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Date: 8-26-15
DOCKET # A-2015-2473425

Ms. Rosemary Chiavetta
Pennsylvania PUC
P.O. Box 3265
Harrisburg, PA 17105-3265

Dear Ms Chiavetta:

Attached for your review, is one copy of the preliminary engineering for this proposed crossing upgrade/ Installation. Should you have any questions concerning this project, please contact **STEVE KLINGER** at 404-529-1234.

Sincerely,

 9/9/15

Stephen Klinger

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IN SERVICE _____ SIGNED _____ DATE _____

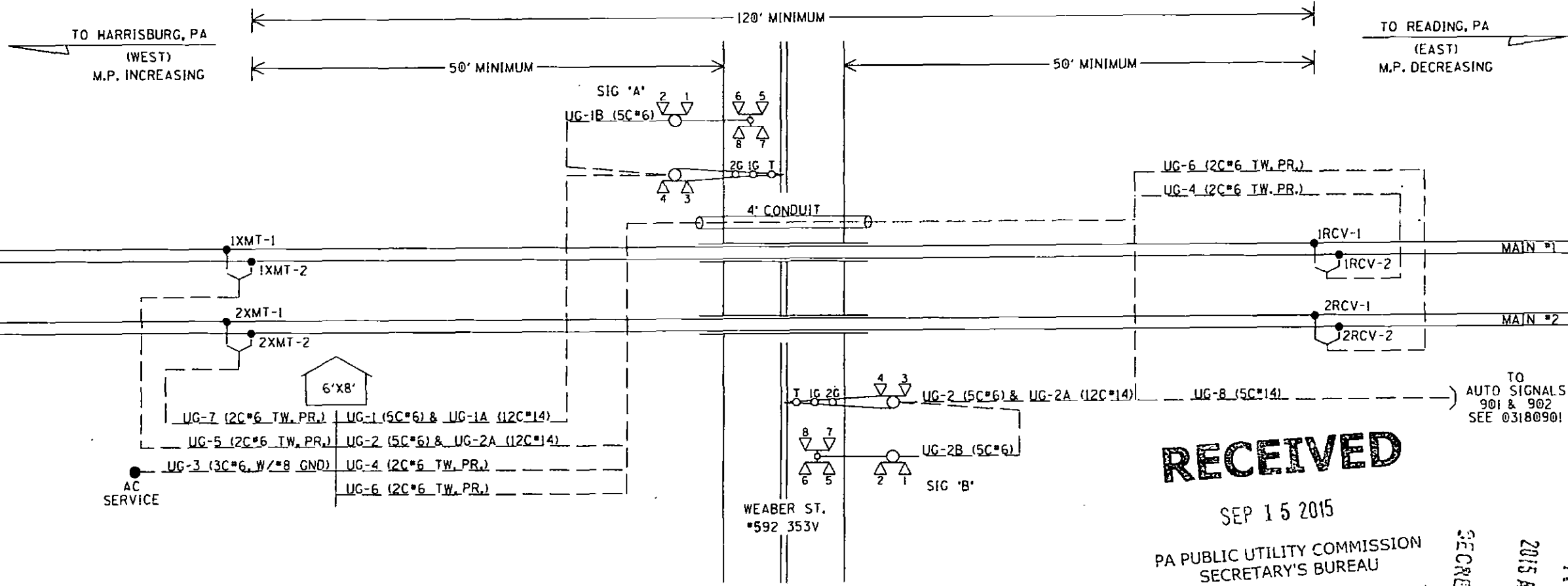
S&E ENGINEERING COPY
 CONSTRUCTION OFFICE COPY
 RETURN TO S&E ENG. AFTER COMPLETION
 FIELD COPY
 RETURN TO CASE AFTER COMPLETION
 PROJECT ENGINEER COPY

INDEX SHEET

DESIGNED BY: WJK 08-06-15		FILE No. R-
DRAWN BY: XRL 08-06-15		HP-90.56
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING, PA CFLGS AT WEBER ST	
IN SERVICE:	HARRISBURG LINE	FILE No. R-
	CADD or DWG. No. 03180905.NXL	SHEET No. 1 of 1

REVISION INITIALS

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TO
AUTO SIGNALS
901 & 902
SEE 0318090!

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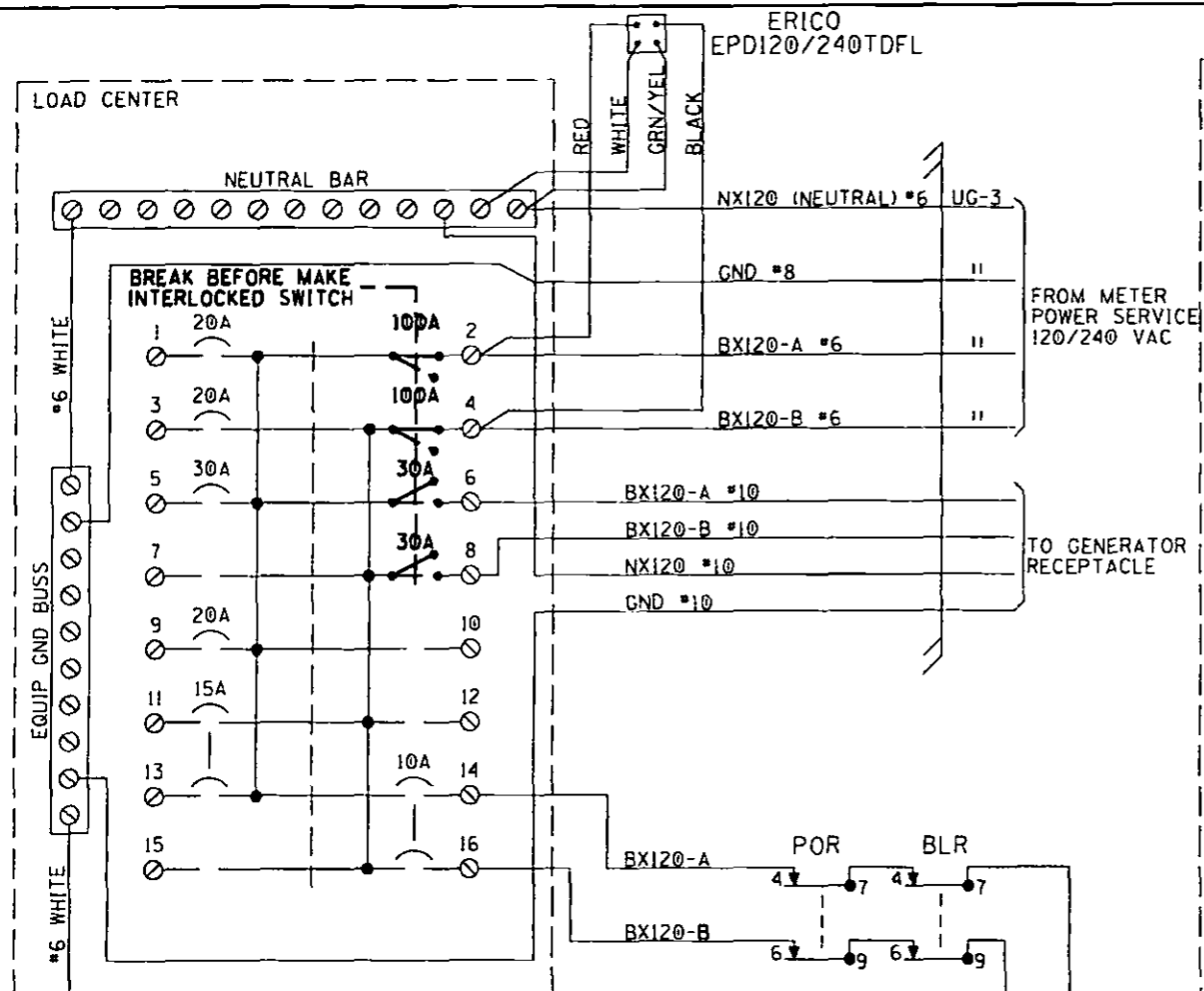
UG-1-5CUG *6 AEC AEZ AEB B16-A N16-A	UG-1A-12CUG *14 NAXG AXC AXX SPARE XGPI AGD AGBX120 AGNX120 SPARE SPARE SPARE SPARE	UG-2A-12CUG *14 NBXG BXC BXX SPARE XGPI XGP BGD BGBX120 BGNX120 SPARE SPARE SPARE	UG-1B-5CUG *6 AEC AEZ AEB BELL NBELL	UG-3-3CUG *6 W/*8 GND BX120-A BX120-B NX120 GND	UG-4-TW.PR. *6 IRCV-1 IRCV-2	UG-6-TW.PR. *6 2RCV-1 2RCV-2	UG-8-5CUG *14 WEA-1EDAXP (WUAX1) NWEA-1EDAXP (NWUAX1) WEA-2EDAXP (WUAX2) NWEA-2EDAXP (NWUAX2) SPARE
UG-2-5CUG *6 BEC BEZ BEB B16-B N16-B			UG-2B-5CUG *6 BEC BEZ BEB BELL NBELL		UG-5-TW.PR. *6 IXMT-1 IXMT-2	UG-7-TW.PR. *6 2XMT-1 2XMT-2	

CABLE PLAN

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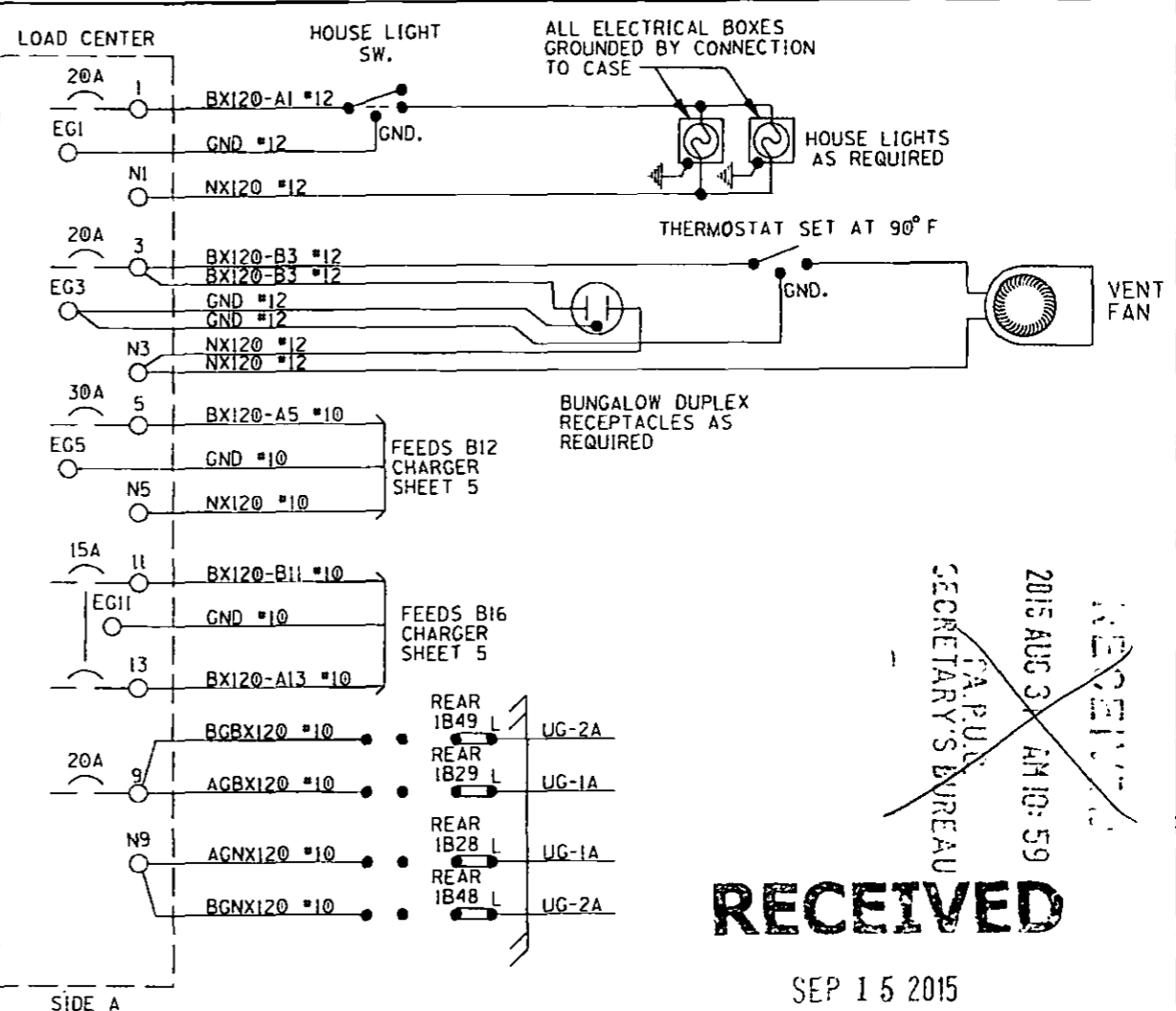
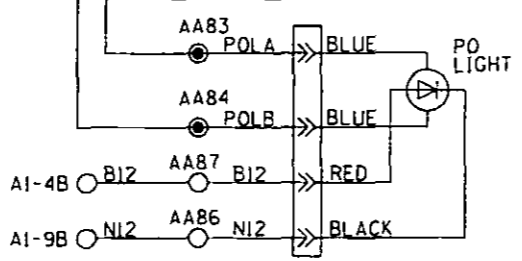
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DESIGNED BY: WJK 08-06-15	NS NORFOLK SOUTHERN
DRAWN BY: XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: HP-90.56
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING, PA CFLCS AT WEBER ST
IN SERVICE:	HARRISBURG LINE FILE No. R-
	CADD or DWG. No. 03180905.03 SHEET No. 3 of 23



NOTE: ALL AC WIRING TO THE LOAD CENTER IS TO BE IN METALLIC CONDUIT WITH NO EXPOSED TERMINALS. ALL AC 120V AND 240V EQUIPMENT IS TO BE PROPERLY GROUNDED.

- SQUARE 'D' PART NUMBERS:
- LOAD CENTER — Q0116L125G
 - 10A 1P CIR BKR — Q0110
 - 10A 2P CIR BKR — Q0210
 - 15A 2P CIR BKR — Q0215
 - 20A 1P CIR BKR — Q0120
 - 30A 1P CIR BKR — Q0130
 - 30A 2P CIR BKR — Q0230
 - 40A 2P CIR BKR — Q0240
 - 100A 2P CIR BKR — Q02100
 - MECH INTERLOCK — PK4DTIM4LA



NOTE: ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.

GENERATOR RECEPTACLE: MALE CONNECTOR - NEMA L1430-F1

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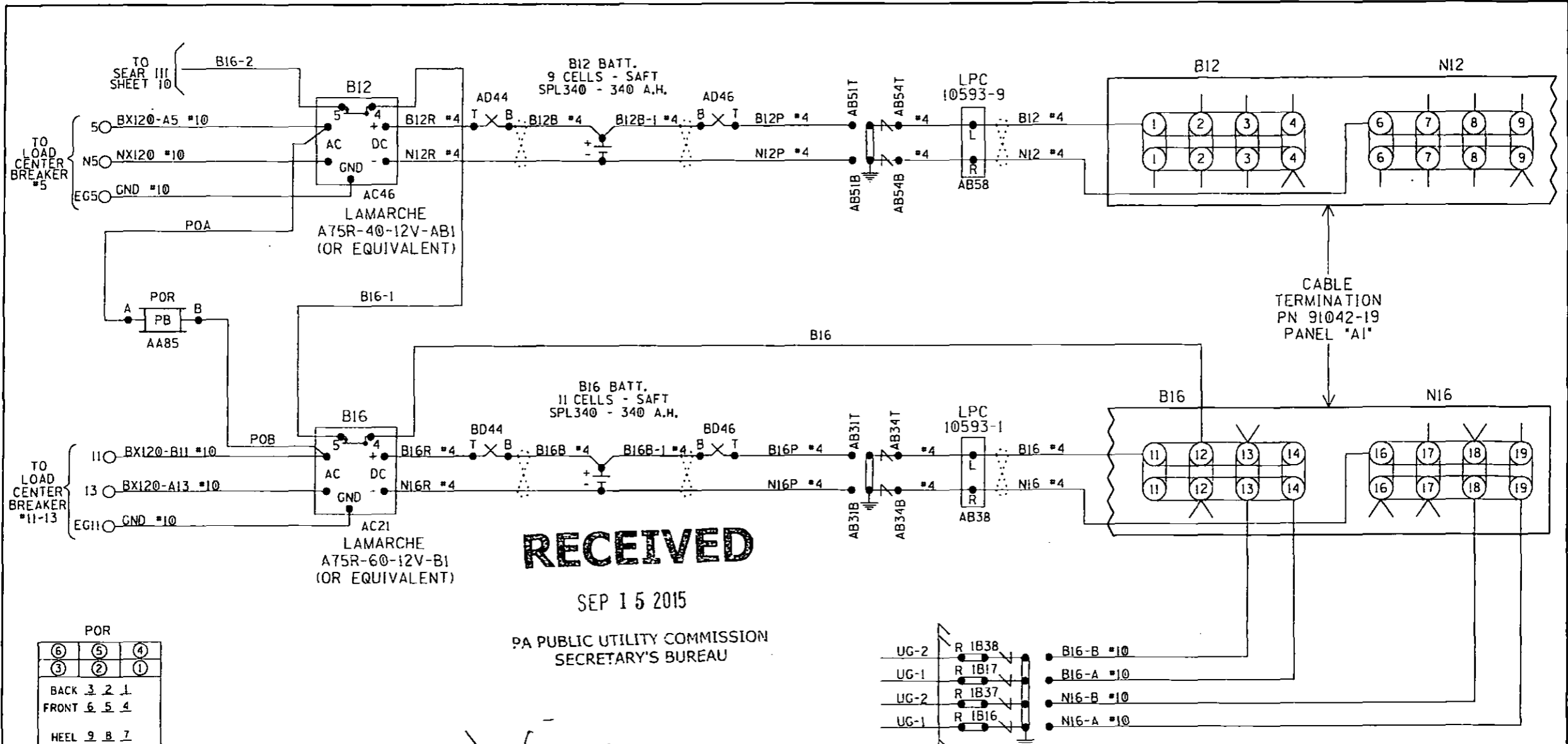
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LOAD CENTER

DESIGNED BY:	NS NORFOLK SOUTHERN	
WJK 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
DRAWN BY:	HARRISBURG TO READING, PA CFLGS AT WEABER ST	
XRL 08-06-15	HARRISBURG LINE	
CHECKED BY:	FILE No.	R-
PEH 08-14-15	SHEET 4 of 23	
IN SERVICE:	CADD or DWG. No.	03180905.04

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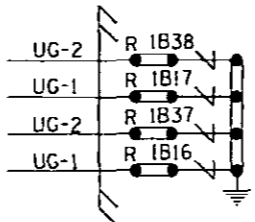
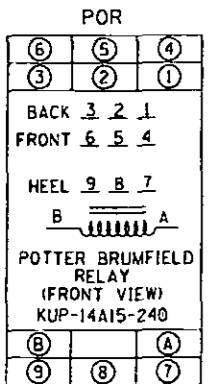


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- B16-B *10
- B16-A *10
- N16-B *10
- N16-A *10

NOTES:
ALL WIRING TO BE #16AWG
UNLESS NOTED OTHERWISE.

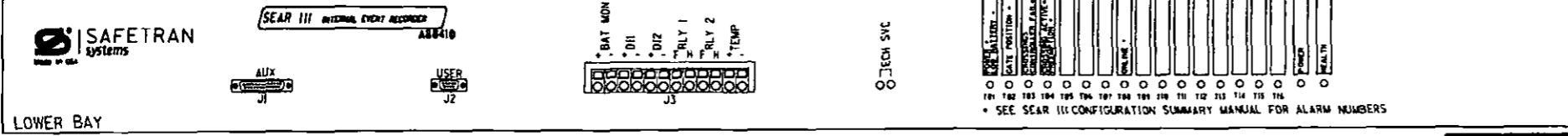
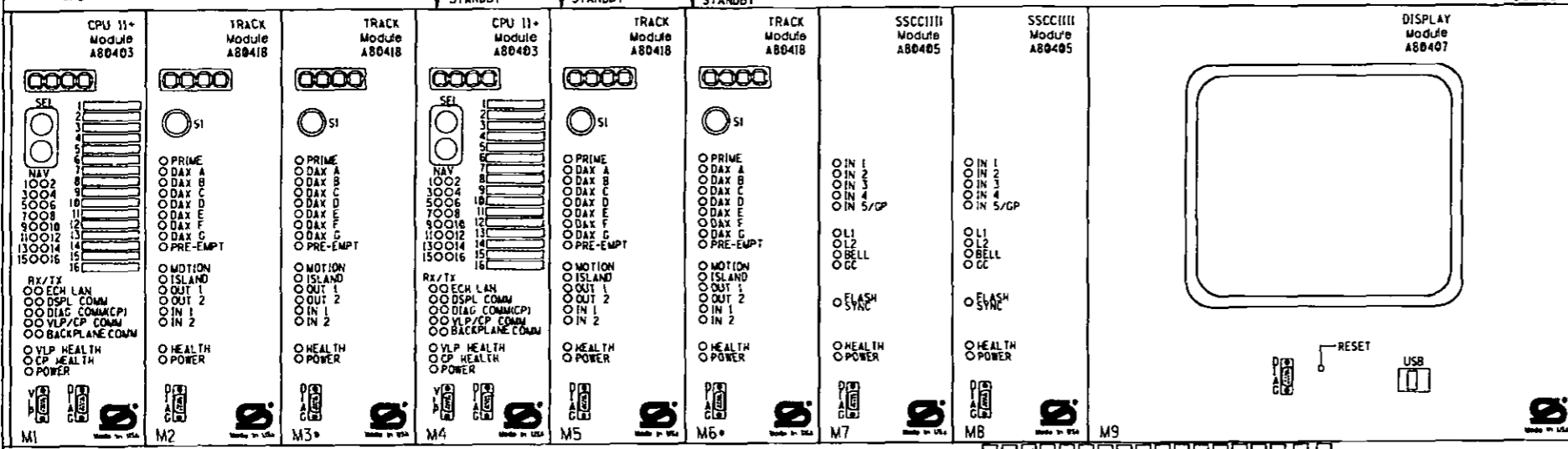
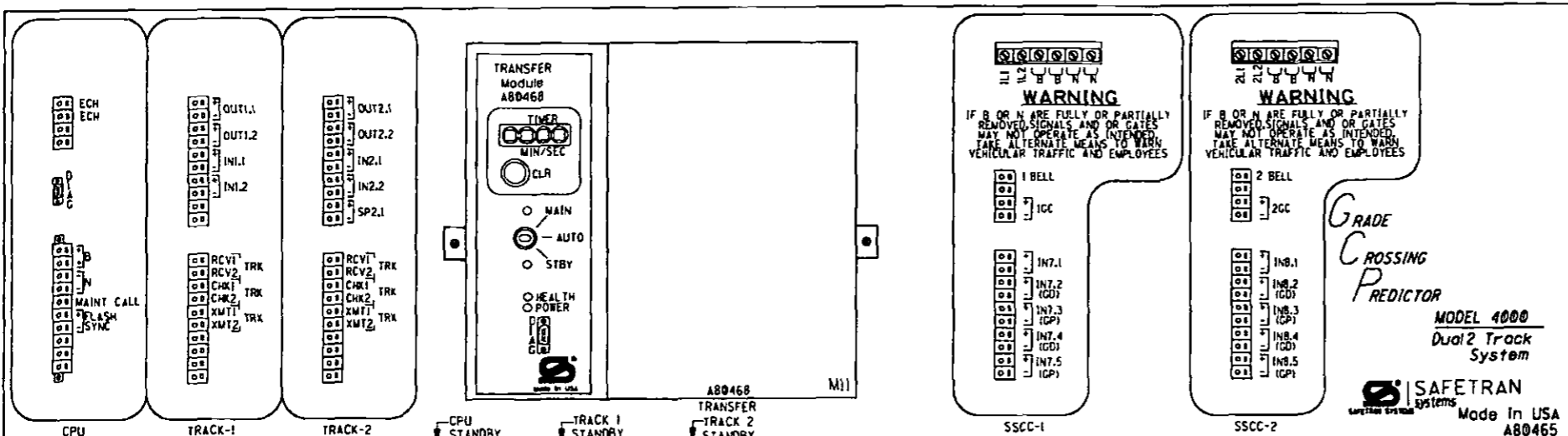
⋯ = TWIST

B12 & B16 CHARGERS & BATTERIES

DESIGNED BY: WJK 08-06-15	NS NORFOLK SOUTHERN	
DRAWN BY: XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING PA CFLGS AT WEAVER ST	
IN SERVICE:	HARRISBURG LINE	FILE No. R-
	CADD or DWG. No. 03180905.05	SHEET No. 5 of 23

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WARNING
REMOVAL OF THE SSCC1111 MODULE WILL CAUSE THE GATE(S) TO DROP BUT THE LIGHTS WILL NOT ACTIVATE

CAUTION
ASSURE CORRECT POLARITY OF THE SSCC1111 MODULE OR SEVERE DAMAGE WILL OCCUR.

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PA ATTENTION!
ENSURE THE DISPLAY MODULE HEATER IS DISABLED. LEAVING THE DISPLAY HEATER ENABLED WILL REDUCE THE AMOUNT OF BATTERY STANDBY TIME IN THE EVENT OF AN AC POWER FAILURE.

HEATER FUNCTION IS JUMPER SELECTABLE ON THE DISPLAY MODULE BOARD. THREE OPTIONS ARE AVAILABLE:
NORMAL LCD HTR (DEFAULT)
HI CURRENT
NO JUMPER (HEATER DISABLED)

* = MAIN AND STANDBY MAY USE R10 IN TRACK 2 SLOTS (M3 AND M6)

4000 GCP 2-TK CHASSIS & MODULE LAYOUT

DESIGNED BY:	WJK 08-06-15	NS NORFOLK SOUTHERN
DRAWN BY:	XRL 08-06-15	
CHECKED BY:	PEH 08-14-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: HP-90.56
IN SERVICE:		HARRISBURG TO READING, PA CFLGS AT WEAVER ST
		HARRISBURG LINE FILE No. R-
		CADD or Dwg. No. 03180905.06 SHEET 6 of 23

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Program Report

Location and SIN

DOT Number: 592353V
Milepost Number: HP-90.56
Site Name: WEABER ST

SIN: 755059001916

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): 465D073A
Office Check Number: 465D073A
Config. Check Number: 32B74016
(Based on MCF Revision 021)

Program

BASIC: module configuration
Track 1 Slot = Track
Track 2/RIO 1 Slot = Track
Track 3 Slot = Not Used
Track 4 Slot = Not Used
Track 5/RIO 2 Slot = Not Used
Track 6/RIO 3 Slot = Not Used
SSCC-1 Slot = SSCC3j
SSCC-2 Slot = SSCC3l
SEAR Used = Yes

BASIC: MS/GCP operation
Track 1: MS/GCP Operation = Yes
Track 2: MS/GCP Operation = Yes

BASIC: island operation
Track 1: island Used = Internal
Track 2: 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: VitalComms links
VitalComms link 1 Used = No
VitalComms 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

PREDICTORS: track 2
Track 2: Prime Used = Yes
Track 2: Dax A Used = No
Track 2: Dax B Used = No
Track 2: Dax C Used = No
Track 2: Dax D Used = No
Track 2: Dax E Used = No
Track 2: Dax F Used = No
Track 2: Dax G Used = No

GCP: track 1
Track 1: GCP Freq Category = Standard
Track 1: GCP Frequency = 86 Hz
Track 1: Approach Distance = 2573 ft
Track 1: Uni/BI/Sim-Bidirnl = Bidirnl
Track 1: GCP Transmit Level = High
Track 1: Island Connection = Isl1
Track 1: Island Distance = 146 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: Trailing Switch Logic = On
Track 1: Post Joint Detn Time = 15 sec
Track 1: Adv Appr Predn = No
Track 1: CancelPickup 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 EZ Level = 10
Track 1: Prime MS/GCP Mode = Pred
Track 1: Prime Pickup Delay = 15 sec
Track 1: Prime UAX = IP
Track 1: Prime UAX Pickup = 5 sec

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 CtrlIP 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

GCP: track 2
Track 2: GCP Freq Category = Standard
Track 2: GCP Frequency = 86 Hz
Track 2: Approach Distance = 2573 ft
Track 2: Uni/BI/Sim-Bidirnl = Bidirnl
Track 2: GCP Transmit Level = High
Track 2: Island Connection = Isl2
Track 2: Island Distance = 146 ft
Track 2: Computed Distance = 9999 ft
Track 2: Linearization Steps = 100

GCP: track 2 enhanced det
Track 2: Inbound PS Sensitivity = Off
Track 2: Speed Limiting Used = Yes
Track 2: Outbound False Act Lvl = Normal
Track 2: Outbound PS Timer = 20 sec
Track 2: Trailing Switch Logic = On
Track 2: Post Joint Detn Time = 15 sec
Track 2: Adv Appr Predn = No
Track 2: CancelPickup Delay = This Isl

GCP: track 2 prime
Track 2: Prime Warning Time = 30 sec
Track 2: Prime Offset Distance = 0 ft
Track 2: Switch MS EZ Level = 10
Track 2: Prime MS/GCP Mode = Pred
Track 2: Prime Pickup Delay = 15 sec
Track 2: Prime UAX = IP
Track 2: Prime UAX Pickup = 5 sec

GCP: track 2 pos start
Track 2: Positive Start = Off
Track 2: Sudden Shnt Det Used = No
Track 2: Low EZ Detection Used = No

GCP: track 2 MS Control
Track 2: MS/GCP CtrlIP Used = No
Track 2: MS Sensitivity Level = 0
Track 2: Compensation Level = 1300
Track 2: Warn Time-Ballast Comp = High
Track 2: Low EX Adjustment = 39
Track 2: Bidirnl Dax Passthru = No
Track 2: False Act on Train Stop = No
Track 2: EX Limiting Used = Yes
Track 2: EZ Correction Used = Yes

ISLAND: track 1
Track 1: Isl Frequency = 13.2 kHz
Track 1: Pickup Delay (2s +) = 0 sec
Track 1: Isl Enable IP Used = No

ISLAND: track 2
Track 2: Isl Frequency = 15.2 kHz
Track 2: Pickup Delay (2s +) = 0 sec
Track 2: 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 XR Track 2 = 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
T2 OOS Control = OOS Input 1

ADVANCED: track wrap circuits
Wrap LOS Timer = 5 sec
Track 1 Wrap Used = No
Track 2 Wrap Used = No

ADVANCED: trk 1 overrides
Track 1: All Predictors Override Used = No

ADVANCED: trk 2 overrides
Track 2: All Predictors Override Used = No

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

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4000 GCP PROGRAMMING SETUP

Table with 4 columns: Field Name, Value, Field Name, Value. Includes fields like DESIGNED BY, DRAWN BY, CHECKED BY, IN SERVICE, and NORFOLK SOUTHERN logo.

Table with 2 columns: REVISION INITIALS, PROPERTY PENNSYLVANIA R.R.

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 Call Rpt IP Used = No
 Emergency Activate IP = No
 EZ/EX Logging = Change
 EZ/EX Point Change = 3

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

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

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

OUTPUT: assignment page 1
 OUT 1.1 = Not Used
 OUT 1.2 = Not Used
 OUT 2.1 = Not Used
 OUT 2.2 = Not Used

INPUT: assignment page 1
 IN 1.1 = T1 Prime UAX
 IN 1.2 = Not Used
 IN 2.1 = T2 Prime UAX
 IN 2.2 = 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 = GP 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
 Rly 1 = General
 Rly 2 = Not Used

SEAR: inputs
 SP 2.1 = POK 1
 SP 3.1 = Not Used
 SP 4.1 = Not Used
 SP 5.1 = Not Used
 SP 6.1 = Not Used

SEAR: slot 1-4 inputs
 IN 1.2 = 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: 03180905.pac


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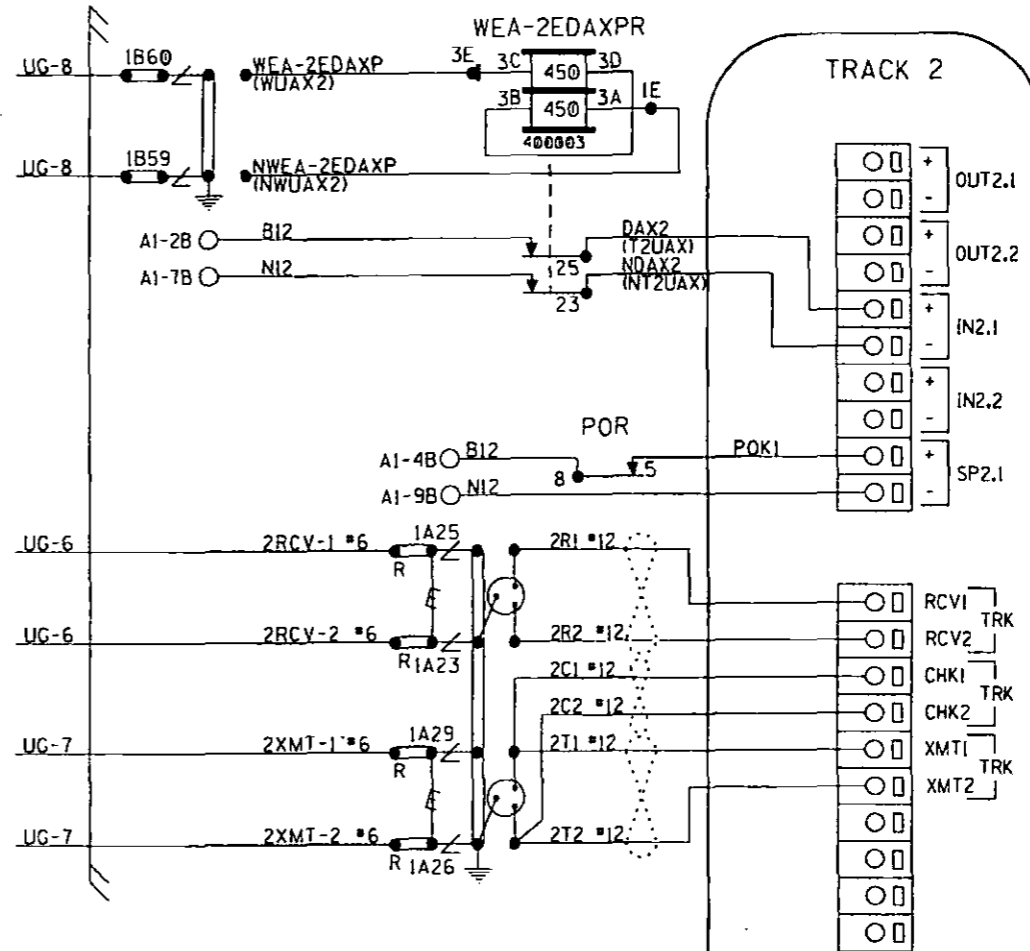
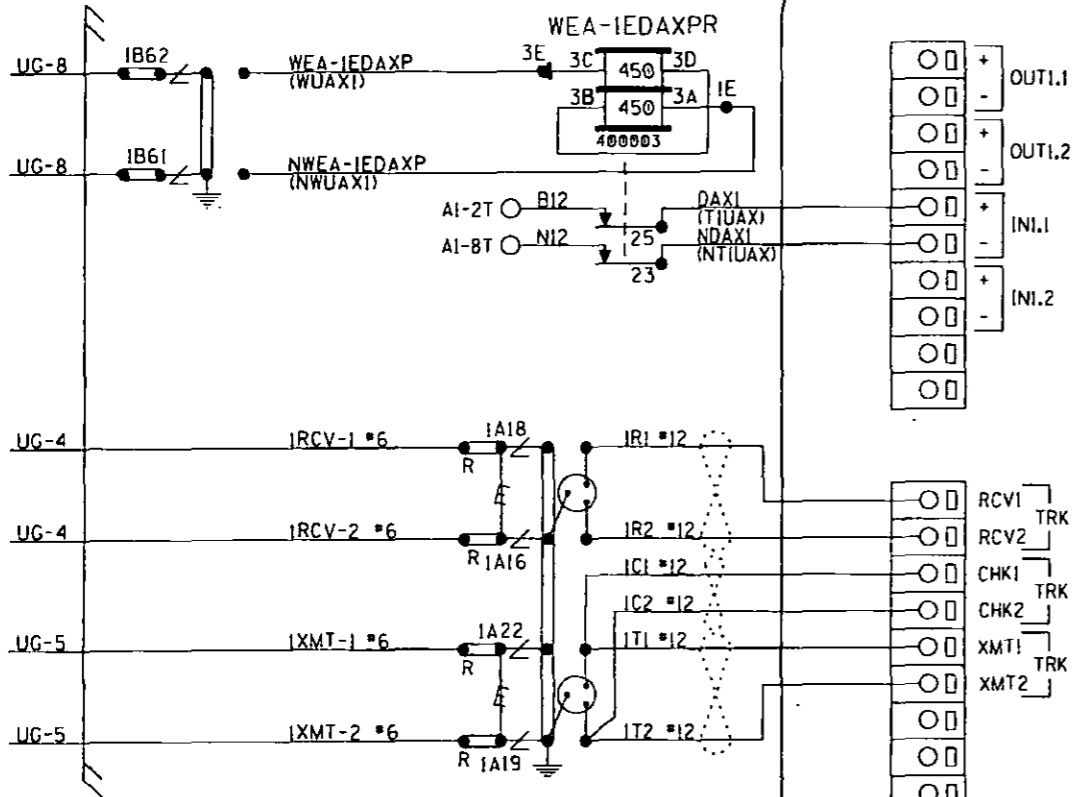
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4000 GCP PROGRAMMING SETUP

DESIGNED BY:			
WJK 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT	M.P.:	HP-90.56
DRAWN BY:	COMM. & SIGNAL, ATLANTA, GA.		
XRL 08-06-15	HARRISBURG TO READING, PA		
CHECKED BY:	CFLGS AT WEBBER ST		
PEH 08-14-15	HARRISBURG LINE		FILE No. R-
IN SERVICE:	CADD or DWG. No.	03180905.08	SHEET 8 of 23

REVISION INITIALS																				
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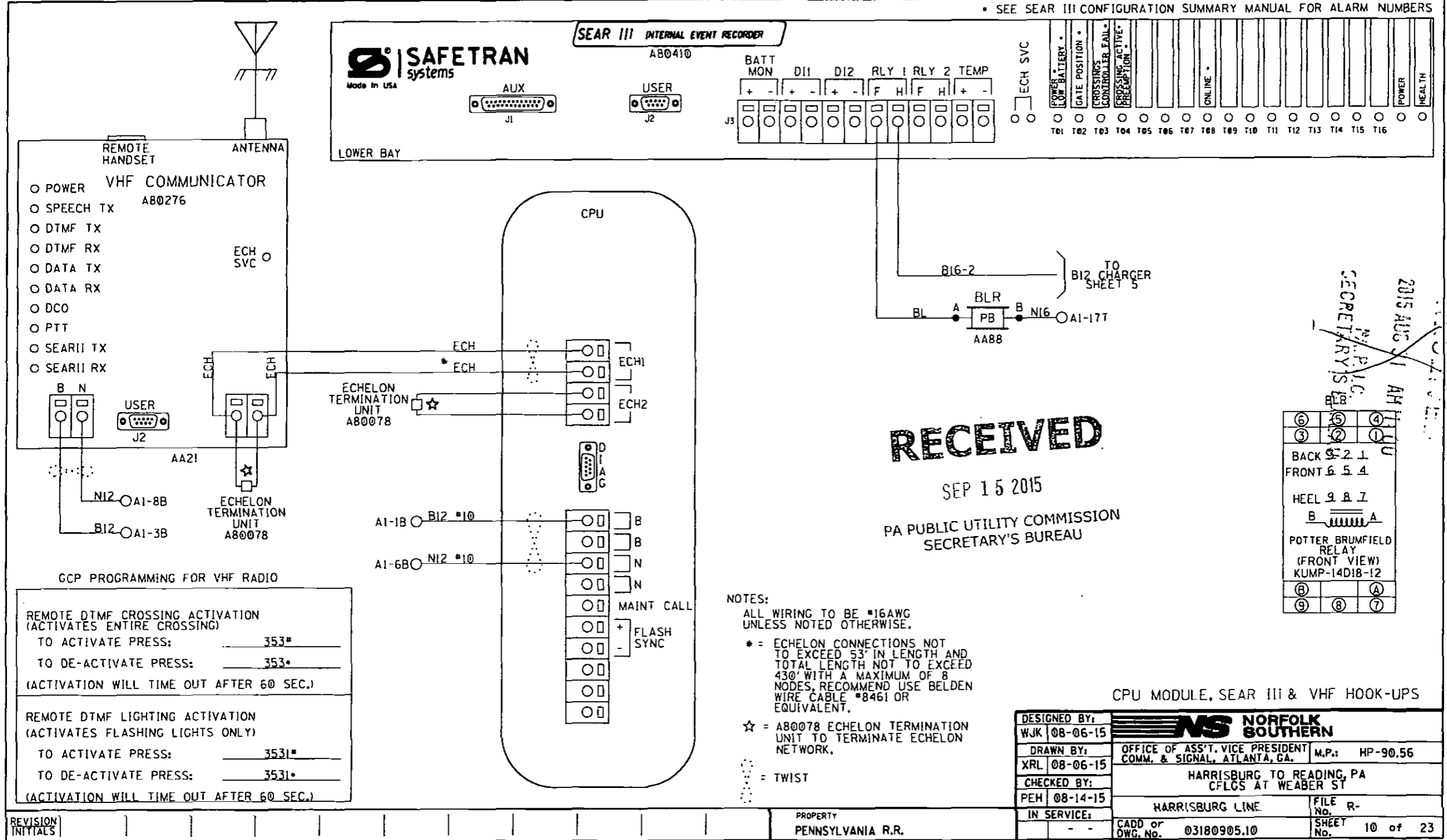
⋮ = TWIST

CONNECTORS FOR TRACK MODULES

DESIGNED BY: WJK 08-06-15	NS NORFOLK SOUTHERN	
DRAWN BY: XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
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	CADD or DWG. No. 03180905.09	SHEET 9 of 23

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GCP PROGRAMMING FOR VHF RADIO

REMOTE DTMF CROSSING ACTIVATION
(ACTIVATES ENTIRE CROSSING)
TO ACTIVATE PRESS: 353*
TO DE-ACTIVATE PRESS: 353•
(ACTIVATION WILL TIME OUT AFTER 60 SEC.)

REMOTE DTMF LIGHTING ACTIVATION
(ACTIVATES FLASHING LIGHTS ONLY)
TO ACTIVATE PRESS: 3531*
TO DE-ACTIVATE PRESS: 3531•
(ACTIVATION WILL TIME OUT AFTER 60 SEC.)

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SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	
AUTOMATIC DST ADJUSTMENT	YES
TIME ZONE	EST
SITE NAME	WEABER ST
MILEPOST	HP-90.56
DOT *	592353V
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
INDICATE HOLD (SEC)	0
INDICATE REFRESH (SEC)	60
SITE ATCS	7.550.590.019.03.01
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	
ENTRANCE GATES	2
85% VOLTAGE RELAY OUT	YES
• GATES CONTROLLED BY FOREIGN RR	
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	353
ACTIVATION TIMEOUT (SECONDS)	60
ILOD MODULES	0
•••• ANY LED BULBS USED	NO
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 LEDES	NO
EDIT TEST LEDES	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.

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

SEAR III PROGRAMMING SETUP

DESIGNED BY: WJK 08-06-15	
DRAWN BY: XRL 08-06-15	
CHECKED BY: PEH 08-14-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: HP-90.56
IN SERVICE:	HARRISBURG TO READING, PA CFLGS AT WEABER ST
	HARRISBURG LINE FILE No. R-
	CADD or DWG. No. 03180905.11 SHEET No. 11 of 23

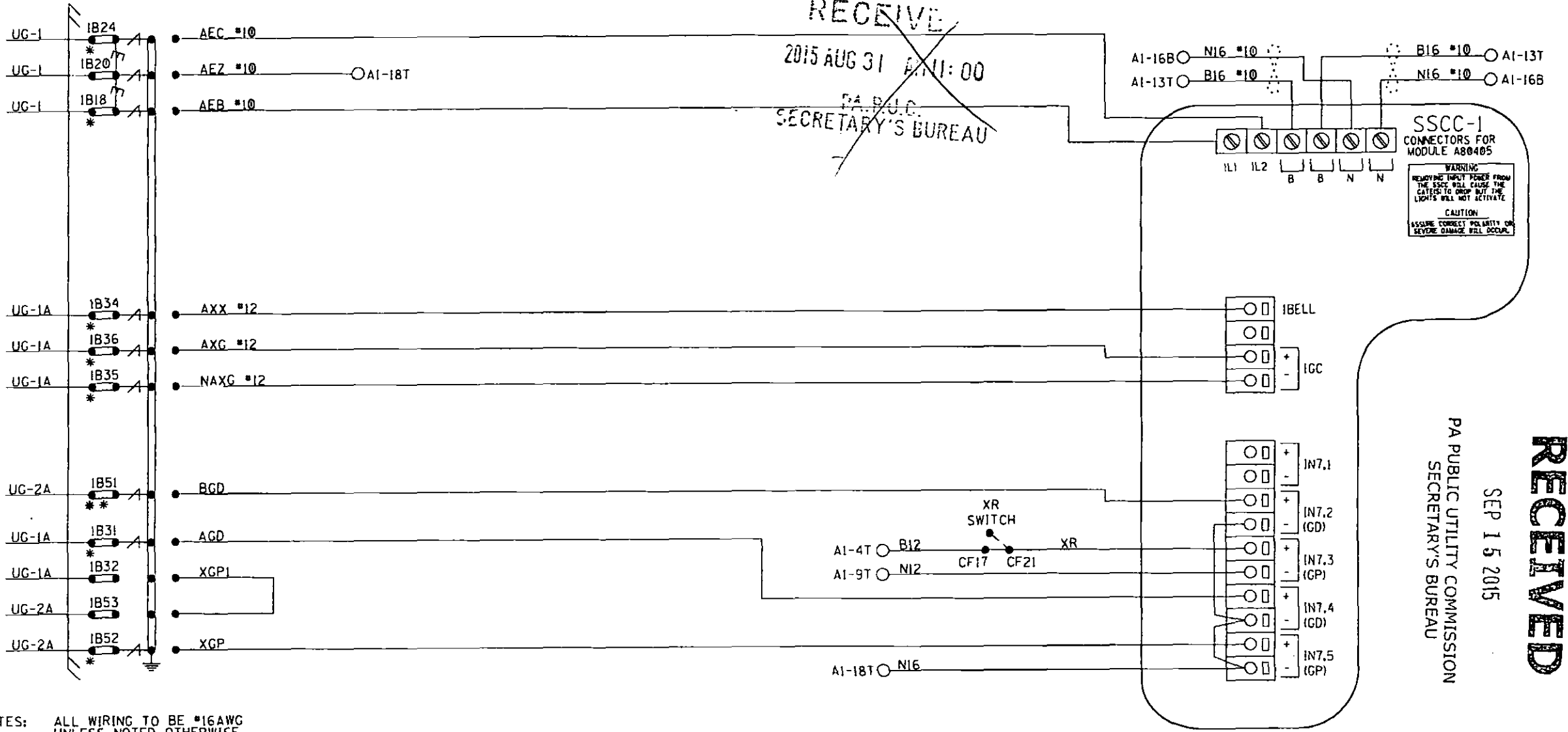
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NOTES: ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.

* = TEST LINKS MUST BE OPENED TEMPORARILY FOR NEW COLD START OF NEW OR REPLACEMENT SSCC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTIONS: SECTION 8 OF THE GCP 4000 REFERENCE MANUAL.

⋯ = TWIST

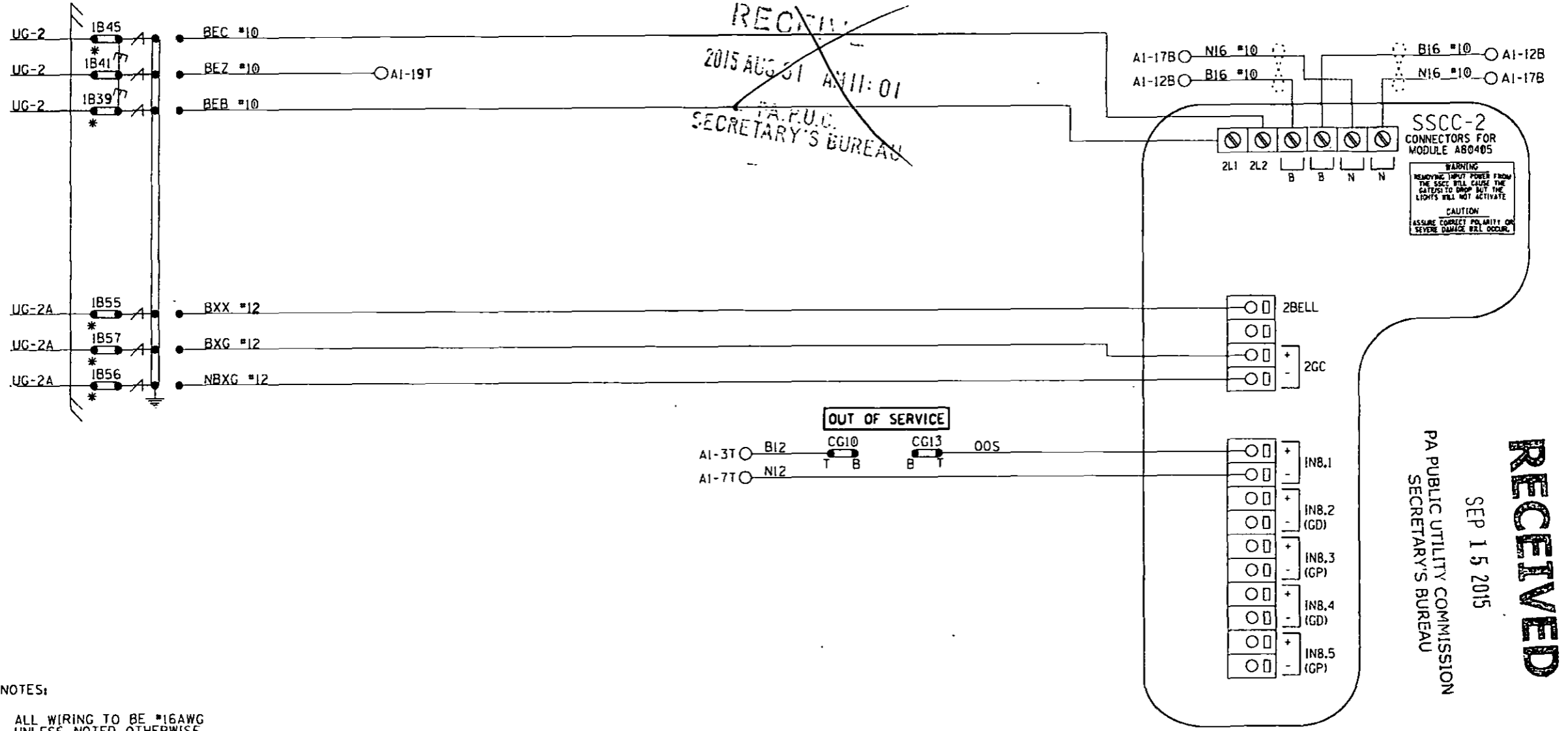
SSCC#1 MODULE HOOK-UP

DESIGNED BY:	NS NORFOLK SOUTHERN	
WJK 08-06-15		
DRAWN BY:	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
XRL 08-06-15		
CHECKED BY:	HARRISBURG TO READING, PA CFLGS AT WEABER ST	
PEH 08-14-15		
IN SERVICE:	HARRISBURG LINE	FILE No. R-
	CADD or DWG. No. 03180905.12	SHEET No. 12 of 23

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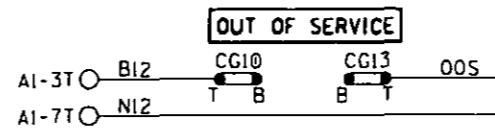
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NOTES:
 ALL WIRING TO BE #16AWG
 UNLESS NOTED OTHERWISE.

* = TEST LINKS MUST BE OPENED TEMPORARILY FOR NEW
 COLD START OF NEW OR REPLACEMENT SSCC MODULE
 AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR.
 INSTRUCTIONS; SECTION 8 OF THE GCP 4000 REFERENCE MANUAL.

⋯ = TWIST



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SSCC#2 MODULE HOOK-UP

DESIGNED BY: WJK 08-06-15		
DRAWN BY: XRL 08-06-15		
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING, PA CFLGS AT WEBBER ST	
IN SERVICE:	HARRISBURG LINE	FILE No. R-
	CADD or DWG. No. 03180905.13	SHEET No. 13 of 23

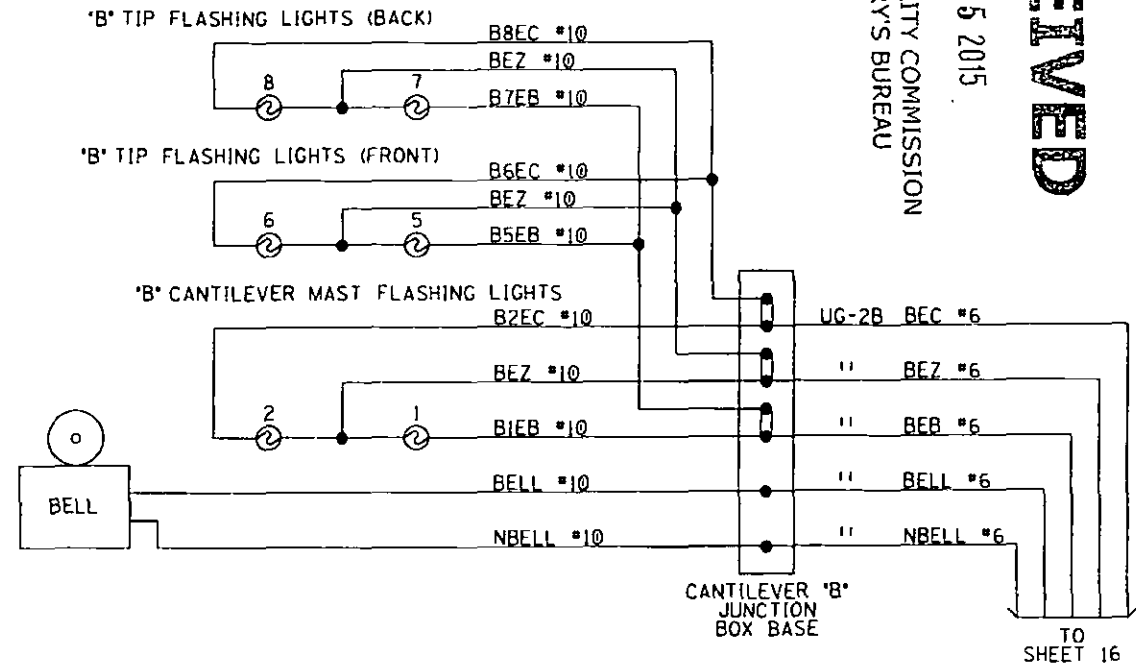
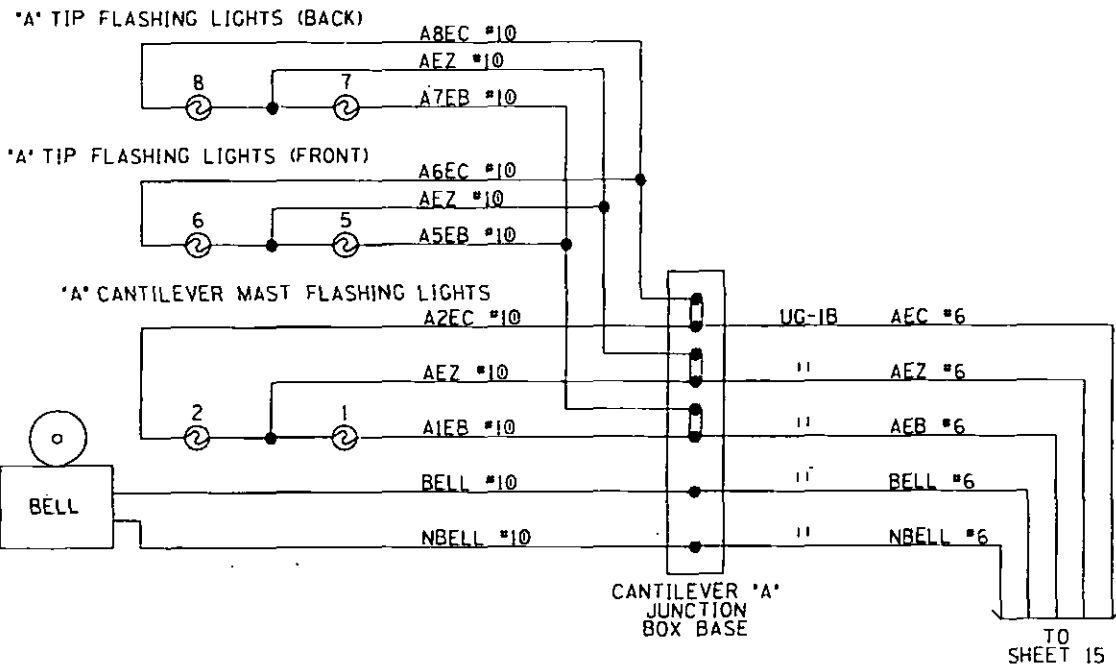
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CANTILEVER FLASHER LIGHTS

DESIGNED BY:	NS NORFOLK SOUTHERN	
WJK 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P. HP-90.56	
DRAWN BY:	HARRISBURG TO READING, PA CFLGS AT WEAVER ST	
XRL 08-06-15	HARRISBURG LINE	
CHECKED BY:	FILE No. R-	
PEH 08-14-15	SHEET No. 14 of 23	
IN SERVICE:	CADD or DWG. No. 03180905.14	

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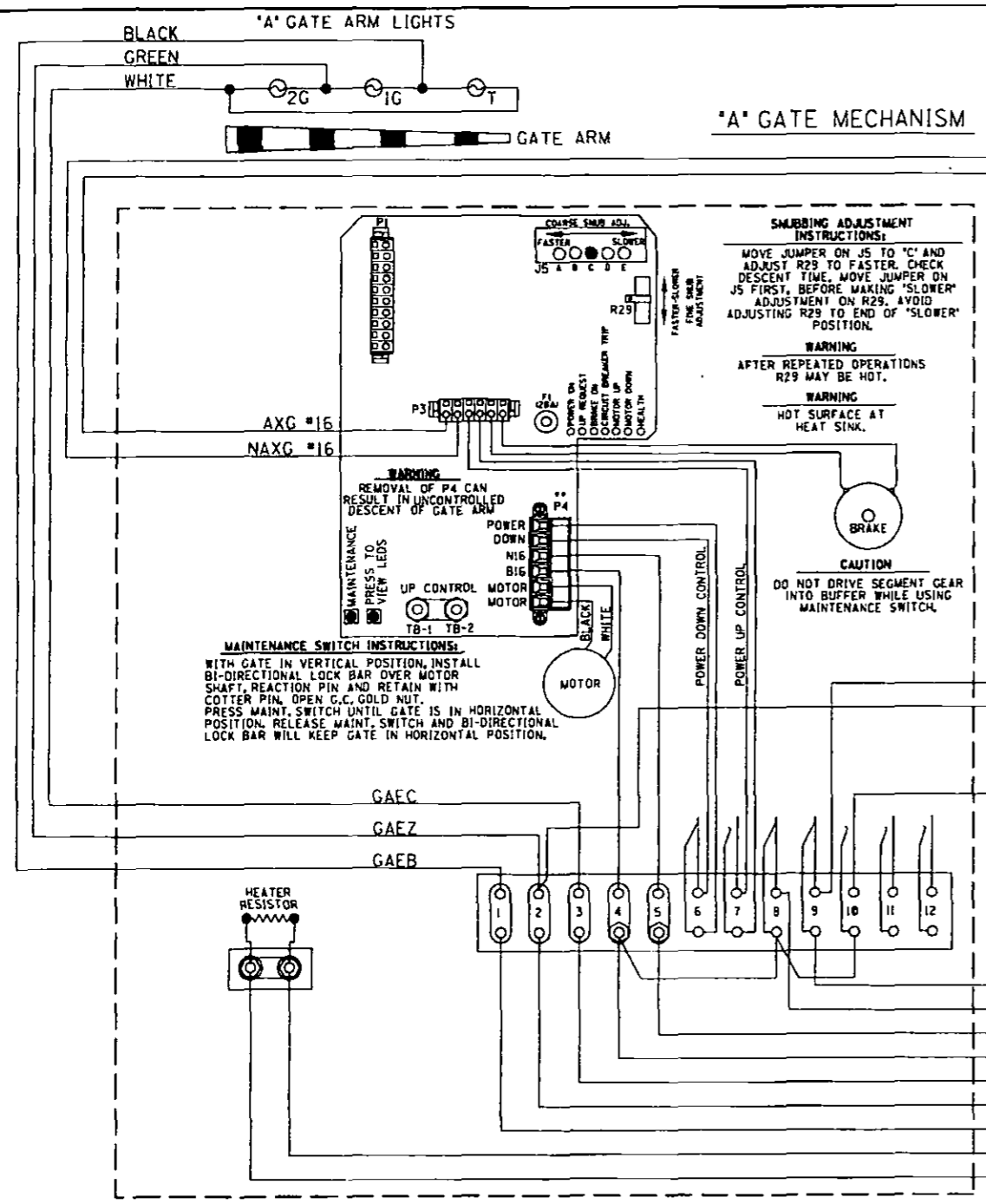
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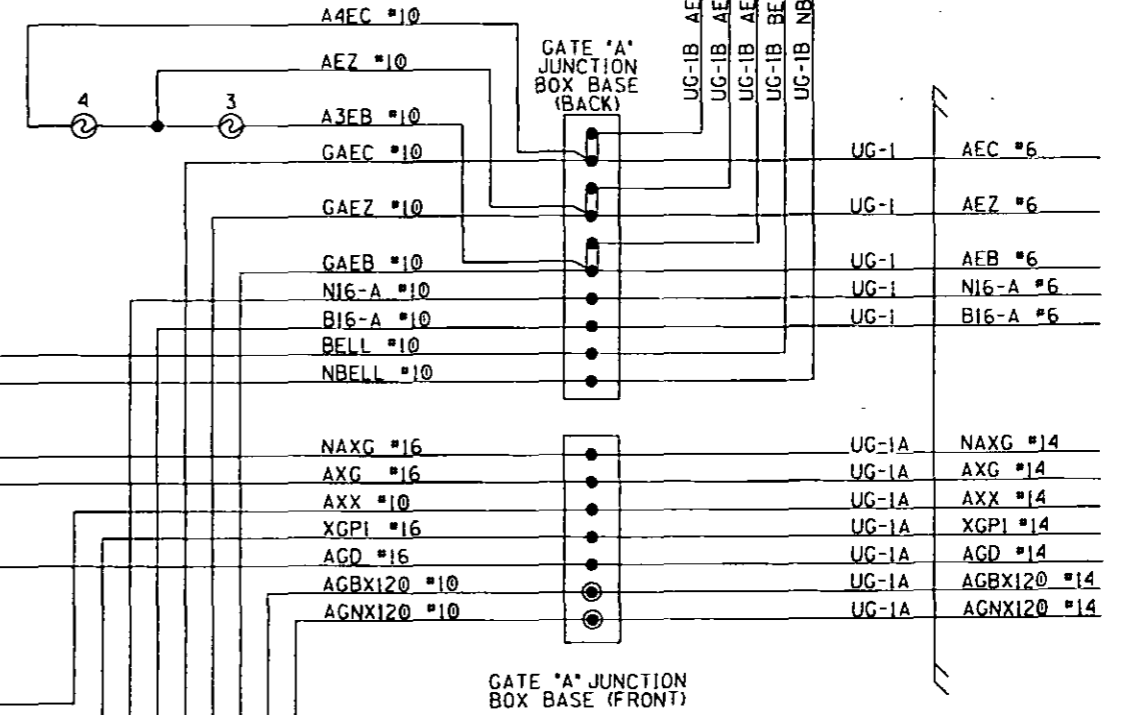
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SAFETRAN MODEL 'S60' GATE

CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
6	70° - 90°	POWER DOWN CONTROL
7	0° - 89°	POWER UP CONTROL
8	83° - 90°	FLASHING LGT. CONTROL
9	5° - 90°	BELL CONTROL
10	0° - 5°	GATE DOWN INDICATION
11		SPARE
12		SPARE



'A' GATE MAST FLASHING LIGHTS

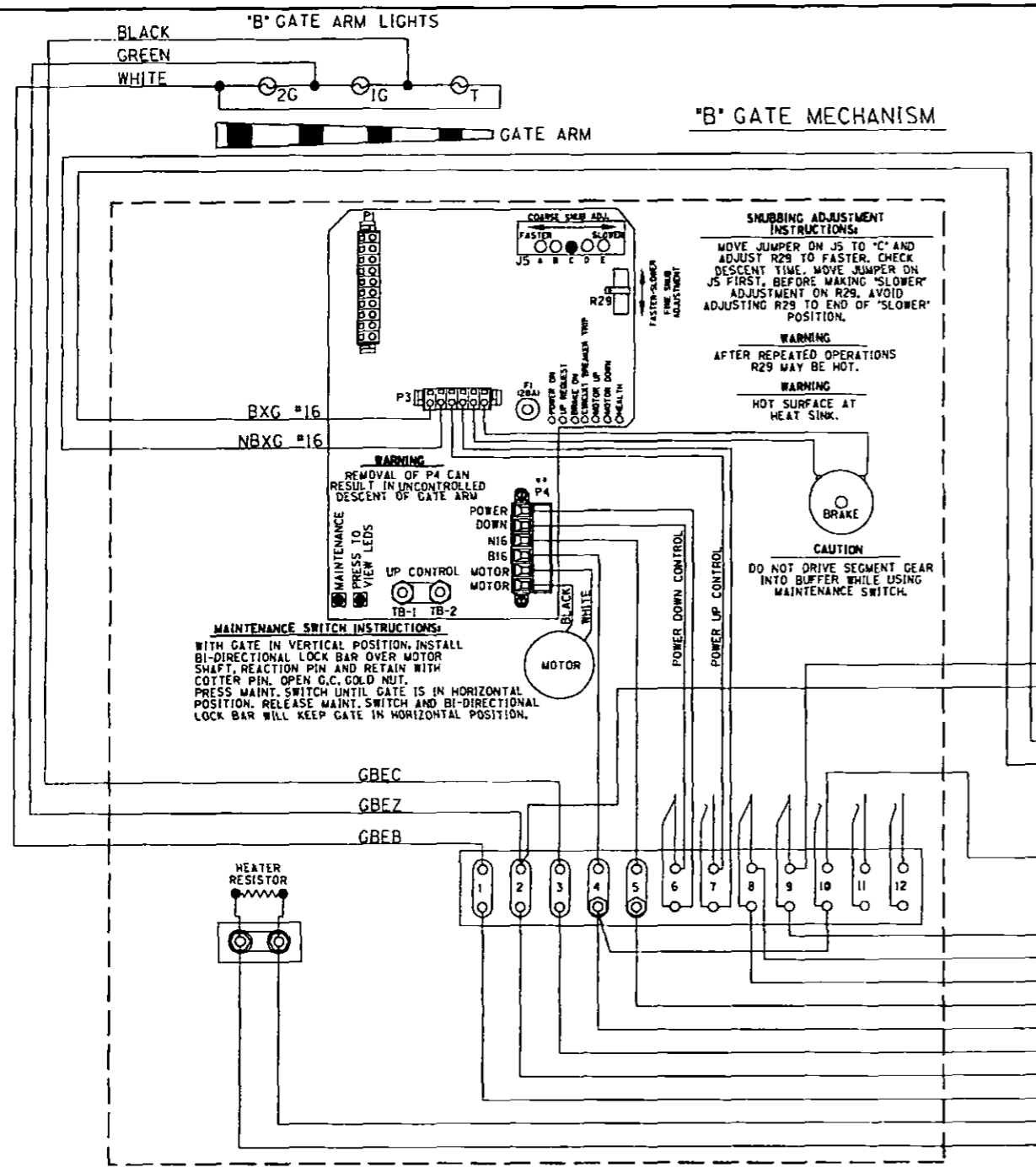


SIGNAL 'A' S60 GATE & FLASHER CIRCUITS

DESIGNED BY: WJK 08-06-15	
DRAWN BY: XRL 08-06-15	
CHECKED BY: PEH 08-14-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: HP-90.56
IN SERVICE:	HARRISBURG TO READING PA CFLGS AT WEAVER ST
	HARRISBURG LINE
	FILE No. R-
	CADD or DWG. No. 03180905.15
	SHEET No. 15 of 23

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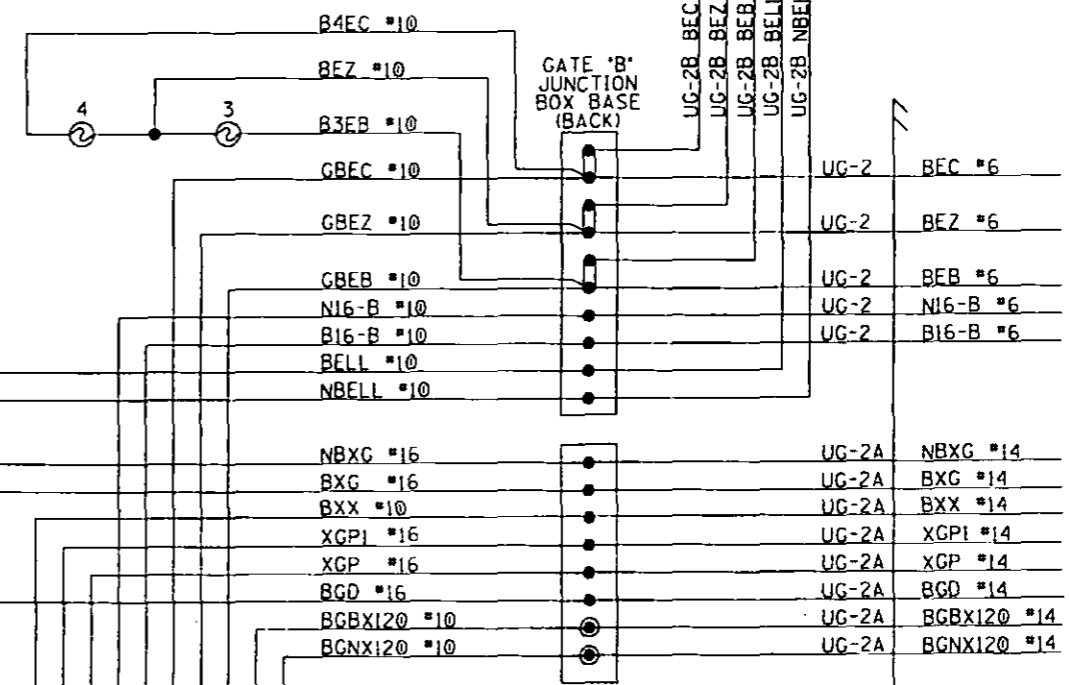
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SAFETRAN MODEL 'S60' GATE

CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
6	70° - 90°	POWER DOWN CONTROL
7	0° - 89°	POWER UP CONTROL
8	83° - 90°	FLASHING LGT. CONTROL
9	5° - 90°	BELL CONTROL
10	0° - 5°	GATE DOWN INDICATION
11		SPARE
12		SPARE

'B' GATE MAST FLASHING LIGHTS



GATE 'B' JUNCTION BOX BASE (FRONT)

SIGNAL 'B' S60 GATE & FLASHER CIRCUITS

DESIGNED BY: WJK 08-06-15	NS NORFOLK SOUTHERN	
DRAWN BY: XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING PA CFLGS AT WEAVER ST	
IN SERVICE:	HARRISBURG LINE	FILE No. R-
	CADD or DWG. No. 03180905.16	SHEET No. 16 of 23

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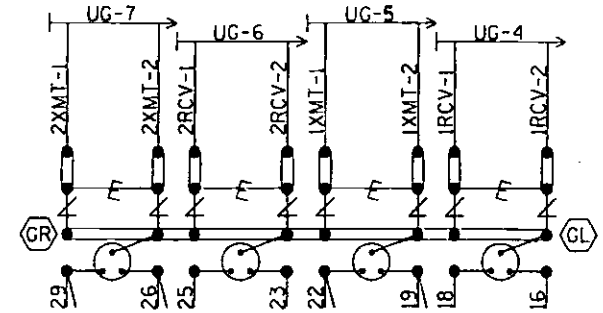
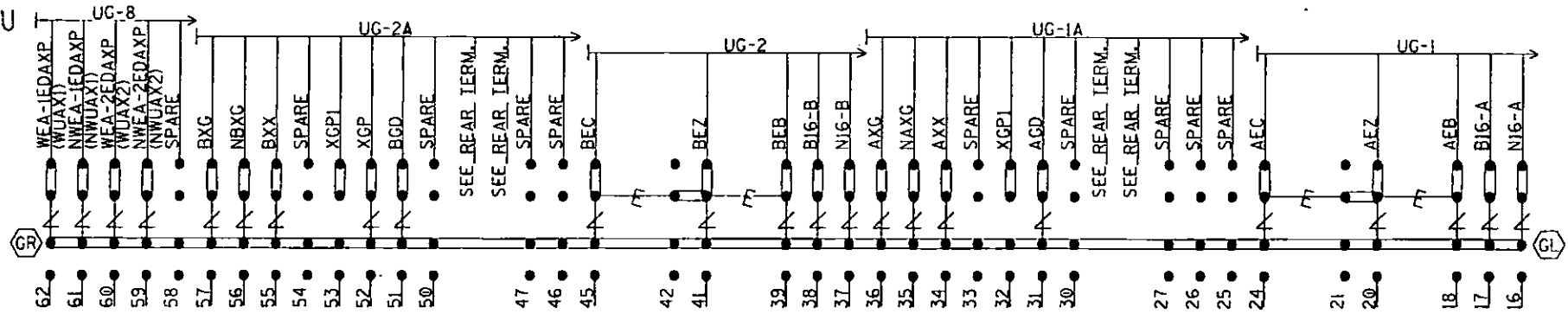
LEFT TWO ROWS TERMINAL BOARD 1
"1B"
"1A"

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NOTE: INSTALL TEST LINKS ON ALL TRACK WIRE AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

SEE FARADAY SHIELD DETAILS - 1A & 1B FOR HOW THIS PORTION OF THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

= Heavy Duty Equalizer (022700-1X)

= Clearview Lightning Arrester (022585-1X)

= LPC-10560-51

= TERMINALS GROUNDED TO SHIELD.
 = 4 POST BLOCKS USE EITHER -
GR - SERMMI PART NO. 61278
GL - SERMMI PART NO. 61278-1.

BACKBOARD 1A & 1B

DESIGNED BY: WJK 08-06-15		NORFOLK SOUTHERN	
DRAWN BY: XRL 08-06-15			
CHECKED BY: PEH 08-14-15		HARRISBURG TO READING, PA CFLGS AT WEBBER ST	
IN SERVICE:		HARRISBURG LINE	FILE R-
- -		CADD or DWG. No. 03180905.17	SHEET No. 17 of 23

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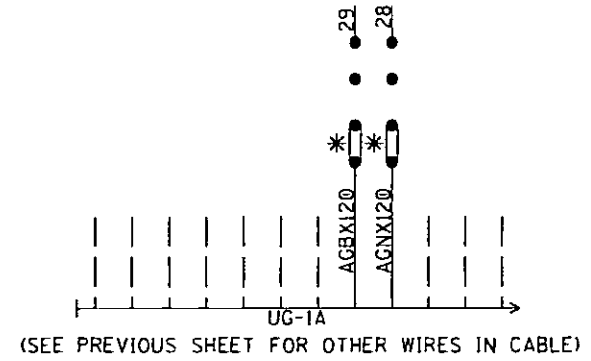
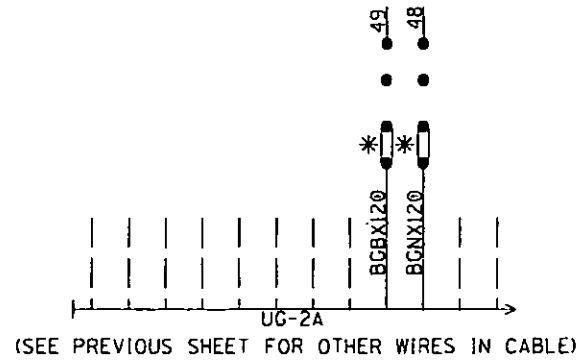
REAR VIEW OF LEFT TWO ROWS TERMINAL BOARD 1
"1A"
"1B"

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NOTE: ALL 120VAC AND ABOVE WILL BE WIRED TO THE REAR OF FARADAY BACKBOARD. INSULATED NUTS MUST BE USED ON ALL TERMINALS.

* = CLOSED DURING WINTER MONTHS

REAR BACKBOARD 1A & 1B

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PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY: WJK 08-06-15	NORFOLK SOUTHERN	
DRAWN BY: XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING, PA CFLGS AT WEABER ST	
IN SERVICE:	HARRISBURG LINE	FILE No. R-
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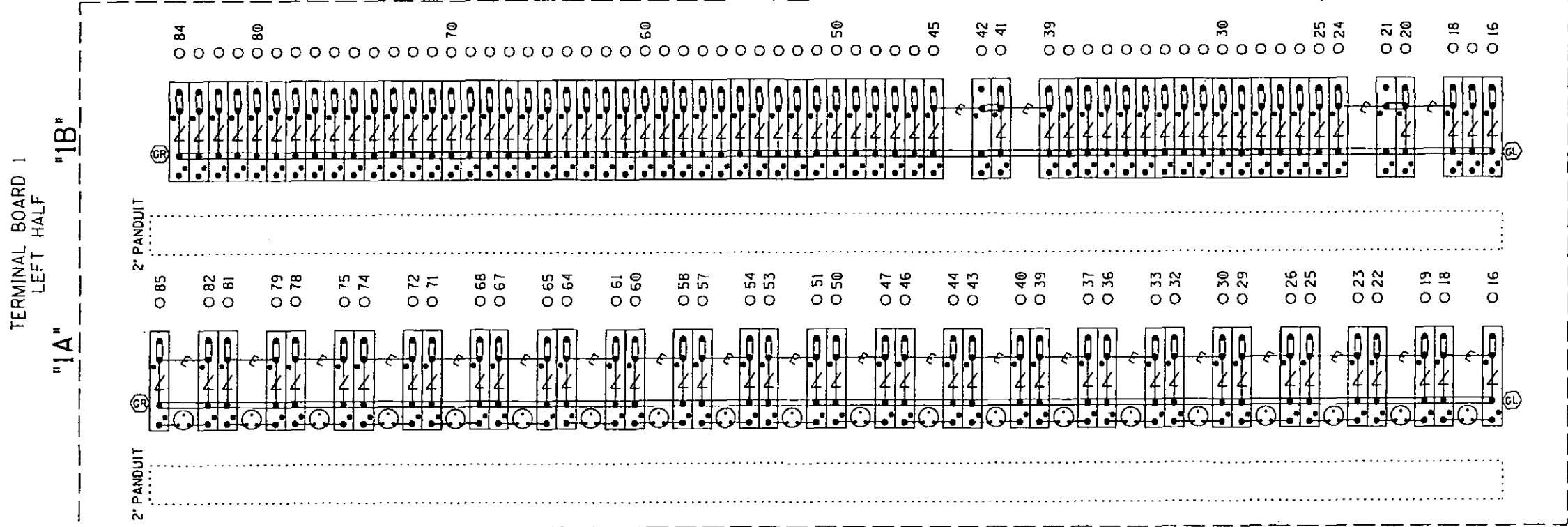
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NOTE: IF THE FARADAY SHIELD WOULD EVER NEED TO
BE DRILLED IN THE FIELD, PROPER PRECAUTIONS
MUST BE TAKEN TO INSURE METAL SHAVINGS
DO NOT GET INTO EXISTING TERMINALS/WIRES.

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AREA BELOW IS SCALED WITH AS=.75



- = Heavy Duty Equalizer (022700-1X)
- = Clearview Lightning Arrester (022585-1X)
- = LPC-10560-51

- = TERMINALS GROUNDED TO SHIELD.
- = 4 POST BLOCKS USE EITHER -
GR - SERMMI PART NO. 61278
GL - SERMMI PART NO. 61278-1.

= INDICATES PLACEMENT OF PANDUIT

THIS SHEET IS FOR REFERENCE ONLY,
TO REFLECT HOW THE FARADAY SHIELD
IS PREDRILLED. ONLY INSTALL AND USE
THE TERMINALS NEEDED.

FARADAY SHIELD IA & IB

DESIGNED BY: WJK 08-06-15		
DRAWN BY: XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING, PA CFLGS AT WEAVER ST	
IN SERVICE:	HARRISBURG LINE	FILE No. R-
	CADD or DWG. No. 03180905.19	SHEET No. 19 of 23

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NOTE: IF THE FARADAY SHIELD WOULD EVER NEED TO BE DRILLED IN THE FIELD, PROPER PRECAUTIONS MUST BE TAKEN TO INSURE METAL SHAVINGS DO NOT GET INTO EXISTING TERMINALS/WIRES.

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AREA BELOW IS SCALED WITH AS=75

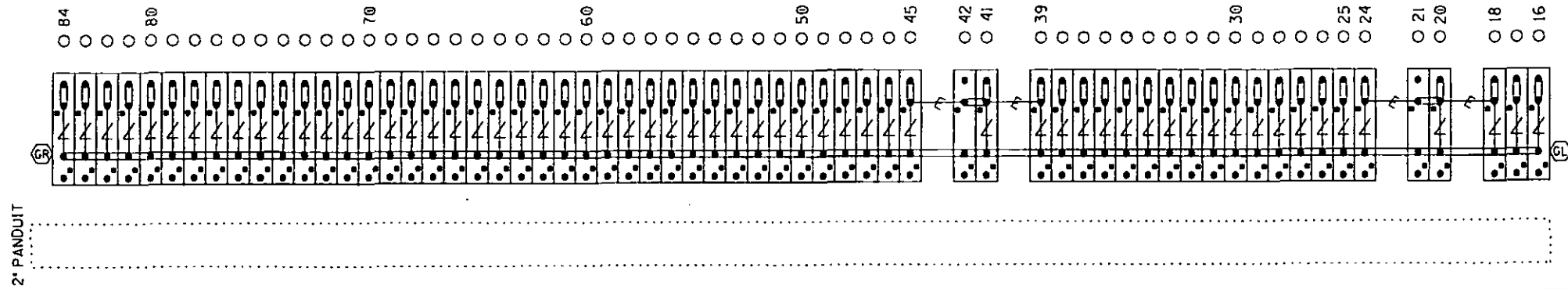
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TERMINAL BOARD 1
 RIGHT HALF

1C



⚡ = Heavy Duty Equalizer
 (@22700-1X)

Clearview
 ⚡ = Lightning Arrester
 (@22585-1X)

⊙ = LPC-10560-51

⊙ (GR) = TERMINALS GROUNDED TO SHIELD.
 ⊙ (GL) = 4 POST BLOCKS USE EITHER -
 GR - SERMMI PART NO. 61278
 GL - SERMMI PART NO. 61278-1.

⊙ = INDICATES PLACEMENT OF PANDUIT

THIS SHEET IS FOR REFERENCE ONLY, TO REFLECT HOW THE FARADAY SHIELD IS PREDRILLED. ONLY INSTALL AND USE THE TERMINALS NEEDED.

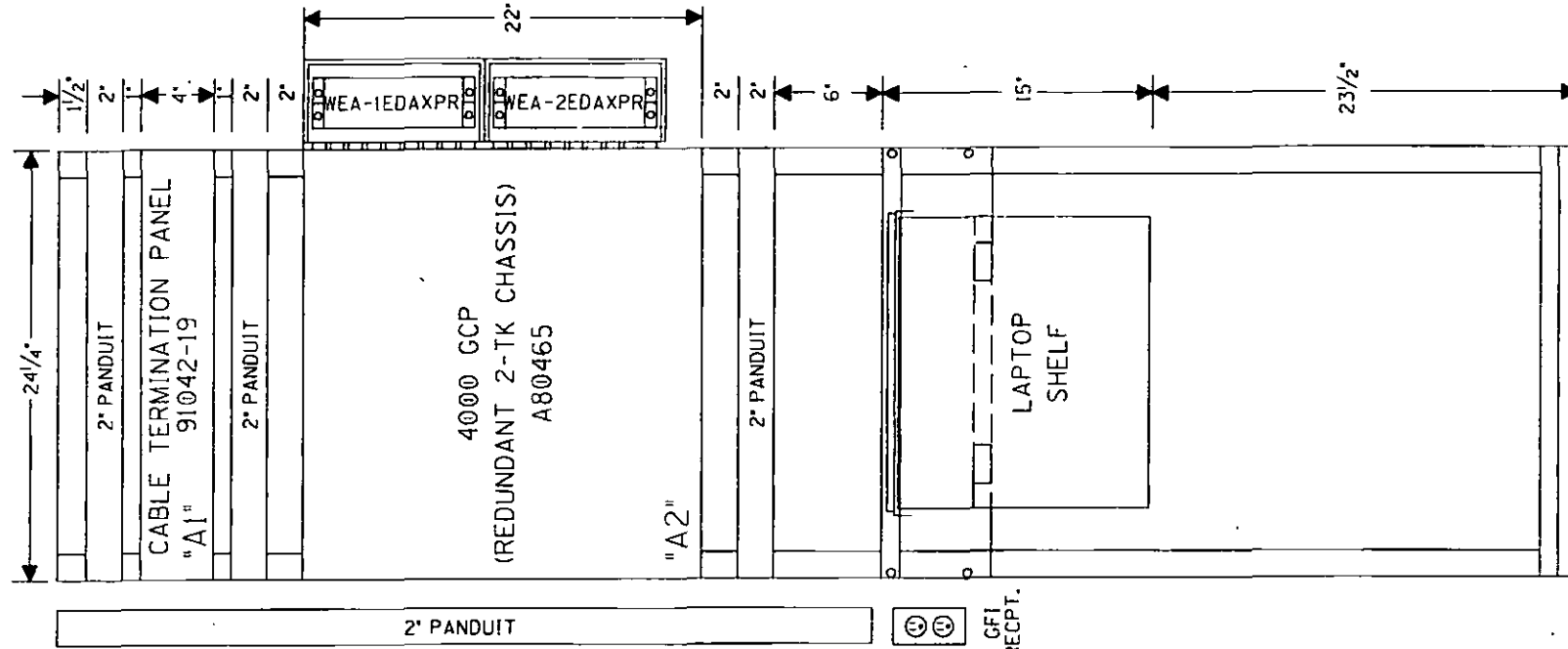
FARADAY SHIELD 1C

DESIGNED BY: WJK 08-06-15	NS NORFOLK SOUTHERN	
DRAWN BY: XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-90.56
CHECKED BY: PEH 08-14-15	HARRISBURG TO READING, PA CFLGS AT WEAVER ST	
IN SERVICE:	HARRISBURG LINE	FILE No. R-
	CADD or DWG. No. 03180905.20	SHEET No. 20 of 23

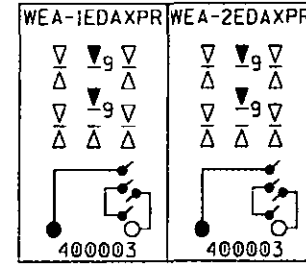
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EQUIPMENT RACK FRONT



SIDE "C"

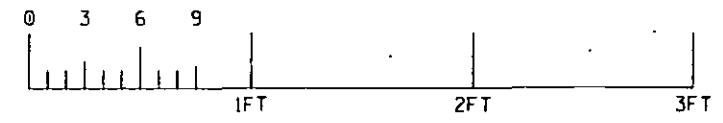
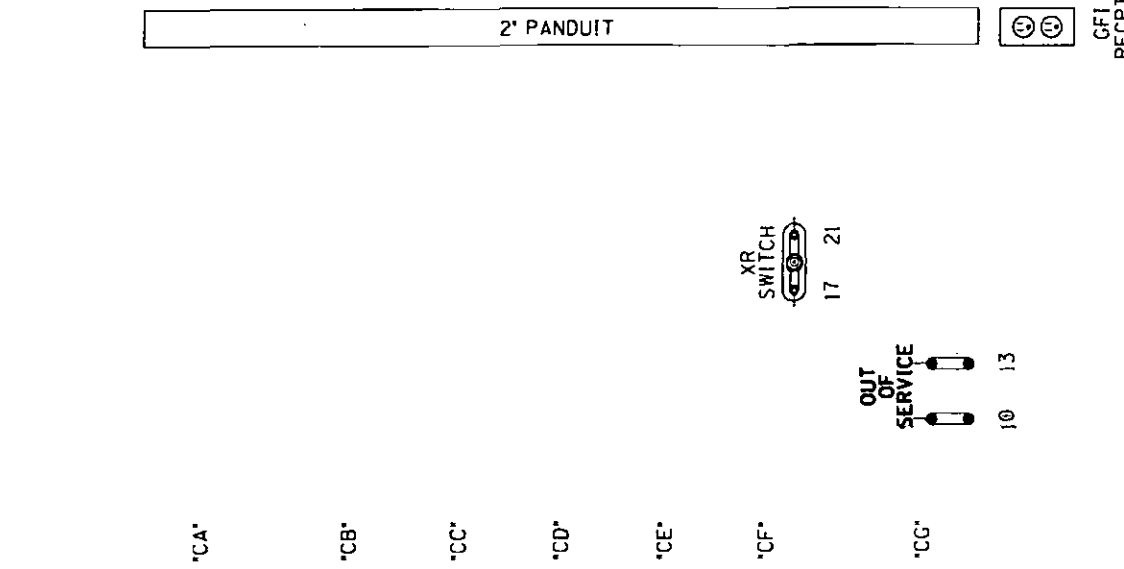


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HOUSE SIDE C LAYOUT
& RACK PLACEMENT

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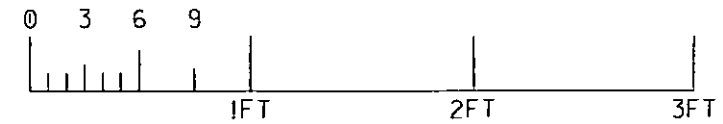
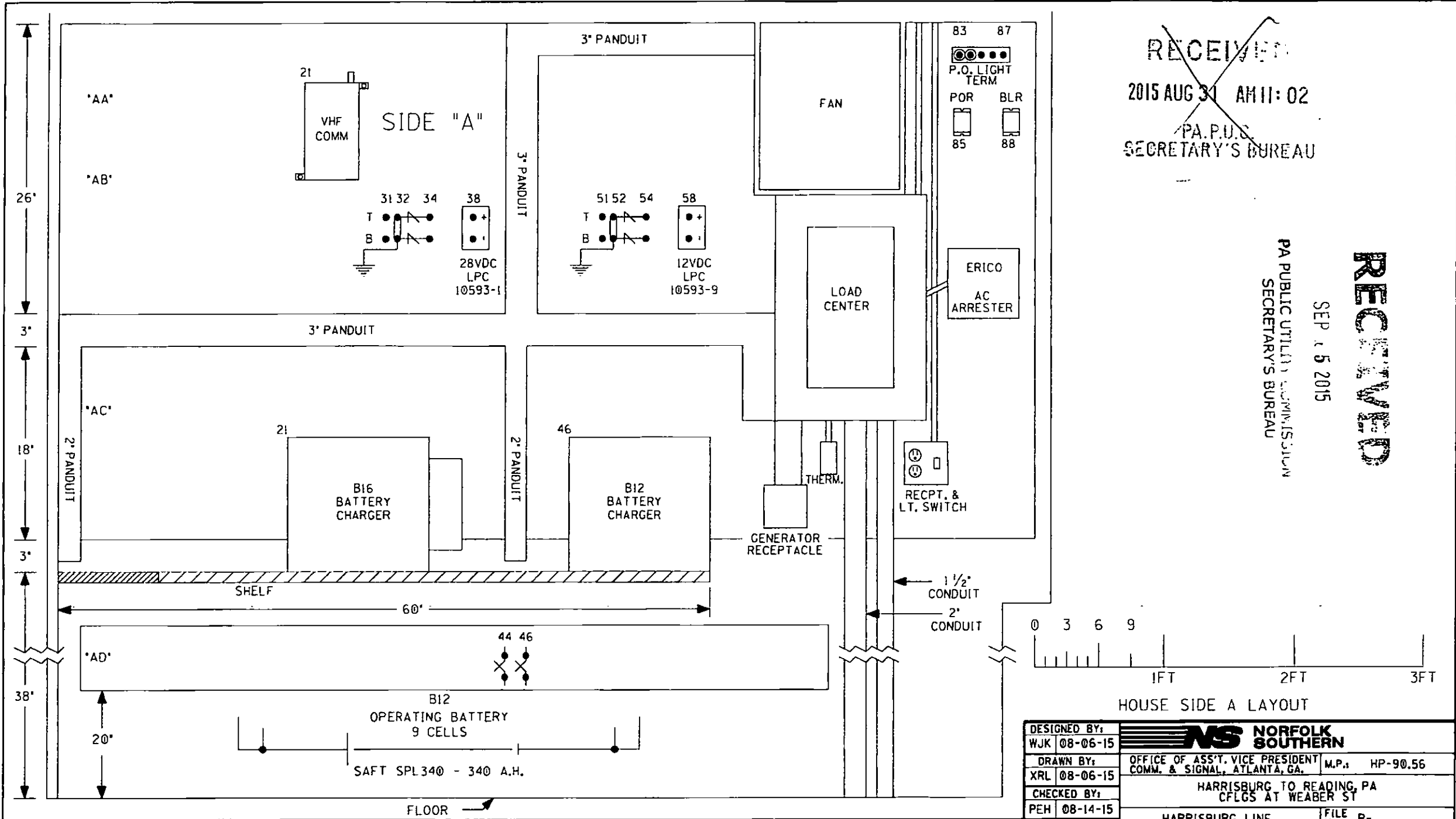
DESIGNED BY:	WJK 08-06-15		NS NORFOLK SOUTHERN	
DRAWN BY:	XRL 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.		M.P.: HP-90.56
CHECKED BY:	PEH 08-14-15	HARRISBURG TO READING, PA CFLGS AT WEBER ST		
IN SERVICE:	-	HARRISBURG LINE		FILE No. R-
		CADD or DWG. No.	03180905.21	SHEET No. 21 of 23

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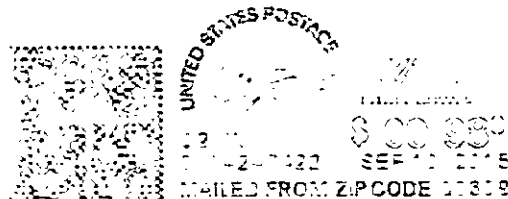
DESIGNED BY:	NS NORFOLK SOUTHERN	
WJK 08-06-15	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P., HP-90.56
DRAWN BY:	HARRISBURG TO READING, PA CFLGS AT WEBBER ST	
XRL 08-06-15	HARRISBURG LINE	
CHECKED BY:	FILE No. R-	
PEH 08-14-15	CADD or DWG. No. 03180905.22	
IN SERVICE:	SHEET No. 22 of 23	

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Norfolk Southern Corporation
Communications and Signal Dept.
1200 Peachtree St., N.E.
Atlanta, GA 30309



COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
ATTN: ROSEMARY CHIAVETTA
400 NORTH ST, 2ND FLOOR
HARRISBURG, P A 17120




**NORFOLK
SOUTHERN**

Norfolk Southern Corporation



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Norfolk Southern Corporation
Communications and Signal Dept.
1200 Peachtree St., N.E.
Atlanta, GA 30309

Rosemary Chiavetta
The Secretary of the Commission
Pennsylvania Public Utility Commission
P.O. Box 3265
Harrisburg, PA 17105-3265

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