

Memo

To: Docketing Division
From: Jill Henry, Rail Specialist, Rail Division
Cc: PUCO Legal Department
Date: 7/28/17

Re: PUCO Case No. 17-1697-RR-FED- In the Matter of a Request for the Upgrade of Warning Devices at the Norfolk Southern Railway Crossing, Princeton Glendale Road/SR 747 DOT#524-966P, in Butler County, Ohio.

On May 2, 2017, the Ohio Rail Development Commission (ORDC) authorized funding for Norfolk Southern Railway to install new LED lights and a new 80011 module card in the existing crossing controller at Princeton Glendale Road/SR 747 DOT#524-966P, in Butler County, Ohio. The crossing was surveyed, on March 16, 2017, and found to warrant the upgrade. The electric utility provider for this crossing is Duke Energy.

The project will be paid for with federal funds and is actual cost. The plans and estimates for the project in the amount of \$13,821.00 have been approved. Reimbursement for this project is at 80%, so it will be limited to \$11,056.80. 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:

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

Ohio Department of Transportation
District #8
Doug Raters
District Railroad Coordinator
505 S. SR 741
Lebanon, Ohio 45036-9518

Duke Energy

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

TO: Randall Schumacher, Supervisor, Rail Division, PUCO

FROM: Cathy Stout, Manager, Safety Section, ORDC

BY: Greg Gronbach, Project Manager, Safety Section, ORDC

SUBJECT: Butler County, SR747-2.36, Princeton-Glendale Road, DOT # 524966P, PID 105780

DATE: July 10, 2017

The Ohio Rail Development Commission (ORDC) established a diagnostic survey at the subject location on March 16, 2017. The Public Utilities Commission of Ohio (PUCO) attended the review. The Diagnostic Team recommended the improvement of warning devices with an LED 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. 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.


Greg Gronbach
Project Manager

Attachment: Diagnostic Review
Plan & Estimate

c: Jill Henry, PUCO
Cathy Stout, ORDC
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

July 24, 2017

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

RE: Construction Authorization
Butler County, SR747-2.36, Princeton-Glendale Road, DOT # 524966P, PID 105780

Dear Mr Klinger:

The plan and estimate dated July 17, 2017, for the referenced project has been reviewed and is acceptable. Norfolk Southern Railway Company 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 \$11,056.80. 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 Norfolk Southern Railway Company accepting the following instructions:

1. Norfolk Southern Railway Company's project foreman will furnish written notification five (5) working days prior to the date work will start at the project site to Greg Gronbach, ORDC, email Greg.Gronbach@dot.ohio.gov , and to the Public Utilities Commission of Ohio at Jill.Henry@puc.state.oh.us. Norfolk Southern Railway Company'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. Norfolk Southern Railway Company 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 Norfolk Southern Railway Company.
3. Norfolk Southern Railway Company's project foremen will notify Greg Gronbach at 614-395-1824 (telephone) or Greg.Gronbach@dot.ohio.gov (email) of any changes in the



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

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. Norfolk Southern Railway Company will furnish two (2) copies of each partial bill to ORDC. Please find the enclosed ODOT Purchase Order to reference when billing.
6. Norfolk Southern Railway Company will furnish two (2) copies of the final all-inclusive bill to ORDC stating the exact dates of starting and completing work, the initial and final dates of construction and location where the accounts may be audited.
7. This installation will include any ancillary work to make the warning devices function as designed and meet MUTCD.

This project is authorized for construction under the master agreement between Ohio Rail Development Commission, Public Utilities Commission of Ohio and Norfolk Southern executed on December 19, 2012.

Thank you for your assistance with these matters.

Sincerely,


Greg Gronbach
Project Manager

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



17-Jul-17

Detailed Estimate for Grade Crossing Warning Devices

City/State: PORT UNION, OH

Road: PRINCETON-GLENDALE
RD (SR 747)

MilePost: CF-23.31

DOT/AAR: 524966P

State Proj. No.: PID 105780

County: BUTLER

S&E Proj. No.: 10.3191

File Number: 061-10.0002

Man Days: 6

Purchases - Others	
Meals and Lodging:	\$820.71
Rental of Equipment:	\$1,121.91
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 1 Days)	
Construction Supervision Vehicle:	\$171.61
Purchases - Other Total:	\$2,114.23
Material And Additives	
Material Cost:	\$5,728.00
Sales and Use Tax:	\$458.00
Material Handling Freight:	\$572.78
Material Total:	\$6,758.78
Labor And Additives	
Labor Cost:	\$1,932.00
(6 man crew at \$1,932.00 a day for: 1 days)	
Payroll Tax & Overheads:	\$1,647.22
Preliminary Engineering:	\$804.28
Construction Supervision:	\$564.34
Labor Total:	\$4,947.84
Project Cost:	\$13,820.85
Scrap / Salvage Credit:	\$0.00
Project Total:	\$13,821.00

Estimated on: 17-Jul-17

Estimated by: ndr3j

Estimate valid for 1 year from date of estimate



Norfolk Southern Railway
Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	PORT UNION
Road:	PRINCETON-GLENDALE RD (SR 747)
Mile Post:	CF-23.31
Drawing Number:	NCMC02331
State Project Number:	PID 105780
County:	BUTLER
A A R Number:	524966P
Project Number:	10.3191
File Number:	061-10.0002
New File Number:	CX0101426
WBS:	F-04273
Store Number:	S803
Supervisor:	J. BRASWELL
Tax Code:	
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	

Location: PORT UNION

OH

S&E Proj. No.: 10.3191

AFE No.: F-04273

Drawing No.: NCMC02331

Store No.: S803

P.O. Number:

Date Required:

Date Shipped:

Vendor: In House

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Date Quan.	Quantity Date Quan.	Quantity Date Quan.	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.						
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						
20	670-005514-4	EA	\$166.50	\$3,330.00	LAMP ASSY, LED INSERT, 12" GE LED LAMP ASSEMBLY FOR INCANDESCENT CHANGEOUT						
1	670-700469-4	EA	\$1,185.41	\$1,185.41	MODULE, MULTI FREQUENCY ISLAND SAFETRAN #80211 FOR 3000GCP						

Total Material: \$5,727.85

APPROVED BY STATE

APPROVED BY RAILROAD

CAR NUMBER

SEAL NUMBER

Monday, July 17, 2017 2:30 PM

Page: 2 of 2

TO HAMILTON
(WEST)
M.P. INCREASING

TO MILL
(EAST)
M.P. DECREASING

PRINCETON RD.
SR. 747
2628'

DWBS

CANT. #2

GATE #2

SHELTER
CF-23.31
4'X6'

POWER
SOURCE

430HZ 3000GCP 13.2KHZ

PRINCETON RD.
(SR 747)
M.P. CF-23.31
DOT #524966P

1. INSTALL LED INSERTS INTO
12" LIGHT ASSEMBLIES
2. REPLACE GATE & GATE LIGHTS TO LED'S

OPERATION

25 SEC.-WARNING TIME

5 SEC.-GCP ACTION

30 SEC. AT 60 M.P.H.=2628' APPROACH

WHD

NWHD

EHD

NEHD

BHD

NBHD

SPARE

SPARE

SPARE

SPARE

WHD

NWHD

EHD

NEHD

BHD

NBHD

SPARE

SPARE

SPARE

SPARE

R-NSIG

BURIED CABLE

PROJECT #10.0136

LAYOUT

DESIGNED BY:
SSC 11-12-93

DRAWN BY:
SSC 11-12-93

CHECKED BY:
SSC 11-14-93

IN SERVICE:
JF 07-27-94

NS NORFOLK SOUTHERN

OFFICE OF ASS'T. VICE PRESIDENT
COMM. & SIGNAL, ATLANTA, GA. M.P.: CF-23.31

MILL, OHIO TO MUNCIE, INDIANA
PORT UNION, OH. CFLGS AT SR747

NEW CASTLE DISTRICT

CADD and
DWG. No. NCMC02331.01

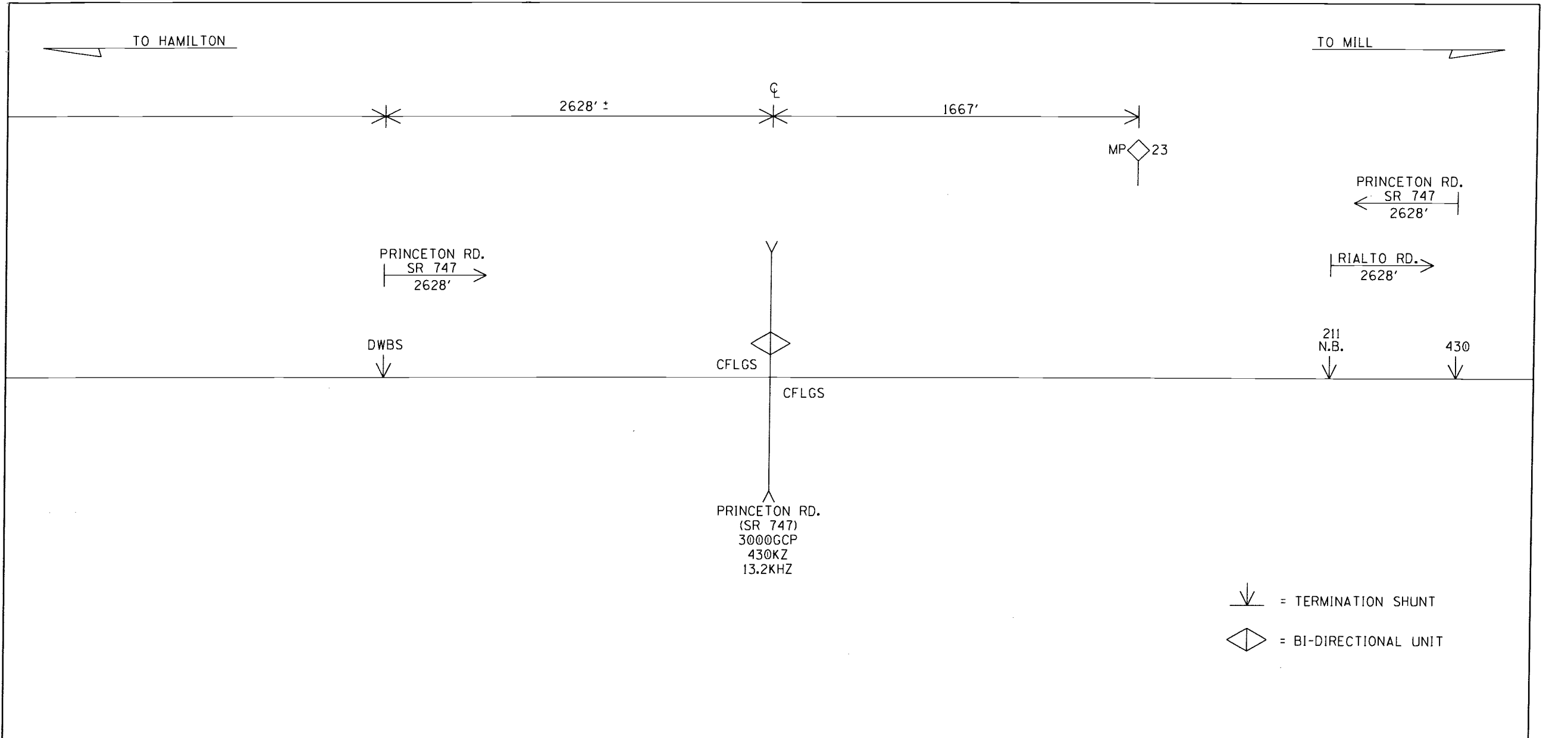
FILE
No. 061-10.002

SHEET
No. 1 of 15

REVISION TLD 03-07-97 AS IN SERVICE M-1658
INITIALS SWS 05-09-97 05-02-07/TG 02-23-10
RSD/SAH TLD/EA 03-17-10 TLD/02-20-15
URL/09-18-15

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

00=IN
X=OUT
CP-6-29-17




↓ = TERMINATION SHUNT
◇ = BI-DIRECTIONAL UNIT

NOTE: THE ABOVE START DISTANCES ARE MEASURED FROM THE SHUNT TO THE CLOSEST GCP ISLAND LEADS OF THE STREET IT PROTECTS.

PROFILE

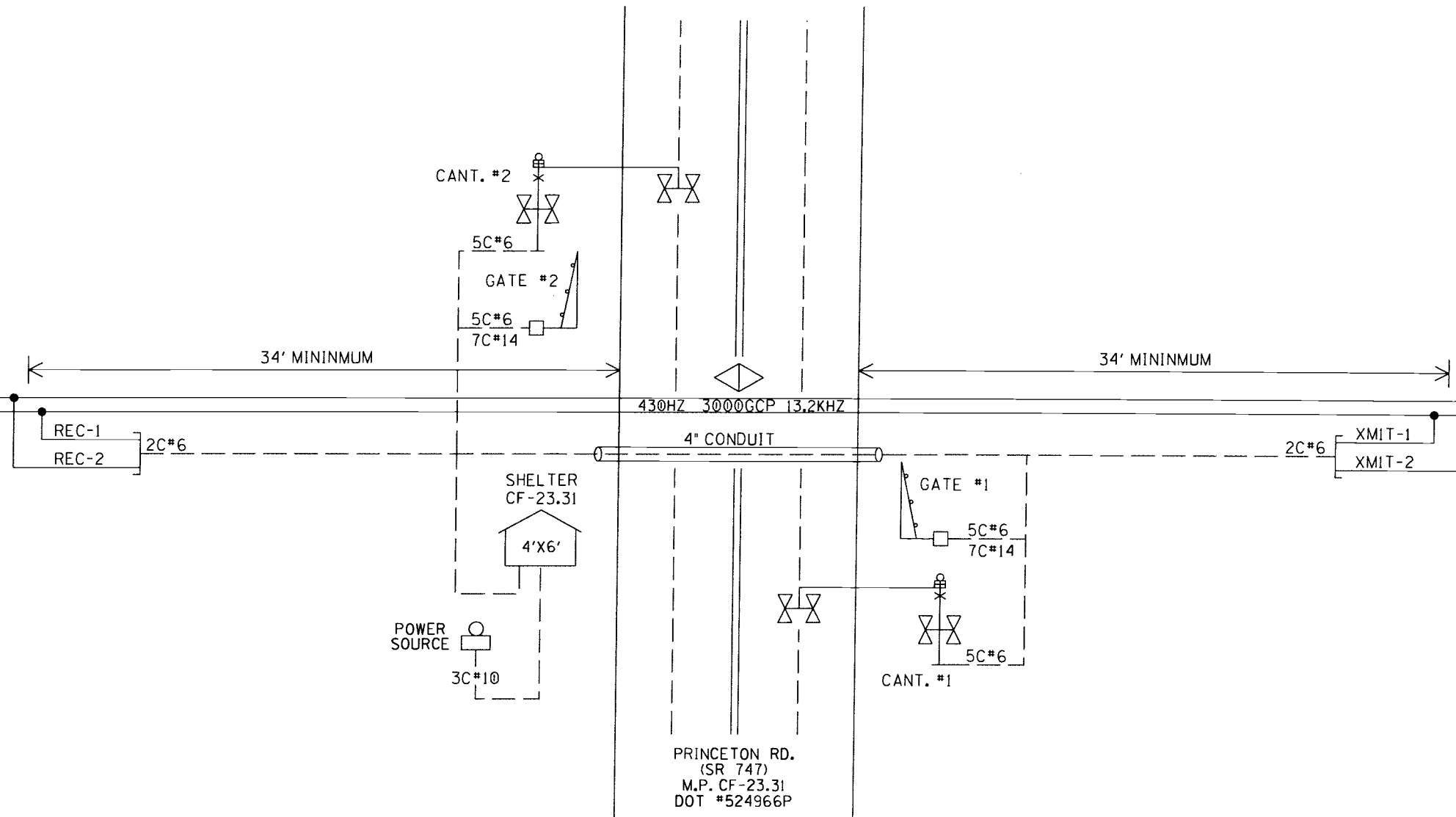
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INITIALS	SWS 05-09-97	05-02-07/TG	02-23-10
		RSD/SAH	TLD/EA
			03-17-10
		M-2943	
		TLD/02-20-15	
		URL/09-18-15	

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.


DESIGNED BY:	SSC 11-12-93	 NORFOLK SOUTHERN	
DRAWN BY:	SSC 11-12-93	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
CHECKED BY:	SSC 11-14-93	MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747	
IN SERVICE:	JF 07-27-94	NEW CASTLE DISTRICT	FILE No. 061-10.002
		CADD and DWG. No. NCMC02331.02	SHEET 2 of 15

TO HAMILTON

TO MILL

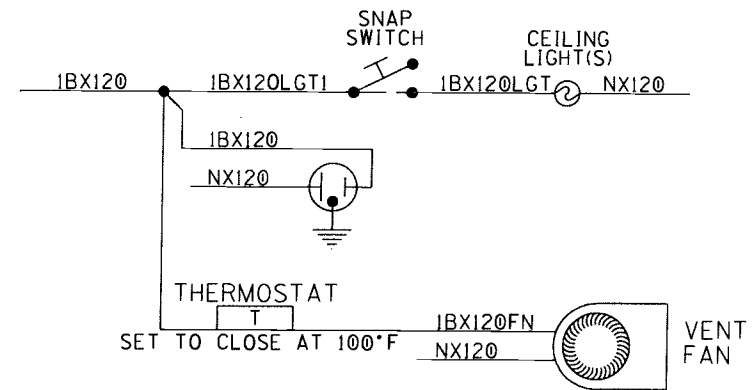



CABLE PLAN

DESIGNED BY:		 NORFOLK SOUTHERN	
SSC	11-12-93		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
SSC	11-12-93		
CHECKED BY:		MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747	
SSC	11-14-93		
IN SERVICE:		NEW CASTLE DISTRICT	FILE No. 061-10.002
JF	07-27-94	CADD and DWG. No. NCMC02331.03	SHEET No. 3 of 15

REVISION	TLD 03-07-97	AS IN SERVICE	M-1658	M-2943
INITIALS	SWS 05-09-97	05-02-07/TG	02-23-10	TLD/02-20-15
		RSD/SAH	03-17-10	URL/09-18-15

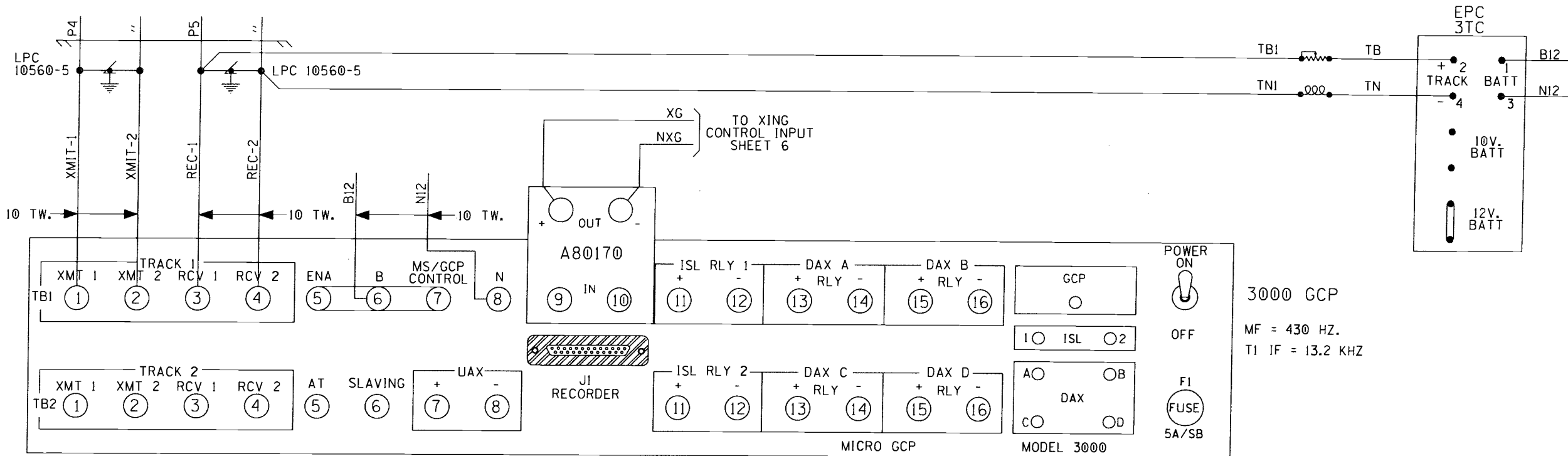
PROPERTY
NORFOLK SOUTHERN RAILWAY CO.



DESIGNED BY:		 NORFOLK SOUTHERN	
DLH	08-09-89		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT	
DLH	08-09-89	COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
CHECKED BY:		MILL, OHIO TO MUNCIE, INDIANA	
		PORT UNION, OH. CFLGS AT SR747	
IN SERVICE:		NEW CASTLE DISTRICT	FILE No. 061-10.002
JF	07-27-94	CADD and DWG. No. NCMC02331.04	SHEET No. 4 of 15

REVISION	M-1658	M-2943
INITIALS	02-23-10 TLD/EAL 03-17-10	TLD/02-20-15 URL/09-18-15

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.



3000 GCP
MF = 430 HZ.
T1 IF = 13.2 KHZ

3000 PROGRAMMING	
# OF TKS/TRANSCIEVERS	1
BASIC FREQUENCY	430Hz
T1 UNI/BIDIRECTIONAL	BI
T2 UNI/BIDIRECTIONAL	---
T1 POWER- MAX/MED	MED
T2 POWER- MAX/MED	---
T1 PRED/MS	PRE
T2 PRED/MS	---
T1 WARNING TIME	30 Sec
T2 WARNING TIME	Sec
T1 APPROACH DIST	2628F+
T2 APPROACH DIST	F+
UAX PU DELAY(0=OFF)	0 Sec
ENA/UAX PU DLY(0=OFF)	0 Sec
T1 ISL DIST	130 F+
T2 ISL DIST	F+
# OF DAX'S	0 Ed

DAX A = T1/T2?	TRACK=
DAX A DIST	F+
DAX A WARN TIME	Sec
DAX B = T1/T2?	TRACK=
DAX B DIST	F+
DAX B WARN TIME	Sec
DAX C = T1/T2?	TRACK=
DAX C DIST	F+
DAX C WARN TIME	Sec
DAX D = T1/T2?	TRACK=
DAX D DIST	F+
DAX D WARN TIME	Sec
MASTER?/SLAVE?	MASTER
PASSWORD NO/YES	DISABLED
RECORDER NO/YES	NO

EXPANDED PROGRAMMING	
T1-SW TO MS AT 10 % OF EZ	
T2-SW TO MS AT % OF EZ	
T1-DELAY MS TO GCP	0 Sec
T2-DELAY MS TO GCP	Sec
T1 PRIME PRE. OFFSET	0 F+
T2 PRIME PRE. OFFSET	F+
PRIME PU TIME DELAY	10 Sec
DAX A PU DELAY	Sec
DAX B PU DELAY	Sec
DAX C PU DELAY	Sec
DAX D PU DELAY	Sec
T1 # OF TRK. WIRES 4/6	4
T2 # OF TRK. WIRES 4/6	

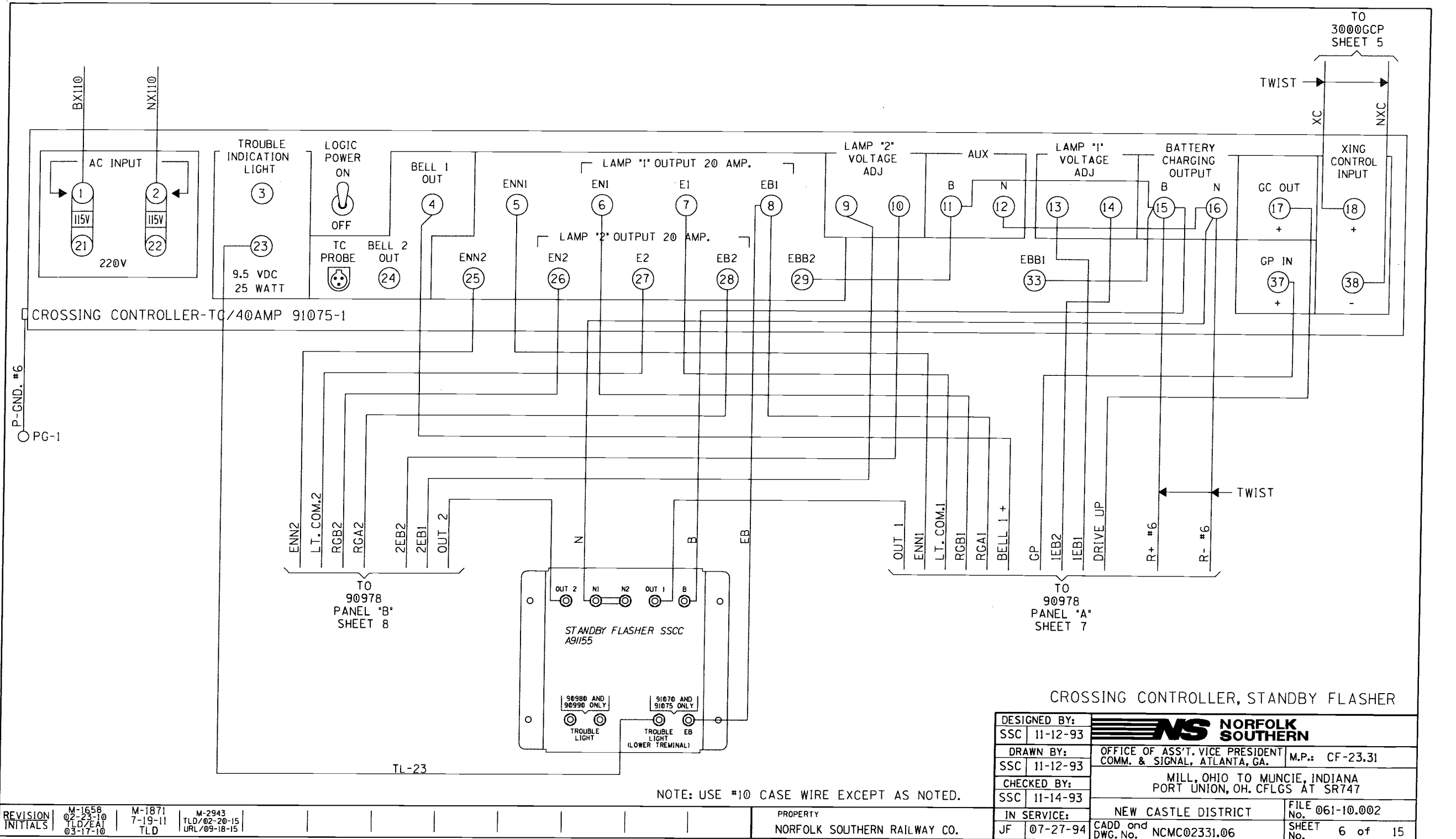
* = 1ST SLOT AT LEFT END OF BAY

MODEL 3000 GCP MODULE ASSEMBLIES										
UPPER BAY										
MODULES POSITION	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
MODULE NUMBERS	*	80011-f(1)	80011-f(2)	80012 T/R 1	80012 T/R 2	80013 RLY DRV	80014 PROCS	80015 LOGG	80016 (1) DAX	80016 (2) DAX
MODULES USED	x			x		x	x			x

80011
XX=WT
CP
7-17-17


3000 GCP HOOK-UP

DESIGNED BY:	DLH 08-09-89	NS NORFOLK SOUTHERN
DRAWN BY:	DLH 08-09-89	
CHECKED BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: CF-23.31
IN SERVICE:	JF 07-27-94	MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747
		NEW CASTLE DISTRICT
		FILE No. 061-10.002
		CADD and DWG. No. NCMC02331.05
		SHEET 5 of 15

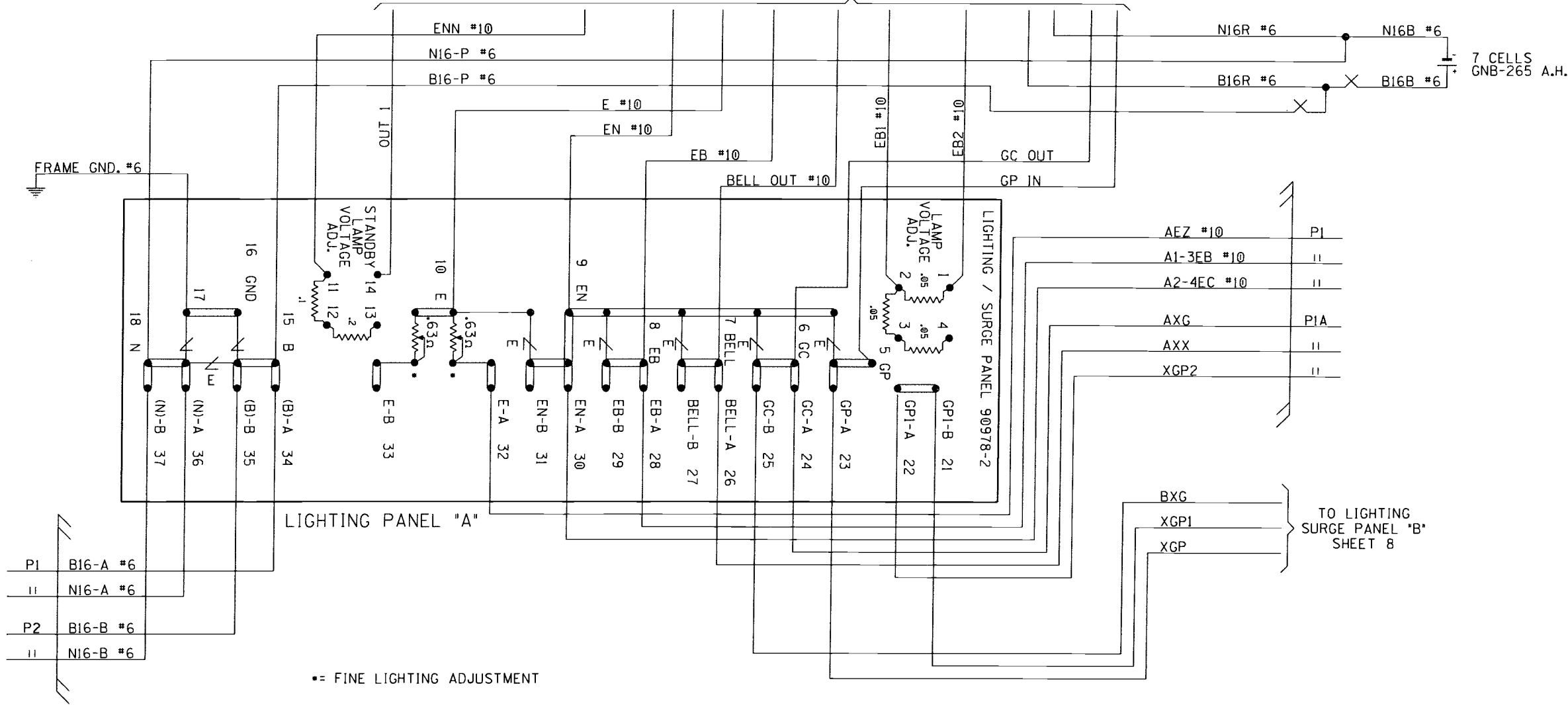


REVISION	M-1658 02-23-10 TLD/EAJ 03-17-10	M-1871 7-19-11 TLD	M-2943 TLD/02-20-15 URL/09-18-15
INITIALS			


PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

CROSSING CONTROLLER, STANDBY FLASHER		
DESIGNED BY:	 NORFOLK SOUTHERN	
SSC 11-12-93		
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT	
SSC 11-12-93	COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
CHECKED BY:	MILL, OHIO TO MUNCIE, INDIANA	
SSC 11-14-93	PORT UNION, OH. CFLGS AT SR747	
IN SERVICE:	NEW CASTLE DISTRICT	FILE No. 061-10.002
JF 07-27-94	CADD and DWG. No. NCMC02331.06	SHEET No. 6 of 15

TO
CROSSING CONTROLLER
SHEET 6

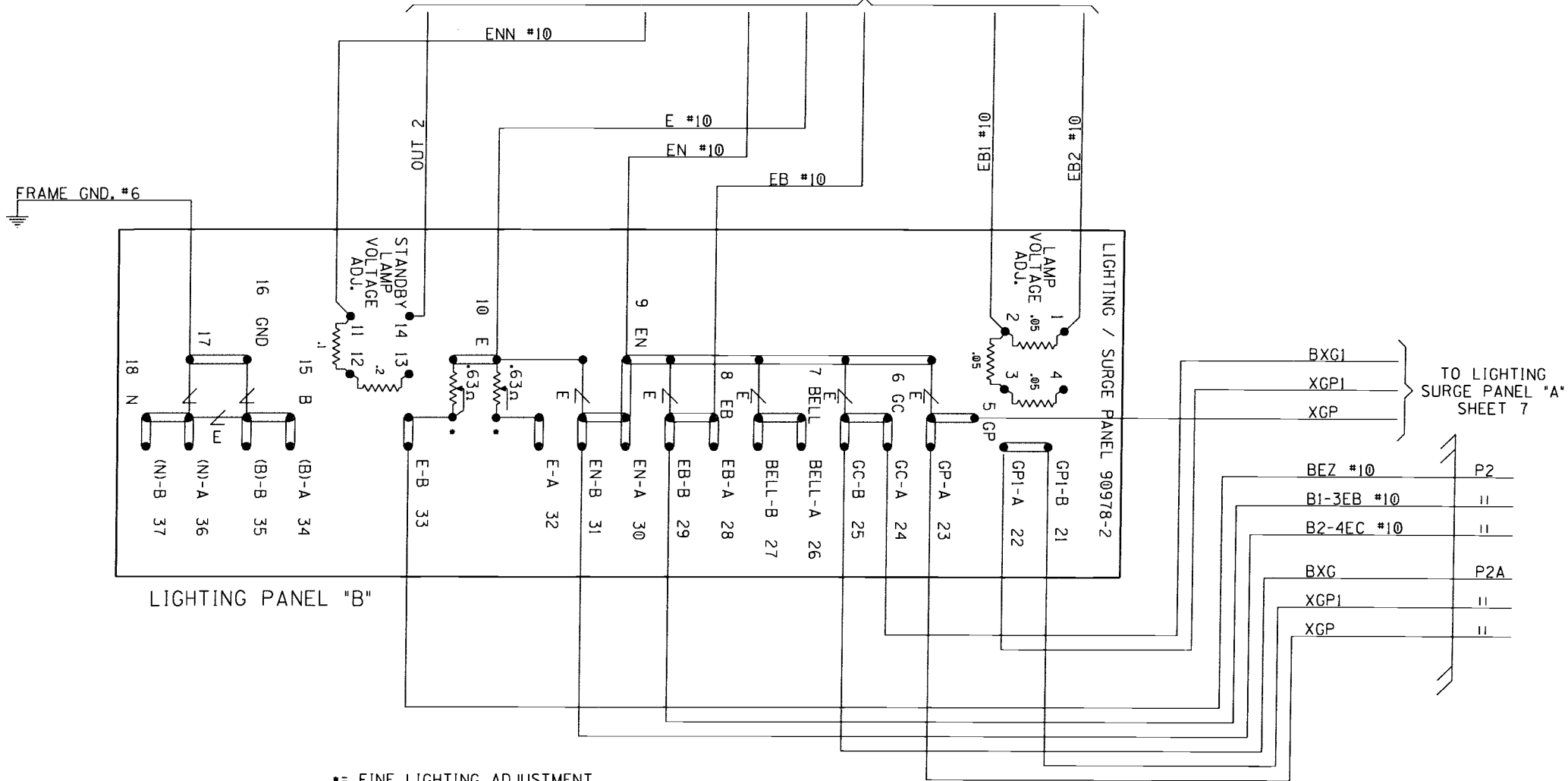


LIGHTING/SURGE PANEL "A"

DESIGNED BY:		 NORFOLK SOUTHERN	
DLH	08-09-89		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
DLH	08-09-89		
CHECKED BY:		MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747	
	- -		
IN SERVICE:		NEW CASTLE DISTRICT	FILE No. 061-10.002
JF	07-27-94	CADD and DWG. No. NCMC02331.07	SHEET No. 7 of 15

REVISION	M-1658 02-23-10 TLD/EAJ 03-17-10	M-1871 7-19-11 TLD	M-2943 TLD/02-20-15 URL/09-18-15
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TO
CROSSING CONTROLLER
SHEET 6



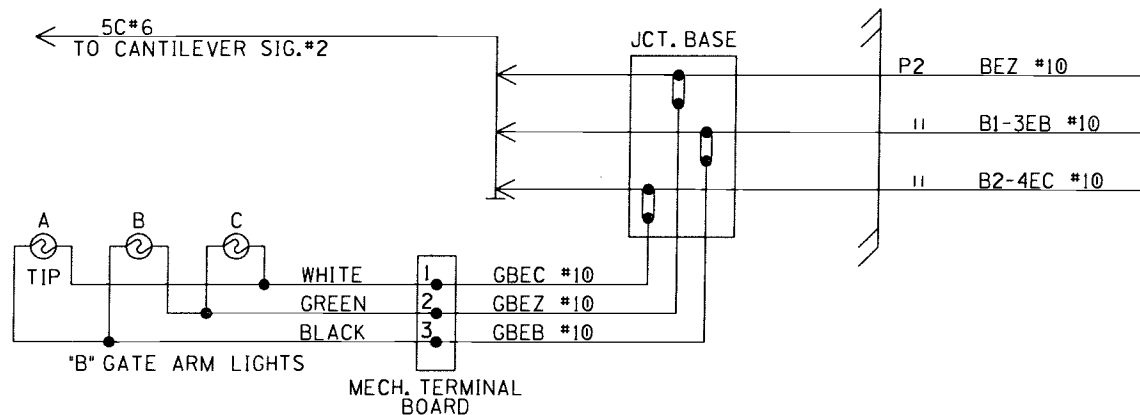
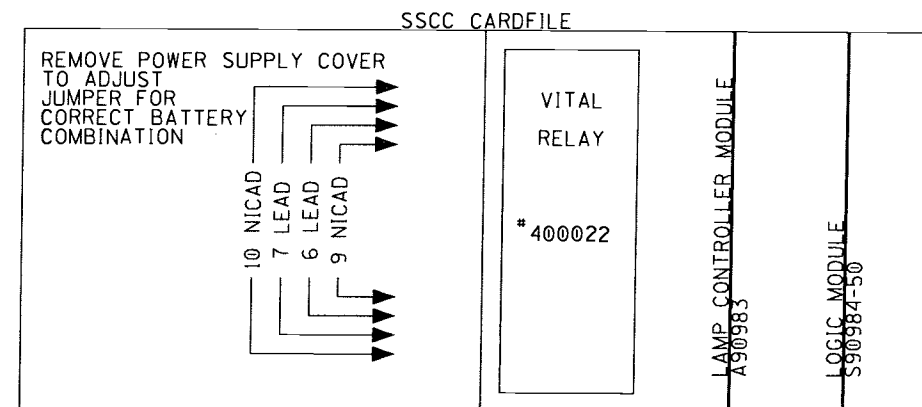
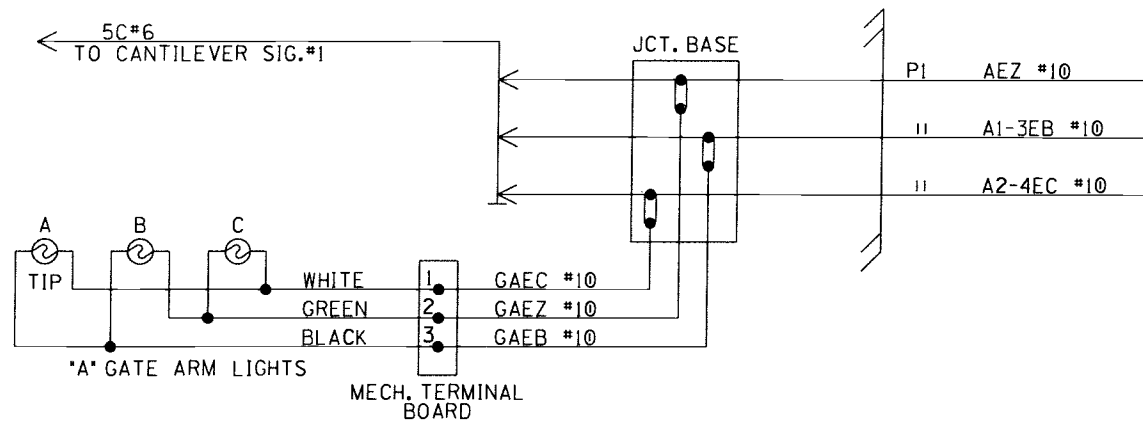
== FINE LIGHTING ADJUSTMENT

LIGHTING/SURGE PANEL "B"


DESIGNED BY:	NS NORFOLK SOUTHERN		
DLH 08-09-89	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		
DRAWN BY:	M.P.: CF-23.31		
DLH 08-09-89	MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747		
CHECKED BY:			
IN SERVICE:	NEW CASTLE DISTRICT		FILE No. 061-10.002
JF 07-27-94	CADD and DWG. No. NCMC02331.08		SHEET 8 of 15

REVISION INITIALS	M-1871 7-19-11 TLD	M-2943 TLD/02-20-15 URL/09-18-15
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PROPERTY
NORFOLK SOUTHERN RAILWAY CO.



GATE ARM LIGHTS

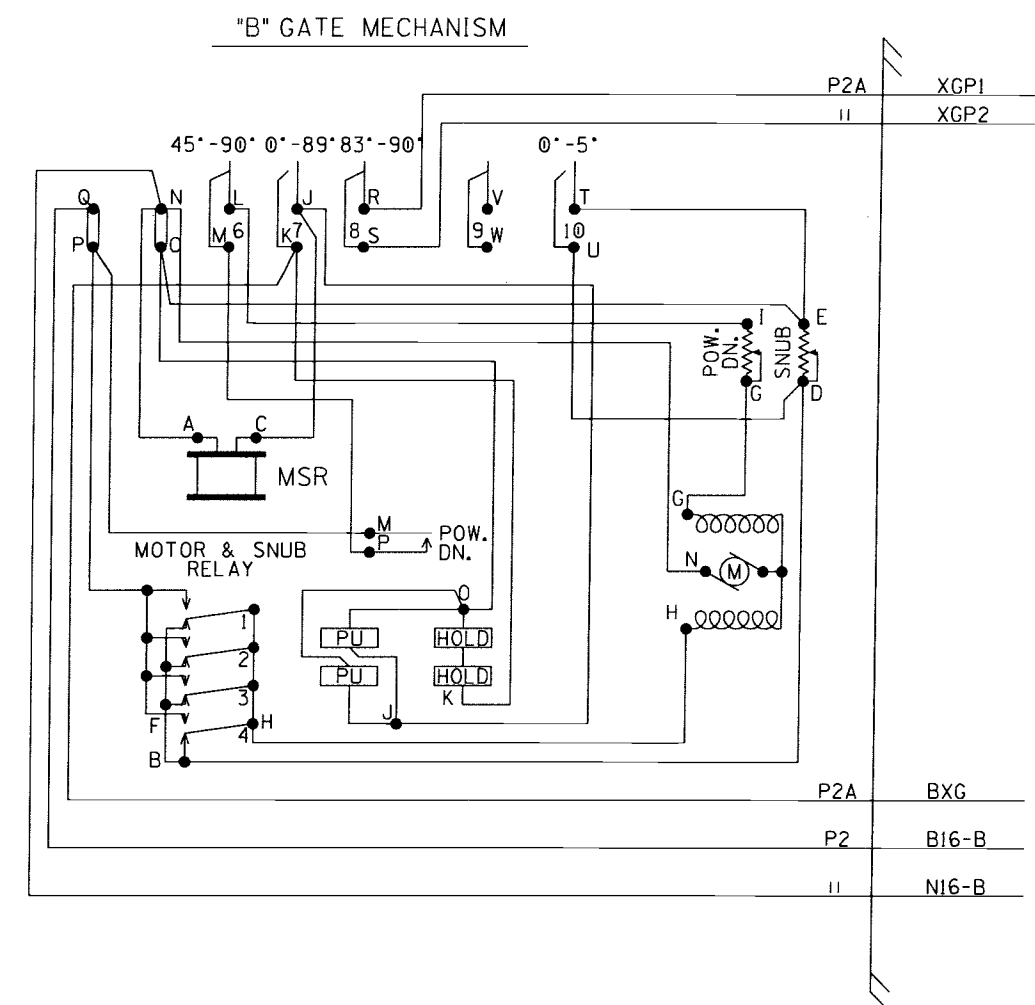
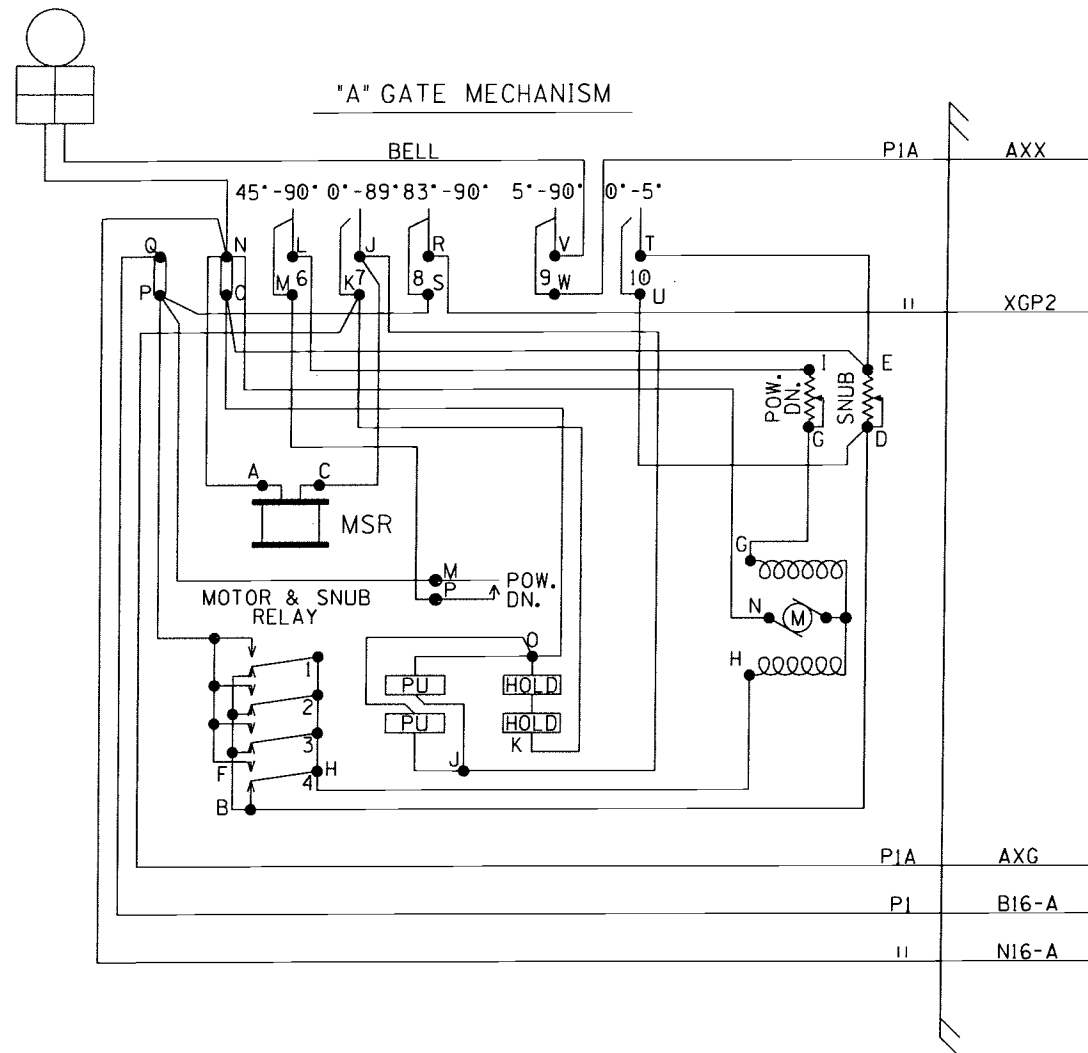
DESIGNED BY:		 NORFOLK SOUTHERN	
DLH	08-09-89		
DRAWN BY:		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
DLH	08-09-89		
CHECKED BY:		MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747	
	-		
IN SERVICE:		NEW CASTLE DISTRICT	FILE No. 061-10.002
JF	07-27-94		
		CADD and DWG. No. NCMC02331.09	SHEET 9 of 15

REVISION
INITIALS

M-2943
TLD/02-20-15
URL/09-18-15

PROPERTY


NORFOLK SOUTHERN RAILWAY CO.



SAFETRAN MODEL "S" GATE

CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45°-90°	POWER DOWN CONTROL
(7) J-K	0°-89°	POWER UP CONTROL
(8) R-S	83°-90°	FLASHING LGT. CONTROL
(9) V-M	5°-90°	BELL CONTROL
(10) T-U	0°-5°	MOTOR SNUB CONTROL

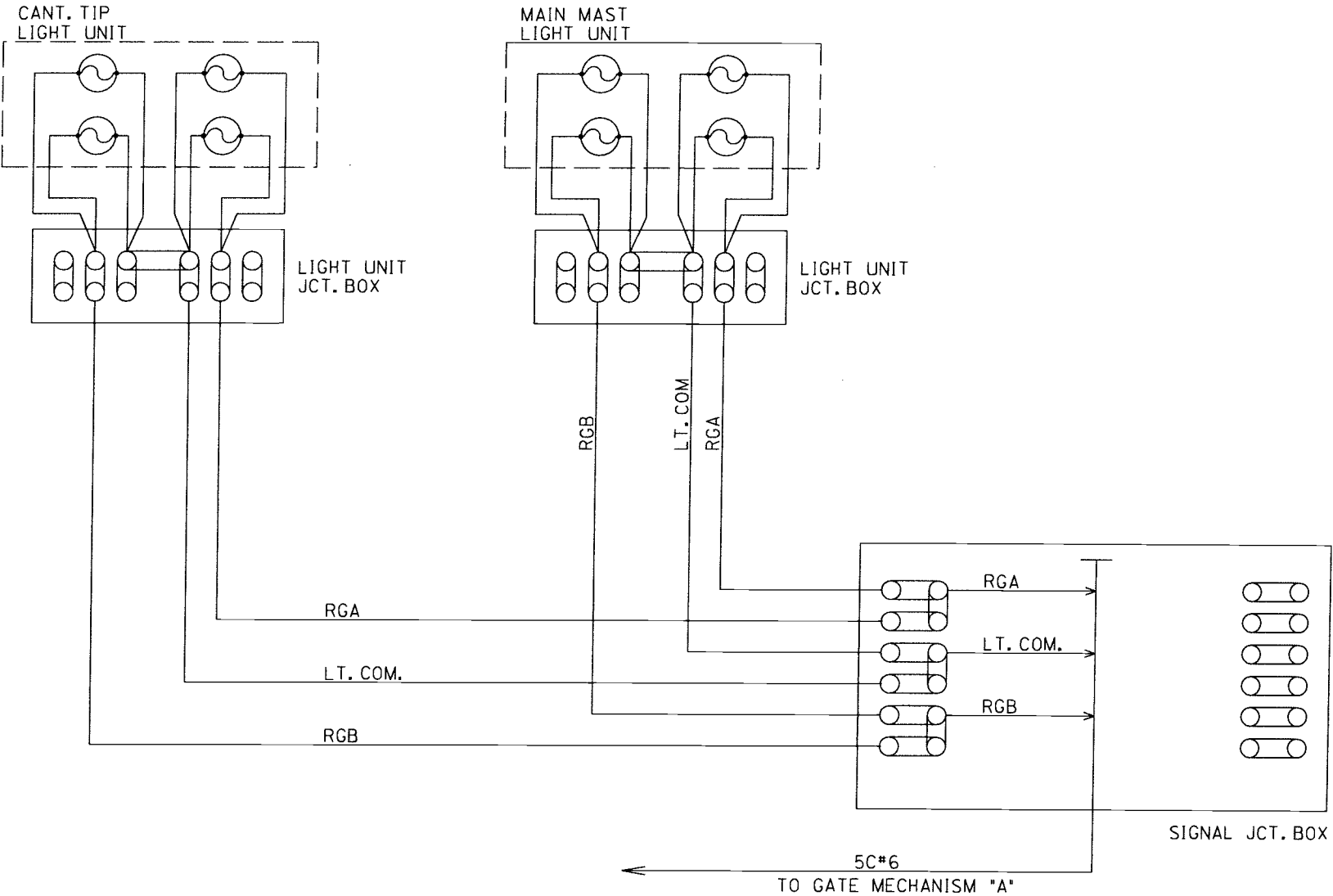
GATE MECHANISMS

DESIGNED BY:	 NORFOLK SOUTHERN		
DLH 08-09-89	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		
DRAWN BY:	M.P.: CF-23.31		
DLH 08-09-89	MILL, OHIO TO MUNCIE, INDIANA		
CHECKED BY:	PORT UNION, OH. CFLGS AT SR747		
IN SERVICE:	NEW CASTLE DISTRICT		FILE No. 061-10.002
JF 07-27-94	CADD and DWG. No. NCMC02331.10		SHEET No. 10 of 15


REVISION INITIALS M-2943 TLD/02-20-15 URL/09-18-15

PROPERTY NORFOLK SOUTHERN RAILWAY CO.

CANTILEVER SIGNAL #1



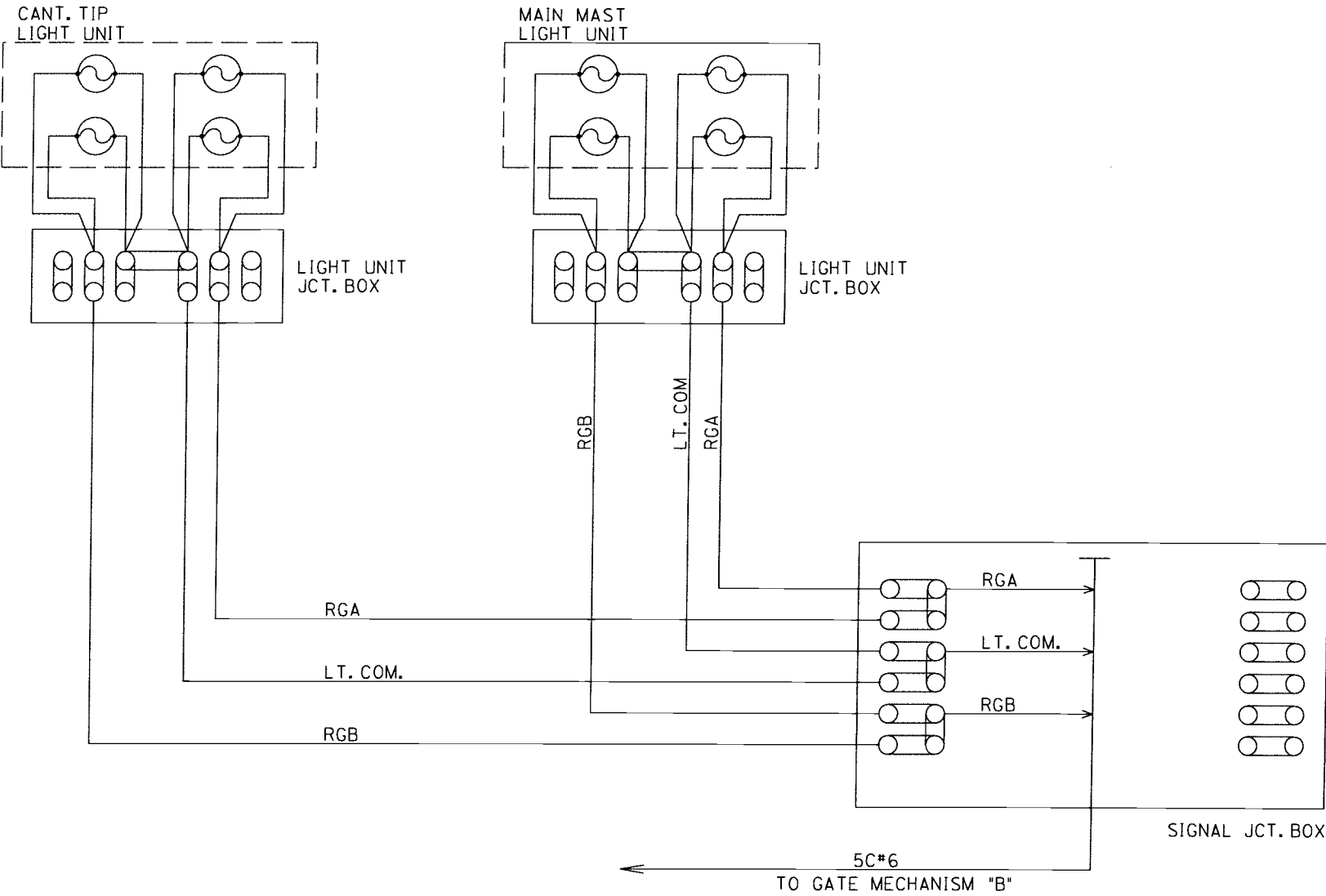
CANTILEVER SIGNAL #1

DESIGNED BY:	SSC	11-12-93	 NORFOLK SOUTHERN	
DRAWN BY:	SSC	11-12-93	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
CHECKED BY:	SSC	11-14-93	MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747	
IN SERVICE:	JF	07-27-94	NEW CASTLE DISTRICT	FILE No. 061-10.002
			CADD and DWG. No. NCMC02331.11	SHEET 11 of 15

REVISION	M-2943
INITIALS	TLD/02-20-15 URL/09-18-15

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

CANTILEVER SIGNAL #2

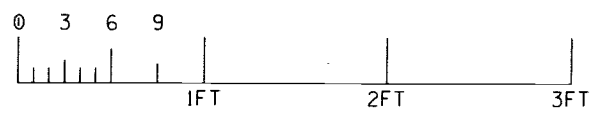
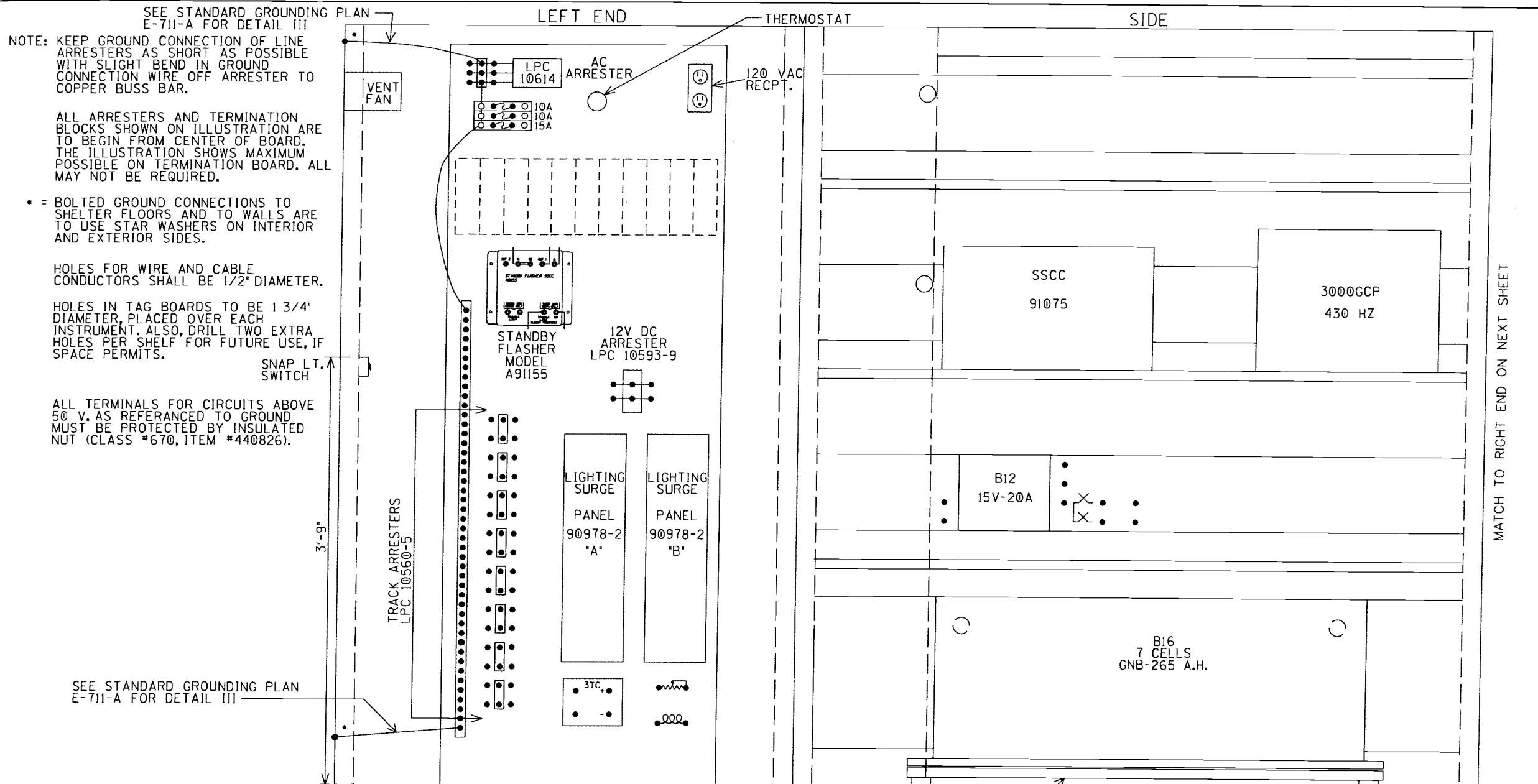



CANTILEVER SIGNAL #2

DESIGNED BY:	SSC	11-12-93	NS NORFOLK SOUTHERN	
DRAWN BY:	SSC	11-12-93	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
CHECKED BY:	SSC	11-14-93	MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747	
IN SERVICE:	JF	07-27-94	NEW CASTLE DISTRICT	FILE No. 061-10.002
			CADD and DWG. No. NCMC02331.12	SHEET No. 12 of 15

REVISION INITIALS M-2943 TLD/02-20-15 URL/09-18-15

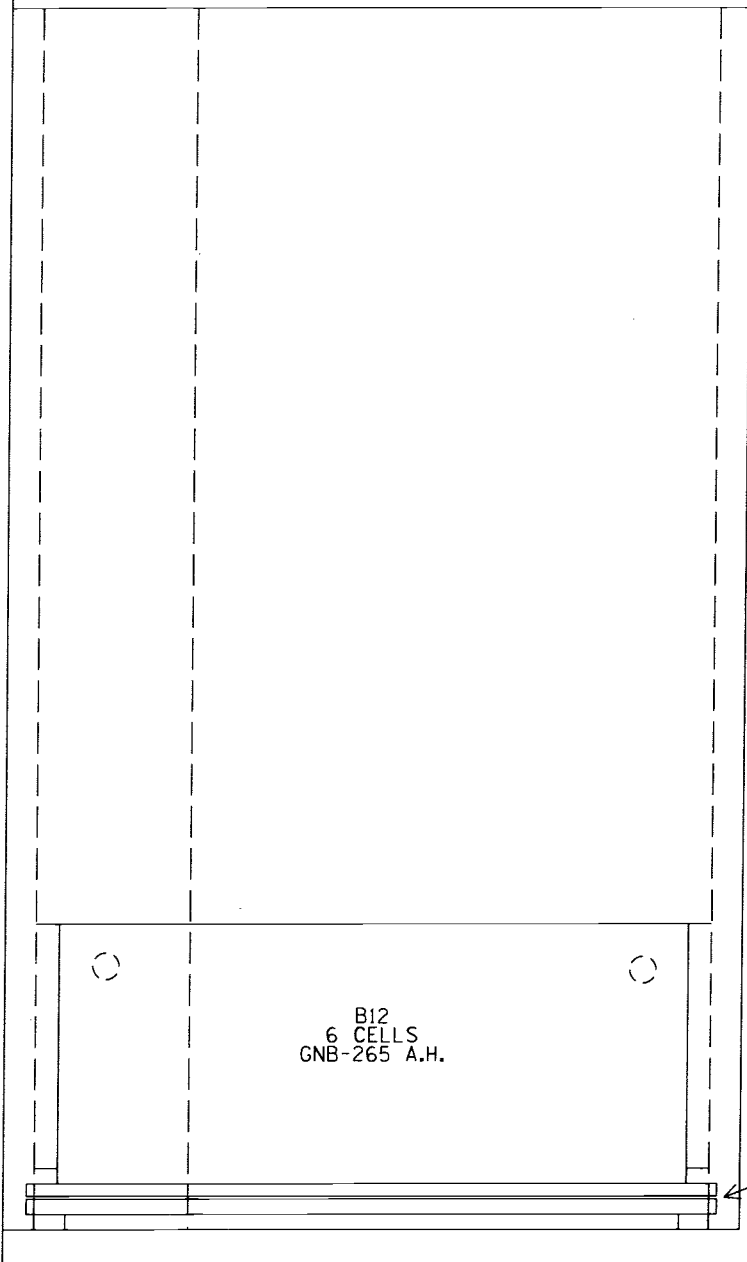
PROPERTY NORFOLK SOUTHERN RAILWAY CO.



REVISION	TLD 03-07-97	AS IN SERVICE	M-1658	M-1871	M-2943	PROPERTY	DESIGNED BY:	 NORFOLK SOUTHERN		
INITIALS	SWS 05-09-97	05-02-07/TG	02-23-10	7-19-11	TLD/02-20-15	NORFOLK SOUTHERN RAILWAY CO.	DLH 08-09-89			
		RSD/SAH	TLD/EAJ	TLD	URL/09-18-15		DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT		
			03-17-10				DLH 08-09-89	COMM. & SIGNAL, ATLANTA, GA.		
							CHECKED BY:	MILL, OHIO TO MUNCIE, INDIANA		
								PORT UNION, OH. CFLGS AT SR747		
							IN SERVICE:	NEW CASTLE DISTRICT		
							JF 07-27-94	CADD and DWG. No. NCMC02331.13		
								FILE No. 061-10.002		
								SHEET No. 13 of 15		

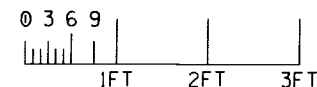
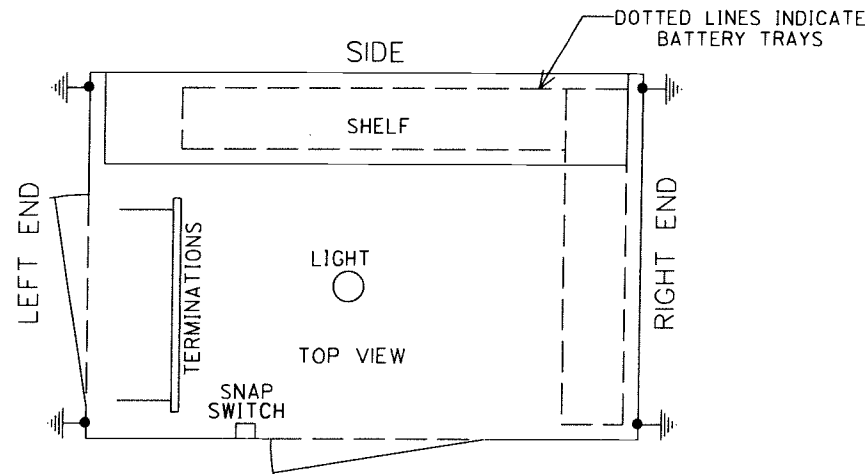
MATCH TO SIDE ON PREVIOUS SHEET

RIGHT END




NOTE: HOLES FOR WIRES AND CABLE CONDUCTORS SHALL BE 1/2" IN. DIAMETER.
HOLES IN TAG BOARDS TO BE 1 3/4" DIAMETER, PLACED OVER EACH INSTRUMENT.

TOP VIEW

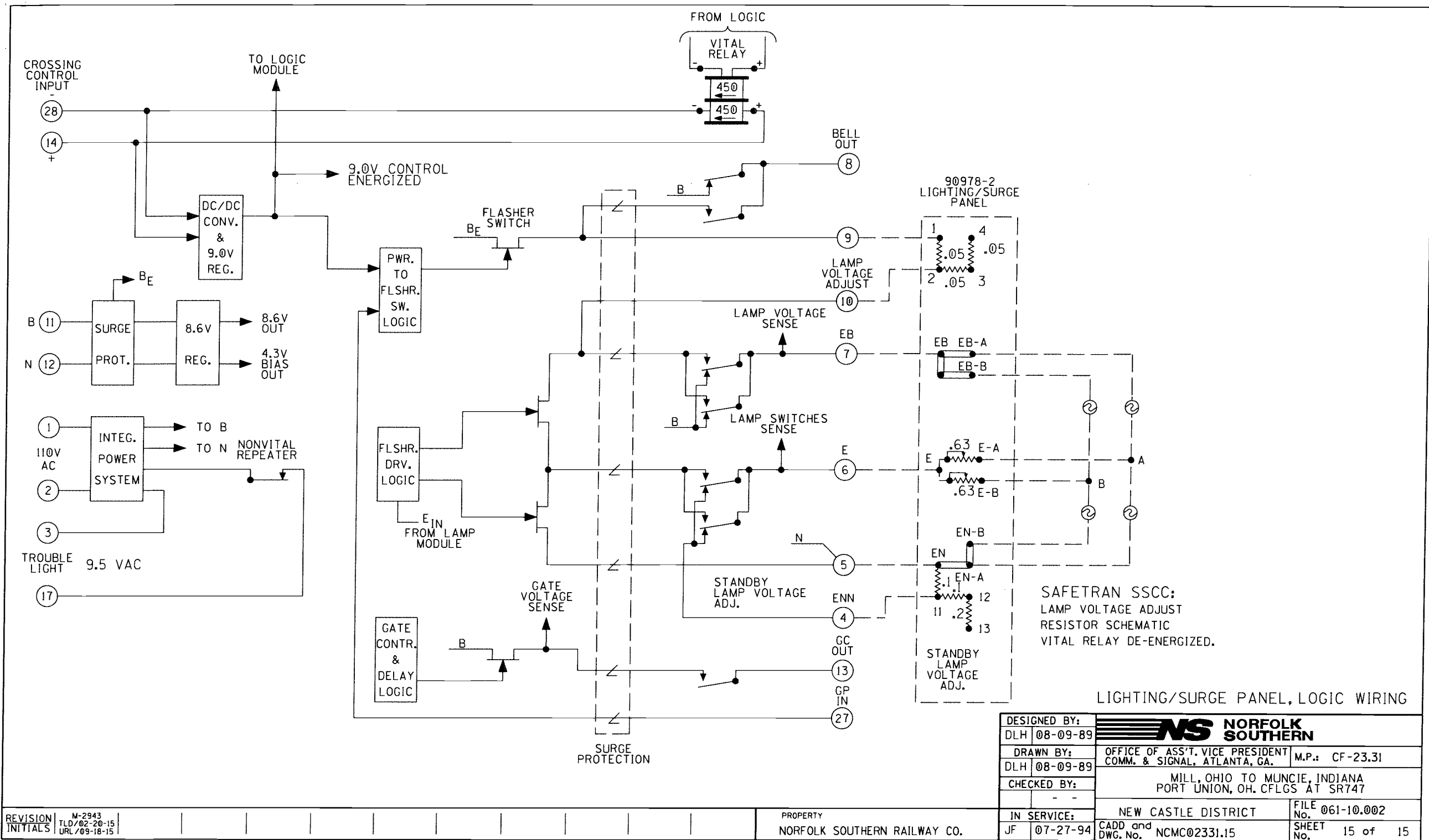


HOUSE - RIGHT END & TOP VIEW

DESIGNED BY:	 NORFOLK SOUTHERN		
DLH 08-09-89	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		
DRAWN BY:	MILL, OHIO TO MUNCIE, INDIANA		
DLH 08-09-89	PORT UNION, OH. CFLGS AT SR747		
CHECKED BY:	NEW CASTLE DISTRICT		
IN SERVICE:	FILE No. 061-10.002		
JF 07-27-94	CADD and DWG. No. NCMC02331.14		
			SHEET 14 of 15

REVISION	M-1658	M-2943
INITIALS	02-23-10	TLD/02-20-15
	03-17-10	URL/09-18-15

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.



REVISION N-2943
INITIALS TLD/02-20-15
URL/09-18-15

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

DESIGNED BY:	DLH 08-09-89	NS NORFOLK SOUTHERN	
DRAWN BY:	DLH 08-09-89	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: CF-23.31
CHECKED BY:	-	MILL, OHIO TO MUNCIE, INDIANA PORT UNION, OH. CFLGS AT SR747	
IN SERVICE:	JF 07-27-94	NEW CASTLE DISTRICT	FILE No. 061-10.002
		CADD and DWG. No. NCMC02331.15	SHEET No. 15 of 15



OHIO RAIL DEVELOPMENT COMMISSION

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

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

June 12, 2017

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

RE: PE Authorization
Butler County, SR747-2.36, Princeton-Glendale Road, DOT # 524966P, PID 105780

Dear Mr Klinger:

A diagnostic review was held at the above grade crossing on March 16, 2017. The crossing has been recommended for upgrade to the existing warning devices to LED.

Norfolk Southern Railway Company 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 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 Greg Gronbach. Mr. Gronbach can be reached at (614) 395-1824, or Greg.Gronbach@dot.ohio.gov, if you have any questions.

Sincerely,

Greg Gronbach
Project Manager

C: Randall Schumacher, Supervisor, Rail Division, PUCO
Jill Henry, Rail Specialist, 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



OHIO RAIL DEVELOPMENT COMMISSION

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

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

May 2, 2017

Norfolk Southern Railway Company
Mr. Stephen Klinger
Administrator Highway Grade Crossing Improvements
1200 Peachtree Street
Atlanta, GA 30309-3597

Subject: Grade Crossing Warning Device Improvements, PID 105780
Butler County, SR 747-2.36, Princeton-Glendale Road, DOT# 524966P

Dear Mr. Klinger:

A diagnostic review was conducted at the subject grade crossings on 3/16/2017. As a result of the review, the devices will receive LED upgrade.

This project shall be completed in compliance with Agreement No. 17450, dated December 19, 2012, entered into by the State of Ohio and Norfolk Southern Railway Company (NS) and incorporated as if fully rewritten herein. This construction shall also meet the general terms and conditions under the Fixing America's Surface Transportation Act and subsequent amendments and the State of Ohio's Federally Funded Warning Device Program.

Preliminary engineering (PE) and construction costs shall be borne eighty percent (80%) by ORDC and twenty percent (20%) by NS. Reimbursable costs will be limited by the ORDC based on approved estimates and bid tabulations, if applicable. These limits will be quantified by the ORDC in its construction authorization to NS and may be amended by the ORDC based on revised estimates and bid tabulations.

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

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

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

Sincerely,

Matthew R. Dietrich
Executive Director



www.rail.ohio.gov

phone: 614.644.0306

IMPROVING RAIL TODAY FOR TOMORROW'S ECONOMY

Norfolk Southern:

By: Rugor K. Conback

Title: General Manager

Date: 5/16/17

BUT SR 747-2.36, Princeton-Glendale Road, DOT# 524966P, PID 105780

Diagnostic Review Team Survey

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

Fatal Location

Date: 3/16/2017

Location Data

Street or Road Name: Princeton-Glendale Rd			
Route/Road Number (i.e. Twp., Co., SR or US) SR 747-2.36		US DOT No.: 524966P	
County: BUT	Township:	City: (In or Near)	Near Hamilton
Railroad Name: Norfolk Southern	Railroad Division: Lake	Branch/Line Name:	New Castle
Nearest RR Timetable Station: Hamilton		RR Milepost: 23.31	

On-Site Review Team

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

1. GREG GRONBACH ORDC 614-395-1824 GREG.GRONBACH@DOT.OHIO.GOV
2. Cathy Stout ORDC 614 644 0313 Catherine.Stout@dot.ohio.gov
3. Brian Beudel PUCO 513-260-6105 brian.beudel@PUC.State.OH.Gov
4. Teri Scanlon ODOT-DB 513-933-6620 Teri.Scanlon@dot.ohio.gov
5. Phillip Monnier ODOT-DB 513-933-6693 phillip.monnier@dot.ohio.gov
6. Tim Wentzel NS 219-670-3919 James.Wentzel@nscorp.com
7. Doug Raters ODOT-DB 513-933-6629 doug.raters@dot.ohio.gov
8. _____
9. _____

Existing Traffic Control Devices

Type of Warning Devices	Installed?		Quantity/Comments	
Advance Warning Signs (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Good	
'Stop' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
'Stop Ahead' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Pavement Markings (condition?)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Good	
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Number: 2	Length: 20'
Side Lights	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Automatic Gates	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Number: 2	Length: 25'
Bells	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Number: 2	
Sidewalk Gate Arms	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
'No Turn' Signs	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Illumination	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Is crossing flagged by train crew?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No		

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

	Initial Information (from database)	Revised
Number & dates of crashes in previous 5 years	2 (6/28/14) & (8/23/16) (12/2/97)	
Hazard Ranking	7	Date Run: 2/3/2017

Railroad Data

Railroad Characteristics	Initial Information (from database)	Revised
Total trains per day	28	
< 1 per day		
Day thru trains <u>THRU / RETURNS</u>	12	
Night thru trains <u>THRU / RETURNS</u>	14	
Daytime switching movements	2	
Nighttime switching movements	0	
Total number of tracks	1	
Number of main tracks	1	
Number of other tracks	0	
Maximum train speed	60	
Typical train speed	60	
Amtrak		

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

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: State of Ohio

Roadway Characteristics	Initial Information (from database)	Revised
Average daily traffic	21,715 (2013) <u>24,870 (2014)</u>	
Highway paved	X Yes <input type="checkbox"/> No	<input checked="" 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: <u>63</u> ft.		
Number of highway lanes	4	
Urban or Rural	Rural	
Vehicle Speed: <u>45</u> MPH		
School Bus Operation: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes _____ Amount		
Hazardous Materials Trucks: <input type="checkbox"/> No X Yes <u>6%</u> Amount <u>800</u> - <u>3%</u>		
Shoulders: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		
Is the shoulder surfaced? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		
Is there existing guardrail along roadway in crossing vicinity? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		
Is stopping site distance adequate? (See Table 2) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If no, deficient approach(es) _____		

Quadrant _____ Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input type="checkbox"/> None	Quadrant _____ Curb and Gutter: <input type="checkbox"/> Functional (Curb height = 4" or more) <input type="checkbox"/> Non-functional (Curb height = Less than 4") <input type="checkbox"/> None
Pedestrians: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is sidewalk present? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a nearby intersection that could cause queuing over the crossing? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, Distance _____	
Is this intersection signalized? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Are the signals currently interconnected with the existing crossing warning devices? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Is there a 'Do not Stop on Track' sign? <input type="checkbox"/> No <input type="checkbox"/> Yes	
Is a roadway improvement project (e.g. widening, turn lanes, nearby new or upgraded traffic signal, sidewalk) planned at or near this location in the foreseeable future? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, Improvement type _____ Lead Agency _____ Timeline/completion - _____	
Is it the consensus of the Diagnostic Review Team that this is a potential closure project: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Explain reasons: _____	
Type of Development	
<input checked="" type="checkbox"/> Open Space <input type="checkbox"/> Institutional <input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Residential	Location of nearby schools: ST. GERTRUDE THE GREAT SCHOOL (.8 MILE SOUTH) - YAKOTA WEST FRESHMAN SCHOOL (2.0 MILE NORTH)
Utility Information	
Is commercial power available? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Utility Provider (Company Name) <u>DUKE</u> Phone Number _____	
Nearest Available Power Source <u>AT CROSSING</u>	
What other utilities are present? (add locations to sketch) <input checked="" type="checkbox"/> Gas <input type="checkbox"/> Cable <input type="checkbox"/> Telephone <input type="checkbox"/> Fiber Optic Cable <input type="checkbox"/> Petroleum <input checked="" type="checkbox"/> Water <input type="checkbox"/> Sanitary Sewer <input type="checkbox"/> Other _____	
Is(are) there potential utility conflict(s) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input 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):

N/A

Crossing Consolidation or Closure:

NO

Real Estate or ROW:

NO

Culverts / Drainage / Ballast Conditions:

YES

Roadway and/or Sidewalks:

NO

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

NO

Environmental:

YES - CREEK TO THE NORTH OF CROSSING.

Other:

- OVERHEAD POWER LINES TO THE WEST, ALONG ROADWAY.
- CROSSING "DOES" HAVE CONSTANT WARNING TIME (GCP 3000)

Diagnostic Team Recommendations

	Quadrants Needed
<input type="checkbox"/> Install/upgrade active devices	
<input type="checkbox"/> Automatic Flashing Lights (AFLS)	
<input type="checkbox"/> AFLS / Cants	
<input type="checkbox"/> AFLS / Gates	
<input type="checkbox"/> AFLS / Gates / Cants	
<input type="checkbox"/> Bells / number	
<input type="checkbox"/> Upgrade circuitry / type	
<input type="checkbox"/> Sidelights	
<input type="checkbox"/> Guardrail Needed	
<input type="checkbox"/> Install/Replace curb	
<input type="checkbox"/> Bungalow placement & offset from rail & highway	
<input type="checkbox"/> Other (define)	

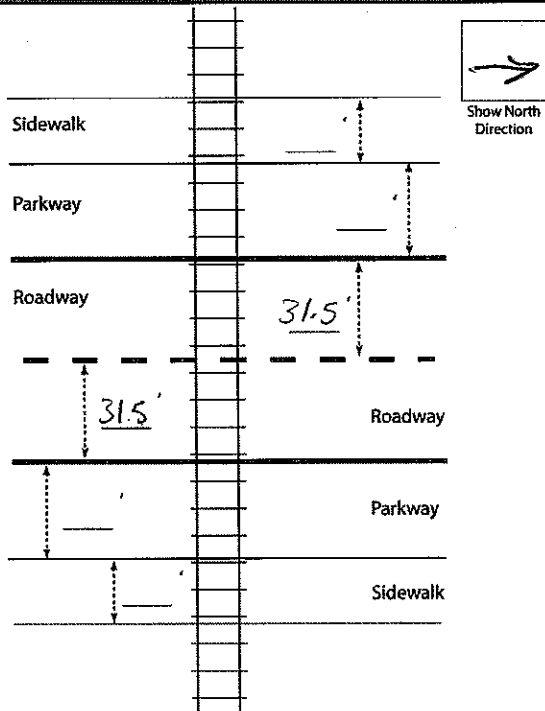
Comments:

<input type="checkbox"/> Install/upgrade traffic signal preemption	
<input checked="" type="checkbox"/> No improvements needed	
<input checked="" type="checkbox"/> Other (define) - OPTIONAL LED UPGRADES (CAKE DIVISION)	

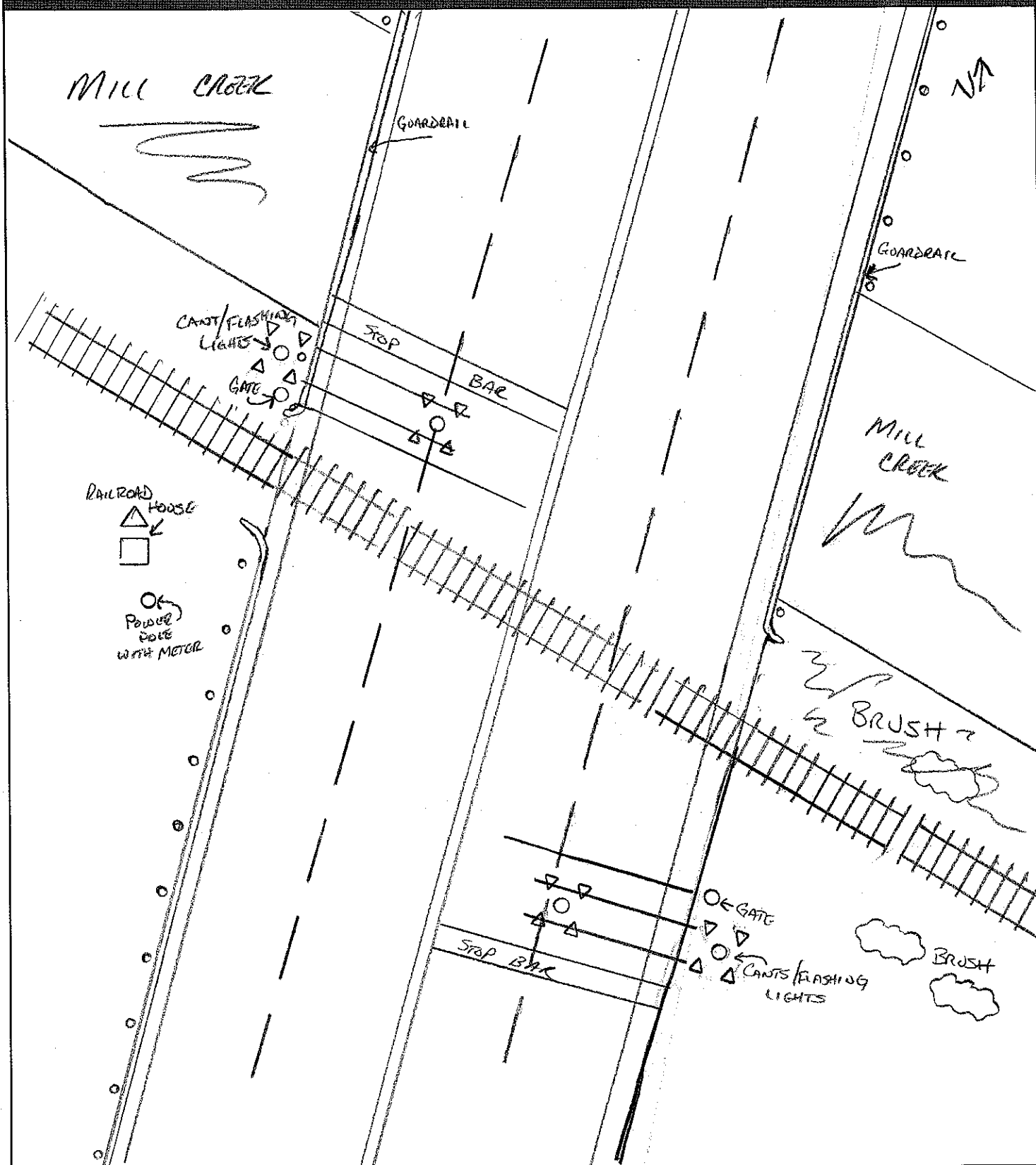
Acknowledgement of Recommendations (each entity represented at the diagnostic must have at least one signature acknowledgement):

<u>AWG</u>	<u>JALW</u>	<u>AMM</u>	<u>BAB</u>
<u>ban</u>	<u>QAB</u>	<u>TCS</u>	<u>ams</u>

Field Dimensions



Field Sketch



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

Sketch by: EW06

TABLE 1

Clearing Sight Distances

Maximum Authorized Train Speed	Distance (dT) Along Railroad from Crossing (ft)
1 - 10	240
15	360
20	480
25	600
30	720
35	840
40	960
45	1080
50	1200
55	1320
60	1440
65	1560
70	1680
75	1800
80	1920
85	2040
90	2160

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers and level single track 90 degree crossings; and may need to be adjusted for multiple tracks, skewed crossings or approaches on grades.

Clearing Sight Distance is to be measured in each vehicle travel direction at non-gated crossings as viewed from a point 25 feet from centerline of nearest track in the center of whichever travel lane is nearest the direction along track being measured.

Table 2

Stopping Sight Distances

Highway Vehicle Speed	Distance (dH) Along Roadway from Crossing (ft)
0	n/a
5	50
10	70
15	105
20	135
25	180
30	225
35	280
40	340
45	410
50	490
55	570
60	660
65	760
70	865

Source: R-H Grade Crossing Handbook Table 36 (pp. 132-133)

Notes:

All calculated distances are rounded up to the next higher 5-foot increment.

Distances indicated are for 65-ft double bottom semi-tractor trailers on dry level pavements.

Stopping Sight Distance is to be measured on each roadway approach to crossing from stop bar.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

7/28/2017 4:53:42 PM

in

Case No(s). 17-1697-RR-FED

Summary: Application In the Matter of a Request for the Upgrade of Warning Devices at the Norfolk Southern Railway Crossing, Princeton Glendale Road/SR 747 DOT#524-966P, in Butler County, Ohio. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division