

STATE OF ILLINOIS  
ILLINOIS COMMERCE COMMISSION

Petition for permission to make a major change in crossing protection, or to install new protection under 92 Illinois Administrative Code 1535.400 (d).

Date: July 2, 2015

To the Illinois Commerce Commission:

The petitioner Norfolk Southern Railway Company shows

- (1) That it is a railroad company operating a line of railroad in the State of Illinois.
- (2) That petitioner proposes and hereby makes application for authority to make a major change in crossing protection, or to install new protection, under 92 Illinois Administrative Code 1535.400 (d) adopted by this Commission.
- (3) That the location of the crossing, the nature of protection now established and proposed to be established, and other pertinent facts in connection therewith, are set forth in the statement attached to and forming part of this petition.
- (4) That petitioner's reasons and purpose, with reference to its said proposal are

Installation of Grade Crossing Warning Devices requested by Illinois Commerce Commission  
at: Canal Rd. in Hartford, Illinois, DOT: 328028B, MP: AE-17.65. Case: T15-0028  
File No.: CX1111121 Project No.: 04.1039

- (5) That the facts set forth in this petition and in the statement and plans or plats attached thereto, are, all of them, true and correct to the best of petitioner's knowledge and belief.

WHEREFORE, the petitioner prays that the Commission will, if deemed desirable by the Commission, set the aforesaid matter for hearing, and that the Commission enter an order or adopt a resolution consenting to and granting authority for the making of the said proposed changes in or additions to crossing protection.

Norfolk Southern Railway Company

By   
S.J. Klinger, Administrator  
Grade Crossing Program  
(404) 529-1234

Thomas W. Ambler  
(Attorney for Petitioner)

Norfolk Southern Corporation  
Three Commercial Place  
Norfolk, VA 23510-2191  
(Attorney's Address)

Statement, attached to and part of an application for permission to make a major change in crossing protection or to install new protection, under 92 Illinois Administrative Code 1535.400(d).

1. Name of Railroad Company Norfolk Southern Railway Company
2. Crossing Number 328028B
3. Village or City Hartford
4. Name of Street or Highway Canal Rd.
5. Public Agency Maintaining Highway Village
6. Protection now established: (Give full description. Indicate the hours of any manual protection.)  
Passive Crossing
7. Protection desired: (Give details)  
Install grade crossing warning devices to include LED flashing lights with gates and bell controlled by constant warning time detection equipment.
8. Number of main tracks One Other tracks None
9. Number of passenger movements:  
6 a.m. to 6 p.m. None 6 p.m. to 6 a.m. None
10. Number of freight train movements:  
6 a.m. to 6 p.m. Two 6 p.m. to 6 a.m. None
11. Approximate number of switch movements:  
6 a.m. to 6 p.m. Two 6 p.m. to 6 a.m. None
12. Maximum speed of trains at crossing on each track in each direction:  
Track 1 N/E Bound 15 mph S/W Bound 15 mph  
Track 2 N/E Bound N/A mph S/W Bound N/A mph  
Track 3 N/E Bound N/A mph S/W Bound N/A mph
13. Passenger platforms served by tracks within the limits of track circuits, if any None

14. Where automatic signals or gates are proposed, approximate number of train or engine movements daily which would cause false indications or operation:

None

15. Nature and approximate amount of street or highway traffic over crossing:

375 AADT

16. In addition to the information listed hereinbefore in Form 3, attach a track plan or plat of the proposed crossing. This plan should show:

- (a) Width and surface of highway.
- (b) Highway intersections (including private driveways to be so indicated) and location of established highway signs or signals within 100 feet of crossing.
- (c) Location of tracks, switches and other railroad facilities such as block signals, etc. within limits of track circuits, present and/or proposed.
- (d) Where automatic protection is proposed, show proposed location of signals (sidelights, cantilevers, etc., if any).
- (e) Show the length of each operation track section within the control limits of the crossing protection and its function.

**ADDITIONAL INFORMATION**

**Drawings attached for question no. 16**

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**VERIFICATION**

I, **S. J. Klinger**, first being duly sworn upon oath depose and say that I am  
**Administrator, Grade Crossing Program** , of **Norfolk Southern Railway Company** , a  
**Virginia** corporation; that I have read the above and foregoing petition by me subscribed and know the  
contents thereof; that said contents are true in substance and in fact, except as to those matters stated upon  
information and belief, and as to those, I believe same to be true.



**Administrator, Grade Crossing Program**

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ALL NEW  
04.1039  
03-25-15  
SII

INDEX SHEET

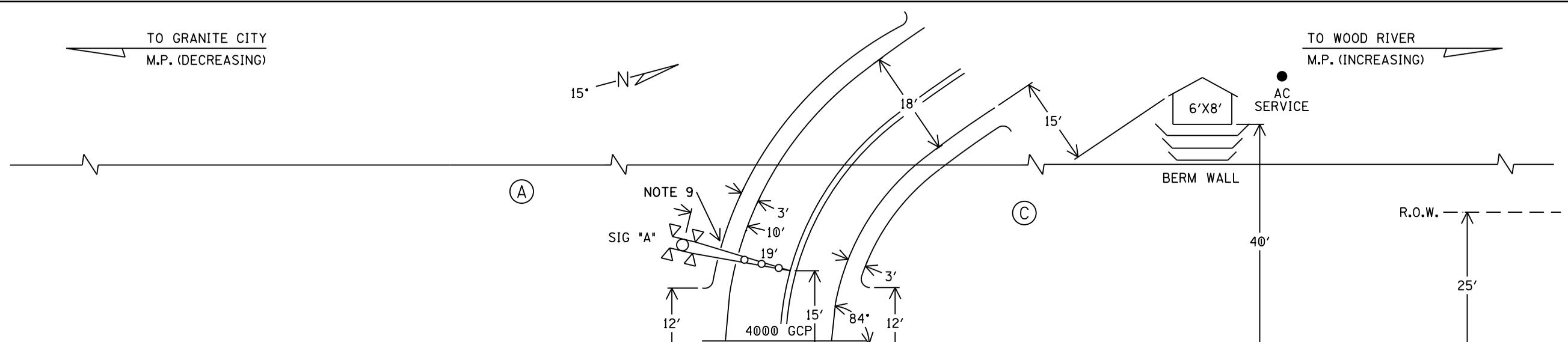
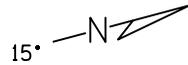
DESIGNED BY:	JTB 03-25-15	
DRAWN BY:	SII 03-25-15	
CHECKED BY:	JTB 03-26-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: AE-17.65
IN SERVICE:	- -	HARTFORD, IL FLGS AT CANAL ROAD
		PROFILE #7C
		CADD or DWG. No. ANAE01765.NX1
		FILE No. R- SHEET No. 1 of 1

REVISION  
INITIALS

PROPERTY  
NORFOLK SOUTHERN RAILWAY CO.

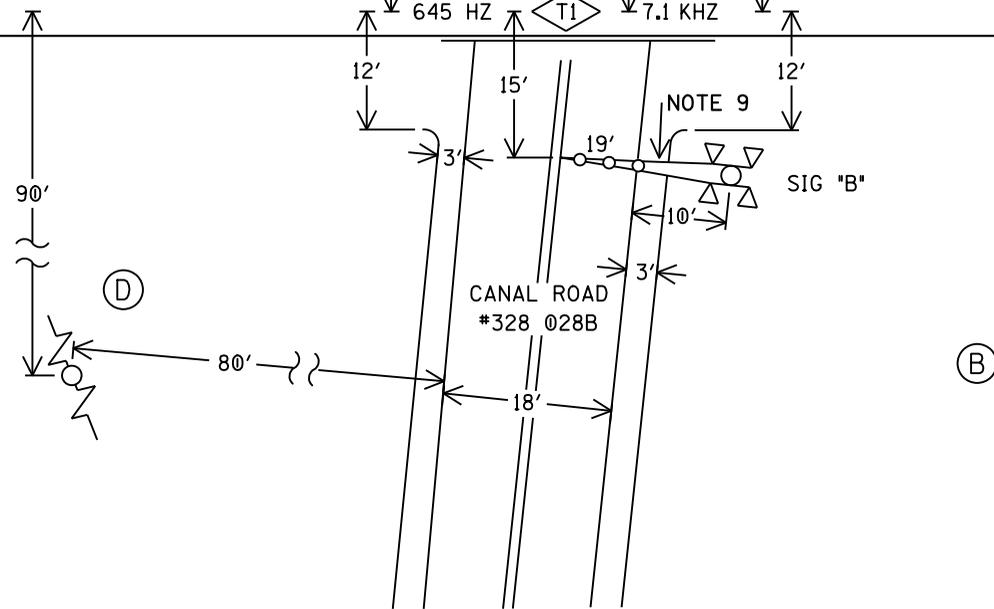
TO GRANITE CITY  
M.P. (DECREASING)

TO WOOD RIVER  
M.P. (INCREASING)



NOTES:

1. MAX. TRAIN SPEED 15 M.P.H.
2. LATITUDE N 38° 48' 24" LONGITUDE W 90° 5' 52" ELEVATION 454'
3. SIGNAL "A" TO HAVE BELL.
4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
5. CROSSING LOCATED IN MADISON COUNTY.
6. NEAREST STREET ADDRESS IS 901 CANAL ROAD
7. NEAREST INTERSECTING STREET IS PIAZA ROAD
8. DISTANCE TO NEAREST INTERSECTING STREET IS 2000 FT.
9. STATE TO REMOVE GUARD RAIL IN QUAD "A" & "B" FOR PROPER SIGNAL PLACEMENT.
10. NEW 6X8 SHELTER AND AC SERVICE TO BE LOCATED IN QUADRANT "A".
11. CONTAINER TO BE PLACED AT ADJACENT CROSSING (NEW POAG RD) DUE TO INADEQUATE SPACE
12. APPROX FILL REQD.:  
SIGNAL "A" - 25 YARDS & SAFETY PLATFORM  
SIGNAL "B" - 25 YARDS & SAFETY PLATFORM  
6X8 SHELTER - 40 YARDS STONE &  
3 TIER BERM WALL 4'x50'/4'x40'/4'x30'



APPROACH LENGTHS ALLOW FOR:	
TIME IN SECONDS	CWT
	E.B./W.B. APPROACH
STANDARD MUTCD MIN. TIME	20
DESIGNED WARNING TIME	30
EQUIPMENT RESPONSE TIME	5
CLEARANCE TIME	0
TOTAL TIME	35
MAX. SPEED (M.P.H.)	15
APPROACH DISTANCE (FEET)	772
LAMPS ARE L.E.D. TYPE	YES

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

SCALE: 1" = 20'

PROJECT #04.1039

LAYOUT

FILE CX1111121

DESIGNED BY: JTB 03-25-15		NORFOLK SOUTHERN	M.P.: AE-17.65
DRAWN BY: SII 03-25-15			
CHECKED BY: JTB 03-26-15	HARTFORD, IL FLGS AT CANAL ROAD		
IN SERVICE: - -	PROFILE #7C	FILE No. R-	SHEET No. 1 of 22
	CADD or DWG. No. ANAE01765.01		

(A) (B) (C) (D) = QUADRANT MARKERS

REVISION INITIALS

PROPERTY  
NORFOLK SOUTHERN RAILWAY CO.











Program Report

Location and SIN

DOT Number: 328028B
Milepost Number: AE-17.65
Site Name: CANAL ROAD

SIN: 755053403516

MCF and Template Selection

MCF Name: GCP-T6X-02-1.mcf
MCF Revision: 021
MCF CRC: 6076E435

Template = 1A:6 Trk BI

Check Numbers

Office Check No. (DT 4.6.0): 03178A03
Office Check Number: 03178A03
Config. Check Number: 2C5A165F
(Based on MCF Revision 021)

Program

BASIC: module configuration

Track 1 Slot = Track
Track 2/R10 1 Slot = Not Used
Track 3 Slot = Not Used
Track 4 Slot = Not Used
Track 5/R10 2 Slot = Not Used
Track 6/R10 3 Slot = Not Used
SSCC-1 Slot = SSCC31
SSCC-2 Slot = SSCC31
SEAR Used = Yes

BASIC: MS/GCP operation

Track 1: MS/GCP Operation = Yes

BASIC: island operation

Track 1: Island Used = Internal

BASIC: preemption

Preempt Logic = No

BASIC: radio Dax links

Radio DAX link A Used = No
Radio DAX link B Used = No

BASIC: Vital Comms links

Vital Comms link 1 Used = No
Vital Comms link 2 Used = No

PREDICTORS: track 1

Track 1: Prime Used = Yes
Track 1: Dax A Used = No
Track 1: Dax B Used = No
Track 1: Dax C Used = No
Track 1: Dax D Used = No
Track 1: Dax E Used = No
Track 1: Dax F Used = No
Track 1: Dax G Used = No

GCP: track 1

Track 1: GCP Freq Category = Standard
Track 1: GCP Frequency = 645 Hz
Track 1: Approach Distance = 1000 ft
Track 1: Uhl/Bl/Sim-Bidirnl = Bidirnl
Track 1: GCP Transmit Level = Medium
Track 1: Island Connection = Isl1
Track 1: Island Distance = 120 ft
Track 1: Computed Distance = 9999 ft
Track 1: Linearization Steps = 100

GCP: track 1 enhanced det
Track 1: Inbound PS Sensitivity = Off
Track 1: Speed Limiting Used = Yes
Track 1: Outbound False Act Lvl = Normal
Track 1: Outbound PS Timer = 20 sec
Track 1: Tralling Switch Logic = On
Track 1: Post Joint Detn Time = 15 sec
Track 1: Adv Appr Predn = No
Track 1: Cancel Pickup Delay = This Isl

GCP: track 1 prime

Track 1: Prime Warning Time = 30 sec
Track 1: Prime Offset Distance = 0 ft
Track 1: Switch MS/Fz Level = 10
Track 1: Prime MS/GCP Mode = Pred
Track 1: Prime Pickup Delay = 15 sec
Track 1: Prime UAX = Not Used

GCP: track 1 pos start

Track 1: Positive Start = Off
Track 1: Sudden Shnt Det Used = No
Track 1: Low EZ Detection Used = No

GCP: track 1 MS Control

Track 1: MS/GCP Ctrl IP Used = No
Track 1: MS Sensitivity Level = 0
Track 1: Compensation Level = 1300
Track 1: Warn Time-Ballast Comp = High
Track 1: Low EX Adjustment = 39
Track 1: Bidirnl Dax Passthru = No
Track 1: False Act on Train Stop = No
Track 1: EX Limiting Used = Yes
Track 1: EZ Correction Used = Yes

ISLAND: track 1

Track 1: Isl Frequency = 7.1 kHz
Track 1: Pickup Delay (2s +) = 0 sec
Track 1: Isl Enable IP Used = No

AND: track Anding

AND 1 XR Used = Yes
AND 2 Used = No
AND 3 Used = No
AND 4 Used = No
AND 5 Used = No
AND 6 Used = No
AND 7 Used = No
AND 8 Used = No

AND: AND 1 XR

AND 1 XR Track 1 = Prime
AND 1 Enable Used = Yes
AND 1 Enable Pickup = 5 sec
AND 1 Enable Drop = 0 sec
AND 1 Wrap Used = No

ADVANCED: MS restart

MS/GCP Restart Used = No

ADVANCED: out of service

OOS Control = Display+OOS IPs
OOS Timeout = Yes
OOS Timeout = 1 hrs

ADVANCED: out of service 2

T1 OOS Control = OOS Input 1

ADVANCED: track wrap circuits

Wrap LOS Timer = 5 sec
Track 1 Wrap Used = No

ADVANCED: trk 1 overrides

Track 1: All Predictors Override Used = No

ADVANCED: OR logic
OR 1 Used = No
OR 2 Used = No
OR 3 Used = No
OR 4 Used = No

ADVANCED: internal I/O 1

Pass Thrus = No
Int.1 Sets = Not Used
Int.1 Set by = Not Used
Int.2 Sets = Not Used
Int.2 Set by = Not Used
Int.3 Sets = Not Used
Int.3 Set by = Not Used
Int.4 Sets = Not Used
Int.4 Set by = Not Used

ADVANCED: internal I/O 2

Int.5 Sets = Not Used
Int.5 Set by = Not Used
Int.6 Sets = Not Used
Int.6 Set by = Not Used
Int.7 Sets = Not Used
Int.7 Set by = Not Used
Int.8 Sets = Not Used
Int.8 Set by = Not Used

ADVANCED: internal I/O 3

Int.9 Sets = Not Used
Int.9 Set by = Not Used
Int.10 Sets = Not Used
Int.10 Set by = Not Used
Int.11 Sets = Not Used
Int.11 Set by = Not Used
Int.12 Sets = Not Used
Int.12 Set by = Not Used

ADVANCED: internal I/O 4

Int.13 Sets = Not Used
Int.13 Set by = Not Used
Int.14 Sets = Not Used
Int.14 Set by = Not Used
Int.15 Sets = Not Used
Int.15 Set by = Not Used
Int.16 Sets = Not Used
Int.16 Set by = Not Used

ADVANCED: site options

Daylight Savings = On
Units = Standard
Maint CallRpt IP Used = No
Emergency Activate IP = No
EZ/EX Logging = Change
EZ/EX Point Change = 3

4000 GCP PROGRAMMING SETUP

Table with design and drawing information including Designer (JTB), Date (03-25-15), Office (Norfolk Southern), and Drawing Title (4000 GCP PROGRAMMING SETUP).

Table for revision tracking with columns for revision number and initials.

PROPERTY
NORFOLK SOUTHERN RAILWAY CO.

Table for service and file information including 'IN SERVICE' status and file number (ANAE01765.07).

SSCC  
 Gates Used = Yes  
 SSCC1+2 GPs Coupled = Yes  
 Min Activation = 0 sec  
 Bmt Activation Cancel = 1 min  
 Bell On Gate Rising = No  
 Mute Bell On Gate Down = No  
 SSCC1V Controller Used = No

SSCC: 1  
 Activation = AND 1 XR  
 Gate Delay = 6 sec  
 Number of GPs = 1  
 Number of GDs = 2  
 : Flash Rate = 40  
 : Low Battery Detection = No  
 : Flash Sync = master  
 : Invert Gate Output = No  
 : Lamp Neutral Test = Off  
 Aux-1 Xng Ctrl Used = No

SSCC: 2  
 Activation = AND 1 XR  
 Gate Delay = 6 sec  
 Number of GPs = 0  
 Number of GDs = 0  
 : Flash Rate = 40  
 : Low Battery Detection = No  
 : Flash Sync = slave  
 : Invert Gate Output = No  
 : Lamp Neutral Test = Off  
 Aux-2 Xng Ctrl Used = No

OUTPUT: assignment page 1  
 OUT 1.1 = Not Used  
 OUT 1.2 = Not Used

INPUT: assignment page 1  
 IN 1.1 = Not Used  
 IN 1.2 = Not Used

IO: assignment SSCC  
 OUT GC 1 = Gate Output 1  
 OUT GC 2 = Gate Output 2  
 IN 7.1 = Not Used  
 IN 7.2 = GD 1.2  
 IN 7.3 = AND 1 XR Enable  
 IN 7.4 = GD 1.1  
 IN 7.5 = GD 1.1  
 IN 8.1 = Out Of Service IP 1  
 IN 8.2 = Not Used  
 IN 8.3 = Not Used  
 IN 8.4 = Not Used  
 IN 8.5 = Not Used

SEAR  
 SEAR Subnode = 3  
 DI 1 = Not Used  
 DI 2 = Not Used  
 RI 1 = General  
 RI 2 = Not Used

SEAR: inputs  
 IN 2.1 = POK 1  
 IN 2.2 = Not Used  
 IN 3.1 = Not Used  
 IN 3.2 = Not Used  
 IN 6.1 = Not Used

SEAR: slot 1-4 inputs  
 IN 1.1 = Not Used  
 IN 1.2 = Not Used  
 IN 2.1 = Not Used  
 IN 2.2 = Not Used  
 IN 3.1 = Not Used  
 IN 3.2 = Not Used  
 IN 4.1 = Not Used  
 IN 4.2 = Not Used

SEAR: inputs slot 5  
 IN 5.1 = Not Used  
 IN 5.2 = Not Used

SEAR: inputs slot 6  
 IN 6.1 = Not Used  
 IN 6.2 = Not Used

SEAR: slot 7-8 inputs  
 IN 7.1 = Not Used  
 IN 8.2 = Not Used  
 IN 8.3 = Not Used  
 IN 8.4 = Not Used  
 IN 8.5 = Not Used

SITE: programming  
 Radio Subnode = 1  
 Field Password = Off  
 Low Battery Enabled = Off

Configuration Package File  
 -----  
 Filename: ANAE01765.pac

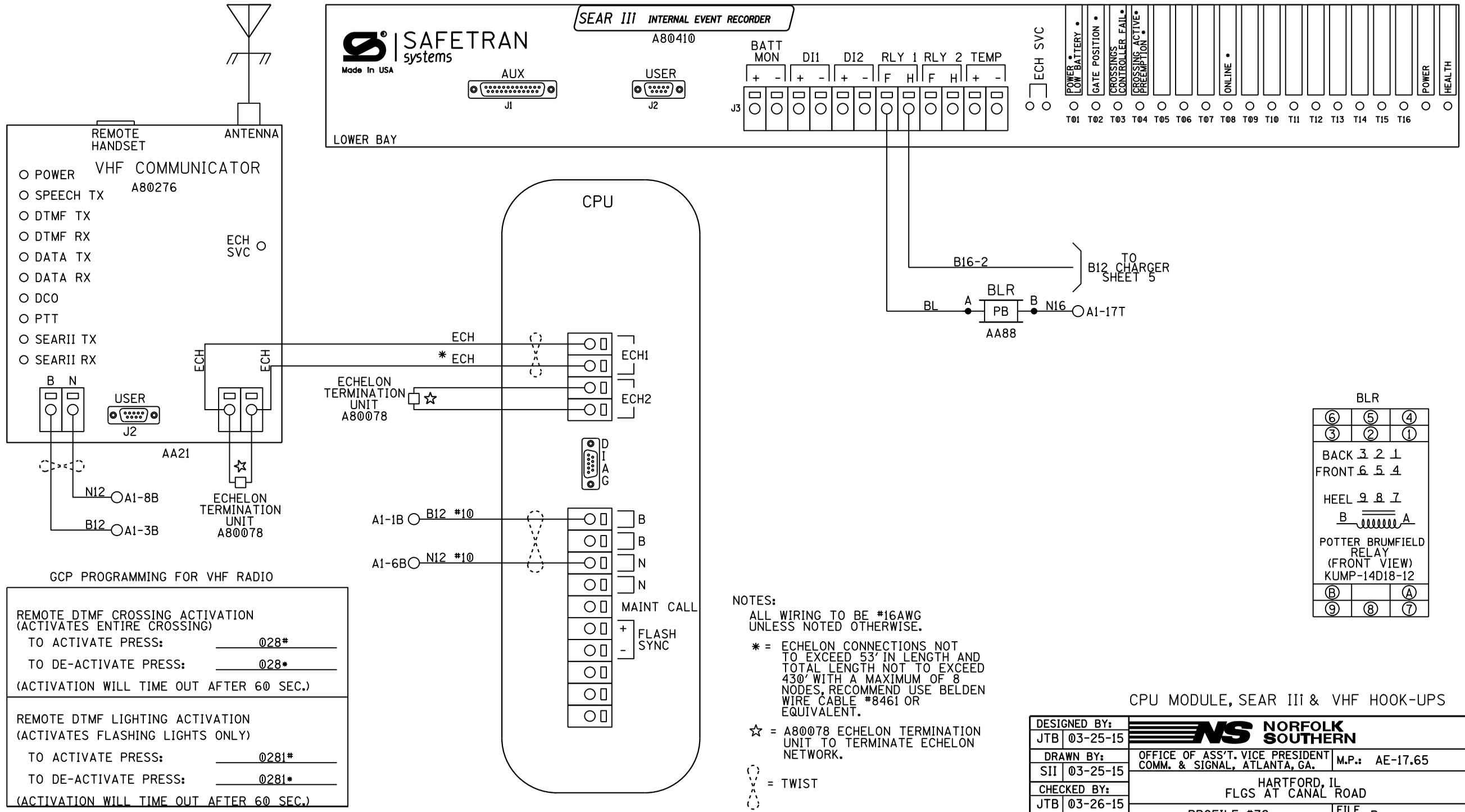
4000 GCP PROGRAMMING SETUP

DESIGNED BY:	JTB 03-25-15	
DRAWN BY:	SII 03-25-15	
CHECKED BY:	JTB 03-26-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: AE-17.65
IN SERVICE:	- -	HARTFORD, IL FLGS AT CANAL ROAD
		PROFILE #7C FILE R-
		CADD or DWG. No. ANAE01765.08 SHEET No. 8 of 22

REVISION																				
INITIALS																				

PROPERTY  
 NORFOLK SOUTHERN RAILWAY CO.



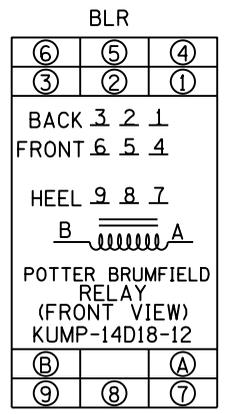


GCP PROGRAMMING FOR VHF RADIO

REMOTE DTMF CROSSING ACTIVATION (ACTIVATES ENTIRE CROSSING)  
 TO ACTIVATE PRESS: 028\*  
 TO DE-ACTIVATE PRESS: 028\*  
 (ACTIVATION WILL TIME OUT AFTER 60 SEC.)

REMOTE DTMF LIGHTING ACTIVATION (ACTIVATES FLASHING LIGHTS ONLY)  
 TO ACTIVATE PRESS: 0281\*  
 TO DE-ACTIVATE PRESS: 0281\*  
 (ACTIVATION WILL TIME OUT AFTER 60 SEC.)

NOTES:  
 ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.  
 \* = ECHELON CONNECTIONS NOT TO EXCEED 53' IN LENGTH AND TOTAL LENGTH NOT TO EXCEED 430' WITH A MAXIMUM OF 8 NODES, RECOMMEND USE BELDEN WIRE CABLE #8461 OR EQUIVALENT.  
 ☆ = A80078 ECHELON TERMINATION UNIT TO TERMINATE ECHELON NETWORK.  
 = TWIST



CPU MODULE, SEAR III & VHF HOOK-UPS

DESIGNED BY:	<b>NS NORFOLK SOUTHERN</b>	
JTB 03-25-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: AE-17.65
DRAWN BY:	HARTFORD, IL FLGS AT CANAL ROAD	
SII 03-25-15	PROFILE #7C	
CHECKED BY:	FILE R-	
JTB 03-26-15	SHEET 10 of 22	
IN SERVICE:	CADD or DWG. No. ANAE01765.10	

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	
AUTOMATIC DST ADJUSTMENT	YES
TIME ZONE	EST
SITE NAME	CANAL ROAD
MILEPOST	AE-17.65
DOT #	328028B
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
INDICATE HOLD (SEC)	0
INDICATE REFRESH (SEC)	60
SITE ATCS	7.550.534.035.03.01
SITE TYPE	NO COMMUNICATION
** OFFICE ATCS ADDRESS	2.550.00.0000
** PRIMARY HOP ADDR	7.RRR.LLL.GGG.XX.XX
** BACKUP HOP ADDR 1	7.RRR.LLL.GGG.XX.XX
** BACKUP HOP ADDR 2	7.RRR.LLL.GGG.XX.XX
** POLL ID	1
** MODE	GEN/ATCS
** WAMS XID	DISABLED
** OFFICE COMM DEVICE	MCM (ECHELON)
** RADIO ATCS ADDR	7.RRR.LLL.GGG.01.01
** PHONE #	(OFFICE NUMBER)
** INIT STRING	
** FIELD COMM DEVICE	NONE
*** USER PORT BAUD	57600
*** USER PORT DATA BITS	8
*** USER PORT PARITY	NONE
*** USER PORT STOP BITS	1
*** USER PORT FLOW CONTROL	NONE
*** AUX PORT BAUD	9600
*** AUX PORT DATA BITS	8
*** AUX PORT PARITY	NONE
*** AUX PORT STOP BITS	1
*** AUX PORT FLOW CONTROL	NONE

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS	
THE QUESTION	SELECT FROM MENU OPTION
RESET NAMES AND MODULES?	YES
RAILROAD NUMBER	550
CROSSING CONFIGURATION	NORMAL
AND 1 USED AS XR?	YES
AND 2 USED AS XR?	NO
AND 3 USED AS XR?	NO
AND 4 USED AS XR?	NO
AND 5 USED AS XR?	NO
AND 6 USED AS XR?	NO
AND 7 USED AS XR?	NO
AND 8 USED AS XR?	NO
* XR CONTROLLED BY FOREIGN RR	NO
ENTRANCE GATES	2
85% VOLTAGE RELAY OUT	YES
* GATES CONTROLLED BY FOREIGN RR	NO
BATTERY BANKS	2
BATTERY MON USED	NO
PREEMPTION	NO
INTERNAL CROSSING CONTROLLERS	2
EXTERNAL CROSSING CONTROLLERS	0
VHF COMMUNICATOR	YES
DTMF ACTIVATION	YES
**** ACTIVATION CODE	028
ACTIVATION TIMEOUT (SECONDS)	60
ILOD MODULES	0
***** ANY LED BULBS USED	YES
VHF VOICE CHANNEL	2
VHF DATA CHANNEL	2
USE CELL MODEM NON-CRITICAL FEATURE	NO

PROGRAM MENU QUESTIONS	PROGRAM
EDIT DIGITAL INPUTS	NO
EDIT BATTERIES	NO
EDIT RELAYS	NO
EDIT INDICATOR LEDS	NO
EDIT TEST LEDS	NO
EDIT ILOD SENSORS	NO
EDIT VHF SETTINGS	NO
GCP4K ATCS SUBNODE	16

**NOTES:**

- \* = DISPLAYED IF CROSSING CONFIGURATION IS SPLIT GATE.
- \*\* = IF SITE TYPE = NO COMMUNICATION, THEN THESE OPTIONS ARE NOT DISPLAYED.
- \*\*\* = THESE SETTINGS SHOULD BE LEFT AT THE DEFAULT SETTING.
- \*\*\*\* = USE LAST 3 NUMBERS FROM DOT NUMBER.
- \*\*\*\*\* = IF ILOD MODULE >0.

SEAR III PROGRAMMING SETUP

DESIGNED BY:	JTB 03-25-15		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: AE-17.65
DRAWN BY:	SII 03-25-15			
CHECKED BY:	JTB 03-26-15	HARTFORD, IL FLGS AT CANAL ROAD		
IN SERVICE:	- -	PROFILE #7C	FILE No.	R-
		CADD or DWG. No. ANAE01765.11	SHEET No.	11 of 22

TO CONFIGURE SEARIII PRESS SITE SETUP KEY.  
USE ARROW KEYS TO MAKE SELECTION,  
PRESS ENTER AFTER SELECTION HAS BEEN MADE.

PROPERTY  
NORFOLK SOUTHERN RAILWAY CO.

REVISION  
INITIALS









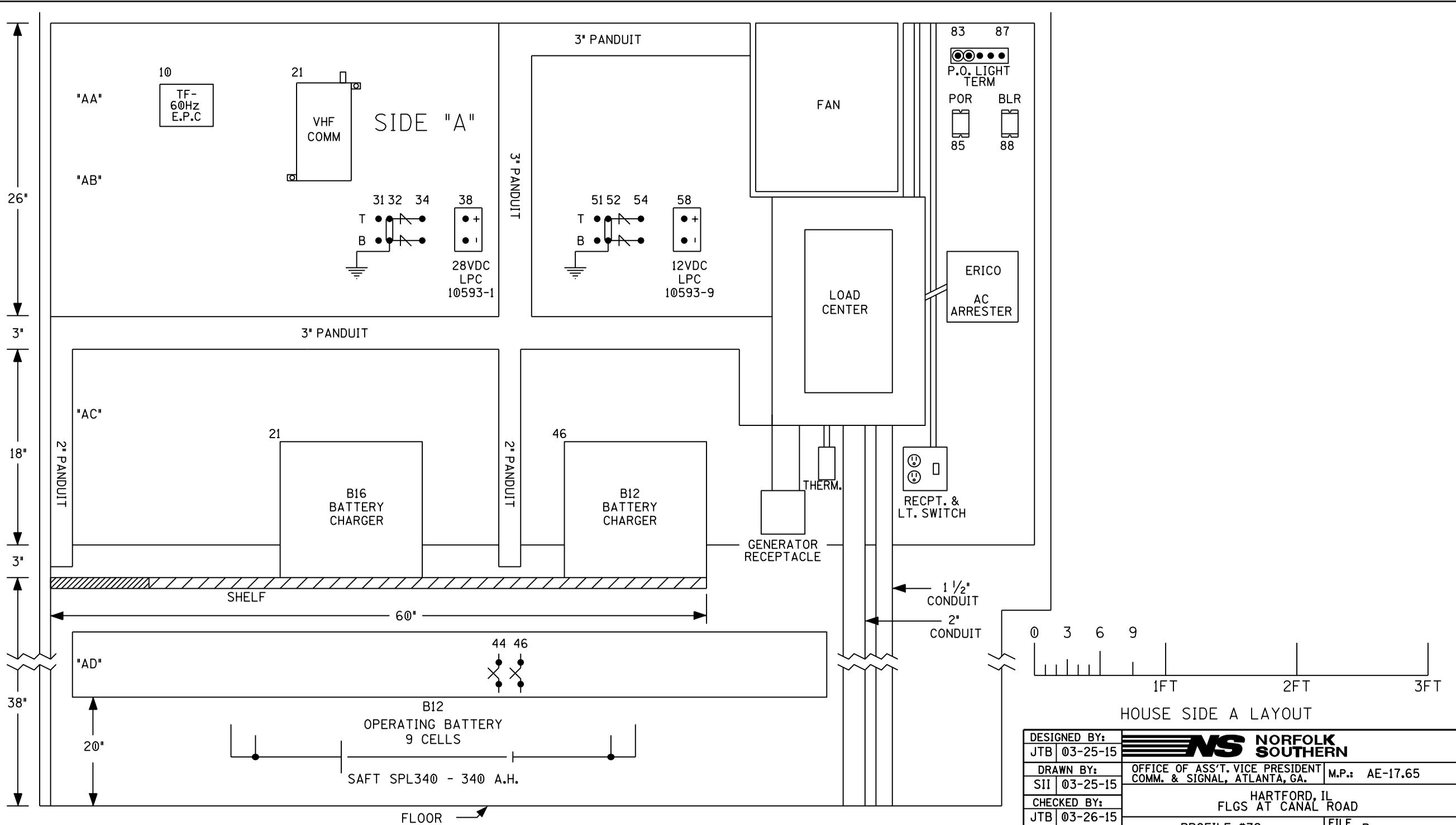










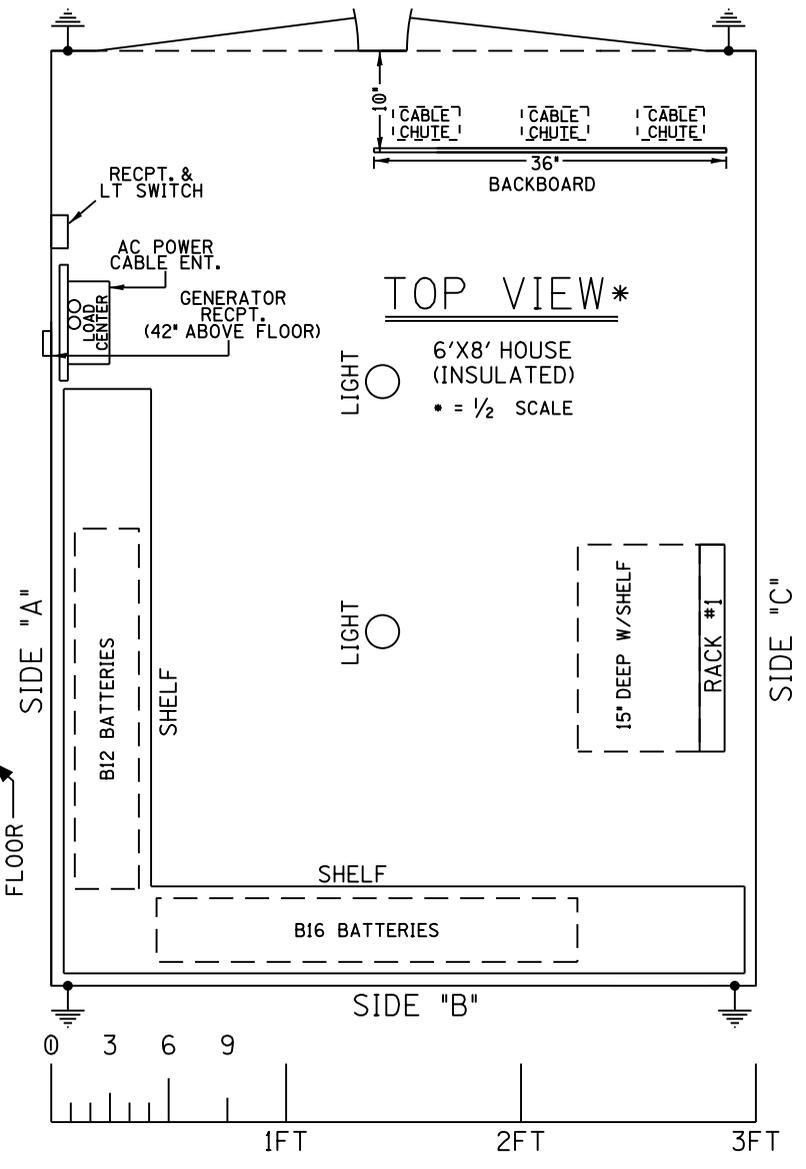
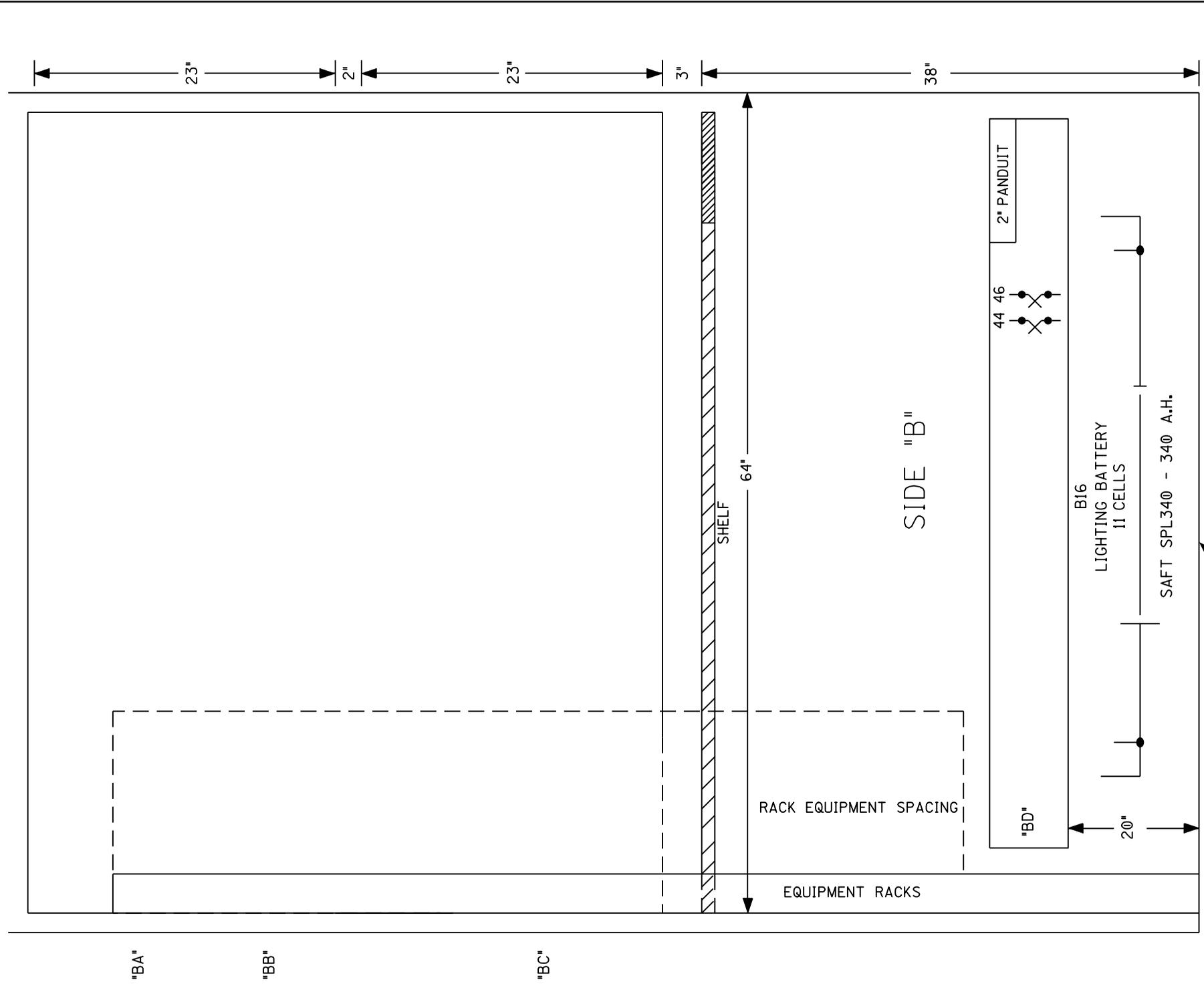


HOUSE SIDE A LAYOUT

DESIGNED BY: JTB 03-25-15	<b>NS NORFOLK SOUTHERN</b>	
DRAWN BY: SII 03-25-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: AE-17.65
CHECKED BY: JTB 03-26-15	HARTFORD, IL FLGS AT CANAL ROAD	
IN SERVICE:	PROFILE #7C	FILE No. R-
- -	CADD or DWG. No. ANAE01765.21	SHEET No. 21 of 22

REVISION INITIALS																			
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PROPERTY  
NORFOLK SOUTHERN RAILWAY CO.



HOUSE SIDE B LAYOUT & TOP VIEW

DESIGNED BY:	JTB 03-25-15	<b>NORFOLK SOUTHERN</b>
DRAWN BY:	SII 03-25-15	
CHECKED BY:	JTB 03-26-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: AE-17.65
IN SERVICE:	- -	HARTFORD, IL FLGS AT CANAL ROAD
		PROFILE #7C
		CADD or DWG. No. ANAE01765.22
		FILE No. R-
		SHEET No. 22 of 22

REVISION INITIALS																				
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PROPERTY NORFOLK SOUTHERN RAILWAY CO.

SH. NO.	CONTENTS
NX1	INDEX SHEET
1	LAYOUT PLAN
2	CIRCUIT PLAN
3	CIRCUIT PLAN
4	FLASHING LIGHT CIRCUIT PLAN
5	GATE CONTROL CIRCUIT PLAN
6	BATTERY AND POWER CIRCUIT PLAN
7	GATE MECHANISM WIRING PLAN
8	RELAY DETAIL PLAN
9	PLACEMENT PLAN
10	PLACEMENT PLAN
11	PLACEMENT PLAN
12	CABLE LAYOUT PLAN

NEW SHEET  
04.1039  
03-25-15  
SII

04.1039 CHANGES TO  
ALL SHEETS  
03-25-15/SII

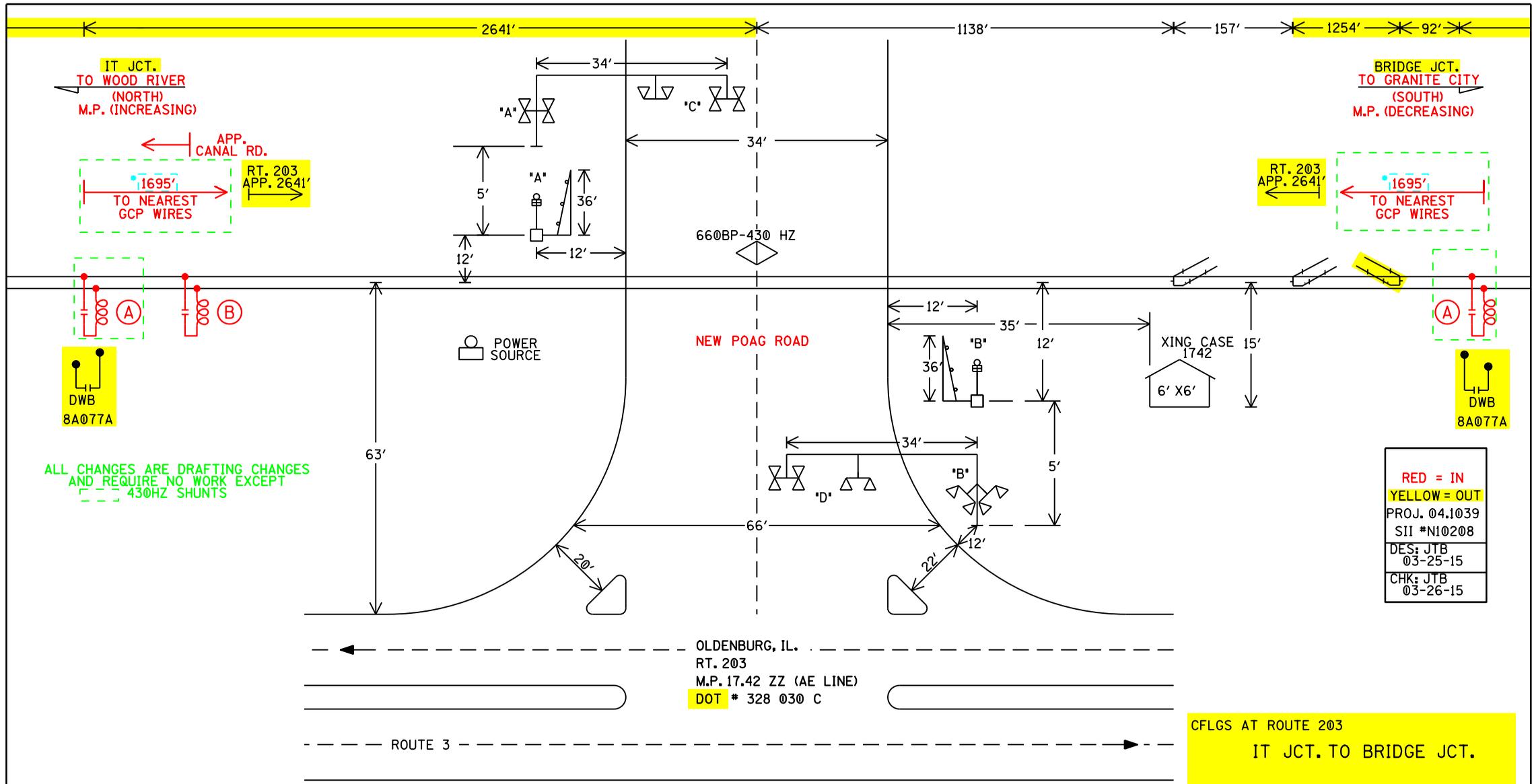
R-
RED = IN
PROJ. 04.1039 SII #N10208
DES: JTB 03-25-15
CHK: JTB 03-26-15

INDEX SHEET

DESIGNED BY: JTB   03-25-15	
DRAWN BY: SII   03-25-15	
CHECKED BY: JTB   03-26-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: AE-17.42
IN SERVICE: - -	OLDENBURG, IL CFLGS AT SR-203 (NEW POAG RD)
	PROFILE #7C FILE No. R-
	CADD or DWG. No. ANAE01742.NX1 SHEET No. 1 of 1

REVISION INITIALS											
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PROPERTY  
NORFOLK SOUTHERN RAILWAY CO.



IT JCT.  
TO WOOD RIVER  
(NORTH)  
M.P. (INCREASING)

← APP. CANAL RD.  
1695'  
TO NEAREST GCP WIRES

RT. 203  
APP. 2641'

BRIDGE JCT.  
TO GRANITE CITY  
(SOUTH)  
M.P. (DECREASING)

RT. 203  
APP. 2641'

← 1695'  
TO NEAREST GCP WIRES

ALL CHANGES ARE DRAFTING CHANGES  
AND REQUIRE NO WORK EXCEPT  
430HZ SHUNTS

RED = IN  
YELLOW = OUT  
PROJ. 04.1039  
SII #N10208  
DES: JTB  
03-25-15  
CHK: JTB  
03-26-15

CFLGS AT ROUTE 203  
IT JCT. TO BRIDGE JCT.

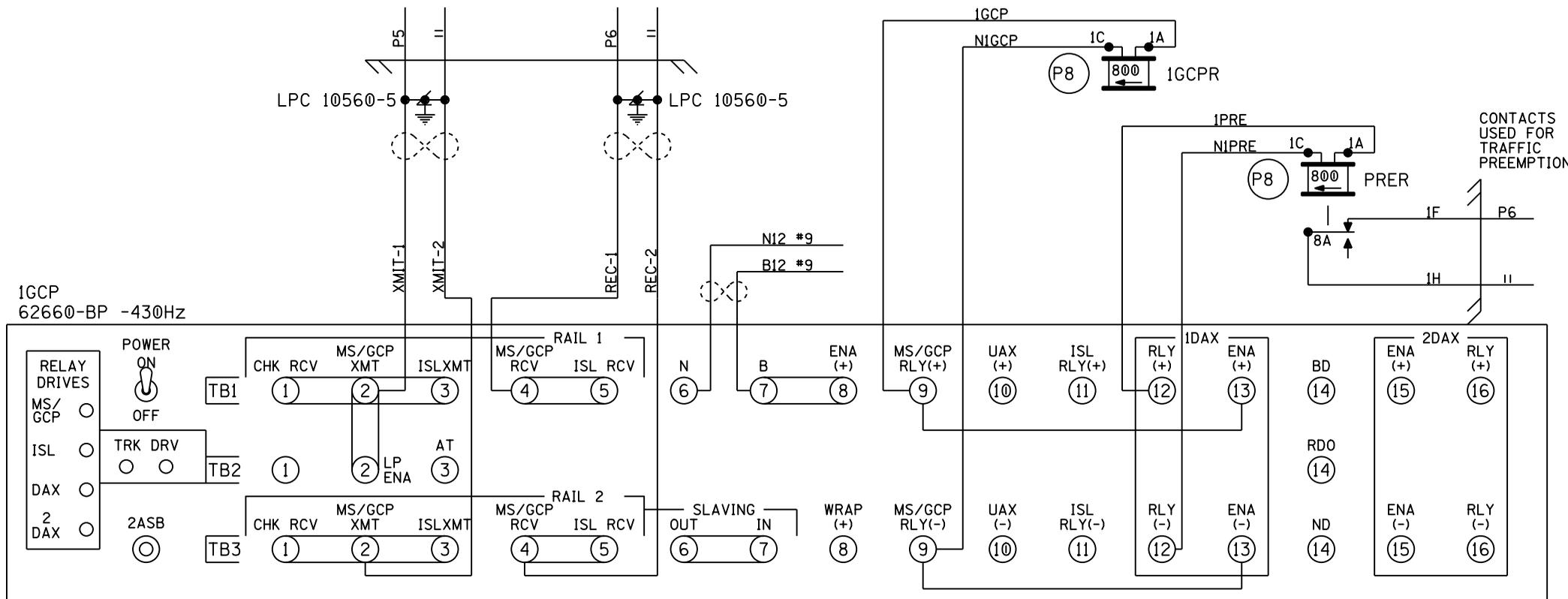
NORFOLK AND WESTERN RAILWAY  
OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

- (A) - MF-NBS 62775-1543 (430HZ)
- (B) - MF-NBS 62775-3497 (645HZ)

• FIELD TO VERIFY

REVISIONS  
CHANGE TO  
4-11-88  
PDM/GDD

DESIGNED BY JMG 01-14-87	WOOD RIVER TO GRANITE CITY OLDENBURG, IL. LAYOUT PLAN	
DRAWN BY JMG 01-14-87	NS NORFOLK SOUTHERN OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY -	DRAWN ON CADD ANAE01742.J	SHEET NO. 1
IN SERVICE LRD 10-31-88	ALTON DISTRICT S-17.42	OF 12
FILE: R-8386		
EWS NO.		



RED = IN  
 YELLOW = OUT  
 PROJ. 04.1039  
 SII \*N10208  
 DES: JTB  
 03-25-15  
 CHK: JTB  
 03-26-15

∞ = TWIST TWO TURNS PER FOOT

SEE NEXT SHEET FOR CASE PROGRAMMING

P8 PN150B  
 800Ω  
 6FB  
 N322500-702

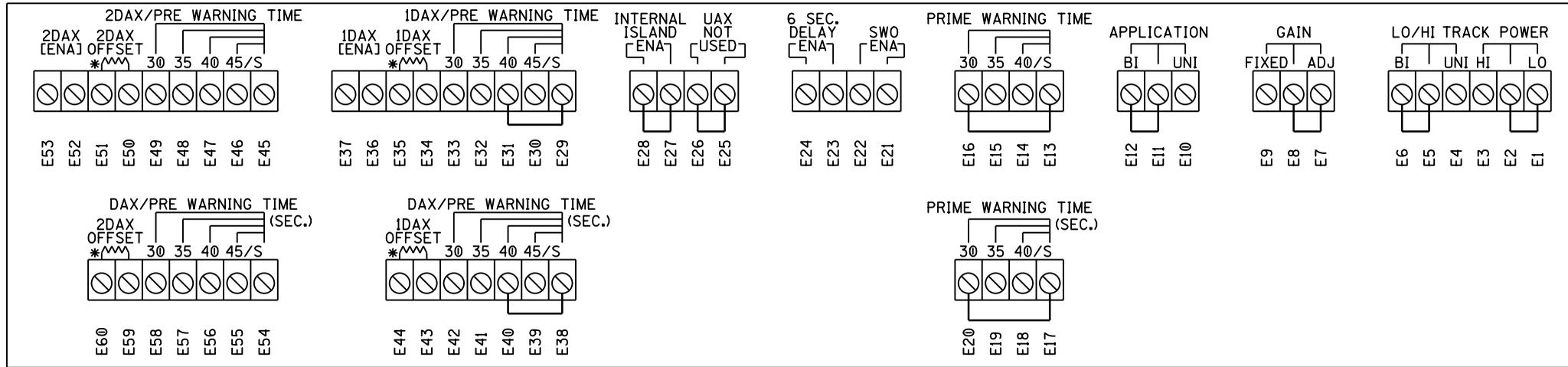
CFLGS AT ROUTE 203  
 IT JCT. TO BRIDGE JCT.

NORFOLK AND WESTERN RAILWAY  
 OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

DESIGNED BY	JMG 01-13-87	<b>WOOD RIVER TO GRANITE CITY</b> OLDENBURG, IL. CIRCUIT PLAN  <b>NORFOLK SOUTHERN</b> OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		
DRAWN BY	JMG 01-13-87			
CHECKED BY	-			
IN SERVICE	-			
DATE	LRD 10-31-88	DRAWN ON CADD	ANAE01742.2	SHEET NO. 2
8-07-85	FILE: R-8386	ALTON DISTRICT	S-17.42	
TYPX2A	EWS NO.			

REVISIONS	CHANGE TO	DATE	BY
	CFLGS	4-1-88	PDM/GDD

1GCP



RED = IN  
 YELLOW = OUT  
 PROJ. 04.1039  
 SII #N10208  
 DES: JTB  
 03-25-15  
 CHK: JTB  
 03-26-15

CFLGS AT ROUTE 203  
 IT. JCT. TO BRIDGE JCT.  
 NORFOLK AND WESTERN RAILWAY  
 OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

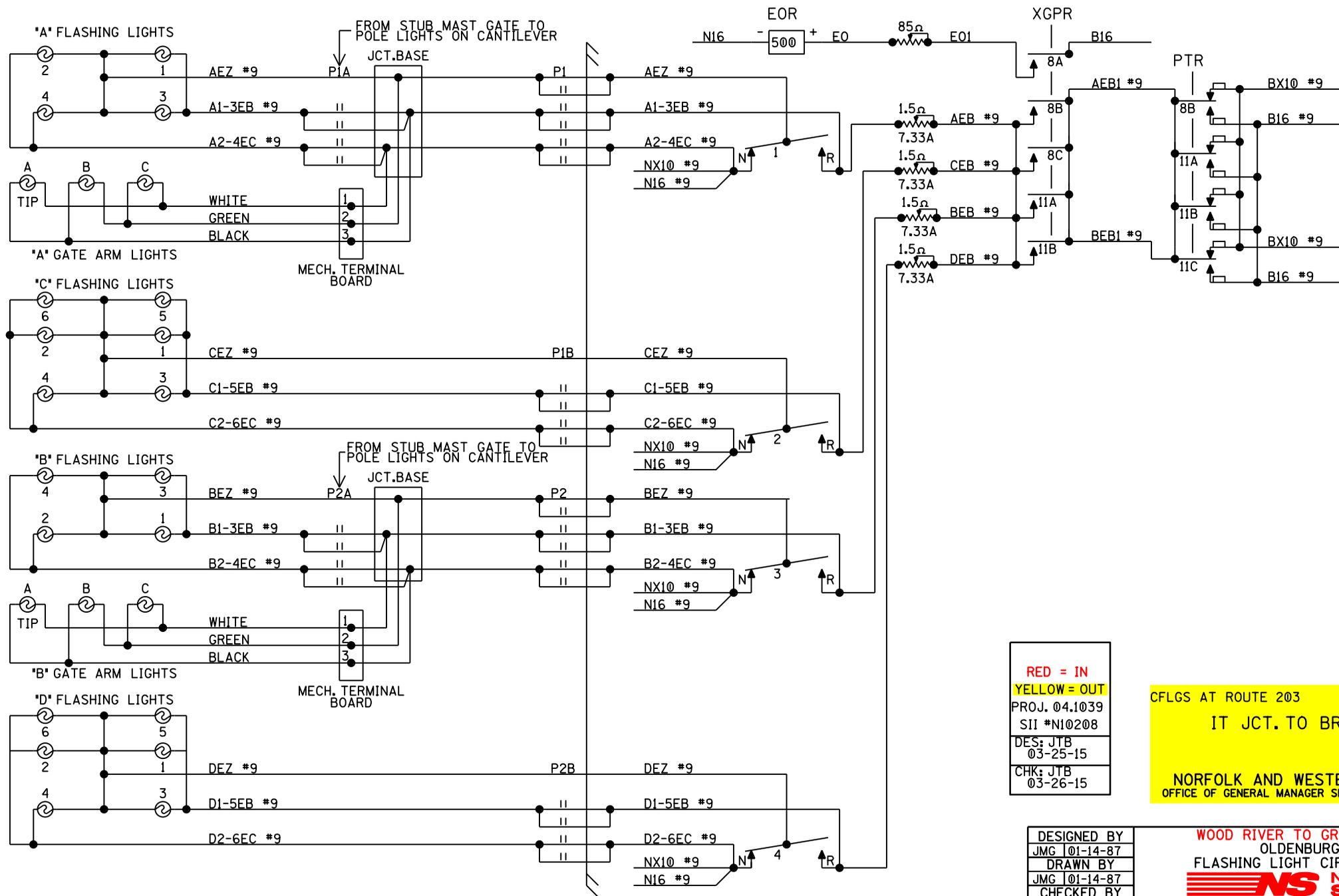
1GCP

REVISIONS  
 CHANGE TO  
 4-1-88  
 PDM/GDD

TYPICAL REVISION  
 DATE  
 7-05-85  
 TYPX2AA

DESIGNED BY  
 JMG 01-14-87  
 DRAWN BY  
 JMG 01-14-87  
 CHECKED BY  
 - -  
 IN SERVICE  
 LRD 10-31-88  
 FILE: R-8386  
 EWS NO.

WOOD RIVER TO GRANITE CITY  
 OLDENBURG, IL.  
 CIRCUIT PLAN  
  
 OFFICE OF ASS'T. VICE PRESIDENT  
 COMM. & SIGNAL, ATLANTA, GA.  
 DRAWN ON CADD ANAE01742.3  
 ALTON DISTRICT S-17.42  
 SHEET NO. 3



RED = IN  
 YELLOW = OUT  
 PROJ. 04.1039  
 SII \*NI0208  
 DES: JTB  
 03-25-15  
 CHK: JTB  
 03-26-15

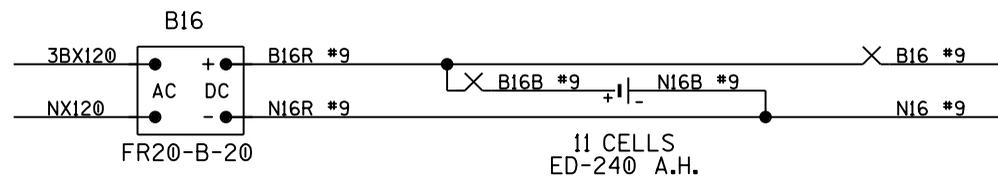
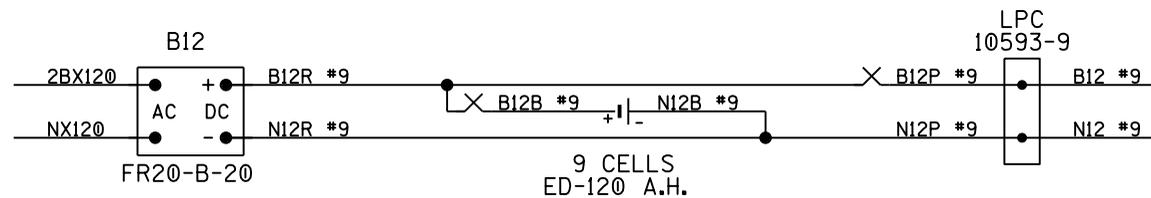
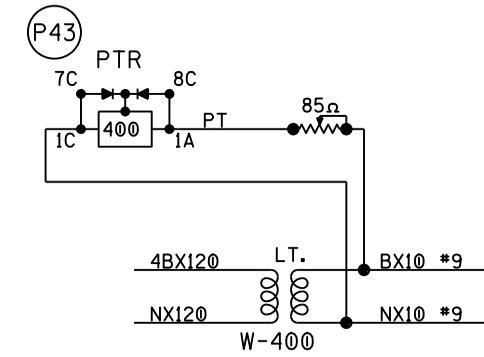
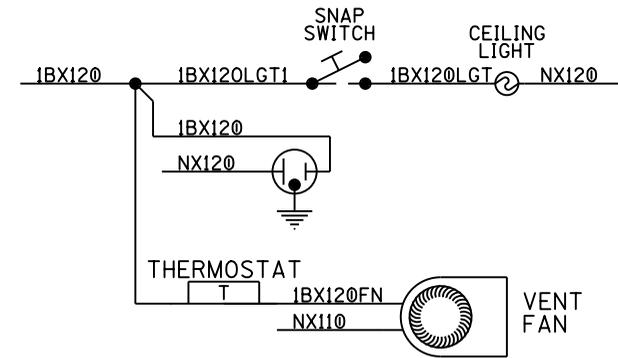
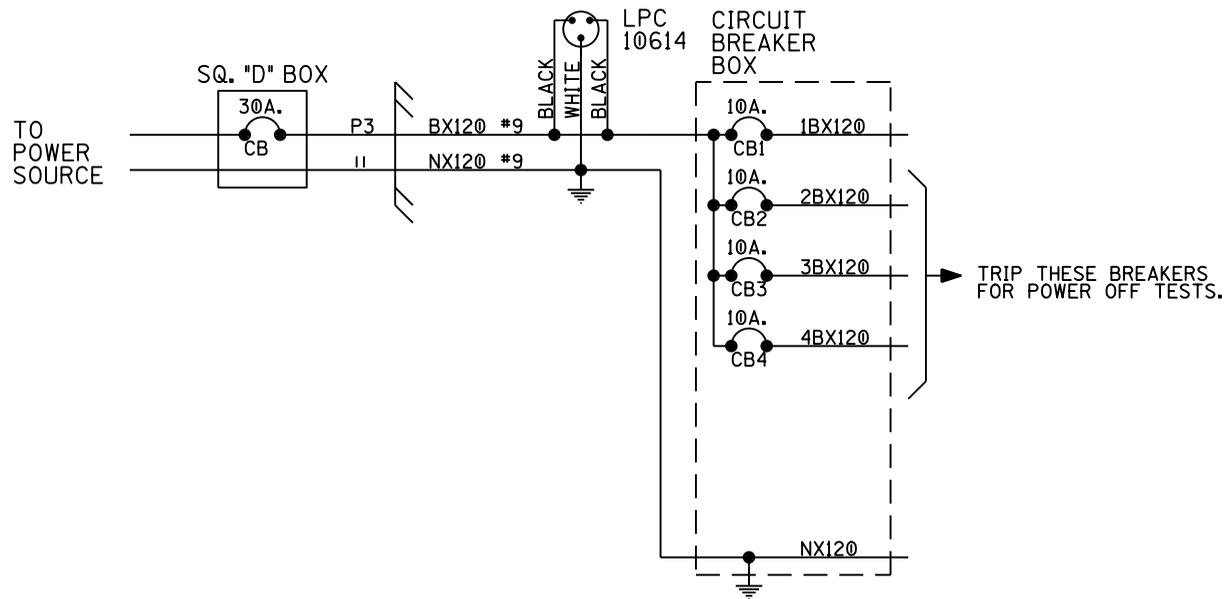
CFLGS AT ROUTE 203  
 IT JCT. TO BRIDGE JCT.  
 NORFOLK AND WESTERN RAILWAY  
 OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

REVISIONS
CHANGE TO CFLGS 4-11-88 PDM/GDD

DESIGNED BY	JMG 101-14-87
DRAWN BY	JMG 101-14-87
CHECKED BY	-
IN SERVICE	-
LRD 10-31-88	
FILE: R-8386	
EWS NO.	

WOOD RIVER TO GRANITE CITY OLDENBURG, IL. FLASHING LIGHT CIRCUIT PLAN	
OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
DRAWN ON CADD	ANAEOI742.4
ALTON DISTRICT	S-17.42
SHEET NO.	4





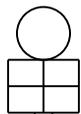
RED = IN  
 YELLOW = OUT  
 PROJ. 04.1039  
 SII #N10208  
 DES: JTB  
 03-25-15  
 CHK: JTB  
 03-26-15

CFLGS AT ROUTE 203  
 IT JCT. TO BRIDGE JCT.  
 NORFOLK AND WESTERN RAILWAY  
 OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

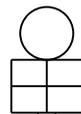
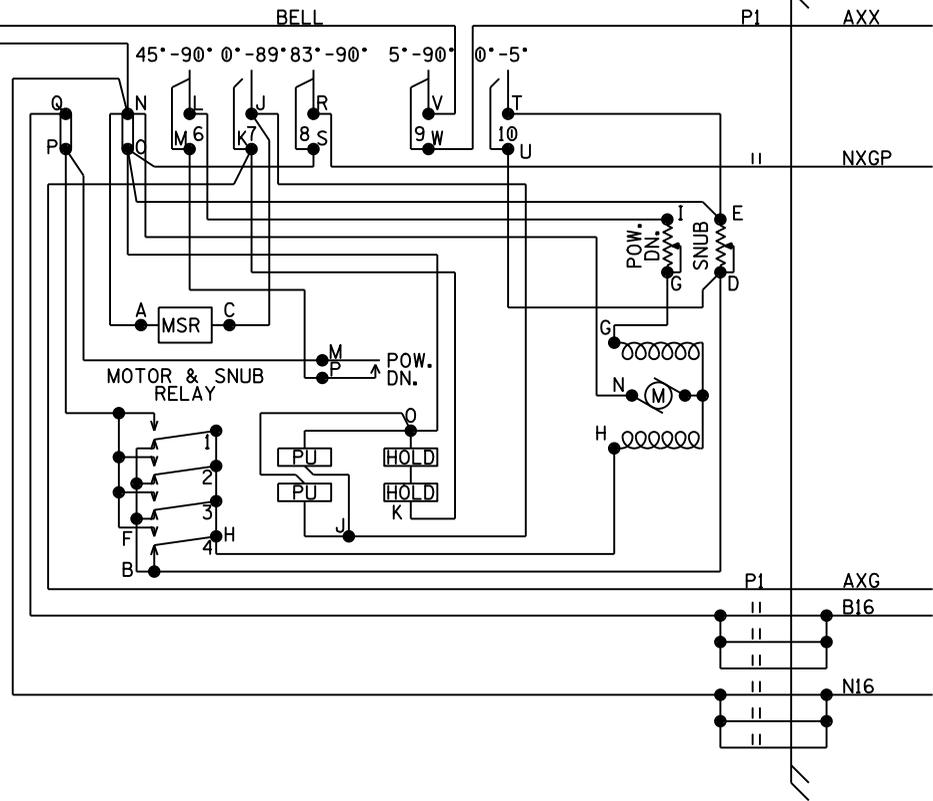
(P43) PN150P  
 400Ω 4FB-H.D.  
 N322508-703

REVISIONS

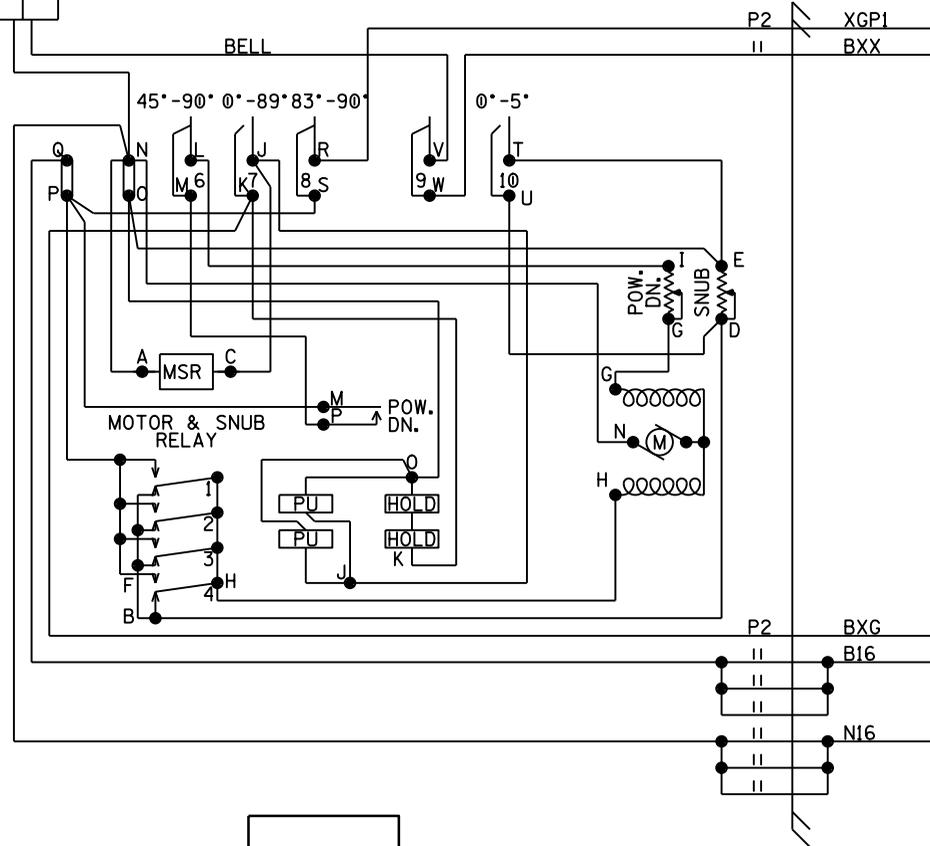
DESIGNED BY	WOOD RIVER TO GRANITE CITY	
JMG 101-14-87	OLDENBURG, IL.	
DRAWN BY	BATTERY AND POWER CIRCUIT PLAN	
JMG 101-14-87	<b>NS NORFOLK SOUTHERN</b>	
CHECKED BY	OFFICE OF ASS'T. VICE PRESIDENT	
-	COMM. & SIGNAL, ATLANTA, GA.	
IN SERVICE	DRAWN ON CADD	ANAE01742.6
LRD 110-31-88	ALTON DISTRICT	S-17.42
FILE: R-8386		
EWS NO.		SHEET NO. 6



"A" GATE MECHANISM



"B" GATE MECHANISM



RED = IN  
 YELLOW = OUT  
 PROJ. 04.1039  
 SII #N10208  
 DES: JTB  
 03-25-15  
 CHK: JTB  
 03-26-15

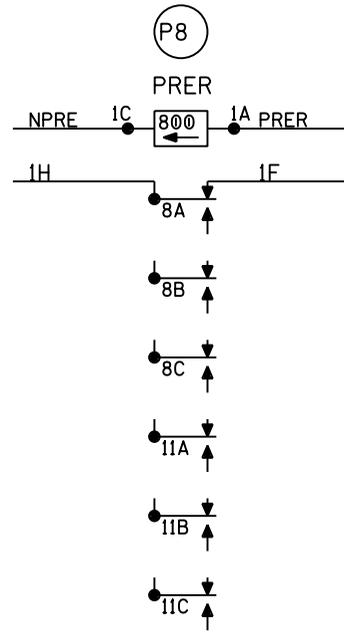
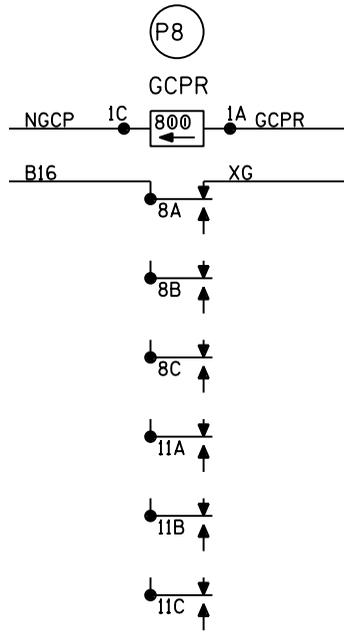
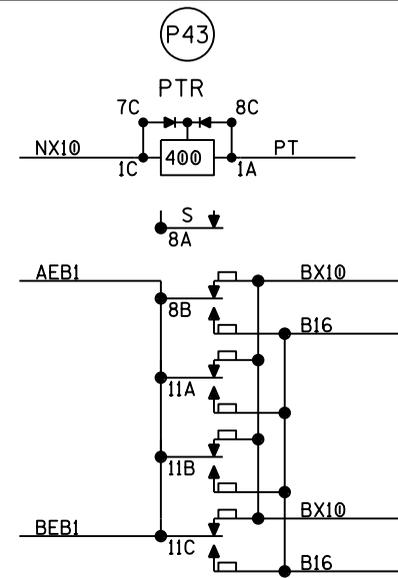
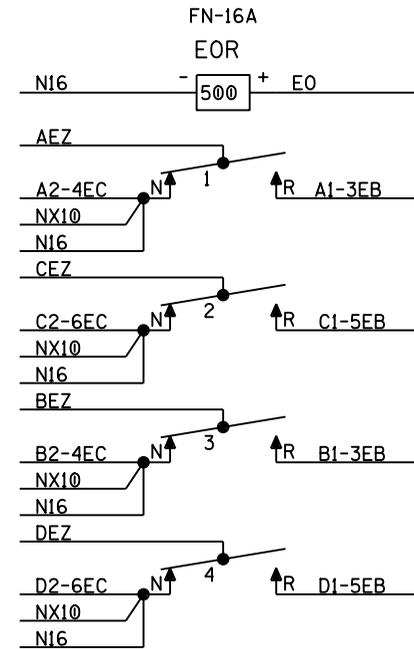
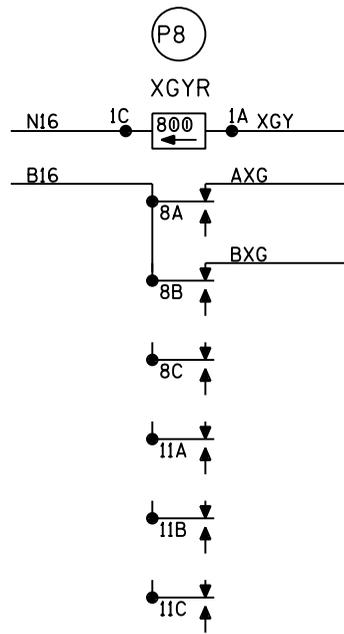
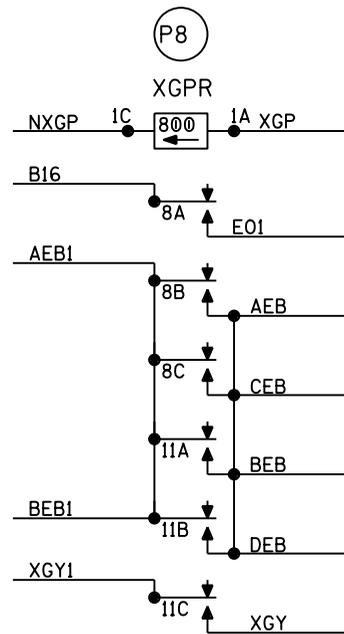
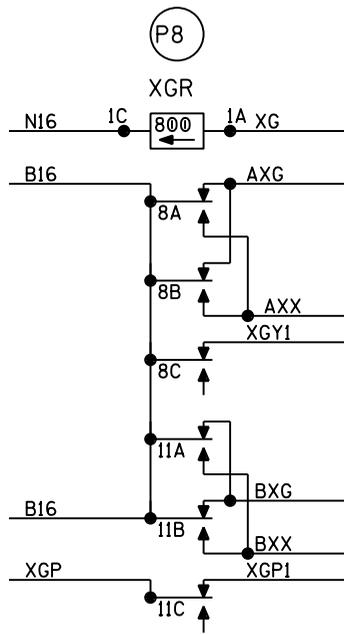
CFLGS AT ROUTE 203  
 IT JCT. TO BRIDGE JCT.  
 NORFOLK AND WESTERN RAILWAY  
 OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

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 MECHANISM WIRING  
 SAFETRAN MODEL "S" GATE

DESIGNED BY	WOOD RIVER TO GRANITE CITY OLDENBURG, IL.	
JMG 01-14-87	CIRCUIT PLANS	
DRAWN BY	NS NORFOLK SOUTHERN	
JMG 01-14-87	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY	DRAWN ON CADD	ANAEOI742.7
-	ALTON DISTRICT	S-17.42
IN SERVICE		SHEET NO. 7
LRD 10-31-88		
FILE: R-8386		
EWS NO.		

REVISIONS  
 CHANGE TO CFLGS  
 4-11-88  
 PDM/ GDD



RED = IN  
 YELLOW = OUT  
 PROJ. 04.1039  
 SII #N10208  
 DES: JTB  
 03-25-15  
 CHK: JTB  
 03-26-15

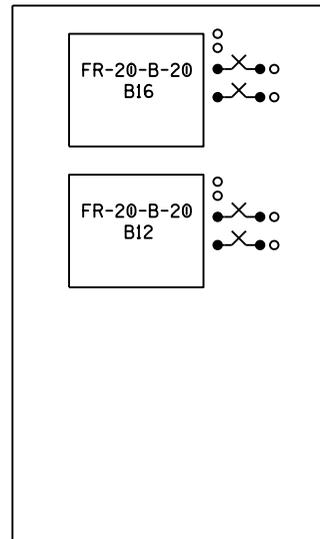
CFLGS AT ROUTE 203  
 IT JCT. TO BRIDGE JCT.  
 NORFOLK AND WESTERN RAILWAY  
 OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

REVISIONS  
 CHANGE TO CFLGS  
 4-1-88  
 PDM/GDD

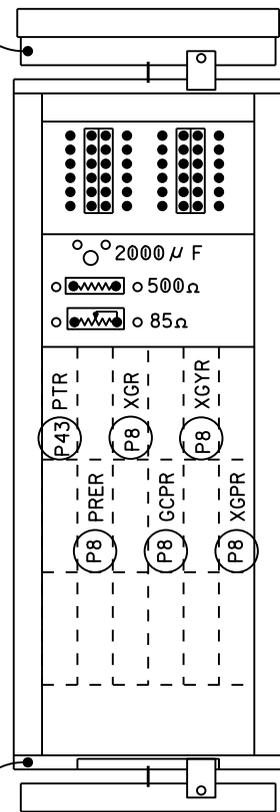
DESIGNED BY	WOOD RIVER TO GRANITE CITY OLDENBURG, IL.	
JMG 01-14-87	RELAY DETAIL PLAN	
DRAWN BY	NS NORFOLK SOUTHERN	
JMG 01- 4-87	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
CHECKED BY		
- -		
IN SERVICE		
LRD 10-31-88	DRAWN ON CADD	ANAEOI742.8
FILE: R-8386		
EWS NO.	ALTON DISTRICT	S-17.42
		SHEET NO. 8

RIGHT SIDE

SEE STANDARD E-711-A GROUNDING PLAN FOR DETAIL III



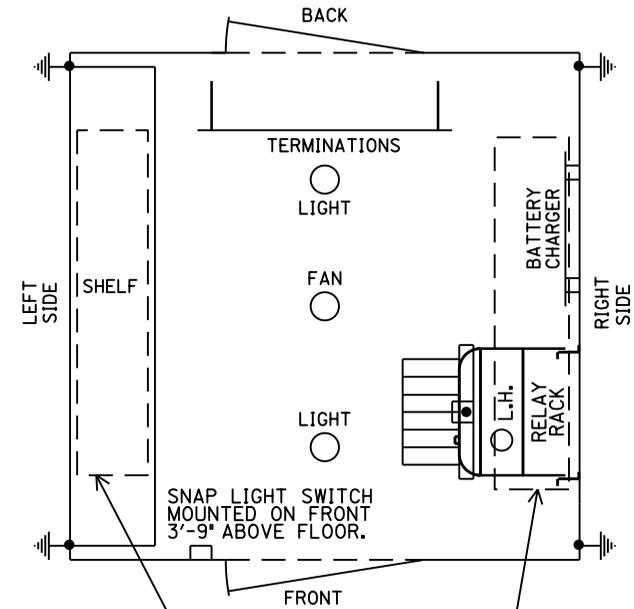
SEE STANDARD E-711-A GROUNDING PLAN FOR DETAIL III



NOTE: HOLES FOR WIRE AND CABLE CONDUCTORS SHALL BE 1/2" IN DIAMETER.  
HOLES FOR WIRES TO RELAYS AND INSTRUMENTS SHALL BE 1 3/4" IN DIAMETER.



TOP VIEW



6' X 6' HOUSE (INSULATED)

- (P8) PN150B  
800 Ω  
6FB  
N322500-702
- (P43) PN150P  
400 Ω  
1F(STICK), 4FB-HD  
N322508-703

RED = IN
YELLOW = OUT
PROJ. 04.1039
SII #N10208
DES: JTB 03-25-15
CHK: JTB 03-26-15

CFGLS AT ROUTE 203  
IT JCT. TO BRIDGE JCT.  
**NORFOLK AND WESTERN RAILWAY**  
OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

MATCH TO BACK ON NEXT SHEET



BATTERY TRAY

REVISIONS

TYPICAL REVISION DATE	DESIGNED BY	WOOD RIVER TO GRANITE CITY OLDENBURG, IL. PLACEMENT PLAN	
	IN SERVICE	 OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
10-14-86	FILE: R-8386	DRAWN ON CADD	ANAE01742.9
TY6X6HSE1	EWS NO.	ALTON DISTRICT	S-17.42
			SHEET NO. 9

NOTE: KEEP GROUND CONNECTION OF LINE ARRESTERS AS SHORT AS POSSIBLE WITH SLIGHT BEND IN GROUND CONNECTION WIRE OFF ARRESTER TO COPPER BUSS BAR.

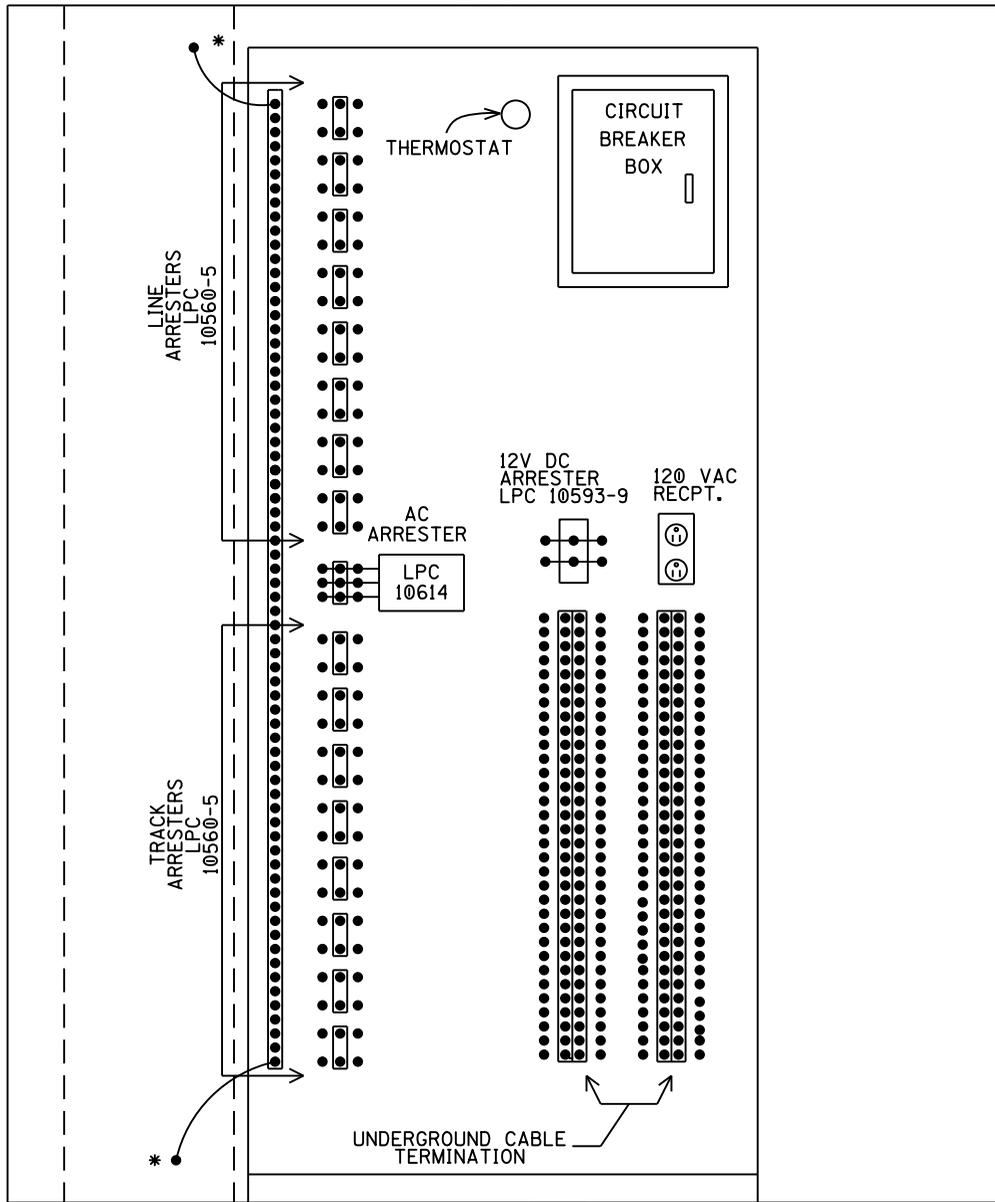
ALL ARRESTERS AND TERMINATION BLOCKS SHOWN ON ILLUSTRATION ARE TO BEGIN FROM CENTER OF BOARD. THE ILLUSTRATION SHOWS MAXIMUM POSSIBLE ON TERMINATION BOARD. ALL MAY NOT BE REQUIRED.

\* = BOLTED GROUND CONNECTIONS TO SHELTER FLOORS AND TO WALLS ARE TO USE STAR WASHERS ON INTERIOR AND EXTERIOR SIDES.

HOLES FOR WIRE AND CABLE CONDUCTORS SHALL BE 1/2" DIAMETER.

HOLES FOR WIRES TO RELAYS AND INSTRUMENTS TO BE 1 3/4" IN DIAMETER.

MATCH TO LEFT SIDE ON NEXT SHEET



MATCH TO RIGHT SIDE ON PREVIOUS SHEET

RED = IN  
 YELLOW = OUT  
 PROJ. 04.1039  
 SII #N10208  
 DES: JTB  
 03-25-15  
 CHK: JTB  
 03-26-15

CFLGS AT ROUTE 203  
 IT JCT. TO BRIDGE JCT.  
 NORFOLK AND WESTERN RAILWAY  
 OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

REVISIONS

TYPICAL REVISION DATE	07-18-86
TY6X6HSE2	

DESIGNED BY	JMG 01-14-87
DRAWN BY	JMG 01-14-87
CHECKED BY	
IN SERVICE	LRD 10-31-88
FILE:	R-8386
EWS NO.	

WOOD RIVER TO GRANITE CITY OLDENBURG, IL. PLACEMENT PLAN	
<b>NS NORFOLK SOUTHERN</b>	
OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
DRAWN ON CADD	ANAE01742.10
ALTON DISTRICT	S-17.42
SHEET NO.	10



IT JCT.  
TO WOOD RIVER  
(NORTH)

BRIDGE JCT.  
TO GRANITE CITY  
(SOUTH)

RT. 203  
APP. 2641'

RT. 203  
APP. 2641'

\* = 50' MINIMUM FROM EDGE OF ROAD.

660NDBP-430 HZ

6" CONDUIT

NEW POAG ROAD

XING CASE  
1742

6' X 6'

TO STATE

OLDENBURG, IL.  
RT. 203  
M.P. 17.42 ZZ  
DOT # 328 030 C

ROUTE 3

RED = IN  
YELLOW = OUT  
PROJ. 04.1039  
SII #N10208  
DES: JTB  
03-25-15  
CHK: JTB  
03-26-15

2C.U.G.#9  
P3 BX120  
NX120

2C.U.G.#9  
P4 XMIT-1  
XMIT-2

2C.U.G.#9  
P5 REC-1  
REC-2

STATE FURNISH  
P6 1F  
1H

15C.U.G.#9  
P1 AEZ  
A1-3EB  
A2-4EC  
AXX  
NXGP  
AXG  
B16  
N16

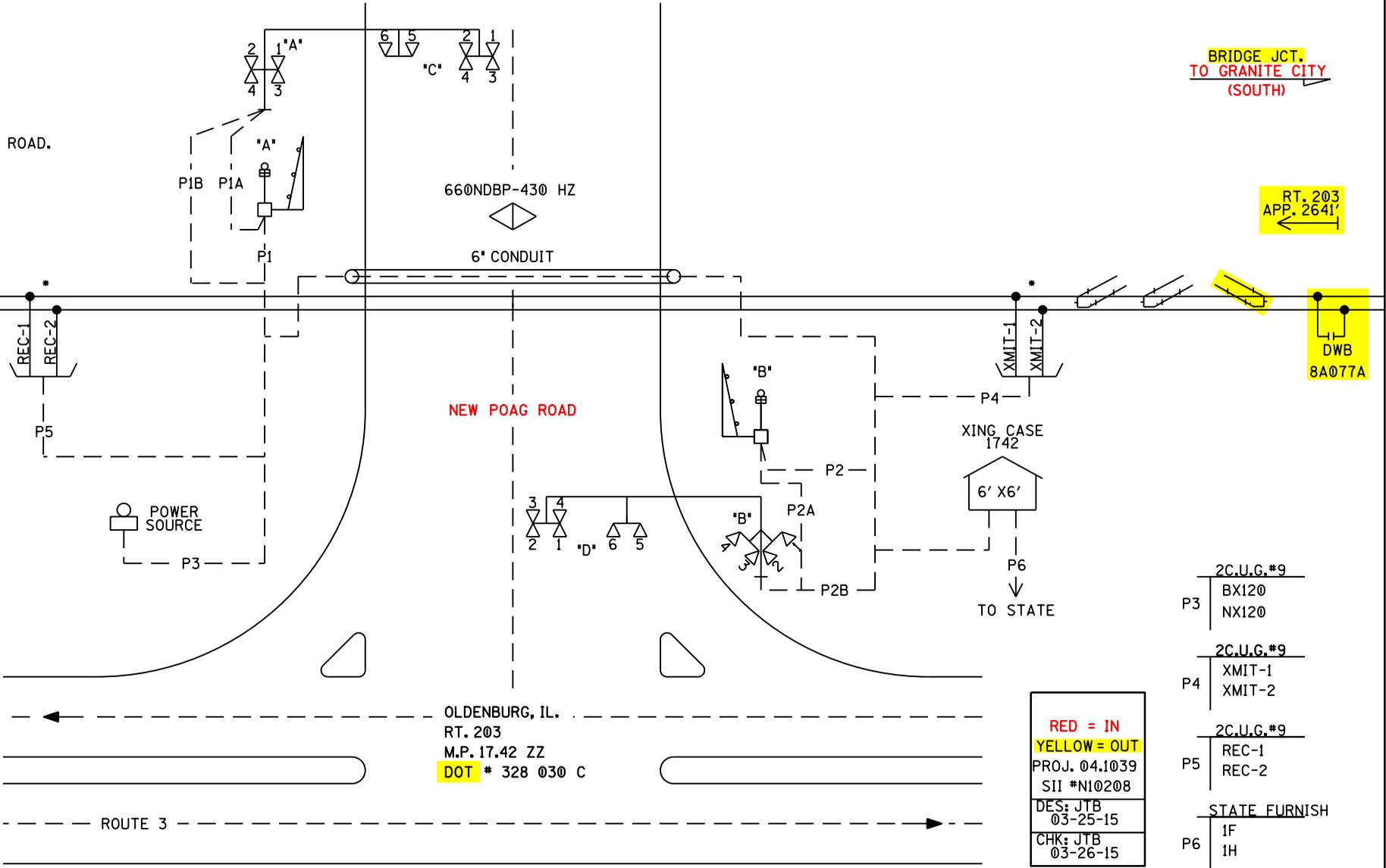
15C.U.G.#9  
P2 BEZ  
B1-3EB  
B2-4EC  
XGP1  
BXX  
BXG  
B16  
N16

5C.U.G.#9  
P1A AEZ  
A1-3EB  
A2-4EB  
A2-4EB

5C.U.G.#9  
P2A BEZ  
B1-3EB  
B2-4EC  
B2-4EC

5C.U.G.#9  
P1B CEZ  
C1-5EB  
C2-6EB  
C2-6EB

5C.U.G.#9  
P2B DEZ  
D1-5EB  
D2-6EC  
D2-6EC



CFLGS AT ROUTE 203  
IT JCT. TO BRIDGE JCT.  
NORFOLK AND WESTERN RAILWAY  
OFFICE OF GENERAL MANAGER SIGNALS, ROANOKE, VA.

REVISIONS
CHANGE TO CFLGS 4-11-88 PDM/GDD

DESIGNED BY JMG 101-14-87	WOOD RIVER TO GRANITE CITY OLDENBURG, IL.	
DRAWN BY JMG 101-14-87	CABLE LAYOUT PLAN	
CHECKED BY -		
IN SERVICE	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	
LRD 10-31-88	DRAWN ON CADD ANAEOI742.I2	SHEET NO. 12
FILE: R-8386	ALTON DISTRICT	S-17.42
EWS NO.		