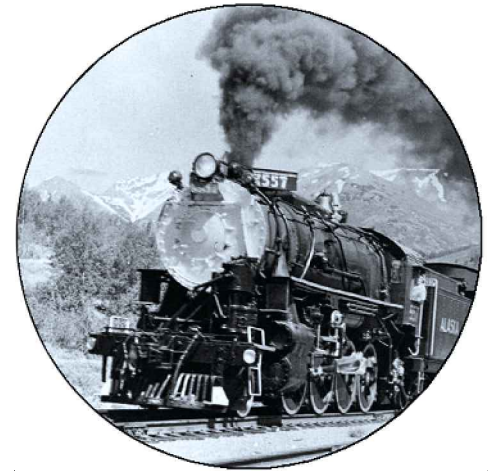


ALASKA RAILROAD CORPORATION



PORTAGE GLACIER ROAD RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM / SOUTH "D" SIGNAL AT SOUTH PORTAGE M.P. 62.90



LEGEND

- ∠ TRACK ARRESTER (1)
- △ EQUALIZER (2)
- ∠ LINE ARRESTER (3)
- △ NO 6 AWG THNN/THWN FLEX WIRE WITH RED SHEATH (B12)
- △ NO 6 AWG THNN/THWN FLEX WIRE WITH BLACK SHEATH (N12)
- △ NO 6 AWG THNN/THWN FLEX WIRE WITH GREEN SHEATH (SAFETY GROUND)
- Ⓢ TWISTED WIRE TWO TURNS PER FOOT
- ⚡ SIMULATED BIDIRECTIONAL GCP
- # MATERIAL REFERENCE IDENTIFICATION NUMBER

The ALASKA RAILROAD CORPORATION
SIGNAL ENGINEERING P.O. BOX 107500, ANCHORAGE, AK 99510-7500

PORTAGE GLACIER ROAD PORTAGE, AK.
RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
DOT 868 242V M.P. 62.90

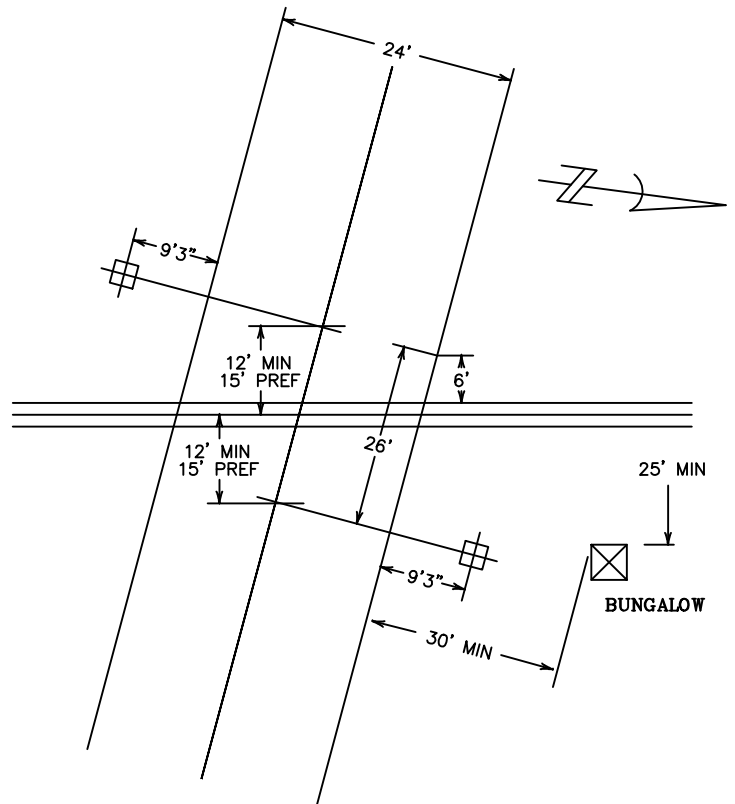
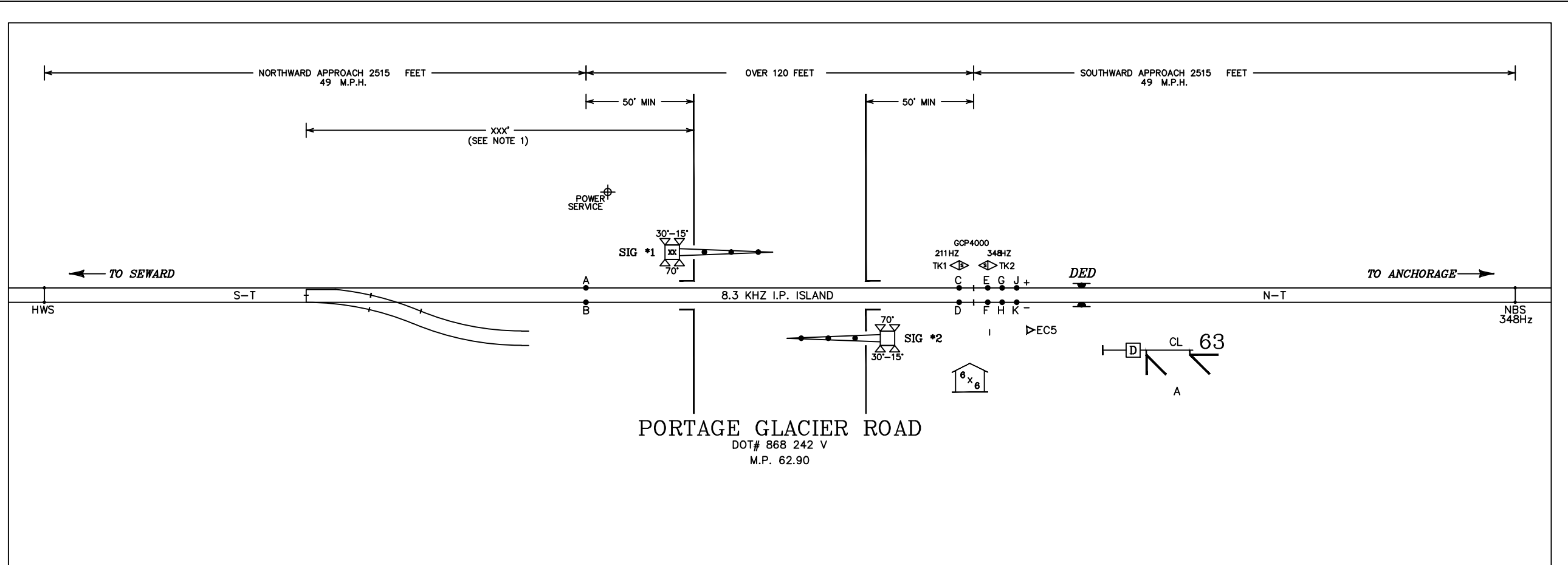
				IN SERVICE DATE: 09-15-11 UPDATED	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN	REVISIONS	DRAWN: TF DATE: 03-18-11	DWG NO. 006290X	0 SHEET OF 21
				COR: TRR	CHK:	BG /WW	COR: BG/WW		

DRAWING NO.	DESCRIPTION	REVISION DATE		
006290X-0	TITLE SHEET			03/18/11
006290X-1	INDEX			03/18/11
006290X-2	TRACK LAYOUT	03/18/11	04/09/10	08/03/05
006290X-3	ELECTROCODE 5 CODES			03/18/11
006290X-4	GCP EXTERNAL WIRING CONNECTOR LAYOUT	03/18/11	04/09/10	08/03/05
006290X-5	GCP CPU & COMMUNICATIONS CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-6	GCP TRACK CONNECTION CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-7	GCP CROSSING CONTROL CONNECTOR CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-8	GATE CONTROL CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-9	GRADE CROSSING LIGHTING CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-10	GROUND FAULT & EVENT RECORDER CONNECTOR CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-11	SEARIII PROGRAMMING	03/18/11	04/09/10	08/03/05
006290X-12	GCP COMMUNICATIONS	03/18/11	04/09/10	08/03/05
006290X-13	ELECTROCODE 5 CARDFILE LAYOUT			03/18/11
006290X-14	ELECTROCODE 5 CIRCUITS		03/18/11	04/09/10
006290X-15	XB14 & MB12 BATTERY CHARGER CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-16	BUNGALOW SIDE "D" & POWER DISTRIBUTION CIRCUITS	03/18/11	04/09/10	08/03/05
006290X-17	BUNGALOW SIDE "A" LAYOUT	03/18/11	04/09/10	08/03/05
006290X-18	BUNGALOW SIDE "C" LAYOUT	03/18/11	04/09/10	08/03/05
006290X-19	BUNGALOW SIDE "B" LAYOUT	03/18/11	04/09/10	08/03/05
006290X-20	UNDERGROUND CABLE LAYOUT	03/18/11	04/09/10	08/03/05
006290X-21	BILL OF MATERIALS			03/18/11

DRAWING NO.	DESCRIPTION	REVISION DATE		

The ALASKA RAILROAD CORPORATION
 SIGNAL ENGINEERING P.O. BOX 107500, ANCHORAGE, AK 99510-7500
 PORTAGE GLACIER ROAD PORTAGE, AK.
 RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
 DOT 868 242V M.P. 62.90

			IN SERVICE DATE: 09-15-11 UPDATED	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN	REVISIONS	DRAWN: TF	DWG NO.	1	SHEET OF 21
			COR: TRR	BG/WW		DATE: 03-18-11	006290X		



FOUNDATION PLACEMENT SKETCH
NOT TO SCALE

1. ALL WIRING IN THE BUNGALOW IS #16 AWG FLEX UNLESS OTHERWISE NOTED.

NOTES:

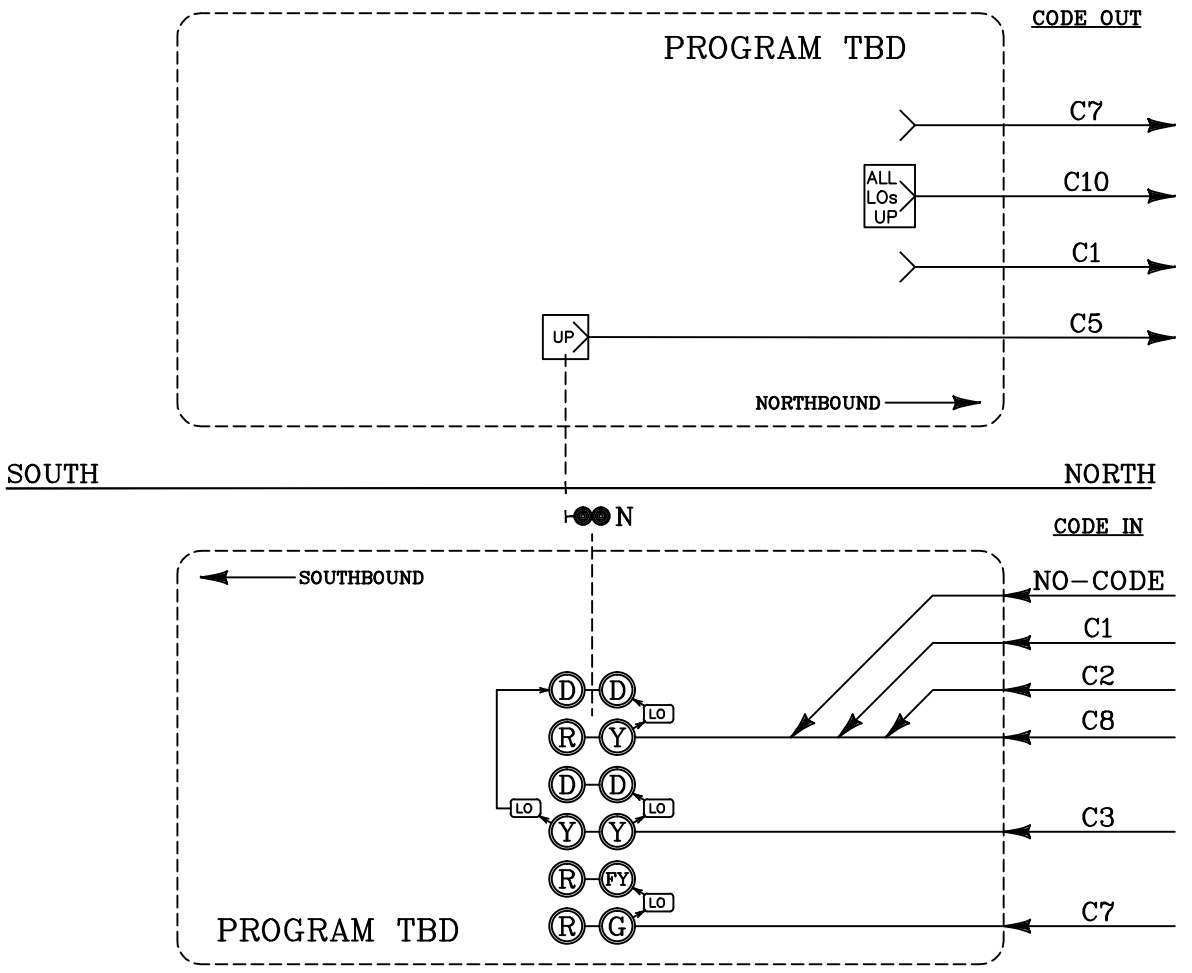
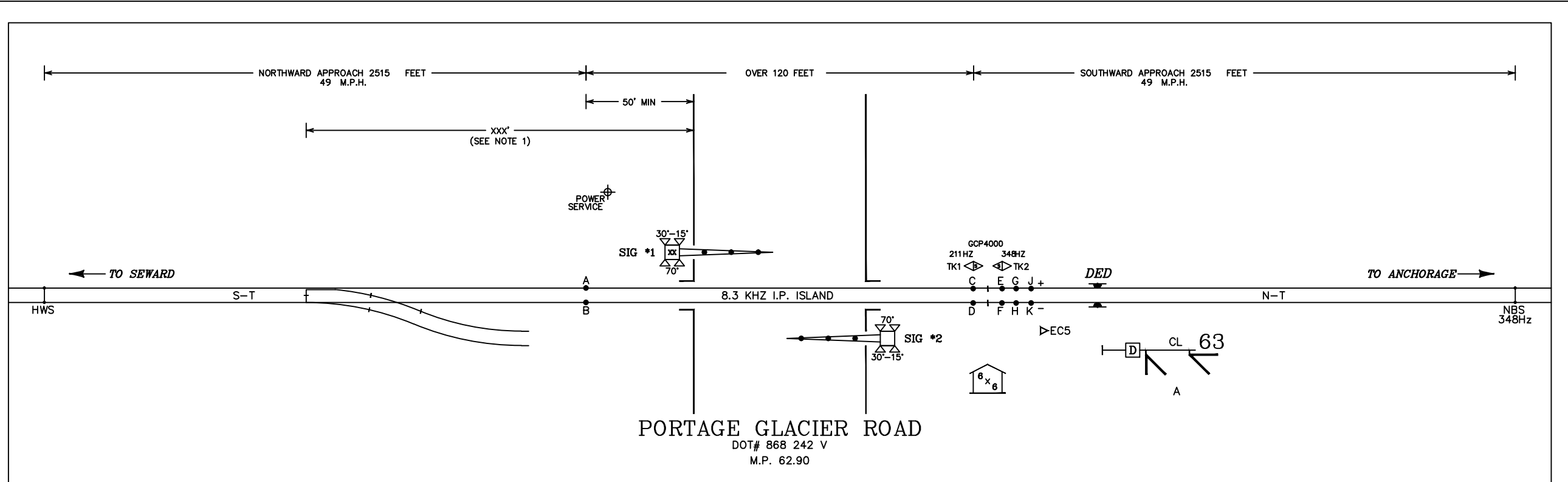
1. TO BE CONFIRMED BY FIELD FORCES
2. CONSULT THE CONTROL SYSTEM INSTRUCTION MANUAL FOR SPECIFIC EQUIPMENT RECOMMENDATIONS.
3. ALL CROSSING CONTROL EQUIPMENT IS DESIGNED TO PROVIDE A MINIMUM WARNING TIME OF 20 SECONDS AT THE MAXIMUM AUTHORIZED TRAIN SPEED FOR EACH APPROACH.
4. CROSSING APPROACHES WERE LENGTHENED 10 SECONDS TO COMPENSATE FOR ACCELERATING TRAINS AND BALLAST CHANGES.
5. CROSSING APPROACHES WERE LENGTHENED 5 SECONDS FOR EQUIPMENT REACTION TIME.

LEGEND	
	TRACK ARRESTER
	EQUALIZER
	LINE ARRESTER
	NO 6 AWG THNN/THWN FLEX WIRE WITH RED SHEATH (B12)
	NO 6 AWG THNN/THWN FLEX WIRE WITH BLACK SHEATH (N12)
	NO 6 AWG THNN/THWN FLEX WIRE WITH GREEN SHEATH (SAFETY GROUND)
	TWISTED WIRE TWO TURNS PER FOOT

The ALASKA RAILROAD CORPORATION
 SIGNAL ENGINEERING P.O. BOX 107500, ANCHORAGE, AK 99510-7500

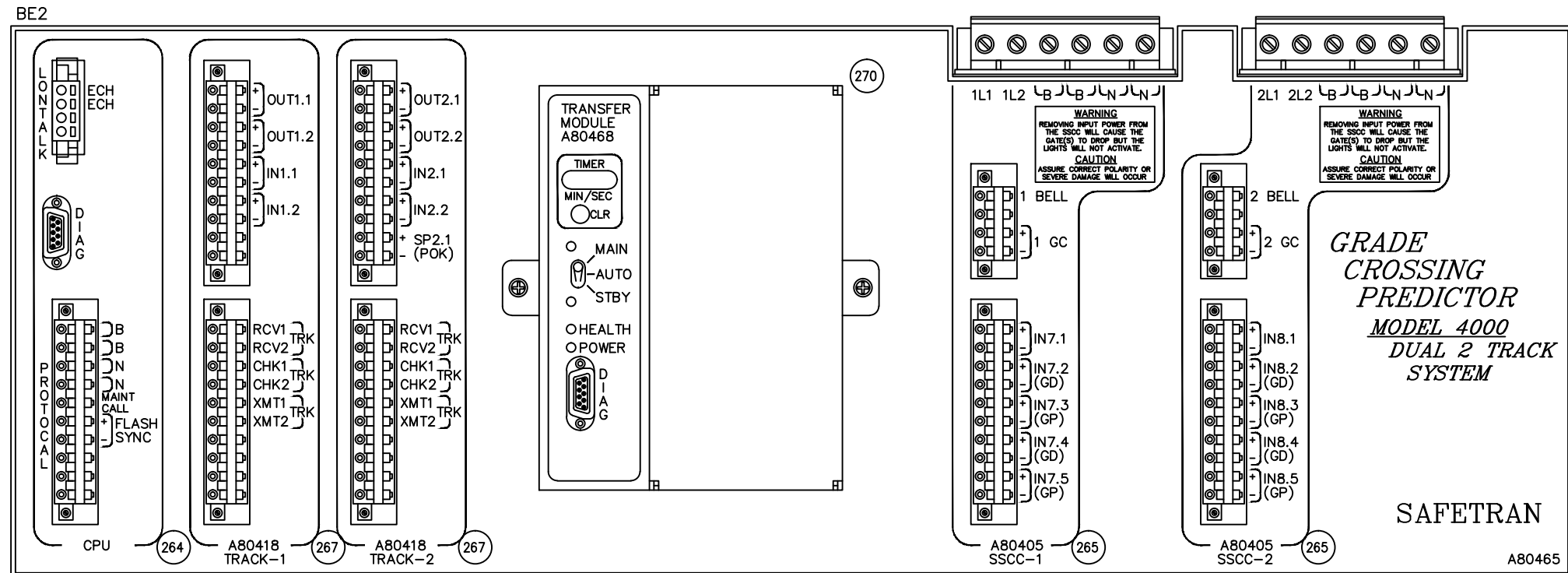
PORTAGE GLACIER ROAD PORTAGE, AK.
 RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
 DOT 868 242V M.P. 62.90

	IN SERVICE DATE: 09-15-11 COR: TRR	UPDATED CHK:	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN COR: BG/WW	DESIGNED 04-09-10 WHITTIER SUB CTC SEQ # 25603 XRL/ZWT	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	2 SHEET OF 21
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NOTES:
1. TO BE CONFIRMED BY FIELD FORCES

The ALASKA RAILROAD CORPORATION	
SIGNAL ENGINEERING	P.O. BOX 107500, ANCHORAGE, AK 99510-7500
PORTAGE GLACIER ROAD RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM DOT 868 242V	PORTAGE, AK M.P. 62.90
IN SERVICE DATE: 09-15-11 COR: TRR	DESIGNED DATE: 03-18-11 ELECTROCODE 5 DESIGN BG/WW
UPDATED CHK:	DESIGNED COR: BG/WW
REVISIONS	DRAWN: TF DATE: 03-18-11
	DWG NO. 006290X
	3 SHEET OF 21



Minimum Program Steps Report

Minimum Program Steps

TEMPLATE: module configuration
Track 2/RID 1 Slot = Track

TEMPLATE: track 1-Uni, Island
Track 1 : GCP Frequency = 211 Hz
Track 1 : Approach Distance = 2515 ft
Track 1 : Prime Warning Time = 30 sec
Track 1 : Prime UAX = Not Used
Track 1 : GCP Transmit Level = Medium
Track 1 : Uni/Bi/Sim-Bidirnl = Sim. Bidirnl
Track 1 : Isl Frequency = 8.3 kHz

Track 1 : Island Distance = 124 ft
TEMPLATE: track 2-Uni, No Island
Track 2 : GCP Frequency = 348 Hz
Track 2 : Approach Distance = 2515 ft
Track 2 : Prime Warning Time = 30 sec
Track 2 : Prime UAX = Not Used
Track 2 : GCP Transmit Level = Medium
Track 2 : Uni/Bi/Sim-Bidirnl = Sim. Bidirnl

TEMPLATE: AND 1 XR
AND 1 Enable Used = Yes
AND 1 Enable Pickup = 2 sec

TEMPLATE: DP assignment 1
Out 1.1 = AND 1 XR

TEMPLATE: IP assignment 1
IN 1.1 = AND 1 XR Enable

TEMPLATE: IP assignment SSCC
IN 7.2 = Not Used
IN 7.4 = Not Used

TEMPLATE: SSCC
SSCC-1 Number of GDs = 0

TEMPLATE: SEAR
SP 3.1 = Not Used
GCP: track 1
Track 1 : Island Distance = 124 ft

ID: assignment SSCC
OUT GC 2 = Not Used
ADVANCED: MS restart
MS/GCP Restart Used = Yes

ADVANCED: site options
Daylight Savings = On

SEAR
DI 1 = Gnd Flt Tester 1
Rly 1 = Ground Fault Test
Rly 2 = AC Control

SEAR: slot 1-4 inputs
IN 2.2 = PDK 2

SEAR: slot 7-8 inputs
IN 7.2 = TSS 1
IN 7.4 = TSS 2

Office Configuration Check Number

Check Number: XXXXXXXX
(Based on MCF Revision XXX)

Comments

<none>

MCF and Template Selection

MCF Name: GCP_T6X_01_1.mcf
MCF Revision: XXX
MCFCRC: XXXXXXXX

Template = MTF_ID: 6 Trk Uni

Configuration Package File

Filename: MP062_90.pac
Date/Time: XX/XX/XXXX XX:XX:XX

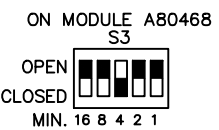
Location and SIN

DOT Number: 868242V
Milepost Number: 62.90
Site Name: PORTAGE GLACIER ROAD

SIN: <NDT SET>

NOTES:

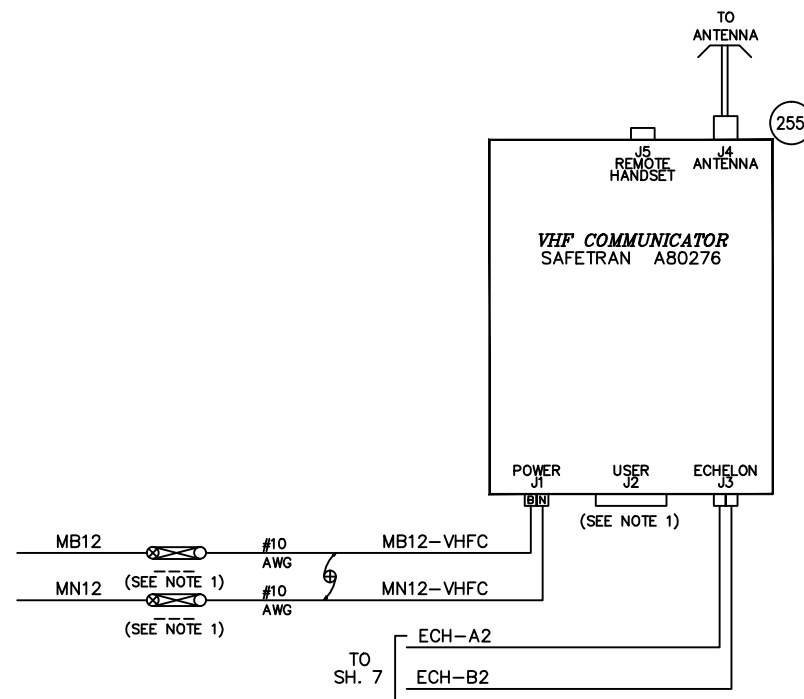
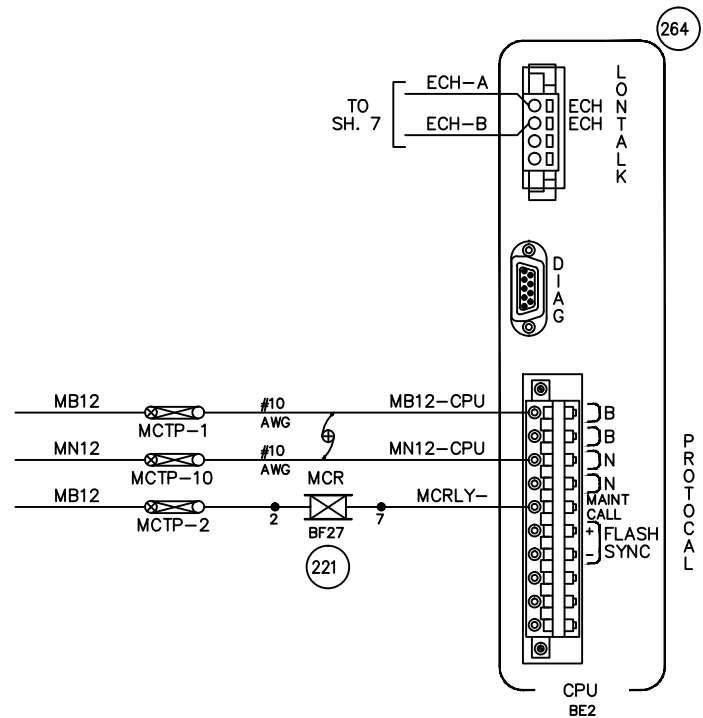
- FOR ISLAND DISTANCE MEASURE THE DISTANCE BETWEEN THE TRANSMITTER AND RECEIVER LEADS - MUST BE 120' MINIMUM.
- SET TRANSFER JUMPER TO STG.
SET TRANSFER SWITCH TO AUTO.
SET TRANSFER TIME FOR 4 MIN.



SHEET TO BE REVISED UPON COMPLETION OF GCP CONFIGURATION FOR TRACK 2

The ALASKA RAILROAD CORPORATION
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DOT 868 242V M.P. 62.90

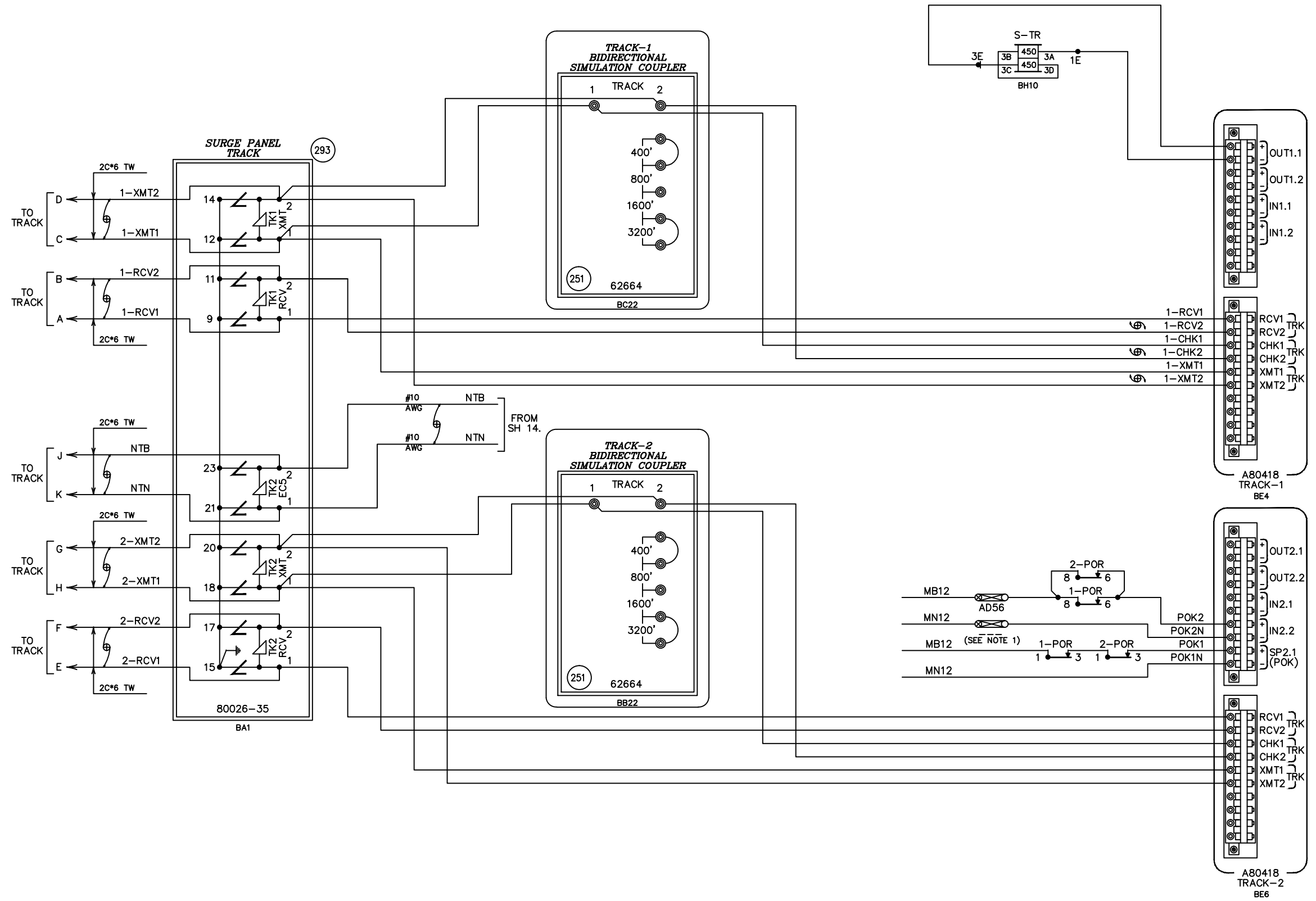
WORKED ON TRR 9/15/11	DESIGNED ELECTROCODE 5 BG/WW	DESIGNED WHITTIER SUB CTC XRL/ZWT	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	4 SHEET OF 21
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NOTES:

1. TO BE CONFIRMED BY FIELD FORCES.
2. ALL WRING TO BE #16 AWG FLEX UNLESS OTHERWISE NOTED.

<i>The ALASKA RAILROAD CORPORATION</i>	
SIGNAL ENGINEERING	P.O. BOX 107500, ANCHORAGE, AK 99510-7500
PORTAGE GLACIER ROAD	PORTAGE, AK.
RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM	
DOT 868 242V	M.P. 62.90
IN SERVICE DATE: 09-15-11 COR: TRR	DESIGNED DATE: 03-18-11 ELECTROCODE 5 DESIGN COR: BG/WW
DESIGNED DATE: 04-09-10 WHITTIER SUB CTC XRL/ZWT	IN SVC DATE: 04-09-10 UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP
REVISIONS	DRAWN: DSD DATE: 08-03-05
	DWG NO. 006290X
	5 SHEET OF 21



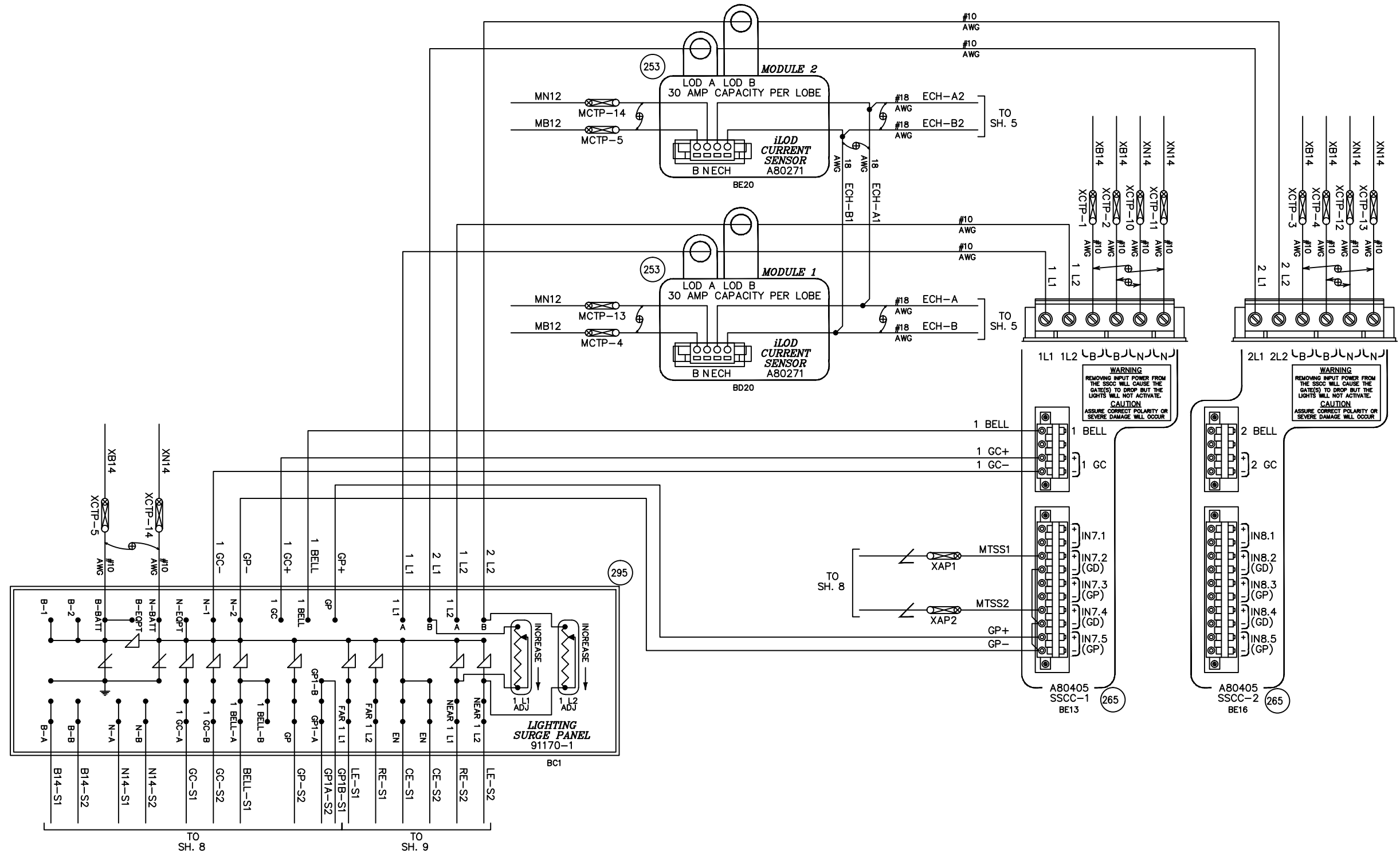
NOTES:

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2. ALL WIRING TO BE #16 AWG FLEX UNLESS

The ALASKA RAILROAD CORPORATION
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 DOT 868 242V M.P. 62.90

	IN SERVICE DATE: 09-15-11 COR: TRR	DATE: 09-15-11 CHK:	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN COR: BG/WW	DESIGNED 04-09-10 WHITTIER SUB CTC XRL/ZWT	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	6 SHEET OF 21
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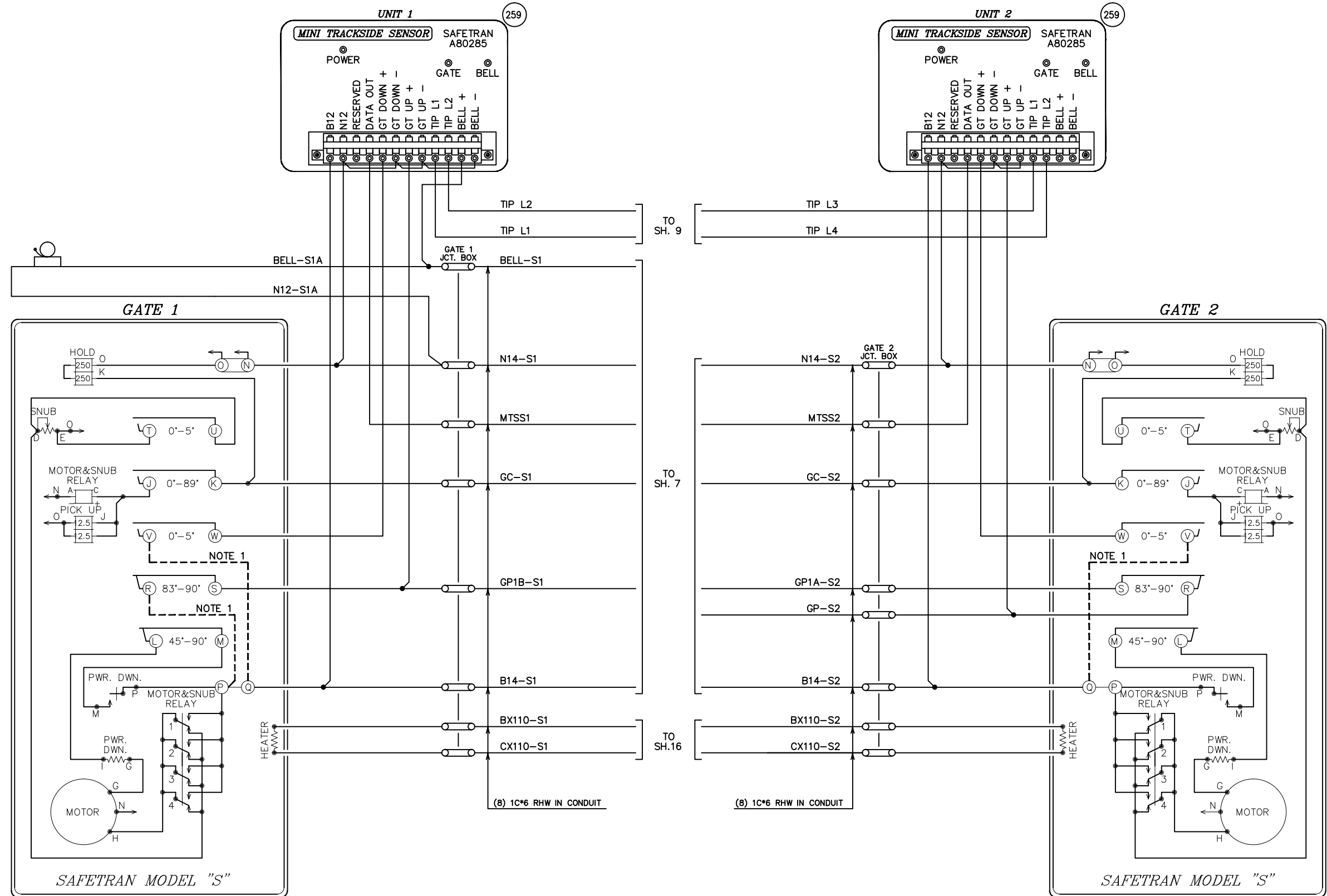


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The ALASKA RAILROAD CORPORATION
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 RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
 DOT 868 242V M.P. 62.90

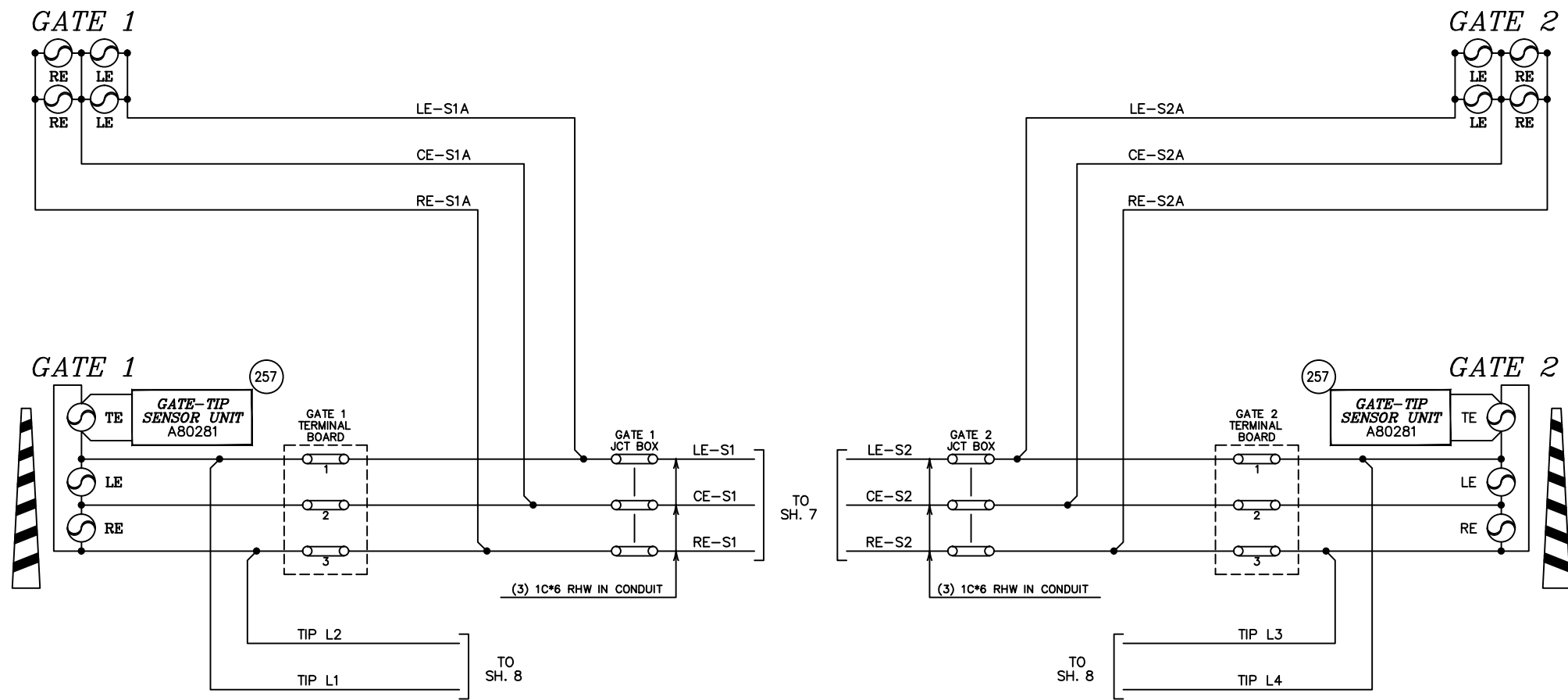
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	COR: TRR	CHK: BG/WW	COR: BG/WW	XRL/ZWT	SEQ # 25603	DES: DSD/TMJ	COR: DSD/MJP	



- NOTES:**
- JUMPERS MUST BE ADDED TO EACH GATE AS SHOWN.
 - MINI TRACKSIDE SENSORS MOUNTED IN GATE MECHANISMS.

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	IN SERVICE DATE: 09-15-11 COR: TRR	UPDATED CHK:	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN COR: BG/WW	DESIGNED 04-09-10 WHITTIER SUB CTC XRL/ZWT	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	8 SHEET OF 21
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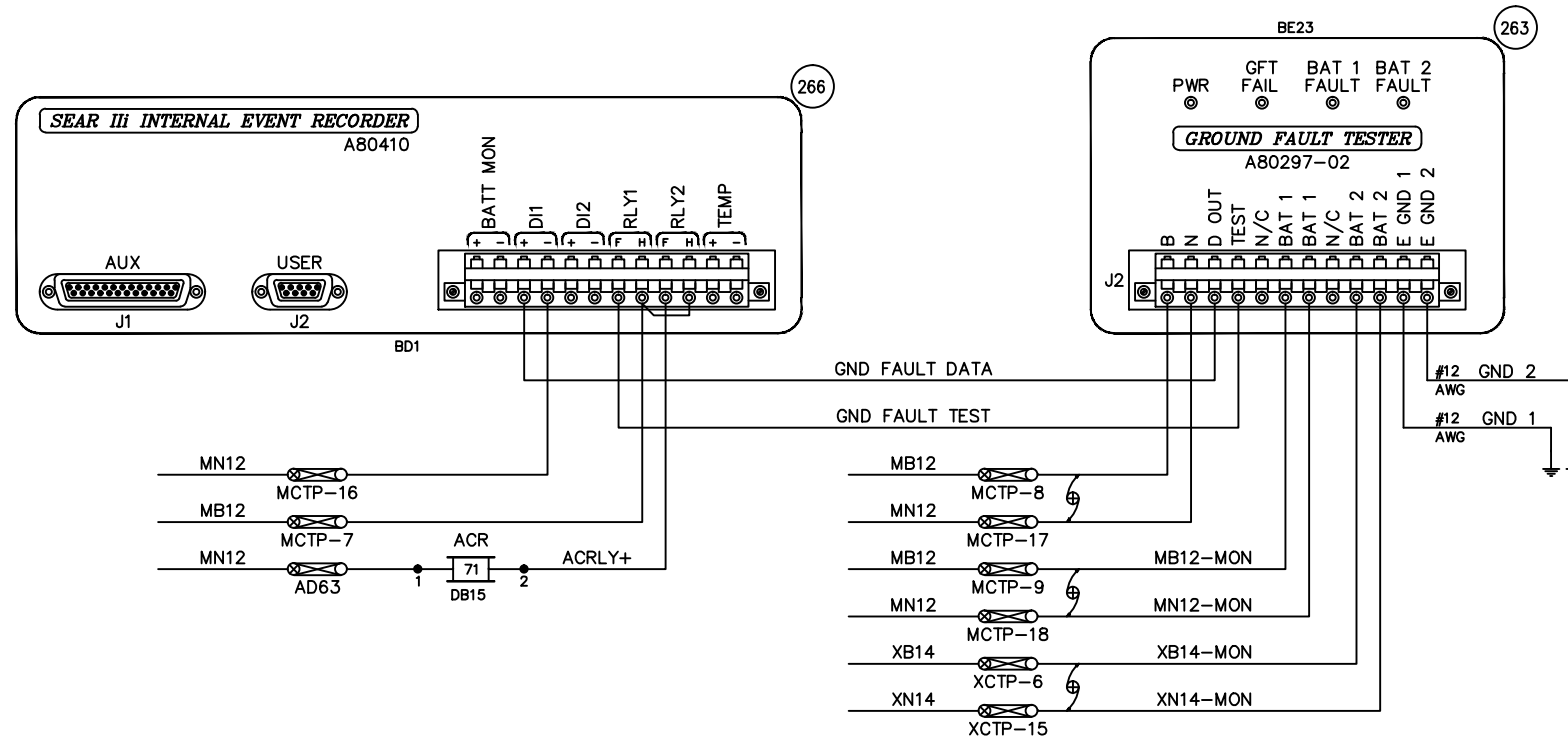


NOTES:

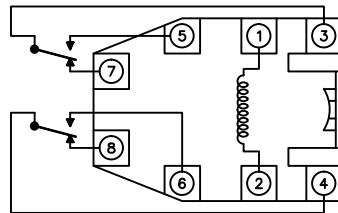
- GATE TIP SENSORS MOUNTED IN TIP LIGHTS.

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 DOT 868 242V M.P. 62.90

	IN SERVICE DATE: 09-15-11 COR: TRR	UPDATED CHK:	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN BG/WW COR: BG/WW	DESIGNED 04-09-10 WHITTIER SUB CTC XRL/ZWT SEQ # 25603	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	9 SHEET OF 21
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CONTACT CONFIGURATION
POTTER & BRUMFIELD RELAY
PRD11 SERIES



NOTES:

1. ALL WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE NOTED.

The ALASKA RAILROAD CORPORATION
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 RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
 DOT 868 242V M.P. 62.90

	IN SERVICE DATE: 09-15-11 COR: TRR	DATE: 09-15-11 CHK:	DESIGNED ELECTROCODE 5 DESIGN BG/WW	COR: BG/WW	DESIGNED WHITTIER SUB CTC XRL/ZWT	DATE: 04-09-10 SEQ # 25603	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	10 SHEET OF 21
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SEARIII PROGRAMMING

PROGRAM MENU QUESTIONS	OPTIONS/RANGE	PROGRAM
DATE/TIME?	CURRENT DATE/TIME	
AUTOMATIC DST ADJUSTMENT?	YES, NO	YES
TIME ZONE?	EASTERN, CENTRAL, MOUNTAIN, PACIFIC, ALASKA, HAWAII, ATLANTIC, SASKATCHEWAN, NEW FOUNDLAND	ALASKA
SITE NAME?	STREET NAME	PORTAGE GLACIER RD.
MILE POST?	MILEAGE	62.90
DOT/CROSSING ID #?	DOT NUMBER	868 242 V
TESTOR TYPE?	CROSSING, WAYSIDE	CROSSING
DATE FORMAT?	MM-DD-YYYY, DD-MM-YYYY	DD-MM-YYYY
TEMPERATURE FORMAT?	FAHRENHEIT, CELSIUS	FAHRENHEIT
SITE TYPE?	NO COM, BULLHORN, DIALUP, NODE, COLLECTOR	NODE
SITE ATCS ADDRESS?	7.RRR.LLL.GGG.99.01	7.RRR.LLL.GGG.99.01
OFFICE ATCS ADDRESS?	2.RRR.NN.DDDD	2.RRR.NN.DDDD
OFFICE SITE ATCS ADDRESS?	7.RRR.LLL.GGG.99.01	7.RRR.LLL.GGG.99.01
BACKUP SITE ATCS ADDRESS 1?	7.RRR.LLL.GGG.99.01	7.RRR.LLL.GGG.99.01
BACKUP SITE ATCS ADDRESS 2?	7.RRR.LLL.GGG.99.01	7.RRR.LLL.GGG.99.01
POLL ID?	1-99	1
GEN/ATCS MODE?	NORMAL, EXTENDED	EXTENDED
XID DISABLED?	YES, NO	YES
OFFICE COMM. DEVICE?	DIRECT (RS232) MCM (RS232) MCM (ECHELON) SPREAD SPEC (ECHELON) DIAL MODEM (RS232) S200 RADIO (RS422)	DIAL MODEM (RS232)
OFFICE COMM. PORT?	AUX, COMM	COMM
OFFICE PHONE NUMBER?	PHONE NUMBER OF WAMS	N/A
INIT STRING?	OPTIONAL HAYES MODEM INITIALIZATION STRING	N/A
FIELD COMM. DEVICE?	VHF COMM. (ECHELON) VHF COM. (RS232) SPREAD SPEC (ECHELON) SPREAD SPEC (RS232)	N/A
USER PORT?	BAUD, DATA BITS, PARITY, STOP BITS, FLOW CONTROL	57600,8,N,1,N
AUX PORT?	BAUD, DATA BITS, PARITY, STOP BITS, FLOW CONTROL	9600,8,N,1,N
COMM. PORT BAUD?	BAUD, DATA BITS, PARITY, STOP BITS, FLOW CONTROL	9600,8,N,1,N

YOU WILL NOW SEE A MESSAGE "PLEASE WAIT COMPILING STAGE 1"
CONTINUE TO NEXT PROGRAM MENU QUESTIONS.

PROGRAM MENU QUESTIONS	OPTIONS/RANGE	PROGRAM
RESET NAMES/MODULES?	YES, NO	YES
GATES?	0-4	2
EXIT GATES?	0-4	0
BATTERY BANKS?	1-4	2
INTERNAL CROSSING CONTROLLERS?	0-2	2
EXTERNAL CROSSING CONTROLLERS?	0-2	0
VHF COMMUNICATOR?	YES, NO	YES
ACTIVATION CODE?	1-999	TBD
ACTIVATION TIMEOUT (SEC)?	1-600	TBD
ILOD MODULES?	0-4	2
MIXED LED/INCANDESCENT BULBS?	NO, YES	NO
AUTO INSPECTIONS?	YES, NO	YES
BELL SENSORS?	0-4	0
BELL SENSOR TSS1?	YES, NO	N/A
BELL SENSOR TSS2?	YES, NO	N/A
BELL SENSOR TSS3?	YES, NO	N/A
BELL SENSOR TSS4?	YES, NO	N/A
BELL SENSOR TSS5?	YES, NO	N/A
BELL SENSOR TSS6?	YES, NO	N/A
BELL SENSOR TSS7?	YES, NO	N/A
BELL SENSOR TSS8?	YES, NO	N/A
BELL ON?	GATE LOWERING, GATE MOVING, ALWAYS	ALWAYS
GFT'S?	YES, NO	YES
BATTERIES ON GFT'S?	1-2	2
GATE TIP SENSORS?	YES, NO	YES
ROAD CHANNEL FREQUENCY?	1-8	TBD
MAINT. CHANNEL FREQUENCY?	1-8	TBD
FULL APPROACH MOVE ALARMS	ACTIVATE, DO NOT ACTIVATE	ACTIVATE

YOU WILL NOW SEE A MESSAGE "PLEASE WAIT COMPILING STAGE 2"
CONTINUE TO NEXT PROGRAM MENU QUESTIONS.

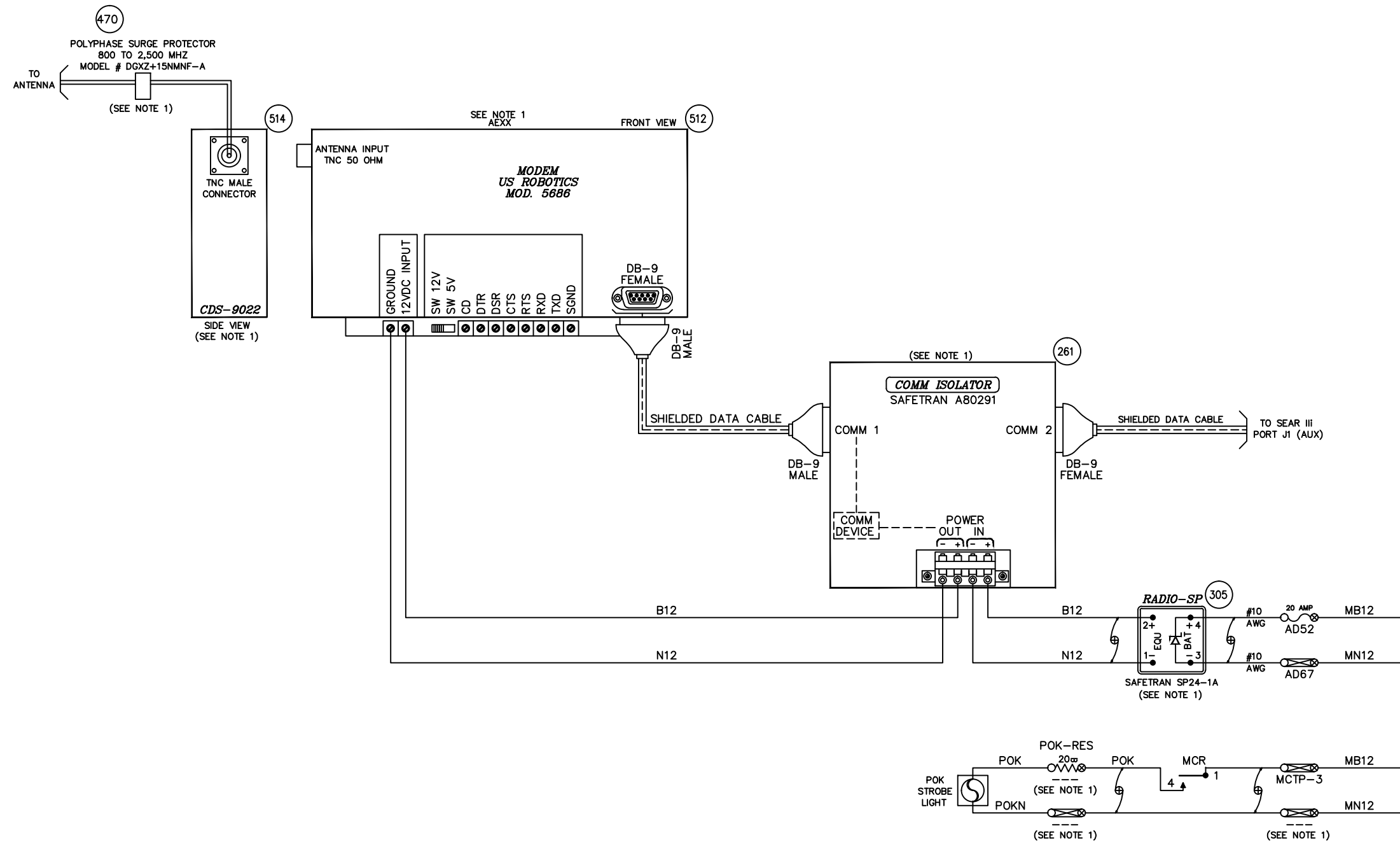
TBD - TO BE DETERMINED UPON INSTALLATION

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

NOTES:

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

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SIGNAL ENGINEERING	P.O. BOX 107500, ANCHORAGE, AK 99510-7500
PORTAGE GLACIER ROAD	PORTAGE, AK
RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM	
DOT 868 242V	M.P. 62.90
IN SERVICE DATE: 09-15-11 UPDATED	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN
COR: TRR	CHK: BG/WW
DESIGNED 04-09-10 WHITTIER SUB CTC	IN SVC UPGRADE XING M.P. 62.90
XRL/ZWT	SEQ # 25603
DES: DSD/TMJ	COR: DSD/MJP
REVISIONS	DRAWN: DSD DATE: 08-03-05
DWG NO. 006290X	SHEET 11 OF 21



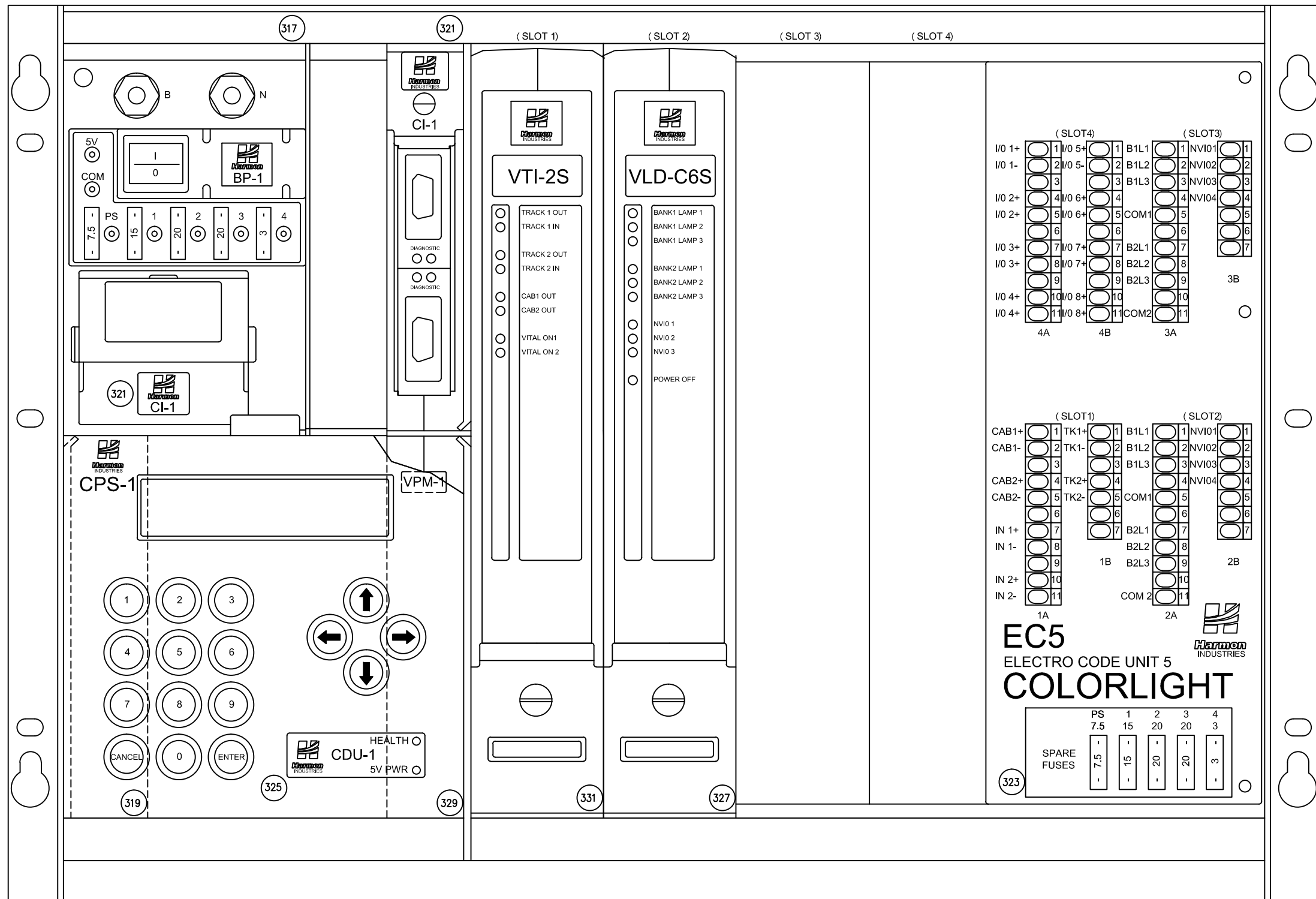
NOTES:

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2. ALL WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE NOTED.

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RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
DOT 868 242V M.P. 62.90

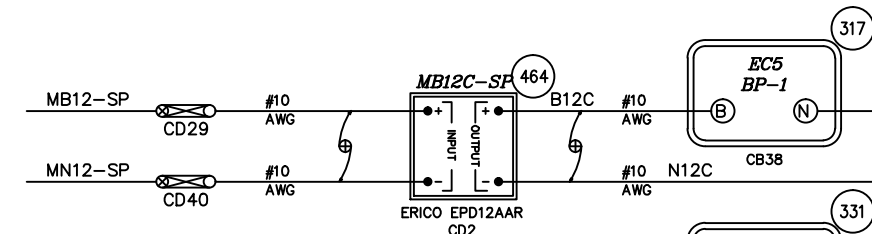
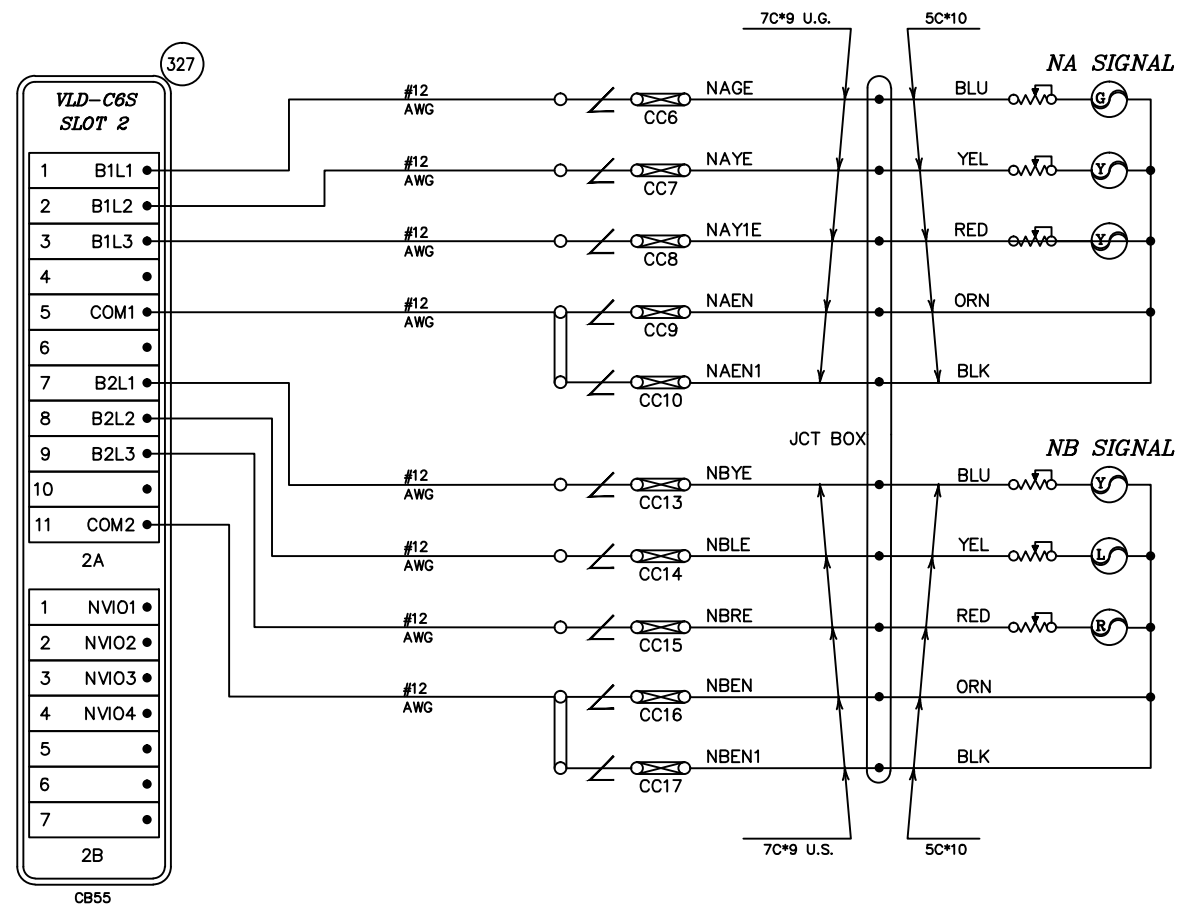
IN SERVICE DATE: 09-15-11 COR: TRR	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN COR: BG/WW	DESIGNED 04-09-10 WHITTIER SUB CTC XRL/ZWT SEQ # 25603	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	12 SHEET OF 21
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CB38

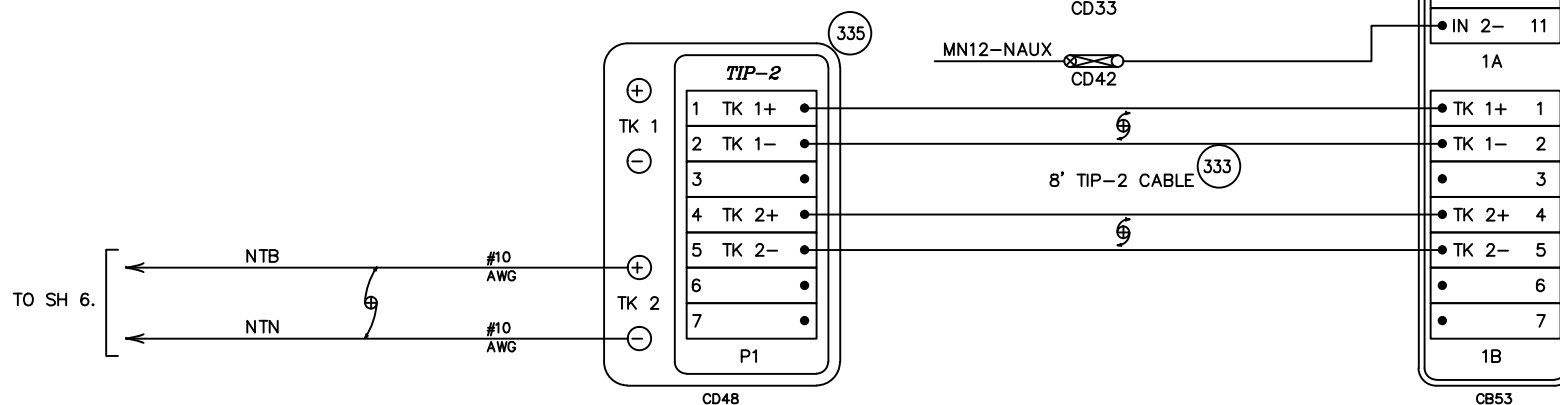
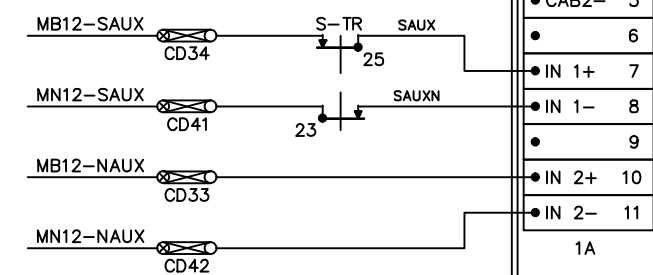
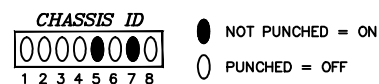


The ALASKA RAILROAD CORPORATION
 SIGNAL ENGINEERING P.O. BOX 107500, ANCHORAGE, AK 99510-7500
 PORTAGE GLACIER ROAD PORTAGE, AK
 RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
 DOT 868 242V M.P. 62.90

IN SERVICE	DATE: 09-15-11	DESIGNED	03-18-11	REVISIONS	DRAWN: <i>TF</i>	DWG NO. 006290X	13 SHEET OF 21
COR: TRR	UPDATED	ELECTROCODE 5 DESIGN			DATE: 03-18-11		



EC
ELECTROCODE 5
PROGRAM " " (PROGRAM INFO TO BE ADDED LATER)



NOTES:

1. ALL WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE NOTED.

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DOT 868 242V M.P. 62.90

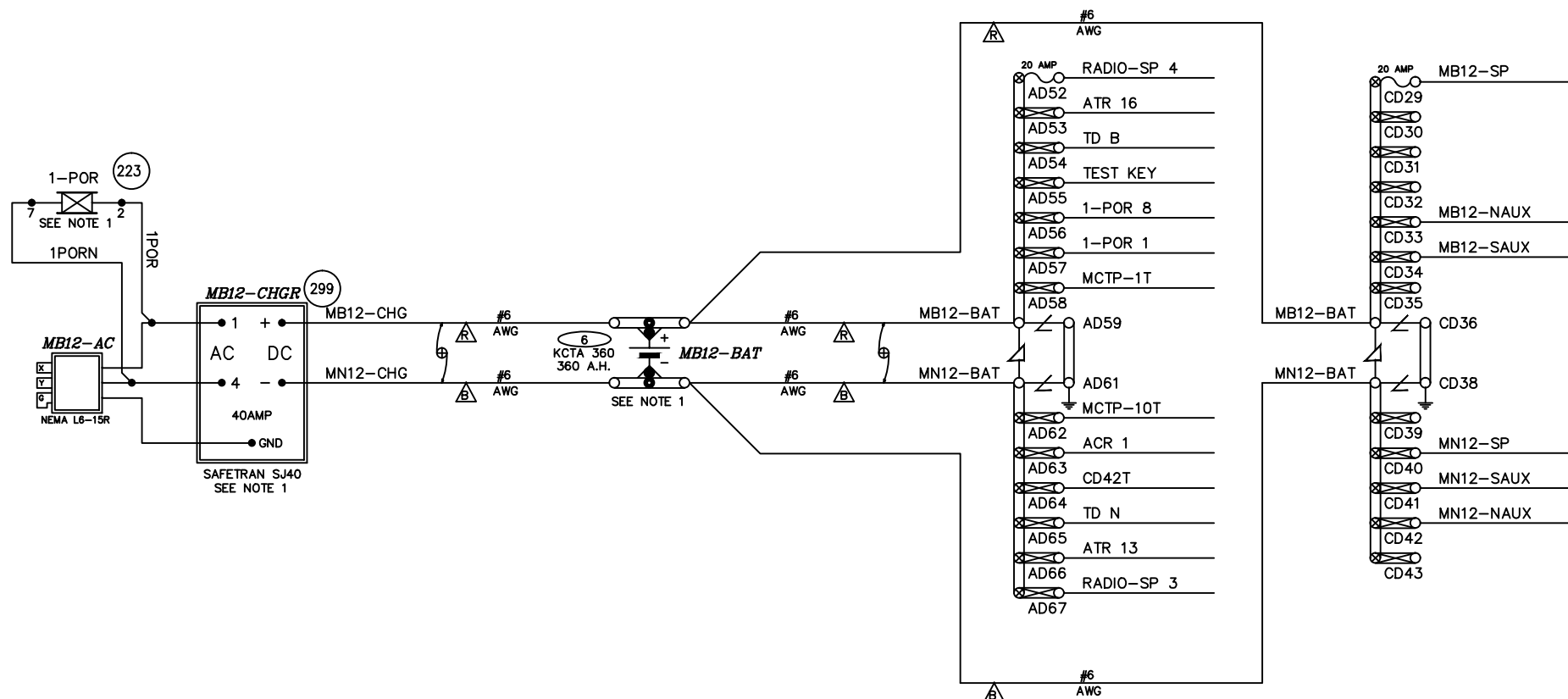
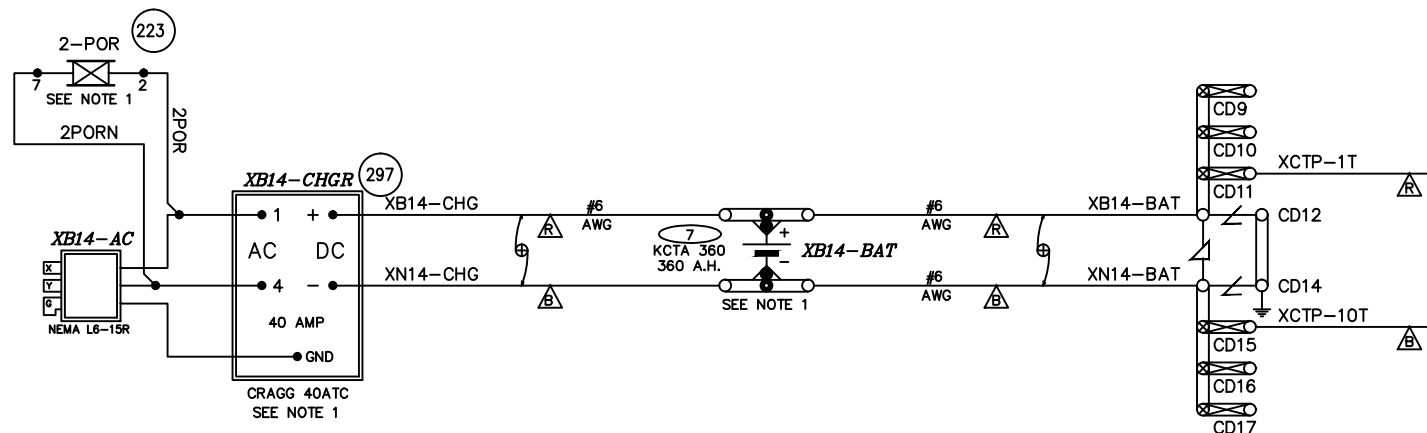
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UPDATED	ELECTROCODE 5 DESIGN	WHITTIER SUB CTG
COR: TRR	CHK: BG/WW	XRL/ZWT
	COR: BG/WW	SEQ # 25603

REVISIONS

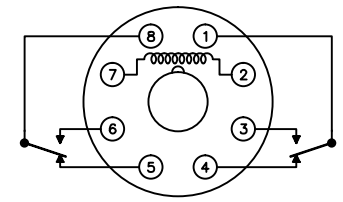
DRAWN: XRL
DATE: 03-18-11

DWG NO. 006290X

14 SHEET OF 21



CONTACT CONFIGURATION
POTTER & BRUMFIELD RELAY
KRPA11 SERIES

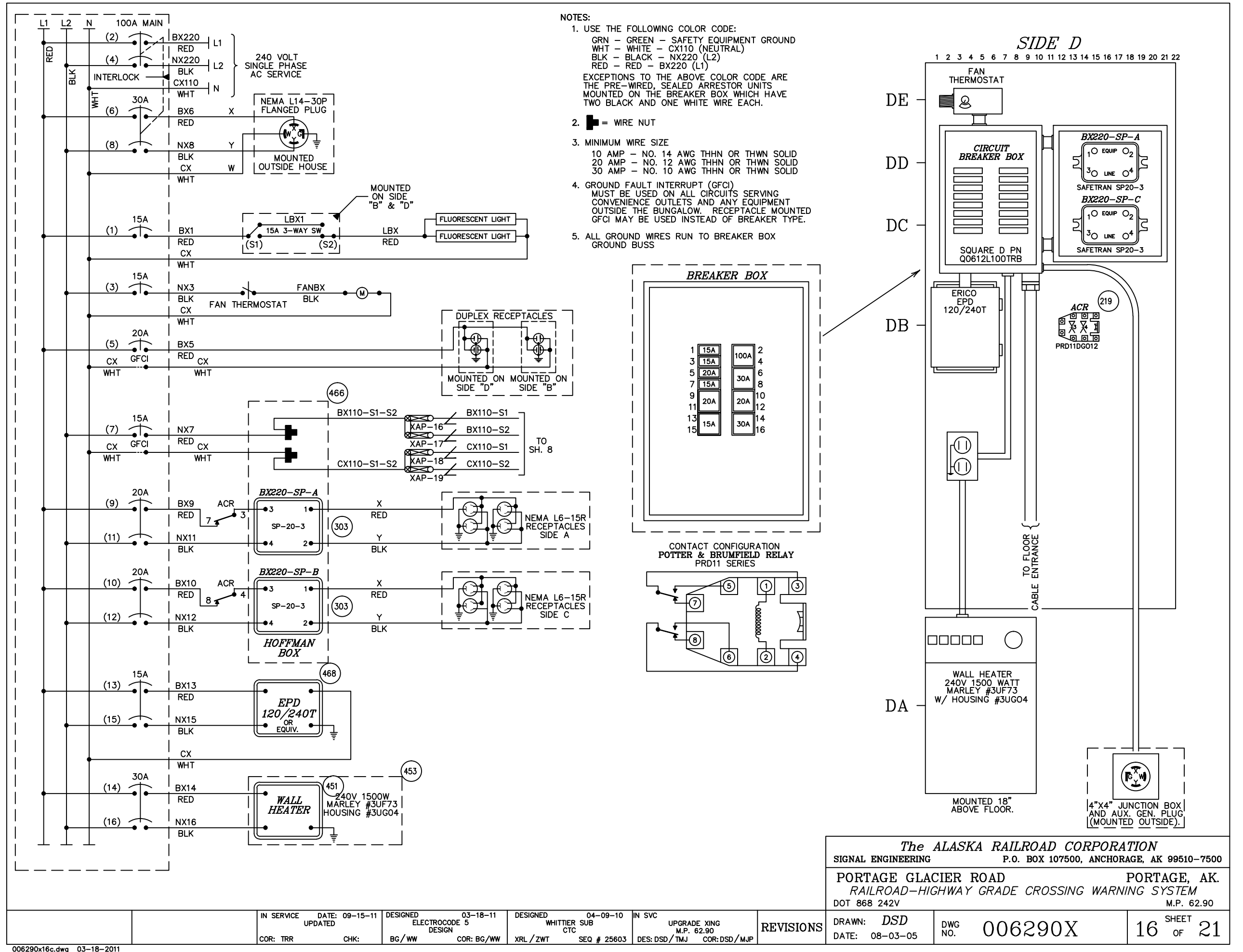


- NOTES:**
1. TO BE DETERMINED BY FIELD FORCES.
 2. ALL WIRING TO BE #16 AWG FLEX UNLESS OTHERWISE NOTED.

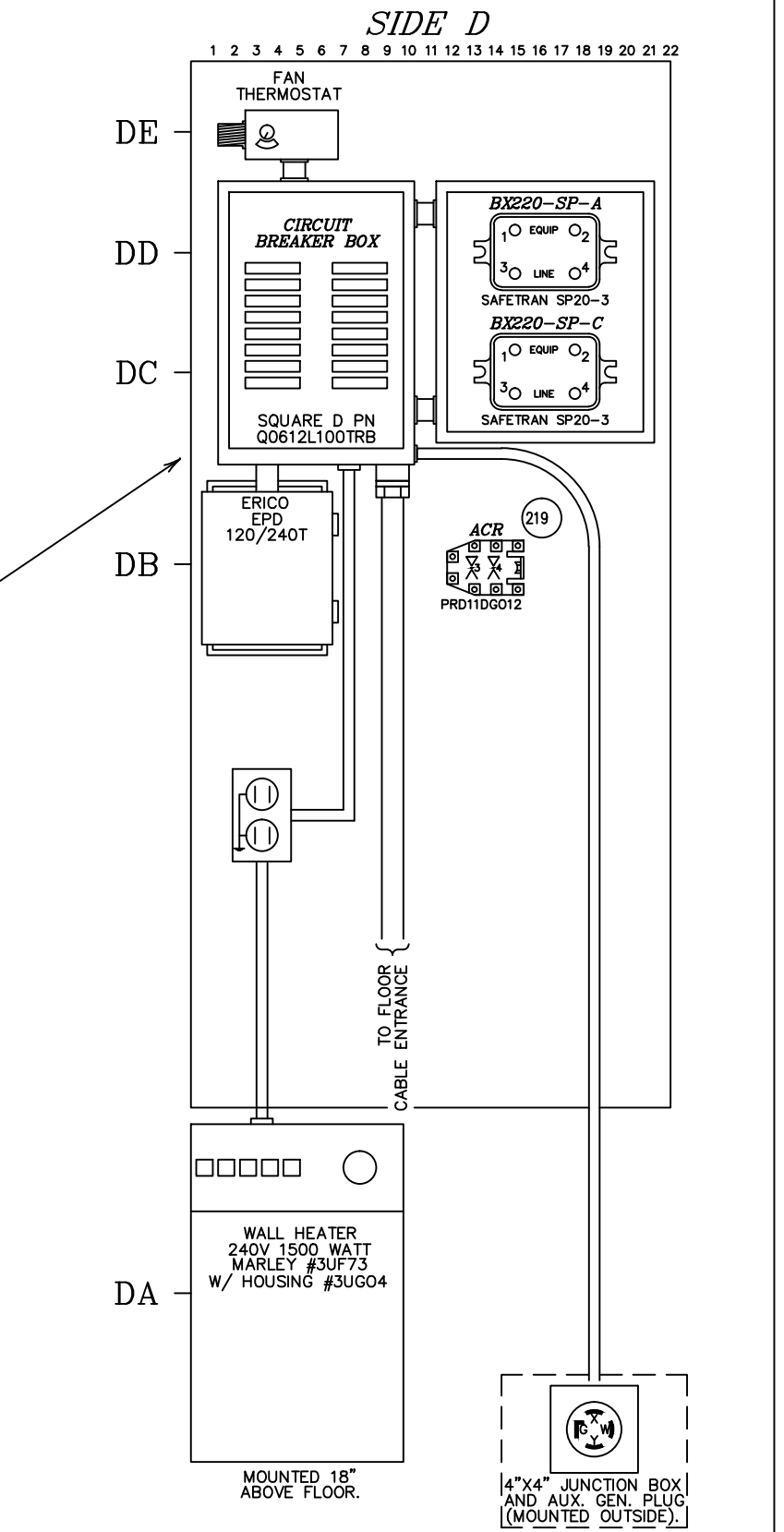
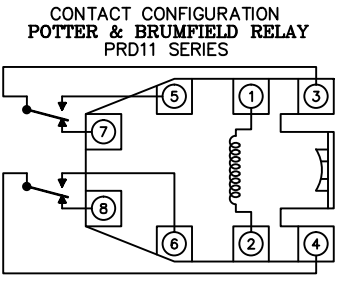
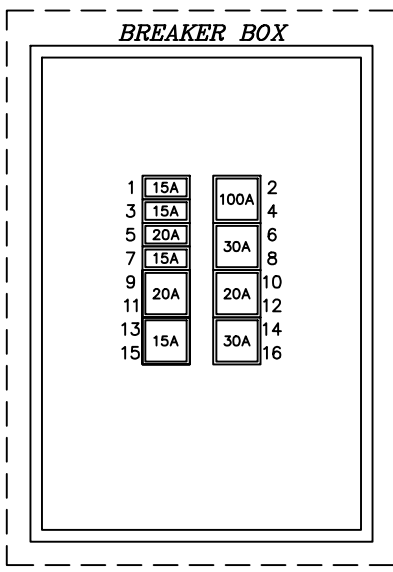
The ALASKA RAILROAD CORPORATION
SIGNAL ENGINEERING P.O. BOX 107500, ANCHORAGE, AK 99510-7500

PORTAGE GLACIER ROAD PORTAGE, AK.
RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
DOT 868 242V M.P. 62.90

	IN SERVICE DATE: 09-14-11	DESIGNED 03-18-11	DESIGNED 04-09-10	IN SVC	REVISIONS	DRAWN: DSD	DWG NO. 006290X	15 SHEET OF 21
	UPDATED	ELECTROCODE 5 DESIGN	WHITTIER SUB CTC	UPGRADE XING M.P. 62.90		DATE: 08-03-05		
	COR: TRR	CHK: BG/WW	COR: BG/WW	XRL/ZWT	SEQ # 25603	DES: DSD/TMJ	COR: DSD/MJP	



- NOTES:**
- USE THE FOLLOWING COLOR CODE:
 GRN - GREEN - SAFETY EQUIPMENT GROUND
 WHT - WHITE - CX110 (NEUTRAL)
 BLK - BLACK - NX220 (L2)
 RED - RED - BX220 (L1)
 - = WIRE NUT
 - MINIMUM WIRE SIZE
 10 AMP - NO. 14 AWG THHN OR THWN SOLID
 20 AMP - NO. 12 AWG THHN OR THWN SOLID
 30 AMP - NO. 10 AWG THHN OR THWN SOLID
 - GROUND FAULT INTERRUPT (GFCI) MUST BE USED ON ALL CIRCUITS SERVING CONVENIENCE OUTLETS AND ANY EQUIPMENT OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED OUTSIDE THE BUNGALOW. RECEPTACLE MOUNTED GFCI MAY BE USED INSTEAD OF BREAKER TYPE.
 - ALL GROUND WIRES RUN TO BREAKER BOX GROUND BUSS



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 RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
 DOT 868 242V M.P. 62.90

IN SERVICE DATE: 09-15-11 DESIGNED 03-18-11 IN SVC
 UPDATED ELECTROCODE 5 WHITTIER SUB 04-09-10 UPGRADE XING
 COR: TRR CHK: BG/WW DESIGN COR: BG/WW XRL/ZWT SEQ # 25603 DES: DSD/TMJ COR: DSD/MJP M.P. 62.90

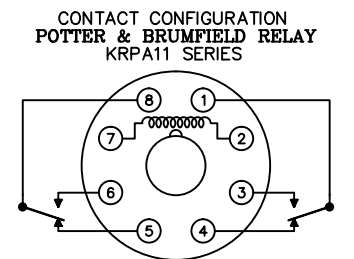
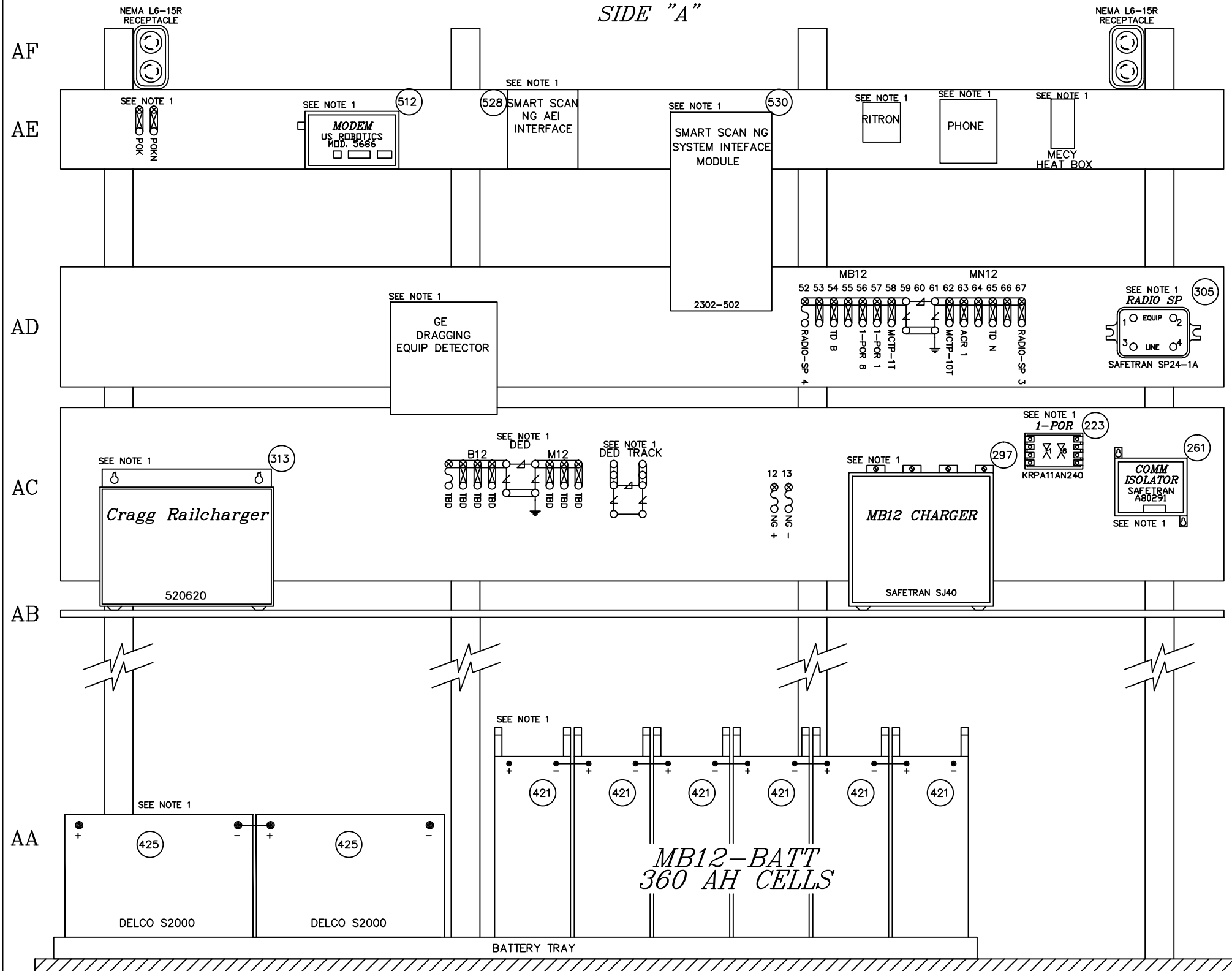
REVISIONS

DRAWN: DSD DWG NO. 006290X DATE: 08-03-05

16 SHEET OF 21

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SIDE "A"

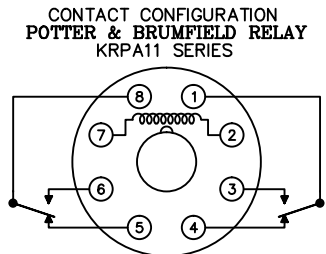
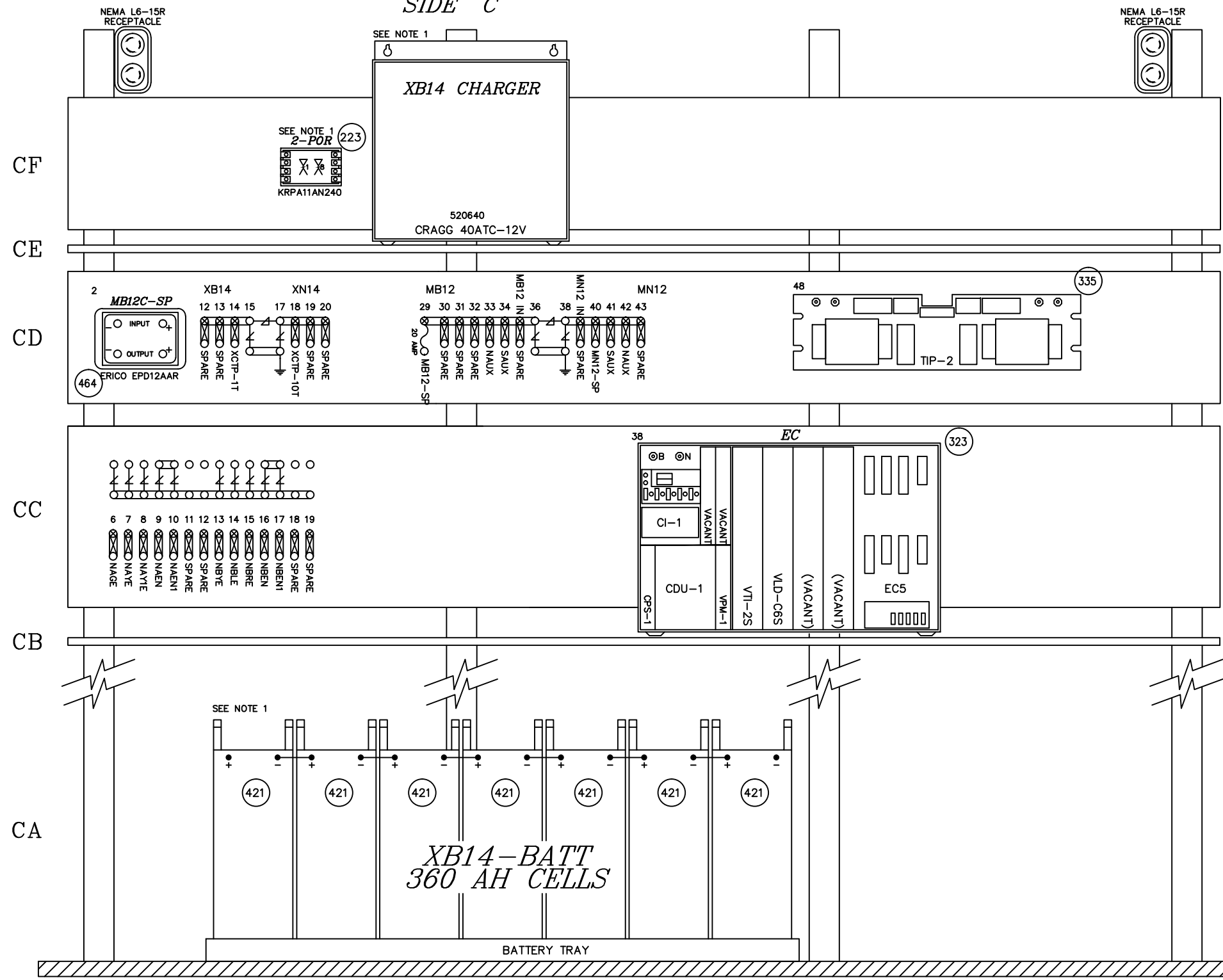


- NOTES:**
1. EXACT LOCATIONS TO BE CONFIRMED BY FIELD FORCES
 2. SHELVES AND BACKBOARDS ARE DRAWN TO A SCALE OF 1" = 0.20".

The ALASKA RAILROAD CORPORATION	
SIGNAL ENGINEERING	P.O. BOX 107500, ANCHORAGE, AK 99510-7500
PORTAGE GLACIER ROAD	PORTAGE, AK
RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM	M.P. 62.90
DOT 868 242V	
IN SERVICE DATE: 09-15-11 DESIGNED DATE: 03-18-11 DESIGNED DATE: 04-09-10 IN SVC DATE: 08-03-05	UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP
COR: TRR CHK: BG/WW DESIGN: ELECTROCODE 5 COR: BG/WW	DESIGNED BY: WHITTIER SUB CTG: XRL/ZWT SEQ # 25603
REVISIONS	DRAWN: DSD DATE: 08-03-05
DWG NO. 006290X	SHEET 17 OF 21

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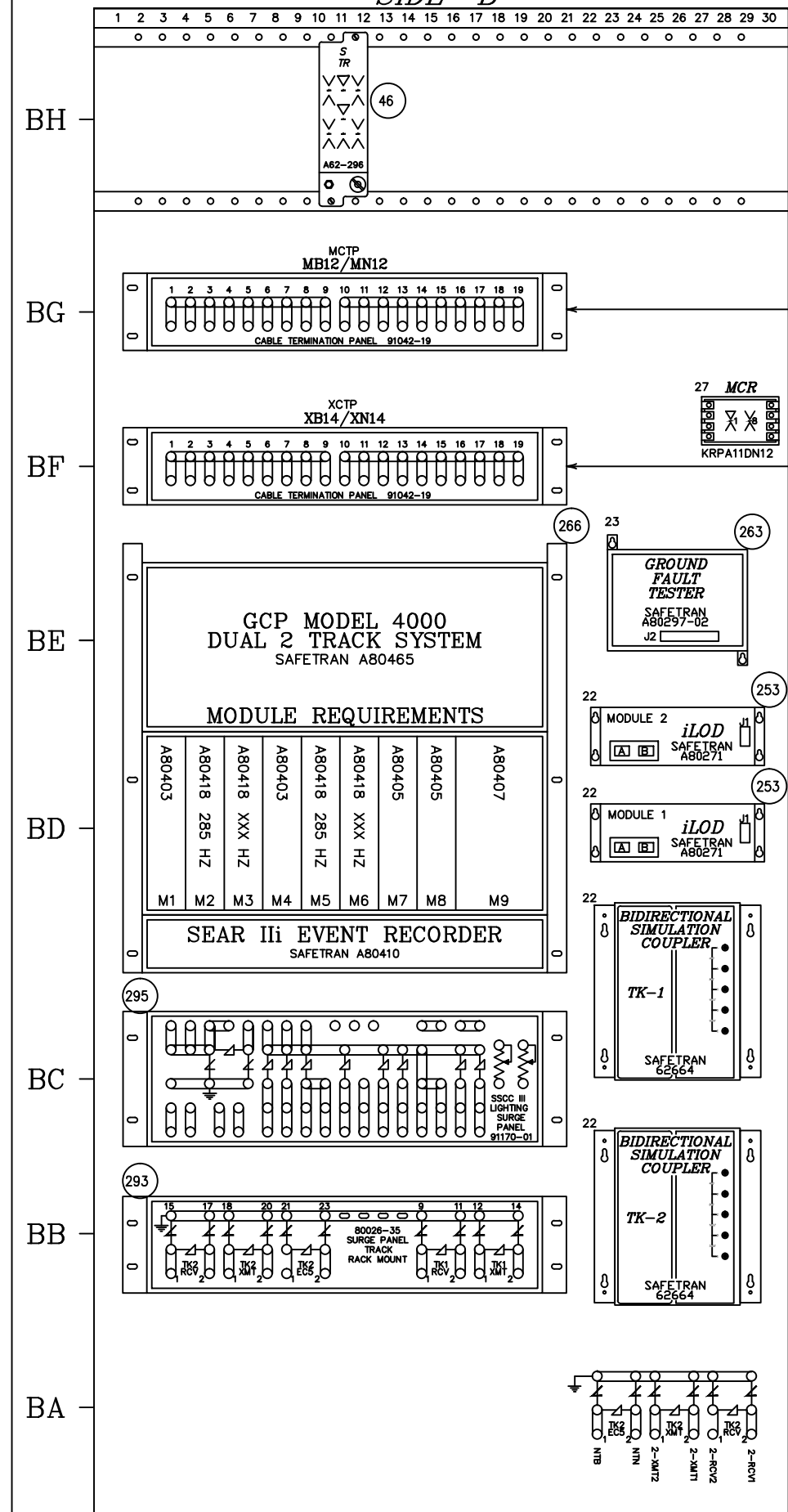
SIDE "C"



- NOTES:**
1. EXACT LOCATIONS TO BE CONFIRMED BY FIELD FORCES
 2. SHELVES AND BACKBOARDS ARE DRAWN TO A SCALE OF 1" = 0.20".

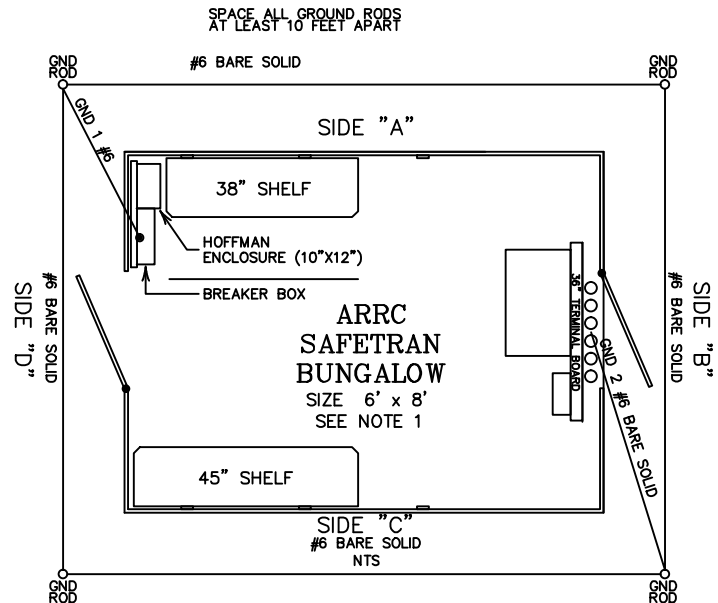
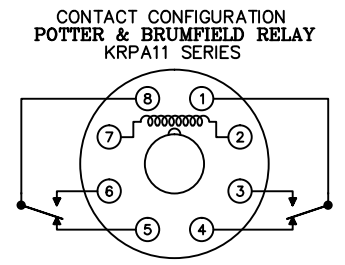
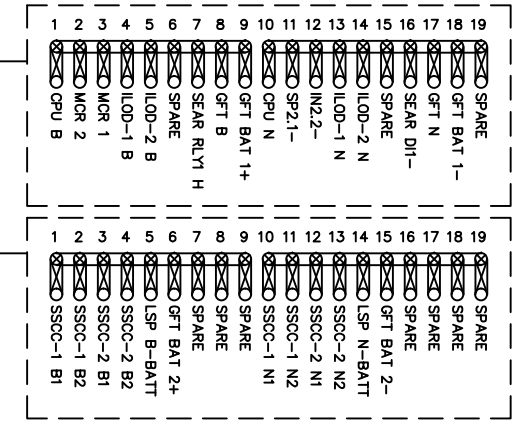
The ALASKA RAILROAD CORPORATION	
SIGNAL ENGINEERING	P.O. BOX 107500, ANCHORAGE, AK 99510-7500
PORTAGE GLACIER ROAD	PORTAGE, AK
RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM	M.P. 62.90
DOT 868 242V	
IN SERVICE DATE: 09-14-11 UPDATED COR: TRR	DESIGNED DATE: 03-18-11 ELECTROCODE 5 DESIGN COR: BG/WW
DESIGNED DATE: 04-09-10 WHITTIER SUB CTC XRL/ZWT	IN SVC DATE: 08-03-05 UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP
REVISIONS	DRAWN: DSD DATE: 08-03-05
DWG NO. 006290X	18 SHEET OF 21

SIDE "B"



RELAY CROSS REFERENCE

ALTSOM	INVENSYS
A62-296	400017



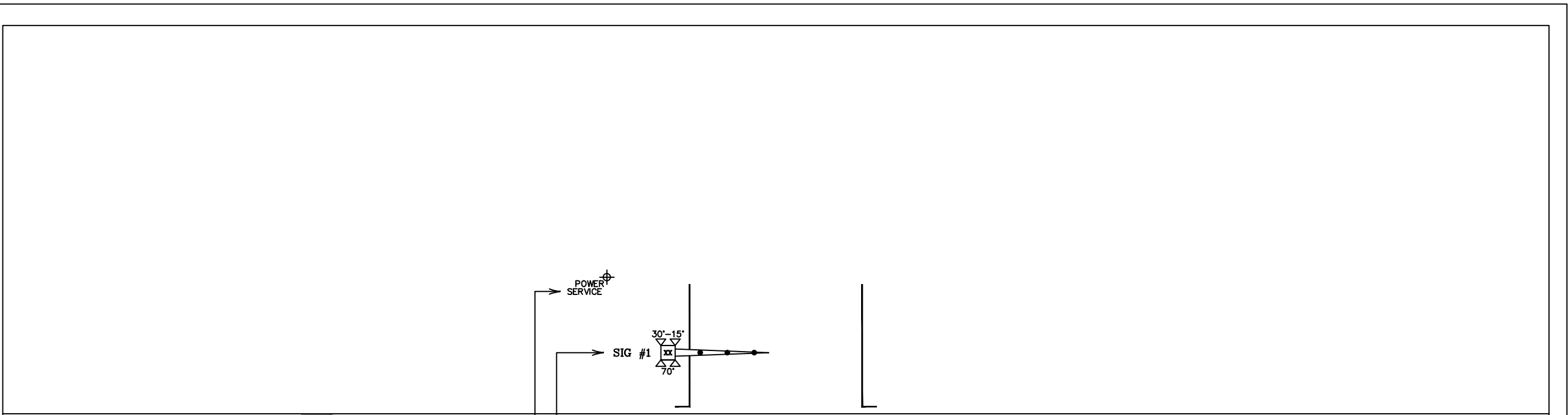
- NOTES:**
- HOUSE LAYOUT AND SHELF DIMENSIONS TO BE DETERMINED BY FIELD FORCES.

The ALASKA RAILROAD CORPORATION
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DOT 868 242V

DRAWN: **DSD** DWG NO. **006290X** 19 SHEET OF 21
DATE: 08-03-05

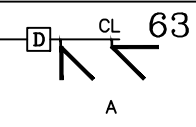
IN SERVICE DATE: 09-14-11 COR: TRR	DESIGNED DATE: 03-18-11 ELECTROCODE 5 DESIGN COR: BG/WW	DESIGNED DATE: 04-09-10 WHITTIER SUB CTC SEQ # 25603 XRL/ZWT	IN SVC DATE: 08-03-05 UPGRADE XING M.P. 62.90 DES: DSD/TMJ COR: DSD/MJP
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PORTAGE GLACIER ROAD
 DOT# 868 242 V
 M.P. 62.90



- (1) 2C*6 TW
- (11) 1C*6 RHW (IN CONDUIT)
- (1) 3C*2 W/GND
- (1) 1C*6 RHW (IN CONDUIT)
- (1) 2C*6 TW
- (3) 2C #6 TW
- (2) 7C*9



The ALASKA RAILROAD CORPORATION
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PORTAGE GLACIER ROAD PORTAGE, AK
 RAILROAD-HIGHWAY GRADE CROSSING WARNING SYSTEM
 DOT 868 242V M.P. 62.90

	IN SERVICE DATE: 09-15-11 COR: TRR	DATE: 09-15-11 CHK:	DESIGNED 03-18-11 ELECTROCODE 5 DESIGN BG/WW	COR: BG/WW	DESIGNED 04-09-10 WHITTIER SUB CTC XRL/ZWT	SEQ # 25603	IN SVC UPGRADE XING M.P. 62.90 DES: DSD/TMJ	COR: DSD/MJP	REVISIONS	DRAWN: DSD DATE: 08-03-05	DWG NO. 006290X	20 SHEET OF 21
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ITEM	AKRR. MAT. REF. ID	QTY	DESCRIPTION	MANUFACTURERS P/N	MANUFACTURER	REMARKS
1	1	10	TRACK ARRESTER	615-2	INVENSYS	
2	2	17	EQUALIZER	700-1	INVENSYS	
3	3	24	LINE ARRESTER	485-31X	INVENSYS	
4	46	1	RELAY - NEUTRAL, 900 OHM, 6FB	A62-296	ALSTOM	
5	219	1	RELAY - NV, PWR, DPDT 30A 12VDC SCREW	KRPA-11AN-240	POTTER & BRUMFIELD	
6	223	2	RELAY - NV, 10A 240VDC, DPDT	KRPA-11AN-240	POTTER & BRUMFIELD	
7	251	2	BIDIRECTIONAL SIMULATION COUPLER	62664	INVENSYS	
8	253	2	iLOD CURRENT SENSOR	A80271	INVENSYS	
9	255	1	VHF COMMUNICATOR	A80276	INVENSYS	
10	257	2	GATE TIP SENSOR	A80281	INVENSYS	
11	259	2	MINI TRACKSIDE SENSOR	A80285	INVENSYS	
12	261	1	COMM ISOLATOR	A80291	INVENSYS	
13	263	1	GROUND FAULT SENSOR	A80297-02	INVENSYS	
14	264	1	CPU	A80403	INVENSYS	
15	265	2	SOLID STATE CROSSING CONTROL	A80405	INVENSYS	
16	266	1	SEARIII INTERNAL EVENT RECORDER	A80410	INVENSYS	
17	267	2	TRACK MODULE	A80418	INVENSYS	
18	268	1	GRADE CROSSING PREDICTOR	A80465	INVENSYS	
19	270	1	GCP TRANSFER MODULE	A80468	INVENSYS	
20	293	1	SURGE TRACK PANEL	80026-35	INVENSYS	
21	294	1	ARRESTOR PANEL	80047-19	INVENSYS	
22	295	1	LIGHTING SURGE PANEL	91170-1	INVENSYS	
23	297	1	BATTERY CHARGER - SJ SERIES	SJ40	INVENSYS	
24	299	1	BATTERY CHARGER - SJ SERIES	SJ60	INVENSYS	
25	303	1	SURGE PROTECTOR	SP20-3	INVENSYS	
26	305	1	SURGE PROTECTOR	SP24-1A	INVENSYS	
27	313	1	ATC 20 AMP BATTERY CHARGER	520620	RECO RAILWAY EQUIPMENT CO	
28	315	1	ATC 40 AMP BATTERY CHARGER	520640	RECO RAILWAY EQUIPMENT CO	
29	317	1	EC5-BACKPLANE (BP-1)	227177-000	GE	
30	319	1	EC5-CENTRAL POWER SUPPLY (CPS-1)	251122-000	GE	
31	321	1	EC5- CHASSIS INFORMATION (CI-1)	251121-000	GE	
32	323	1	EC5-COLORLIGHT CHASSIS	251130-000	GE	
33	325	1	EC5- CONTROL DISPLAY UNIT (CDU-1)	251124-000	GE	
34	327	1	EC5- VITAL LAMP DRIVER (VLD-C6S)	251125-000	GE	
35	329	1	EC5-VITAL PERIPHERAL MASTER (VPM-1)	251120-000	GE	
36	331	1	EC5- VITAL TRACK INTERFACE (VTI-1)	251123-000	GE	
37	333	4	TIP-2 CABLE (8 FT)	814-9600-017	INVENSYS	
38	335	1	TRACK INDUCTOR PANEL (TIP-20)	251131-000	GE	
39	421	13	BATTERY - 360 A.H. LEAD CALCIUM	KCTA-360	C&D TECHNOLOGIES	
40	425	2	AC DELCO BCI GROUP 31	S2000	AC DELCO	
41	432	1	NRS BATTERY CHARGER (NRS 20)	15110	NATIONAL RAILWAY SUPPLY	
42	434	1	ERB-C BATTERY CHARGER	ERB-C 12/40	NATIONAL RAILWAY SUPPLY	
43	451	1	240v 1500 WATT WALL HEATER	3UF73	MARLEY	
44	453	1	WALL HEATER HOUSING	3UG04	MARLEY	
45	464	1	SURGE PROTECTOR - 12v	EPD12AAR	ERICO	
46	466	1	SURGE PROTECTION ENCLOSURE	AHE-12X12X6	HOFFMAN	
47	468	1	SURGE PROTECTOR - 800 TO 2,500 MHZ	EPD120/240T	ERICO	
48	470	1	SURGE PROTECTOR - 800 TO 2,500 MHZ	DGXZ+15NMNF-A	POLYPHASE	
49	512	1	MODEM	5686	US ROBOTICS	
50	514	1	CELLULAR/PCS MODEM	CDS-9022	DATAREMOTE INCORPORATED	
51	528	1	SMART SCAN NG AEI INTERFACE	AEI	SOUTHERN TECHNOLOGIES CORP	
52	530	1	STC NG DEFECT DETECTOR	NG DEFECT DETECTOR	SOUTHERN TECHNOLOGIES CORP	

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DOT 868 242V M.P. 62.90

006290x21c.dwg 03-18-2011	IN SERVICE DATE: 09-15-11 UPDATED	DESIGNED DATE: 03-18-11 ELECTROCODE 5 DESIGN	REVISIONS	DRAWN: TF DATE: 03-18-11	DWG NO. 006290X	SHEET 21 OF 21
	COR: TRR	BG/WW				