



A Limited Liability Holding Company
101 RJ Corman Drive • PO Box 788 • Nicholasville, KY 40340-0788
(859) 881-7521 • Fax: (859) 885-7804 • www.rjcorman.com

March 28, 2018

Vendors,

RJ Corman Railroad Company / Carolina Lines has received funding from the NCDOT to perform signal work on our railroad line in Columbus County.

You are invited to submit a bid to provide a crossing materials package for the highway grade crossing listed below:

Green Sea Rd, Tabor City, NC, DOT# 629 409W, as shown on attached plans (*see ACH31037.pdf*)

Enclosed bid package also includes material requirements, as well as bidding guidelines. All bids must be submitted on company letterhead and received by **April 11, 2018 5PM EST**. Please submit via email to James.Kelley@RJCorman.com or by mail to PO Box 788, Nicholasville KY 40340, Attn: James Kelley.

If you have any questions regarding this bid request, please don't hesitate to contact me.

RJ Corman reserves the right to reject any and all bids.

Vendor to provide material delivery to 401 Enterprise Drive, Nicholasville, KY 40356.

RJ CORMAN WILL PROVIDE WIRING AND INSTALLATION.

Shipping to begin as soon as possible but no later than 90 days ARO.

Sincerely,

James Kelley
RJ Corman Railroad
PO Box 788
Nicholasville, KY 40340
O: 859-881-6637
www.rjcorman.com

Scope:

Vendor will provide material for an PTMW 81" Aluminum – 81 X 80 X 24 CSX Shelf Relay Case for the control of flashing light signals and side lights for new installations. Case shall be PTMW, Inc. aluminum. Case shall be fully insulated and include AC breaker panel (100 AMP, 220VAC, single phase service), main terminal board, 4" PVC pipe cable risers, wire chases, plug-in relay rack, wall shelf for plans and user reference manuals, lightning arresters, ERICO EPD 120/240TDFL surge protection, LED Power Off indicator, Siemens MS-4000 Dual Single Track System, battery chargers and batteries. Vendor will provide all necessary equipment, inside and outside, of case.

General Design Guidelines:

1. Material shall comply with all applicable FRA and state regulations, and follow current AREMA C&S Manual for Recommended Practices.
2. All material provided shall be new.

Material Requirements:

1. Case should be PTMW 81" Aluminum – 81 X 80 X 24 CSX Shelf Relay Case, with pier foundation and platform.
2. Train detection will be provided by Siemens MS-4000 Dual Single Track System
3. Flasher control will be provided by the Siemens 40amp Crossing Controller. Provide associated Lightning/Surge Arrester panel(s). *See plans for details.*
4. On the main terminal board, no equipment or terminals (other than ground buss) will be lower than 12" above floor
5. Relays will be GRS/Alstom Style "B" (if needed)
6. Chargers – NRS ELC 12/20 or 12/40 as applicable
7. Batteries – Sealed, Maintenance Free, Lead Acid Batteries
8. Emergency Switch Box Assembly – L&W 2 Position – 3A900436
9. Flashing light signals to be 12" LED heads (Miller Felpax) with aluminum visors and backgrounds.
10. Vendor to provide all field equipment, including signal cable, track wire, shunts, rail bonding material, etc.
11. Jointed Rail to be Bonded within approaches please include all associated field materials required.
12. RJ Corman will be responsible for crossing surface replacement.

Performance & Bidding Guidelines:

Bids should be detailed in the following format:

LOCATION: _____

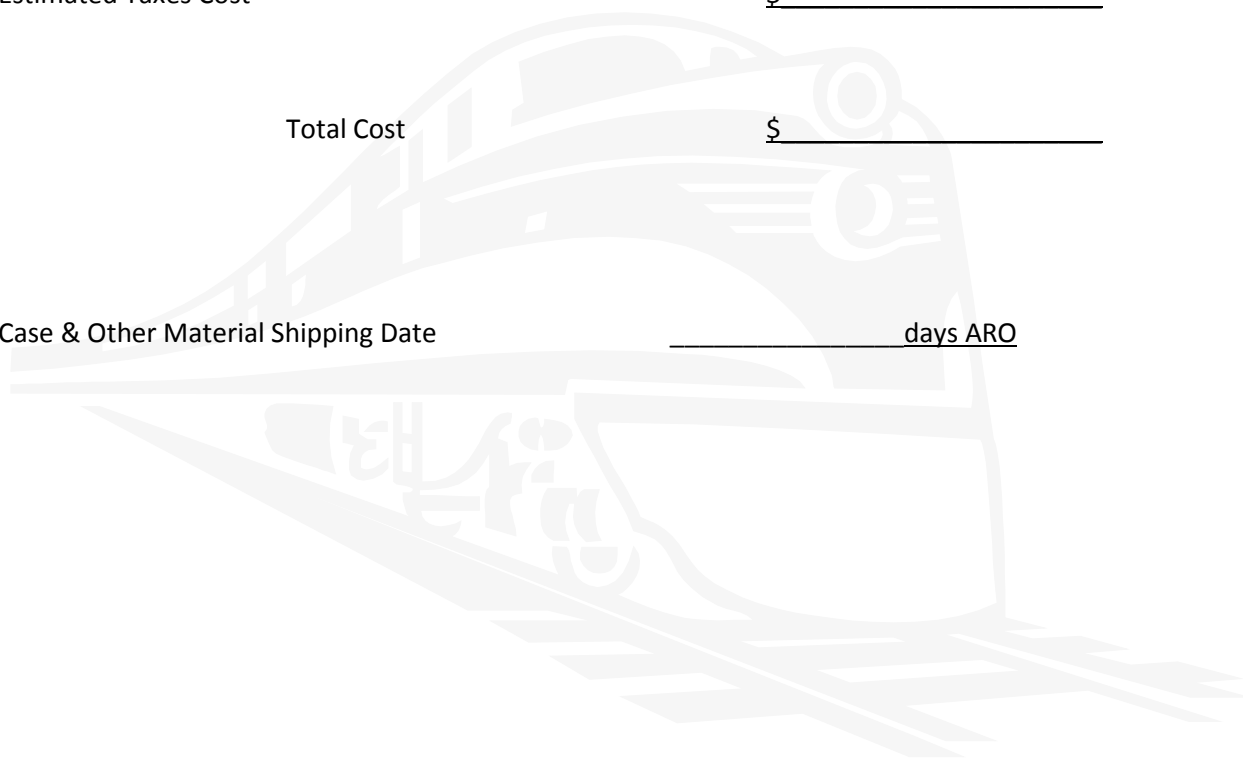
Material Cost \$ _____

Estimated Freight/Shipping Cost \$ _____

Estimated Taxes Cost \$ _____

Total Cost \$ _____

Case & Other Material Shipping Date _____ days ARO



SH. NO.	CONTENTS	REV
NX1	INDEX SHEET	1
1	TRACK PLAN	1
2	PROFILE	1
3	TRACK LAYOUT	1
4	LOAD CENTER WIRING	1
5	DC POWER	1
6	MS 4000 GCP	1
7	CONNECTORS FOR TRACK MODULE	1
8	CROSSING CONTROLLER HOOK-UP	1
9	LIGHTING/SURGE PANEL HOOK-UP	1
10	LIGHTING CIRCUITS	1
11	CASE LAYOUT FRONT	1
12	CASE LAYOUT REAR	1

DESIGNER'S NOTES:
 ALL SHEETS TO START ON REV. 1
 * = ORIGINAL ISSUE DATE
 # = DESIGNED BY INITIALS
 ★ = DRAWN BY INITIALS
 ** = CHECKED BY INITIALS
 ## = DRAWN BY INITIALS (AIS)
 ★★ = CHECKED BY INITIALS (AIS)

REVISIONS				
1	02-14-18	DEW	RJC	XXX
* # ★ ** PLAN REVISED ACCOUNT NEW CASE INSTALLED				
PROJECT: XXXX				
IN SERVICE: XX-XX-XX				
PER: XXX			##	★★
			XXX	XXX

INDEX SHEET

RJ CORMAN RAILROAD



DESIGNED BY: DEW
 DIGITIZED BY: RJC
 CHECKED BY: XXX

GREEN SEA RD
 TABOR CITY, NC
 CAROLINA SUBDIVISION

DATE: 02/14/18
 FILE: ACH31037.NX1
 SHEET NX1

TO NE NEW YARD
(NORTH)
M.P. (DECREASING)

TO END OF TRACK
(SOUTH)
M.P. (INCREASING)

HICKMAN RD (SR 701)

VEHICLE PARKING

SIG "A"

GREEN SEA RD
#629 409W

AC SERVICE ●

81" CASE

VEHICLE PARKING

MS 4000

645 HZ
8.0 KHZ

SIG "B"



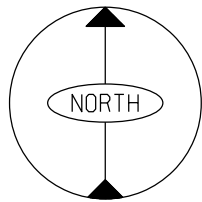
MAIN ST

MAIN ST



VEHICLE PARKING

VEHICLE PARKING



CONSTRUCTION NOTES:
1. INSTALL NEW 81" AND EQUIPMENT
2. REUSE EXISTING FLASHERS, REPLACE LIGHTS WITH LED CROSS ARM ASSEMBLIES.
3. NEW CABLE TO SIGNALS AND TRACK.

GREEN SEA RD

TRACK PLAN

RJ CORMAN RAILROAD

NOTES:
1. MAX TRAIN SPEED 25 MPH
○ = CIRCULAR GUARDRAIL



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CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

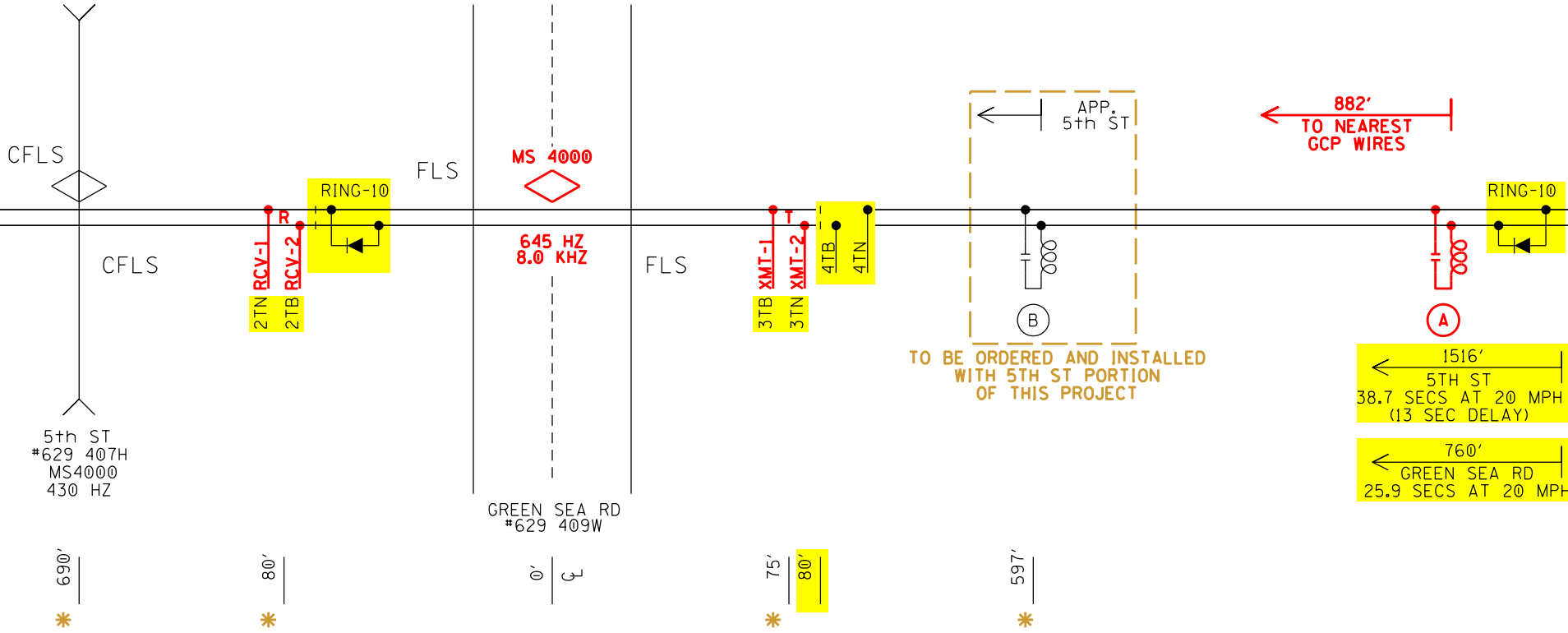
DATE: 02/14/18
FILE: ACH31037.01
SHEET 01

TO NE NEW YARD
(NORTH)
M.P. (DECREASING)

TO END OF TRACK
(SOUTH)
M.P. (INCREASING)

882'
TO NEAREST
GCP WIRES

882'
TO NEAREST
GCP WIRES



TO BE ORDERED AND INSTALLED
WITH 5TH ST PORTION
OF THIS PROJECT

1516'
5TH ST
38.7 SECS AT 20 MPH
(13 SEC DELAY)

760'
GREEN SEA RD
25.9 SECS AT 20 MPH

APPROACH CALCULATION INFORMATION	
STANDARD MINIMUM WARNING TIME IN SECONDS	25
CLEARANCE TIME IN SECONDS	0
CONTROL EQUIPMENT REACTION TIME IN SECONDS	5
ADVANCED PREEMPT TIME IN SECONDS	0
DESIGNED WARNING TIME IN SECONDS	30
TIME TABLE MAXIMUM TRAIN SPEED IN MILE PER HOUR	20
CALCULATED APPROACH	882'

(A) - MF-62775-3497 (645HZ)

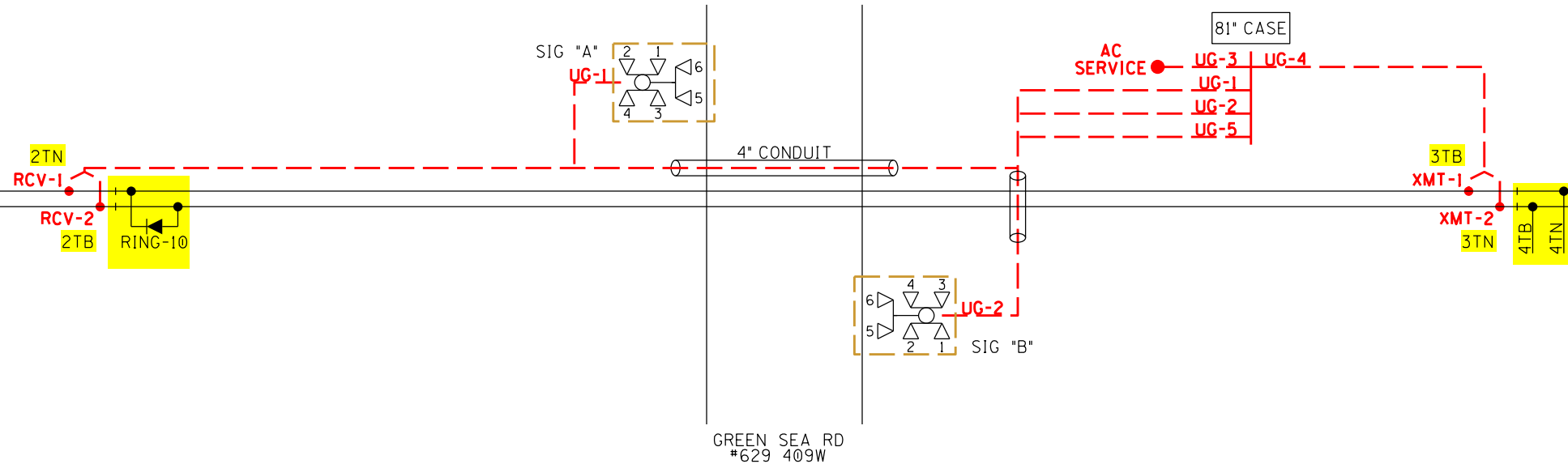
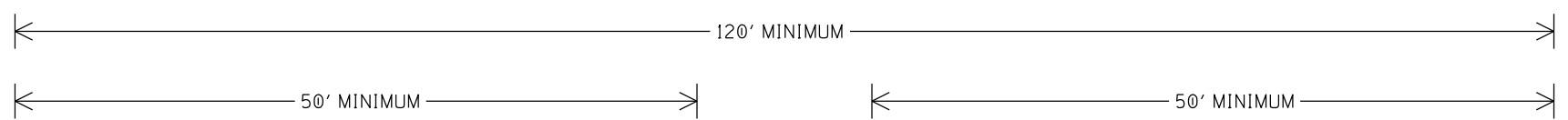
(B) - MF-62775-3497 (430HZ)

[] = EXISTING
* = FIELD VERIFY
RED = IN
YELLOW = OUT

PROFILE

<h1>RJ CORMAN RAILROAD</h1>		
DESIGNED BY: DEW	GREEN SEA RD TABOR CITY, NC	DATE: 02/14/18
DIGITIZED BY: RJC	CAROLINA SUBDIVISION	FILE: ACH31037.02
CHECKED BY: XXX		SHEET 02





CONSTRUCTION NOTES:
1. REMOVE EXISTING CABLE, RUN NEW CABLE FOR SIGNALS AND TRACK.

UG-1 5CUG #6 AEC AEZ AEB ABELL SPARE 1	UG-3 3CUG #6 BX110 NX110 GND	UG-4 TW. PR. #6 RCV-1 RCV-2
UG-2 5CUG #6 BEC BEZ BEB BBELL SPARE 1		UG-5 TW. PR. #6 XMT-1 XMT-2

[] = EXISTING

RED = IN
YELLOW = OUT

TRACK LAYOUT

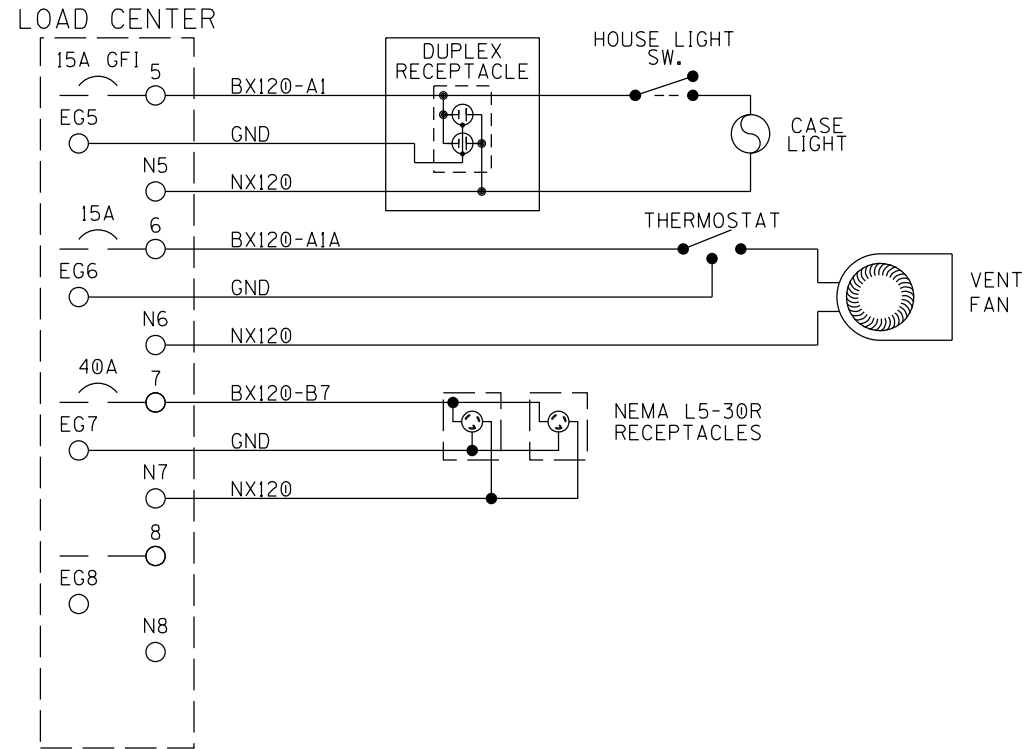
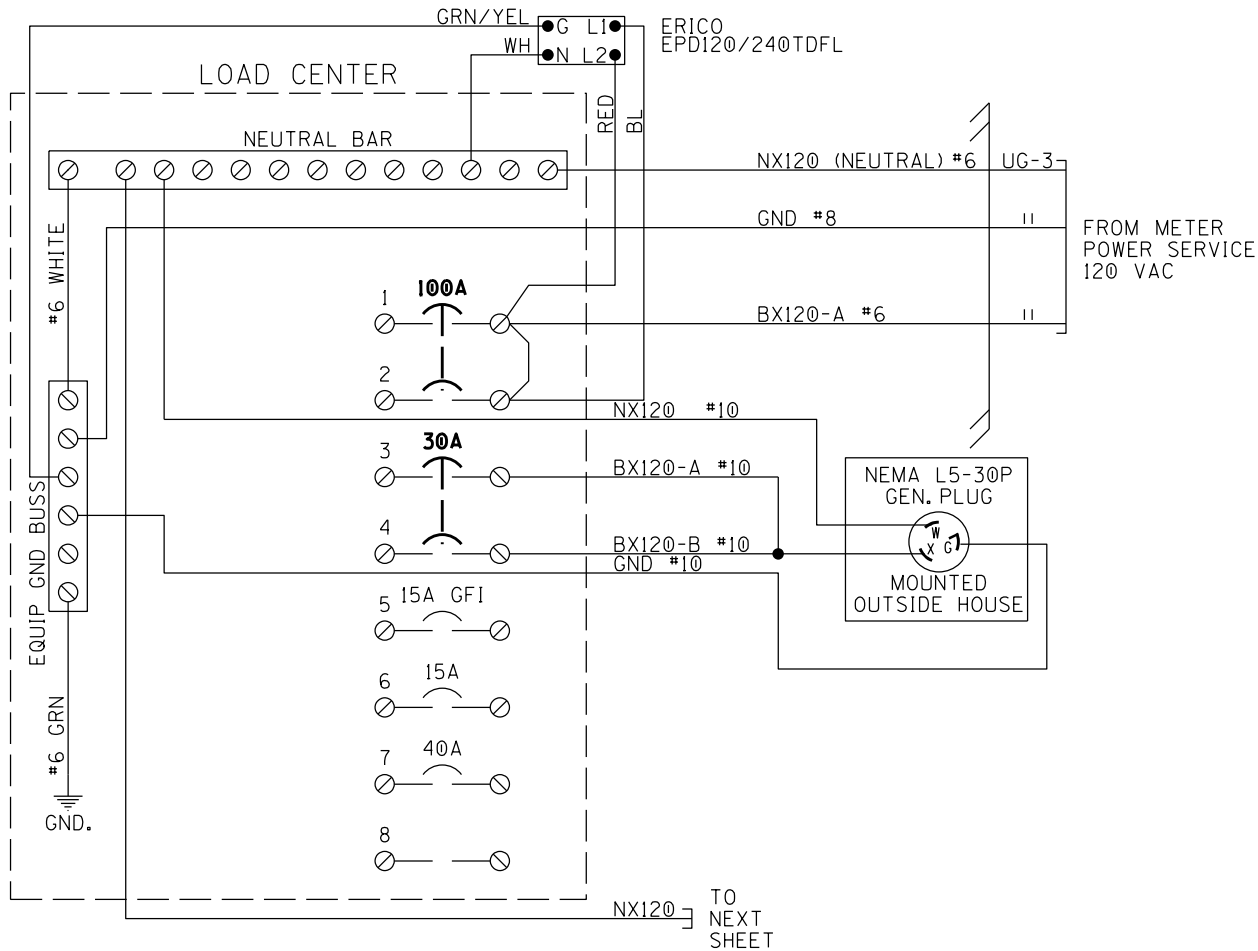
RJ CORMAN RAILROAD



DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.03
SHEET 03



SQUARE "D" PART NUMBERS:

- LOAD CENTER — Q0112L125G
- 10A 1P CIR BKR — Q0110
- 10A 2P CIR BKR — Q0210
- 15A 1P GFI CIR BKR — Q0115GFI
- 15A 1P CIR BKR — Q0115
- 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 — PK4DTM4LA

NOTE: ALL AC WIRING IS TO BE IN METALLIC CONDUIT WITH NO EXPOSED TERMINALS. ALL AC 120V AND 240V EQUIPMENT IS TO BE PROPERLY GROUNDED. ALL WIRING TO BE #16AWG UNLESS NOTED OTHERWISE.

DO NOT USE OR INSTALL 240VAC EQUIPMENT IN THIS HOUSE.

LOAD CENTER WIRING (120V)

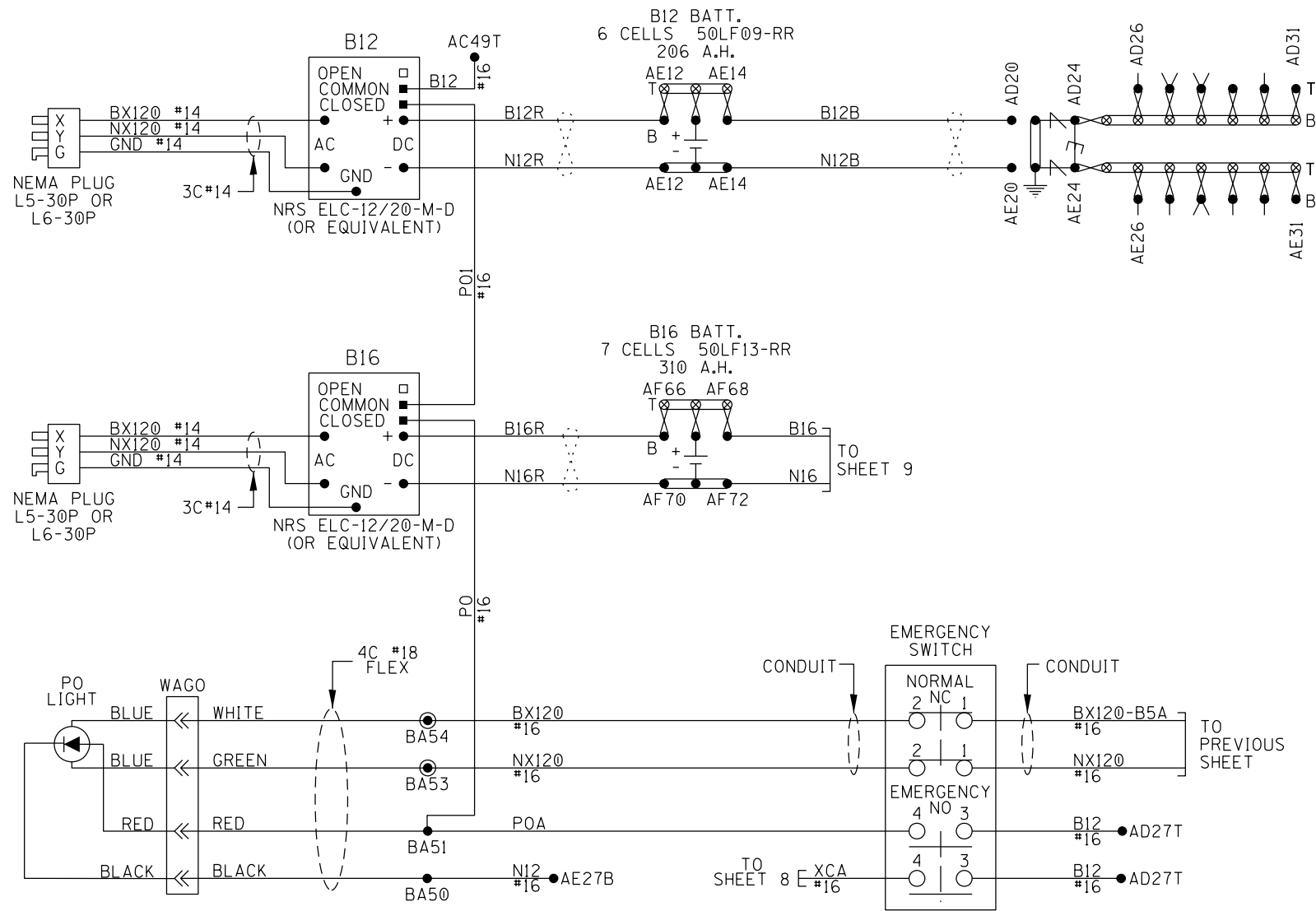
RJ CORMAN RAILROAD



DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

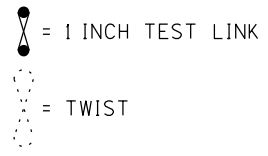
GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.04
SHEET 04



NOTES:

1. ALL WIRING TO BE #6AWG UNLESS NOTED OTHERWISE.
2. DO NOT INSTALL 240VAC CHARGERS.



DC POWER

<h1>RJ CORMAN RAILROAD</h1>		
DESIGNED BY: DEW DIGITIZED BY: RJC CHECKED BY: XXX	GREEN SEA RD TABOR CITY, NC CAROLINA SUBDIVISION	DATE: 02/14/18 FILE: ACH31037.05 SHEET 05



MAIN PROGRAM MENU

**	PARAMETER	VALUE
1	TEMPLATE	↓ MTF-MS MOTION SENSOR
1A	SET TEMPLATE DEFAULTS	(YES ON INITIAL SETUP)
MS 4000 CONFIGURATION		
2	APPR FREQUENCY	↓ 645 HZ
3	APPR TRANSMIT LEVEL	# ☆ HIGH
4	UNI/BI/SEM-BIDIRNL	↓ BIDIRNL
5	DIRECTIONALLY WIRED	↓ ☆ NO
6	MS PICKUP DELAY	↓ ☆ 15 SEC
7	UAX USED	↓ NO
7A	* PRIME UAX PICKUP	↓ ☆
8	ISLAND USED	↓ ☆ INTERNAL
8A	* ISL FREQUENCY	↓ 8.0 KHZ
8B	* ISL PICKUP DELAY	↓ (2s+) 3 SECONDS
9	IN 1.1	↓ OUT OF SERVICE IP 1
10	IN 1.2	↓ NOT USED
11	PRIME MS/GCP MODE	↓ PRED
11A	* PRIME WARNING TIME	↓ 30 SEC
ADVANCED		
12	POSITIVE START	↓ ☆ OFF
13	SUDDEN SHUNT DET USED	↓ ☆ NO
14	LOW EZ DET USED	↓ ☆ NO
15	MS SENSITIVITY LEVEL	# ☆ 36
16	COMPENSATION LEVEL	# ☆ 1300
17	LOW EX ADJUSTMENT	# ☆ 39
18	INBOUND PS SENSITIVITY	# ☆ HIGH
19	SPEED LIMITING USED	# ☆ YES
20	OUTBOUND FALSE ACT LVL	# ☆ NORMAL
OTHER		
21	OOS TIMEOUT	# ☆ 1 HRS
22	DAYLIGHT SAVINGS TIME	# ☆ ON
23	EZ/EX LOGGING	# ☆ CHANGE
24	EZ/EX POINT CHANGE	# ☆ 3
25	ATCS SITE ID	↓ ☆ 76201010016

CONTINUE MAIN PROGRAM MENU

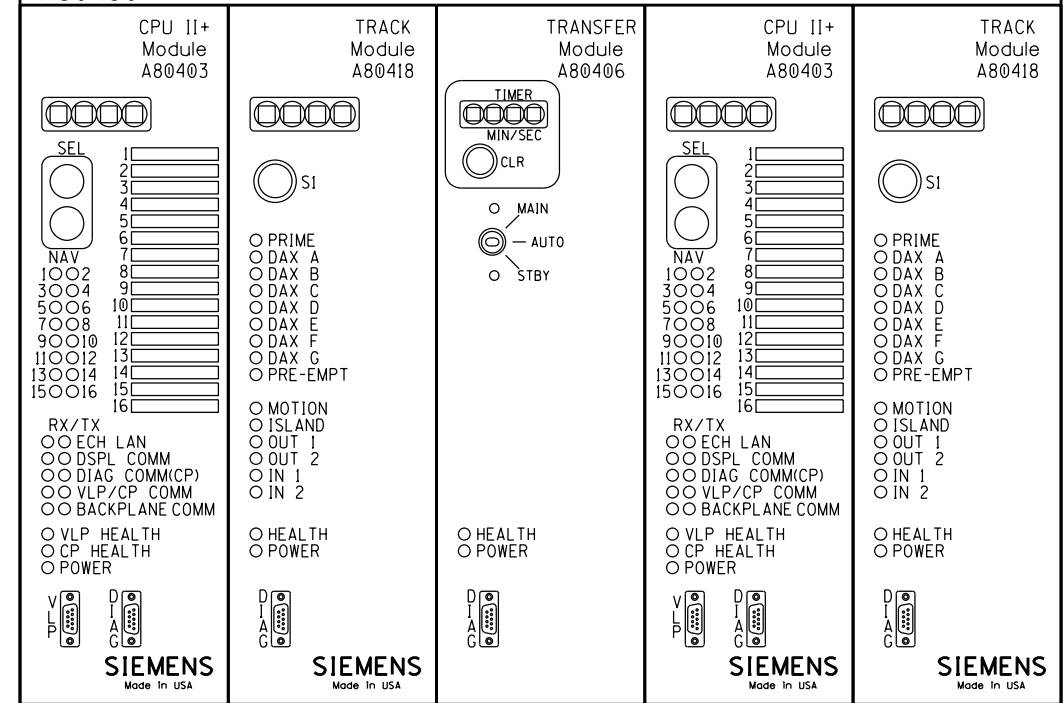
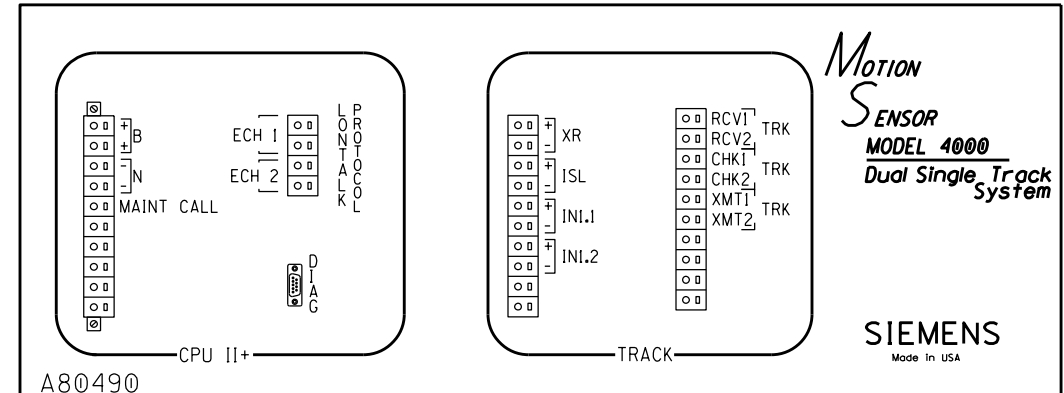
**	PARAMETER	VALUE
26	LOCATION	
26A	* DOT NUMBER	# 629409W
26B	* MILE POST	# 310.37
26C	* SITE NAME	# GREEN SEA RD

MCF AND OCCN	
MCF NAME	GCP-T6X-02-8.mcf
OCCN	- - - - -

SHOP TO FILL IN OCCN ON AS WIRED.
VERIFY MCF IS AS NOTED,
IF OTHERWISE CONTACT ENGINEERING.

NOTES:

- * AVAILABLE WHEN PRIOR PARAMETER SELECTED
- # SET BY FIELD AS REQUIRED
- ☆ DEFAULT SETTING
- ↓ IMPACTS OCCN
- ** STEP SEQUENCE WHEN USING DIAGNOSTIC TERMINAL (DT) VER. 5.7.3 TO SET PROGRAM PARAMETERS. ALPHA NUMERIC STEPS ARE SUB MENUS OF PREVIOUS STEP.



MS 4000 GCP

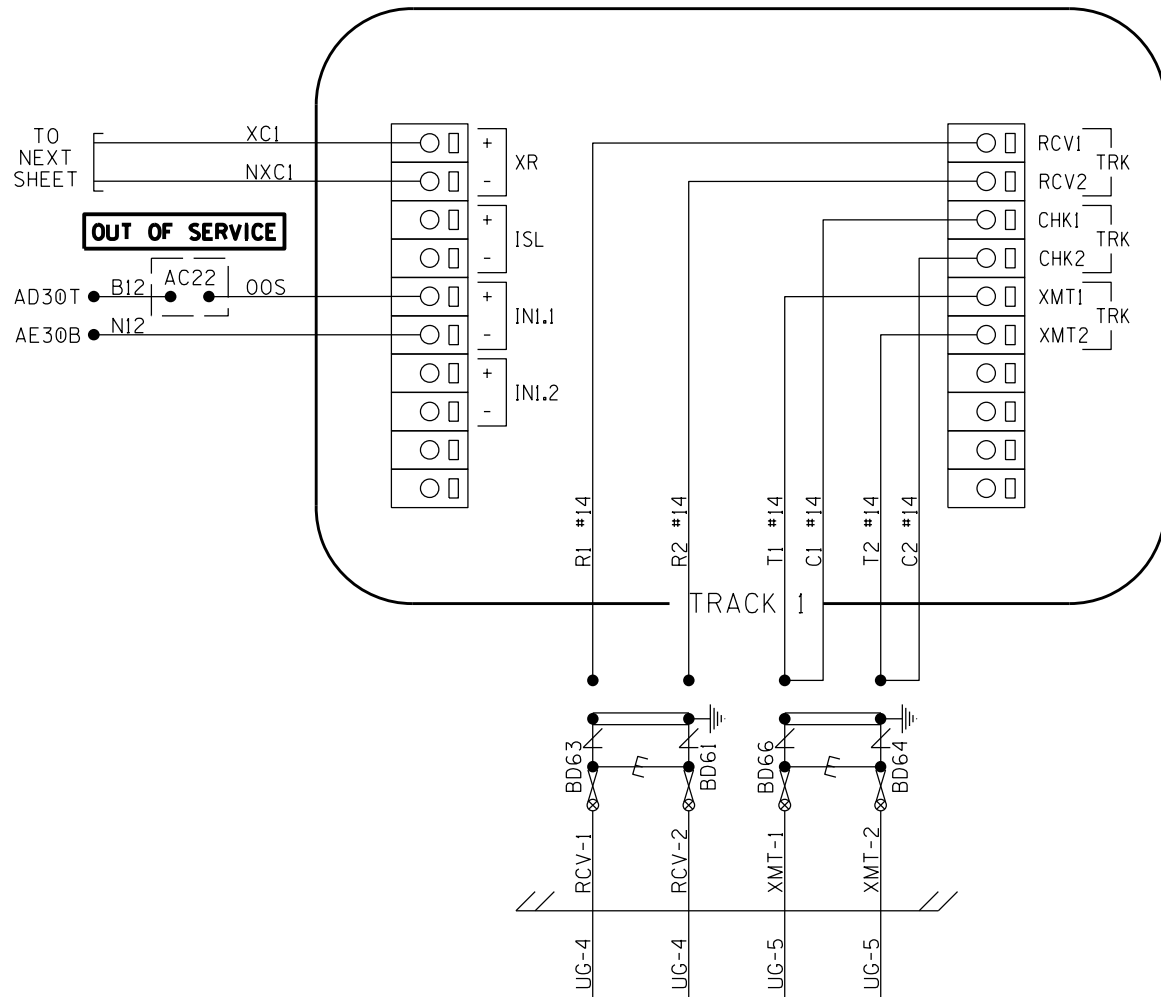
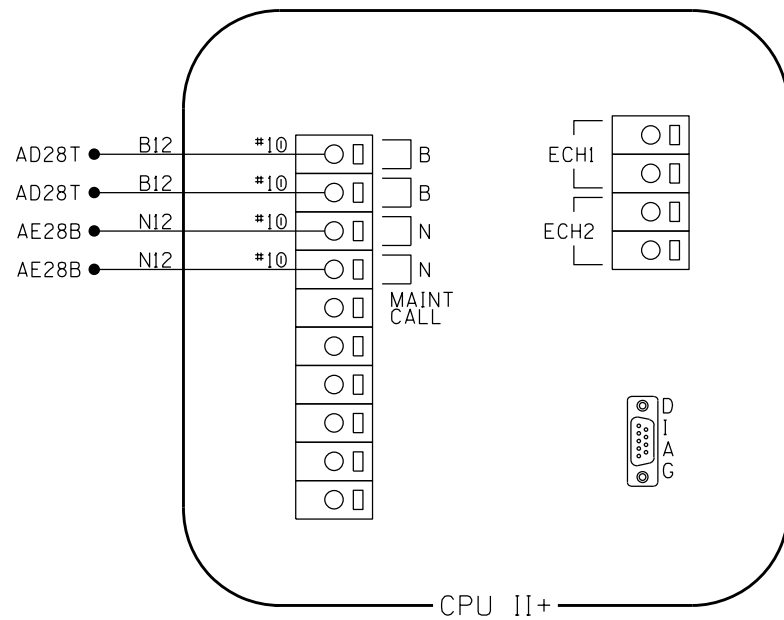
RJ CORMAN RAILROAD



DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.06
SHEET 06



CONSTRUCTION NOTES:
 1. REMOVE EXSTING CABLE, RUN NEW CABLE TO TRACK.

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

CONNECTORS FOR TRACK MODULE

RJ CORMAN RAILROAD



DESIGNED BY: DEW
 DIGITIZED BY: RJC
 CHECKED BY: XXX

GREEN SEA RD
 TABOR CITY, NC
 CAROLINA SUBDIVISION

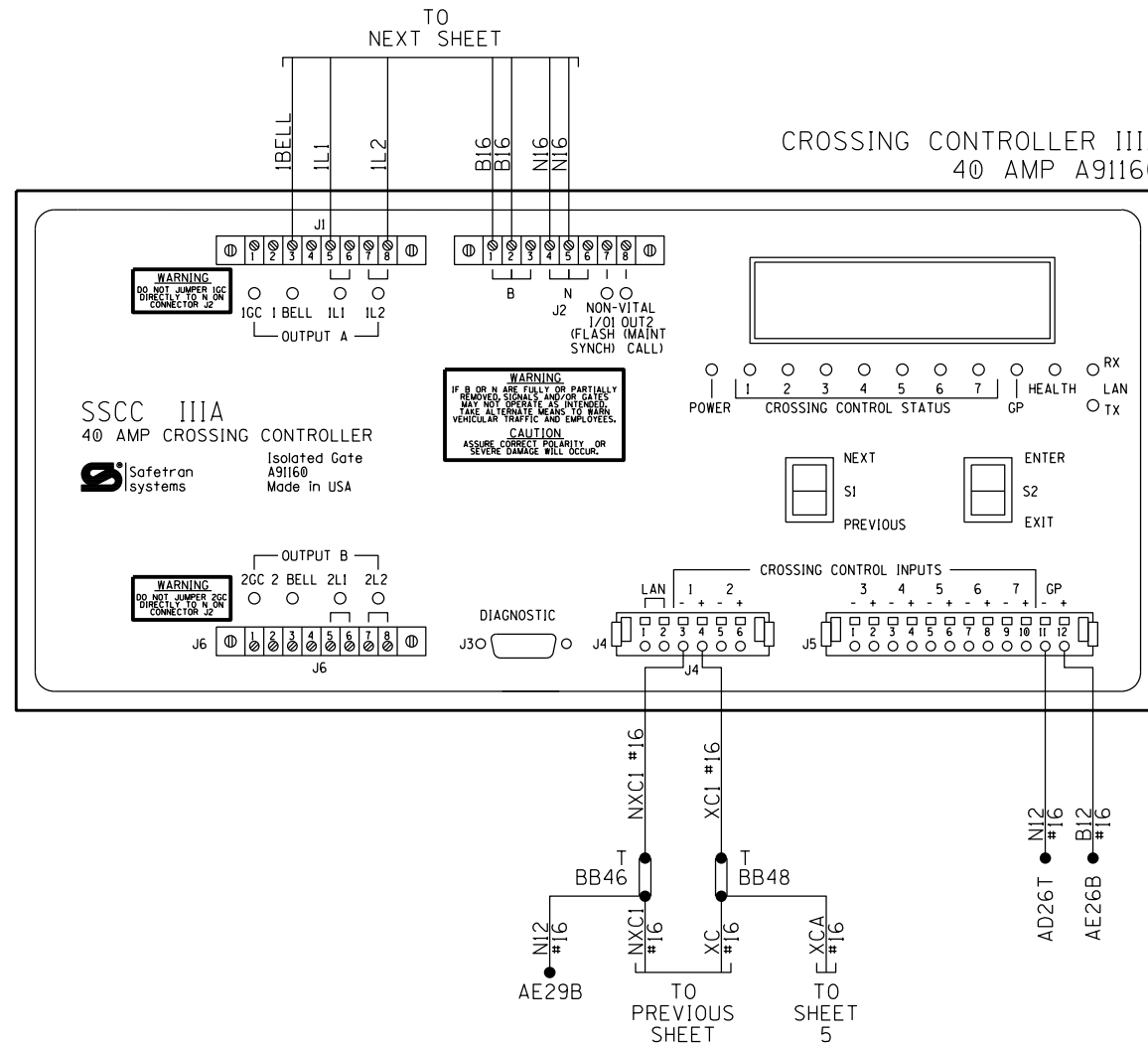
DATE: 02/14/18
 FILE: ACH31037.07
 SHEET 07

PROGRAM	
FLASHER RATE	50
1 GC DELAY	4 SEC.
2 GC DELAY	SEC.
BELL-ON GATE RISING	NO
ENABLE INPUTS	1 THRU 1
ENABLE OUTPUTS	A AND B
LOW BATT	DISABLED
SET TO DEFAULT	SKIP
TIME	
DATE	
DAYLIGHT SAVINGS	ON
PASSWORD	DISABLED

SETUP LAMP VOLTAGE #
SETUP OUTPUT 1L1 XX.X VOLTS
SETUP OUTPUT 1L2 XX.X VOLTS
SETUP OUTPUT 2L1 XX.X VOLTS
SETUP OUTPUT 2L2 XX.X VOLTS

CONSTRUCTION TO MARK VOLTAGE SETTINGS FOR AS BUILT REVISION.

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



CROSSING CONTROLLER HOOK-UP

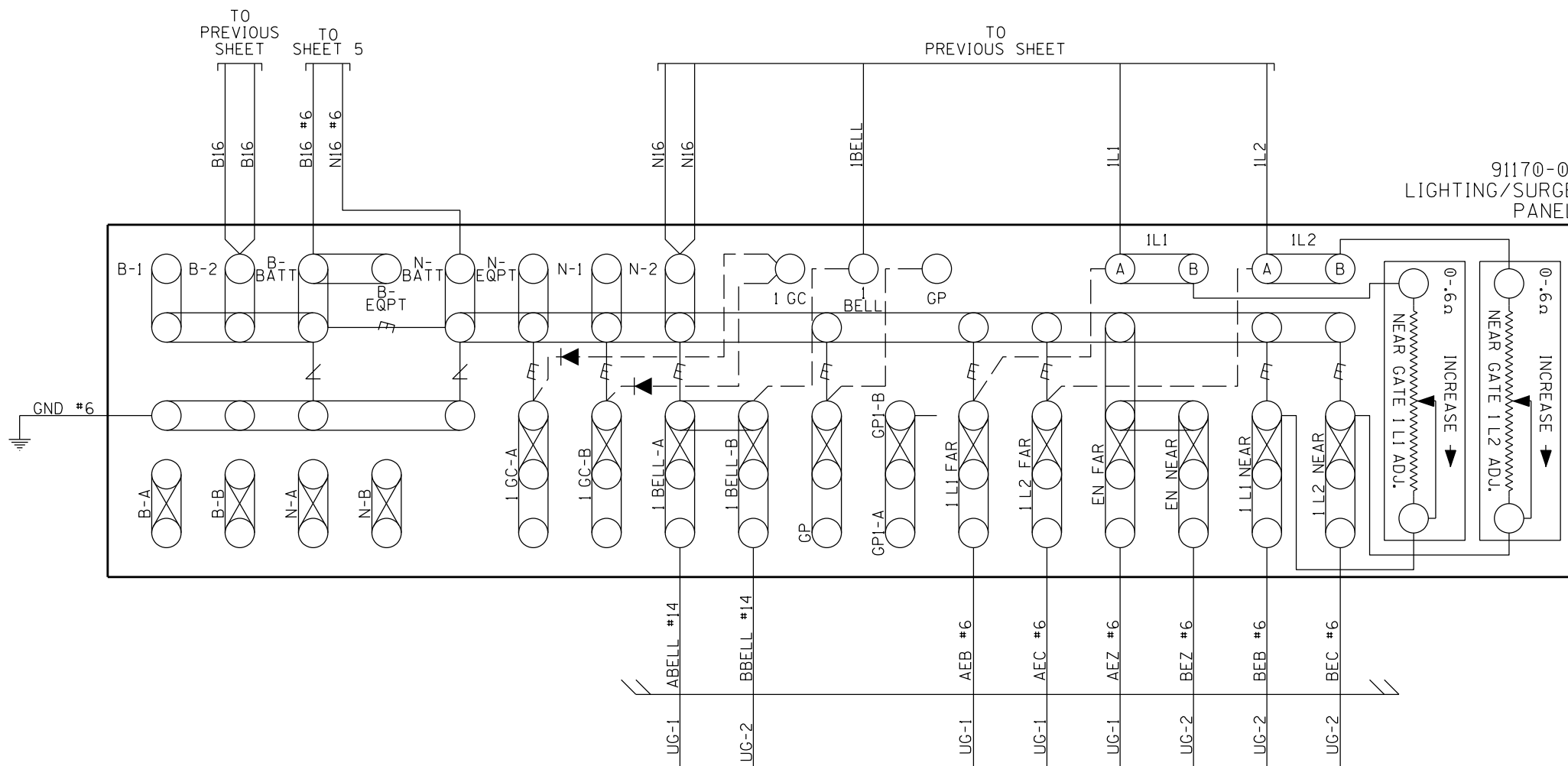
RJ CORMAN RAILROAD



DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.08
SHEET 08



91170-01
LIGHTING/SURGE
PANEL

CONSTRUCTION NOTES:
1. REMOVE EXSTING CABLE, RUN NEW CABLE TO SIGNALS.

LIGHTING/SURGE PANEL HOOK-UP

NOTE:

- ⚡ = HEAVY DUTY EQUALIZER 022700-1X
- ∠ = HEAVY DUTY CLEARVIEW ARRESTER 022585-1X
- 1. ALL WIRING TO BE #10AWG UNLESS NOTED OTHERWISE.

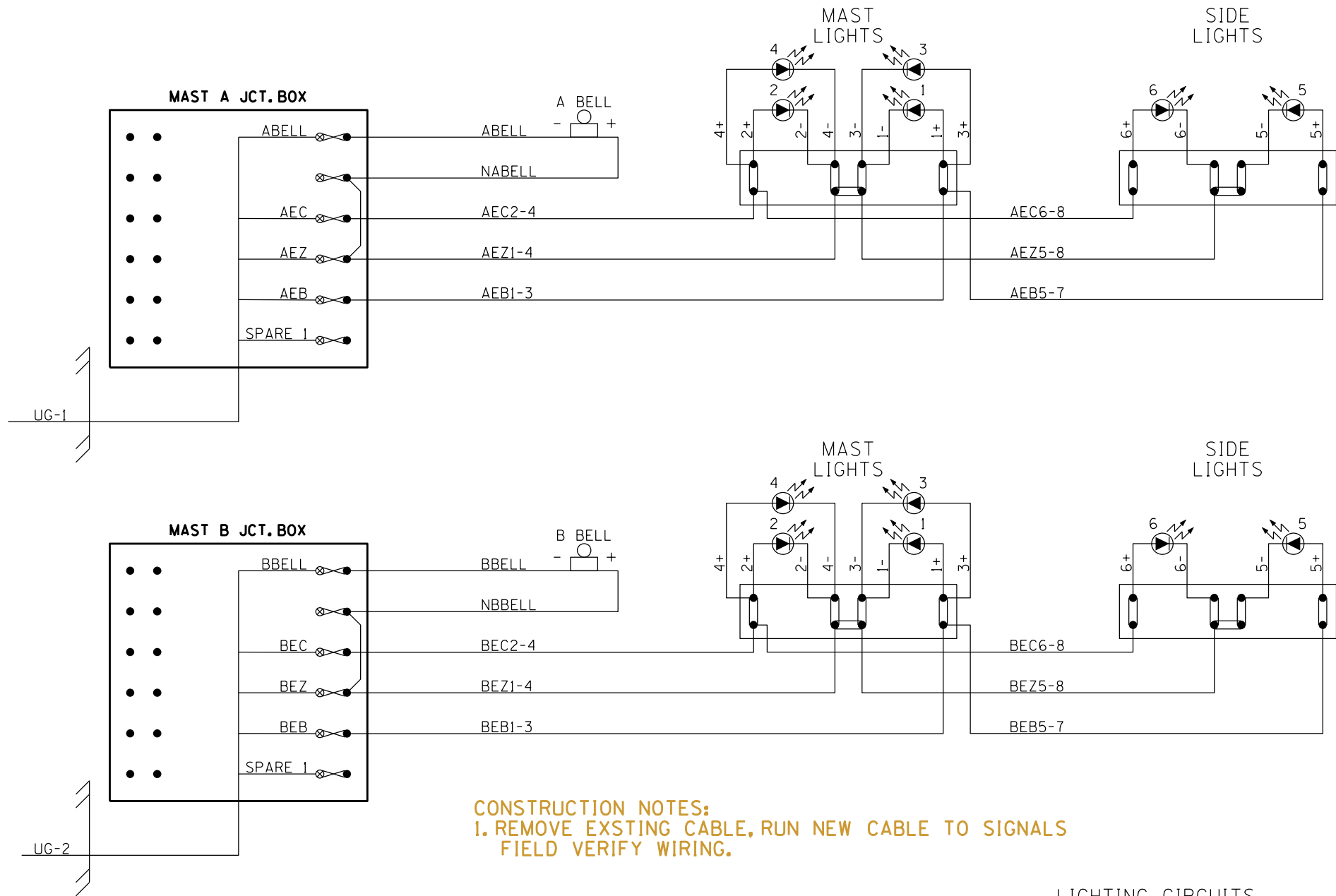


RJ CORMAN RAILROAD

DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.09
SHEET 09



CONSTRUCTION NOTES:
 1. REMOVE EXISTING CABLE, RUN NEW CABLE TO SIGNALS
 FIELD VERIFY WIRING.

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

LIGHTING CIRCUITS
RJ CORMAN RAILROAD



DESIGNED BY: DEW
 DIGITIZED BY: RJC
 CHECKED BY: XXX

GREEN SEA RD
 TABOR CITY, NC
 CAROLINA SUBDIVISION

DATE: 02/14/18
 FILE: ACH31037.10
 SHEET 10

"AA"

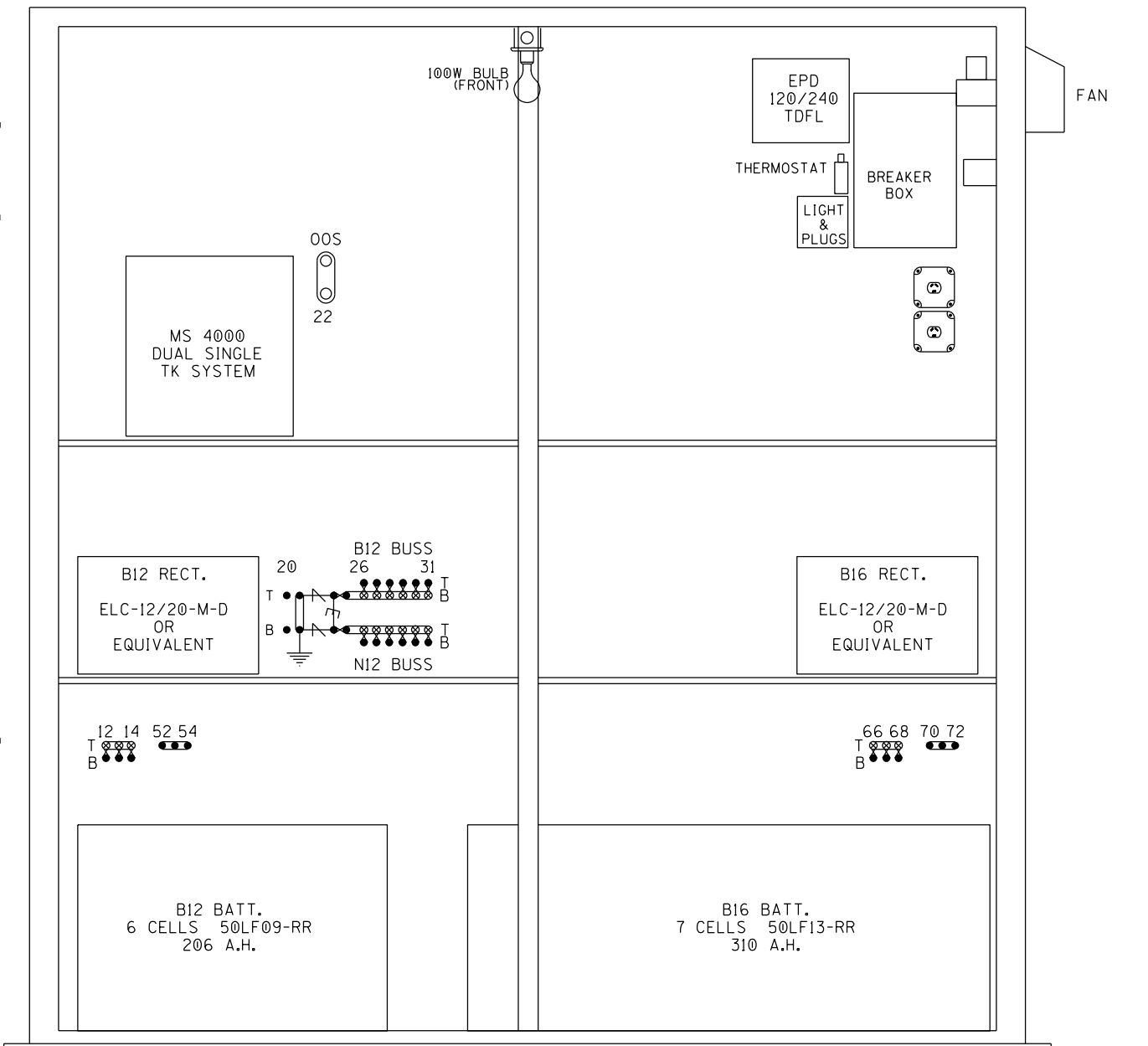
"AB"

"AC"

"AD"

"AE"

"AF"



CASE LAYOUT (FRONT VIEW)

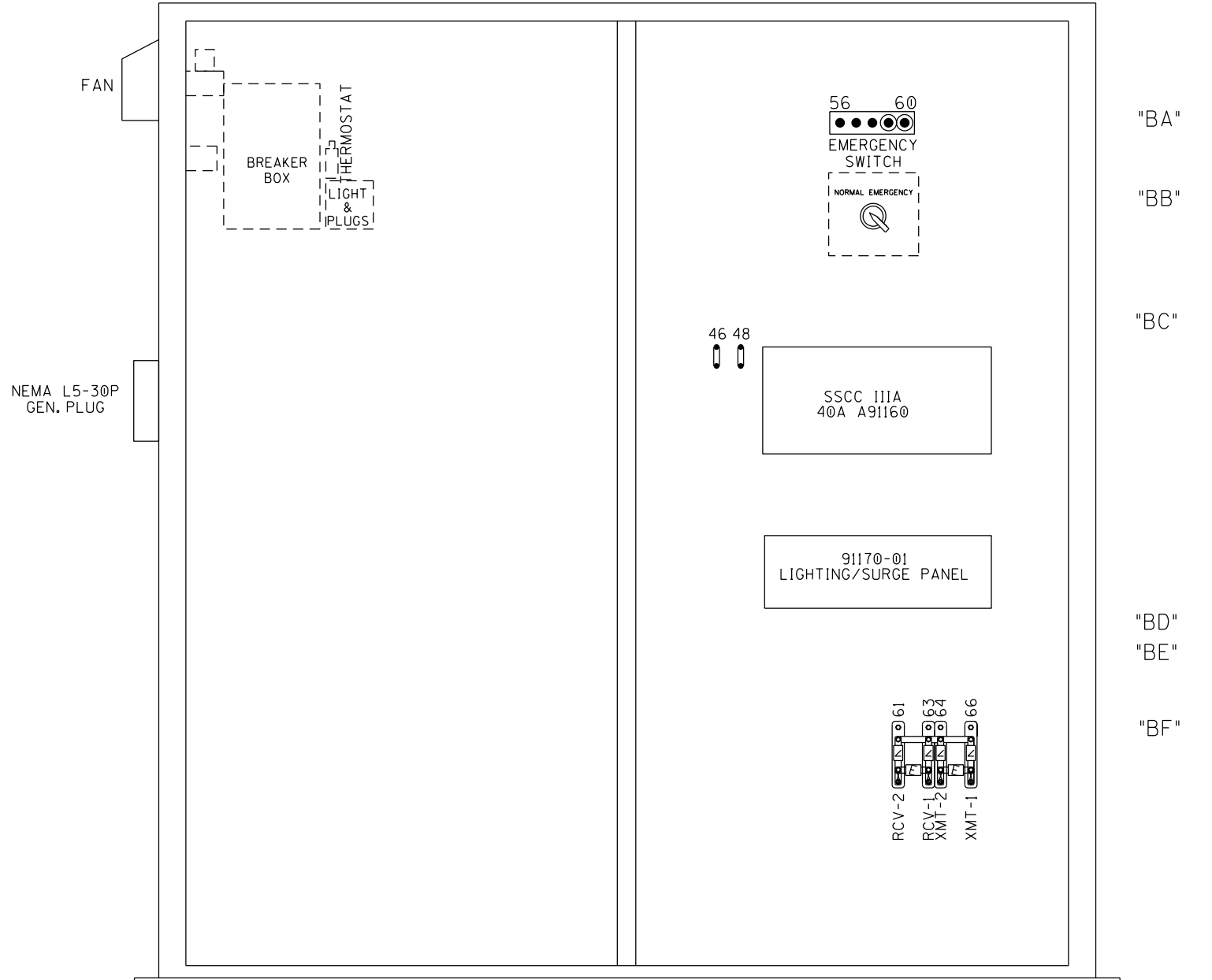
RJ CORMAN RAILROAD

DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.11
SHEET 11





"BA"

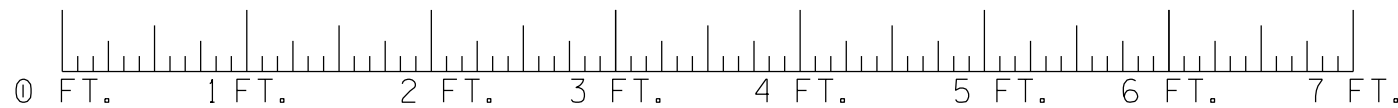
"BB"

"BC"

"BD"

"BE"

"BF"



CASE LAYOUT (BACK VIEW)

RJ CORMAN RAILROAD

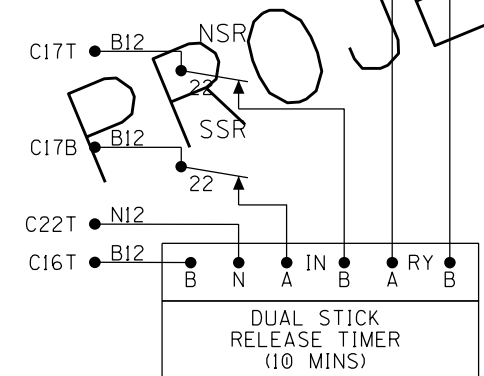
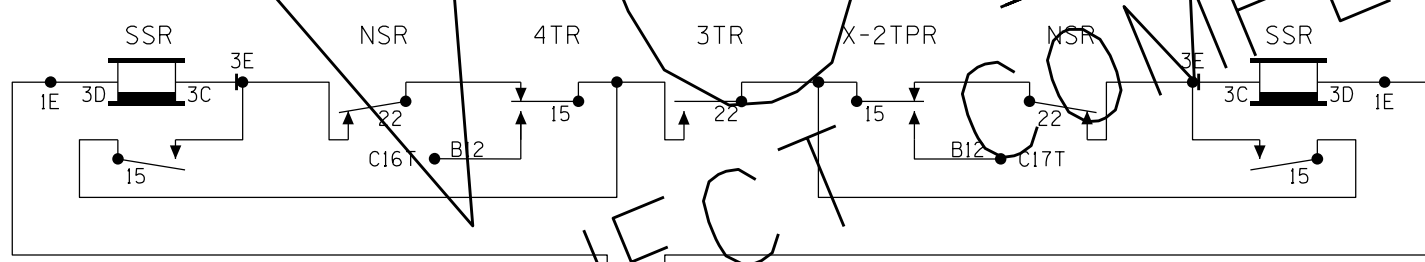
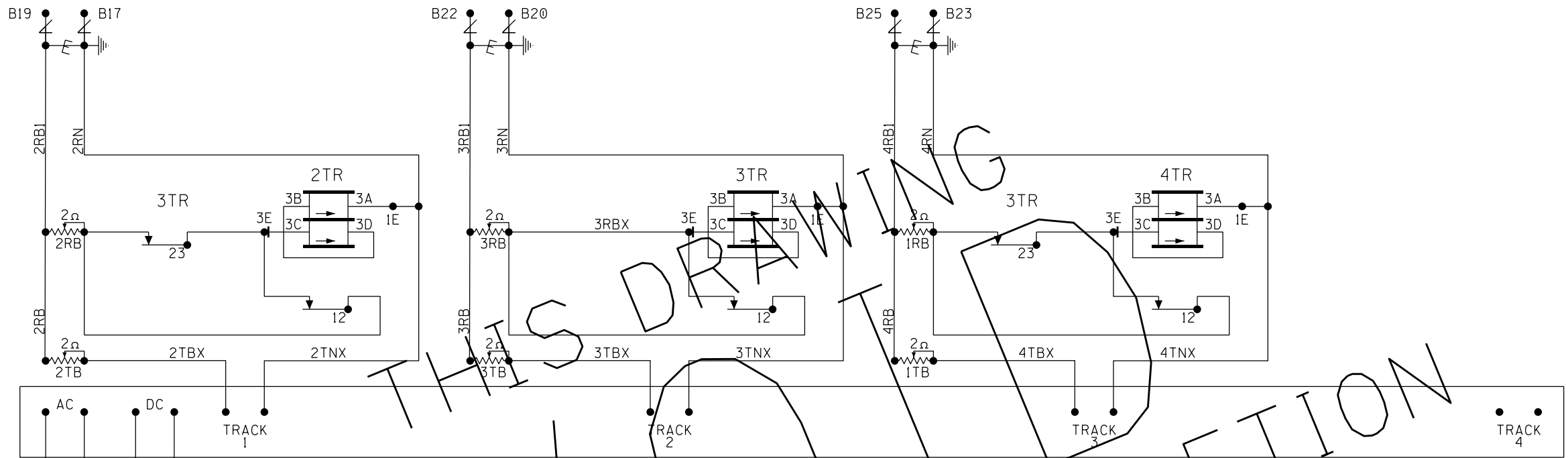
DESIGNED BY: DEW
 DIGITIZED BY: RJC
 CHECKED BY: XXX

GREEN SEA RD
 TABOR CITY, NC
 CAROLINA SUBDIVISION

DATE: 02/14/18
 FILE: ACH31037.12
 SHEET 12



101 RJ CORMAN DRIVE
 NICHOLASVILLE, KY 40356



ON

THIS DRAWING IS DRAFTING ON PROJECT COMPLETION

TRACK PLAN

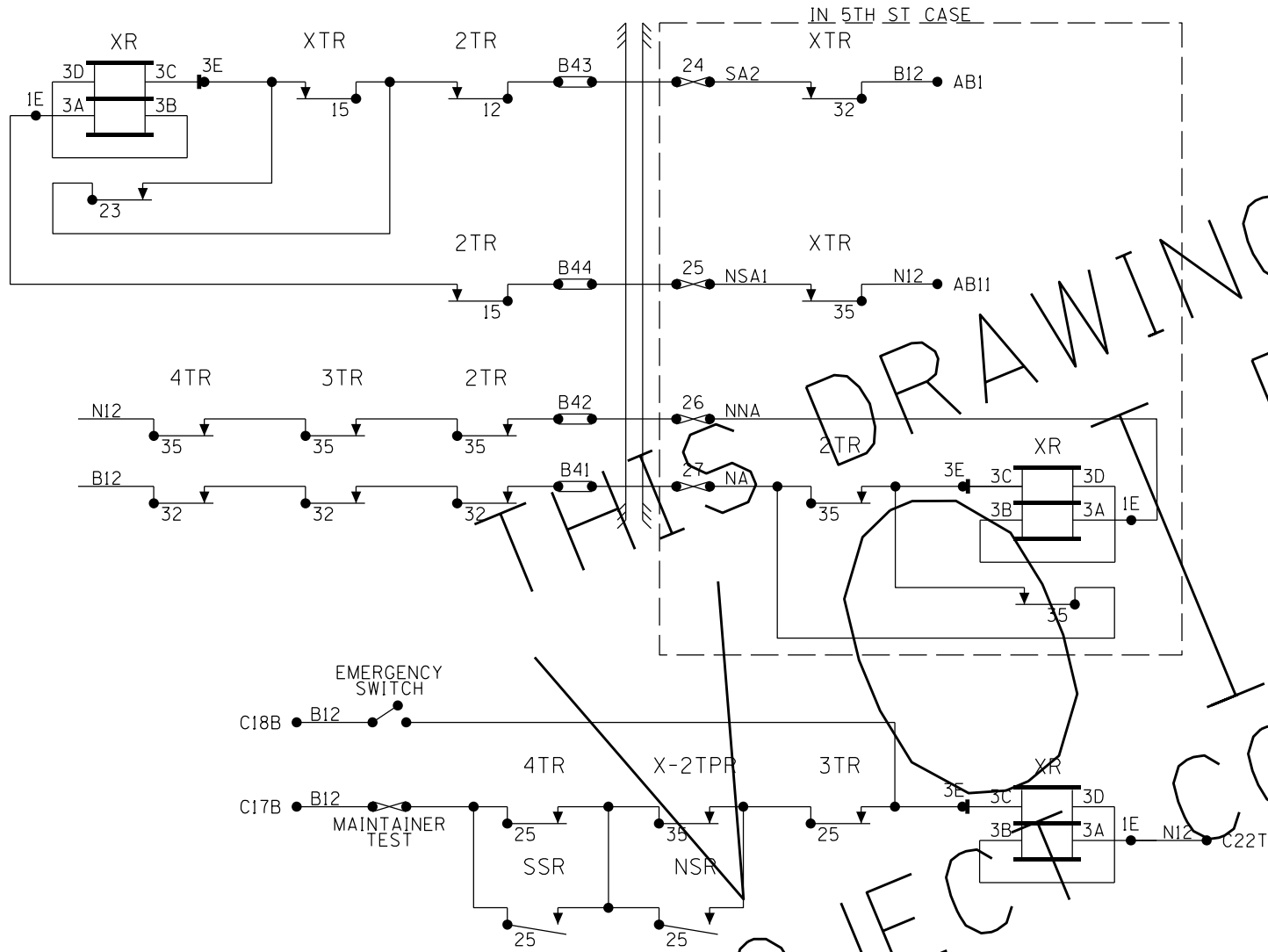
RJ CORMAN RAILROAD



DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.02
SHEET 02



THIS DRAWING IS ON PROJECT COMPLETION

TRACK PLAN

RJ CORMAN RAILROAD



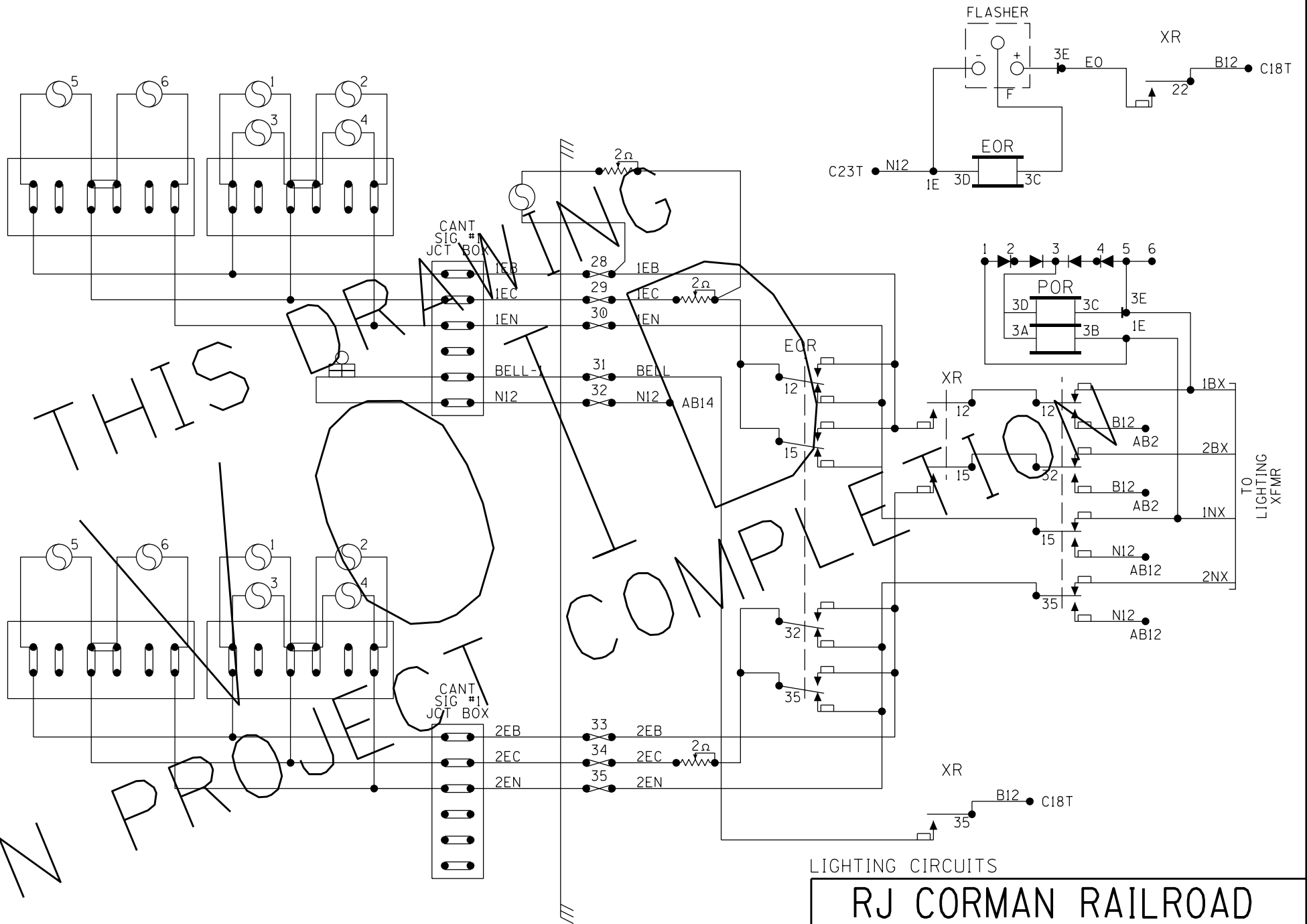
**RJ Corman
Signaling, LLC**
101 RJ CORMAN DRIVE
NICHOLASVILLE, KY 40356

DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.03
SHEET 03

THIS DRAWING IS NOT TO BE USED ON PROJECT



LIGHTING CIRCUITS

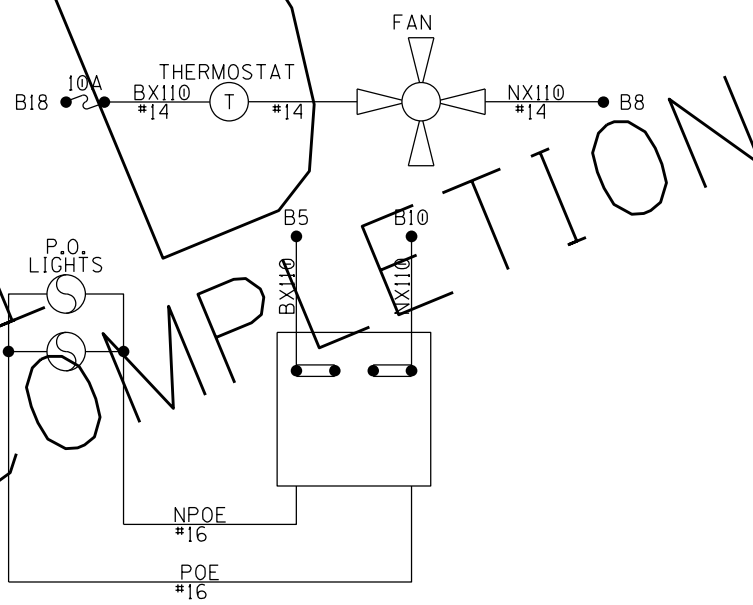
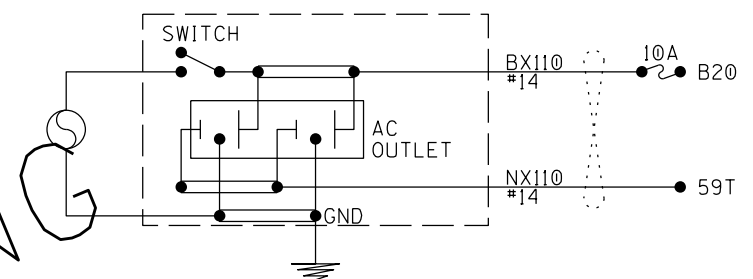
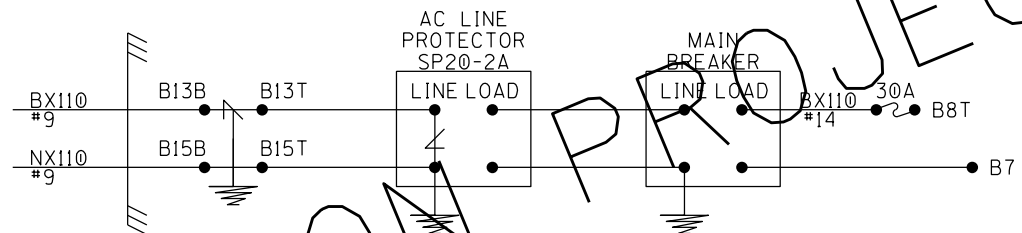
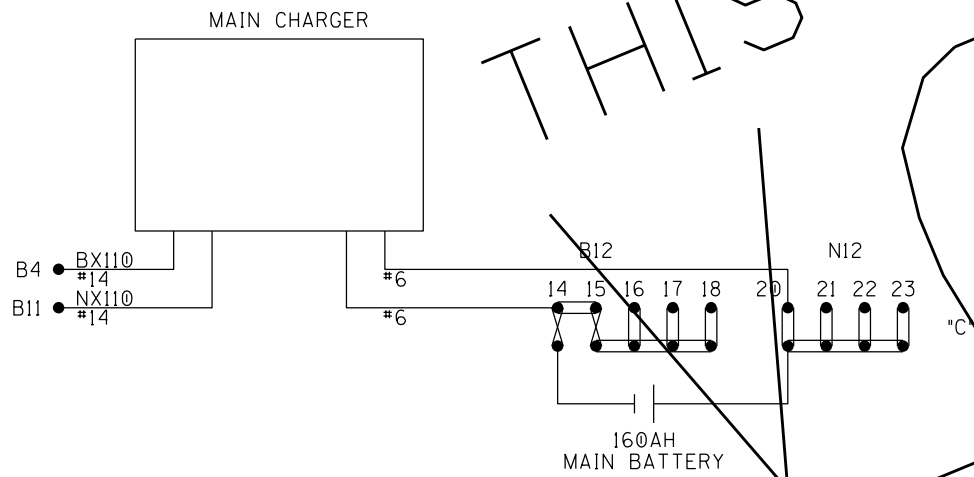
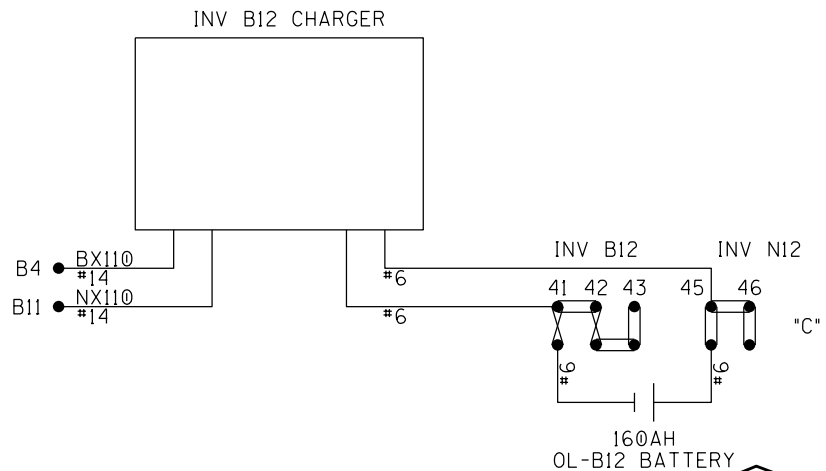
RJ CORMAN RAILROAD



DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.04
SHEET 04



THIS DRAWING IS ON PROJECT COMPLETION

NOTE:
ALL WIRE THIS SHEET #10 AWG
UNLESS OTHERWISE NOTED

POWER CIRCUITS
RJ CORMAN RAILROAD



DESIGNED BY: DEW
DIGITIZED BY: RJC
CHECKED BY: XXX

GREEN SEA RD
TABOR CITY, NC
CAROLINA SUBDIVISION

DATE: 02/14/18
FILE: ACH31037.05
SHEET 05