# Memo

To:	Docketing	Division
10.	DUCKEIIIIg	DIVISION

From: Jill Henry, Rail Specialist, Rail Division

Cc: PUCO Legal Department

**Date:** 2/1/18

**Re:** PUCO Case No. 18-197-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railway Crossing, Corwin Street DOT#473-633V in Huron County, Ohio.

On February 7, 2017, the Ohio Rail Development Commission (ORDC) authorized funding for Wheeling & Lake Erie Railway to install lights and gates at Corwin Street, DOT#473-633V in Huron County, Ohio. The crossing was surveyed on November 1, 2016 and found to warrant the upgrades. The electric utility provider for this crossings is Ohio Edison- First Energy Corp.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amounts of \$324,757.49 for the installation of lights has been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in nine months.** Staff requests that the following language be incorporated in the Finding & Order:

It is expected that all work necessary for FHWA acceptance of the warning devices will be completed by the in-service due date and that the <u>railroad will be responsible</u> 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 Signal & Communication Supervisor 100 E. First Street Brewster, OH 44613

Ohio Rail Development Commission Cathy Stout Safety Manager 1980 West Broad Street Mail Stop #3140 Columbus, Ohio 43223

City of Norwalk Wally Ritchie Superintendent General Services 42 Woodlawn Avenue Norwalk, Ohio 44857

Ohio Edison- First Energy Corp.

### **INTER-OFFICE COMMUNICATION**

TO:	Randall Schumacher, Supervisor, Rail Division, PUCO
FROM:	Cathy Stout, Manager, Safety Section, ORDC
BY:	Eric Neff, Safety Manager, Safety Section, ORDC
SUBJECT:	Huron County - Corwin St - DOT473633V - PID104639
DATE:	December 6, 2017

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on November 1, 2016. The Public Utilities Commission of Ohio (PUCO) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and the plan and estimate are attached.

PE has already been provided by the railroad. ORDC accepts the site plans and estimates as provided. Please issue a construction-only order for the project outlined above. 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 <u>railroad will be responsible</u> 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 Plan & Estimate

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



December 6, 2017

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

# RE: HUR - Corwin St / DOT473633V / PID104639

Dear Mr. Andrews:

The updated plans and estimates received December 5, 2017 for the referenced project are acceptable. The Wheeling & Lake Erie Railway may proceed with the construction of the proposed grade crossing warning system in accordance with the abbreviated plans. Construction may include but is not limited to associated railroad track, curb and sidewalk construction circuitry design, installation of service poles, procurement of materials and signal construction. Please note ODOT Railroad Audit Circular No.4 Subcontracted Costs for Railroads and accordingly provide ORDC with any relevant bid documents and bid tabs pertaining to this project. 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 costs are limited to the following:

• \$324,757.49 HUR - Corwin St / DOT473633V / PID104639

and will be adjusted based on bid tabulations if applicable. 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 the Wheeling & Lake Erie Railway accepting the following instructions:

- 1. The Wheeling & Lake Erie Railway's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Eric Neff, ORDC, email: eric.neff@dot.ohio.gov and to Jill Henry the Public Utilities Commission of Ohio at email: jill.henry@puco.ohio.gov. Wheeling & Lake Erie Railway'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. The Wheeling & Lake Erie Railway's 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 the Wheeling & Lake Erie Railway.



- 3. The Wheeling & Lake Erie Railway's project foremen will notify notify Eric Neff at 614-745-6760 (telephone) or eric.neff@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. The Wheeling & Lake Erie Railway will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
- 6. The Wheeling & Lake Erie Railway will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
- 7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

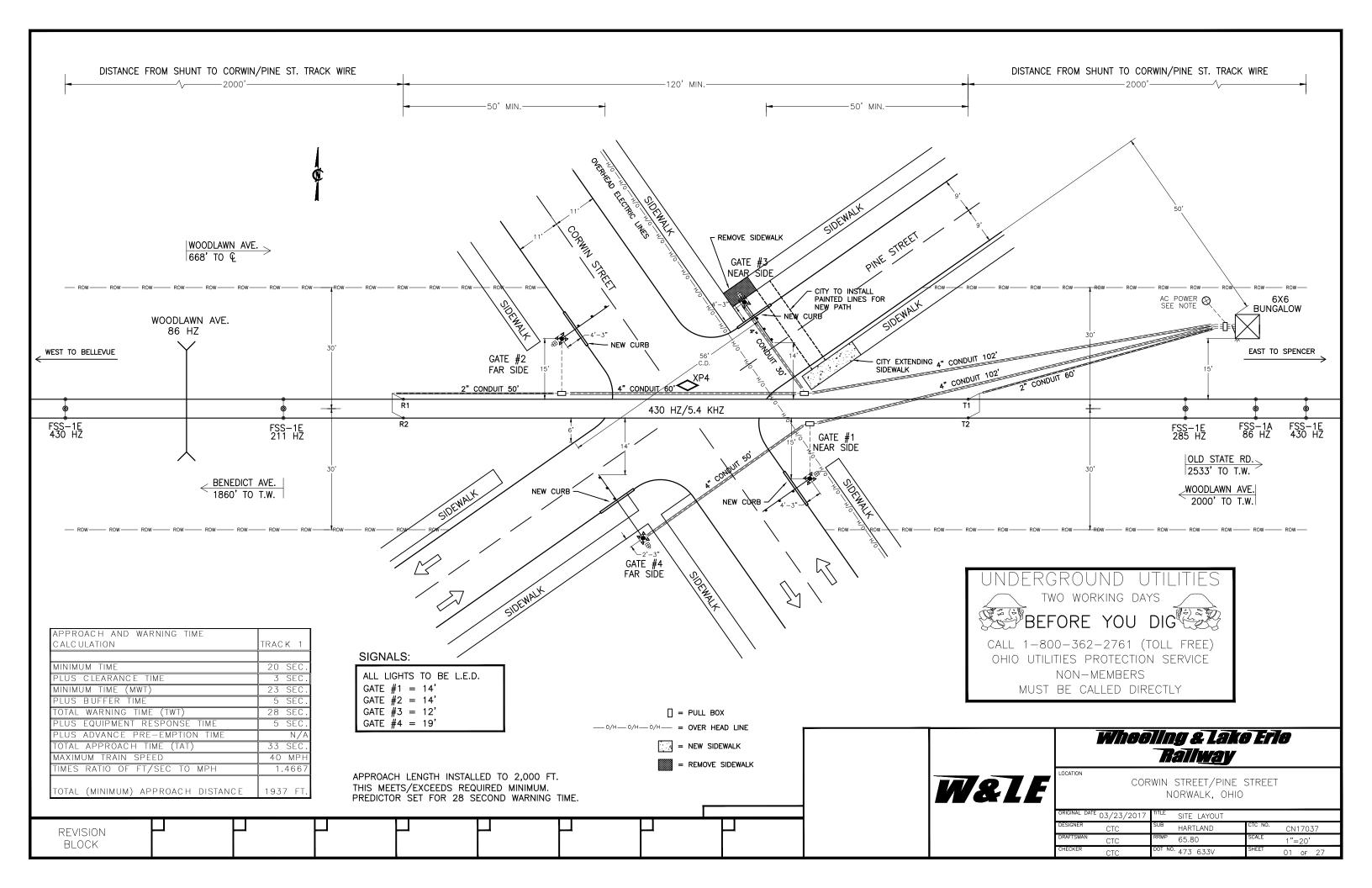
Thank you for your assistance with these matters.

Sincerely,

Eric Neff

Eric Neff Project Manager

C: Randall Schumacher, Rail Division Supervisor, PUCO Jill Henry, Rail Division Specialist, PUCO Susan Arduini, ORDC ORDC (file)



DWG. NO.	DESCRIPTION							
00	INDEX							
01	SITE LAYOUT							
02	CROSSING SIGNAL ALIGNMENT							
03	SITE LAYOUT NOTES							
04	XP4/VIO CIRCUITS							
05	XP4 SETUP SHEET							
06	TRACK CONNECTION CIRCUIT							
07	ENTRANCE GATE CONTROL CIRCUIT A							
08	ENTRANCE GATE CONTROL CIRCUIT B							
09	RECORDER							
10	BGD							
11	LAP-1							
12	LAP-2							
13	СТР							
14	GATE #1 MECHANISM (NEAR SIDE)							
15	GATE #1 LIGHTS (NEAR SIDE)							
16	GATE #2 MECHANISM (FAR SIDE)							
17	GATE #2 LIGHTS (FAR SIDE)							
18	GATE #3 MECHANISM (NEAR SIDE)							
19	gate #3 lights (near side)							
20	GATE #4 MECHANISM (FAR SIDE)							

DWG. NO.	DESCRIPTION
21	GATE #4 LIGHTS (FAR SIDE)
22	BATTERY CHARGER
23	AC POWER DISTRIBUTION
24	RACK FRONT VIEW
25	RACK BACK VIEW
26	SIDE "A"
27	SIDE "C"

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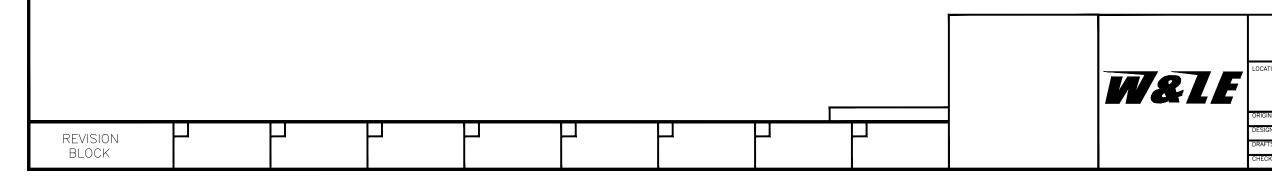
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	ORIGINAL DATE	= 03/23/2017	TITLE	INDEX			
	DESIGNER DRAFTSMAN	CTC CTC	SUB RRMP	HARTLAND 65.80	CTC NO SCALE	). CN170 N.T.S.	37
	CHECKER	CTC	DOT NO	<sup>.</sup> 473 633V	SHEET	00 of	27

# CONSTRUCTION NOTES

- IN THE LOCATION SHOWN.
- IN THE LOCATION SHOWN.
- SIGNAL'S #1, #2, #3, AND #4.
- DONE BY CITY.



1.) INSTALL NEW 6' X 6' BUNGALOW IN NORTHEAST QUADRANT.

2.) INSTALL (4) NEW FLASHING LIGHTS WITH GATES.

3.) 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

4.) BUNGALOW LOCATION SHOWN ON THE PLAN IS SUBJECT TO CHANGE WITHIN RAILROAD RIGHT-OF-WAY IF UNDERGROUND OBSTRUCTIONS PREVENT THE INSTALLATION OF THE BUNGALOW

5.) TREES NEED TO BE REMOVED FOR BUNGALOW PLACEMENT.

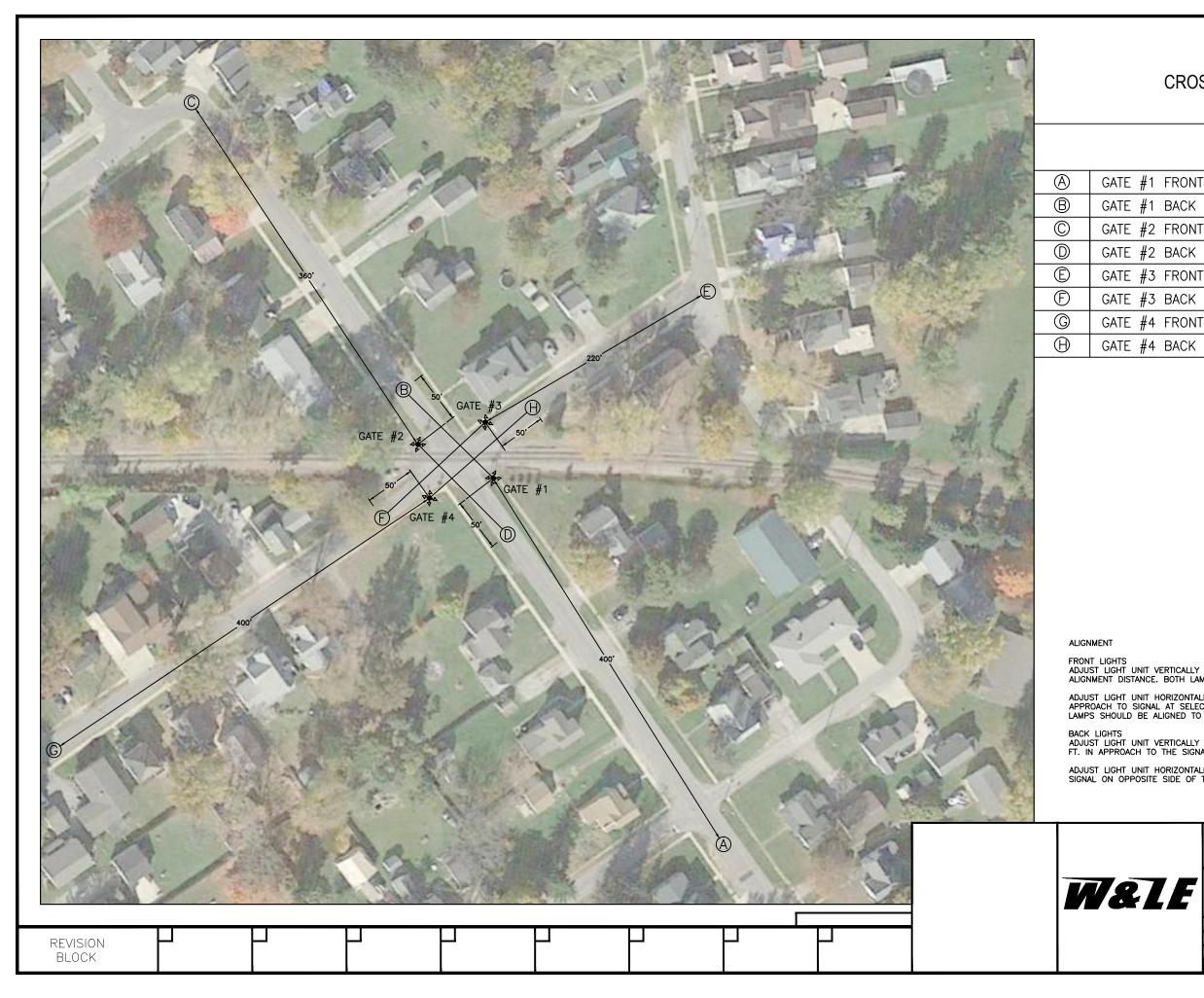
6.) NEW CURB TO BE INSTALLED BY WLE IN FRONT OF

7.) SECTION OF SIDEWALK BEHIND SIGNAL #3 TO BE REMOVED AND SIDEWALK ADJACENT SIGNAL #3 TO BE EXTENDED BY CITY. ALSO PAINTED LINES FOR NEW PATH TO BE



LOCATION

ORIGINAL DATE	03/23/2017	TITLE	CONSTRUCTION NO	TES	
DESIGNER	CTC	SUB	HARTLAND	CTC NO.	CN17037
DRAFTSMAN	CTC	RRMP	65.80	SCALE	N.T.S.
CHECKER	CTC	DOT NO.	473 633V	SHEET	01A OF 27



# CROSSING SIGNAL ALIGNMENT

LEGEND

<u></u> 1	FRONT MAST LIGHTS
<u></u> 1	BACK MAST LIGHTS
2	FRONT MAST LIGHTS
2	BACK MAST LIGHTS
!3	FRONT MAST LIGHTS
!3	BACK MAST LIGHTS
4	FRONT MAST LIGHTS
4	BACK MAST LIGHTS

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.

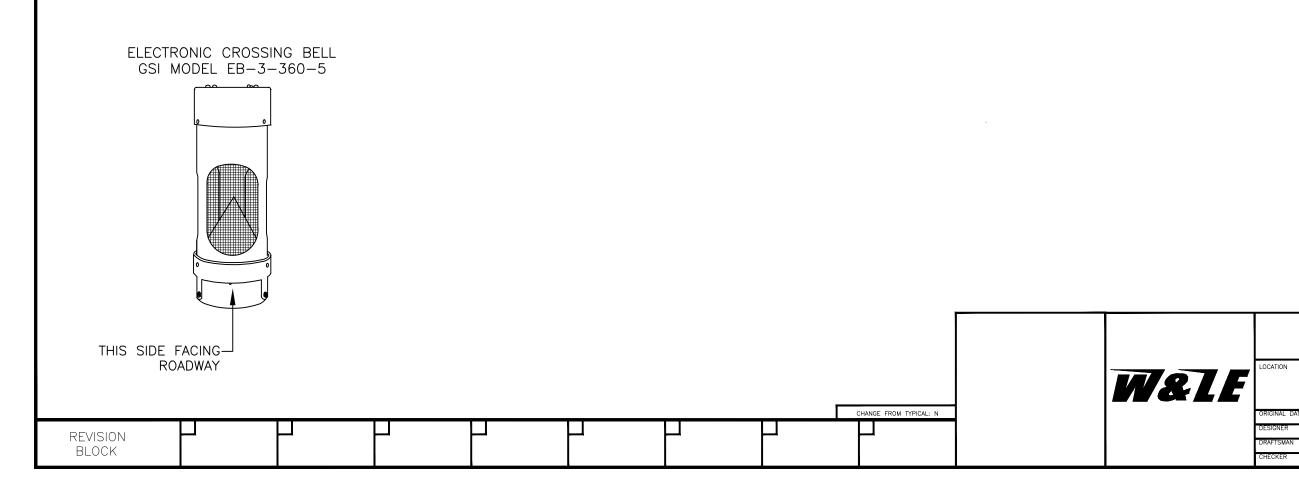


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<sup>NO.</sup> 473 633V

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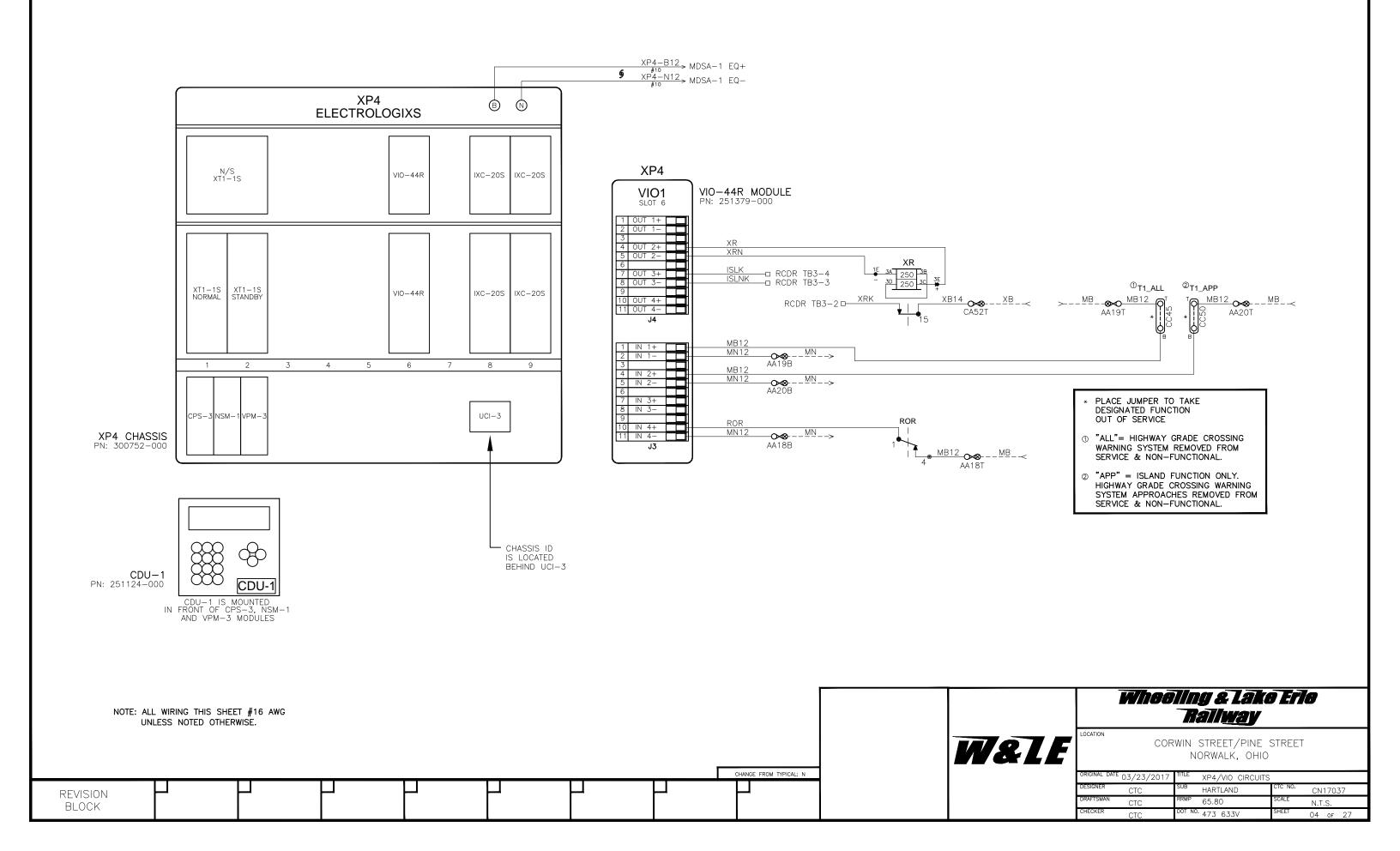
1.) CROSSING IS LOCATED: LATITUDE 41.2432799 LONGITUDE -82.6055292



SITE LAYOUT NOTES



ORIGINAL DATE 03/23/2017	TITLE	SITE LAYOUT NOTE	S	
DESIGNER CTC	SUB	HARTLAND	CTC NO.	CN17037
DRAFTSMAN CTC	RRMP	65.80	SCALE	N.T.S.
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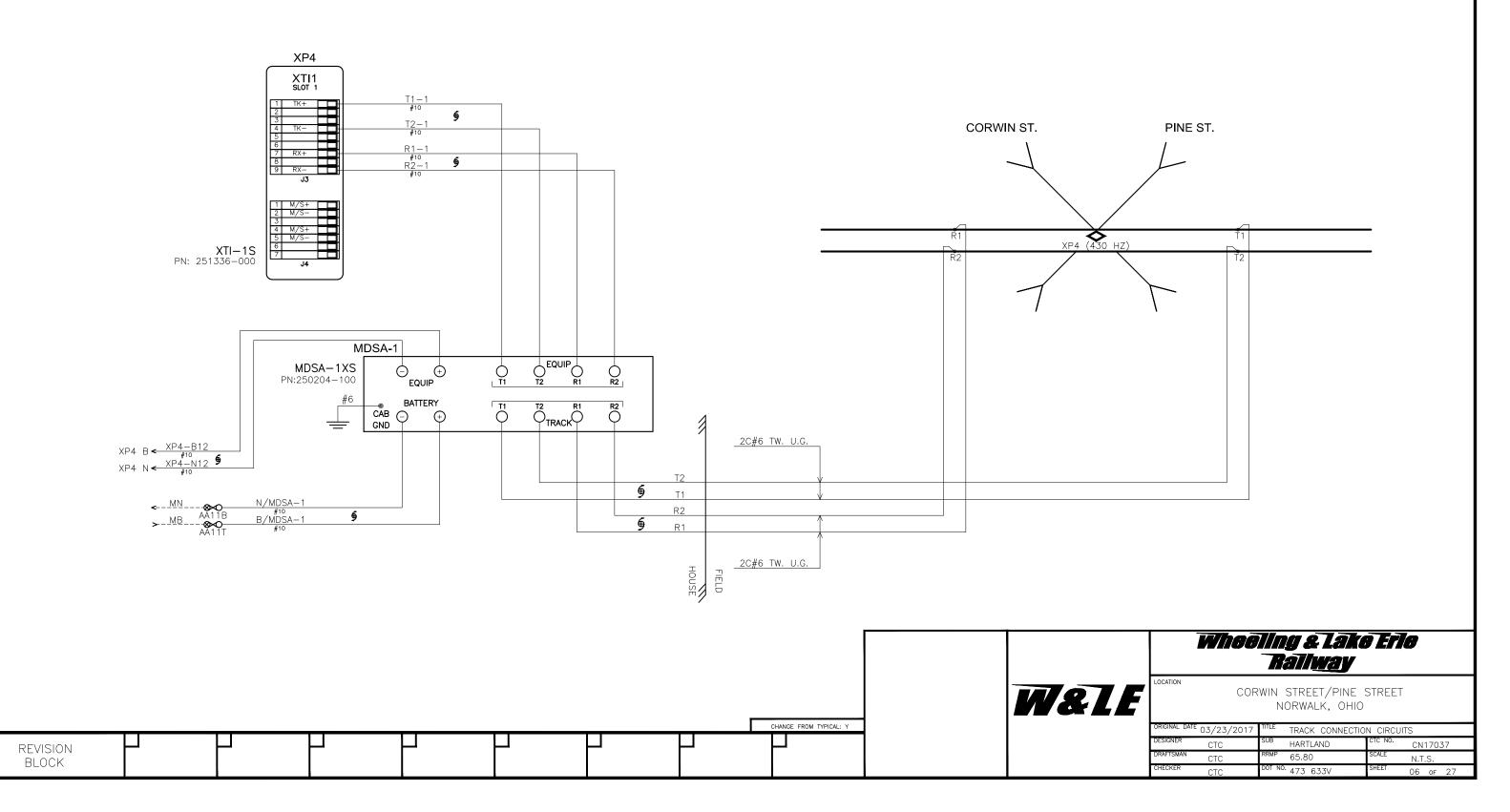
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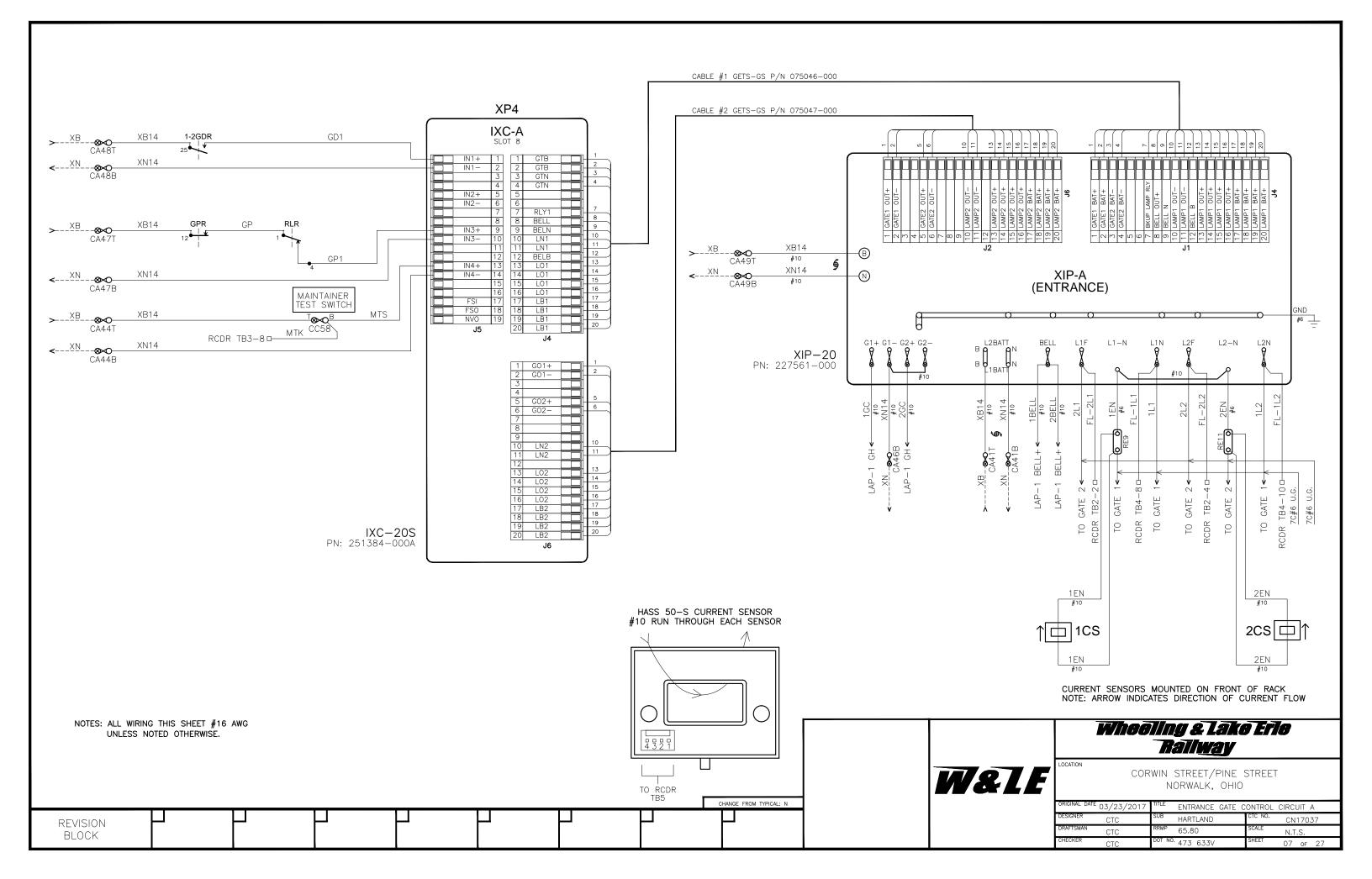
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VPM-3	VERSION	PART NUMBER		
CROSSING SOFTWARE	*	083024-716		

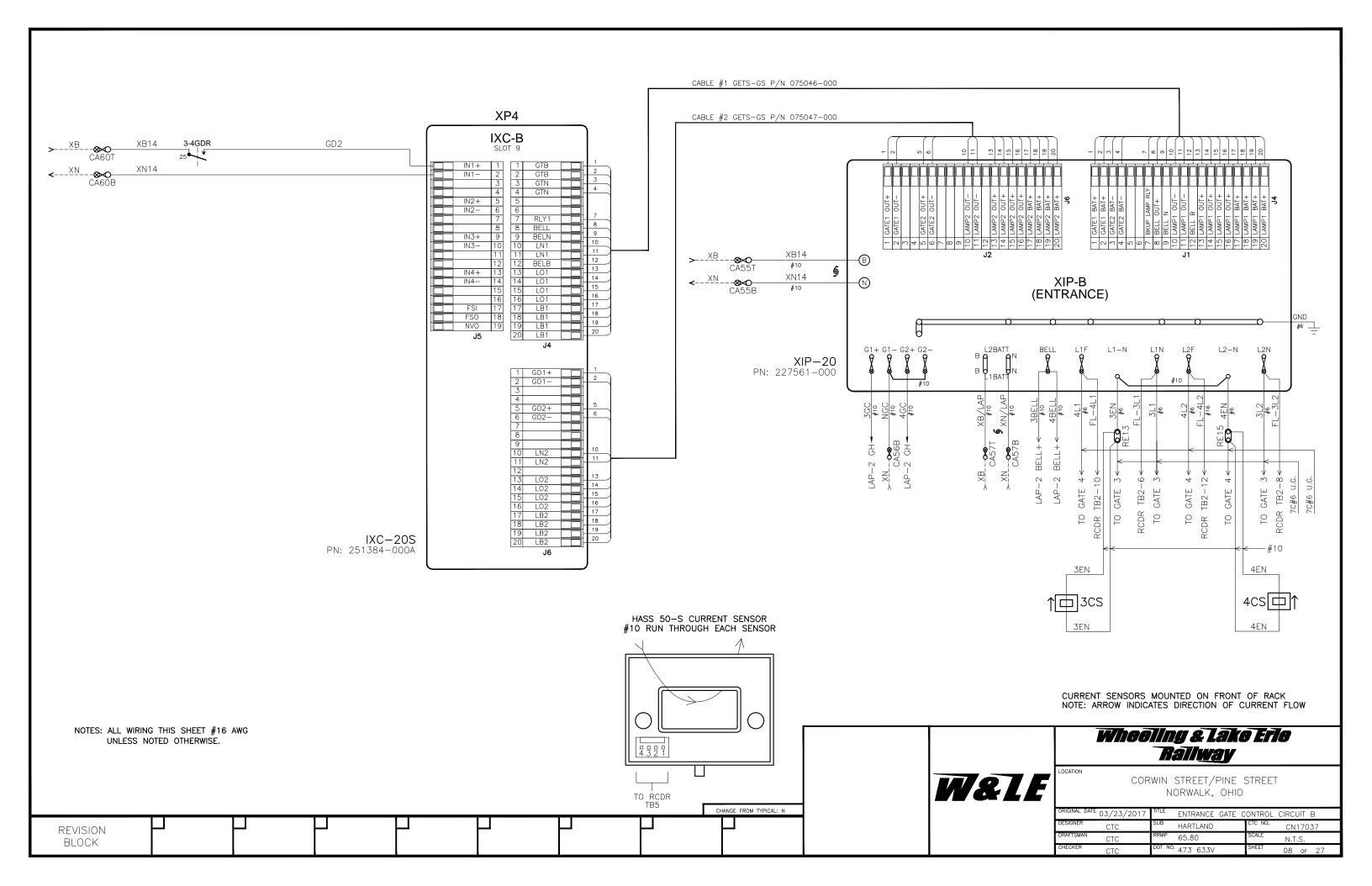


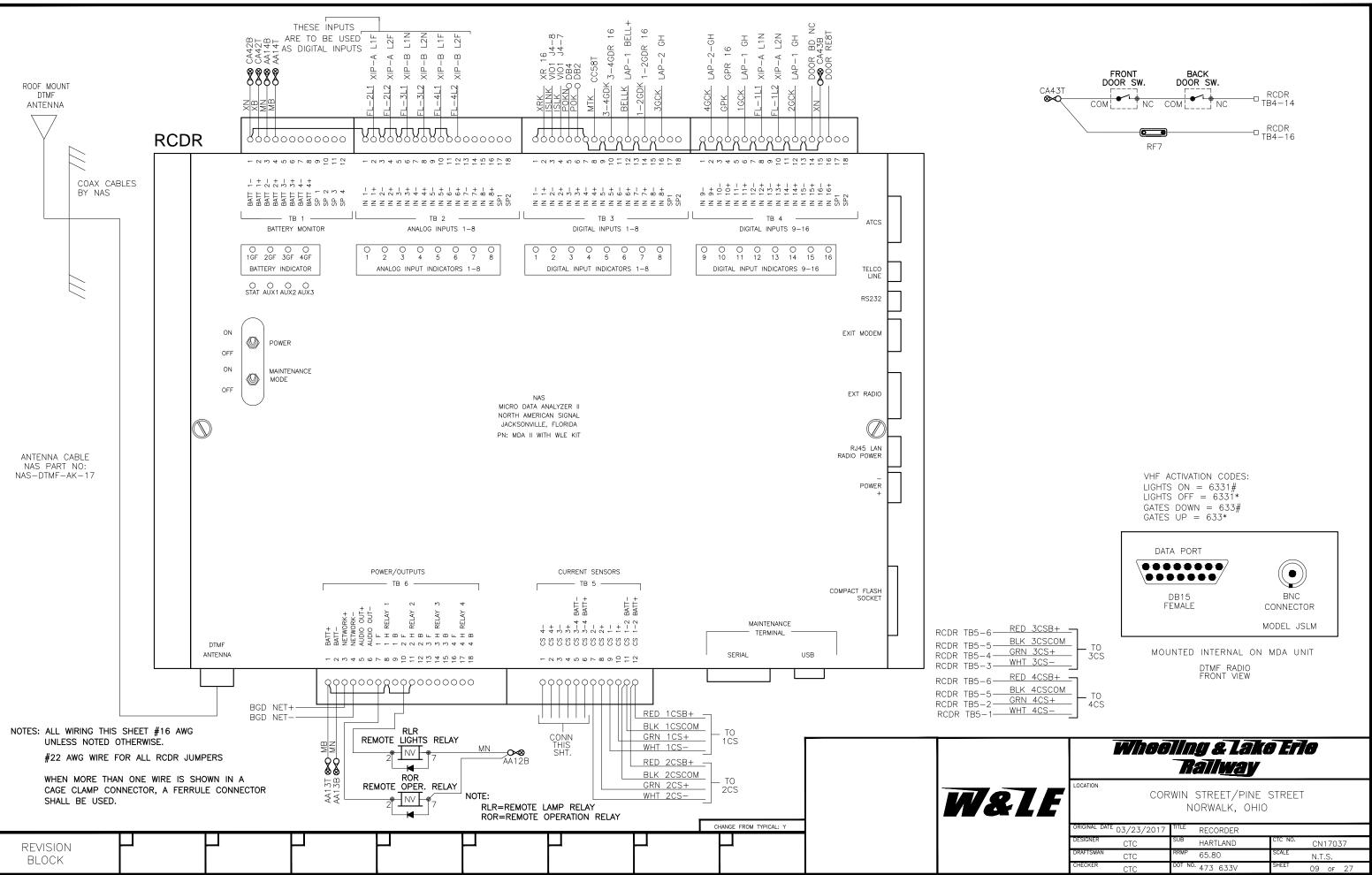


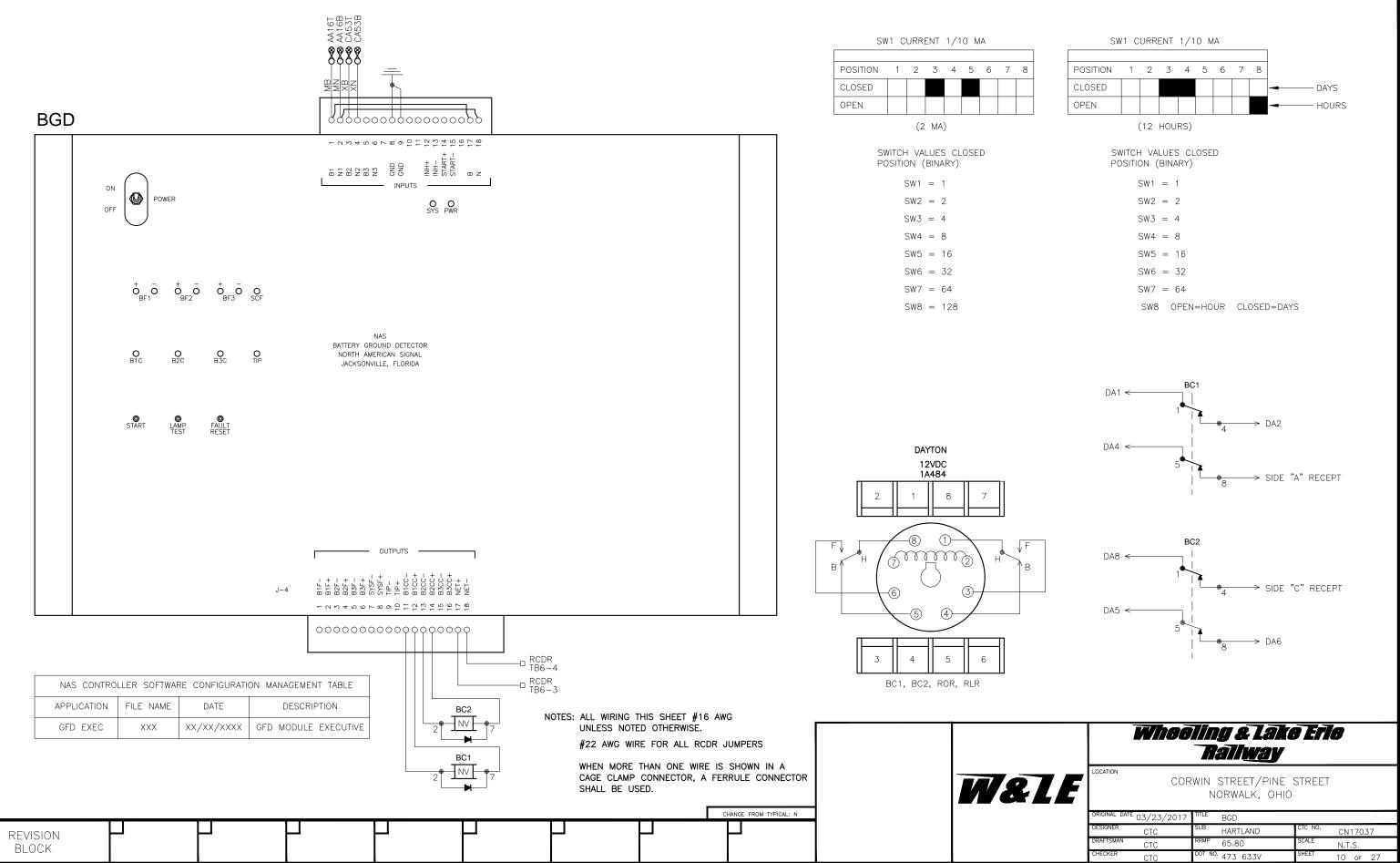
ORIGINAL DATE	03/23/2017	TITLE	XP4 SETUP SHEET		
DESIGNER	СТС	SUB	HARTLAND	CTC NO.	CN17037
DRAFTSMAN	СТС	RRMP	65.80	SCALE	N.T.S.
CHECKER	СТС	DOT NO.	473 633V	SHEET	05 of 27

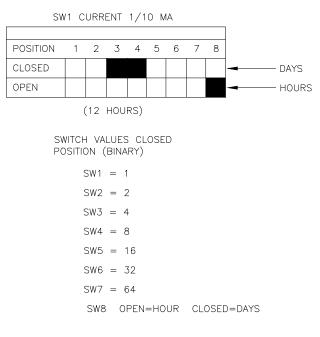


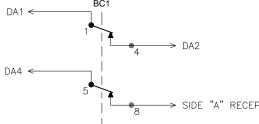


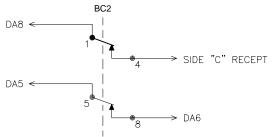


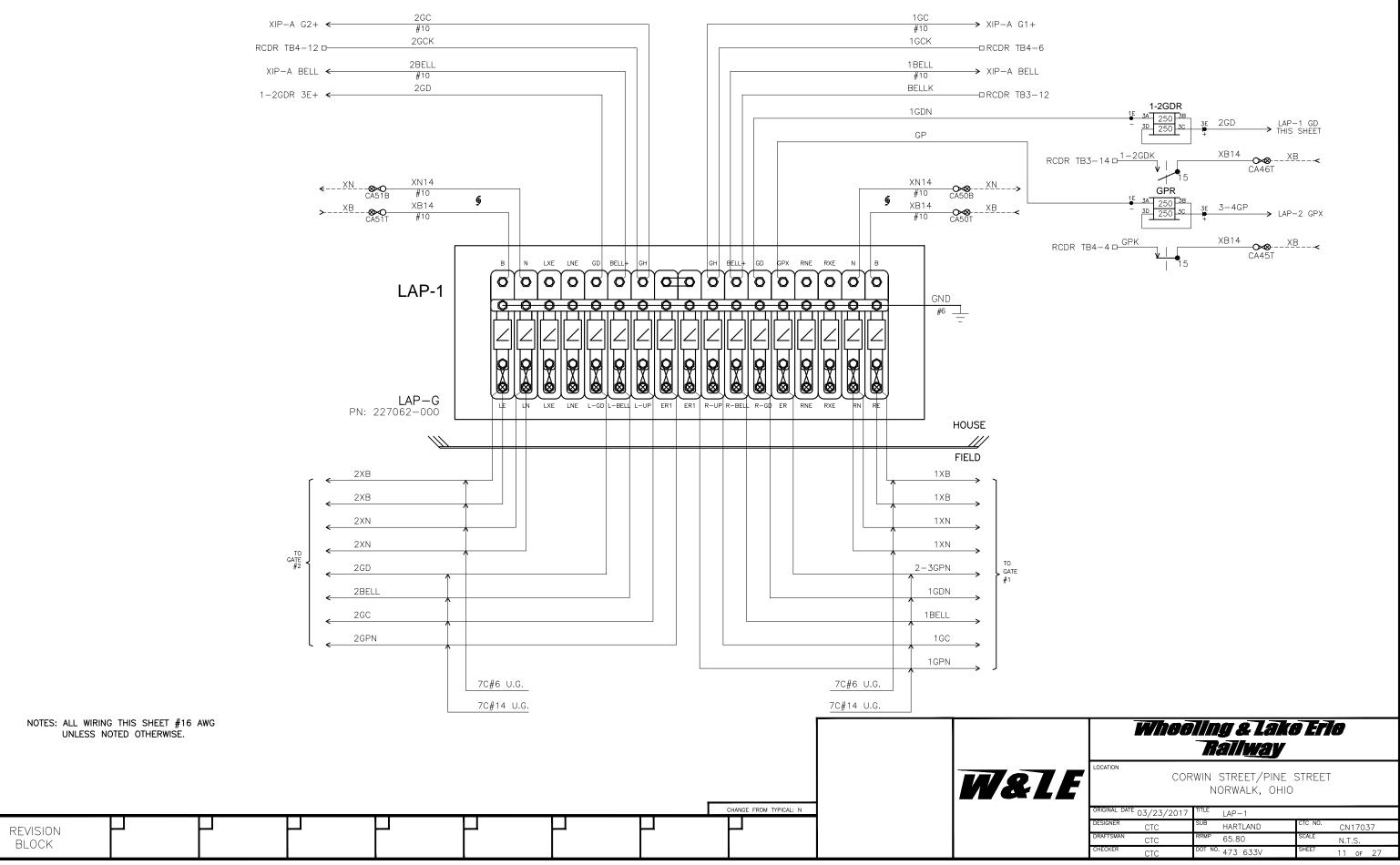


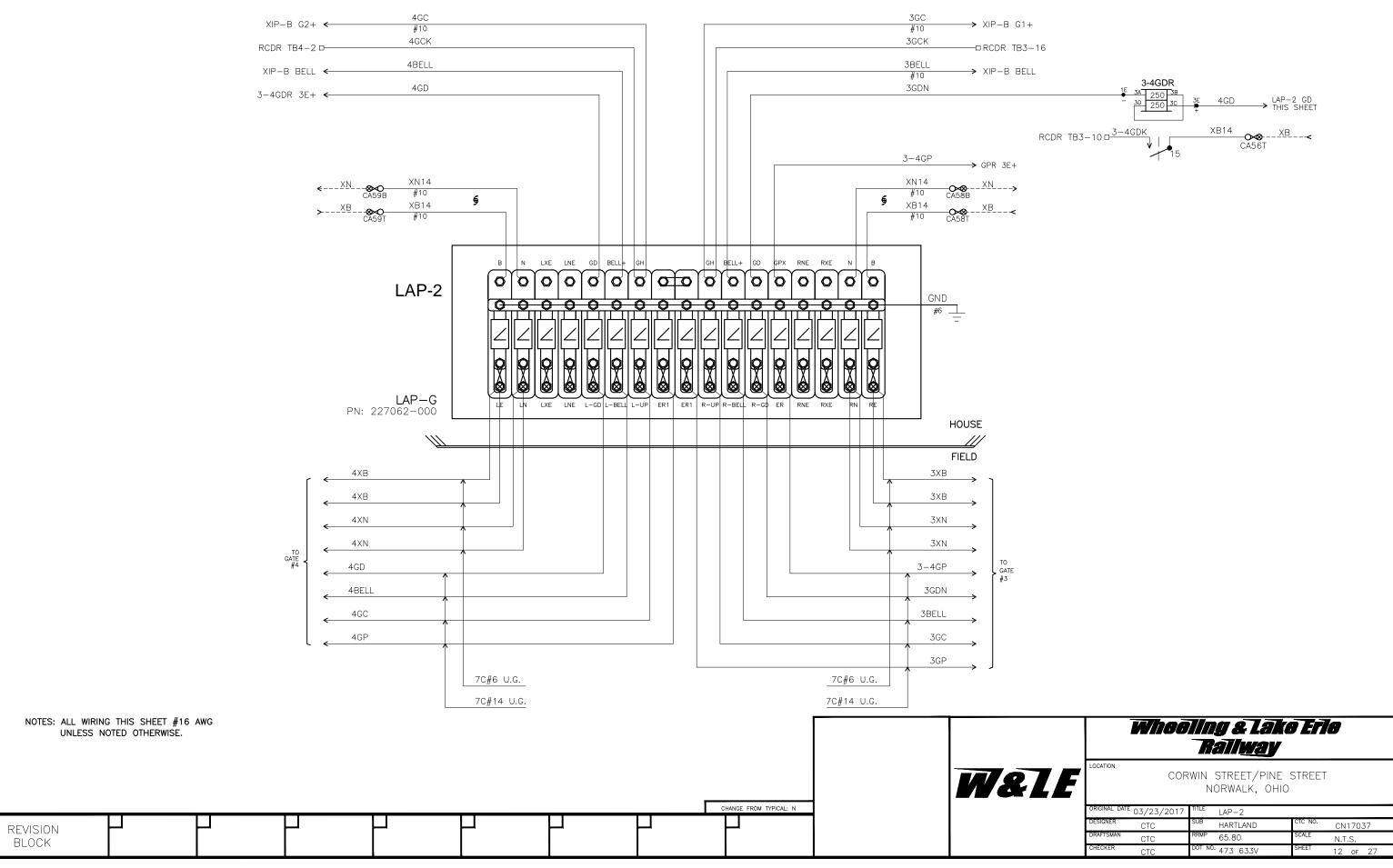


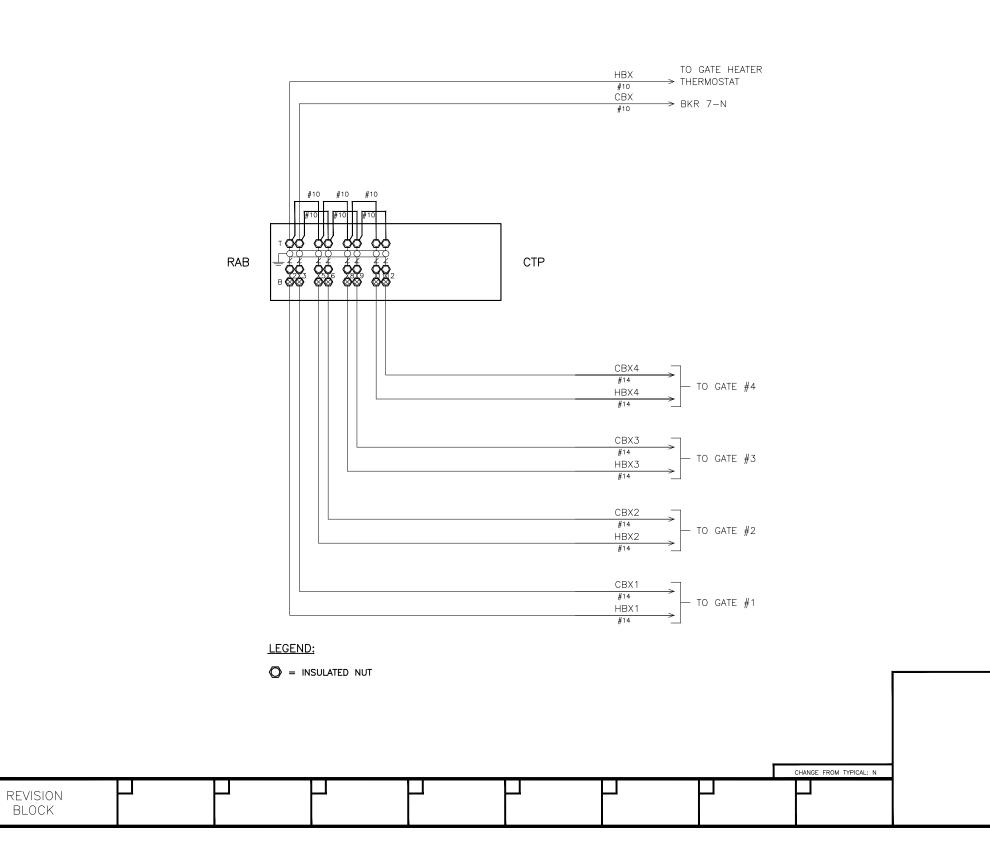




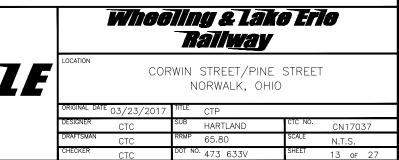




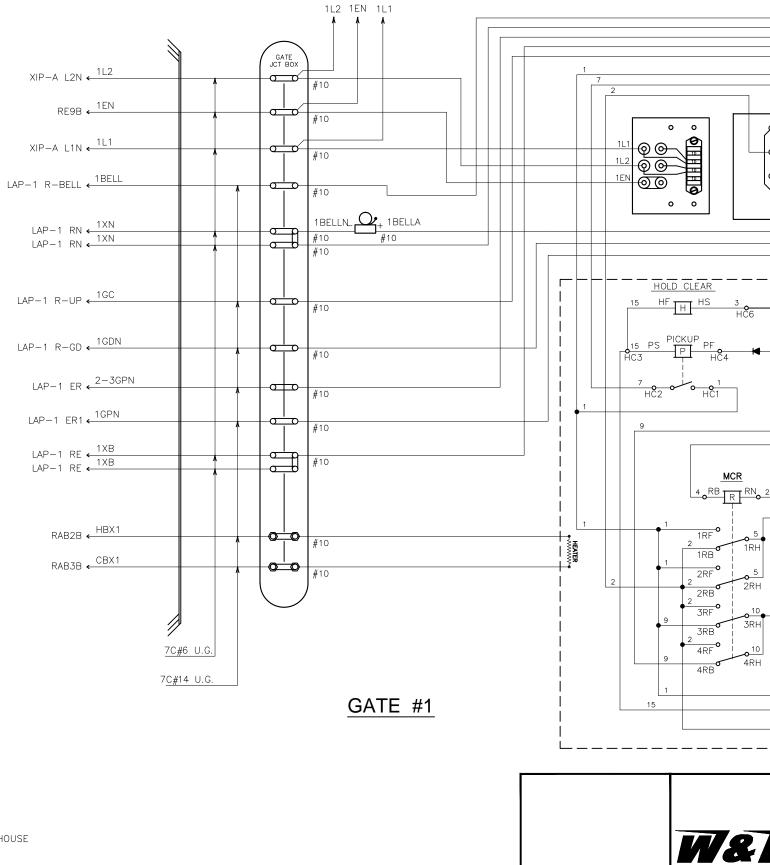




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CONTACT	CLOSED	FUNCTION	TENSION
1B	75-90 DEG.	POWER DOWN	18-28 OZ.
1F	0-70 DEG.	SNUB DOWN	18-28 OZ.
2	0-86 DEG.	POWER UP	18-28 OZ.
3	0-10 DEG.	GATE DOWN	16-24 OZ.
4	82-90 DEG.	GATE CLEAR	16-24 OZ.
5	10-90 DEG.	BELL	16-24 OZ.
6	SPARE	SPARE	16-24 OZ.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



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LEGEND:

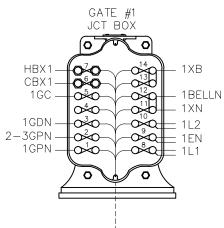
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NOTES:

\* BELL TO BE ELECTRONIC.

INTERNAL GATE WIRES THAT SHARE ELECTRICAL CONNECTIONS WITH OTHER WIRES THAT ARE ASSIGNED THE SAME NUMBER.

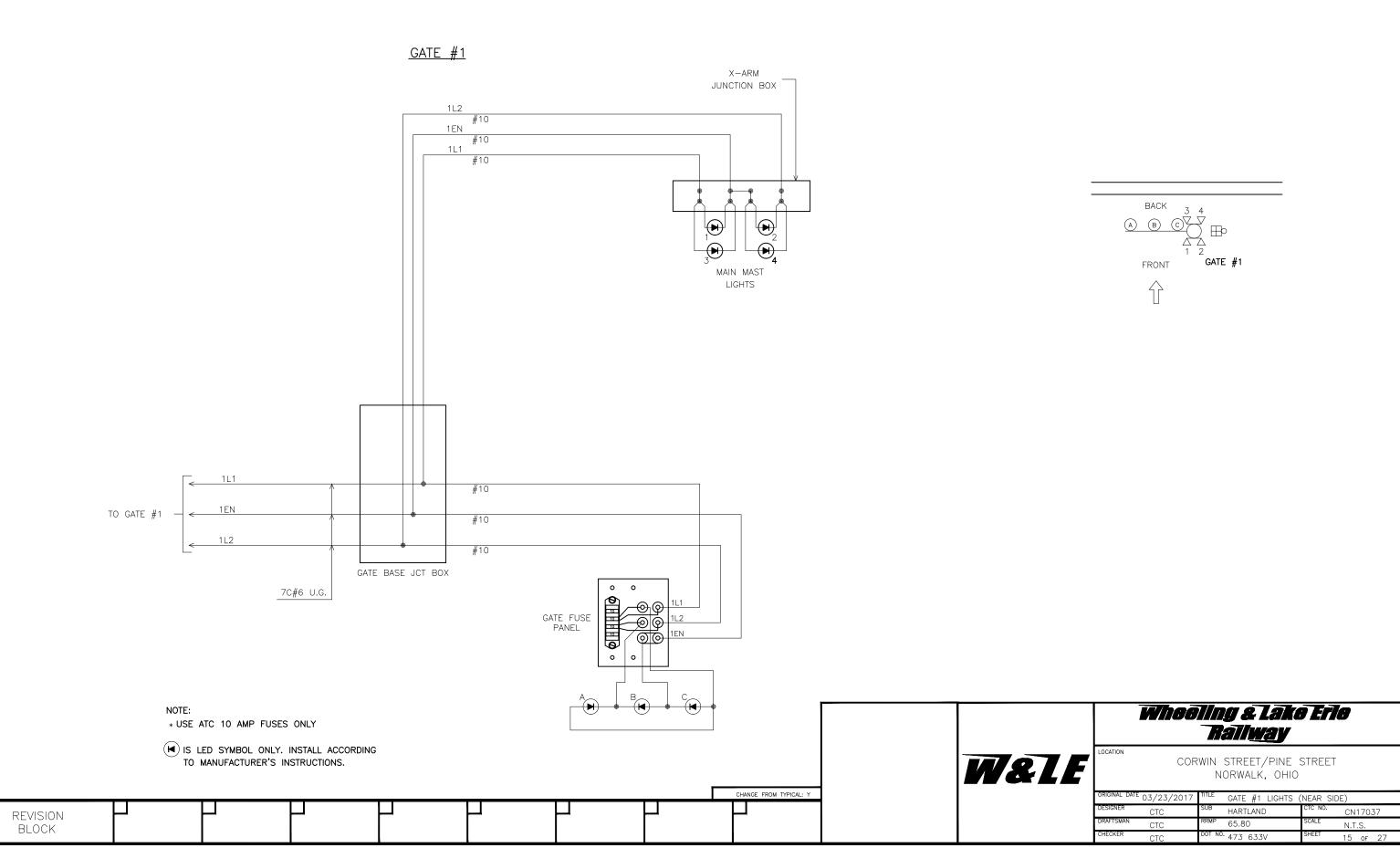
> REFER TO SHEET 15 FOR GATE ARM LIGHT WIRING

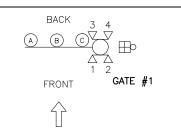


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LOCATION ORIGINAL DATE 03/23, DESIGNER CTC DRAFTSMAN CTC CHECKER CTC	CS SHR2 N.C. RED BLK GROGRNO VOO 1 EGM 2 WCH 3597 WCH 3597 CONTINUE A LAKO ETTO DOTINUE A LAKO ETTO NORWALK, OHIO /2017 TITLE GATE #1 MECHANISM (NEAR SIDE) SUB HARTLAND CTC NO. CN17037 RRMP 65.80 SCALE N.T.S. DOT NO. 473 633V SHEET 14 OF 27





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.



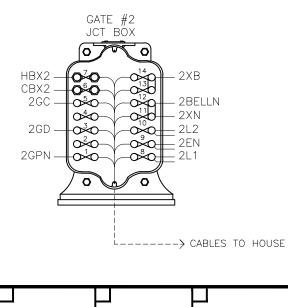
### NOTES:

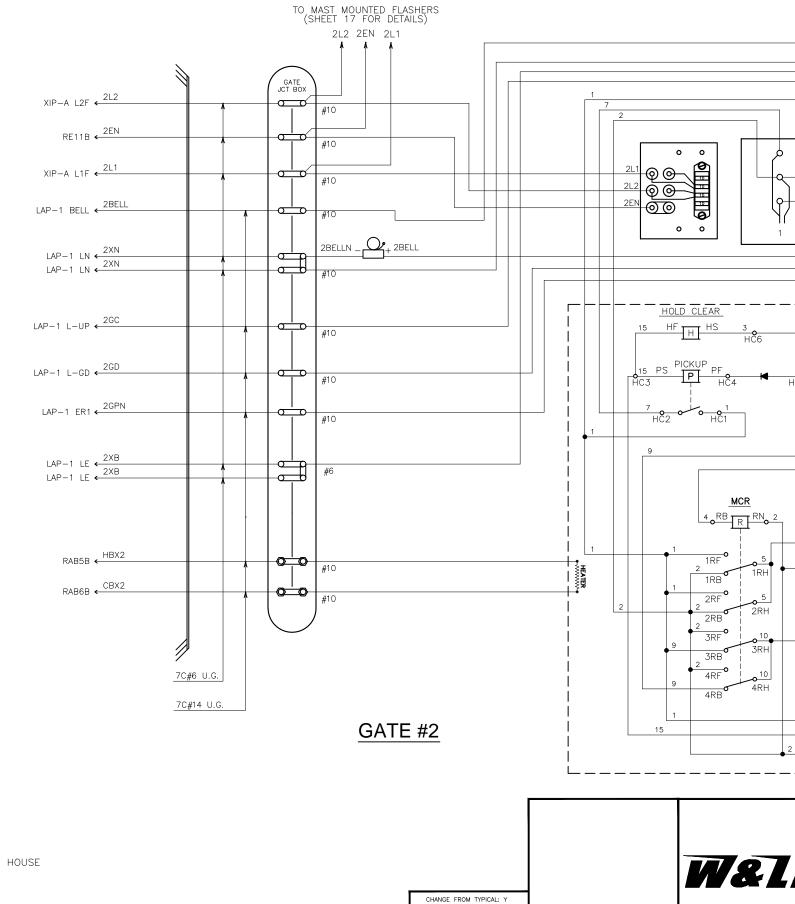
REVISION BLOCK

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

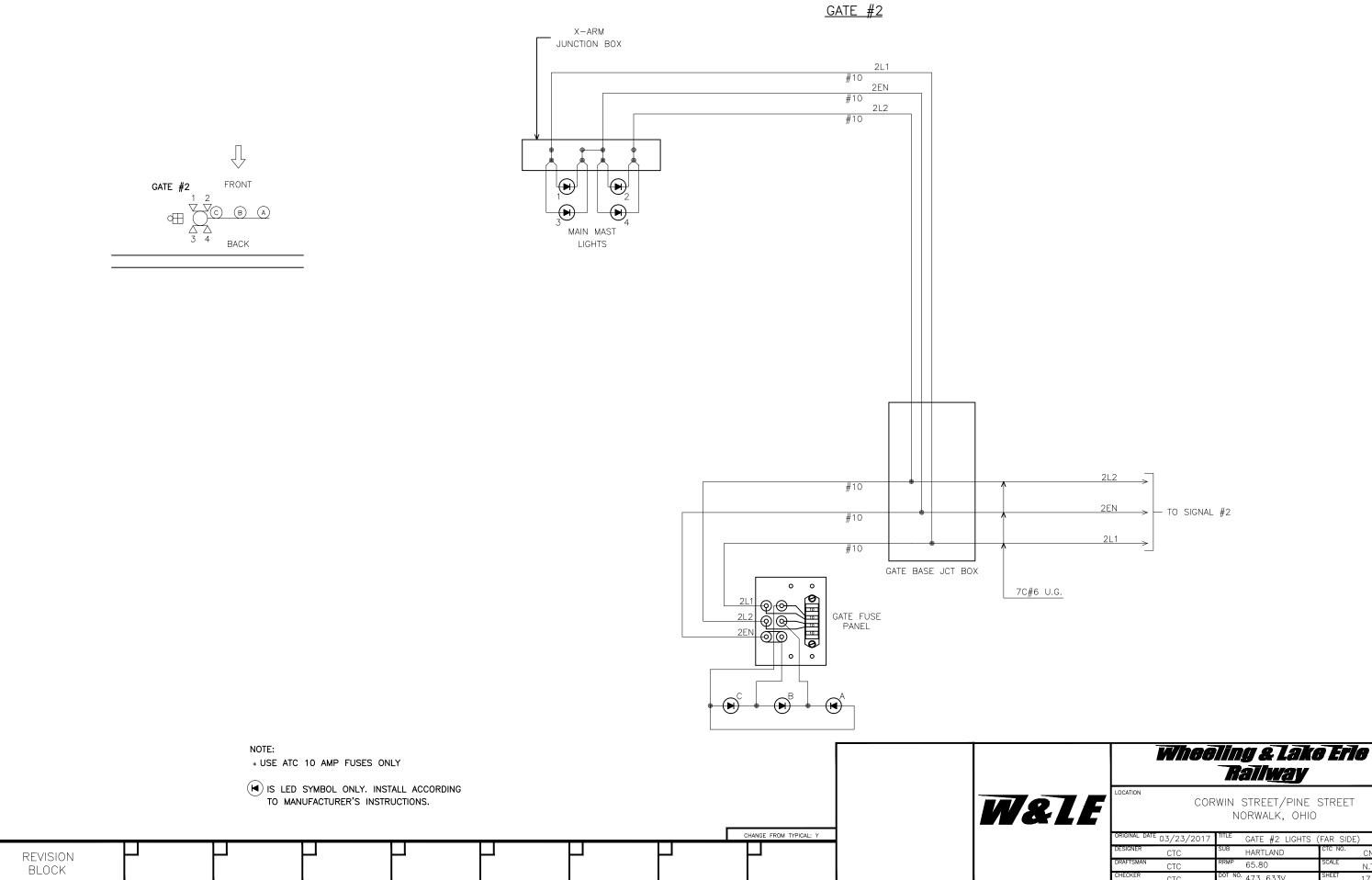
REFER TO SHEET 17 FOR GATE ARM LIGHT WIRING

ADD STRAP FROM: 3A TO 3B



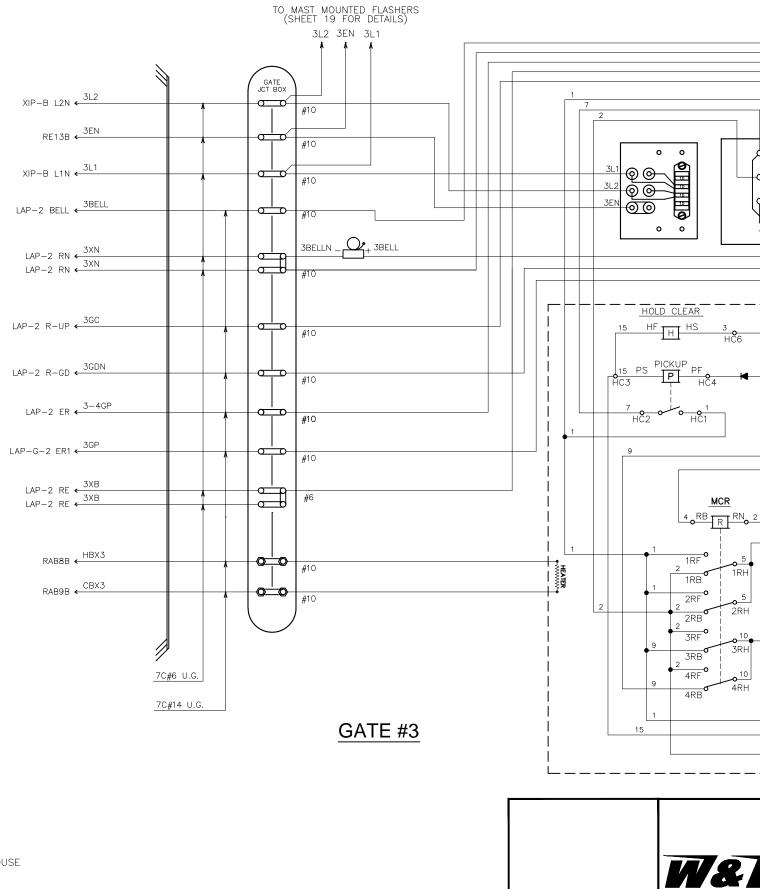


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2 2 2 2	CAM SWITCH TEST RUN DOWN 5 6 6 C2 C1 2 X00 6 C4 C3 00X 13 12 C11 C12 XX0 10 0 11 C6 C5 X00 1 0 0 11 C7 00X 15 2 C7 00X	SHORTING RESISTOR HR1 MA MOTOR MB C5 SHR2 14 MB C5 SHR2 14 MB C5 SHR2 14 MB C5 SHR2 14 MB C5 SHR2
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	LOCATION CORWIN STREET/PINE STREET NORWALK, OHIO					
ORIGINAL DAT	<sup>E</sup> 03/23/2017	TITLE	GATE #2 LIGHTS	(FAR SIDE	)	
DESIGNER	CTC	SUB	HARTLAND	CTC NO.	CN17037	
DRAFTSMAN	CTC	RRMP	65.80	SCALE	N.T.S.	
CHECKER	CTC	DOT NO.	∙473 633V	SHEET	17 оғ 27	

CONTACT	CLOSED	FUNCTION	TENSION
1B	75-90 DEG.	POWER DOWN	18-28 OZ.
1 F	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.



CHANGE FROM TYPICAL: Y

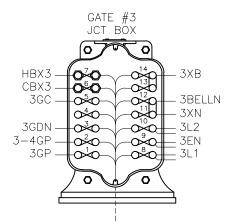
LEGEND:

🔘 = INSULATED NUT

NOTES:

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

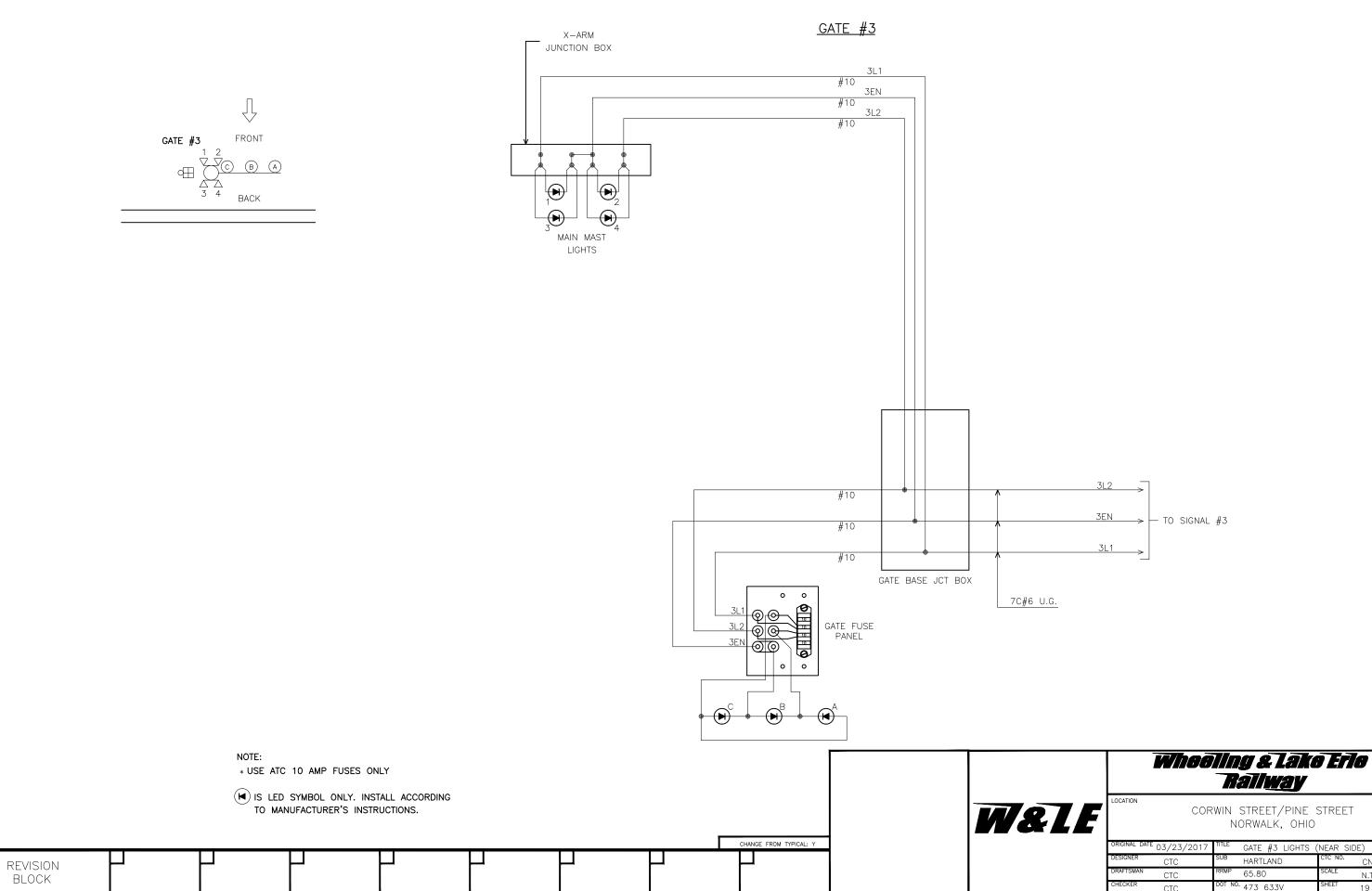
REFER TO SHEET 19 FOR GATE ARM LIGHT WIRING



L\_\_\_\_> CABLES TO HOUSE

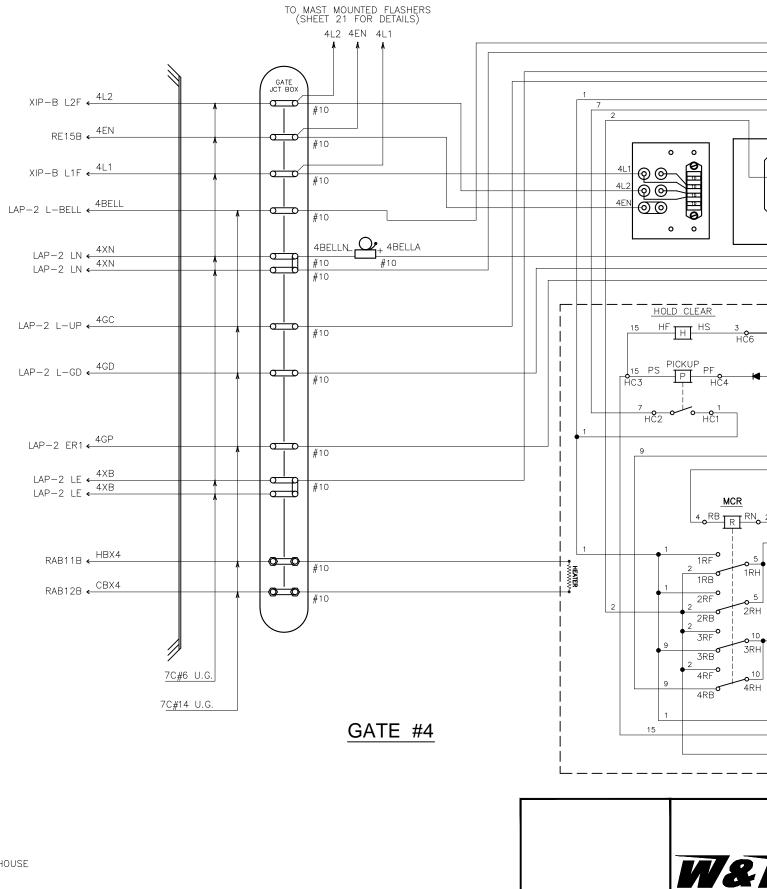
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			STREET/PINE S DRWALK, OHIO	STREET					
ORIGINAL DAT	ORIGINAL DATE 03/23/2017 TITLE GATE #3 LIGHTS (NEAR SIDE)								
DESIGNER	DESIGNER CTC SUB HARTLAND CTC NO. CN17037								
DRAFTSMAN	CTC	RRMP	65.80	SCALE	N.T.S.				
CHECKER	CTC	DOT NO.	473 633V	SHEET	19 OF 27				

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.



CHANGE FROM TYPICAL: N

LEGEND:

🔘 = INSULATED NUT

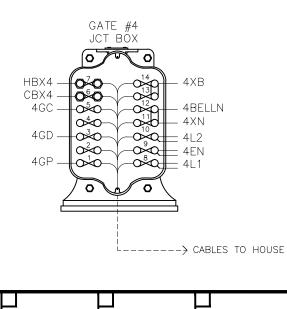
NOTES:

\* BELL TO BE ELECTRONIC.

INTERNAL GATE WIRES THAT SHARE ELECTRICAL CONNECTIONS WITH OTHER WIRES THAT ARE ASSIGNED THE SAME NUMBER.

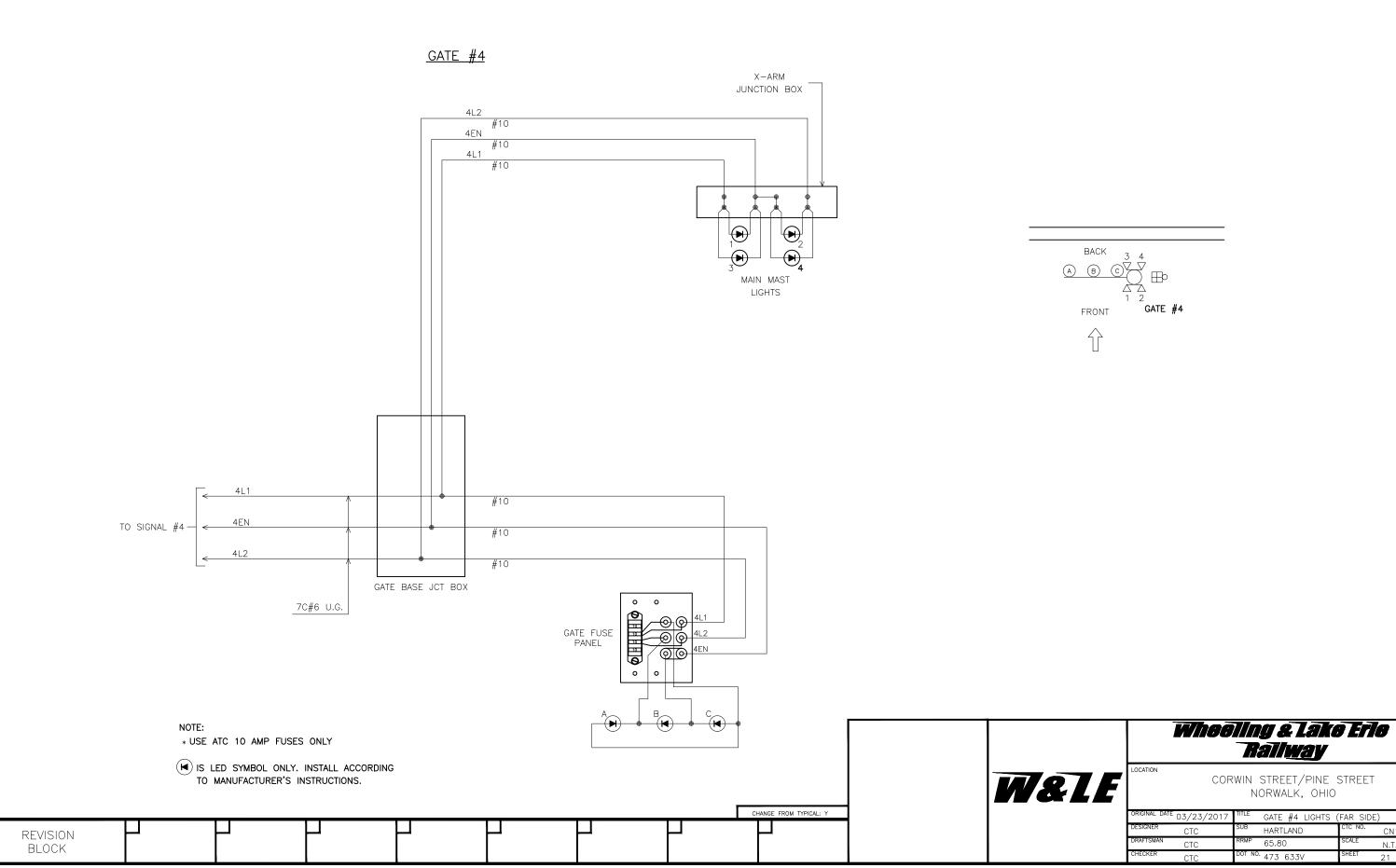
> REFER TO SHEET 21 FOR GATE ARM LIGHT WIRING

ADD STRAP FROM: 3A TO 3B & 3B TO 4B

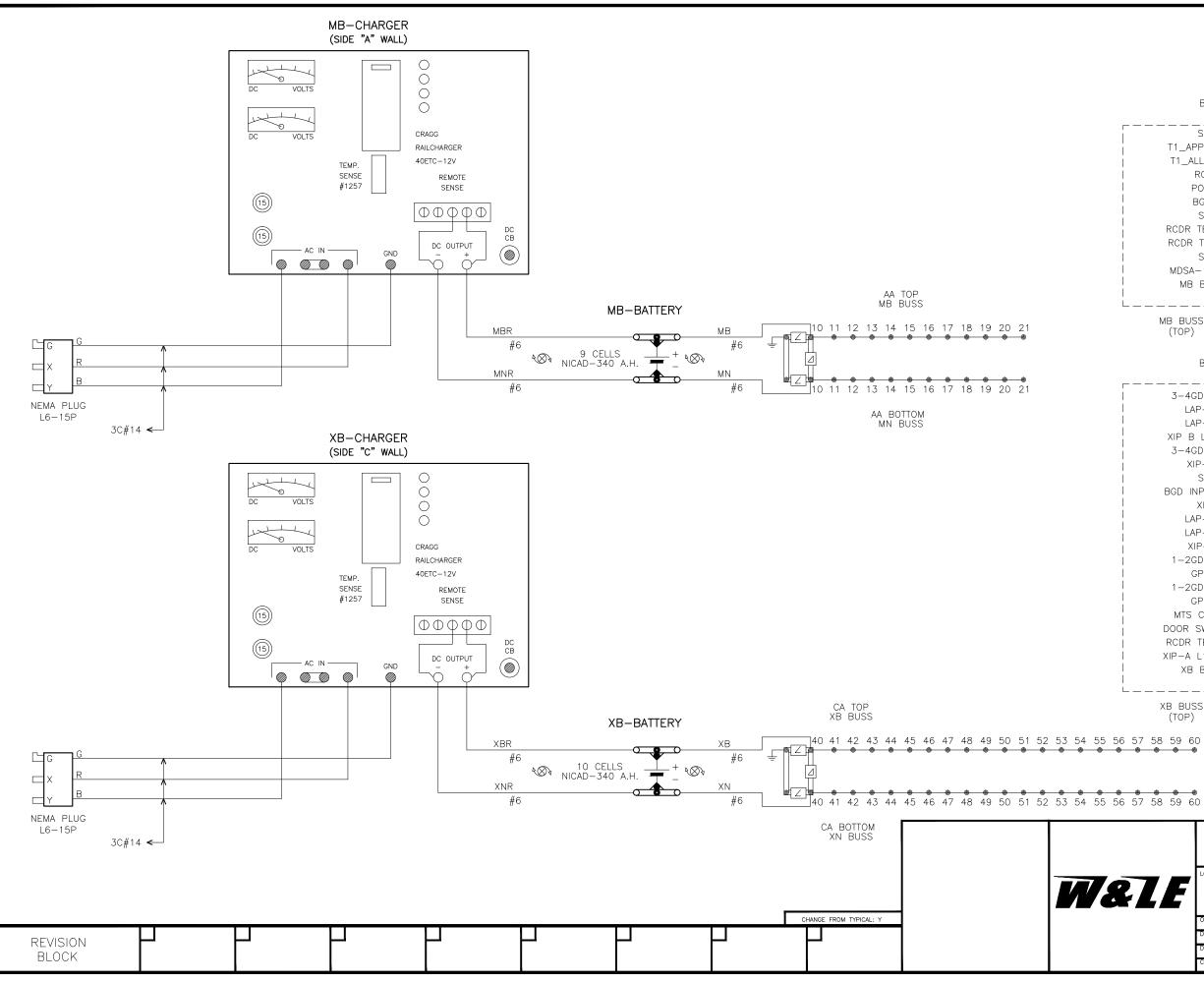


REVISION BLOCK

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4 HC5	3			
4	CAM _SWITCH_	<u>RE</u> ۹ مرگر	SNUB SISTER J 8 R1	
2	TEST RUN DOWN 5 0 6 C2 C1 2X00 6 C4 C3 00X	SHR1 SHR2 MA MOTOR ME		
• • •	$\begin{array}{c c} C11 & C12 \\ XX0 \\ \hline 10 & 11 \\ C6 & C5 \\ X00 \\ \hline 1 & 11 \\ \hline \end{array}$	C5 N.O.	14 12 3 YEL BLU MB 2B SHR2 N.C. SRNO VIO O ANO ACOM	
2	$\begin{array}{c c} C8 & C7 \\ \hline 00X & 2 \\ \hline 15 & 2 \\ C9 & C10 \\ \hline X00 & \end{array}$	1	EGM	7 
<b>T E</b>		CORWIN STREET	<b>ay</b>	
ZE	ORIGINAL DATE 03/23/2 DESIGNER CTC DRAFTSMAN CTC	NORWALK	, OHIO MECHANISM (FAR	
	CHECKER CTC	DOT NO. 473 633	3V SHEET	N.I.S. 20 of 27



ORIGINAL DATE 03/23/2017	TITLE GATE #4 LIGHTS (	FAR SIDE)
DESIGNER CTC	<sup>SUB</sup> HARTLAND	стс NO. CN17037
DRAFTSMAN CTC	<sup>RRMP</sup> 65.80	N.T.S.
CHECKER CTC	<sup>DOT NO.</sup> 473 633V	SHEET 21 OF 27



### BATTERY BUSS DETAILS

SPARE T1_APP 50T T1_ALL 45T ROR-4 PO DB1 BGD B1 SPARE RCDR TB1-4 RCDR TB6-1 SPARE MDSA-1 B+ MB BATT+	21 20 19 18 17 16 17 16 15 15 14 14 13 12 12 11 10	SPARE VIO1 J3-5 VIO1 J3-2 VIO1 J3-11 PO DB3 BGD N1 SPARE RCDR TB1-3 RCDR TB6-2 RLR-7 MDSA-1 B- MN BATT-
MB BUSS (TOP)	AA	MN BUSS (BOTTOM)
BATTER	Y BUSS	DETAILS
3-4GDR 25 LAP-2 B LAP-2 B XIP B LIB B 3-4GDR 15 XIP-B B SPARE BGD INPUT 3 XR 15 LAP-1 B LAP-1 B XIP-A B 1-2GDR 25 GPR 12 1-2GDR 15 GPR 15 MTS CC58T DOOR SWITCH RCDR TB1-2 XIP-A L1B-B XB BATT+	59         58         57         57         56         57         56         57         56         57         56         57         57         57         57         57         57         57         57         57         57         57         57         57         57         50         48         47         46         45         44         43         42         41	IXC-B J5-2         LAP-2 N         LAP-2 N         XIP-B LIB N         XIP-B G1-         XIP-B N         SPARE         BGD INPUT 4         SPARE         LAP-1 N         LAP-1 N         XIP-A N         IXC-A J5-2         IXC-A G1-         SPARE         IXC-A J5-10         XIP-A G1-         SPARE         IXC-A J5-14         RCDR TB4-15         RCDR TB1-1         XIP-A L1B-N         XN BATT-

\_\_\_\_ XB BUSS (TOP)

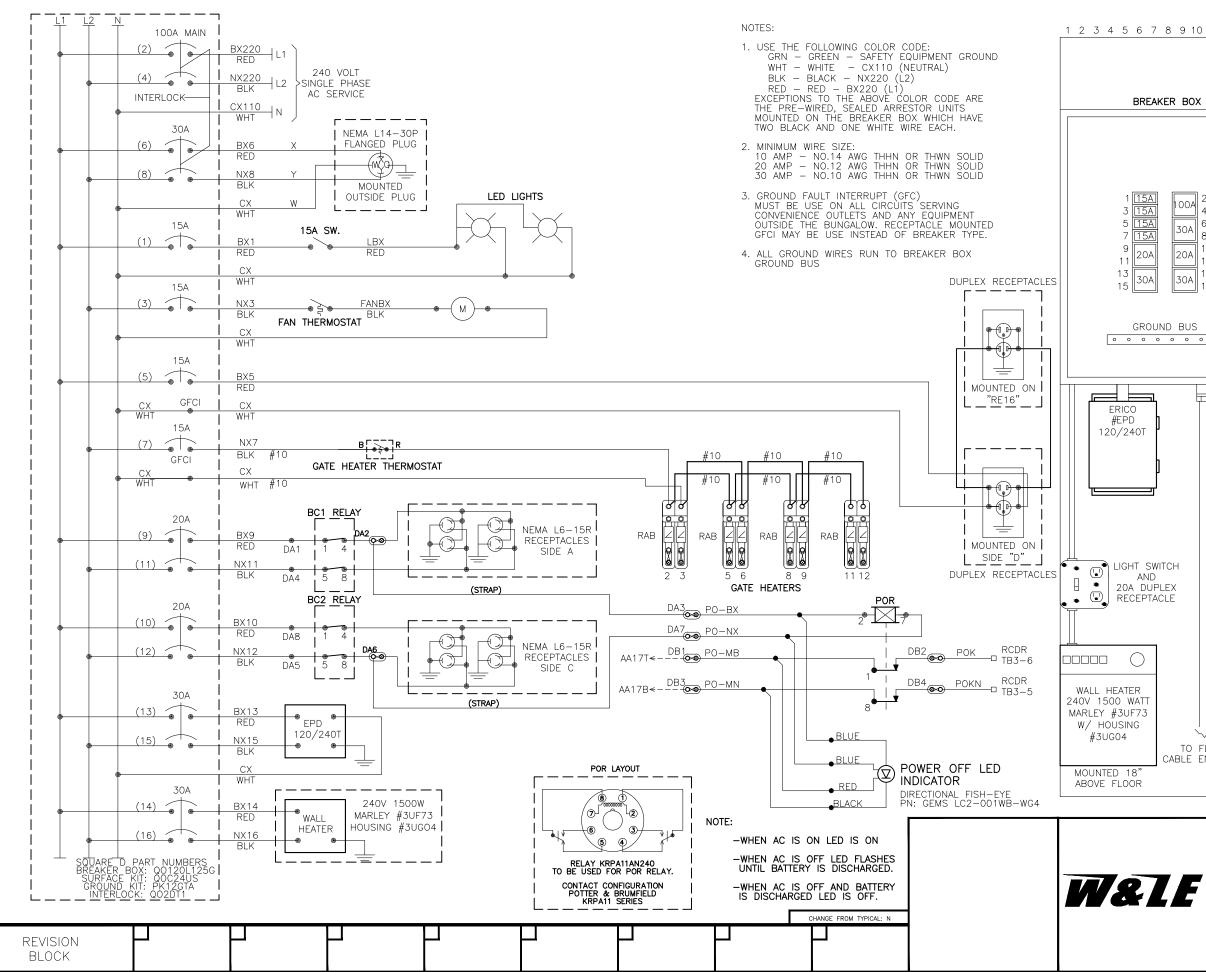
CA



XN BUSS

(BOTTOM)

ORIGINAL DATE	03/23/2017	TITLE	BATTERY CHARGER			
DESIGNER	CTC	SUB	HARTLAND	CTC NO.	CN17037	
DRAFTSMAN	CTC	RRMP	65.80	SCALE	1"=2'	
CHECKER	CTC	DOT NO.	473 633V	SHEET	22 OF 2	7



SIDE D 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 BREAKER BOX - 2 SIDE A 90-BX BRKR BRKR SIDE C PO-N £ DA DA 234 6 100A РО-М РОК М РОК М 30A BC2 BC1 10 DB 20A POR 12 14 30A HOFFMAN BOX GATE HEATER ଟି THERMOSTAT HONEYWELL GROUND BUS (0) TYPE T6031A ଟି SET @ 35 0 0 0 0 0 0 0 0 VENT/FAN THERMOSTAT ----

> SWITCH ND DUPLEX PTACLE T T 3 T 3 T 5 TO FLOOR CABLE ENTRANCE REMOTE BULB SENSOR LOCATED UNDER FLOOR

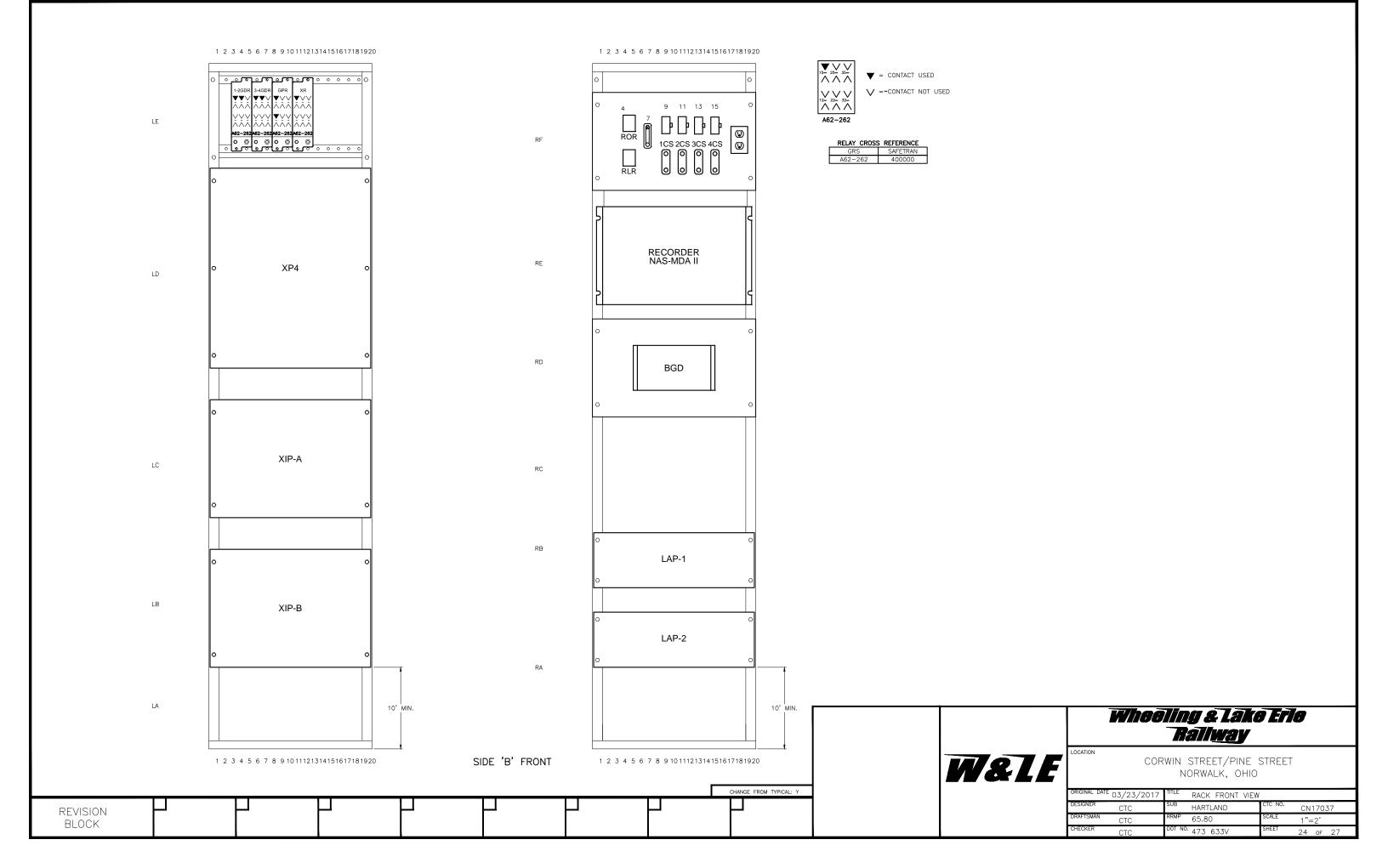
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 Corwin Street
 Corwin Street

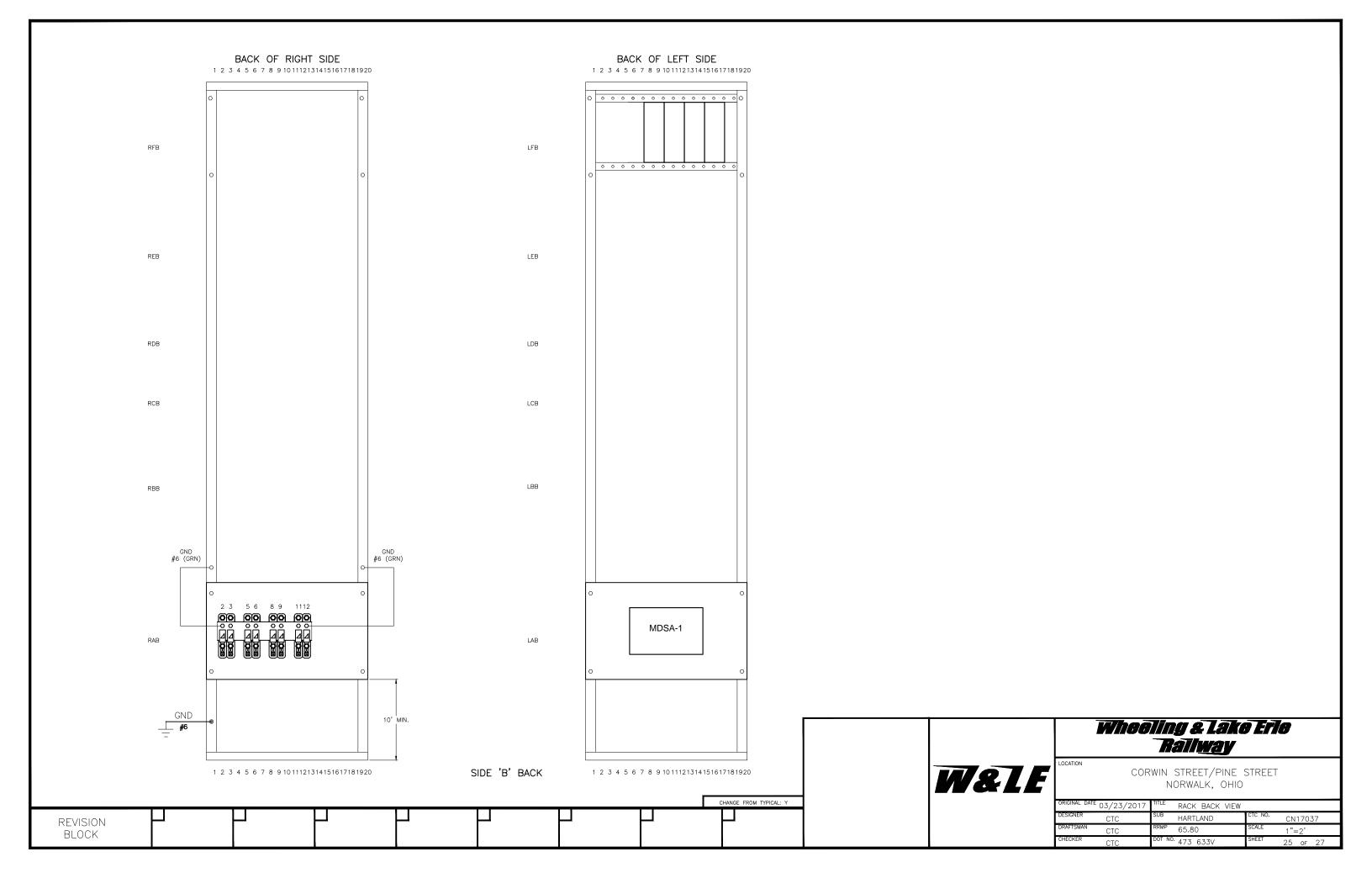
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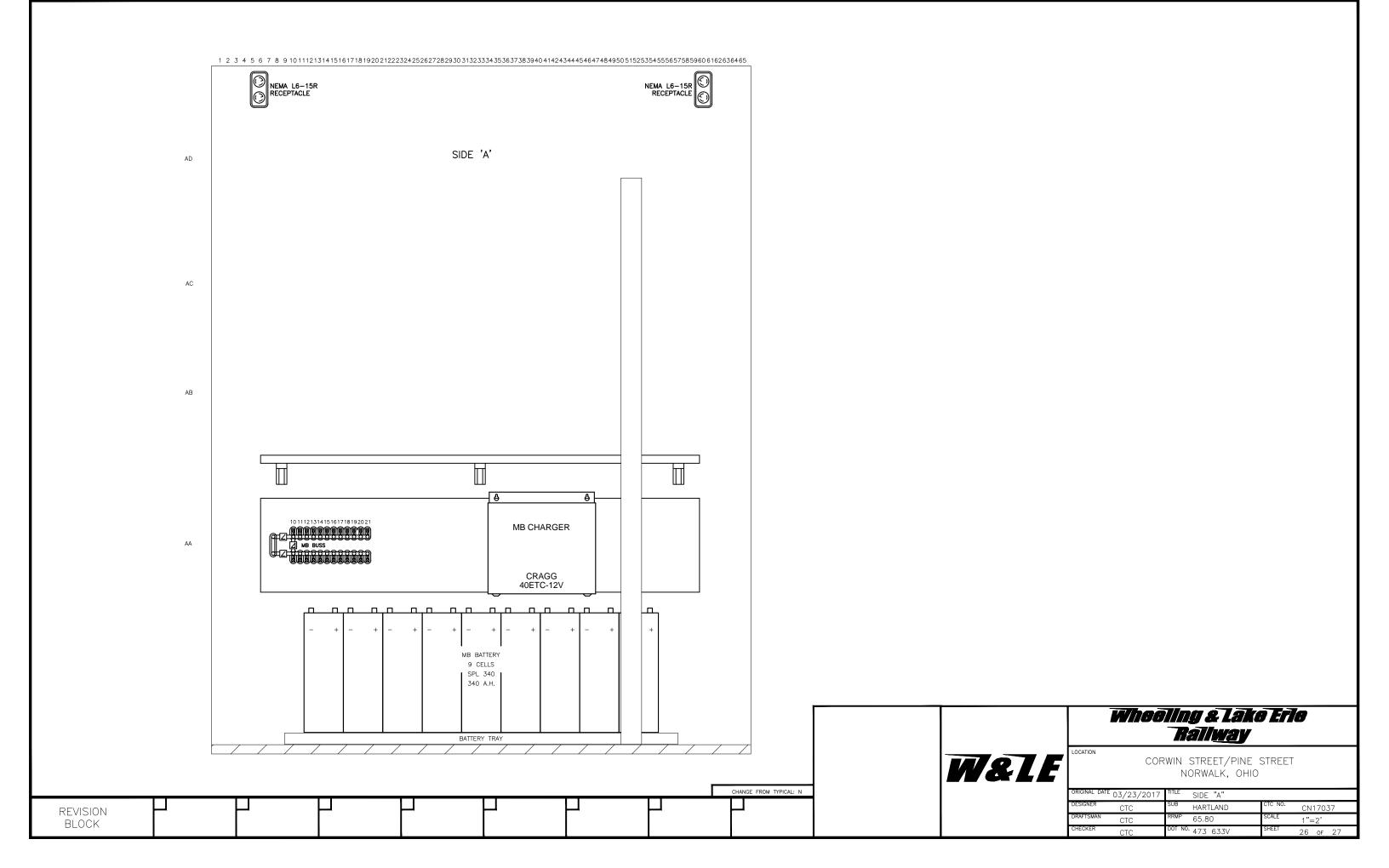
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 Corwin Street
 Norwalk, Ohio

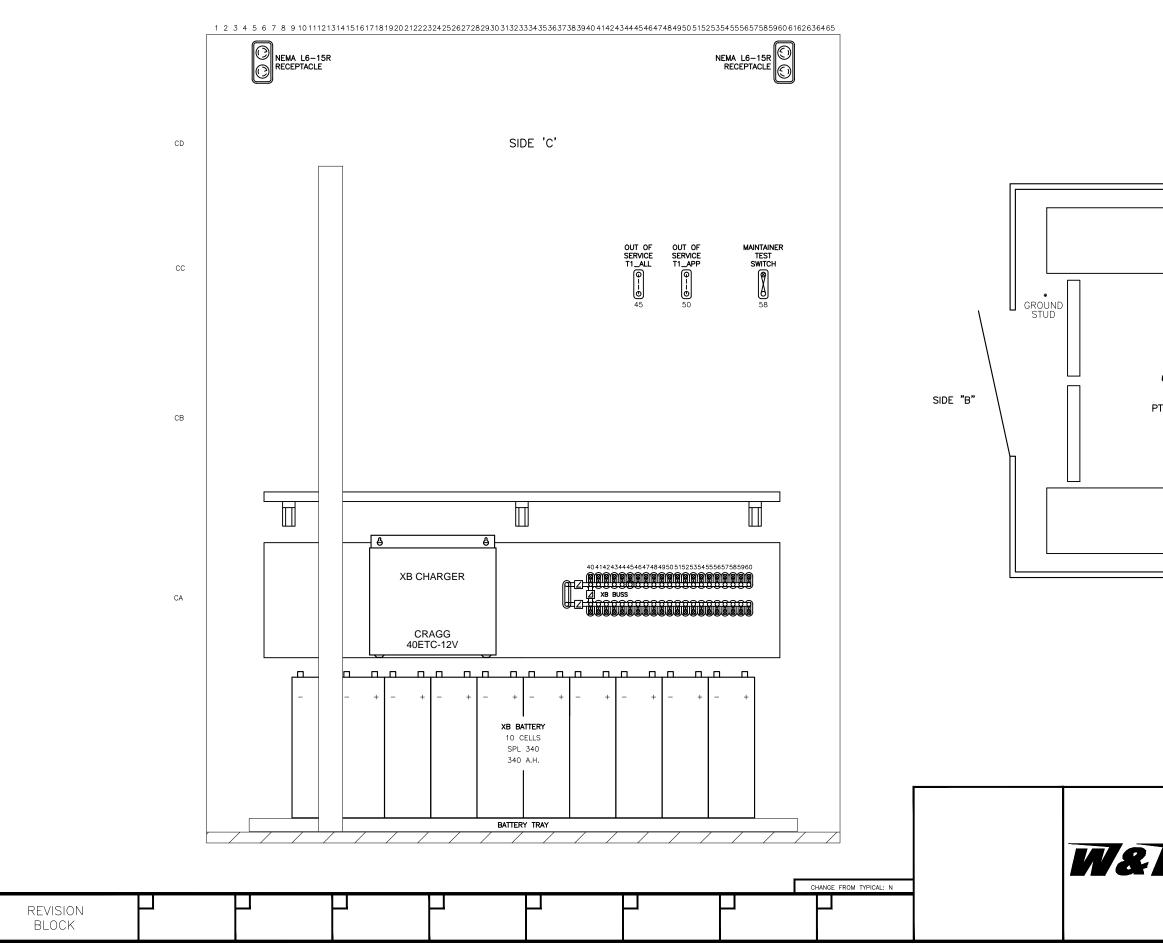
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	e to trac De "C"	жs 	1	NOTE: P.O.I. MOU PARALLEL	INTED ON SIDI TO TRACK	e of house
6' X 6' Al BUNGA PTMW PN:91	LOW	:			SID	E "D"
	<b>ide "A"</b> De to fie					
		Whe		<b>y e la</b> allwa		10
ZE	LOCATION	(		STREET/PI ORWALK, C		Γ
			<b>TITL</b>			
	ORIGINAL DATE		017 TITLE SUB	SIDE "C"	CTC NO.	0147077
	ORIGINAL DATE DESIGNER DRAFTSMAN	03/23/2 CTC CTC		SIDE "C" HARTLAND 65.80	CTC NO. SCALE	CN17037 1"=2'

# WHEELING & LAKE ERIE RAILWAY COMPANY

Tim Andrews100 East First StreetSignal & Communication SupervisorBrewster, OH 44613Tel. 330-767-7255tandrews@wlerwy.comFax: 330-767-3213

28 April 2017

Ohio Rail Development Commission Mr. Neff

Re: Estimate for Railroad Crossing Warning System at Corwin St.,

Dear Mr. Neff,

I am providing this estimate for the crossing package and installation at Corwin St. Installation will be performed under our continuing construction agreement with CTC LLC.

CTC Managed Services, Material Package, & Installation	\$262,565.49
Crosier Inc.	\$46,300.00
Fill Materials	\$2,500.00
Four Gate Foundations (note 1)	\$2,392.00
Electric Service	\$3,500.00
WLE Direct Labor	\$7,500.00
Estimated Total	\$324,757.49

Please contact me if additional details are required.

Respectfully,

**Tim Andrews** 4 Te

Notes.

1: Direct purchase from Fabricated Metals, 60' galvanized gate foundation, \$598 ea.

# Wheeling & Lake Erie Railway Co. Norwalk, Ohio - Corwin/Pine St. DOT# 473 633V Project Estimate - CN17037

ENGINEERING						
Description	Qty	иом	Unit Price		Amount	
SIGNAL DESIGNER	120	HR	32.69		\$3,922.80	
SIGNAL CHECKER, LEVEL 1	16	HR	39.66		\$634.56	
SIGNAL CHECKER, LEVEL 2/FIELD ENGINEER		HR	39.66		\$0.00	
SUBTOTAL					\$4,557.36	
G&A BURDEN FOR LABOR					\$8,339.97	
FIXED FEE					\$1,289.73	
ENGINEERING TOTAL					\$14,187.06	

PROJECT MANAGEMENT							
Description Qty UOM Unit Price Amount							
SENIOR SIGNAL ENGINEER	12	HR	\$75.48	\$905.76			
PROJECT MANAGER	24	HR	\$39.66	\$951.84			
CONSTRUCTION MANAGER	80	HR	\$39.66	\$3,172.80			
ACCOUNTING, LEVEL1	16	HR	\$39.81	\$636.96			
ADMINISTRATIVE	4	HR	\$25.48	\$101.92			
SUBTOTAL				\$5,769.28			
G&A BURDEN FOR LABOR				\$10,557.78			
FIXED FEE				\$1,632.71			
PROJECT MANAGEMENT TOTAL				\$17,959.77			

CONSTRUCTION LABOR							
Description Qty UOM Unit Price Amount							
SIGNAL FOREMAN	120	HR	\$29.04	\$3,484.80			
SIGNALMAN	120	HR	\$23.40	\$2,808.00			
SIGNAL HELPER	240	HR	\$19.00	\$4,560.00			
SUBTOTAL				\$10,852.80			
G&A BURDEN FOR LABOR				\$19,860.62			
FIXED FEE				\$3,071.34			
CONSTRUCTION LABOR TOTAL				\$33,784.77			

CONSTRUCTION LABOR EXPENSES				
Description	Qty	иом	Unit Price	Amount
EMPLOYEE MEALS (PER DIEM)	48	EA	\$30.00	\$1,440.00
EMPLOYEE TRAVEL & LODGING	48	EA	\$60.00	\$2,880.00
MOBILIZATION	5	EA	\$1,000.00	\$5,000.00
SUBTOTAL				\$4,320.00
CONSTRUCTION LABOR EXPENSES TOTAL				\$13,640.00

## Wheeling & Lake Erie Railway Co. Norwalk, Ohio - Corwin/Pine St. DOT# 473 633V Project Estimate - CN17037

CONSTRUCTION EQUIPMENT						
Description Qty UOM Unit Price Ar						
TRUCK, PU, 1 TON CREW CAB	120	HR	\$15.71	\$1,885.20		
TRUCK, BOOM, ART, TELESCOPING	40	HR	\$55.95	\$2,238.00		
TRAILER, UTILITY, 4 TIRE, 12,000lbs SC410	120	HR	\$7.55	\$906.00		
RENTAL EQUIPMENT (FORK LIFT/BACKHOE/SKYTRAK)	1	WK	\$1,200.00	\$1,200.00		
EQUIPMENT DELIVERY/PICKUP	1	LS	\$150.00	\$150.00		
SUBTOTAL				\$6,379.20		
CONSTRUCTION EQUIPMENT TOTAL				\$6,379.20		

MATERIAL				
Description	Qty	UОМ	Unit Price	Amount
HOUSE MATERIAL (SEE ATTACHED DETAIL)	1	LS		\$69,252.16
FIELD MATERIAL(SEE ATTACHED DETAIL)	1	LS		\$93,362.54
HOUSE AND SIGNAL WIRING	1	LS		\$8,000.00
FILL DIRT		TN	\$7.50	\$0.00
CONCRETE		YD	\$500.00	\$0.00
COVER ROCK		TN	\$26.50	\$0.00
BORING 4"		FT	\$35.00	\$0.00
ELECTRICAL PERMITS		EA	\$3,500.00	\$0.00
METER POLE ASSY AND INSTALLATION		EA	\$2,500.00	\$0.00
FREIGHT & CONTAINER PRICE	1	LS		\$6,000.00
SUBTOTAL				\$176,614.70
MATERIAL TOTAL				\$176,614.70

TOTAL PROJECT ESTIMATE

\$262,565.49

HOUSE MATERIALS					
Description	QTY	UOM	MANUFACTURER PN	Unit Price	Total Price
HOUSE 6X6 AL WLE W/2-23" RKS	1	EA	PTMW	\$11,500.00	\$11,500.00
ASSY XP4 SINGLE TRACK REDUNDANT 40 AMP CC	1	EA	16-220004433-00	\$28,205.00	\$28,205.00
ASSY MDSA-1A	1	EA	250204-001C	\$315.00	\$315.00
CHARGER 40A 12V CRAGG 40ETC12V	2	EA	017061-203	\$790.00	\$1,580.00
RECTIFIER POWER CORD 14/4 SJE BLK	70	FT		\$1.00	\$70.00
BATTERY NICAD 425 AH SPL-425	10	EA		\$390.00	\$3,900.00
BATTERY NICAD 250 AH SPL-340	9	EA		\$350.00	\$3,150.00
TRAY BATTERY 12 X 27" POLYETHYLE	4	EA	7438-01	\$32.96	\$131.82
THERMOSTAT SPDT REMOTE BULB 8A	1	EA	009186-004	\$73.94	\$73.94
RLY DPDT 12VDC 5A OCT	4	EA	007192-032	\$13.22	\$52.89
SCKT RLY 8-PIN OCT SCREW PNLMT	4	EA	132246-001	\$4.48	\$17.91
ASSY AGA-1 ARRESTOR	20	EA	202216-001	\$20.76	\$415.14
ASSY AGE-1 EQUALIZER	4	EA	202217-000	\$21.75	\$86.99
XIP CABLE 20FT	4	EA	750470-004	\$97.00	\$388.00
POWER OFF LIGHT KIT	1	EA	LC2-005WD	\$116.40	\$116.40
CDU-1 CONTROL AND DISPLAY UNIT	1	EA	251124-000	\$455.00	\$455.00
NUT INSULATED HARMON	60	EA	013986-000	\$2.97	\$178.20
XIP MODULE INTERFACE PANEL	2	EA	227561-000	\$562.00	\$1,124.00
LAMP ARRESTOR PANEL (LAP-G)	2	EA	227062-000	\$909.00	\$1,818.00
TIP LIGHT DIODE	4	EA	227194-100	\$50.00	\$200.00
MICRO DATA ANALYZER II WLE PK	1	EA	072113-100	\$6,880.00	\$6,880.00
MDA CURRENT SENSOR	2	EA		\$220.00	\$440.00
BATTERY GROUND DETECTOR	1	EA	NAS	\$1,250.00	\$1,250.00
RELAY 500 OHM 6FB NEUTRAL	4	EA	ST1 400000	\$750.00	\$3,000.00
RELAY PLUGBOARD B1 W/10-14 CRIMP TERMINALS	4	EA		\$203.00	\$812.00
TEST LINK W/PLT & INSUL	60	EA	032257-002	\$1.98	\$118.80
WIRE 16AWG/19 TC EPR/PVC BLU	500	FT	012092-002	\$0.22	\$110.00
WIRE 10AWG/19 TC EPR/PVC BLU	550	FT	012092-000	\$0.62	\$338.80
WIRE 6AWG/19THHN BLK	50	FT	012253-000	\$0.79	\$39.60
WIRE 6AWG/19 THHN RED	50	FT	012253-003	\$0.84	\$41.80
WIRE 6AWG/19 THHN GRN	30	FT	012253-002	\$0.75	\$22.44
CABLE RAW 3/14AWG PWR 300V	30	FT	012690-010	\$0.77	\$23.10
RES ADJ WW 15W 5.69 OHM PNLMNT	1	EA	002238-101	\$26.09	\$26.09
CONN PLUG L6-15 250V 15A 2P3W	2	EA	132286-001	\$11.53	\$23.06
ASSY 2WAY TERM BLK W/AAR HARD	40	EA	202810-000	\$15.82	\$632.72
ASSEMBLY, 4 POST TERMINALBLOCK	10	EA	203032-000	\$43.48	\$434.83
ASSY TERM STRIP DBL POST 12	5	EA	250094-300	\$19.77	\$98.84
GROUND POST P5-162	4	EA	113047-000	\$25.94	\$103.75
WRENCH AAR TERMINAL	1	EA	095058-001	\$15.28	\$15.28
KIT APRVD SM PARTS/SL XING	1	EA	180394-590	\$1,058.90	\$1,058.90
LABEL, DANGER 240 V, 1.75 X 2.	1	EA	SQS109	\$3.86	\$3.86

FIELD MATERIALS					
Description	QTY	иом	MANUFACTURER PN	Unit Price	Total Price
KIT TORQUE WRENCH S/T 070981X	1	EA	2587-01	\$256.38	\$256.38
SO CORD 10/3	120	FT		\$0.90	\$108.00
GATE ARM 16-32' UHI LED LGHTS	4	EA	076045-014	\$613.73	\$2,454.94
SLEEVE 4 ALUMINUM REC #92958	4	EA	14187-01	\$44.33	\$177.32
LED INSERT DIALIGHT FLX4000	16	EA	076048-109	\$520.00	\$8,320.00
DECAL, DOT STRIP	4	EA		\$16.00	\$64.00
BELL ELECTRONIC CROSSING 4/5"	4	EA	6147-01	\$210.03	\$840.14
ASSY WLE STANDARD FLASHER/GATE W/O ARM, GATE ARM LIGHTS, GATE KEEPER	4	ASSY	стс	\$14,300.00	\$57,200.00
TAPE MARKER BURIED RR CABLE	1	EA	029989-000	\$21.43	\$21.43
CABLE UG 3 COND #6 W/GRND AWG SOLID	200	FT	1013-02	\$5.10	\$1,020.00
CABLE UG 7 COND #6 AWG SOLID	1000	FT	1077-02	\$8.30	\$8,300.00
CABLE UG 7 COND #14 AWG SOLID	1000	FT	1023-02	\$3.05	\$3,050.00
WIRE UG TRK #6 AWG DUPLEX	800	FT	1094-02	\$2.05	\$1,640.00
PVC CONDUIT PACKAGE	2	LOT		\$2,500.00	\$5,000.00
PVC CEMENT, 1QT W/BRUSH TOP	1	EA		\$7.15	\$7.15
GRINDING WHEEL 6IN X 1IN	4	EA		\$30.00	\$120.00
BOOTLEG KIT/1 PR TRACKWIRE WLE STANDARD	2	EA	HAX001BLXW2-KT	\$42.10	\$84.20
BOND JOINT 5/16" X 7" TAB ERICO #SB-	300	EA	2161-01	\$5.41	\$1,623.60
WIRE #6 SOFT BARE COPPER	60	FT	1436-01	\$0.40	\$23.76
CARTRIDGE SB25 POWDER W/ATTACHMETAL FOR	300	EA	1026-39	\$1.55	\$465.30
ROD 5/8 X 8 NS GRD***USE-02***	8	EA	1357-01	\$14.72	\$117.74
CONNECTION SBNT1-161G ONE-SHOTFOR 5/8 IN	8	EA	1029-01	\$6.17	\$49.37
CADWELD TYPE GR 5/8GRDX#6WIRE	6	EA	005755-002	\$7.10	\$42.57
BOND STRAND 8-STR 3/16" TINNEDSBS8TINSUL	100	FT	4133-01	\$1.21	\$121.00
ASSY FSS-1B 267HZ-560HZ	2	EA	250849-001	\$460.00	\$920.00
PLATE SHUNT 24"X26"X1/4" GALV.	4	EA	6193-01	\$67.06	\$268.22
SCREW LAG 3/4" X 6" BLACK GRIMLET PO	20	EA	2000-01	\$0.81	\$16.28
TAPE ELECTRICAL 3M #33+ 3/4" PLASTIC	2	RL	1190-01	\$3.62	\$7.24
DUCTSEAL 1LB BLOCK	10	EA		\$3.30	\$33.00
FOAM INSULATING SPRAY	4	EA		\$12.25	\$49.00
STAPLE GROUND WIRE 1-1/16"X3"	50	EA	113005-000	\$0.32	\$15.95
TIE CABLE .184 X 7.31" HIG TEMSELF LOCKI	100	EA	4125-01	\$0.04	\$4.40
LUG RNG 1/4" 12-10AWG INS BLK	100	EA	032114-008	\$0.01	\$1.10
TAG ST-5 SNAPOUT 11 TAGS/CARD MI# 010301	50	EA	2090-01	\$2.28	\$113.85
STAPLE COPPERWELD 3/8 X 1-3/4 144 IN. RO	50	EA	1148-01	\$0.26	\$13.20
GREASE RUST PREVENTIVE NO OXID"A SPECIAL	1	EA	1906-01	\$9.83	\$9.83
CLIP TRACK WIRE RETAINER - ERICO #SBA	10	EA	1118-01	\$1.97	\$19.69
COMPOUND DUCT SEAL 5 LB PLUG PERMAGUM #	5	PK	1179-01	\$10.68	\$53.41
EMERGENCY SIGN SIGNAL	4	EA	SIG SIGN	\$140.00	\$560.00
FIELD TAG KIT	1	EA	FLDTGKT	\$170.48	\$170.48



February 7, 2017

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

RE: Huron County, Corwin Street DOT 473633V, PID# 104639

Dear Mr. Andrews:

A diagnostic review was held at the above grade crossing on November 1, 2016. The crossing has been recommended for the installation of lights and gates.

The Wheeling & Lake Erie Railway is authorized to proceed with the site plans and cost estimates (PE) 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.

The ORDC is not requesting that the PUCO issue an Order at this time. When the ORDC receives the PE it will be evaluated and a construction-only Order will be requested from PUCO. Please submit the PE to ORDC within 90 days of receipt of this letter.

The diagnostic review form is attached. Please note any recommendations (page 5), if any, made by the team with regard to 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

I am the Project Manager for this project. I can be reached at (614) 752.0399, or Eric.Neff@dot.ohio.gov, if you have any questions.

Sincerely,

Eric T. Neff

Eric Neff Project Manager

C: Jill Henry, PUCO, Grade Crossing Planner ORDC (file)



Commissioners



Lynn Slaby M. Beth Trombold Thomas W. Johnson Vacant

January 24, 2017

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

> Re: 1) Huron County, Corwin Street, DOT#473-633V, 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 November 1, 2016, the above mentioned grade crossing for warning device upgrades. The location has been approved for flashing lights and roadway gates.

The Project shall comply with Agreement No. 0001-A, dated September 17, 1990, entered into by the State of Ohio and Wheeling & Lake Erie Railroad (WE). 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 or 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.

(614) 466-3016 www.PUCO.ohio.gov Page 2 of 2 Huron County WE Corwin Street Letter Agreement

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,

Midal Albourste

Milan Orbovich Director of Transportation Public Utilities Commission of Ohio

Date\_\_\_\_/21/17\_\_\_\_

Wheeling & Lake Erie Railroad

By \_\_\_\_\_\_ Title \_\_\_\_\_ Matthew Dietrich Executive Director Ohio Rail Development Commission

\_

Date \_\_\_\_\_

Date\_\_\_\_\_

# OHIO RAIL DEVELOPMENT COMMISSION

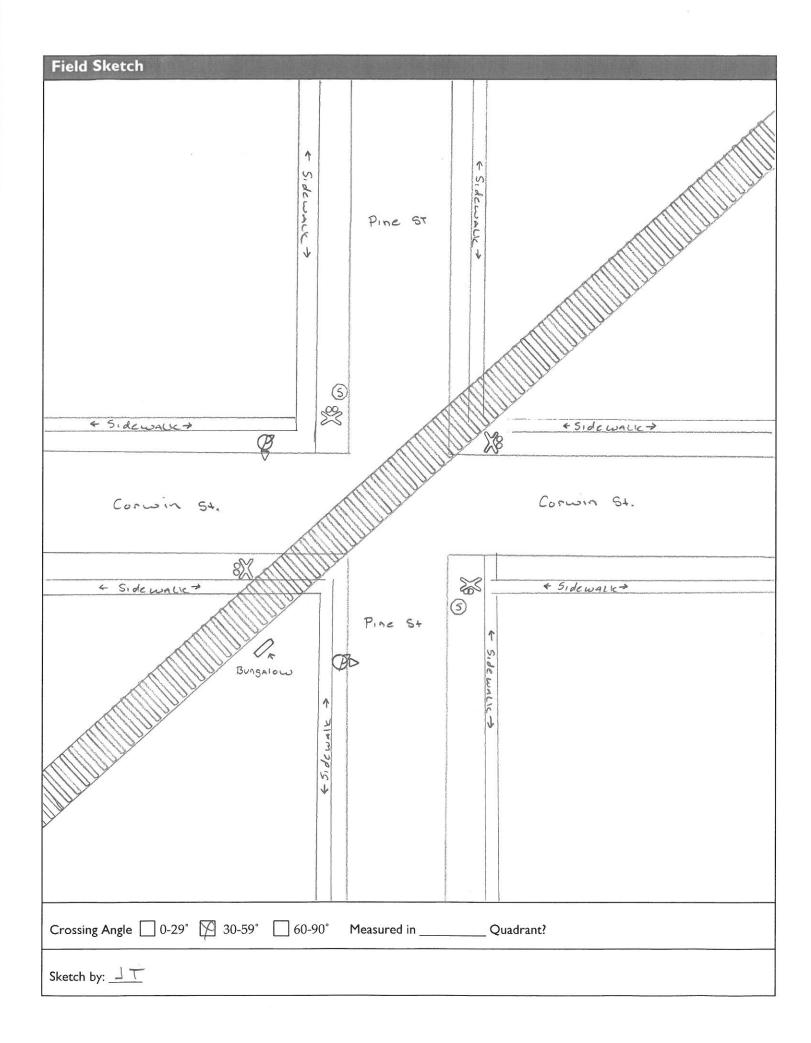
# **Diagnostic Review Team Survey**

Reason for Survey: (e.g. formula, accident, constituent, etc.)	Formula		Date: 11/1/2016	
Location Data				
Street or Road Name: Corwin Street	et			
Route/Road Number			US DOT No.: 473633V	-
(i.e. Twp., Co., SR or US) County: HUR Townshi	ip:	City:	City of Norwalk	_
Pailroad	Railroad	(In or Near)	Branch/Line	
Name: VVheeling & Lake Erie	Division:	line and a second	Name:	
Nearest RR Timetable Station: Norwalk			RR Milepost: 65.8	
On-Site Review Team				
(Include: Name – Organization – Phone Nu	mber – Email)	-		
1. JAMES TUCKER		398-689-	1 James Tucker@ dat atta	CA.
		117- 5541	1 James, Tucker@dot.Ottio tandrews @wlerwy.com	-000
2. I'm Hadrews			Tandrews www.rwy.com	á l
3. SAAUN LURPLY		166-1150		
4. Wally Ritchie	City 419-61	3-673	GSSuper @ norwalkale. com	
5	4			
6				
7				
8		·		
9				
E intir - Traffic Cantal Day	•			
Existing Traffic Control Dev		1.12		
Type of Warning Devices	Instal		Quantity/Comments	_
Advance Warning Signs (condition?) 'Stop' Signs	Yes		2 on Pine 2 on Corro	in
'Stop Ahead' Signs	☐ Yes	No No	2 on Pine	
Pavement Markings (condition?)		No No		-
Crossbucks	Yes	□ No	4	-
Number of Tracks Signs	T Yes	 ▼ No		
Inventory Tags	Yes	 □ No	4	
Interconnected Highway Traffic Signal	Yes	X No		
Mast-Mounted Flashing Lights	X Yes	□ No	4 Scts	
Cantilever Flashing Lights	Yes	📉 No	Number: Length:	
Side Lights	Yes	🔀 No		
Automatic Gates	Yes	K No	Number: Length:	
Bells	🔀 Yes	No No	Number: NW Quad	
Sidewalk Gate Arms	Yes	🔀 No		
'No Turn' Signs	Yes	🔀 No		
Illumination	Yes	🗌 No	2	
Is crossing flagged by train crew?	Yes	No No		
Other	☐ Yes	No		

Safety Data (Obtain c	1	rts, if possible, prior to review)			
		ial Information (from database)	Revised		
Number & dates of crashes in previous 5 years	1 (5/5/16)		5		
Hazard Ranking	502	Date Run: 9/30/16			
Railroad Data					
Railroad Characteris	stics	Initial Information (from database)	Revised		
Total trains per day		8			
< I per day					
Day thru trains		4			
Night thru trains		4			
Daytime switching moveme					
Nighttime switching mover	nents	1			
Total number of tracks Number of main tracks		1			
Number of other tracks		1			
Maximum train speed		-55	25		
Typical train speed		58	25		
Amtrak		40	23		
If non-gated crossing, is clearin	ng sight distan	ce adequate in all quadrants? (See Table 1)	Yes 🔀 No		
If multiple tracks, can two train		ossing at the same time? 🗌 Yes 🕅 No	- 7		
26		another train at crossing?	elow) 🔀 No		
Can one or more tracks be eli	minated thro	ugh the crossing? 🗌 Yes 🛛 🔀 No	· +		
		roadway within 100 ft of this crossing?	Yes 🔀 No		
If yes, Crossing DOT #(if o If yes, distance		asurement between track centerlines at close	est point along roadway)		
Roadway Data					
Local Highway Authority:		City of Norwalk			
Roadway Characteri	stics	Initial Information (from database)	Revised		
Average daily traffic		513 (2014)			
Highway paved		X Yes 🗌 No	Yes No		
Roadway Surface: 🔀 Blacktop 🗌 Gravel 🔲 Concrete 🔲 Other					
Roadway width: 20_ft.					
Number of highway lanes 2					
Urban or Rural		Urban			
Vehicle Speed: MPH					
School Bus Operation: 🗌 No	o X Ye		1		
Hazardous Materials Trucks:		X Yes .03 Amount			
	es les				
Is the shoulder surfaced? 🗹 No 🗌 Yes					
Is there existing guardrail along roadway in crossing vicinity? 🖾 No 🗌 Yes					
is chere exciseing baar ar an aron	S rought and				

Quadrant Curb and Gutter:	Quadrant Curb and 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	X None
Pedestrians: 🔲 No 🚺 Yes	
Is sidewalk present? No XYes	
Is there a nearby intersection that could cause queuing over the	crossing? 🔀 No 🗌 Yes
If yes, Distance	
Is this intersection signalized? 🔀 No 🗌 Yes	
Are the signals currently interconnected with the existing cros	ssing warning devices? 🖉 No 🛛 🗌 Yes
Is there a 'Do not Stop on Track' sign? 🖄 No 🛛 🗌 Yes	
location in the foreseeable future? 🔀 No 🗌 Yes	urby new or upgraded traffic signal, sidewalk) planned at or near this
If yes, Improvement type Lead Agency	Timeline/completion -
Is it the consensus of the Diagnostic Review Team that this is a Explain reasons:	ootential closure project: 🔀 No 🛛 🗌 Yes
Type of Development	
Open Space Institutional Location of near	by schools:
Industrial Commercial ST. Prol:	5 1/2 mile Let school
Residential Main STr	Let school
Utility Information	
Is commercial power available? 🗌 No 🛛 🔯 Yes	
Utility Provider (Company Name) OHio Edison	Phone Number
Nearest Available Power Source	
What other utilities are present? Gas Cable (add locations to sketch) Petroleum Water	Telephone  Fiber Optic Cable
Is(are) there potential utility conflict(s) [Yes [No	🙀 Unknown
Comments	
Caple Line could interfere w	The S.E. MAST on Pine ST.
L	

Potential Red Flags / Project Challenges
Traffic Signal Preemption (include traffic signal intersection name and LHA with jurisdiction over traffic signal, if known):
NA
Crossing Consolidation or Closure:
NIA
Real Estate or ROW: Pine street sidewalks
Culverts / Drainage / Ballast Conditions:
NIA
Roadway and/or Sidewalks:
Pine street Sidewalk could interfere w/ MAST gate ARM Stop Pine street sidwalk in SW QUAD short of MAST And direct pedestrian traffic Across pine VIA striped walk.
Circuitry (e.g. reaches out to other crossings, specific needs, etc.):
NIA
Environmental:
NA
Other:



**Diagnostic Team Recommendations Quadrants Needed** Install/upgrade active devices Automatic Flashing Lights (AFLS) AFLS /Cants AFLS / Gates All 4 QUADS AFLS / Gates / Cants Bells / number 2 Bells Upgrade circuitry / type Sidelights Guardrail Needed N Install/Replace curb 4 Quads AIL Bungalow placement & offset from rail & highway NE Quad Other (define) Comments: wheeling would hike the option to raise the flashing hights for the mast on Pine Street, in order not to block the view of the stop signs. Install/upgrade traffic signal preemption ☐ No improvements needed Other (define) Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature acknowledgement): 0-----Cut of Norwak. **Field Dimensions** Show North Sidewalk Direction 5 Parkway Roadway 10 Roadway 10 Parkway 5 Sidewalk

### TABLE I

### **Clearing Sight Distances**

0 0	
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 <u>non-gated crossings</u> 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.

### Table 2

#### **Stopping Sight Distances**

Highway Vehicle Speed	Distance (dH) Along Roadwa 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.

## This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

1/31/2018 5:35:49 PM

in

## Case No(s). 18-0197-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Wheeling & Lake Erie Railway Crossing, Corwin Street DOT#473-633V in Huron County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division