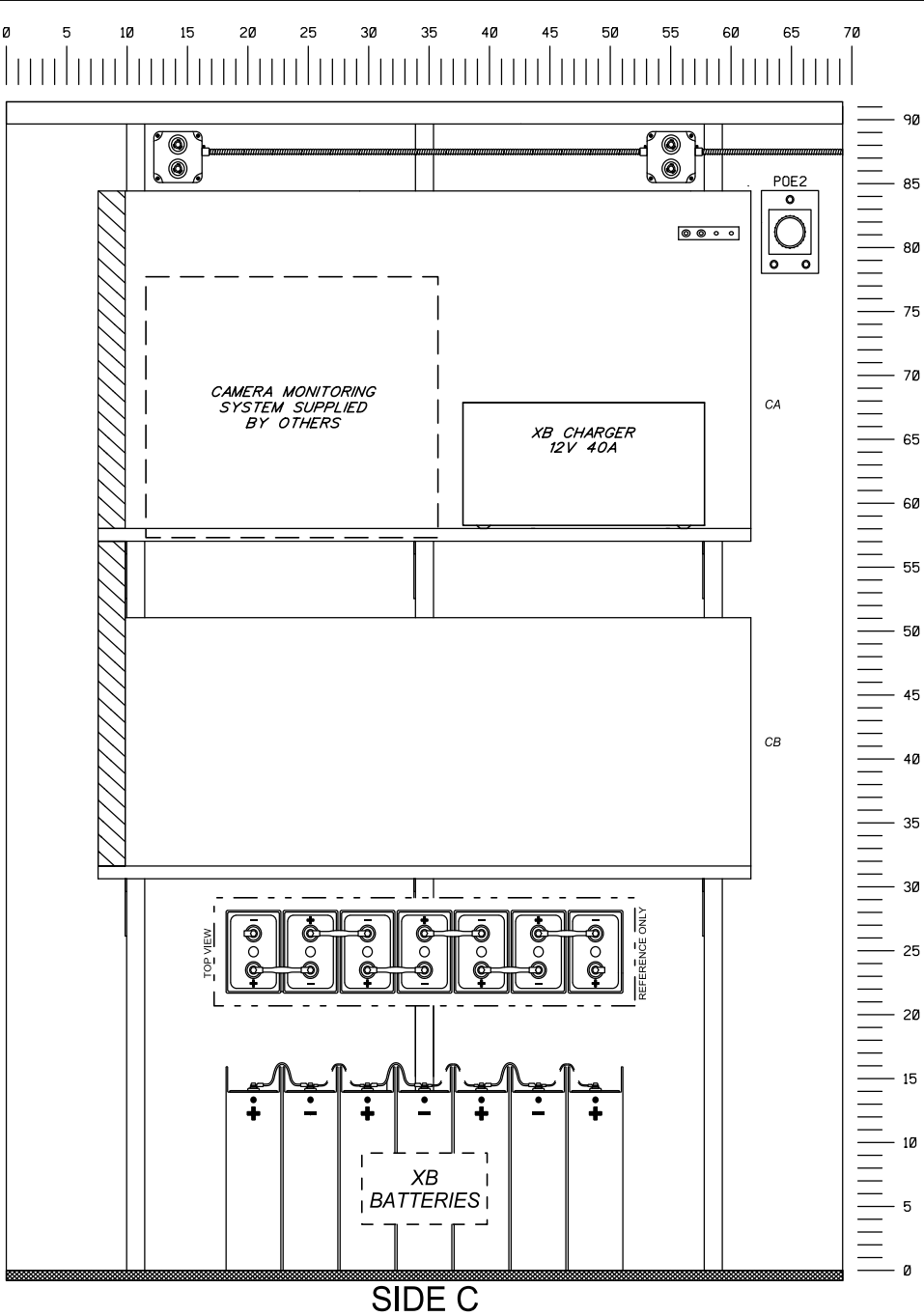
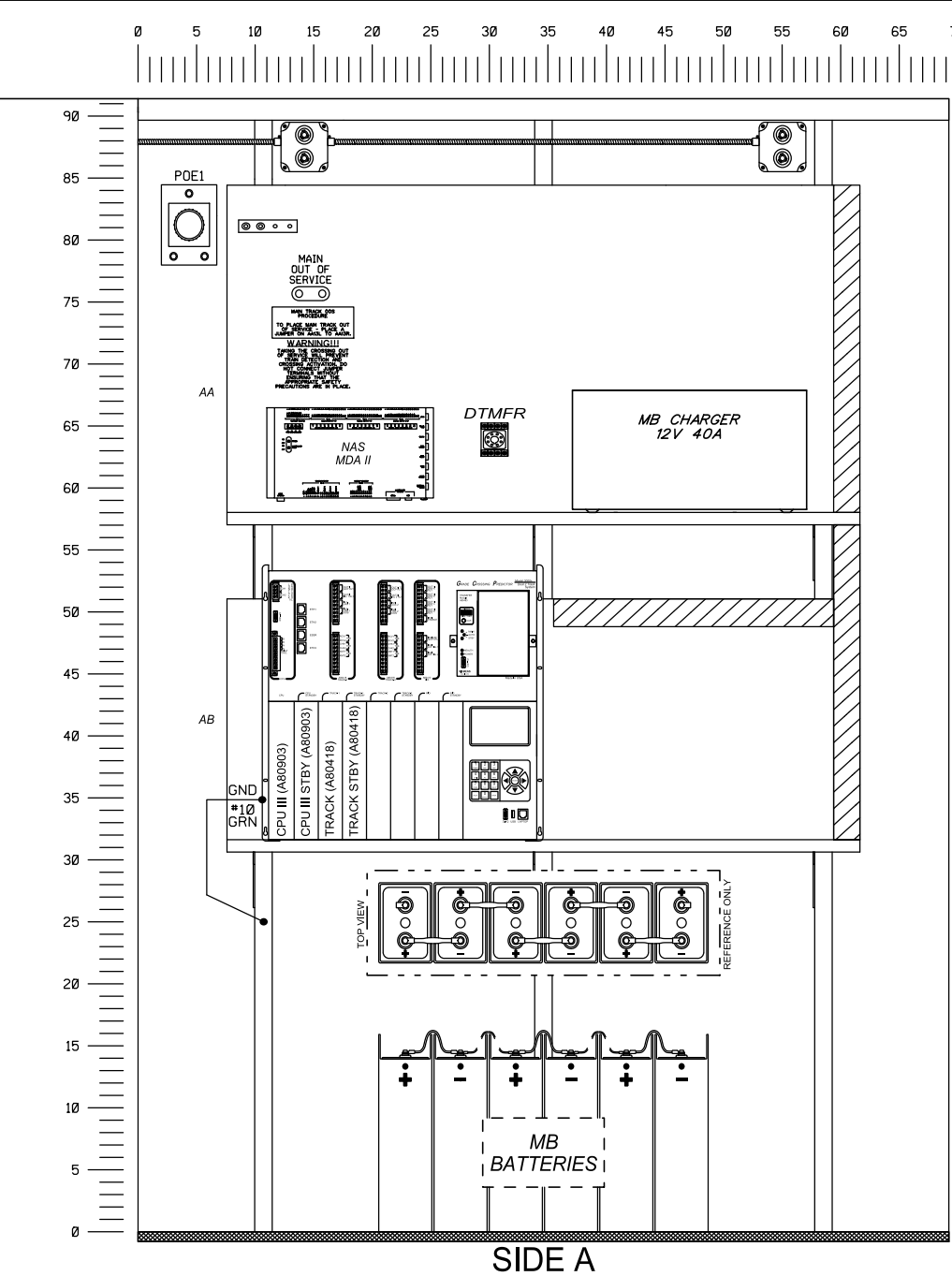
REVISIONS



DRAWN: KDF
DESIGNED: SMI
CHECKED: STL
DATE: 01-30-23

CUBA RD. - WILMINGTON, (CLINTON), OHIO MIDLAND SUBDIVISION 6'X6' HOUSE & B WALL DETAIL DOT* 151-959W MILEPOST * 054.74
--

DRAWING NO.
IORY05474-10
SHEET 10 OF 12



NOTE:
1. AIM INTERNAL CAMERA TO RECORD EQUIPMENT
AND OOS JUMPER POSTS.

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.

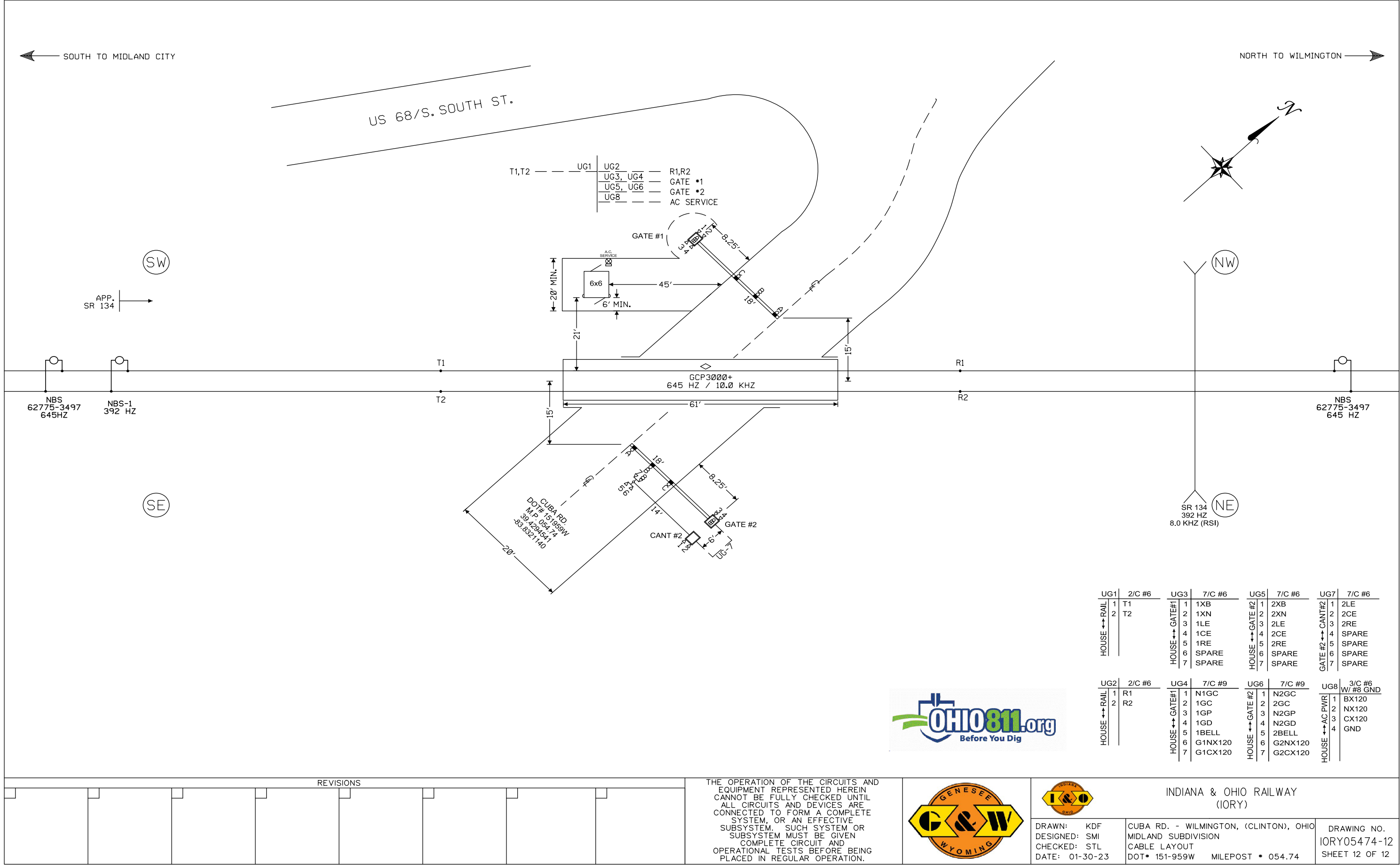


INDIANA & OHIO RAILWAY
(IORY)

DRAWN: KDF
DESIGNED: SMI
CHECKED: STL
DATE: 01-30-23

CUBA RD. - WILMINGTON, (CLINTON), OHIO
MIDLAND SUBDIVISION
WALL A & C LAYOUT DETAIL
DOT* 151-959W MILEPOST * 054.74

DRAWING NO.
IORY05474-11
SHEET 11 OF 12



BASIS OF DESIGN



Region:	NORTHERN
Railroad:	INDIANA & OHIO RAILWAY
Subdivision:	MIDLAND
Supervisor:	CHRIS HORTON
Railroad No.:	22IORY06R

Location Name:	CUBA ROAD
City, (County), ST:	MIDLAND, (CLINTON), OH
MP:	54.74
DOT #:	151959W
Prepared By:	TODD SOVANN
Date Prepared:	7/25/2022

Warning Time Calculation

Notes to User:

- 1) If any standard values are changed, please provide justification
- 2) Clearance maximum measured distance along highway from crossing stop line, warning device or 12 feet perpendicular (which ever is furthest) to 6 feet beyond far rail. (*Railroad-Highway Grade Crossing Handbook - Revised Second Edition 2007*)

Clearance Time Calculation

Clearance Distance	102	ft
Clearance time	7	s

Approach Length Calculation

Base Warning Time	30	sec	
Plus Clearance Time	7	sec	(Linked to calc above)
Equals Planned Warning Time	37	sec	
Plus Time for Traffic Preemption	0	sec	
Equals Total Design Warning Time	37	sec	
Plus Equipment Response Time	5	sec	
Plus Buffer Time	0	sec	
Plus Additional Time	0	sec	(Provide explanation)
Equals Total Warning Time	42	sec	
Times Maximum Design Train Speed	25	mph	
Times Ratio of fps to mph	1.470	fps/mph	
Equals Approach Circuit Length	1544	ft	(Rounded up to nearest foot)

Force Account Estimate

Estimate to Complete

Railroad:	Indiana & Ohio Railway Company (IORY)	Region:	NORTHERN
Agency:	ORDC	State:	OH
DOT #:	151959W	COUNTY:	Clinton
ROADWAY:	Cuba Road	CITY:	Wilmington
DESCRIPTION:	Installation of FLS& G and bell in SW quad and Cantilever, gate, and bell in NE quad. 6'x6' PTMW house w/heater, GCP 3000+/CWT, NBS, replace 2 ljs with 40' 115RE sticks welded in place.		
AGENCY PROJECT NUMBER:		Pending	ESTIMATE SUBJECT TO REVISION AFTER: 06/18/23

PRELIMINARY ENGINEERING:

Contracted & Administrative Engineering Services	\$ 14,800
Subtotal	\$ 14,800

CONSTRUCTION & CLOSEOUT:

Contracted & Administrative Engineering Services	\$ 15,100
Subtotal	\$ 15,100

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	\$ 235,952
Subtotal	\$ 235,952

RAILROAD TRACK:

Labor & Material	\$ -
Subtotal	\$ -

RAILROAD SIGNAL & COMMUNICATION:

Labor & Material	\$ -
Subtotal	\$ -

PROJECT SUBTOTAL:

		\$ 289,852
Public Project Admin:	0.00%	\$ -
Contingencies:	0.00%	\$ -

PROJECT TOTAL:

	\$ 289,852
--	-------------------

CURRENT AUTHORIZED BUDGET:

	\$ -
--	-------------

TOTAL SUPPLEMENT REQUESTED:

	\$ 289,852
--	-------------------

DIVISION OF COST:

Agency	100.00%	\$ 289,852
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: 12/16/21	REVISD: 12/20/22	DATE: 12/20/22

<u>Description</u>	<u>Quantity</u>
HOUSE, 6 X 6 ALUMINUM, PTMW	1 ea
GCP 3000+ ASSEMBLY DUAL 2 TRACK UNIT	1 ea
SSCC IIIA, 19IN MNT PLT, 40A	1 ea
CHARGER, NRS ELC 12/40	2 ea
LIGHT, POWER OFF, GEMS	1 ea
BASIC 44585 ARRESTER	36 ea
BASIC 44700 EQUALIZERS	8 ea
WIRE, #10 OKONITE T.C.BLUE	800 ft
WIRE, #16 OKONITE T.C.BLUE	500 ft
WIRE, #14 OKONITE T.C. BLUE	200 ft
WIRE #6 600V ETFE TEFZEL	50 ft
TERMINAL, RING AMP #35349, WIRE 16-14	60 ea
TERMINAL, PIDG, YELLOW, #10 WIRE	100 ea
TERMINAL, RING, 1/4 POST, #6	30 ea
TAG, THERMAL SLEEVE, 1/2" X 1.5"	40 ea
TAG, THERMAL SLEEVE 3/8" X 1.5"	140 ea
TAG, THERMAL ADHESIVE, .6" X 2"	20 ea
LINK ASSY, TEST	32 ea
DUCT, 2" X 3" X 6' LNG, TAYLOR #92030	42 ea
COVER, CABLE CONTROL DUCT COVER, 2" X 6'	42 ea
BOLT, GROUND	5 ea
WIRE #10 600V GREEN, ETFE TEFZEL	20 ft
BLOCK, TERMINAL 12	1 ea
BLOCK, TERMINAL 12	6 ea
SCREW, MACHINE #12-24 X 3/4",	2 ea
BONDSTRAND, H.D. 4/64" JACKET,	220 ft
3/8" FLEXIBLE CONDUIT CLAMP	12 ea
LOCK NUT CONDUIT 1/2"	4 ea
CONNECTOR, TWO-SCREW CONN., 3/	8 ea
BUSHING, PLASTIC, ANTI-SHORT,	8 ea
KNOCKOUT BUSHING, RIGID 3/4	2 ea
WIRE, 2C #12 AC 90, ONE BLACK	30 ft
WIRE, 2C #14, ONE BLACK ONE WH	10 ft
SUPPORT BRACKET FOR CHARGER	2 ea
NUT, INSULATED	20 ea
BLOCK, ERICO 4-POST ARRESTER,	34 ea
ANALYZER, MICRO DATA W RITRON DTMF RADIO	1 ea
ANTENNA KIT, DTMF	1 ea
RELAY, P&B KRPA-11DN-12	1 ea
SOCKET, P&B 27E122	1 ea
CLIP, HOLD DOWN, P&B 20C318	2 ea
LINK, TEST 2-3/8" CENTERS STRA	1 ea
BLOCK, TERMINAL 2-3/8" CENTER,	9 ea
LINK, COPPER 2-3/8" CENTER	2 ea
PLUG, LOCKING, 20A 125V, HUBBELL	2 ea
FLEXIBLE CORD, 12 AWG, 300V	10 ft

RELAY, P&B KRPA-14AN-240	1 ea
BASE, RELAY, OCTAL	1 ea
PLATE, FILLER B2	1 ea
PLATE, FILLER KIT B1 "ST" TYP	2 ea
TRACK KIT, CONNECTING 6-6 SHOR	2 ea
TRACK KIT, CONNECTING 6-6 LONG	2 ea
WIRE, #6 SOLID SOFT DRAWN COPP	80 ft
ROD, GROUND 5/8" X 10'	7 ea
CONNECTION,1-SHOT CADWELD #SBN	5 ea
CONNECTION, ONE SHOT, 2 WIRE	2 ea
BONDSTRAND, INSULATION 3/32"	100 ft
CABLE, GP, 2C, 6AWG, TW PR, 600V	350 ft
CABLE, UG, 7C, 6AWG, SIGNAL, 600V	400 ft
CABLE, UG, 7C, 9AWG, SIGNAL, 600V	350 ft
CABLE, UG, 3C, 6AWG, 600V, W/O BRZ TAPE	100 ft
CABLE REEL, 30"X22" X 14" X5/8 5/8"	4 ea
TAPE,ELEC,BLK,0.75INX66FT,600V,COLD-ENV	1 ea
TAPE,MRK,CAUT,CAUTION,3,1000	1 ea
DUCT SEAL / 5 LB. BAGS	3 ea
CLIP, RETAINING, ERICO #SBA154	6 ea
CONNECTOR, TRACK ERICO 1"TAB X	6 ea
BOND KIT, 3/16" X 42" WITH 2 "SHOTS"	10 ea
BOND,JOINT XS STYLE SBS-2488-2	10 ea
WRENCH, TERMINAL MODEL 619-3	1 ea
WRENCH KIT, TORQUE	1 ea
GREASE, NO-OX-ID, ELECTRICAL CONTACT	1 ea
FOUNDATION, 4-BOLT, 5' LEAVE IN PLACE	1 ea
FOUNDATION, GALV 60H X 32B GATE FLS	2 ea
SHROUD, FOR 5" ALUM SPLIT BASE	2 ea
PADLOCK, STEEL, AMERICAN LOCK, CIND RR	6 ea
BATTERY,368AH,50A,GNB,50G15,1CL,NS	13 ea
BATTERY TRAY, 55.375 X 8.375	2 ea
SHUNT, NARROW BAND MULTI-FREQU	2 ea
SHUNT, HARMON NBS-1, #250250-3	1 ea
SHUNT, COVER PLT, 0.188 X 19 X 19	3 ea
BRACKET, SIGN FOR 12" MAST	1 ea
BRACKET, SIGN 4" OR 5" MAST	1 ea
SIGN, 12" X 9" FOR ENS	2 ea
ARM 19-32' COMBO HIGH INT	2 ea
LAMPS & HARNESS, 4" LED (3)	2 ea
BELL, ELECTRONIC, 4"-5" BASE,	2 ea
<u>Gate # 1</u>	
MAST & BASE ASSY, 5" X 16'0" STD. HOLE	1 ea
FLX-4000 & X-ARM 2-WAY S-40 5"	1 ea
GATE, MODEL S-40, PER IC SPECS	1 ea
BRACKET & ADAPTER SS HARDWARE	1 ea
COUNTERWEIGHT PACKAGE, 17- 32'	1 ea

BRACKET, HIGH WIND, W/HWD	1 ea
SIGN, RR CROSSING, DIAMOND GRD	1 ea
HARDWARE PKG, SIGN 5"MTG SST	1 ea
BELL, ELECTRONIC, 4"-5" BASE,	1 ea
NUT, INSULATED	4 ea
KIT, NS GATE TEST LINK	1 ea

Gate # 2

MAST& BASE ASSY 5" X 16'0"	1 ea
FLX-4000 & X-ARM 5" 1-WAY RA	1 ea
GATE, MODEL S-40, PER IC SPECS	1 ea
BRACKET & ADAPTER SS HARDWARE	1 ea
COUNTERWEIGHT PACKAGE, 17- 32'	1 ea
BRACKET, HIGH WIND, W/HWD	1 ea
BELL, ELECTRONIC, 4"-5" BASE,	1 ea
NUT, INSULATED	4 ea
KIT, NS GATE TEST LINK	1 ea

Cantilever # 1

CANTILEVER STRUCT, WT/F 14' CN	1 Ea
FLX-4000 ASSY, 12" 1-WAY RA	1 Ea
FLX-4000 & X-ARM 4" 2-WAY RA	1 Ea
SIGN, RR CROSSING, DIAMOND GRD	2 Ea
HARDWARE, MOUNT SS	1 Ea
SIGN MTG HDW, WT/F HANDRAIL	1 Ea
PINNACLE, 4" AND 5"	1 Ea
WIRE, #10 OKONITE T.C.BLUE	800 ft
TERMINAL, PIDG, YELLOW, #10 WIRE	130 ft
TAG,THERMAL SLEEVE 3/8" X 1.5"	130 ea
Eng Design CUBA RD MP:54.74	1 ea
P.E STAMPING OF DESIGN PLANS	1 ea
S-FLATBED LOU, KY TO WILMINGTON, OH	1 ea
S-FLATBED MARION, KY TO WILMINGTON, OH	1 ea



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

DATE: March 24, 2022

Indiana & Ohio Railway Company
Mr. Jared Rishel
AVP Engineering Northern Region
Genesee & Wyoming Inc.
4349 Easton Way
Suite 110
Columbus, OH 43219

RE: Clinton County, Cuba Road, DOT# 151959W PID# 116035

Dear: Mr. Jared Rishel:

A diagnostic review was held at the above grade crossing on 8/17/21. The crossing has been recommended for the installation of lights, gates, and cantilever.

IORY is authorized to proceed with the 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 the railroad 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 diagnostic review form is attached. Please note any recommendations (page 7), if any, made by the team about requirements for this location. Any minor roadway work necessary for MUTCD compliance should be incorporated into the PE and such costs will flow through the railroad reimbursement process.

The Project Manager for this project is Eric Thompson. Eric can be reached at (513) 312-0530, or Eric.Thompson@dot.ohio.gov, if you have any questions.

Sincerely,

Project Manager



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

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



Public Utilities Commission

Mike DeWine, Governor
Jenifer French, Chair

Commissioners

M. Beth Trombold
Lawrence K. Friedeman
Dennis P. Deters
Daniel R. Conway

December 13, 2021

Indiana & Ohio Railway Company
Mr. Jared Rishel
AVP Engineering Northern Region
Genesee & Wyoming Inc.
4349 Easton Way
Suite 110
Columbus, OH 43219

Re: Clinton County, Cuba Road, DOT#151-959W,
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 August 17, 2021, the above mentioned grade crossing for warning device upgrades. The location has been approved for lights and gates.

The Project shall comply with Master Warning Device Agreement No. 5773, dated February 16, 1989, and entered into by the State of Ohio and Indiana & Ohio Railway Company (RAILROAD). Furthermore, the RAILROAD shall comply with all applicable state and federal laws governing grade crossing safety programs.

Preliminary engineering and construction costs shall be borne one hundred percent (100%) by ORDC. 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 receipt of 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, Chief, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793 or by email at jill.henry@puco.ohio.gov .

Sincerely,



John Williams
Director of Transportation
Public Utilities Commission of Ohio



Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Indiana & Ohio Railway Company

By _____

Title _____

Date _____

Date 1/5/2022


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, Chief, Rail Division, Public Utilities Commission of Ohio, 180 E. Broad Street, Columbus, Ohio 43215-3793 or by email at jill.henry@puco.ohio.gov .

Sincerely,



John Williams
Director of Transportation
Public Utilities Commission of Ohio

Indiana & Ohio Railway Company

By  ~~LEONARD WAGNER - President~~ 1/10/2022 12:45:36 PM
Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Title _____

Date _____

Date _____

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

Date: 8/17/2021

Location Data			
Street or Road Name:		Cuba Road	
County:	Clinton	Township:	US DOT No.: 151959W
City (in or near):	Wilmington	Railroad Name:	RR Milepost: 54.74
Safety Data (Obtain crash reports, if possible)			
	Initial Information (from database)		Revised
Number & dates of vehicle crashes in previous 5 years:	n/a		1997 NOW INJURY
Number & dates of pedestrian/bicycle crashes in previous 5 years:	n/a		
Hazard Ranking:	1410	Date Run:	06/11/2021

Existing Traffic Control Devices		
Type of Warning Devices	Installed?	Quantity/Comments
HIGHWAY		
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	GOOD W-10
'Stop' Signs	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Pavement Markings (condition?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	POOR
Dynamic Envelope Markings (condition?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
'No Turn' Signs (highway/passive)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Barriers/fencing (pedestrian/bicycle)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
LOOK Sign	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Do Not Stop On Track Sign	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
RAILROAD		
Crossbucks	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Crossbucks – assembly with Stop	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	TWO
Crossbucks – assembly with Yield	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
LED or Incandescent Lights? Size?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number:
Sidewalk/Pedestrian Gate Arms	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Number: Length:
'No Turn' Signs (railroad/active)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
OTHER	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	6 ✓	
<1 per day? Trains per week		
Day thru trains	2 ✓	
Night thru trains	2 4	
Switching	2	
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks	-	
Maximum train speed	25 ✓	
Typical train speed	10-25 ✓	
Amtrak	NO	

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:

Circuitry: ☐ Constant Warning Time ☐ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other NONE

DARK TERRITORY

Roadway Data		
Local Highway Authority:		City of Wilmington
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	550 (2011)	450 (2021)
Highway Paved	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete Other _____		
Roadway width (paved/travelled way): <u>20</u> ft		
Number of Highway Lanes	2	
Urban or Rural	Rural	
Vehicle Speed: <u>35</u> MPH		
School Bus Operation: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No Amount <u>4-6</u>		
Location of nearby schools:		
Hazardous Materials Trucks: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Amount (from FRA) <u>2%</u> LHA verified/changed?		
Shoulders: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is the Shoulder Surfaced? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, shoulder width: _____ ft.		
Is there existing guardrail along the roadway in crossing vicinity? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Crossing Angle <input type="checkbox"/> 0-29° <input checked="" type="checkbox"/> 30-59° <input type="checkbox"/> 60-90° Measured in _____ Quadrant?		
Quadrant _____	Curb & Gutter:	Quadrant _____
<input type="checkbox"/> Functional (Curb height = 4" or more)		<input type="checkbox"/> Functional (Curb height = 4" or more)
<input type="checkbox"/> Non-functional (Curb height = less than 4")		<input type="checkbox"/> Non-functional (Curb height = less than 4")
<input checked="" type="checkbox"/> None		<input checked="" type="checkbox"/> None
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, distance <u>145'</u>		
Is this intersection signalized? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Are there signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is there a 'Do Not Stop on Track' sign? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes:		
Improvement type _____ Lead Agency _____ Timeline/completion _____		

Pedestrian & Bicycle Data

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

Utility Provider (Company Name) AES

Nearest Available Power Source @ the crossing

What other utilities are present? ☐ Gas ☐ Cable ☐ Telephone ☐ Fiber Optic Cable (add locations to sketch)

☐ Petroleum ☐ Water ☐ Sanitary Sewer ☐ Other

Comments: UNKNOWN.

Surface

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

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

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):

NO

Crossing Consolidation or Closure:

NO

Real Estate or ROW:

NO

Culvert / Drainage / Ballast Conditions:

NO

Roadway and/or Sidewalks:

NO

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

NO

Environmental:

NO

Utilities:

UNKNOWN

Other:

—

Potential Closure

Is it the consensus of the Diagnostic Review Team that this is a potential closure project? **NO**

Explain reasons:

NO ALTERNATIVE

Diagnostic Team Recommendations

<input type="checkbox"/> No improvements needed	Quadrants Needed
<input type="checkbox"/> Install/upgrade active devices	
<input type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input checked="" type="checkbox"/> AFLS / Gates	
<input checked="" type="checkbox"/> AFLS / Gates / Cants	
<input checked="" type="checkbox"/> Bells / number	ONE TWO
<input type="checkbox"/> Upgrade circuitry / type	
<input checked="" type="checkbox"/> Sidelights	
<input type="checkbox"/> LED Upgrades	
<input type="checkbox"/> Guardrail Needed	
<input type="checkbox"/> Install/Replace curb	
<input checked="" type="checkbox"/> Bungalow placement & offset from rail & highway	SLD
<input type="checkbox"/> Other (define)	

Comments:

☐ Install/upgrade traffic signal preemption

Other (define): **Pavement markings need refreshed. ADD "DO NOT STOP ON TRACK" SIGN**

L'S G'S, 1 CANT. ~~5-SECT ARM~~. CUT BRUSH

Diagnostic Team Recommendations (cont.)

PEDESTRIAN/BICYCLE Treatments (additional, not included above)

<input type="checkbox"/> Crossing Surface (specify)	<input type="checkbox"/> Sidewalk (specify)
<input type="checkbox"/> Detectable warning surfaces	<input type="checkbox"/> LOOK Sign (R15-8)
<input type="checkbox"/> Stop lines	<input type="checkbox"/> Illumination
<input type="checkbox"/> Dynamic envelop markings	<input type="checkbox"/> Channelization
<input type="checkbox"/> Path delineation	<input type="checkbox"/> Fencing/barriers

☐ Other

Comments:

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

ACK **CA**
BA S. **AB**
PCG

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											
Speed	Train	Car	Single-unit Truck	Bus	WB-50 Semitruck	Double Truck	Double 65-foot Truck	Pedestrian ¹	Bicyclist ²	Pedestrian ¹	Bicyclist ²
10		105	185	200	225	240	120	100	180	120	240
20		205	365	400	450	485	240	200	360	240	480
25		255	455	500	560	605	300	250	450	290	590
30		310	550	600	675	725	360	290	530	350	710
40		410	730	795	895	965	480	390	710	470	950
50		515	910	995	1,120	1,205	590	490	890	580	1,180
60		615	1,095	1,195	1,345	1,445	710	580	1,060	700	1,420
70		715	1,275	1,395	1,570	1,680	830	680	1,240	810	1,650
80		820	1,460	1,590	1,790	1,925	950	780	1,420	930	1,890
90		920	1,640	1,790	2,015	2,165	1,060	870	1,590	1,040	2,120

*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.

**This foregoing document was electronically filed with the Public Utilities
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in

Case No(s). 23-0208-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Indiana & Ohio Railway Grade Crossing, DOT# 151-959W at Cuba Road in Clinton County, Ohio. electronically filed by Mr. Thomas Persinger on behalf of PUCO/Rail Division.