

Memo

To: Docketing Division
From: Jill Henry, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: 7/20/18

Re: PUCO Case No. 18-1167-RR-FED- In the Matter of a Request for an Upgrade at the Norfolk Southern Railway Crossing, E. 26th Street DOT#524-190E, in Cuyahoga County, Ohio.

On February 22, 2018, the Ohio Rail Development Commission (ORDC) authorized funding for Norfolk Southern Railway to upgrade to LED lights at E. 26th Street DOT#524-190E, in Cuyahoga County, Ohio. The crossing was surveyed, on August 1, 2017, and found to warrant the upgrade. The electric utility provider for this crossing is Cleveland Public Power.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$48,274.00 have been approved. Construction may commence at once. **Staff requests a Finding & Order with completion of the project in 9 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:

Norfolk Southern Railway Company
Stephen Klinger
Public Projects Engineer
1200 Peachtree Street NE
Atlanta, GA 30309-3597

Norfolk Southern Railway Company
Cayela Wimberly
Director Grade Crossing Safety
1200 Peachtree Street NE
Atlanta, GA 30309-3597

Eastman & Smith LTD.
Mr. Casey Talbott
Attorney for Norfolk Southern
One SeaGate 24th Floor
P.O. Box 10032
Toledo, Ohio 43699-0032

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

City of Cleveland
Regina Leverett
Engineer
Department of Public Works
Division of Traffic Engineering
601 Lakeside Avenue Room 25
Cleveland, Ohio 44114

Cleveland Public Power
1300 Lakeside Avenue
Cleveland, Ohio 44114

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

TO: Randall Schumacher, Supervisor, Rail Division, PUCO
FROM: Cathy Stout, Manager, Safety Section, ORDC
BY: James Tucker, Project Manager, ORDC J.T.
SUBJECT: Cuyahoga County, East 26th St, Norfolk Southern
DOT#524190E, PID#106847
DATE: June 19, 2018

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on August 1, 2017. The Diagnostic Team recommended that the devices will receive a L.E.D Light upgrade. 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 twelve months. This construction 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.

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
Susan Arduni, ORDC
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

June 19, 2018

Mr. Stephen Klinger
Public Projects Engineer
1200 Peach Street NE, Box 123
Atlanta, Ga. 30309

RE: Cuyahoga County, East 26th Street, DOT #524190E
PID#106847, NS Project 10.1105

Dear Mr. Klinger:

The plan and estimate dated May 23, 2018, for the referenced project has been reviewed and is acceptable. NS may proceed with the construction of the proposed L.E.D Light upgrade 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 from ORDC is limited to \$48,274.00. Additional costs must be approved in writing by the Ohio Rail Development Commission (ORDC) prior to being incurred. Emergency verbal authorizations by ORDC may be permitted and will be confirmed by ORDC in writing within ten (10) business days of the verbal approval.

This authorization is contingent upon NS accepting the following instructions:

1. NS's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to James Tucker, ORDC, email james.tucker@dot.ohio.gov and to the Public Utilities Commission of Ohio at jill.henry@puco.oh.gov NS'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. NS 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 NS.
3. NS's project foremen will notify James Tucker at 614-398-6897 (telephone) or james.tucker@dot.ohio.gov (email) of any changes in the scope of work, cost overruns, material changes, etc. which are not included in the approved plan and estimate and secure approval of same before the work is performed.
4. Open cut of roadways is not permitted except in unusual circumstances and must be coordinated with the local highway authority and preapproved by ORDC.
5. NS 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

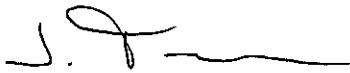
phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

6. NS 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 black ink, appearing to be 'J. Tucker', with a long horizontal line extending to the right.

James Tucker
Project Manager

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



23-May-18

Detailed Estimate for Grade Crossing Warning Devices

City/State: CLEVELAND, OH

Road: EAST 26TH STREET

MilePost: RD-121.66

DOT/AAR: 524190E

State Proj. No.: PID 106847

County: CUYAHOGA

S&E Proj. No.: 10.1105

File Number: 061-10.901

Man Days: 36

Purchases - Others		
Meals and Lodging:	\$4,924.28	
Rental of Equipment:	\$6,731.47	
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 6 Days)		
Construction Supervision Vehicle:	\$1,029.69	
Purchases - Other Total:		\$12,685.44
Material And Additives		
Material Cost:	\$7,401.00	
Sales and Use Tax:	\$592.00	
Material Handling Freight:	\$740.13	
Material Total:		\$8,733.13
Labor And Additives		
Labor Cost:	\$11,592.00	
(6 man crew at \$1,932.00 a day for: 6 days)		
Payroll Tax & Overheads:	\$9,883.34	
Preliminary Engineering:	\$1,994.29	
Construction Supervision:	\$3,386.02	
Labor Total:		\$26,855.65
	Project Cost:	\$48,274.22
	Scrap / Salvage Credit:	\$0.00
	Project Total:	\$48,274.00

Estimated on: 23-May-18

Estimated by: ndney

Estimate valid for 1 year from date of estimate



Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	CLEVELAND
Road:	EAST 26TH STREET
Mile Post:	RD-121.66
Drawing Number:	35121217
State ProjectNumber:	PID 106847
County:	CUYAHOGA
A A R Number:	524190E
Project Number:	10.1105
File Number:	061-10.901
New File Number:	CX0116823
WBS:	F-05073
Store Number:	S803
Supervisor:	UNKNOWN
Tax Code:	3500
Vendor to supply the following copies after pricing: 1 Set - Material Management with original Invoice 2 Sets - with plans shipped in car with material 1 Set - S&E Gen. Supt. Construction w/copy of invoice	

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
2	670-005374-4	EA	\$446.22	\$892.44	GATE ARM, ALUMI-LITE (HIGH WIND), 27-33 FT, ARM ASSEMBLY, INCLUDES GATE GUARD FOR GATE LIGHT CABLE. HIGH INTENSITY VERTICAL STRIPES.		Date Quan.	Date Quan.	Date Quan.		
2	670-005609-4	EA	\$14.43	\$28.86	GUARD, FOR LED GATE LIGHT CABLES. PROTECTS GATE LIGHT CABLE FROM WALRUS TUSKS. SPN: T19505 NPN: NEG-510-CGP						
2	670-092155-4	EA	\$160.00	\$320.00	LAMP ASSY, LED GATE ARM KIT (INCLUDES 3 LAMPS COMPLETE WITH CABLES AND MTG. HARDWARE) REC #: 9298-1120						
2	670-005060-4	EA	\$954.14	\$1,908.28	LAMP ASSY, LED, 5" MAST 1 WAY SIDELIGHT (ROAD SIDE) (IPN: 042003-L001568)						
2	670-005058-4	EA	\$1,786.08	\$3,572.16	LAMP ASSY, LED, 5" MAST BACK TO BACK LIGHTS (IPN: 042003-L487XNS)						
4	670-001347-4	EA	\$59.67	\$238.68	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
2	670-554843-4	EA	\$77.05	\$154.10	SIGN, 2 TRACK SIGN, HIGH INTENSITY, SAFETRAN #035207-2HX						
2	670-016346-4	EA	\$143.38	\$286.76	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETRAN# 035200-91X						

Total Material: \$7,401.28

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
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INDEX		REVISION NO.						
		1	2	3	4	5	6	7
SH. NO.	CONTENTS							
1	TITLE, NOTES, INDEX AND REVISIONS	✓	✓	✓				
2	LOCATION PLAN	✓	✓	✓				
3	POWER DISTRIBUTION	✓		✓				
4	3000D2 SAFETRAM GRADE CROSSING PREDICTOR CIRCUITS	✓						
5	ELECTRIC LOCK, NWP AND OVERLAY CIRCUITS	✓		✓				
6	GATE CONTROL, LIGHTING CIRCUITS AND CABLE TERMINATIONS	✓		✓				
7	GATE MECHANISM	✓		✓				
8	REAR WALL AND TOP VIEW	✓						
9	RIGHT SIDE OF HOUSE, RELAY RACK & FUNCTIONS	✓		✓				
10	RIGHT AND FRONT WALL	✓						

NOTES

- ☐ = FOR MATERIAL REFERENCE SEE PLAN S-1002
- ⊗ = DENOTES TWISTED PAIR
- GROUND IN ACCORDANCE WITH CS-9001-A



IN SERVICE _____ SIGNED _____ DATE _____

☐ S&E ENGINEERING COPY

☐ CONSTRUCTION OFFICE COPY

☐ RETURN TO S&E ENG. AFTER COMPLETION

☐ FIELD COPY

☐ RETURN TO CASE AFTER COMPLETION

☐ PROJECT ENGINEER COPY

REVISIONS				
1	01-31-00			
NEW PLAN DRAWN ACCOUNT CAB SIGNAL ADDED. REPLACING FORMER PLAN 3512-1217				
FILE NO: R-0921				
WO/AFE NO: 99-8091				
IN SERVICE: 10-06-02 PFC NO. 3				
PER: J.J. BENTZ				
2	08-10-01	SWE	SWE	SWE
PLAN MODIFIED ACCOUNT OF NBS UNITS CHANGED TO HIGH CURRENT TYPE TO REDUCE SATURATION.				
FILE NO:				
WO/AFE NO:				
IN SERVICE: 10-06-02				
PER: J.J. BENTZ				
3	05-03-18	JWB	IRE	DBS
PLAN REVISED ON ACCOUNT OF LED UPGRADE AT E. 26TH ST.				
PROJ. NO:				
IN SERVICE:				
PER:				
AAR/DOT*524187W				

NORFOLK SOUTHERN

DEARBORN DIVISION CLEVELAND LINE

CLEVELAND, OHIO

EAST 26TH STREET

TITLE, NOTES, INDEX AND REVISIONS

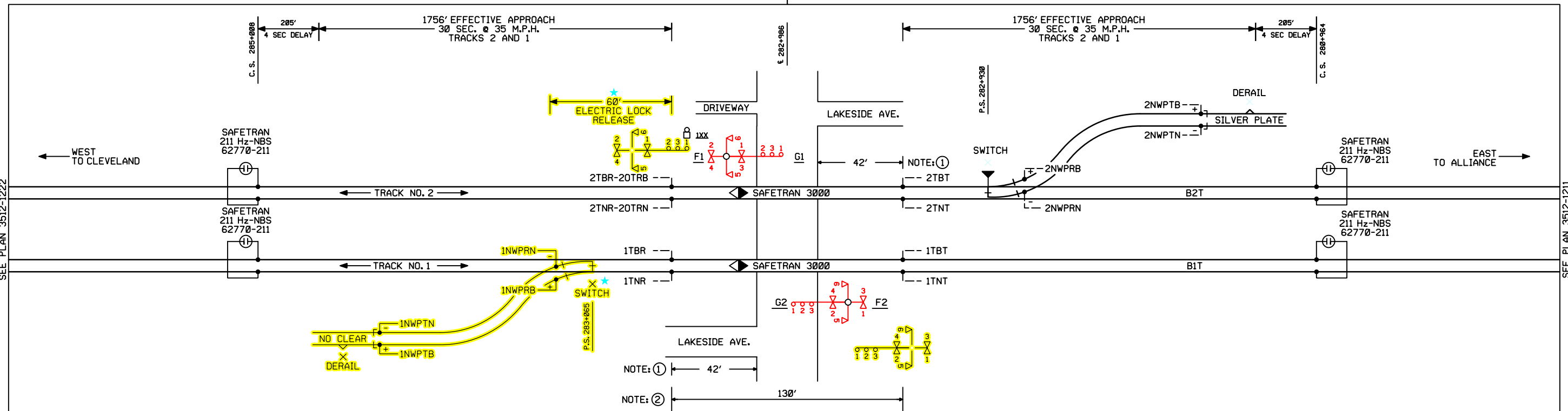
PHILADELPHIA, PA. APPROVED: *J.J. Bentz*, PE CAD CHIEF ENGINEER - C&S

ISSUE DATE: JANUARY 31, 2000 3512-1217

SWE 1 REV. 3 2 10-06-02 SHEET 1

SEE PLAN 3512-1222

SEE PLAN 3512-1211



EAST 26TH STREET

WARNING DEVICES TO BE INSTALLED IN ACCORDANCE WITH THE M.U.T.C.D.

AAR/DOT* 524187W

4X6 HOUSE CABLES

- 8 (2 COND. #6), TWISTED U.G. CABLES TO TRACKS
- 2 (17 COND. 2*6,8*9,7*14), U.G. CABLES TO GATES/FLASHERS
- 1 (2 COND. #6), U.G. CABLE TO A.C. SERVICE
- 1 (7 COND. #14), U.G. CABLE TO ELECTRIC LOCK
- 1 (12 COND. #14), U.G. CABLE EAST
- 1 (12 COND. #14), U.G. CABLE WEST

★ = DRAFTING CORRECTION TURNOUT AND SWITCH NO LONGER INSTALLED PER FIELD SURVEY.



NOTES:

- ① = 25' MINIMUM
- ② = 120' MINIMUM
- ③ EACH PAIR OF TRACK WIRES (TRANSMIT AND RECEIVE) SHOULD BE TWISTED AT LEAST TWO TURNS PER FOOT. THE TRANSMITTER PAIR SHOULD BE SEPARATED TO THE MAXIMUM EXTENT POSSIBLE FROM THE GCP RECEIVER PAIR BELOW GROUND AND IN INSTRUMENT HOUSING. TRANSMITTER WIRES MUST BE RUN TO THE NEAR SIDE OR BUNGALOW SIDE OF THE CROSSING.

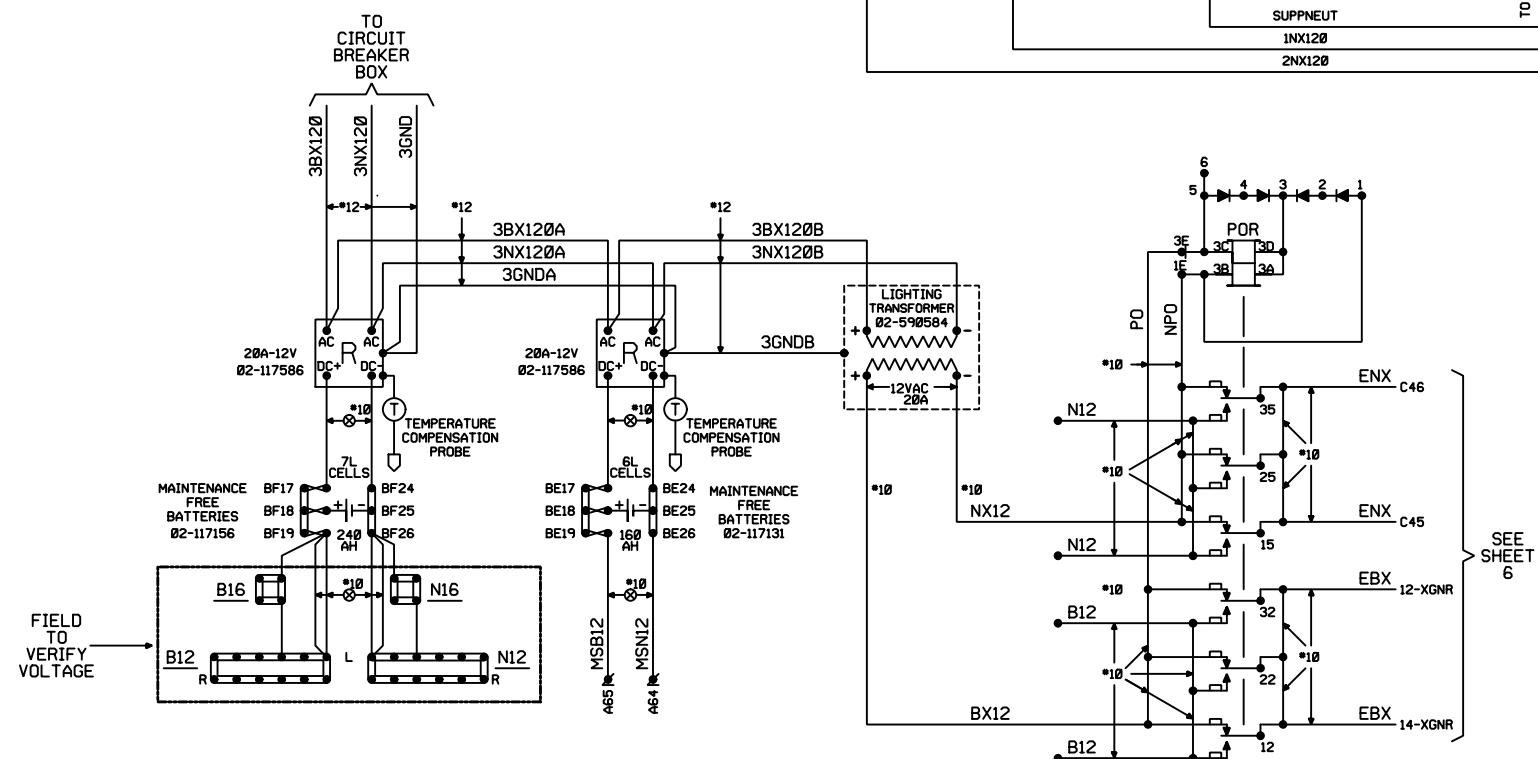
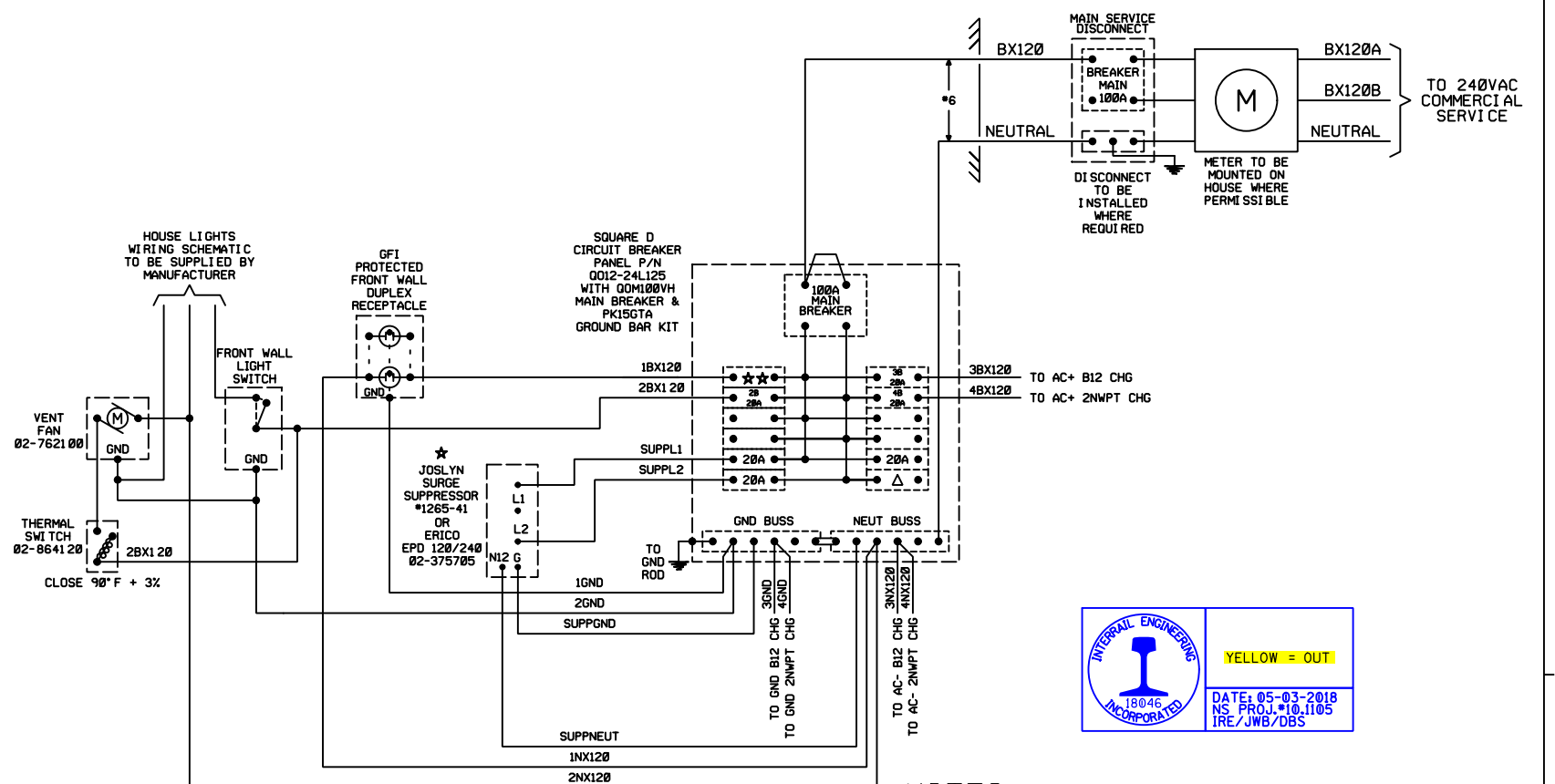


EAST 26TH STREET

CLEVELAND, OHIO

HIGHWAY CROSSING
LOCATION PLAN

ISSUE DATE: JANUARY 31, 2000	3512-1217
REV. 3 2	10-06-02 SHEET 2



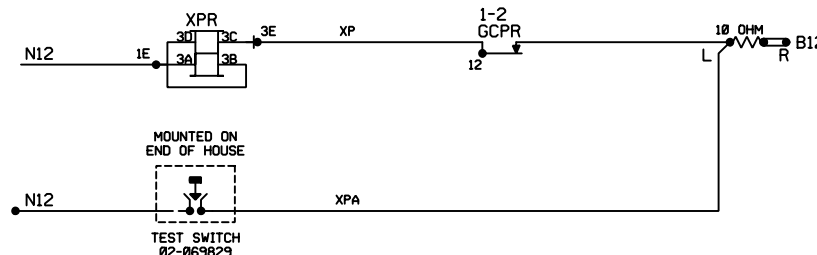
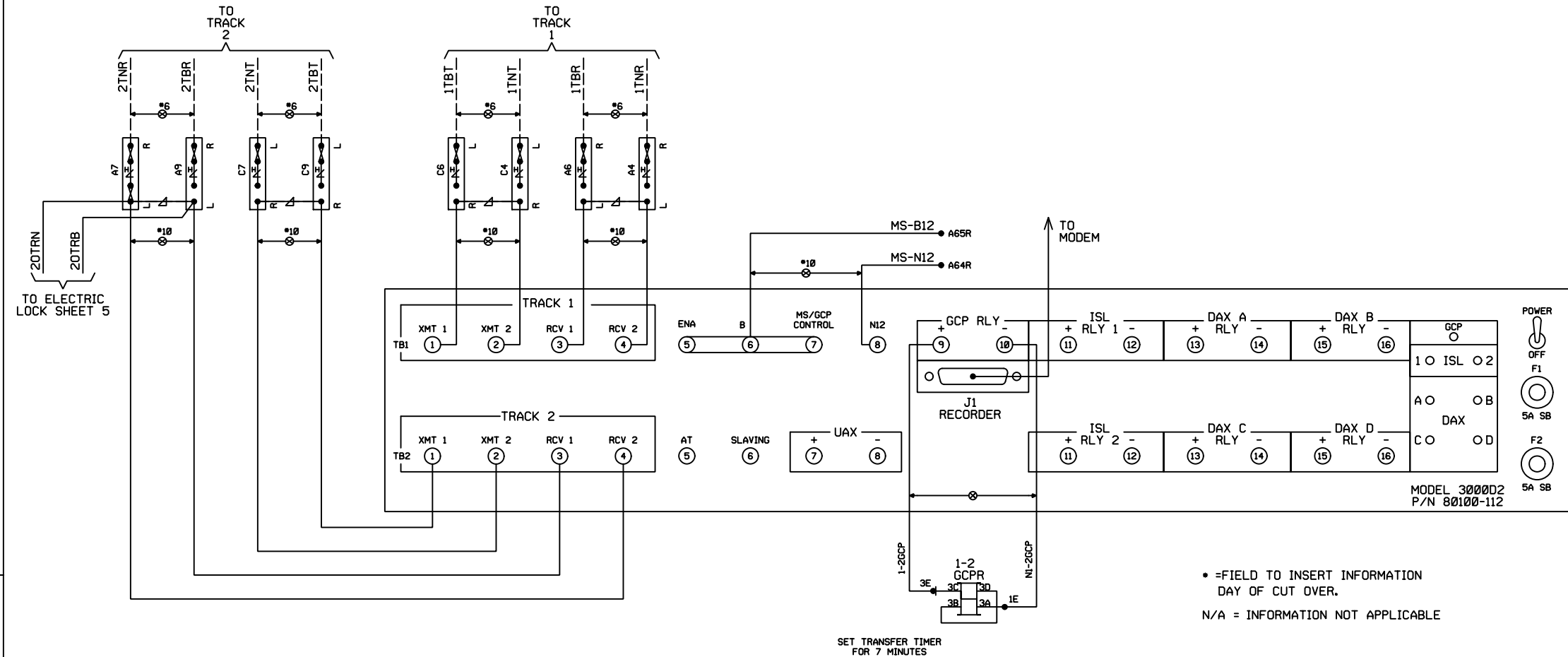
- 1) ★ = SUPPRESSOR TO BE LOCATED
AS CLOSE AS POSSIBLE TO
MAIN BREAKER. LEADS TO BE
TWISTED WHENEVER POSSIBLE.
 - 2) 100A SERVICE REQUIRES #2 WIRE.
60A SERVICE REQUIRES #6 WIRE.
 - 3) ALL AC POWER WIRING TO BE IN CONDUIT.
 - 4) MAXIMUM BREAKER LOAD NOT TO EXCEED 80%
OF RATING (IE. 20A BREAKER GOOD FOR 16A).
 - 5) Δ = 20A CIRCUIT BREAKER RESERVED
FOR COMMUNICATIONS.
 - 6) 480V AC POWER SOURCE MUST BE PROTECTED
BY 30A FUSING AT FEED END.
 - 7) LINE SERVICE DISCONNECT DOES NOT
KILL LOCATION POWER. SHOP TO PROVIDE WARNING LABEL.
 - 8) ★★ = 20A GFI BREAKER
- ⊗ = TWISTED PAIR

HIGHWAY CROSSING
POWER DISTRIBUTION

3512-1217

SWE	REV. 3 1	10-06-02
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SHEET 3



• =FIELD TO INSERT INFORMATION
DAY OF CUT OVER.
N/A = INFORMATION NOT APPLICABLE

ISLAND FREQUENCY:
TRACK 1: 7.1 KHz.
TRACK 2: 8.3 KHz.

THIS UNIT TO BE EQUIPPED
WITH 'F' LEVEL SOFTWARE
ON PROCESSOR MODULE
(80014) AND DATA
RECORDER MODULE (80015)

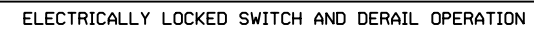
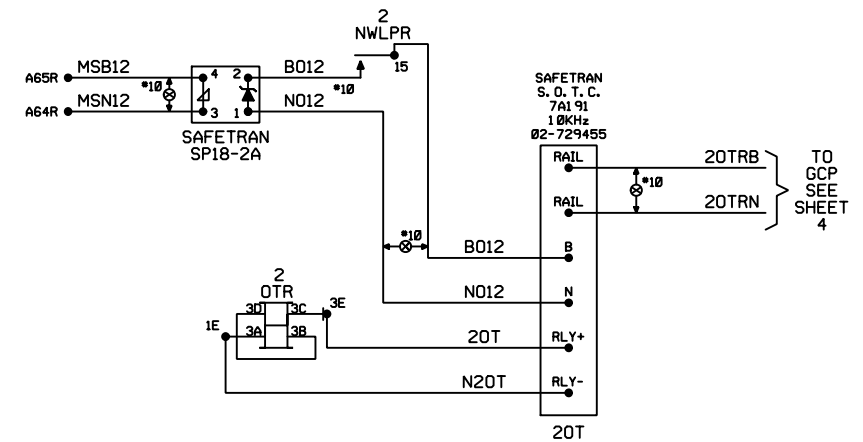
SYSTEM PROGRAMMING PARAMETERS	
PROMPT	RESPONSE
NUMBER OF TRACKS	2 TRACK
FREQUENCY (MS/GCP)	211 HZ
UNI/BIDIRECTIONAL	T1 BIDIRECTIONAL
UNI/BIDIRECTIONAL	T2 BIDIRECTIONAL
XMIT LEVEL	T1 MAX
XMIT LEVEL	T2 MAX
PREDICTOR/MOTION SENSOR T1	PREDICTOR
PREDICTOR/MOTION SENSOR T2	PREDICTOR
WARNING TIME SELECTED T1	30 SEC.
WARNING TIME SELECTED T2	30 SEC.
APPROACH DIST. SELECTED T1	1756 FT.
APPROACH DIST. SELECTED T2	1756 FT.
APPROACH DIST. COMPUTED T1	1995 FT.
APPROACH DIST. COMPUTED T2	2222 FT.
UAX PICKUP DELAY(0=OFF)	0 -SEC.
ENA/UAX2 PICKUP DELAY(0=ENA)	0 -SEC.
NUMBER OF DAX'S	0
ISLAND DISTANCE T1	130 FT.
ISLAND DISTANCE T2	130 FT.
DAX A TRACK ASSIGNMENT	N/A
DAX A DISTANCE (0=PREEMPT)	N/A FT.
DAX A WARNING TIME	N/A SEC.
DAX B TRACK ASSIGNMENT	N/A
DAX B DISTANCE (0=PREEMPT)	N/A FT.
DAX B WARNING TIME	N/A SEC.
DAX C TRACK ASSIGNMENT	N/A
DAX C DISTANCE (0=PREEMPT)	N/A FT.
DAX C WARNING TIME	N/A SEC.
DAX D TRACK ASSIGNMENT	N/A
DAX D DISTANCE (0=PREEMPT)	N/A FT.
DAX D WARNING TIME	N/A SEC.
SLAVING MASTER/SLAVE	MASTER
PASSWORD ENABLED	DISABLED
RECORDER INSTALLED	INSTALLED
RS-232-C BAUD RATE	
RS-232-C DATA BITS	
RS-232-C STOP BITS	
RS-232-C PARITY	
DATE(E.G.,MON 16 NOV 1987)	•
TIME(E.G., 11:25:43 AM)	•
DAYLIGHT SAVINGS	ON/OFF
EXPANDED PROGRAMMING HISTORY	
SWITCH TO MS T1	0-EZ
SWITCH TO MS T2	0-EZ
TRANSFER DELAY MS TO GCP T1	0-SEC.
TRANSFER DELAY MS TO GCP T2	0-SEC.
PRIME PREDICTION OFFSET T1	0-FT.
PRIME PREDICTION OFFSET T2	0-FT.
PICKUP DELAY PRIME	15-SEC.
PICKUP DELAY DAX A	15-SEC.
PICKUP DELAY DAX B	15-SEC.
PICKUP DELAY DAX C	15-SEC.
PICKUP DELAY DAX D	15-SEC.
COMPENSATION VALUE T1	SET BY SYSTEM
COMPENSATION VALUE T2	SET BY SYSTEM
NUMBER OF TRACK WIRES T1	4 WIRES
NUMBER OF TRACK WIRES T2	4 WIRES



EAST 26TH STREET CLEVELAND, OHIO

HIGHWAY CROSSING
DUAL BIDIRECTIONAL GCP
MODEL 3000D2 02-806766

ISSUE DATE: JANUARY 31, 2000	3512-1217
REV. 1	10-06-02
SHEET 4	

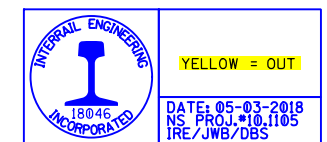


- 1) STOP TRAIN CLEAR OF SWITCH POINTS.
- 2) RECEIVE DISPATCHER PERMISSION.
- 3) UNLOCK AND OPEN PADLOCK.
- 4) SWITCH LOCK W/LE LIGHTS AFTER S.O.T.C. ENERGIZES OR AFTER TIME RUNS IF TIMER SUPPLIED.
- 5) UNLOCK AND LINE SWITCH THEN DERAIL.
- 6) PROCEED INTO SIDING.
- 7) IF CLEARING MAIN TRACK, LINE SWITCH AND DERAIL FOR MAIN TRACK AND LOCK UP.

- 1) PROCEED OUT OF SIDING.
- 2) WHEN MOVE IS COMPLETED, LINE SWITCH AND DERAIL FOR MAIN TRACK AND LOCK UP.

- 1) STOP TRAIN CLEAR OF DERAIL AND/OR CLEARANCE JOINTS.
- 2) RECEIVE DISPATCHER PERMISSION.
- 3) UNLOCK AND OPEN PADLOCK.
- 4) SWITCH LOCK W/LE LIGHTS AFTER SIGNAL BLOCKS ARE VERIFIED CLEAR OR AFTER TIME RUNS IF TIMER SUPPLIED.
- 5) UNLOCK AND LINE SWITCH THEN DERAIL FOR MOVE TO MAIN TRACK.
- 6) PROCEED OUT OF SIDING.
- 7) WHEN MOVE IS COMPLETED, LINE SWITCH AND DERAIL FOR MAIN TRACK AND LOCK UP.

★ = DRAFTING CORRECTION
PER FIELD SURVEY

ELECTRIC LOCK, NWP AND
OVERLAY CIRCUITS

3512-1217

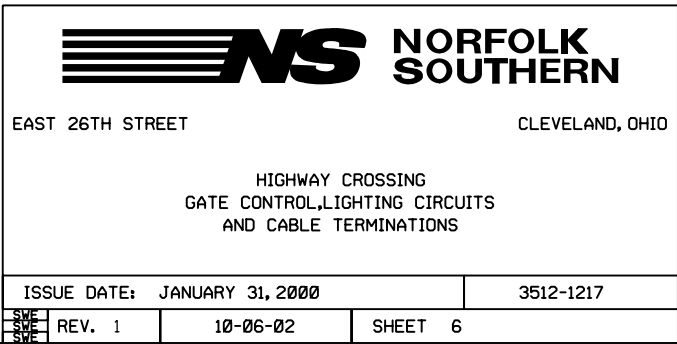
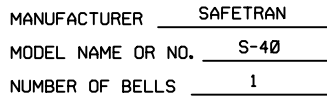
SWE	REV. 3	10-06-02
SWE		
SWE		

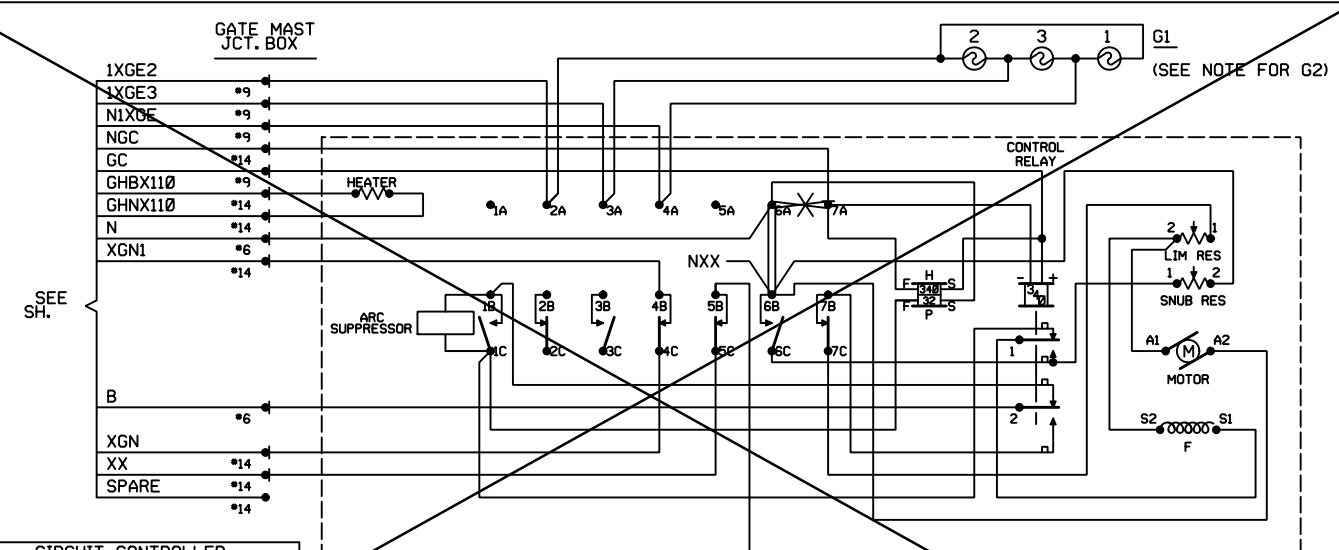
SHEET 5

[illegible]

C&S CAD


1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9		1	2	3	4	5	6	7	8	9	30	1	2	3	4	5	6	7	8	9	40	1	2	3	4	5	6	7	8	9	50	1	2	3	4	5	6	7	8	9	60	1	2	3
---	---	---	---	---	---	---	---	---	----	---	---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	---	---	---	----	---	---	---	---	---	---	---	---	---	----	---	---	---	---	---	---	---	---	---	----	---	---	---	---	---	---	---	---	---	----	---	---	---

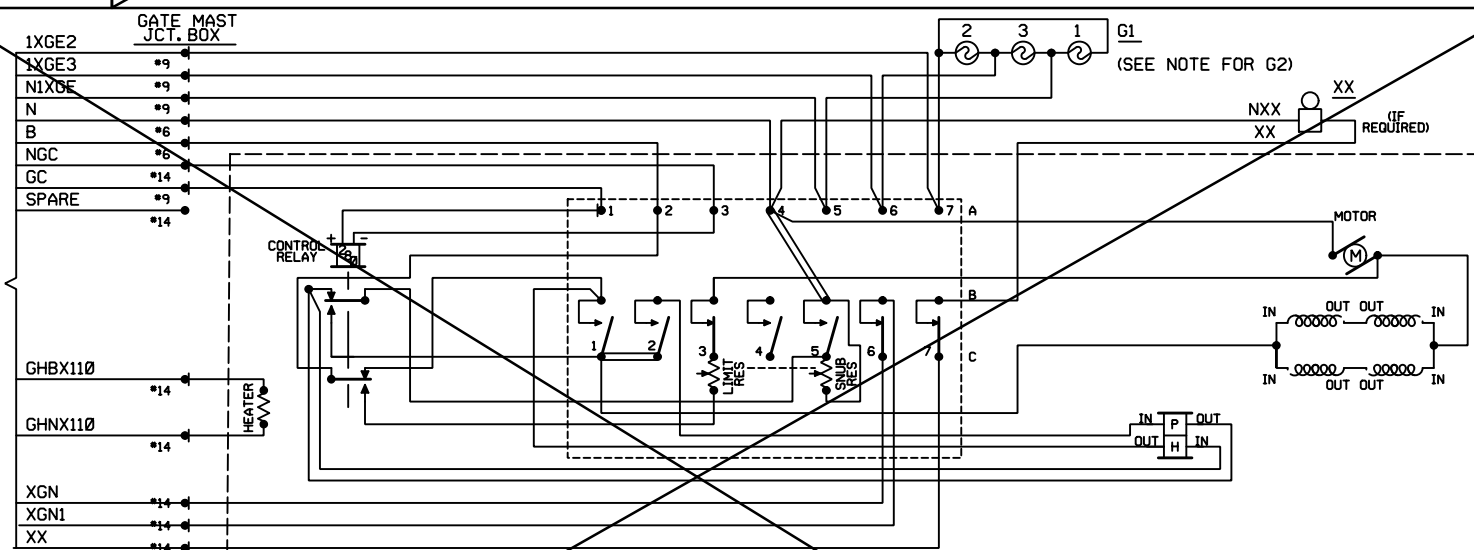




CIRCUIT CONTROLLER OPERATION AND FUNCTIONS		
CONTACT	CLOSED	FUNCTION
1	0° - 89°	MOTOR UP
2	ADJ 0° - 90°	SPARE
3	0° - 5°	SPARE-IND. ZERO
4	86° - 90°	XGNR CONTROL
5	5° - 90°	BELL CONTROL
6	0° - 5°	SNUB
7	45° - 90°	MOTOR DOWN

TO MAKE GATE ARM DESCEND
SLOWER, MOVE JUMPER WIRE "X"
ON DIODE BOARD TO HIGHER
NUMBER NOT TO EXCEED
POSITION #4.

	<p>RED = IN</p> <p>YELLOW = OUT</p>
	<p>DATE: 05-03-2018</p> <p>NS PROJ.#10.1105</p> <p>IRE/JWB/DBS</p>



CIRCUIT CONTROLLER OPERATION AND FUNCTIONS					
CONTACT SPACE NO.	CLEARING		DESCENDING		FUNCTION OF CONTACT
	CLOSES	OPENS	CLOSES	OPENS	
1	--	88°	78°	--	UP MOTOR CUT-OUT
2	76°	85°	85°	76°	HOLD CLEAR CONTROL
3	50°	--	--	50°	DOWN MOTOR CUT-OUT
4	--	5°	5°	--	SPARE
5	--	5°	5°	--	SNUB RESISTOR SHUNT
6	85°	--	--	85°	XGNR CONTROL
7	6°	--	--	6°	BELL CONTROL



**NORFOLK
SOUTHERN**

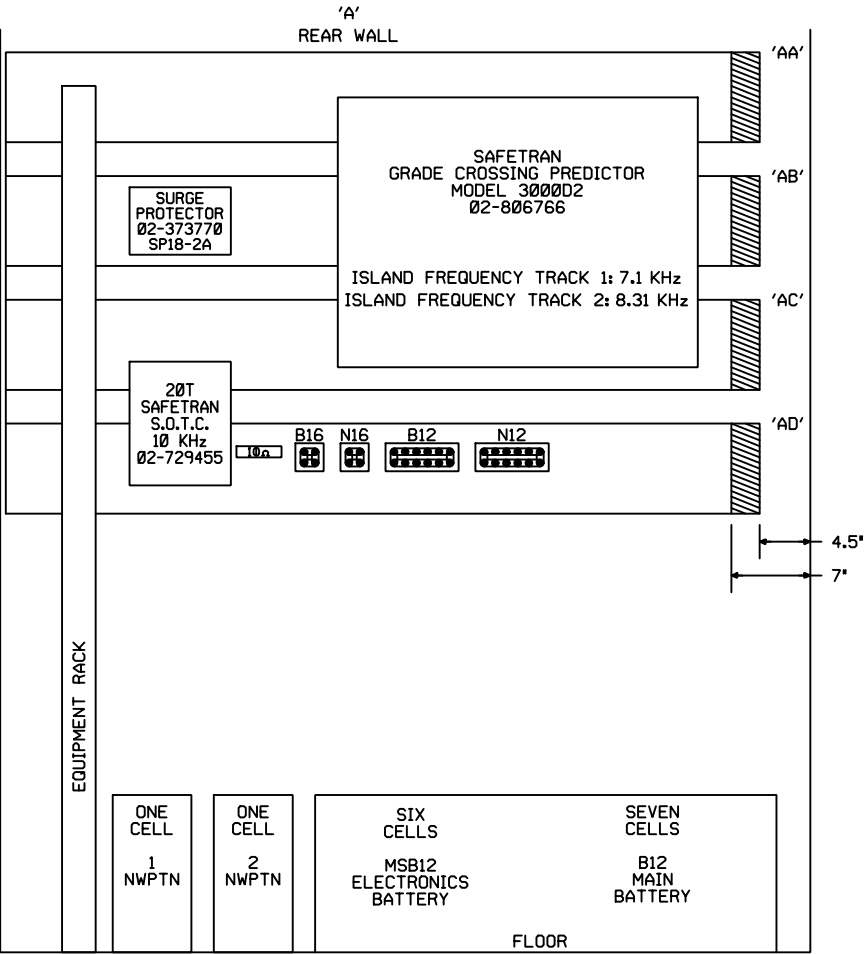
CLEVELAND, OHIO

3512-1217

SHEET	7
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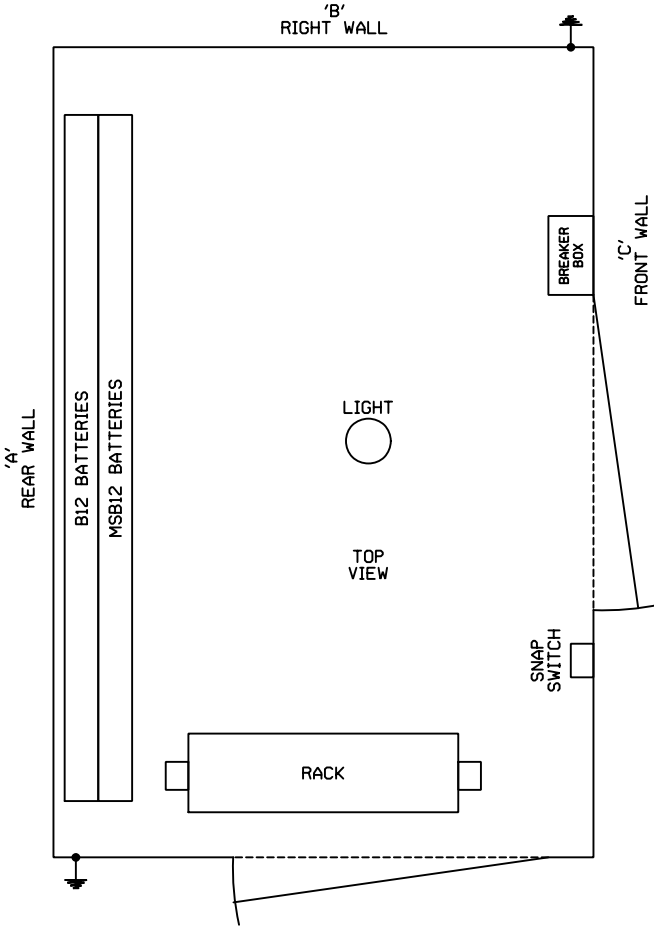
FIELD FORCE TO
MAKE WIRING CHANGE
IN GATE MECHANISM
WHENEVER NEW GATE
IS INSTALLED.

—O—O— ON
—X—X— OFF



TOP VIEW

4' X 6' HOUSE
(INSULATED)



(4) ADJUSTABLE PIERS - 3" O.D. X 48" LONG
WITH 12" X 12" PLATE ON BOTTOM, SLEEVE
3.5" X 6" ABOVE FLOOR, SELF DRILLED WITH
4" HOLE TO PERMIT SHIPPING.



NS NORFOLK
SOUTHERN

EAST 26TH STREET

CLEVELAND, OHIO

HIGHWAY CROSSING
REAR WALL AND
TOP VIEW

ISSUE DATE: JANUARY 31, 2000

3512-1217

REV. 1

10-06-02

SHEET 8

RELAY FUNCTIONS

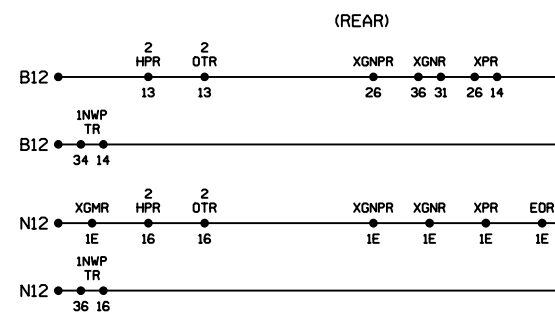
POR	EOR	XPR
12-EBX	12-EX	12-XGN
15-ENX	15-EX	15-XX
22-EBX	32-EX	22-
25-ENX	35-EX	25-GC
32-EBX		32-
35-ENX		35-

XGNR	XGNPR	1-2 GCPR
HDB13-EBX	22-	12-XP
HDB15-EBX	25-GC	15-
32-E0		22-
35-XGNP		25-
		32-
		35-

2NWP TR	1NWP TR	2 NWLPR
B12-	B12-	12-
F13- 2WL	F13- 1NWP	15- B012
F15- N2WL	F15- N1NWP	22- 2ENWLP
B22-	B22-	25- N2ENWLP
B24-	B24-	32- 2WNWLP
F25- 2NWLP	F25-	35- N2WNWLP
B32-	B32-	
F33-	F33- 1ENWP	
F35-	F35- N1ENWP	

2 HPR	2 OTR
12- 2WL	12- 2WL
15- N2WL	15- N2WL
22-	22-
25-	25- 2NWLP
32-	32-
35-	35-

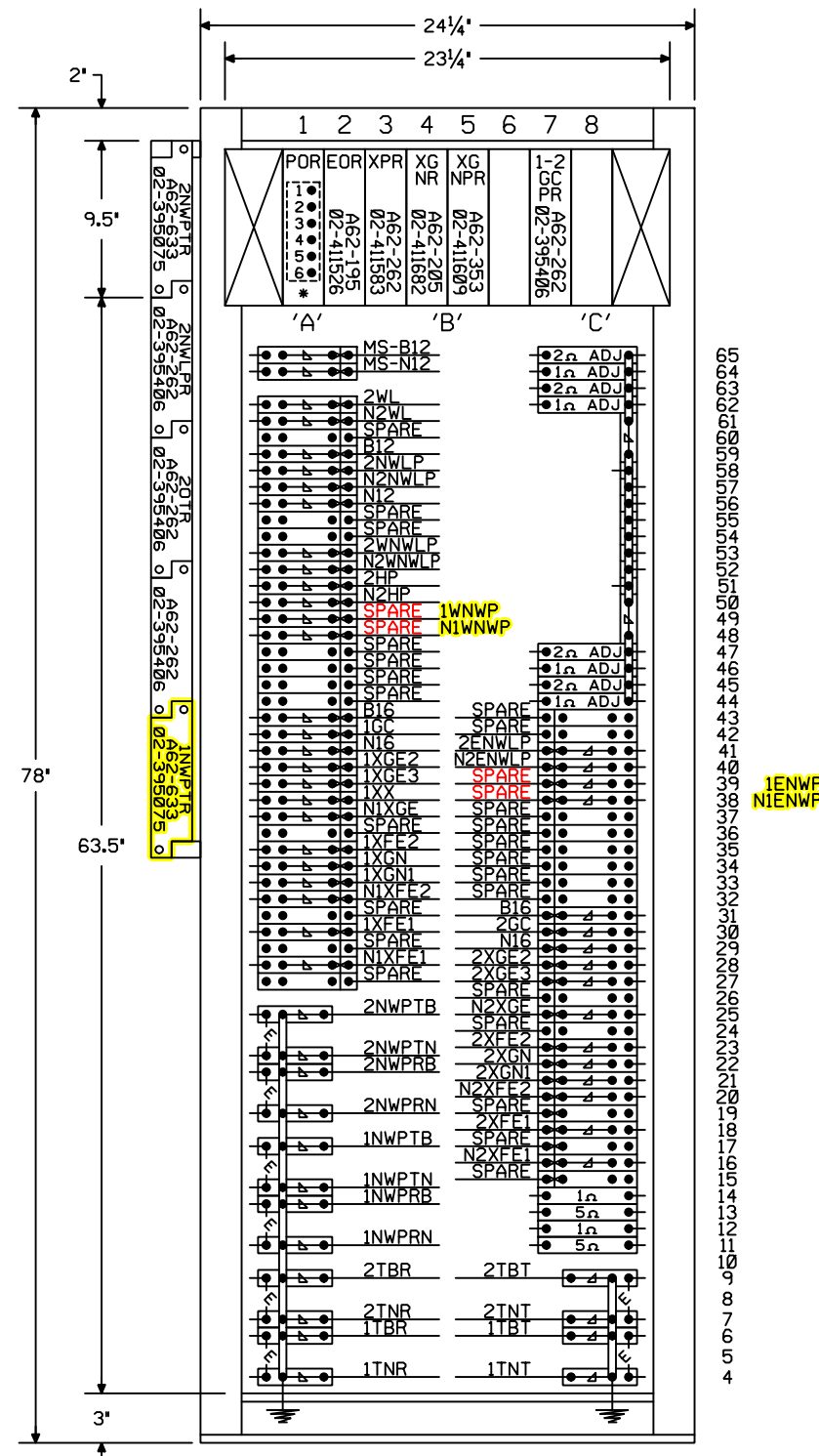
RELAY ENERGY LOOPS

RELAYS

A62-407 = 02-411542	B1-PT, 6FB-HD, 100 OHM/100 OHM
A62-195 = 02-411526	B1, FLASHER 4FB-HD
A62-205 = 02-411682	B1, 2FB, 2B-HD, 210 OHM
A62-353 = 02-411609	B1SR (3 SEC.), 2FB, 460 OHM
A62-262 = 02-395406	B1N, 6FB, 500 OHM
A62-310 = 02-395166	B1N, 4FB-2F-1B, HD CONTACTS, 500 OHM
A62-633 = 02-395075	B1B, 5F, 4B, .5 OHM

EQUIPMENT RACK
BACK

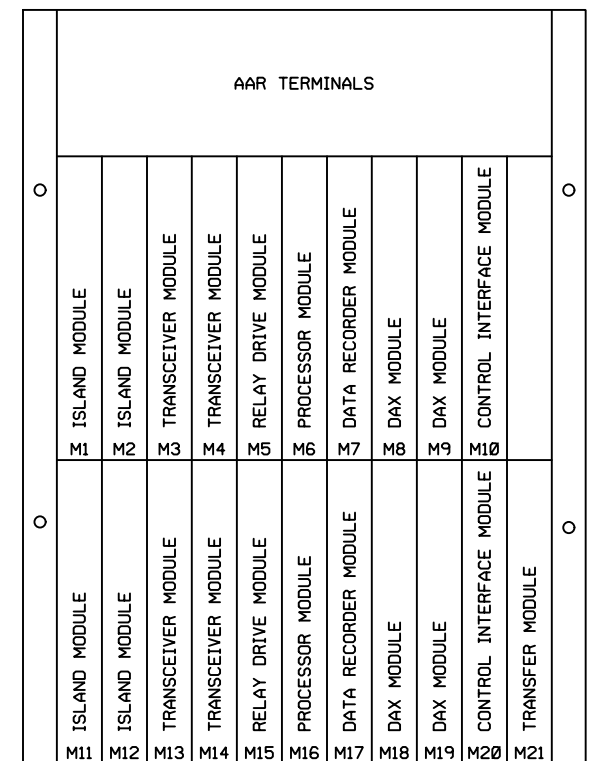
EQUIPMENT RACK
FRONT



REQUIRED MODULES

PART NUMBER AND MODULE NAME	UPPER BAY	LOWER BAY
80011-F (Hz) ISLAND MODULE	M1-M2	M11-M12
80012 TRANSCEIVER MODULE	M3-M4	M13-M14
80013 RELAY DRIVE MODULE	M5	M15
80014 PROCESSOR MODULE	M6	M16
80015 DATA RECORDER MODULE	M7	M17
80016-1,-2 DAX MODULE	NONE	NONE
80020 CONTROL MODULE INCLUDES 80017 KEYBOARD DISPLAY INTERFACE	M10	M20
80028 TRANSFER MODULE		M21

AAR TERMINALS



CARDFILE LAYOUT

* = POR RELAY P/N A62-407 02-411542
POR RECTIFIER P/N A53-541 02-390142 MOUNTED
ON REAR OF RELAY.



EAST 26TH STREET

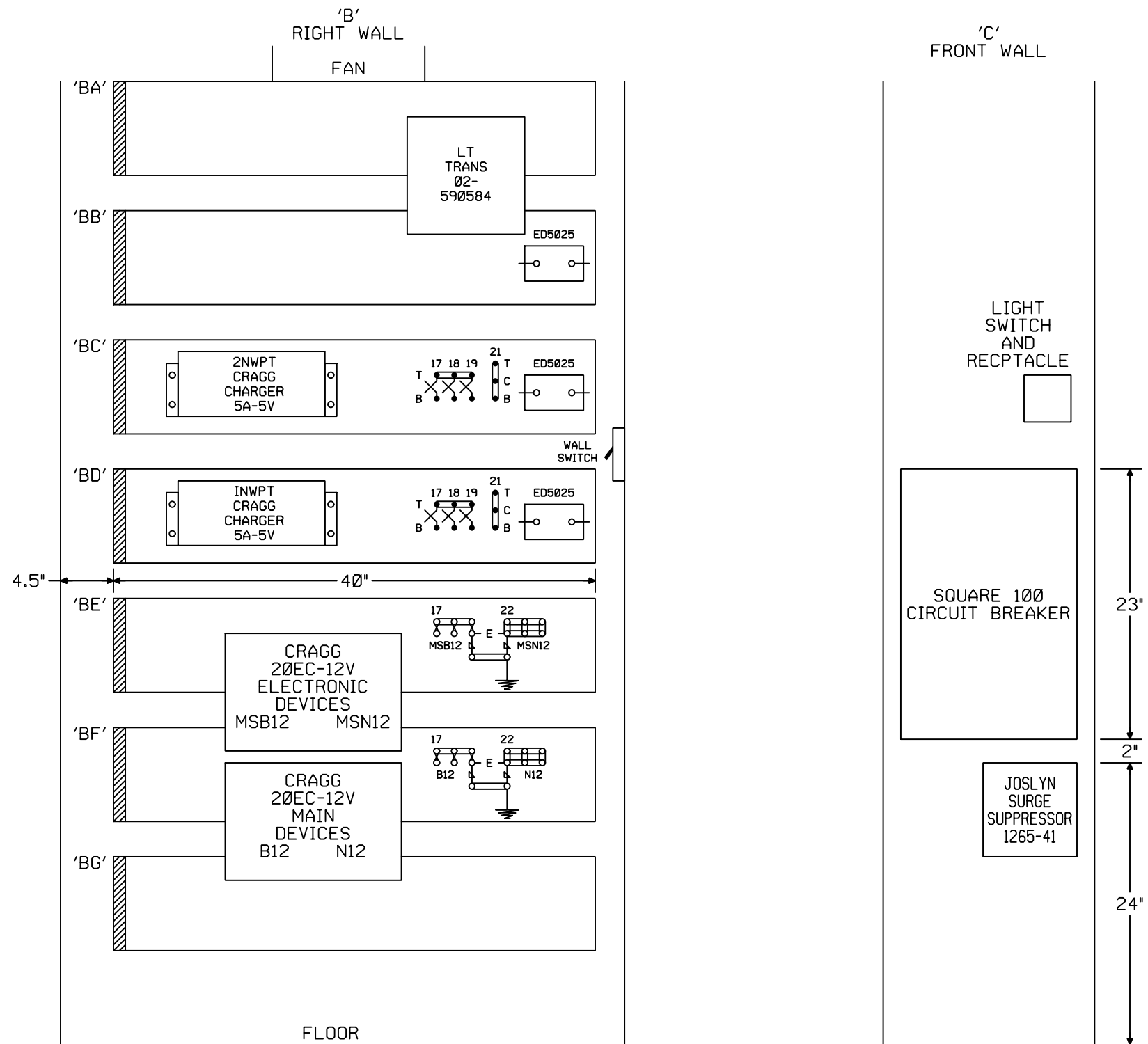
CLEVELAND, OHIO

HIGHWAY CROSSING
RIGHT SIDE OF HOUSE
RELAY RACK & FUNCTIONS

ISSUE DATE: JANUARY 31, 2000

3512-1217

SWE	REV. 3 1	10-06-02	SHEET 9
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OHIO RAIL DEVELOPMENT COMMISSION

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

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

February 22, 2018

Mr. Stephen J. Klinger
Norfolk Southern Railway Company
Administrator Grade Crossing Program
1200 Peachtree Street NE, Box 123
Atlanta, Ga. 30324

RE: Grade Crossing Warning Device Improvements.
Cuyahoga County, East 26th Street, DOT#524190E, PID#106847

Dear Mr. Klinger:

A diagnostic review was held at the above grade crossing on August 1, 2017. The crossing has been recommended to receive a L.E.D upgrade.

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

The diagnostic review form is attached. Please note any recommendations (page 1), 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 James Tucker. James can be reached at (614) 398-6897, or james.tucker@dot.ohio.gov, if you have any questions.

Sincerely,

Project Manager

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

Attachment: 1 (diagnostic review form)



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY



High Hazard Crossing With Active Warning Devices			
Street Name: E. 26 th Street		County: CUY	
LHA: City of Cleveland		USDOT#: 524190E	
Nearest City:		Hazard Rank: 121	
Roadway Information			
ADT: 3674 (2015)		Posted Speed Limit:	
Railroad: Norfolk Southern		Number of Tracks: 3 2	
Train Count: 23		Speed Over Crossing: 40	
Storage Distance (Ft.): Not Listed		Train Detection Type: DC/AFO	
Accidents			
Accident Factors		1 # of Accidents in Last 5 Years:	
		0 # of Fatalities in Last 5 Years:	
Accident Date		8/11/15	
Position of Accident		Stalled on Crossing	
Circumstance			
Visibility/Time of Day		Dark	
Weather Conditions		Cloudy	
Crossing Interconnect.		No	
Crossing Illuminated		No	
Drove Around Train		No	
Highway User Action		Stopped on crossing	
Alcohol/Drug Related?			
Driver Speeding?			
Other Notes: R.R.P.			
Recommendations:			
LED upgrade			
Supplemental pavement mk			
adv. (4 streets) W-10			
Brush cutting N of crossing - city ROW			

Comp 1202

Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments
Advance Warning Signs (condition?)	Yes	<u>No</u>	
'Stop' Signs	Yes	<u>No</u>	2 @ Lakeside
'Stop Ahead' Signs	Yes	<u>No</u>	
Pavement Markings (condition?)	Yes	<u>No</u>	
Crossbucks	<u>Yes</u>	No	2
Number of Tracks Signs	<u>Yes</u>	No	2
Inventory Tags	<u>Yes</u>	No	
Interconnected Highway Traffic Signal	Yes	<u>No</u>	
Mast-Mounted Flashing Lights	<u>Yes</u>	No	
Cantilever Flashing Lights	Yes	<u>No</u>	Number: Length:
Side Lights	<u>Yes</u>	No	2 Lakeside
Automatic Gates	<u>Yes</u>	No	Number: 2 Length:
Bells	<u>Yes</u>	No	Number: 1
Sidewalk Gate Arms	Yes	<u>No</u>	
'No Turn' Signs	Yes	<u>No</u>	
Illumination	<u>Yes</u>	No	
Is crossing flagged by train crew?	Yes	<u>No</u>	
Other	Yes	No	

Railroad Data

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	23	
< 1 per day		
Day thru trains	9	
Night thru trains	7	
Daytime switching movements	4	1
Nighttime switching movements	3	0
Total number of tracks	3	2
Number of main tracks	2	
Number of other tracks	1 (Siding)	
Maximum train speed	40	
Typical train speed	40	
Amtrak	50 mph	
If multiple tracks, can two trains occupy crossing at the same time? <u>Yes</u> No		
Can one train block the motorists' view of another train at crossing? <u>Yes</u> (Explain below) No		
Can one or more tracks be eliminated through the crossing? Yes <u>No</u>		
Are there other track(s) crossing this same roadway within 100 ft of this crossing? Yes <u>No</u>		
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 Cleveland		
Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic 3674	Tims (2015)	
Highway paved	Yes X No	Yes No
Roadway Surface: <u>Blacktop</u> Gravel Concrete Other _____		
Roadway width: ____ ft. <u>42' + 42'</u>		
Number of highway lanes	2	
Urban or Rural	Urban	
Vehicle Speed: ____ MPH <u>25</u>		
School Bus Operation: No Yes Amount <u>?</u>		
Hazardous Materials Trucks: No X Yes Amount <u>.03</u>		
Shoulders: No <u>Yes</u>		
Is the shoulder surfaced? No <u>Yes</u>		
Is there existing guardrail along roadway in crossing vicinity? <u>No</u> Yes		
Is stopping site distance adequate? (See Table 2) <u>Yes</u> No If no, deficient approach(es) _____		
Quadrant _____ Curb and Gutter: Functional (Curb height = 4" or more) Non-functional (Curb height = Less than 4") <u>None</u>	Quadrant _____ Curb and Gutter: Functional (Curb height = 4" or more) Non-functional (Curb height = Less than 4") <u>None</u>	
Pedestrians: No <u>Yes</u>		
Is sidewalk present? <u>No</u> Yes		
Is there a nearby intersection that could cause queuing over the crossing? No <u>Yes</u> <u>moving queue</u> If yes, Street Name <u>hakeside</u> Distance _____ Is this intersection signalized? <u>No</u> Yes Are the signals currently interconnected with the existing crossing warning devices? No Yes Is there a 'Do not Stop on Track' sign? <u>No</u> Yes		
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? No <u>Yes</u> If yes, Improvement type <u>Resurface</u> Lead Agency <u>LHA</u> Timeline/completion <u>3-4 years</u>		
Is it the consensus of the Diagnostic Review Team that this is a potential closure project: <u>No</u> Yes Explain reasons:		
Type of Development		
Open Space Institutional <u>Industrial</u> <u>Commercial</u> Residential	Location of nearby schools: <u>17th + Superior = Charter School</u>	

Potential Red Flags / Project Challenges

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

N/A

Crossing Consolidation or Closure:

N/A

Real Estate or ROW:

N/A

Culverts / Drainage / Ballast Conditions:

N/A

Roadway and/or Sidewalks:

Roadway Elevation is higher than main #2

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

HAS A 3000 unit in the Burselow.

Environmental:

N/A

Other:

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.

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.

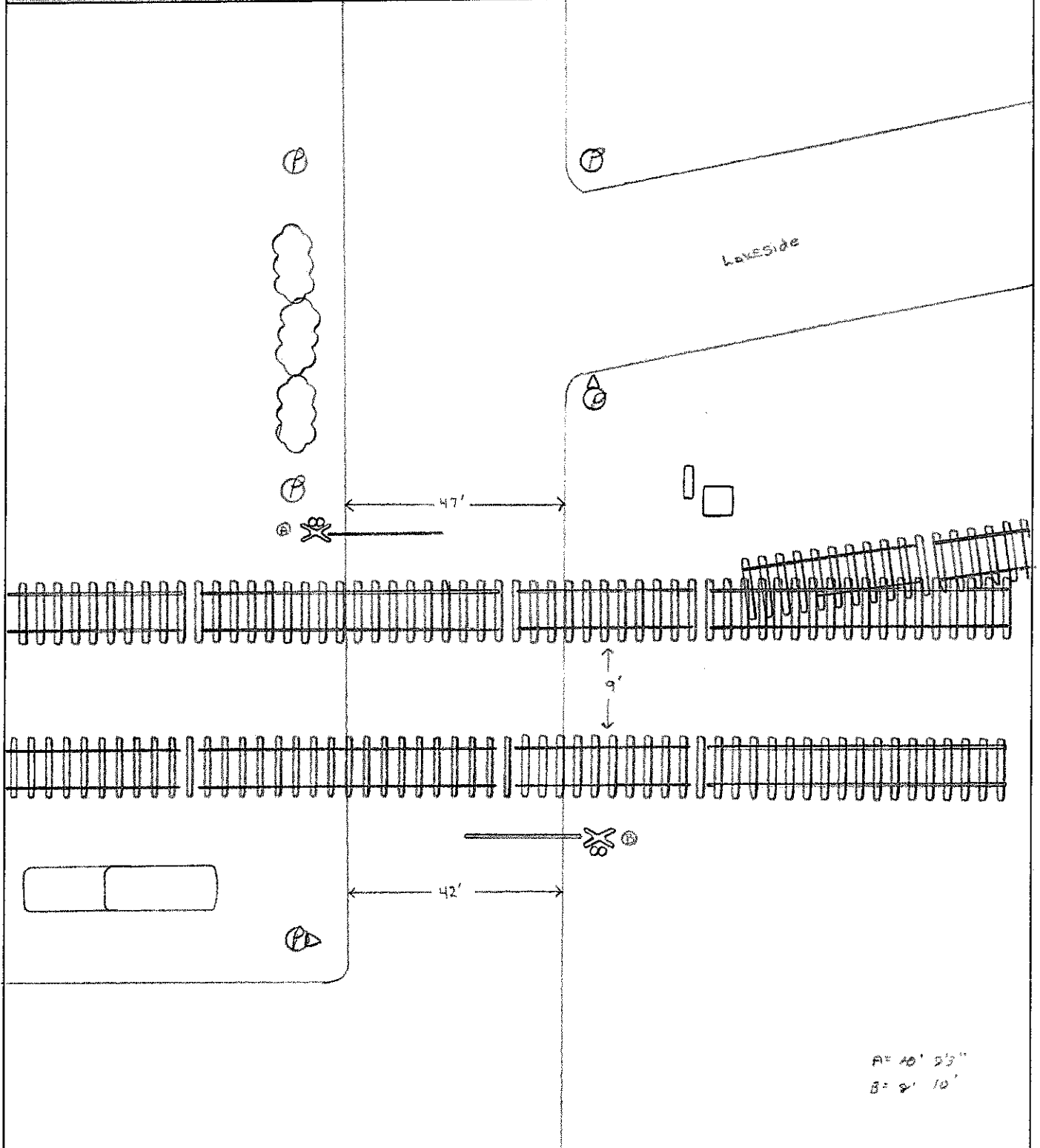
County: Cuy Route: E 26th DOT#: 524190E

Surface type <input type="checkbox"/> Rubber seal and asphalt <input type="checkbox"/> Timber and asphalt <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Composite <input type="checkbox"/> Concrete panel <input type="checkbox"/> Full-depth timber <input type="checkbox"/> Full-depth rubber <input type="checkbox"/> Other _____	Condition <input checked="" type="checkbox"/> Good <input type="checkbox"/> Fair <input type="checkbox"/> Poor Comments: _____ _____ _____
Is the surface good and sufficient? <u>Yes</u> / No	
Vehicle type (cars, trucks, etc.): <u>CARS + Trucks</u>	
Surface conditions: Can vehicles cross at posted speed? <u>YES</u> Local observations/driver behaviors: <u>Drivers do slow a bit due to elevation differences between the rail and roadway</u> Relevant crash history: _____ _____ _____	
Do existing surface conditions have negative effects on the current or proposed warning devices? Explain: _____ _____ _____	
Comments: 	

Form completed by: _____

Date: _____

Field Sketch



A = 10' 5 1/2"
B = 8' 10'

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

Sketch by: _____

Diagnostic Review

(CUY – E. 26th St. DOT # 524190E)

8/1/2017

Please print:

[illegible]

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

7/20/2018 1:00:28 PM

in

Case No(s). 18-1167-RR-FED

Summary: Application In the Matter of a Request for an Upgrade at the Norfolk Southern Railway Crossing, E. 26th Street DOT#524-190E, in Cuyahoga County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division