$WATERMARK

REVISIONS			
NO.	DATE	BY	DESCRIPTION	APP. BY
1				
2				
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5				

Grade Crossing Location Record

Cabinet Number (Option 90) XXXX

Location U.S. ROUTE 6 Milepost 25.42 DOT 261 028K Date XX / XX / 08

Operating Program HPN _____ Version 41.0

System Monitor Program HPN _____ Version 20.2

Hardware Settings

Track 1 Master [X] Slave [ ] 4 kHz [ ] 8 kHz [X]

LOS Jumper 0 [ ] 1 [X] 2 [ ] Fault Jumper 0 [X] 1 [ ]

Approach configuration switch position: Normal [X] Short [ ] Very Short [ ]

Track 2 Master [ ] Slave [ ] 4 kHz [ ] 8 kHz [ ]

LOS Jumper 0 [ ] 1 [ ] 2 [ ] Fault Jumper 0 [ ] 1 [ ]

Approach configuration switch position: Normal [ ] Short [ ] Very Short [ ]

Adjust Select Adjustments

No.	Adjustment	Default	Range	Track 1	Track 2
1	Approach Length	9,999	0 - 9,999	1285 feet	feet
2	Warning Time	99	23 - 99	25 seconds	seconds
3	LIA	0	-9 to +9	XX steps	steps
4	TC (1 step = 32)	395	430 - 470	XX steps	steps
5	MD Restart	99%	0 - 99%	XX RX	RX

Option Adjustments

No.	Adjustment	Default	Range	Track 1	Track 2
0	RX	0	1-100		
1	TK-ENA	UP	UP or dn	UP [X] dn [ ]	UP [ ] dn [X]
2	TK FO	0	0 - 9999	285 Hz	Hz
3	CW/MD	d	C to d	C [X] d [ ]	C [ ] d [ ]
4	UNI-BI	b	U - b	U [ ] b [X]	U [ ] b [ ]
5	NBS-C	0	0 - 99	99	RX
		9,999	RX dependant	XXXX	feet
6	CWEWT	80	0 - 99	80	seconds
7	LOS	16	4 - 99	16	seconds
8	IJ-LOS	5	3 - 99	5	seconds
9	BC	frequency dependant	50 -250	XXX	
10	P-COMP	0	0 - 10	XX	degrees

HXP-3, HXP-3R, HXP-3R2

AX Adjustment Options NOTE: NO AX DRIVE IS USED AT THIS LOCATION

	Default	Range	Option 11 - AX1	Option 12 - AX2	Option 13 - AX3
TK-ASN		1, 2, Both	1 [ ] 2 [ ] Both [ ]	1 [ ] 2 [ ] Both [ ]	1 [ ] 2 [ ] Both [ ]
OF-TK1	0	0 - 9,999	feet	feet	feet
OF-TK2	0	0 - 9,999	feet	feet	feet
WT	99	23 - 99	seconds	seconds	seconds
MD-RST	99	0 - 99%	RX	RX	RX
CW/MD	d	C or d	C [ ] d [ ]	C [ ] d [ ]	C [ ] d [ ]
CJ-LOS	0	3 - 99	seconds	seconds	seconds
PJ-DET	15	4 - 15	seconds	seconds	seconds
POS-ST	dn	UP or dn	UP [ ] dn [ ]	UP [ ] dn [ ]	UP [ ] dn [ ]

No.	Adjustment	Default	Range	Track 1	Track 2
17	MDR-AX	n*	n or A	n [X] A [ ]	n [ ] A [ ]
	OF-TK1	0	0 - 9,999	feet	
	OF-TK2	0	0 - 9,999		feet
	CJ-LOS	0	3 - 99	seconds	seconds
	PJ-DET	15	4 - 15	seconds	seconds
18	MD-TMR	10	10-99 (0=disable)	10 minutes	minutes
19	MIN-WT	0	23-99 (0=disable)	0 seconds	seconds
20	FS-DET	0	10-30 (0=disable)	0 minutes	minutes
21	POS-RX	0	0 - 74 (0=disable)	0 RX	RX
	POS-TM	0	0 - 99**	0 minutes	minutes
22	AR-TMR	0	0-80 (0=disable)	0 minutes	minutes
47	ATO-RX	dn	UP or dn	UP [ ] dn [X]	UP [ ] dn [ ]
48	PF-ENA	UP	UP or dn	UP [X] dn [ ]	UP [ ] dn [ ]

***n = not an AX drive (no options available)**

****0 = disable, 99 = continuous**

Shunt Record

West Approach		No Shunt RX	No Shunt Phase	100% Shunt RX	100% Shunt Phase	50% Shunt	50% Shunt RX	50% Shunt Phase	LIA Added 1 to 9
Track 1	Normal								
	Standby								
Track 2	Normal								
	Standby								
East Approach									
Track 1	Normal								
	Standby								
Track 2	Normal								
	Standby								

PROPOSED
DES. No. _____
RED-IN YELLOW-OUT
AS INSTALLED
DATE _____
BY _____

6' X 6' BUNGALOW

PROPOSED D	M	Y	REVISIONS	D	C	COMPLETED D	M	Y	C

REGION SOUTHERN
SUB. ILLINOIS RIVER 335

SIGNALS AND COMMUNICATIONS HOMEWOOD
16 JULY 2009
DES. APL
CH. MKN

HXP-3R2
PROGRAM CONFIGURATION
U.S. ROUTE 6
MINOOKA, IL

IRL-025.42-06

SAFETRAN SYSTEM CORP.
LOUISVILLE DIVISION, LOUISVILLE, KY

SAFETRAN SYSTEMS CORPORATION

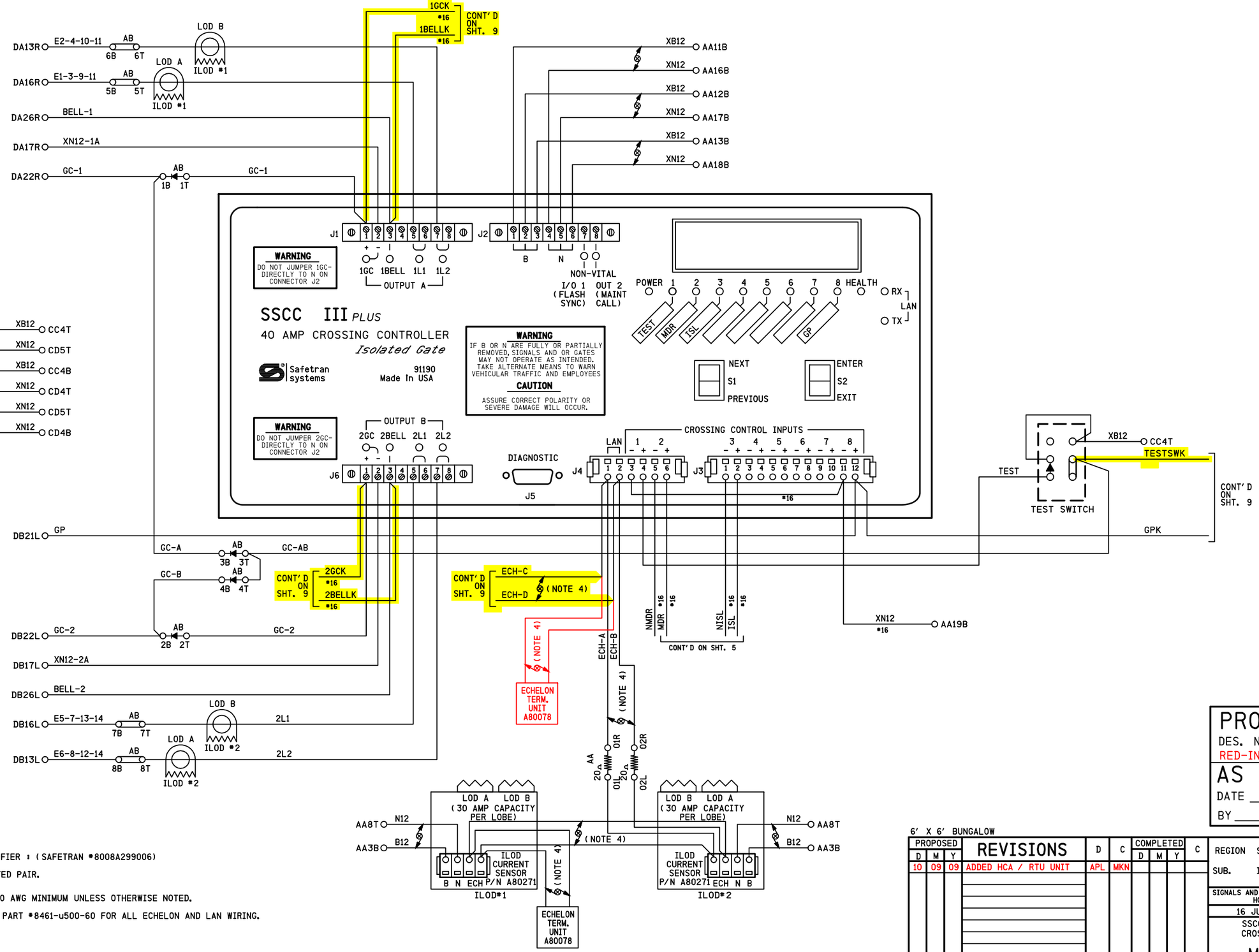
DES.: APL	DATE: 07/16/09	JOB NO.: PICA10200	
CKD.: MKN	ISSUE DATE: N/A	EST. NO.: N/A	
DRN.: APL	PLAN NO.: N/A	SHEET 6 OF 14	
P TIME: 15:53	P DATE: 10-SEP-2009	CAD ID.: IRL-025.42-06	

Irl-025.42-06.dgn
10-SEP-2009

$WATERMARK

irl-025. 42-07. dgn
10-SEP-2009

REVISIONS				
NO.	DATE	BY	DESCRIPTION	APP. BY
1	10/09/09	APL	ADDED HCA / RTU UNIT	MKN
2				
3				
4				
5				



NOTES:

1) DENOTES RECTIFIER : (SAFETRAN #8008A299006)

2) DENOTES TWISTED PAIR.

3) ALL WIRING TO BE #10 AWG MINIMUM UNLESS OTHERWISE NOTED.

4) USE BELDEN CABLE, PART #8461-u500-60 FOR ALL ECHELON AND LAN WIRING.

PROPOSED
DES. No. _____
RED-IN YELLOW-OUT
AS INSTALLED
DATE _____
BY _____

6' X 6' BUNGALOW

PROPOSED D	PROPOSED M	PROPOSED Y	REVISIONS	D	C	COMPLETED D	COMPLETED M	COMPLETED Y	C
10	09	09	ADDED HCA / RTU UNIT	APL	MKN				

REGION SOUTHERN
SUB. ILLINOIS RIVER 335

SIGNALS AND COMMUNICATIONS HOMEWOOD
16 JULY 2009
DES. APL
CH. MKN

SSCC3+ WITH ISOLATED GATE
CROSSING CONTROLLER 40AMP
U.S. ROUTE 6
MINOOKA, IL

IRL-025. 42-07

SAFETRAN SYSTEMS CORPORATION
LOUISVILLE DIVISION, LOUISVILLE, KY

DES. : APL	DATE: 07/16/09	JOB NO. : PICA10200	
CKD. : MKN	ISSUE DATE: N/A	EST. NO. : N/A	
DRN. : APL	PLAN NO. : N/A	SHEET 7 OF 14	
P TIME: 15:53	P DATE: 10-SEP-2009	CAD ID. : IRL-025. 42-07	

$WATERMARK

REVISIONS				
NO.	DATE	BY	DESCRIPTION	APP. BY
1				
2				
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CROSSING CONTROLLER SSCCIII+ 40-AMPERE UNIT, 91190

PROGRAM	NOTES	INITIAL SETTING BY: _____ DATE: _____
FLASH RATE:	30-70 FLASHES/MINUTE DEFAULT = 50	60 FLASHES/MINUTE
GATES USED:	YES/NO DEFAULT = YES	☑ YES ☐ NO
1 GC DELAY:	3-20 SEC., DEFAULT = 4	3 SECONDS
2 GC DELAY (40 AMP UNIT):	3-20 SEC., DEFAULT = 4	3 SECONDS
GATE RISING BELL:	ON/OFF, DEFAULT = ON	☐ ON ☑ OFF
ENABLED INPUTS:	1 THRU 7 ONLY	☑1 ☑2 ☑3 ☐ 4 ☐ 5 ☐ 6 ☐ 7
GC2/I7:	GC2 NORMAL, I7 = NORMAL GC2 INVERTED, I7 = NORMAL GC2 PRMT RELAY, I7 = PRMT HEALTH GC2 BEACONFDBK	☑ NORMAL ☐ INVERTED ☐ PRE-EMPT SIM ☐ PRE-EMPT ADV ☐ BEACON
INPUT 7	INPUT, PRMT HLTH, TEST SW	☐ IN ☐ HEALTH ☐ TEST SW
TEST SW 2TRKDSTK ONLY	ACTIVATE, ACT & STICK RELEASE	☐ ACTIVATE ☐ ACT & REL
ADV PRE-EMPT TIME (40A):	1-99 SEC., DEFAULT = 1	N/A SECONDS
MIN ACTIVATION TIME:	0-99 SEC., DEFAULT = 20	25 SECONDS
STICK RELEASE TIME:	5-120 MIN., DEFAULT = 15	N/A MINUTES
BEACON PICK-UP DELAY	5-600 SEC., DEFAULT = 20	N/A SECONDS
SUP ISLAND TIME:	5-20 MIN., DEFAULT = 20	N/A MINUTES
ENABLED OUTPUTS: (40 amp only)	DEFAULT = A + B	☑ A + B ☐ A ☐ B
DAYLIGHT SAVINGS:	DEFAULT = DISABLED	☑ ENABLED ☐ DISABLED
DATE:	N/A	☐ DATE SET
TIME:	24-FORMAT	☐ TIME SET
PASSWORD:	DEFAULT = DISABLED	☐ ENABLED ☑ DISABLED
CONFIGURE		
LOS TIMERS:	0-20 SECONDS, INPUTS 1-7 ONLY DEFAULT = 0	1: 0 SEC 5: 0 SEC 2: 0 SEC 6: 0 SEC 3: 0 SEC 7: 0 SEC 4: 0 SEC
MCF:		MCF: BASICPLS CRC:
ATCS ADDRESS:	DEFAULT = 700000000000	
LOW BATTERY:	9.0-15.0 VOLTS, OR DISABLED DEFAULT = DISABLED	☑ DISABLED ☐ ENABLED _____ VOLTS
AUX I/O:	DEFAULT = NONVITAL OUTPUT	☑ NV OUTPUT ☐ FLASH SYNC IN ☐ FLASH SYNC OUT
DETECT LAMP NEUTRAL WIRE	DEFAULT = YES	☐ YES ☑ NO
TEST CONFIGURE		
LAMP TEST CANCEL TIMER:	1-15 MINUTES, DEFAULT = 5	5 MINUTES
LAMP TEST DELAY TIMER:	30-120 SEC., DEFAULT = 30	30 SEC.
LAMP TEST ON TIMER:	15-60 SEC., DEFAULT = 15	15 SEC.

STANDARD SETUP LAMP VOLTAGES PROCEDURE
USING TRUE RMS AC+DC METER, OR CONVERSION TABLE BELOW

SETUP LAMP VOLTAGES	INITIAL SETTINGS BY: _____ DATE: _____ METER: _____
FAR GATE	1 L1 = _____ VOLTS 1 L2 = _____ VOLTS 2 L1 = _____ VOLTS 2 L2 = _____ VOLTS
SSCCIII+	1 L1 = _____ VOLTS 1 L2 = _____ VOLTS 2 L1 = _____ VOLTS 2 L2 = _____ VOLTS
NEAR GATE	1 L1 = _____ VOLTS 1 L2 = _____ VOLTS 2 L1 = _____ VOLTS 2 L2 = _____ VOLTS

MULTIMETER READING VARIANCE FROM ACTUAL LAMP VOLTAGE

BATTERY BANK VOLTAGE	VALID LAMP OUTPUT RANGE (in volts)	DIGITAL METER (FLUKE 87 OR EQUIVALENT)	ANALOG METER (SIMPSON 260 OR TS111)
13.3	9.0 TO 12.0	1.3 VOLTS BELOW ACTUAL VALUE	0.6 VOLTS BELOW ACTUAL VALUE
14.7	9.0 TO 12.0	2.2 VOLTS BELOW ACTUAL VALUE	1.1 VOLTS BELOW ACTUAL VALUE
15.8	9.0 TO 12.0	2.6 VOLTS BELOW ACTUAL VALUE	2.0 VOLTS BELOW ACTUAL VALUE

FOR LAMP OUTPUT SETTINGS GREATER THAN 12.0 VOLTS, REDUCE THE LISTED VALUES BY 30%
LAMP VOLTAGE MEASUREMENTS SHOULD BE ACCURATE TO 0.3 VOLTS.

SOFTWARE VERSION: 9V546-A01.K

PROPOSED
DES. No. _____
RED-IN YELLOW-OUT
AS INSTALLED
DATE _____
BY _____

6' X 6' BUNGALOW

PROPOSED D	M	Y	REVISIONS	D	C	COMPLETED D	M	Y	C

REGION SOUTHERN
SUB. ILLINOIS RIVER 335
CN

SIGNALS AND COMMUNICATIONS HOMEWOOD | DES. APL
16 JULY 2009 | CH. MKN

SSCCIII+
PROGRAM DATA
U.S. ROUTE 6
MINOOKA, IL

IRL-025.42-08

SAFETRAN SYSTEM CORP.
LOUISVILLE DIVISION, LOUISVILLE, KY

SAFETRAN SYSTEMS CORPORATION

DES.: APL	DATE: 07/16/09	JOB NO.: PICA10200	
CKD.: MKN	ISSUE DATE: N/A	EST. NO.: N/A	
DRN.: APL	PLAN NO.: N/A	SHEET 8 OF 14	
P TIME: 15:53	P DATE: 10-SEP-2009	CAD ID.: IRL-025.42-08	

Irl-025.42-08.dgn
10-SEP-2009

$WATERMARK

REVISIONS				
NO.	DATE	BY	DESCRIPTION	APP. BY
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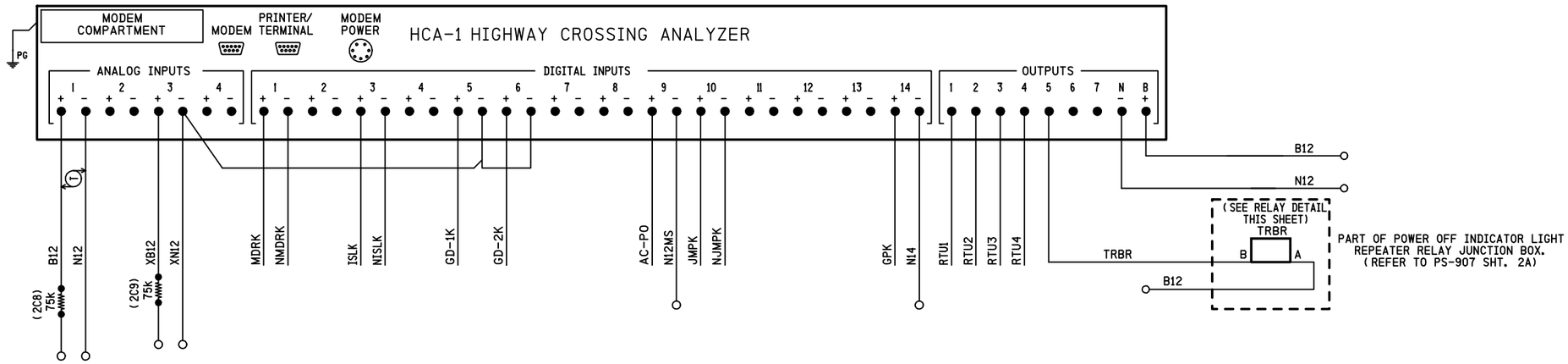
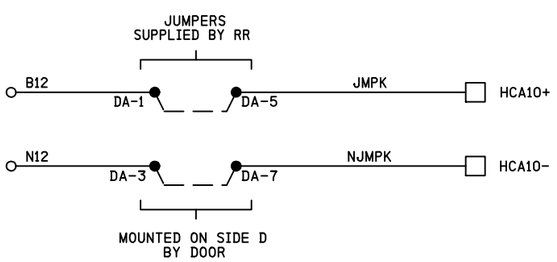
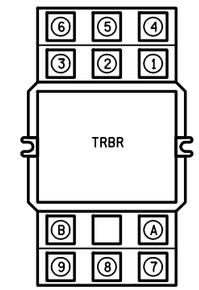


RE-USE EQUIPMENT FROM EXISTING LOCATION
FIELD TO VERIFY ALL WIRING



NOTES:

1. ALL WIRING ON THIS SHEET TO BE #16 UNLESS OTHERWISE NOTED.

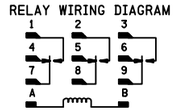


RELAY DETAIL

RELAY - POTTER & BRUMFIELD
MODEL KUMP-14D18-12 SOCKET MOUNTABLE
12 VDC W/ 3 FORM C CONTACTS.

SOCKET - SCREW TERMINAL
MODEL 27E121.

RELAY WIRING DIAGRAM (REAR VIEW)



NOTE:
SOCKET NUMBERING CORRESPONDS DIRECTLY WITH RELAY NUMBERING.
(COIL SHOWN ENERGIZED)

ALL NEW

PROPOSED
DES. No. _____
RED-IN YELLOW-OUT

AS INSTALLED
DATE _____
BY _____

6' X 6' BUNGALOW

PROPOSED D	M	Y	REVISIONS	D	C	COMPLETED D	M	Y	C

REGION SOUTHERN
SUB. ILLINOIS RIVER 335

SIGNALS AND COMMUNICATIONS HOMEWOOD
16 JULY 2009
DES. APL
CH. MKN

SAFETRAN EVENT ANALYZER
RECORDER II (SEAR II)
U.S. ROUTE 6
MINOOKA, IL

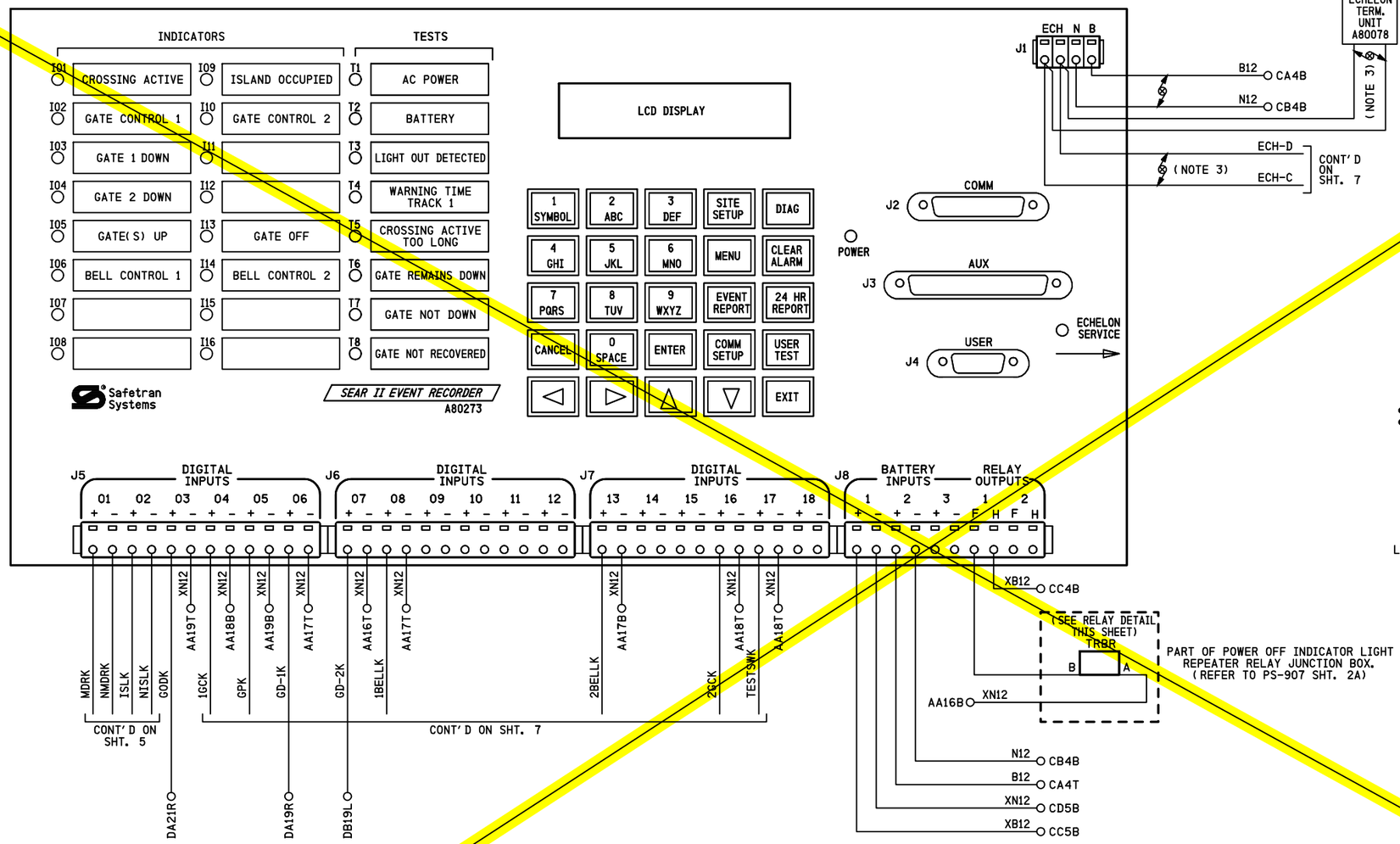
IRL-025. 42-09

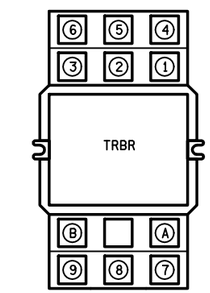
SAFETRAN SYSTEM CORP.
LOUISVILLE DIVISION, LOUISVILLE, KY

SAFETRAN SYSTEMS CORPORATION

DES. : APL	DATE: 07/16/09	JOB NO. : PICA10200	
CKD. : MKN	ISSUE DATE: N/A	EST. NO. : N/A	
DRN. : APL	PLAN NO. : N/A	SHEET 9 OF 14	
P TIME: 15:54	P DATE: 10-SEP-2009	CAD ID. : IRL-025. 42-09	

$WATERMARK





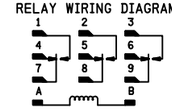
LOCATED OVER ENTRY DOOR

RELAY DETAIL

RELAY - POTTER & BRUMFIELD
MODEL KUMP-14D18-12 SOCKET MOUNTABLE
12 VDC W/ 3 FORM C CONTACTS.

SOCKET - SCREW TERMINAL
MODEL 27E121.

RELAY WIRING DIAGRAM (REAR VIEW)



NOTE:
SOCKET NUMBERING CORRESPONDS DIRECTLY WITH RELAY NUMBERING.
(COIL SHOWN ENERGIZED)

PLAN OBSOLETE
10 SEPTEMBER 2009

PROPOSED
DES. No. _____
RED-IN YELLOW-OUT
AS INSTALLED
DATE _____
BY _____

NOTES:
1) ALL WIRING TO BE #16 AWG UNLESS OTHERWISE NOTED.
2) DENOTES TWISTED PAIR.
3) USE BELDEN CABLE, PART #8461-u500-60 FOR ALL ECHELON AND LAN WIRING.

6' X 6' BUNGALOW

PROPOSED D	M	Y	REVISIONS	D	C	COMPLETED D	M	Y	C

REGION SOUTHERN
SUB. ILLINOIS RIVER 335
SIGNALS AND COMMUNICATIONS HOMEWOOD
16 JULY 2009
DES. APL
CH. MKN
SAFETRAN EVENT ANALYZER RECORDER II (SEAR II)
U.S. ROUTE 6
MINOOKA, IL
IRL-025.42-09

SAFETRAN SYSTEM CORP.
LOUISVILLE DIVISION, LOUISVILLE, KY

REVISIONS

NO.	DATE	BY	DESCRIPTION	APP. BY
1				
2				
3				
4				
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SAFETRAN SYSTEMS CORPORATION

DES.: APL	DATE: 07/16/09	JOB NO.: PICA10200
CKD.: MKN	ISSUE DATE: N/A	EST. NO.: N/A
DRN.: APL	PLAN NO.: N/A	SHEET 9 OF 14
P TIME: 15:54	P DATE: 10-SEP-2009	CAD ID.: IRL-025.42-09

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10-SEP-2009