

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: August 27, 2012

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, 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 to:

Modification of Grade Crossing Warning Devices requested by Illinois Commerce Commission

at: 2000E (CH 6), in Dwight, Livingston County, Illinois, DOT: 534453T, MP.KS-136.86

File No. CX0128825 Project No. 04.0683

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 at 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

C.J. Wimberly, Administrator
Highway Grade Crossings

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 534453T
3. Village or City DWIGHT
4. Name of Street or Highway 2000E (CH 6)
5. Public Agency Maintaining Highway State
6. Protection now established:
CROSSBUCKS
7. Protection desired:
Modify grade crossing warning devices, to include 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. Six 6 p.m. to 6 a.m. Five
11. Approximate number of switch movements:
6 a.m. to 6 p.m. Three 6 p.m. to 6 a.m. Two
12. Maximum speed of trains at crossing on each track in each direction:
East/West 45 M.P.H Main
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:

10950 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 (side lights, cantilevers, etc., if any).
- (e) Show the length of each operating track section within the control limits of the crossing protection and its function.

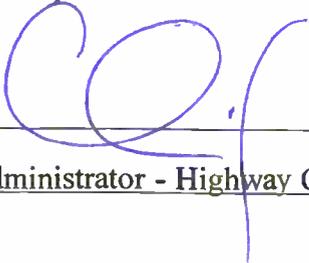
ADDITIONAL INFORMATION

Drawing attached for item no. 16

(File Original and Two Duplicates)

VERIFICATION

I, C.J. Wimberly, first being duly sworn upon oath depose and say that I am
Administrator – Highway Grade Crossings, 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 - Highway Grade Crossings

Subscribed and sworn to before me this 27 th.
day of August, 20 12.

Notary Public (Georgia) or Witness
My Commission Expires: _____

TO HENNEPIN
(R.R. WEST)

TO NIPSCO
(R.R. EAST)

2315'
TO 2000E
NEAREST GCP WIRES

2315'
TO 2000E
NEAREST GCP WIRES

M.P. KS-137

FLGS

4000 GCP

348 HZ
4.0 KHZ

FLGS

2000E
AAR #534 453T

743' M.P.

61'

0' 3"

61'

Ⓐ - MF-NBS 62775-1543 (348HZ)

PROFILE

DESIGNED BY: WOR 07-10-12		
DRAWN BY: IRE 07-10-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: KS-136.86
CHECKED BY: AJM 07-11-12	DWIGHT, IL FLGS AT 2000E	
IN SERVICE:	KANKAKEE BRANCH	FILE No. R-
- -	CADD or DWG. No. 31231368.02	SHEET No. 2 of 22

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.



Detailed Estimate for Grade Crossing Warning Devices

City/State: DWIGHT, IL
MilePost: KS-136.86
State Proj. No.:
S&E Proj. No.: 04.0683
Man Days: 120

Road: 2000E (CH 6)
DOT/AAR: 534453T
County: LIVINGSTON
File Number:

Purchases - Others	
Meals and Lodging:	\$16,128.00
Rental of Equipment:	\$16,800.00
(2 Trucks, 1 Backhoe w/ Trailer and 1 Pipe-Pusher for 30 Days)	
Construction Supervision Vehicle:	\$3,002.09
Purchases - Other Total:	\$35,930.09
Material And Additives	
Material Cost:	\$83,943.00
Sales and Use Tax:	\$4,197.00
Material Handling Freight:	\$4,197.15
Material Total:	\$92,337.15
Labor And Additives	
Labor Cost:	\$33,600.00
(4 man crew at \$1,120.00 a day for: 30 days)	
Payroll Tax & Overheads:	\$44,634.24
Preliminary Engineering:	\$10,343.78
Construction Supervision:	\$9,485.28
Labor Total:	\$98,063.30
	Project Cost: \$226,330.54
	Scrap / Salvage Credit: \$0.00
	Project Total: \$226,331.00

Estimated on: 14-Aug-12

Estimated by: ndney

Estimate valid for 1 year from date of estimate



Norfolk Southern Railway



Highway Crossing Signalization Program - Material List

Do not substitute items without permission from S & E Engineering

City:	DWIGHT
Road:	2000E (CH 6)
Mile Post:	KS-136.86
Drawing Number:	31231368
State ProjectNumber:	
County:	LIVINGSTON
A A R Number:	534453T
Project Number:	04.0683
File Number:	
New File Number:	CX0128825
WBS:	F-00231-27-1
Store Number:	
Supervisor:	NEED NAME
Tax Code:	
Vendor to supply the following copies after pricing: 1 Set - Material Management with original Invoice 2 Sets - with plans shipped in car with material 1 Set - S&E Gen. Supt. Construction w/copy of invoice	

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
3	670-360693-4	EA	\$5.55	\$16.65	AAR/DOT NUMBER PLATE/DECAL, ORDER 3 PER PROJECT. 60 DAY LEAD TIME. SUPPLIED BY S'TRAN.						
1	165-006505-4	EA	\$1,075.23	\$1,075.23	AC SERVICE, COMPLETE LESS METER BASE, ASSEMBLED ON 30' POLE						
13	105-288384-4	EA	\$271.16	\$3,525.08	BATTERY,GNB 368AH MODEL 50G15 SINGLE CELL 2.25 VOLTS, FOR USE WITH CROSSINGS DESIGNED AFTER 09/09						
2	670-980689-4	EA	\$75.48	\$150.96	BRACKET HIGH WIND, (RIGID 3'), WIG- 191036, WALRUS TUSK TYPE						
2	670-561375-4	EA	\$1,208.79	\$2,417.58	BRACKET, GATE SAVER, NEG385102GS, SPRING LOADED SWING AWAY ADAPTER FOR FIBERGLASS/ALUMINUM GATES, USE WITH GATE 38' AND LESS						
1	670-356949-4	EA	\$90.00	\$90.00	CABLE, 10' GENERATOR HOOK UP, SERRMI P/N 40524. FEMALE CONNECTOR						
350	465-939422-4	LF	\$2.92	\$1,022.00	CABLE, UG 12 CONDUCTOR NO 14 AWG SOLID EACH CONDUCTOR WITH 5/64 IN INSULATION 10 MIL						
350	465-292862-4	LF	\$1.36	\$476.00	CABLE, UG 2-6 TWISTED, S-23 OKONITE 113-12-3933 SOLID TINNED CONDUCTOR						
350	465-292929-4	LF	\$4.13	\$1,445.50	CABLE, UG 5 COND. NO. 6 AWG SOLID COPPER CABLE TO MEET NS CORP. SPEC. FOR SIGNAL						
350	465-791835-4	FT	\$3.54	\$1,239.00	CABLE, UG AC ENTRANCE 3C#6-7X OKONITE FMPF-L 094-078 TR W/G 1 X 8 7X W010 BRZ TAPE 600V PRODUCT CODE 206-11-6070						
80	165-544477-4	FT	\$2.61	\$208.80	CONDUIT, 4"x10' PVC, SCHEDULE 80 BELL CONNECTOR AT ONE END, 1/2 PT. GLUE IN KIT 670-123298-4						
2	670-664917-4	EA	\$90.11	\$180.22	CONNECTOR KIT, WELDED FAR RAIL, CONSISTING OF RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, 1 SPLICING SLEEVE, 1 REDUCING SLEEVE, 3 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-2X						
2	670-632520-4	EA	\$79.69	\$159.38	CONNECTOR KIT, WELDED NEAR RAIL, CONSISTING OF, RUBBER HOSE PROPERLY DRILLED, BONDSTRAND, SPLICING SLEEVE, 1 REDUCING SLEEVE, 5 CLAMPS, 1 TRACK CLIP, 1 WEB WELDED TRACK CONNECTOR, 1 WELD METAL, SAFETRAN 111359-1X						

APPROVED BY STATE	APPROVED BY RAILROAD	CAR NUMBER	SEAL NUMBER
-------------------	----------------------	------------	-------------

Store No.: P.O.Number: Date Required: Date Shipped: Vendor: Interrail Engineering, INC

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
2	670-793404-4	EA	\$1,159.00	\$2,318.00	COUNTERWEIGHT PKAGE, 17-24'GATE S'TRAN S- MECH ONLY, STAINLESS, TO INCLUDE HUB, SUPPORT ARMS						
4	670-760012-4	EA	\$44.32	\$177.28	COVER, FOR 1 WAY FLASHING LIGHT ASSY. 18 OZ. BLACK VINYL COATED NYLON. =====TO COVER 2 LAMPS=====						
1	670-986650-4	EA	\$354.27	\$354.27	DISPOSAL, CONSTRUCTION DEBRIS AND CLEANING X'ING EQUIPMENT CONTAINER						
1	670-000004-4	EA	\$700.00	\$700.00	FCC LICENSE FOR MONITOR/RADIO						
12	670-000003-4	EA	\$255.85	\$3,070.20	FILL/STONE #57, QUANTITY IS BASED ON TRUCK LOAD PLUS DELIVERY COST						
2	670-015231-4	EA	\$599.40	\$1,198.80	FOUNDATION, DIXIE,S-2 GATE 2'6"X2'6"X5'6" ASSEMBLED						
2	670-257031-4	EA	\$422.36	\$844.72	GATE ARM, FIBERGLASS-ALUMINUM, 17-24 FT, INCLUDES GATE GUARD FOR GATE LIGHT CABLE. HIGH INTENSITY VERTICAL STRIPES. NEG P/N 8003-244NFS/CG, SSC T18115						
1	670-675667-4	EA	\$30,238.53	\$30,238.53	GCP4000 - 1 TRK (2TC) - REDUNDANT - 40/40 AMP WIRED RACK EQUIP. FOR 6X8 XING SHELTER, (INCL. 2 TRK CHASSIS A80465, 2 TRK MODS. A80418, 2-SSCC A80405, 2 CPU A80403, 1 SEAR A80410, 1 DISPLAY A80407, , 2-40 AMP CHARGERS) IPN: 003131-1X						
1	670-477991-4	EA	\$410.00	\$410.00	KIT, GROUNDING ASSY FOR AL I/S INCLUDES 8 GRD RDS,200#4WIRE,12 4 WIRE ONE-SHOTS. ERICO SBK206						
1	670-123298-4	EA	\$345.97	\$345.97	KIT, HARDWARE SUPPLIES REQUIRED X'ING P'CKAGES. WEB CONNECTORS FOR SHUNT(8EA) TAPE, AMPS,P'GUM PAINT,SLEEVES,TAGS,GLUE, 100 EA WHITE TAGS,)NE CAN BLUE MARKING PAINT ETC...						
2	670-764166-4	EA	\$1,240.19	\$2,480.38	LAMP ASSY, 5" MAST MTG. 2W IND. 20" BKGRD, FLX-12 W/BULB S'TRAN #042003-487XNS						
6	165-643547-4	EA	\$5.97	\$35.82	LAMP, 18 WATT 10 VOLT S-11 SC BAY 18S11/1SC CLEAR RWY SIGNAL UJ-71463 GE						
4	255-590880-4	EA	\$16.72	\$66.88	LOCK, AMERICAN LOCK MODEL H-10KA KEYED ALIKE TO PRIVATE KEYWAY D456 AND STAMPED "NS SIG"						
2	670-637778-4	EA	\$1,325.00	\$2,650.00	MAST, 5" ALUMINUM 13'10" WITH DOUBLE JCT. BOX BASE. S'TRAN P# 070519-11AX.						
2	670-850933-4	EA	\$3,925.01	\$7,850.02	MECHANISM, GATE MODEL S-60, WITH DEFROSTER AND MINI TRACKSIDE SENSOR S'TRAN # 0740007-X002B3						

APPROVED BY STATE | APPROVED BY RAILROAD | CAR NUMBER | SEAL NUMBER

Store No.: P.O.Number: Date Required: Date Shipped: Vendor: Interrail Engineering, INC

Qty.	Class-Item-CD	UI	Price per Item	Total Price	Item Description	Quantity Shipped	Quantity Installed			Quantity Returned (Credit)	Special Instructions
							Date Quan.	Date Quan.	Date Quan.		
1	000-000000-4	EA	\$5,000.00	\$5,000.00	MISC. EXPENSE, UNDERGROUND BORING						
2	670-001347-4	EA	\$57.10	\$114.20	PACKAGE, HARDWARE SIGN 5 IN. MOUNTING, SERRMI A1250-5, HARMON @200965-000, OR						
1	255-646807-4	EA	\$31.19	\$31.19	PADLOCK, SAFETLAN PART NO. 030399-29X SCREW TYPE FOR CIR CONTROLLER AND BTY. BOX						
1	670-514605-4	EA	\$11.11	\$11.11	PINNACLE, W-C SECT 1-11, 4"& 5" REF K1 110-8 OR SAFETLAN NO. @035045-503X						
1	165-902002-4	EA	\$303.43	\$303.43	PROTECTOR, SURGE 120/240VAC, ERICO P/N EPD120/240TDFL						
4	465-002899-4	EA	\$40.24	\$160.96	REEL, CABLE DISPOSABLE FOR CROSSING SIGNAL PACKAGES						
2	435-805560-4	EA	\$2.78	\$5.56	SAND, 25LB BAG FOR CABLE ENTRANCE INTO THE SHELTER						
1	670-027556-4	EA	\$2,629.77	\$2,629.77	SEARIII, ACCESSORY PACKAGE, W/2-ILOD, 1-E-BELL, 2-GTS, 1-GFT, 1-VHFC, WITHOUT MTSS/SEAR UNIT						
1	670-749325-4	EA	\$226.97	\$226.97	SHELF, FOLDING, FOR LAPTOP USE IN FARADAY 6X8 SHELTER, SAFETLAN 052852-128X						
1	670-755523-4	EA	\$9,325.16	\$9,325.16	SHELTER, 6'X8' ALUMN FARADAY W/CABLE CHUTES BEHIND TERMINAL BOARD, W/1EA EQUIPMENT RACK, W/GEN RECEPTICAL, BREAKER BOX GFI OUTLET FOR LAPTOP SHELF SAFETLAN 058400-68-85						
2	670-586967-4	EA	\$42.98	\$85.96	SHUNT COVER W/LAG SCREWS, 19"X19", SERRMI #40271, ORDER 1 PER SHUNT						
2	670-652773-4	EA	\$460.98	\$921.96	SHUNT, MULTI-FREQ. #62775-1543 SAFETLAN NARROW BAND						
2	670-393331-4	EA	\$37.43	\$74.86	SIGN CROSSING MALFUNCTION ASSEMBLY FOR 4" AND 5" MAST, SAFETLAN #T17215						
2	670-016346-4	EA	\$143.23	\$286.46	SIGN, X-BUCK, HI-INTENSIVE REFLECTIVE FRT. & BACK FOR ALL STATES, SAFETLAN# 035200-91X						
1	670-330382-4	RL	\$18.06	\$18.06	TAPE, THOR 3" DURATEC, ORANGE 1000' LENGTHS. "WARNING STOP DIGGING"						

Total Material: \$83,942.92

APPROVED BY STATE | APPROVED BY RAILROAD | CAR NUMBER | SEAL NUMBER

SH. NO.	CONTENTS
NX1	INDEX SHEET
1	LAYOUT
2	PROFILE
3	CABLE PLAN
4	LOAD CENTER
5	RECTIFIER & BATTERY
6	4000 GCP 2-TK CHASSIS & MODULE LAYOUT
7	4000 GCP PROGRAMMING SETUP
8	4000 GCP PROGRAMMING SETUP
9	CONNECTORS FOR TRACK MODULES
10	CPU MODULE, SEAR III, GFT & VHF HOOK-UPS
11	SEAR III PROGRAMMING SETUP
12	SSCC#1 MODULE, iLOD#1 HOOK-UP
13	SSCC#2 MODULE, iLOD#2 HOOK-UP
14	FLASHER AND GATE LIGHTS - A
15	FLASHER AND GATE LIGHTS - B
16	BACKBOARD 1A & 1B
17	REAR BACKBOARD 1A & 1B
18	FARADAY SHIELD 1A & 1B
19	FARADAY SHIELD 1C
20	HOUSE SIDE C LAYOUT
21	HOUSE SIDE A LAYOUT
22	HOUSE SIDE B & TOP VIEW LAYOUT

IN SERVICE _____	SIGNED _____	DATE _____
<input type="checkbox"/>	S&E ENGINEERING COPY	
<input type="checkbox"/>	CONSTRUCTION OFFICE COPY RETURN TO S&E ENG. AFTER COMPLETION	
<input type="checkbox"/>	FIELD COPY RETURN TO CASE AFTER COMPLETION	
<input type="checkbox"/>	PROJECT ENGINEER COPY	

INDEX SHEET 1

DESIGNED BY: WOR 07-10-12		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: KS-136.86
DRAWN BY: IRE 07-10-12			
CHECKED BY: AJM 07-11-12	DWIGHT, JL FLGS AT 2000E		
IN SERVICE: - -	KANKAKEE BRANCH		FILE No. R-
	CADD or DWG. No.	31231368.NX1	SHEET No. 1 of 1

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

Program Report

Location and SIN

DOT Number: 534453T
Milepost Number: KS-136.86
Site Name: 2000E

SIN: 755018101816

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): 5093D429
Office Check Number: 5093D429
Config Check Number: 36FCFECF
(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: 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 = 348 Hz
Track 1: Approach Distance = 2315 ft
Track 1: Uni/Bi/Sim-Bidirnl = Bidirnl
Track 1: GCP Transmit Level = Medium
Track 1: Island Connection = Isl1
Track 1: Island Distance = 122 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: 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 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 = 4.0 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 Call Rpt IP Used = No
Emergency Activate IP = No
EZ/EX Logging = Change
EZ/EX Point Change = 3

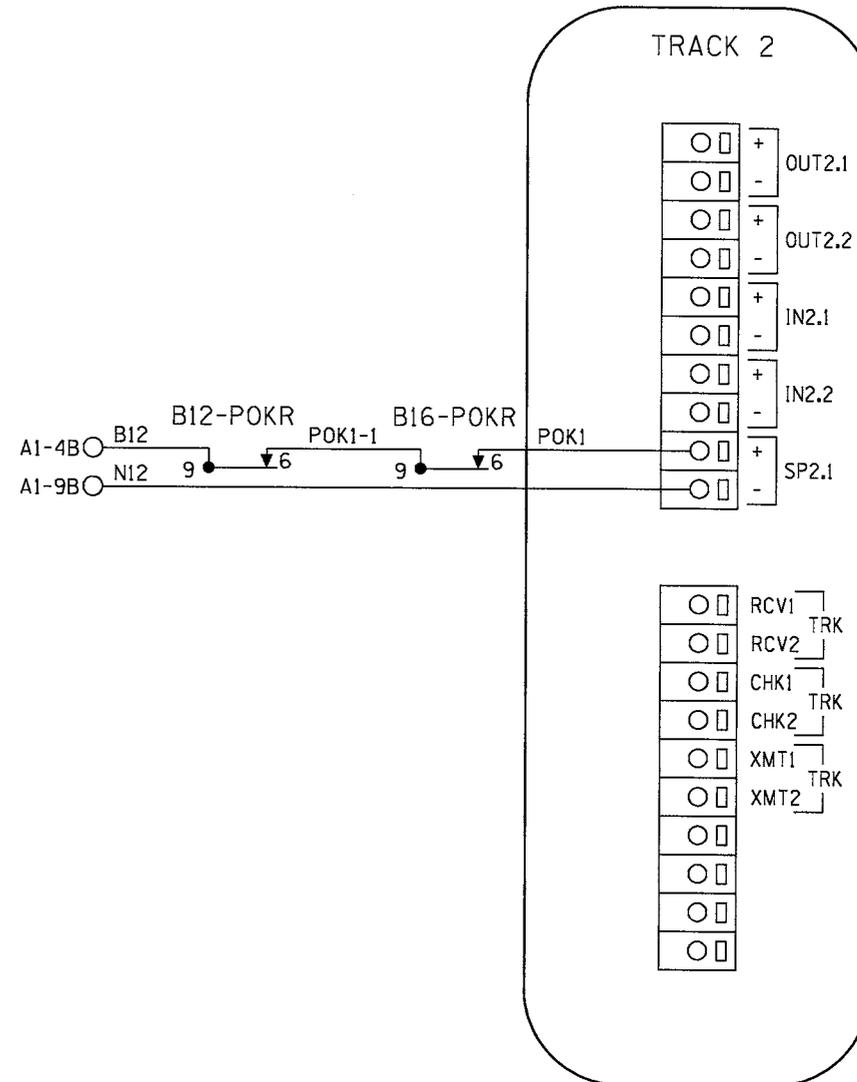
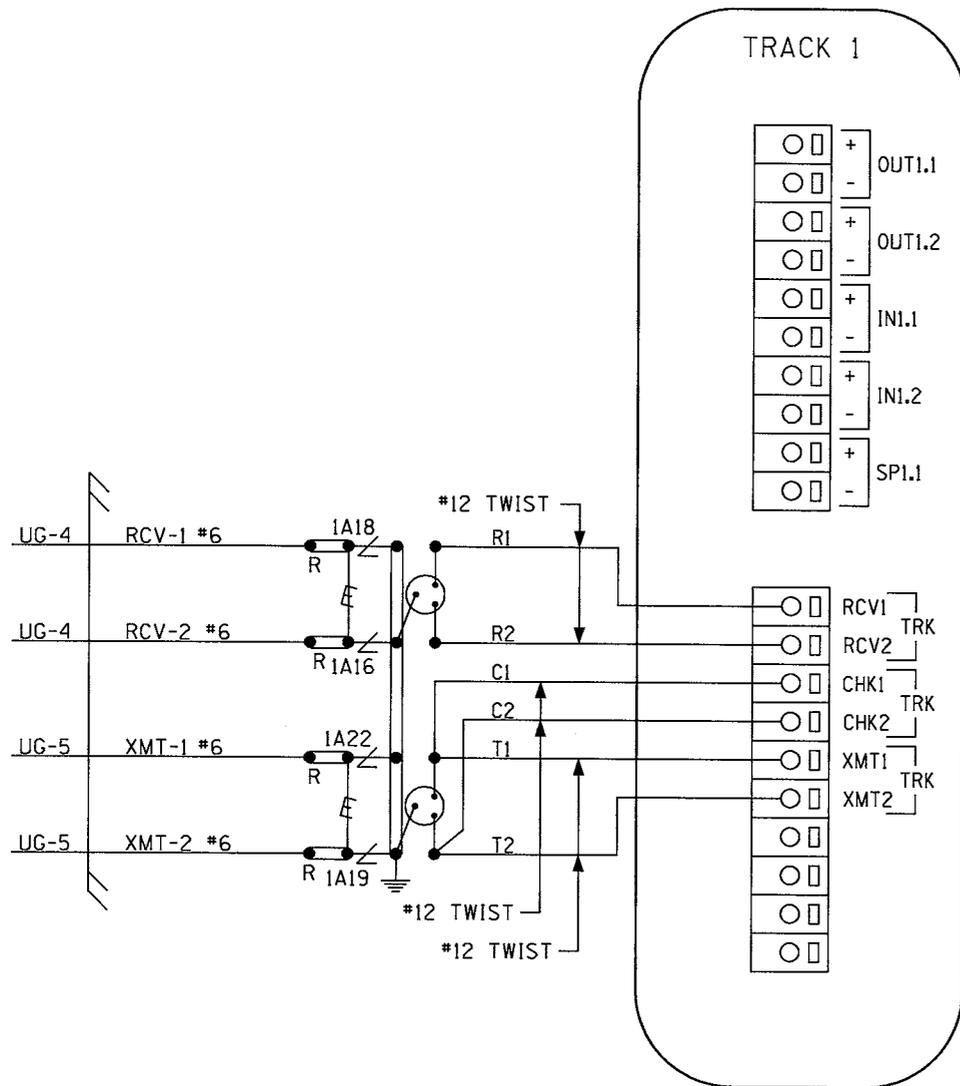
CONTINUED ON NEXT SHEET

4000 GCP PROGRAMMING SETUP

Table with design and service information including Designer (WOR 07-10-12), Drawn By (IRE 07-10-12), Checked By (AJM 07-11-12), In Service, and File No. (31231368.07).

REVISION INITIALS table with multiple empty columns for tracking changes.

PROPERTY PENNSYLVANIA R.R.



PANEL "A2" CONNECTORS FOR MODULES (A80418)

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

DESIGNED BY: WOR 07-10-12	
DRAWN BY: IRE 07-10-12	
CHECKED BY: AJM 07-11-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: KS-136.86
IN SERVICE: - -	DWIGHT, IL FLGS AT 2000E
	KANKAKEE BRANCH
	CADD of DWG. No. 31231368.09
	FILE No. R- SHEET No. 9 of 22

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

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

SITE SET UP PROCEDURE	
FUNCTION	LED DISPLAY
DATE/TIME	
AUTOMATIC DST ADJUSTMENT	YES
TIME ZONE	EST
SITE NAME	2000E
MILEPOST	KS-136.86
DOT #	534 453T
TESTER TYPE	CROSSING
DATE FORMAT	MM-DD-YYYY
TEMP FORMAT	FAHRENHEIT
INDICATE HOLD (SEC)	0
INDICATE REFRESH (SEC)	60
SITE ATCS	7.550.181.018.03.01
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	NONE
**** USER PORT	BAUD 57600, N, 8, 1, NONE
**** AUX PORT	BAUD 9600, N, 8, 1, NONE

VERIFY NUMBER OF BULBS: SENSOR #1	
CURR 1: LAMP SET UP	4 BULBS
CURR 2: LAMP SET UP	4 BULBS

VERIFY NUMBER OF BULBS: SENSOR #2	
CURR 1: LAMP SET UP	4 BULBS
CURR 2: LAMP SET UP	4 BULBS

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
* GATES CONTROLLED BY FOREIGN RR	
GATE POSITION FAIL TIME (SECONDS)	20
BATTERY BANKS	2
BATTERY MON USED	YES
INTERNAL CROSSING CONTROLLERS	2
EXTERNAL CROSSING CONTROLLERS	0
VHF COMMUNICATOR	YES
DTMF ACTIVATION	YES
***** ACTIVATION CODE	453
ACTIVATION TIMEOUT (SECONDS)	60
ILOD MODULES	2
ANY LED BULBS USED	NO
AUTO INSPECTIONS	NO
BELL SENSORS	1
** BELL SENSOR TSS1	YES
** BELL SENSOR TSS2	NO
** BELL SENSOR TSS3	NO
** BELL SENSOR TSS4	NO
** BELL SENSOR TSS5	NO
** BELL SENSOR TSS6	NO
** BELL SENSOR TSS7	NO
** BELL SENSOR TSS8	NO

CONTROL SYSTEM CONFIGURATION MENU QUESTIONS (CONT.)	
BELL ON	GATES LOWERING
GFT'S	YES
BATTERIES ON GFT1	2
GATE TIP SENSORS	YES
RTU	NO
VHF VOICE CHANNEL	2
VHF DATA CHANNEL	2
USE CELL MODEM NON-CRITICAL FEATURE	NO
FULL APPROACH MOVES ALARM	ACTIVATE

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:

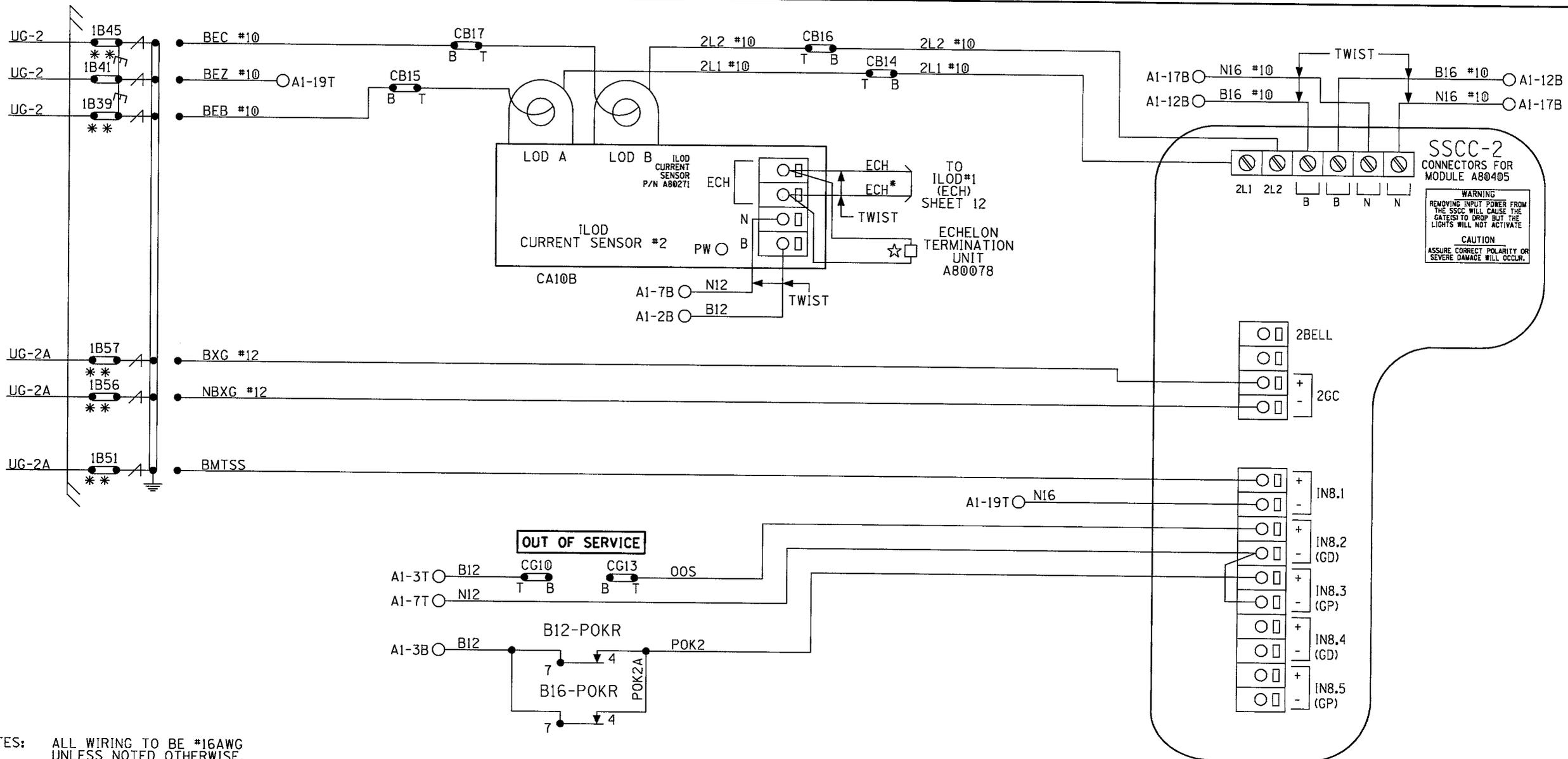
- * = DISPLAYED IF CROSSING CONFIGURATION IS SPLIT GATE
- ** = OPTIONS: IF BELL SENSOR = 0, THEN BELL FIELDS ARE NOT USED.
- *** = IF SITE TYPE = NO COMMUNICATION, THEN THESE OPTIONS ARE NOT DISPLAYED
- **** = THESE SETTINGS SHOULD BE LEFT AT THE DEFAULT SETTING.
- ***** = USE LAST 3 NUMBERS FROM DOT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

SEAR III PROGRAMMING SETUP

DESIGNED BY:		
WOR 07-10-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: KS-136.86
DRAWN BY:	DWIGHT, IL FLGS AT 2000E	
IRE 07-10-12	KANKAKEE BRANCH	
CHECKED BY:	FILE No.	R-
AJM 07-11-12	CADD or DWG. No.	31231368.11
IN SERVICE:	SHEET	11 of 22

REVISION INITIALS

PROPERTY PENNSYLVANIA R.R.



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.

** = 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.

☆ = A80078 ECHELON TERMINATION UNIT TO TERMINATE ECHELON NETWORK.

PANEL "A2" CONNECTORS FOR SSCC#2 MODULE (A80405)
 PANEL "A3" ILOD#2 (A80271) HOOK-UP

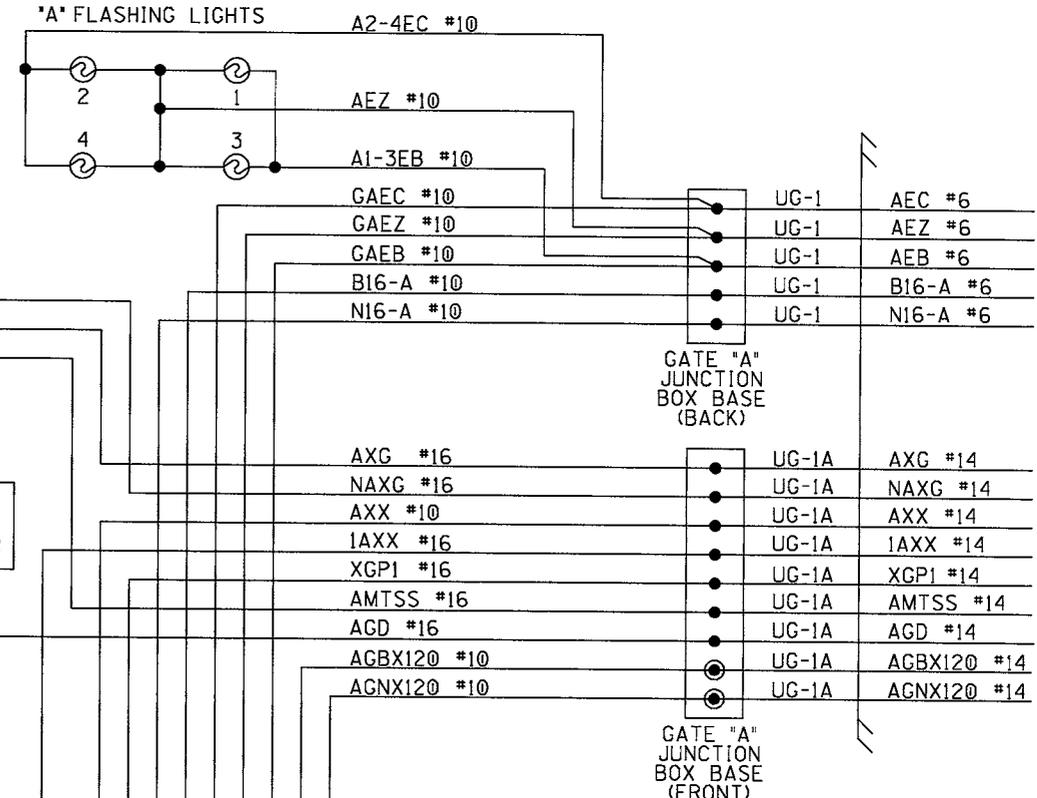
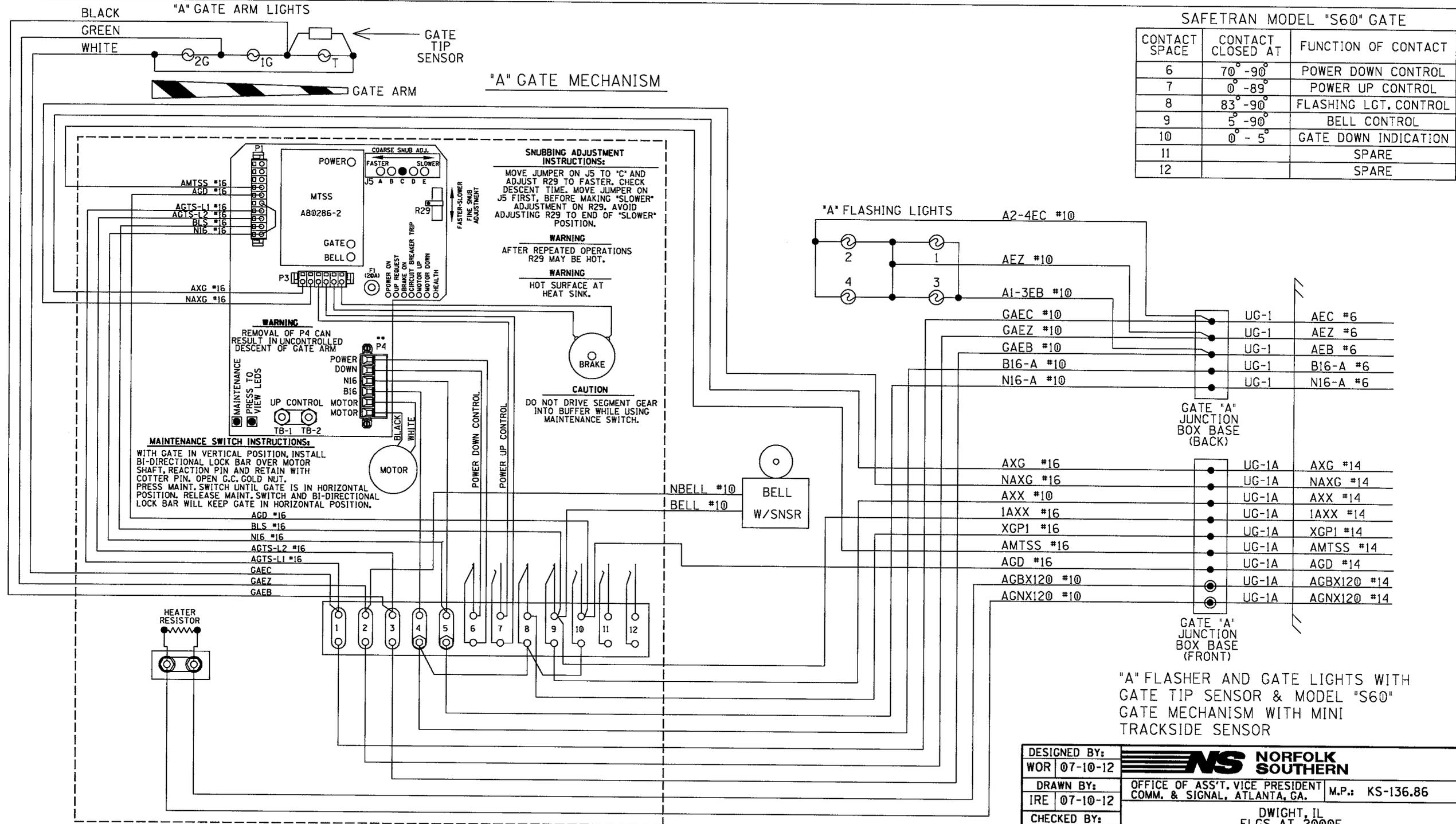
DESIGNED BY:	WOR 07-10-12	NS NORFOLK SOUTHERN
DRAWN BY:	IRE 07-10-12	
CHECKED BY:	AJM 07-11-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: KS-136.86
IN SERVICE:	- -	DWIGHT, IL FLGS AT 2000E
		KANKAKEE BRANCH
		CADD or DWG. No. 31231368.13
		FILE No. R- SHEET 13 of 22

REVISION INITIALS

PROPERTY PENNSYLVANIA R.R.

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 MECHANISM

"A" GATE ARM LIGHTS

SNUBBING ADJUSTMENT INSTRUCTIONS:

MOVE JUMPER ON J5 TO 'C' AND ADJUST R29 TO FASTER. CHECK DESCENT TIME. MOVE JUMPER ON J5 FIRST, BEFORE MAKING 'SLOWER' ADJUSTMENT ON R29. AVOID ADJUSTING R29 TO END OF 'SLOWER' POSITION.

WARNING

AFTER REPEATED OPERATIONS R29 MAY BE HOT.

WARNING

HOT SURFACE AT HEAT SINK.

WARNING

REMOVAL OF P4 CAN RESULT IN UNCONTROLLED DESCENT OF GATE ARM

MAINTENANCE SWITCH TO VIEW LEADS

MAINTENANCE SWITCH INSTRUCTIONS:

WITH GATE IN VERTICAL POSITION, INSTALL BI-DIRECTIONAL LOCK BAR OVER MOTOR SHAFT, REACTION PIN AND RETAIN WITH COTTER PIN, OPEN G.C. GOLD NUT. PRESS MAINT. SWITCH UNTIL GATE IS IN HORIZONTAL POSITION. RELEASE MAINT. SWITCH AND BI-DIRECTIONAL LOCK BAR WILL KEEP GATE IN HORIZONTAL POSITION.

- AGD #16
- BLS #16
- N16 #16
- AGTS-L2 #16
- AGTS-L1 #16
- GAEC
- GAEZ
- GAEB

"A" FLASHER AND GATE LIGHTS WITH GATE TIP SENSOR & MODEL "S60" GATE MECHANISM WITH MINI TRACKSIDE SENSOR

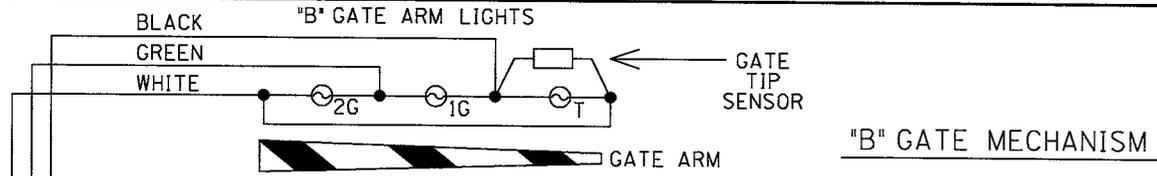
DESIGNED BY: WOR 07-10-12		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: KS-136.86
DRAWN BY: IRE 07-10-12		DWIGHT, IL FLGS AT 2000E
CHECKED BY: AJM 07-11-12	KANKAKEE BRANCH	FILE No. R-
IN SERVICE: - -	CADD or DWG. No. 31231368.14	SHEET 14 of 22

REVISION INITIALS

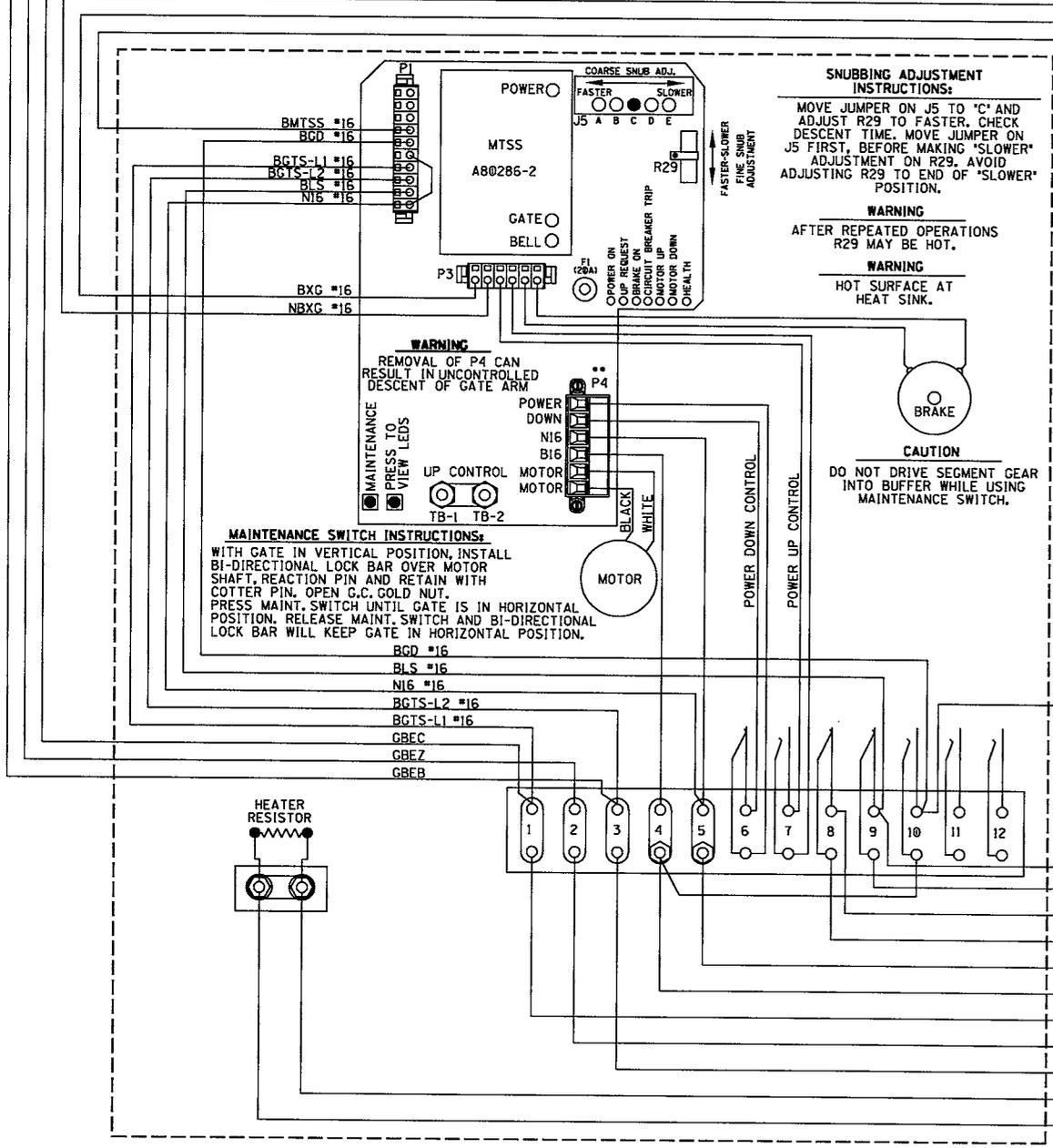
PROPERTY PENNSYLVANIA R.R.

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 MECHANISM



SNUBBING ADJUSTMENT INSTRUCTIONS:

MOVE JUMPER ON J5 TO 'C' AND ADJUST R29 TO FASTER. CHECK DESCENT TIME. MOVE JUMPER ON J5 FIRST, BEFORE MAKING 'SLOWER' ADJUSTMENT ON R29. AVOID ADJUSTING R29 TO END OF 'SLOWER' POSITION.

WARNING
AFTER REPEATED OPERATIONS R29 MAY BE HOT.

WARNING
HOT SURFACE AT HEAT SINK.

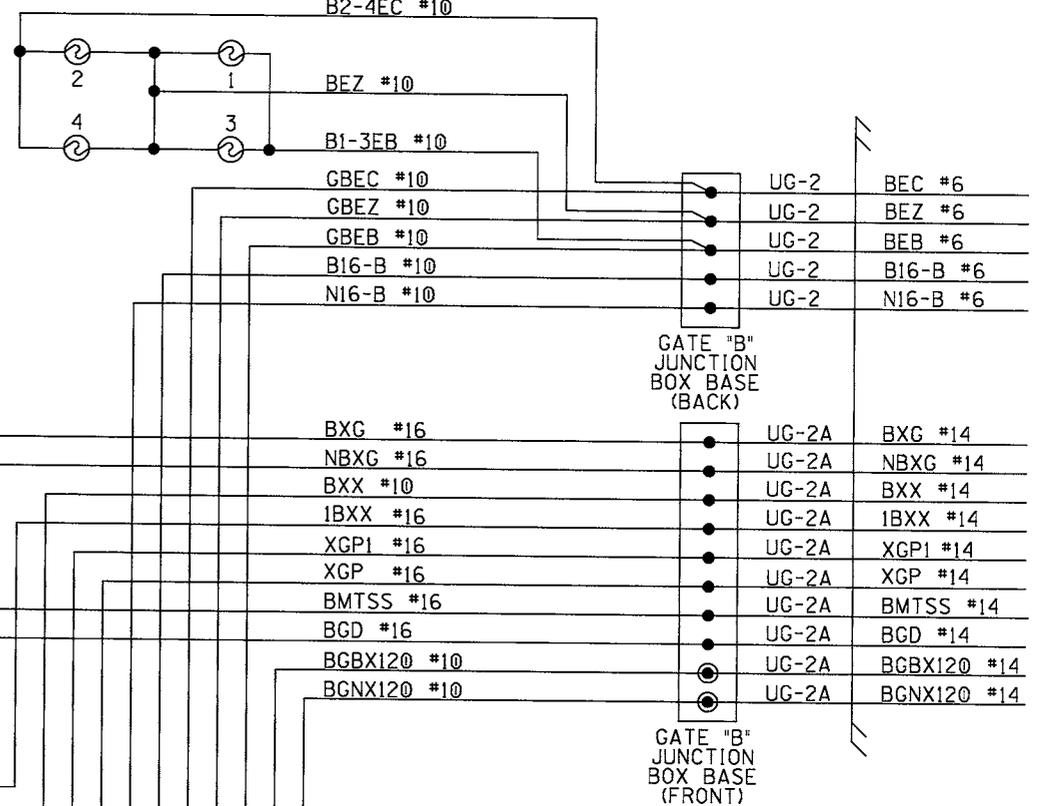
CAUTION
DO NOT DRIVE SEGMENT GEAR INTO BUFFER WHILE USING MAINTENANCE SWITCH.

WARNING
REMOVAL OF P4 CAN RESULT IN UNCONTROLLED DESCENT OF GATE ARM

MAINTENANCE SWITCH INSTRUCTIONS:
WITH GATE IN VERTICAL POSITION, INSTALL BI-DIRECTIONAL LOCK BAR OVER MOTOR SHAFT, REACTION PIN AND RETAIN WITH COTTER PIN. OPEN C.C. GOLD NUT. PRESS MAINT. SWITCH UNTIL GATE IS IN HORIZONTAL POSITION. RELEASE MAINT. SWITCH AND BI-DIRECTIONAL LOCK BAR WILL KEEP GATE IN HORIZONTAL POSITION.

- BGD #16
- BLS #16
- N16 #16
- BGTS-12 #16
- BGTS-L1 #16
- GBEC
- GBEZ
- GBEB

"B" FLASHING LIGHTS



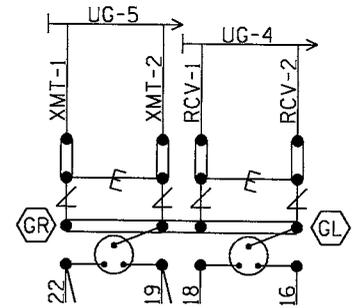
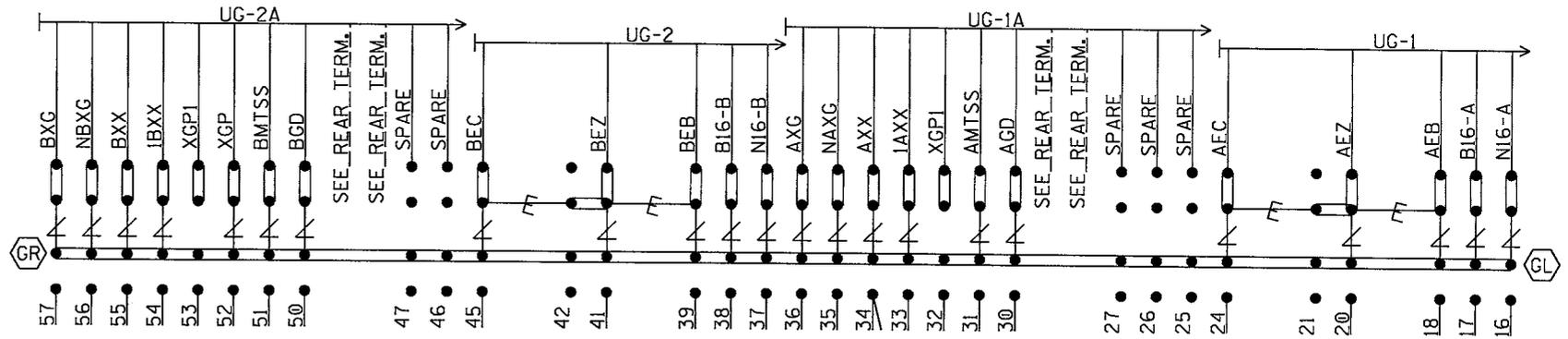
"B" FLASHER AND GATE LIGHTS WITH GATE TIP SENSOR & MODEL "S60" GATE MECHANISM WITH MINI TRACKSIDE SENSOR

DESIGNED BY: WOR 07-10-12	NS NORFOLK SOUTHERN
DRAWN BY: IRE 07-10-12	
CHECKED BY: AJM 07-11-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: KS-136.86
IN SERVICE: - -	DWIGHT, IL FLGS AT 2000E
	KANKAKEE BRANCH
	CADD OF DWG. No. 31231368.15
	FILE No. R- SHEET 15 of 22

REVISION INITIALS

PROPERTY PENNSYLVANIA R.R.

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



NOTE: INSTALL TEST LINKS ON ALL TRACK WIRES 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.

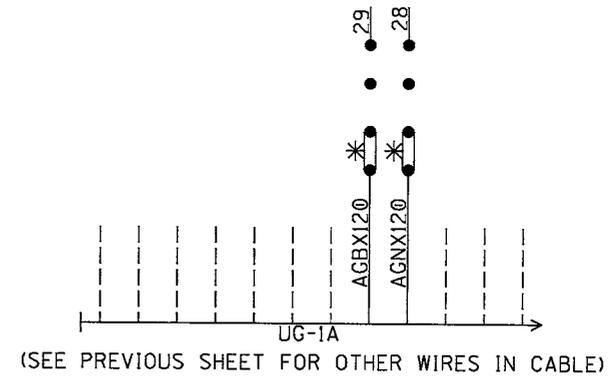
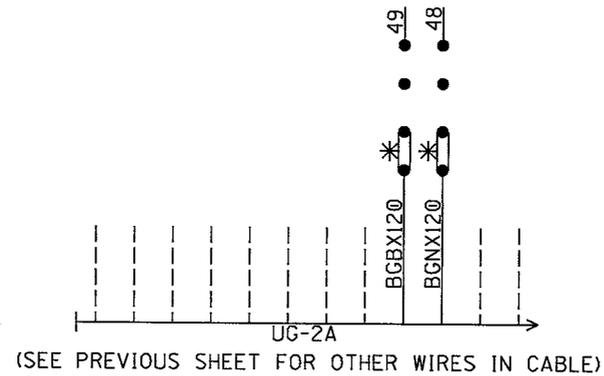
BACKBOARD DETAIL - 1A & 1B

DESIGNED BY:	WOR 07-10-12	NS NORFOLK SOUTHERN
DRAWN BY:	IRE 07-10-12	
CHECKED BY:	AJM 07-11-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: KS-136.86
IN SERVICE:	- -	DWIGHT, IL FLGS AT 2000E
		KANKAKEE BRANCH
		CADD or DWG. No. 31231368.16
		FILE No. R- SHEET No. 16 of 22

REVISION INITIALS

PROPERTY
PENNSYLVANIA R.R.

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



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 OF FARADAY BACKBOARD
REAR BACKBOARD DETAIL - 1A & 1B

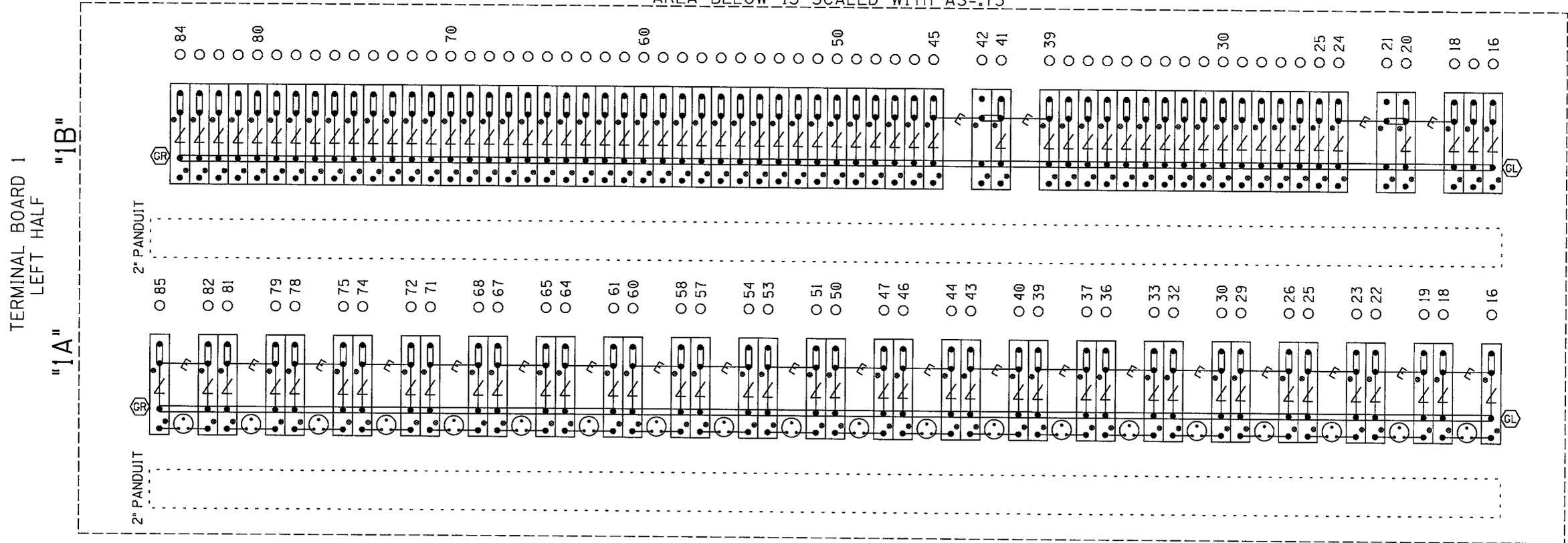
DESIGNED BY: WOR 07-10-12		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: KS-136.86
DRAWN BY: IRE 07-10-12		DWIGHT, IL FLGS AT 2000E	
CHECKED BY: AJM 07-11-12	KANKAKEE BRANCH		FILE No. R-
IN SERVICE: - -	CADD or DWG. No. 31231368.17	SHEET 17 of 22	

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

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.

AREA BELOW IS SCALED WITH AS=.75



⚡ = Heavy Duty Equalizer (022700-1X)

∠ = Clearview Lightning Arrester (022585-1X)

⊙ = LPC-10560-51

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

TERMINAL BOARD 1
 LEFT TWO ROWS
 FARADAY SHIELD DETAIL - 1A & 1B

⊙ = 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.

DESIGNED BY: WOR 07-10-12		OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: KS-136.86
DRAWN BY: IRE 07-10-12		DWIGHT, IL FLGS AT 2000E	
CHECKED BY: AJM 07-11-12	KANKAKEE BRANCH		FILE No. R-
IN SERVICE: - -	CADD or DWG. No. 31231368.18	SHEET No. 18 of 22	

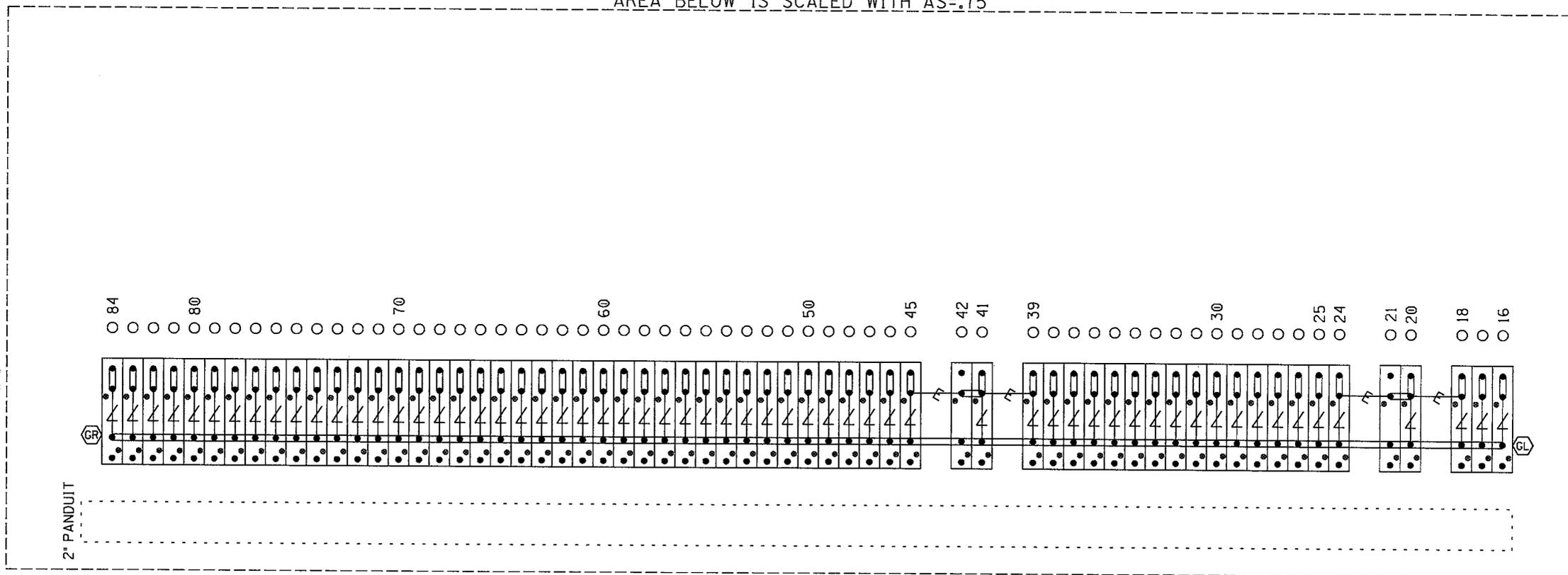
REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.

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.

AREA BELOW IS SCALED WITH AS=.75

TERMINAL BOARD 1
RIGHT HALF
"1C"



⚡ = Heavy Duty Equalizer
(#22700-1X)

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

⊙ = LPC-10560-51

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

TERMINAL BOARD 1
RIGHT ROW
FARADAY SHIELD DETAIL - 1C

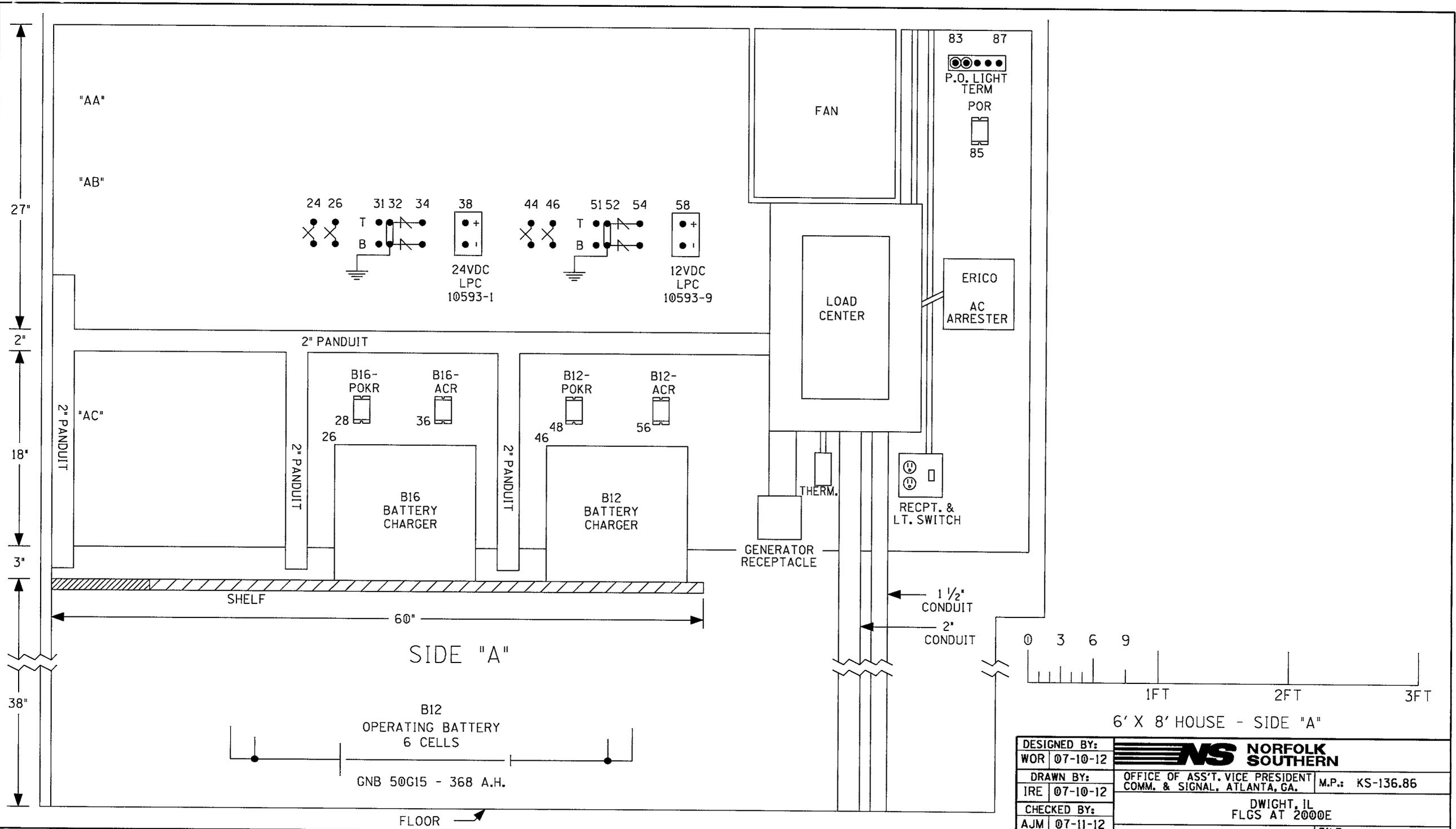
⊙ = INDICATES PLACEMENT
OF PANDUIT

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

DESIGNED BY:	WOR 07-10-12	NS NORFOLK SOUTHERN
DRAWN BY:	IRE 07-10-12	
CHECKED BY:	AJM 07-11-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA. M.P.: KS-136.86
IN SERVICE:	- -	DWIGHT, IL FLGS AT 2000E
		KANKAKEE BRANCH
		CADD or DWG. No. 31231368.19
		FILE No. R- SHEET 19 of 22

REVISION
INITIALS

PROPERTY
PENNSYLVANIA R.R.



6' X 8' HOUSE - SIDE "A"

DESIGNED BY: WOR 07-10-12	NS NORFOLK SOUTHERN	
DRAWN BY: IRE 07-10-12	OFFICE OF ASS'T. VICE PRESIDENT COMM. & SIGNAL, ATLANTA, GA.	M.P.: KS-136.86
CHECKED BY: AJM 07-11-12	DWIGHT, IL FLGS AT 2000E	
IN SERVICE: - -	KANKAKEE BRANCH	FILE No. R-
	CADD or DWG. No. 31231368.21	SHEET No. 21 of 22

REVISION INITIALS																				
-------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

PROPERTY
PENNSYLVANIA R.R.

