


SH. NO.	CONTENTS	REV. NO.
NX1	INDEX SHEET	1
1	LAYOUT	1
2	PROFILE	1
3	CABLE PLAN	1
4	LOAD CENTER	1
5	CHARGERS & BATTERIES	1
6	GCP4000 CHASSIS & MODULE LAYOUT	1
7	GCP4000 PROGRAMMING	1
8	GCP4000 PROGRAMMING	1
9	CONNECTORS FOR TRACK MODULES	1
10	CPU MODULE & SEAR II HOOK-UPS	1
11	SEAR II PROGRAMMING	1
12	BACKHAUL EQUIPMENT	1
13	SSCC#1 MODULE HOOK-UP	1
14	SSCC#2 MODULE HOOK-UP	1
15	SIGNAL "A" S-40 GATE & FLASHER CIRCUITS	1
16	SIGNAL "B" S-40 GATE & FLASHER CIRCUITS	1
17	BACKBOARD 1A	1
18	BACKBOARD 1B	1
19	SIDE A LAYOUT & RACK PLACEMENT	1
20	SIDE C LAYOUT	1
21	SIDE B LAYOUT & TOP VIEW	1

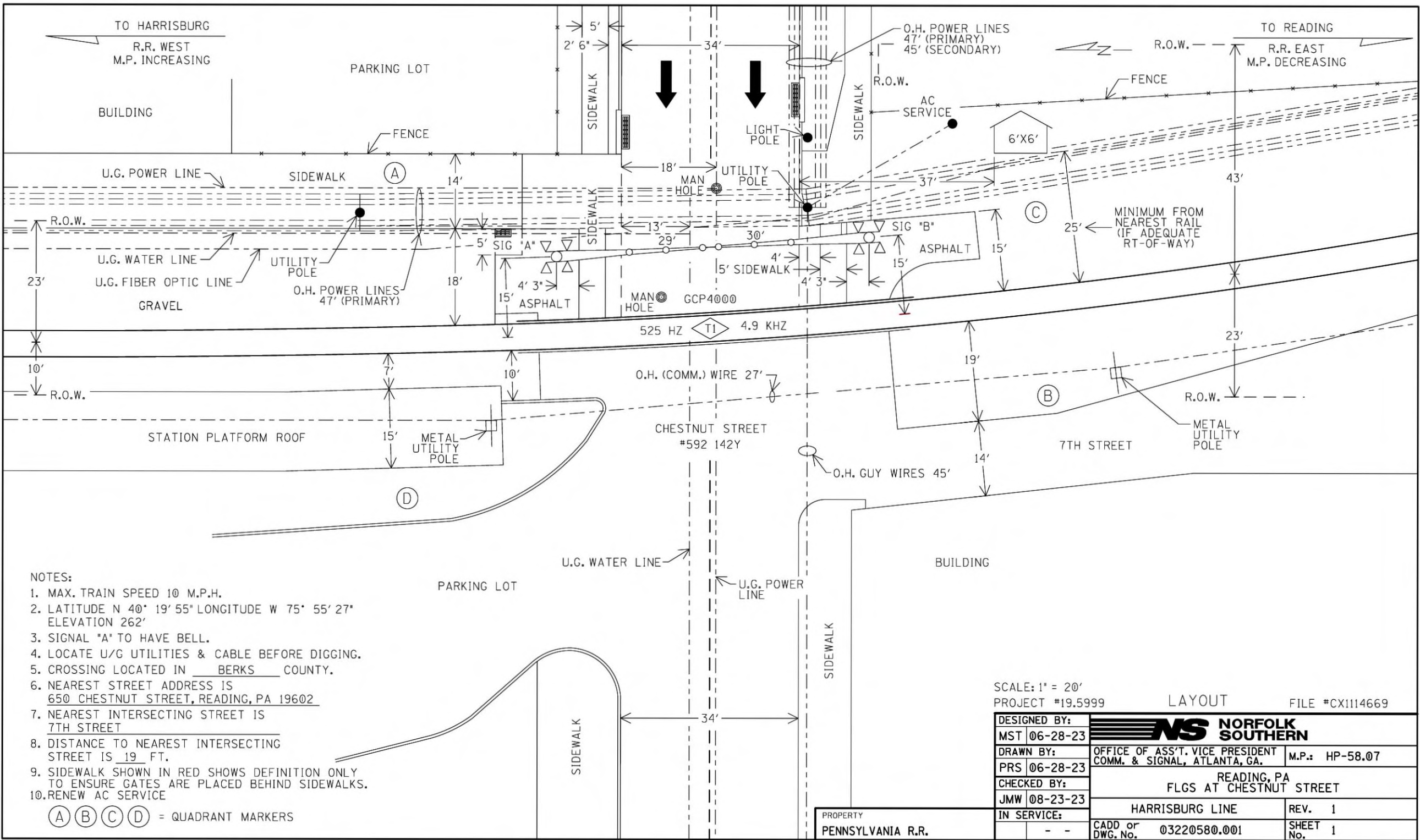
A-2023-3039131

CERTIFIED CORRECT PLANS
W. M. D. P.E.
Professional Engineer
Approved by Bureau of Technical Utility Services
PA PUBLIC UTILITY COMMISSION
ATTEST *Rosemary Schmitt*
Secretary

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

PROPERTY
PENNSYLVANIA R.R.

REVISIONS				
1	06-28-23	MST	PRS	JMW
NEW PLAN DRAWN ACCOUNT OF CHESTNUT STREET				
PROJECT: *19.5999				
IN SERVICE: XX-XX-XX				
PER: XXX			XXX	XXX
DESIGNED BY: MST 06-28-23				
DRAWN BY: PRC 06-28-23				
CHECKED BY: JMW 08-23-23				
IN SERVICE: - -				
PROPERTY				
PENNSYLVANIA R.R.		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: HP-58.07		
		READING, PA FLGS AT CHESTNUT STREET		
		HARRISBURG LINE		REV. 1
		CADD or DWG. No. 03220580.NX1		SHEET INDEX 1



- NOTES:
1. MAX. TRAIN SPEED 10 M.P.H.
 2. LATITUDE N 40° 19' 55" LONGITUDE W 75° 55' 27" ELEVATION 262'
 3. SIGNAL "A" TO HAVE BELL.
 4. LOCATE U/G UTILITIES & CABLE BEFORE DIGGING.
 5. CROSSING LOCATED IN BERKS COUNTY.
 6. NEAREST STREET ADDRESS IS 650 CHESTNUT STREET, READING, PA 19602
 7. NEAREST INTERSECTING STREET IS 7TH STREET
 8. DISTANCE TO NEAREST INTERSECTING STREET IS 19 FT.
 9. SIDEWALK SHOWN IN RED SHOWS DEFINITION ONLY TO ENSURE GATES ARE PLACED BEHIND SIDEWALKS.
 10. RENEW AC SERVICE

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

SCALE: 1" = 20'
 PROJECT #19.5999 LAYOUT FILE #CX1114669

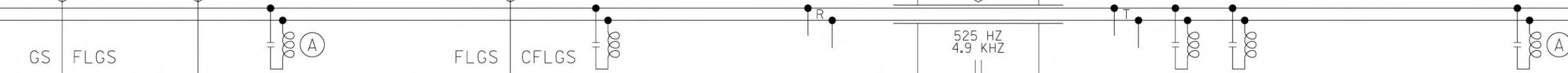
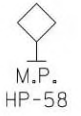
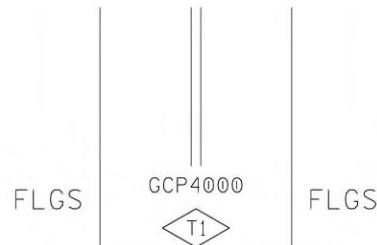
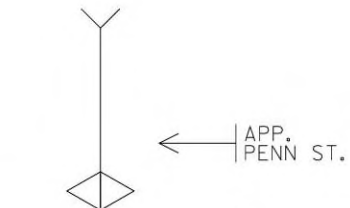
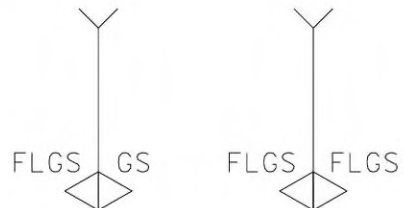
DESIGNED BY:	MST 06-28-23			M.P.: HP-58.07
DRAWN BY:	PRS 06-28-23			
CHECKED BY:	JMW 08-23-23		READING, PA	
IN SERVICE:	-		FLGS AT CHESTNUT STREET	
PROPERTY	PENNSYLVANIA R.R.		HARRISBURG LINE	REV. 1
			CADD or DWG. No. 03220580.001	SHEET No. 1

TO HARRISBURG
R.R. WEST
M.P. INCREASING

TO READING
R.R. EAST
M.P. DECREASING

700'
TO NEAREST
GCP WIRES

700'
TO NEAREST
GCP WIRES



PENN ST.
#592 145U
MS4000
970 HZ-17.5 KHZ

CHERRY ST.
#592 144M
GCP4000
348 HZ-8.3 KHZ

FRANKLIN ST.
#592 143F
GCP4000
790 HZ-5.9 KHZ

525 HZ
4.9 KHZ
CHESTNUT ST.
#592 142Y

1136'
805'
540'
273'
67'
0'
67'
112'
127'
343'

(A) - MF-NBS FSS-1F 250849-005 (525HZ)

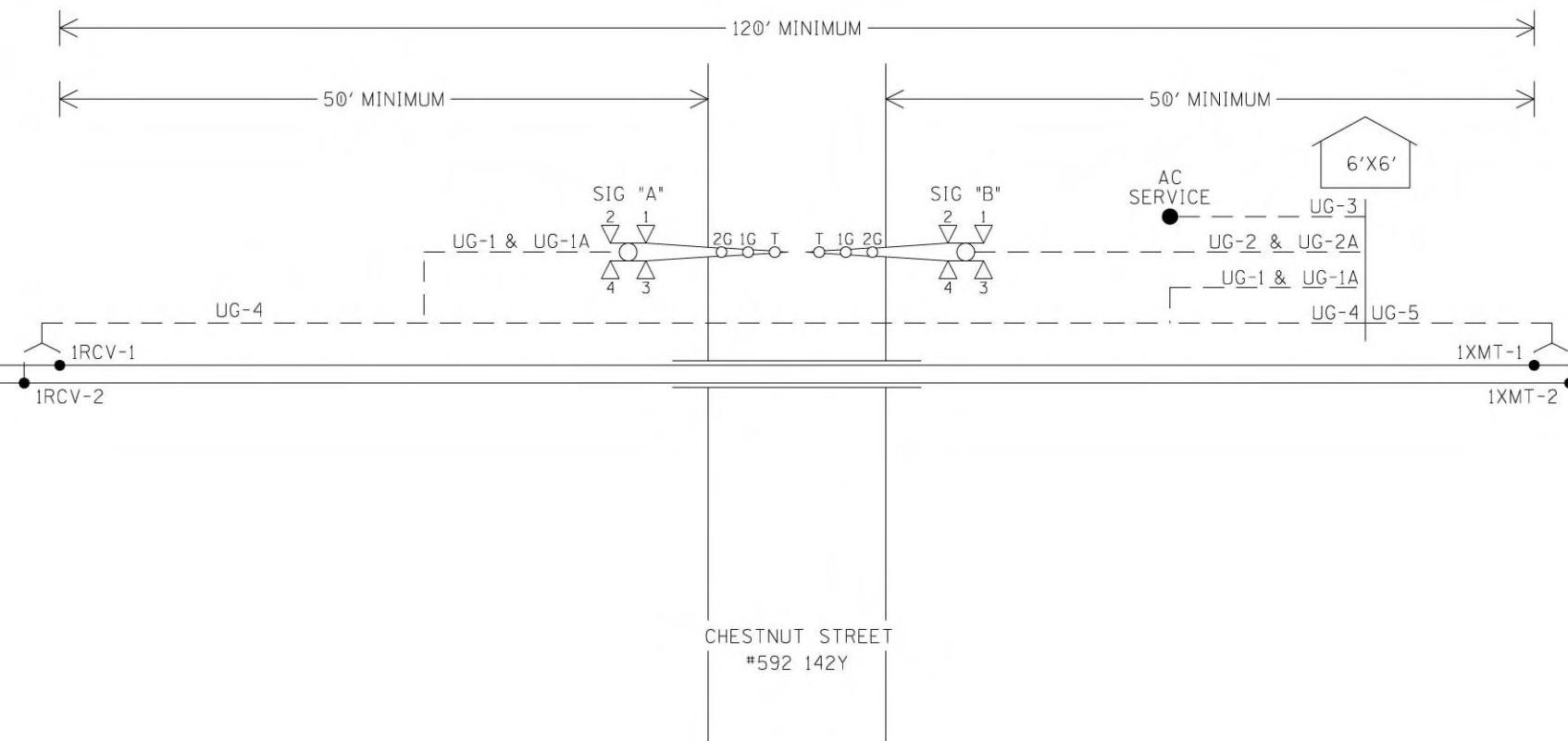
PROFILE

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.002	SHEET 2
IN SERVICE:	- -	

PROPERTY
PENNSYLVANIA R.R.

TO HARRISBURG
R.R. WEST
M.P. INCREASING

TO PHILADELPHIA
R.R. EAST
M.P. DECREASING



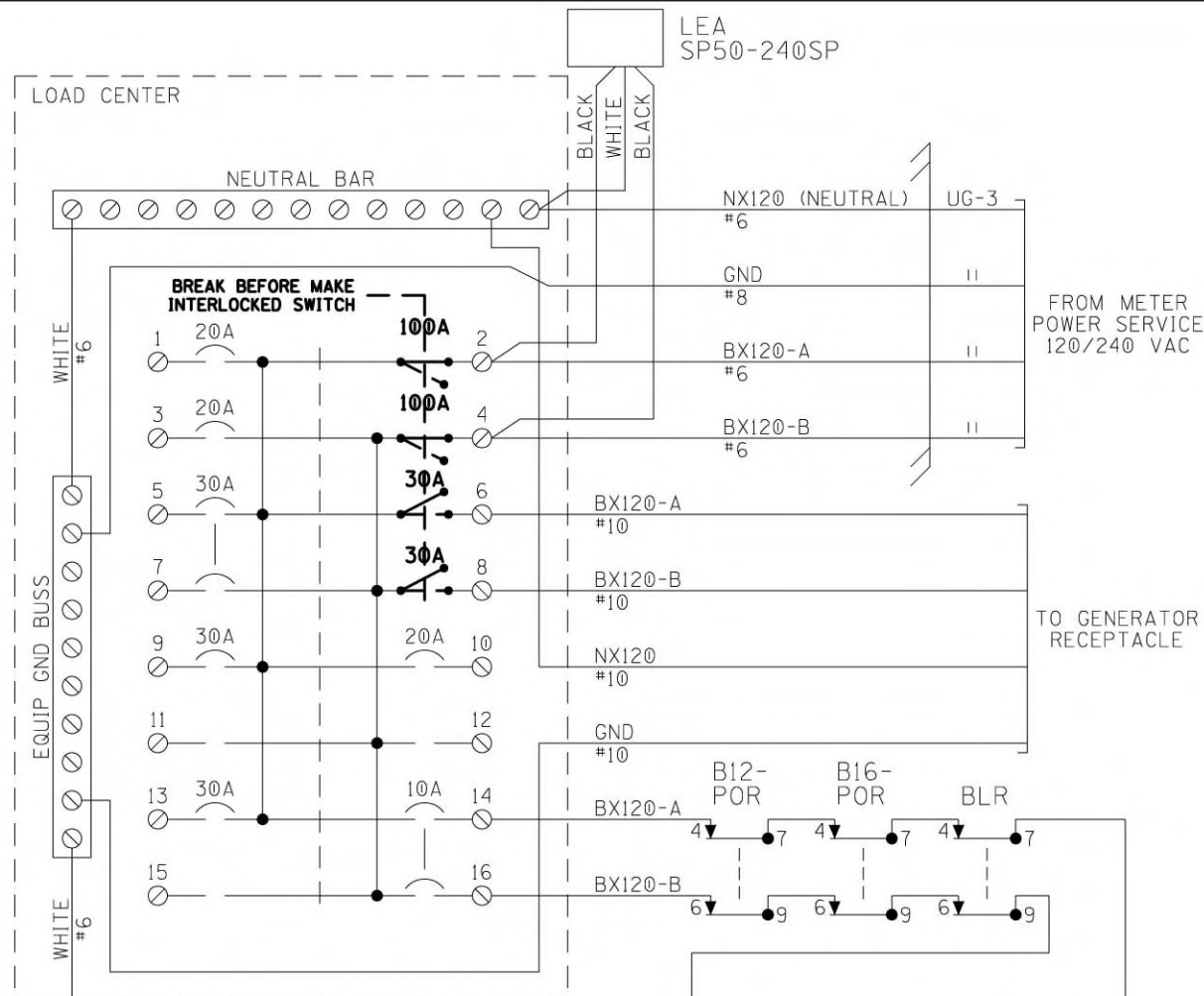
CHESTNUT STREET
#592 142Y

UG-1-5CUG #6 AEC AEZ AEB B16-A N16-A	UG-1A-12CUG #14 AXG NAXG AXX IAXX AGD XGP1 AGBX120 AGNX120 SPARE SPARE SPARE SPARE	UG-2A-12CUG #14 BXX NBXX BXX IBXX BGD XGP1 XGP BGBX120 BGNX120 SPARE SPARE	UG-3-3CUG #6 W/#8 GND BX120-A BX120-B NX120 GND	UG-4-TW. PR. #6 IRCV-1 IRCV-2	UG-5-TW. PR. #6 1XMT-1 1XMT-2
---	--	---	--	-------------------------------------	-------------------------------------

CABLE PLAN

DESIGNED BY: MST 06-28-23		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY: PRS 06-28-23		READING, PA FLGS AT CHESTNUT STREET	
CHECKED BY: JMW 08-23-23	HARRISBURG LINE		REV. 1
IN SERVICE: - -	CADD or DWG. No. 03220580.003	SHEET 3	

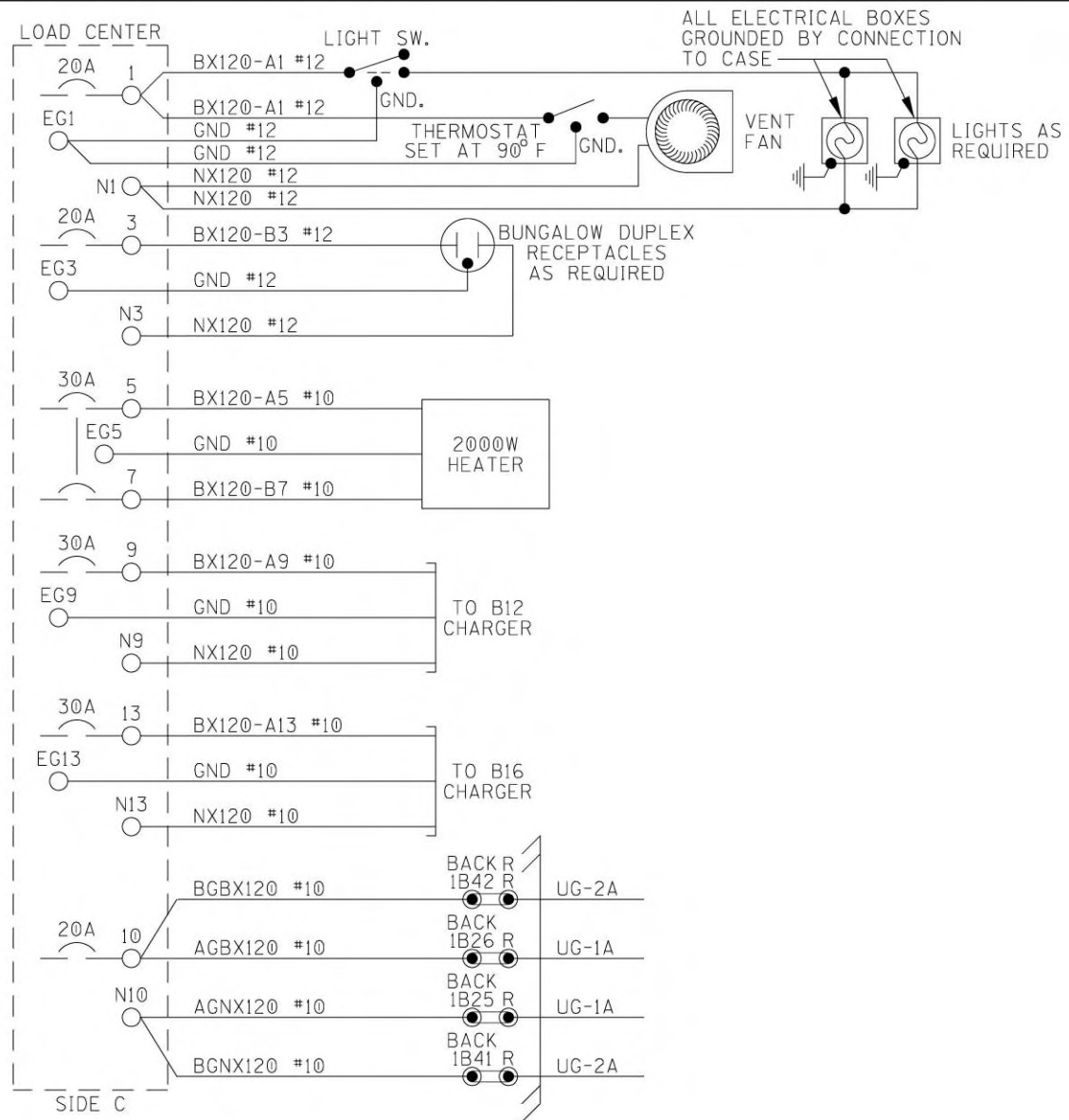
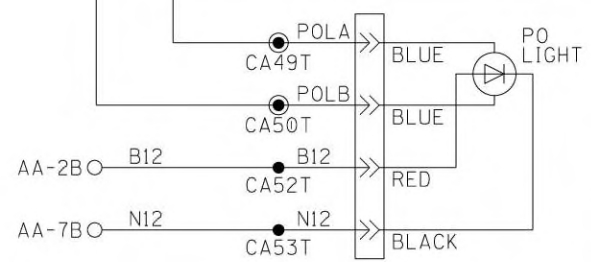
PROPERTY
PENNSYLVANIA R.R.



FROM METER
POWER SERVICE
120/240 VAC

TO GENERATOR
RECEPTACLE

- SQUARE "D" PART NUMBERS:
- LOAD CENTER — Q0132L125G
 - 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
 - 60A 2P CIR BKR — Q0260
 - 100A 2P CIR BKR — Q02100
 - MECH INTERLOCK — PK4DTIM4LA
 - GENERATOR RECEPTACLE:
 - MALE CONNECTOR — NEMA L1430-FI



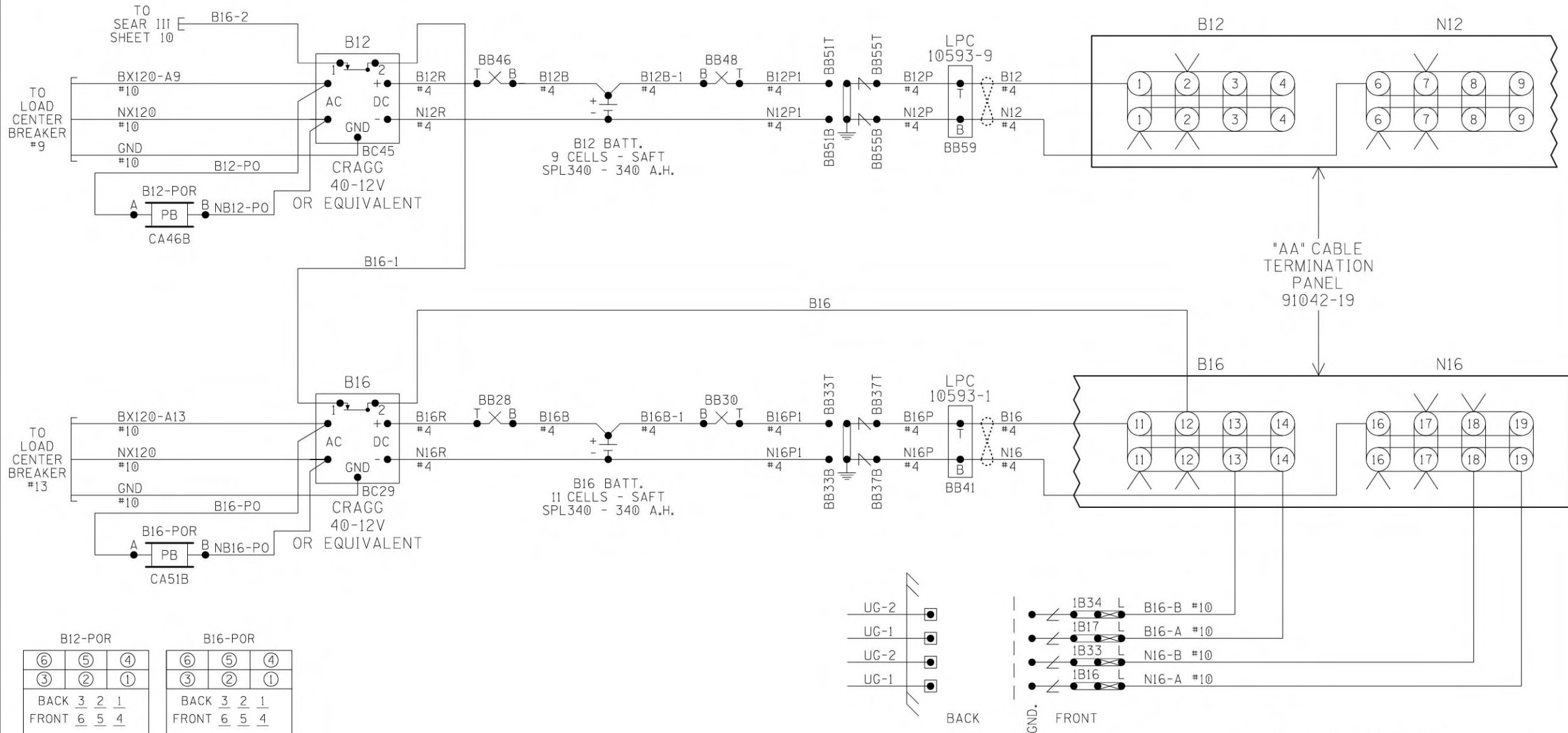
ALL ELECTRICAL BOXES
GROUNDED BY CONNECTION
TO CASE

- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 2. ALL AC WIRING TO LOAD CENTER TO BE IN METALLIC CONDUIT WITH NO EXPOSED TERMINALS. ALL AC 120V AND 240V EQUIPMENT TO BE PROPERLY GROUNDED.
 3. ● = INSULATED NUTS TO BE USED ON ALL TERMINALS OF 120VAC AND ABOVE.

LOAD CENTER

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	SHEET 4
IN SERVICE:	CADD or DWG. No. 03220580.004	

PROPERTY
PENNSYLVANIA R.R.



"AA" CABLE
TERMINATION
PANEL
91042-19

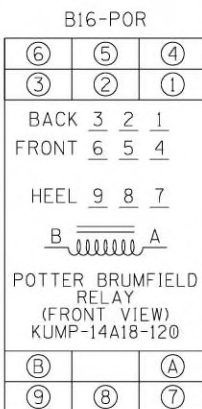
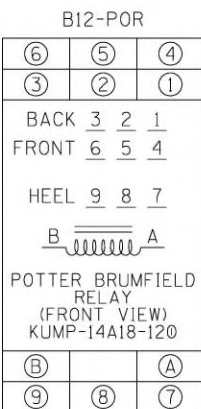
B12 BATT.
9 CELLS - SAFT
SPL340 - 340 A.H.

B16 BATT.
11 CELLS - SAFT
SPL340 - 340 A.H.

TO LOAD
CENTER
BREAKER
#9

TO LOAD
CENTER
BREAKER
#13

TO
SEAR III
SHEET 10

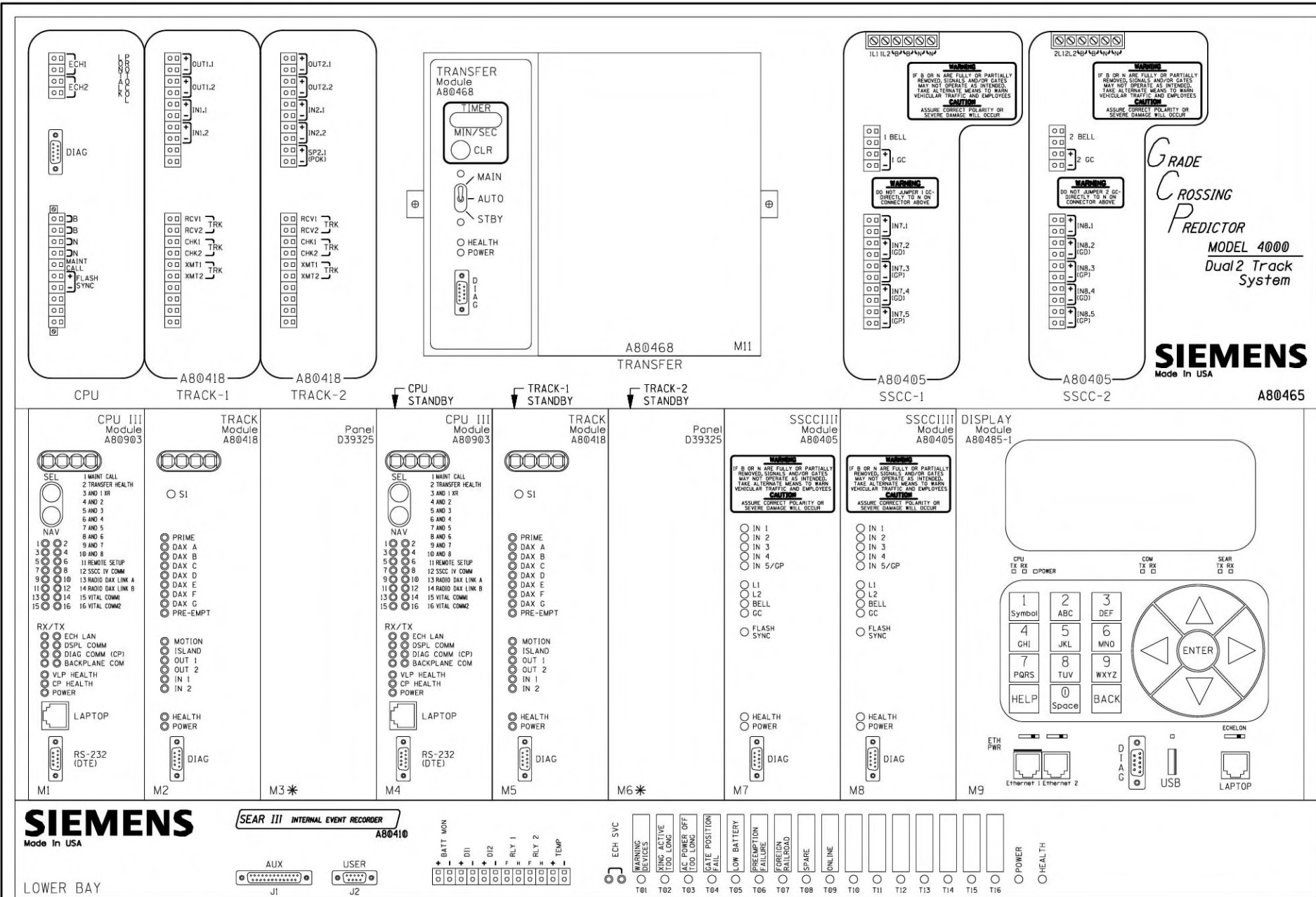


- NOTES:
- ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 - = TWIST

CHARGERS & BATTERIES

PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY:	NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	CADD or DWG. No. 03220580.005
IN SERVICE:	- -	SHEET 5



WARNING
REMOVAL OF THE SSSCIII MODULE WILL CAUSE THE GATE(S) TO DROP WITHOUT GATE DELAY AND FLASHING LIGHTS WILL NOT ACTIVATE.

CAUTION
ENSURE CORRECT POLARITY OF B AND N FOR SSSCIII MODULE OR SEVERE DAMAGE WILL OCCUR.
REFER TO DETAILED INSTRUCTIONS ON THE SSSCIII BEFORE APPLYING POWER TO THE POWER CONNECTOR(S).

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

GCP4000 CHASSIS & MODULE LAYOUT



DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	
JMW 08-23-23	CADD or DWG. No. 03220580.006	SHEET 6
IN SERVICE:	-	

PROPERTY
PENNSYLVANIA R.R.

Program Report

Location and SIN

DOT Number: 592142Y
Milepost Number: HP-58.07
Site Name: CHESTNUT STREET

SIN: 755059000303

MCF and Template Selection

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

Template = 1A:6 Trk B1

Check Numbers

Office Check No. (DT 4.6.0): 35C1C9D6
Office Check Number: 35C1C9D6
Config. Check Number: 74F6D45C
(Based on MCF Revision 021)

Program

BASIC: module configuration

Track 1 Slot = Track
Track 2/RIO 1 Slot = Not Used
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 = 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: 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

GCP: track 1

Track 1: GCP Freq Category = Standard
Track 1: GCP Frequency = 525 Hz
Track 1: Approach Distance = 700 ft
Track 1: Uni/Bi/Sim-Bidirnl = Bidirnl
Track 1: GCP Transmit Level = Medium
Track 1: Island Connection = Isl1
Track 1: Island Distance = 134 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 = 0n
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 EZ 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 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: Bidirn 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 = 4.9 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

SSCC

Gates Used = Yes
SSCC1+2 GPs Coupled = Yes
Min Activation = 0 sec
Rmt Activation Cancel = 2 min
BellOn Gate Rising = No
Mute BellOn 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

INPUT: assignment page 1

IN 1.1 = Not Used
IN 1.2 = Not Used

GCP4000 PROGRAMMING

Table with design and drawing information including: DESIGNED BY: MST 06-28-23, DRAWN BY: PRS 06-28-23, CHECKED BY: JMW 08-23-23, PROPERTY: PENNSYLVANIA R.R., and drawing number: 03220580.007.

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 = General1
 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 1.1 = 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

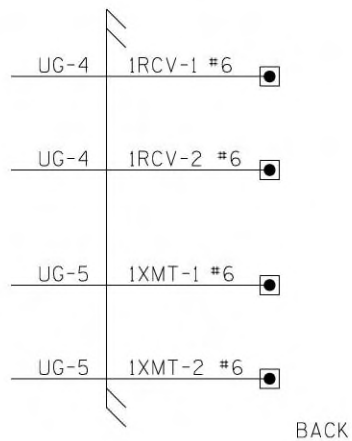
Configuration Package File

 Filename: 03220580.pac

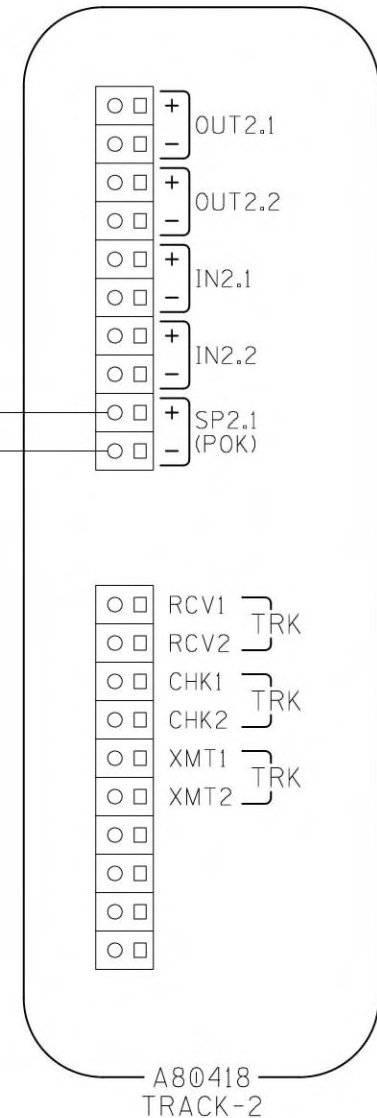
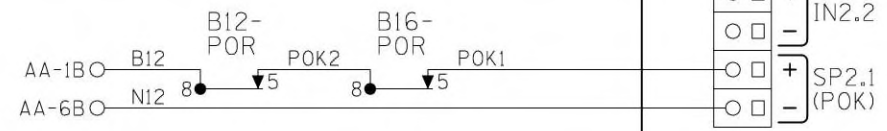
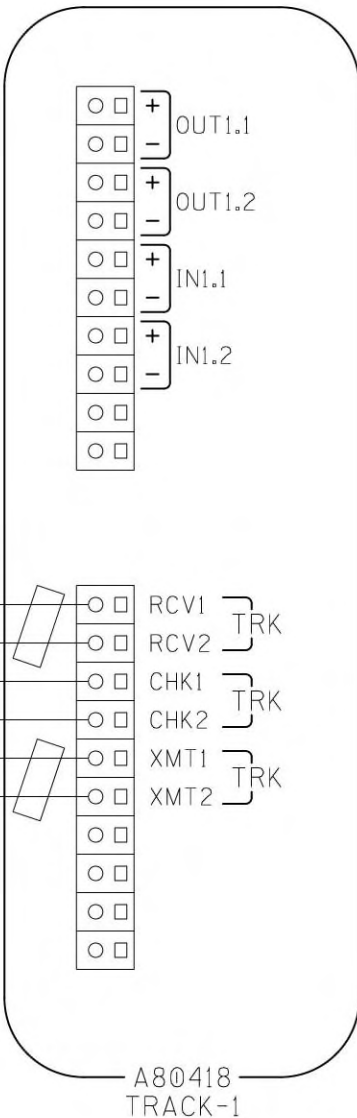
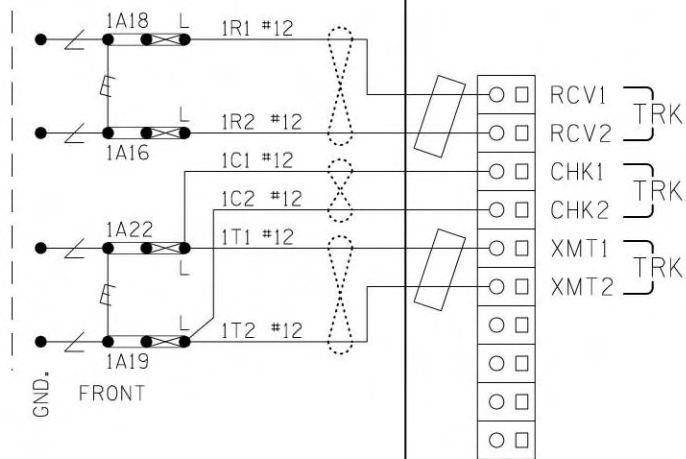
GCP4000 PROGRAMMING

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-23-23	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220580.008	SHEET 8 No. 8

PROPERTY
 PENNSYLVANIA R.R.



BACK



- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 2. = TWIST
 3. = FERRITE BEAD

CONNECTORS FOR TRACK MODULES

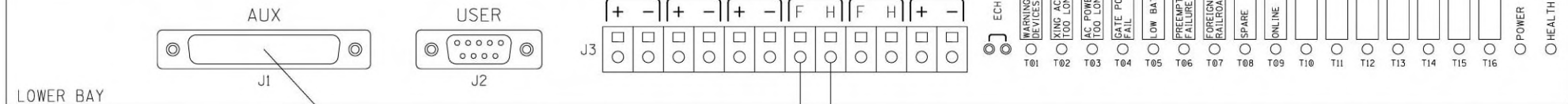
DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23		SHEET 9
IN SERVICE:	CADD or DWG. No. 03220580.009	No.

PROPERTY
PENNSYLVANIA R.R.

SIEMENS
Made In USA

SEAR III INTERNAL EVENT RECORDER

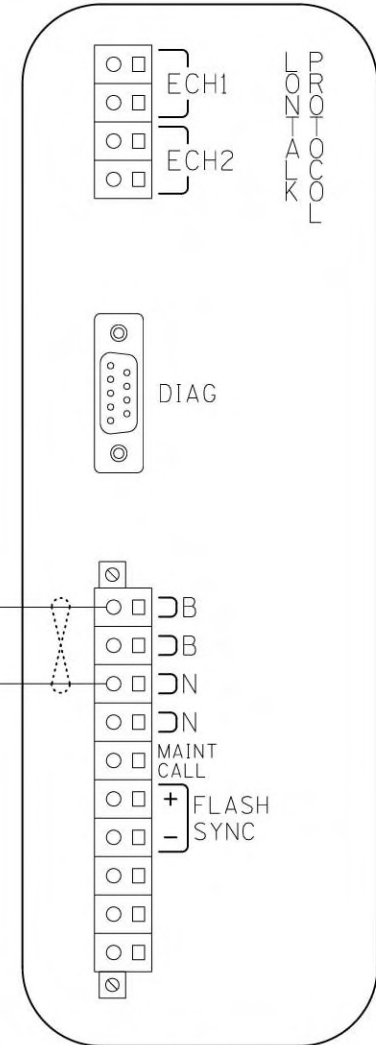
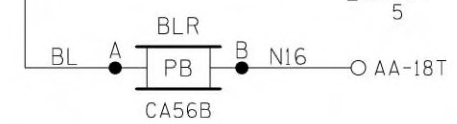
A80410



LOWER BAY

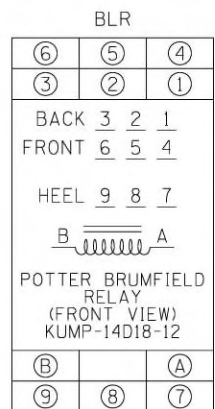
TO RADIO SHEET 12

Bi6-2 TO SHEET 5



AA-1B B12 #10
AA-6B N12 #10

CPU



- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 2. = TWIST

CPU MODULE & SEAR III HOOK-UP

DESIGNED BY:	NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.010	SHEET No. 10
IN SERVICE:	- -	

PROPERTY PENNSYLVANIA R.R.

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	
AUTOMATIC DST ADJUSTMENT	NO
TIMEZONE	OTHER (USER SET)
GMT OFFSET	+00:00
SITE NAME	CHESTNUT STREET
MILEPOST	HP-58.07
DOT#	592-142Y
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP. FORMAT	FARENHEIT
INDICATE HOLD (SEC)	0
INDICATE REFRESH (SEC)	60
GEO CTL PERIOD (SEC)	0
SITE ATCS ADDRESS	7.550.590.003.03.01
SITE TYPE	COLLECTOR
# OFFICE ATCS ADDRESS	2.550.01.3876
# POLL ID	1
# MODE	GEN/ATCS
# WAMS XID	DISABLED
# OFFICE COMM DEVICE	RAILLOGIC
# RAILLOGIC PORT	AUX
# OUR RADIO ID	REMEDY STATES REMOTE RADIO ID
# DEST RADIO ID	REMEDY STATES RADIO ID
# MAX RETRIES	3
# RETRY WAIT	5
# NXT PKT DELAY	3
# MUTE TIMER	10
★ 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	19200
★ 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
AND1 USED AS XR?	YES
AND2 USED AS XR?	NO
AND3 USED AS XR?	NO
AND4 USED AS XR?	NO
AND5 USED AS XR?	NO
AND6 USED AS XR?	NO
AND7 USED AS XR?	NO
AND8 USED AS XR?	NO
* XR CONTROLLED BY FOREIGN RR?	(AND1, AND2, AND3, AND4 AND5, AND6, AND7, AND8)
ENTRANCE GATES?	2
85% VOLTAGE RELAY OUT?	YES
BATTERY BANKS?	2
BATT MON USED?	NO
** LOW BATTERY 1 PERCENTAGE?	85
** LOW BATTERY 2 PERCENTAGE?	85
** LOW BATTERY 3 PERCENTAGE?	(85-95)
PREEMPTION?	NO
INTERNAL CROSSING CONTROLLERS?	2
EXTERNAL CROSSING CONTROLLERS?	0
VHF COMMUNICATOR?	NO
*** DTMF ACTIVATION?	(NO, YES)
*** ACTIVATION CODE?	(1-999)
*** ACTIVATION TIMEOUT?(SECONDS)	(30-600)
ILOD MODULES?	(0-4)
**** VHF VOICE CHANNEL?	(1-8)
**** VHF DATA CHANNEL?	(1-8)
USE CELL MODEM NON-CRITICAL FEATURE?	NO
CROSSING ACTIVE ALARM TIME?(MIN)	20
POWER OFF ALARM TIME?(MIN)	20

- NOTES:
1. # = NOT DISPLAYED IF SITE TYPE = NO COMMUNICATION
 2. ★ = USE DEFAULT SETTINGS
 3. * = ONLY DISPLAYED IF CROSSING CONFIGURATION = SPLIT GATE
 4. ** = ONLY DISPLAYED IF BATTERY BANKS = 1,2 OR 3
 5. *** = ONLY DISPLAYED IF VHF COMMUNICATOR = YES
 6. **** = ONLY DISPLAYED IF DTMF ACTIVATION = YES

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

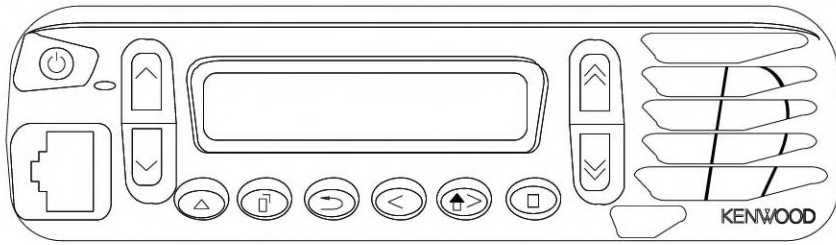
TO CONFIGURE SEAR III PRESS SITE SETUP KEY.
USE ARROW KEYS TO MAKE SELECTION,
PRESS ENTER AFTER SELECTION HAS BEEN MADE.

SEAR III PROGRAMMING

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-23-23	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220580.011	SHEET No. 11

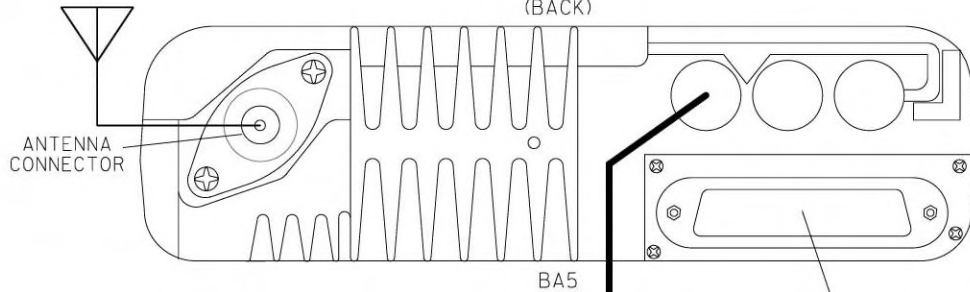
PROPERTY
PENNSYLVANIA R.R.

(FRONT)



KENWOOD RADIO NX-700H
OR EQUIVALENT

(BACK)



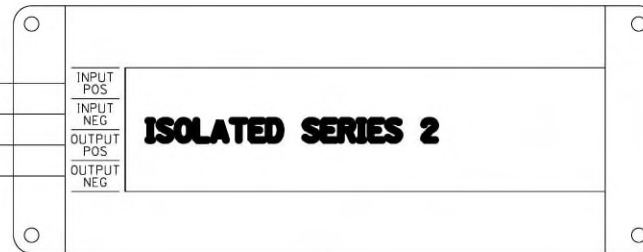
ANTENNA
CONNECTOR

BA5

DB25M - DB25M
STRAIGHT THROUGH CABLE } TO
SEAR III
SHEET 10

CABLE - KENWOOD
P/N E30-7520-15

AA-2B O B12
AA-7B O N12
B12
N12



ISOLATED SERIES 2

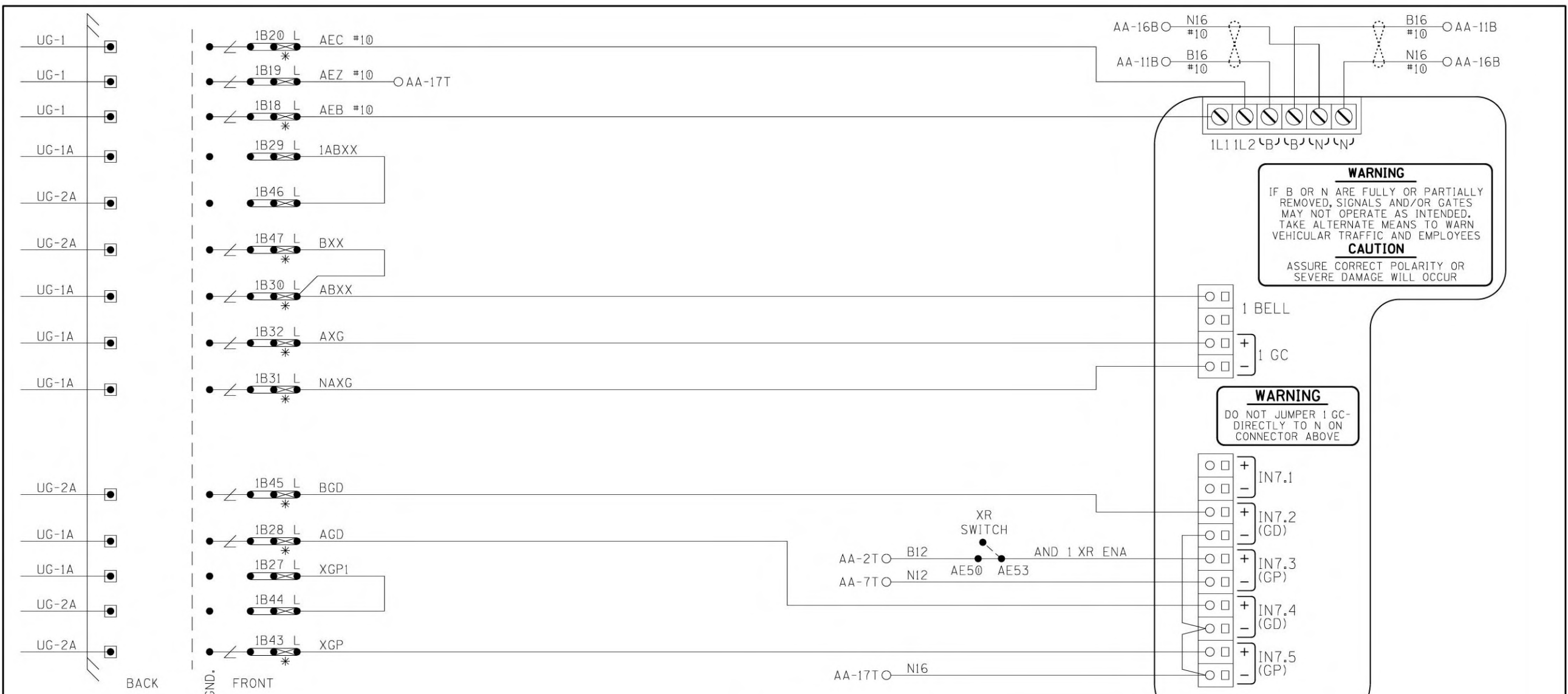
BB5


NOTE:
1. ALL WIRING TO BE #10AWG UNLESS
NOTED OTHERWISE.

BACKHAUL EQUIPMENT


DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-23-23	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220580.012	SHEET No. 12

PROPERTY
PENNSYLVANIA R.R.

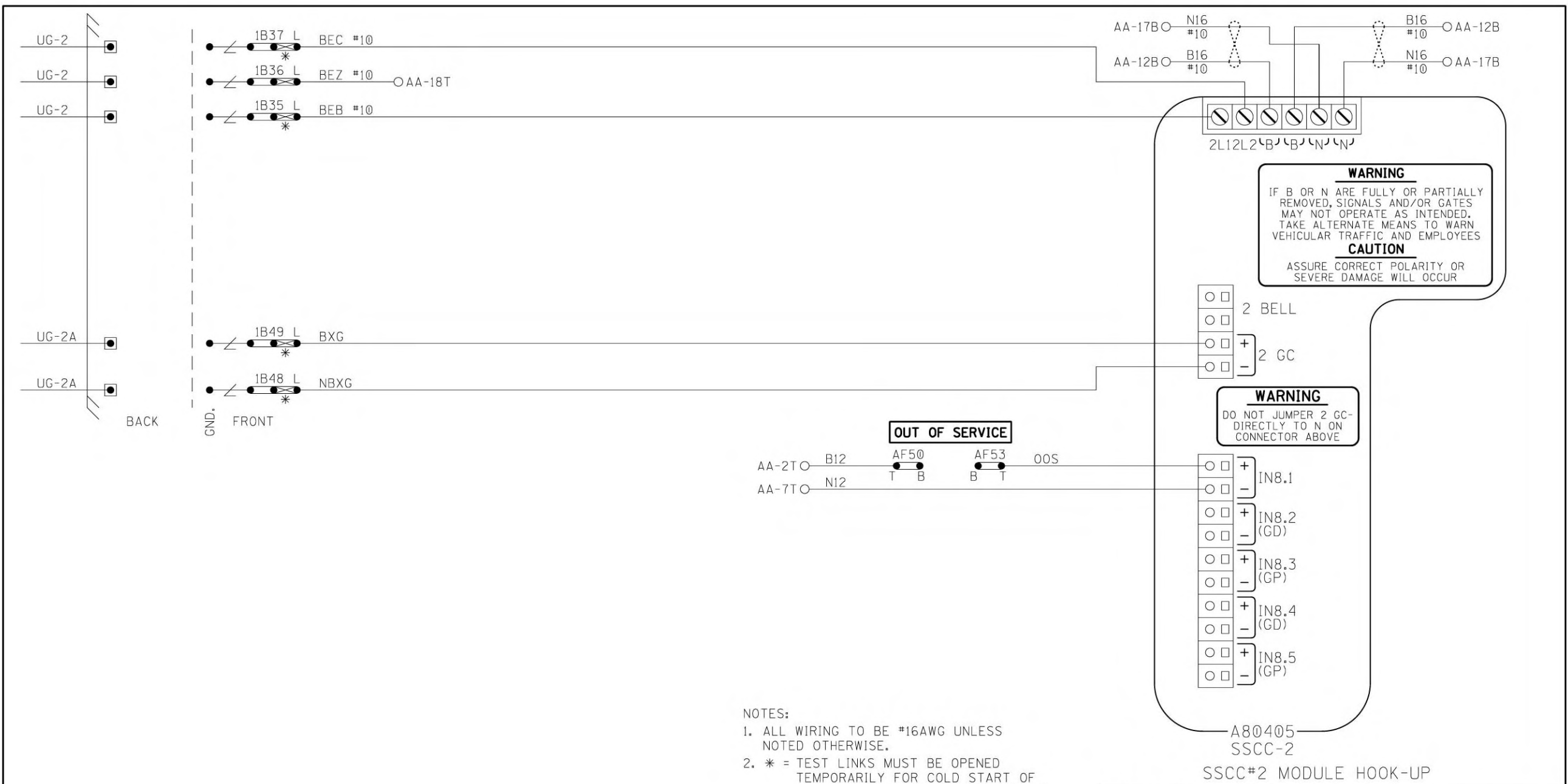



- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 2. * = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF NEW OR REPLACEMENT SSSC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTION; APPENDIX C OF GCP 4000 REFERENCE MANUAL.
 3.  = TWIST

SSCC#1 MODULE HOOK-UP


DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.013	SHEET 13
IN SERVICE:	- -	

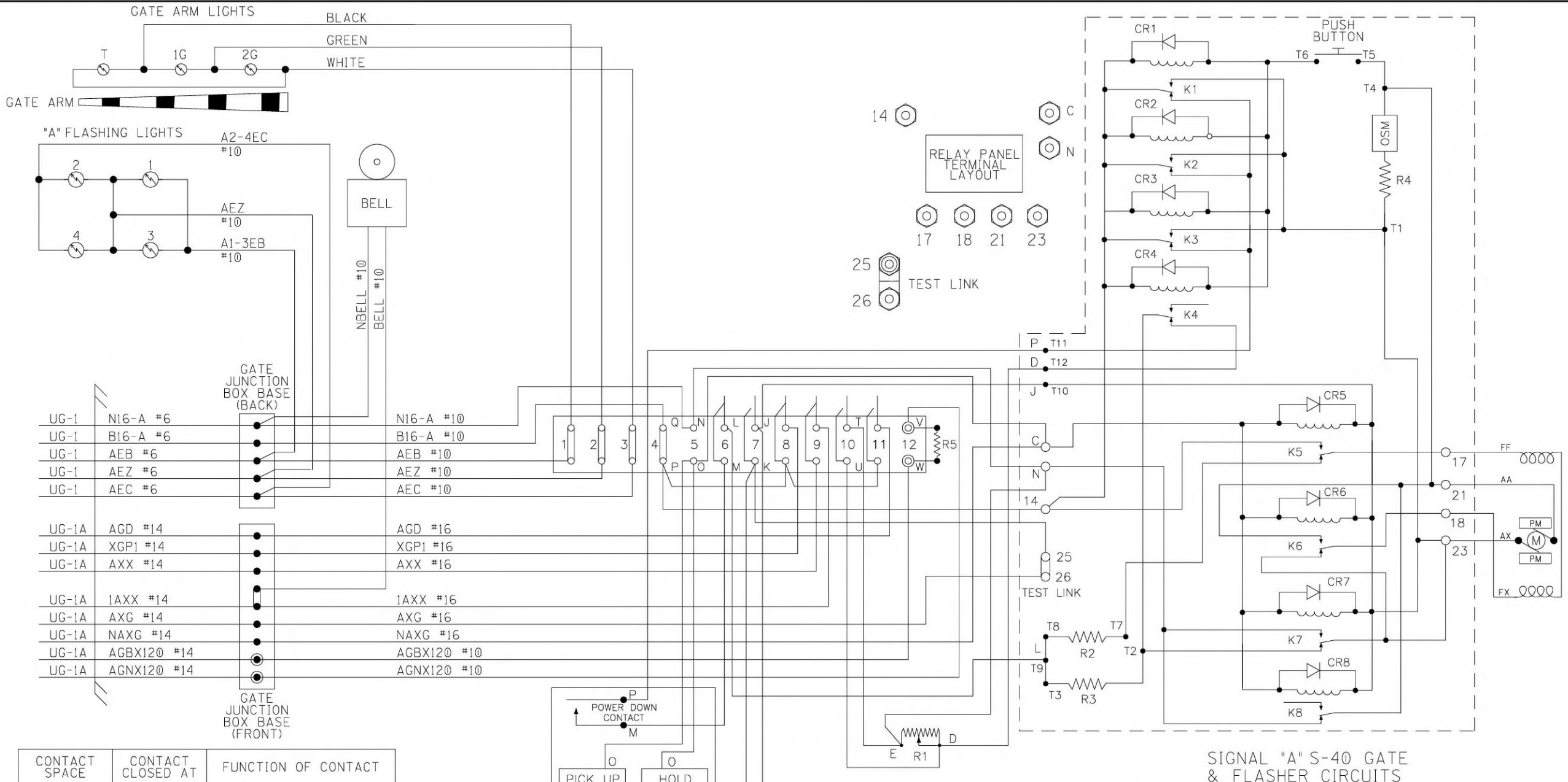
PROPERTY
PENNSYLVANIA R.R.



- NOTES:
1. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.
 2. * = TEST LINKS MUST BE OPENED TEMPORARILY FOR COLD START OF NEW OR REPLACEMENT SSSC MODULE AND CAN ONLY BE CLOSED IN SEQUENCE WITH MFR. INSTRUCTION; APPENDIX C OF GCP 4000 REFERENCE MANUAL.
 3.  = TWIST

PROPERTY
PENNSYLVANIA R.R.

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.014	SHEET 14
IN SERVICE:	- -	



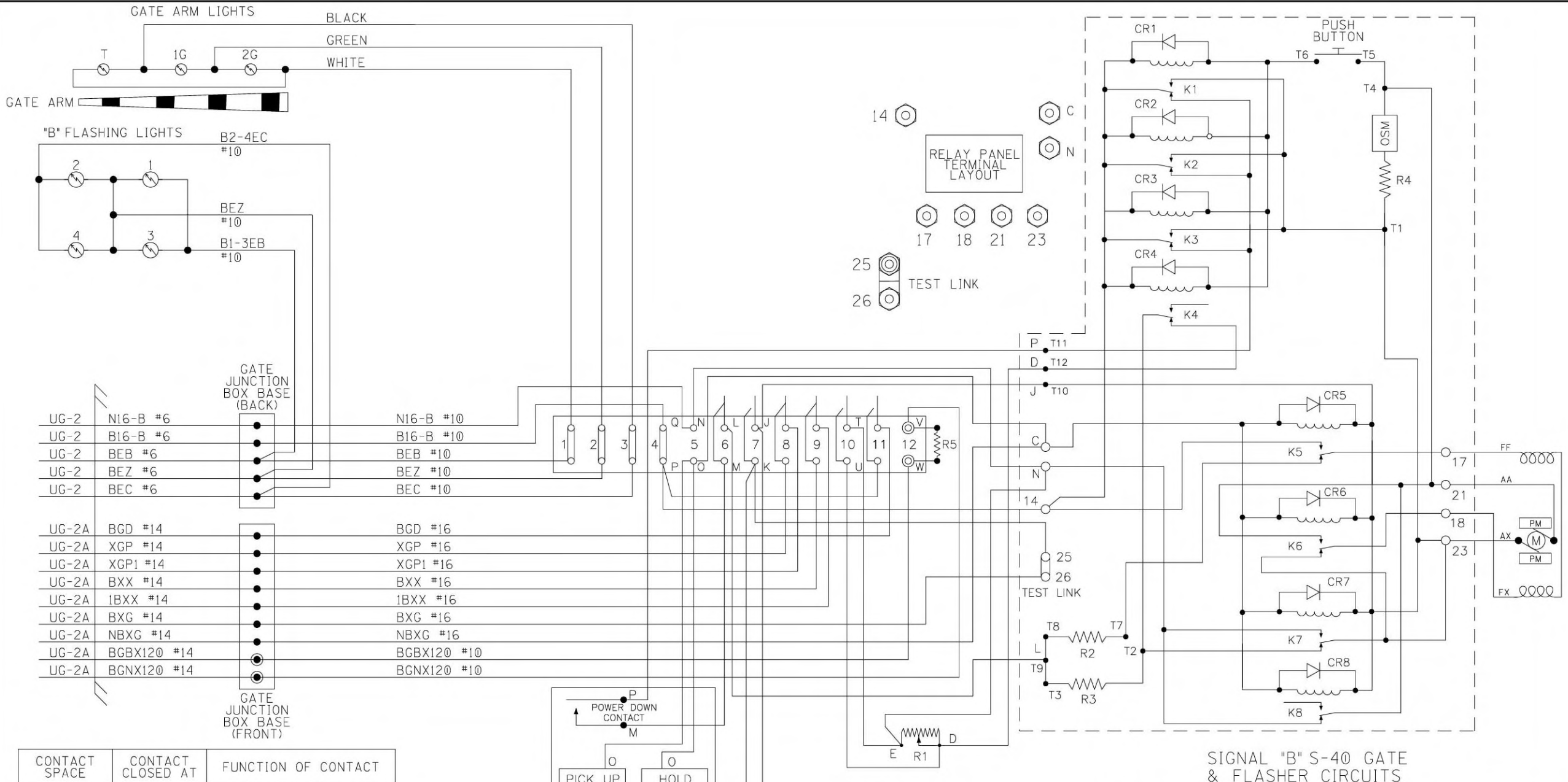
UG-1	N16-A #6	N16-A #10
UG-1	B16-A #6	B16-A #10
UG-1	AEB #6	AEB #10
UG-1	AEZ #6	AEZ #10
UG-1	AEC #6	AEC #10
UG-1A	AGD #14	AGD #16
UG-1A	XGP1 #14	XGP1 #16
UG-1A	AXX #14	AXX #16
UG-1A	1AXX #14	1AXX #16
UG-1A	AXG #14	AXG #16
UG-1A	NAXG #14	NAXG #16
UG-1A	AGBX120 #14	AGBX120 #10
UG-1A	AGNX120 #14	AGNX120 #10

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)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

R1 - DOWN SNUB RESISTOR, ADJ.
 R2 - POWER DOWN RATE RESISTOR
 R3 - POWER DOWN LIMIT RESISTOR
 R4 - OSM SNUB RESISTOR
 R5 - DEFROSTER
 K1-8 - GATE & MAINT. RELAYS
 OSM - OVERSPEED MODULE

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23	HARRISBURG LINE	REV. 1
CHECKED BY:	JMW 08-23-23	SHEET 15
IN SERVICE:	CADD or DWG. No. 03220580.015	

PROPERTY
 PENNSYLVANIA R.R.



UG-2	N16-B #6	N16-B #10
UG-2	B16-B #6	B16-B #10
UG-2	BEB #6	BEB #10
UG-2	BEZ #6	BEZ #10
UG-2	BEC #6	BEC #10
GATE JUNCTION BOX BASE (FRONT)		
UG-2A	BGD #14	BGD #16
UG-2A	XGP #14	XGP #16
UG-2A	XGP1 #14	XGP1 #16
UG-2A	BXX #14	BXX #16
UG-2A	1BXX #14	1BXX #16
UG-2A	BXG #14	BXG #16
UG-2A	NBXG #14	NBXG #16
UG-2A	BGBX120 #14	BGBX120 #10
UG-2A	BGNX120 #14	BGNX120 #10

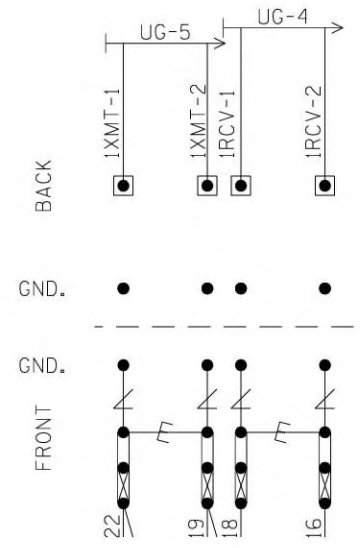
CONTACT SPACE	CONTACT CLOSED AT	FUNCTION OF CONTACT
(6) L-M	45° - 90°	POWER DOWN CONTROL
(7) J-K	0° - 89°	POWER UP CONTROL
(8)	83° - 90°	FLASHING LGT. CONTROL
(9)	5° - 90°	BELL CONTROL
(10) T-U	0° - 5°	HORIZONTAL SNUB
(11)	0° - 5°	GATE DOWN INDICATION

R1 - DOWN SNUB RESISTOR, ADJ.
 R2 - POWER DOWN RATE RESISTOR
 R3 - POWER DOWN LIMIT RESISTOR
 R4 - OSM SNUB RESISTOR
 R5 - DEFROSTER
 K1-8 - GATE & MAINT. RELAYS
 OSM - OVERSPEED MODULE

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA FLGS AT CHESTNUT STREET	
PRS 06-28-23		
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.016	SHEET No. 16
IN SERVICE:	- -	

PROPERTY
 PENNSYLVANIA R.R.

"1A"



NOTES:

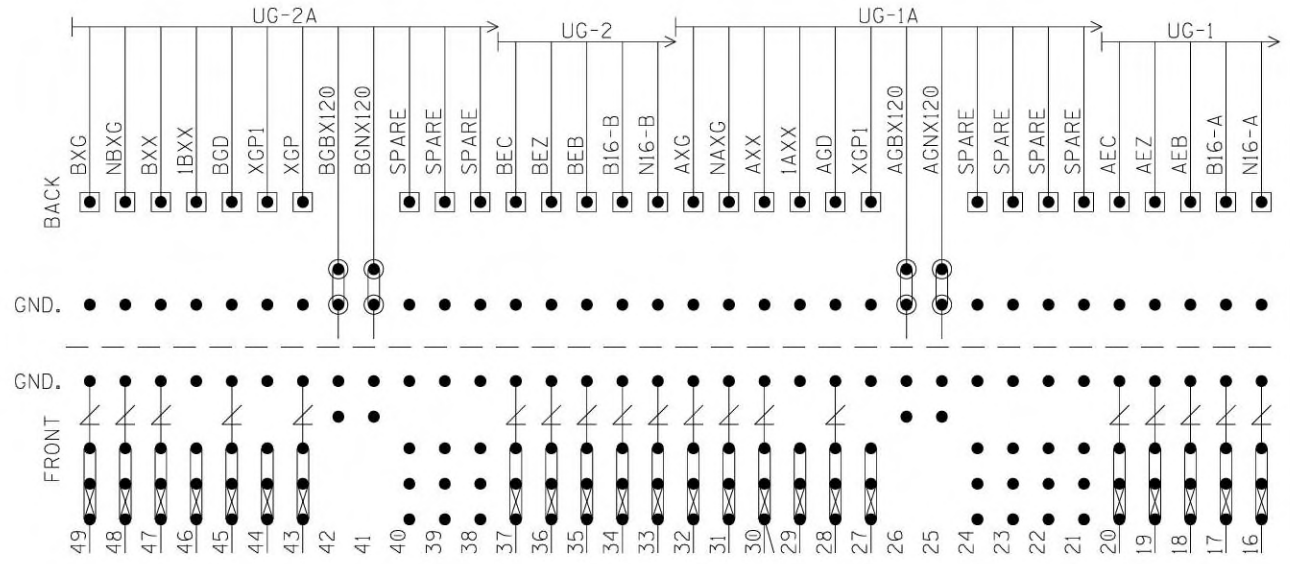
1. E = HEAVY DUTY EQUALIZER (022700-1X)
2. Z = ERICO LIGHTNING ARRESTER (EPD2050F)
3. GND. • = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
4. X = TEST LINK
5. INSTALL TEST LINKS ON ALL TRACK WIRES AND ON ALL LOW VOLTAGE UNDERGROUND CABLE TERMINATIONS.

BACKBOARD 1A

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.017	SHEET 17
IN SERVICE:	- -	

PROPERTY
PENNSYLVANIA R.R.

"1B"

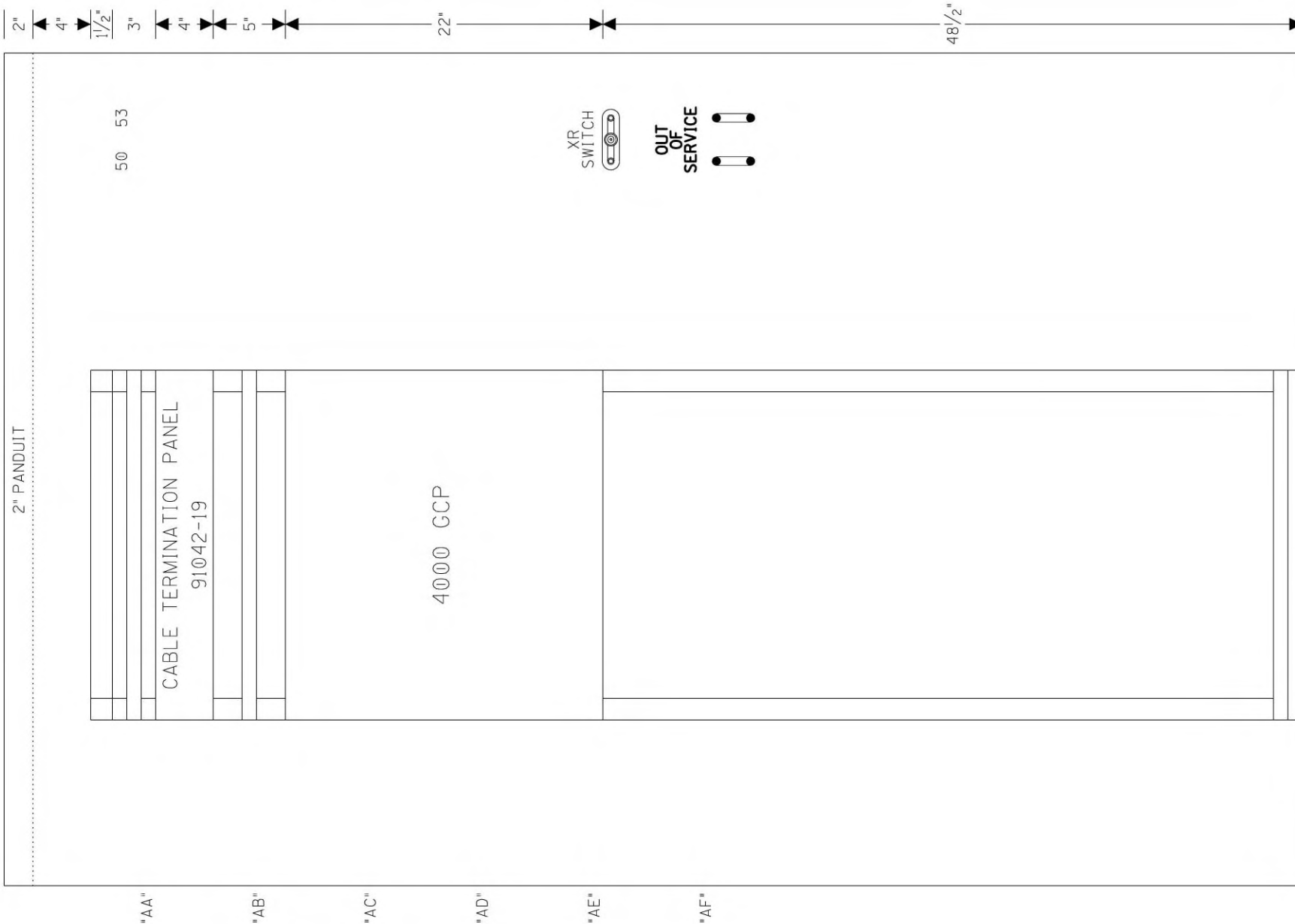


NOTES:

- 1. GND. ● = THROUGH GROUND POST ON EACH TERMINAL BLOCK TO FARADAY SHIELD
- 2. ● = INSULATED NUTS TO BE USED ON ALL 120VAC AND ABOVE TERMINALS

BACKBOARD 1B

DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	
JMW 08-23-23	REV. 1	
IN SERVICE:	CADD or DWG. No. 03220580.018	SHEET No. 18
PROPERTY	PENNSYLVANIA R.R.	



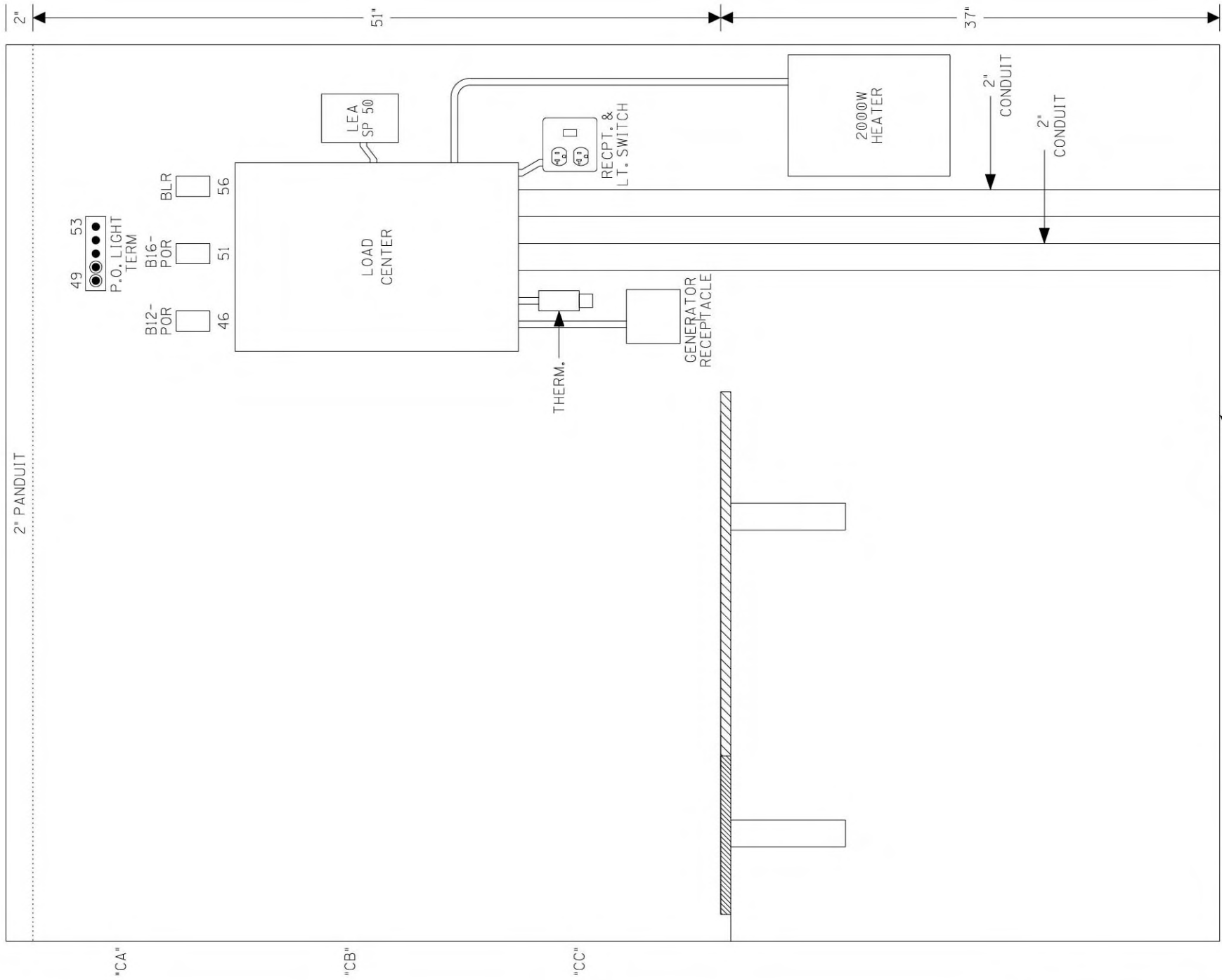
24 1/4"
EQUIPMENT RACK #1
FRONT



SIDE A LAYOUT & RACK PLACEMENT

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.019	SHEET No. 19
IN SERVICE:	- -	

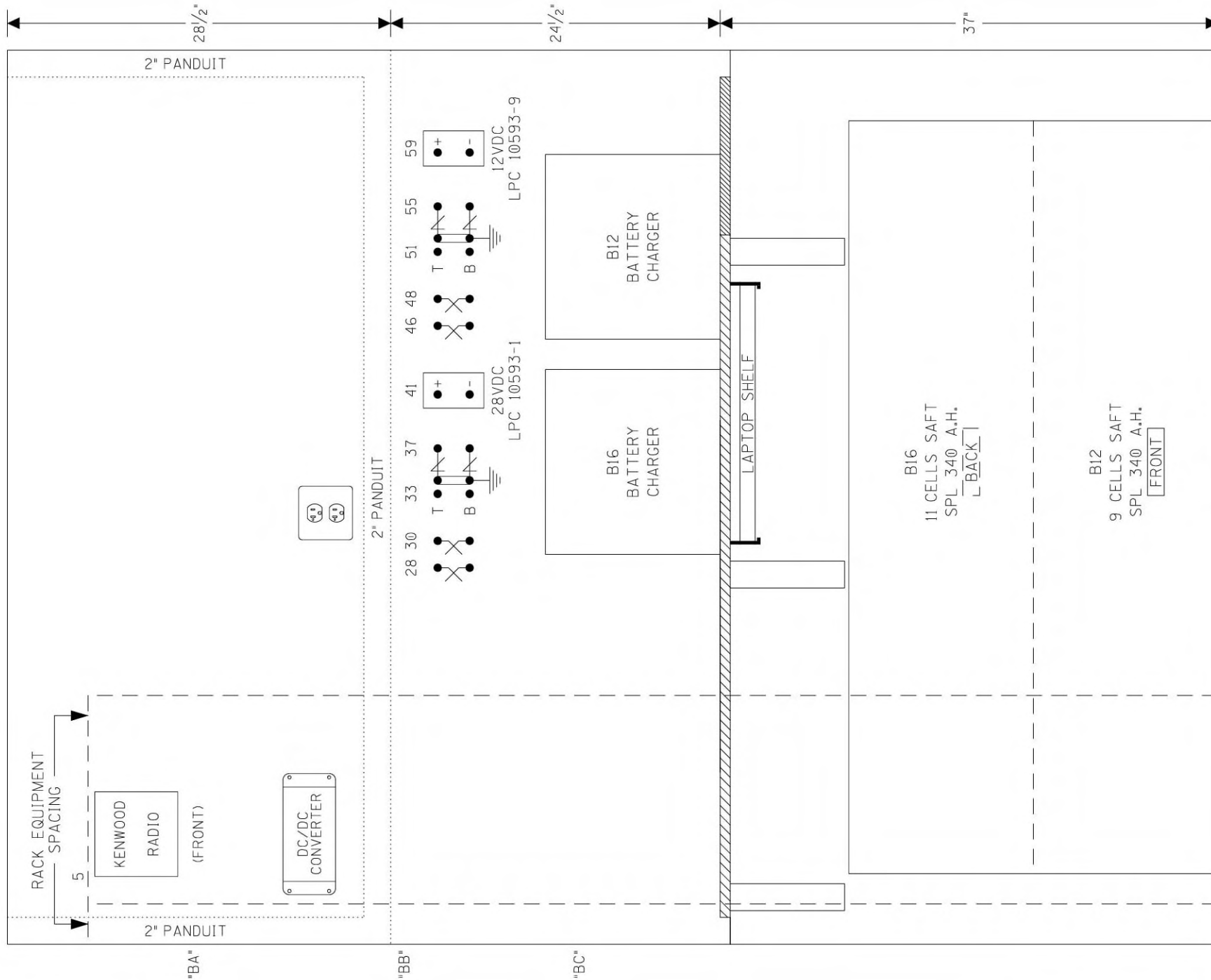
PROPERTY
PENNSYLVANIA R.R.



SIDE C LAYOUT

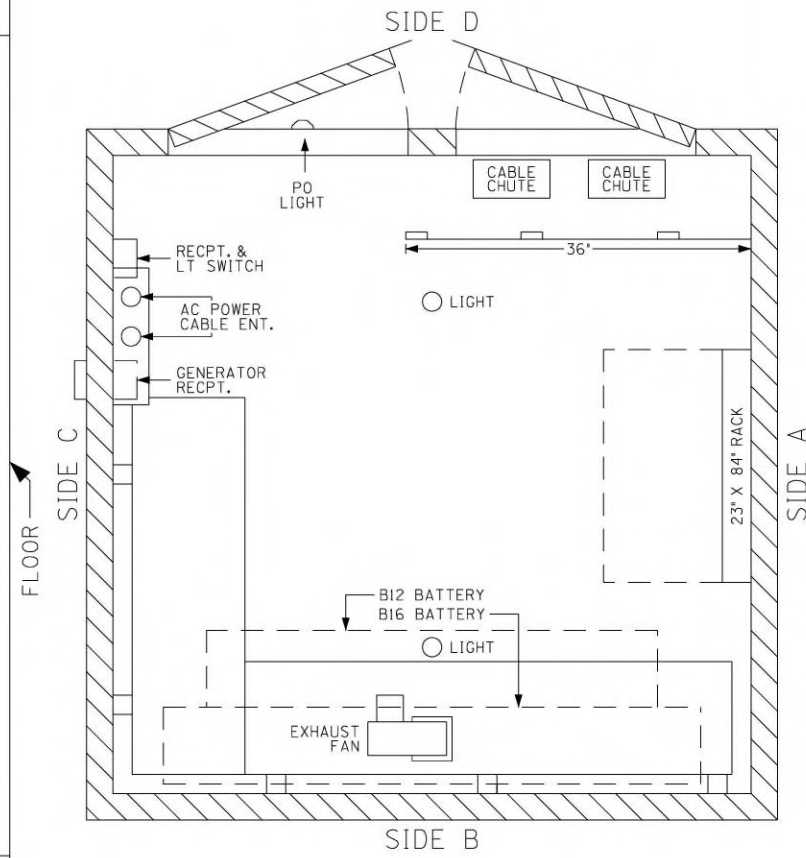
DESIGNED BY:		
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.020	SHEET 20
IN SERVICE:	- -	No.

PROPERTY
PENNSYLVANIA R.R.



***TOP VIEW**

6'X6' HOUSE
(INSULATED)
* = 1/2" SCALE



SIDE B LAYOUT & TOP VIEW

DESIGNED BY:	NS NORFOLK SOUTHERN	
MST 06-28-23	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: HP-58.07
DRAWN BY:	READING, PA	
PRS 06-28-23	FLGS AT CHESTNUT STREET	
CHECKED BY:	HARRISBURG LINE	REV. 1
JMW 08-23-23	CADD or DWG. No. 03220580.021	SHEET No. 21
IN SERVICE:	- -	

PROPERTY
PENNSYLVANIA R.R.