

Memo

To: Docketing Division

From: Thomas Persinger, Rail Project Specialist, Rail Division

Cc: PUCO Legal Department

Date: 7-15-2022

Re: PUCO Case No. 22-707-RR-FED In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railway Grade Crossing, DOT# 472-679F at Seasons Road in Portage County, Ohio.

On March 21, 2022, the Ohio Rail Development Commission (ORDC) authorized funding for Wheeling & Lake Erie Railroad (WE) to install lights and gates at Seasons Road (DOT#472-679F) in Portage County, Ohio. The crossing was surveyed, on August 10, 2021, and was found to warrant the upgrade. The electric utility provider for this crossing is First Energy - Ohio Edison.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$285,583.84 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:

Wheeling & Lake Erie Railway Company
Tim Andrews
Signals & Communications Supervisor
100 E. First Street
Brewster, OH 44613

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

City of Streetsboro
Bill Miller
Service Director
9184 State Route 43
Streetsboro, OH 44241

First Energy - Ohio Edison

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

TO: John Williams, Transportation Director, PUCO
FROM: Allen Bell, Manager, Safety Section, ORDC
BY: James Tucker, Project Manager, ORDC J.T.
SUBJECT: Portage County, Seasons Rd. Wheeling & Lake Erie
DOT #472-679F, PID 116027
DATE: July 15, 2022

The Public Utilities Commission of Ohio (PUCO) established a diagnostic survey at the subject location on August 10, 2021. The Ohio Rail Development Commission (ORDC) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and plan and estimate are attached

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

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

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

Thank you for your assistance with these matters.

Attachment: Diagnostic Review
PE Authorization
Plan & Estimate
Letter Agreement

c: Jill Henry, Rail Division Chief, PUCO
Thomas Persinger, Rail Specialist, PUCO
Heather Hamilton, ORDC



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

July 15, 2022

Mr. Tim Andrews
Wheeling & Lake Erie Railway
100 East First Street
Brewster, OH 44613

RE: Grade Crossing Warning Device Improvements
Portage County, Seasons Rd, DOT#472679F, PID#116027.

Dear: Mr. Andrews

The plan dated February 28, 2022, and estimate dated June 9, 2022, for the referenced project has been reviewed and is acceptable. The Wheeling & Lake Erie Railway (WLE) 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 \$285,583.84. 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 but must be confirmed in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon WLE accepting the following instructions:

1. WLE's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to James Tucker, ORDC, email james.tucker@dot.ohio.gov, and to the Public Utilities Commission of Ohio, email thomas.persinger@puco.ohio.gov. WLE'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. WLE 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 WLE. **If it is known that there are utilities that need to be relocated the WLE needs to start that coordination work as soon as possible in order to avoid project delays.**
3. WLE's project foremen will notify James Tucker at 614-398-6897 (telephone) or james.tucker@dot.ohio.gov (email) of any changes in the scope of work, cost overruns, material

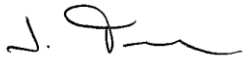


changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.

4. Open cut of roadways is *not permitted* except in unusual circumstances and must be coordinated with the local highway authority and preapproved by ORDC.
5. WLE shall send copies of each partial bill to ORDC.Invoice@dot.ohio.gov. Please find the enclosed Purchase Order to reference when billing.
6. WLE will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

Thank you for your assistance with these matters.

Sincerely,



James Tucker
Project Manager

Attachment: ODOT P.O.

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

CONSTRUCTION NOTES

- 1.) INSTALL NEW 6' X 6' BUNGALOW IN SOUTHWEST QUADRANT.
- 2.) INSTALL (2) NEW FLASHING LIGHTS WITH GATES.
- 3.) INSTALL ONE WAY FLASHER'S ON EXTRA TALL MASTS IN THE NW & SE QUADRANTS.
- 4.) INCLUDE EXTRA FILL FOR PARKING AREA IN NW QUADRANT.
- 5.) CITY TO TRIM TREES IN THE SE QUADRANT.
- 6.) APPROACH OVERLAPS SHUNT FOR RAVENNA RD.
- 7.) METER POLE LOCATION SHOWN ON THE PLAN IS SUBJECT TO CHANGE WITHIN RAILROAD RIGHT-OF-WAY IF UNDERGROUND OBSTRUCTIONS PREVENT THE INSTALLATION OF THE POLE IN THE LOCATION SHOWN.
- 8.) BUNGALOW AND SIGNAL LOCATIONS SHOWN ON THE PLAN ARE SUBJECT TO CHANGE WITHIN RAILROAD RIGHT-OF-WAY IF UNDERGROUND OBSTRUCTIONS PREVENT THE INSTALLATION OF THE BUNGALOW/SIGNALS IN THE LOCATION SHOWN.

FOR REVIEW

REVISION
BLOCK



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TECHNOLOGY

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FORT WORTH, TX 76116
(817) 886-8210
WWW.RIOTECHNOLOGY.COM

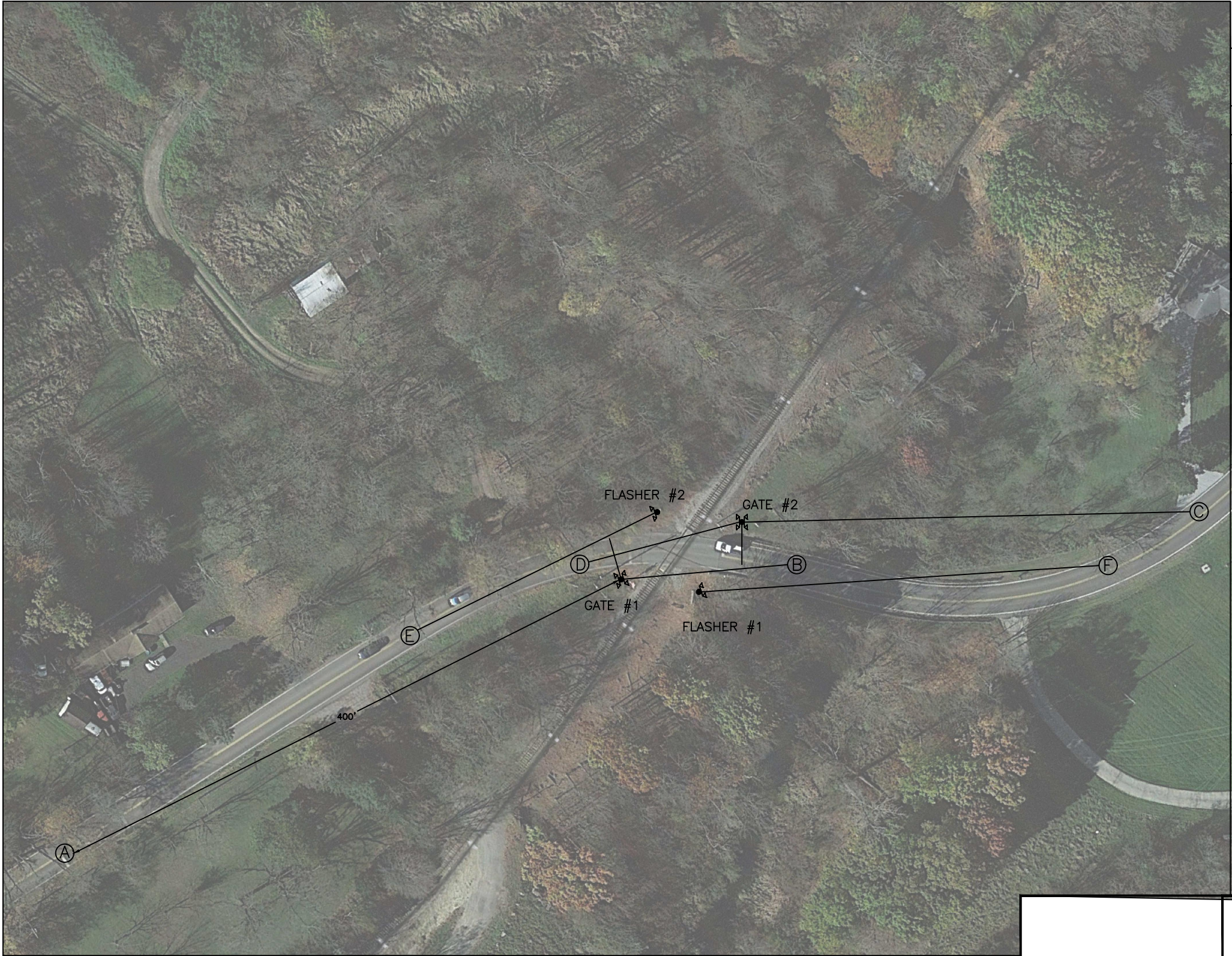
**Wheeling & Lake Erie
Railway**

LOCATION

SEASONS ROAD
in STREETSBORO, OH

41.2155720,-81.3734799

ORIGINAL DATE	02/28/2022	TITLE	CONSTRUCTION NOTES	
DESIGNER	RGPT	SUB	CLEVELAND	RGPT NO. OP21453
DRAFTSMAN	RGPT	RRMP	Q - 027.73	SCALE N.T.S.
CHECKER	RGPT	DOT NO.	472 679F	SHEET 01A of 24



CROSSING SIGNAL ALIGNMENT

LEGEND	
Ⓐ	GATE #1 FRONT MAST LIGHTS
Ⓑ	GATE #1 BACK MAST LIGHTS
Ⓒ	GATE #2 FRONT MAST LIGHTS
Ⓓ	GATE #2 BACK MAST LIGHTS
Ⓔ	FLASHER #2 FRONT MAST LIGHTS
Ⓕ	FLASHER #1 FRONT MAST LIGHTS

ALIGNMENT

FRONT LIGHTS
ADJUST LIGHT UNIT VERTICALLY TO ALIGN AXIS OF BEAM 5FT. 6IN. ABOVE PAVEMENT AT SELECTED ALIGNMENT DISTANCE. BOTH LAMPS SHOULD BE ALIGNED TO SAME POINT.

ADJUST LIGHT UNIT HORIZONTALLY TO ALIGN AXIS OF BEAM TO CENTER OF APPROACH LANE IN APPROACH TO SIGNAL AT SELECTED ALIGNMENT DISTANCE, MAINTAINING VERTICAL ALIGNMENT. BOTH LAMPS SHOULD BE ALIGNED TO SAME POINT.

BACK LIGHTS
ADJUST LIGHT UNIT VERTICALLY TO ALIGN AXIS OF BEAM 5 FT. 6 IN. ABOVE PAVEMENT AT A POINT 50 FT. IN APPROACH TO THE SIGNAL ON OPPOSITE SIDE OF TRACK.

ADJUST LIGHT UNIT HORIZONTALLY TO ALIGN AXIS OF BEAM TO A POINT 50 FT. IN APPROACH TO THE SIGNAL ON OPPOSITE SIDE OF TRACK AND IN CENTER OF APPROACH TRAVEL WAY.



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Railway

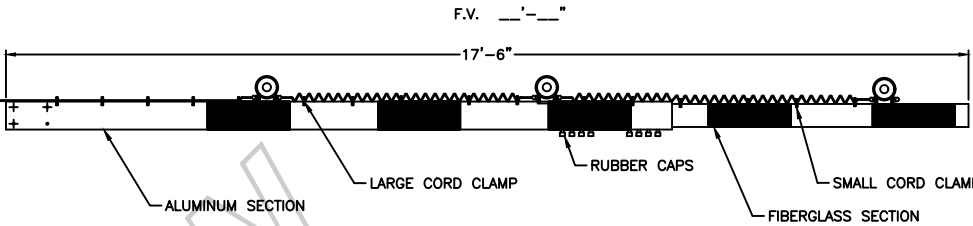
LOCATION		
SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799		
ORIGINAL DATE	02/28/2022	TITLE CROSSING SIGNAL ALIGNMENT
DESIGNER	RGPT	SUB CLEVELAND RGPT NO. OP21453
DRAFTSMAN	RGPT	RRMP Q - 027.73 SCALE N.T.S.
CHECKER	RGPT	DOT NO. 472 679F SHEET 02 of 24

REVISION
BLOCK

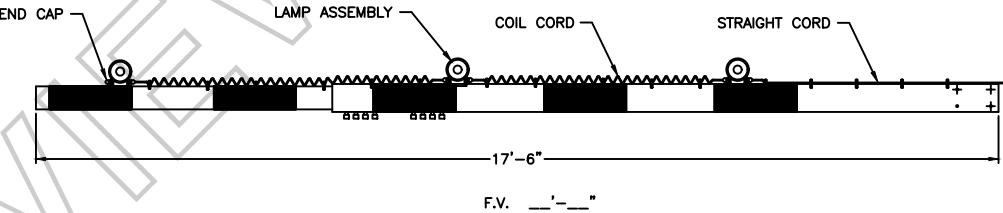
SITE LAYOUT NOTES

1.) CROSSING IS LOCATED: LATITUDE 41.2155720
LONGITUDE -81.3734799

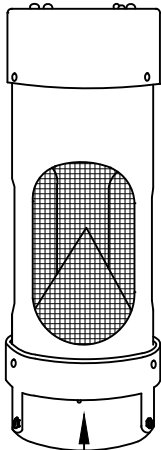
GATE #1



GATE #2



ELECTRONIC CROSSING BELL
GSI MODEL EB-3-360-5



THIS SIDE FACING
ROADWAY

FOR REVIEW

CHANGE FROM TYPICAL: N

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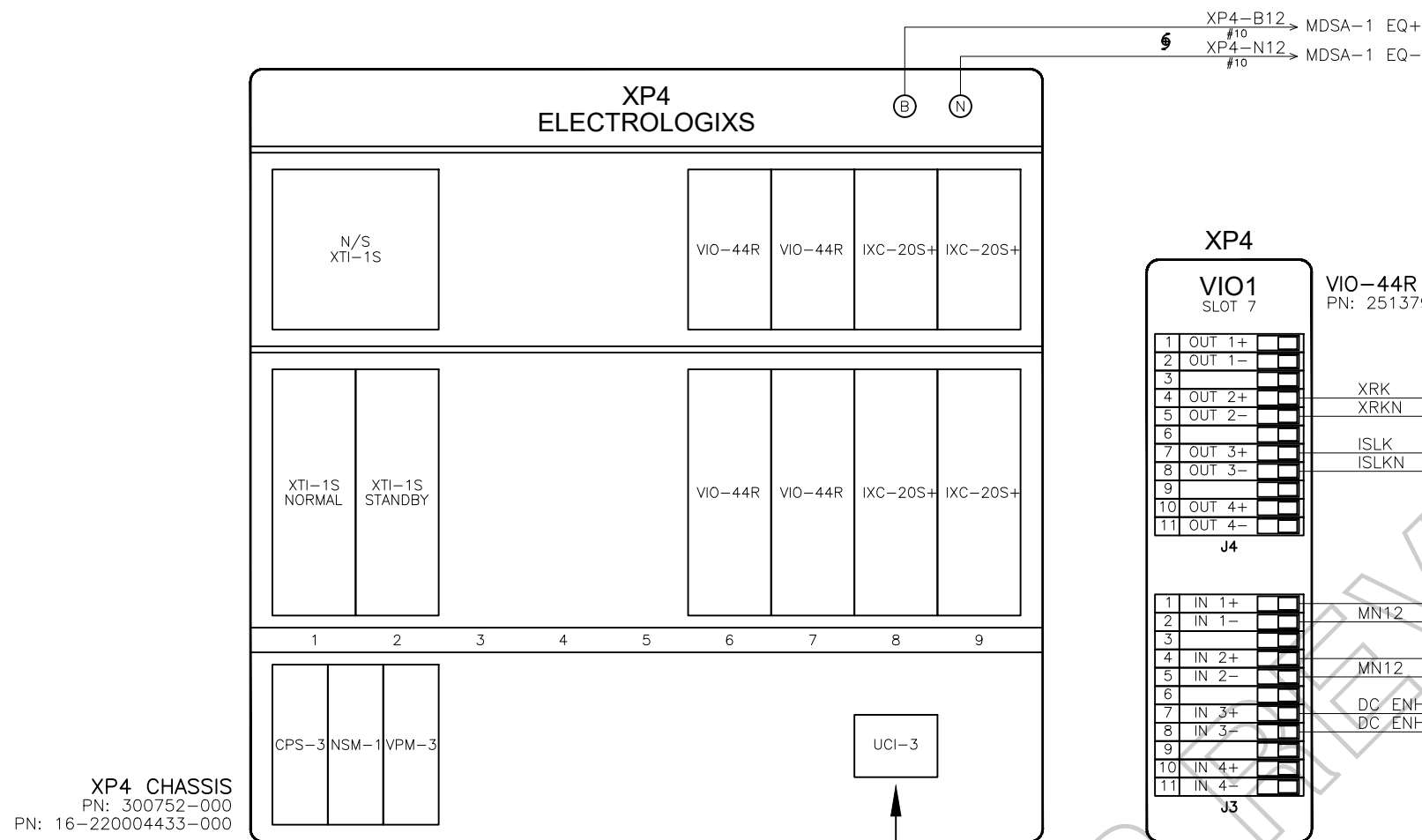


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**Whoollng & Lake Erie
Railway**

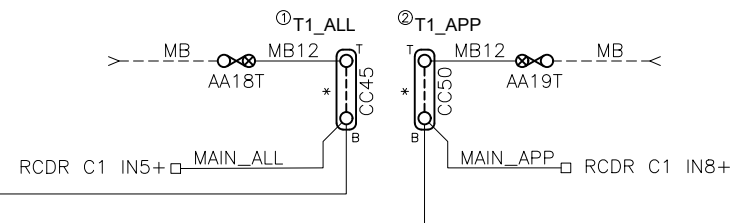
LOCATION			SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799		
ORIGINAL DATE	02/28/2022	TITLE	SITE LAYOUT NOTES		
DESIGNER	RGPT	SUB	CLEVELAND	RGPT NO.	OP21453
DRAFTSMAN	RGPT	RRMP	Q - 027.73	SCALE	N.T.S.
CHECKER	RGPT	DOT NO.	472 679F	SHEET	03 of 24



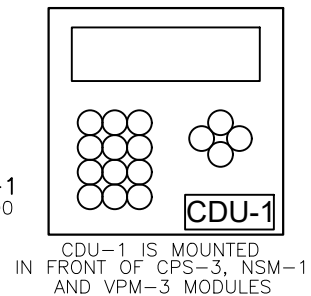
* PLACE JUMPER TO TAKE DESIGNATED FUNCTION OUT OF SERVICE

① "ALL" = HIGHWAY GRADE CROSSING WARNING SYSTEM REMOVED FROM SERVICE & NON-FUNCTIONAL.

② "APP" = ISLAND FUNCTION ONLY. HIGHWAY GRADE CROSSING WARNING SYSTEM APPROACHES REMOVED FROM SERVICE & NON-FUNCTIONAL.



CDU-1
PN: 251124-000



CHASSIS ID IS LOCATED BEHIND UCI-3

NOTE: ALL WIRING THIS SHEET #16 AWG UNLESS NOTED OTHERWISE.

CHANGE FROM TYPICAL: N

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Whooling & Lake Erie
Railway

LOCATION		
SEASONS ROAD in STREETSBORO, OH		
41.2155720,-81.3734799		
ORIGINAL DATE	02/28/2022	TITLE
XP4/VIO CIRCUITS		
DESIGNER	RGPT	SUB
CLEVELAND		RGPT NO.
OP21453		
DRAFTSMAN	RGPT	RRMP
Q - 027.73		SCALE
N.T.S.		
CHECKER	RGPT	DOT NO.
472 679F		SHEET
04		of 24

ADJUSTMENT NAME		MDR1				MDR2			
NAME		HIGHWAY CROSSING				HIGHWAY CROSSING			
WARNING TIME		26 SEC				25 SEC			
CW/MD		MD				CW			
AP TIME		00 SEC				00 SEC			
CWE-WT		00 SEC				00 SEC			
AUX RECOVERY DELAY		05 SEC				05 SEC			
		TK1	TK2	TK3	TK4	TK1	TK2	TK3	TK4
TRACK ASSIGNED		ASSIGN				ASSIGN			
OFFSET DISTANCE		0 FT				0 FT			
MD RESTART		*				*			
SUDDEN SHUNT ZONE		*				*			
POSITIVE START	PSEN	DISABLE				DISABLE			
	PSRX	NA				NA			
	PST	NA				NA			
POST JOINT DETECT	PJEN	DISABLE				DISABLE			
	PJRX	NA				NA			
	PJDT	NA				NA			

BASIC TRACK SETUP				
	TK1	TK2	TK3	TK4
FREQUENCY	753 HZ			
MASTER/SLAVE	MASTER			
RX ADJUST	100			
TCA	*			
DIRECTION MODE	BI			
LIA	*			
ADVANCED APR. CAL	INACTIVE			
NBS COMP RX	*			
TRK ISLAND ASSIGN	ISL1			
APPROACH LENGTH	2000 FT			
AUTO RX	ENABLE			

IXC SETUP				
CROSSING TEST MODE		OFF		
FLASH RATE		55FPM		
	IXC-1	IXC-2	IXC-3	IXC-4
VOLTAGE REGULATION	ON	ON		
L1 VOLTAGE	* 10.0	* 10.0		
L2 VOLTAGE	* 10.0	* 10.0		
GATE 1 DELAY	3 SEC	3 SEC		
GATE 2 DELAY	3 SEC	3 SEC		

ADVANCED TRACK SETUP				
	TK1	TK2	TK3	TK4
MOTION DET TIMER	MDEN	DISABLE		
	MDTT	10 MIN		
FALSE SHUNT	FSEN	DISABLE		
	FSRX	NA		
	FST	NA		
APPROACH RELEASE	AREN	DISABLE		
	ARRX	NA		
	ART	NA		
LOS TIME		16 SEC		
IJ-LOS TIME		5 SEC		
NRML_SHHTR_VRSHRT		NRML *		

ISLAND SETUP				
	TK1	TK2	TK3	TK4
ENABLE/DISABLE	ENABLE			
FREQUENCY	4.0 KHZ			
LOSS OF SHUNT	4 SEC			
FAULT DELAY	1			

APPROACH 1 (EAST)		NO SHUNT		100% SHUNT		50% SHUNT		LIA ADDED
		RX	PHASE	RX	PHASE	RX	PHASE	± 1 to ±9
Track 1	Normal							
	Standby							
Track 2	Normal							
	Standby							
APPROACH 2 (WEST)								
Track 1	Normal							
	Standby							
Track 2	Normal							
	Standby							

INITIAL VALUES WHEN PLACED IN SERVICE

APPLICATION SOFTWARE INFORMATION	
NAME	*
REV.	1
CHECKSUM	*
CRC	*
CHASSIS ID	*
LOCATED BEHIND UCI-3	CHASSIS ID
	1 2 3 4 5 6 7 8 ⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪ ⓪ □ □ □ □ □ □ □ □

- ⓪ = TAB INTACT
● = TAB PUNCHED OUT

EXECUTIVE INFORMATION		
VPM-3	VERSION	PART NUMBER
CROSSING SOFTWARE	*	083024-726

NOTES:
* = FIELD ADJUSTMENT
NA = NOT APPLICABLE

CHANGE FROM TYPICAL: Y

REVISION
BLOCK

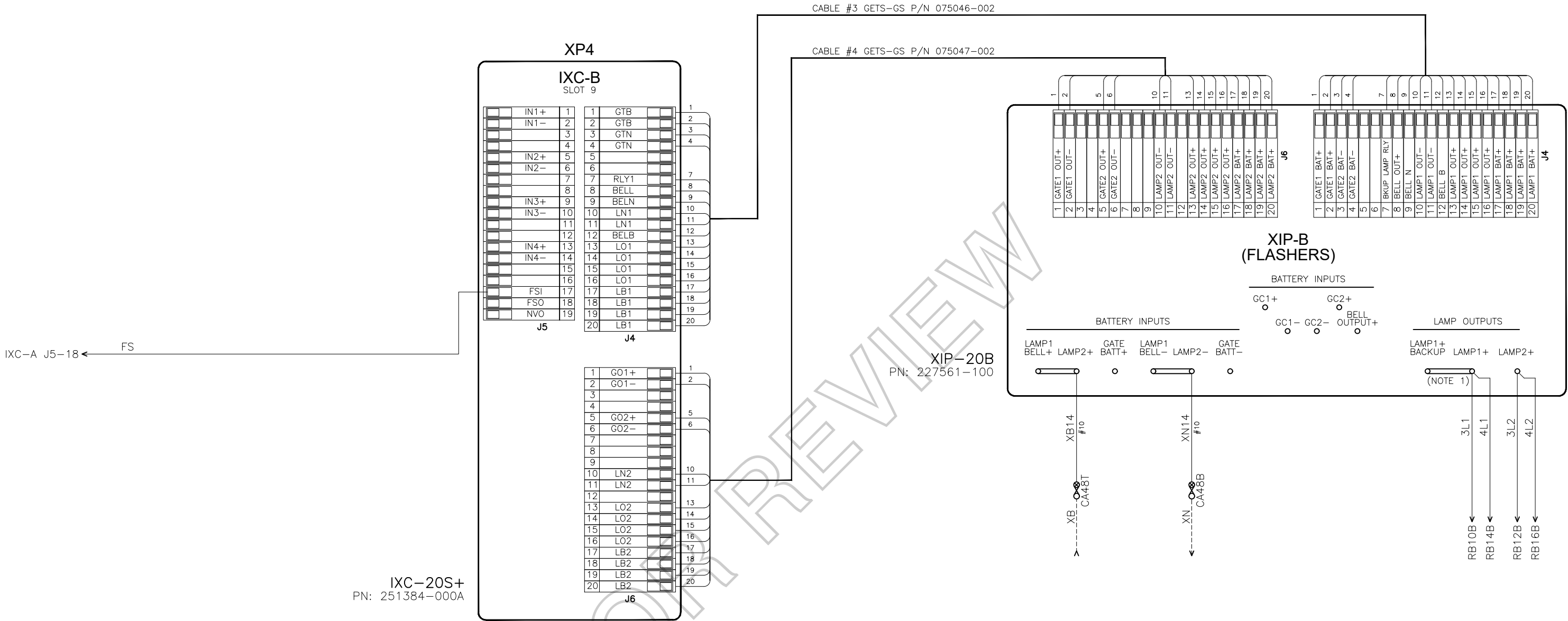


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**Whooling & Lake Erie
Railway**

LOCATION		
SEASONS ROAD in STREETSBORO, OH		
41.2155720,-81.3734799		
ORIGINAL DATE	02/28/2022	TITLE
		XP4 SETUP SHEET
DESIGNER	RGPT	SUB
		CLEVELAND
DRAFTSMAN	RGPT	RGPT NO.
		OP21453
CHECKER	RGPT	RRMP
		Q - 027.73
		SCALE
		N.T.S.
		SHEET
		05 of 24



NOTES:

1. DURING A LAMP 1 AND LAMP 2 CIRCUIT FAILURE, THE LAMP 1 BACKUP TERMINAL OUTPUT VOLTAGE IS SLIGHTLY LESS THAN THE LAMP BATTERY BUSS VOLTAGE. IF INTERNAL IXC-20S VOLTAGE REGULATION IS ENABLED UNDER NORMAL CIRCUMSTANCES AND WITH NO EXTERNAL RESISTANCE APPLIED, THE USER MAY DESIRE TO REMOVE THIS JUMPER AND ADD RESISTANCE BETWEEN THE LAMP 1 BACKUP TERMINAL AND THE LAMP 1 NEAR SIGNAL LOAD(S) TO PROVIDE RESISTIVE BALANCE BETWEEN THE NEAR AND FAR SIGNALS.

NOTES: ALL WIRING THIS SHEET #16 AWG
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CHANGE FROM TYPICAL: N



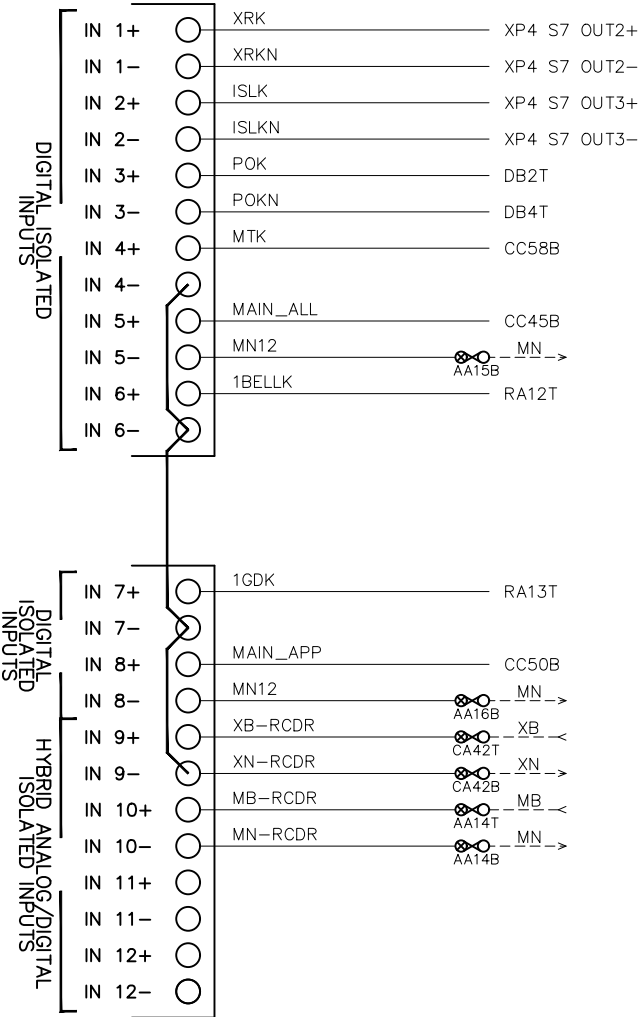
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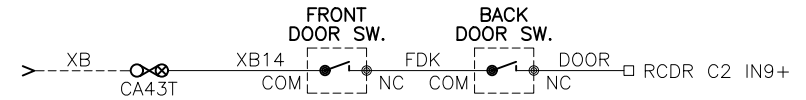
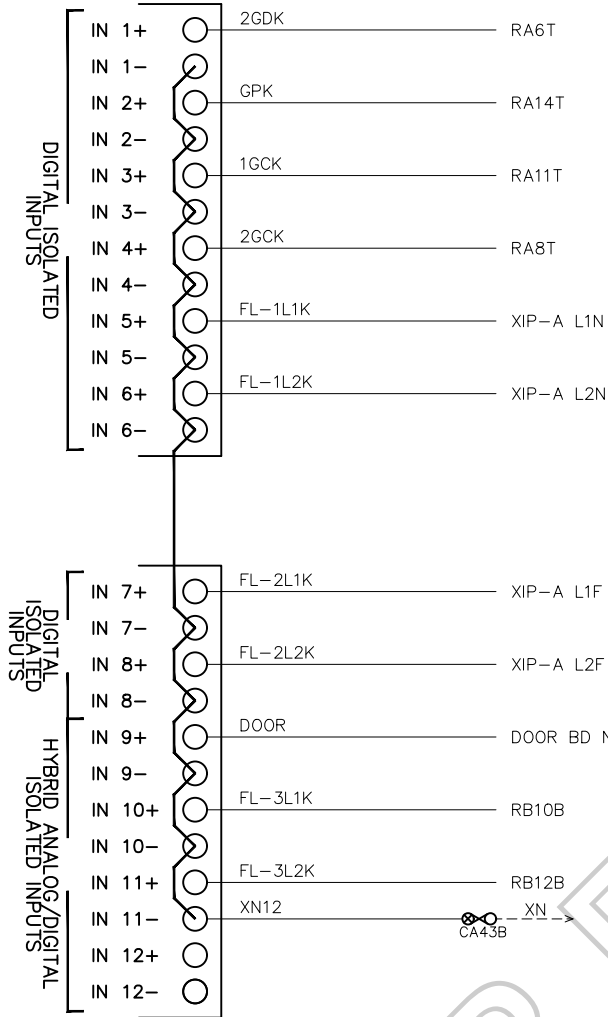
Whooling & Lake Erie
Railway

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	FLASHER CONTROL CIRCUIT
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	N.T.S.
		SHEET	08 of 24

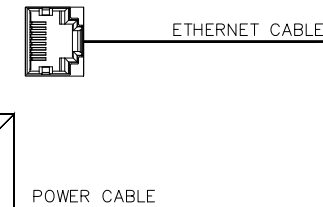
C1



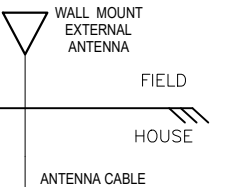
C2



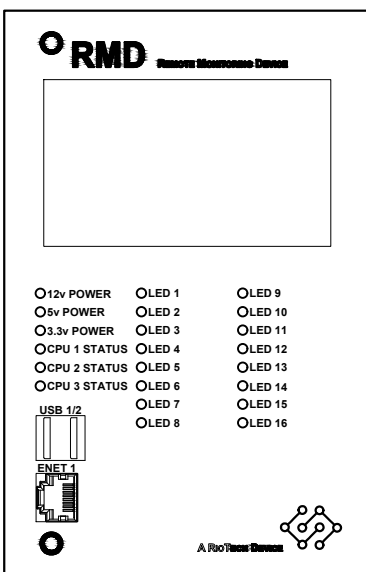
RMD ENET 2



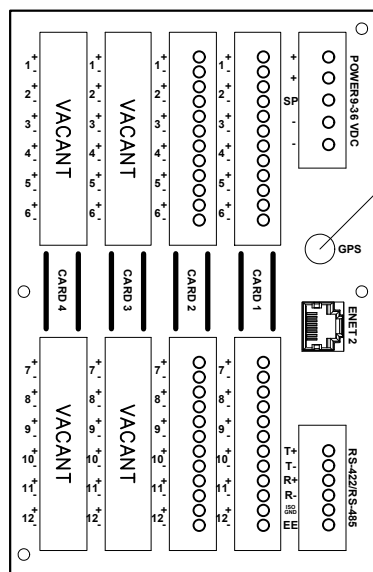
Wilson Electronics
4G Omni Plus Antenna
PN: 304422-5810



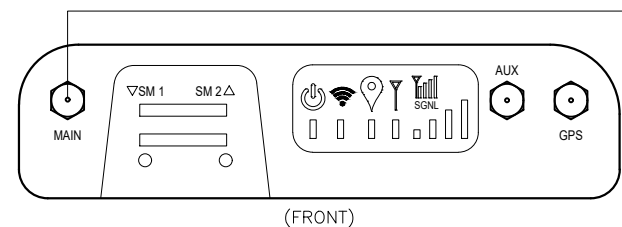
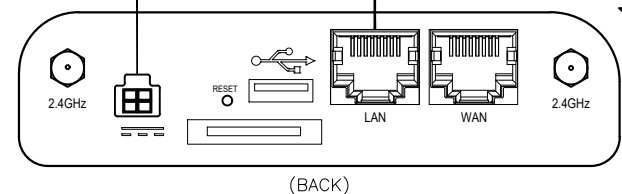
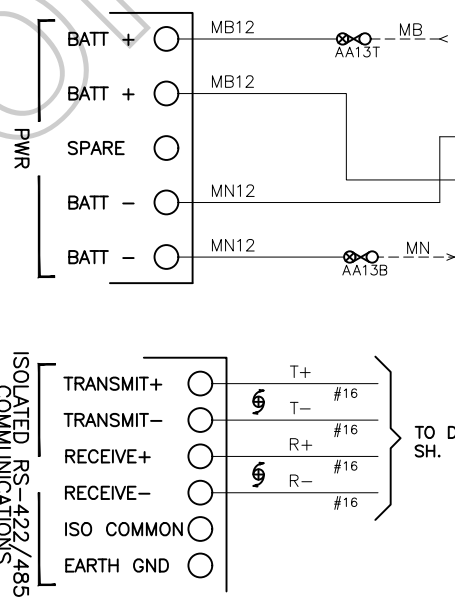
FRONT PANEL



BACK PANEL



CPU



cradlepoint (IoT)
Router no WiFi
PN: TB3-650C150M-NON

REVISION
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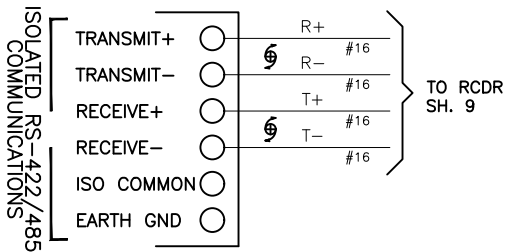
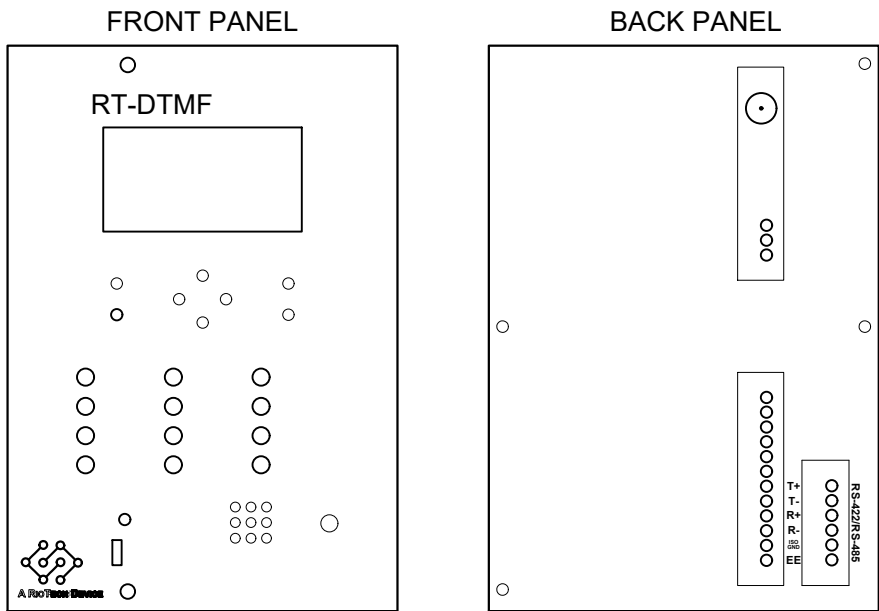
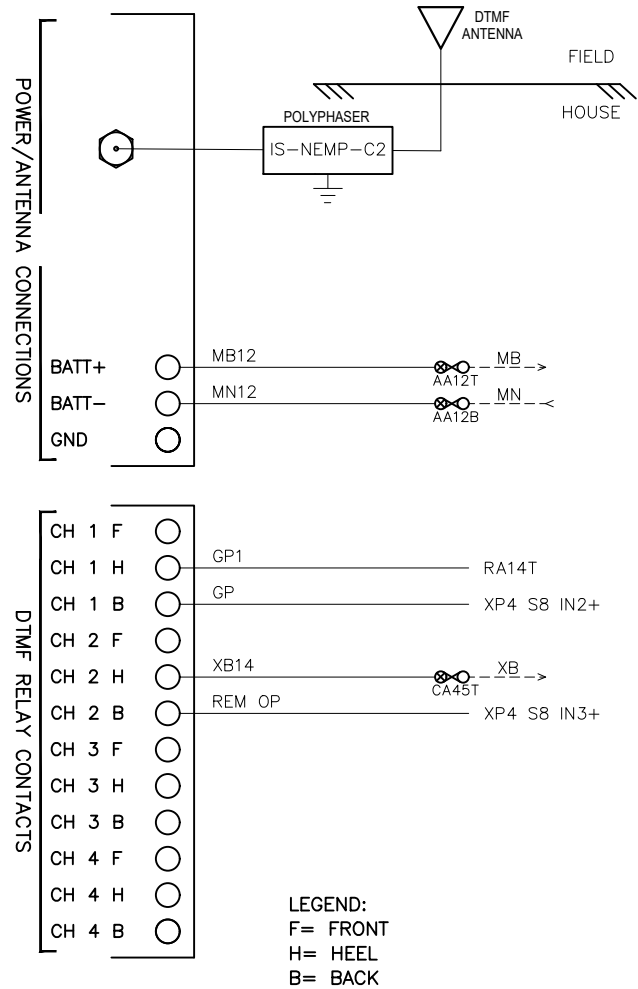
CHANGE FROM TYPICAL: N

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Whooling & Lake Erie
Railway

LOCATION			
SEASONS ROAD in STREETSBORO, OH			
41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	RECORDER
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	N.T.S.
		SHEET	09 of 24



DTMF CONTROLS				
	CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
ACTIVATION CODE	5781#	578#		
DEACTIVATION CODE	5781*	578*		
DTMF RECEIVE DEBOUNCE TIME	25 MS			
RECIEVE TIMEOUT	5000 MS			

CHANNEL SETTINGS				
	CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
CHANNEL TIMEOUT	2 min	2 min		
CHANNEL INVERT	NO	NO	NO	NO

PLAYBACK SETTINGS				
	CHANNEL 1	CHANNEL 2	CHANNEL 3	CHANNEL 4
ACTIVATION RESPONSE	CHANNEL 1 ACTIVE	CHANNEL 2 ACTIVE	CHANNEL 3 ACTIVE	CHANNEL 4 ACTIVE
DEACTIVATION RESPONSE	CHANNEL 1 INACTIVE	CHANNEL 2 INACTIVE	CHANNEL 3 INACTIVE	CHANNEL 4 INACTIVE
TIMEOUT RESPONSE	CHANNEL 1 TIMEOUT	CHANNEL 2 TIMEOUT	CHANNEL 3 TIMEOUT	CHANNEL 4 TIMEOUT
AUDIO RESPONSE TIME	500 MS			
FORCE AUDIO RESPONSE TIME	1000 MS			

RADIO SETTINGS	
FREQUENCY	161.250 MHz
TX POWER	6
SQUELCH ON	-74.3
SQUELCH OFF	-74.3
AAR CHANNEL	76

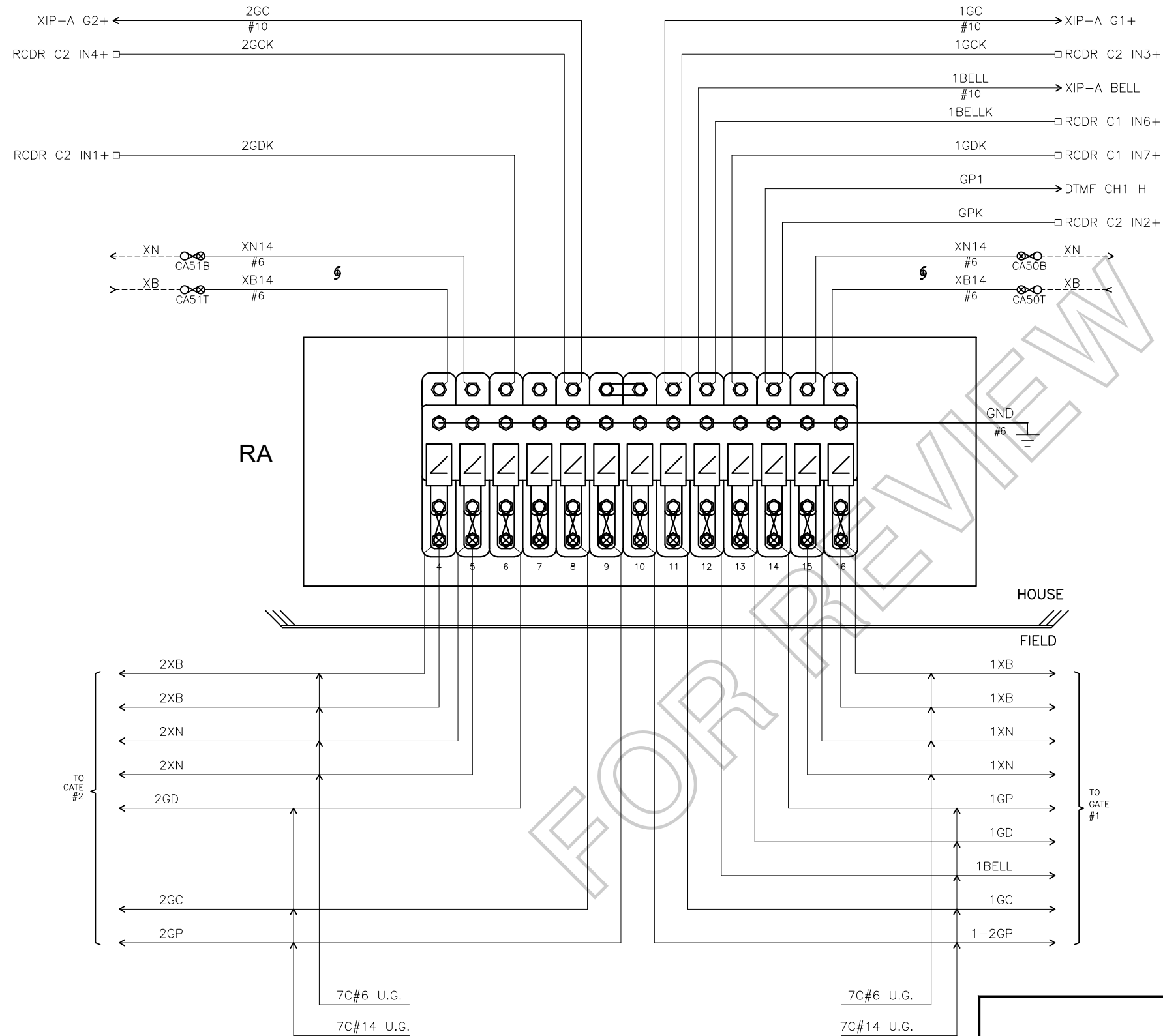
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Whoollng & Lake Erie
Railway

LOCATION			
SEASONS ROAD in STREETSBORO, OH			
41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	DTMF UNIT
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	N.T.S.
		SHEET	10 of 24



NOTES: ALL WIRING THIS SHEET #16 AWG
UNLESS NOTED OTHERWISE.

CHANGE FROM TYPICAL: N

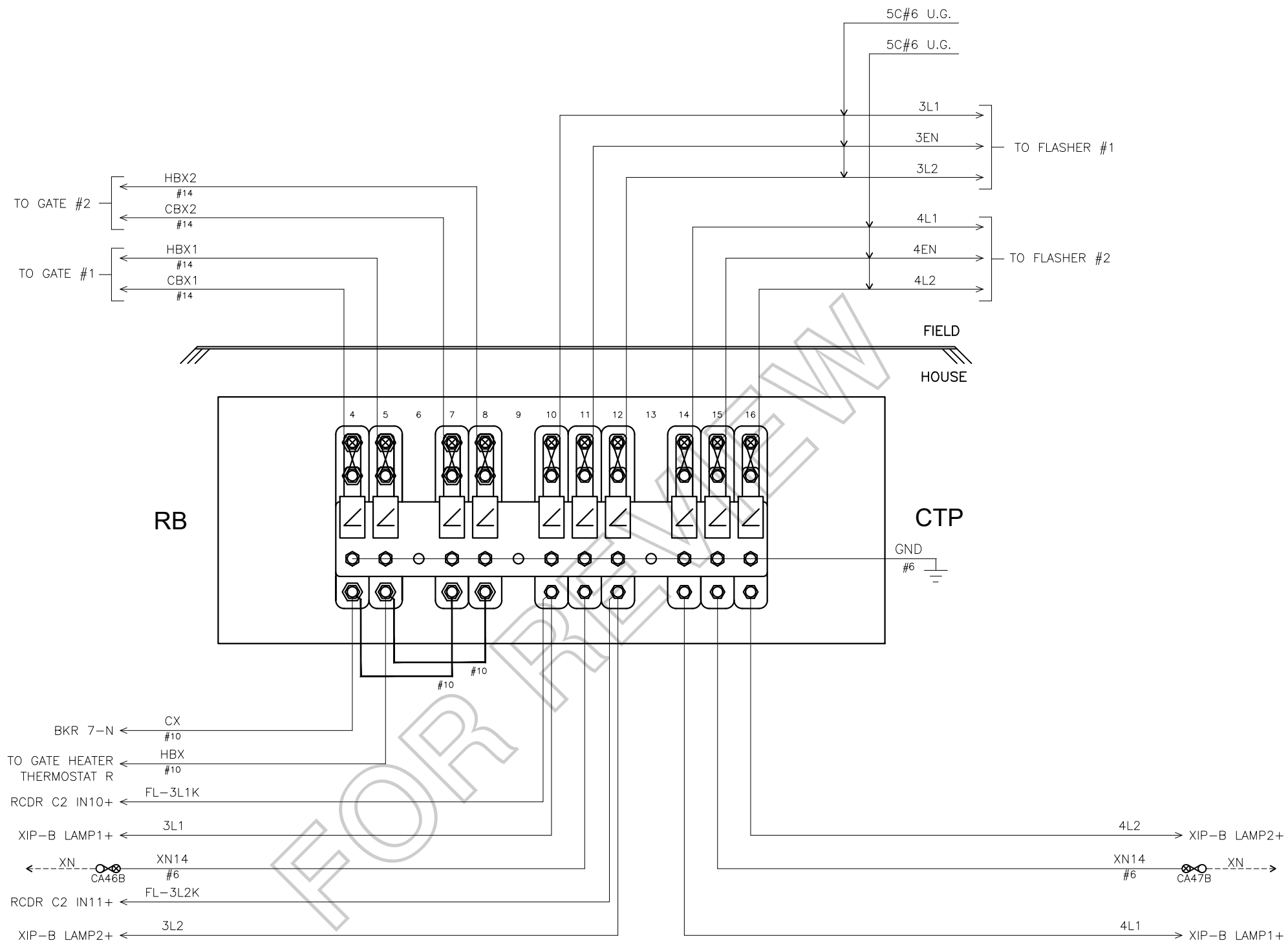
REVISION
BLOCK



RIO GRANDE PACIFIC
TECHNOLOGY
9601 CAMP BOWIE W BLVD
FORT WORTH, TX 76116
(817) 886-8210
WWW.RIO TECHNOLOGY.COM

**Whoollng & Lake Erie
Railway**

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799		
ORIGINAL DATE 02/28/2022	TITLE ARRESTOR PANEL	
DESIGNER RGPT	SUB CLEVELAND	RGPT NO. OP21453
DRAFTSMAN RGPT	RRMP Q - 027.73	SCALE N.T.S.
CHECKER RGPT	DOT NO. 472 679F	SHEET 11 of 24



LEGEND:
 = INSULATED NUT

NOTES: ALL WIRING THIS SHEET #16 AWG
UNLESS NOTED OTHERWISE.

REVISION
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CHANGE FROM TYPICAL: Y


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Wheeling & Lake Erie
Railway

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799		
ORIGINAL DATE 02/28/2022	TITLE CABLE TERMINATION PANEL	
DESIGNER RGPT	SUB CLEVELAND	RGPT NO. OP21453
DRAFTSMAN RGPT	RRMP Q - 027.73	SCALE N.T.S.
CHECKER RGPT	DOT NO. 472 679F	SHEET 12 of 24

CONTACT	CLOSED	FUNCTION	TENSION
1B	75-90 DEG.	POWER DOWN	18-28 OZ.
1F	0-70 DEG.	SNUB DOWN	18-28 OZ.
2	0-86 DEG.	POWER UP	18-28 OZ.
3	0-10 DEG.	GATE DOWN	16-24 OZ.
4	82-90 DEG.	GATE CLEAR	16-24 OZ.
5	10-90 DEG.	BELL	16-24 OZ.
6	SPARE	SPARE	16-24 OZ.
7	0-2 DEG.	SNUB	16-24 OZ.

LEGEND:

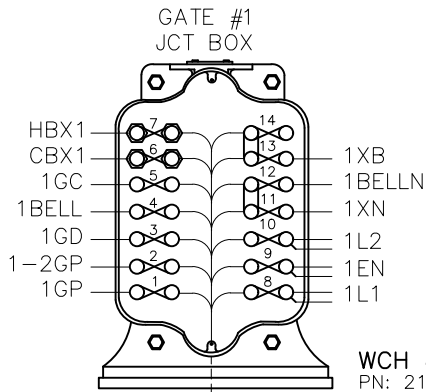
 = INSULATED NUT

NOTES:

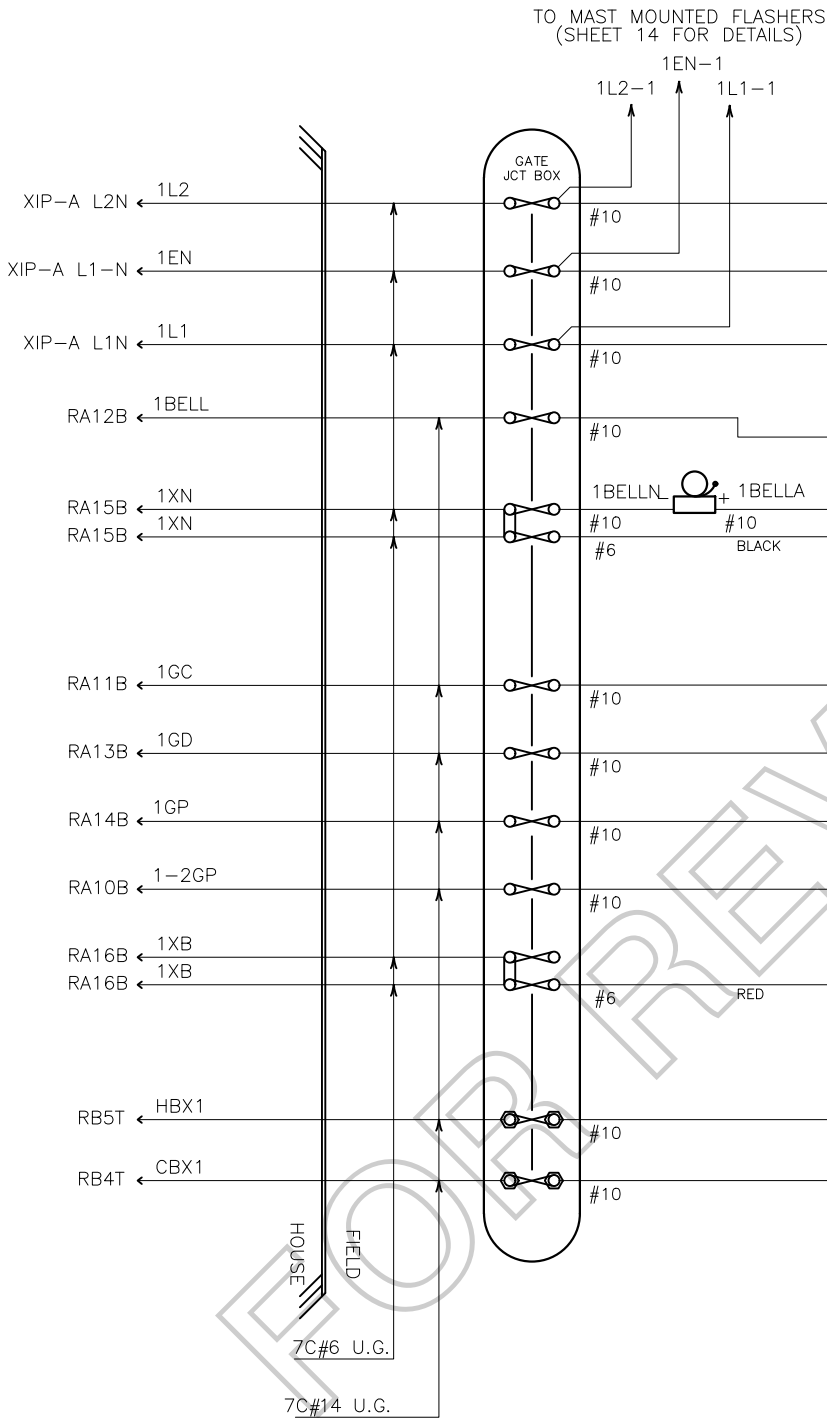
* BELL TO BE ELECTRONIC.
 = INTERNAL GATE WIRES THAT SHARE ELECTRICAL CONNECTIONS WITH OTHER WIRES THAT ARE ASSIGNED THE SAME NUMBER.

REFER TO SHEET 14 FOR GATE ARM LIGHT WIRING

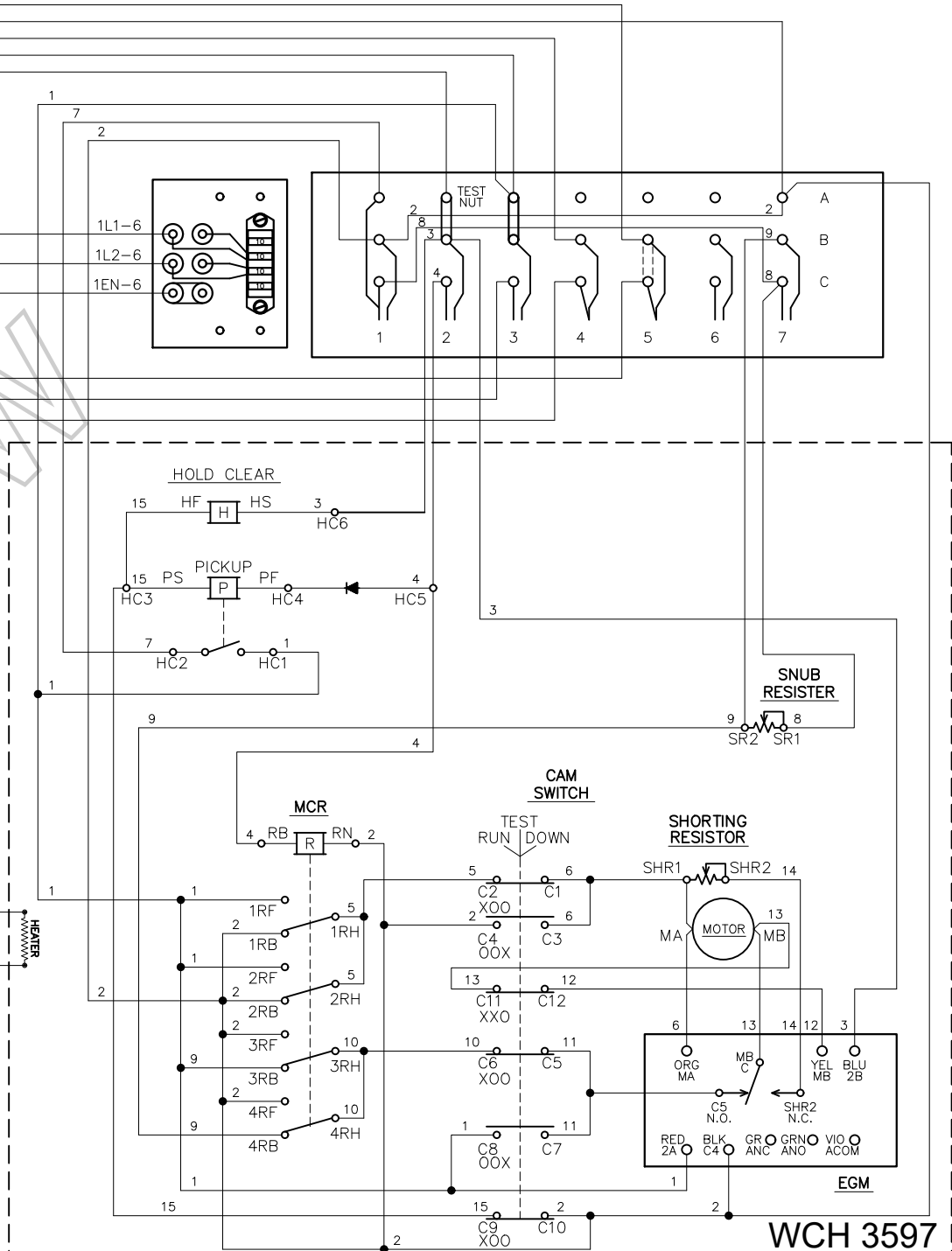
ADD BOLD STRAPS AND JUMPERS AS SHOWN.



-----> CABLES TO HOUSE



GATE #1



PN: 3597-131-P-H-MI

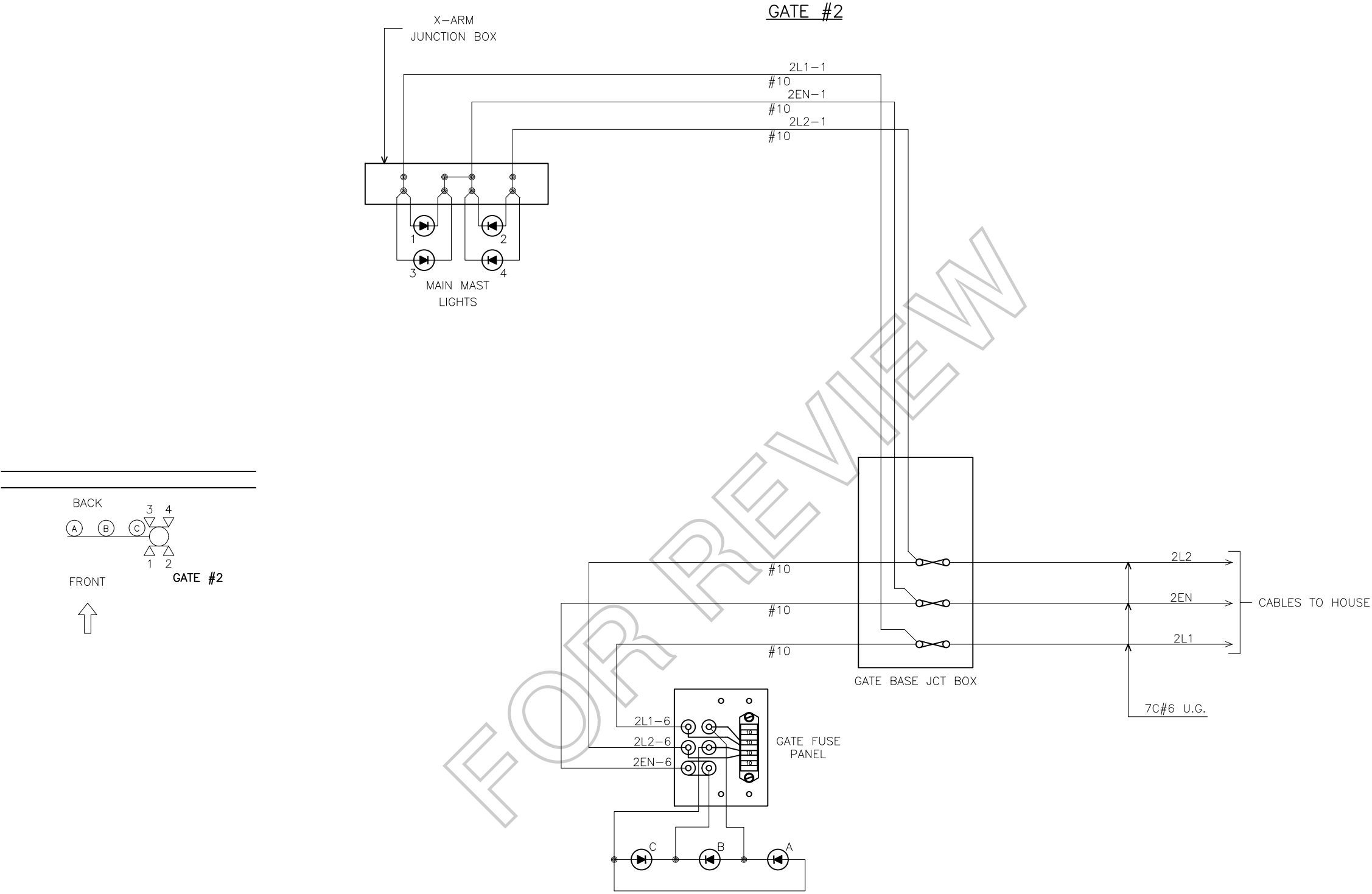
REVISION
BLOCK

CHANGE FROM TYPICAL: N


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LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799		
ORIGINAL DATE 02/28/2022	TITLE GATE #1 MECHANISM (NEAR SIDE)	
DESIGNER RGPT	SUB CLEVELAND	RGPT NO. OP21453
DRAFTSMAN RGPT	RRMP Q - 027.73	SCALE N.T.S.
CHECKER RGPT	DOT NO. 472 679F	SHEET 13 of 24



NOTE:
* USE ATC 10 AMP FUSES ONLY

IS LED SYMBOL ONLY. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

REVISION
BLOCK

CHANGE FROM TYPICAL: Y

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Whoollng & Lako Erlo Railway		
LOCATION		
SEASONS ROAD in STREETSBORO, OH		
41.2155720,-81.3734799		
ORIGINAL DATE	02/28/2022	TITLE
		GATE #2 LIGHTS (FAR SIDE)
DESIGNER	RGPT	SUB
		CLEVELAND
DRAFTSMAN	RGPT	RGPT NO.
		OP21453
CHECKER	RGPT	RRMP
		Q - 027.73
		SCALE
		N.T.S.
		SHEET
		16 of 24

FLASHER #1



FLASHER #1

FRONT

FLASHER #1
JCT BOX



WCH Junction box base
PN: 2147-A-11

 IS LED SYMBOL ONLY. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

CHANGE FROM TYPICAL: Y



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Wheeling & Lake Erie Railway

LOCATION

SEASONS ROAD
in STREETSBORO, OH

41.2155720,-81.3734799

ORIGINAL DATE 02/28/2022

2	TITLE	FLASHER #1 LIGHTS
---	-------	-------------------

RGPT NO. 0P21453

	RGPT
DRAFTSMAN	RCPT

	CLEVELAND
RRMP	Q - 027.73

	UP 21433
SCALE	N.T.S.

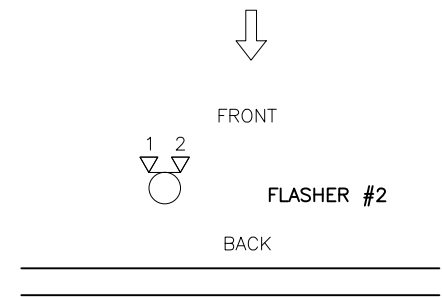
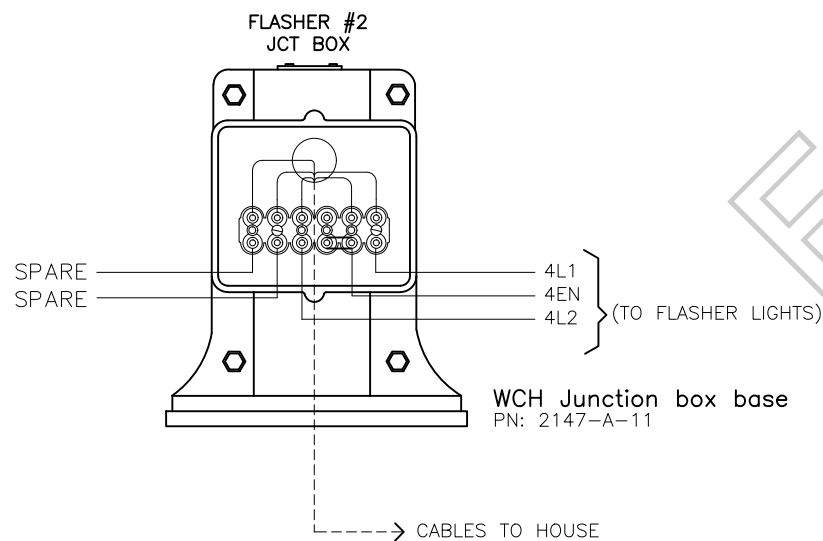
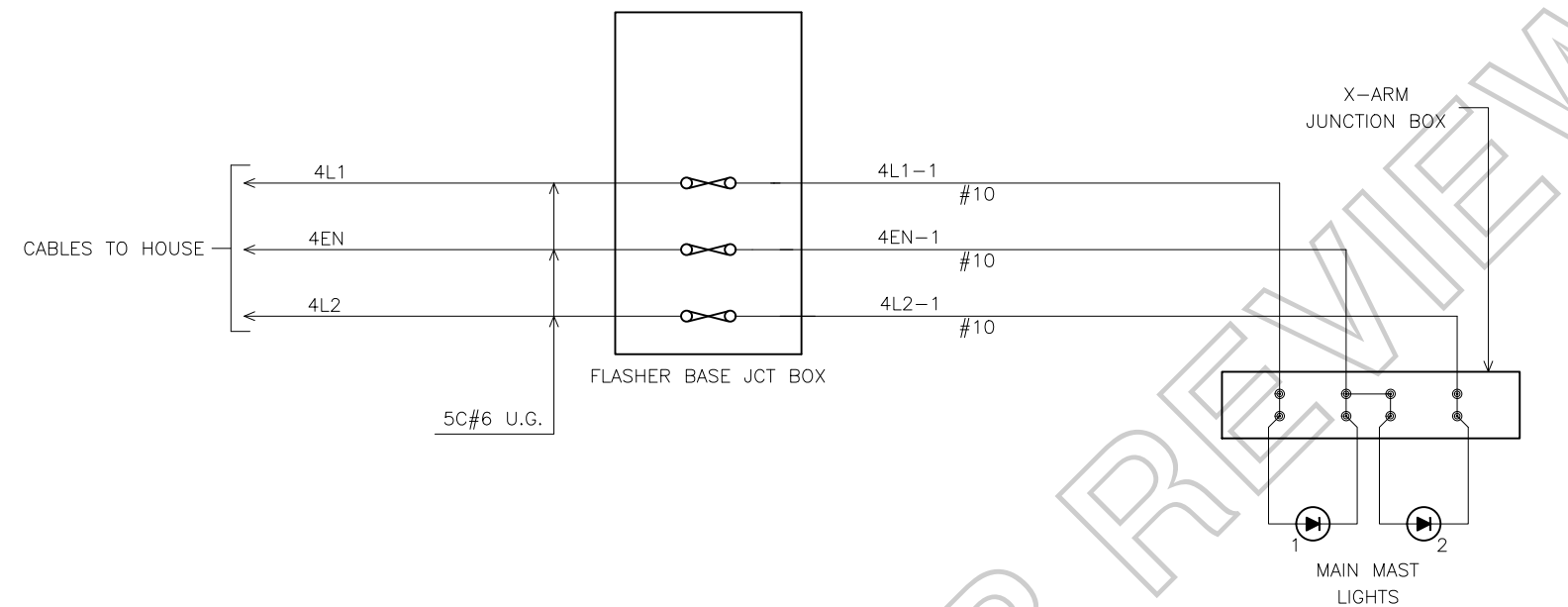
CHECKER	RGPT
---------	------

DOT NO. 472 679F

SHEET 17 OF 24

REVISION
BLOCK

FLASHER #2



IS LED SYMBOL ONLY. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

REVISION
BLOCK

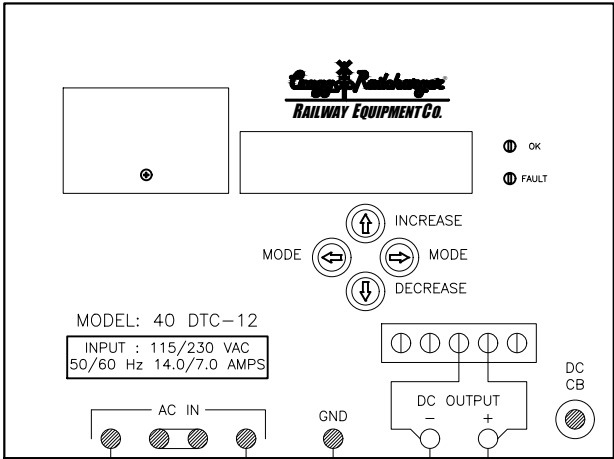
CHANGE FROM TYPICAL: Y

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Whooling & Lake Erie
Railway

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	FLASHER #2 LIGHTS
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	N.T.S.
		SHEET	18 of 24

MB-CHARGER
(SIDE "A" WALL)

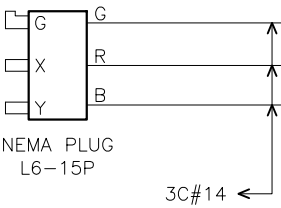


BASIC SETUP			
NO.	ABBREVIATION	DEFAULT SETTING	DESIRED SETTING
1	PASSWORD	5	5
2	USER LEVEL	BASIC	BASIC
3	BATTERY TYPE	LEAD ACID OR NI-CAD	NI-CAD
4	NUMBER OF CELLS	-	9
5	VOLTS PER CELL	-	1.42

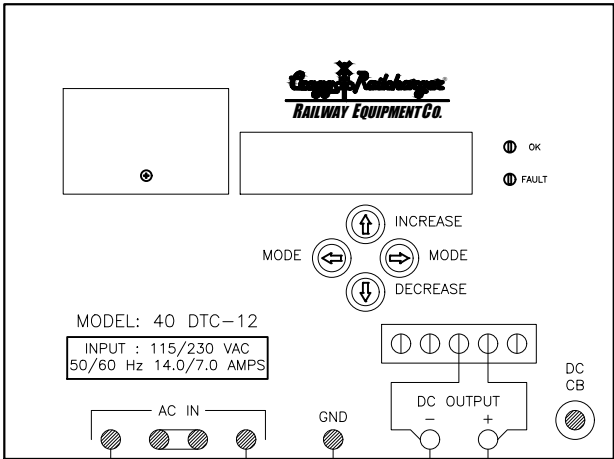
BATTERY BUSS DETAILS

SPARE	21	SPARE
SPARE	20	SPARE
CC50T	19	XP4 S7 IN2-
CC45T	18	XP4 S7 IN1-
DB1T	17	DB3T
SPARE	16	RCDR C1 IN8-
SPARE	15	RCDR C1 IN5-
RCDR C1 IN10+	14	RCDR C1 IN10-
RCDR CPU BATT+	13	RCDR CPU BATT-
DTMF BATT+	12	DTMF BATT-
MDSA-1 B+	11	MDSA-1 B-
MB BATT+	10	MN BATT-

MB BUSS (TOP) AA MN BUSS (BOTTOM)



XB-CHARGER
(SIDE "C" WALL)

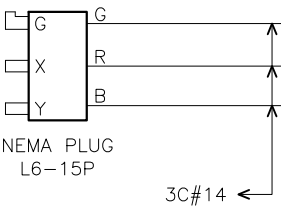


BASIC SETUP			
NO.	ABBREVIATION	DEFAULT SETTING	DESIRED SETTING
1	PASSWORD	5	5
2	USER LEVEL	BASIC	BASIC
3	BATTERY TYPE	LEAD ACID OR NI-CAD	NI-CAD
4	NUMBER OF CELLS	-	10
5	VOLTS PER CELL	-	1.42

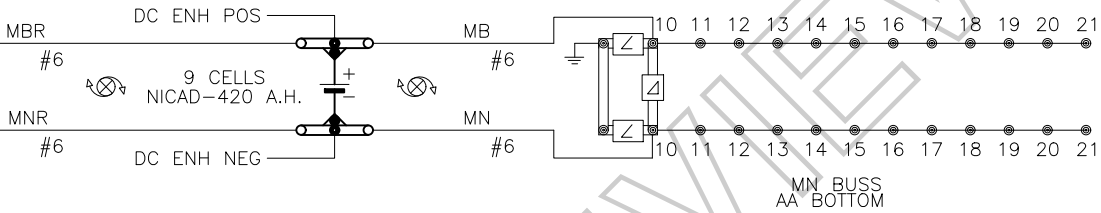
BATTERY BUSS DETAILS

RA4T	51	RA5T
RA16T	50	RA15T
XIP-A B	49	XIP-A N
XIP-B LAMP2+	48	XIP-B LAMP2-
SPARE	47	RB15B
SPARE	46	RB11B
DTMF CH2 H	45	XIP-A G1-
CC58T	44	XP4 S8 IN4-
FD COM	43	RCDR C2 IN11-
RCDR C1 IN9+	42	RCDR C1 IN9-
XIP-A L1B-B	41	XIP-A L1B-N
XB BATT+	40	XN BATT-

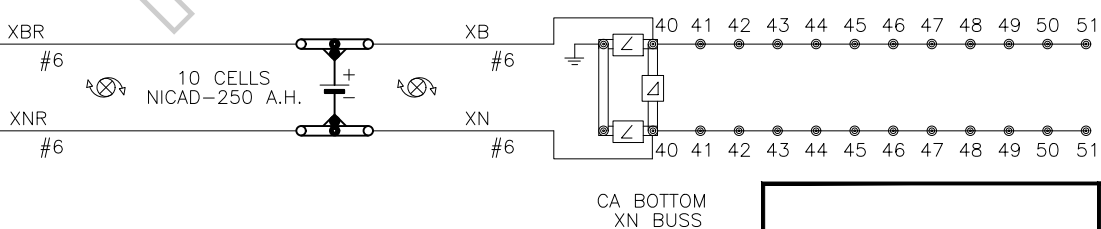
XB BUSS (TOP) CA XN BUSS (BOTTOM)



MB-BATTERY



XB-BATTERY



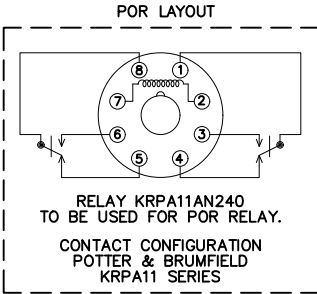
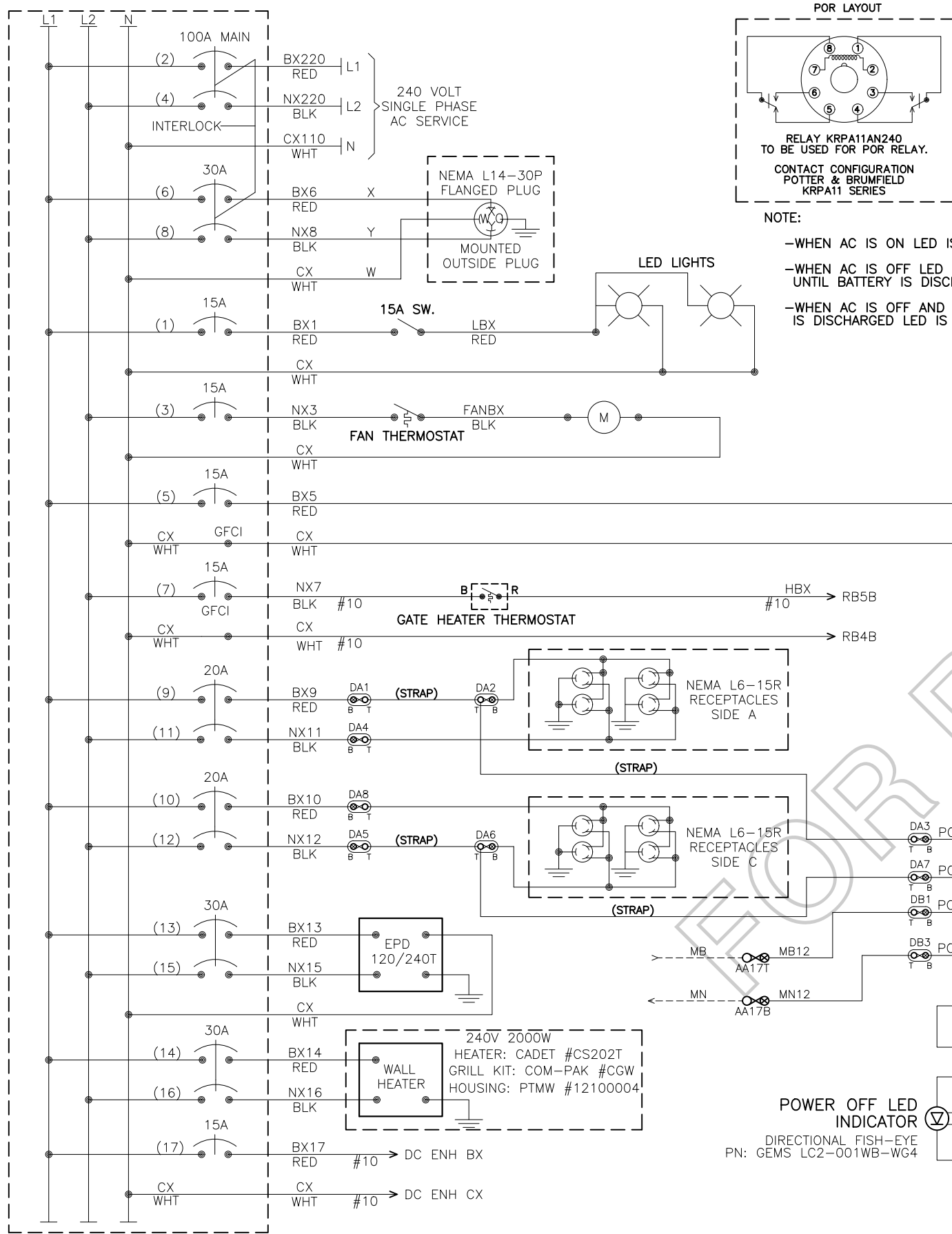
REVISION
BLOCK

CHANGE FROM TYPICAL: Y

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Whooling & Lake Erie
Railway

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799		
ORIGINAL DATE 02/28/2022	TITLE BATTERY CHARGERS	
DESIGNER RGPT	SUB CLEVELAND	RGPT NO. OP21453
DRAFTSMAN RGPT	RRMP Q - 027.73	SCALE 1"=2'
CHECKER RGPT	DOT NO. 472 679F	SHEET 19 of 24



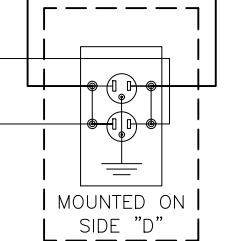
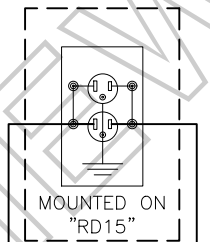
NOTE:

- WHEN AC IS ON LED IS ON
- WHEN AC IS OFF LED FLASHES UNTIL BATTERY IS DISCHARGED.
- WHEN AC IS OFF AND BATTERY IS DISCHARGED LED IS OFF.

NOTES:

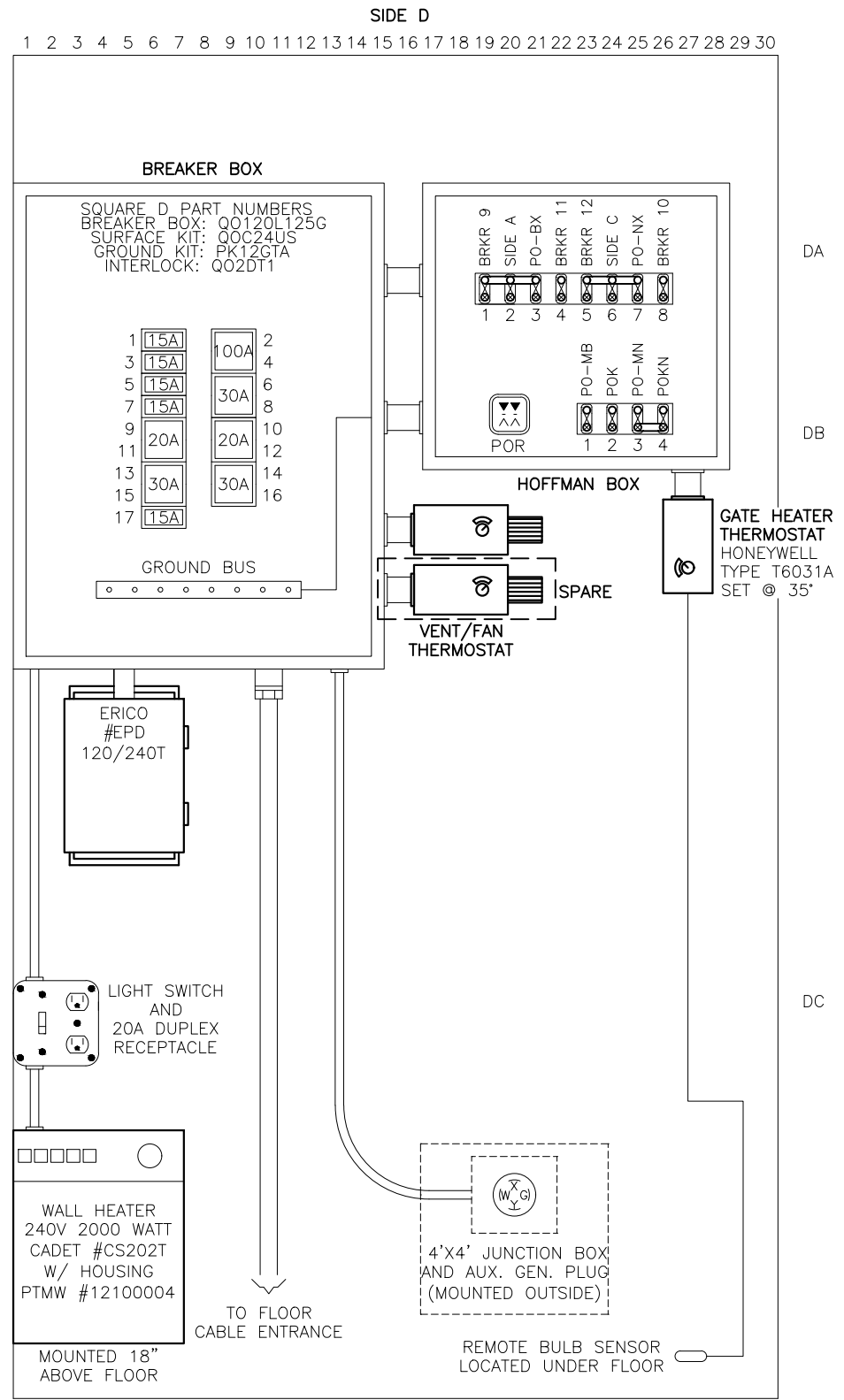
- USE THE FOLLOWING COLOR CODE:
GRN - GREEN - SAFETY EQUIPMENT GROUND
WHT - WHITE - CX110 (NEUTRAL)
BLK - BLACK - NX220 (L2)
RED - RED - BX220 (L1)
EXCEPTIONS TO THE ABOVE COLOR CODE ARE THE PRE-WIRED, SEALED ARRESTOR UNITS MOUNTED ON THE BREAKER BOX WHICH HAVE TWO BLACK AND ONE WHITE WIRE EACH.
- MINIMUM WIRE SIZE:
10 AMP - NO.14 AWG THHN OR THWN SOLID
20 AMP - NO.12 AWG THHN OR THWN SOLID
30 AMP - NO.10 AWG THHN OR THWN SOLID
- GROUND FAULT INTERRUPT (GFC) MUST BE USE ON ALL CIRCUITS SERVING CONVENIENCE OUTLETS AND ANY EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USE INSTEAD OF BREAKER TYPE.
- ALL GROUND WIRES RUN TO BREAKER BOX GROUND BUS

DUPLEX RECEPTACLES



DUPLEX RECEPTACLES

POWER OFF LED INDICATOR
DIRECTIONAL FISH-EYE
PN: GEMS LC2-001WB-WG4



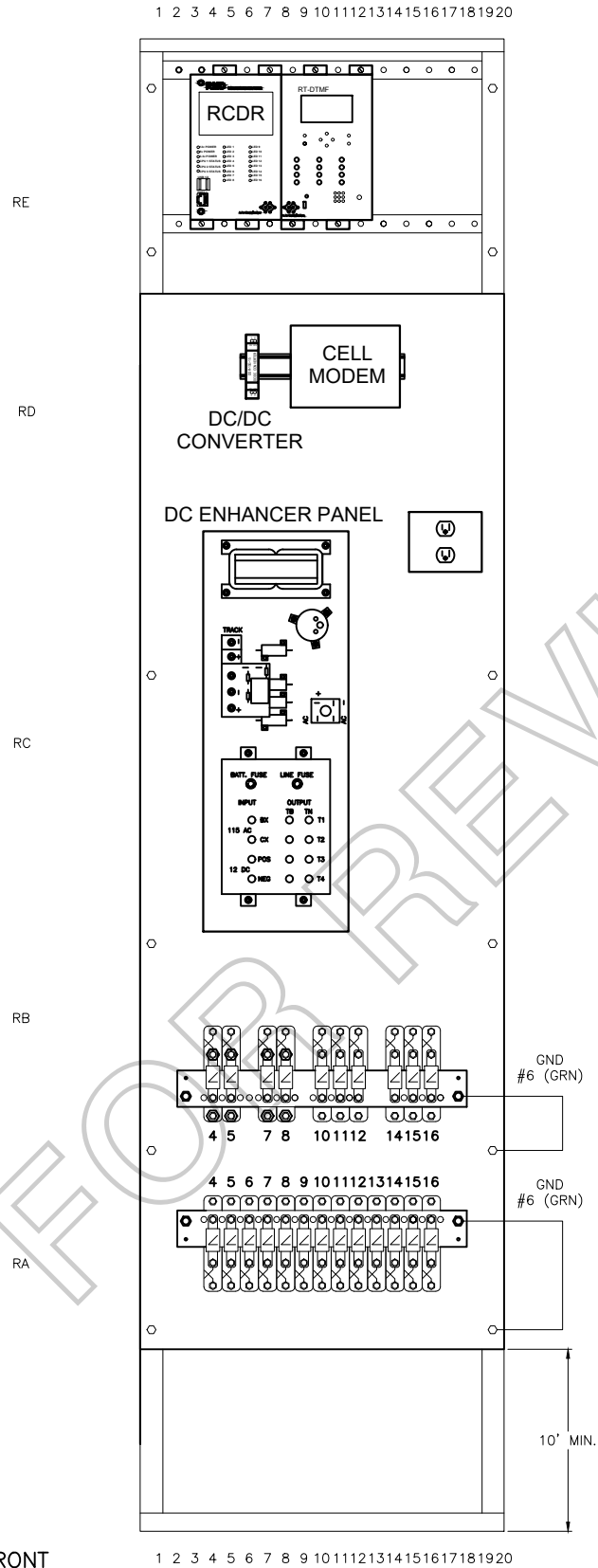
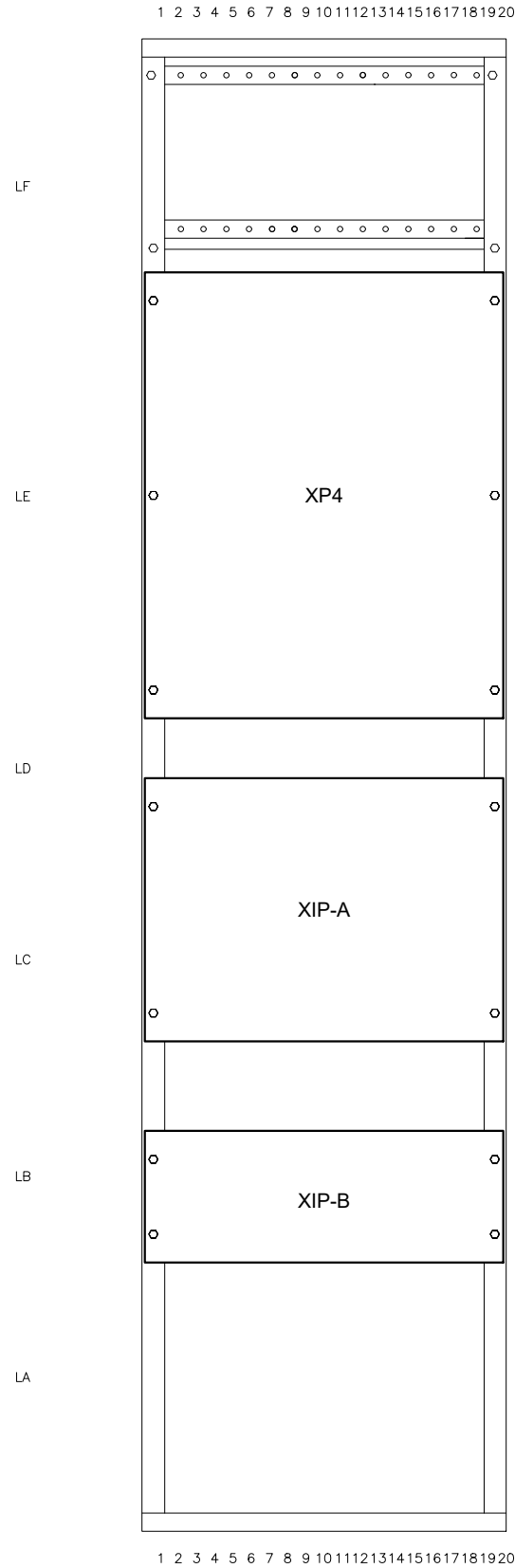
REVISION
BLOCK

CHANGE FROM TYPICAL: N

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Whooling & Lake Erie
Railway

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	AC POWER DISTRIBUTION
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	1"=2'
		SHEET	17 of 24



SIDE 'B' FRONT

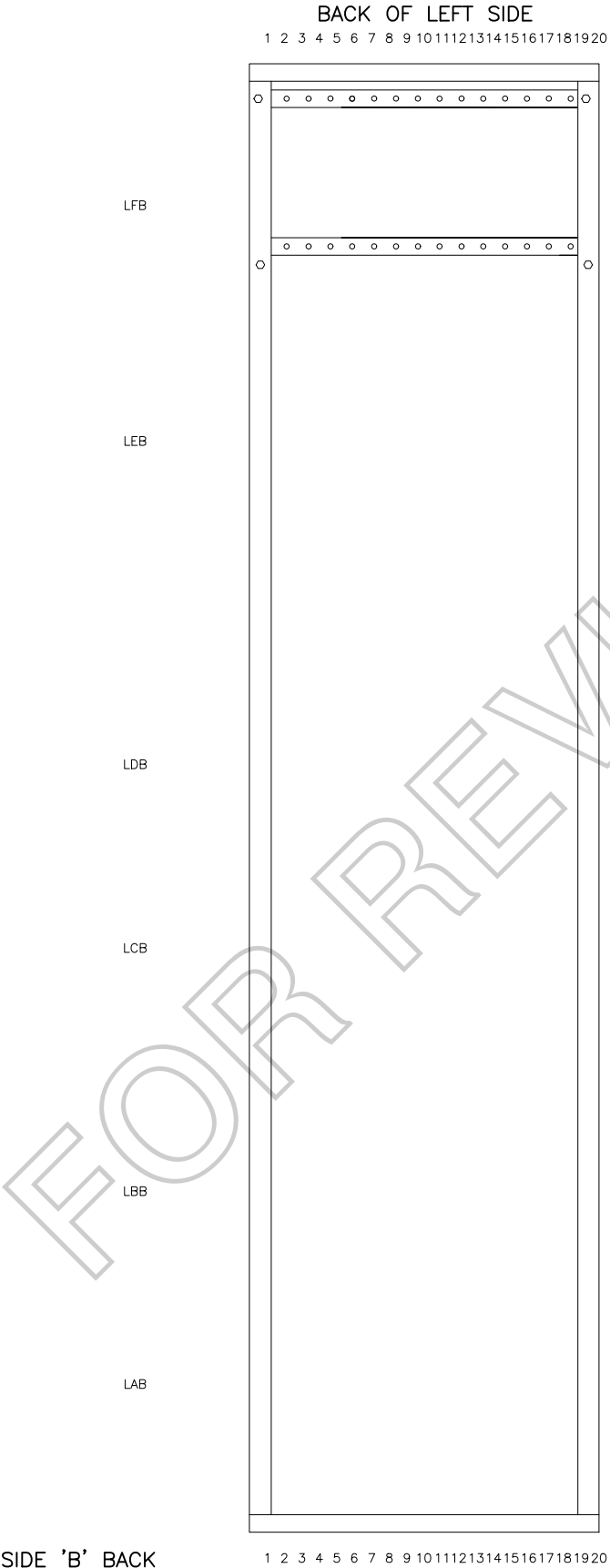
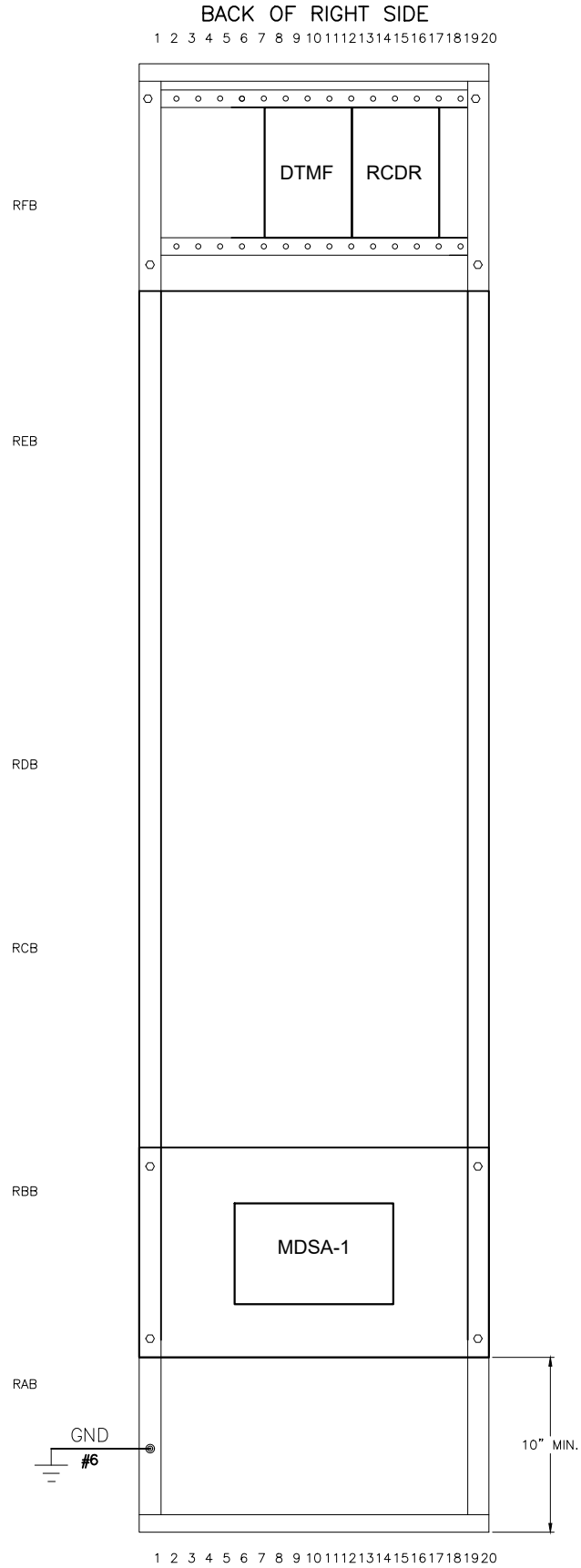
CHANGE FROM TYPICAL: Y

REVISION
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**Whoollng & Lake Erie
Railway**

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	RACK FRONT VIEW
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	1"=2'
		SHEET	21 of 24



SIDE 'B' BACK

CHANGE FROM TYPICAL: Y

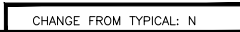
REVISION
BLOCK



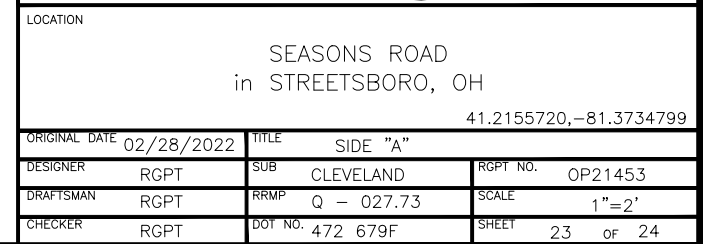
RIO GRANDE PACIFIC
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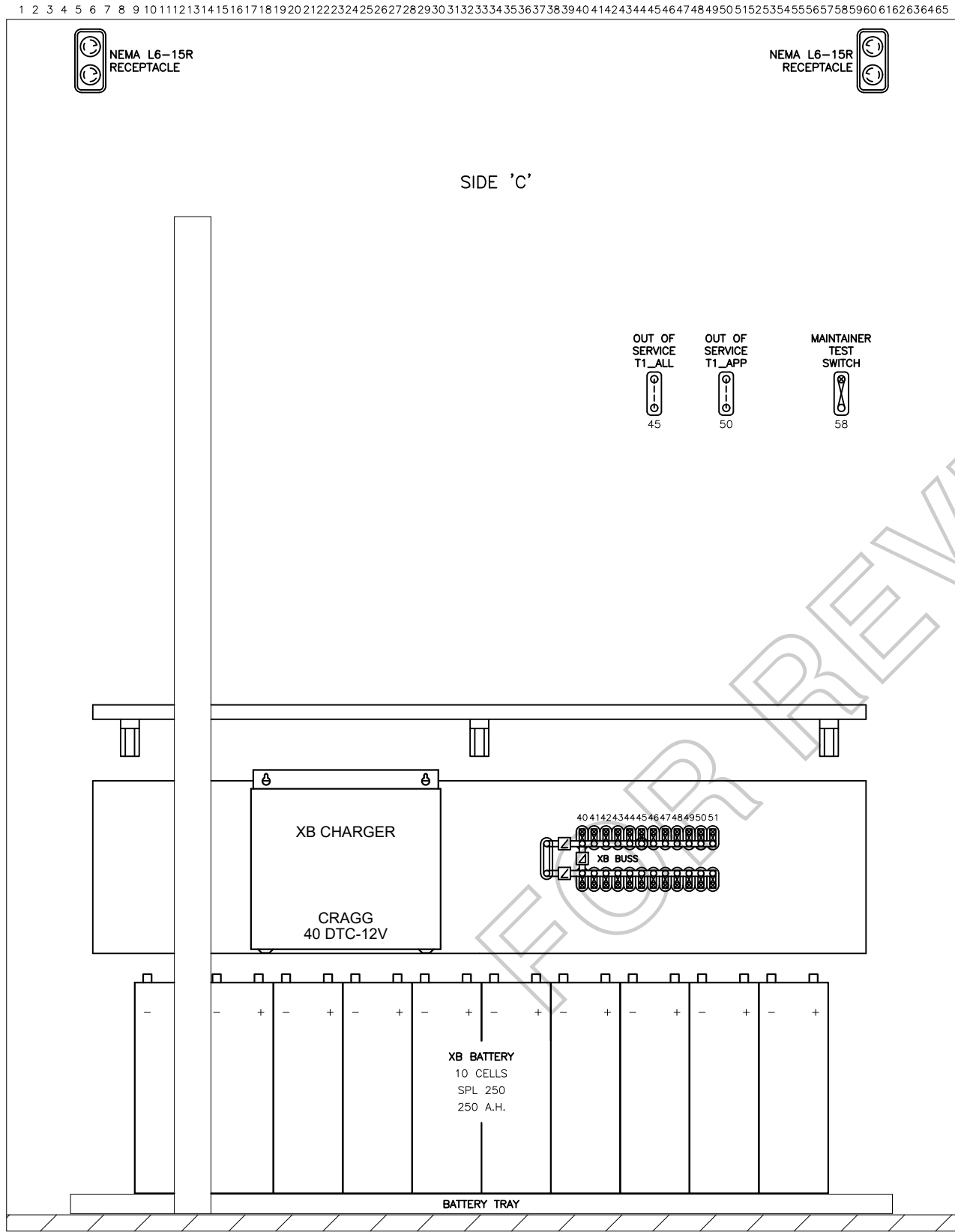
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FORT WORTH, TX 76116
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Whoollng & Lake Erie Railway			
LOCATION			
SEASONS ROAD in STREETSBORO, OH			
41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	RACK BACK VIEW
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	1"=2'
		SHEET	22 of 24

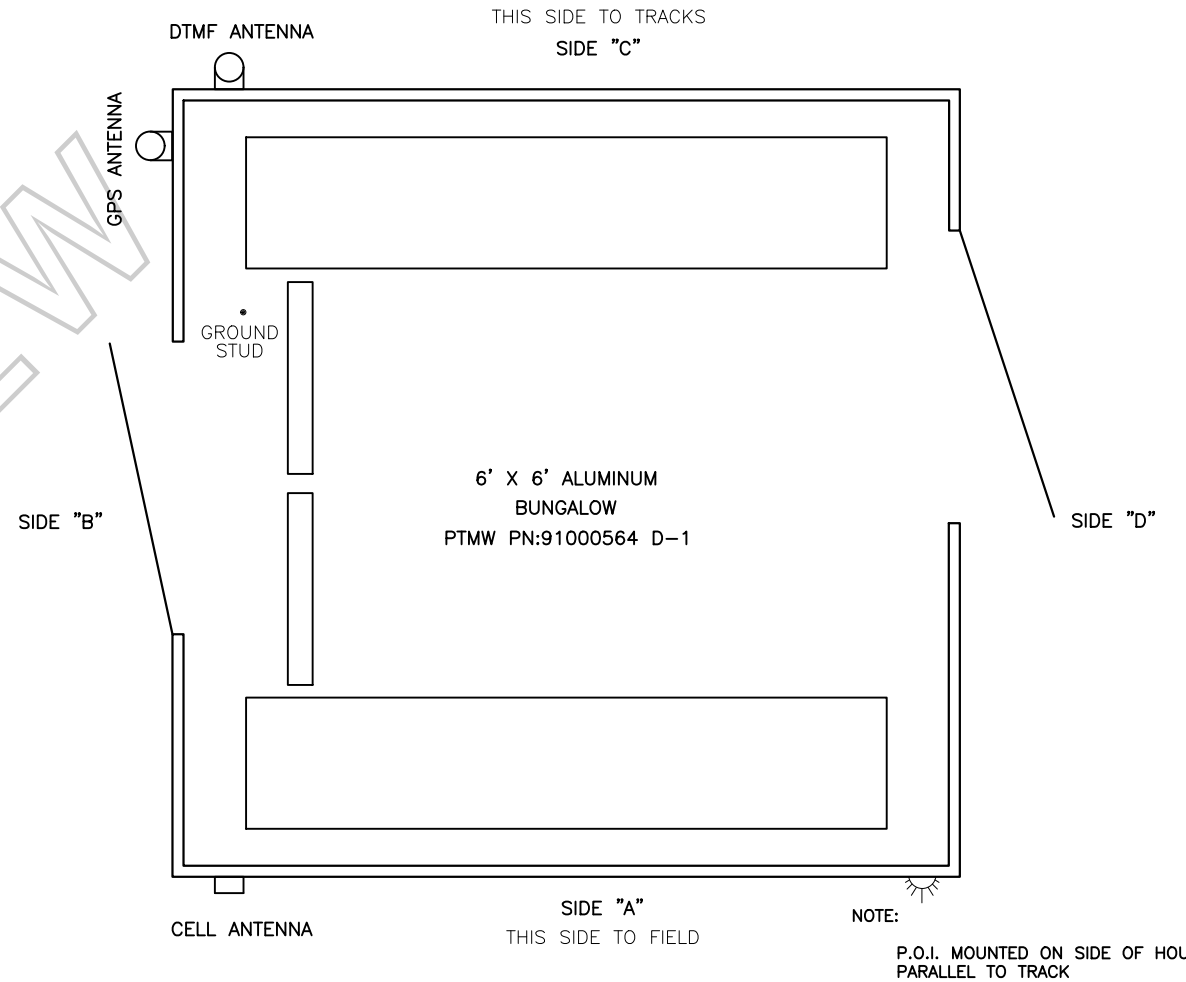


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NOTE:
ANTENNA TO BE PLACED IN
AERIAL CABLE ENTRY PROVIDED.



REVISION
BLOCK

CHANGE FROM TYPICAL: N



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**Whoollng & Lake Erie
Railway**

LOCATION SEASONS ROAD in STREETSBORO, OH 41.2155720,-81.3734799			
ORIGINAL DATE	02/28/2022	TITLE	SIDE "C"
DESIGNER	RGPT	SUB	CLEVELAND
DRAFTSMAN	RGPT	RRMP	Q - 027.73
CHECKER	RGPT	DOT NO.	472 679F
		RGPT NO.	OP21453
		SCALE	1"=2'
		SHEET	24 of 24

WHEELING & LAKE ERIE RAILWAY COMPANY

Tim Andrews
Signal & Communication Supervisor
Tel. 330-767-7255

tandrews@wlerwy.com

100 East First Street
Brewster, OH 44613
Fax: 330-767-3213

June 9, 2022

Ohio Rail Development Commission
Mr. James Tucker
1980 West Broad Street, Room 2B
Columbus, OH 43223

Estimate for PID: 116027 - Seasons Rd, DOT#472679

Dear Mr. Tucker,

I am providing this estimate for the crossing package and installation at Seasons Rd. Installation and ordering of material will be performed under our continuing construction agreement with Rio Tech.

Engineering Services/Labor, RioTech (breakout attached)	\$222,359.79
Berm Wall (purchase direct by WLE)	\$0.00
Preliminary Installation Services, Crosier (breakout attached)	\$44,035.05
Electric Service	\$7,500.00
WLE Direct Signal Labor	\$7,500.00
Galvanized signal foundations	\$4,189.00
 TOTAL	 \$285,583.84

Please contact me if additional details are required.

Respectfully,



Tim Andrews

Notes

1: Direct purchase from Fabricated Metals, 60' galvanized gate foundation,
\$1700.00 ea. + Flasher foundation at \$789.00

Crosier Industrial Construction Ltd

8938 Peck Rd
Ravenna, Ohio 44266
Ph (330) 592-3082
trailnrbbob@hotmail.com

Crosier Industrial Construction, LLC

Date 3-Jun-22

Project Cost Estimate Invoice Number TBD

Project: Seasons Road, Streetsboro, OH Work Auth: WLE Tim Andrews

	Rate/Hr	Hours	Total
Equipment Operator (backhoe, exca	ST \$ 30.00	130	\$ 3,900.00
	OT \$ 45.00		\$ -
Laborer, skilled	ST \$25.00	130	\$ 3,250.00
	OT \$37.50		\$ -
Project Manager	\$50.00	130	\$ 6,500.00
Administrative	\$30.00	2	\$ 60.00
	Sub-Total		\$ 13,710.00
	G&A Burden for Labor		\$ 8,226.00
	Total Labor		\$ 21,936.00
EQUIPMENT	Rate/hr	Hours	Total
E-55	\$ 47.50	110	\$ 5,225.00
E-32	\$ 33.90	20	\$ 678.00
Compact Track Loader	\$ 44.75		\$ -
Dump Truck	\$ 43.20	30	\$ 1,296.00
Directional Drill	\$ 67.50	10	\$ 675.00
Digger Derrick	\$ 58.24	4	\$ 232.96
Truck	\$ 25.60	130	\$ 3,328.00
Trailer	\$ 6.00		\$ -
HydroTamper	\$ 18.00	20	\$ 360.00
Tamper	\$ 5.00	20	\$ 100.00
Traffic cones	\$ 0.15	130	\$ 19.50
Traffic signs	\$ 0.25	130	\$ 32.50
	Total Equipment		\$ 11,946.96
MATERIALS	Quantity	Price/Each	Total
5" pvc conduit	90	\$ 15.00	\$ 1,350.00
5" 90 degree	2	\$ 44.00	88.00
5" coup	4	\$ 8.00	32.00
4" pvc conduit	200	\$ 10.50	\$ 2,100.00
4" 90 degree	2	\$ 23.30	\$ 46.60
4" sweep	6	\$ 56.50	\$ 339.00
4" 45 degree	4	\$ 29.50	\$ 118.00
4" coup	12	\$ 4.75	\$ 57.00
2" pvc conduit	110	\$ 4.00	\$ 440.00
2" sweep	4	\$ 32.95	\$ 131.80
PVC cement	1	\$ 20.00	\$ 20.00
Pull rope	450	\$ 0.15	\$ 67.50
Ground Rods	2	\$ 32.00	\$ 64.00
Pull Box Large	1	\$ 900.00	\$ 900.00
Pull Box Regular	1	\$ 395.00	\$ 395.00
	Total Material		\$6,148.90

\$ 21,936.00

\$ 11,946.96

\$ 6,148.90

\$ 40,031.86

Job Sub-Total Est \$ 40,031.86

Profit Addition 10% 4,003.19

Total Project Est \$ 44,035.05

Terms for Invoices are Net 30 days. Thank you.

Wheeling & Lake Erie Railway
Spencer, OH - Hunter Rd - DOT#473578X
Riotech Project Estimate



ENGINEERING				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
DIAGNOSTIC TECHNICIAN	16	HR	\$68.53	\$1,096.48
CADD TECHNICIAN	40	HR	\$36.25	\$1,450.00
SIGNAL DESIGNER	40	HR	\$65.67	\$2,626.80
SIGNAL ENGINEER - CHECK	4	HR	\$65.67	\$262.68
SIGNAL ENGINEER - SEAL (IF APPLICABLE)	4	HR	\$66.53	\$266.12
LOGIC PROGRAMMER	8	HR	\$66.53	\$532.24
SUBTOTAL				\$6,234.32
G&A	164%			\$10,224.28
FIXED FEE	10%			\$1,645.86
ENGINEERING TOTAL				\$18,104.47

PROJECT MANAGEMENT				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
PROJECT MANAGER - SIGNAL	24	HR	\$44.57	\$1,069.68
SR. PROJECT MANAGER - SIGNAL	4	HR	\$67.64	\$270.56
PURCHASING MANAGER	24	HR	\$31.22	\$749.28
ACCOUNTING	8	HR	\$40.00	\$320.00
SYSTEMS PROJECT SPECIALIST	4	HR	\$23.76	\$95.04
SUBTOTAL				\$2,504.56
G&A	164%			\$4,107.48
FIXED FEE	10%			\$661.20
PROJECT MANAGEMENT TOTAL				\$7,273.24

EAF LABOR				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
EAF SUPERVISOR	8	HR	\$31.48	\$251.84
EAF LEAD FOREMAN	32	HR	\$29.57	\$946.24
LEAD WIREMAN	56	HR	\$21.37	\$1,196.72
APPLICATION PROGRAMMING	1	HR	\$1,500.00	\$1,500.00
TEST	8	HR	\$35.00	\$280.00
TEST - SPECIFIC	4	HR	\$68.53	\$274.12
QA/QC	10	HR	\$35.38	\$353.80
SUBTOTAL				\$4,802.72
G&A	164%			\$7,876.46
FIXED FEE	10%			\$1,267.92
EAF LABOR TOTAL				\$13,947.10

Wheeling & Lake Erie Railway
Spencer, OH - Hunter Rd - DOT#473578X
Riotech Project Estimate



CONSTRUCTION LABOR				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
MANAGER OF FIELD SVCS	8	HR	\$44.57	\$356.56
CONSTRUCTION SUPERVISOR	80	HR	\$36.90	\$2,952.00
CREW FOREMAN	80	HR	\$30.84	\$2,467.20
CREWMAN 3	80	HR	\$22.71	\$1,816.80
CREWMAN 1	80	HR	\$19.54	\$1,563.20
SUBTOTAL				\$9,155.76
G&A	164%			\$15,015.45
FIXED FEE	10%			\$2,417.12
CONSTRUCTION LABOR TOTAL				\$26,588.33

CONSTRUCTION LABOR EXPENSES				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
DIAGNOSTIC EXPENSES	1	EA	\$500.00	\$500.00
CREW MEALS	32	EA	\$56.00	\$1,792.00
CREW LODGING	32	EA	\$100.00	\$3,200.00
MOBILIZATION	1	EA	\$1,500.00	\$1,500.00
SUBTOTAL				\$6,992.00
FIXED FEE	0%			\$0.00
CONSTRUCTION LABOR EXPENSES TOTAL				\$6,992.00

CONSTRUCTION EQUIPMENT				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
TRUCK, PU, 1 TON CREW CAB	80	HR	\$15.71	\$1,256.80
TRAILER, UTILITY (12,000lb SC410)	80	HR	\$7.55	\$604.00
RENTAL EQUIPMENT (BACKHOE W/18" BKT)	1	WK	\$1,600.00	\$1,600.00
RENTAL EQUIPMENT (FORKLIFT - 8K)	2	WK	\$1,600.00	\$3,200.00
EQUIPMENT DELIVERY/PICKUP	6	LS	\$250.00	\$1,500.00
DIESEL FUEL SURCHARGE	40	GAL	\$5.00	\$200.00
SUBTOTAL				\$8,360.80
FIXED FEE	0%			\$0.00
CONSTRUCTION EQUIPMENT TOTAL				\$8,360.80

MATERIAL				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
MATERIAL	1	LS	SEE ATTACHED DETAIL	\$125,235.76
MATERIAL INBOUND FREIGHT	1	LS	\$4,000.00	\$4,000.00
FILL DIRT	40	TN	\$25.89	\$1,035.60
COVER ROCK (3/4" CRUSHED - WHITE)	25	TN	\$26.50	\$662.50
PALLET CHARGE - GATES	2	EA	\$100.00	\$200.00
SHIPPING CONTAINER, 40'	4	WK	\$15.00	\$60.00
PVC PACKAGE	1	PKG	\$2,500.00	\$2,500.00
SUBTOTAL				\$133,693.86
TAX (IF APPLICABLE)	-			\$0.00
FIXED FEE	0%			\$0.00
MATERIAL TOTAL				\$133,693.86

Wheeling & Lake Erie Railway
Spencer, OH - Hunter Rd - DOT#473578X
Riotech Project Estimate



<i>SUBCONTRACTOR</i>				
<i>Description</i>	<i>Qty</i>	<i>UOM</i>	<i>Unit Price</i>	<i>Amount</i>
SUBCONTRACTOR SVC - CONTAINER DELIVERY	1	LS	\$4,500.00	<i>\$4,500.00</i>
SUBCONTRACTOR SVC - CONTAINER PICKUP	1	LS	\$2,500.00	<i>\$2,500.00</i>
SUBCONTRACTOR SVC - HORIZONTAL BORING (4" HDPE)	0	FT	\$45.00	<i>\$0.00</i>
SUBCONTRACTOR SVC - METER POLE (PERMIT & INSTALL)	0	LS	\$5,000.00	<i>\$0.00</i>
SUBCONTRACTOR SVC - PORTA-POTTY	2	MN	\$200.00	<i>\$400.00</i>
<i>SUBTOTAL</i>				<i>\$7,400.00</i>
<i>FIXED FEE</i>	<i>0%</i>			<i>\$0.00</i>
<i>SUBCONTRACTOR TOTAL</i>				<i>\$7,400.00</i>
<i>TOTAL PROJECT ESTIMATE</i>				<i>\$222,359.79</i>

Seasons Rd - Project #

VENDOR	DESCRIPTION	PART NUMBER	QTY	UOM	UNIT PRICE	TOTAL
A.C.E.	Labels, wire marker sleeve	HX-375-2-WT-2	1	EA	\$630.00	\$630.00
Allied	Relay, 8-pin KRPA style, 10A/240VAC	70198711	1	EA	\$26.59	\$26.59
Allied	Socket, 8-pin KRPA style	70199343	1	EA	\$8.66	\$8.66
Allied	Spring, Hold down for KRPA style relay	70198576	1	EA	\$1.05	\$1.05
Alstom	Controller, ElectroLogIXS XP4	16-220004433	1	EA	\$37,775.85	\$37,775.85
Alstom	MDSA-1X Surge arrester panel	250204-100	1	EA	\$730.80	\$730.80
Alstom	XIP Panel, 20 Amp	227561-000	1	EA	\$731.85	\$731.85
Alstom	XIP-B Panel, 20 Amp	227561-100	1	EA	\$478.80	\$478.80
Alstom	Cable, 12 ft (cable #1) (Need 1 for XIP)	075046-002	2	EA	\$197.40	\$394.80
Alstom	Cable, 12 ft (cable #2) (Need 1 for XIP)	075047-002	2	EA	\$197.40	\$394.80
Alstom	Insulated Nut, 1 3/16"	013986-000	20	EA	\$4.20	\$84.00
Alstom	FSS-1/2C, (630Hz - 979Hz) Tunable Shunts	250849-002	2	EA	\$1,107.75	\$2,215.50
ARMS	Cell Modem, LMU-5541, Vanguard	LMU5541LW-H000-G1000	1	EA	\$525.00	\$525.00
Mouser Electronics	Terminal Ring, HD, 1/4", insulated, #10 - #12 (yellow w/blk stripe)	2-320569-6	100	EA	\$0.99	\$98.70
Digikey	DC-DC Converter, din rail mount	DDR-15G-15	1	EA	\$27.30	\$27.30
Dixie Precast	Retaining Wall, Steel, 4'x5' section w/handrail	Steel - 4'x5' panel	7	EA	\$866.25	\$6,063.75
Elliott Elect	5/8" X 8' Copper Ground Rod	95082476	8	EA	\$14.07	\$112.56
Erico	Terminal, 4-post, Block Kit, w/ 14-24 AAR Hardware	B2700A2C1WH	17	EA	\$38.41	\$652.95
Erico	RailSurge Plane Strip Busbar (36")	B2700HC36T	2	EA	\$67.99	\$135.98
Erico	Wheel, grinding	SB22122	3	EA	\$57.24	\$171.71
Erico	Mold,Web Signal Bond,3/16	SBB200C	1	EA	\$117.19	\$117.19
Erico	5/8" Ground Rod Weld	SBNT1161G	8	EA	\$18.15	\$145.24
Erico	Cadweld Plus Rail Joint Bond Kit, XS Style (Kit of 60)	SBS24882CWP	180	EA	\$8.83	\$1,589.49
Erico	Arrestor, DC	EPD2050F	17	EA	\$65.94	\$1,120.98
Erico	Arrestor, AC	EPD2170F	4	EA	\$67.90	\$271.61
G&B	Shunt Enclosure, Orange	500-400-100-09-Orange	2	EA	\$570.15	\$1,140.30
Graybar	Panduit, Wire Duct, 2"x3"x6' Gray	95032476	18	FT	\$8.35	\$150.26
Graybar	Panduit, Cover, 6' Gray	88197241	18	FT	\$1.58	\$28.35
Graybar	Wire, Ground, #6AWG, Bare Copper	BARE-CU-SD-6-SOL-315S	80	FT	\$1.09	\$87.36
Graybar	Duct seal, 5lb	31-605	5	EA	\$19.66	\$98.28
Graybar	Cable, SJ Cord 4c/14	BJ11404-14/4-SJ00W-300V	50	FT	\$1.41	\$70.35
Graybar	Nema Plug, Locking, (L6-15P) 15A/240V	HLB4570C	2	EA	\$23.97	\$47.94
Grainger	Decal, Danger 240V (5"x3.5")	3XDU5	1	EA	\$3.15	\$3.15
GSI	Gate Keeper, 2-Way, w/Hardware & Buffer Spring	SK-1000-SW40	2	EA	\$1,359.75	\$2,719.50
GSI	Gate, Alum/Polyglass 19'-32', Hi Intensity tape	SG-1932-FT-HI	2	EA	\$450.45	\$900.90
GSI	Bell, Electronic, 5" Base	EB-3-360-5	1	EA	\$225.75	\$225.75
J&A Industries	Terminal, Battery, 3-PT	225481-000	4	EA	\$33.60	\$134.40
J&A Industries	Battery Tray, 12"x27"	027003-001	4	EA	\$52.92	\$211.68
L&W	Connector, Buss strap (1" - 36 holes)	9A2216-36	4	EA	\$23.25	\$92.99
NEG	Wind Bracket, 36", 5"MTG w/hardware	NEG-191036	2	EA	\$110.25	\$220.50
NEG	Sign, Emergency, ENS, 15X9 Blue	NEG S-I-13-15x9ENS	2	EA	\$15.75	\$31.50
Okonite	Wire, Case, #16AWG 1000' spool, Blue	152-11-3002	2	EA	\$231.00	\$462.00
Okonite	Wire, Case, #10AWG 1000' spool, Blue	152-11-3038	2	EA	\$514.50	\$1,029.00
Okonite	Cable, 7/C#6, Armored	206-11-6247	500	FT	\$10.27	\$5,134.50
Okonite	Cable, 7C#14, Armored	206-11-6887	500	FT	\$3.47	\$1,732.50
Okonite	Cable, 5C#6, Armored	206-11-6245	300	FT	\$6.64	\$1,990.80
Okonite	Cable, 3C#6 w/Ground for A/C power	206-11-6070	300	FT	\$5.31	\$1,593.90
Okonite	Wire, Track, 2C/#6, Twist, Solid	150-12-3933	300	FT	\$2.16	\$648.90
PTMW	Bungalow, Alum. 6 X6 w/Heater	91000564 D-1	1	EA	\$12,231.45	\$12,231.45
PTMW	Door Magnetic Switch Assy	14979 PH	2	EA	\$56.70	\$113.40
PTMW	Kit Antenna Mount, GPS w/ Brkt (Item #41253)	TBD	1	EA	\$107.63	\$107.63
Railway Equip	E-Z gate LED lamp kit	9298-1120	2	EA	\$183.75	\$367.50
Railway Equip	Battery Charger, 40DTC-12V	520940	2	EA	\$882.00	\$1,764.00
Rebel	Terminal, 2X6 W/ Flat nut/washer	220-0101	12	EA	\$15.52	\$186.23
Rebel	Terminal, Block, 2 3/8" center - 2 post w/hardware	220-0301	5	EA	\$5.51	\$27.56
Rebel	Nut, AAR Flat Nut	220-0001	300	EA	\$0.21	\$63.00
Rebel	Nut, AAR Crown Nut	220-0000	300	EA	\$0.26	\$78.75
Rebel	Washer, AAR Flat	220-0003	300	EA	\$0.11	\$31.50
Rebel	Gold Test Nut	220-0008	100	EA	\$0.92	\$92.40
Rebel	Strap, 1" offset test link	220-0506	100	EA	\$0.89	\$89.25
Rebel	Strap, 2 3/8" flat test strap	220-0516	1	EA	\$1.52	\$1.52
Rebel	Strap, 2 3/8" flat strap	220-0507	2	EA	\$0.79	\$1.58
Rebel	Sign, Crossbuck (NO brackets or hardware)	070-0065	4	EA	\$99.75	\$399.00
Rebel	Pinnacle, 5"	010-9034	3	EA	\$22.97	\$68.92
Rebel	5" Sign Kit (Brackets/extensions/Ubolts/hardware)	070-5008	6	EA	\$72.35	\$434.07
Rebel	Lock, Barrel Style	290-0000	4	EA	\$55.91	\$223.65
Reynolds	Wire, Case, #6AWG, Green	N6GNM	100	FT	\$0.84	\$84.00
Reynolds	Wire, Case, #6AWG, Black	N6BM	100	FT	\$0.84	\$84.00
Reynolds	Wire, Case, #6AWG. Red	N6RD	100	FT	\$0.84	\$84.00

Riotech	Recorder, RMD (includes 3' harness & wago strips)	RMD-IIXX	1	EA	\$4,068.75	\$4,068.75
Riotech	Bootleg Kit, Crossing complete, 1 Track		1	EA	\$362.25	\$362.25
Riotech	DTMF Controller		1	EA	\$2,938.95	\$2,938.95
Riotech	DIN Rail, 35mm x 2', Zinc-plated, w/end caps		1	EA	\$26.25	\$26.25
Riotech	Cable, 3' Cat6 Ethernet cable		1	EA	\$15.75	\$15.75
Riotech	DTMF Antenna Kit (Antenna, Polyphaser, Coax, Etc.)		1	EA	\$157.50	\$157.50
Riotech	Field Tag Kit		1	EA	\$262.50	\$262.50
Saft	Battery, SPL 250 Ni-Cad	SPL+250	10	EA	\$236.25	\$2,362.50
Saft	Battery, SPL 420 Ni-Cad	SPL+420	9	EA	\$409.50	\$3,685.50
Siemens	Test Nut wrench, 11"	032619-22X	1	EA	\$71.43	\$71.43
Siemens	Arrestor, Air Gap, With Cover	4000-44615-001X	4	EA	\$29.06	\$116.26
Siemens	Equalizer, Air Gap, with Cover/Hardware	4000-44700-001X	2	EA	\$26.85	\$53.70
Tessco Technologies	Antenna, 136-512 MHz Base Station Adapter Kit	36522	1	EA	\$49.92	\$49.92
Tessco Technologies	Antenna, 1/4 Wave, 152-162 MHz, Black	35951	1	EA	\$18.07	\$18.07
Tessco Technologies	LMR-240UF UltraFlex	40260	4	FT	\$1.25	\$5.00
Tessco Technologies	UHF Male Crip-RS8X, LMR24	33449	1	EA	\$5.21	\$5.21
Tessco Technologies	N Nale-RG8X, LMR240	36997	1	EA	\$13.14	\$13.14
Tessco Technologies	Dual Fitting-UHF Conn. On RG Cable with Heat Shrink	485797	1	EA	\$19.55	\$19.55
Tessco Technologies	LMR-240UF UltraFlex	40260	5	FT	\$1.25	\$6.25
Tessco Technologies	BNC Male Crimp-RG8X, LMR24	22462	1	EA	\$7.37	\$7.37
Tessco Technologies	N Male-RG8X, LMR 240	36997	1	EA	\$13.14	\$13.14
Tessco Technologies	Dual Fitting-RG Cable with Heat Shrink	434760	1	EA	\$12.69	\$12.69
Tessco Technologies	VHF Combiner Arrestor, N/F to N/F	433721	1	EA	\$147.05	\$147.05
Transportation Solution	12" Red Led Crossing w/sidelights	RG6-RTFB-01BV3-H7	12	EA	\$157.50	\$1,890.00
Vantex	Tie-wrap, 11 1/2" (100 pk)	LTS11-0	2	EA	\$23.57	\$47.15
Vantex	Terminal, Ring, 1/4", insulated, #14 - #16, Blue (100 pk)	NB14	1	EA	\$33.76	\$33.76
Vantex	Terminal, Ring, 1/4" non-insulated, #6, Battery Lug	T6-14	70	EA	\$0.79	\$55.13
WCH	Mast, Gate, 18'X5" w/pigtail (single-sided Jct Box)	715-324-2-GS	2	EA	\$606.90	\$1,213.80
WCH	Mast, Gate, 18'X4" w/pigtail (single-sided Jct Box)	TBD	2	EA	\$525.00	\$1,050.00
WCH	Jct box, Gate, 5" single (28 terminals & 1 1/2" flange)	2149-A-143	2	EA	\$485.10	\$970.20
WCH	Jct box, Gate, 4" single (12 terminals)	2147-A-11	2	EA	\$420.00	\$840.00
WCH	Mech, Model 3597	3597-131-P-H-MI	2	EA	\$4,644.15	\$9,288.30
WCH	Crossarm Assy, 5" Mtg., 2 Way	975-0804-5	2	EA	\$767.55	\$1,535.10
WCH	Crossarm Assy, 4" Mtg., 1 Way Front	975-0912-4	2	EA	\$393.75	\$787.50
WCH	Counterweight Pkg, 17'-32', Stud plate, L&R arms	CTWT-AL-32	2	EA	\$1,503.60	\$3,007.20
WCH	Wrench, Torque (KIT)	3590-K-9	1	EA	\$200.55	\$200.55
Wilson Elec	Antenna, 4G Omni Plus Directional Kit	304422-5810	1	EA	\$105.00	\$105.00
					TOTAL	\$125,235.76



Rail Development Commission

Mike DeWine, Governor
Jon Husted, Lt. Governor

Scott Corbitt, Chair

March 21, 2022

Mr. Tim Andrews
Wheeling & Lake Erie Railway
100 East First Street
Brewster, Ohio 44613

RE: Grade Crossing Warning Device Improvements
Portage County, Seasons Road. DOT#472-679, PID#116027

Dear Mr. Andrews:

A diagnostic review was held at the above grade crossing on August 10, 2021. The crossing has been recommended for the installation of flashing lights and roadway gates.

Wheeling & Lake Erie Railway 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 James Tucker. James can be reached at (614) 398-6897, or james.tucker@dot.ohio.gov, if you have any questions.

Sincerely,

Project Manager

C: John Williams Director, Transportation Department, PUCO
Jill Henry, Rail Division 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

Wheeling & Lake Erie Railroad
Mr. Tim Andrews
Signals & Communications Supervisor
100 E. First Street
Brewster, Ohio 44613

Re: Summit County, Seasons Road,
DOT#472-679F, hereinafter referred to as
the "Project"

Dear Mr. Andrews:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on August 10, 2021, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and roadway gates.

The Project shall comply with Master Warning Devices Agreement No. 0001-A, dated September 17, 1990, & Reconstruction Agreement #6781, dated February 10, 1992, and entered into by the State of Ohio and Wheeling & Lake Erie Railroad (RAILROAD). Furthermore, the RAILROAD shall comply with all applicable state and federal laws governing grade crossing safety programs.

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

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

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

Page 2 of 2
Seasons Road
Portage County
Wheeling & Lake Erie Railroad

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 e-mail at jill.henry@puco.ohio.gov.

Sincerely,



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



Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Wheeling & Lake Erie Railroad

By TE AS

Title SAC Supervisor

Date 12-14-21

Date 12/15/2021

PLEASE FILL IN: Crossing, DOT#, LHA, County, RR

DATE 8-10-21

Crossing at a glance: #472679F Seasons Rd. Portage County.

Hazard Rank - 1787

ORDC Notes: PUCO requested Diagnostic

Please Sign In

JAMES TUCKER	Project Manager	ORDC
Name	Title	Organization
614-398-6897	James.tucker@dot.ohio.gov	J. Tucker
Phone Number	Email	Signature
Tim Andrews	WLE	
Name	Title	Organization
330-767-7255	Tandrews@wlerwy.com	T. Andrews
Phone Number	Email	Signature
Shawn Zurfley		
Name	Title	Organization
	Shawn.Zurfley@PUCO.ohio.gov	
Phone Number	Email	Signature
Bill Miller	Streetsboro	
Name	Title	Organization
Phone Number	Email	Signature
Name	Title	Organization
Phone Number	Email	Signature
Name	Title	Organization
Phone Number	Email	Signature
Name	Title	Organization
Phone Number	Email	Signature

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

Date: 8-10-21

Location Data

Street or Road Name: Seasons Rd.

County: Portage

Township: —

US DOT No.: 472679 F

City (in or near): Streetsboro

Railroad Name: Wheeling

RR Milepost: 27.73

Safety Data (Obtain crash reports, if possible)

	Initial Information (from database)	Revised
Number & dates of vehicle crashes in previous 5 years:	<u>N/A</u>	
Number & dates of pedestrian/bicycle crashes in previous 5 years:	<u>N/A</u>	
Hazard Ranking: <u>1768</u>	Date Run: <u>8-9-21</u>	

Existing Traffic Control Devices

Type of Warning Devices	Installed?	Quantity/Comments
HIGHWAY		
Advance Warning Signs (condition?)	☒ Yes ☐ No	<u>2 - Good</u>
'Stop' Signs	☒ Yes ☐ No	<u>on xbucks</u>
'Stop Ahead' Signs	☒ Yes ☐ No	
Pavement Markings (condition?)	☒ Yes ☐ No	<u>2</u>
Dynamic Envelope Markings (condition?)	☐ Yes ☒ No	
Illumination	☒ Yes ☐ No	
'No Turn' Signs (highway/passive)	☐ Yes ☒ No	
Barriers/fencing (pedestrian/bicycle)	☐ Yes ☒ No	
LOOK Sign	☐ Yes ☒ No	
Do Not Stop On Track Sign	☐ Yes ☒ No	
RAILROAD		
Crossbucks	☒ Yes ☐ No	<u>2</u>
Crossbucks – assembly with Stop	☒ Yes ☐ No	<u>2</u>
Crossbucks – assembly with Yield	☐ Yes ☒ No	
Mast-Mounted Flashing Lights	☐ Yes ☒ No	
Cantilever Flashing Lights	☐ Yes ☒ No	Number: Length:
Side Lights	☐ Yes ☒ No	
LED or Incandescent Lights? Size?	☐ Yes ☒ No	
Automatic Gates	☐ Yes ☒ No	Number: Length:
Bells	☐ Yes ☒ No	Number:
Sidewalk/Pedestrian Gate Arms	☐ Yes ☒ No	Number: Length:
'No Turn' Signs (railroad/active)	☐ Yes ☒ No	
Is crossing flagged by train crew?	☐ Yes ☒ No	
OTHER	☐ Yes ☒ No	

Railroad Data		
Type of Train: ☒ Freight ☐ Intercity Passenger ☐ Transit ☐ Shared Use Transit ☐ Commuter ☐ Tourist/Other		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	2	4
<1 per day? Trains per week		
Day thru trains	X	2
Night thru trains	X	2
Switching		
Total number of tracks	1	1
Number of main tracks		1
Number of other tracks		
Maximum train speed	10	25
Typical train speed	10	25
Amtrak		
Are there other track(s) crossing this same roadway within 100ft of this crossing? ☐ Yes ☒ No		
If yes, Crossing DOT# (if different) _____		
If yes, distance _____ (take measurement between track centerlines at closest point along roadway)		
If multiple tracks, can two trains occupy crossing at the same time? ☐ Yes ☒ No		
Can one train block the motorists' view of another train at the crossing? ☐ Yes (explain below) ☒ No		
Can one or more tracks be eliminated through the crossings? ☐ Yes ☒ No		
Comments:		
Circuitry: ☐ Constant Warning Time ☐ Motion Detection ☐ AFO ☐ PTC ☐ DC ☐ Other _____		

Roadway Data		
Local Highway Authority: <u>Streetsboro</u>		
Roadway Characteristics	Initial Information (from database)	Revised
Average Daily Traffic	<u>1840 (2012)</u>	
Highway Paved	☒ Yes ☐ No	☐ Yes ☐ No
Roadway Surface: ☒ Blacktop ☐ Gravel ☐ Concrete Other _____		
Roadway width (paved/travelled way): <u>20</u> ft		
Number of Highway Lanes	<u>2</u>	
Urban or Rural	<u>Rural</u>	
Vehicle Speed: _____ MPH	<u>35</u>	
School Bus Operation: ☒ Yes ☐ No Amount <u>5</u> <u>unknown per LHA</u>		
Location of nearby schools:		
Hazardous Materials Trucks: ☐ Yes ☒ No Amount (from FRA) _____ LHA verified/changed?		
Shoulders: ☐ Yes ☒ No		
Is the Shoulder Surfaced? ☐ Yes ☒ No If yes, shoulder width: _____ ft.		
Is there existing guardrail along the roadway in crossing vicinity? ☐ Yes ☐ No		
Crossing Angle ☐ 0-29° ☒ 30-59° ☐ 60-90° Measured in _____ Quadrant?		
Quadrant <u>NE</u> Curb & Gutter:	Quadrant <u>SW</u> Curb & Gutter:	
☐ Functional (Curb height = 4" or more)	☐ Functional (Curb height = 4" or more)	
☐ Non-functional (Curb height = less than 4")	☐ Non-functional (Curb height = less than 4")	
☒ None	☒ None	
Is there a nearby intersection that could cause queuing over the crossing? ☐ Yes ☒ No		
If yes, distance _____		
Is this intersection signalized? ☐ Yes ☐ No		
Are there signals currently interconnected with the existing crossing warning devices? ☐ Yes ☐ No		
Is there a 'Do Not Stop on Track' sign? ☐ Yes ☐ No		
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? ☐ Yes ☒ No		
If yes:		
Improvement type _____ Lead Agency _____ Timeline/completion _____		

Pedestrian & Bicycle 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: <u>Herrick Park</u>	
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)	<u>First Energy</u>
Nearest Available Power Source	___
What other utilities are present?	☒ Gas ☐ Cable ☐ Telephone ☐ Fiber Optic Cable (add locations to sketch) ☐ Petroleum ☐ Water ☐ Sanitary Sewer ☐ Other
Comments: <u>Unknown ups not marked</u>	

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 <u>600</u>
Is stopping sight distance adequate? (See Table 2)	☐ Yes ☒ No If no, which quadrant? <u>280</u>
When considering recommendations for bicycle treatments:	
Bicycle sight distance adequate?	☐ Yes ☒ No If no, which quadrant? <u>SW</u> <u>250</u>
When considering recommendations for pedestrian treatments:	
Pedestrian sight distance adequate?	☐ Yes ☒ No If no, which quadrant? <u>SW</u> <u>300</u>

Potential Red Flags / Project Challenges

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

N/A

Crossing Consolidation or Closure:

N/A

Real Estate or ROW:

RR = 33'

Culvert / Drainage / Ballast Conditions:

N/A

Roadway and/or Sidewalks:

N/A

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

overlap with Ravenna Rd.

Environmental:

Tinker Creek to the EAST of crossing

Utilities:

unknown

Other:

Potential Closure

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

Explain reasons: **when SR303 floods Seasons Rd. is the only way around.**

Diagnostic Team Recommendations

☐ No improvements needed	Quadrants Needed
☐ Install/upgrade active devices	
☒ Automatic Flashing Lights (AFLS)	NW + SE
☐ AFLS / Cants	
☒ AFLS / Gates	SW + NE
☐ AFLS / Gates / Cants	
☒ Bells / number	1
☐ Upgrade circuitry / type	
☒ Sidelights	12" LED
☐ LED Upgrades	
☐ Guardrail Needed	
☐ Install/Replace curb	
☒ Bungalow placement & offset from rail & highway	TBD
☐ Other (define)	
Comments:	
☐ Install/upgrade traffic signal preemption	
Other (define):	

Diagnostic Team Recommendations (cont.)

PEDESTRIAN/BICYCLE Treatments (additional, not included above)

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

Comments:

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

Field Sketch (optional)

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

Clearing Sight Distances

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

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

Notes:

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

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

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

Stopping Sight Distances

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

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

Notes:

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

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

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

Bicycle & Pedestrian Clearing Sight Distances

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

*A single track, 90-degree, level crossing

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

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

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in

Case No(s). 22-0707-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railway Grade Crossing, DOT# 472-679F at Seasons Road in Portage County, Ohio. electronically filed by Mr. Thomas Persinger on behalf of PUCO/Rail Division