

# Memo

**To:** Docketing Division

**From:** Thomas Persinger, Rail Project Specialist, Rail Division

**Cc:** PUCO Legal Department

**Date:** 11-8-2022

**Re:** PUCO Case No. 22-1047-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices with Surface Reconstruction at the Indiana & Ohio Railroad Grade Crossing, DOT# 151-916D at Dayton Avenue in Fayette County, Ohio.

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On April 22, 2021, the Ohio Rail Development Commission (ORDC) authorized funding for Indiana & Ohio Railroad (IORY) to install lights and gates with Surface Reconstruction at Dayton Avenue (DOT#151-916D) in Fayette County, Ohio. The crossing was surveyed, on August 5, 2020, 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 \$371,120.00 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in twelve 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 Railroad  
Jared Rishel  
AVP Engineering Northern Region  
47849 Papermill Road  
Coshocton, OH 43812

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

City of Washington Court House  
Joseph J. Denen  
City Manager  
105 N Main Street  
Washington Court House, OH 43160

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:** FAY-Dayton Avenue Northwest, DOT # 151916D PID# 114129  
**DATE:** 11/1/2022

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The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on 8/5/2020. 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 and pre-emption. 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 twelve (12) 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

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

RE: Construction Authorization Grade Crossing Warning Device Improvements  
Fayette County, Dayton Avenue, DOT#151916D, PID#114129

Dear Mr. Wagner:

The plan dated 2/3/2022 and estimate dated 3/7/2022, for the referenced project is acceptable. Genesee & Wyoming/IORY 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 \$371,120.00. 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](mailto:Eric.Thompson@dot.Ohio.Gov) (513) 520-2687, and to the Public Utilities Commission of Ohio, email [Thomas.persinger@puc.state.oh.us](mailto:Thomas.persinger@puc.state.oh.us). 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](mailto: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.

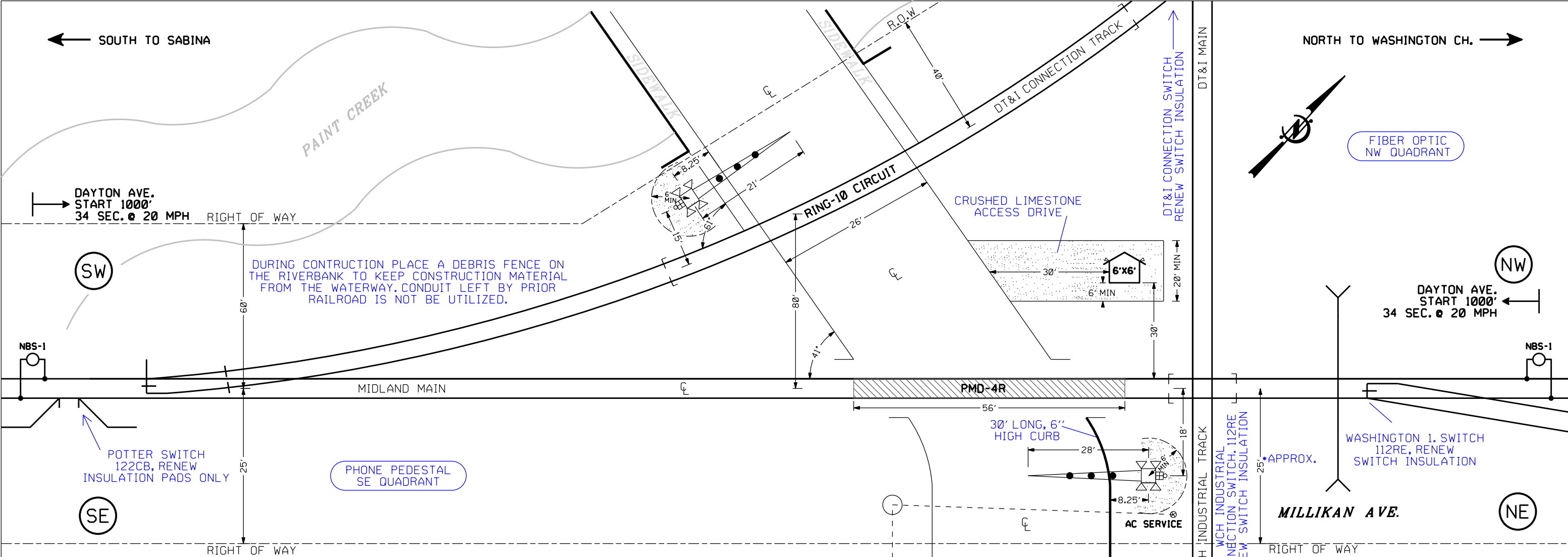
Sincerely,

A handwritten signature in cursive script that reads "Eric Thompson".

Eric Thompson  
Project Manager

Attachment: ODOT P.O.

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



NOTES:

1. MATERIAL & INSTALLATION TO BE IN ACCORDANCE WITH MUTCD, STATE AND RAILROAD STANDARDS.
2. ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS. VENDOR TO VERIFY ALL CONDITIONS.
3. FLASHING LIGHT SIGNALS & GATE LIGHTS TO BE LIGHT EMITTING DIODE ASSEMBLIES (LED)
4. BEWARE OF OVERHEAD WIRES.
5. SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
6. APPROACH DISTANCES ARE TO BE MEASURED FROM THE TERMINATIONS TO CLOSEST SET OF TRACK LEADS AT CROSSING.
7. CONDUIT MUST BE BORED.
8. VENDOR IS RESPONSIBLE TO LOCATE AND PROTECT ALL UTILITIES WITHIN LIMITS OF CONSTRUCTION
9. CAMERA SYSTEM TO BE SUPPLIED BY VENDOR AND INSTALLED BY VENDOR.
10. ENSURE ALL DITCHES ALONG THE TRACKS IN ALL FOUR QUADRANTS HAVE POSITIVE DRAINAGE FLOW TO 100' FROM THE HIGHWAY.
11. EXISTING DT&I CONNECTION IJs FROM CENTER OF DAYTON AVE.: SOUTH - 117', NORTH - 179' & 194'
12. UNKNOWN PARTIALLY EXPOSED CABLE EAST OF TRACK BETWEEN MILLIKAN AND DAYTON CROSSING.
13. NE QUADRANT: PROPOSED METER POLE WITH POWER FEED UNDER MIDLAND MAIN TRACK TO PROPOSED HOUSE IN NW QUAD.
14. FROM CENTER OF DAYTON AVE. NORTH: IJs 60', CENTER OF DIAMOND 68', AND IJs 76' MILLIKAN AVE. CROSSING TRACK WIRES 430' CENTER OF MILLIKAN AVE. 488' WASHINGTON 1 SWITCH (112RE) GAUGE PLATE 511'
15. FROM CENTER OF DAYTON AVE. SOUTH: DT&I CONNECTION SWITCH (131RE) GAUGE PLATE 271' MILLIKAN AVE. SHUNT 292', NEAR BRIDGE ABUTMENT. OAKLAND AVE. NBS 654' IJ AND 4 OTHER JOINTS 648', ELIMINATE JOINTS W/TWO 19'-16" 115RE PLUGS. COURT HOUSE CONNECTION SWITCH (112RE) GAUGE PLATE 775' POTTER SIDING SWITCH (122CB) GAUGE PLATE 808'



Alfred Benesch & Company  
1230 East Diehl Road, Suite 109  
Naperville, IL 60563  
630-577-9100 Job No. 00210402.23

**PRELIMINARY**

**NOT FOR CONSTRUCTION**

THIS DRAWING IS PROVIDED FOR REFERENCE ONLY.  
ACTUAL CONDITIONS AND FINAL DESIGN ARE  
THE RESPONSIBILITY OF THE DESIGN-BUILD VENDOR.

LEGEND:

- ⊗ - LOCATION OF AC SERVICE
- - UTILITY POLE
- = NOTE

APPROACH DISTANCE CALCULATION		
	MAIN	SIDING
ACTUAL PRIME CROSSING WARNING TIME	30 SEC	30 SEC
TIME FOR CROSSING CLEARANCE DISTANCE > 35'	+ 0 SEC	+ 0 SEC
TRAFFIC PRE-EMPTION TIME	+ 0 SEC	+ 0 SEC
TOTAL CALCULATED DESIGN WARNING TIME	30 SEC	30 SEC
EQUIPMENT RESPONSE TIME	+ 4 SEC	+ 4 SEC
BUFFER TIME	+ 0 SEC	+ 0 SEC
TOTAL WARNING TIME FOR APPROACH DISTANCE CALCULATION	34 SEC	34 SEC
CALCULATED AT MAXIMUM TRAIN SPEED	x 20 MPH	x 10 MPH
RATIO OF FEET PER SECOND TO MILES PER HOUR	x 1.470	x 1.470
APPROACH LENGTH (ROUNDED UP TO THE NEXT FOOT)	1000 FEET	500 FEET

"DRAWING NOT TO SCALE"

PROPOSED CROSSING LAYOUT

INDIANA & OHIO RAILWAY

DRAWN: TCS  
DESIGNED: TCS  
CHECKED: BPB  
DATE: 8/22/21

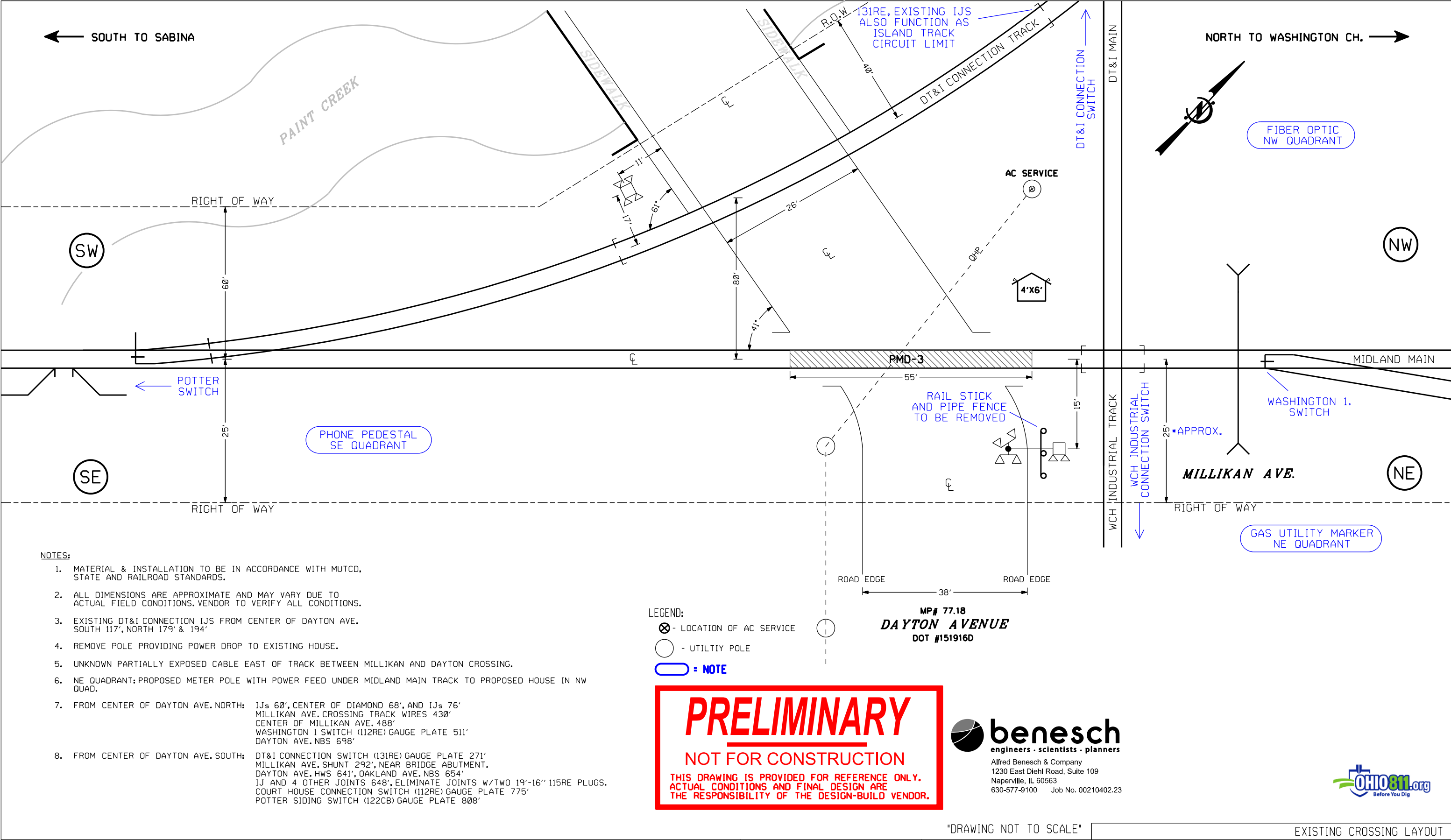
DAYTON AVENUE  
WASHINGTON CH, (FAYETTE), OHIO  
DOT #151916D MILEPOST #77.18

DRAWING NO.  
IORY07718.H01  
SHEET 01 OF 01

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 OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.





- NOTES:
- 1. MATERIAL & INSTALLATION TO BE IN ACCORDANCE WITH MUTCD, STATE AND RAILROAD STANDARDS.
  - 2. ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS. VENDOR TO VERIFY ALL CONDITIONS.
  - 3. EXISTING DT&I CONNECTION IJS FROM CENTER OF DAYTON AVE. SOUTH 117', NORTH 179' & 194'
  - 4. REMOVE POLE PROVIDING POWER DROP TO EXISTING HOUSE.
  - 5. UNKNOWN PARTIALLY EXPOSED CABLE EAST OF TRACK BETWEEN MILLIKAN AND DAYTON CROSSING.
  - 6. NE QUADRANT: PROPOSED METER POLE WITH POWER FEED UNDER MIDLAND MAIN TRACK TO PROPOSED HOUSE IN NW QUAD.
  - 7. FROM CENTER OF DAYTON AVE. NORTH: IJs 60', CENTER OF DIAMOND 68', AND IJs 76' MILLIKAN AVE. CROSSING TRACK WIRES 430' CENTER OF MILLIKAN AVE. 488' WASHINGTON 1 SWITCH (112RE) GAUGE PLATE 511' DAYTON AVE. NBS 698'
  - 8. FROM CENTER OF DAYTON AVE. SOUTH: DT&I CONNECTION SWITCH (131RE) GAUGE PLATE 271' MILLIKAN AVE. SHUNT 292', NEAR BRIDGE ABUTMENT. DAYTON AVE. HWS 641', OAKLAND AVE. NBS 654' IJ AND 4 OTHER JOINTS 648', ELIMINATE JOINTS W/TWO 19'-16" 115RE PLUGS. COURT HOUSE CONNECTION SWITCH (112RE) GAUGE PLATE 775' POTTER SIDING SWITCH (122CB) GAUGE PLATE 808'

- LEGEND:
- ⊗ - LOCATION OF AC SERVICE
  - - UTILITY POLE
  - = NOTE

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**benesch**  
engineers · scientists · planners  
Alfred Benesch & Company  
1230 East Diehl Road, Suite 109  
Naperville, IL 60563  
630-577-9100 Job No. 00210402.23



REVISIONS										EXISTING CROSSING LAYOUT		
										<b>INDIANA &amp; OHIO RAILWAY</b>		
										DRAWN: TCS DESIGNED: TCS CHECKED: BPB DATE: 8/22/21		
										DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT#151916D MILEPOST#77.18		
										DRAWING NO. IORY07718.H02 SHEET 01 OF 01		

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"DRAWING NOT TO SCALE"

INDIANA & OHIO RAILWAY

DAYTON AVENUE

WASHINGTON CH, (FAYETTE), OHIO

DOT# 151 916D MILEPOST# 77.18

INDEX	
SHEET	DESCRIPTION
00	TITLE AND INDEX
01	CROSSING TRACK LAYOUT
02	PMD-4R CIRCUITRY & PROGRAM
03	AC/DC TRACK CIRCUITRY
04	CROSSING CONTROLLER CIRCUITRY
05	DATA RECORDER CIRCUITRY
06	GATE LIGHTING CIRCUITRY
07	GATE MECH CIRCUITRY
08	DC POWER DISTRIBUTION
09	SIDE D DETAIL - AC POWER DISTRIBUTION
10	SIDE B DETAIL - TERMINAL BOARD
11	SIDE A DETAIL
12	SIDE C DETAIL
13	TRACK AND CABLE LAYOUT
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

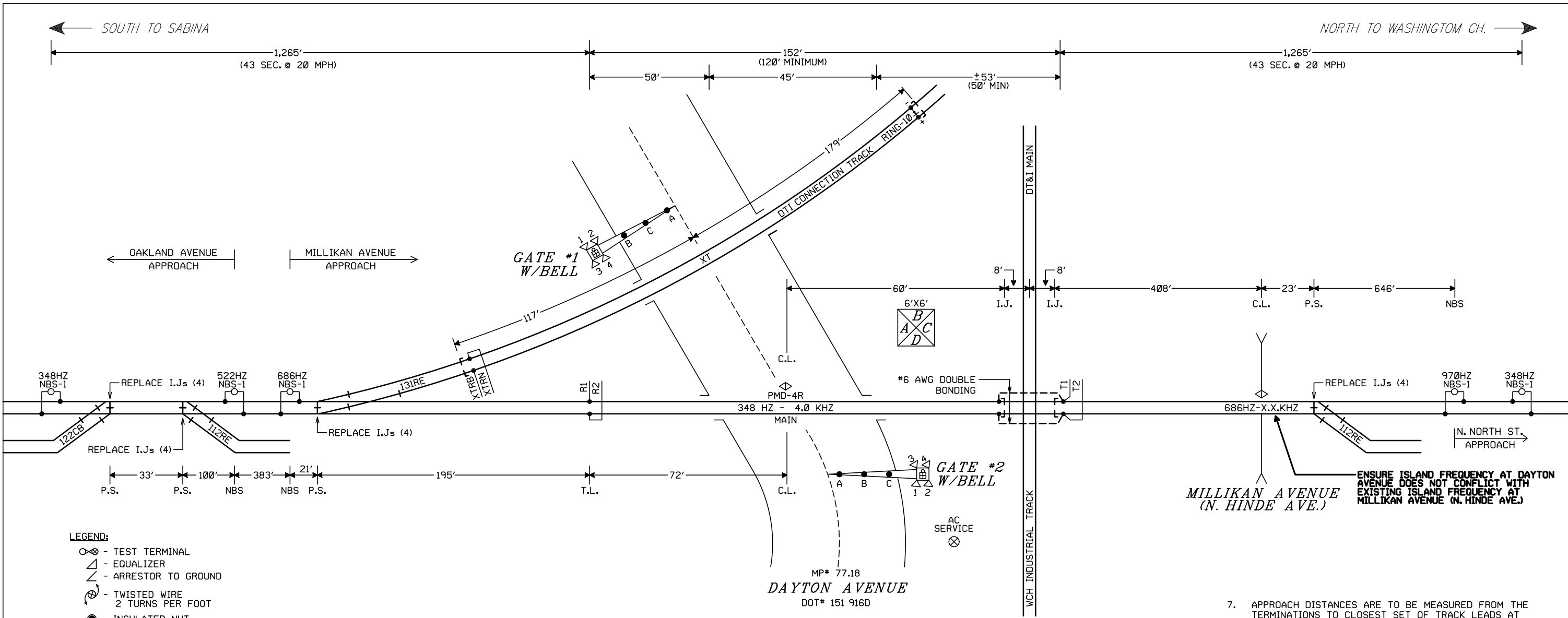
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TITLE AND INDEX		
INDIANA & OHIO RAILWAY		
DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 00 OF 13





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

APPROACH DISTANCE CALCULATION	
	MAIN
ACTUAL PRIME CROSSING WARNING TIME	30 SEC
TIME FOR CROSSING CLEARANCE DISTANCE > 35'	+ 9 SEC
TRAFFIC PRE-EMPTION TIME	+ 0 SEC
TOTAL CALCULATED DESIGN WARNING TIME	39 SEC
EQUIPMENT RESPONSE TIME	+ 4 SEC
BUFFER TIME	+ 0 SEC
TOTAL WARNING TIME FOR APPROACH DISTANCE CALCULATION	43 SEC
CALCULATED AT MAXIMUM TRAIN SPEED	× 20 MPH
RATIO OF FEET PER SECOND TO MILES PER HOUR	× 1.47
APPROACH LENGTH (ROUNDED UP TO THE NEXT FOOT)	1265 FEET

APPROACH DISTANCE ACCOUNTS FOR ADDITIONAL CLEARANCE TIME AS CALCULATED PER AREMA MANUAL (PART 3.3.10).

NOTES:

- LAT./LONG. IN DECIMAL DEGREES:  
39.5367870°, -83.4454020°
- MATERIAL & INSTALLATION TO BE IN ACCORDANCE WITH MUTCD, STATE AND RAILROAD STANDARDS.
- ALL DIMENSIONS ARE APPROXIMATE AND MAY VARY DUE TO ACTUAL FIELD CONDITIONS. VENDOR TO VERIFY ALL CONDITIONS.
- FLASHING LIGHT SIGNALS & GATE LIGHTS TO BE LIGHT EMITTING DIODE ASSEMBLIES (LED).
- BEWARE OF OVERHEAD WIRES.
- SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.

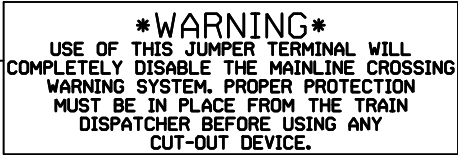
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- ENSURE ALL DITCHES ALONG THE TRACKS IN ALL FOUR QUADRANTS HAVE POSITIVE DRAINAGE FLOW TO 100' FROM THE HIGHWAY.
- UNKNOWN PARTIALLY EXPOSED CABLE EAST OF TRACK BETWEEN MILLIKAN AND DAYTON CROSSING.
- NE QUADRANT: PROPOSED METER POLE WITH POWER FEED UNDER MIDLAND MAIN TRACK TO PROPOSED HOUSE IN NW QUAD.
- ELIMINATE JOINTS WITH (2)-19'-16" 115RE PLUGS LOCATED 648' SOUTH OF DAYTON AVENUE C.L.
- MAIN ELECTRICAL PANEL TO ACCOUNT FOR 240VAC/100A AC SERVICE.
- GATE LENGTHS:  
GATE #1: 21'  
GATE #2: 28'

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.



CROSSING TRACK LAYOUT		
INDIANA & OHIO RAILWAY		
DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 01 OF 13




NOTE:  
DL = DEFAULT LEVEL  
NA = NON APPLICABLE

<i><b>PMD-4R SETUP PARAMETERS</b></i>	
<i><b>APPLICATION INFO</b></i>	
APPLICATION	PMD-4R_MDCWJ00S
APPLICATION CHECKSUM	7591
APPLICATION CRC	323D
CHASSIS ID	7
<i><b>MDR1 SETTINGS</b></i>	
MDR1 WARNING TIME (SEC)	39
MDR1 CW OR MD	CW
MDR1 AP TIME	NA
MDR1 AUX RECOVERY DELAY	5 (DL)
<i><b>FREQUENCY</b></i>	
APPROACH TRACK FREQUENCY (HZ)	348 HZ
<i><b>BASIC APPROACH SETTINGS</b></i>	
MASTER/SLAVE	MASTER
TRANSMITTER GAIN	200
TCA	FIELD ADJUST
DIRECTION MODE UNI/BI	BI
LIA	FIELD ADJUST
APPROACH LENGTH	1265 FT
AUTO RX ENABLE/DISABLE	ENABLED
<i><b>ADVANCE APPROACH SETTINGS</b></i>	
FALSE SHUNT	DISABLED
FALSE SHUNT RX	80
FALSE SHUNT DELAY	10
APPROACH RELEASE	DISABLED
APPROACH RELEASE RX	80
APPROACH RELEASE DELAY	10
LOSS OF SHUNT TIME (LOS)	16
APPROACH SETTING	NORMAL
<i><b>ISLAND SETTINGS</b></i>	
ISLAND TYPE INTERNAL/EXTERNAL	INTERNAL
ISLAND ENABLED	ENABLED
ISLAND DISABLE TIMEOUT	2 HR
ISLAND FREQUENCY (HZ)	4.0 KHZ
ISLAND LOSS OF SHUNT (LOS)	4
ISLAND FAULT DELAY	2
TRANSMITTER GAIN	0

**CONSTANT WARNING KEY NUMBER**  
XXXX-XXXX-XXXX

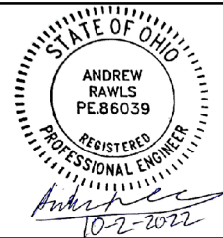
SHOP TO PROVIDE  
WHEN INSTALLED

NOTES:

1. ALL WIRE THIS SHEET #16 A.W.G. FLEX UNLESS OTHERWISE NOTED.
2.  DENOTES TWISTED PAIR.

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  
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SUBSYSTEM MUST BE GIVEN  
COMPLETE CIRCUIT AND  
OPERATIONAL TESTS BEFORE BEING  
PLACED IN REGULAR OPERATION.



PMD-4R CIRCUITRY &amp; PROGRAM

# INDIANA & OHIO RAILWAY

DRAWN: PRS  
DESIGNED: MST  
CHECKED: JMW  
DATE: 02-03-22

DAYTON AVENUE  
WASHINGTON CH, (FAYETTE), OHIO  
DOT# 151 916D MILEPOST# 77.18

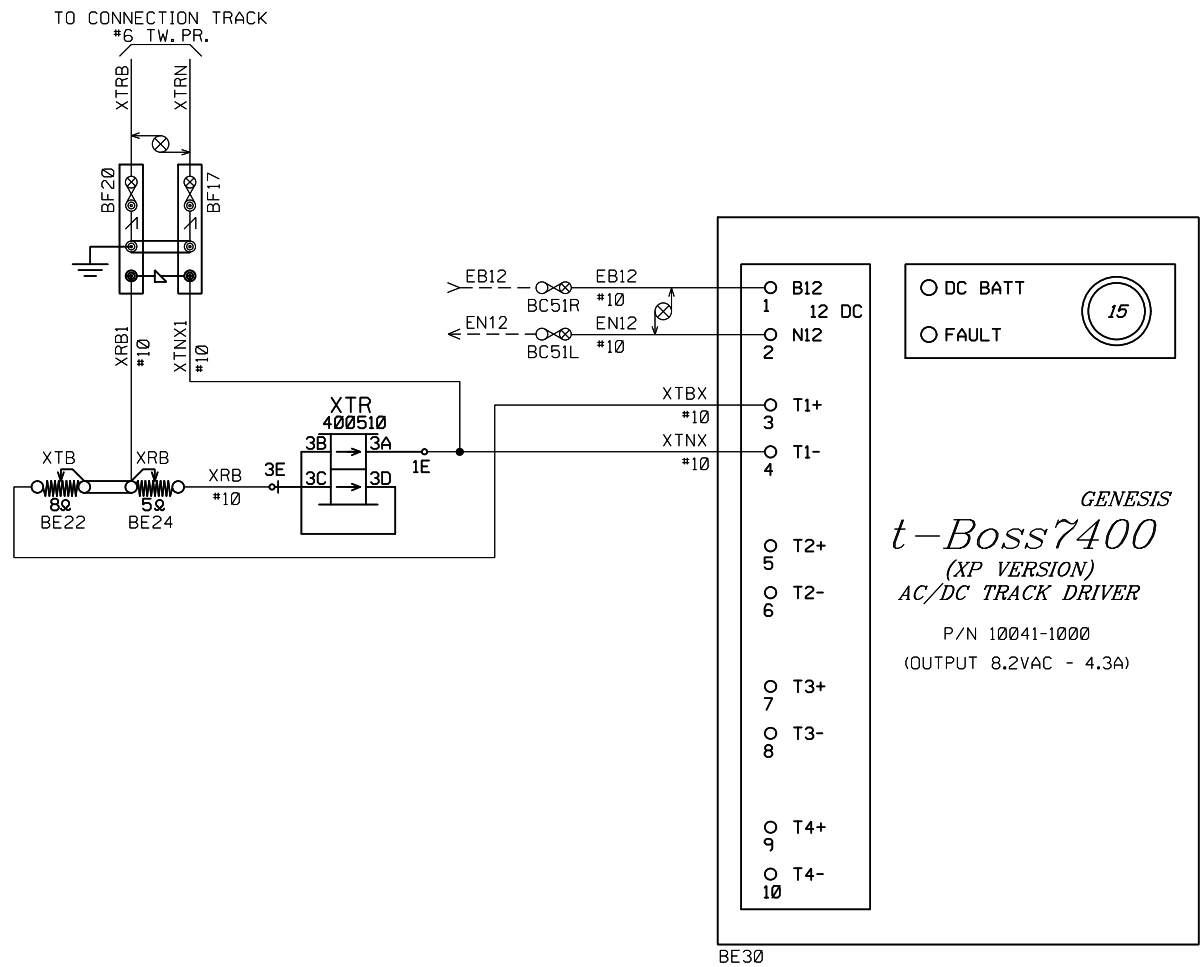
SHEET  
02 OF 13


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- NOTES:
1. ALL WIRE THIS SHEET #16 A.W.G.  
FLEX UNLESS OTHERWISE NOTED.
  2.  DENOTES TWISTED PAIR.

REVISIONS					

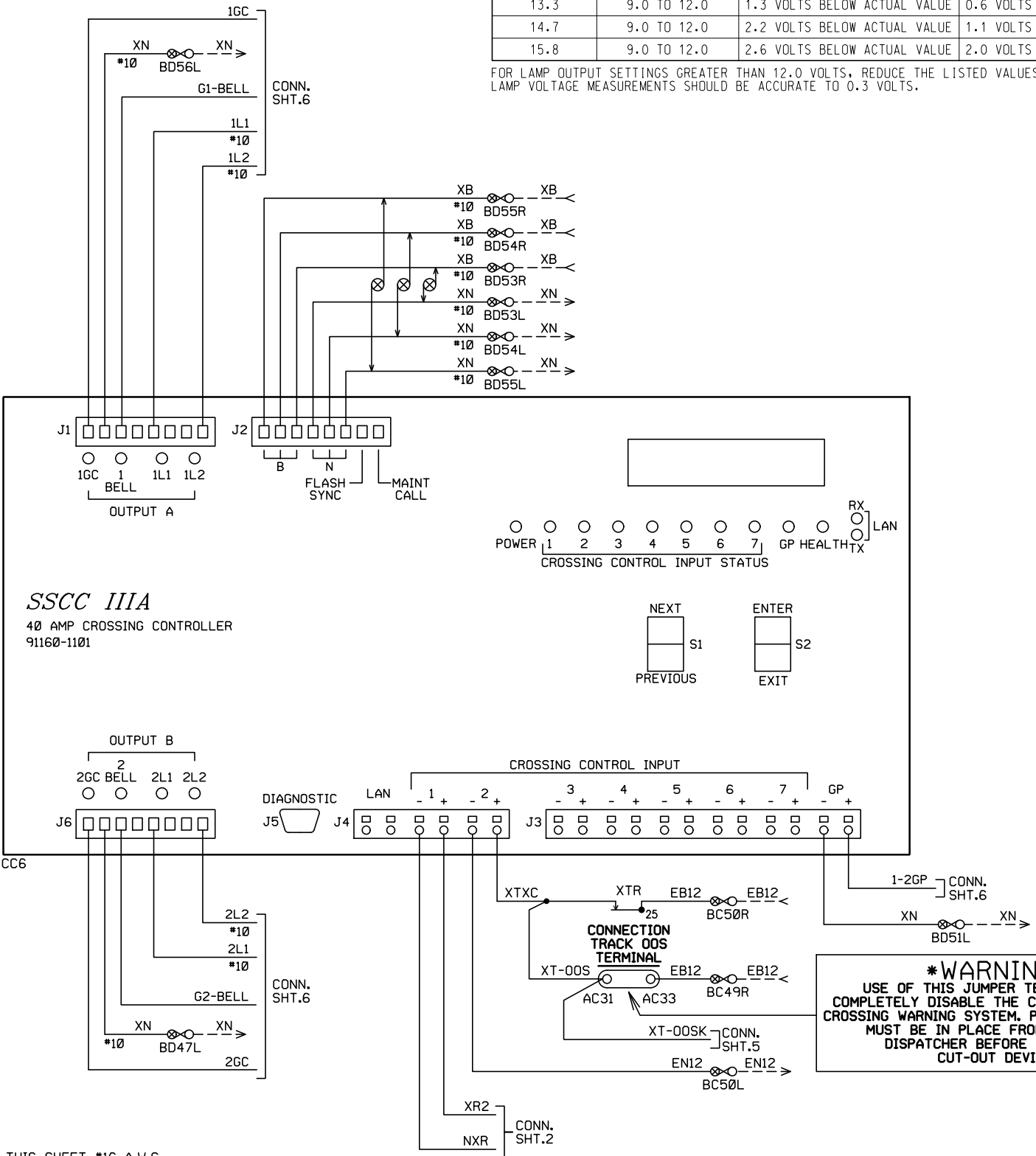
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AC/DC TRACK CIRCUIT		
INDIANA & OHIO RAILWAY		
DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 03 OF 13

MULTIMETER READING VARIANCE FROM ACTUAL LAMP VOLTAGE			
BATTERY BANK VOLTAGE	VALID LAMP OUTPUT RANGE (in volts)	DIGITAL METER (FLUKE 87 OR EQUIVALENT)	ANALOG METER (SIMPSON 260 OR TS111)
13.3	9.0 TO 12.0	1.3 VOLTS BELOW ACTUAL VALUE	0.6 VOLTS BELOW ACTUAL VALUE
14.7	9.0 TO 12.0	2.2 VOLTS BELOW ACTUAL VALUE	1.1 VOLTS BELOW ACTUAL VALUE
15.8	9.0 TO 12.0	2.6 VOLTS BELOW ACTUAL VALUE	2.0 VOLTS BELOW ACTUAL VALUE

FOR LAMP OUTPUT SETTINGS GREATER THAN 12.0 VOLTS, REDUCE THE LISTED VALUES BY 30%  
LAMP VOLTAGE MEASUREMENTS SHOULD BE ACCURATE TO 0.3 VOLTS.



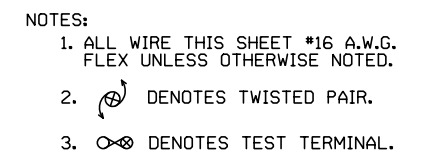
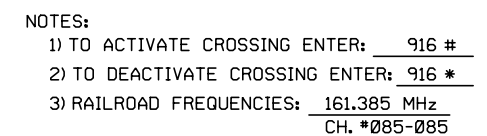
CROSSING CONTROLLER SSCCIIIA 40 - AMPERE UNIT, 91160-1101		
PROGRAM	NOTES	INITIAL SETTING BY: _____ DATE: _____
FLASH RATE:	30-70 FLASHES/MINUTE DEFAULT = 50	<u>50</u> FLASHES/MINUTE
GATES USED:	YES/NO      DEFAULT = YES	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
1GC DELAY:	3-20 SEC., DEFAULT = 4	<u>4</u> SECONDS
2GC DELAY (40A UNIT):	3-20 SEC., DEFAULT = 4	<u>4</u> SECONDS
GATE RISING BELL:	ON/OFF, DEFAULT = ON	<input type="checkbox"/> ON <input checked="" type="checkbox"/> OFF
ENABLED INPUTS:	1 THRU 1 ONLY	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7
MIN ACTIVATION TIME:	0-30 SEC., DEFAULT = 0	<u>0</u> SECONDS
ENABLED OUTPUTS: (40A ONLY)	DEFAULT = A + B	<input checked="" type="checkbox"/> A + B <input type="checkbox"/> A <input type="checkbox"/> B
DAYLIGHT SAVINGS:	DEFAULT = DISABLED	<input checked="" type="checkbox"/> ENABLED <input type="checkbox"/> DISABLED
DATE:	N/A	<input type="checkbox"/> DATE SET
TIME:	24-FORMAT	<input type="checkbox"/> TIME SET
PASSWORD:	DEFAULT = DISABLED	<input type="checkbox"/> ENABLED <input checked="" type="checkbox"/> DISABLED
CONFIGURE		
LOS TIMERS:	0-20 SECONDS, INPUTS 1-7 ONLY DEFAULT = 0	1: <u>0</u> SEC.      5: N/A SEC. 2: <u>5</u> SEC.      6: N/A SEC. 3: N/A SEC.      7: N/A SEC. 4: N/A SEC.
ATCS ADDRESS:	DEFAULT = 700000000000	
LOW BATTERY:	9.0-15.0 VOLTS, OR DISABLED DEFAULT = DISABLED	<input checked="" type="checkbox"/> DISABLED <input type="checkbox"/> ENABLED _____ VOLTS
AUX I/O:	DEFAULT = NONVITAL OUTPUT	<input checked="" type="checkbox"/> NV OUTPUT <input type="checkbox"/> FLASH SYNC IN <input type="checkbox"/> FLASH SYNC OUT
DETECT LAMP NEUTRAL WIRE	YES/NO      DEFAULT = NO	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
TEST CONFIGURE		
LAMP TEST CANCEL TIMER:	1 - 15 MINUTES, DEFAULT = 5	<u>5</u> MINUTES
LAMP TEST DELAY TIMER:	30 - 120 SEC., DEFAULT = 30	<u>30</u> SECONDS
LAMP TEST ON TIMER:	15 - 60 SEC., DEFAULT = 15	<u>15</u> SECONDS
QUERY		
QUERY CONFIG VERSIONS:		MCF NAME: <u>BASIC.MCF.F</u> MCF CRC: _____ CAPABILITY NAME: _____

SETUP LAMP VOLTAGES	INITIAL SETTINGS BY: _____ DATE: ____/____/____ METER: _____
FAR GATE	1L1= _____ VOLTS 1L2= _____ VOLTS 2L1= _____ VOLTS 2L2= _____ VOLTS
SSCCIIIA	1L1= _____ VOLTS 1L2= _____ VOLTS 2L1= _____ VOLTS 2L2= _____ VOLTS
NEAR GATE	1L1= _____ VOLTS 1L2= _____ VOLTS 2L1= _____ VOLTS 2L2= _____ VOLTS

STANDARD SETUP LAMP VOLTAGES PROCEDURE  
USING TRUE RMS AC+DC METER, OR CONVERSION TABLE BELOW

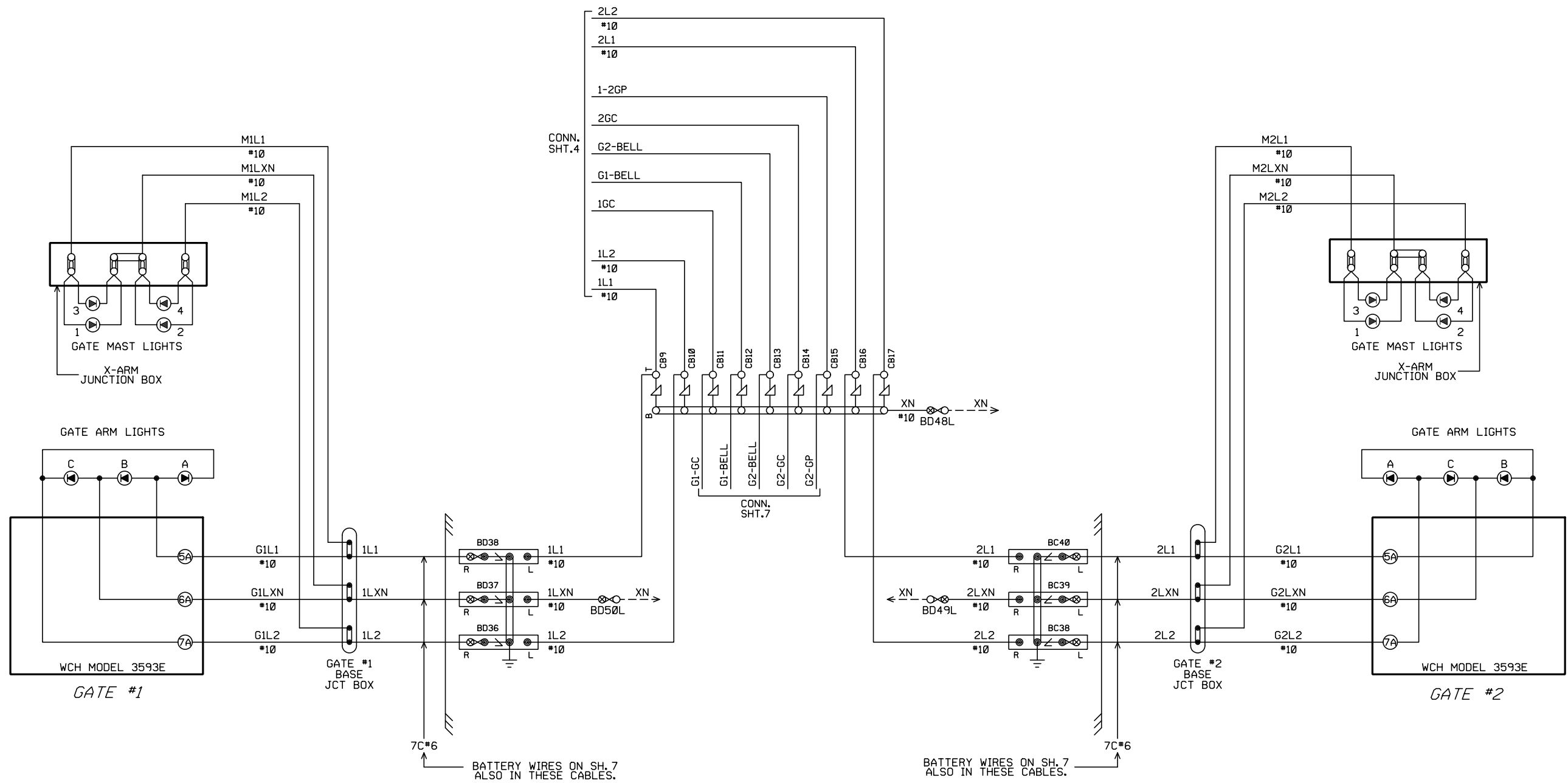
- NOTES:
1. ALL WIRE THIS SHEET #16 A.W.G. FLEX UNLESS OTHERWISE NOTED.
  2. DENOTES TWISTED PAIR.

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.			CROSSING CONTROLLER CIRCUITRY		
							INDIANA & OHIO RAILWAY		
DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22		DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18		SHEET 04 OF 13					



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.



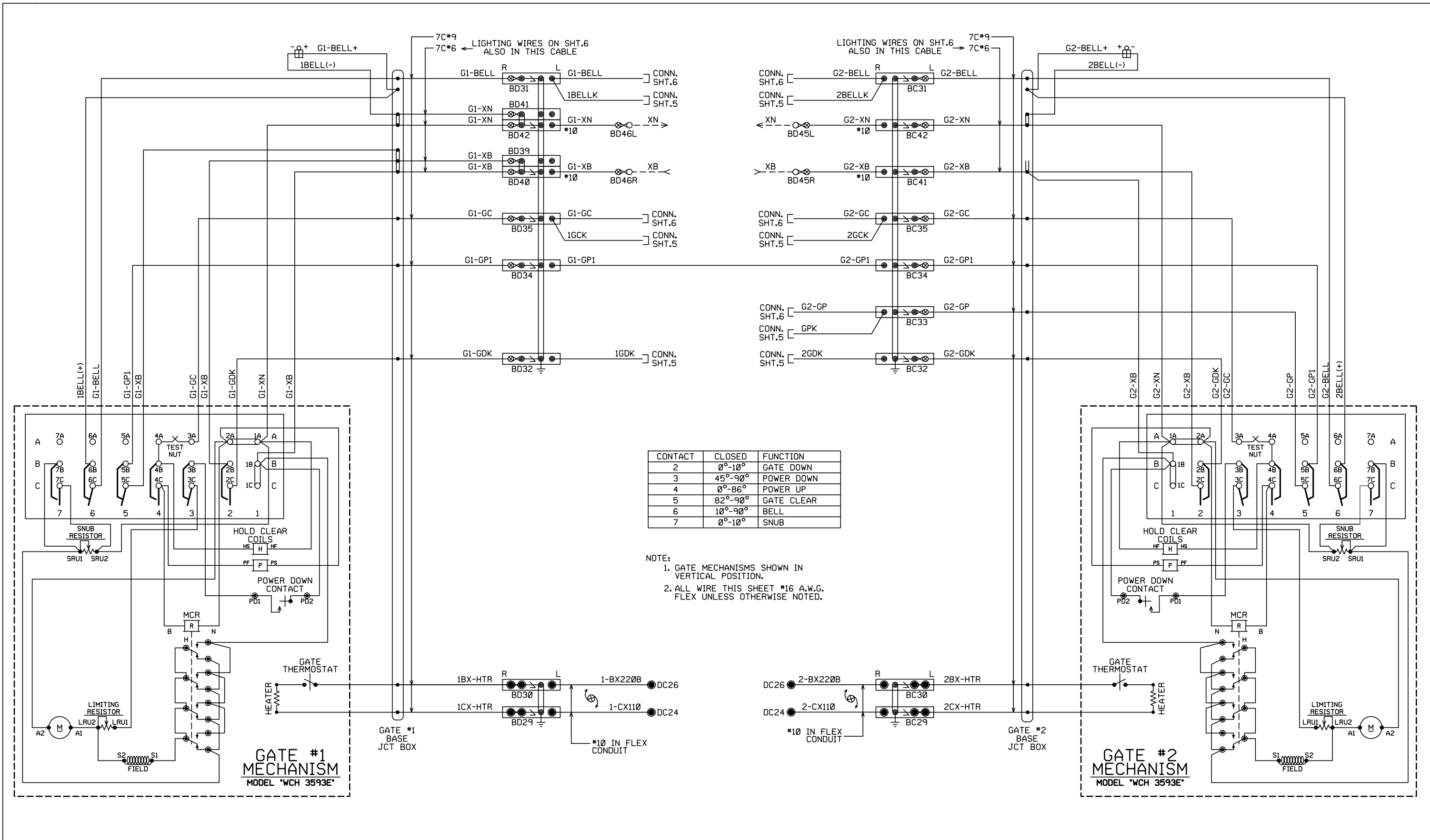


NOTE:  
1. ALL WIRE THIS SHEET #16 A.W.G.  
FLEX UNLESS OTHERWISE NOTED.

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

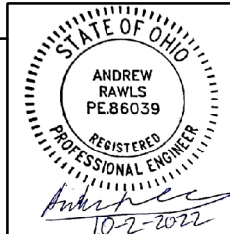
REVISIONS				THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM, SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.			GATE LIGHTING CIRCUITRY		
							INDIANA & OHIO RAILWAY		
DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22		DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18		SHEET 06 OF 13					





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

NOTE:  
1. GATE MECHANISMS SHOWN IN VERTICAL POSITION.  
2. ALL WIRE THIS SHEET #16 A.W.G. FLEX UNLESS OTHERWISE NOTED.



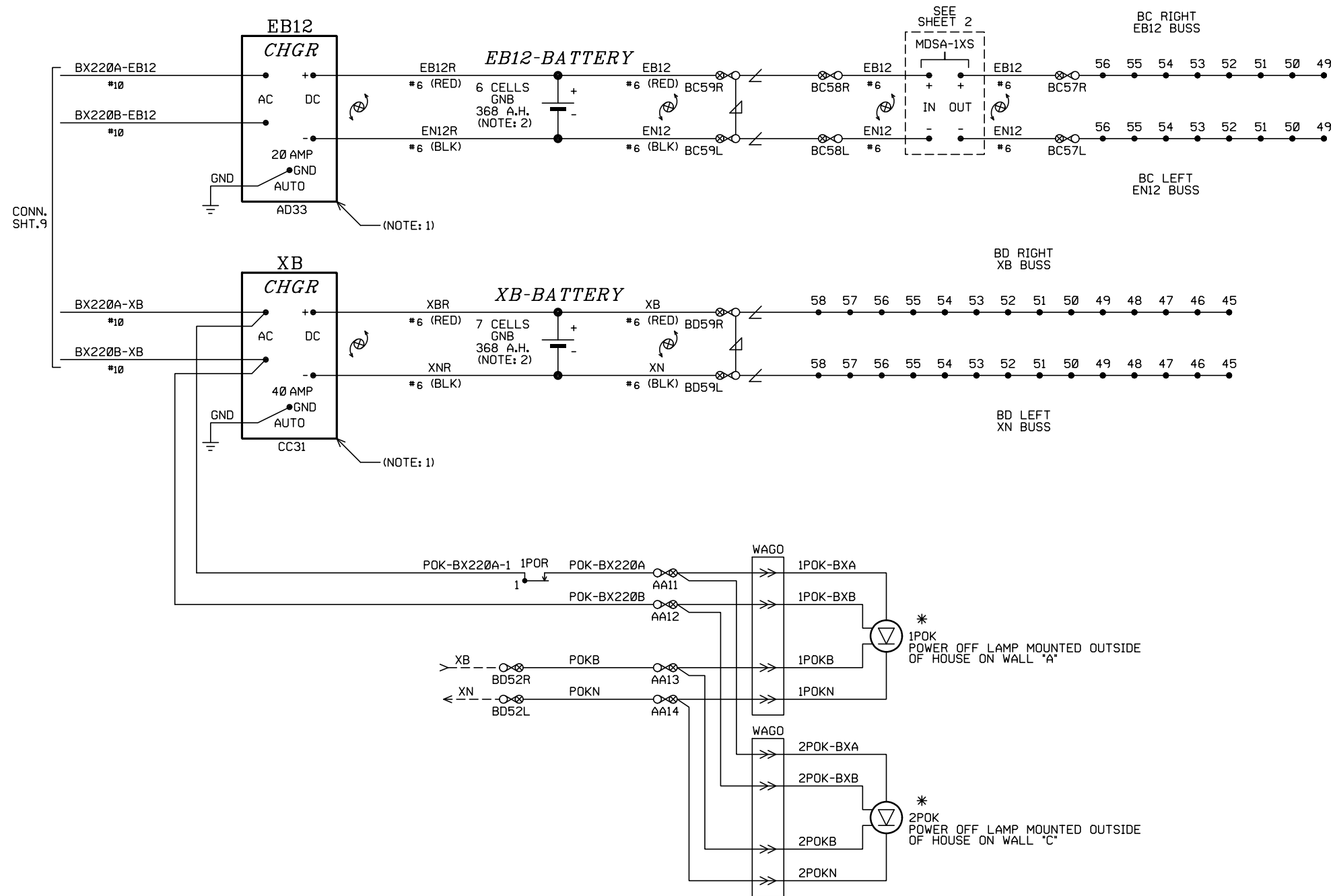
GATE MECH CIRCUITRY

INDIANA & OHIO RAILWAY

DRAWN: PRS  
DESIGNED: MST  
CHECKED: JMW  
DATE: 02-03-22

DAYTON AVENUE  
WASHINGTON CH, (FAYETTE), OHIO  
DOT# 151 916D MILEPOST# 77.18

SHEET  
07 OF 13

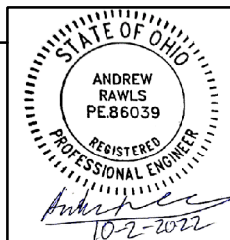


- NOTES:
1. USE 220VAC INPUT FOR CHARGERS.
  2. USE 1/4" TERMINALS AT BATTERY CONNECTIONS.
  3. ALL WIRE THIS SHEET #16 A.W.G. FLEX UNLESS OTHERWISE NOTED.

- LEGEND:
- TEST TERMINAL
  - EQUALIZER
  - ARRESTOR TO GROUND
  - TWISTED WIRE 2 TURNS PER FOOT
  - INSULATED NUT
  - \* - LIGHTS ARE 12VDC, 4-WIRE LED. (P/N: LC2-001WB-WG4) VELCORP GEMS

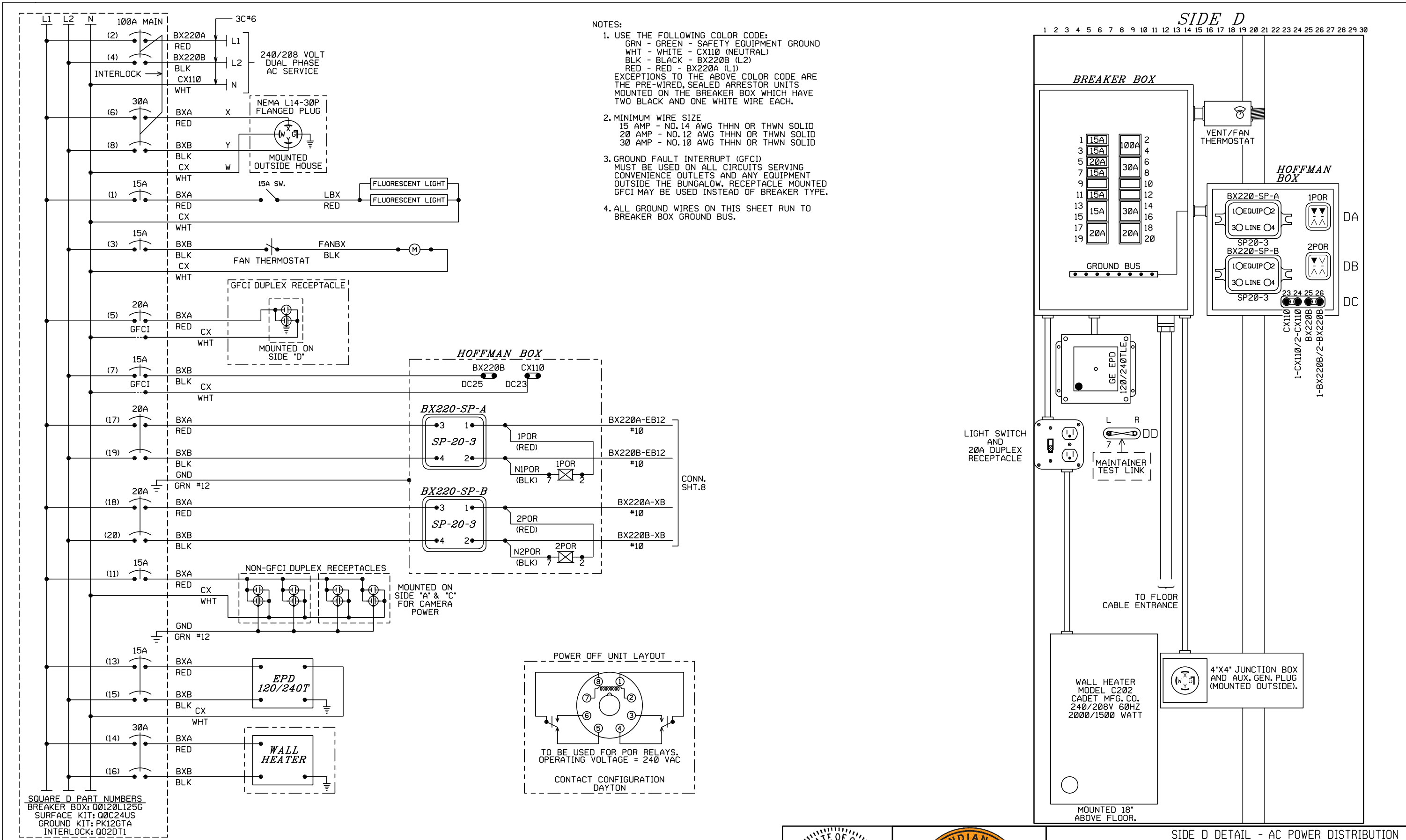
REVISIONS					

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.



DC POWER DISTRIBUTION		
INDIANA & OHIO RAILWAY		
DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 08 OF 13



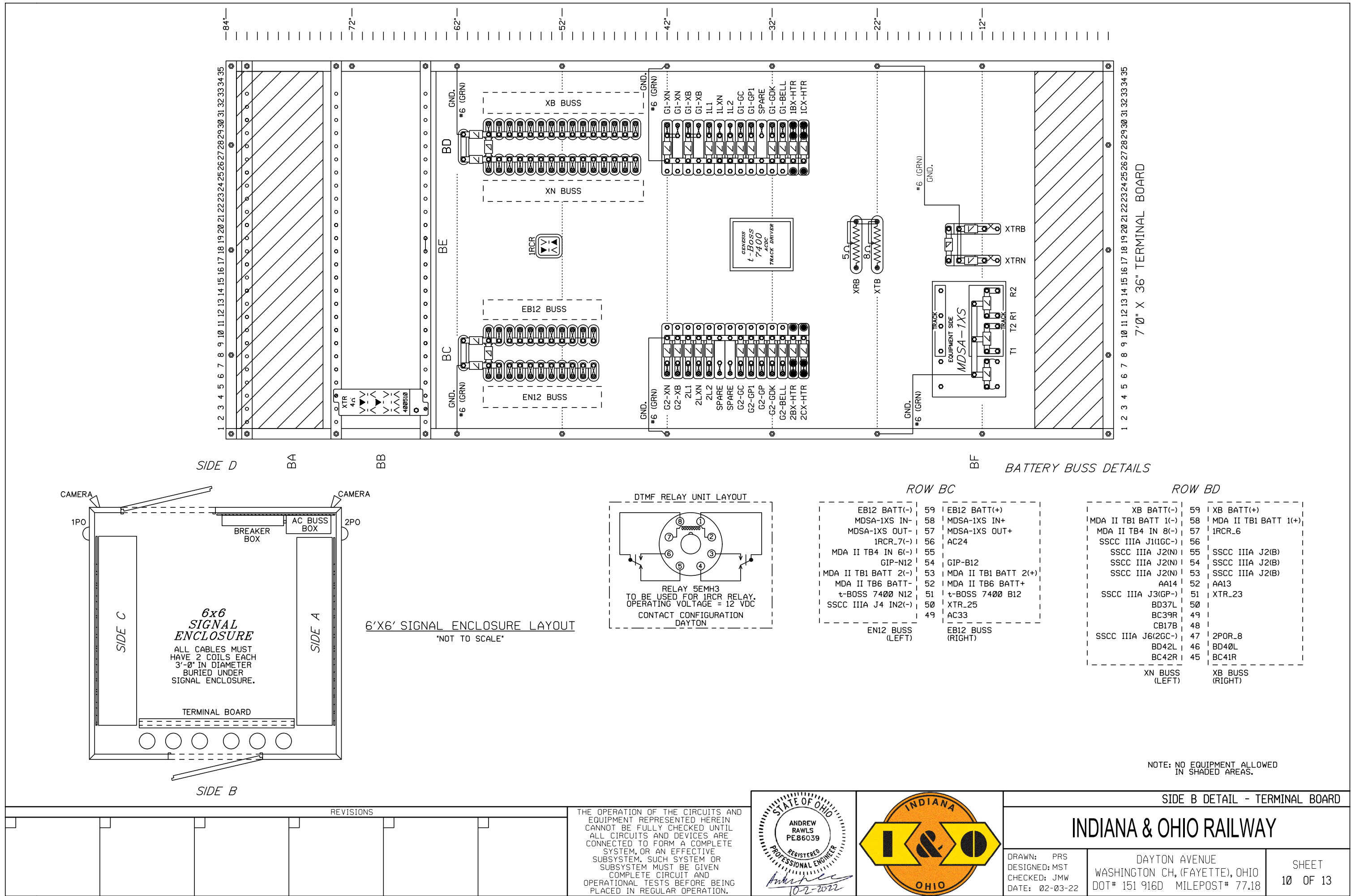


SIDE D

SIDE D DETAIL - AC POWER DISTRIBUTION

INDIANA & OHIO RAILWAY

DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 09 OF 13
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NOTE: NO EQUIPMENT ALLOWED IN SHADED AREAS.

SIDE B DETAIL - TERMINAL BOARD

INDIANA & OHIO RAILWAY

DRAWN: PRS  
DESIGNED: MST  
CHECKED: JMW  
DATE: 02-03-22

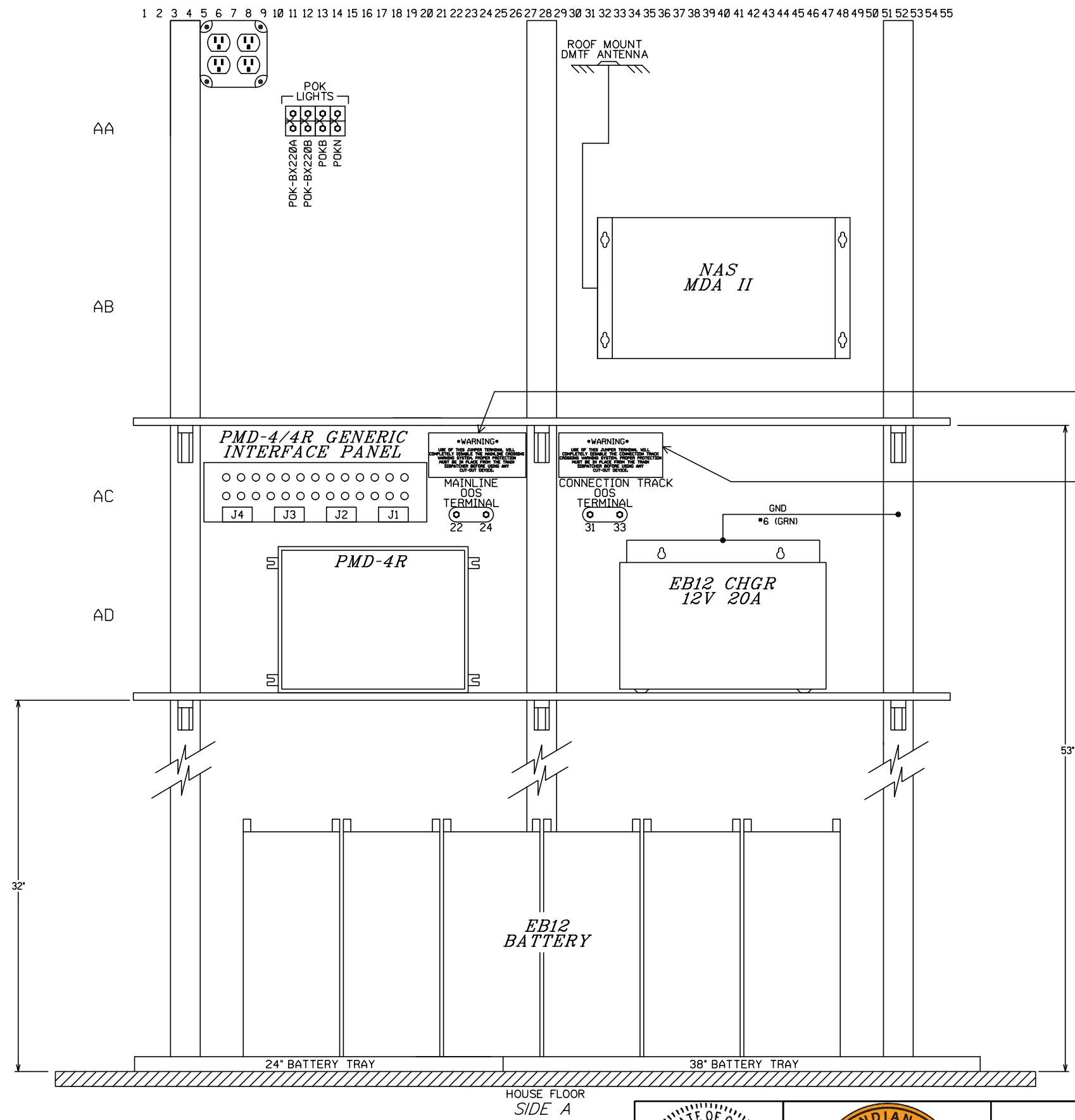
DAYTON AVENUE  
WASHINGTON CH, (FAYETTE), OHIO  
DOT# 151 916D MILEPOST# 77.18

SHEET  
10 OF 13



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.

REVISIONS

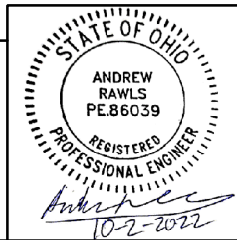


**\* WARNING \***  
USE OF THIS JUMPER TERMINAL WILL COMPLETELY DISABLE THE MAINLINE CROSSING WARNING SYSTEM. PROPER PROTECTION MUST BE IN PLACE FROM THE TRAIN DISPATCHER BEFORE USING ANY CUT-OUT DEVICE.

**\* WARNING \***  
USE OF THIS JUMPER TERMINAL WILL COMPLETELY DISABLE THE CONNECTION TRACK CROSSING WARNING SYSTEM. PROPER PROTECTION MUST BE IN PLACE FROM THE TRAIN DISPATCHER BEFORE USING ANY CUT-OUT DEVICE.

REVISIONS					SIDE A DETAIL		
					INDIANA & OHIO RAILWAY		
					DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 11 OF 13

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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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

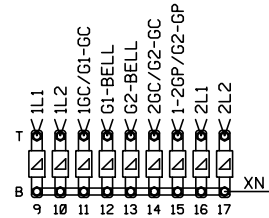
CA

CAMERA EQUIPMENT  
PLACED ON UPPER  
SHELF SIDE C

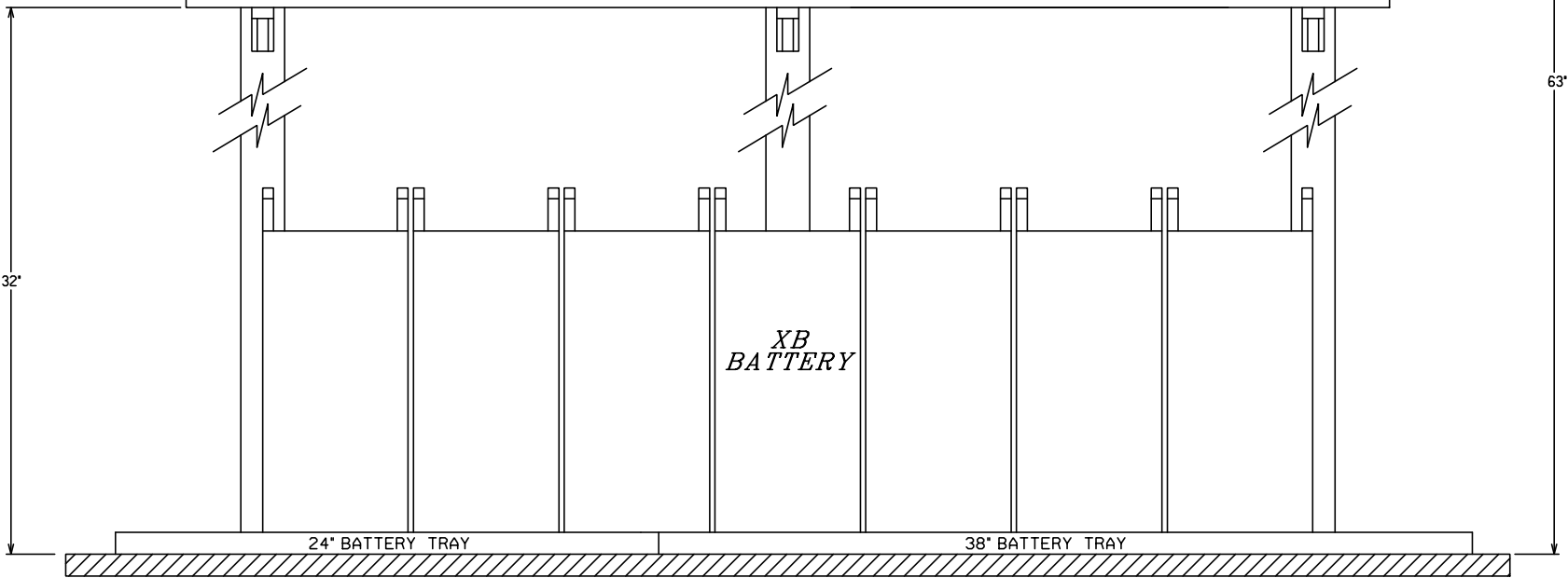
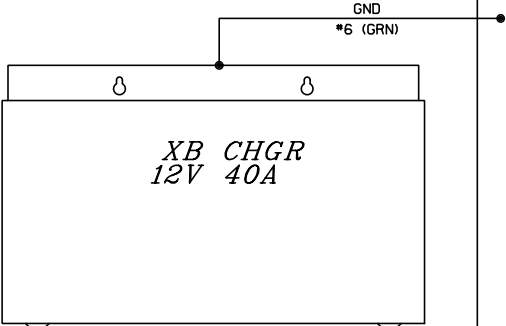
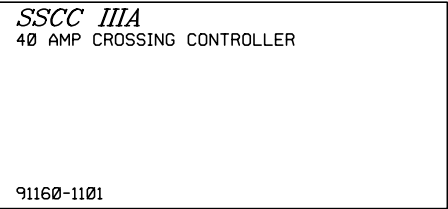
- EXTERNAL CAMERA(S) TO RECORD  
SIGNAL & TRAIN MOVEMENTS

- INTERNAL CAMERA(S) TO FACE  
SIDE A TO RECORD EQUIPMENT  
& OOS JUMPER POSTS.

CB



CC

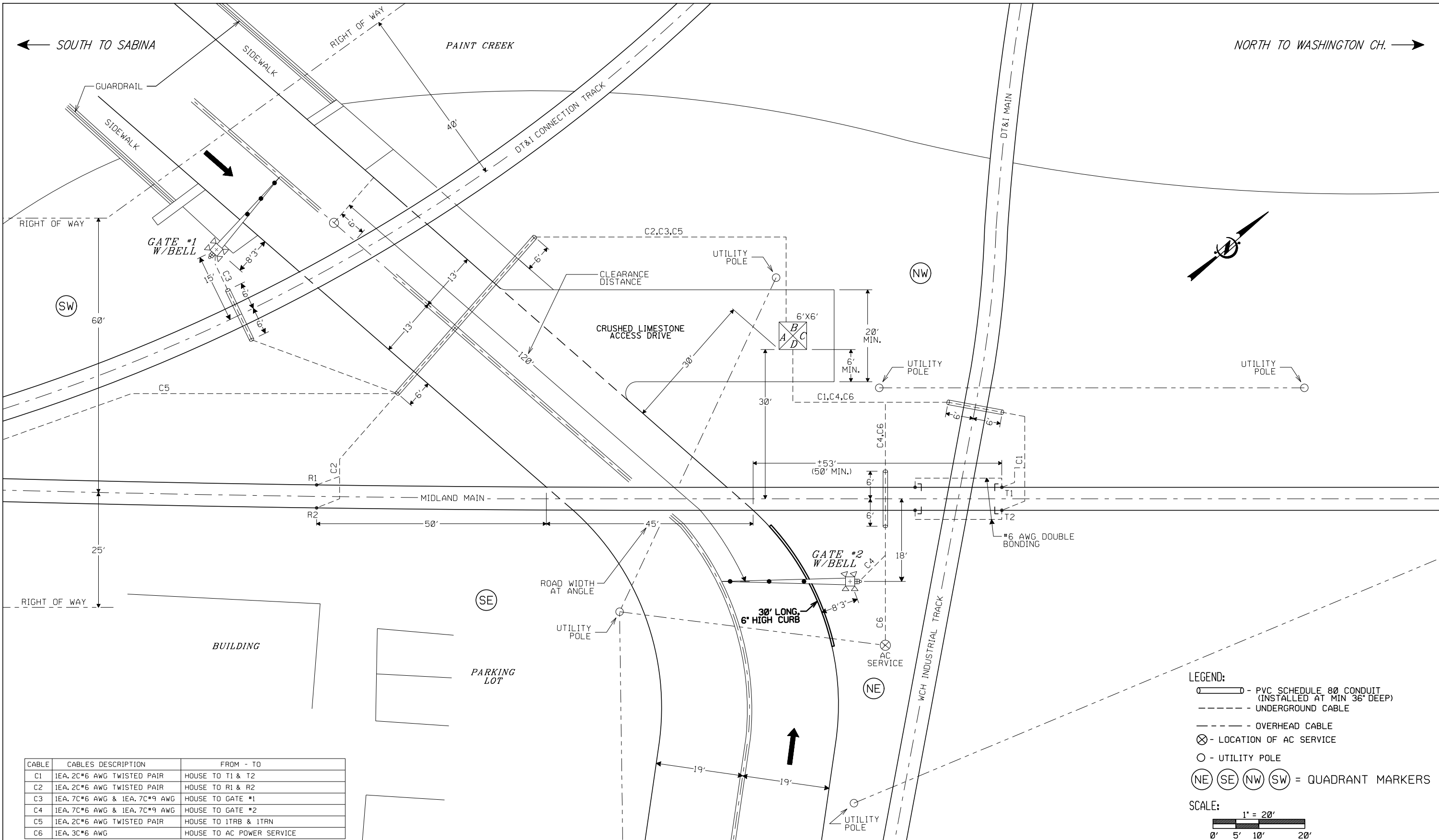


REVISIONS					

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SIDE C DETAIL		
INDIANA & OHIO RAILWAY		
DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 12 OF 13



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

LEGEND:

- PVC SCHEDULE 80 CONDUIT (INSTALLED AT MIN 36" DEEP)
- UNDERGROUND CABLE
- OVERHEAD CABLE
- LOCATION OF AC SERVICE
- UTILITY POLE
- = QUADRANT MARKERS

SCALE: 1" = 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.

TRACK AND CABLE LAYOUT

# INDIANA & OHIO RAILWAY

DRAWN: PRS DESIGNED: MST CHECKED: JMW DATE: 02-03-22	DAYTON AVENUE WASHINGTON CH, (FAYETTE), OHIO DOT# 151 916D MILEPOST# 77.18	SHEET 13 OF 13
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# BASIS OF DESIGN



Region:	NORTHERN
Railroad:	INDIANA & OHIO RAILWAY
Subdivision:	MIDLAND
Supervisor:	CHRIS HORTON
Railroad No.:	21IORY02R

Location Name:	DAYTON AVE.
City, (County), ST:	WASHINGTON CH, (FAYETTE), OH
MP:	77.18
DOT #:	151916D
Prepared By:	TODD SOVANN
Date Prepared:	8/27/2021

## 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	32	ft
Clearance time	0	s

### Approach Length Calculation

Base Warning Time	30	sec	
Plus Clearance Time	0	sec	(Linked to calc above)
Equals Planned Warning Time	30	sec	
Plus Time for Traffic Preemption	0	sec	
Equals Total Design Warning Time	30	sec	
Plus Equipment Response Time	4	sec	
Plus Buffer Time	0	sec	
Plus Additional Time	0	sec	(Provide explanation)
Equals Total Warning Time	34	sec	
Times Maximum Design Train Speed	20	mph	
Times Ratio of fps to mph	1.470	fps/mph	
Equals Approach Circuit Length	1000	ft	(Rounded up to nearest foot)

# BASIS OF DESIGN



Region:	NORTHERN
Railroad:	INDIANA & OHIO RAILWAY
Subdivision:	MIDLAND
Supervisor:	CHRIS HORTON
Railroad No.:	21IORY02R

Location Name:	DAYTON AVE.
City, (County), ST:	WASHINGTON CH, (FAYETTE), OH
MP:	77.18
DOT #:	151916D
Prepared By:	TODD SOVANN
Date Prepared:	8/27/2021

## 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	32	ft
Clearance time	0	s

### Approach Length Calculation

Base Warning Time	30	sec	
Plus Clearance Time	0	sec	(Linked to calc above)
Equals Planned Warning Time	30	sec	
Plus Time for Traffic Preemption	0	sec	
Equals Total Design Warning Time	30	sec	
Plus Equipment Response Time	4	sec	
Plus Buffer Time	0	sec	
Plus Additional Time	0	sec	(Provide explanation)
Equals Total Warning Time	34	sec	
Times Maximum Design Train Speed	10	mph	
Times Ratio of fps to mph	1.470	fps/mph	
Equals Approach Circuit Length	500	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 #:	151916D	COUNTY:	Fayette
ROADWAY:	Dayton Avenue	CITY:	Washington CH
DESCRIPTION:	Installation of Flashing Lights and gates and 2 bells, new 6'x6' house w/PMD-4R as CWT and generic interface panel on Main track, Ring-10 on DT&I connector. New IJs and switch insulation. NBS, Rail plugs, eliminate joints, 30' of curbing, separate conduit for meter pole, and surface replacement.		
AGENCY PROJECT NUMBER:	PID# 114129	ESTIMATE SUBJECT TO REVISION AFTER:	09/03/22

## PRELIMINARY ENGINEERING:

Contracted & Administrative Engineering Services	\$	18,900
<b>Subtotal</b>	<b>\$</b>	<b>18,900</b>

## CONSTRUCTION & CLOSEOUT:

Contracted & Administrative Engineering Services	\$	15,100
<b>Subtotal</b>	<b>\$</b>	<b>15,100</b>

## FLAGGING SERVICE:

Contracted or Railroad Flagmen Services	15 Days	\$	21,000
<b>Subtotal</b>		<b>\$</b>	<b>21,000</b>

## UTILITY WORK:

Power Service	\$	5,000
Other	\$	-
<b>Subtotal</b>	<b>\$</b>	<b>5,000</b>

## CONTRACT WORK:

Outside Services	\$	30,000
Design & Labor & Material	\$	281,120
<b>Subtotal</b>	<b>\$</b>	<b>311,120</b>

## RAILROAD TRACK:

Labor & Material	\$	-
<b>Subtotal</b>	<b>\$</b>	<b>-</b>

## RAILROAD SIGNAL & COMMUNICATION:

Labor & Material	\$	-
<b>Subtotal</b>	<b>\$</b>	<b>-</b>

## PROJECT SUBTOTAL:

		<b>\$</b>	<b>371,120</b>
Public Project Admin:	0.00%	\$	-
Contingencies:	0.00%	\$	-

## PROJECT TOTAL:

	*****	<b>\$</b>	<b>371,120</b>
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## CURRENT AUTHORIZED BUDGET:

	*****	\$	-
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## TOTAL SUPPLEMENT REQUESTED:

	*****	<b>\$</b>	<b>371,120</b>
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## DIVISION OF COST:

Agency	100.00%	\$	371,120
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: RMK Approved by: Public Project Department

DATE: 03/05/21 REVISED: 03/07/22 DATE: 03/07/22



## Factory Wired Instrument Shelter

ITEM DESCRIPTION	O.E.M.	LN Item #	QTY	U/M
Alum. 6' x 6', Shelter G&W Crossing W/O NEMA PLUGS	PTMW	9485000216	1	EA
Hex. Railroad Lock	SIEMENS	9463001200	2	EA
Camera Material 5 Cam, 19" Mon, 4 TB HD Package	Porter Security	9409011494	1	EA
Power Off Light, LED, 4 Wire	GRAYBAR	9430500215	2	EA
PMD-4R, Redundant Motion, Generic Upgrade Panel, & Generic Interface Panel Cable 4ft	ALSTOM	9409011753	1	EA
SSCC-IIIA Crossing Controller, 40 Amp, 19" Mounting Plate SSCC-IIIA 40A, 19" Rack	SIEMENS	9429000113	1	EA
Surge Arrestor. MDSA-1XS	ALSTOM	9409012002	1	EA
Track Driver, T-BOSS 7400 ACDC Track Driver with the XP option	GENESIS	9429000091	1	EA
Track Rectifier, Ring 10	ALSTOM	9409030301	1	EA
ST-1 Relay Socket w/Test Posts, (22) 10-14 Flags	SIEMENS	9429000150	1	EA
Terminal Flag #10-#14	REBEL RAILWAY	9422022500	30	EA
Relay, ST1, BN 4FB-2F-1B 2 OHM	SIEMENS	94400510	1	EA
Resistor, Adjustable, 5 Ohm	WCH	9409020633	1	EA
Resistor, Adjustable, 8 Ohm	WCH	9409020634	1	EA
Lightning Arrester, Heavy Duty	SIEMENS	9465000075	2	EA
Lightning Arrester, Clearview	SIEMENS	9409020353	27	EA
Heavy Duty Equalizer	SIEMENS	9409020300	12	EA
AC Line Surge Protector, Model SP20-3, 240Vac	SIEMENS	9409010628	2	EA
Panduit Duct, 2' X 3', 2 inch	GRAYBAR	9422040105	30	FT
Panduit Cover, 2' X 3', 2 inch	GRAYBAR	9422040106	30	FT
Panduit Duct, 2' X 3', 3 inch	GRAYBAR	9422040103	18	FT
Panduit Cover, 2' X 3', 3 inch	GRAYBAR	9422040108	18	FT
#10 TC Blue Flex Wire	GRAYBAR	9450030600	600	FT
#14 TC Blue Flex Wire	OKONITE	9422010213	700	FT
#10/12 AMP Eyelets	GRAYBAR	9422020300	150	EA
#14/16 AMP Eyelets	GRAYBAR	9422020342	150	EA
#6 AWG THHN Strand Red	GRAYBAR	9422001183	100	FT
#6 AWG THHN Strand Black	GRAYBAR	9422001184	100	FT
#6 AWG THHN Strand Green	GRAYBAR	9422001180	12	FT
#10 AWG THHN Solid Red	GRAYBAR	9422001177	10	FT
#10 AWG THHN Solid White	GRAYBAR	9422001179	10	FT
Recorder, Micro Data Analyzer II w/ DTMF	N A Signal	9409010705	1	EA
Insulated Nut	TWINCO	9409050504	16	EA
Relay, NV, 12VAC, 2FB (8 PINS)	GRAINGER	9409020273	1	EA
Relay, NV, 240VAC, 2FB (8 PINS)	GRAINGER	9409020265	2	EA
Socket, Relay (8 PINS) OCT Screw	Allied Electronics	9409020329	3	EA
Battery Charger, 12V / 20A	NRS	9409080111	1	EA
Battery Charger, 12V / 40A	NRS	9409080113	1	EA
4 Post Terminal Block w/ Hardware	ERICO	9409020380	28	EA
Buss Strap Grd Assy.	ERICO	43001142	1	EA
Tags, Slip On	GRAYBAR	9422990050	0.25	Roll
Stick-On Stencil	Cadillac Sign Co.	9400000078	2	EA
Test Link, 1" Offset w/Gold Nut	REBEL RAILWAY	9409021104	84	EA
Terminal Block, 2 x 6 w/flat nut only	ALSTOM	9473000102	10	EA
Terminal Block, 1 x 12 w/flat nut only	ALSTOM	9473000100	2	EA
Terminal Block, 2 post 2-3/8" w/flat nut only	TWINCO	9473000104	5	EA
1/4" Bevel Washer	WURTH SNIDER	9473000700	300	EA
1/4-24 Clamp Nut Nickel	WURTH SNIDER	9473000705	150	EA
Binding (Barrel) Nuts	WURTH SNIDER	9401037900	300	EA
#6 Non-Insulated Terminal Eye 1/4 stud	GRAYBAR	9422020200	30	EA
#6 Non-Insulated Terminal Eye 5/16 stud	GRAYBAR	9422020210	8	EA
Maintainer Test Switch, 3 post test terminal	L&W	9410002070	1	EA
Strap, Solid, 1" Centers	TWINCO	9473000110	5	EA
Strap, Solid, 2-3/8" Centers	L&W	9473000120	4	EA
Buss Strap, 1" Centers 36 Hole	TWINCO	9473005100	2	EA
Circuit Plan Holder	Village Supplies	9401001050	1	EA

Gate/Flasher Material				
ITEM DESCRIPTION	O.E.M.	LN Item #	QTY	U/M
<b>Signal 1</b>				
12" Head w/24" Background & Hood (Painted AL)				
Terminal For LED Hook-up ( <b>For larger RDG &amp; GE LED</b> )	WCH	9451000610	4	EA
12" LED Highway Crossing Light (HD)	GE Lighting	9451000523	4	EA
Alum. Mast, 5" x 16', Base Hole 0 & 180 Degrees & Main Hole 90 Degrees	Progress	9413022512	1	EA
Signal Mast Grounding w/ 72" pigtail #6 solid	Erico	9413040011	1	EA
JCT. Box Base, 5" W/2"NPT Cap	Progress	9420001102	1	EA
2-Way Cross Arm Assembly Less Heads (Gate Flasher)	Progress	9451050304	1	EA
5" Crossarms Assembly Mounting Kit	Progress	9451080005	1	EA
Railroad Crossing Sign, HI	Progress	9460001104	1	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket	Progress	9460005050	1	EA
Gate <b>3593E</b> Mechanism Assembly, including the 5" Mast Mounting Hardware, Flex				
Conduit, with fittings, <b>Long Arm Supports</b> & Counterweight kit for 25' - 28' Arms W/Gate Heaters	W-C-H	9450010189	1	EA
Gate Heater Thermostat (To Be mounted inside gate mech IORY Projects)	SENASYS	9450020612	1	EA
Insulated Nut	TWINCO	9409050504	4	EA
Test Link, 1" Offset w/Gold Nut	L&W	9409021104	18	EA
Wiring Harness 18'6" Bell	Progress	9454100133	1	EA
Wiring Harness 12' Light	Progress	9454100135	1	EA
Wiring Harness 8' Mech (STD)	Progress	9454100136	1	EA
Gate Arm Wind Bracket, 36"	NEG	9450030203	1	EA
Conversion Bracket Plain w/hardware	NEG	9459001132	1	EA
Hex. Railroad Lock	SIEMENS	9463001200	1	EA
Gate/Flasher Pallet	J&J Pallet	9441001350	1	EA
<b>Signal 2</b>				
12" Head w/24" Background & Hood (Painted AL)				
Terminal For LED Hook-up ( <b>For larger RDG &amp; GE LED</b> )	WCH	9451000610	4	EA
12" LED Highway Crossing Light (HD)	GE Lighting	9451000523	4	EA
Alum. Mast, 5" x 16', Base Hole 0 & 180 Degrees & Main Hole 90 Degrees	Progress	9413022512	1	EA
Signal Mast Grounding w/ 72" pigtail #6 solid	Erico	9413040011	1	EA
JCT. Box Base, 5" W/2"NPT Cap	Progress	9420001102	1	EA
2-Way Cross Arm Assembly Less Heads (Gate Flasher)	Progress	9451050304	1	EA
5" Crossarms Assembly Mounting Kit	Progress	9451080005	1	EA
Railroad Crossing Sign, HI	Progress	9460001104	1	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket	Progress	9460005050	1	EA
Gate <b>3593E</b> Mechanism Assembly, including the 5" Mast Mounting Hardware, Flex				
Conduit, with fittings, <b>Long Arm Supports</b> & Counterweight kit for 25' - 28' Arms W/Gate Heaters	W-C-H	9450010189	1	EA
Gate Heater Thermostat (To Be mounted inside gate mech IORY Projects)	SENASYS	9450020612	1	EA
Insulated Nut	TWINCO	9409050504	4	EA
Test Link, 1" Offset w/Gold Nut	L&W	9409021104	18	EA
Wiring Harness 18'6" Bell	Progress	9454100133	1	EA
Wiring Harness 12' Light	Progress	9454100135	1	EA
Wiring Harness 8' Mech (STD)	Progress	9454100136	1	EA
Gate Arm Wind Bracket, 36"	NEG	9450030203	1	EA
Conversion Bracket Plain w/hardware	NEG	9459001132	1	EA
Hex. Railroad Lock	SIEMENS	9463001200	1	EA
Gate/Flasher Pallet	J&J Pallet	9441001350	1	EA

Ground Material				
ITEM DESCRIPTION	O.E.M.	LN Item #	QTY	U/M
Insulated Terminal Wrench, 1/2" / Triangle	GRAYBAR	9473000518	1	EA
Plugboard Terminal Wrench	SIEMENS	9473000508	1	EA
Battery Tray (12" x 38")	FIBER CO	9409060101	2	EA
Battery Tray (12" x 24")	FIBER CO	9409060126	2	EA
Battery, 368 Amp Hour	GNB	9429005150	13	EA
Electronic Bell, 5" MTG.	GSI	9465000154	2	EA
Gate Arm Light Kit w/LED Bulbs and wire, 3 per set	NEG	9450030494	2	EA
G&W, Lamp Cord Mounting Clamps	RECO	9450030560	2	EA
G&W, Lamp Cord Mounting Clamps	RECO	9450030561	2	EA
G&W Gate Arm 30' or Less, NON-HWP, 16' Al Base sec (HI Intensity), 3' Sleeve	NEG	9450030266	2	EA
G&W Gate Arm 30' or Less, NON-HWP, 16' Fg 2nd sec (HI Intensity)	NEG	9450030267	2	EA
Cast Adapter	NEG	9450020520	2	EA
48" Tall Galv. Steel Gate Foundation w/32" Square Base w/4" Entrance Pipe welded on bottom of top	Progress	9417002040	2	EA
5" Jct. Box Base Shroud	Progress	9454030094	2	EA
Track Cable, #6 Tw. Pr. (150-12-3933)	GRAYBAR	9422001106	250	FT
Signal Cable, 7/C # 6 AWG (206-11-6247)	GRAYBAR	9422001580	250	FT
Signal Cable, 7/C # 9 AWG (206-11-6927)	GRAYBAR	9422001579	250	FT
AC Cable, 3/C # 6 AWG w/GRD (206-11-6070)	GRAYBAR	9422001218	100	FT
Railroad Emergency Contact Sign - Reference Spec Prior to Ordering ( <b>SEE ENS TAB</b> )	Saf-Ti-Co	9400000079	2	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket	Progress	9460005050	2	EA
Hex. Railroad Lock	SIEMENS	9463001200	1	EA
Copperweld Ground Rod, 5/8" X 8'	Erico	9409050512	6	EA
Cadweld One Shot, 5/8" (HALO) Triple	Erico	9410001231	4	EA
Cadweld One Shot, 5/8" (SIGNAL) Single	Erico	9410000274	2	EA
Cadweld Rail Bonds, 3/16" x 7-1/2" XS	Erico	9410002990	125	EA
Track Connector, Web	Erico	9410003013	125	EA
Track Connector, Web, 4"	Erico	9410003011	6	EA
Track Connection Kits	Progress	9410002051	3	EA
Track Wire Retainer Clip, Erico #SBA248B	Erico	9410006111	6	EA
Shunt, NBS-1 (522 Hz)	ALSTOM	9410004014	1	EA
Shunt, NBS-1 (686 Hz)	ALSTOM	9410004686	1	EA
Shunt, NBS-1 (970 Hz)	ALSTOM	9409011463	1	EA
Shunt, NBS-1 (348 Hz)	ALSTOM	9410004025	2	EA
4" PVC Sch. 80 Conduit	B&S	TBD	125	FT
Hose, Red Ruber 3/4 Inch Hose (15' Per Track Connection Pair)	Grainger	9469023011	45	FT
AC Meter Base, Breaker Box, W.H. & Pole	Commercial	TBD	1	EA
Insulated Rail Joints	Seneca	TBD	20	EA
Insulated Gauge Plate	Progress	TBD	4	EA
Insulated Switch Rod #1	Progress	TBD	4	EA
Insulated Switch Rod #2	Progress	TBD	4	EA
6" Poly Plate	Seneca	9410001268	20	EA
Dress Stone	Local	N/A	1	EA
30' of 6" Curb	Local	N/A	1	EA
Silt Fence	Local	N/A	1	EA
Sleeve, 3/16 - 3/16 & 3/16 - #6 Tinned	Erico	9410001010	6	EA
Duct Seal	Local	9410000502	10	LB
Bond Strand, Erico# SBS8TLINS664	ERICO	9422030010	75	FT
No Oxide Grease	SIEMENS	9410006010	1	EA
Anti-Seize - Silver Grade 4 OZ	Bearing Head	9410006020	1	EA
#6 Bare Copper	Grainger	9422000010	50	FT



## Rail Development Commission

Mike DeWine, Governor  
Jon Husted, Lt. Governor

Scott Corbitt, Chair

DATE April 22, 2021

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

RE: FAY Dayton Ave NW 151916D

Dear Mr. Rishel:

A diagnostic review was held at the above grade crossing on August 5<sup>th</sup> 2020. The crossing has been recommended for the installation of lights, gates and surface reconstruction

Indiana & Ohio Railroad 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 5), 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 Michael Lynch. Michael can be reached at (614) 395-1824, or Michael.lynch@dot.ohio.gov, if you have any questions.

Sincerely,  
Michael Lynch



Project Manager

C: John Williams, Director of Transportation, 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  
Sam Randazzo, Chairman

### Commissioners

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

November 13, 2020

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

Re: Fayette County, Dayton Avenue,  
DOT#151-916D, 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 5, 2020, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and gates and surface reconstruction.

The Project shall comply with Master Warning Device Agreement No. 5773, dated February 16, 1989 and Reconstruction Agreement #4425, dated August 26, 1985, entered into by the State of Ohio and Indiana & Ohio Railway (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.

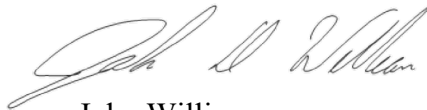
The RAILROAD shall complete plans and estimates for the Project within ninety (90) days after the RAILROAD is notified of authorization to proceed unless otherwise agreed by ORDC/PUCO and the RAILROAD.

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.

LA Dayton Avenue  
Fayette County  
Indiana & Ohio Railway

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 Williams  
Director of Transportation  
Public Utilities Commission of Ohio

Indiana & Ohio Railway

By \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_



Matthew Dietrich  
Executive Director  
Ohio Rail Development Commission

Date November 20, 2020

LA Dayton Avenue  
Fayette County  
Indiana & Ohio Railway

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 Williams  
Director of Transportation  
Public Utilities Commission of Ohio

Indiana & Ohio Railway

Company

By



Title President

Date 12/11/2020

Matthew Dietrich  
Executive Director  
Ohio Rail Development Commission

Date \_\_\_\_\_



Crossing at a glance: HAZARD RANK # 300

ORDC Notes:

Please Sign In

Michael Lynch Proj Mgr. ORDC  
Name Title Organization

Chris Horton TORC  
Phone Number Email Signature

Chris Horton TORC  
Name Title Organization

Chris Horton TORC  
Phone Number Email Signature

Chris Horton TORC  
Name Title Organization

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Phone Number Email Signature

Chris Horton TORC  
Name Title Organization

Chris Horton TORC  
Phone Number Email Signature

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

Date: 8/5/2020

Location Data		
Street or Road Name: Dayton Avenue Northwest		
County: Fayette	Township:	US DOT No.: 151916D
City (in or near): Washington Court House	Railroad Name: IORY	RR Milepost: 77.180
Safety Data (Obtain crash reports, if possible)		
	Initial Information (from database)	Revised
Number & dates of vehicle crashes in previous 5 years:	1 - (2/19)	
Number & dates of pedestrian/bicycle crashes in previous 5 years:	n/a	
Hazard Ranking: 300	Date Run: 04/08/2020	

Existing Traffic Control Devices		
Type of Warning Devices	Installed?	Quantity/Comments
<b>HIGHWAY</b>		
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	W-10 (2) Good
'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	Good TO APPROX
Dynamic Envelope Markings (condition?)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Illumination	<input checked="" type="checkbox"/> Yes <input 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	
<b>RAILROAD</b>		
Crossbucks	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Crossbucks – assembly with Stop	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Crossbucks – assembly with Yield	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3 pair
Cantilever Flashing Lights	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Number: 2 Length: 10 APPROX
Side Lights	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
LED or Incandescent Lights? Size?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> NO	8"
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	
<b>OTHER</b>	<input type="checkbox"/> Yes <input 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	2	4-6
<1 per day? Trains per week	-	
Day thru trains	1	4
Night thru trains	1	1
Switching	0	0 2
Total number of tracks	1	2
Number of main tracks	1	
Number of other tracks	0	Connection
Maximum train speed	25	
Typical train speed	5-10	10-25
Amtrak	-	

Are there other track(s) crossing this same roadway within 100ft of this crossing? ☒ Yes ☐ NoIf yes, Crossing DOT# (if different) SAME #If yes, distance 66' (take measurement between track centerlines at closest point along roadway)If multiple tracks, can two trains occupy crossing at the same time? ☒ Yes ☒ No mfCan one train block the motorists' view of another train at the crossing? ☒ Yes (explain below) ☐ NoCan one or more tracks be eliminated through the crossings? ☐ Yes ☒ No

Comments:

Circuitry: ☐ Constant Warning Time ☒ Motion Detection ☐ AFO ☐ PTC ☐ DC ☒ Other \_\_\_\_\_

connection track circuit "Island only"

Roadway Data		
Local Highway Authority: <u>Washington Court House</u>		
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	<u>2253 (2015)</u> ✓	
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>35</u> ft		
Number of Highway Lanes	<u>2</u>	
Urban or Rural	<u>Urban - Minor Arterial</u>	
Vehicle Speed: <u>25</u> ✓ MPH		
School Bus Operation: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No Amount <u>2</u>		
Location of nearby schools: <u>Cherry Hill Elementary</u>		
Hazardous Materials Trucks: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Amount (from FRA) <u>4%</u> LHA verified/changed?		
Shoulders: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Is the Shoulder Surfaced? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, shoulder width: _____ ft.		
Is there existing guardrail along the roadway in crossing vicinity? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Crossing Angle <input type="checkbox"/> 0-29° <input type="checkbox"/> 30-59° <input checked="" type="checkbox"/> 60-90° Measured in _____ Quadrant?		
Quadrant _____ Curb & Gutter:	Quadrant _____ Curb & Gutter:	
<input type="checkbox"/> Functional (Curb height = 4" or more)	<input type="checkbox"/> Functional (Curb height = 4" or more)	
<input checked="" type="checkbox"/> Non-functional (Curb height = less than 4")	<input checked="" type="checkbox"/> Non-functional (Curb height = less than 4")	
<input type="checkbox"/> None	<input type="checkbox"/> None	
Is there a nearby intersection that could cause queuing over the crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, distance _____		
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:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Volumes: <input checked="" type="checkbox"/> Occasional <input type="checkbox"/> <20 <input type="checkbox"/> 20-60 <input type="checkbox"/> >60
Is sidewalk present in the approach?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No    Quadrants: <u>one quadrant SW quad</u>
Does crossing surface accommodate pedestrians?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Both sides of roadway?	<input type="checkbox"/> Yes <input type="checkbox"/> No    If no, which side is paved?
Pedestrian generators in close proximity (e.g. schools, sports/entertainment venues)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Comments:	
Regular bicycle usage: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <u>occasionally</u>	
<input checked="" type="checkbox"/> Roadway <input type="checkbox"/> Dedicated Lane (on street) <input type="checkbox"/> Dedicated Path (off street) <input type="checkbox"/> Shared Use (pedestrian/bicycle) Path <input type="checkbox"/> Bikes must use sidewalk	
Future plans for pedestrian or bicycle routes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Comments:	

Utility Information	
Is commercial power available?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Utility Provider (Company Name)	<u>DPEL</u>
Nearest Available Power Source	<u>at crossing</u>
What other utilities are present?	<input type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Telephone <input checked="" type="checkbox"/> Fiber Optic Cable (add locations to sketch) <input type="checkbox"/> Petroleum <input checked="" type="checkbox"/> Water <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Other
Comments:	

Surface	
Surface review form completed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Sight Preview (REFER TO TABLES)	
If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is stopping sight distance adequate? (See Table 2)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    If no, which quadrant? <u>H'</u>
When considering recommendations for bicycle treatments:	
Bicycle sight distance adequate? <input type="checkbox"/> Yes <input type="checkbox"/> No    If no, which quadrant? _____	
When considering recommendations for pedestrian treatments:	
Pedestrian sight distance adequate? <input type="checkbox"/> Yes <input type="checkbox"/> 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:

Evidence of pumping mud.

Roadway and/or Sidewalks:

NO

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

Bonding track in the surface, could be an issue

Environmental:

NO, NO Debris to fall into creek.

Utilities:

Fiber, water

Other:



## Potential Closure

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

Explain reasons: TOO MANY BUSINESSES / Increased emergency vehicle response

## 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 type="checkbox"/> AFLS / Gates / Cants	
<input checked="" type="checkbox"/> Bells / number	Possible CANT. Up to Designer
<input type="checkbox"/> Upgrade circuitry / type	TWO
<input type="checkbox"/> Sidelights	Motion, connection "Island ONLY"
<input type="checkbox"/> LED Upgrades	
<input checked="" type="checkbox"/> Guardrail Needed	
<input checked="" type="checkbox"/> Install/Replace curb	City OK w/ curb requirement.
<input type="checkbox"/> Bungalow placement & offset from rail & highway	
<input type="checkbox"/> Other (define)	
Comments: City to Refresh pavement markings & stop bars. PUCC to pay for.	
Possible surface if circuitry requires it.	
<input type="checkbox"/> Install/upgrade traffic signal preemption	
Other (define):	

## 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
<input type="checkbox"/> Other	

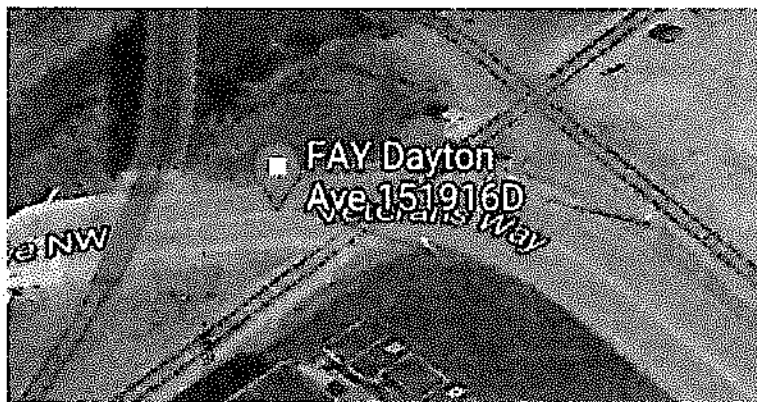
Comments:

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

<u>MCZ</u>	<u>Choh</u>	
<u>[Signature]</u>	<u>TF</u>	
<u>[Signature]</u>	<u>ms</u>	

### 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 <sup>1</sup>	Bicyclist <sup>2</sup>	Pedestrian <sup>1</sup>	Bicyclist <sup>2</sup>	Pedestrian <sup>1</sup>	Bicyclist <sup>2</sup>
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

<sup>1</sup> 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.

<sup>2</sup> 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.

County: FAYRoute: DAYTON AVEDOT#: 151916D

Surface type <input type="checkbox"/> Rubber seal and asphalt <input type="checkbox"/> Timber and asphalt <input type="checkbox"/> Asphalt <input type="checkbox"/> Composite <input type="checkbox"/> Concrete panel <input type="checkbox"/> Full-depth timber <input checked="" type="checkbox"/> Full-depth rubber <input type="checkbox"/> Other _____	Condition <input type="checkbox"/> Good <input type="checkbox"/> Fair <input checked="" type="checkbox"/> Poor Comments: <u>RUBBER SURFACE</u> <u>IS DEGRADED.</u>
Is the surface good and sufficient? Yes / <u>(No)</u>	
Vehicle type <u>(cars)</u> <u>(trucks)</u> , etc.):	
Surface conditions: Can vehicles cross at posted speed? <u>NO</u> Local observations/driver behaviors: <u>DRIVERS SLOW TO A CRAWL TO</u> <u>TRAVEL ACROSS CROSSING.</u> Relevant crash history: <u>1-(2-19) 1 (9-08)</u>	
Do existing surface conditions have negative effects on the current or proposed warning devices? Explain: <u>POSSIBLE NEGATIVE IMPACT. CROSSING SURFACE IS</u> <u>PUMPING &amp; HAS A BONDING JOINT CLOSE TO EDGE OF</u> <u>CROSSING.</u>	
Comments:	

Form completed by: M. LynchDate: 8/5/2020



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Commission of Ohio Docketing Information System on**

**11/8/2022 2:52:36 PM**

**in**

**Case No(s). 22-1047-RR-FED**

Summary: Application In the Matter of a Request for the Installation of Active  
Warning Devices with Surface Reconstruction at the Indiana & Ohio Railroad Grade  
Crossing, DOT# 151-916D at Dayton Avenue in Fayette County, Ohio.  
electronically filed by Mr. Thomas Persinger on behalf of PUCO/Rail Division