

Memo

To: Docketing Division

From: Jill Henry, Rail Specialist, Rail Division

Cc: PUCO Legal Department

Date: 9/26/17

Re: PUCO Case No. 17-1066-RR-RCP- In the Matter of a Request for an Upgrade at Akron Barberton Cluster Railway crossing on Cleveland Road (DOT#262-0577H) in Portage County, Ravenna, Ohio.

On April 13, 2017, Commission Staff (PUCO) and Akron Barberton Cluster Railway (ABC) entered into a stipulation agreement whereby upgraded warning devices would be installed at Cleveland Road (DOT#262-577H).

On June 7, 2017, the Commission issued a Finding and Order approving the project, requiring plans and estimates by September 7, 2017 and ordering project completion by June 7, 2018.

On August 8, 2017 and September 8, 2017, ABC filed with the Rail Division plans and estimates for the project.

The plans and estimates submitted by ABC have been reviewed and authorization is recommended. (See attached documentation.)



Public Utilities Commission

Asim Z. Haque, Chairman

Commissioners

M. Beth Trombold
Thomas W. Johnson
Lawrence K. Friedeman
Daniel R. Conway

September 26, 2017

Mr. Andrew Shuster
ABC Railway
Signals & Communications Supervisor
43 Second Street NW
Barberton, Ohio 44203

Re: Crossing Upgrade Cleveland Road
(DOT#262-577H)

Dear Mr. Shuster:

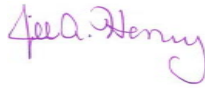
Akron Barberton Cluster Railway (ABC) is now authorized to proceed with field construction for the above referenced project. This authorization is contingent upon accepting the following:

- 1) ABC will make any adjustments to the plans noted in the field report docketed September 26, 2017 (Attached).
- 2) ABC will furnish e-mail, fax, or phone notification five (5) working days prior to the date work will start at the project site. Notification to be made to Jill Henry, PUCO, at E-MAIL jill.henry@puc.state.oh.us, FAX 614-995-5535, or PHONE 614-466-0435.
- 3) ABC will arrange for utilities to be relocated and/or dropped (as soon as possible) at the project site through the applicable utility company.
- 4) ABC 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 OUPS service must be contacted directly by ABC.
- 5) ABC's project foreman will notify the PUCO Railroad Inspector of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plan and estimates and secure approval of same before the work is performed.
- 6) ABC will furnish three (2) copies of each partial bill to the PUCO.

- 7) ABC will furnish three (2) copies of the final-inclusive bill to PUCO stating that exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
- 8) ABC will furnish as-built detailed circuit plans directly to the PUCO.
- 9) ABC is to schedule and complete the subject project by June 7, 2018. If any extraordinary circumstances unique to this project occur, please notify the Commission's rail staff immediately.

Thank you for your cooperation in this matter.

Sincerely,



Jill Henry
Rail Specialist
PUCO Rail Division

Enclosure

cc: File

**PUBLIC UTILITIES COMMISSION OF OHIO
TRANSPORTATION DEPARTMENT
RAIL DIVISION**

Date of Assignment: September 8, 2017

Subject: Plans and estimates review for new active warning devices at Cleveland Road (DOT#262-577H), Akron Barberton Cluster Railway, Portage County, Ohio.

DOT #: 262-577H

FINDINGS

On September 8, 2017, the complete plans and estimates for the above mentioned crossings were received from Akron Barberton Cluster Railway (ABC). They were reviewed by Jill Henry, PUCO Rail Specialist, and Shawn Zurfley, FRA/PUCO Field Investigator.

Cleveland Road

Cleveland Road is a heavily traveled roadway traveling Northwest/Southeast and intersecting a single track of ABC traveling East/West. Existing warning devices are antiquated lights and gates and a pedestrian gate located in the NE quadrant.

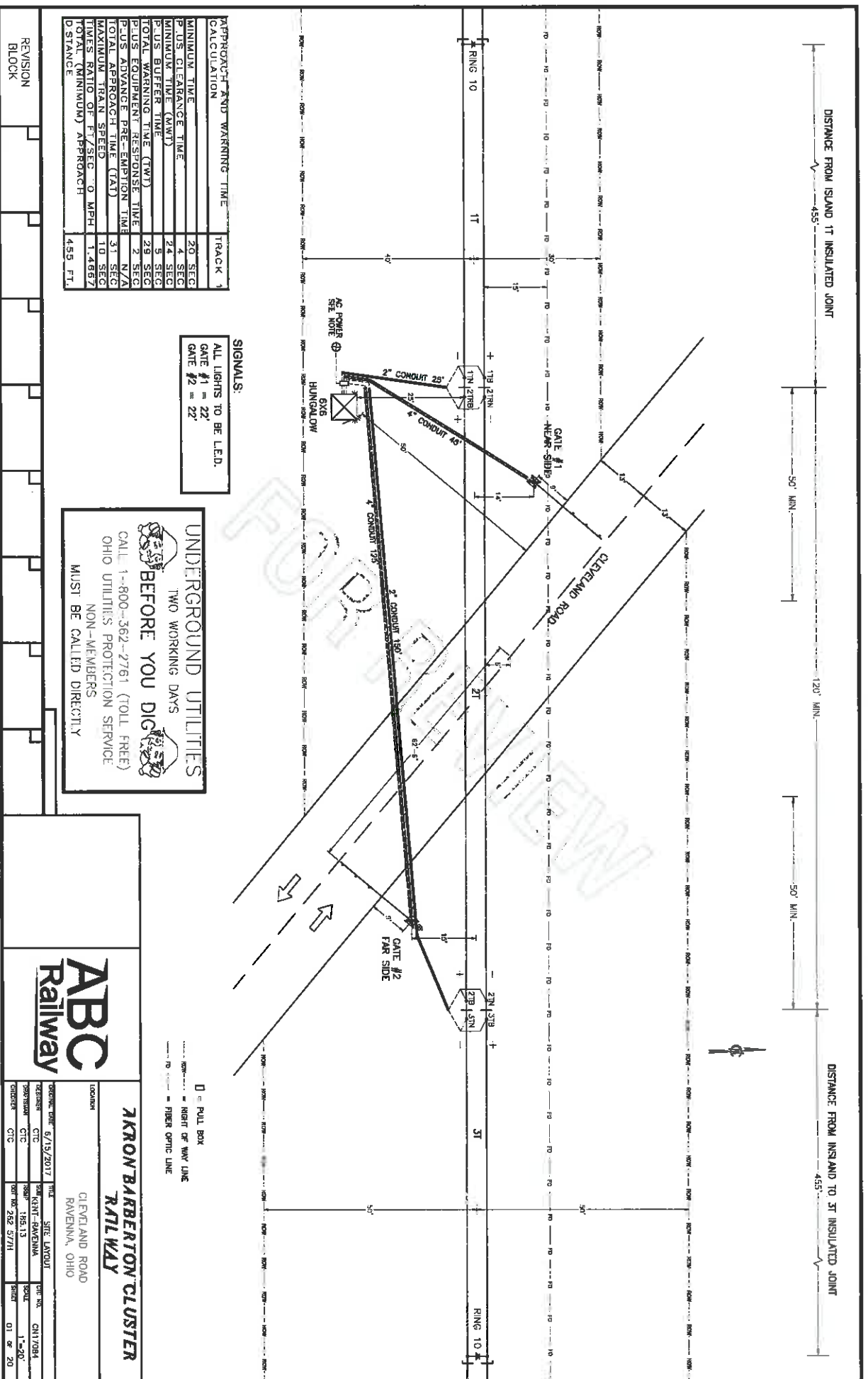
SUMMARY AND CONCLUSIONS

We reviewed the plans and estimates for the crossing. ABC will install a complete new light and gate system at Cleveland Road and will eliminate the pedestrian gate.

The plans and estimates appear to be fundamentally correct. Construction authorization is granted for this project with the following condition:

- 1) The Ohio Manual of Uniform Traffic Control Devices (OMUTCD) governs the placement of warning devices. The plans as proposed meet these requirements. **During construction if the location of the underground utilities prohibit meeting the proposed warning device and equipment bungalow locations then contact should be made to the PUCO for clarification.**

Jill Henry
PUCO Rail Specialist
Date: September 26, 2017



- [illegible]



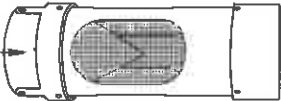
DATE: 6/15/2017		VOLUME		CONSTRUCTION NOTES	
TOSSINGER	CTC	S&B	KIN - RAVENNA	CTC NO.	CN17084
TOSSINGER	CTC	9584	158.13	9545	M15
TOSSINGER	CTC	MD RE	262 577H	SECT	0.15 OF 20

SITE LAYOUT NOTES

1.) CROSSING IS LOCATED: LATITUDE 41.162789
LONGITUDE -81.249481

FOR REVIEW

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



THIS SIDE FACING
ROADWAY

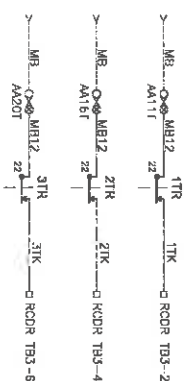
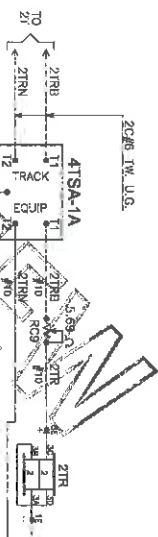
REVISION
BLOCK

CHANGE FROM TYPICAL N



**AKRON BARBERTON CLUSTER
RAILWAY**

LOCATION		CLEVELAND ROAD RAVENNA, OHIO	
DATE	6/5/2017	FILE	SITE LAYOUT NOTES
DESIGNED BY	CTC	SCALE	AS SHOWN
DRAWN BY	CTC	DATE	03 OF 20
CHECKED BY	CTC	DATE	03 OF 20

REVISION
BLOCK

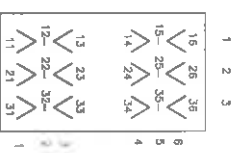
ABC Railway

ZKRON BARBERTON CLUSTER RAILWAY

CINCINNATI		CLEVELAND ROAD RAVENNA, OHIO	
ORIGINATION DATE	6/15/2017	MILE	CROSSING CONTROL CIRCUITS
DESIGNER	CIC	R&M	KENT-RAVENNA
TRAFFIC SIGNAL	CIC	RD NO.	18A.13
ENGINEER	CIC	RD NO.	262 57/H
		SHEET	04 OF 20

ST RELAY LAYOUT

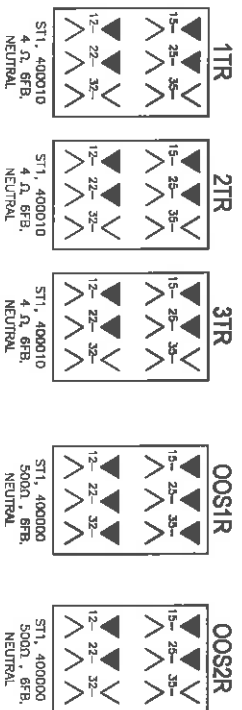
EXAMPLE



ST1, 400000
500Ω, 6FB,
NEUTRAL

▼ CONTACT, NOT USED
▼ CONTACT, USED

▼ FRONT
▼ HEEL
▼ BACK



LEGEND:

- 1TR = TRACK RELAY (1T)
- 2TR = TRACK RELAY (2T)
- 3TR = TRACK RELAY (3T)
- 00SIR = OUT OF SERVICE RELAY
- 00S2R = OUT OF SERVICE RELAY

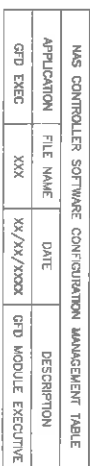
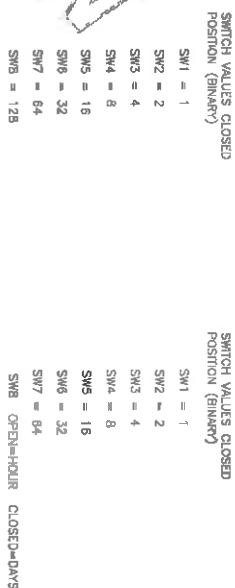
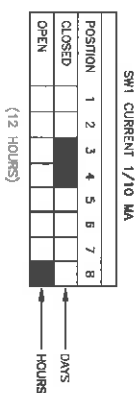
NOTES:
FIELD ADJUSTMENT
NA = NOT APPLICABLE

REVISION
BLOCK



**AKRON BARBERTON CLUSTER
RAILWAY**

LOCATION	CLEVELAND ROAD RAVENNA, OHIO
DATE	6/5/2017
DESIGNED BY	CTC
CHECKED BY	CTC
DATE	05/05/13
DESIGNED BY	CTC
CHECKED BY	CTC
DATE	05/05/13
DESIGNED BY	CTC
CHECKED BY	CTC
DATE	05/05/13




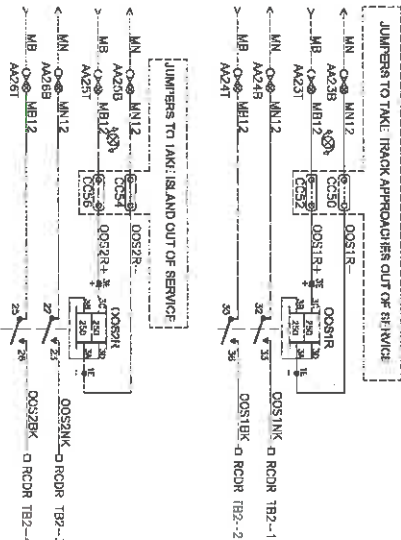
NOTES: ALL WIRING THIS SHEET #16 AWG
UNLESS NOTED OTHERWISE.

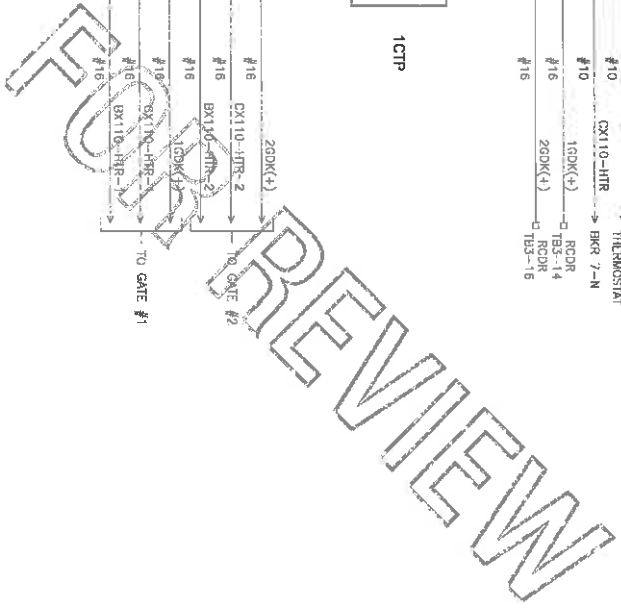
#22 AWG WIRE FOR ALL RCOR JUMPERS

WHEN MORE THAN ONE WIRE IS SHOWN
IN A CAGE CLAMP CONNECTOR, A FERRULE
CONNECTOR SHALL BE USED.

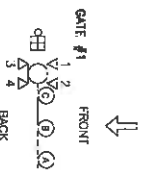
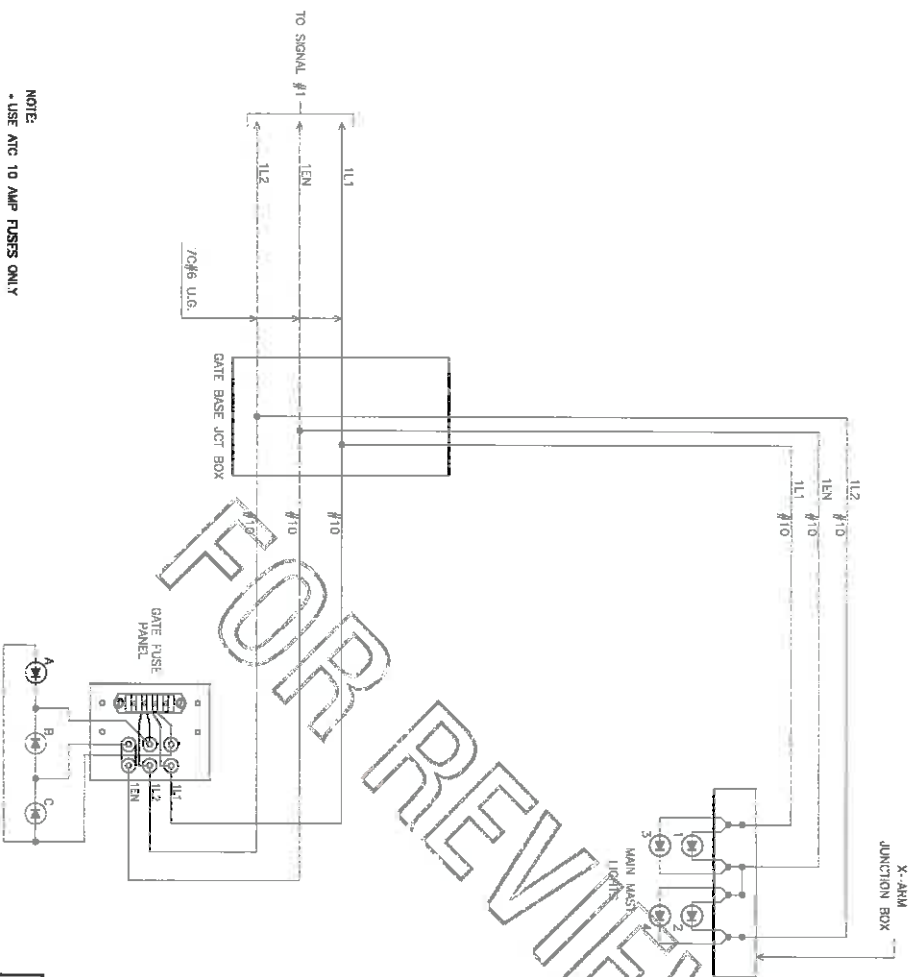
REVISION
BLOCK

		AKRON BARBERTON CLUSTER RAILWAY	
LOCATION CLEVELAND ROAD RAVENNA, OHIO		DATE BCD 06/01/2017	
ORIGINAL DATE 6/15/2017	PROJECT CTC	RAIL KENT-BARBERTON	DIST. NO. CMT0004
PROJECT CTC	RAIL 105.13	TRACK N.T.S.	
TRACK CTC	DIST. NO. 262.577H	SHEET 07 OF 20	





GATE #1



NOTE:
• USE ATC 10 AMP FUSES ONLY
(*) IS LED SYMBOL ONLY. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

REVISION
BLOCK

CANCEL THIS SYMBOL

ABC
Railway

AKRON BARBERTON CLUSTER
RAVENNA, OHIO

DATE	TIME	DATE	TIME
DESIGNED	CTC	8/15/2017	11:51
CHECKED	CTC	8/15/2017	11:51
APPROVED	CTC	8/15/2017	11:51
DATE	TIME	DATE	TIME
8/15/2017	11:51	8/15/2017	11:51
8/15/2017	11:51	8/15/2017	11:51
8/15/2017	11:51	8/15/2017	11:51

CONTACT	CLOSED	FUNCTION	TENSION
1B	75-90 DEG.	POWER DOWN	18-28 OZ.
1F	0-70 DEG.	SNUB DOWN	18-28 OZ.
2	0-88 DEG.	POWER UP	18-28 OZ.
3	0-10 DEG.	GATE DOWN	16-24 OZ.
4	82-90 DEG.	GATE CLEAR	16-24 OZ.
5	10-90 DEG.	BELL	16-24 OZ.
6	SPARE	SPARE	16-24 OZ.
7	0-2 DEG.	SNUB	16-24 OZ.

LEGEND:

○ = INSULATED NUT

NOTES:

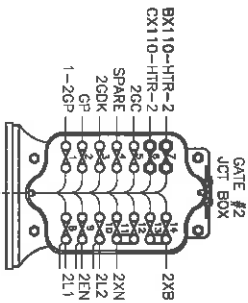
* BELL TO BE ELECTRONIC.

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

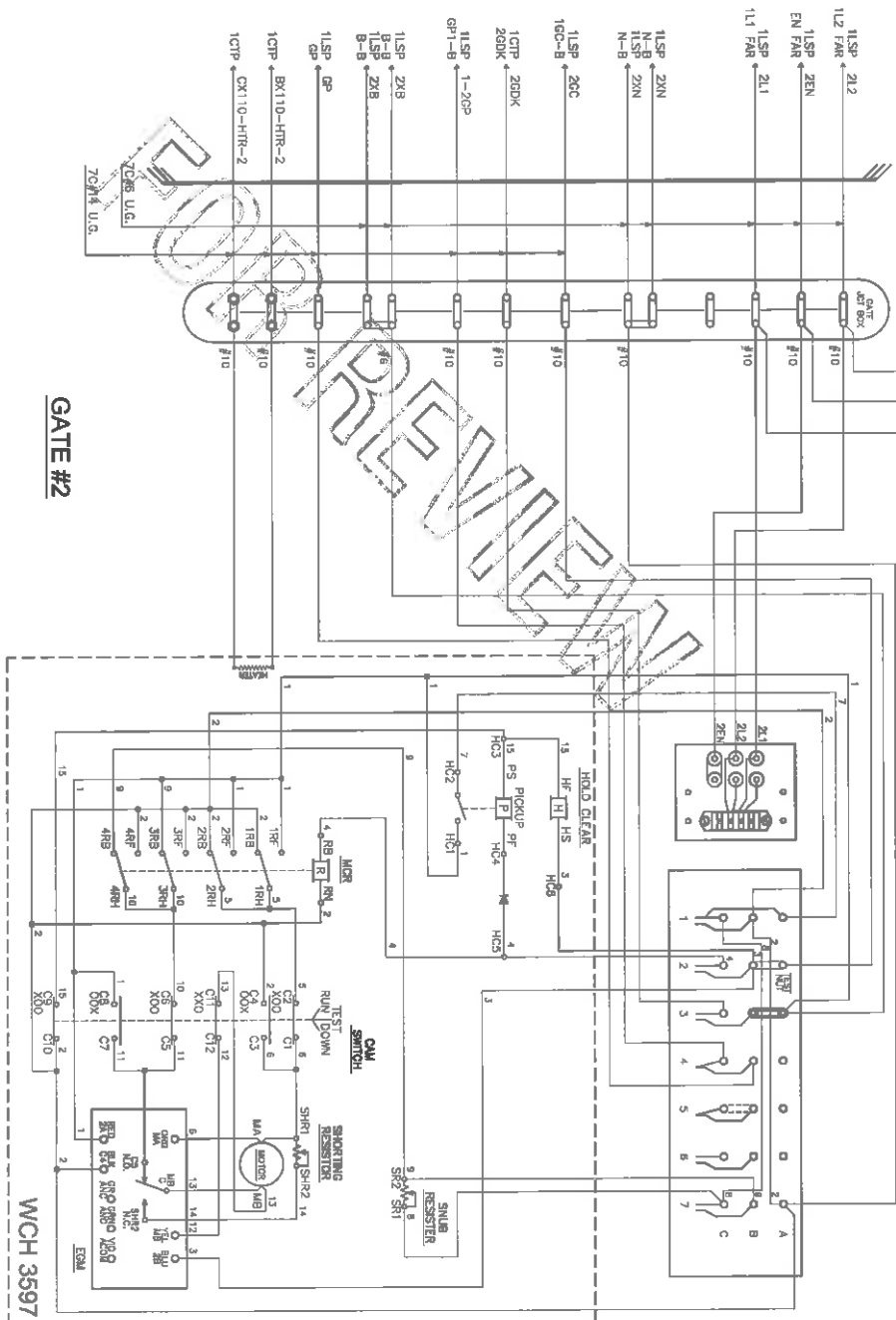
REFER TO SHEET 14 FOR GATE ARM LIGHT WIRING

ADD STRAP FROM:

3A TO 3B



TO MAST MOUNTED FLASHERS
(SHEET 14 FOR DETAILS)
2L2 2EN 2L1



GATE #2

WCH 3597

REVISION
BLOCK

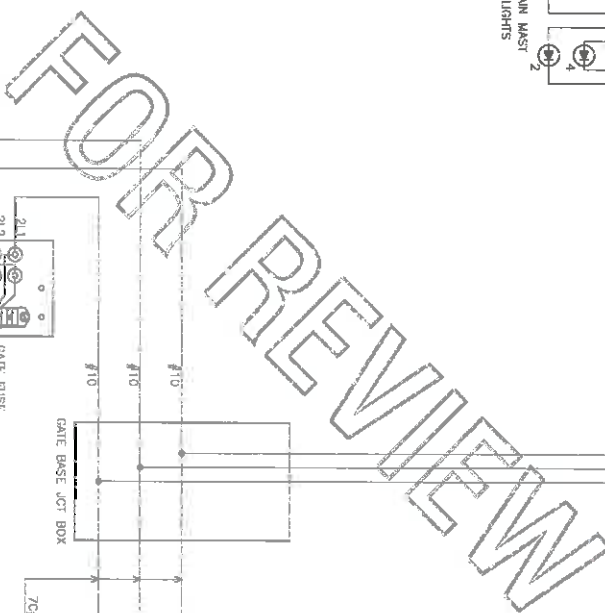
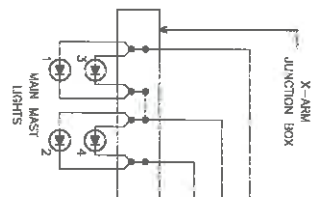
CHANGE FROM 11/15/14 Y

ABC
Railway

AKRON BARBERTON CLUSTER
RAILWAY

LOCATION
CLEVELAND ROAD
RAVENNA, OHIO

DATE	6/15/2017	INT.	GATE #2 MECHANISM (FRA SIDE)
DESIGNED	CTC	BY	AKRON-RAVENNA
TRAINED	CTC	BY	186.13
TESTED	CTC	BY	282.3774
DATE	6/15/2017	BY	13 OF 20



NOTE:
• USE ATC 10 AMP FUSES ONLY

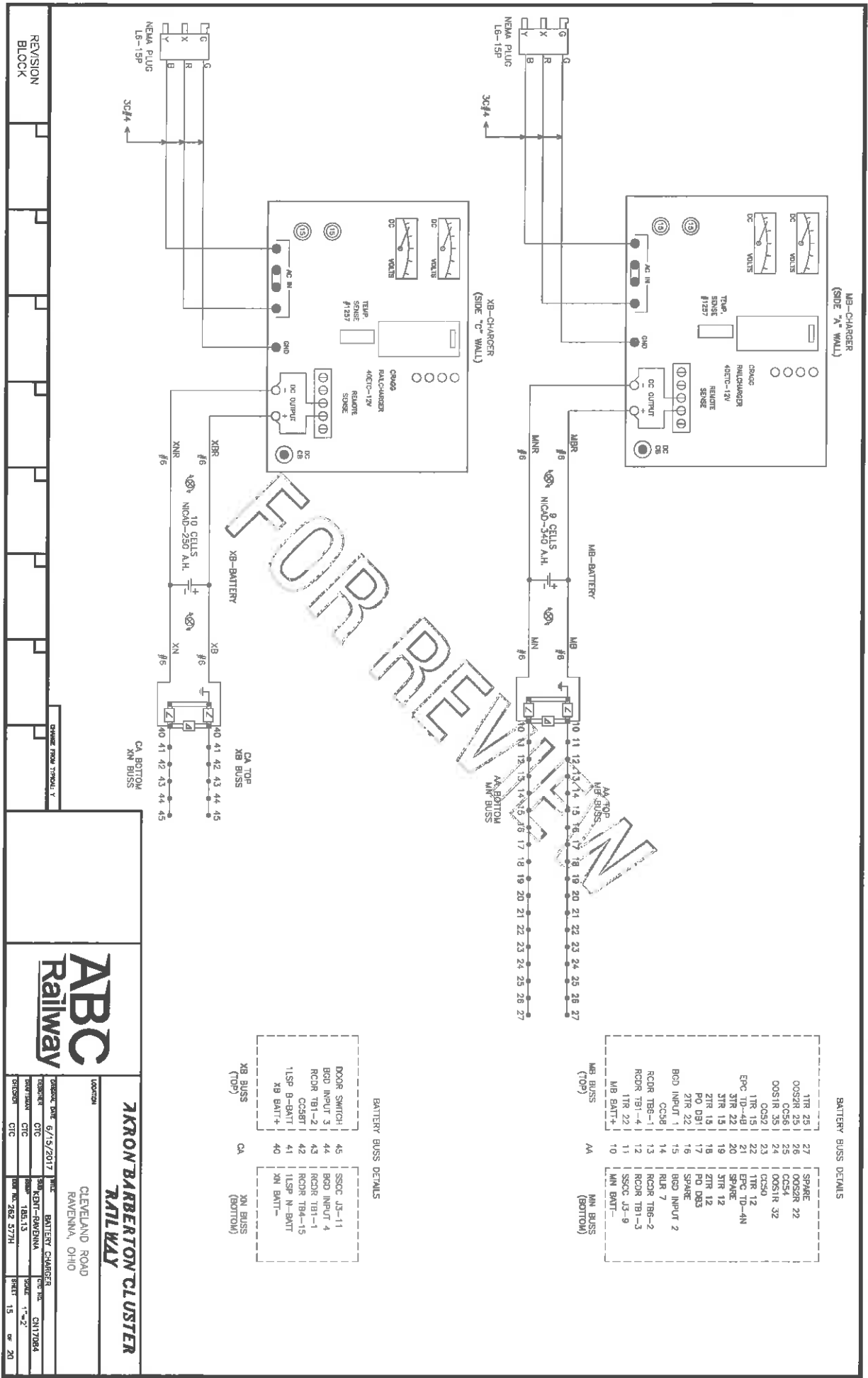
Ⓜ IS I/F SYMBOL ONLY. INSTALL ACCORDING TO MANUFACTURER'S INSTRUCTIONS.

REVISION
BL.OCK

ABC Railway

ZKRON BARBERTON CLUSTER RAILWAY

LOCATION	CLEVELAND ROAD RAVENNA, OHIO		
CLASS. DATE	6/15/2017	TIME	GALE #2 LIGHTS (PARK SIDE)
INCHES	CIC	DOG	RENT-RAVENNA
YEAR	CIC	DATE	18H:13
CHARGE	CIC	NO. OF	202 5/7H
		SHOTS	14 OF 20
			N.T.S.
			DN17084



BATTERY BUSS DETAILS

1TR 25	27	SPARE
0052R 25	26	0052R 22
0052R 25	25	0052R 22
0052R 25	24	0052R 32
0052R 25	23	0052R 32
1TR 15	22	1TR 12
1TR 15	21	1TR 12
1TR 15	20	1TR 12
1TR 15	19	1TR 12
1TR 15	18	1TR 12
1TR 15	17	1TR 12
1TR 15	16	1TR 12
1TR 15	15	1TR 12
1TR 15	14	1TR 12
1TR 15	13	1TR 12
1TR 15	12	1TR 12
1TR 15	11	1TR 12
1TR 15	10	1TR 12
1TR 15	9	1TR 12
1TR 15	8	1TR 12
1TR 15	7	1TR 12
1TR 15	6	1TR 12
1TR 15	5	1TR 12
1TR 15	4	1TR 12
1TR 15	3	1TR 12
1TR 15	2	1TR 12
1TR 15	1	1TR 12
1TR 15	0	1TR 12

DOOR SWITCH	45	SSCC J3-11
BOD INPUT 3	44	BOD INPUT 4
RCOR TB1-2	43	RCOR TB1-1
CCSST 1	42	RCOR TB4-15
1LSP B-BATT	41	1LSP N-BATT
XB BATT	40	XN BATT

BATTERY BUSS DETAILS

DOOR SWITCH	45	SSCC J3-11
BOD INPUT 3	44	BOD INPUT 4
RCOR TB1-2	43	RCOR TB1-1
CCSST 1	42	RCOR TB4-15
1LSP B-BATT	41	1LSP N-BATT
XB BATT	40	XN BATT

REVISION BLOCK

ABC
Railway

KRON BARBERTON CLUSTER
RAILWAY

LOCATION
CLEVELAND ROAD
RAVENNA, OHIO

DATE
6/15/2017

BY
KENT RAVENNA

CHKD
105.15

DATE
202 57TH

REV
15

OF
20



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

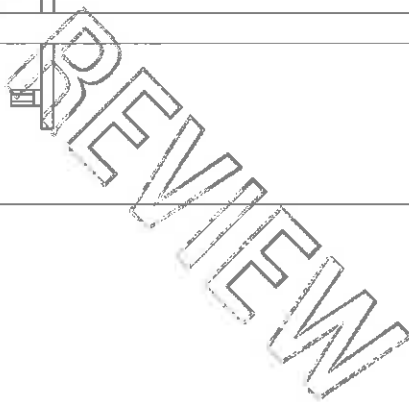
POWER OFF LED
INDICATOR
DIRECTIONAL FISH-EYE
PN: GEMS LC2-001WB-W34




ABC Railway

AKRON BARBERTON CLUSTER RAILWAY

LOCATION		DATE		TIME		AC POWER DISTRIBUTION	
DISPATCH	OTC	6/15/2017		POLYCENT-BAYVIEW	PER MR.		
ARRIVAL	OTC			18513	SCALE	1-2	CNT7084
DEPART	OTC			16525	SCALE	15 @ 20	



		AKRON BARBERTON CLEVELAND RAILWAY	
LOCATION CLEVELAND ROAD RAVENNA, OHIO		DATE 6/15/2017	
DESIGNER	CIC	SIZE	11" x 8"
PROJECT	CIC	STATION	BARBERTON - RAVENNA
TRACKS	CIC	NO. OF	108.13
		FEET	282.5779
		DATE	11-2-20
		BY	19 of 20

Wintrow Construction Corp.

673 Norton Ave. Barberton, Ohio 44203

Tele: (330) 753-2983

9/8/2017

ABC Railway

Cleveland Rd., Ravenna, Ohio

Insulated Joints Installation - Proposal

Attn: Andrew R. Shuster Phone: 330-813-6133 Email: ashuster@abcrwy.com

Per your request we are pleased to quote the following:

Wintrow Construction Corp. will provide all supervision, labor, equipment, and specified materials to complete the following described work:

1. Furnish and install 8-Insulated joints for crossing signal project

New Alleghany glue joints will be furnished-19'6" overall length

Insulated joints will be welded in place

Location of joints to be marked by others

Total \$36,642

No destressing of rails is included-Rail temperature is assumed to be within range when installation is scheduled

No wiring is included in pricing

Labor/Equip \$22,083

Materials \$14,559

By: _____

Authorization to Enter Onto the Property and Proceed With The Work

Contingencies/Notes

Sales Taxes Not included in Quotation

No Warranty or Guarantees are apart of this proposal

Payment: Net 30 Days. Late payment charge of 1 1/2% (18% annum) will be charged on all past due balances.

We are not responsible for repair or relocation of Under Ground Utilities

Price quoted is for "Normal" excavation only or as described in the quotation..

"Hard Excavation" will be performed on T&M

Weather conditions prevail and may affect the construction schedule.

Track must be free of rail cars and rail traffic.

ONE Mobilization is included in the quotation.

All work is at straight time labor rates unless specified otherwise in the quotation

Work description and material specifications haven't as yet been approved by the railroad

Engineering, plans and layout survey by others.

Material Subject to Pryor Sale

Progress payments are to be paid by the 15th of the month.

AKRON BARBERTON CLUSTER RAILWAY COMPANY

Andrew Shuster
Signal & Communication Supervisor

43 Second Street N.W.
Barberton, OH 44203

Tel. 330-813-6133

ashuster@abcrwy.com

Fax: 330-745-4519

16 June 2017

Public Utilities Commission of Ohio
Jill Henry

Re: Estimate for Railroad Crossing Warning System at Cleveland Rd.,

Dear Jill Henry,

I am providing this estimate for the crossing package and installation at Cleveland Rd.,

CTC Managed Services, Material Package, & Installation	\$ 155,891.21
Crosier Inc.	\$ 21,907.29
Curbs (Crosier)	\$ 2,250.00
Two Gate Foundations (note 1)	\$ 1,196.00
Electric Service	\$ 4,365.00
<u>Wintrow Railroad Construction (Provide and Install Allegheny Joints)</u>	<u>\$ 38,000.00</u>
Estimated Total	\$ 223,609.50

Please contact me if additional details are required.

Respectfully,

Andrew Shuster

Notes

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

From: [Andrew Shuster](#)
To: [Henry, Jill](#)
Subject: Re: Detailed Estimate for Cleveland Rd, Portage Co. DOT 262577H
Date: Friday, September 08, 2017 2:20:38 PM
Attachments: [20170908 Insulated joint installation proposal Cleveland Rd \(1\).pdf](#)

Jill,

Just received Wintrows estimate for the Cleveland Road job. They will only be installing Insulated Joints.

Andrew R. Shuster (330) 813-6133
Signals and Communications Supervisor
Akron Barberton Cluster Railway
43 Second Street NW, Barberton, Ohio 44203
330-813-6133 cell | ashuster@abcrwy.com email

From: Andrew Shuster
Sent: Friday, September 8, 2017 7:31:21 AM
To: Jill Henry
Subject: Detailed Estimate for Cleveland Rd, Portage Co. DOT 262577H

Jill Henry,

The attached E-mail from Crozier Industrial shows a detailed estimate for pre-install ground work, I am still waiting on an estimate from Wintrow railroad construction for track work.

Andrew R. Shuster (330) 813-6133
Signals and Communications Supervisor
Akron Barberton Cluster Railway
43 Second Street NW, Barberton, Ohio 44203
330-813-6133 cell | ashuster@abcrwy.com email

From: Bob Crosier <trailrnrbob@hotmail.com>
Sent: Thursday, August 10, 2017 12:46 PM
To: Andrew Shuster; Jill Henry
Cc: Tim Andrews
Subject: Detailed Estimate for Cleveland Rd, Portage Co. DOT 262577H

The following cost estimate is for pre-installation construction for crossing signal/gate upgrade at Cleveland Rd, Portage Co.

Labor cost

Laborer 72 hr @ \$18.00=	\$1296.00
Laborer/operator 72 hr @ \$20.00=	\$1440.00
Supv/operator 72 hr @ \$50.00=	\$3600.00
Accounting 1 hr @ \$215.00=	\$215.00
Administrative 1 hr @ \$30.00=	\$30.00
subtotal labor=	\$6581.00
G&A Burden @1.6%	\$10529.60

Equip cost

E-32 Excavator 20 hr @ \$32.20=	\$624.00
E-55 Excavator 60 hr @ \$40.20=	\$2412.00
Tandem dump truck 20 hr @ \$37.50=	\$750.00
Directional Drill 10 hr @ \$59.62=	\$596.20
Equip truck 72 hr @ \$21.35=	\$1537.20
Air tamper 20 hr @ \$4.25=	\$85.00
Traffic cones 72 hr @ \$.13=	\$9.36
Traffic signs 72 hr @ \$.23=	\$16.56
Hydra tamper 20 hr @ \$17.05=	\$341.00
Total Equip Cost=	\$6371.32

Material cost

75 - tons limestone @ \$25.00 per ton=	\$1875.00
180' - 4" pvc conduit @ \$1.95=	\$351.00
4 - 4" sweeps @ \$23.50=	\$94.00
2 - 4" 45 deg bends @ \$11.50=	\$23.00
12 - 4" coup @ \$2.10=	\$25.20
215' - 2" pvc conduit @ \$.80=	\$172.00
3 - 2" sweeps @ \$17.95=	\$53.85
4 - 2" 45 deg bends @ \$1.95=	\$7.80
425' - pull rope @ \$.13=	\$55.25
1 - 17x30x18 pull box @ \$315.00=	\$315.00
2 - ground rods @ \$ 17.25=	\$34.50
1 - can pvc cement @ \$8.20=	\$8.20
Total material cost=	\$3014.80

Job subtotal=	\$19915.72
add 10% profit=	\$1991.57

Curb subcontractor=	\$2250.00
AC pole electrical subcontractor=	\$2500.00
 Total Estimate=	 \$26657.29

Thank you,
Bob Crosier
Crosier Industrial Construction LLC
8938 Peck Rd
Ravenna, Ohio 44266
330 592 3082 cell
330 297 5567 fx

NOTICE: This e-mail message and all attachments transmitted with it are intended solely for the use of the addressee and may contain legally privileged and confidential information. If the reader of this message is not the intended recipient, or an employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, copying, or other use of this message or its attachments is strictly prohibited. If you have received this message in error, please notify the sender immediately by replying to this message and please delete it from your computer.

NOTICE: This e-mail message and all attachments transmitted with it are intended solely for the use of the addressee and may contain legally privileged and confidential information. If the reader of this message is not the intended recipient, or an employee or agent responsible for delivering this message to the intended recipient, you are hereby notified that any dissemination, distribution, copying, or other use of this message or its attachments is strictly prohibited. If you have received this message in error, please notify the sender immediately by replying to this message and please delete it from your computer.

Progress Rail

A Caterpillar Company

Company Address 11209 Electron Drive
Louisville, KY 40299

Quote Information

Quote Number	00041032	Prepared By	Jamie Barnes
Quote Name	Cleveland Rd. - 00041032	Title	Account Executive
Created Date	8/22/2017	Phone	(502) 368-6562 x2306
Account	CTC Inc. (formerly Campbell Technology Corporation)	Email	jbarnes@progressrail.com
		Fax	(502) 367-1484

Quote Line Items

QTY	U/M	Line Description	Sales Price	Total Price
1.00	LOT	Cleveland Rd.	USD 78,362.23	USD 78,362.23
Grand Total			USD 78,362.23	

Shipping Information and Notes

Notes The price includes the following:

- 6x6 House (To Be Wired By CTC)
- (2) Gate Flasher Assembly (To Be Assembled & Wired By CTC)
- Conduits
- Bonding Materials
- Misc. Ground Materials – Ref. Cost Sheet
- Freight (Container)

Price Excludes the Following:

- Engineering Services
- Installation Services
- AC Meter Services
- Pull Boxes
- Dress Stone / Fill Materials
- Insulated Joints / Switch Materials
- Flagging
- Taxes

Terms and Conditions

Payment Terms Net 30

Remarks - Quote valid for 15 Days
- Sales tax is not included.
- Deliveries are subject to change at time of order placement.
- Quote is based upon the above quantity and specifications. Any changes may affect pricing.
- Freight rates are based on time of quotation and are subject to change at time of order placement and at time of shipment.
- Acceptance of an order is governed by the Progress Rail Services Sales Order Terms And Conditions which are attached to this quote.

To place your order please e-mail your purchase order to Signal.Orders@ProgressRail.com.

Thank you for allowing us to be of service.

Effective as of July 1, 2014

**PROGRESS RAIL SERVICES
SALES ORDER TERMS AND CONDITIONS**

1. ACCEPTANCE. These terms and conditions apply to all sales by Progress Rail Services Corporation or one of its affiliates stated in any related sales order or invoice ("Seller") issued or approved by such Seller. This is an offer to sell to Buyer by Seller. Seller may revoke this offer at any point up to, an including, acceptance of the goods or services by Buyer. BUYER'S RIGHT TO ACCEPT THIS OFFER IS LIMITED TO THESE TERMS AND CONDITIONS AND ANY PRINTED ON SELLER'S SALES ORDER OR INVOICE. NO TERMS OR CONDITIONS ISSUED BY BUYER ARE BINDING ON SELLER AND SELLER REJECTS ANY SUCH TERMS OR CONDITIONS, UNLESS SPECIFICALLY AGREED TO IN WRITING AND SIGNED BY SELLER. THERE ARE NO UNDERSTANDINGS, TERMS, CONDITIONS OR WARRANTIES NOT FULLY EXPRESSED HEREIN. ACCEPTANCE OF THESE TERMS SHALL BE EVIDENCED BY BUYER'S ACCEPTANCE OF GOODS OR SERVICES OR UPON BEGINNING OF PERFORMANCE BY SELLER.

2. PURCHASE PRICE. The purchase price of the goods or services shall be as stated on Seller's sales order or invoice (together with these terms and conditions, the "Agreement"); provided however, that if Seller announces a general price increase, the purchase price shall be revised to include the price increase unless the goods are scheduled for shipment or services are to be performed within thirty days of the price increase.

3. LIMITED WARRANTIES. Seller warrants that the goods and services sold to Buyer through this Agreement will comply with agreed upon specifications when performed. Seller warrants only its services and does not warrant any goods supplied in performance of the services. However, Seller may assign to Buyer, at Buyer's request and to the extent they are assignable, warranties applicable to goods or services provided by third parties and supplied by Seller in performance of the services. The warranties in this Agreement are void and shall not apply if in the reasonable judgment of Seller, items on which services have been performed or goods supplied in performance of the services, have been damaged by improper application, abuse or neglect, improper maintenance or repair, subjected to inappropriate environmental or operational conditions or services by third parties without prior written authorization from Seller. SELLER MAKES NO OTHER WARRANTIES, AND EXPRESSLY DISCLAIMS ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF INFRINGEMENT, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY RELATED TO PERFORMANCE OR TO THE SUITABILITY OF BUYER FURNISHED DESIGNS, MODIFICATIONS OR SPECIFICATIONS.

4. LIMITATION OF BUYER'S REMEDIES AND SELLER'S LIABILITY. Seller's liability hereunder shall be limited to: (1) the assignable warranties referenced above with respect to goods; (2) re-performance of services; or (3) allowance of a credit, at its option. Seller's total cumulative liability in any way arising from or pertaining to any goods sold or required to be sold, or services performed or required to be performed shall NOT in any case exceed the purchase price paid by Buyer for such goods or services. TO THE FULLEST EXTENT ALLOWED BY LAW, IN NO EVENT

7. SHIPMENT/PASSAGE OF TITLE. All goods shall be shipped FCA Seller's facility (Incoterms® 2010). Title to the goods sold hereunder shall pass to Buyer upon delivery to the carrier at the point of shipment. Without Seller's prior, written permission, neither Buyer nor Buyer's consignee shall have the right to divert or re consign such shipment to any destination other than specified in the bill of lading. Seller reserves the right to select the mode of transportation.

8. PAYMENTS AND LATE CHARGES ON PAST DUE ACCOUNTS. If Buyer fails to comply with any provision of the Agreement or fails to make payments pursuant to the Agreement or any other agreement between Buyer and Seller, Seller may at its option defer shipments or performance or, without waiving any other rights it may have, terminate this Agreement without liability. All offers shall be subject to the approval of Seller's credit department. Seller reserves the right before making any delivery, or providing any service, to require payment in cash or security for payment, and if Buyer fails to comply with such requirement, Seller may terminate this Agreement. A late charge of 1½% monthly (18% annual rate) or the maximum allowed by state law, if less, will be imposed on all past due accounts.

9. CLAIMS BY BUYER. Buyer shall thoroughly inspect goods and services sold under this Agreement immediately upon receipt to verify that the such goods and services conform to the specifications of the Agreement. Buyer must notify Seller of claims for failure or delay in delivery within ten (10) days after the scheduled delivery date. Buyer must notify Seller of any claims for nonconforming or defective goods or services within ten (10) days after receipt or any claim related to such goods or services shall be waived. In addition, Seller must be given an opportunity to investigate the claim before Buyer disposes of the goods or else Buyer's claim will be barred. Seller shall incur no liability for damage, shortages, or other cause alleged to have occurred or existed at or prior to delivery to the carrier unless Buyer shall have entered full details thereof on its receipt to the carrier.

10. PERMISSIBLE VARIATIONS. The goods sold hereunder shall be subject to standard manufacturing variations, tolerances and classifications of the Seller and in the industry.

11. TECHNICAL ADVICE. Buyer represents that it has made its own independent determination that the goods or services it is purchasing under this Agreement meet all design and specification requirements of Buyer's project and are suitable for Buyer's intended application. Buyer further represents that it has not relied in any respect on any written or oral statements or advice from Seller.

12. TAXES. No tax imposed in respect of the sale of the goods or services sold hereunder is included. Any such tax shall be added to, and paid by Buyer as part of, the purchase price.

13. INDEMNITY. To the fullest extent allowable by law, Buyer shall defend, indemnify and hold harmless the Seller and its officers, directors, employees, agents, representatives and affiliates from any and all loss, liability, claim, cause of action, cost, judgment, or damages, including reasonable attorney fees for any personal injury, death, property damage, or economic loss of any sort, related to any act or omission of the Buyer or use or abuse of the goods by

SHALL SELLER HAVE ANY LIABILITY FOR COMMERCIAL LOSS, LOST PROFITS, CLAIMS FOR LABOR, OR FOR EXEMPLARY, INDIRECT, CONSEQUENTIAL OR INCIDENTAL DAMAGES OF ANY TYPE, WHETHER THE CLAIM BE BASED IN CONTRACT, TORT, WARRANTY, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE, AND IRRESPECTIVE IF SELLER WAS ADVISED OR AWARE THAT SUCH DAMAGES WERE POSSIBLE OR LIKELY. IT IS EXPRESSLY AGREED THAT BUYER'S REMEDIES EXPRESSED IN THIS PARAGRAPH ARE BUYER'S SOLE AND EXCLUSIVE REMEDIES. NO DELIVERY DATES ARE GUARANTEED. BUYER'S SOLE AND EXCLUSIVE REMEDIES AND SELLER'S ONLY LIABILITY FOR ANY DELAY IN DELIVERY OF GOODS OR SERVICES SHALL BE LIMITED AS SET FORTH HEREIN. THE PROVISIONS OF THIS PARAGRAPH SHALL SURVIVE THE ACCEPTANCE OF THE GOODS OR SERVICES SOLD HEREBY OR THE TERMINATION OF THIS AGREEMENT FOR ANY REASON.

5. FORCE MAJEURE. In addition to all other limitations stated herein, Seller shall be excused for any failure or delay in the performance of any of its obligations under this Agreement if such failure or delay is due to a strike, lockout, work stoppage, labor dispute, material shortage, utility outage, delay in transportation, fire, flood, earthquake, severe weather, act of God, accident, trade sanction, embargo, act of war, terrorism or threats of same; condition caused by national emergency, new or changed law; failure of suppliers to deliver or meet requirements; casualties or breakdown of or damage to plants, equipment, or facilities of Seller, any component manufacturer, repair facility, or their respective suppliers; breakdown in transportation services; any other act or cause which is unpredictable and cannot be reasonably avoided; and any act or cause which is beyond the reasonable control of Seller, whether similar to or different from the causes above enumerated, and whether affecting Seller or its agents, subcontractors, or suppliers, for as long as such circumstances prevail. Seller will undertake, as soon as practicable, to notify Buyer of any actual or anticipated failure or delay, and Buyer will use its commercially consequences on performance hereunder. The parties shall remain liable for those obligations under this Agreement not affected by the force majeure event; provided however, that in the case of a U.S. sanction, embargo, or other trade order or rule that would prohibit or otherwise render Seller's performance under this Agreement impracticable, Seller shall be excused from the performance of any remaining obligations under this Agreement and this Agreement terminated, without cost or liability, upon written notice by Seller.

6. BUYER'S OBLIGATION TO PASS ON

LIMITATION OF WARRANTIES AND REMEDIES. In order to protect Seller against claims by any purchaser from Buyer, if Buyer resells any of the goods or services purchased under this Agreement, Buyer shall include the language contained in paragraphs 3 and 4 of these Sales Order Terms and Conditions, dealing with Seller's warranties and limitations of warranties and remedies, in an enforceable agreement with Buyer's buyer. Buyer shall also include a provision in its agreement with its buyer applying Alabama law to any claims its buyer might assert against Seller with respect to goods or services provided by Seller, and requiring its buyer to bring any such action against Seller either in the state or federal courts serving Marshall County, in Alabama. Buyer shall defend, indemnify and hold Seller harmless from any and all claims, causes of action, damages, losses or expenses (including reasonable attorney's fees) that Seller incurs by reason of Buyer's failure to comply with this paragraph. The provisions of this paragraph shall survive the acceptance of the goods or services sold hereby or the termination of this Agreement for

the Buyer or any third party receiving, using or abusing the goods after Buyer's receipt, without regard to whether any loss is based upon breach of contract, breach of warranty, negligence, strict liability, or other tort or contract theory or cause of action.

14. WAIVER. Failure or inability of either party to enforce any right hereunder shall not waive any right in respect to any other or future rights or occurrences.

15. PERIOD OF LIMITATIONS. Buyer and Seller agree that any action by Buyer against Seller for breach of this Agreement, including any action for breach of warranty, or otherwise in connection with the goods or services sold under this Agreement, must be commenced by Buyer against Seller within one year after the cause of action accrues.

16. SEVERABILITY. In case any provision of this Agreement shall be declared invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired.

17. APPLICABLE LAW. The United Nations Convention on Contracts for the International Sale of Goods (1980) shall not apply to this Agreement. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of Alabama. Buyer and Seller, each as part of the consideration hereof, agree to the exclusive venue and jurisdiction of, and specifically agree that any legal action brought relating to this Agreement or goods or services provided will be brought and tried exclusively in the state or federal courts serving Marshall County, Alabama.

18. COMPLIANCE WITH LAWS. Buyer understands and agrees that goods and services sold by Seller, and any software, parts and components contained therein, along with any related manuals, materials, information or data, including but not limited to any parts, support or services provided by Seller (collectively, the "Product and Services"), as well as performance by the parties under this Agreement, are subject to laws, rules, regulations, directives, ordinances, orders, or statutes (the "Laws") of the United States and may be subject to the Laws of other, applicable countries (including, without limitation, Russia). Buyer agrees to comply with such Laws, as applicable, which may include but are not limited to, the U.S. Foreign Corrupt Practices Act, UK Bribery Act, anti-bribery Laws of other countries, U.S. Export Administration Regulations, U.S. International Traffic in Arms Regulations, and Laws administered by the U.S. Treasury Department Office of Foreign Assets Control and U.S. Department of State. Buyer agrees to cooperate with Seller to ensure compliance with the Laws when engaging in activities related to Buyer's performance of obligations under this Agreement and further agrees to indemnify, defend, and hold harmless Buyer, Buyer's direct and indirect parent entities and affiliates, and its and their respective directors, officers, employees, agents, successors, and assigns, against demands, liabilities, fines, penalties, losses, and damages (including costs, investigation and litigation expenses and counsel fees incurred in connection therewith) arising out of or related to Buyer's obligations under this paragraph. In the event of an enforcement action against Buyer relating to Buyer's non-compliance with the Laws that reasonably relate to Buyer's performance under this Agreement, Buyer shall provide to Seller written notice of such enforcement action prior to publication or disclosure of such enforcement action, and in no event later than ten (10) business days following such enforcement action. Notwithstanding the foregoing, Buyer agrees not to export, reexport, transmit or otherwise transfer the goods or services, whether directly or indirectly: (i) to any person or entity listed or otherwise

any reason.

designated as a blocked, prohibited or trade restricted person or party by the U.S. Commerce Department, U.S. Treasury Department, or U.S. Department of State; (ii) for any purpose or use prohibited by the U.S. government, such as for nuclear, chemical, or biological weapons production or proliferation, or (iii) to any destination or transit point subject to trade prohibitions by the U.S. government, as may be amended from time to time, such as the prohibition against transactions or trade with Iran or the Government of Iran.

Factory Wired Instrument Shelter

Cleveland Rd.			
ITEM DESCRIPTION	BAAN Item #	QTY	U/M
Bungalow, Alum. 6' x 6' w/Heater, w/Two 19" Equipment Racks	9485000161	1	EA
Power Off Light, LED, 2 Wire	9430500235	2	EA
Intrusion Alarm Switch	9410002021	2	EA
Track Driver, TD-4	9409030312	1	EA
Track Rectifier, Ring 10	9409030301	2	EA
ASSY TSA-1A	9409010691	4	EA
Arrester, CTC (W&LE)	9409020387	10	EA
Air Gap Equalizer, AGE-1	9465000077	2	EA
SSCC-III Lighting Surge Panel	9409010529	1	EA
SSCC-III Plus Crossing Controller, 40-Amp	9429000111	1	EA
ST-1 Relay Socket w/Test Posts, 10-14 crimp	9429000150	5	EA
Relay, ST-1, 6FB, 4ohm	94400010	3	EA
Relay, ST-1, 6FB, 500ohm	94400000	2	EA
Resistor, Adjustable, 6.3 Ohm	9409020625	4	EA
Resistor, Adjustable, 10 Ohm	9409020623	2	EA
Nema Plug	9474107524	3	EA
SJ00W Cable for Nema Plug	9422001160	30	FT
Panduit Duct, 2' X 3', 2 inch	9422040105	30	FT
Panduit Cover, 2' X 3', 2 inch	9422040106	30	FT
Panduit Duct, 2' X 3', 3 inch	9422040103	18	FT
Panduit Cover, 2' X 3', 3 inch	9422040108	18	FT
Recorder, Micro Data Analyzer II w/ DTMF, Sensors, GFD (WLE Package)	9409010707	1	EA
Insulated Nut	9409050504	12	EA
Relay, NV, 240V, 2FB	9409020265	1	EA
Socket, Relay 8-PIN OCT Screw	9409020329	1	EA
Battery Charger, 40ETC-12V	9409080104	2	EA
Track Charger, 1-5V / 5A	9409080115	1	EA
4 Post Terminal Block w/ Hardware	9409020380	6	EA
Buss Strap Grd Assy.	9465000105	0.5	FT
Tags, Slip On	9422990050	0.25	Roll
Stick-On Stencil	9400000078	2	EA
Bond Strand, Erico# SBS8TLINS664	9422030010	200	FT
Test Link, 1" Offset w/Gold Nut	9409021104	58	EA
Terminal Block, 2 x 6 w/flat nut only	9473000115	10	EA
Terminal Block, 2 post 2-3/8" w/flat nut only	9473000104	7	EA
Gate Heater Thermostat (Bulb)	9430500007	1	EA
1/4" Bevel Washer	9473000700	100	EA
1/4-24 Clamp Nut Nickel	9473000705	50	EA
#6 Non-Insulated Terminal Eye 1/4 stud	9422020200	30	EA
#6 Non-Insulated Terminal Eye 5/16 stud	9422020210	12	EA
Binding (Barrel) Nuts	9401037900	150	EA
Maintainer Test Switch, 3 post test terminal	9410002070	1	EA
Strap, Solid, 2-3/8" Centers	9473000120	7	EA
Buss Strap, 1" Centers 12 Hole	9473005100	4	EA
Circuit Plan Holder	9401001050	1	EA

Gate/Flasher Material

Cleveland Rd.			
ITEM DESCRIPTION	BAAN Item #	QTY	U/M
12" Head w/24" Background & Hood (Powder Coated)			
Terminal For LED Hook-up	9451000613	8	EA
Lights, 12" LED (FLX 4000)	9451000604	8	EA
Gate Saver, Two Way	9450030139	2	EA
Pinnacle 5" End Cap	9463100105	1	EA
Alum. Mast, 5" x 18', Base Hole 0 Degrees & Main Hole 90 Degrees right	9413022552	2	EA
Signal Mast Grounding w/ 72" pigtail #6 solid	9413040011	2	EA
JCT. Box Base, 5" W/2"NPT Cap	9420001102	2	EA
2-Way Cross Arm Assembly Less Heads (Gate Flasher)	9451050304	2	EA
5" Crossarms Assembly Mounting Kit	9451080005	2	EA
Railroad Crossing Sign, HI	9460001104	2	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket	9460005050	2	EA
Gate 3597 Mechanism Assembly w/o Counterweight Kit - CTC	9450010181	2	EA
3597 Counter Weight Package - CTC	9450020573	2	EA
Insulated Nut	9409050504	8	EA
Test Link, 1" Offset w/Gold Nut	9409021104	36	EA
Wiring Harness 20'6" Bell	9454100134	1	EA
Wiring Harness 12' Light	9454100135	2	EA
Wiring Harness 8' Mech (STD)	9454100136	2	EA
Gate Arm Wind Bracket, 36"	9450030203	2	EA

Ground Material

Cleveland Rd.

ITEM DESCRIPTION	BAAN Item #	QTY	U/M
Insulated Terminal Wrench, 1/2" / Triangle	9473000518	1	EA
Plugboard Terminal Wrench	9473000508	1	EA
Battery Tray (12" x 27")	9409060118	4	EA
Terminal Assy, Battery Multi Connection, 3-Way, 90 Deg. Elbo, 13/32 (.406) Hole Size	9473000706	4	EA
Battery, 250 Amp Hour, NiCd	9429005170	10	EA
Battery, 340 Amp Hour, NiCd	9429005173	9	EA
Battery, 152 Amp Hour	9429005104	1	EA
Electronic Bell, 5" MTG.	9465000154	1	EA
EZ Gate Arm, 16'-30' Alum/Fglass. With Lamp Kit (HI Intensity)	9450030217	2	EA
2' Gate Sleeve	9450030300	2	EA
Track Cable, #6 Tw. Pr. (150-12-3933)	9422001106	800	FT
Signal Cable, 7/C # 6 AWG (206-11-6247)	9422001580	400	FT
Signal Cable, 7/C #14 AWG (206-11-6887)	9422001574	400	FT
AC Cable, 3/C # 6 AWG w/GRD (206-11-6070)	9422001218	250	FT
Railroad Emergency Contact Sign - Reference Spec Prior to Ordering (SEE ENS TAB)	9400000079	2	EA
5" Mounting Kit for Railroad Crossing Signs w/Extension Bracket	9460005050	2	EA
Hex. Railroad Lock	9463001200	5	EA
Copperweld Ground Rod, 5/8" X 8'	9409050512	6	EA
Cadweld One Shot, 5/8" (HALO) Triple	9410001231	4	EA
Cadweld One Shot, 5/8" (SIGNAL) Single	9410000274	2	EA
Cadweld Rail Bonds, 3/16" x 7-1/2" XS	9410002990	115	EA
Track Connector, Web, 4"	9410003011	4	EA
Track Wire Retainer Clip, Erico #SBA248B	9410006111	4	EA
Boot Leg Kits	9410003019	4	EA
Conduit Kit - CTC	9410007000	1	Lot
Wheel, grinding 1" X 6"	9400000021	4	EA
Sleeve, 3/16 - 3/16 & 3/16 - #6 Tinned	9410001010	4	EA
Duct Seal	9410000502	10	LB
No Oxide Grease	9410006010	1	EA
Anti-Seize - Silver Grade 4 OZ	9410006020	1	EA
#6 Bare Copper	9422000010	50	FT

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Case No(s). 17-1066-RR-RCP

Summary: Memorandum In the Matter of a Request for an Upgrade at Akron Barberton Cluster Railway crossing on Cleveland Road (DOT#262-0577H) in Portage County, Ravenna, Ohio.
electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division