

Memo

To: Docketing Division
From: Jill Henry, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: 11/10/16



Re: PUCO Case No. 16-2146-RR-FED- In the Matter of a Request for the Installation of Active Warning Devices at the CSX Railroad Crossing, DOT# 513-327R, Fisher Road in Franklin County, Ohio.

On September 12, 2016, the Ohio Rail Development Commission (ORDC) authorized funding for CSX Transportation to install lights and gates at the Fisher Road, DOT#513-327R, grade crossing in Franklin County, Ohio. The crossing was surveyed on October 1, 2015 and was found to warrant the upgrade. The electric utility provider for this crossing is American Electric Power 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 \$238,204.00 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:

CSX Transportation, Inc.
Amanda DeCesare
Project Manager
500 Meijer Drive, Suite 305
Florence, KY 41042

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

City of Columbus
Renaldo Stargell
Traffic Management
50 W. Gay Street
Columbus, Ohio 43215

AEP Ohio

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

TO: Jill Henry, Rail Division, PUCO
FROM: Cathy Stout, Manager, Safety Section, ORDC
BY: Joe Reinhardt, Project Manager, ORDC
SUBJECT: Franklin County, Fisher Road
DOT 513327R, PID 101870
DATE: September 12, 2016

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

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

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

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

Thank you for your assistance with these matters.

Attachment: Diagnostic Review
Plan & Estimate

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



OHIO RAIL DEVELOPMENT COMMISSION

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

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

September 12, 2016

Ms. Amanda DeCesare
Project Manager
500 Meijer Drive, Suite 305
Florence, Ky 41042

RE: Franklin County, Fisher Road
DOT 513327R, OH1120, PID 101870

Dear Ms. DeCesare:

The plan and estimate dated August 29, 2016, for the referenced project has been reviewed and is acceptable. CSX 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 \$238,204. Additional costs must be approved in writing by the 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 CSX accepting the following instructions:

1. CSX's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Joseph Reinhardt, ORDC, email Joe.Reinhardt@dot.state.oh.us and to the Public Utilities Commission of Ohio, at George.martin@puc.state.oh.us. CSX'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. CSX 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 CSX.
3. CSX's project foremen will notify Joe Reinhardt at 614-580-7728 or Joe.Reinhardt@dot.state.oh.us 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. CSX will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

6. CSX will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

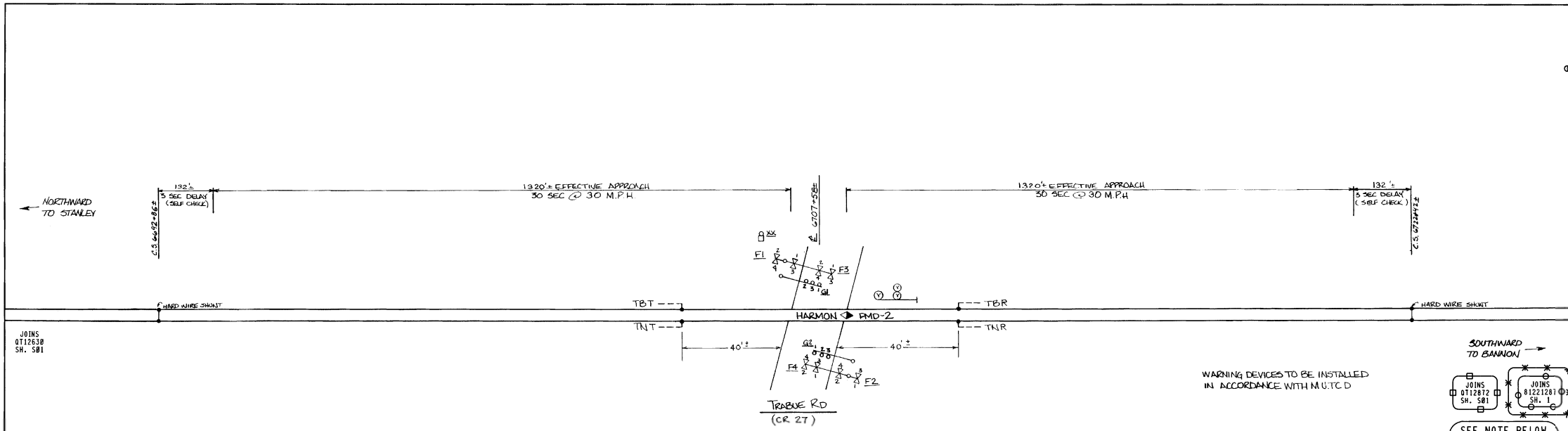
Thank you for your assistance with these matters.

Sincerely,

A handwritten signature in dark ink, appearing to read "Joseph Reinhardt". The signature is fluid and cursive, with the first name "Joseph" being more prominent than the last name "Reinhardt".

Joseph Reinhardt
Project Manager

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



REVISIONS		
07-29-83 E.G./AWS		0H2004057
11-83-84 SWE		0H2006118
03-16-89		0H2006118
VECTOR CREATED BY XRL		
04-30-12 XRL ADD JOINS NOTE		

OH2016028
16-451CSX

SSE/ASA/JLM
07-28-16

Signal South

OH201230588
04-30-12

OH2012047
XRL/JCP/ASA

xorail

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

TRABUE RD. (CR 27) (513326J)

TRACK AND SIGNAL PLAN
COLUMBUS, OH M.P. 07-127.01

DESIGNED	DIGITIZED	CHECKED	DATE
CSX	XRL	CSX	03-16-89

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
8122-1270	1	2	0712701	001	0712701	581

INDEX

SH. NO.	CONTENTS	REVISION NO.								
		1	2	3	4	5	6	7	8	9
I01	INDEX AND REVISIONS									
S01	TRACK AND SIGNAL PLAN									
P01	MINIMUM PROGRAM STEPS REPORT CWE-72									
E01	POWER DISTRIBUTION									
C01	DETECTION DEVICE CONSIST CWE-72									
C02	CROSSING DETECTION CIRCUITRY									
C03	CROSSING DETECTION CIRCUITRY									
C04	CROSSING WARNING DEVICE GATE CIRCUITRY									
C05	CROSSING WARNING DEVICE LIGHT CIRCUITRY									
C06	CROSSING WARNING DEVICE CIRCUITRY									
C07	SEAR II: CONFIGURATION & FUNCTIONS									

= PLANS SENT TO FIELD (DISTRIBUTED)

= PLANS AS-IN-SERVICED (UP TO DATE)

REVISIONS


REV. NO.	PROJECT NO.	DESIGN DATE	IN SERVICE DATE	REVISION DATE
1	0H2016028	07-28-16		

TO BE COMPLETED
ON A.I.S.

= NOTE

NEW WORK

0H2016028
16-451CSX



Signal South

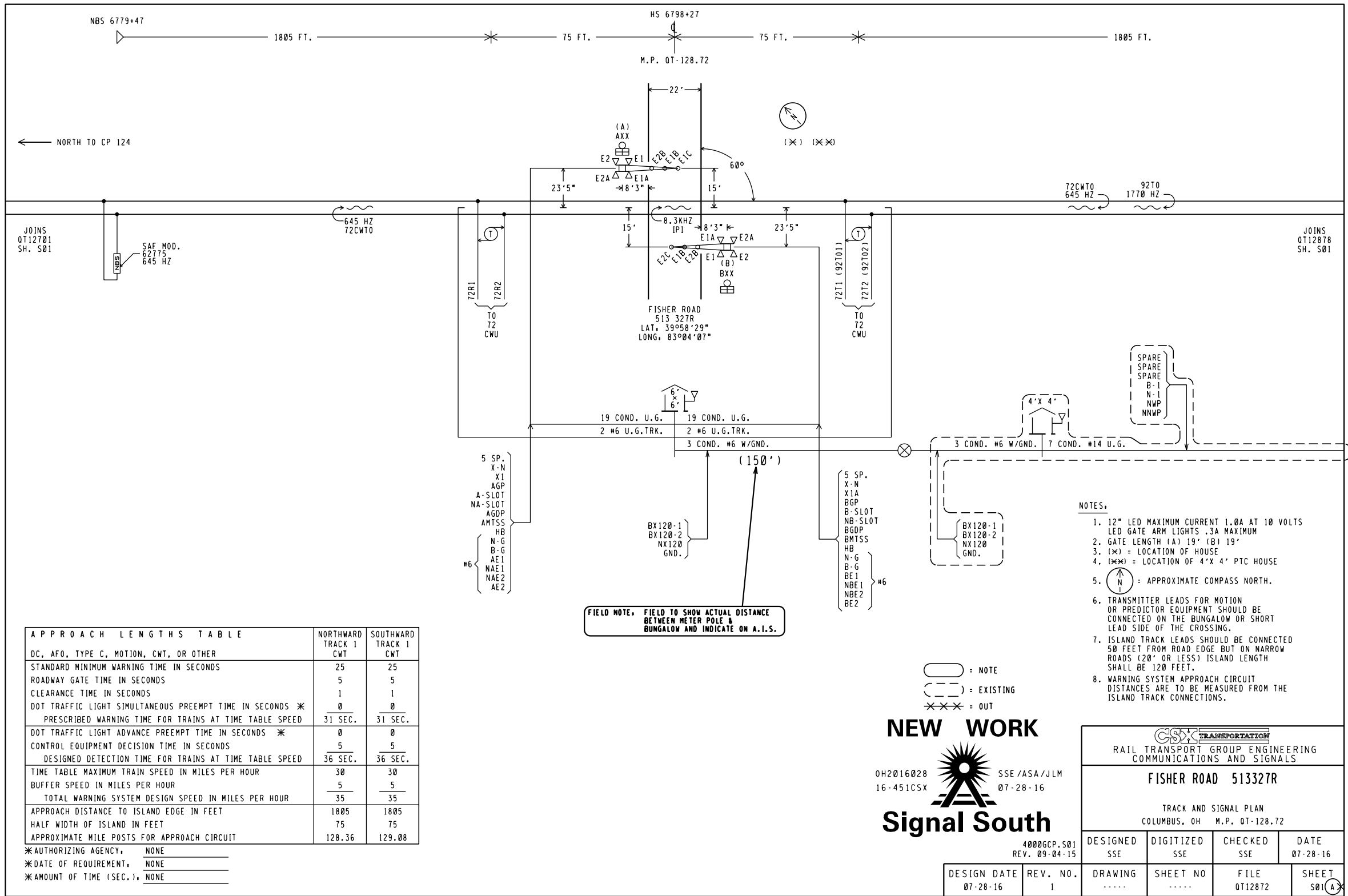
CSX TRANSPORTATION

RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

FISHER ROAD 513327R

INDEX AND REVISIONS
COLUMBUS, OH M.P. 0T-128.72

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 07-28-16
DESIGN DATE 07-28-16	REV. NO. 1	DRAWING -----	SHEET NO -----
		FILE QT12872	SHEET 101



Minimum Program Steps Report

Location and SIN

DOT Number: 513327R
Milepost Number: QT-128.72
Site Name: Fisher Road

SIN: 712547301516 *

* Parameter is part of office check number calculation.

MCF and Template Selection

MCF Name: GCP-T6X-02-6.mcf
MCF Revision: 26
MCFCRC: 494D2656

Template = 1A:6 Trk B1 (OCCN) *

* Parameter is part of office check number calculation.

Minimum Program Steps

TEMPLATE: module configuration
Chassis Type = Dual Two Track (OCCN) *

TEMPLATE: track 1-B1, Island
Track 1, GCP Frequency = 645 Hz (OCCN) *
Track 1, Approach Distance = 1805 ft (OCCN) *
Track 1, Prime Warning Time = 31 sec (OCCN) *
Track 1, GCP Transmit Level = Medium (Set in Field, TCN)
Track 1, Isl Frequency = 8.3 kHz (OCCN) *

TEMPLATE: SSCC

SSCC-1 Number of GDs = 1 (OCCN) *
SSCC-2 Number of GPs = 1 (OCCN) *
SSCC-2 Number of GDs = 1 (OCCN) *

TEMPLATE: OOS

OOS Control = Display+OOS IPs (OCCN) *
OOS Timeout = 1 hrs (Set in Field)

TEMPLATE: IP assignment SSCC

IN 7.2 = Not Used (OCCN) *
IN 8.2 = Out Of Service IP 1 (OCCN) *
IN 8.4 = GD 2.1 (OCCN) *
IN 8.5 = GP 2.1 (OCCN) *

MS4000 configuration

Track 1, GCP Frequency = 645 Hz (OCCN, TCN) (Hidden) *
Track 1, Isl Frequency = 8.3 kHz (OCCN) (Hidden) *

MS4000 Predictor

Track 1, Prime Warning Time = 31 sec (OCCN) (Hidden) *

GCP: track 1

Track 1, Island Distance = 150 ft (Set in Field, TCN)

ADVANCED: site options

Daylight Savings = 0n (Set in Field)

SSCC: 1

SSCC 1, Flash Rate = 55 (OCCN) *

SSCC: 2

SSCC 2, Flash Rate = 55 (OCCN) *

SEAR

DI 1 = Gnd Flt Tester 1 (OCCN) *

DI 2 = Gnd Flt Tester 2 (OCCN) *

Rly 1 = Ground Fault Test (OCCN) *

Rly 2 = AC Control (OCCN) *

SEAR: slot 7-8 inputs

IN 7.1 = TSS 1 (OCCN) *

IN 8.1 = TSS 2 (OCCN) *

IN 8.3 = POK 2 (OCCN) *

Express: MS4000 configuration

Track 1, GCP Frequency = 645 Hz (OCCN, TCN) (Hidden) *

Express: MS4000 Predictor

Track 1, Prime Warning Time = 31 sec (OCCN) (Hidden) *

* Parameter is part of office check number calculation.

Check Numbers

Office Check Number: 1C46DEAD
Config. Check Number: 22D500B3
(Based on MCF Revision 26)

Parameters not part of office check number calculation:

Track 1, GCP Transmit Level = Medium (Set in Field)

OOS Timeout = 1 hrs (Set in Field)

Track 1, Island Distance = 150 ft (Set in Field)

Daylight Savings = 0n (Set in Field)

Comments

<none>

NEW WORK

0H2016028

16-451CSX

SSE/ASA/JLM

07-28-16

Signal South



RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

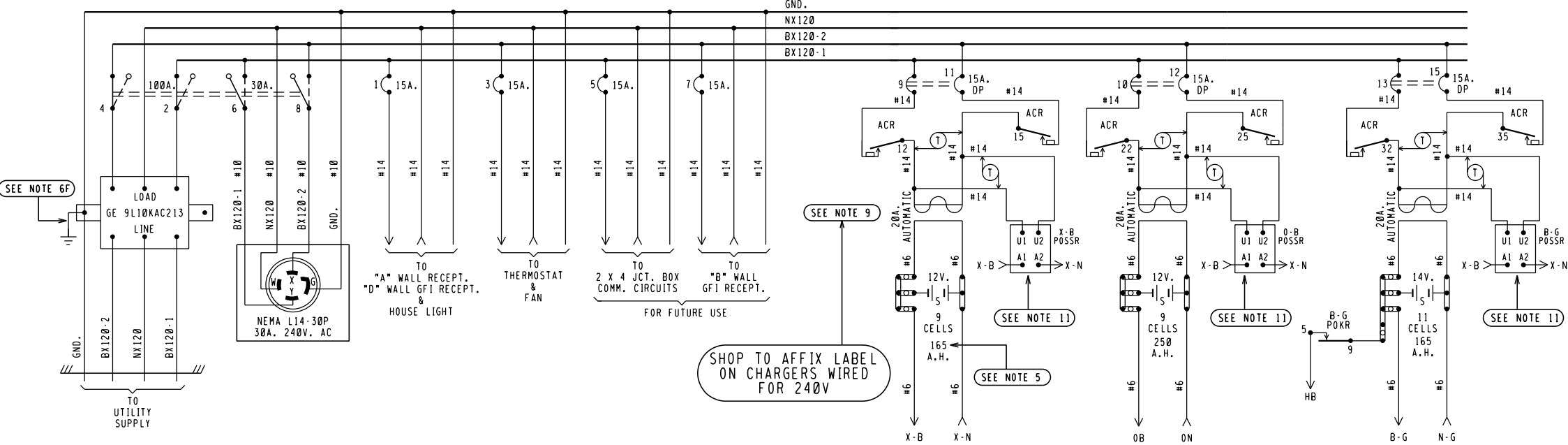
FISHER ROAD 513327R

MINIMUM PROGRAM STEPS REPORT CWE-XX
COLUMBUS, OH M.P. QT-128.72

4000GCP.P01
REV. 09-04-15

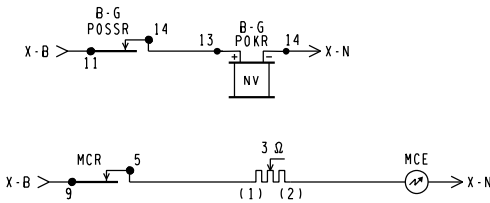
DESIGN DATE 07-28-16	REV. NO. 1	DRAWING -----	SHEET NO -----	FILE QT12872	DATE 07-28-16
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 07-28-16		
				FILE QT12872	SHEET P01

	ACR			MCR															
	12	B	B77	9	F	11	N41												
	15	B		10		12		C48											
	22	B	C30				C49												
	25	B		B-G POKR															
	32	B		9	F	11	N41												
	35	B		10	F	12		C48											



BX120-1 | BX120-2
10.0 AMPS | 12.0 AMPS
MAXIMUM LOAD
CALCULATED PER SS360

- NOTES.
- 1 - REFERENCES ARE PER SCMS-13.
 - 2 - ARRESTERS ARE PER SS382.
 - 3 - SHELF RELAY PLACEMENT ON CONSIST CHART HAS NO SIGNIFICANCE.
 - 4 - PLUG-IN RELAYS ARE VIEWED FROM THE FRONT OF RACK.
 - 5 - BATTERY A.H. CAPACITY SHOWN IS THE MINIMUM REQUIREMENT.
 - 6 - WIRING
 - A - FEED TO ALL BUSSES, LIGHT CIRCUITS, MOTOR CIRCUITS TO BE #10 FLEX.
 - B - 120-VOLT FEED FROM ENTRANCE TO POWER BUSS TO BE #10 FLEX.
 - C - ALL TRACK WIRES TO BE #10 FLEX.
 - D - ALL OTHERS TO BE #16 FLEX UNLESS NOTED.
 - E - ALL BATTERY OUTPUTS TO BE #6 PER SS360.
 - F - GROUND WIRE NOT NECESSARY WHEN GE ARRESTER IS MOUNTED ON GROUND PLANE OR METAL ENCLOSURE AFFIXED DIRECTLY TO BUNGALOW METALLIC STRUCTURAL MEMBER.
 - 7 - CIRCUIT INTERRUPTERS 2 & 4 ARE MECHANICALLY INTERLOCKED WITH CIRCUIT INTERRUPTERS 6 & 8.
 - 8 - LABEL ALL PRIMARY POWER WIRES WITH RED TAGS.
 - 9 - CHARGERS WIRED FOR 240VAC
 - 10 - CIRCUIT BREAKERS PANEL- 00124L125G (24 SPACES)
 - 11 - SOLID STATE VOLTAGE MONITOR BENDER MOD. VME 420-DW-1 DIN RAIL MOUNTED. OUTPUTS CONFIGURED NORMALLY CLOSED(NC). UNDERVOLTAGE SENSING MINIMUM OF 216 VOLTS AC.



X-B POSSR					OB POSSR					B-G POSSR				
11	F	21	F	N70	11	F	21	F	N70	11	F	21	F	N70

WALL/DIN RAIL MOUNTED

NEW WORK

0H2016028 SSE/ASA/JLM
16-451CSX 07-28-16

Signal South

4000GCP.E01
REV. 10-19-15

DESIGN DATE	REV. NO.
07-28-16	1

6'X 6' PTC CROSSING HOUSE

CSX TRANSPORTATION

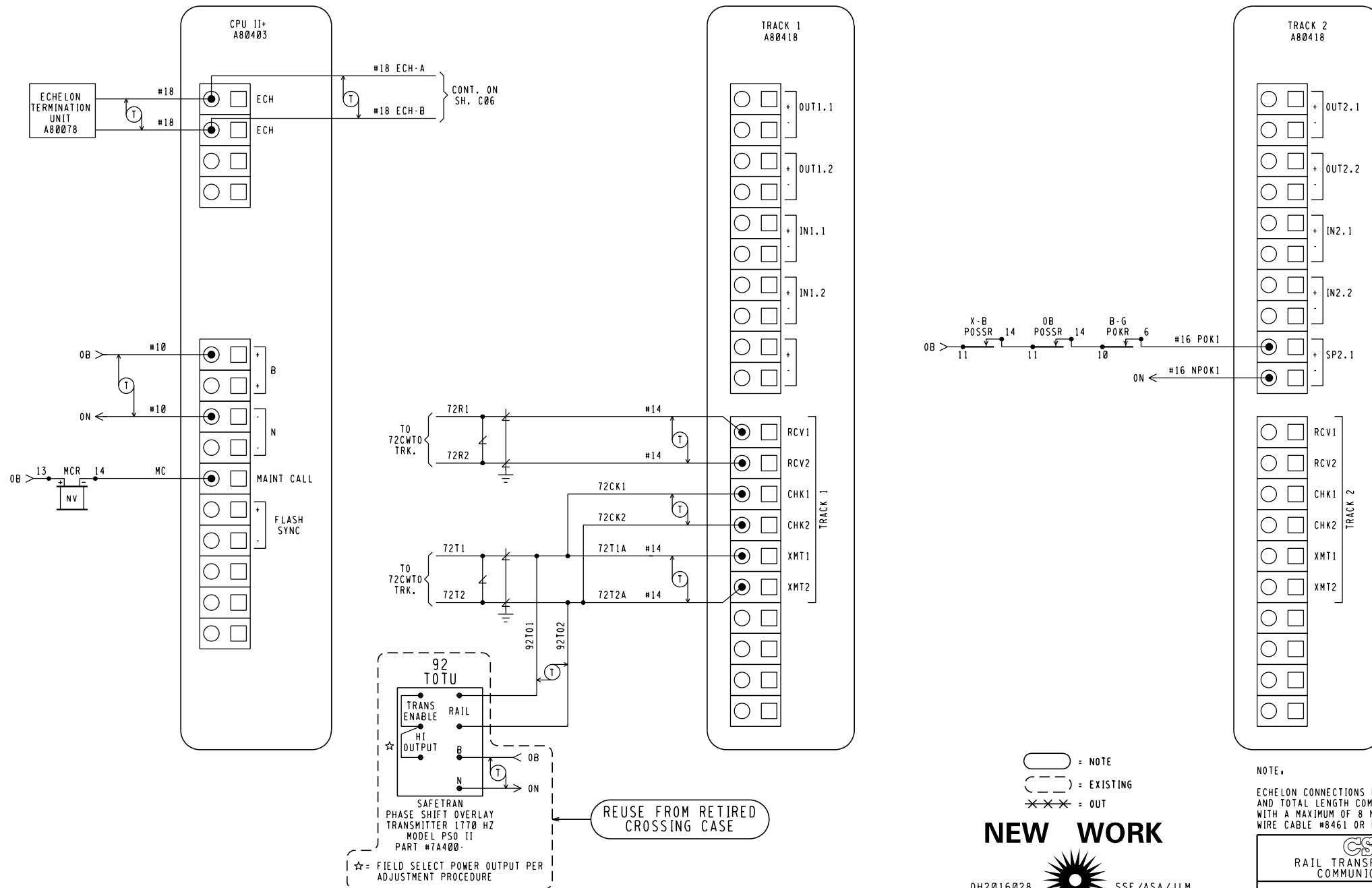
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

FISHER ROAD 513327R

POWER DISTRIBUTION
COLUMBUS, OH M.P. 0T-128.72

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 07-28-16
DRAWING	SHEET NO	FILE 0T12872	SHEET E01





NEW WORK

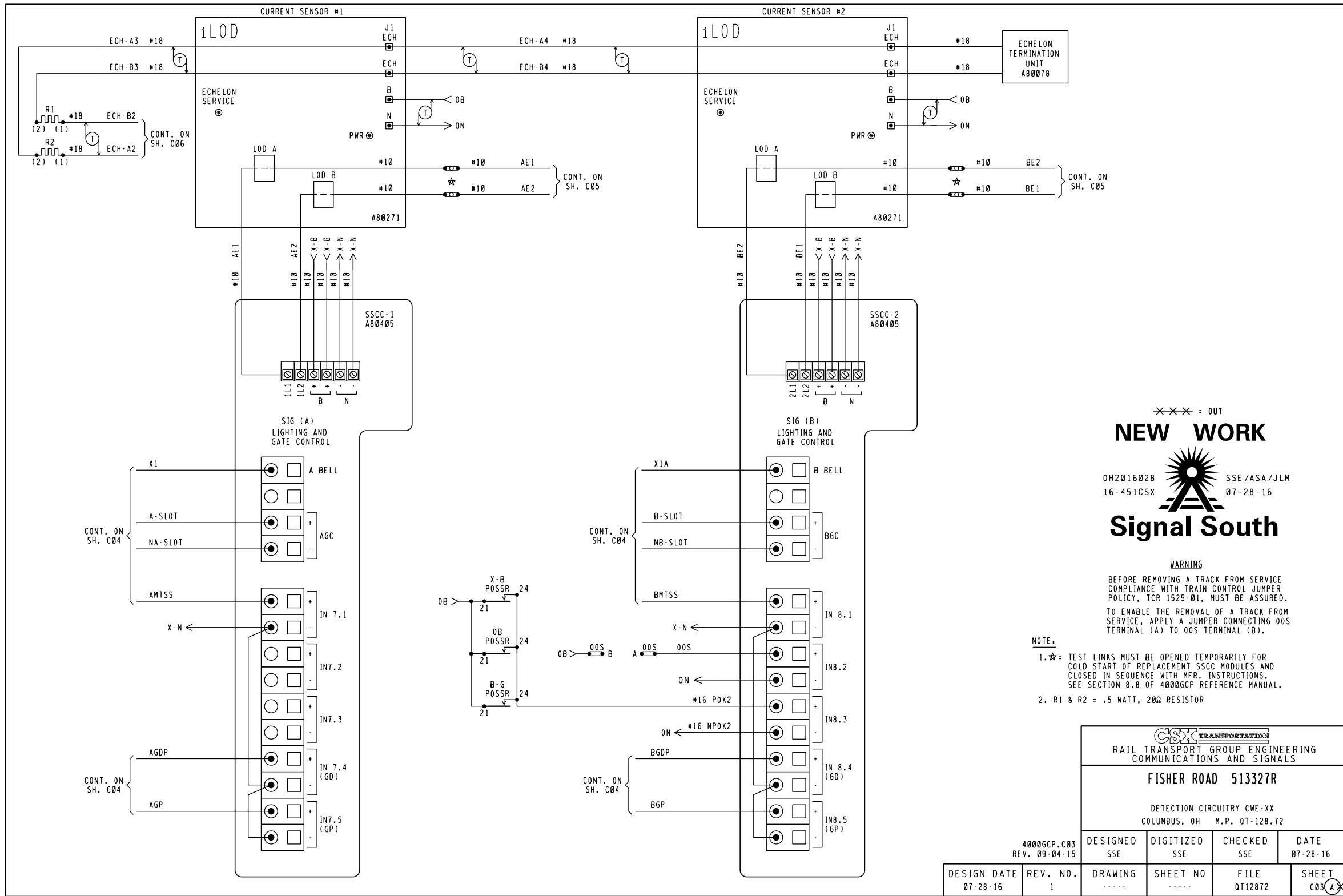
OH2016028
16-451CSX

SSE/ASA/JLM
07-28-16

Signal South

NOTE.
ECHOLON CONNECTIONS NOT TO EXCEED 53' IN LENGTH AND TOTAL LENGTH COMBINED NOT TO EXCEED 430' WITH A MAXIMUM OF 8 NODES. RECOMMEND USE BELDEN WIRE CABLE #8461 OR EQUIVALENT.

CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
FISHER ROAD 513327R			
DETECTION CIRCUITRY CWE-XX COLUMBUS, OH M.P. 0T-128.72			
DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 07-28-16
DESIGN DATE 07-28-16	REV. NO. 1	DRAWING -----	SHEET 002(A)



*** = OUT

NEW WORK

0H2016028 SSE/ASA/JLM
16-451CSX 07-28-16

Signal South

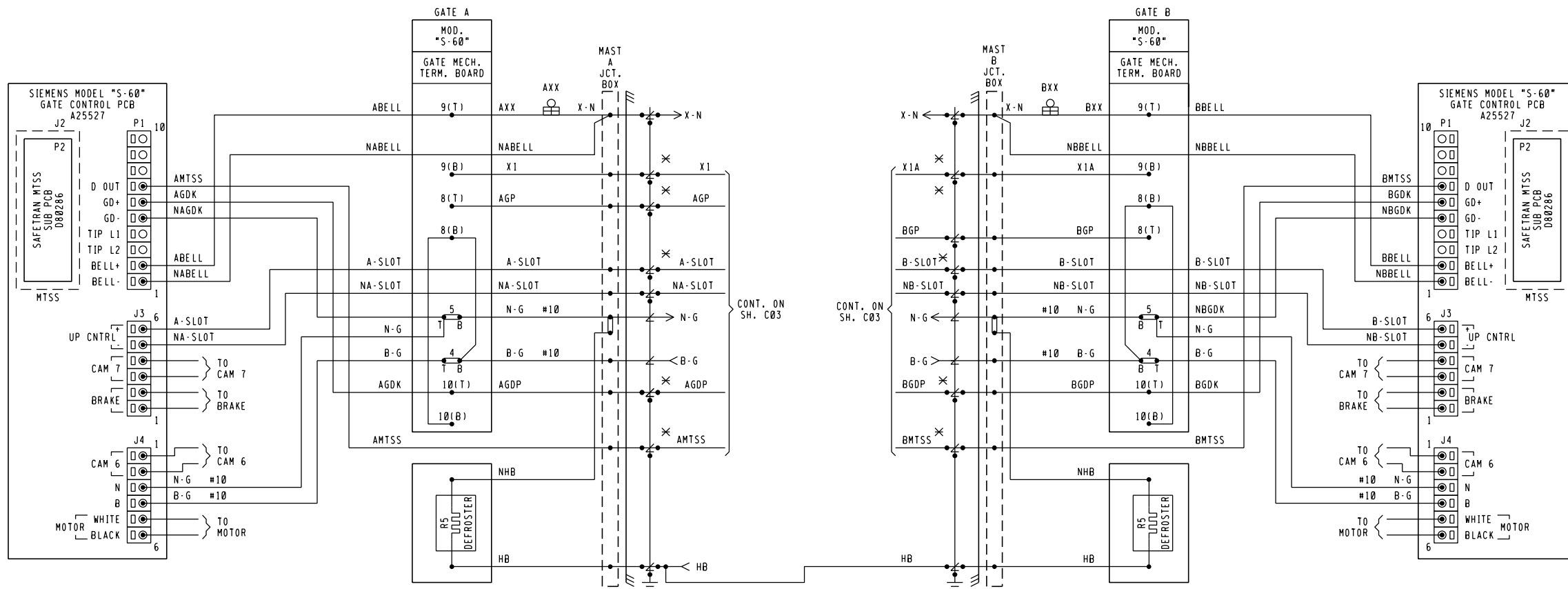
WARNING

BEFORE REMOVING A TRACK FROM SERVICE COMPLIANCE WITH TRAIN CONTROL JUMPER POLICY, TCR 1525-01, MUST BE ASSURED. TO ENABLE THE REMOVAL OF A TRACK FROM SERVICE, APPLY A JUMPER CONNECTING OOS TERMINAL (A) TO OOS TERMINAL (B).

NOTE.

1. ★ = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.
2. R1 & R2 = .5 WATT, 200 RESISTOR

CSX TRANSPORTATION			
RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
FISHER ROAD 513327R			
DETECTION CIRCUITRY CWE-XX COLUMBUS, OH M.P. 0T-128.72			
DESIGNED	DIGITIZED	CHECKED	DATE
SSE	SSE	SSE	07-28-16
DESIGN DATE	REV. NO.	DRAWING	SHEET
07-28-16	1	-----	03(A)



- NOTES:
1. ✕ = TEST LINKS MUST BE OPEN TEMPORARILY FOR COLD START OF REPLACEMENT SSCC MODULES AND CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS. SEE SECTION 8.8 OF 4000GCP REFERENCE MANUAL.
 2. [] = TERMINAL IN JCT. BOX BASE
 3. ALL WIRING #16 UNLESS NOTED OTHERWISE.

NEW WORK

0H2016028
16-451CSX



Signal South

SSE/ASA/JLM
07-28-16

4000GCP.C04
REV. 09-04-15

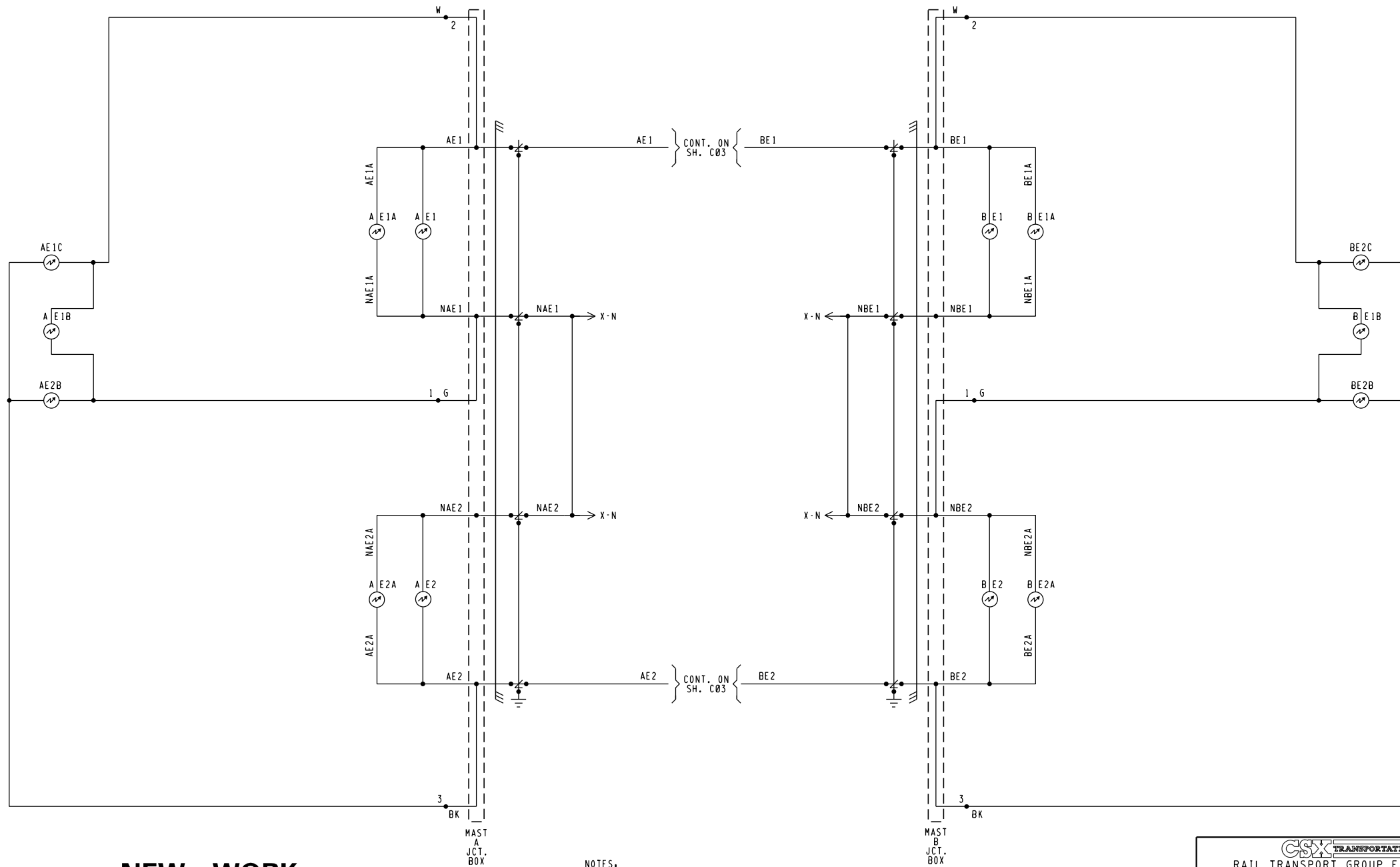
DESIGN DATE 07-28-16
REV. NO. 1

CSX TRANSPORTATION
RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

FISHER ROAD 513327R

CROSSING WARNING DEVICE GATE CIRCUITRY
COLUMBUS, OH M.P. 0T-128.72

DESIGNED	DIGITIZED	CHECKED	DATE
SSE	SSE	SSE	07-28-16
DRAWING	SHEET NO	FILE	SHEET
-----	-----	0T12872	C04



NEW WORK

0H2016028
16-451CSX



SSE/ASA/JLM
07-28-16

Signal South

NOTES:

1. [Symbol] = TERMINAL IN JUNCTION BOX
2. WHEN 7 OR MORE LIGHTS ON A SINGLE STRUCTURE REFER TO SS382 FOR REQUIRED ARRESTERING
3. FEEDS TO ALL BUSES AND LIGHT CIRCUITS ARE #10 FLEX
4. UNLESS NOTED ALL OTHER WIRING #16
5. CABLING SPECIFICATIONS SHOWN ON SH. S01

4000GCP.C05
REV. 09-04-15

DESIGN DATE
07-28-16

REV. NO.
1

DRAWING

SHEET NO

FILE
QT12872

SHEET
C05



RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

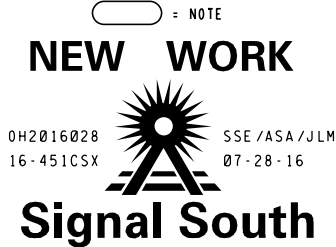
FISHER ROAD 51327R

CROSSING WARNING DEVICE LIGHT CIRCUITRY
COLUMBUS, OH M.P. QT-128.72

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 07-28-16
DRAWING -----	SHEET NO -----	FILE QT12872	SHEET C05

DEFAULTS AND/OR STYLE		FIELD RECORD
SEAR II: EXECUTIVE PROGRAM	VERSION, 9V725A01	VERSION, _____
APPLICATION PROGRAM (IF LOADED)	VERSION, 9V864A01	VERSION, _____
SITE SET UP MENU		
FUNCTION	LED DISPLAY	
DATE/TIME	XX-XX-XXXX XX:XX:XX	
AUTOMATIC DST ADJUSTMENT	YES	
TIME ZONE	EASTERN	
SITE NAME	FISHER ROAD	
MILEPOST	QT-128.72	
DOT NUMBER	513327R	
TESTER TYPE	CROSSING	
DATE FORMAT	MM-DD-YYYY	
TEMP FORMAT	FAHRENHEIT	
INDICATE HOLD (SEC)	0	
INDICATE REFRESH (SEC)	60	
SITE ATCS ADDRESS	7.125.473.015.99.01 (7.RRR.LLL.GGG.99.01)	
SITE TYPE	COLLECTOR	
OFFICE ADDRESS	2.125.00.0000 (2.RRR.NN.DDDD)	
POLL ID	1	
MODE	GEN/ATCS	
WAMS XID	DISABLED	
OFFICE COMM. DEVICE	<input checked="" type="checkbox"/> WAG (ECHELON) <input type="checkbox"/> DIRECT (RS232) <input type="checkbox"/> MCM (ECHELON) <input type="checkbox"/> MCM (RS232) <input type="checkbox"/> DIAL MODEM <input type="checkbox"/> S200 RADIO (RS422)	
RADIO ATCS ADDR	7.125.473.015.07.01 (7.RRR.LLL.GGG.NN.01)	
FIELD COMM. DEVICE	<input type="checkbox"/> WAG (ECHELON) <input checked="" type="checkbox"/> NONE <input type="checkbox"/> VHF COMM. (ECHELON) <input type="checkbox"/> VHF COMM. (RS232) <input type="checkbox"/> SPREAD-SPECTRUM (RS232)	
USER PORT BAUD	57,600	
USER PORT DATA BITS	8	
USER PORT PARITY	NONE	
USER PORT STOP BITS	1	
USER PORT FLOW CONTROL	NONE	
AUX PORT BAUD	38,400	
AUX PORT DATA BITS	8	
AUX PORT PARITY	NONE	
AUX PORT STOP BITS	1	
AUX PORT FLOW CONTROL	NONE	

NOTE TO INSPECTOR,
AT IN SERVICE OF SEAR II: OR UPDATE
OF ITS INTERNAL EXECUTIVE PROGRAM
OR ITS CSXT APPLICATION PROGRAM,
NOTE THE VERSION NUMBER OF EACH
PROGRAM MUST IN THE BLANK FIELDS.



INSPECTOR NOTE.
VHF RADIO CHANNEL AND DATA
CHANNEL = ENGINEERING CHANNEL.
CHOOSE PROPER FREQUENCY FROM
VHF RADIO CHANNELS.

VHF RADIO CHANNELS			
1	161.130	5	161.550
2	160.710	6	160.785
3	160.560	7	160.785
4	160.860	8	160.785

PROGRAM MENU SELECT

EDIT DIGITAL INPUTS	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT BATTERIES	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT RELAYS	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT TEST LED'S	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT ILOD1 SENSOR ☆	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT ILOD2 SENSOR ☆	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT ILOD3 SENSOR ☆	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT ILOD4 SENSOR ☆	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
EDIT VHF SETTINGS	<input checked="" type="checkbox"/> NO <input type="checkbox"/> YES
GCP4K ATCS SUBNODE	16

☆ STAR = OPTIONS SHOWN DEPENDANT ON
NUMBER OF ILODS SELECTED

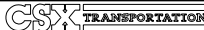
CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
OPTION	SELECTION
RESET NAMES / MODULES	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
RAILROAD NUMBER	125
CROSSING CONFIGURATION	NORMAL <input checked="" type="checkbox"/> SPLIT GATE <input type="checkbox"/> EXTERNAL ENTRANCE GATE CONTROLLER(S) <input type="checkbox"/>
AND1 USED AS XR	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
AND2 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND3 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND4 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND5 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND6 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND7 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
AND8 USED AS XR	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
ENTRANCE GATES*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
GATE POSITION FAIL*	20 SECS.
BATTERY BANKS*	1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/>
BATT MON USED*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
OB RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input checked="" type="checkbox"/>
X-B RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input checked="" type="checkbox"/> NOT PRESENT <input type="checkbox"/>
X-B2 RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input checked="" type="checkbox"/>
BATT MON RESOLUTION*	0.2 <input type="checkbox"/> 0.5 <input type="checkbox"/> 1.0 <input type="checkbox"/> NOT PRESENT <input checked="" type="checkbox"/>
INTERNAL CROSSING CONTROLLERS*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/>
EXTERNAL CROSSING CONTROLLERS*	0 <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/>
VHF COMMUNICATOR*	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
DTMF ACTIVATION*	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
ACTIVATION CODE	XXX
ACTIVATION TIMEOUT	(60 SEC)
ILOD MODULES*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
ANY LED BULBS USED*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
AUTO INSPECTIONS*	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
BELL SENSORS*	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/>
BELL SENSOR TSS 1*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
BELL SENSOR TSS 2*	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/>
BELL SENSOR TSS 3*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 4*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 5*	NO <input type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 6*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 7*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL SENSOR TSS 8*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
BELL ON*	GATES LOWERING <input checked="" type="checkbox"/> GATES MOVING <input type="checkbox"/> ALWAYS <input type="checkbox"/>
GFT'S	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
BATTERIES ON GFT1	1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/>
GATE TIP SENSORS*	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
RTU	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
VHF VOICE CHANNEL	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
VHF DATA CHANNEL	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
USE NON-CRITICAL FEATURE*	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>
FULL APPROACH MOVE ALARMS*	ACTIVATE <input checked="" type="checkbox"/> DO NOT ACTIVATE <input type="checkbox"/>
ENABLE PASSWORD	NO <input checked="" type="checkbox"/> YES <input type="checkbox"/>

NOTES.

- OPTION AVAILABLE IF VHF COMMUNICATOR = YES
LAST 3 DIGITS OF DOT NUMBER.
- OPTION AVAILABLE IF ILODS.
- OPTION AVAILABLE IF BELL SENSORS.
- OPTION AVAILABLE IF GATES.
- OPTION AVAILABLE IF VHF RADIO.
- ONLY YES IN SPECIAL CIRCUMSTANCES.
- SELECT "MENU" THEN "CONFIGURATION" FROM SEAR II
INTERFACE KEYPAD TO ACCESS MODULE CONFIGURATION
MENU.
- BATTERY BANKS* = NUMBER OF BANKS EXCLUDING
THE BANK APPLIED TO THE BAT MON SEAR INPUT
- YES ON INITIAL SETUP

4000GCP.C07
REV. 09-04-15

DESIGN DATE 07-28-16	REV. NO. 1	DRAWING -----	SHEET NO -----	FILE QT12872	SHEET C07
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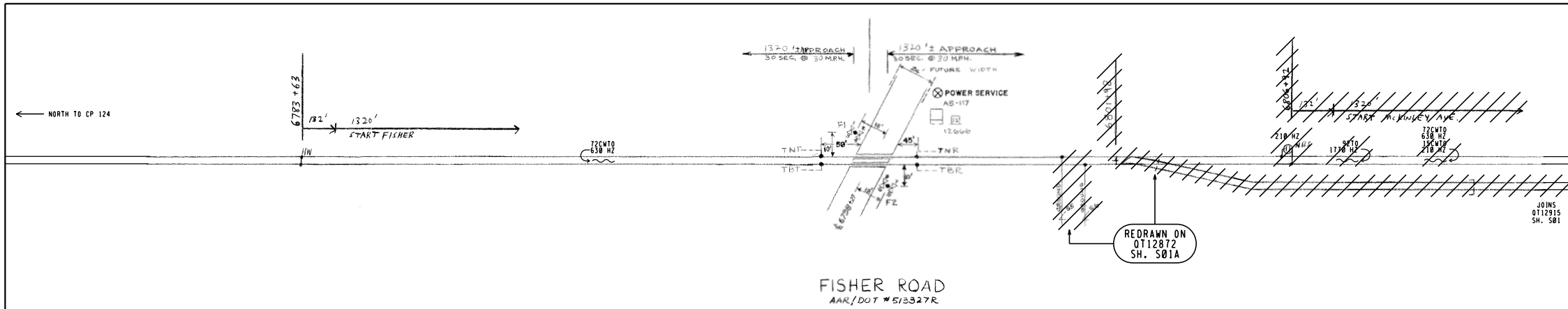


RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

FISHER ROAD 513327R

SEAR II: CONFIGURATION & FUNCTIONS
COLUMBUS, OH M.P. QT-128.72

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 07-28-16
-----------------	------------------	----------------	------------------



REVISIONS			
5	02-13-87	REGION	
AS FOUND IN SERVICE PER INSPECTOR.			
IN SERVICE: 04-30-85			
PER: RSN			
6	10-13-88	EM	CED
REGION			
CHANGES MADE AS IN SERVICE ON ACCOUNT POLE LINE WIRES REMOVED SOUTH OF FISHER RD.			
IN SERVICE: 05-18-88			
PER: RGN			

==== = NOTE
//// = SHOWN ELSEWHERE

**ALL ELSE OUT
VOID ON A.I.S.**

OH2016028 SSE/ASA/JLM
16-451CSX 07-28-16

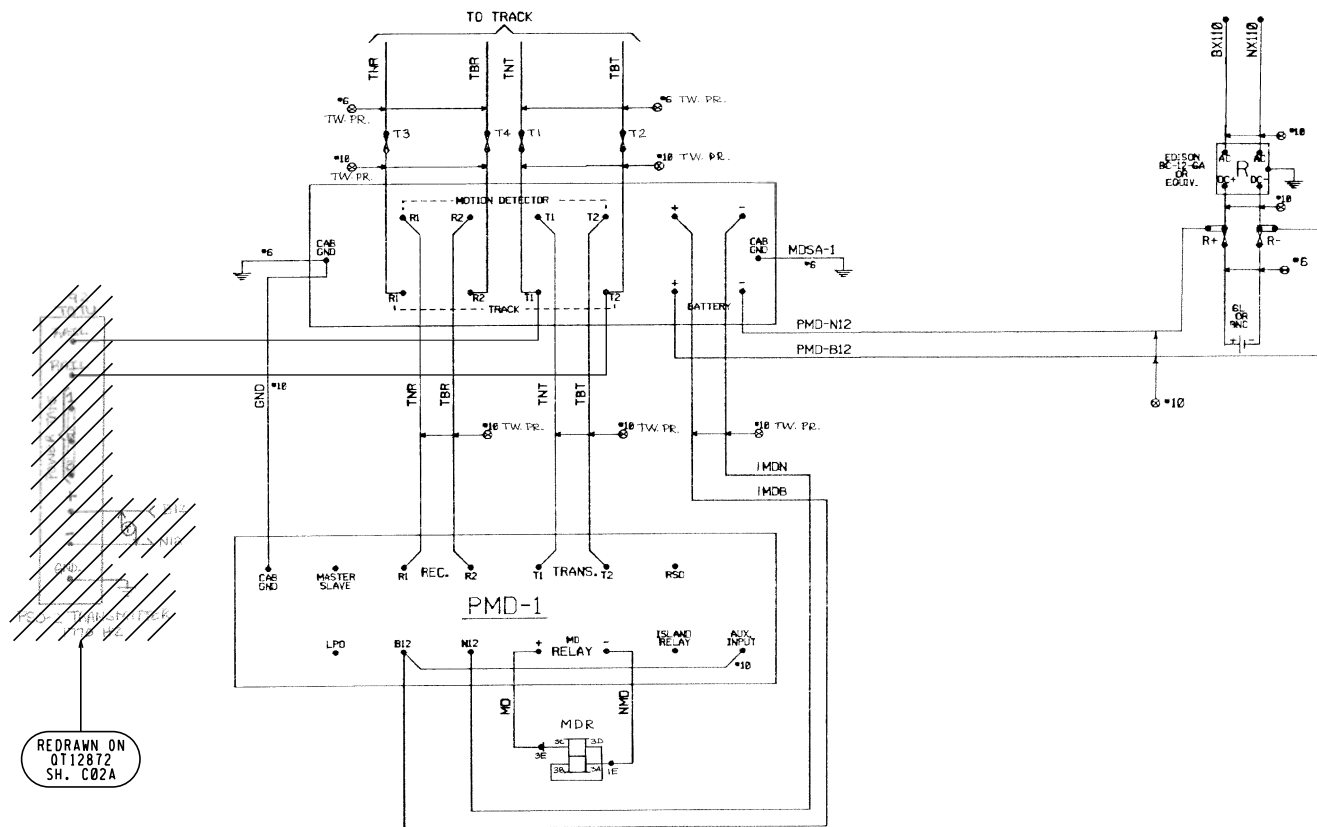
Signal South

NOTES:
1. 12" LED MAXIMUM CURRENT 1.7A AT 10 VOLTS.

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
8122-1287X	1	2	OT12872	C01	OT12872	S01



RASTER FILE,QT12872C01.CIT MS FILE, QT12872.C01



PMD1 FREQUENCY
CH. 9 - 230. HZ.
ISLAND FREQUENCY
8.3 KHZ. (WITH STANDARD SUBTONE)
PMD SWITCHES
POWER N/S BSD
HIGH MASTER OFF

REDRAWN ON
QT12872
SH. C02A

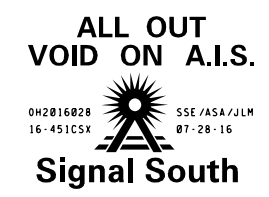
NOTE: FIELD TO USE 500 OHMS
TO 1000 OHMS RELAY FOR MDR RELAY

ALL ELSE OUT
VOID ON A.I.S.

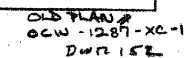
0H2016028 16-451CSX SSE/ASA/JLM 07-28-16

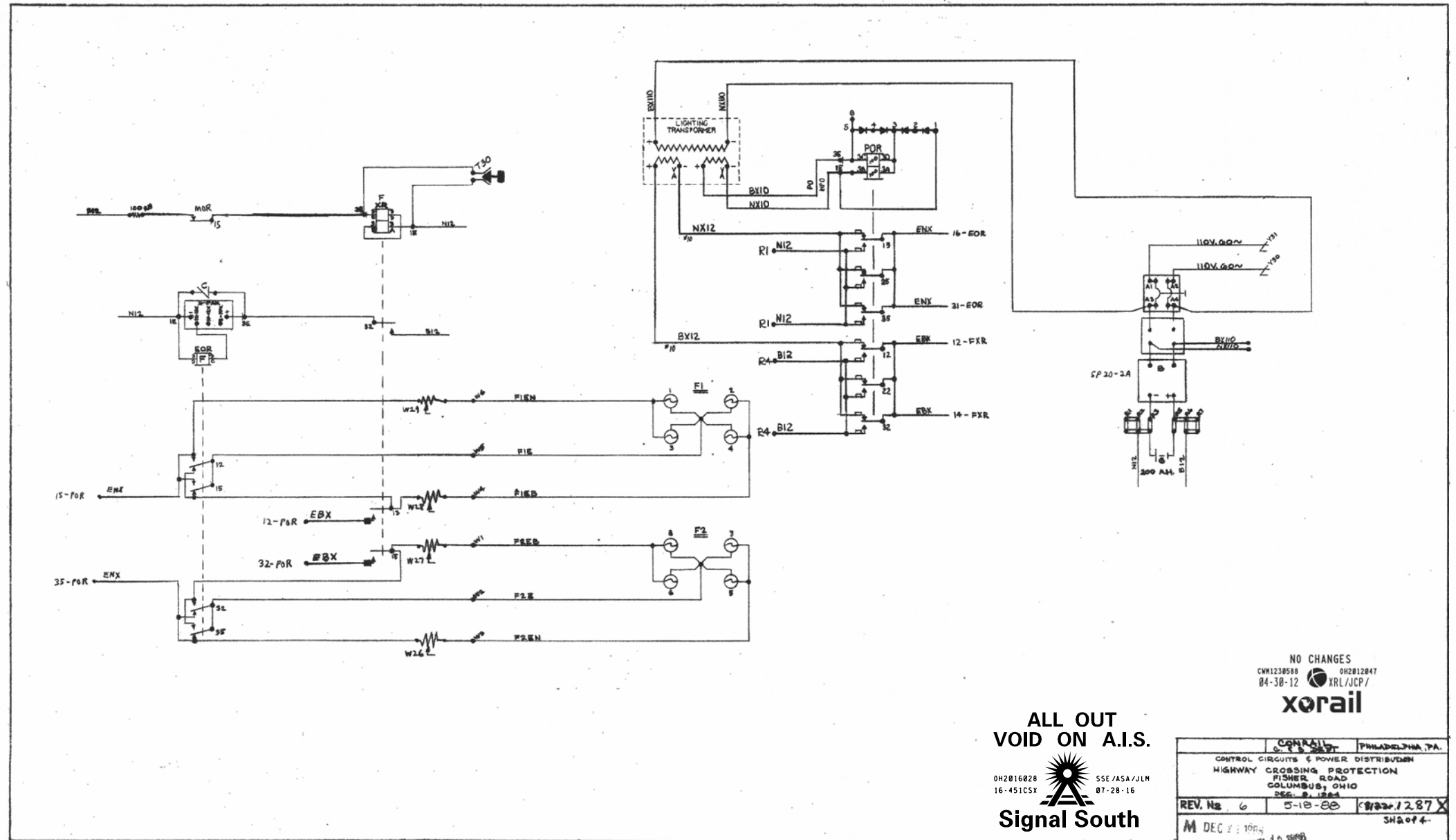
Signal South

REVISIONS				RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
9	04-07-14	VECTOR CREATED BY XRL	0H2014022	FISHER RD 513327R			
				CROSSING DETECTION CIRCUITRY COLUMBUS, OH M.P. 0T-128.72			
DESIGNED CSX	DIGITIZED XRL	CHECKED CSX	DATE 04-07-14				
DRAWING 8122-1287X	SHEET NO 3	NEXT SH 4	NEXT FILE 0T12872	NEXT SH C03	FILE 0T12872	SHEET C02	



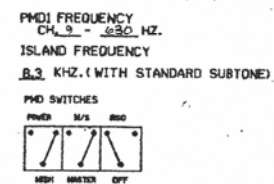
REVISIONS				<div><div><div>CSX</div><div>TRANSPORTATION</div></div><div>RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS</div></div>			
9	04-07-14	VECTOR CREATED BY XRL		0H2014022			
				FISHER RD 513327R			
				CASE DETAIL COLUMBUS, OH M.P. 0T-128.72			
				DESIGNED CSX	DIGITIZED XRL	CHECKED CSX	DATE 04-07-14
DRAWING 8122-1287X	SHEET NO 4	NEXT SH -----	NEXT FILE -----	NEXT SH -----	FILE 0T12872	SHEET C03	





RASTER FILE, 8122128702.CIT

MS FILE, 81221287.02



//// : SHOWN ELSEWHERE

**ALL ELSE OUT
VOID ON A.I.S.**

0H2016028
16-451CSX

SSE/ASA/JLM
07-28-16



Signal South

NO CHANGES
CWM1230588 0H2012047
04-30-12 XRL/JCP/
xorail

CONRAIL 

COLUMBUS, OH.

HIGHWAY CROSSING HARMON PMD-1 CIRCUITS
DUAL PHASE MOTION DETECTOR SYSTEM

PHILADA.

ISSUE DATE:

DECEMBER 9, 1964

8122-1287

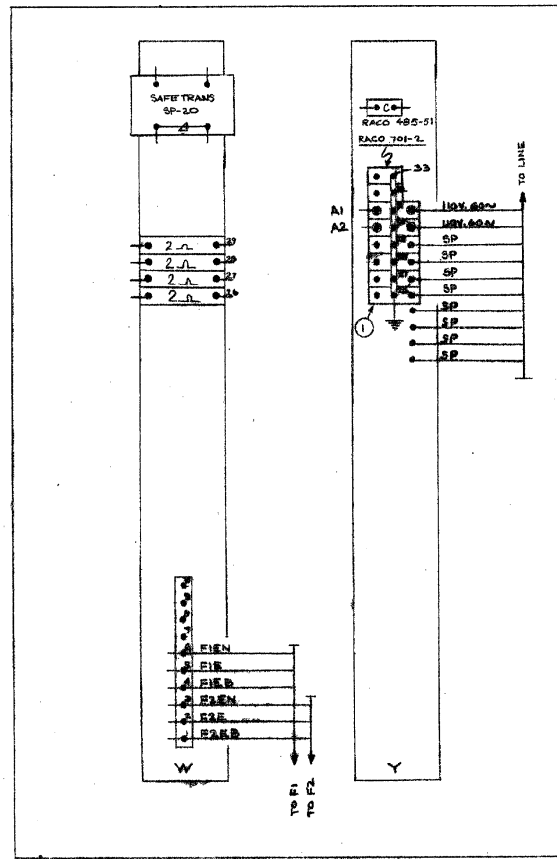
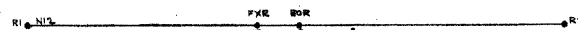
18	REV.	7
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05-16-1992

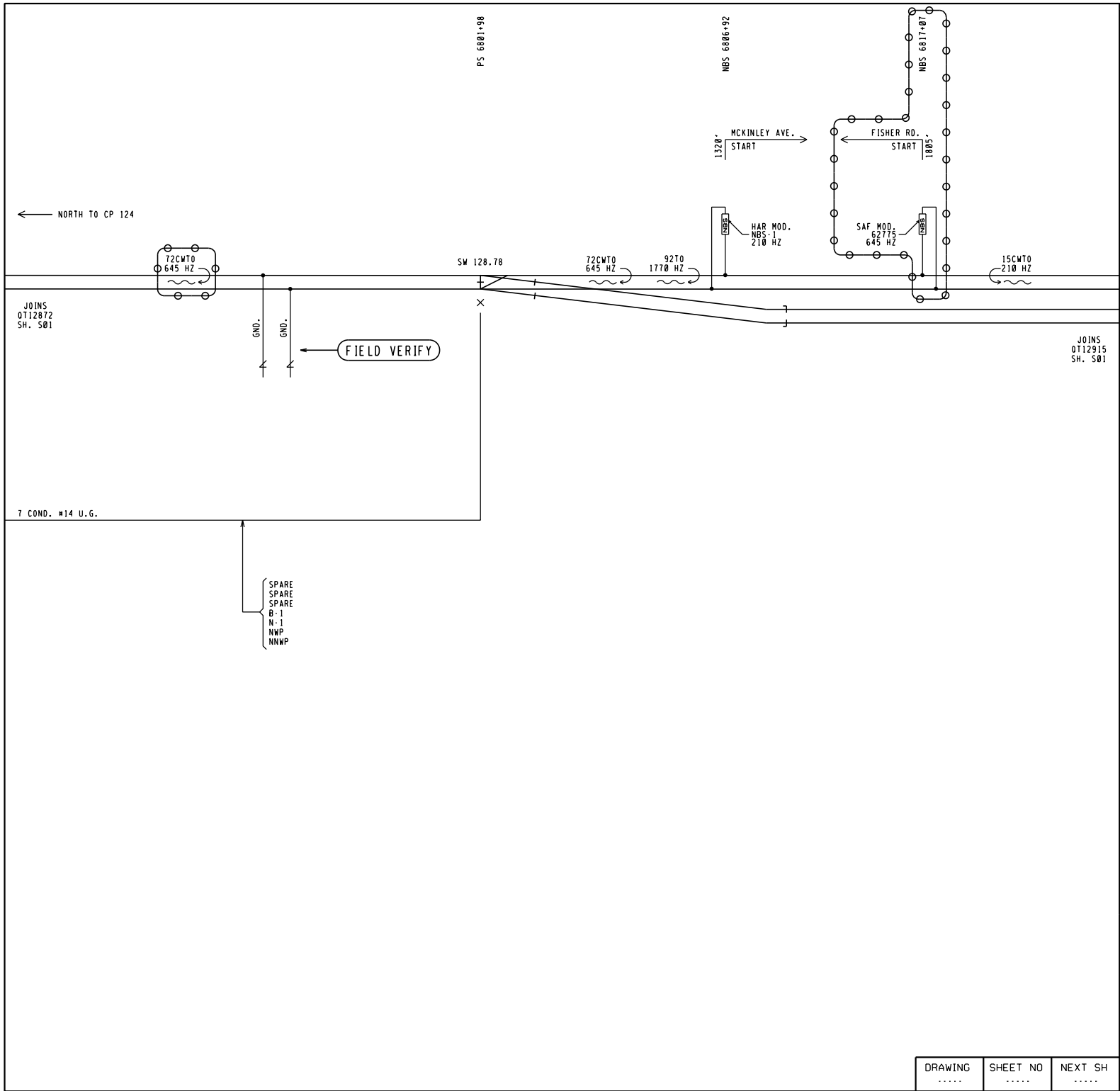
SHEET	3
-------	---

3

PMD1.DGN




OLD TIME
OCW 1289-XC-3



REVISIONS

NEW SHEET

0H2016028
16-451CSX



Signal South

OH2016028
16-451CSX

SSE/ASA/JLM
07-28-16

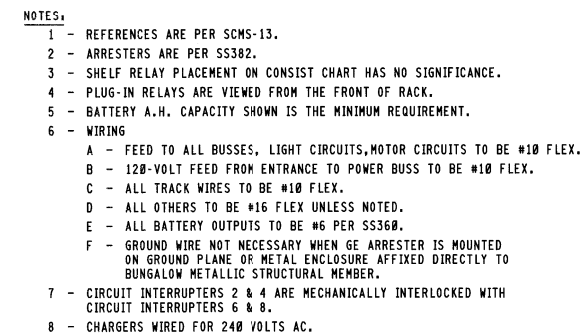
CSX TRANSPORTATION


RAIL TRANSPORT GROUP ENGINEERING
COMMUNICATIONS AND SIGNALS

SWITCH 128.78

TRACK AND SIGNAL PLAN
COLUMBUS, OH M.P. 0T-128.78

DESIGNED SSE	DIGITIZED SSE	CHECKED SSE	DATE 07-28-16
DRAWING	SHEET NO	NEXT SH	FILE 0T12878



 = IN
 = OUT

0H2016028
16-451CSX



SSE/ASA/JLM
07-28-16

Signal South

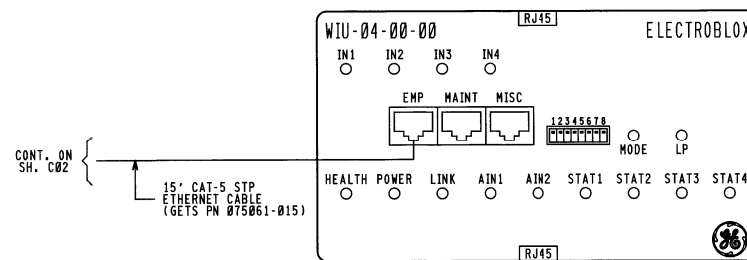
 = NOTE

NEW WORK

CWM1230588 0H2012047
04-30-12 XRL/JCP/Amg

xorail

REVISIONS		<div>CSX TRANSPORTATION</div> <div>RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS</div>			
		SWITCH 128.78			
		POWER DISTRIBUTION COLUMBUS, OH M.P. QT-128.78			
		DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 04-30-12
BLANK (17X22).SC REV. 07-31-04		NEXT FILE QT12878	NEXT SH E02	FILE QT12878	SHEET E01
DRAWING X8122-1287X	SHEET NO X5X	NEXT SH X6X			



THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04-30-12
CSX PROJECT # 0H2012047

⊖⊖⊖ = IN
⊗⊗⊗ = OUT

0H2016028
16-451CSX



SSE/ASA/JLM
07-28-16

Signal South

NOTE:

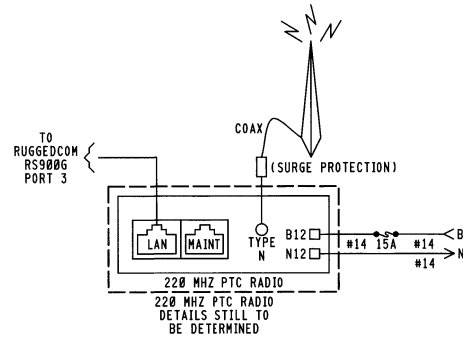
RJ45 = RJ45 LAN PORT ON TOP AND BOTTOM OF UNIT. THIS PORT IS USED TO CONNECT ETHERNET CABLE TO UNITS THAT ARE NOT STACKED TOGETHER. UNITS THAT ARE STACKED TOGETHER COMMUNICATE VIA THE ETHERNET BUS PORTS WHICH ARE SEPARATE FROM THIS PORT.

4'X4' RELAY HOUSE

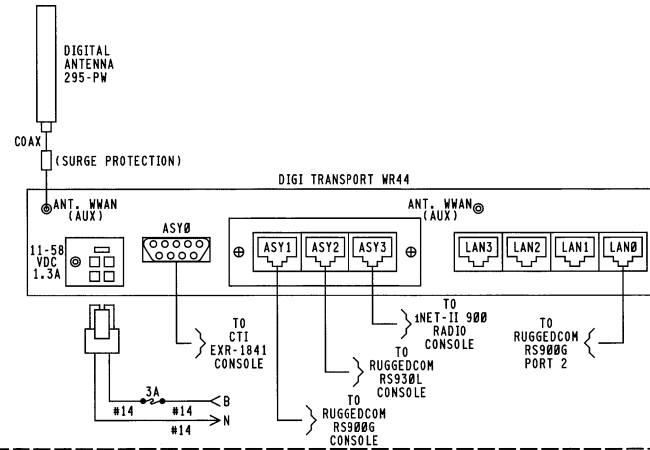
REVISIONS			CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
NEW WORK CWN1230508 0H2012047 04-30-12 XRL/JCP/PWB xorail BLANK(17X22).SC REV. 07-31-04			SWITCH 128.78 ELECTROBLOX MODULE CONFIGURATION COLUMBUS, OH M.P. QT-128.78			
			DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 04-30-12
DRAWING 8122-1287	SHEET NO 6	NEXT SH XT	NEXT FILE QT12878	NEXT SH E03	FILE QT12878	SHEET E02

FIELD TO IDENTIFY ON A.I.S. PLANS WHICH PRIMARY AND SECONDARY COMMUNICATION OPTIONS ARE INSTALLED

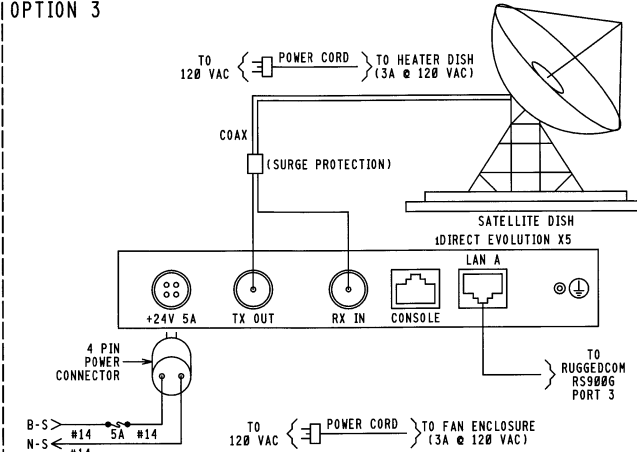
OPTION 1



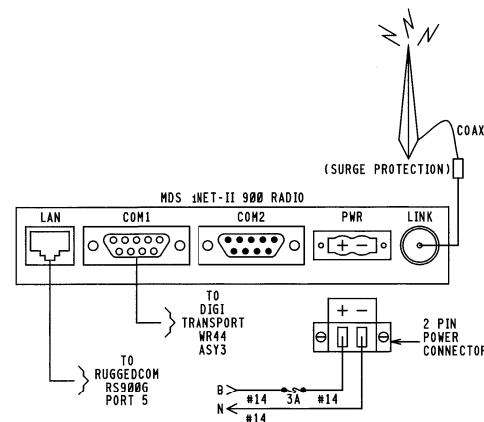
OPTION 2



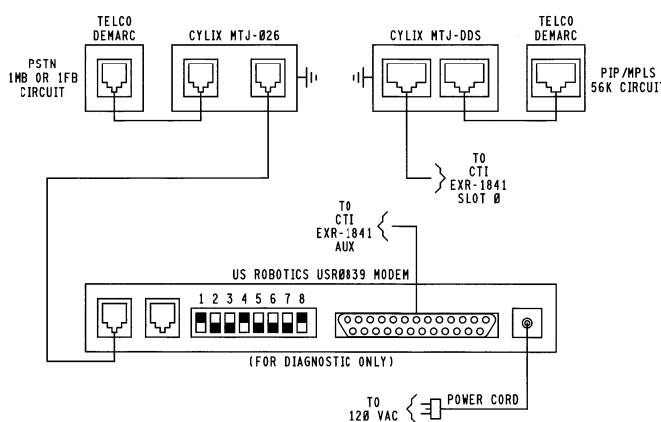
OPTION 3



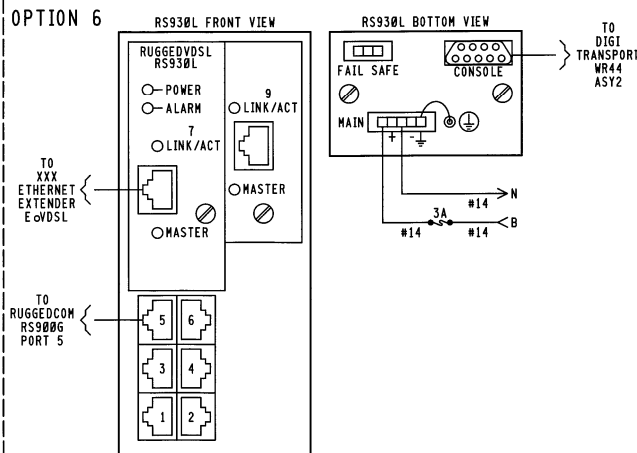
OPTION 4



OPTION 5



OPTION 6



ALL EQUIPMENT ON THIS SHEET TO BE ORDERED BY COMMUNICATIONS DEPARTMENT

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04-30-12
CSX PROJECT # 0H2012047

0H2016028
16-451CSX

SSE/ASA/JLM
07-28-16

Signal South

NEW WORK

CWM1230588
04-30-12

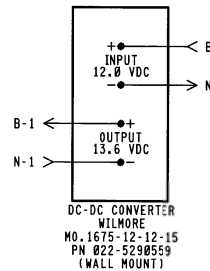
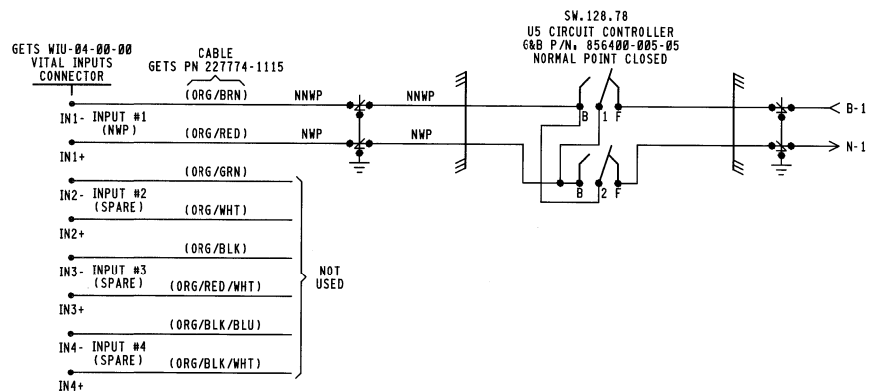
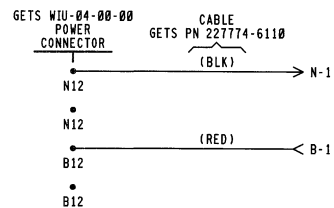
0H2012047
XRL/JCP/MS

xorail

4'X4' RELAY HOUSE

REVISIONS				RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
				SWITCH 128.78			
				PTC COMMUNICATION OPTIONS COLUMBUS, OH M.P. QT-128.78			
DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 04-30-12	NEXT FILE QT12878	NEXT SH C01	FILE QT12878	SHEET E03

NOTE:
ALL WIRED CONNECTIONS SHOWN ON THIS SHEET USE
CAT-5 STP ETHERNET CABLE UNLESS NOTED.



THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04-30-12
CSX PROJECT # 0H2012047

○ ○ ○ = IN
× × × = OUT



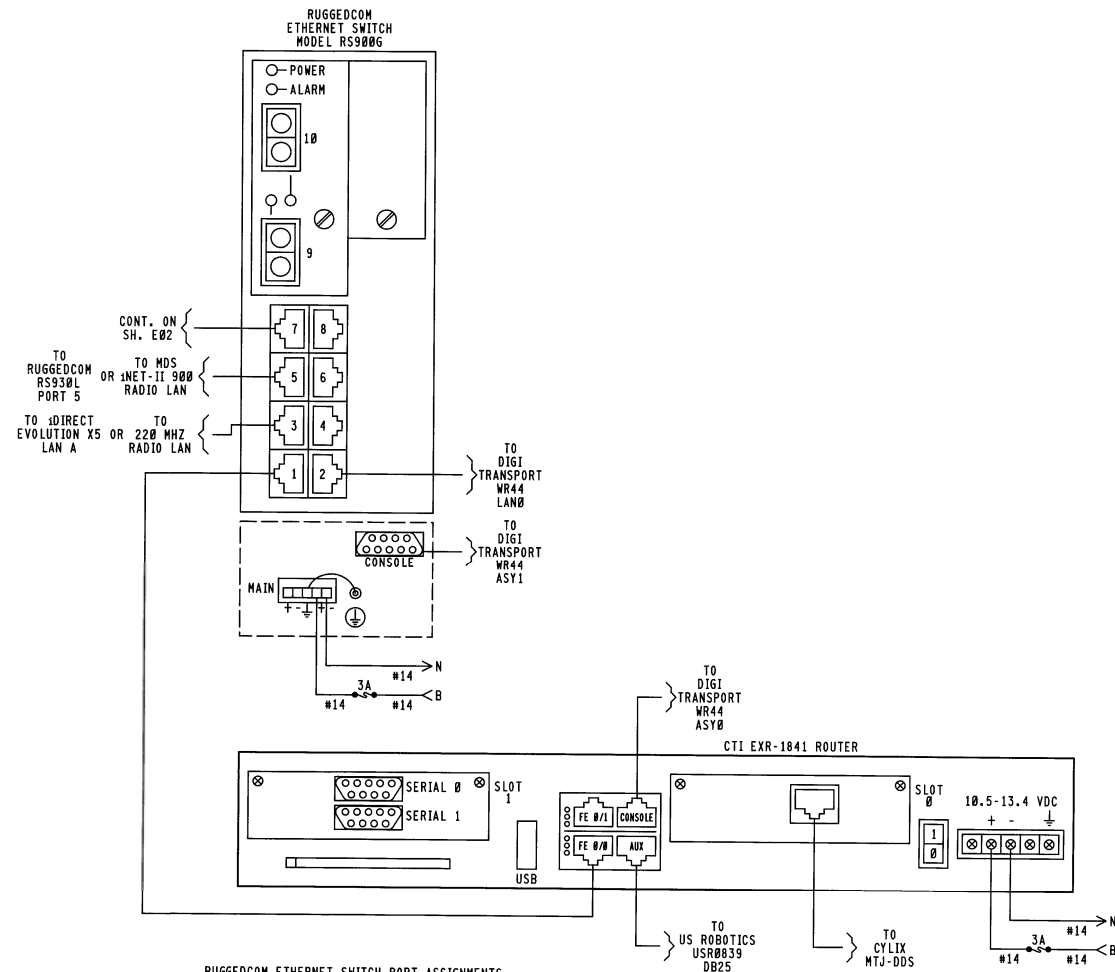
Signal South

NOTE:

1. ---- = INTERNAL CONNECTION
2. ALL WIRES THIS SHEET ARE #16 AWG UNLESS NOTED.

4'X4' RELAY HOUSE

REVISIONS				CSX TRANSPORTATION RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
NEW WORK CWM1230508 0H2012047 04-30-12 XRL/JCP/AMG				SWITCH 128.78			
ELECTROBLOX I/O CIRCUITS COLUMBUS, OH M.P. QT-128.78				DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 04-30-12
DRAWING X8122-1287	SHEET NO X8	NEXT SH X9	NEXT FILE QT12878	NEXT SH C02	FILE QT12878	SHEET C01	



- RUGGEDCOM ETHERNET SWITCH PORT ASSIGNMENTS**
- PORT #1 - CTI EXR-1841 ROUTER
 - PORT #2 - DIGI TRANSPORT WR44
 - PORT #3 - 220 MHZ RADIO / SATELLITE
 - PORT #4 - WAYSIDE COMMUNICATIONS MANAGER
 - PORT #5 - WAYSIDE INTERFACE UNIT #3 / ETHERNET EXTENDER
 - PORT #6 - WAYSIDE INTERFACE UNIT #2 / ETHERNET EXTENDER
 - PORT #7 - WAYSIDE INTERFACE UNIT #1
 - PORT #8 - WAYSIDE MESSAGE SERVER

ALL EQUIPMENT ON THIS SHEET TO BE ORDERED BY COMMUNICATIONS DEPARTMENT

THIS PLAN DOES ☐ DOES NOT ☒
SUPERSEDE PLAN DATED 04-30-12
CSX PROJECT # 0H2012047

○ ○ ○ ○ = IN
× × × × = OUT

0H2016028 SSE/ASA/JLM
16-451CSX 07-28-16



Signal South

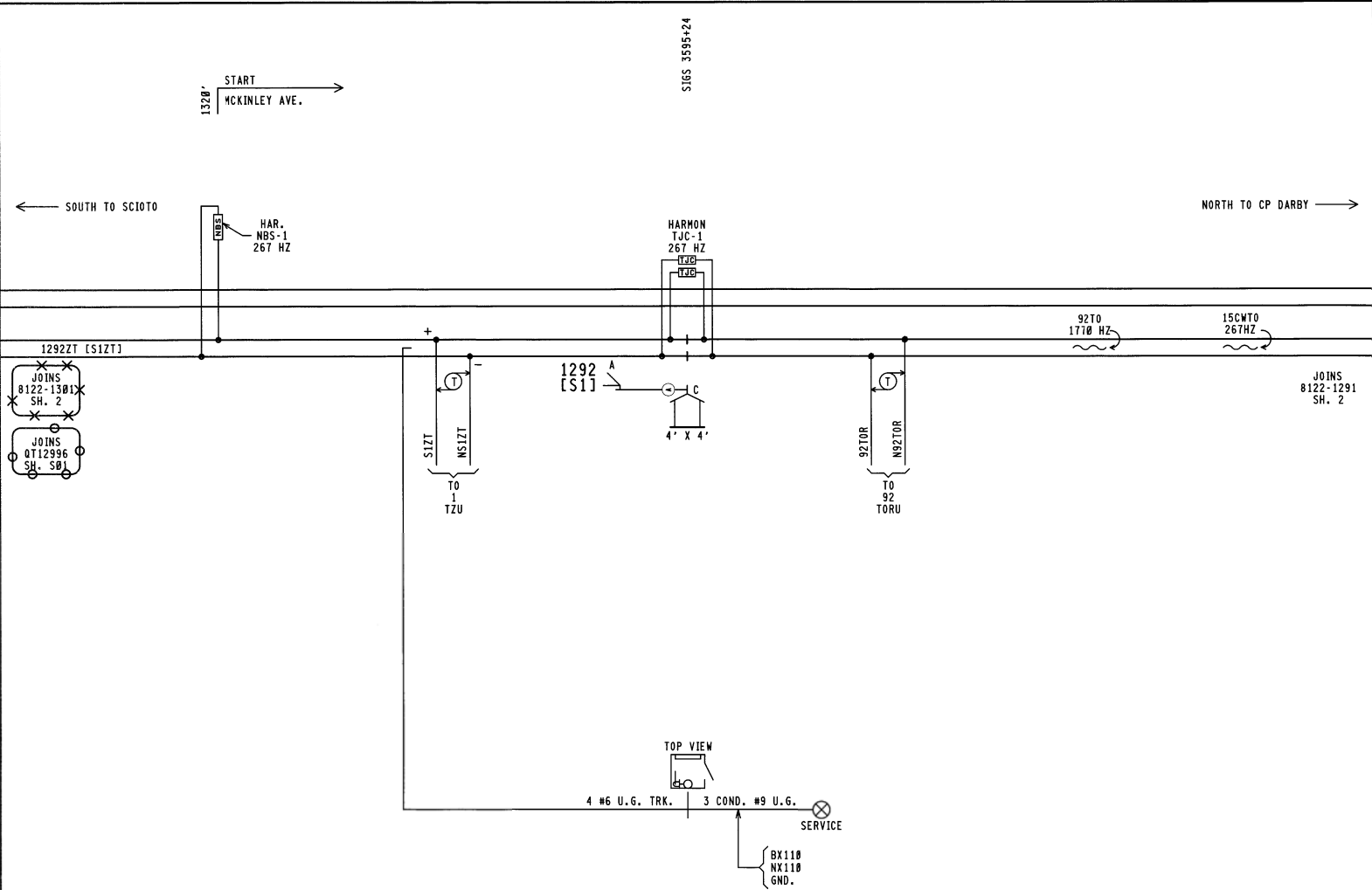
NOTE:

ALL WIRED CONNECTIONS SHOWN ON THIS SHEET USE CAT-5e STP ETHERNET CABLE UNLESS NOTED.

4'X4' RELAY HOUSE

NEW WORK
CWM1230588 0H2012047
04-30-12 XRL/JCP/AmB
xorail

REVISIONS				RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS			
				SWITCH 128.78			
				PTC COMMUNICATION CIRCUITS COLUMBUS, OH M.P. QT-128.78			
				DESIGNED XRL	DIGITIZED XRL	CHECKED XRL	DATE 04-30-12
DRAWING 8122-1287	SHEET NO 9	NEXT SH ---	NEXT FILE ---	NEXT SH ---	FILE QT12878	SHEET C02	



- NOTES:
1. [] = TAGGING PURPOSES ONLY
 2. (X) = LOCATION OF HOUSE

REVISIONS							
10-08-02 SWE				0H1999136, 0H1999136A			

NO CHANGES

0H2016028 16-451CSX SSE/ASA 07-28-16

Signal South

0H2012047 04-30-12 XRL/JCP

xorail

RAIL TRANSPORT GROUP ENGINEERING COMMUNICATIONS AND SIGNALS

CP DARBY TO SCIOTO

TRACK AND SIGNAL PLAN AT 1292 SIGNAL LOCATION, MP. QT-129.24

DESIGNED SWE	DIGITIZED SWE	CHECKED SWE	DATE
			05-16-00

DRAWING	SHEET NO	NEXT SH	NEXT FILE	NEXT SH	FILE	SHEET
8122-1292	2	3	0T12924	E01	0T12924	S01

CSX TRANSPORTATION, INC.
FORCE ACCOUNT ESTIMATE

Page 1

ACCT. CODE : 709 - OH1120

ESTIMATE SUBJECT TO REVISION AFTER: 2/18/2017 DOT NO.: 513327R
CITY: Columbus COUNTY: Franklin STATE: OH
DESCRIPTION: Fisher Rd. - Install Flashing Light Signals and Gates, with CWT and bells.

DIVISION: Great Lakes SUB-DIV: Scottslawn MILE POST: QT - 128.72
AGENCY PROJECT NUMBER: PID 101870

PRELIMINARY ENGINEERING:

212 Contracted & Administrative Engineering Services	\$ 4,000
Subtotal	\$ 4,000

CONSTRUCTION ENGINEERING/INSPECTION:

212 Contracted & Administrative Engineering Services	\$ 1,500
Subtotal	\$ 1,500

FLAGGING SERVICE: (Contract Labor)

070 Labor (Conductor-Flagman)	\$ -
050 Labor (Foreman/Inspector)	\$ -
070 Additive 117.39% (Transportation Department)	\$ -
050 Additive 118.86% (Engineering Department)	\$ -
230 Per Diem (Engineering Department)	\$ -
230 Expenses	\$ -
Subtotal	\$ -

SIGNAL & COMMUNICATIONS WORK: (Details Attached)	\$ 232,704
---	------------

TRACK WORK: (Details Attached)	\$ -
---------------------------------------	------

PROJECT SUBTOTAL	\$ 238,204
-------------------------	------------

900 CONTINGENCIES:	\$ -
GRAND TOTAL *****	\$ 238,204

DIVISION OF COST:

Agency	100.00%	\$ 238,204
Railroad		\$ -
TOTAL *****		\$ 238,204

NOTE: Estimate is based on FULL CROSSING CLOSURE during work by Railroad Forces.

This estimate has been prepared based on site conditions, anticipated work duration periods, material prices, labor rates, manpower and resource availability, and other factors known as of the date prepared. The actual cost for CSXT work may differ based upon the agency's requirements, their contractor's work procedures, and/or other conditions that become apparent once construction commences or during the progress of the work

Office of Assistant Chief Engineer Public Projects--Jacksonville, Florida

Estimated prepared by: BSE

Approved by: AJD

CSXT Public Project Group

DATE: 8/22/2016 REVISED:

DATE: 8/24/2016

Estimate No. 128363
CSX Transportation

Fisher Rd. - Install FLS&G. Grade crossing warning device improvements for Fisher Road

Columbus, OH

DOT: 513327R

OP: OH1120

CSX Project: OH2016028

Summary

Material	\$ 59,557
Sales Tax	\$ 0
Labor:	
Construction Labor (126 man-days).....	\$ 47,880
Shop Labor (7 man-days).....	\$ 2,660
Subsistence (126 man-days).....	\$ 18,900
Railroad Engineering, Preliminary	\$ 4,685
Railroad Engineering, Construction	\$ 7,182
Additives to Construction Labor	\$ 56,910
Additives to Shop Labor	\$ 3,162
Additives to Track Labor	\$ 0
Additives to Engineering	\$ 0
Equipment Expenses (0 work days).....	\$ 0
Waste Management (25 work days).....	\$ 300
Contract Engineering	\$ 16,195
Freight	\$ 4,773
Poleline Removal	\$ 0
AC Power Service	\$ 2,500
Salvage	\$ 0
VAC TRUCK	\$ 8,000
<hr/>	
TOTAL ESTIMATE COST	\$ 232,705

Date: 08/22/2016

Estimated By: Scott Elliott

NOTE: This estimate should be considered void one year from date of estimate.

Shop Material List for CSX Project: OH2016028 (Effective: 08/22/2016)
FISHER RD ST MP QT-128.72 INSTALL GCP-4000 6X6 AND FLGS
COLUMBUS, OH - QT 128.72

Catalog Num	Cond	Unit Price	Qty	Cost	Description
020-0017120	1	11.52	6	69.12	BLOCK TERMINAL 12 POST SINGLE STRIP AAR 14.1.6 WITH 1 AAR
020-0017125	1	3.26	6	19.56	BLOCK TERMINAL 2 POST AAR 14.1.8 WITH 1 AAR 14.1.11
020-0018234	1	78.12	1	78.12	CABLE CONVERTER PROTOCOL/MEDIA WAYSIDE ACCESS
020-0021965	1	8.96	1	8.96	EXTRACTOR DWG 59688-4 TERMINAL GRS CAT P3-308 REF
020-0022651	1	106.70	1	106.70	PLUGBOARD KIT TYPE B1 OR ST1 RELAY ASSEMBLY WITH 12 EACH
020-0025595	1	20.72	1	20.72	WRENCH DWG 55393-3 GR1 "E" TERMINAL POST NUT GRS CAT
020-0053360	1	345.00	3	1035.00	CHARGER BATTERY ELC 12/20 D 20 AMP 10-19.9 VDC ROTARY SW
020-0055602	1	11.39	2	22.78	RELAY POTTER BRUMFIELD KHAU17D12-12V 160 OHMS
020-0056514	1	6.05	2	12.10	SOCKET RELAY POTTER & BRUMFIELD 27E894 NEWARK
020-0064060	1	16.12	1	16.12	PLATE RELAY MOUNTING FOR 2 EACH TYPE KHAU OR OCTAL RELAY
020-0167501	1	38.51	24	924.24	ARRESTER HYBRID LOW VOLTAGE, 2, 0-30V DC OR 0-24V
020-0660077	1	603.13	1	603.13	ARRESTER GE 9L10KAC213 FOR 240 VOLT SINGLE PHASE 3 WIRE
020-0750090	1	0.11	3	0.33	NUT INSULATED USE ON AAR BINDING POST TERMINAL FOR
020-0770060	1	14.31	8	114.48	ARRESTER US&S N451552-0201 TRACK SERIES RED LABEL USGA
020-0770105	1	22.40	2	44.80	ARRESTER HARMON 202217-000 AGE-1 TRACK AIR GAP EQUALIZER
020-1000354	1	5954.25	1	5954.25	HOUSE SIGNAL 6FT X 6FT WITH PTC UPGRADE PTMW P/N 91000354
020-1940055	1	20.24	1	20.24	CONTAINER TUBE HOLDER CIRCUIT PRINT PLAN 24" SCHD 20 4" PVC
020-2503073	1	1091.71	1	1091.71	MODULE SAFETRAN VHF COMMUNICATOR (A80276-3) USED
020-2503079	1	492.48	2	984.96	MODULE SAFETRAN GROUND FAULT DETECTOR (A80297-2) USED WITH
020-2503081	1	69.04	1	69.04	MODULE SAFETRAN ECHELON TERMINATION UNIT (A80078) USE
020-2503090	1	1081.54	1	1081.54	CONVERTER PROTOCOL/MEDIA WAYSIDE ACCESS GATEWAY (WAG)
020-2503200	1	909.80	1	909.80	KIT SAFETRAN GCP-4000 ILOD PKG. FOR USE WITH SEAR-III
020-2503210	1	10561.49	1	10561.49	PREDICTOR SAFETRAN GCP-4000 2-TRK DUAL CASE W/RECORDER
020-3430130	1	409.74	1	409.74	RELAY SAFETRAN 400023 500 OHMS CONTACTS 6FB HEAVY DUTY
020-3652615	1	61.32	1	61.32	RESISTOR ADJUSTABLE 0.340 TO 3.00 OHMS 2.24A 15W SAFETRAN

Shop Material List for CSX Project: OH2016028 (Effective: 08/22/2016)
FISHER RD ST MP QT-128.72 INSTALL GCP-4000 6X6 AND FLSG
COLUMBUS, OH - QT 128.72

Catalog Num	Cond	Unit Price	Qty	Cost	Description
020-4168917	1	0.50	2	1.00	RESISTOR, FIXED .5W, 20W OHM (REPLACEMENT FOR INVENSYS PN
020-4200340	1	1.74	8	13.92	LINK TEST ASSEMBLY 1" CENTERS YELLOW INSULATOR ON OFFSET
020-4200350	1	2.06	9	18.54	LINK TEST ASSEMBLY 2-3/8" CENTERS YELLOW INSULATOR ON
020-4201045	1	0.15	400	60.00	NUT HEX CLAMP (FLAT NUT) AAR 14.1.11-7 14-24 NS-2 THD FLAT
020-8000067	1	14.88	2	29.76	LOCK AMERICAN H10SIGRA CSX SIGNAL PADLOCK WITH BLACK
022-8005160	1	523.80	1	523.80	KIT CDMA AND VHF RADIO MATERIAL FOR USE WITH CSX
028-1120501	1	314.80	3	944.40	DEVICE, VOLTAGE MONITOR, EXTENDED TEMPERATURE RANGE OF
Total Cost: \$				25,811.67	

Field Material List for CSX Project: OH2016028 (Effective: 08/22/2016)
FISHER RD ST MP QT-128.72 INSTALL GCP-4000 6X6 AND FLGS
COLUMBUS, OH - QT 128.72

Catalog Num	Cond	Unit Price	Qty	Cost	Description
014-8006169	1	10.35	2	20.70	SIGN PERMANENT EMERGENCY NOTIFICATION (VEHICLE
020-0010447	1	9.83	2	19.66	BOX GROUND ROD CONNECTION ENCLOSURE COMPLETE WITH 7"
020-0013475	1	2.21	16	35.36	CONNECTOR TRACK "CHICKEN HEAD" WITH 3/16" BOND STRAND
020-0013686	1	75.94	2	151.88	BOOTLEG KIT CSX RAIL CONN W/15 FT 3/16 IN BDSTRAND 6/64
020-0013908	1	6.36	400	2544.00	CABLE UG COMPOSITE 19 CONDUCTOR INCLUDES 13
020-0025145	1	395.51	2	791.02	SHUNT ENCLOSURE WAYSIDE MOUNT ASSEMBLY COMPLETE WITH LOCK
020-0053220	1	2.48	150	372.00	CABLE POWER UG 3 COND NO 6 AWG - SHOW LENGTH ON EACH
020-0053861	1	20.05	2	40.10	INSULATION 0500 SWIVEL FRONT ROD CSX DWG SS050 FOR FRONT
020-0053862	1	40.04	2	80.08	INSULATION 0501 SWITCH ROD CSX DWG SS050 FOR 1-1/4" X
020-0053865	1	32.48	2	64.96	INSULATION 05010 8" GAGE PLATE 3 HOLE CSX DWG SS050
020-0054075	1	963.20	2	1926.40	GATE SAVER COMPLETE WITH SHEAR PIN AND RETURN SPRING
020-0055421	1	23.96	6	143.76	BRACKET SIGN 4" OR 5" MAST W/1/2" U-BOLT FOR ALL SIGNS
020-0056678	1	6374.43	2	12748.86	SIGNAL 0221-L GCWD GATE ASSY DWG SS222 INCLS ADJ 19 TO 28
020-0056823	1	17.77	1	17.77	TAPE UG RED CABLE MARKER IMPRINT TO READ "CAUTION
020-0057275	1	1.07	400	428.00	WIRE UG TRACK TWISTED PAIR NO. 6 AWG SOLID CONDUCTOR
020-1040322	1	127.92	20	2558.40	BATTERY SAFT SPL165, 165 AH POCKET PLATE NICKEL CADMIUM
020-1040324	1	186.48	9	1678.32	BATTERY SAFT SPL250, 250 AH POCKET PLATE NICKEL CADMIUM
020-1040540	1	31.36	1	31.36	TRAY BATTERY FIBER CO 82687-1-P 12" WIDTH 24" LONG
020-1040550	1	45.92	3	137.76	TRAY BATTERY FIBER CO 82687-3-P 12" WIDTH 38"
020-1150750	1	1.00	200	200.00	BOND STRAND 3/16" DIA 7 STRANDS OF 19 STR EACH 6 WITH
020-1304014	1	6.14	20	122.80	KIT BOND, CADWELD PLUS WEB OF RAIL BOND 3/16 DIA. 4" LARGE
020-1360014	1	933.66	1	933.66	PACKAGE FOREMANS CARE FOR ALUMINUM TYPICAL BOM FOR USE
020-1360016	1	22.57	1	22.57	PACKAGE SAFETY FOR BURCO CONTAINERS COMPLETE WITH ONE
020-2500645	1	251.82	2	503.64	SHUNT SAFETRAN 62775-645 NARROW BAND 645HZ
020-3901895	1	100.52	2	201.04	TIP FLEX HWY CROSSING GATE 24 IN LONG ENGINEERING GRADE RED

Field Material List for CSX Project: OH2016028 (Effective: 08/22/2016)
FISHER RD ST MP QT-128.72 INSTALL GCP-4000 6X6 AND FLGS
COLUMBUS, OH - QT 128.72

Catalog Num	Cond	Unit Price	Qty	Cost	Description
020-3920200	1	178.76	2	357.52	BELL GCWD ELECTRONIC 4" OR 5" MAST 8 TO 13 VOLTS DC GSI PN
020-3930010	1	3.70	2	7.40	KIT GATE ARM WARNING STICKER KIT INCLUDES 1-EA 5"X3"
020-4200340	1	1.74	25	43.50	LINK TEST ASSEMBLY 1" CENTERS YELLOW INSULATOR ON OFFSET
020-4200900	1	0.17	6	1.02	CONNECTOR SHEATHING AMP 329860 FOR NO. 14 WIRE
020-4201042	1	0.13	20	2.60	NUT HEX BINDING (RSA NUT) AAR 14.1.11-6 14-24 NS-2 THD CONE
020-4201043	1	0.09	150	13.50	NUT HEX CLAMP (FLAT NUT) AAR 14.1.11-7 14-24 NS-2 THD FLAT
020-4201044	1	0.08	100	8.00	WASHER AAR 14.1.11 ROUND COPPER NICKEL PLATED FOR AAR
020-7300030	1	189.28	2	378.56	BRACKET BELL FITS SAFETRAN JUNCTION BOX MOUNT, 5" BENT
020-9999991	1	100.00	1	100.00	BLOCKING AND BRACING FOR PROJECTS BURCO DIST
250-0001836	1	15.21	1	15.21	BREAKER CIRCUIT SQ D QO260
250-0012228	1	3.70	3	11.10	TAPE BLACK ELECTRIC 3/4" X 66' 3M "SUPER 33 PLUS"
360-0006100	1	35.07	1	35.07	STOOL STEP WOOD 14"X 20" SIGNAL MAINTAINERS CSXT
360-0800145	1	7.54	1	7.54	BROOM WAREHOUSE CORN HVY DUTY 1-1/8" DIA HANDLE
470-0060313	1	29.97	1	29.97	FOAM SEALANT CF812 FOR HILTI CP120-P2 DISPENSER SINGLE 23
Total Cost: \$				26,785.09	

Consumables List for CSX Project: OH2016028 (Effective: 08/22/2016)
FISHER RD ST MP QT-128.72 INSTALL GCP-4000 6X6 AND FLGS
COLUMBUS, OH - QT 128.72

Catalog Num	Cond	Unit Price	Qty	Cost Description
N/A		50.00	25	1250.00 FILL MATERIAL, 1 CUBIC YARD
N/A		500.00	1	500.00 RAVEN AIR-LINK
N/A		800.00	1	800.00 WALKWAY ROCK, 10 CUBIC YARDS
020-0017605	1	0.28	350	98.00 WIRE CASE 10 AWG FLEX CSX SPEC SS796 OKONITE P/N
020-0017607	1	0.70	500	350.00 WIRE CASE TW PR NO 10 AWG FLEX CSX SPEC SS796 TWIST 2
020-0017625	1	0.44	150	66.00 WIRE CASE TWISTED PAIR AWG #14 FLEX TWIST 2 TURNS PER FT
020-0017630	1	0.13	200	26.00 WIRE CASE NO 16 AWG FLEX CSX SPEC SS796 FURN 1000 FT SPOOL
020-0017636	1	0.77	130	100.10 WIRE SIGNAL AWG 6 STRANDED COPPER, T&C BLUE, FOR BATTERY
020-0028610	1	0.23	100	23.00 TERMINAL RING PANDUIT PN12-14HDR-D YELLOW NYLON HVY
020-0053510	1	208.13	1	208.13 KIT 240V AC EMERGENCY GENERATOR CABLE AND
020-1360540	1	71.65	1	71.65 BREAKER MAIN/GENERATOR BACKFEED RETAINING GENERATOR
020-1710045	1	2.42	700	1694.00 CONDUIT SDR 13.5 4" ORANGE POLYETHYLENE TRENCHLESS
020-2060072	1	442.00	2	884.00 FOUNDATION HELICAL SCREW-IN ASSEMBLY 7' X 10", USED FOR
020-2060074	1	366.00	2	732.00 EXTENSION 10" X 3' USE WITH XING GATE AND SIGNAL MAST
020-3261970	1	9.41	2	18.82 DECAL (DO NOT ORDER, CALL SIGNAL SHOP) ASSY 2" BLACK
020-4200880	1	0.53	2	1.06 CONNECTOR TERMINAL 2-3/8" CENTERS AAR 14.1.15-4 NICKEL
020-4200892	1	0.44	27	11.88 CONNECTOR TERMINAL 1" CENTERS AAR 14.1.15-3 NICKEL PLATED
020-4251190	1	0.14	120	16.80 TERMINAL RING PANDUIT PV10-14RD YELLOW VINYL SIZE
020-4251290	1	0.53	30	15.90 TERMINAL RING PANDUIT PV6-14R-T BLUE VINYL SIZE 6
020-4251295	1	0.53	6	3.18 TERMINAL RING PANDUIT PV6-38R-T BLUE VINYL SIZE 6
020-9999992	1	50.00	1	50.00 HOUSE SIGNAL HANDLING CHARGE BURCO DISTRIBUTION
450-0019212	1	0.40	100	40.00 SCREW 10 X 1" SHT METAL PAN HD TYPE A COARSE THREAD
Total Cost: \$				6,960.52



OHIO RAIL DEVELOPMENT COMMISSION

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

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

June 6, 2016

Ms. Amanda DeCesare
Project Manager
500 Meijer Drive, Suite 305
Florence, KY 41042

RE: Franklin County, Fisher Road
DOT 513327R, PID 101870

Dear Ms. DeCesare:

A diagnostic review was held at the above grade crossing on October 1, 2015. The crossing has been recommended for the installation of lights and gates.

CST NS is authorized to proceed with the site plans and cost estimates (PE) for this project. This authorization is made with the stipulation and understanding that any field work needs prior approval before work begins. This authorization is made with the stipulation and understanding that an approved estimate may contain entries for items or activities that may be cited and found to be ineligible for federal participation during the project audit.

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

The diagnostic review form is attached. Please note any recommendations (page 5), if any, made by the team with regard to requirements for this location. Any minor roadway work necessary for MUTCD compliance should be incorporated into the PE and such costs will flow through the railroad reimbursement process.

The Project Manager for this project is Joe Reinhardt. He can be reached at (614) 644.0291, or Joe.Reinhardt@dot.state.oh.us, if you have any questions.

Sincerely,

Joseph N. Reinhardt
Project Manager

C: George Martin, PUCO, Grade Crossing Planner
ORDC (file)



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY



Diagnostic Review Team Survey

Reason for Survey:

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

Formula

Date:

10-1-15

Location Data

Street or Road Name: Fisher Road			
Route/Road Number (i.e. Twp., Co., SR or US)		US DOT No.: 513327R	
County: FRA	Township:	City: (In or Near) City of Columbus	
Railroad Name: CSX Transportation	Railroad Division: Great Lakes	Branch/Line Name:	
Nearest RR Timeable Station: Columbus		RR Milepost: 128.72	

On-Site Review Team

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

1. Joe Rehder ORDC 614-644-0291
2. GEORGE MARTIN PUCB 614-752-9107
3. Phil Phillips CSX
4. Lou JANNAZO ORDC 614 644 0309
5. Tim Brown ORDC 614 728 5426
6. Reynaldo Stargell City of Columbus 614-724-4697
- 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	2
'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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
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 checked="" type="checkbox"/> Yes	<input 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Other	<input type="checkbox"/> Yes	<input checked="" 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	1 (7/15/2011)	
Hazard Ranking	295 Date Run: 8/18/15	256 10/15/15

Railroad Data

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	5	
< 1 per day		
Day thru trains	2	
Night thru trains	1	
Daytime switching movements	2	
Nighttime switching movements		
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks		
Maximum train speed	30	
Typical train speed	30	
Amtrak		

If non-gated crossing, is clearing sight distance adequate in all quadrants? (See Table 1) ☒ Yes ☐ No

If multiple tracks, can two trains occupy crossing at the same time? ☐ Yes ☒ No

Can one train block the motorists' view of another train at crossing? ☐ Yes (Explain below) ☒ No

Can one or more tracks be eliminated through the crossing? ☐ Yes ☒ No

Are 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:	City of Columbus	
Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	3590 (2014)	5,000
Highway paved	<input checked="" type="checkbox"/> 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: 24 ft.		
Number of highway lanes	2	
Urban or Rural	Urban	
Vehicle Speed: 45 MPH		
School Bus Operation: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes 3 Amount		
Hazardous Materials Trucks: <input type="checkbox"/> No <input type="checkbox"/> Yes 4% Amount		
Shoulders: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		
Is the shoulder surfaced? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If no, deficient approach(es) _____	

Quadrant <u>SW</u> Curb and Gutter: <input checked="" type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None	Quadrant <u>NE</u> Curb and Gutter: <input checked="" type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input checked="" type="checkbox"/> None
Pedestrians: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is sidewalk present? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, Distance <u>over 200</u> Is this intersection signalized? <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes Are the signals currently interconnected with the existing crossing warning devices? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Is there a 'Do not Stop on Track' sign? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, Improvement type _____ Lead Agency _____ Timeline/completion - _____	
Is it the consensus of the Diagnostic Review Team that this is a potential closure project? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Explain reasons: _____	
Type of Development	
<input checked="" type="checkbox"/> Open Space <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Residential	<input type="checkbox"/> Institutional <input type="checkbox"/> Commercial Location of nearby schools: _____
Utility Information	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Utility Provider (Company Name) <u>AEP</u> Phone Number _____ Nearest Available Power Source _____	
What other utilities are present? (add locations to sketch) <input checked="" 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 checked="" type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Other _____	
Is(are) there potential utility conflict(s) <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Unknown	
Comments: _____	

Potential Red Flags / Project Challenges

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

Crossing Consolidation or Closure:

Real Estate or ROW:

Culverts / Drainage / Ballast Conditions:

Roadway and/or Sidewalks:

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

Environmental:

Other:

OK
JMK
11-1-15

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:

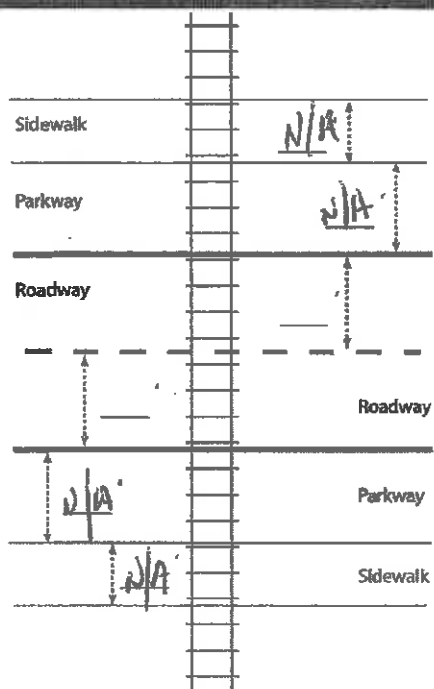
- ☐ Install/upgrade traffic signal preemption
- ☐ No improvements needed
- ☐ Other (define)

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

[Signature]
RAS

[Signature]
R.G.P.

Field Dimensions



Show North Direction

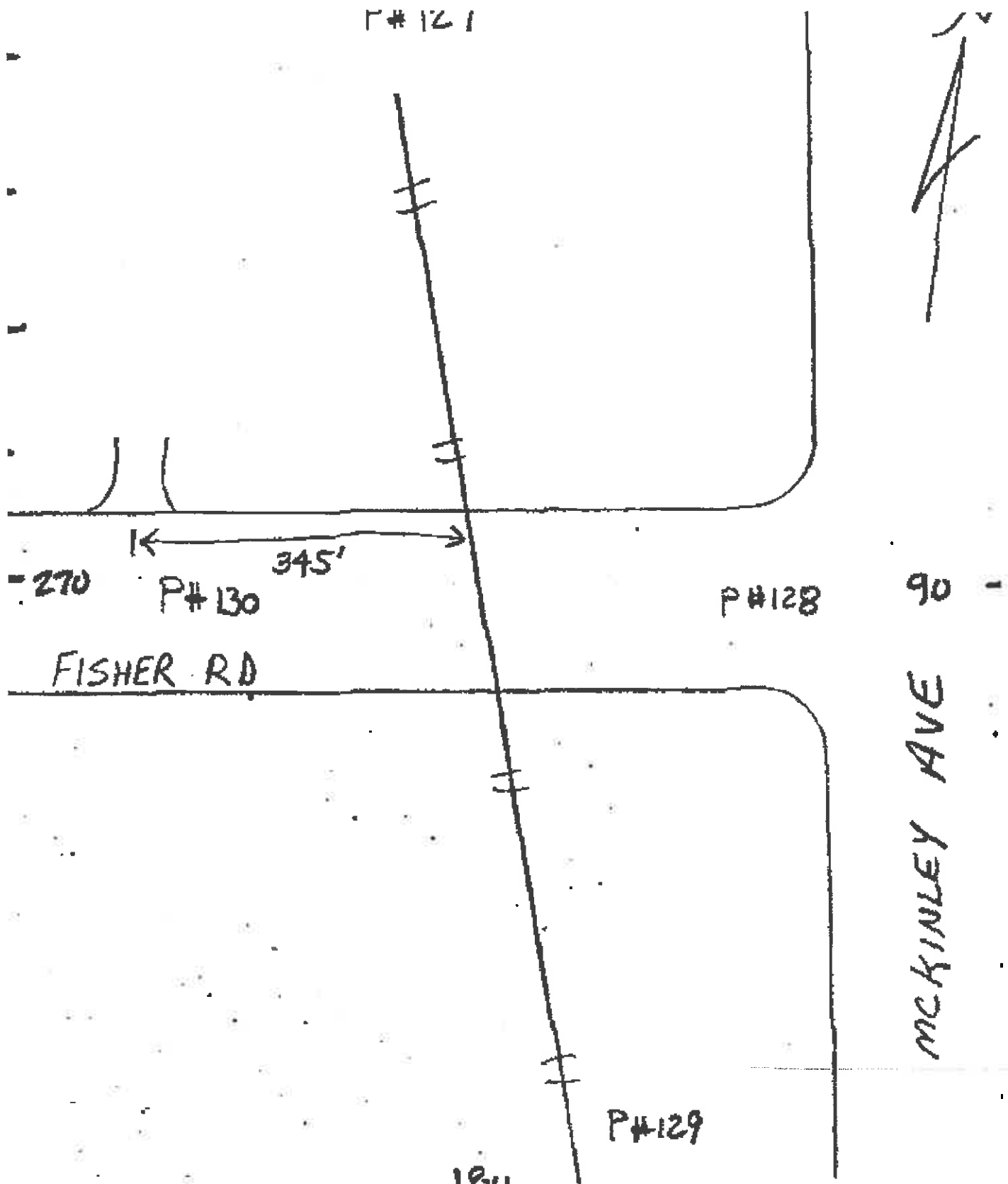


TABLE 1

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.

John
11-1-15

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/10/2016 4:21:13 PM

in

Case No(s). 16-2146-RR-FED

Summary: Application In the Matter of a Request for the Installation of Active Warning Devices at the CSX Crossing Fisher Road DOT#513-327R Franklin County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division