

# Memo

To: Docketing Division  
From: Jill Henry, Rail Specialist, Rail Division  
Cc: PUCO Legal Department  
Date: 6/28/2019

Re: PUCO Case No. 19-1393-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at Kanawha River Railroad Grade Crossing, DOT# 513-532W, on Carpenter Road/CR 13 in Athens County, Ohio.

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On August 24, 2018, the Ohio Rail Development Commission (ORDC) authorized funding for Kanawha River Railroad (KNWA) to install lights and gates at Carpenter Road/CR 13, DOT#513-532W, grade crossing in Athens County, Ohio. The crossing was surveyed, on May 15, 2018, and was found to warrant the upgrades. The electric utility provider for this crossing is AEP-Ohio.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$222,529 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:**

Kanawha River Railroad  
Anthony Cox  
Vice-President of Engineering  
315 W. 3<sup>rd</sup> Street  
Pittsburg, KS 66762


Kanawha River Railroad  
Derrick Jackson  
General Manager  
315 W. 3<sup>rd</sup> Street  
Pittsburg, KS 66762

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

Athens County Engineer  
Jeff Maiden  
County Engineer  
16000 Canaanville Road  
Athens, OH 45701

AEP-Ohio

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

**TO:** Randall Schumacher, Supervisor, Rail Division, PUCO  
**FROM:** Cathy Stout, Manager, Safety Section, ORDC  
**BY:** Michael Lynch   
**SUBJECT:** ATH Carpenter Rd DOT# 513532W, PID 108516  
**DATE:** 6/19/19

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The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on May 15, 2018. The Public Utilities Commission of Ohio (PUCO) attended the review. The Diagnostic Team recommended the improvement of warning devices to flashing lights and roadway gates. Copies of the diagnostic review form and the plan and estimate are attached.

PE has already been provided by the railroad. ORDC accepts the site plans and estimates as provided. Please issue a construction-only order for the project outlined above. ORDC recommends a nine (9) month construction timeline. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

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

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

Thank you for your assistance with these matters.

Attachment: Diagnostic Review  
Letter Agreement  
PE Authorization  
Plan, Estimate & Material List  
Construction Authorization

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



# OHIO RAIL DEVELOPMENT COMMISSION

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

Mike DeWine, Governor • Mark Policinski, ORDC Chairman

June 19, 2019

Kanawha River Railroad  
315 W 3<sup>rd</sup> St.  
Pittsburgh, Ks 66762

RE: Grade Crossing Warning Device Improvements  
Athens County, CR 13, Carpenter Rd.  
DOT# 513532W  
PID# 108516

Dear Mr. Cox:

The plan and estimate dated 12/21/2018, 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 (if one has not already been provided.)** Kanawha River Railroad 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 \$222,529.00. The estimate of \$222,529.00 is acceptable. 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 Kanawha River Railroad accepting the following instructions:

1. Kanawha River Railroad's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Michael Lynch, ORDC, email [Michael.lynch@dot.ohio.gov](mailto:Michael.lynch@dot.ohio.gov), and to the Public Utilities Commission of Ohio at [Jill.henry@puc.state.oh.us](mailto:Jill.henry@puc.state.oh.us). Kanawha River Railroad'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. Kanawha River Railroad 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 Kanawha River Railroad.
3. Kanawha River Railroad's project foremen will notify Michael Lynch at 614-395-1824 (telephone) or [Michael.lynch@dot.ohio.gov](mailto:Michael.lynch@dot.ohio.gov)(email) of any changes in the scope of work,



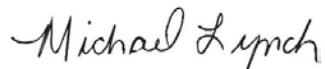
cost overruns, material changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.

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. Kanawha River Railroad will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
6. Kanawha River Railroad 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.

This project is authorized for construction under the master agreement between Ohio Rail Development Commission, Public Utilities Commission of Ohio.

Thank you for your assistance with these matters.

Sincerely,

A handwritten signature in cursive script that reads "Michael Lynch".

Michael Lynch  
Project Manager

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



## Proposal

Railroad Signal Division

PROPOSAL SUBMITTED TO: Kanawha River Railroad (KNWA)	PHONE: (304) 220-2538	DATE: December 21, 2018
STREET: 1100 Dairy Lane	JOB NAME: Carpenter Street (C.R. 13) – 513 532 W	
CITY, STATE and ZIP CODE: Belle, WV 25015	JOB LOCATION: Athens County, OH	
CONTACT: Derrick Jackson, General Manager	JOB NUMBER: RRP-584	

We hereby submit specifications and a detailed estimate for:

RRP-584, Carpenter Street (C.R. 13), Athens Co., Ohio (513 532 W)

C.D.L. Electric, Incorporated is providing an estimate to furnish and install a new automatic railroad/highway grade crossing warning signal system at the location listed above. It will include a new pre-wired grade crossing control shelter with prediction type circuitry and flashing light / gate signal assemblies. The signal system will include items listed on the accompanying estimated material list.

The new signal assemblies will include automatic gates with 2-Way 12" LED flashing light units and signs. One signal assembly will include a bell. Underground signal cable, foundations and grounding components will be included as well. New conduits will be furnished under the road and track as required. The new signal system will require commercial AC power and a new meter service will be provided. Guardrail for each signal assembly has not been included in this proposal. It is noted that one signal assembly will require the front and back lights to be separated due to the road angle. After the installation of the described signal system is complete, dress stone and grass seed will be placed, as needed, to properly finish the installation.

Please Note: Commercial power (220V) must be readily available within 75' of the control shelter location. Any additional cost(s) associated with labor or material(s) to get 220-volt commercial power to the proposed AC meter service location is not included in this estimate and will be the responsibility of others at their expense.

Any overhead or underground utilities that may interfere with the installation or proper operation of the described signal system must be relocated at the expense of others. C.D.L. Electric, Inc. will not be responsible for any cost(s) associated with labor or material(s) required to relocate utilities at this location.

If concrete, asphalt or any other type of roadway/walkway material must be removed for the proper installation and operation of the described signal system then additional charges may apply. C.D.L. Electric, Incorporated will not be responsible for any cost(s) associated with labor or material(s) to replace concrete, asphalt or any other type of roadway/walkway material removed during the installation process of the described signal material.

Please Note: The estimated price is valid for ninety (90) days from the date listed above. Beyond ninety days the price is subject to change.

We propose hereby, to furnish material and labor – complete in accordance with above specifications, for the Sum of: \$222,529.00. Please note, an estimated 7.25% Sales Tax is applied to material and labor only.

Continued on next page

RRP-584, Carpenter Street (C.R. 13), Athens Co., Ohio (513 532 W) - continued

Material – (see items listed), AC Meter Service, and Handling Charges:	\$ 144,258.00
Labor - Crew Mobilization, Crew Install, Office support, Project Mgmt.:	\$49,411.00
Equip. – Truck(s) with Trailer(s) (w/fuel), XT type, Bore Equip., General Tool Use:	\$14,819.00
 Total Selling Price:	 <u>\$208,488.00</u>
 Estimated Sales Tax (Estimated 7.25% on Material & Labor):	 \$14,041.00
 Grand Total (Including Estimated Sales Tax):	 <u>\$222,529.00</u>

Please Note the following:

1. Proposed Prices are valid for Ninety (90) days from the date of this Proposal, beyond ninety days, prices are subject to change
2. Terms: Net Due 30 Days from Invoice Date
3. This proposal may be withdrawn by us if not accepted within ninety (90) days
4. If traffic control for the public roadway, other than typical "Crew Working" type signage is mandated by a third party, then other charges may apply

Authorized Signature:



Mark E. Smallwood

Senior Project Manager  
mark.smallwood@cdl-electric.com  
(502) 618-2165

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Acceptance of Proposal — the above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Payment will be made as outlined above.

Date of Acceptance: \_\_\_\_\_

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_

Continued on next page

RRP-584, Carpenter Street (C.R. 13), Athens Co., Ohio (513 532 W) - continued

Material to be provided per this proposal includes:

<b><u>ITEM DESCRIPTION</u></b>	<b><u>QTY.</u></b>	<b><u>U/M</u></b>
CONTROL SHELTER, WIRED & TESTED COMPLETE WITH:	1	EA
TRAIN DETECTION DEVICE (PREDICTOR) MGCP SGL. TRACK REDUNDANT	1	EA
SURGE PROTECTOR 120/240	1	EA
CHARGER, BATTERY REC, 40 AMP	2	EA
PROTECTOR, BATTERY LPC	1	EA
PROTECTOR, LINE, LPC	1	EA
LIGHTNING	2	EA
BLOCK, ERICO 4-POST	40	EA
ARRESTER, CLEARVIEW	29	EA
EQUALIZER	6	EA
WIRING COMPONENTS - NON-VITAL	1	LT
POWER-OFF LIGHT, GEM	1	EA
WIRE HARNESS, NS	1	EA
STICKER, LOCATION/CONTACT INFORMATION	1	EA
SHOP WIRING HDW., WIRE, TERM. EYES, TAGS, ETC.	1	LT
SERVICES, SHOP WIRING & TESTING SERVICES	1	LT
GATE ASSEMBLY, S-60 TYPE COMPLETE WITH THE FOLLOWING ITEMS:	2	EA
MAST & JUNCTION BOX ASSEMBLY, w/WIRING HARNESS		
2-WAY LIGHT ASSY., 12" LED COMPLETE WITH HOODS AND BGS		
COUNTERWEIGHT PKG.		
SIGN, "RAILROAD CROSSING"		
HARDWARE PKG		
GATE ARM, HI STRIPING, RED/WHITE ALTERNATING, (ADJ)		
LIGHT KIT FOR GATE ARM 4" LED		
HIGH WIND BRACKET		
GATESAVER, SWING-A-WAY GATE ARM DEVICE - NEG		
BELL, ELECTRONIC 12V TYPE FOR 4"/5" MTG.	1	EA
PINNACLE, 5"	1	EA
EXTENSION ARM ASSEMBLY	1	EA
CROSS-ARM, 1-WAY ASSEMBLY	1	EA
COVER PLATE FOR CROSS ARM EXTENSION	2	EA
BATTERY, 340 A.H. SAFT	20	CL
FOUNDATION, PRECAST CONCRETE	2	EA
SHUNT PLATE	2	EA
SHUNT, NARROW BAND, ADJ.	2	EA
GROUND KIT FOR HOUSE	1	EA
KIT, FAR RAIL	2	EA
KIT, NEAR RAIL	2	EA

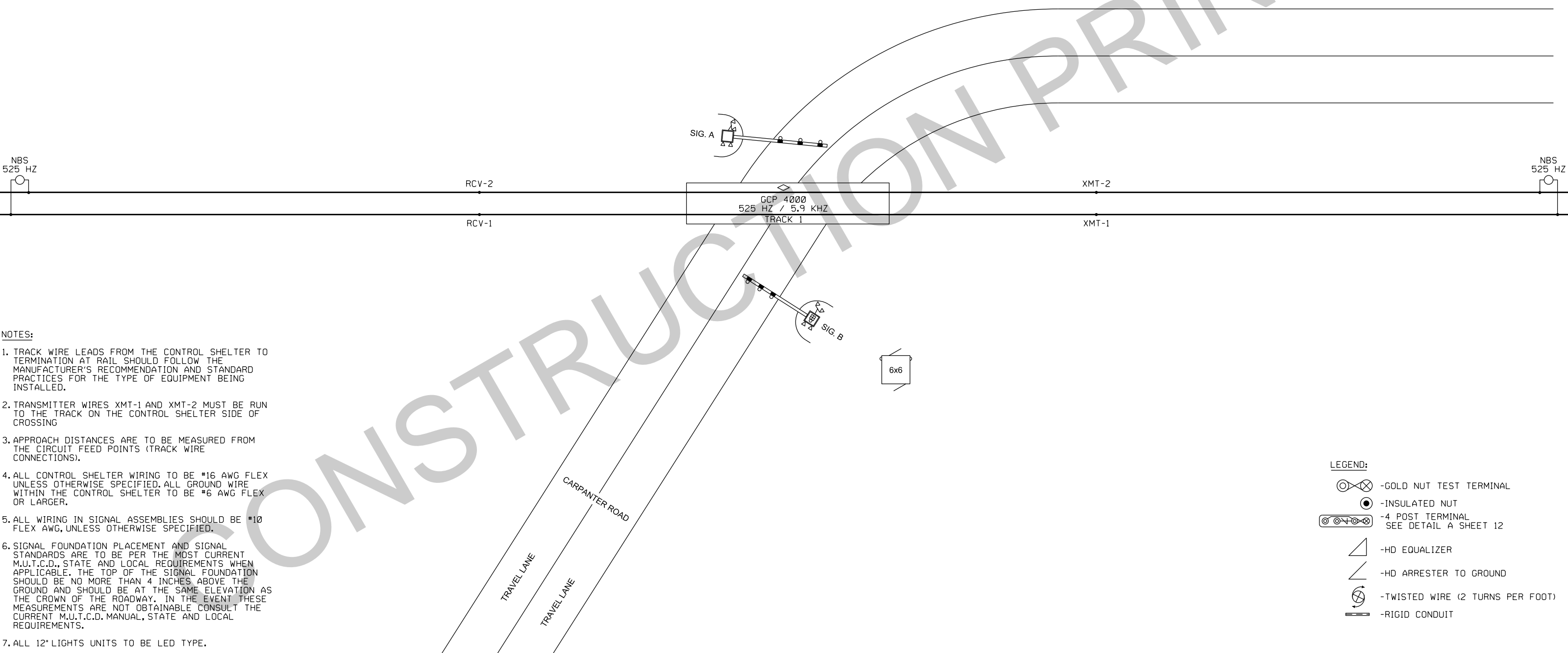
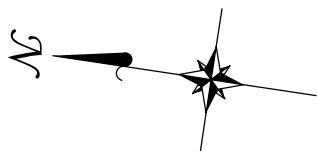
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RRP-584, Carpenter Street (C.R. 13), Athens Co., Ohio (513 532 W) - continued

CABLE, U.G. SIGNAL 12 COND. NO. 14 AWG SOLID	300	FT
CABLE, U.G. SIGNAL 5 COND. NO. 6 AWG SOLID	300	FT
TRACK WIRE NO. 6 TW. PR. DUPLEX	300	FT
CABLE, U.G. SIGNAL 3 COND. NO. 6 AWG SOLID	300	FT
CABLE REEL	4	EA
PADLOCK, BRONZE W/O CHAIN	1	EA
PADLOCK, HEX TYPE	2	EA
LOCK, RR STD. - WATCO	2	EA
SIGN KIT, ENS	2	EA
MISC. MATERIAL FOR FIELD INSTALLATION	1	LT
AC METER SERVICE (Estimated)	1	LT
CONDUIT (Estimated)	1	LT
ROCK (Estimated)	1	LT
FILL (Estimated)	1	LT
ENGINEERING SERVICES / CIRCUIT PLANS / AS-IN-SERVICE PLANS / P.E. CERT.	1	LT
FREIGHT SERVICES TO JOB SITE	1	LT

MATERIAL ITEMS MAY BE SUBSTITUTED WITH EQUIVALENT TYPE COMPONENTS AS  
REQUIRED IF NECESSARY



NOTES:

1. TRACK WIRE LEADS FROM THE CONTROL SHELTER TO TERMINATION AT RAIL SHOULD FOLLOW THE MANUFACTURER'S RECOMMENDATION AND STANDARD PRACTICES FOR THE TYPE OF EQUIPMENT BEING INSTALLED.
2. TRANSMITTER WIRES XMT-1 AND XMT-2 MUST BE RUN TO THE TRACK ON THE CONTROL SHELTER SIDE OF CROSSING
3. APPROACH DISTANCES ARE TO BE MEASURED FROM THE CIRCUIT FEED POINTS (TRACK WIRE CONNECTIONS).
4. ALL CONTROL SHELTER WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE SPECIFIED. ALL GROUND WIRE WITHIN THE CONTROL SHELTER TO BE #6 AWG FLEX OR LARGER.
5. ALL WIRING IN SIGNAL ASSEMBLIES SHOULD BE #10 FLEX AWG, UNLESS OTHERWISE SPECIFIED.
6. SIGNAL FOUNDATION PLACEMENT AND SIGNAL STANDARDS ARE TO BE PER THE MOST CURRENT M.U.T.C.D., STATE AND LOCAL REQUIREMENTS WHEN APPLICABLE. THE TOP OF THE SIGNAL FOUNDATION SHOULD BE NO MORE THAN 4 INCHES ABOVE THE GROUND AND SHOULD BE AT THE SAME ELEVATION AS THE CROWN OF THE ROADWAY. IN THE EVENT THESE MEASUREMENTS ARE NOT OBTAINABLE CONSULT THE CURRENT M.U.T.C.D. MANUAL, STATE AND LOCAL REQUIREMENTS.
7. ALL 12" LIGHTS UNITS TO BE LED TYPE.

LEGEND:

- GOLD NUT TEST TERMINAL
- INSULATED NUT
- 4 POST TERMINAL  
SEE DETAIL A SHEET 12
- HD EQUALIZER
- HD ARRESTER TO GROUND
- TWISTED WIRE (2 TURNS PER FOOT)
- RIGID CONDUIT

REVISIONS

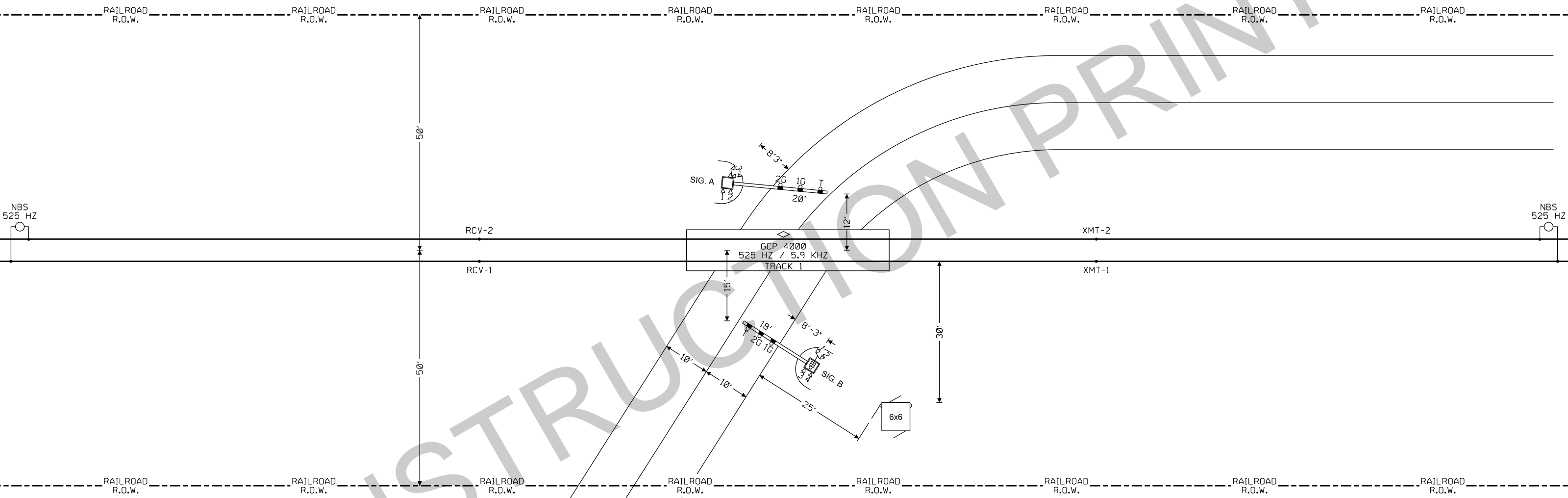
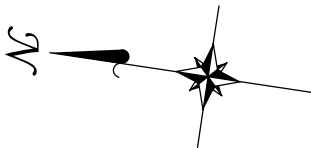
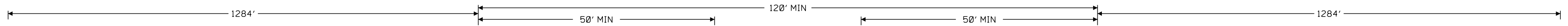
1	2	3	
ADDED OHIO DIG SAFE INFORMATION TO SH. 1 AND SH. 2 H.M.C. 05-17-19	ADDED "OR EQUIVALENT" LABEL ON THE BATTERIES ON SH. 3 AND SH. 14 A.G.C 06-03-19	SHEET REF CORRECTIONS MOVED GATE HEATERS TO BRK 9 REMOVED RIO P.B. 06-10-19	

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.



KANAWHA RIVER RAILROAD

-KNWA-		
DOT# 513 532 W		GPS: 39.203613, -82.201135
MILEPOST# 93.02		
DRAWN: H.M.C.	CARPENTER ROAD - GRADE CROSSING	CONSTRUCTION
DESIGNED: C.D.L.	ALBANY, OH	DRAWING NO.
CHECKED: C.D.L.	KANAWHA SUB-DIVISION	RRP-584
DATE: 05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 1 OF 15



APPROACH CIRCUIT DISTANCE CALCUATION TABLE	TRACK 1
BASE WARNING TIME	30 SEC
PLUS TIME FOR DISTANCE BETWEEN SIGNALS	0 SEC
EQUALS PLANNED WARNING TIME	30 SEC
PLUS TIME FOR EQUIPMENT RESPONSE	5 SEC
PLUS TIME FOR TRAFFIC SIGNAL PRE-EMPTION	0 SEC
EQUALS CIRCUIT APPROACH TIME	35 SEC
TIMES MAXIMUM PLANNED TRAIN SPEED	25 MPH
TIMES RATIO OF FEET PER SECOND TO MILES PER HOUR	1.467
EQUALS APPROACH CIRCUIT DISTANCE	1284 FT
ACTUAL MEASURED APPROACH CIRCUIT DISTANCE	FT

ANY FRACTIONAL VALUE INCREASED TO FULL UNIT

UG1	2/C #6	UG2	2/C #6	UG3	5/C #6	UG4	12/C #14	UG5	5/C #6	UG6	12/C #14	UG7	3/C #6 W/ #8 GND
RAIL	1 XMT-1	RAIL	1 RCV-1	SIG. A	1 B16-A	SIG. A	1 AXG	SIG. B	1 B16-B	SIG. B	1 BXG	AC PWR	1 BX120
HOUSE	2 XMT-2	HOUSE	2 RCV-2	2 N16-A	2 N16-A	2 NAXG	2 NAXG	2 N16-B	2 N16-B	2 NBXG	2 NBXG	2 NX120	2 NX120
				3 AEB	3 AEB	3 AXX	3 AXX	3 BEB	3 BEB	3 BXX	3 BXX	3 CX120	3 CX120
				4 AEZ	4 AEZ	4 1AXX	4 1AXX	4 BEZ	4 BEZ	4 1BXX	4 1BXX	4 GND	4 GND
				5 AEC	5 AEC	5 XGP1	5 XGP1	5 BEC	5 BEC	5 XGP1	5 XGP1		
						6 AGD	6 AGD			6 XGP	6 XGP		
						7 AGBX120	7 AGBX120			7 BGD	7 BGD		
						8 AGNX120	8 AGNX120			8 BGBX120	8 BGBX120		
						9 SPARE	9 SPARE			9 BNX120	9 BNX120		
						10 SPARE	10 SPARE			10 SPARE	10 SPARE		
						11 SPARE	11 SPARE			11 SPARE	11 SPARE		
						12 SPARE	12 SPARE			12 SPARE	12 SPARE		

REVISIONS

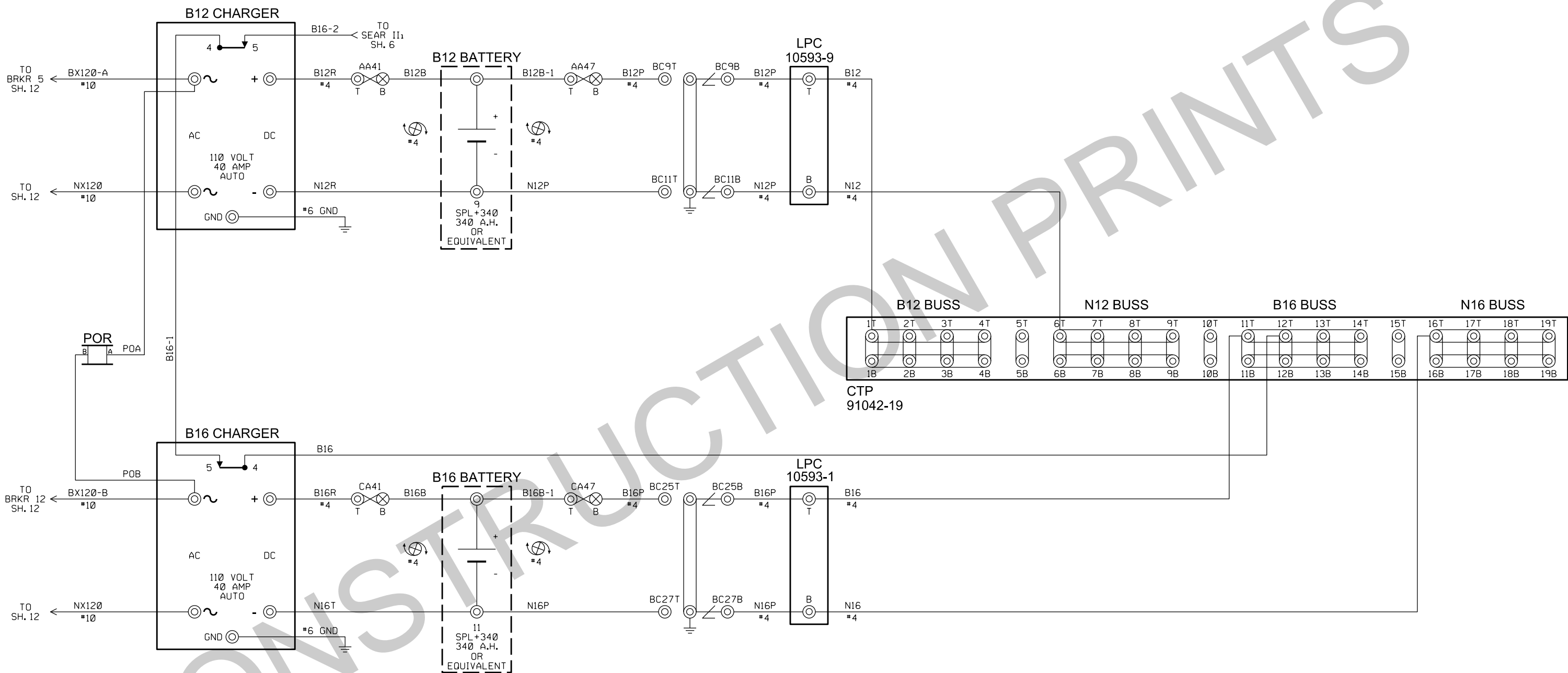
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THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM. SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL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



KANAWHA RIVER RAILROAD		
-KNWA-		
DOT# 513 532 W		MILEPOST: 93.02
DESIGNED: C.D.L.	GPS: 39.203613, -82.201135	
CHECKED: C.D.L.	CARPENTER ROAD - GRADE CROSSING	
DATE: 05-17-19	ALBANY, OH	
	KANAWHA SUB-DIVISION	
	DRAWN BY CDL ELECTRIC INC.	
	CONSTRUCTION DRAWING NO. RRP-584	
	SHEET 2 OF 15	



## REVISIONS

1

ADDED OHIO DIG  
SAFE INFORMATION  
TO SH. 1 AND SH. 2  
H.M.C.  
05-17-19

2

ADDED "OR EQUIVALENT"  
LABEL ON THE  
BATTERIES  
ON SH. 3 AND SH. 14  
A.G.C  
06-03-19

3

SHEET REF CORRECTIONS  
MOVED GATE HEATERS  
TO BRK 9  
REMOVED R10  
P.B.  
06-10-19



THE OPERATION OF THE CIRCUITS AND  
EQUIPMENT REPRESENTED HEREIN CANNOT  
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PLACED IN REGULAR OPERATION.



## KANAWHA RIVER RAILROAD

-KNWA-

DOT# 513 532 W

GPS: 39.203613, -82.201135

MILEPOST# 93.02

DRAWN: H.M.C.

CARPENTER ROAD - GRADE CROSSING

CONSTRUCTION

DESIGNED: C.D.L.

ALBANY, OH

DRAWING NO.

CHECKED: C.D.L.

KANAWHA SUB-DIVISION

RRP-584

DATE: 05-17-19

DRAWN BY CDL ELECTRIC INC.

SHEET 3 OF 15



LOCATION AND SIN  
-----  
DOT NUMBER: 513532W  
MILEPOST NUMBER: 93.02  
SITE NAME: CARPENTER RD - ALBANY - OH  
  
SIN: 762010010016

MCF AND TEMPLATE SELECTION  
-----  
MCF NAME: GCP-T6X-02-6.MCF  
MCF REVISION: 21  
MCFCRC: 6076E435

TEMPLATE = 1A:6 TRK BI (OCCN)

CHECK NUMBERS  
-----  
OFFICE CHECK NUMBER: 660DC57E  
CONFIG. CHECK NUMBER: 60568396  
(BASED ON MCF REVISION 21)

PROGRAM  
-----  
BASIC: MODULE CONFIGURATION  
CHASSIS TYPE = DUAL TWO TRACK (OCCN)  
TRACK 1/PS0 1 SLOT = TRACK (OCCN)  
TRACK 2/RIO 1 SLOT = NOT USED (OCCN)  
SSCC-1 SLOT = SSCC3I (OCCN)  
SSCC-2 SLOT = SSCC3I (OCCN)  
SEAR USED = YES (OCCN)

BASIC: MS/GCP OPERATION  
TRACK 1:MS/GCP OPERATION = YES (OCCN)

BASIC: ISLAND OPERATION  
TRACK 1:ISLAND USED = INTERNAL (OCCN)

BASIC: PREEMPTION  
PREEMPT LOGIC = NOT USED (OCCN)  
ADV PREEMPT DELAY = NOT USED (OCCN)  
PREEMPT HLTH IP USED = NO (OCCN)  
ADV PREEMPT IP USED = NO (OCCN)  
TRAFFIC SYS HLTH IP USED = NO (OCCN)  
GATE DOWN LOGIC USED = NO (OCCN)  
SECOND TRN LOGIC USED = NO (OCCN)

BASIC: RADIO DAX LINKS  
RADIO DAX LINK A USED = NO (OCCN)  
RADIO DAX LINK B USED = NO (OCCN)

BASIC: VITAL COMMS LINKS  
VITAL COMMS LINK 1 USED = NO (OCCN)  
VITAL COMMS LINK 2 USED = NO (OCCN)

PREDICTORS: TRACK 1  
TRACK 1:PRIME USED = YES (OCCN)  
TRACK 1:DAX A USED = NO (OCCN)  
TRACK 1:DAX B USED = NO (OCCN)  
TRACK 1:DAX C USED = NO (OCCN)  
TRACK 1:DAX D USED = NO (OCCN)  
TRACK 1:DAX E USED = NO (OCCN)  
TRACK 1:DAX F USED = NO (OCCN)  
TRACK 1:DAX G USED = NO (OCCN)  
TRACK 1:PRMPT USED = NO (OCCN)

GCP: TRACK 1  
TRACK 1:GCP FREQ CATEGORY = STANDARD (FIELD)  
TRACK 1:GCP FREQUENCY = 525 HZ (OCCN,TCN)  
TRACK 1:APPROACH DISTANCE = 1284 FT (OCCN,TCN)  
TRACK 1:UNI/BI/SIM-BIDIRNL = BIDIRNL (OCCN,TCN)  
TRACK 1:GCP TRANSMIT LEVEL = MEDIUM (FIELD,TCN)  
TRACK 1:ISLAND CONNECTION = ISL 1 (OCCN)  
TRACK 1:DIRECTIONALLY WIRED = NO (OCCN)  
TRACK 1:ISLAND DISTANCE = 120 FT (FIELD,TCN)  
TRACK 1:COMPUTED DISTANCE = 9999 FT (FIELD,TCN)  
TRACK 1:LINEARIZATION STEPS = 100 (FIELD,TCN)

GCP: TRACK 1 ENHANCED DET  
TRACK 1:INBOUND PS SENSITIVITY = OFF (FIELD)  
TRACK 1:SPEED LIMITING USED = YES (FIELD)  
TRACK 1:OUTBOUND FALSE ACT LVL = NORMAL (FIELD)  
TRACK 1:OUTBOUND PS TIMER = 20 SEC (FIELD)  
TRACK 1:TRAILING SWITCH LOGIC = ON (FIELD)  
TRACK 1:POST JOINT DETN TIME = 15 SEC (OCCN)  
TRACK 1:ADV APPR PREDN = NO (OCCN)  
TRACK 1:CANCEL PICKUP DELAY = THIS ISL (OCCN)

GCP: TRACK 1 BIDAX RX  
TRACK 1:BIDAX TO RX APPR = NOT USED (OCCN)

GCP: TRACK 1 BIDAX TX  
TRACK 1:BIDAX TO TX APPR = NOT USED (OCCN)

GCP: TRACK 1 PRIME  
TRACK 1:PRIME WARNING TIME = 30 SEC (OCCN)  
TRACK 1:PRIME OFFSET DISTANCE = 0 FT (OCCN)  
TRACK 1:SWITCH MS EZ LEVEL = 10 (OCCN)  
TRACK 1:PRIME MS/GCP MODE = PRED (OCCN)  
TRACK 1:PRIME PICKUP DELAY = 15 SEC (OCCN)  
TRACK 1:PRIME UAX = NOT USED (OCCN)

GCP: TRACK 1 PREEMPT  
TRACK 1:PRMPT WARNING TIME = NOT USED (OCCN)  
TRACK 1:PRMPT OFFSET DISTANCE = 0 FT (OCCN)  
TRACK 1:SWITCH MS EZ LEVEL = 10 (OCCN)  
TRACK 1:PRMPT MS/GCP MODE = PRED (OCCN)  
TRACK 1:PRMPT PICKUP DELAY = 15 SEC (OCCN)  
TRACK 1:PRMPT ENABLE = NOT USED (OCCN)

GCP: TRACK 1 POS START  
TRACK 1:POSITIVE START = OFF (OCCN)  
TRACK 1:SUDDEN SHNT DET USED = NO (OCCN)  
TRACK 1:LOW EZ DETECTION USED = NO (OCCN)

GCP: TRACK 1 MS CONTROL  
TRACK 1:MS/GCP CTRL IP USED = NO (OCCN)  
TRACK 1:MS SENSITIVITY LEVEL = 0 (FIELD)  
TRACK 1:COMPENSATION LEVEL = 1300 (FIELD,TCN)  
TRACK 1:WARN TIME-BALLAST COMP = HIGH (FIELD,TCN)  
TRACK 1:LOW EX ADJUSTMENT = 39 (FIELD)  
TRACK 1:BIDIRN DAX PASSTHRU = NO (OCCN)  
TRACK 1:FALSE ACT ON TRAIN STOP = NO (FIELD)  
TRACK 1:EX LIMITING USED = YES (FIELD)  
TRACK 1:EZ CORRECTION USED = YES (FIELD)

ISLAND: TRACK 1  
TRACK 1:ISL FREQUENCY = 5.9 KHZ (OCCN)  
TRACK 1:PICKUP DELAY (2S +) = 0 SEC (OCCN)  
TRACK 1:ISL ENABLE IP USED = NO (OCCN)

AND: TRACK ANDING  
AND 1 XR USED = YES (OCCN)  
AND 2 USED = NO (OCCN)  
AND 3 USED = NO (OCCN)  
AND 4 USED = NO (OCCN)  
AND 5 USED = NO (OCCN)  
AND 6 USED = NO (OCCN)  
AND 7 USED = NO (OCCN)  
AND 8 USED = NO (OCCN)

AND: AND 1 XR  
AND 1 XR TRACK 1 = PRIME (OCCN)  
AND 1 ENABLE USED = YES (OCCN)  
AND 1 ENABLE PICKUP = 5 SEC (OCCN)  
AND 1 ENABLE DROP = 0 SEC (OCCN)  
AND 1 WRAP USED = NO (OCCN)

ADVANCED: MS RESTART  
MS/GCP RESTART USED = NO (OCCN)

ADVANCED: OUT OF SERVICE  
OOS CONTROL = DISPLAY + OOS IPS (OCCN)  
OOS TIMEOUT = YES (OCCN)  
OOS TIMEOUT = 1 HR (OCCN)

ADVANCED: OUT OF SERVICE 2  
T1 OOS CONTROL = OOS INPUT 1 (OCCN)  
T1 OOS CONTROLS = GCP AND ISLAND (OCCN)

ADVANCED: TRACK WRAP CIRCUITS  
WRAP LOS TIMER = 2 SEC (OCCN)  
TRACK 1 WRAP USED = NO (OCCN)

ADVANCED: TRK 1 OVERRIDES  
TRACK 1:ALL PREDICTORS OVERRIDE USED = NO (OCCN)

ADVANCED: OR LOGIC  
OR 1 USED = NO (OCCN)  
OR 2 USED = NO (OCCN)  
OR 3 USED = NO (OCCN)  
OR 4 USED = NO (OCCN)

ADVANCED: INTERNAL I/O 1  
PASS THRU = NO (OCCN)  
INT.1 SETS = NOT USED (OCCN)  
INT.1 SET BY = NOT USED (OCCN)  
INT.2 SETS = NOT USED (OCCN)  
INT.2 SET BY = NOT USED (OCCN)  
INT.3 SETS = NOT USED (OCCN)  
INT.3 SET BY = NOT USED (OCCN)  
INT.4 SETS = NOT USED (OCCN)  
INT.4 SET BY = NOT USED (OCCN)

ADVANCED: INTERNAL I/O 2  
INT.5 SETS = NOT USED (OCCN)  
INT.5 SET BY = NOT USED (OCCN)  
INT.6 SETS = NOT USED (OCCN)  
INT.6 SET BY = NOT USED (OCCN)  
INT.7 SETS = NOT USED (OCCN)  
INT.7 SET BY = NOT USED (OCCN)  
INT.8 SETS = NOT USED (OCCN)  
INT.8 SET BY = NOT USED (OCCN)

ADVANCED: INTERNAL I/O 3  
INT.9 SETS = NOT USED (OCCN)  
INT.9 SET BY = NOT USED (OCCN)  
INT.10 SETS = NOT USED (OCCN)  
INT.10 SET BY = NOT USED (OCCN)  
INT.11 SETS = NOT USED (OCCN)  
INT.11 SET BY = NOT USED (OCCN)  
INT.12 SETS = NOT USED (OCCN)  
INT.12 SET BY = NOT USED (OCCN)

ADVANCED: INTERNAL I/O 4  
INT.13 SETS = NOT USED (OCCN)  
INT.13 SET BY = NOT USED (OCCN)  
INT.14 SETS = NOT USED (OCCN)  
INT.14 SET BY = NOT USED (OCCN)  
INT.15 SETS = NOT USED (OCCN)  
INT.15 SET BY = NOT USED (OCCN)  
INT.16 SETS = NOT USED (OCCN)  
INT.16 SET BY = NOT USED (OCCN)

ADVANCED: SITE OPTIONS  
DAYLIGHT SAVINGS = ON (FIELD)  
UNITS = STANDARD (OCCN)  
MAINT CALL RPT IP USED = NO (OCCN)  
EMERGENCY ACTIVATE IP = NO (OCCN)  
EZ/EX LOGGING = CHANGE (FIELD)  
EZ/EX POINT CHANGE = 3 (FIELD)

SSCC  
GATES USED = YES (OCCN)  
MIN ACTIVATION = 0 SEC (OCCN)  
RMT ACTIVATION CANCEL = 2 MIN (OCCN)  
BELL ON GATE RISING = NO (OCCN)  
MUTE BELL ON GATE DOWN = NO (OCCN)  
SSCCIV CONTROLLER USED = NO (OCCN)  
SSCC1+2 GPS COUPLED = YES (OCCN)

SSCC: 1  
SSCC-1 ACTIVATION = AND 1 XR (OCCN)  
SSCC-1 GATE DELAY = 6 SEC (OCCN)  
SSCC-1 NUMBER OF GPS = 1 (OCCN)  
SSCC-1 NUMBER OF GDS = 2 (OCCN)  
SSCC-1:FLASH RATE = 40 (OCCN)  
SSCC-1:LOW BATTERY DETECTION = NO (FIELD)  
SSCC-1:FLASH SYNC = MASTER (OCCN)  
SSCC-1:INVERT GATE OUTPUT = NO (OCCN)  
SSCC-1:LAMP NEUTRAL TEST = OFF (OCCN)  
AUX-1 XNG CTRL USED = NO (OCCN)

SSCC: 2  
SSCC-2 ACTIVATION = AND 1 XR (OCCN)  
SSCC-2 GATE DELAY = 6 SEC (OCCN)  
SSCC-2 NUMBER OF GPS = 0 (OCCN)  
SSCC-2 NUMBER OF GDS = 0 (OCCN)  
SSCC-2:FLASH RATE = 40 (OCCN)  
SSCC-2:LOW BATTERY DETECTION = NO (FIELD)  
SSCC-2:FLASH SYNC = SLAVE (OCCN)  
SSCC-2:INVERT GATE OUTPUT = NO (OCCN)  
SSCC-2:LAMP NEUTRAL TEST = OFF (OCCN)  
AUX-2 XNG CTRL USED = NO (OCCN)

OUTPUT: ASSIGNMENT PAGE 1  
OUT 1.1 = NOT USED (OCCN)  
OUT 1.2 = NOT USED (OCCN)

INPUT: ASSIGNMENT PAGE 1  
IN 1.1 = NOT USED (OCCN)  
IN 1.2 = NOT USED (OCCN)

IO: ASSIGNMENT SSCC  
OUT GC 1 = GATE OUTPUT 1 (OCCN)  
OUT GC 2 = GATE OUTPUT 2 (OCCN)  
IN 7.1 = NOT USED (OCCN)  
IN 7.2 = GD 1.2 (OCCN)  
IN 7.3 = AND 1 XR ENABLE (OCCN)  
IN 7.4 = GD 1.1 (OCCN)  
IN 7.5 = GP 1.1 (OCCN)  
IN 8.1 = OUT OF SERVICE IP 1 (OCCN)  
IN 8.2 = NOT USED (OCCN)  
IN 8.3 = NOT USED (OCCN)  
IN 8.4 = NOT USED (OCCN)  
IN 8.5 = NOT USED (OCCN)

SEAR  
SEAR SUBNODE = 3 (OCCN)  
DI 1 = NOT USED (OCCN)  
DI 2 = NOT USED (OCCN)  
RLY 1 = GENERAL 1 (OCCN)  
RLY 2 = NOT USED (OCCN)

SEAR: INPUTS  
SP 2.1 = POK 1 (OCCN)  
SP 3.1 = NOT USED (OCCN)  
SP 4.1 = NOT USED (OCCN)  
SP 5.1 = NOT USED (OCCN)  
SP 6.1 = NOT USED (OCCN)

SEAR: SLOT 1-4 INPUTS  
IN 1.2 = NOT USED (OCCN)  
IN 2.1 = NOT USED (OCCN)  
IN 2.2 = NOT USED (OCCN)  
IN 3.1 = NOT USED (OCCN)  
IN 3.2 = NOT USED (OCCN)  
IN 4.1 = NOT USED (OCCN)  
IN 4.2 = NOT USED (OCCN)

SEAR: INPUTS SLOT 5  
IN 5.1 = NOT USED (OCCN)  
IN 5.2 = NOT USED (OCCN)

SEAR: INPUTS SLOT 6  
IN 6.1 = NOT USED (OCCN)  
IN 6.2 = NOT USED (OCCN)

SEAR: SLOT 7-8 INPUTS  
IN 7.1 = NOT USED (OCCN)  
IN 8.2 = NOT USED (OCCN)  
IN 8.3 = NOT USED (OCCN)  
IN 8.4 = NOT USED (OCCN)  
IN 8.5 = NOT USED (OCCN)

SITE: PROGRAMMING  
RADIO SUBNODE = 1 (FIELD)  
FIELD PASSWORD = OFF (OCCN)  
LOW BATTERY ENABLED = OFF (FIELD)

DT VERSION: 5.7.6

PROGRAMMING NOTES:

1. ALL GCP4000 SYSTEM PROGRAMMING PRELIMINARY  
PENDING EXACT UNIT SPECIFICATIONS.

REVISIONS

1  
ADDED OHIO DIG  
SAFE INFORMATION  
TO SH.1 AND SH.2  
H.M.C.  
05-17-19

2  
ADDED \*OR EQUIVALENT\*  
LABEL ON THE  
BATTERIES  
ON SH. 3 AND SH. 14  
A.G.C  
06-03-19

3  
SHEET REF CORRECTIONS  
MOVED GATE HEATERS  
TO BRK 9  
REMOVED RIO  
P.B.  
06-10-19



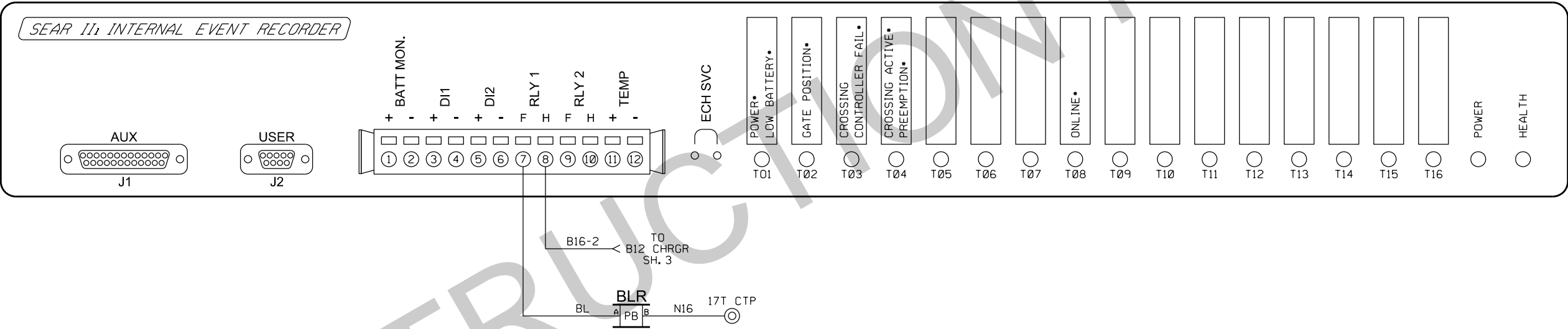
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MUST BE GIVEN COMPLETE CIRCUIT AND  
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PLACED IN REGULAR OPERATION.



KANAWHA RIVER RAILROAD

-KNWA-		
DOT# 513 532 W		MILEPOST# 93.02
GPS: 39.203613, -82.201135		
DRAWN: H.M.C.	CARPENTER ROAD - GRADE CROSSING	CONSTRUCTION
DESIGNED: C.D.L.	ALBANY, OH	DRAWING NO.
CHECKED: C.D.L.	KANAWHA SUB-DIVISION	RRP-584
DATE: 05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 5 OF 15





REVISIONS

1

ADDED OHIO DIG  
SAFE INFORMATION  
TO SH. 1 AND SH. 2  
H.M.C.  
05-17-19

2

ADDED "OR EQUIVALENT"  
LABEL ON THE  
BATTERIES  
ON SH. 3 AND SH. 14  
A.G.C  
06-03-19

3

SHEET REF CORRECTIONS  
MOVED GATE HEATERS  
TO BRK 9  
REMOVED R10  
P.B.  
06-10-19



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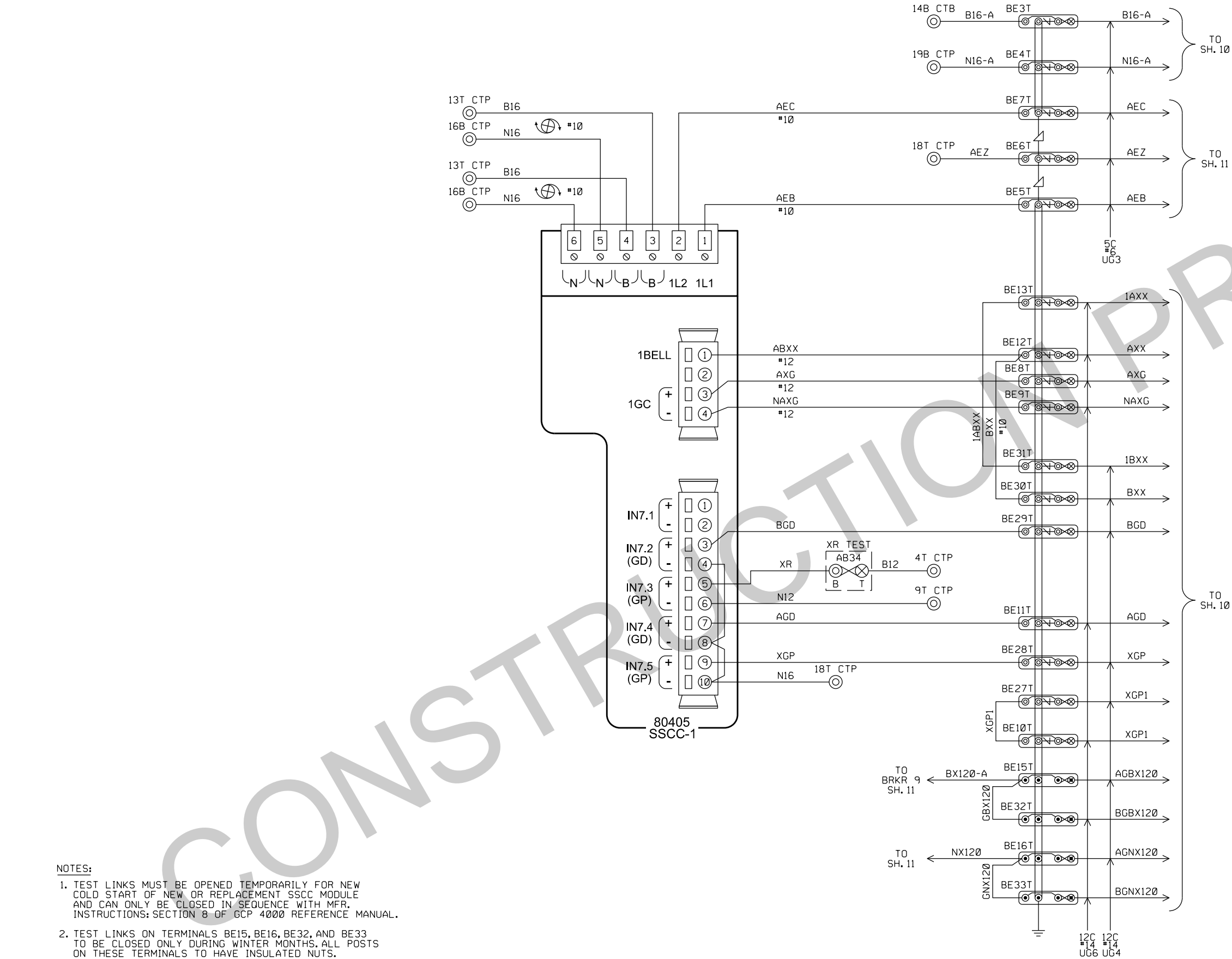
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DATE: 05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 6 OF 15







- NOTES:
1. TEST LINKS MUST BE OPENED TEMPORARILY FOR NEW COLD START OF NEW OR REPLACEMENT SSCC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS: SECTION 8 OF GCP 4000 REFERENCE MANUAL.
  2. TEST LINKS ON TERMINALS BE15, BE16, BE32, AND BE33 TO BE CLOSED ONLY DURING WINTER MONTHS. ALL POSTS ON THESE TERMINALS TO HAVE INSULATED NUTS.

REVISIONS

1

ADDED OHIO DIG  
SAFE INFORMATION  
TO SH. 1 AND SH. 2  
H.M.C.  
05-17-19

2

ADDED "OR EQUIVALENT"  
LABEL ON THE  
BATTERIES  
ON SH. 3 AND SH. 14  
A.G.C.  
06-03-19

3

SHEET REF CORRECTIONS  
MOVED GATE HEATERS  
TO BRK 9  
REMOVED RIO  
P.B.  
06-10-19



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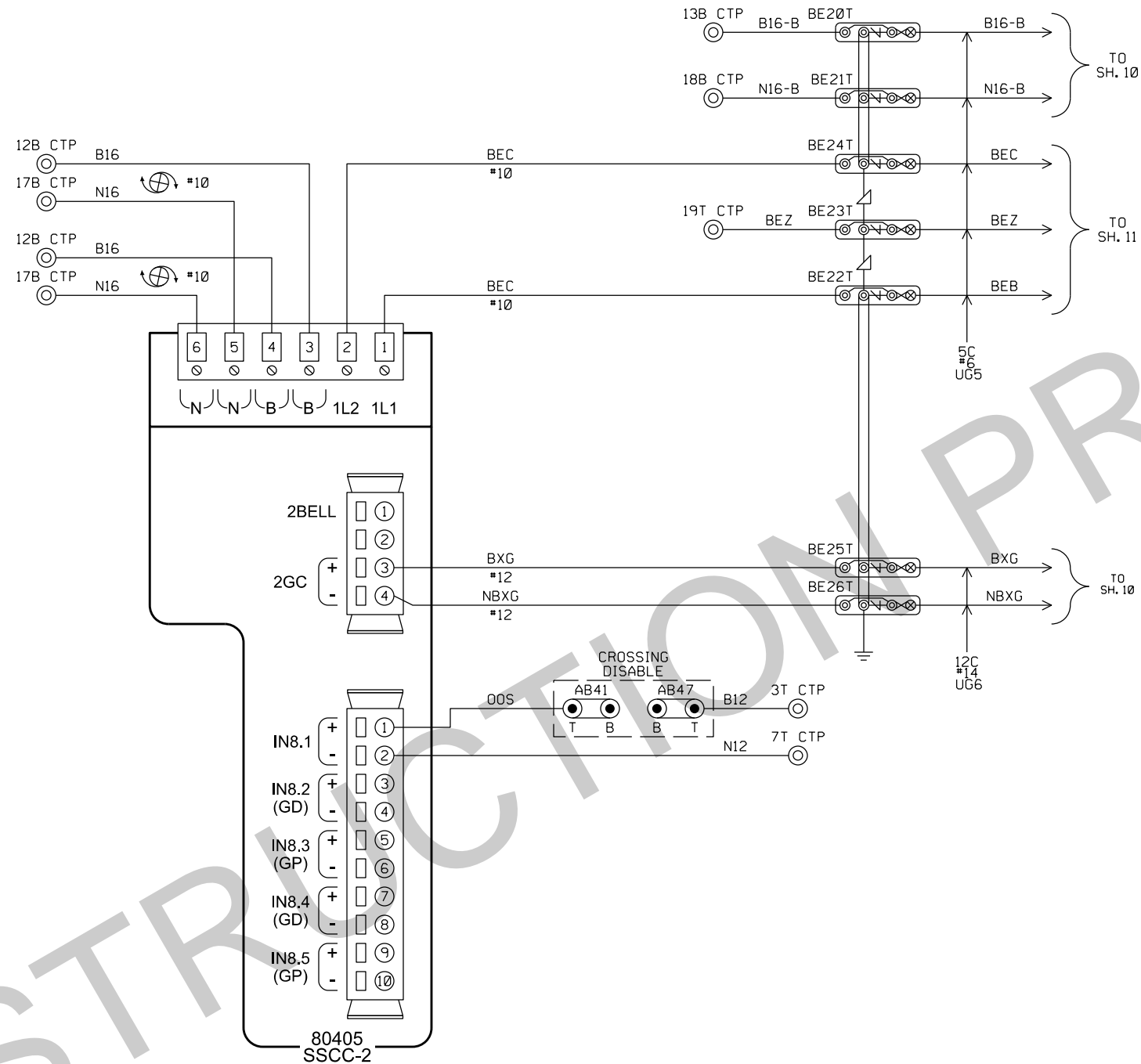


KANAWHA RIVER RAILROAD

-KNWA-

DOT# 513 532 W GPS: 39.203613, -82.201135 MILEPOST# 93.02

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DESIGNED: C.D.L.	ALBANY, OH	DRAWING NO.
CHECKED: C.D.L.	KANAWHA SUB-DIVISION	RRP-584
DATE: 05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 8 OF 15



NOTES:  
1. TEST LINKS MUST BE OPENED TEMPORARILY FOR NEW COLD START OF NEW OR REPLACEMENT SSCC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS: SECTION 8 OF GCP 4000 REFERENCE MANUAL.

#### REVISIONS

1	2	3
ADDED OHIO DIG SAFE INFORMATION TO SH. 1 AND SH. 2 H.M.C. 05-17-19	ADDED "OR EQUIVALENT" LABEL ON THE BATTERIES ON SH. 3 AND SH. 14 A.G.C. 06-03-19	SHEET REF CORRECTIONS MOVED GATE HEATERS TO BRK 9 REMOVED RIO P.B. 06-10-19



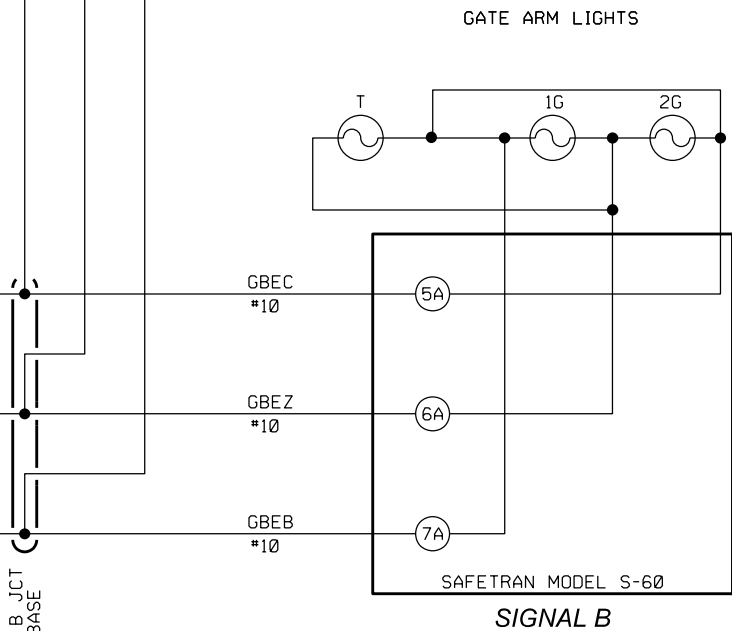
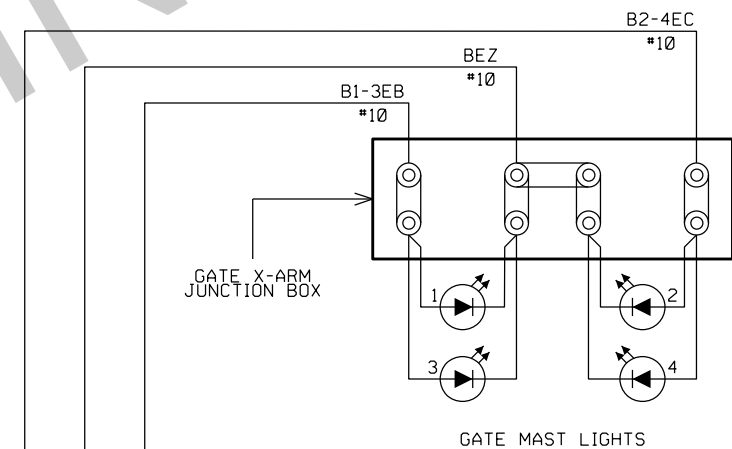
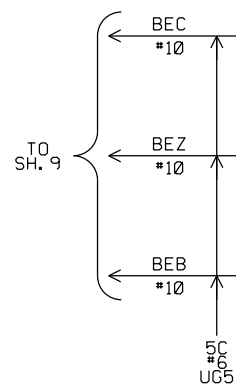
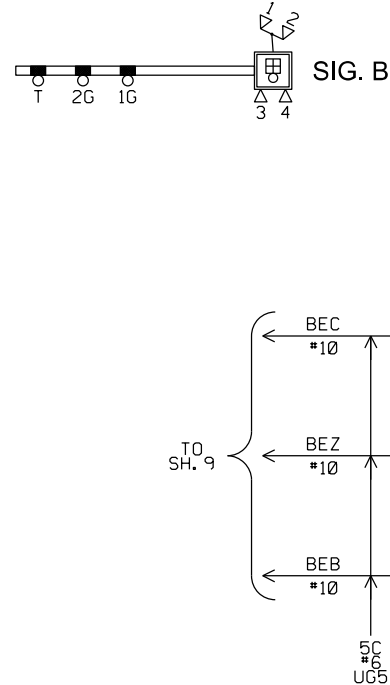
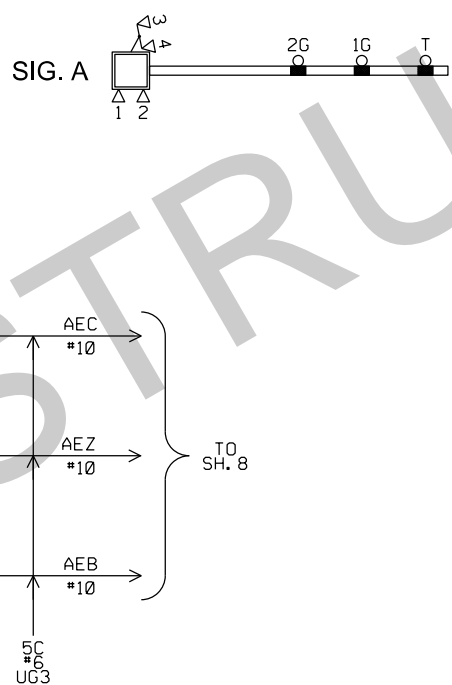
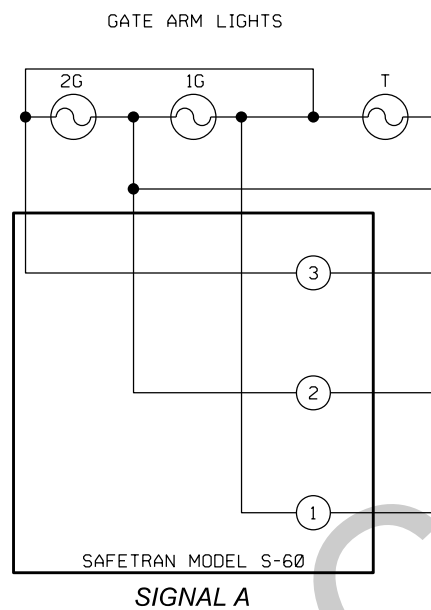
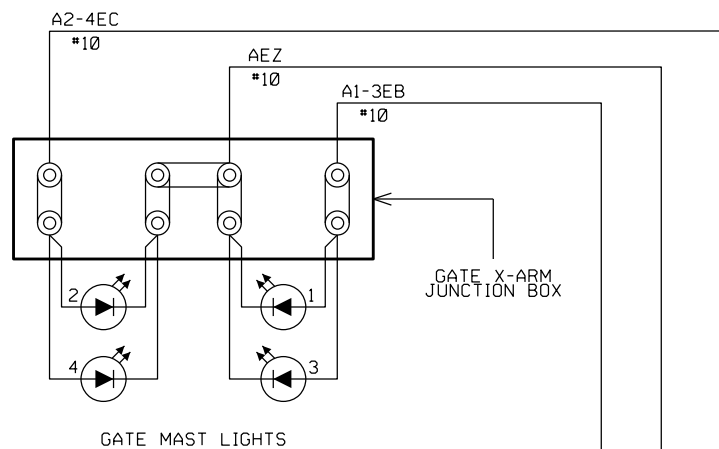
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CHECKED: C.D.L.	KANAWHA SUB-DIVISION	RRP-584
DATE: 05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 9 OF 15





REVISIONS

1

ADDED OHIO DIG  
SAFE INFORMATION  
TO SH. 1 AND SH. 2  
H.M.C.  
05-17-19

2

ADDED "OR EQUIVALENT"  
LABEL ON THE  
BATTERIES  
ON SH. 3 AND SH. 14  
A.G.C.  
06-03-19

3

SHEET REF CORRECTIONS  
MOVED GATE HEATERS  
TO BRK 9  
REMOVED RIO  
P.B.  
06-10-19



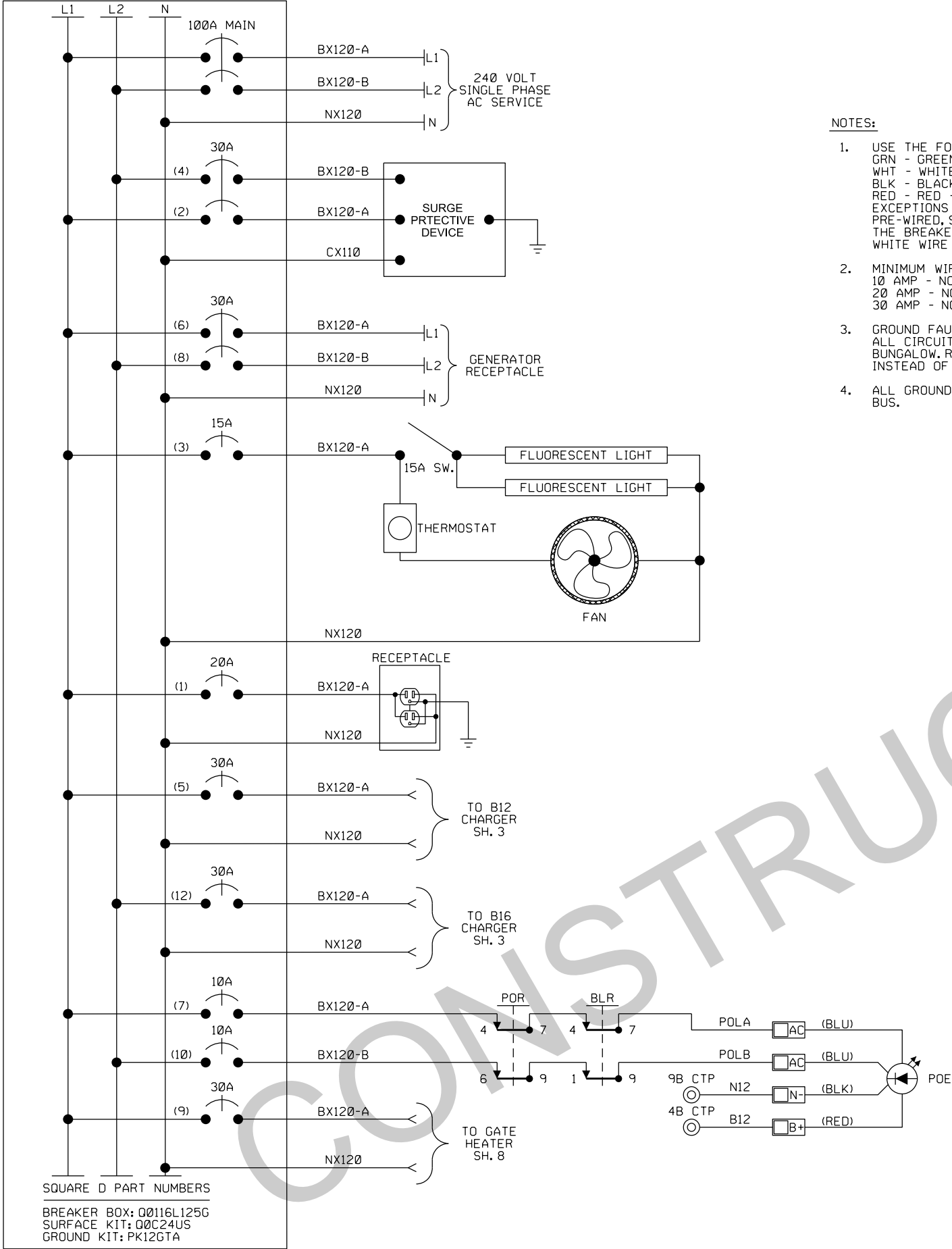
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KANAWHA RIVER RAILROAD

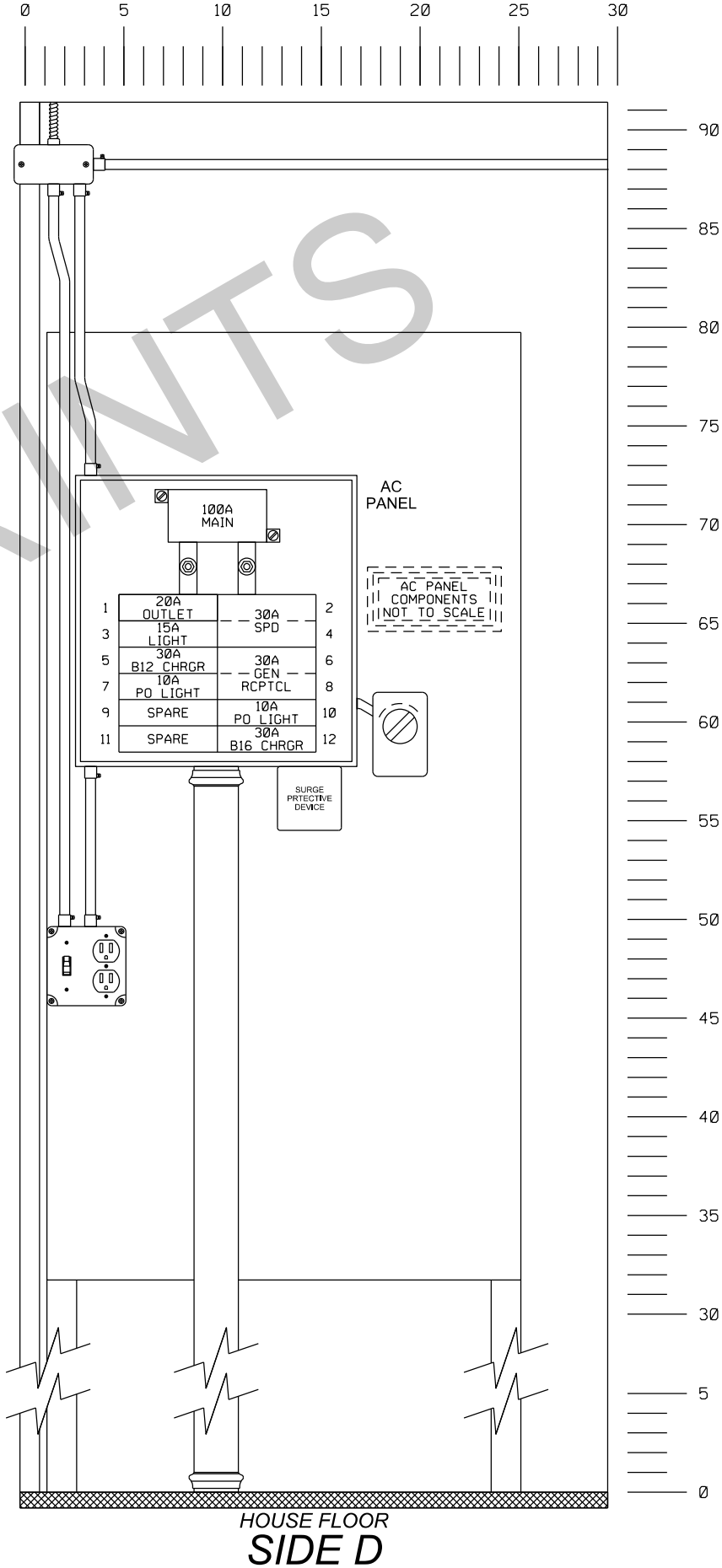
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DATE: 05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 11 OF 15



NOTES:

- USE THE FOLLOWING COLOR CODE WHEN POSSIBLE:  
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 ARRESTORS 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 (GFCI) MUST BE USED ON ALL CIRCUITS SERVING EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USED INSTEAD OF BREAKER TYPE.
- ALL GROUND WIRES RUN TO BREAKER BOX GROUND BUS.



REVISIONS					<p>THE OPERATION OF THE CIRCUITS AND EQUIPMENT REPRESENTED HEREIN CANNOT BE FULLY CHECKED UNTIL ALL CIRCUITS AND DEVICES ARE CONNECTED TO FORM A COMPLETE SYSTEM, OR AN EFFECTIVE SUBSYSTEM, SUCH SYSTEM OR SUBSYSTEM MUST BE GIVEN COMPLETE CIRCUIT AND OPERATIONAL TESTS BEFORE BEING PLACED IN REGULAR OPERATION.</p>  <p>EXPIRES: 12-31-19 SIGNED: 06-11-19</p>		KANAWHA RIVER RAILROAD			
							-KNWA-			
1	ADDED OHIO DIG SAFE INFORMATION TO SH.1 AND SH.2 H.M.C. 05-17-19	2	ADDED "OR EQUIVALENT" LABEL ON THE BATTERIES ON SH. 3 AND SH. 14 A.G.C 06-03-19	3			SHEET REF CORRECTIONS MOVED GATE HEATERS TO BRK 9 REMOVED RIO P.B. 06-10-19	DOT# 513 532 W	GPS: 39.203613, -82.201135	MILEPOST# 93.02
							DRAWN: H.M.C.	CARPENTER ROAD - GRADE CROSSING	CONSTRUCTION	
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							CHECKED: C.D.L.	KANAWHA SUB-DIVISION	RRP-584	
					DATE: 05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 12 OF 15			



1
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2

3
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EXPIRES: 12-31-19  
SIGNED: 06-11-19



-KNWA-

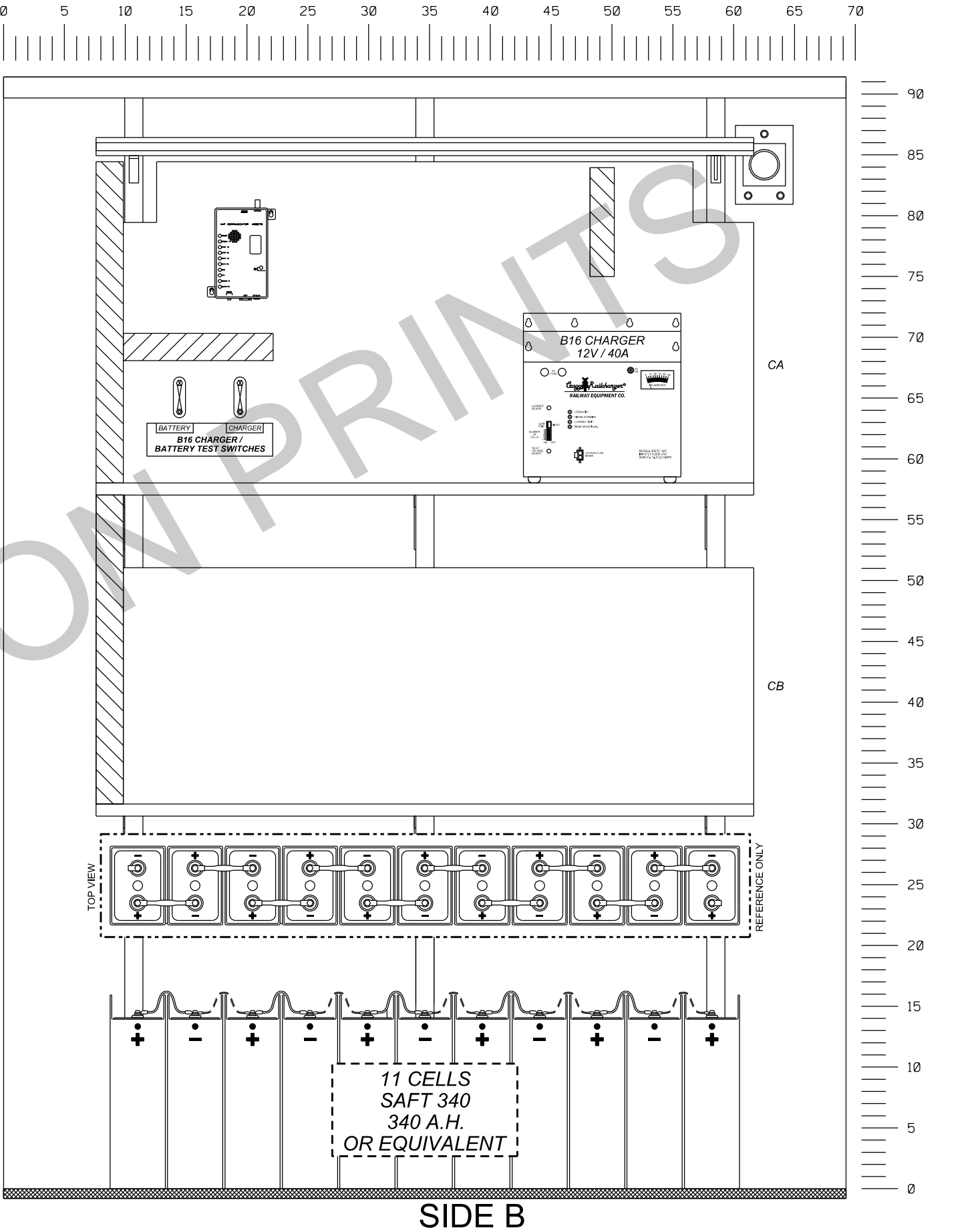
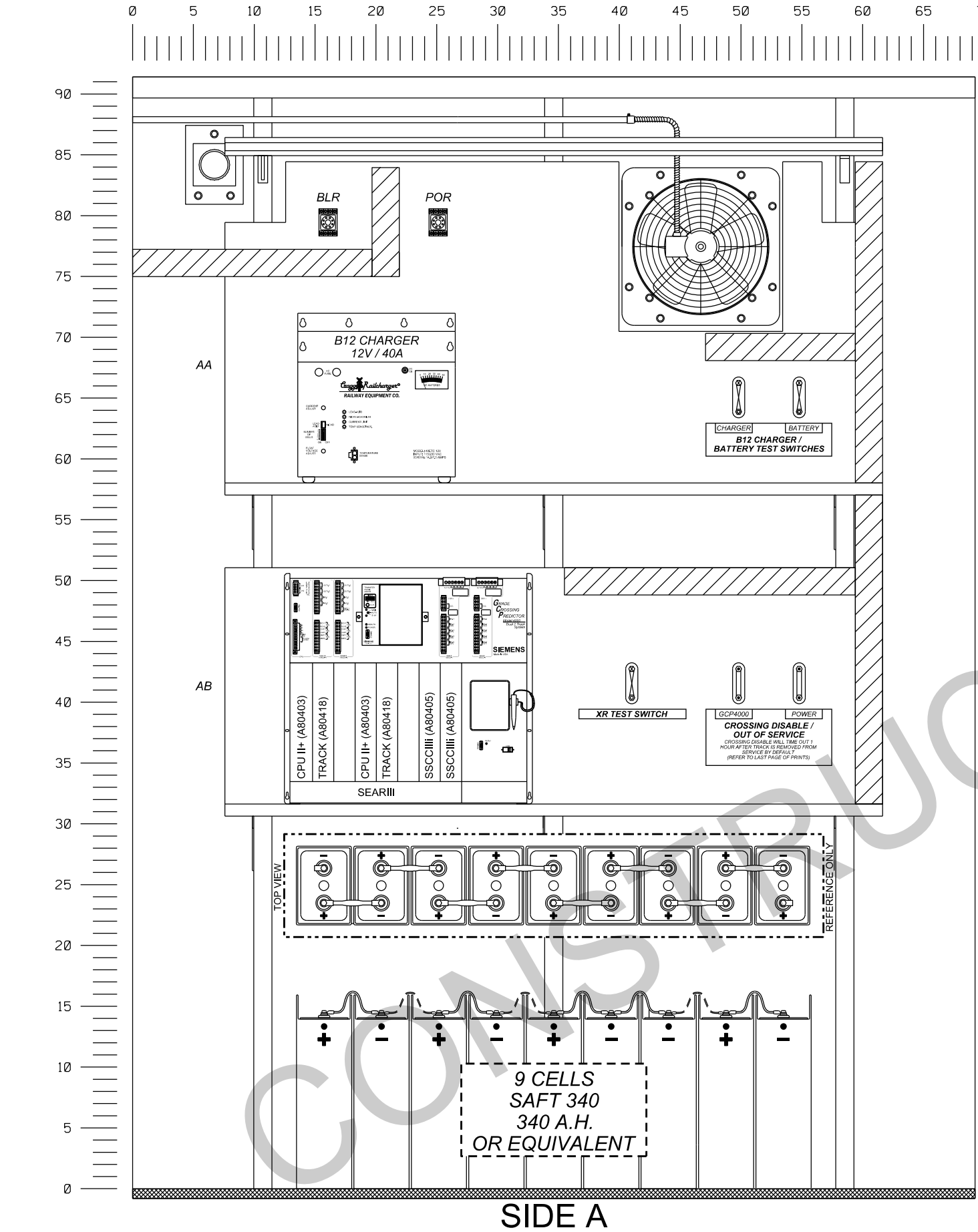
MILEPOST#	93.02
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CONSTRUCTION

DRAWING NO.

RRP-584





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DATE:	05-17-19	DRAWN BY CDL ELECTRIC INC.	SHEET 14 OF 15

TO SH. 9

AB42

AB47

JUMPER INSTALLED BY MAINTAINER

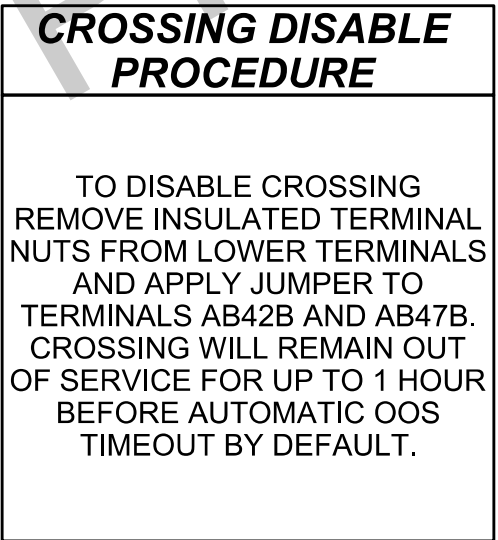
GCP4000 POWER

**CROSSING OUT OF SERVICE**

CROSSING DISABLED  
1 HOUR AFTER JUMPER INSTALLED  
(REFER TO LAST PAGE FOR DETAILS)

**CROSSING DISABLE PROCEDURE**

TO DISABLE CROSSING  
REMOVE INSULATED TERMINAL  
NUTS FROM LOWER TERMINALS  
AND APPLY JUMPER TO  
TERMINALS AB42B AND AB47B.  
CROSSING WILL REMAIN OUT  
OF SERVICE FOR UP TO 1 HOUR  
BEFORE AUTOMATIC OOS  
TIMEOUT BY DEFAULT.

[illegible]



October 9, 2018

Kanawha River Railroad  
315 W 3<sup>rd</sup> St.  
Pittsburgh, Ks 66762

RE: Grade Crossing Warning Device Improvements  
Athens County, CR 13, Carpenter Rd.  
DOT# 513532W  
PID# 108516

Dear Mr. Cox:

A diagnostic review was held at the above grade crossing on 5/15/2018. The crossing has been recommended for the installation of lights and gates.

Kanawha River Railroad is authorized to proceed with the site plans and cost estimates or bid package for this project. This authorization is made with the stipulation and understanding that any field work needs prior approval before work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit. Please note that the railroad must provide ORDC with a plan stamped by a professional engineer licensed in the State of Ohio prior to acceptance and close out of the project.

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

The Project Manager for this project is Michael Lynch. Michael can be reached at (614) 466-3382, or Michael.Lynch@dot.ohio.gov, if you have any questions.

Sincerely,



Michael Lynch  
Project Manager

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

Attachment: 1 (diagnostic review form)



# OHIO RAIL DEVELOPMENT COMMISSION

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

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

August 24, 2018

Kanawha River Railroad  
Mr. Anthony Cox  
VP of Engineering  
Watco Transportation Services L.L.C.  
315 W. 3<sup>rd</sup> Street  
Pittsburg, KS 66762

Subject: Grade Crossing Warning Device Improvements, PID 108516  
Athens County, CR 13 Carpenter Road, DOT# 513532W

Dear Mr. Cox:

A diagnostic review was conducted at the subject grade crossings on 5/15/2018. Based on the review, the grade crossing will be upgraded with flashing lights and roadway gates.

This project shall be completed in compliance with Agreement No. 30887, dated July 24, 2017, entered into by the State of Ohio and Kanawha River Railroad (KNWA) and incorporated as if fully rewritten herein. This construction shall also meet the general terms and conditions under the Fixing America's Surface Transportation Act and subsequent amendments and the State of Ohio's Federally Funded Warning Device Program.

Preliminary engineering (PE) and construction costs shall be borne one hundred percent (100%) by ORDC. Reimbursable costs will be limited by the ORDC based on approved estimates and bid tabulations, if applicable. These limits will be quantified by the ORDC in its construction authorization to KNWA and may be amended by the ORDC based on revised estimates and bid tabulations.

This Letter Agreement and the approved plans constitute the scope of the project. KNWA shall notify ORDC in writing of any changes in the scope of work which are not in the approved plans and estimates and secure approval in writing of same before the work is performed.

PE will not be commenced by KNWA prior to ORDC issuing a PE authorization. PE will be submitted by KNWA to ORDC within ninety (90) days or other time specified by ORDC in the PE authorization. Construction will not be commenced by KNWA prior to ORDC issuing a construction authorization. Construction will be completed by KNWA within nine (9) months or other time specified in the time specified by ORDC in the construction authorization.

Please indicate your acceptance of the terms and conditions of this Letter Agreement by signing and returning one (1) copy to me at the address listed above and retain a copy for your files. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be a duplicate original, but all of which taken together shall be deemed to constitute a single Agreement.

Sincerely,

Matthew Dietrich  
Executive Director



[www.rail.ohio.gov](http://www.rail.ohio.gov)

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

Kanawha River Railroad:

By: A. Kelly

Title: VP of Engineering

Date: 9/18/2018

ATH CR 13 Carpenter Rd KNWA PID 108516 513532W





## Diagnostic Review Team Survey

## Reason for Survey:

(e.g. formula, accident, constituent, etc.)

Constituent

Date: 5/15/2018

## Location Data

Street or Road Name: Carpenter Street

Route/Road Number  
(i.e. Twp., Co., SR or US) CR 13

US DOT No.: 513532W

County: ATH

Township:

City:  
(In or Near)

Near Albany

Railroad  
Name: Kanawha River RailroadRailroad  
Division: PocahontasBranch/Line  
Name: West VirginiaNearest RR  
Timetable Station: Albany

RR Milepost: 93.02

## On-Site Review Team

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

1. Tim Brown ORDC 614-728-5426 timothy.brown@dot.ohio.gov
2. Sean Neef ORDC 937-272-1531 sean.neef@odc.com
3. Joshua Elzev PUCO 740-637-0588 Joshua.Elzev@puc.ohio.gov
4. Robert Farley PUCO 614-466-1150 Robert.Farley@puc.ohio.gov
5. Jeff Maiden Arh. Co. Engineer 740-593-5514 jmaiden@athensohio.org
6. Sean Crowe KNUA Roadmaster 304-550-6127 scrowe@wvdot.com
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	good
'Stop' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Pavement Markings (condition?)	<input type="checkbox"/> Yes	<input checked="" 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	
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	
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

**Safety Data (Obtain crash reports, if possible, prior to review)**

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	0	
Hazard Ranking	3687	Date Run: 3/31/2018

**Railroad Data**

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	1	occ. cow train in add'n
< 1 per day		
Day thru trains	1	
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	30	25
Typical train speed	30	25
Amtrak		

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☐ Yes ☒ NoIf multiple tracks, can two trains occupy crossing at the same time? ☐ Yes ☒ NoCan one train block the motorists' view of another train at crossing? ☐ Yes (Explain below) ☐ NoCan one or more tracks be eliminated through the crossing? ☐ Yes ☐ NoAre there other track(s) crossing this same roadway within 100 ft of this crossing? ☐ Yes ☒ 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: Athens County

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	494 (2013)	736 (2017)
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: 10 ft.		
Number of highway lanes	2	
Urban or Rural	Rural	
Vehicle Speed: 55 MPH		curve
School Bus Operation: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes _____ Amount		
Hazardous Materials Trucks: <input type="checkbox"/> No X Yes .04 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 type="checkbox"/> Yes <input checked="" 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: ☒ No ☐ Yes

Is sidewalk present? ☒ No ☐ Yes

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 crossing warning devices? ☐ No ☐ Yes

Is there a 'Do not Stop on Track' sign? ☐ No ☐ 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? ☒ No ☐ 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? ☒ No ☐ 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: <div style="font-family: cursive; font-size: 1.2em; color: blue;">Alexander HS Albany</div>
---	---	--

### Utility Information

Is commercial power available? ☐ No ☒ Yes

Utility Provider (Company Name) AEP Phone Number \_\_\_\_\_

Nearest Available Power Source pole or crossing

What other utilities are present? (add locations to sketch)

<input type="checkbox"/> Gas	<input checked="" type="checkbox"/> Cable	<input checked="" 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) ☐ Yes ☐ No ☐ Unknown

Comments:

## 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:

n/a

Culverts / Drainage / Ballast Conditions:

culvert near crossing

Roadway and/or Sidewalks:

n/a

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

n/a

Environmental:

n/a

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)

Comments:

no stop sign

- ☐ 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):

TB

RJM

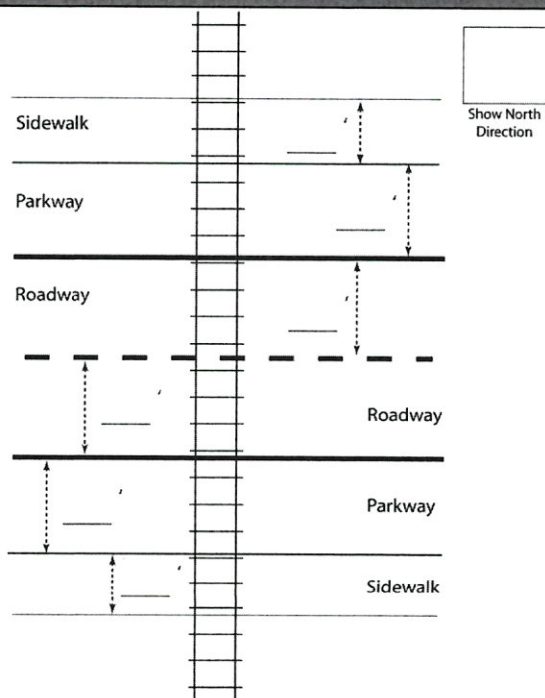
AS

JE SC

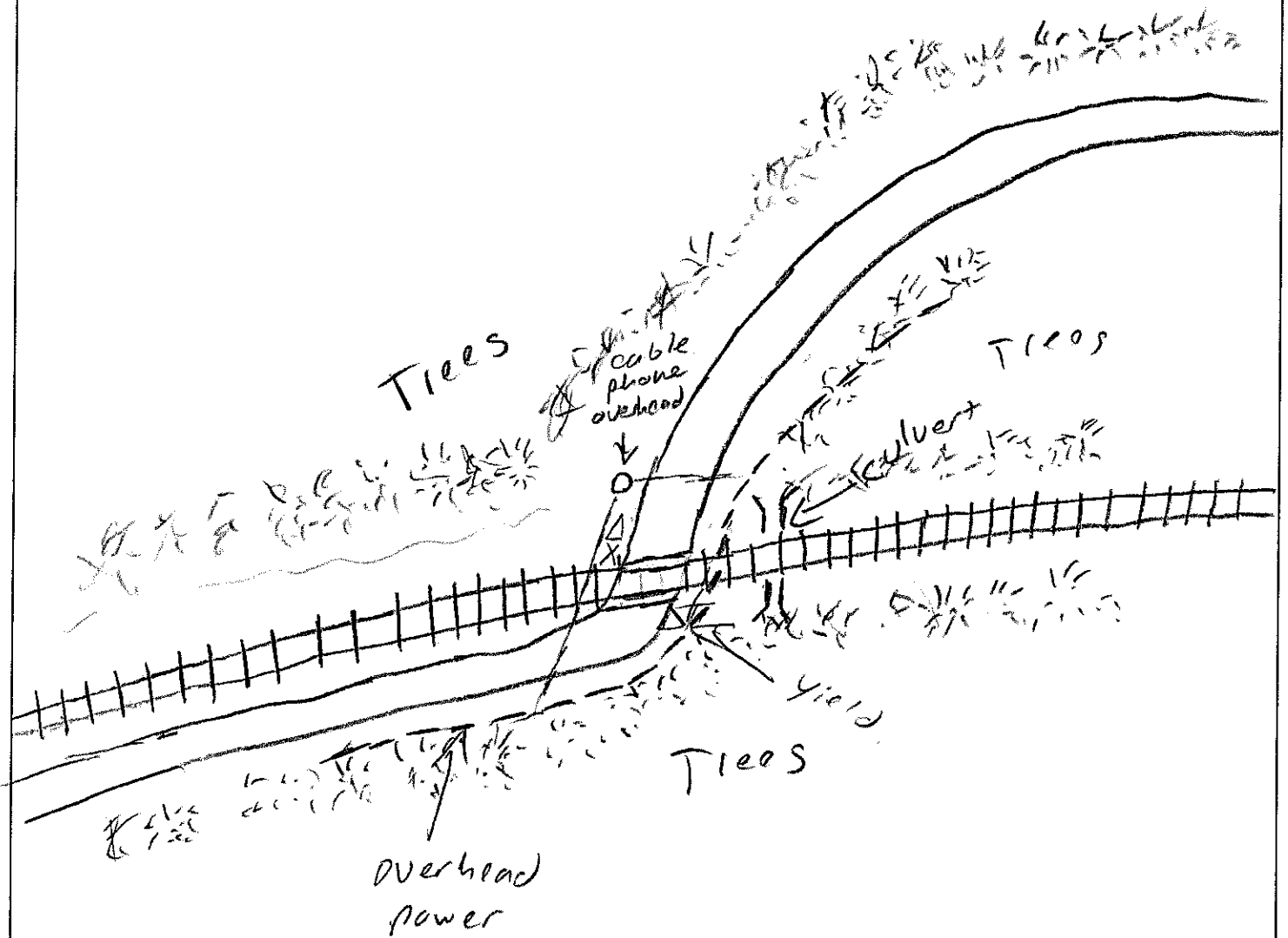
RSF

SDN

## Field Dimensions



# Field Sketch



Crossing Angle ☐ 0-29° ☐ 30-59° ☐ 60-90° Measured in \_\_\_\_\_ Quadrant?

Sketch by: \_\_\_\_\_

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**

**6/28/2019 1:27:11 PM**

**in**

**Case No(s). 19-1393-RR-FED**

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at Kanawha River Railroad Grade Crossing, DOT# 513-532W, on Carpenter Road/CR 13 in Athens County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division