

T17 MAIN SCRUB BOARD REFRESH

Industrial Design

1243629

Changelog:

Rev A-P - Previous work

Rev Q - Changes -

Flattend the schematic (No more modules!)

Cost Reduction: Removing MUXES and HIGH COST DACS.

Add Hand Wand VAC circuit.

Added additional 12V Buck circuit.

Changed 5V linear circuit to 5V buck.

Changed brass bolts to press on bolts

Current limited the 12V signal to water Sensor.

Q26043-001

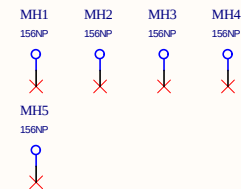
Rev A - Based on Rev Q.

Rev B - Switched SDA/SCL in 3 phase motor pgs 7 and 10

Bootstrap Capacitors fixed on pg8 and pg11 for 3phase.

Wires need to be 1A capable.

Rev C - Changed components for PUMP LSDPWM to 5A on pg6

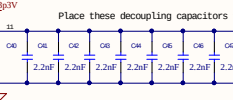
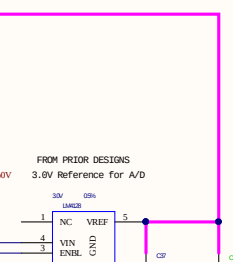
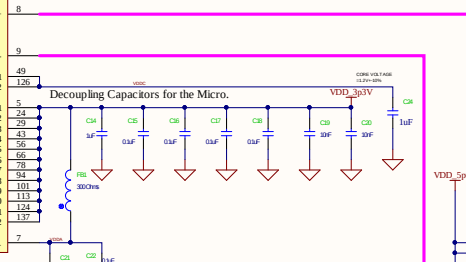
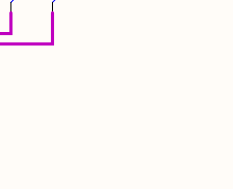
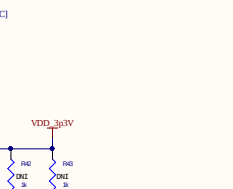
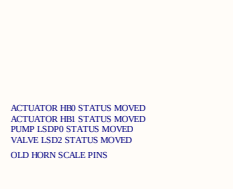
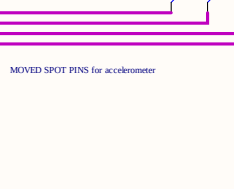
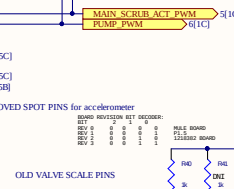
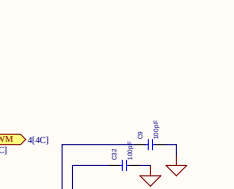
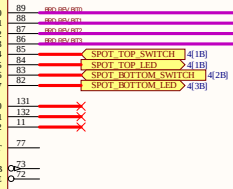
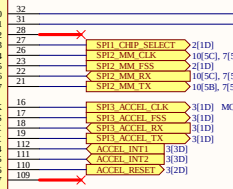
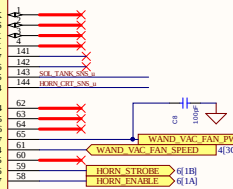
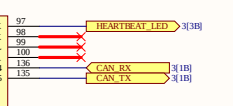
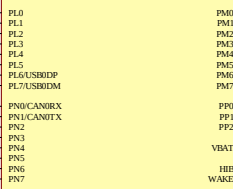
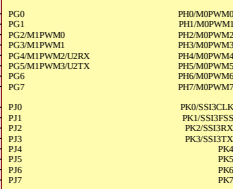
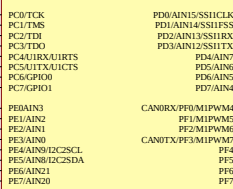
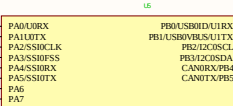
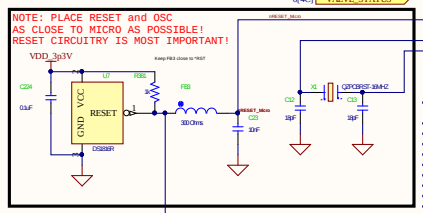
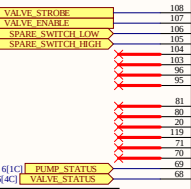
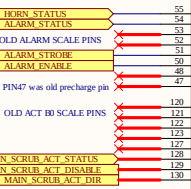
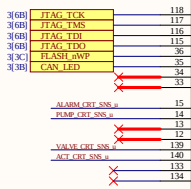
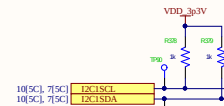
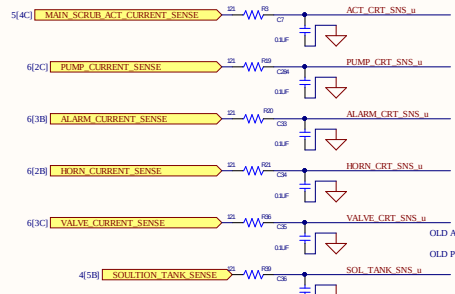


PCB1
Q25092-002

SCHEMATIC1
Q26043-001

Title		
T17 Main Scrub Board Refresh		
Size	Number	Revision
C	Q26043-001	Rev C
Date:	7/9/2019	Sheet 1 of 14
File:	D:\SVN\...01-T17-Title.SchDoc	Drawn By: Charles Hawkins

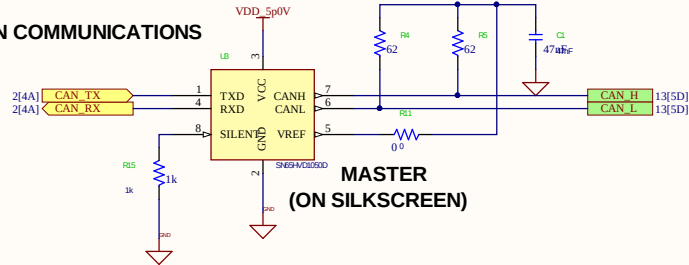
nRESET → nRESET 1[31A], 3[1A], 5[1A], 6[1A]



Title			
T17 Main Scrub Board Refresh			
Size	Number	Revision	
C	Q26043-001	Rev C	
Date	7/20/2019	Sheet 2	of 14
File	D:\SVS_02-Micro SchDoc	Drawn By	Charles Hawkins

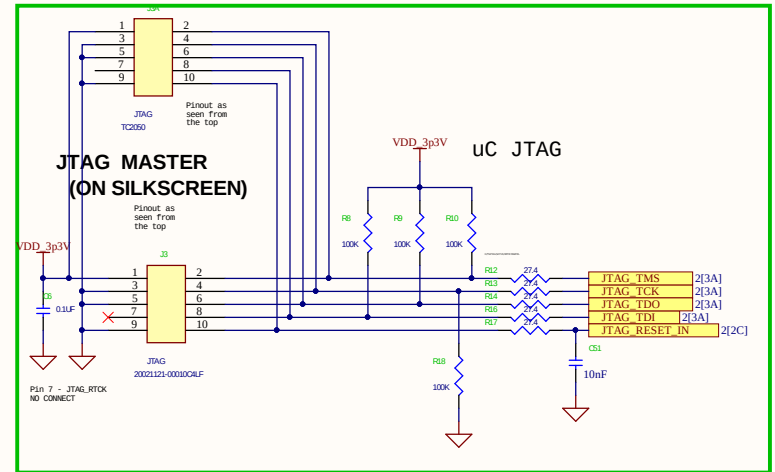
13[1A], 2[1A], 5[1A], 6[1A] nRESET

CAN COMMUNICATIONS



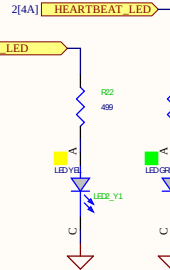
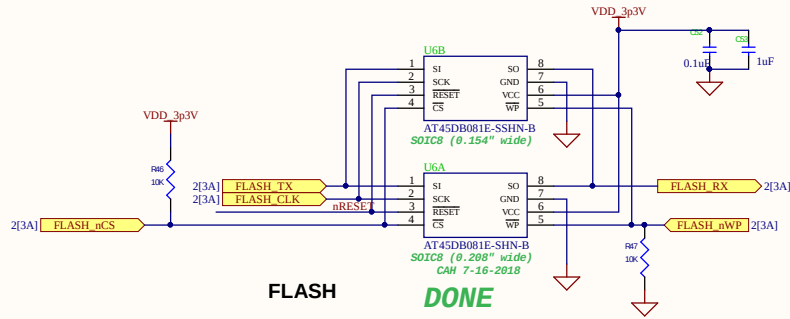
INTERFACES CONNECTORS

JTAG MASTER (ON SILKSCREEN)



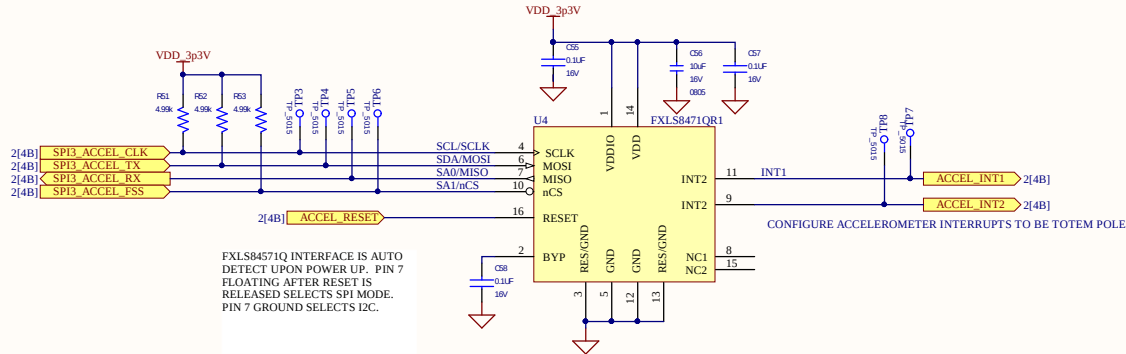
FLASH

DONE



NEW/CHANGE

ACCELEROMETER

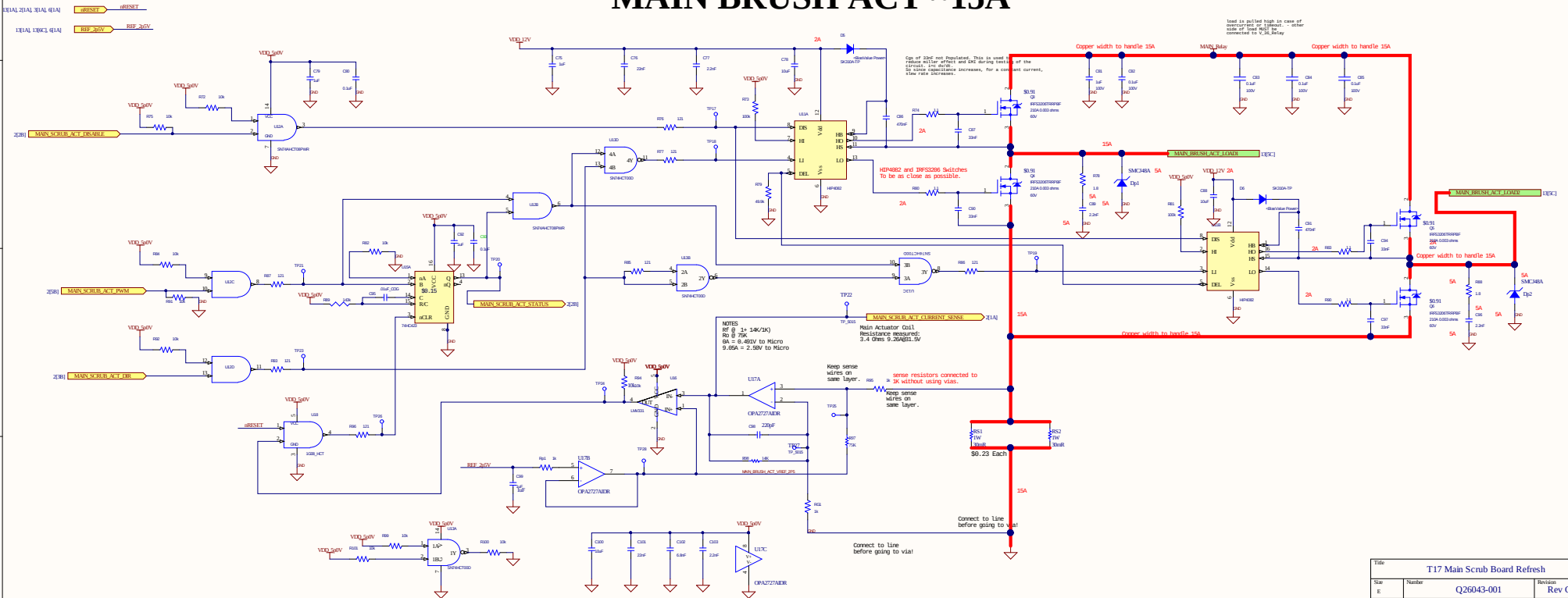


Title			
T17 Main Scrub Board Refresh			
Size	Number	Revision	
C		Q26043-001 Rev C	
Date:	7/9/2019	Sheet 3	of 14
File:	D:\SVN\...03-Hardware.SchDoc	Drawn By:	Charles Hawkins

CIRRUS

MAIN BOARD H-BRIDGE

MAIN BRUSH ACT ~15A



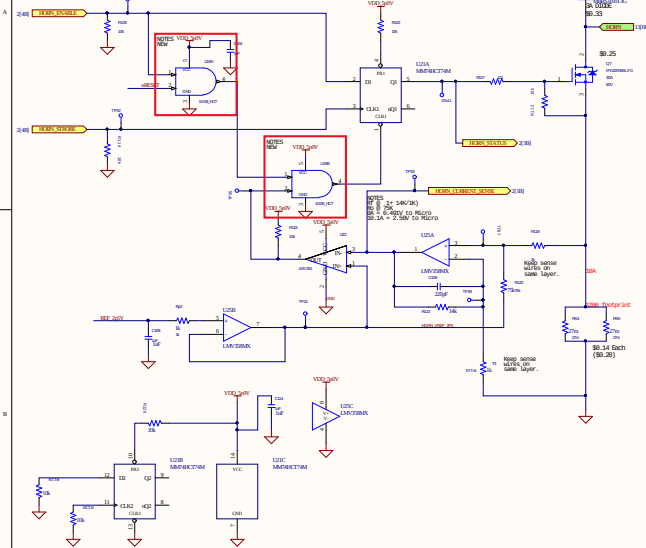
Title			
T17 Main Scrub Board Refresh			
Size	Number	Revision	
E	Q26043-001	Rev C	
Date	7/2/2020	Sheet 5 of 10	
File	C:\Users\joe\OneDrive\Desktop\T17 Main Scrub Board Refresh	Drawn By	Joe Hinkle

DETAIL: 24V/14V
DETAIL: 14V/14V

HORN/ALARM/PUMP/VALVE

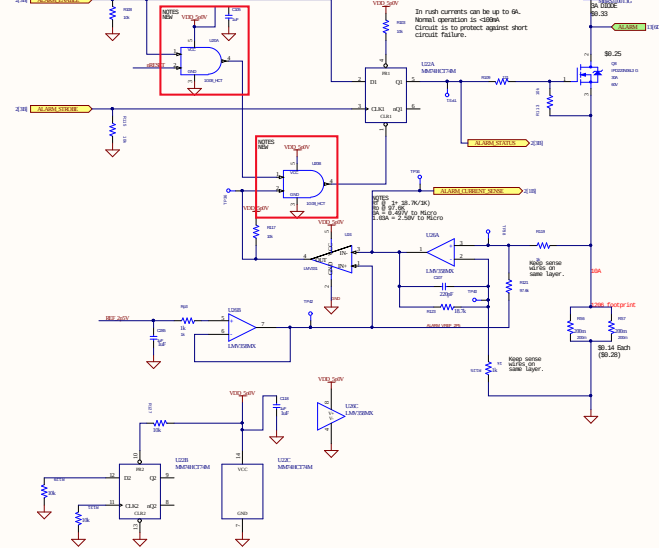
HORN

0.5C74V1
C: 100nF
0.5V 5V
0.5V 5V
0.5V 5V
with 125 Ohm resistor it will be ok



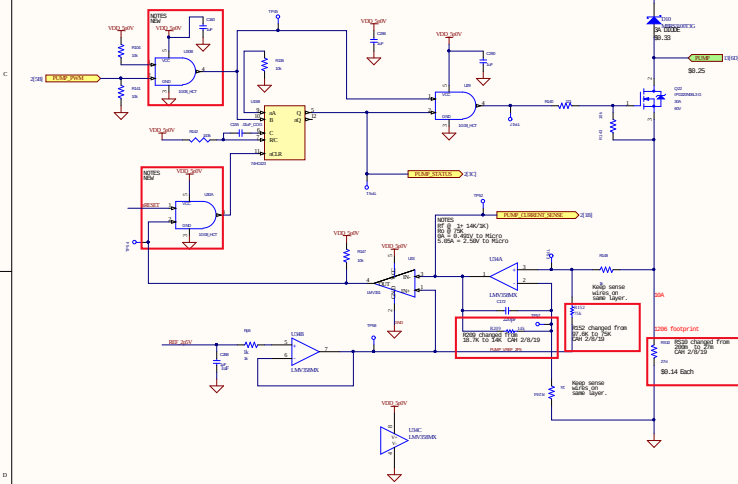
ALARM

In both currents can be up to 5A.
Normal operation < 0.5mA
Circuit is to protect against short
circuit failure.



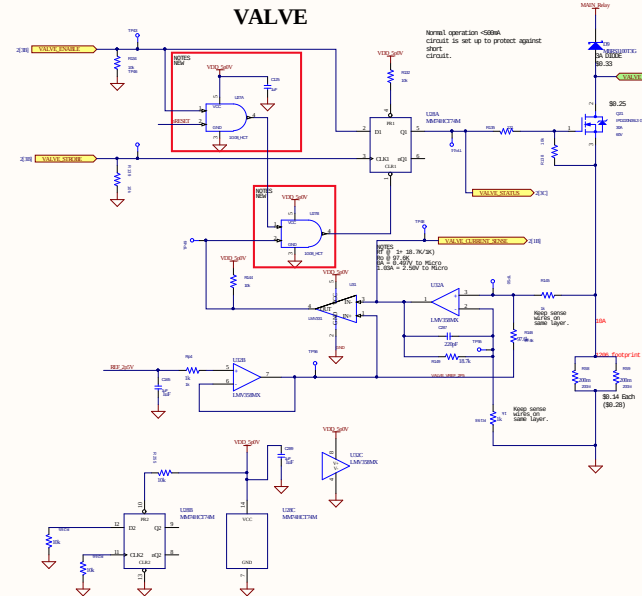
PUMP

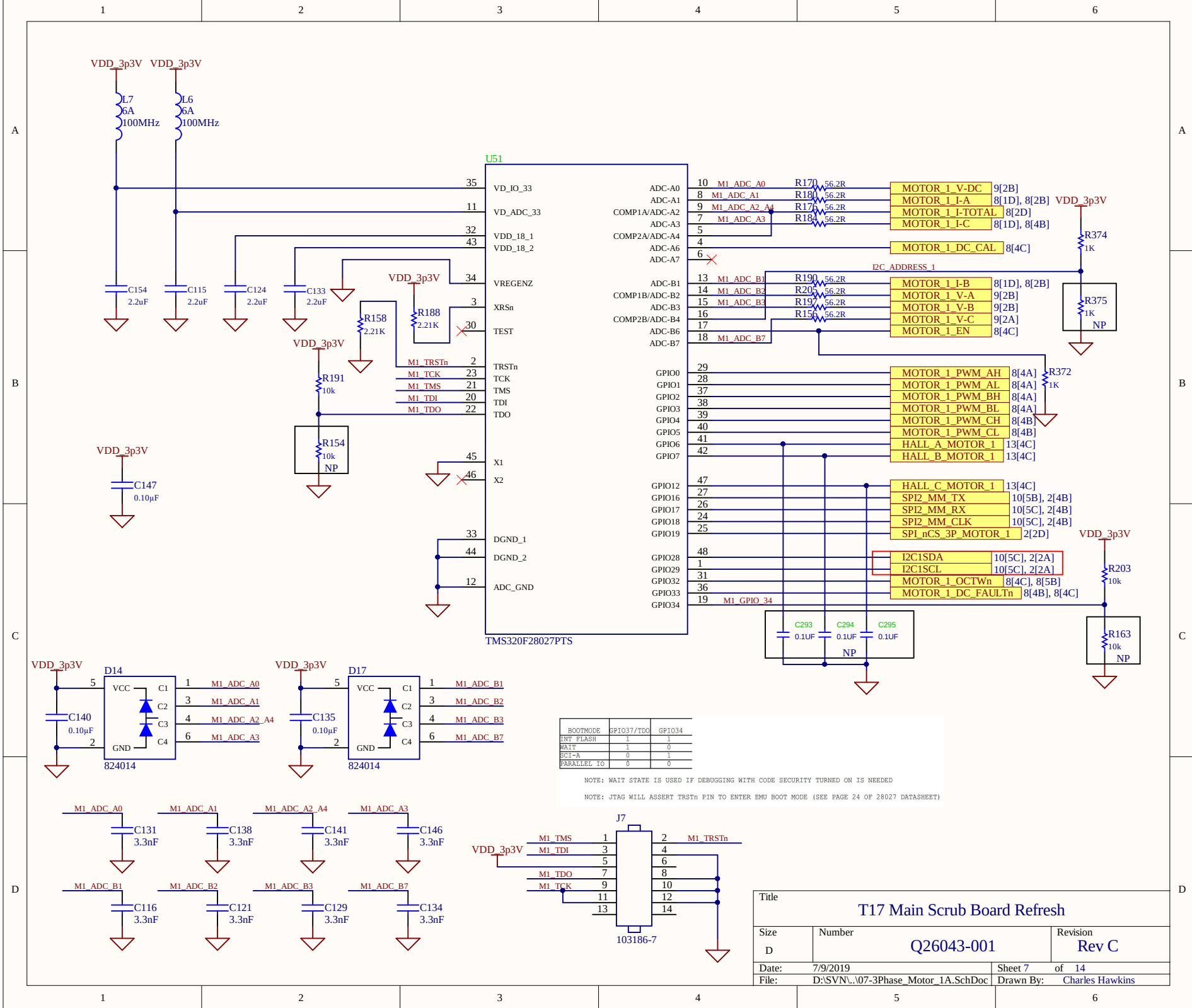
0.5C74V1
C: 100nF
0.5V 5V
0.5V 5V
0.5V 5V
with 125 Ohm resistor it will be ok



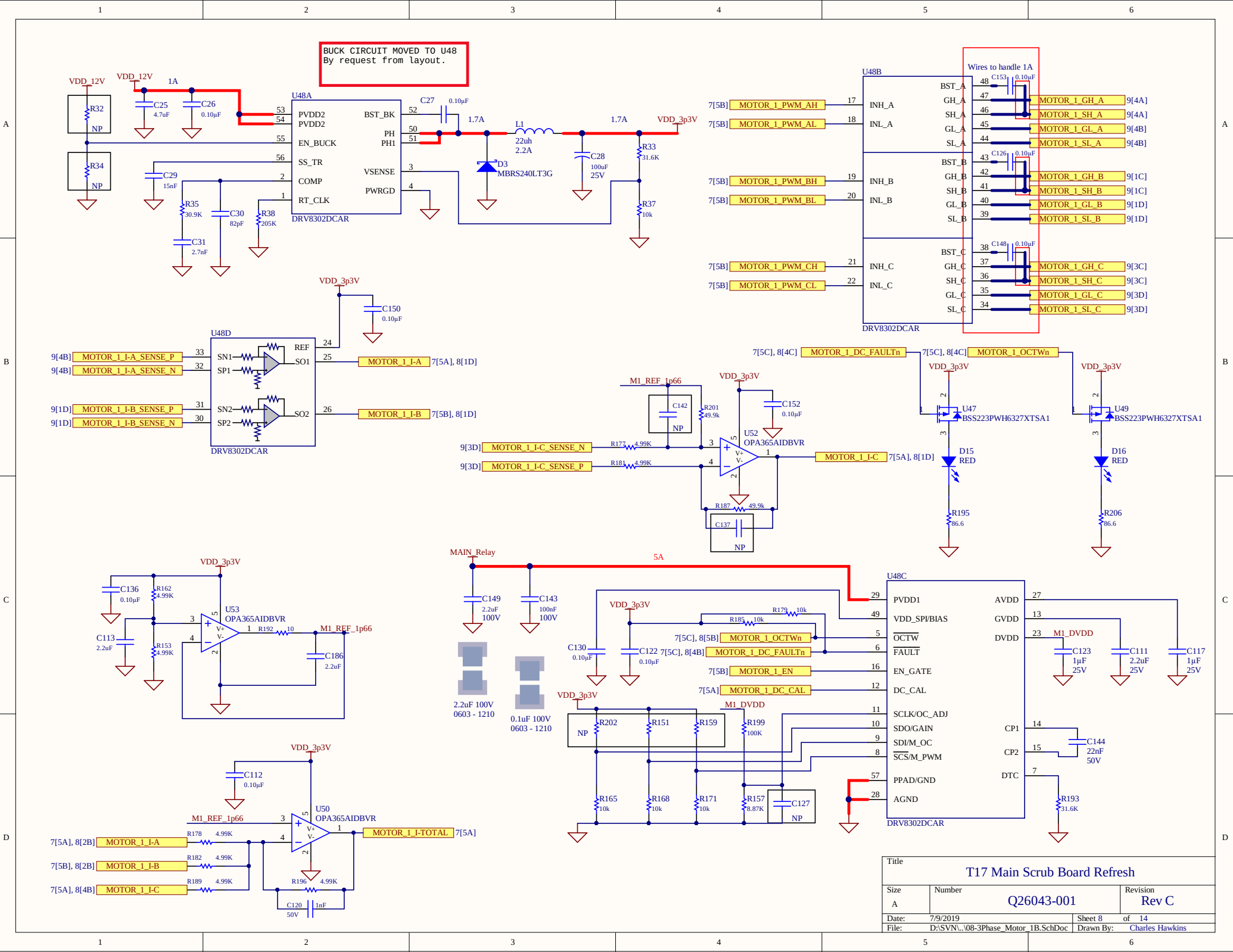
VALVE

Normal operation < 500mA
circuit is set up to protect against
short.





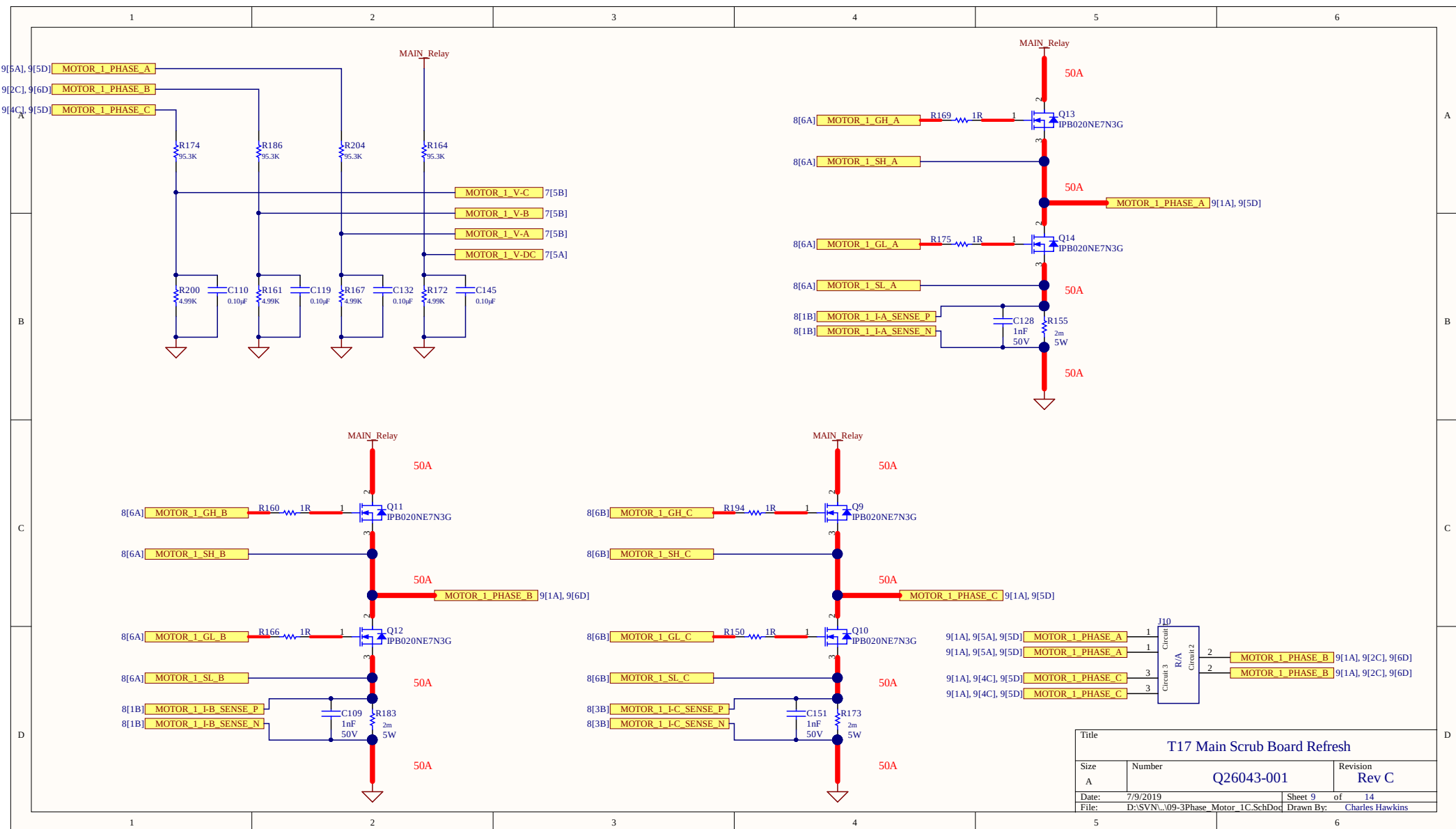
Title		
T17 Main Scrub Board Refresh		
Size	Number	Revision
D	Q26043-001	Rev C
Date:	7/9/2019	Sheet 7 of 14
File:	D:\SVN\...\07-3Phase_Motor_1A.SchDoc	Drawn By: Charles Hawkins



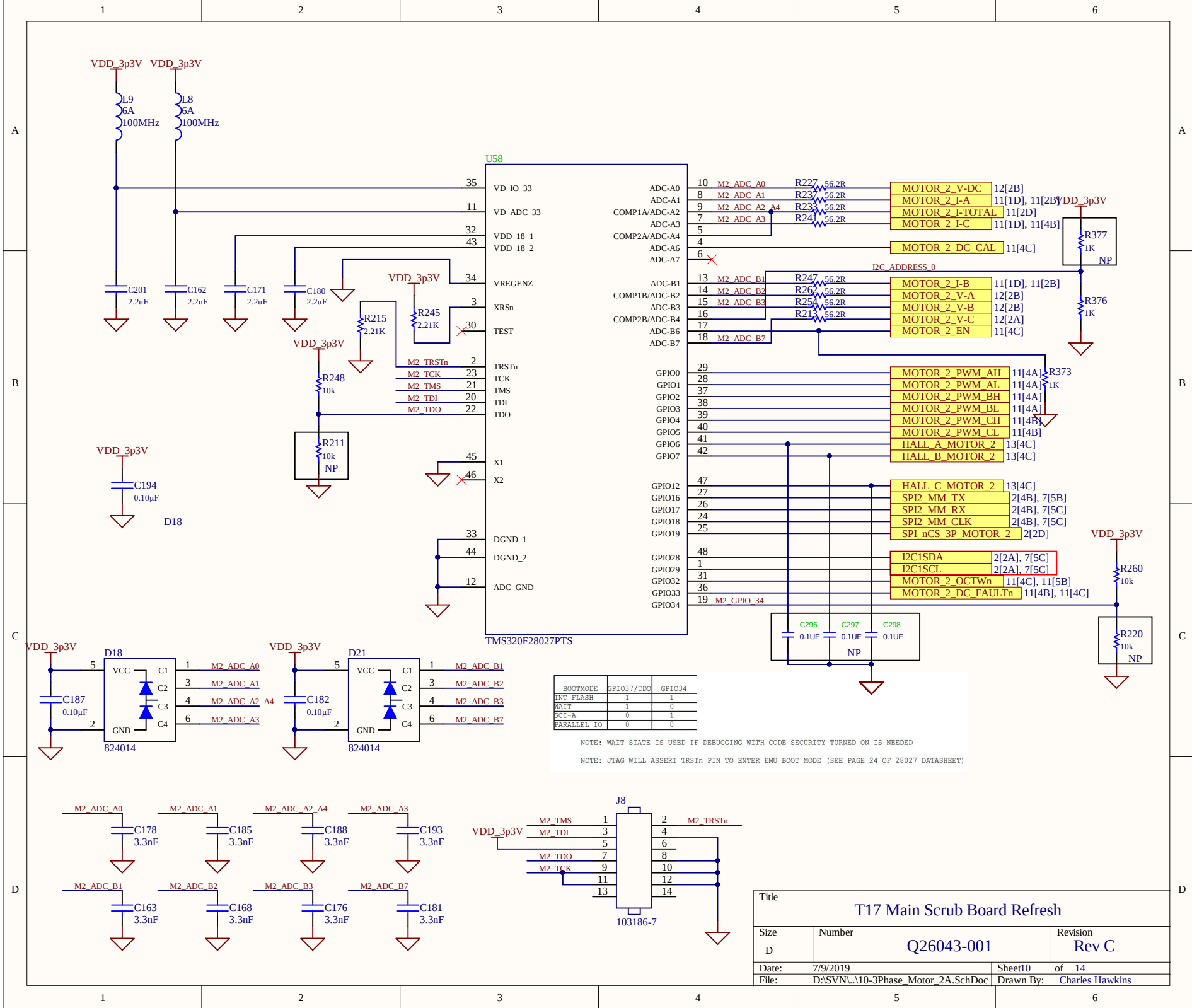
BUCK CIRCUIT MOVED TO U48
By request from layout.

Wires to handle 1A

Title			
T17 Main Scrub Board Refresh			
Size	Number	Revision	
A	Q26043-001	Rev C	
Date:	7/9/2019	Sheet 8	of 14
File:	D:\SVN\...08-3Phase_Motor_1B.SchDoc	Drawn By:	Charles Hawkins



Title		
T17 Main Scrub Board Refresh		
Size	Number	Revision
A	Q26043-001	Rev C
Date:	7/9/2019	Sheet 9 of 14
File:	D:\SVN\...09-3Phase_Motor_1C.SchDoc	Drawn By: Charles Hawkins

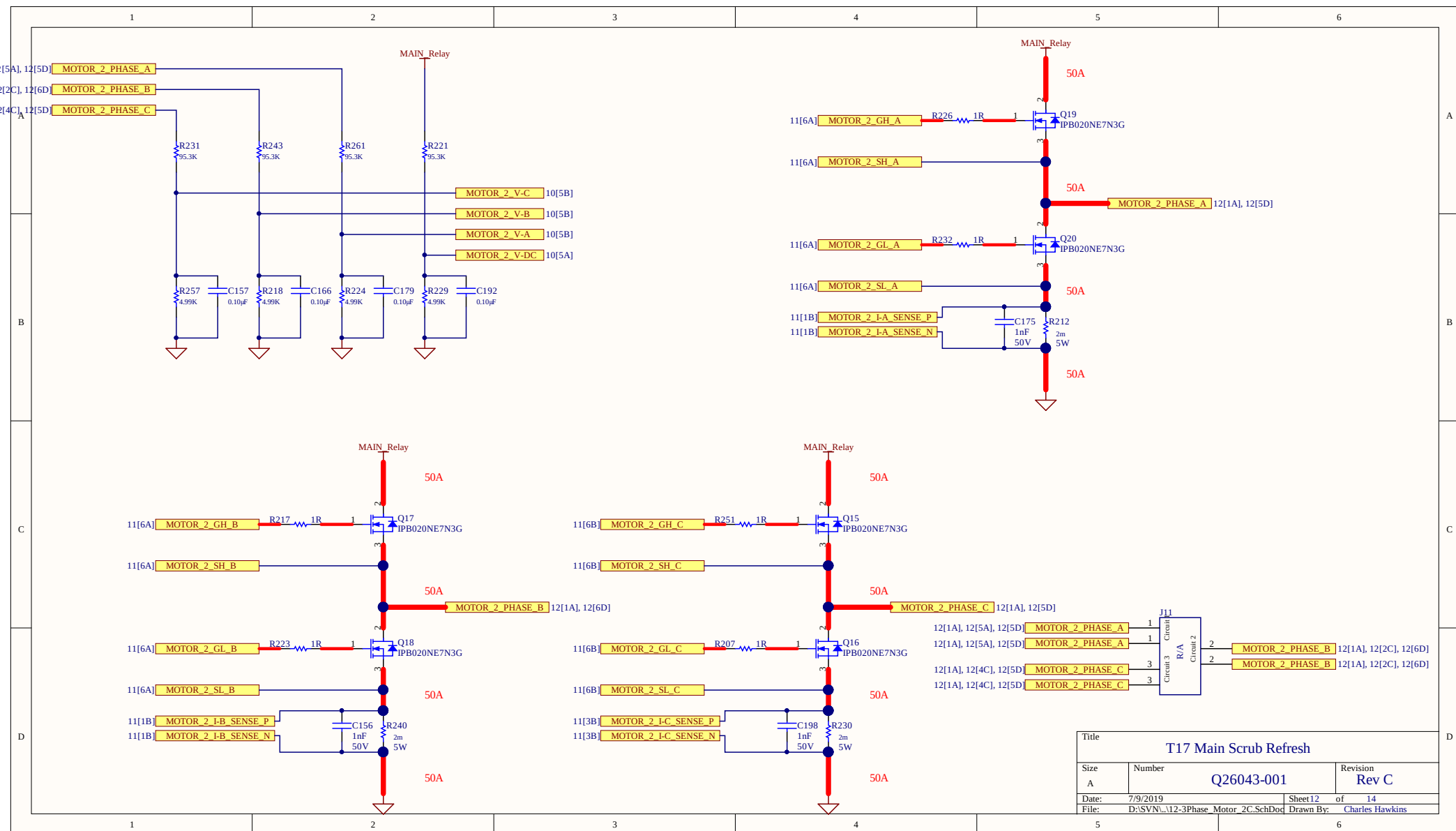


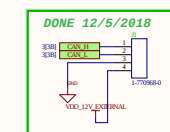
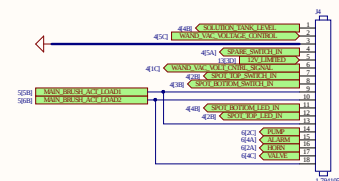
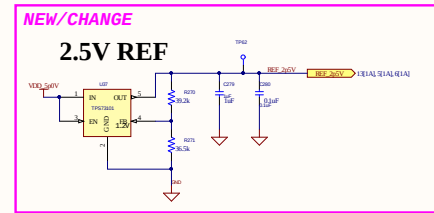
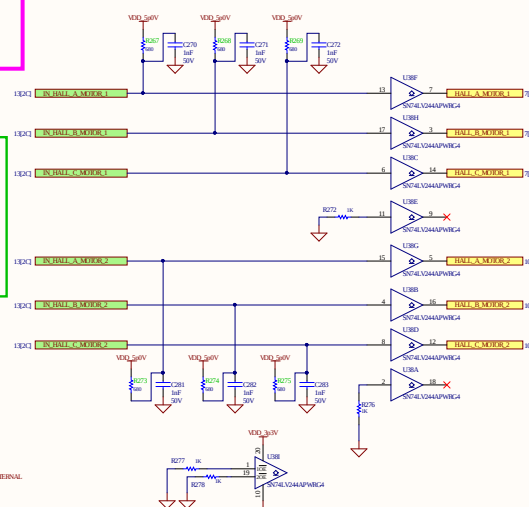
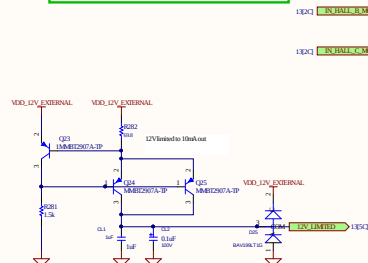
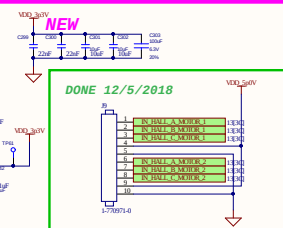
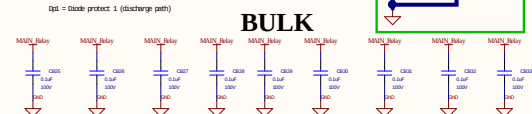
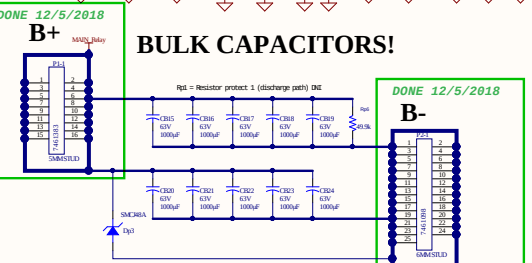
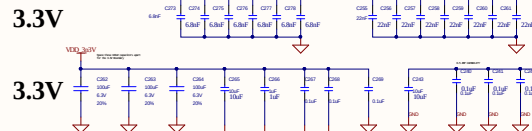
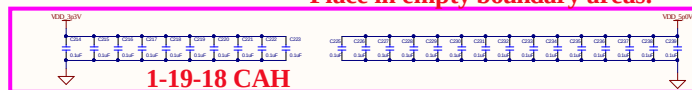
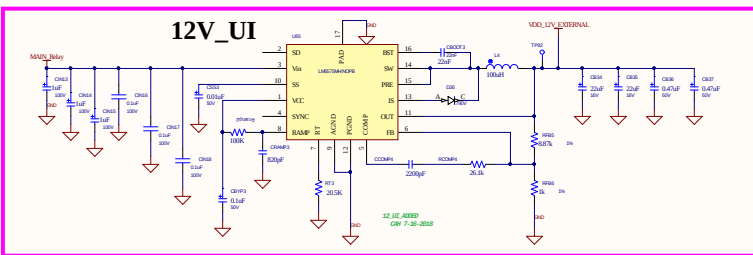
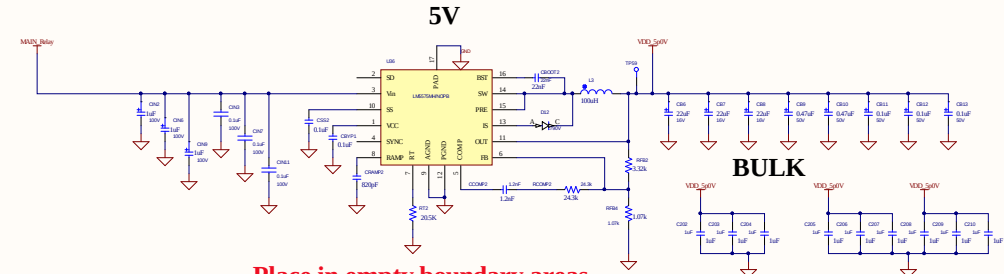
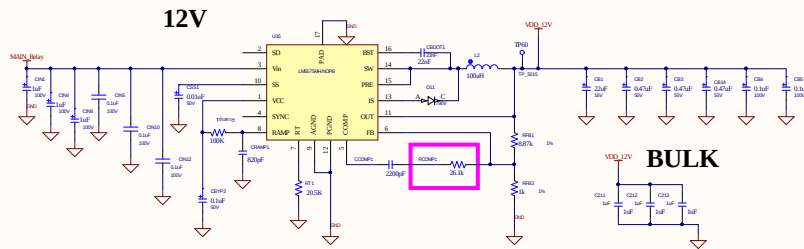
BOOTMODE	GPIO37/TDO	GPIO34
INT_FLASH	1	1
RSIT	1	0
SCI-A	0	1
PARALLEL_IO	0	0

NOTE: WAIT STATE IS USED IF DEBUGGING WITH CODE SECURITY TURNED ON IS NEEDED

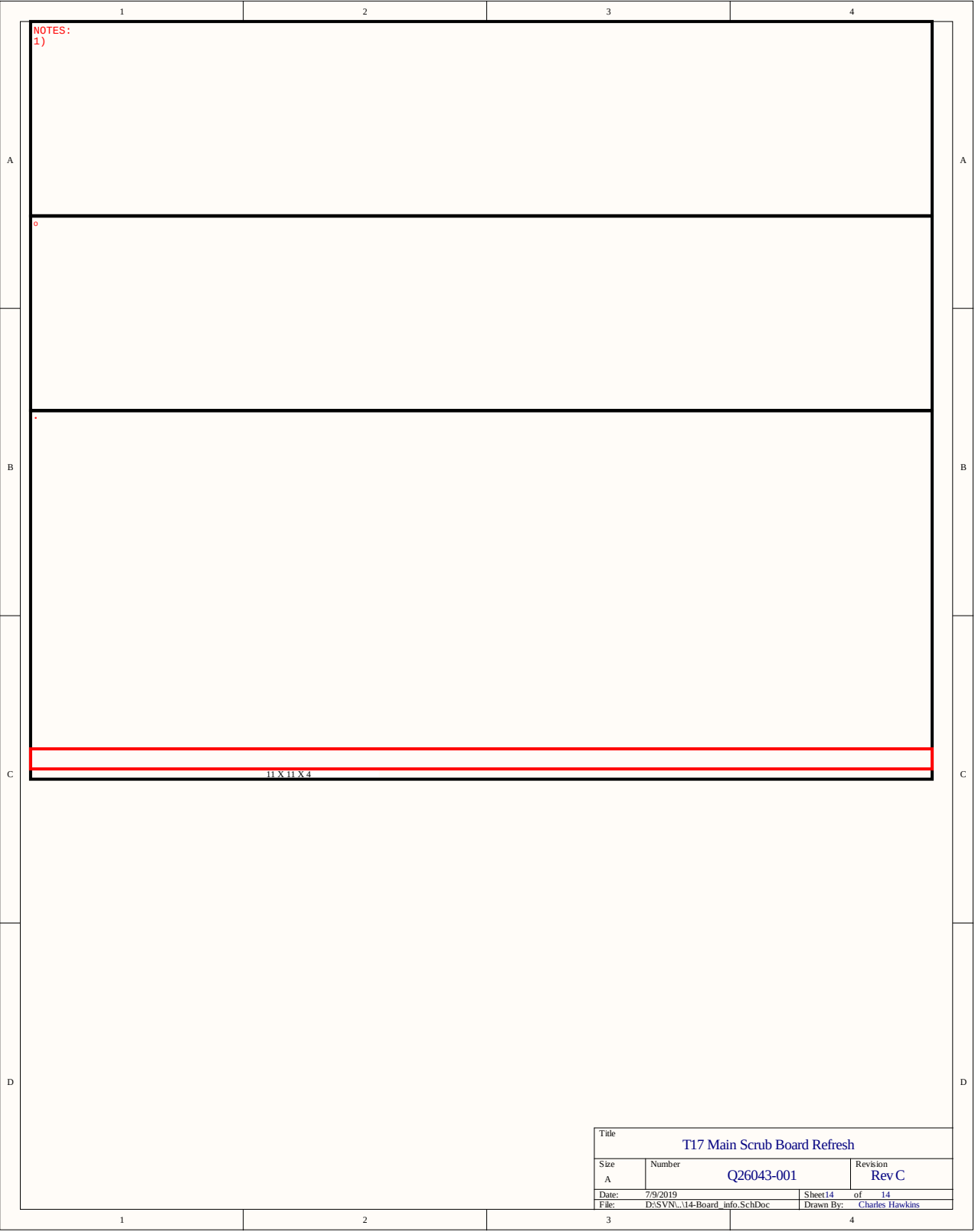
NOTE: JTAG WILL ASSERT TRSTn PIN TO ENTER EMU BOOT MODE (SEE PAGE 24 OF 28027 DATASHEET)

Title		
T17 Main Scrub Board Refresh		
Size	Number	Revision
D	Q26043-001	Rev C
Date:	7/9/2019	Sheet10 of 14
File:	D:\SVN\...10-3Phase_Motor_2A.SchDoc	Drawn By: Charles Hawkins





T17 Main Scrub Board Refresh			
Rev	0	Number	Q26043-001
Date	10/30/2018	Rev C	Revision
File	T17-SM-13-Supplies-S00x	Sheet 11 of 14	Drawn By: Charles Hamilton



Title			
T17 Main Scrub Board Refresh			
Size	Number		Revision
A	Q26043-001		Rev C
Date:	7/9/2019	Sheet	14 of 14
File:	D:\SVN\...14-Board_info.SchDoc	Drawn By:	Charles Hawkins