

Memo

To: Docketing Division
From: Jill Henry, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: 7/25/17

Re: PUCO Case No. 17-1664-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the Northern Ohio & Western Railway, Tille Road/CR 85 DOT#509-173B, in Sandusky County, Ohio.

On May 22, 2017, the Ohio Rail Development Commission (ORDC) authorized funding for Northern Ohio & Western Railway to install active warning devices at Tille Road/CR 85 DOT#509-173B, in Sandusky County, Ohio. The crossing was surveyed on October 25, 2016 and found to warrant the upgrades. The electric utility provider for this crossing is Toledo Edison- First Energy.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$197,254.86 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in nine months.** Staff requests that the following language be incorporated in the Finding & Order:

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

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

Please serve the following parties of record:

Northern Ohio & Western Railway
Mr. John Lane
Roadmaster
4200 E. 71st Street
Cleveland, Ohio 44105

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

Sandusky County Engineer
James Moyer
County Engineer
2500 West State Street
Fremont, Ohio 43420

Toledo Edison- First Energy

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

TO: Randall Schumacher, Supervisor, Rail Division, PUCO
FROM: Cathy Stout, Manager, Safety Section, ORDC
BY: Don Damron, Project Manager, ORDC
SUBJECT: Sandusky County, CR 85, Tille Rd. / NOWR
DOT# 509173B
PID# 104593
DATE: July 5, 2017

The Public Utilities Commission of Ohio (PUCO) established a Diagnostic Review Team Survey at the subject highway/railroad crossing location on 10/25/2016. The Ohio Rail Development Commission (ORDC) attended the Diagnostic Survey. The Diagnostic Review Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the Diagnostic Review Team Survey form and the railroad plan and estimate are attached.

The PE has already been provided by the railroad. ORDC accepted 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 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.

Attachments:

Diagnostic Review Team Survey dated 10/25/2016
Price Estimate for Proposed Railroad Signal Project dated 3/24/2017
Proposed Crossing Track Plan dated 3/23/2017

cc: Jill Henry, PUCO
ORDC Project Manager (file)



OHIO RAIL DEVELOPMENT COMMISSION

Mail Stop #3140, 1980 West Broad Street, Columbus OH 43223

John R. Kasich, Governor • James G. Bradley, Chairman

July 7, 2017

Northern Ohio & Western Railway
Mr. John Lane
Roadmaster
4200 E. 71st Street
Cleveland, Ohio 44105

Re: Grade Crossing Warning Device Improvement
Construction Authorization
Sandusky County, CR 85, Tille Rd., DOT# 509173B, PID# 104593

Dear Mr. Lane:

The plan and estimate dated 3/23/2017, for the referenced project is acceptable. 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 Northern Ohio & Western Railway, L.L.C. 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 for the warning device improvement is limited to \$197,254.86. 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 Northern Ohio & Western Railway accepting the following instructions:

1. The Northern Ohio & Western Railway's project construction foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Don Damron, ORDC, Mail Stop #3140, 1980 West Broad Street, 2nd Floor, Columbus Ohio 43223, or email don.damron@dot.ohio.gov, or by cell phone at 614-917-8466, office phone at 614-466-2509; and to the Public Utilities Commission of Ohio at jill.henry@puco.ohio.gov (phone 614-752-9107). The project construction 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. Northern Ohio & Western Railway 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 Northern Ohio & Western Railway.



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

3. Northern Ohio & Western Railway's project foremen will notify Don Damron at 614-917-8466 (cell) or don.damron@dot.state.oh.us (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. The proposed track plan for the crossing places the gate tips at 12' from track center. The plan should be modified so that the gate tips are placed at 15' from the track center.
5. Open cut of roadways is not permitted except in unusual circumstances and must be coordinated with the local highway authority and preapproved by ORDC.
6. Northern Ohio & Western Railway will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
7. Northern Ohio & Western 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.
8. The installation of the new warning device system will include any ancillary work needed to make the warning devices function as designed and to satisfy MUTCD requirements.

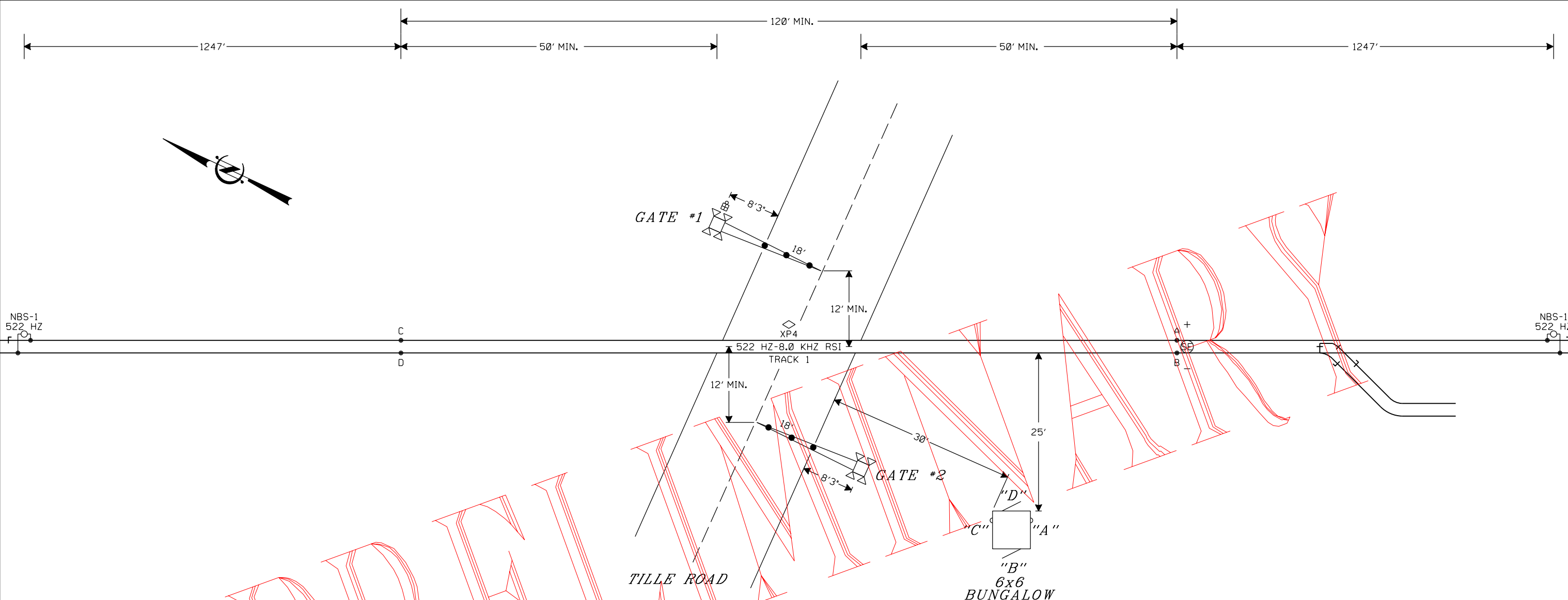
Thank you for your assistance with these matters.

Sincerely,



Donald J. Damron
Project Manager

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



APPROACH CIRCUIT DISTANCE CALCULATION	
	TRACK 1
BASE WARNING TIME	30 SEC
PLUS TIME FOR CLEARANCE DISTANCE > 35'	0 SEC
EQUALS PLANNED WARNING TIME	30 SEC
PLUS TIME FOR EQUIPMENT RESPONSE	4 SEC
PLUS TIME FOR TRAFFIC PRE-EMPTION	0 SEC
EQUALS CIRCUIT APPROACH TIME	34 SEC
TIMES MAXIMUM PLANNED TRAIN SPEED	25 MPH
TIMES RATIO OF FEET PER SECOND TO MILE PER HOUR	22/15
EQUALS APPROACH CIRCUIT DISTANCE WITH ANY FRACTIONAL VALUE INCREASED TO FULL UNIT	1247 FT



CABLE TABULATION	
HOUSE TO GATE #1	7C#6 & 7C#9
HOUSE TO GATE #2	7C#6 & 7C#9
HOUSE TO AC SERVICE	3C#4
HOUSE TO A & B RAIL CONNECTIONS	2C#6 TW
HOUSE TO C & D RAIL CONNECTIONS	2C#6 TW

- NOTES:
- ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.
 - SEE APPROACH CIRCUIT DISTANCE CALCULATION TABLE FOR PLANNED WARNING TIME AND TRAIN SPEED PER TRACK.
 - TRANSMITTER WIRE T1 AND T2 MUST BE RUN TO THE TRACK BUNGALOW SIDE OF CROSSING.
 - APPROACH DISTANCES ARE TO BE MEASURED FROM THE CIRCUIT FEED POINTS.
 - WHEN TERMINATING WITH NARROW BAND SHUNTS, BONDING SHOULD BE EXTENDED AN ADDITIONAL 20% (250') BEYOND THE TERMINATIONS.

- LEGEND:
- TEST TERMINAL
 - EQUALIZER
 - HEAVY DUTY EQUALIZER
 - ARRESTER TO GROUND
 - TWISTED WIRE
2 TURNS PER FOOT
 - INSULATED NUT
 - RIGID CONDUIT
 - DC SHUNT ENHANCEMENT

NOT TO SCALE

REVISIONS

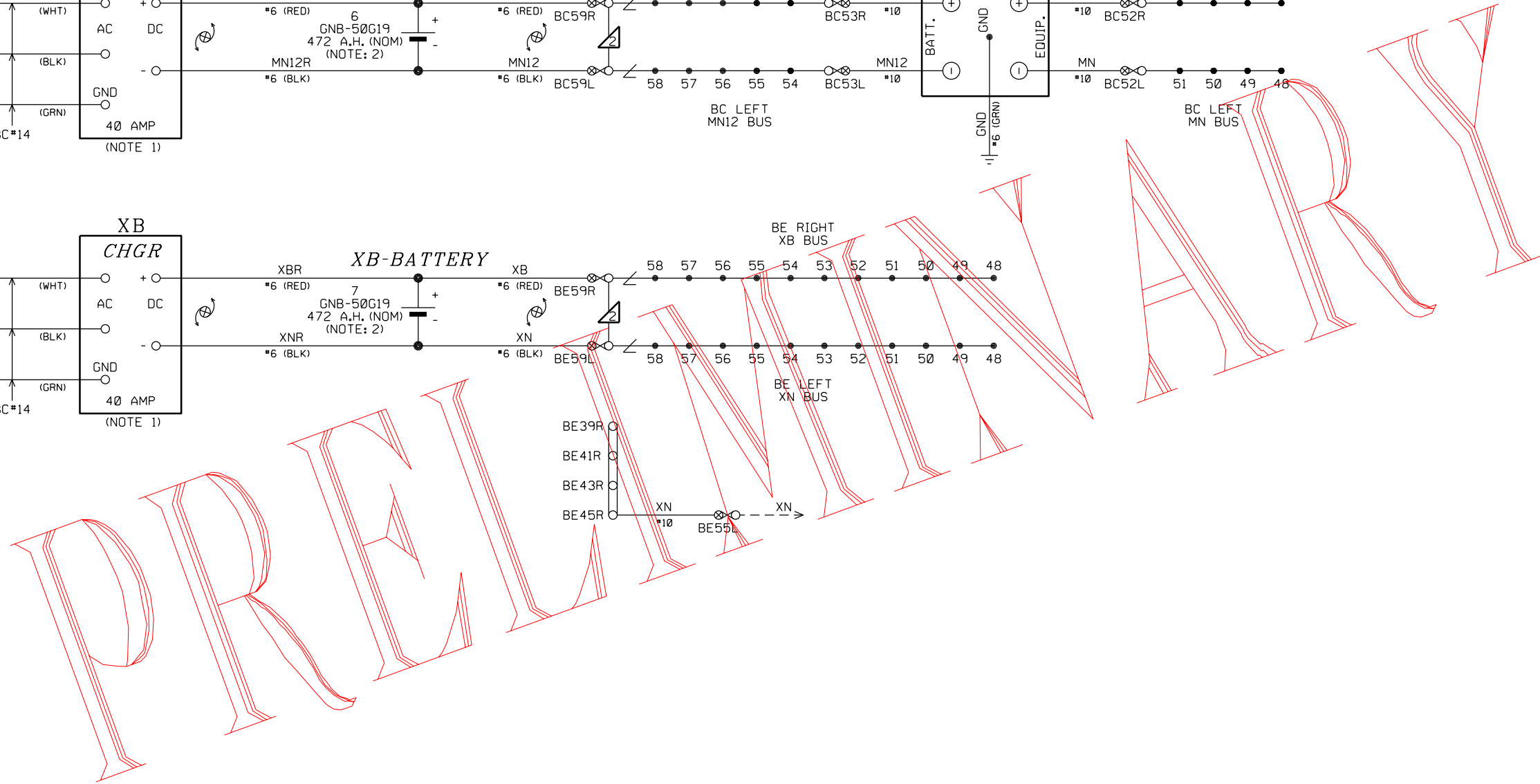
THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.

NORTHERN OHIO & WESTERN RAILWAY

DRAWN: A.P.D.
DESIGNED: A.P.D.
CHECKED: PRELIM
DATE: 03-23-17

CROSSING TRACK PLAN
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50

DRAWING NO.
TILLE
SHEET 1 OF 11






1. USE 240 VOLT SETTING.
2. USE 1/4" TERMINALS AT BATTERY CONNECTIONS.

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



1. PROTECT WIRE ENDS FROM SHORTS WITH ELECTRICAL TAPE, COIL WIRE ABOVE TERMINAL BOARD, AND SECURE WITH WIRE TIES.
2. PLUG GROUND NOT USED.

<p style="text-align: center;">REVISIONS</p>								<p>THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.</p>		 <p>P.O. Box 356 Fairbanks, Louisiana 71240 318-665-9344</p>		 <p>DRAWN: A.P.D. DESIGNED: A.P.D. CHECKED: PRELIM DATE: 03-23-17</p>		 <p>ELECTROLOGIX CIRCUITS TILLE ROAD GIBSONBURG, OHIO DOT# 509 173B MILEPOST #64.50</p>		<p>NORTHERN OHIO & WESTERN RAILWAY</p> <p>DRAWING NO. TILLE SHEET 3 OF 11</p>	
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XP4 PROGRAM
SETUP

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

GROUND FAULT DETECTOR SETUP

	CAL VOLTS	GF THRESHOLD	GF TIME	LOW ALARM	HIGH ALARM
B1: MB12	* 13.5 (TYP)	10 K	5 SEC.	* 10.5	* 15.5
B2: XB	* 15.7 (TYP)	10 K	5 SEC.	* 14.0	* 16.5
B3: BATTERY 3	NA	NA	NA	NA	NA

CROSSING MAINTENANCE

ADJUSTMENT NAME	TRACK 1
ENABLE/DISABLE	ENABLE
DISABLE TIMEOUT	2 HRS
BALLAST COMP	* 147
PHASE COMP	*
SHUNT TEST MODE	DISABLE ALL TRACKS

ISLAND SETUP

ADJUSTMENT NAME	TRACK 1
ENABLE/DISABLE	ENABLE
DISABLE TIMEOUT	2 HR *
FREQUENCY	8.0 KHZ
LOSS OF SHUNT	2 SEC
FAULT DELAY	1

VIO-44S VITAL INPUTS

MODULE SLOT	3
INPUT 1	S3.IN1_AUX1
INPUT 2	S3.IN2_AUX2
INPUT 3	S3.IN3_IGDK
INPUT 4	S3.IN4_2GDK

VIO-44S VITAL OUTPUTS

MODULE SLOT	3
OUTPUT 1	S3.OUT1_XC
OUTPUT 2	NOT USED
OUTPUT 3	NOT USED
OUTPUT 4	NOT USED

IXC-20S+ INPUTS

MODULE SLOT	4
INPUT 1	S4.IN1_GPX
INPUT 2	S4.IN2_POK
INPUT 3	S4.IN3_XC
INPUT 4	NOT USED

IXC-20S+ OUTPUTS

MODULE SLOT	4
GATE 1	S4.G1_CNTRL
GATE 2	S4.G2_CNTRL
BELL	S4.BELL_OUT
NV OUT	S4.NV0_BM

BASIC TRACK SETUP

ADJUSTMENT NAME	TRACK 1
FREQUENCY	522 HZ
MASTER/S�AVE	MASTER
RX ADJUST	100
TCA/TCI	*
DIRECTION MODE	BI
LIA	*
ADVANCED APR. CAL	INACTIVE
NBS COMP RX	*
TRK ISLAND ASSIGN	ISL1.ASSIGN
APPROACH LENGTH	1247 FT
AUTO RX	ENABLE

ADVANCE TRACK SETUP

ADJUSTMENT NAME	TRACK 1
MOTION DET TIMER	MDEN
	MDTT
	10 MIN
FALSE SHUNT	FSEN
	FSRX
	0
APPROACH RELEASE	FST
	10M
	AREN
APPROACH RELEASE	ARRX
	0
	10M
LOS TIME	
16 SEC	
IJ-LOS TIME	
5 SEC	
NRM.SHRT_VRYSHRT	
NRML *	

IXC SETUP

ADJUSTMENT NAME	IXC
CROSSING TEST MODE	OFF
FLASH RATE	55 FPM
INTERFACE	XIP
VOLTAGE REGULATION	ON
L1 VOLTAGE	11V
L2 VOLTAGE	11V
GATE 1 DELAY	3 SEC
GATE 2 DELAY	3 SEC

VITAL CONFIGURATION SWITCHES

NAME	STATE	FUNCTION	DEFAULT
GD.BELL.OFF	TRUE	BELL OUTPUT OFF WHEN S3.IN3_IGDK & S3.IN4_2GDK GOES TRUE (GATES DOWN).	FALSE
	FALSE	BELL OUTPUT FOLLOWING S4.IN1_GPXK OR S4.IN3_XC PER XR.BELL.ON STATE.	
XR.BELL.ON	TRUE	BELL OUTPUT ON WHEN S4.IN3_XC IS FALSE.	FALSE
	FALSE	BELL OUTPUT ON WHEN S4.IN1_GPXK OR S4.IN3_XC FALSE.	

MDR SETUP

ADJUSTMENT NAME (LOGS)	MDR 1
WARNING TIME	30 SEC
CW/MD	CW
CWE-WT	80 SEC
AUX RECOVERY DELAY	0 SEC
TRACK ASSIGNED	SLT 1 TRK 1
OFFSET DISTANCE	0 FT
MD RESTART	* 99
SUDDEN SHUNT ZONE	* 99
CLEAR JOINT LOS	CJ MODE
	STANDARD
	CJRX
POST JOINT DETECT	CJT
	15
	15
POSITIVE START	PJEN
	DISABLE
	PJRX
POSITIVE START	PJDT
	15
	15
POSITIVE START	PSEN
	DISABLE
	PSRX
POSITIVE START	0
	0
	0 MIN

(SHOP TO VERIFY)
EXECUTIVE INFORMATION

VPM3	VERSION	PART NUMBER
VPM-A PROCESSOR	8.22	083026-822
VPM-B PROCESSOR	8.22	083026-822
VPM-C PROCESSOR	8.22	083026-822

(SHOP TO VERIFY)
APPLICATION SOFTWARE INFORMATION

NAME	GW.1TK.TYP
REVISION	9-22-2016
CHECKSUM	8A44
CRC	927F
CHASSIS ID	97
ID STRAPING	XIIXXXI

REVISIONS

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Fairbanks, Louisiana 71240
318-665-9344



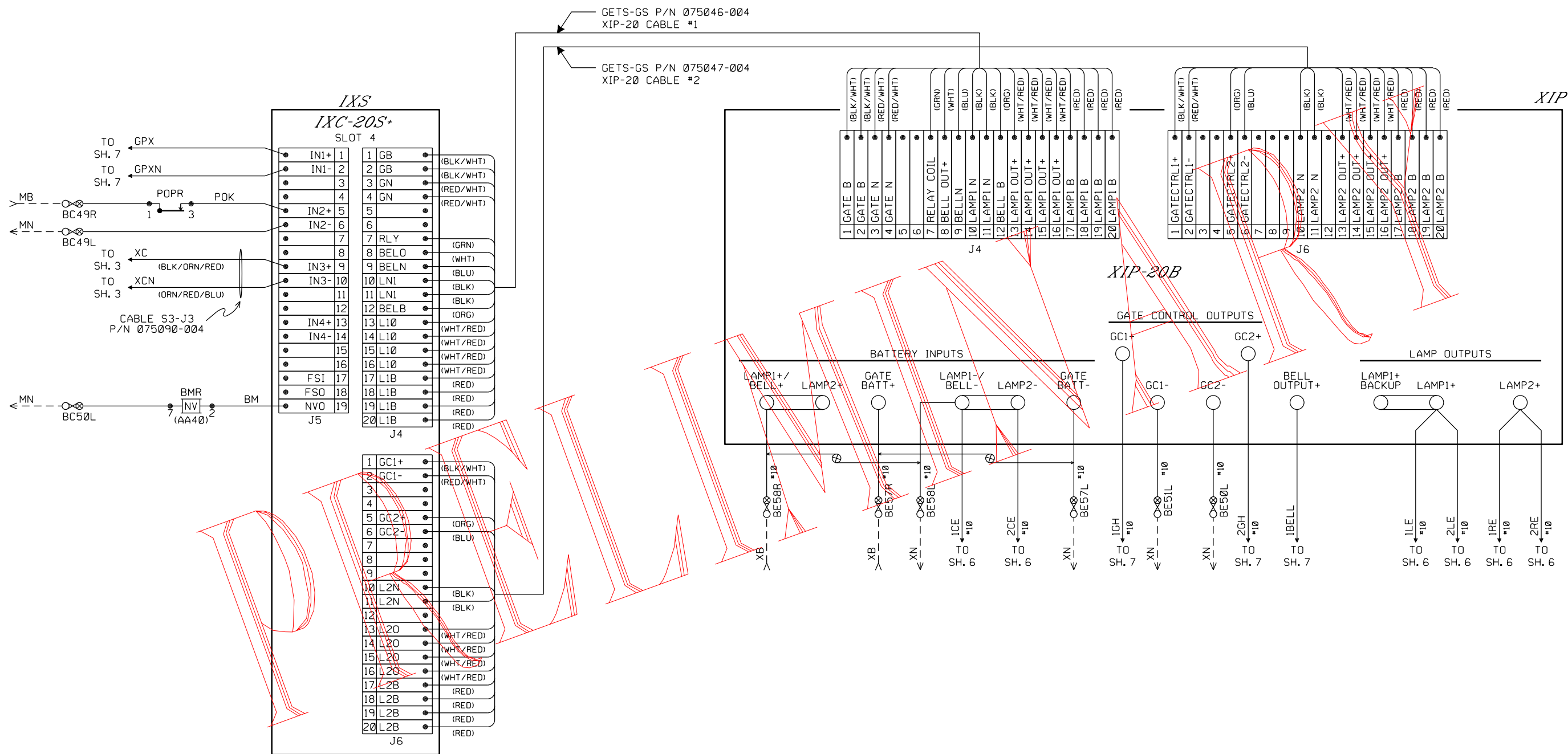
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DATE: 03-23-17

ELECTROLOGIX PROGRAMMING
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50



NORTHERN
OHIO & WESTERN
RAILWAY

DRAWING NO.
TILLE
SHEET 4 OF 11



REVISIONS

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MID SOUTH
RAILROAD SERVICE
P.O. Box 356
Fairbanks, Louisiana 71240
318-665-9344



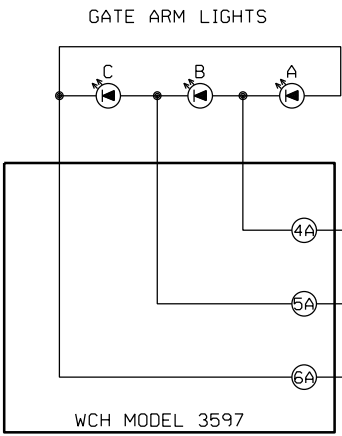
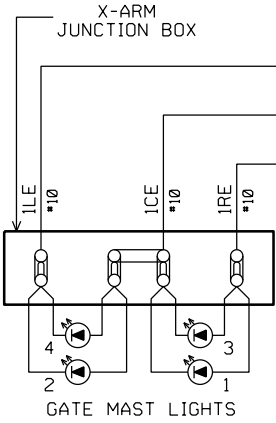
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FLASHING CONTROL
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50

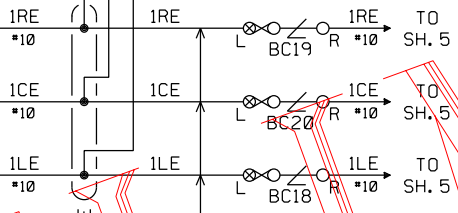
NORTHERN
OHIO & WESTERN
RAILWAY

DRAWING NO.
TILLE
SHEET 5 OF 11

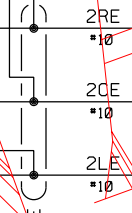


GATE 1

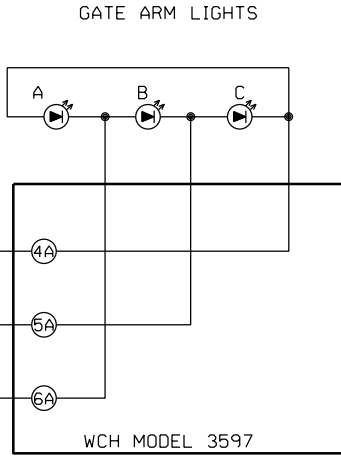
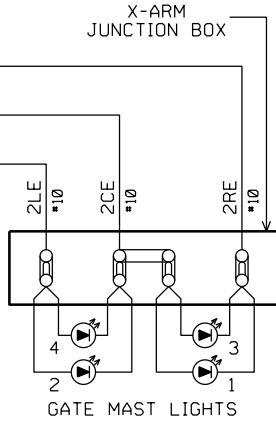
NOTES:
1. = LED SIGNAL LAMP WITH 8.5 TO 16 VOLT WORKING VOLTAGE.



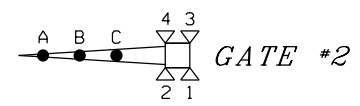
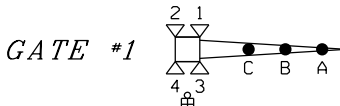
BATT WIRES ON SH. 7
ALSO IN THIS CABLE



BATT WIRES ON SH. 7
ALSO IN THIS CABLE



GATE 2



REVISIONS

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MID SOUTH
RAILROAD SERVICE
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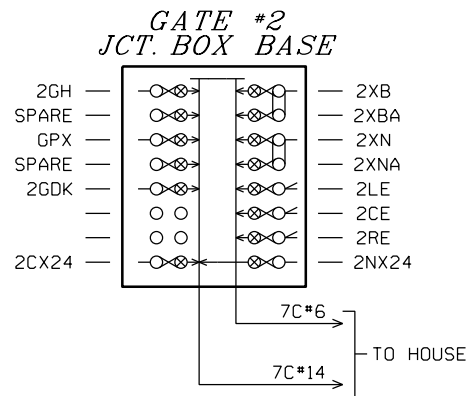
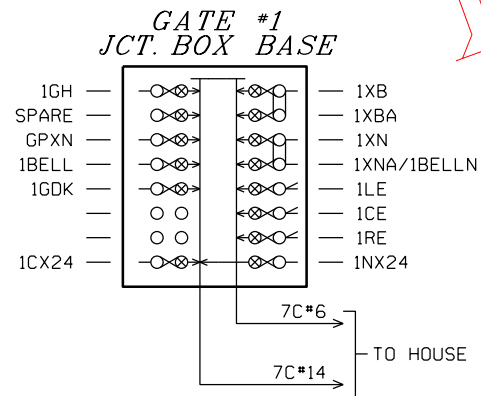
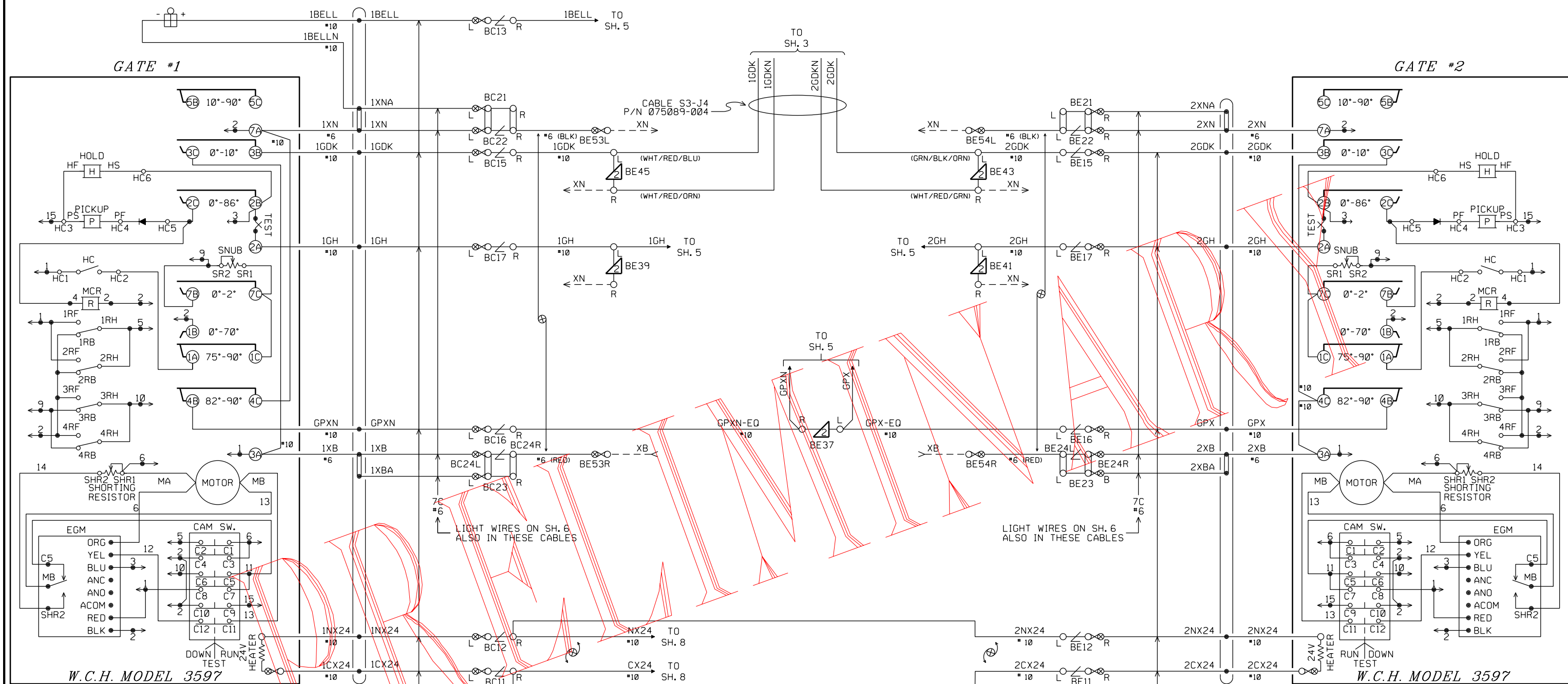


NORTHERN OHIO & WESTERN RAILWAY

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DATE: 03-23-17

CROSSING LAMP CIRCUITS
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50

DRAWING NO.
TILLE
SHEET 6 OF 11



NOTES:
1. GATE MECHS SHOWN IN CLEAR POSITION.

REVISIONS

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OmniTRAX

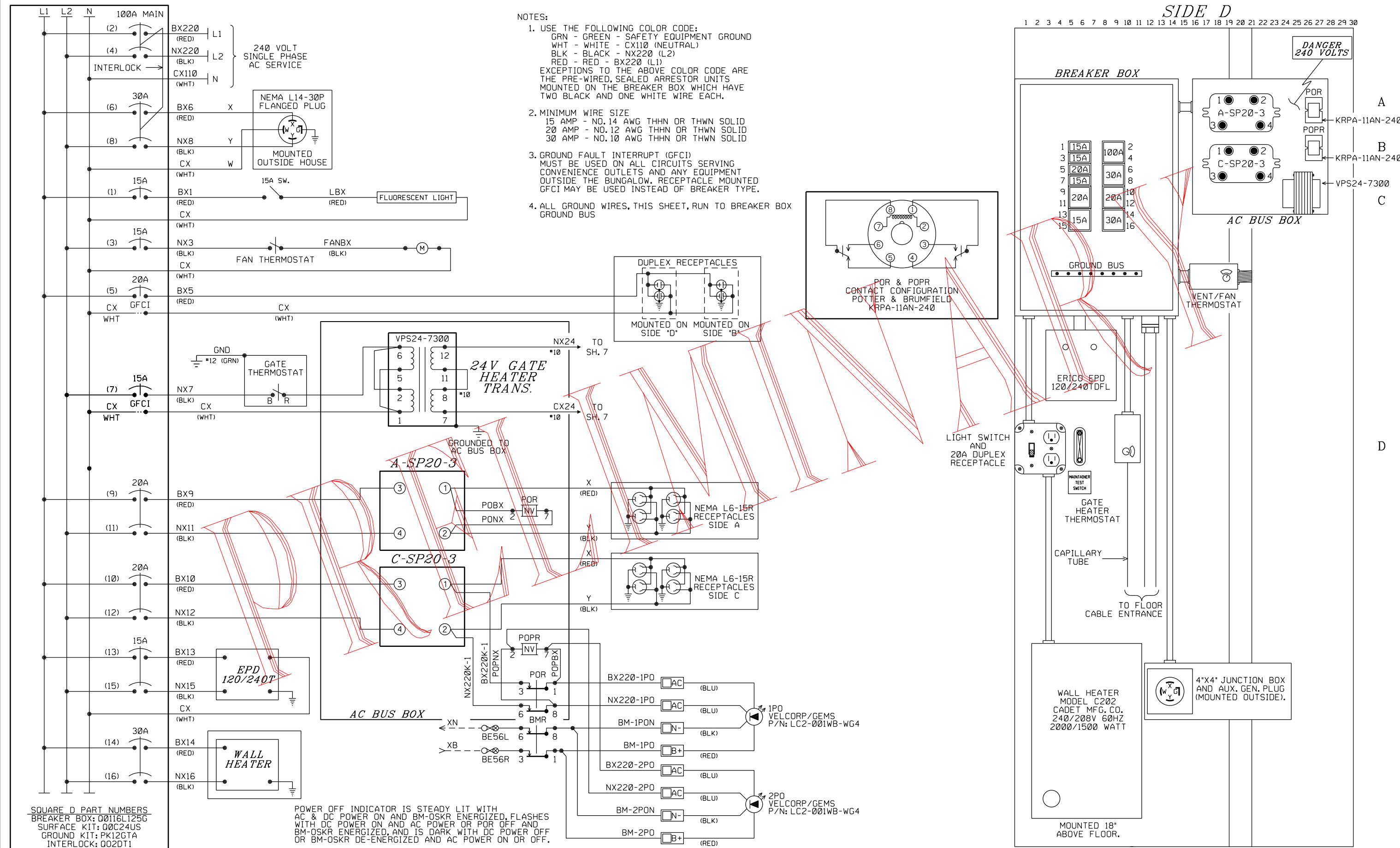
NOW

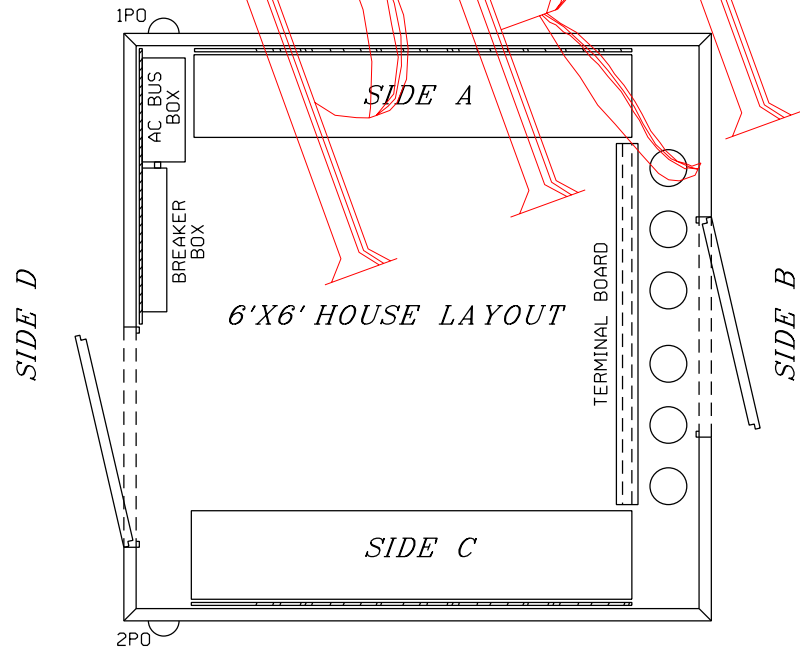
**NORTHERN
OHIO & WESTERN
RAILWAY**

DRAWN: A.P.D.
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GATE CONTROL & MECHANISMS
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50

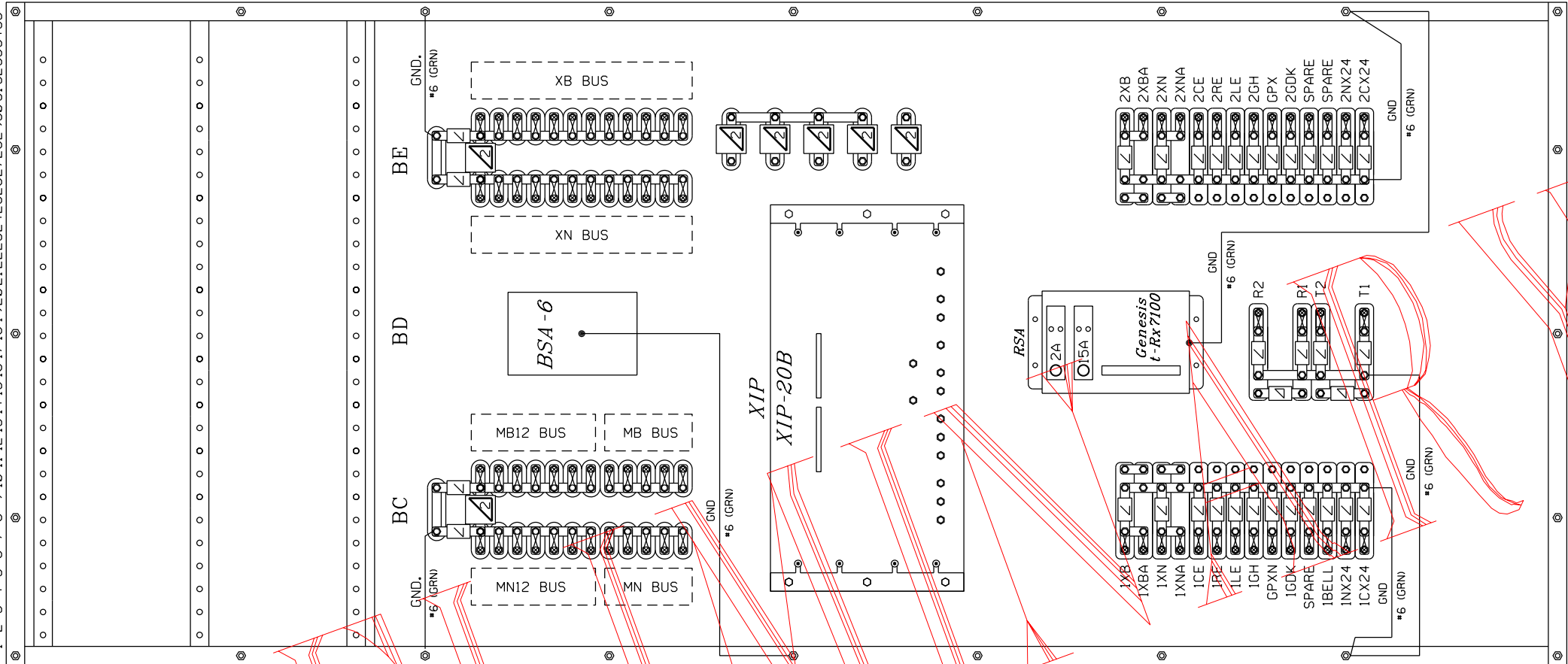
DRAWING NO.
TILLE
SHEET 7 OF 11





RLY# → 1 2 3 4 5 6 7 8 9 10 11 12 13

TB# → 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

7'0" X 36" TERMINAL BOARD

BC BATTERY BUS DETAILS BE

MB12 BATT(-)	59	MB12 BATT(+)		XB BATT-	59	XB BATT+	
	58			XIP LAMP1-/BELL-	58	XIP LAMP1+/BELL+	
	57			XIP GATE BATT-	57	XIP GATE BATT+	
	56			BMR 6	56	BMR 3	
	55			BE45R	55		
	54			BE22L	54	BE24L	
BSA-6 BATT(-)	53	BSA-6 BATT(+)		BC22R	53	BC24R	
MN12 BUS (LEFT)		MB12 BUS (RIGHT)			52		
BSA-6 EQUIP(-)	52	BSA-6 EQUIP(+)		XIP GC1-	51		
IXS S3 J4 2	51	DD6B		XIP GC2-	50		
BMR 7	50			IXS S3 J4 5	49	IXS S3 J4 4	
IXS S4 J5 6	49	POPR 1		IXS GFD 2	48	IXS GFD 1	
IXS N	48	IXS B		XN BUS (LEFT)		XB BUS (RIGHT)	
MN BUS (LEFT)		MB BUS (RIGHT)					

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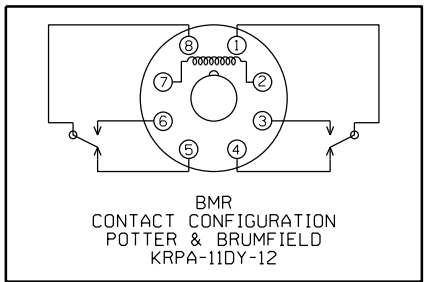
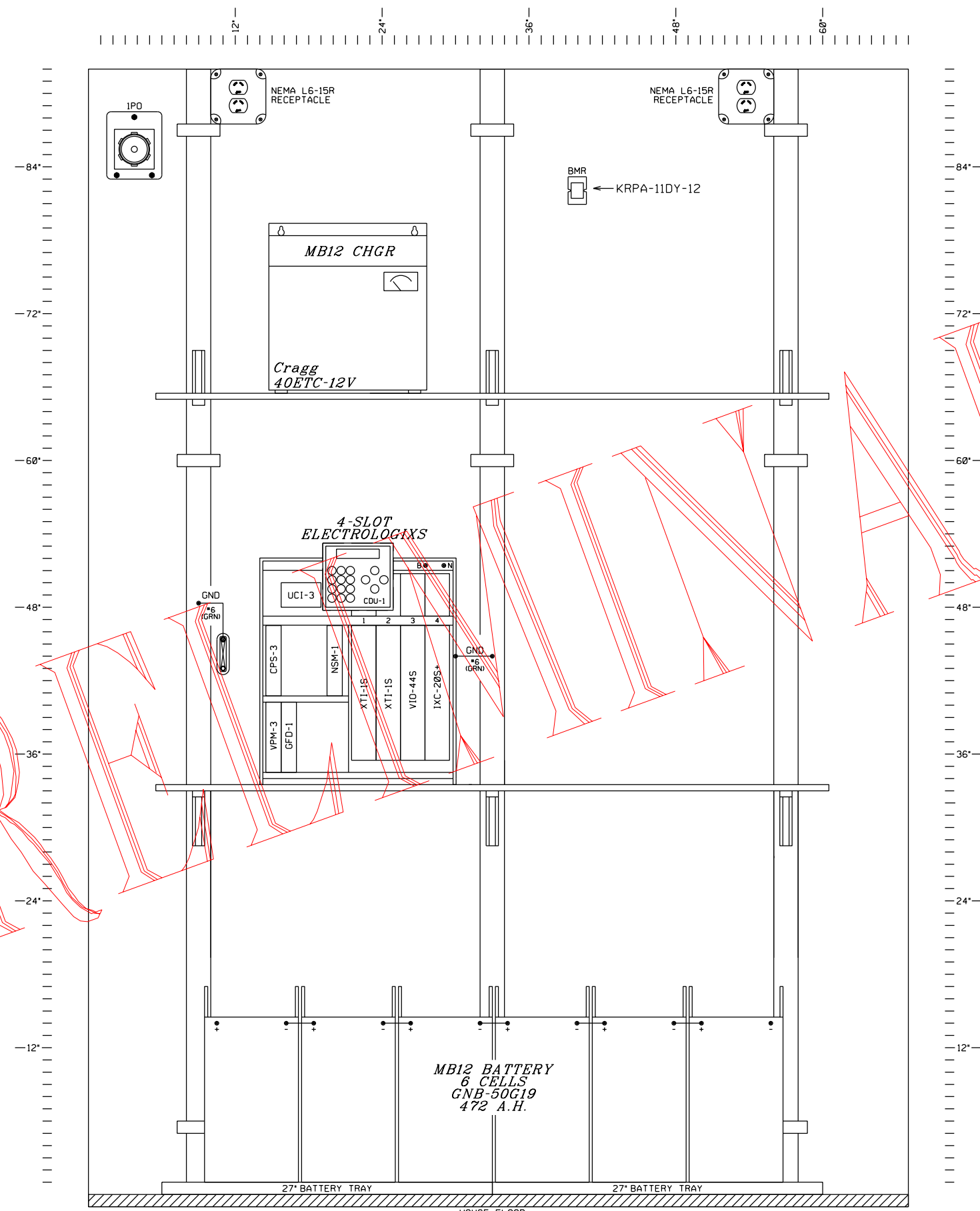


TERMINAL BOARD
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50

NORTHERN OHIO & WESTERN RAILWAY

DRAWING NO. TILLE
SHEET 9 OF 11

POTTER & BRUMFIELD



REVISIONS

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Fairbanks, Louisiana 71240
318-665-9344

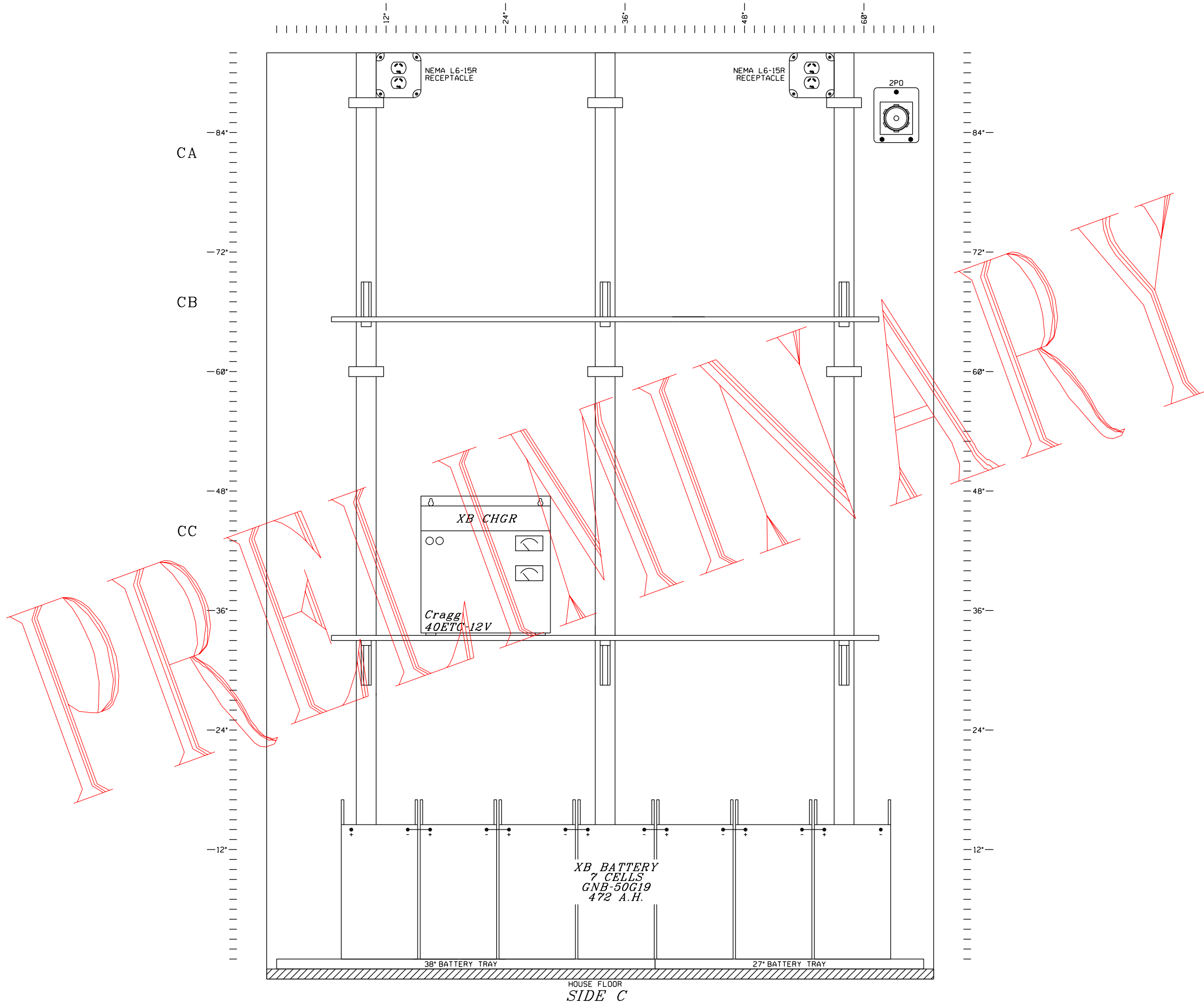


NORTHERN OHIO & WESTERN RAILWAY

DRAWN: A.P.D.
DESIGNED: A.P.D.
CHECKED: PRELIM
DATE: 03-23-17

SIDE A LAYOUT
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50

DRAWING NO.
TILLE
SHEET 10 OF 11



REVISIONS							

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



P.O. Box 356
Fairbanks, Louisiana 71240
318-665-9344



NORTHERN OHIO & WESTERN RAILWAY

DRAWN: A.P.D.
DESIGNED: A.P.D.
CHECKED: PRELIM
DATE: 03-23-17

SIDE C LAYOUT
TILLE ROAD
GIBSONBURG, OHIO
DOT# 509 173B MILEPOST #64.50

DRAWING NO.
TILLE
SHEET 11 OF 11



March 24, 2017

Mr. Jason Scott
Vice-President Signal/Communications
OmniTRAX
252 Clayton St., 4th Floor
Denver, CO 80206
Reference Number: 509173B

Subject: Price Estimate for Proposed Railroad Signal Project located at Tille Road
Gibsonburg, OH

Dear Mr. Scott,

With reference to the above subject and your recent request for a price, Midsouth Railroad Service is pleased to offer the following proposal:

Tille Road, Gibsonburg, OH – DOT # 509-173B

Engineer, procure and install grade crossing protection for the above location. Grade crossing protection will consist of pre-wired control shelter and two (2) LED flashing light/gate assemblies. Train detection is to be made with solid-state constant warning equipment using an ALSTOM XP-4 unit with an integrated crossing controller for gates and lights. Please refer to the accompanying material list of items and quantities we propose to furnish and install at the stated price:

Material & installation (including taxes) -	\$ 170,554.86
Prelim Engineering/Project Management-	\$ 7,000.00
Omnitrax Admin Support -	\$ 16,200.00
Freight -	\$ 3,500.00
Grand Total	- \$ 197,254.86

FOB: Destination
Terms: Net 30 days
Delivery: Typically 120 – 160 Days upon Acceptance of Order (Weather Permitting)

The above price is firm for sixty (60) days and based on the following:

- (1) Commercial AC power or meter service must be available within 75 ft. of proposed instrument shelter site.
- (2) Price does not include any hookup fees from Power Provider
- (3) Installation is based on no hindering obstacles, such as rock, water, or utilities that may interfere with the installation and operation of proposed material.
- (4) Price is based on furnishing material as indicated on the material list which accompanies this proposal.
- (5) Sales Tax is Included

We sincerely appreciate your selection of Midsouth Railroad Service to meet your signal construction needs and please know that we are dedicated to your total satisfaction. If you have any questions please do not hesitate to call me at (318) 614-7281.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Nelson".

Mark Nelson
Vice President

Location/Description	QTY	
Tille Road		
Control Shelter		
HSE 6X6 AL S/L SKR101 L/EPD/KY	1	Each
PROTECTOR SURGE 120/240V W/IND	1	Each
ASSY UCI-3 MODULE	1	Each
ASSY, 4 SLOT ELECTROLOGIXS	1	Each
ASSY VPM-3 MODULE - COMBINED CROSSING & INTERLOCKING	1	Each
ASSY MODULE IWP CPS-3	1	Each
ASSY VIO-86S	1	Each
ASSY MODULE IWP XTI-1S	2	Each
ASSY VIO-86S PERSONALTY MODULE	1	Each
ASSY IWP XTI-1S PERSONALITY	1	Each
ASSY MODULE GFD-1	1	Each
ASSY MODULE TC21 IWP NSM-1	1	Each
ASSY MODULE GFD-1	1	Each
ELECTROLOGIXS XP 4 SYSTEM OPERATION AND MAINTENANCE MANUAL	1	Each
Cable, XTI-1S P3, 20 FT	1	Each
ASSY MOD IXS IXC-20S+	1	Each
ASSY IXC PERSONALITY MODULE	1	Each
ASSY IXS XIP-20B CROSSING INTERFACE PANEL B	1	Each
KIT HARDWARE WALL MT BRKT XIP- 20B	1	Each
Cable, XIP-20 #1 16 FT	1	Each
Cable, XIP-20 #2 16 FT	1	Each
ASSY BSA-6	1	Each
RAIL SHUNT AUGMENTER T-RX7100	1	Each
USE 017061-203 PER 90100569 CHARGER 40A 12V CRAGG 40EC-12V	2	Each
RLY DPDT 240VAC 10A OCT W/LAMP	2	Each
RLY DPDT 12VDC 5A OCT	1	Each
SCKT RLY 8-PIN OCT SCREW PNLMT	3	Each
PROT AC LINE 230V SP20-1B	2	Each
ASSEMBLY, 4 POST TERMINALBLOCK	32	Each
ASSY AGA-1	36	Each
ASSY AGE-1	2	Each
ASSY AGE-2 HD	6	Each
NUT INSULATED HARMON	8	Each
TEST LINK W/PLT & INSUL	80	Each
TEST LINK 2.375" CNTR FL INSUL	2	Each
LABEL RK PNL-MAINTAINER TST SW	1	Each
WIRE 16AWG/19 TC EPR/PVC BLU	500	Foot
WIRE 10AWG/19 TC EPR/PVC BLU	450	Foot
WIRE 6AWG/19THHN BLK	120	Foot
WIRE 6AWG/19 THHN RED	120	Foot
WIRE 6AWG/19 THHN GRN	40	Foot
CABLE RAW 3/14AWG PWR 300V	9	Foot
CONN PLUG L6-15 250V 15A 2P3W	4	Each
ASSY 2WAY TERM BLK W/AAR HARD	8	Each
XFMR 115-230VPRI/24VCT 7.3A 175VA	1	Each
ASSY TERM STRIP DBL POST 12	8	Each
GROUND POST P5-162	4	Each
LIGHT POWER OFF LED W/WAGO CON	2	Each

KIT SM PRTS/TAGS GENERIC	1	Each
LABEL, DANGER 240 V, 1.75 X 2.	1	Each
THERMOSTAT SPDT REMOTE BULB 8A	1	Each
ASSY SINGLE ROW TERM 12 POST	1	Each
Field Material		
FOUND SIGNAL 60"DEPTH 11 11/16	2	Each
GATE SIG 3597 W/32'CWT M/SB/2L	2	Each
SLEEVE 4 ALUMINUM REC #92958	2	Each
HEATER GATE MECH 24VDC 50W WCH	2	Each
GATE KEEPER SK1000-2W DUAL DIR	2	Each
HIGH WIND BKT W/5"HDW LINCOLN	2	Each
GATEARM 16-32' UHI VERT W/LED	2	Each
LENS LED FLASHING 12" RED -H7	8	Each
SIGN XING S-F HI 5"MTG SIG/GAT	2	Each
BELL ELECTRONIC CROSSING 4/5"	1	Each
CABLE UG 3 COND #4 AWG	120	Foot
CABLE UG 7 COND #6 AWG SOLID	400	Foot
CABLE UG 7 COND #9 AWG SOLID	400	Foot
WIRE UG TRK #6 AWG DUPLEX	400	Foot
TAPE MARKER BURIED RR CABLE	1	Roll
ASSY NBS-1 W/10' LEADS 522HZ	2	Each
PLATE SHUNT 22"X26"X1/4" GAL	2	Each
SCREW LAG 1/2X4 JOSLYN J8754P	8	Each
BATT GND 50G19 1 CELL 472AH	13	Each
WIRE #6 SOFT BARE COPPER	85	Foot
ROD 3/4 X 8 NON-SECT COP GRD	6	Each
CADWELD ONESHOT 3/4" GR 1 WIRE	2	Each
CONNECTION SBNT1-181G ONE-SHOT	4	Each
BOND JOINT 3/16" X 7-1/2" XS	200	Each
BOND STRAND 8-STR 3/16" TINNED	100	Foot
BOND KIT SBK228	1	Each
BOOTLEG BOND W/COUPLER KIT	8	Each
TAPE ELECTRICAL 3M #33+ 3/4"	3	Each
TAPE ELECTRICAL 3M #130-C	3	Each
COMPOUND INSULATING ELECTRICAL	2	Each
HOSE RUBBER 3/4"	50	Foot
STAPLE GROUND WIRE 1-1/16"X3"	12	Each
TIE CABLE .184 X 7.31" HIG TEM	20	Each
CABLE TIE 14-1/2L NAT	20	Each
LUG RNG 1/4" 12-10AWG INS BLK	55	Each
WIRE DIESEL 10AWG 2000 VOLTS	375	Foot
WIRE DIESEL 6AWG 600V	50	Foot
LUG RNG 1/4" 6AWG AMP ONLY	10	Each
STAPLE COPPERWELD 3/8 X 1-3/4	40	Each
GREASE RUST PREVENTIVE NO OXID	2	Each
SLEEVE NICO 3/16"-#6 AWG REDUC	4	Each
CLIP TRACK WIRE RETAINER	8	Each
COMPOUND DUCT SEAL 5 LB PLUG	4	Each
PADLOCK SIGNAL CASE	5	Each
SIGN, ENS	2	Each
SIGN HDW F/5"MAST RIBBED XING	2	Each

Field Cable Tag Kit	1	Each
TRAY BATTERY 12 X 27"	4	Each
WRENCH TORQUE WCH 3590-K-9	1	Each
WRENCH RLY TST E-POST	1	Each
WRENCH AAR TERMINAL	1	Each
Switch insulation	1	lot
Insulated Joints	4	each



OHIO RAIL DEVELOPMENT COMMISSION

Mail Stop #3140, 1980 West Broad Street, Columbus OH 43223

John R. Kasich, Governor • Mark Policinski, ORDC Chairman

May 22, 2017

Northern Ohio & Western Railway
Mr. John Lane
Roadmaster
4200 E. 71st Street
Cleveland, Ohio 44105

Regarding: Grade Crossing Warning Device Improvement
Authorization to Proceed with Engineering Design, Site Plans, and Cost Estimates
Sandusky County, CR 85, Tille Rd. DOT# 509173B, Ohio PID# 104593

Dear Mr. Lane,

A diagnostic review was held at the above grade crossing on 10/25/2016. The crossing has been recommended for the installation of lights and gates.

The Northern Ohio & Western Railway (NOW) is authorized to proceed with the engineering design, site plans and cost estimates (PE) 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.

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 or sidewalk work necessary for MUTCD compliance should be incorporated into the Site Layout Plan and such costs will flow through the railroad reimbursement process

I am the ORDC Project Manager for this project. If you have any questions, I can be reached at 614-466-2509 (office), or 614-917-8466 (cell), or don.damron@dot.ohio.gov.

Sincerely,

Donald J. Damron
Grade Crossing Specialist

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

Attachments: Diagnostic Team Review Form dated 10/25/2016
PUCO Letter Agreement dated 1/24/2017
State of Ohio Purchase Order



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY



**Public Utilities
Commission**

Asim Z. Haque, Chairman

Commissioners

Lynn Slaby
M. Beth Trombold
Thomas W. Johnson
Vacant

January 24, 2017

Northern Ohio & Western Railway
Mr. John Lane
Roadmaster
4200 E. 71st Street
Cleveland, Ohio 44105

Re: 1) Sandusky County, Tille Road,
DOT#509-173B, hereinafter
referred to as the "Project"

Dear Mr. Lane:

The Public Utilities Commission of Ohio (PUCO) has identified and the Ohio Rail Development Commission (ORDC) surveyed, on October 25, 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. 5-B, dated January 4, 2000, entered into by the State of Ohio and Northern Ohio & Western Railway (NOW). 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.

180 East Broad Street
Columbus, Ohio 43215-3793

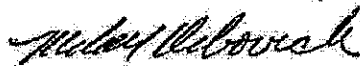
(614) 466-3016
www.PUCO.ohio.gov

An equal opportunity employer and service provider

Page 2 of 2
Sandusky County
NOW Tille Road 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,



Milan Orbovich
Director of Transportation
Public Utilities Commission of Ohio

Date 1/24/17

Northern Ohio & Western Railway LLC

By 

Title MANAGER

Date 5/18/2017



Matthew Dietrich
Executive Director
Ohio Rail Development Commission

Date 1-27-17



Diagnostic Review Team Survey

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

Formula

Date: 10/25/2016

Location Data

Street or Road Name: Tille Road			
Route/Road Number (i.e. Twp., Co., SR or US) CR 85		US DOT No.: 509173B	
County: SAN	Township:	City: (In or Near)	Near Gibsonburg
Railroad Name: Northern Ohio & Western Rwy	Railroad Division: Western	Branch/Line Name: Carrothers Br	
Nearest RR Timetable Station: Gibsonburg		RR Milepost: 64.5	

On-Site Review Team

(Include: Name - Organization - Phone Number - Email)

1. DON DAMRON, OROC, 614-917-8466, don.damron@dot.state.oh
2. JAMES R MOYER, SANDISKY COUNTY ENGINEER, 419 336-9731, jmoyer@co.sandusky.oh.us
3. John Lowe NOW RR, 330-888-3994 jlowe@omni.net
4. JERRY Gibson PULO 419 234-8416 jerry.gibson@pulo
5. Lincoln G. Harrison 304-890-0070 Lincoln.Harrison@state.oh
6. Puc.state.gov.
- 7.
- 8.
- 9.

Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
'Stop' Signs	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	STOP SIGNS ON X-BUCKS
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Pavement Markings (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Crossbucks	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Number of Tracks Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	ONE TRACK
Inventory Tags	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Interconnected Highway Traffic Signal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Mast-Mounted Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Cantilever Flashing Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Automatic Gates	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number: Length:
Bells	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Number:
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	RUN THROUGH - SET CARS
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	ON SIDING

Safety Data (Obtain crash reports, if possible, prior to review)		
	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	1 (1/4/2016)	
Hazard Ranking	970 Date Run: 9/30/16	
Railroad Data		
Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	1	2 RT/WK
< 1 per day		NEXT YEAR 3 RT/WK
Day thru trains	1	(= 1/MOVE/DAY)
Night thru trains		
Daytime switching movements		
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	20	OK
Typical train speed	20	OK
Amtrak		
If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If multiple tracks, can two trains occupy crossing at the same time? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Can one train block the motorists' view of another train at crossing? <input type="checkbox"/> Yes (Explain below) <input checked="" type="checkbox"/> No		
Can one or more tracks be eliminated through the crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Are there other track(s) crossing this same roadway within 100 ft of this crossing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
If yes, Crossing DOT #(if different) _____		
If yes, distance _____ (take measurement between track centerlines at closest point along roadway)		
Roadway Data		
Local Highway Authority: Sandusky County		
Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	187 (2013)	MAY BE A LITTLE LOW
Highway paved	X Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Roadway Surface: <input checked="" type="checkbox"/> Blacktop <input type="checkbox"/> Gravel <input type="checkbox"/> Concrete <input type="checkbox"/> Other _____		
Roadway width: 20 ft.		
Number of highway lanes	2	
Urban or Rural	Rural	
Vehicle Speed: 55 MPH		
School Bus Operation: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Amount # UNKNOWN		
Hazardous Materials Trucks: <input type="checkbox"/> No X Yes .05 Amount		
Shoulders: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, deficient approach(es) _____		

Quadrant _____ Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None	Quadrant _____ Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None
Pedestrians: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is sidewalk present? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, Distance _____ Is this intersection signalized? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Are the signals currently interconnected with the existing crossing warning devices? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Is there a 'Do not Stop on Track' sign? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, Improvement type _____ Lead Agency _____ Timeline/completion - _____	
Is it the consensus of the Diagnostic Review Team that this is a potential closure project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Explain reasons: _____	
Type of Development	
<input checked="" type="checkbox"/> Open Space <input type="checkbox"/> Industrial <input type="checkbox"/> Residential <input type="checkbox"/> Institutional <input type="checkbox"/> Commercial	Location of nearby schools: <i>IN GIBSON BURG</i>
Utility Information	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Utility Provider (Company Name) _____ Phone Number _____ Nearest Available Power Source _____	
What other utilities are present? (add locations to sketch) <input type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Telephone <input type="checkbox"/> Fiber Optic Cable <input type="checkbox"/> Petroleum <input type="checkbox"/> Water <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Other _____	
Is(are) there potential utility conflict(s) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown	
Comments: <div style="text-align: center; font-size: 1.2em;"> <i>NOT MARKED</i> <i>MARKED AS "CLEAR"</i> </div>	

Potential Red Flags / Project Challenges

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

NA

Crossing Consolidation or Closure:

NA

Real Estate or ROW:

RAILROAD WILL CUT VEGETATION IN RAILROAD RIGHT-OF-WAY.

Culverts / Drainage / Ballast Conditions:

NA

Roadway and/or Sidewalks:

NA

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

NA

Environmental:

NA

Other:

Diagnostic Team Recommendations

Quadrants Needed

- ☒ Install/upgrade active devices
- ☐ Automatic Flashing Lights (AFLS)
- ☐ AFLS/Cants
- ☒ AFLS / Gates
- ☐ AFLS / Gates / Cants
- ☒ Bells / number
- ☐ Upgrade circuitry / type
- ☐ Sidelights
- ☐ Guardrail Needed
- ☐ Install/Replace curb
- ☒ Bungalow placement & offset from rail & highway
- ☐ Other (define)

ONE BELL

NW QUAD POSSIBLY

Comments:

CONSENSUS: UPGRADE TO LIGHTS AND GATES

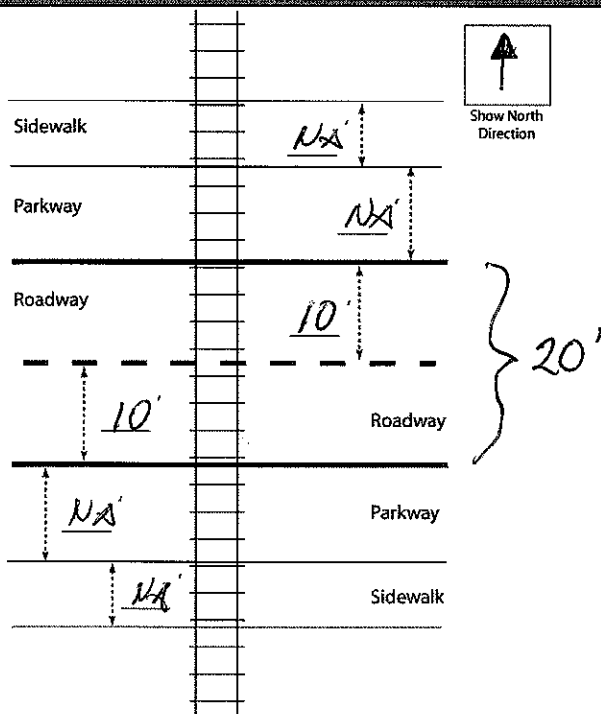
- ☐ Install/upgrade traffic signal preemption
- ☐ No improvements needed
- ☐ Other (define)

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

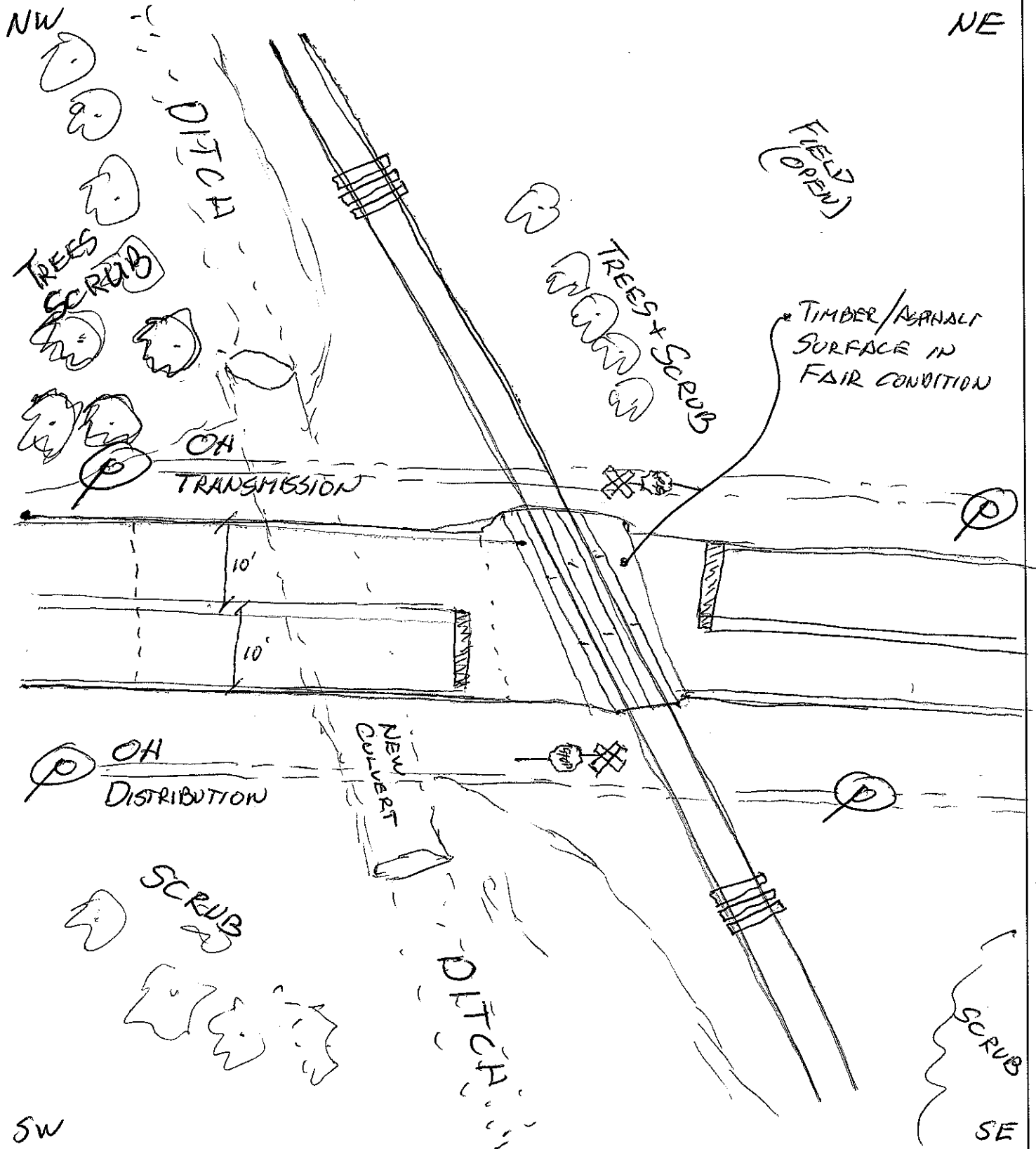
[Signature] *[Signature]*

[Signature] *[Signature]*

Field Dimensions



Field Sketch



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

Sketch by: DSD

TABLE 1

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.

Table 2

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.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

7/25/2017 2:52:40 PM

in

Case No(s). 17-1664-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the Northern Ohio & Western Railway, Tille Road/CR 85 DOT#509-173B, in Sandusky County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division