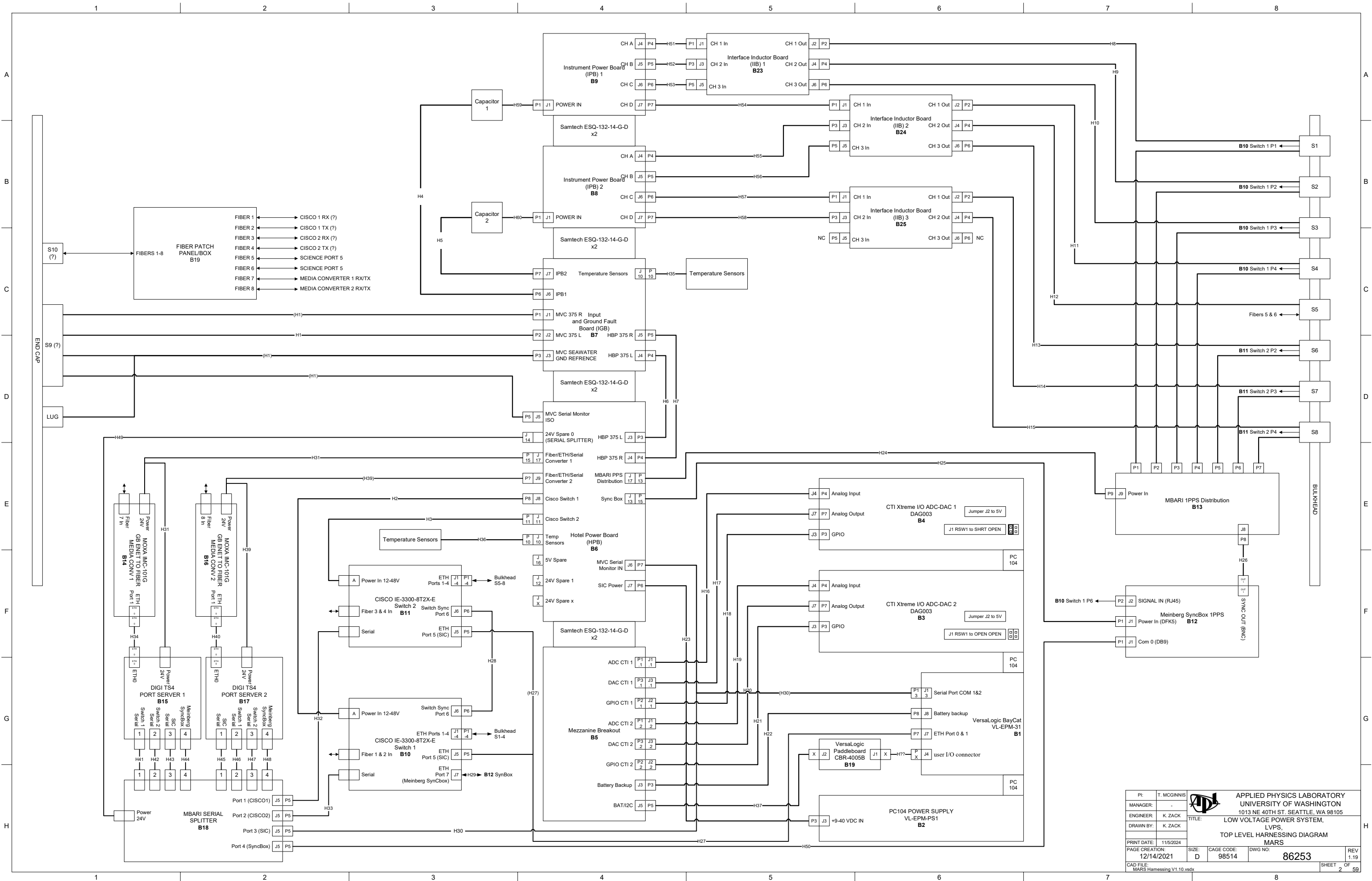


REF DESIG	DESCRIPTION	PAGE		
A1H1	MVC-LVPS Bulkhead Connector	3-4		
A1H2	Cisco Switch 1 Power	5		
A1H3	Cisco Switch 2 Power	6		
A1H4	IPB 1 375V In	7		
A1H5	IPB 2 375V In	8		
A1H6	HPB 375L In	9		
A1H7	HPB 375R In	10		
A1H8	IPS 1 CHA 375V Out ODI	11		
A1H9	IPS 1 CHB 375V Out ODI	12		
A1H10	IPS 1 CHC 375V Out ODI	13		
A1H11	IPS 1 CHD 375V Out ODI	14		
A1H12	IPS 2 CHA 375V Out ODI	15		
A1H13	IPS 2 CHB 375V Out ODI	16		
A1H14	IPS 2 CHC 375V Out ODI	17		UW/APL - POWER
A1H15	IPS 2 CHD 375V Out ODI	18		MBARI - DATA
A1H16	CTI ADC I/O 1	19-20		
A1H17	CTI DAC I/O 1	21		
A1H18	CTI GPIO I/O 1	22		
A1H19	CTI ADC I/O 2	23-24		
A1H20	CTI DAC I/O 2	25		
A1H21	CTI GPIO I/O 2	26		
A1H22	BAYCAT BATTERY BACKUP	27		
A1H23	PC104 PSU POWER	28		
A1H24	1PPS DISTRIBUTION POWER	29		
A1H25	MEINBERG SYNC 1PPS POWER	30		
A1H26	1PPS SIGNAL	31		
A1H27	PC104 ETHERNET	32		
A1H28	SWITCH 1-2 BRIDGE	33		
A1H29	MEINBERG SYNC ETHERNET	34		
A1H30	PC104 MVC CONTROLLER SERIAL	35		
A1H31	MEDIA CONV - PORT SERVER 1 POWER	36		
A1H32	CISCO 2 CONSOLE	37		
A1H33	CISCO 1 CONSOLE	38		
A1H34	MEDIA CONV - PORT SERVER 1 DATA	39		
A1H35	IGB TEMP SENSORS	40		
A1H36	HPB TEMP SENSORS	41-42		
A1H37	PC104-PADDLEBOARD I2C	43		
A1H38	PADDLEBOARD-BOB I2C	44		
A1H39	MEDIA CONV - PORT SERVER 2 POWER	45		
A1H40	MEDIA CONV - PORT SERVER 2 DATA	46		
A1H41	PORT SERVER 1 PORT 1 - SERIAL SPLITTER	47		
A1H42	PORT SERVER 1 PORT 2 - SERIAL SPLITTER	47		
A1H43	PORT SERVER 1 PORT 3 - SERIAL SPLITTER	47		
A1H44	PORT SERVER 1 PORT 4 - SERIAL SPLITTER	47		
A1H45	PORT SERVER 2 PORT 1 - SERIAL SPLITTER	47		
A1H46	PORT SERVER 2 PORT 2 - SERIAL SPLITTER	47		
A1H47	PORT SERVER 2 PORT 3 - SERIAL SPLITTER	47		
A1H48	PORT SERVER 2 PORT 4 - SERIAL SPLITTER	47		
A1H49	SERIAL SPLITTER POWER	48		
A1H50	MEINBERG CONSOLE	49		
A1H51	IPS 1 CHA 375V Out IIB	50		
A1H52	IPS 1 CHB 375V Out IIB	51		
A1H53	IPS 1 CHC 375V Out IIB	52		
A1H54	IPS 1 CHD 375V Out IIB	53		
A1H55	IPS 2 CHA 375V Out IIB	54		
A1H56	IPS 2 CHB 375V Out IIB	55		
A1H57	IPS 2 CHC 375V Out IIB	56		
A1H58	IPS 2 CHD 375V Out IIB	57		
A1H59	CAPACITOR 1	58		
A1H60	CAPACITOR 2	59		

B6	HPB
B7	IGB
B8	IPB 2
B9	IPB 1
B10	CISCO 1
B11	CISCO 2
B12	Meinberg SyncBox
B13	1PPS Distribution
B14	Media Converter 1
B15	Port Server 1
B16	Port Server 2
B17	Media Converter 2
B18	Serial Splitter
B19	I/O Paddleboard
B20	Fiber Patch Box
B21	Capacitor 1
B22	Capacitor 2
B23	IIB1
B24	IIB2
B25	IIB3

HPB	Function	Switched?
J5	24V - ISO MVC & MVC RS232	No
J6	PC-104 RS232	N/A
J7	24V - PC104	No
J8	24V - CISCO 1	Yes
J9	24V - Spare	No
J10	Temp Sensors	N\A
J11	24V - CISCO 2	Yes
J12	24V - Spare	No
J13	24V - Sync Box	Yes
J14	24V - Spare	No
J15	24V - Media Converter 1	Yes
J16	24V - Serial Splitter (Spare)	Yes
J17	5V - PPS Distribution	Yes
J18	5V - Spare	No
J19	+187L	N/A
J20	-187L	N/A
J21	+187R	N/A
J22	+187L	N/A

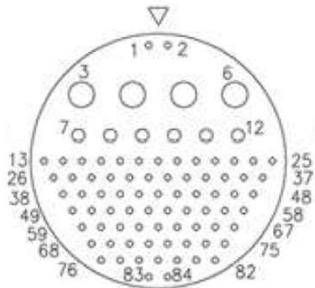
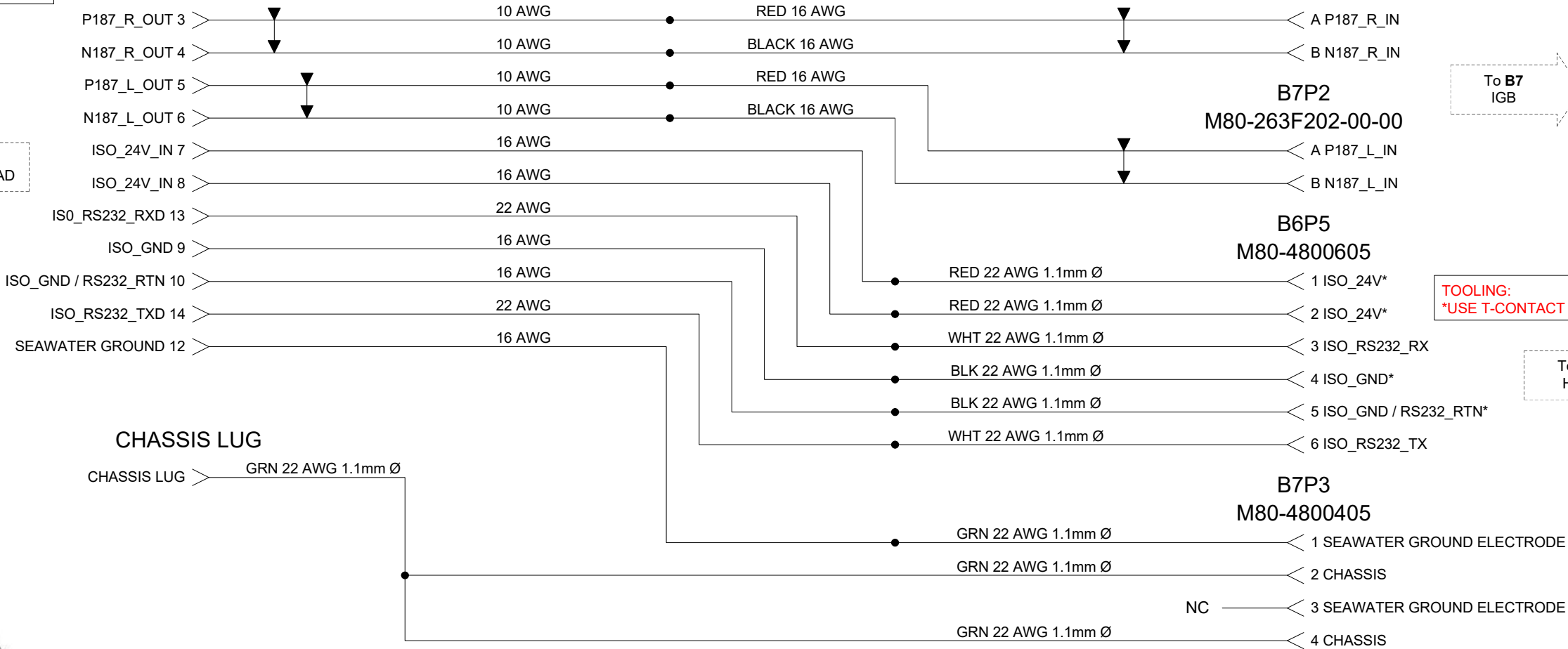
Double click to
open Excel
spreadsheet



PI:	T. MCGINNIS		APPLIED PHYSICS LABORATORY		
MANAGER:	-		UNIVERSITY OF WASHINGTON		
ENGINEER:	K. ZACK		1013 NE 40TH ST. SEATTLE, WA 98105		
DRAWN BY:	K. ZACK		TITLE: LOW VOLTAGE POWER SYSTEM, LVPS, TOP LEVEL HARNESSING DIAGRAM MARS		
PRINT DATE:	11/5/2024	SIZE:	D	CAGE CODE:	98514
PAGE CREATION:	12/14/2021	DWG NO:	86253	REV:	1.19
CAD FILE:	MARS Harnessing V1.10.vsd	SHEET		OF 59	

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

J1 BULKHEAD
SEACON MINR-84



4#10/6#16/74#22 (84 LONG)

PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: J1 Bulkhead MVC – LVPS Power and Data MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION:	12/14/2021	SIZE:	B	CAGE CODE:	98514
CAD FILE:		MARS Harnessing V1.10.vsd		DWG NO:	86253
				REV	1.08
				SHEET	3 OF 59

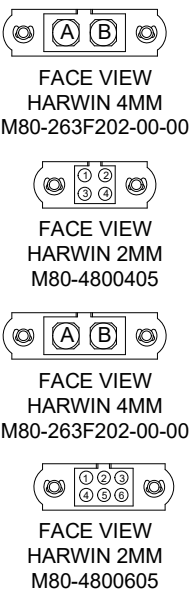
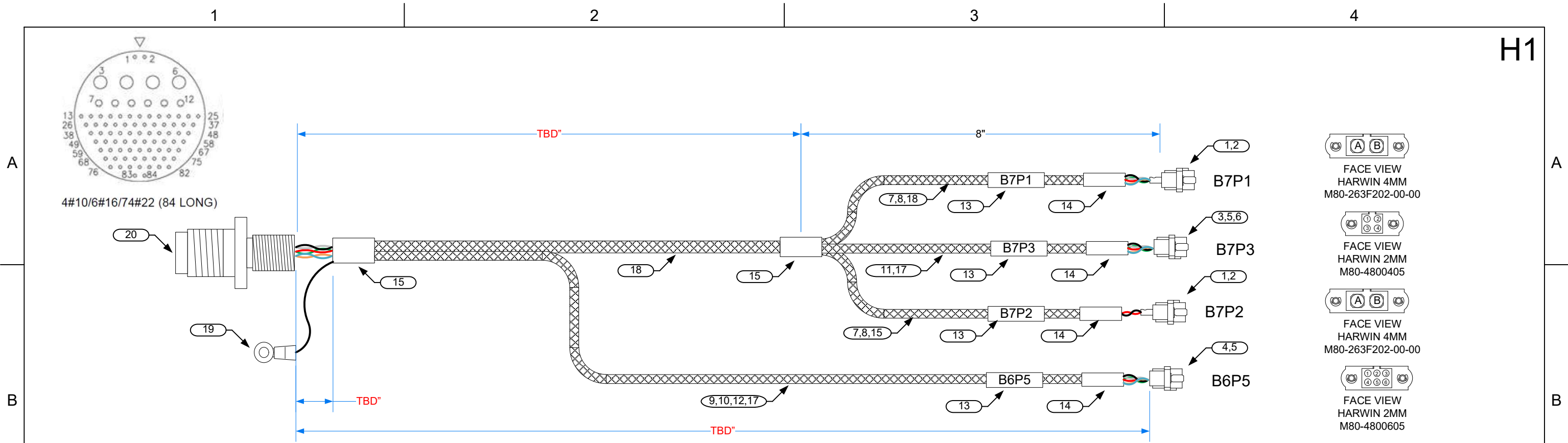
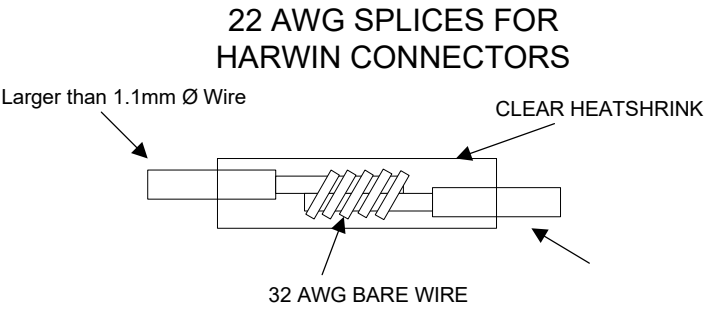
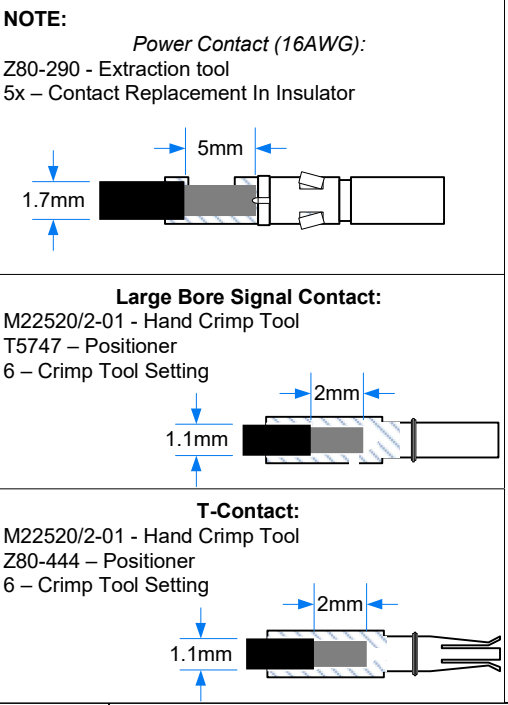


TABLE A1H1: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 10AWG CRIMP/SLD GOLD
3	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
4	1	M80-4800605	HARWIN	DATAMATE FEMALE 6-PIN
5	4	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
6	2	M80-0110005	HARWIN	DATAMATE 22AWG FEMALE CRIMP
7	TBD	AT161929 BK005	ALPHA	16 AWG BLACK WIRE PTFE
8	TBD	AT161929 RD005	ALPHA	16 AWG RED WIRE PTFE
9	TBD	2845/19 BK001	ALPHA	22 AWG BLACK WIRE PTFE 1.07mm Ø
10	TBD	2845/19 RD001	ALPHA	22 AWG RED WIRE PTFE 1.07mm Ø
11	TBD	2845/19 GR001	ALPHA	22 AWG GRN WIRE PTFE 1.07mm Ø
12	TBD	2845/19 WH001	ALPHA	22 AWG WHT WIRE PTFE 1.07mm Ø
13	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
14	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
15	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
16	2"	STOCK	STOCK	1/8" CLEAR HEAT SHRINK
17	TBD	PTN0.25BK-100	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
18	TBD	PTN0.50BK-100	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
19	1	STOCK	STOCK	CRIMP EYE
20	1	MINR-84-FCR/L-PBOF-P	SEACON	J1 BULKHEAD



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: J1 Bulkhead MVC – LVPS Power and Data MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024	SIZE:	CAGE CODE:	DWG NO:	REV
PAGE CREATION:	12/14/2021	B	98514	86253	1.08
CAD FILE: MARS Harnessing V1.10.vsdX				SHEET	OF
				4	59

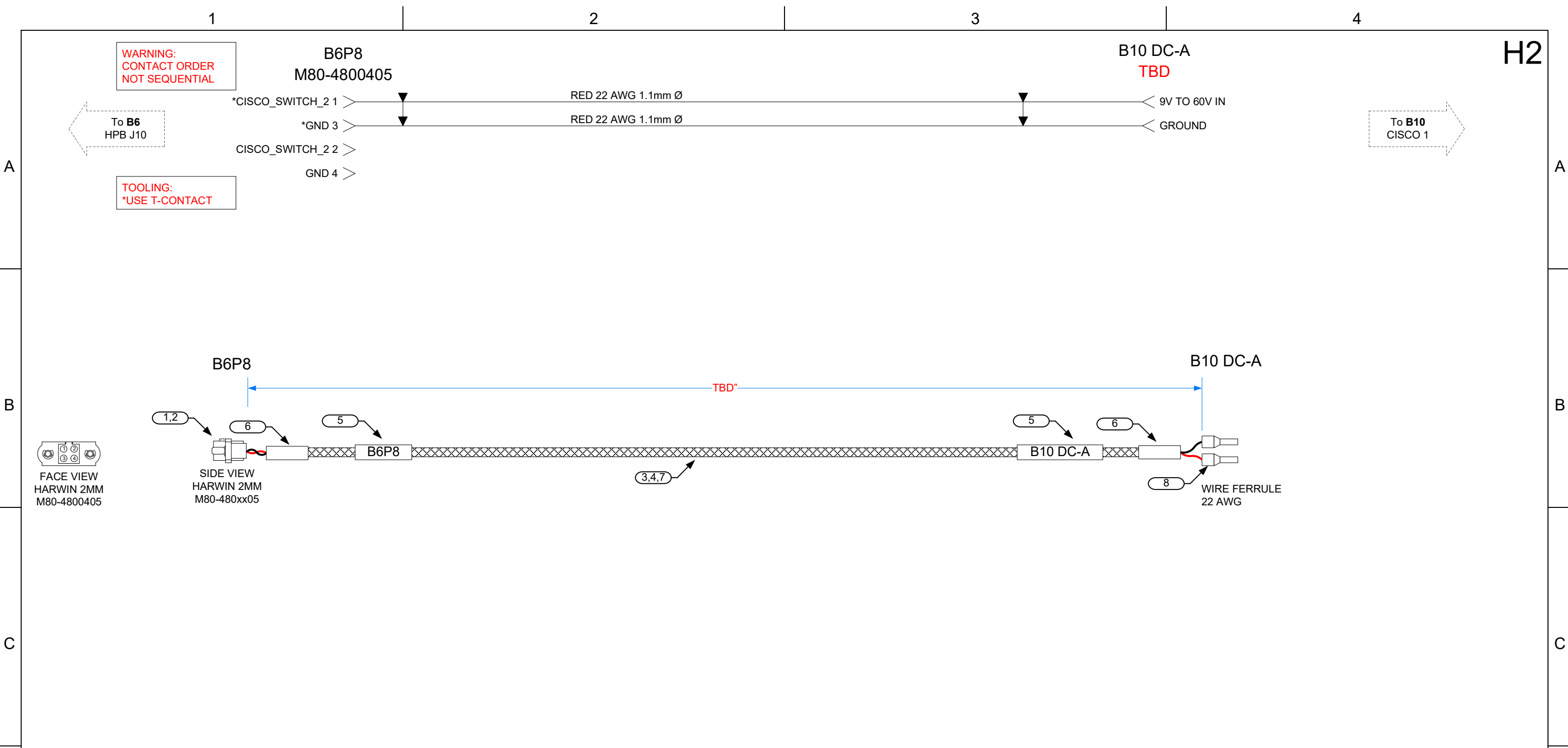
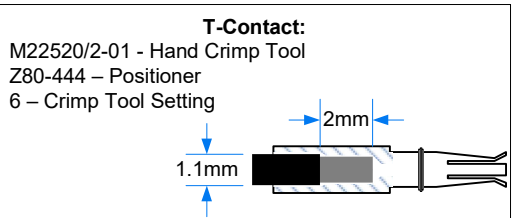


TABLE A1H2: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	TBD	2845/19 BK001	HARWIN	22 AWG BLACK WIRE PTFE 1.07mm Ø
4	TBD	2845/19 RD001	HARWIN	22 AWG RED WIRE PTFE 1.07mm Ø
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
8	2	FSD75-8-D	Panduit Corp	CONN FERRULE DIN 22AWG WHITE



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105		
MANAGER:	-			
ENGINEER:	K. ZACK	TITLE: H2 CISCO Switch 1 Switch Power MARS		
DRAWN BY:	K. ZACK			
PRINT DATE:	11/5/2024			
PAGE CREATION:	12/14/2021	SIZE: B	CAGE CODE: 98514	DWG NO: 86253
CAD FILE: MARS Harnessing V1.10.vsdw				REV 1.08
				SHEET 5 OF 59

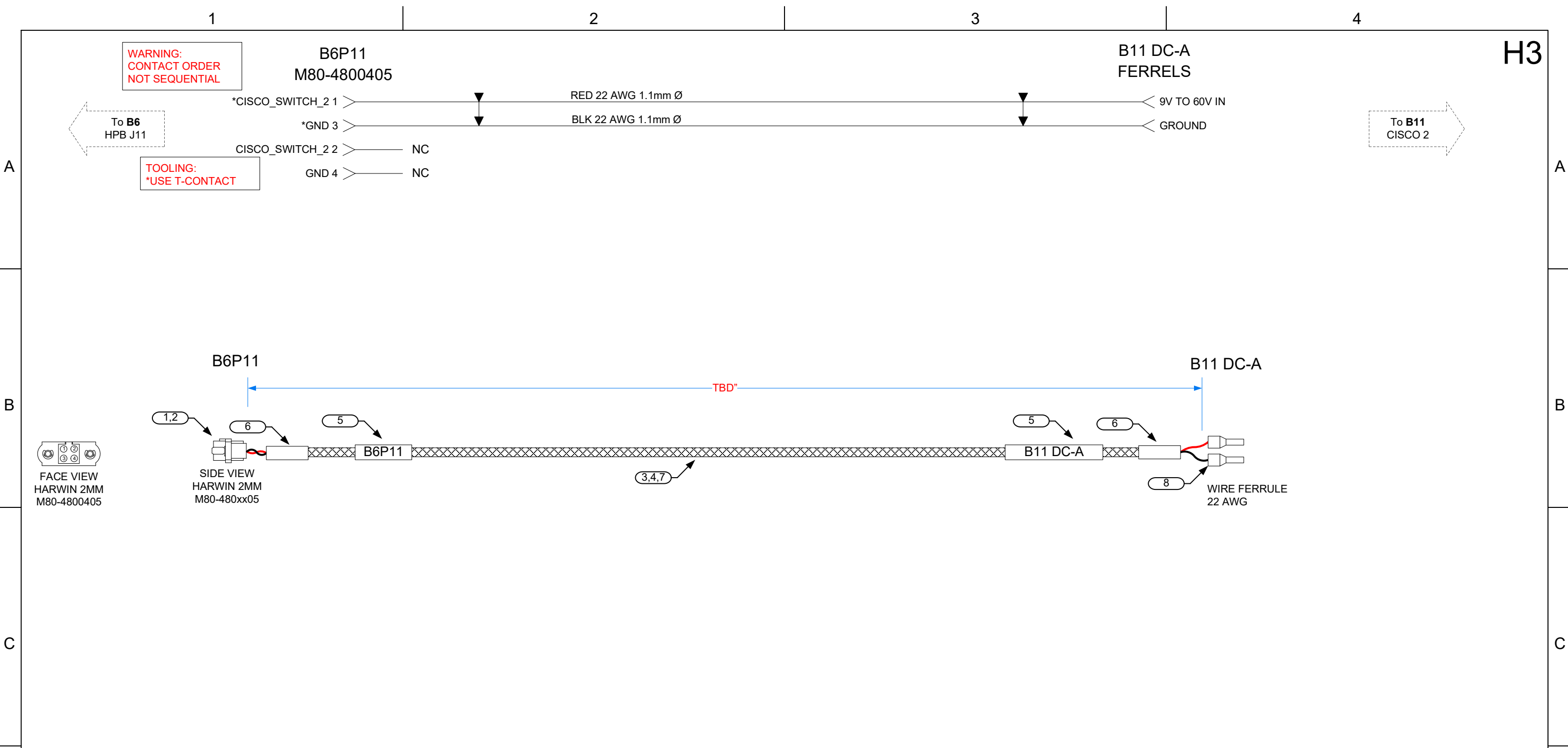
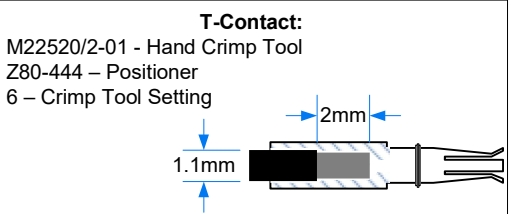


TABLE A1H3: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-2060005	HARWIN	DATAMATE 22AWG FEMALE CRIMP T-CONTACT
3	TBD	2845/19 BK001	HARWIN	22 AWG BLACK WIRE PTFE 1.07mm Ø
4	TBD	2845/19 RD001	HARWIN	22 AWG RED WIRE PTFE 1.07mm Ø
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
8	2	FSD75-8-D	Panduit Corp	CONN FERRULE DIN 22AWG WHITE



PI:	T. MCGINNIS	APL APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105 H3 CISCO Switch 2 Switch Power MARS			
MANAGER:	-				
ENGINEER:	K. ZACK				
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION:	12/14/2021	SIZE: B	CAGE CODE: 98514	DWG NO: 86253	REV 1.08
CAD FILE: MARS Harnessing V1.10.vsdX				SHEET 6	OF 59

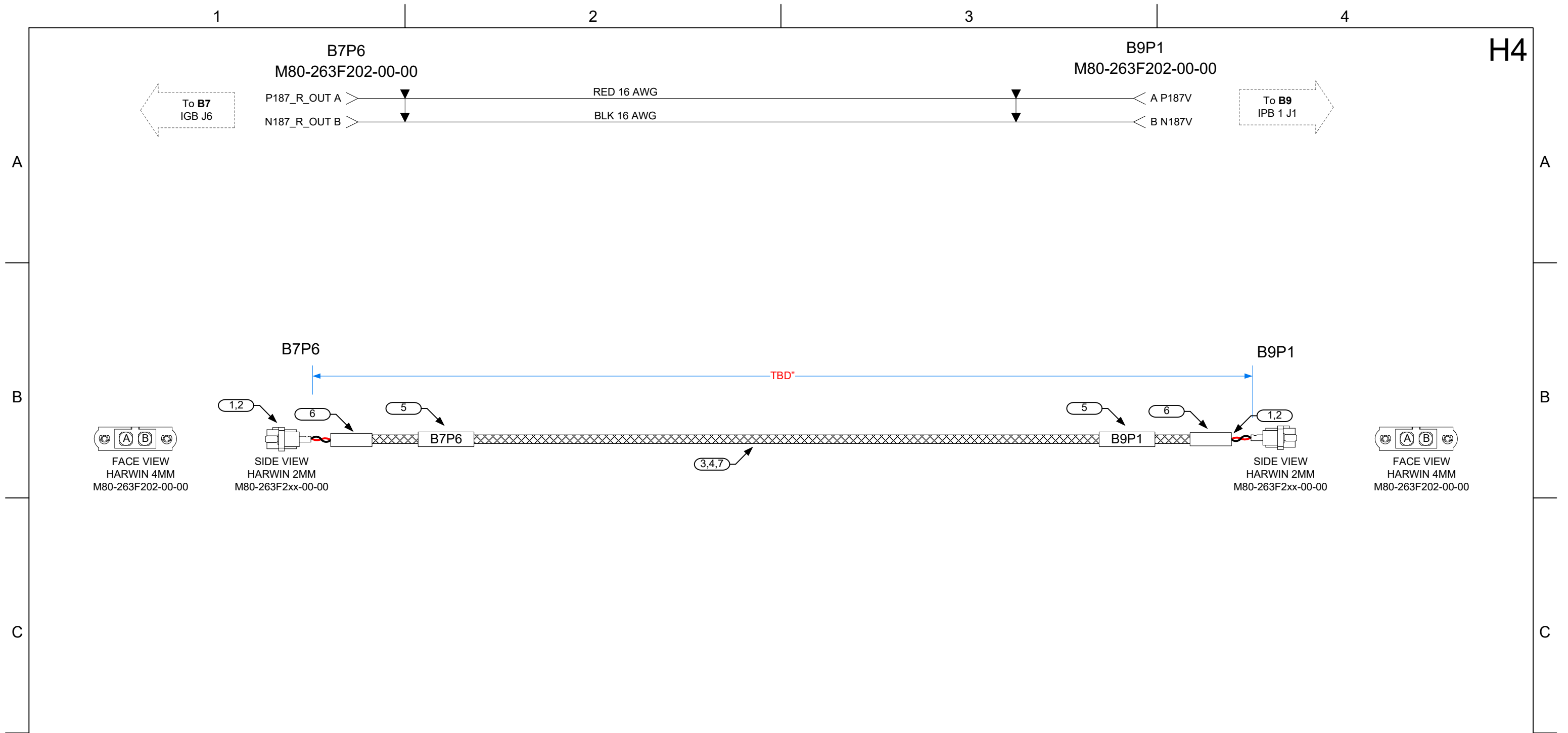
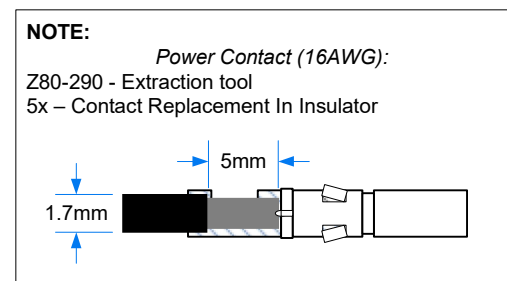


TABLE A1H4: PARTS LIST	
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ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD		HARWIN	16 AWG BLACK WIRE PTFE
4	TBD		HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105							
MANAGER:	-								
ENGINEER:	K. ZACK								
DRAWN BY:	K. ZACK								
PRINT DATE:	11/5/2024	TITLE: H4 IPB 1 POWER 375V Power MARS							
PAGE CREATION:						SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021						B	98514	86253	1.08
CAD FILE: MARS Harnessing V1 10 vsdx					SHEET 7 OF 59				

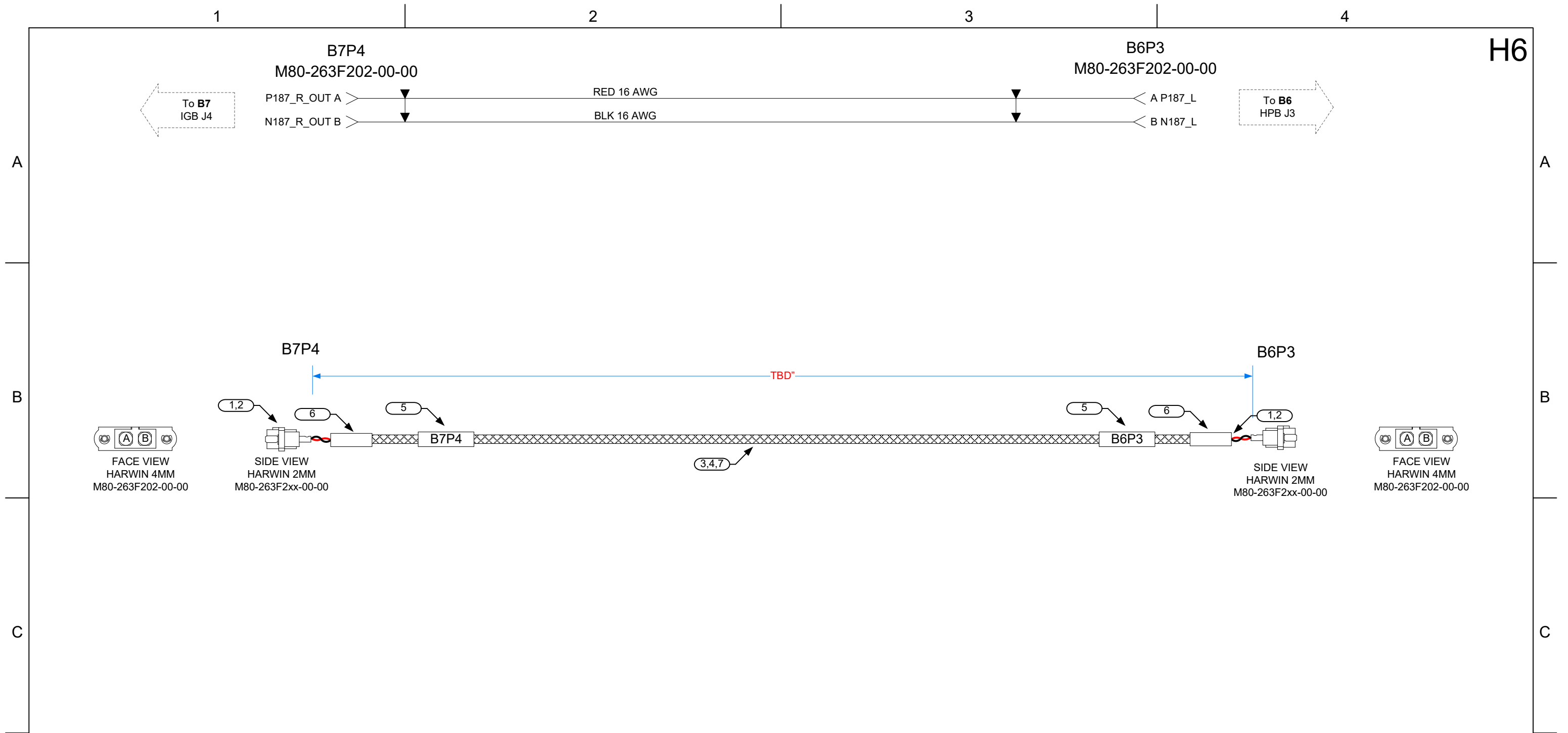
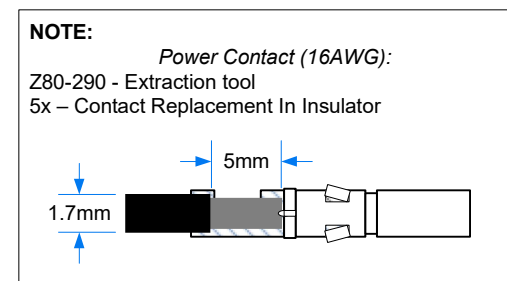


TABLE A1H6: PARTS LIST	
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ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD	AT161929 BK005	HARWIN	16 AWG BLACK WIRE PTFE
4	TBD	AT161929 RD005	HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H6 HOTEL POWER BOARD POWER 375V Power LEFT MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION: 12/14/2021		SIZE: B	CAGE CODE: 98514	DWG NO: 86253	REV 1.08
CAD FILE: MARS Harnessing V1 10 vsdx					SHEET 9 OF 59

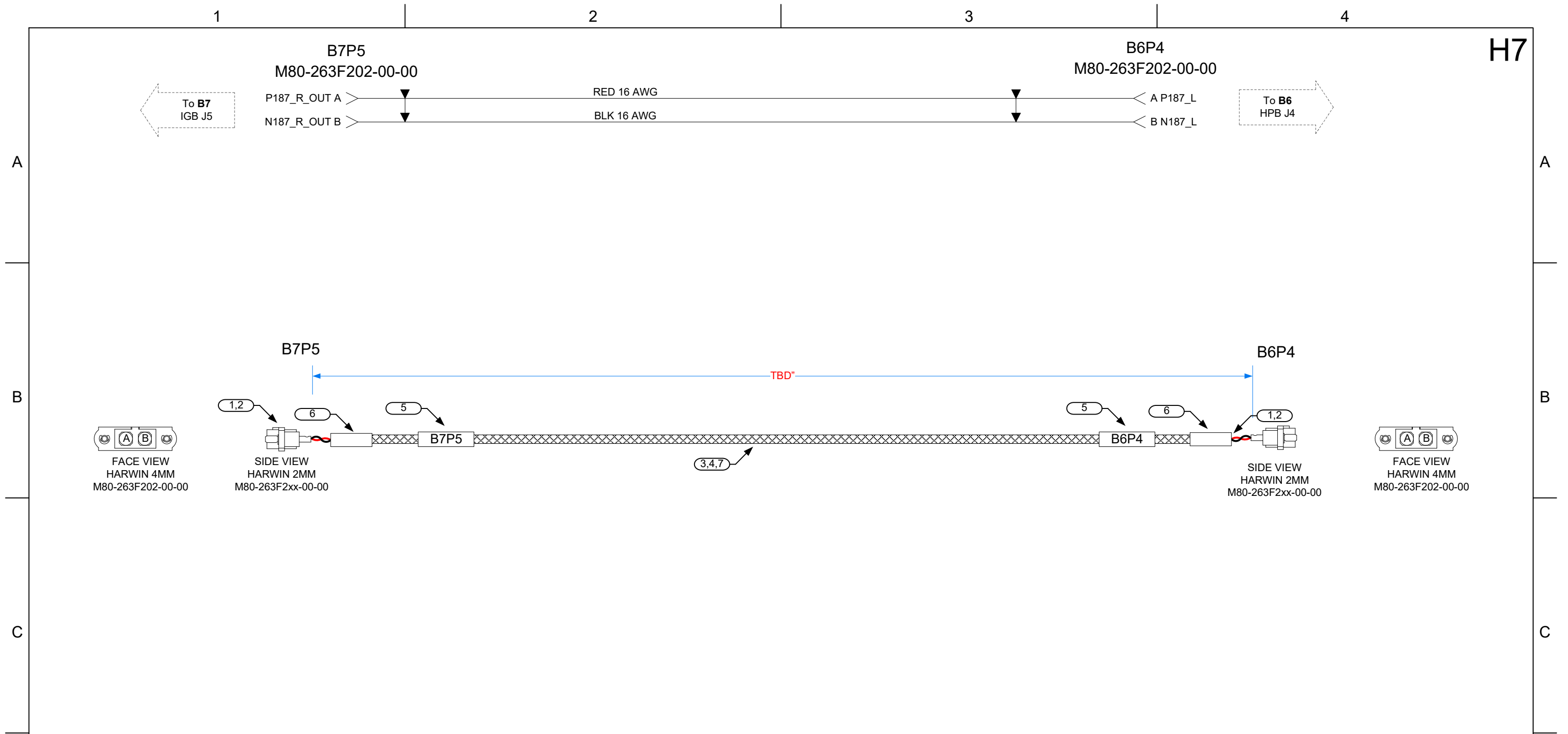
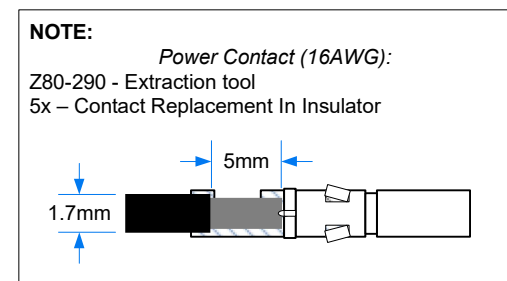


TABLE A1H7: PARTS LIST	
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ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD	AT161929 BK005	HARWIN	16 AWG BLACK WIRE PTFE
4	TBD	AT161929 RD005	HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H6 HOTEL POWER BOARD POWER 375V Power RIGHT MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION:		SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021		B	98514	86253	1.08
CAD FILE:					SHEET OF
MARS Harnessing V1.10 vsdx					10 OF 59

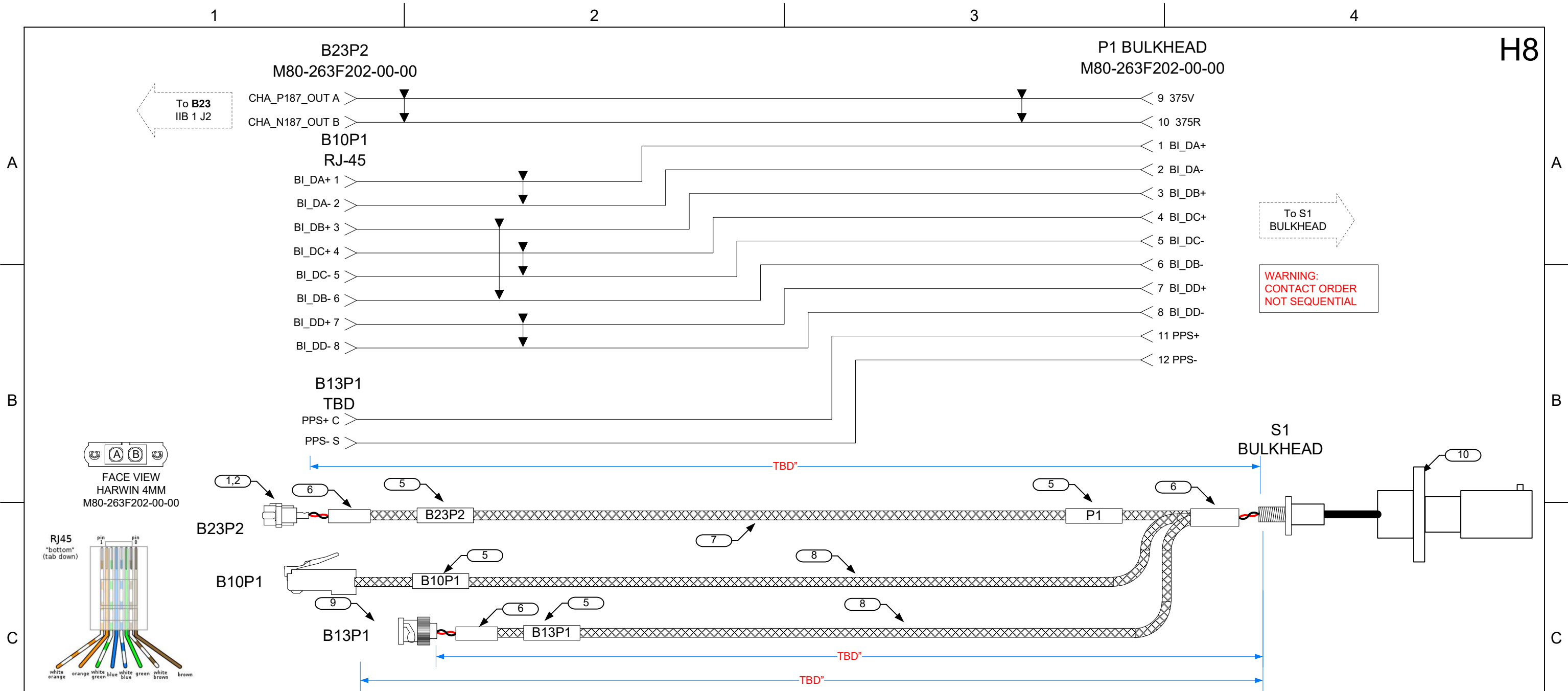
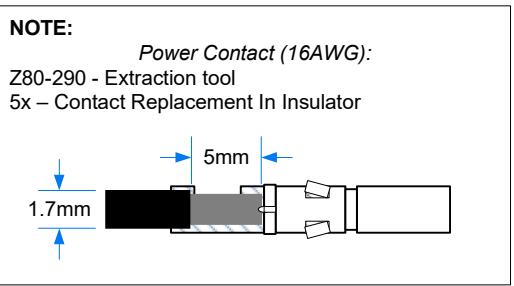


TABLE A1H8: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleaving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleaving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
9	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR



PI:	T. MCGINNIS			APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-			TITLE: H8 S1 BULKHEAD IPB 1 CHA 375V OUTPUT MARS			
ENGINEER:	K. ZACK						
DRAWN BY:	K. ZACK						
PRINT DATE:	11/5/2024						
PAGE CREATION: 12/14/2021		SIZE: B	CAGE CODE: 98514	DWG NO: 86253		REV 1.08	
CAD FILE: MARS Harnessing V1.10.vsdX						SHEET 11	OF 59

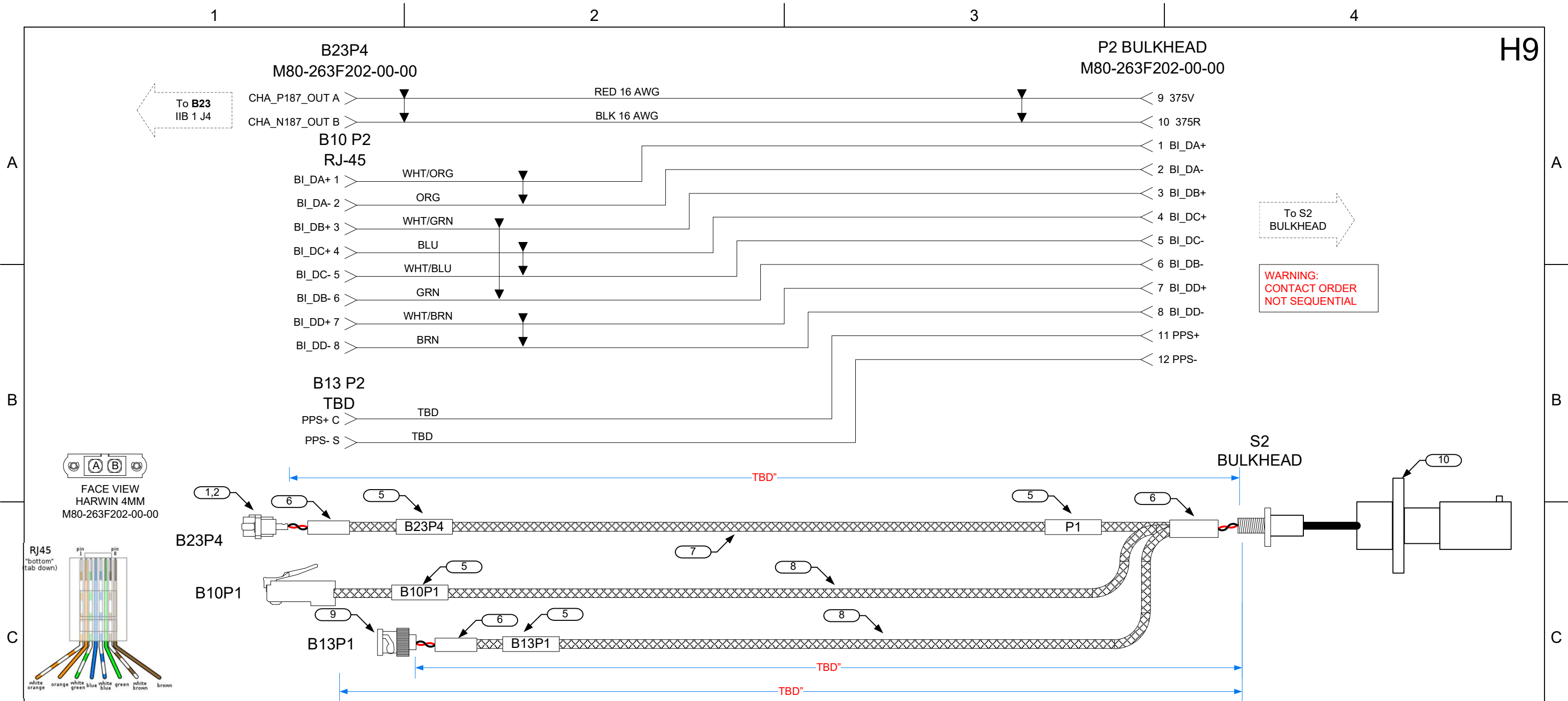
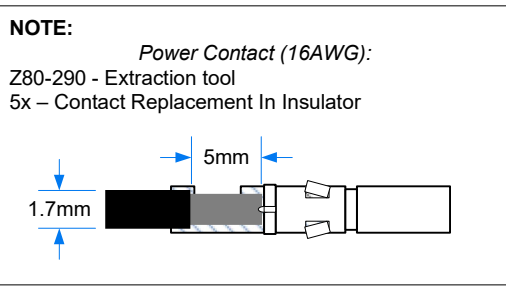


TABLE A1H9: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeving
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR



PI:	T. MCGINNIS				APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105		
MANAGER:	-						
ENGINEER:	K. ZACK	TITLE:			H9 S2 BULKHEAD IPB 1 CHB 375V OUTPUT MARS		
DRAWN BY:	K. ZACK						
PRINT DATE:	11/5/2024	SIZE:			CAGE CODE:		
PAGE CREATION:	12/14/2021	B			98514		
CAD FILE:		MARS Harnessing V1.10.vsdX			DWG NO:		REV
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					SHEET		OF
					12		59

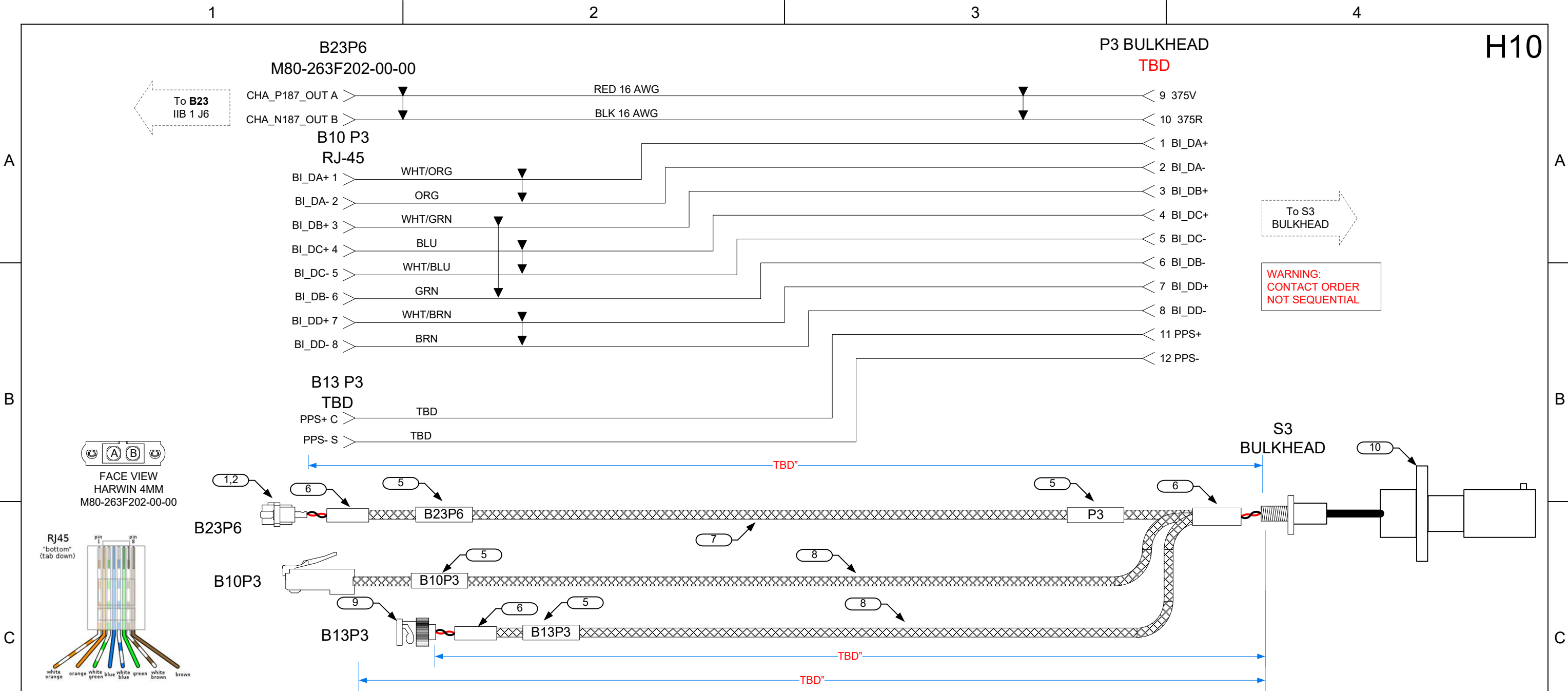
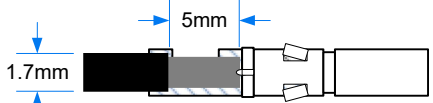


TABLE A1H10: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeveing
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeveing
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

NOTE:

Power Contact (16AWG):
Z80-290 - Extraction tool
5x - Contact Replacement In Insulator



PI:	T. MCGINNIS					APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-								
ENGINEER:	K. ZACK	TITLE: H10 S3 BULKHEAD IPB 1 CHC 375V OUTPUT MARS							
DRAWN BY:	K. ZACK								
PRINT DATE:	11/5/2024								
PAGE CREATION:		SIZE:	CAGE CODE:	DWG NO:		REV			
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MARS Harnessing V1.10.vsd						13		59	

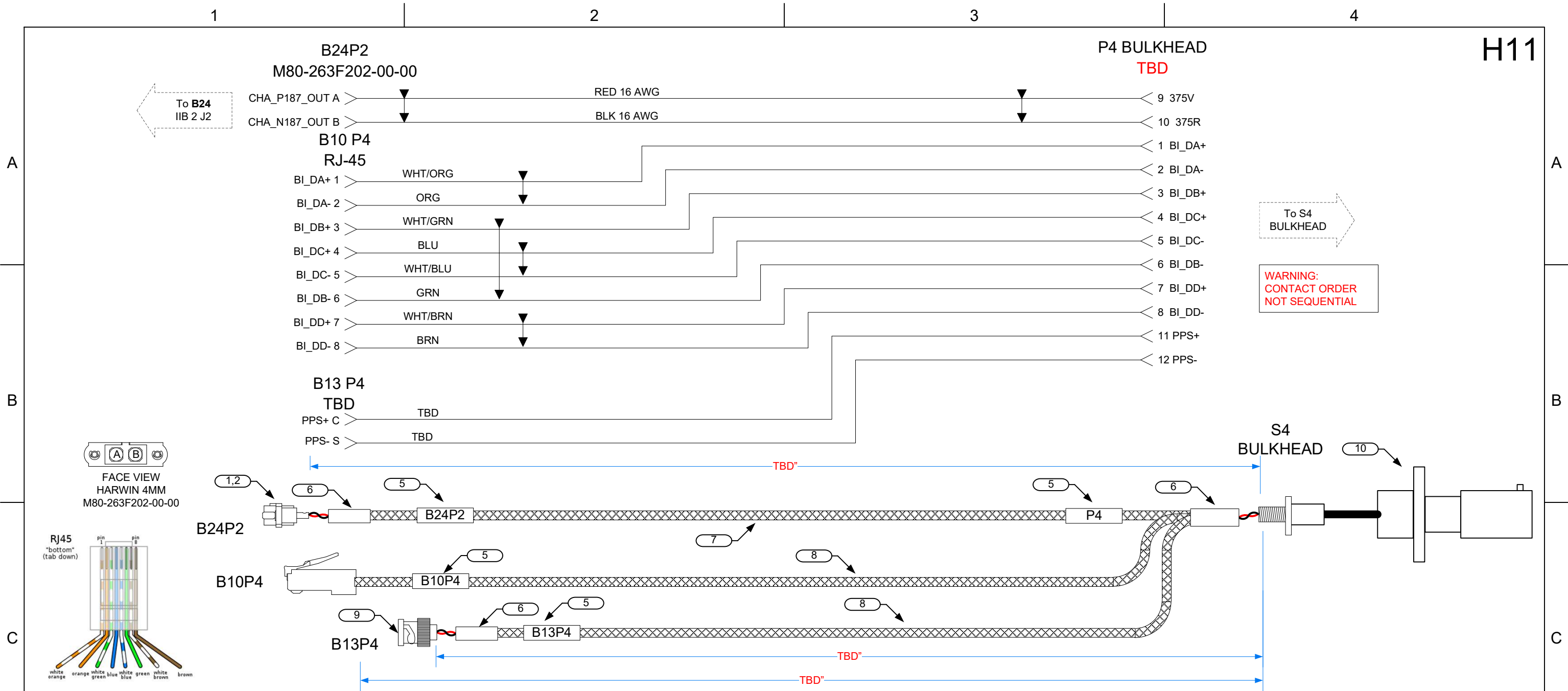
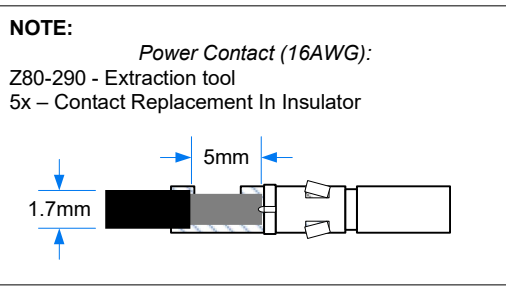


TABLE A1H11: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeveing
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeveing
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H11 S4 BULKHEAD IPB 1 CHD 375V OUTPUT MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024	SIZE:	CAGE CODE:	DWG NO:	REV
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CAD FILE: MARS Harnessing V1.10.vsdX					SHEET 14 OF 59

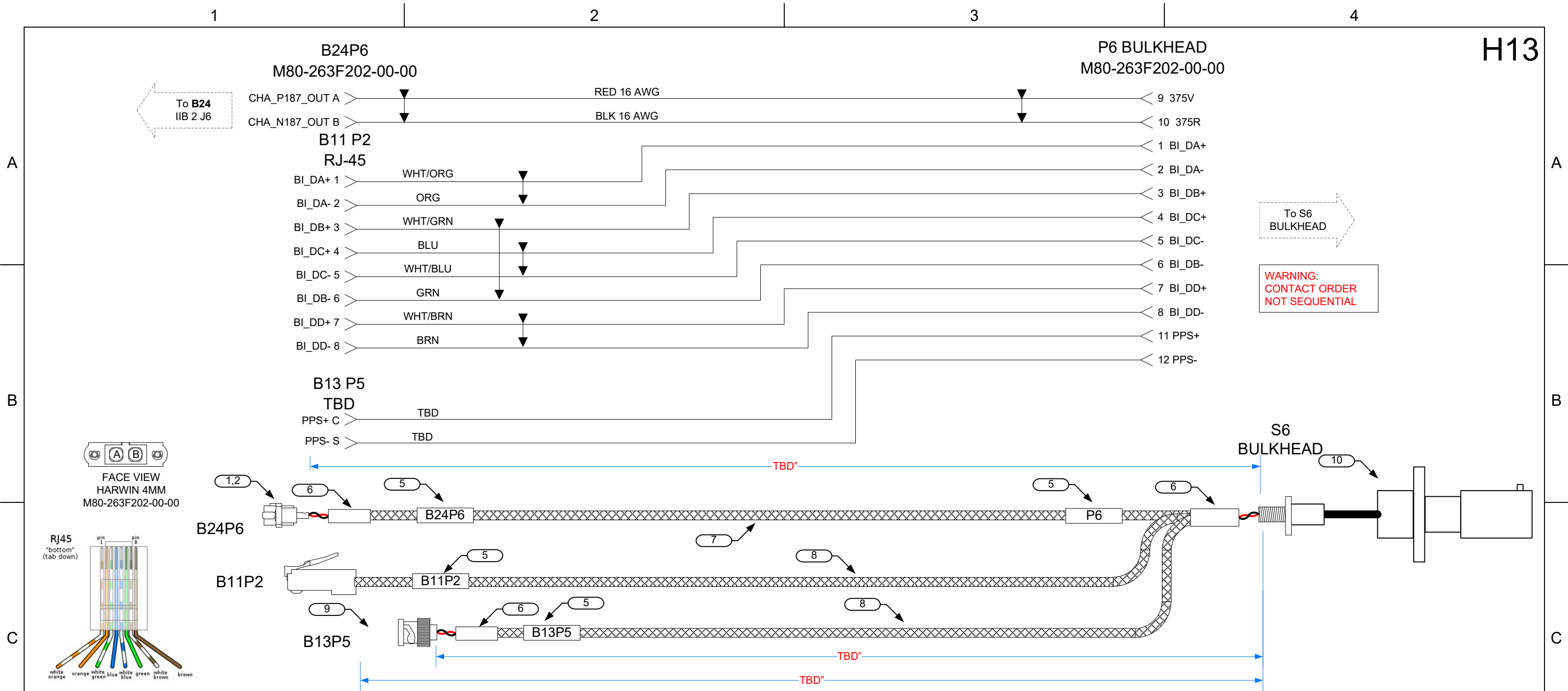
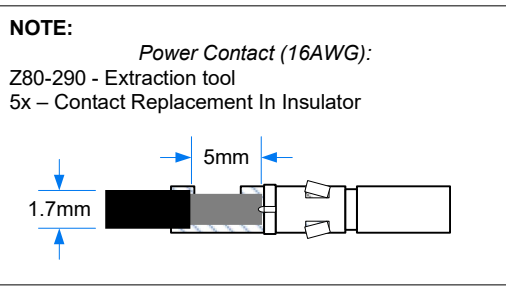


TABLE A1H13: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeveing
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeveing
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H13 S6 BULKHEAD IPB 2 CHB 375V OUTPUT MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION: 12/14/2021		SIZE: B	CAGE CODE: 98514	DWG NO: 86253	REV 1.08
CAD FILE: MARS Harnessing V1.10.vsdX					SHEET 16 OF 59

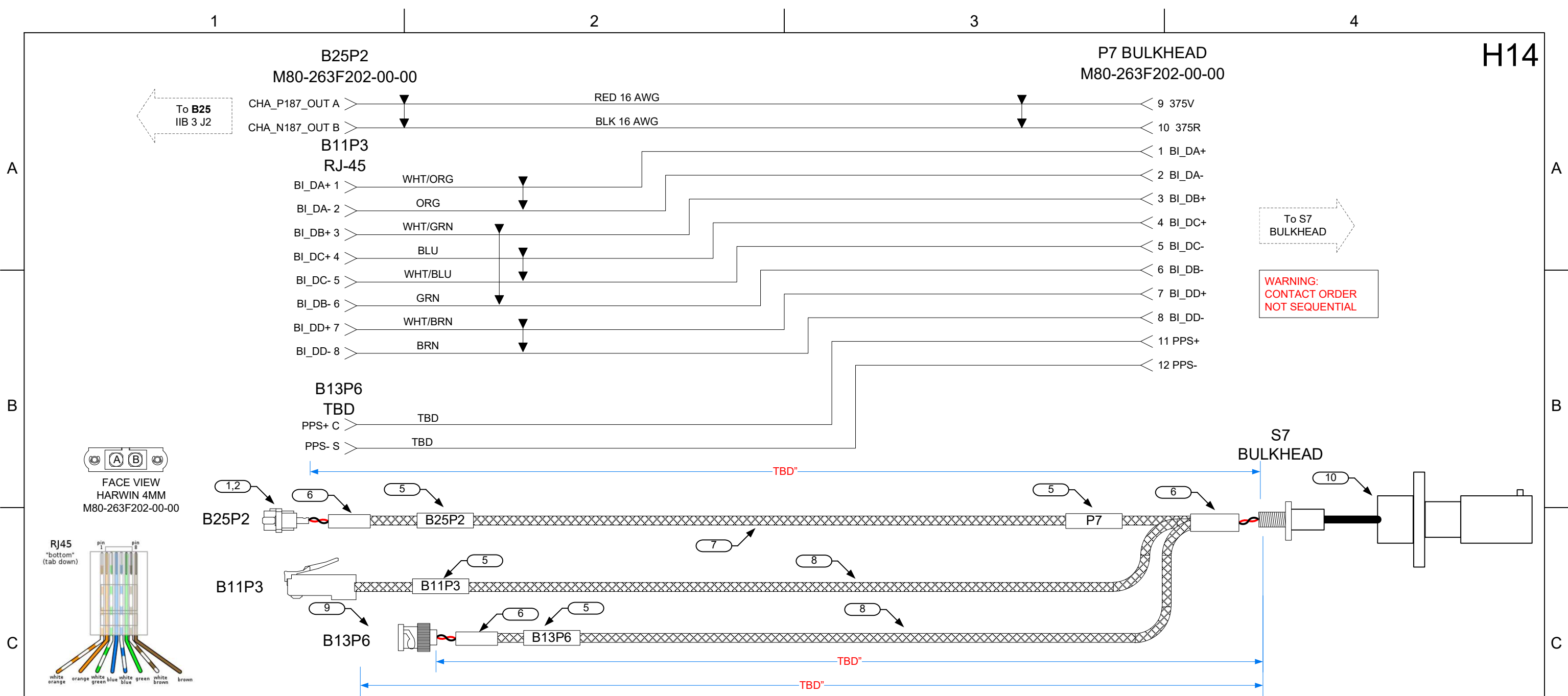
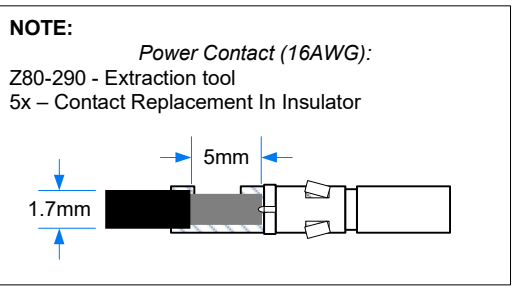


TABLE A1H14: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeveing
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeveing
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105		
MANAGER:	-			
ENGINEER:	K. ZACK	TITLE: H14 S7 BULKHEAD IPB 2 CHC 375V OUTPUT MARS		
DRAWN BY:	K. ZACK			
PRINT DATE:	11/5/2024	SIZE:	CAGE CODE:	DWG NO:
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CAD FILE:	MARS Harnessing V1.10.vsdw	SHEET 17 OF 59		
		REV 1.08		

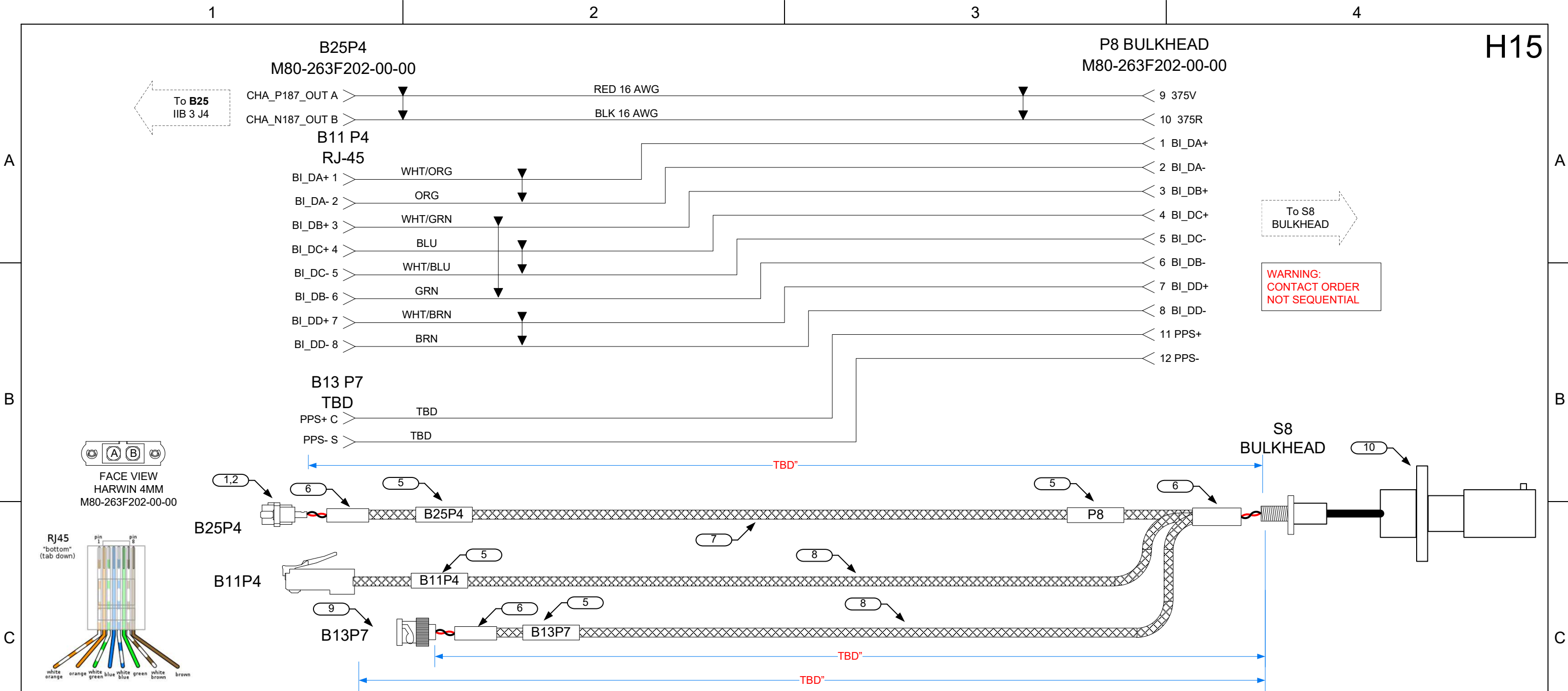
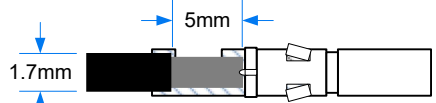


TABLE A1H15: PARTS LIST

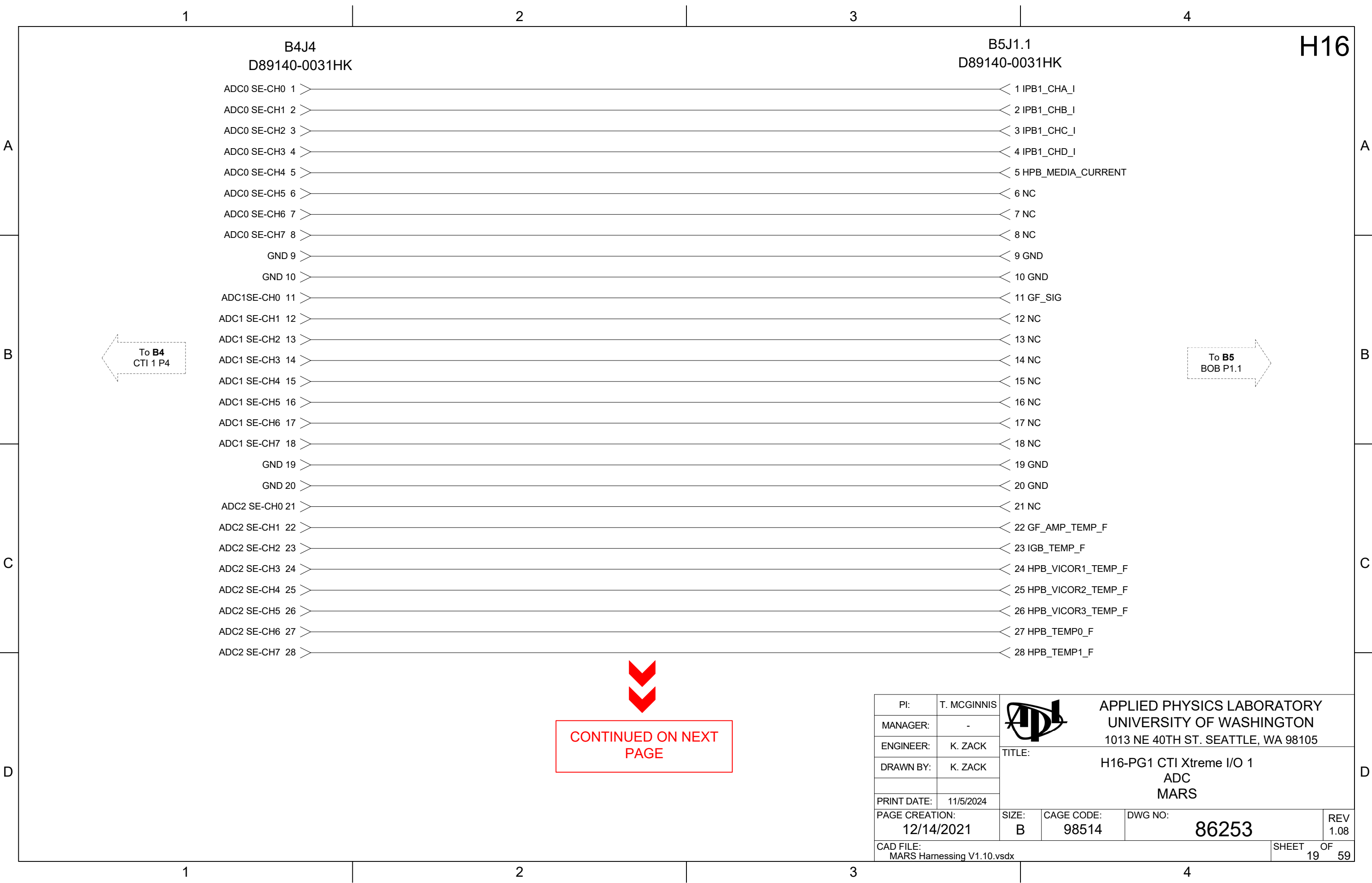
ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	2	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
2	1	STOCK	STOCK	RJ45 CONNECTOR
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.50BK-200	Techflex	Techflex 1/2"Flexo PET General Purpose Sleeveing
8	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeveing
9	1	STOCK	STOCK	GENERIC BNC SOLDER
10	TBD	TBD	TBD	WET MATE PENETRATOR CONNECTOR

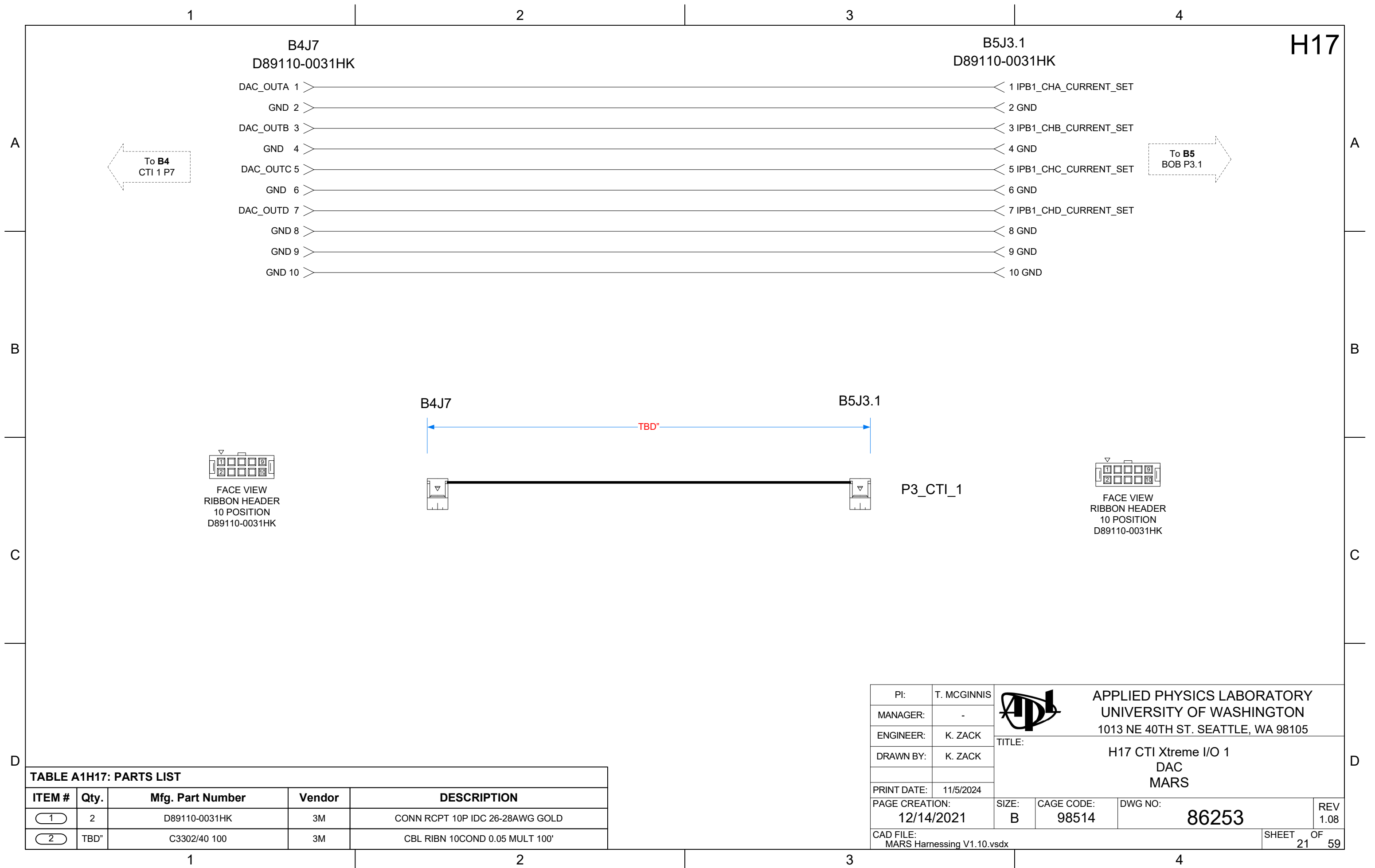
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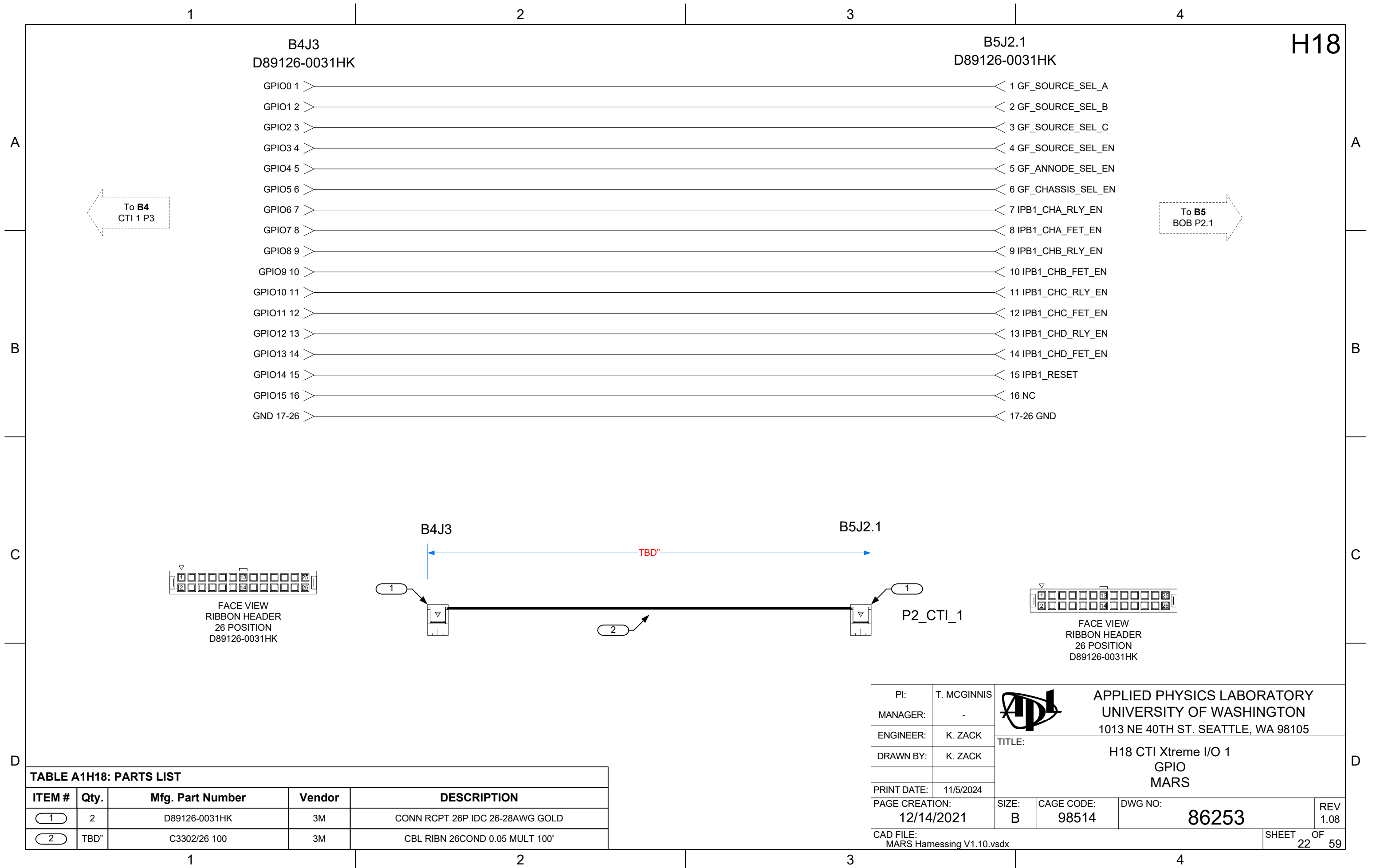
Power Contact (16AWG):
Z80-290 - Extraction tool
5x - Contact Replacement In Insulator

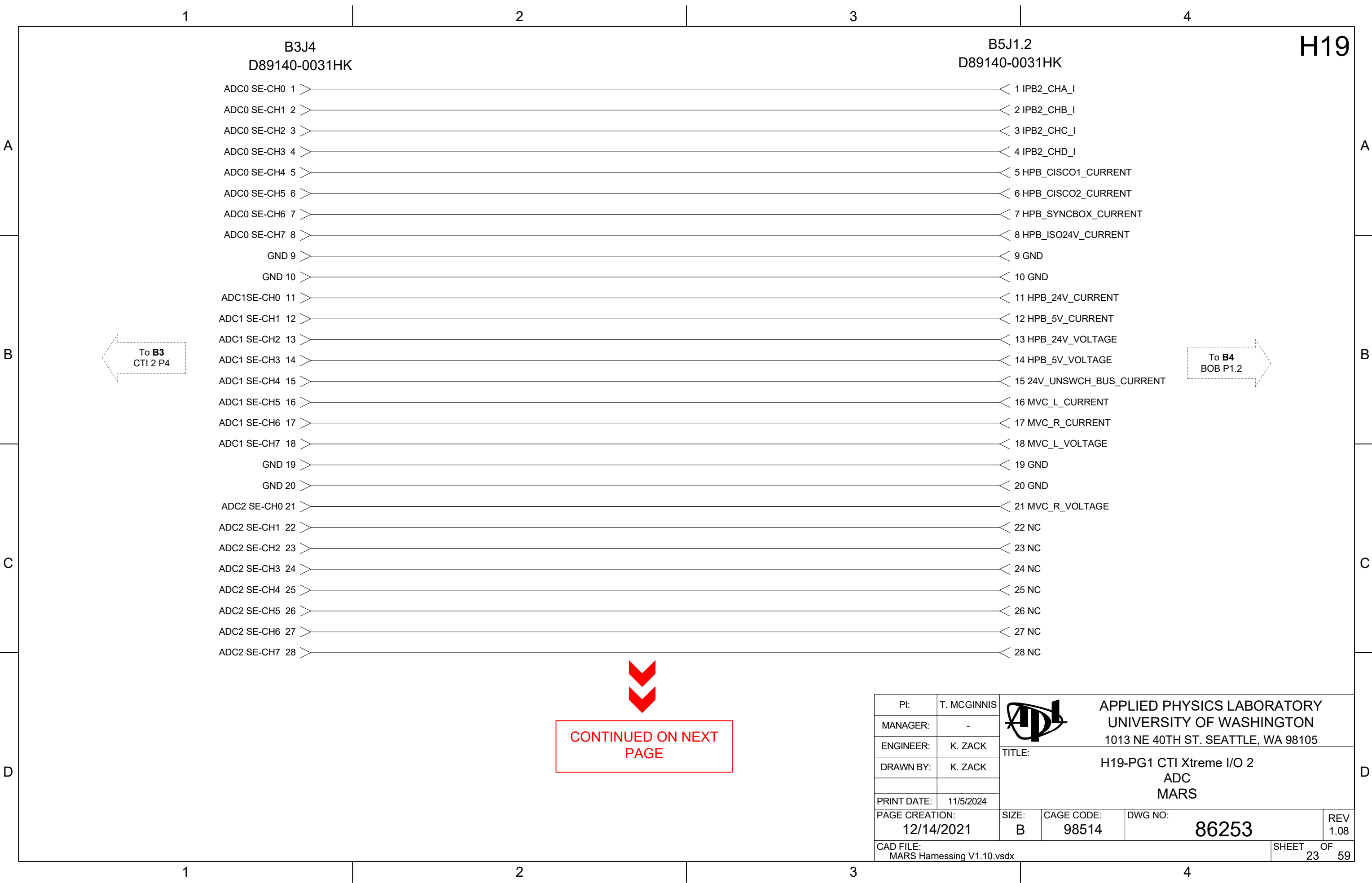


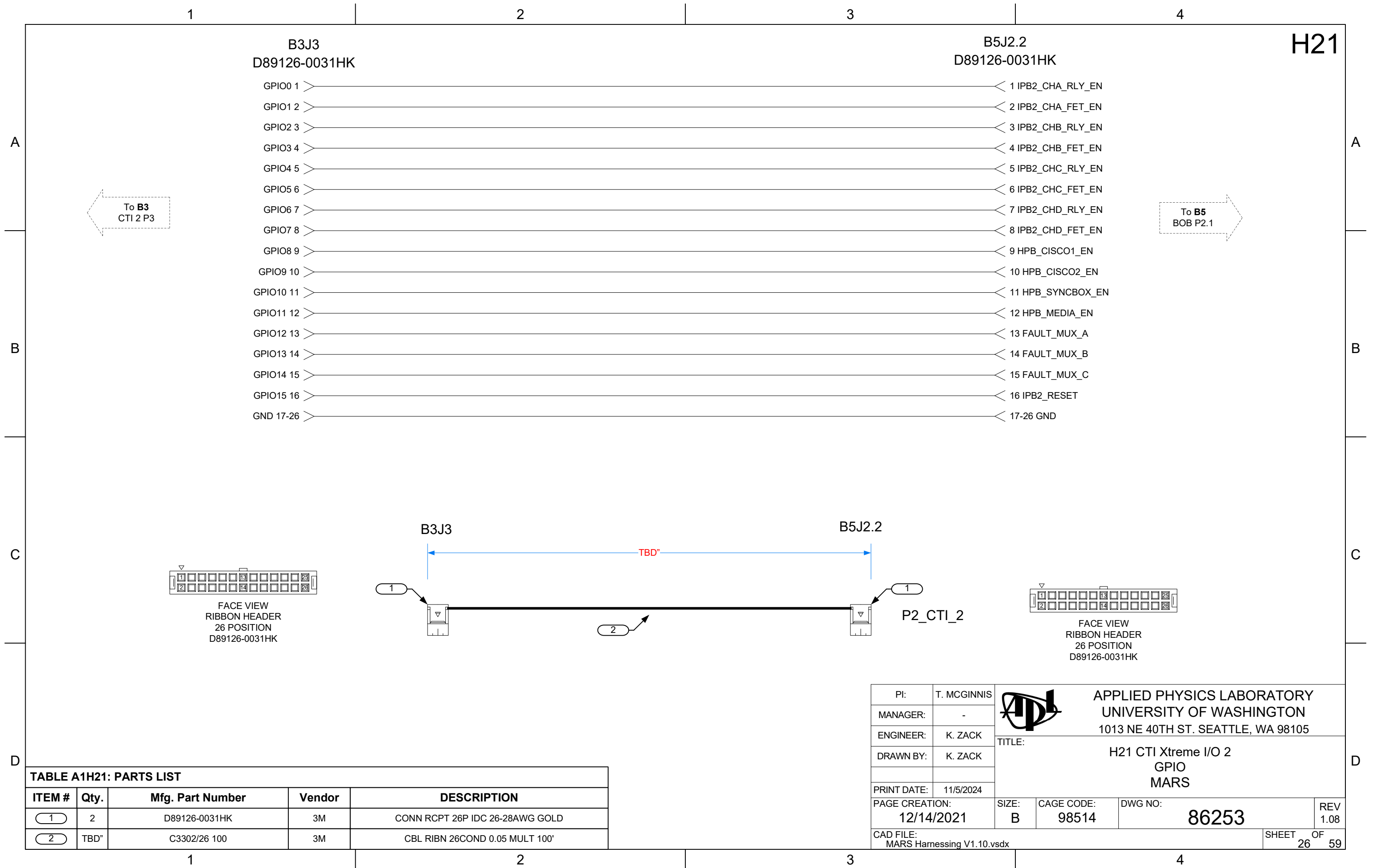
PI:	T. MCGINNIS				APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105		
MANAGER:	-						
ENGINEER:	K. ZACK	TITLE:			H15 S8 BULKHEAD IPB 2 CHD 375V OUTPUT MARS		
DRAWN BY:	K. ZACK						
PRINT DATE:	11/5/2024	SIZE:	B	CAGE CODE:	98514	DWG NO:	86253
PAGE CREATION:	12/14/2021	REV	1.08				
CAD FILE:	MARS Harnessing V1.10.vsd	SHEET 18 OF 59					

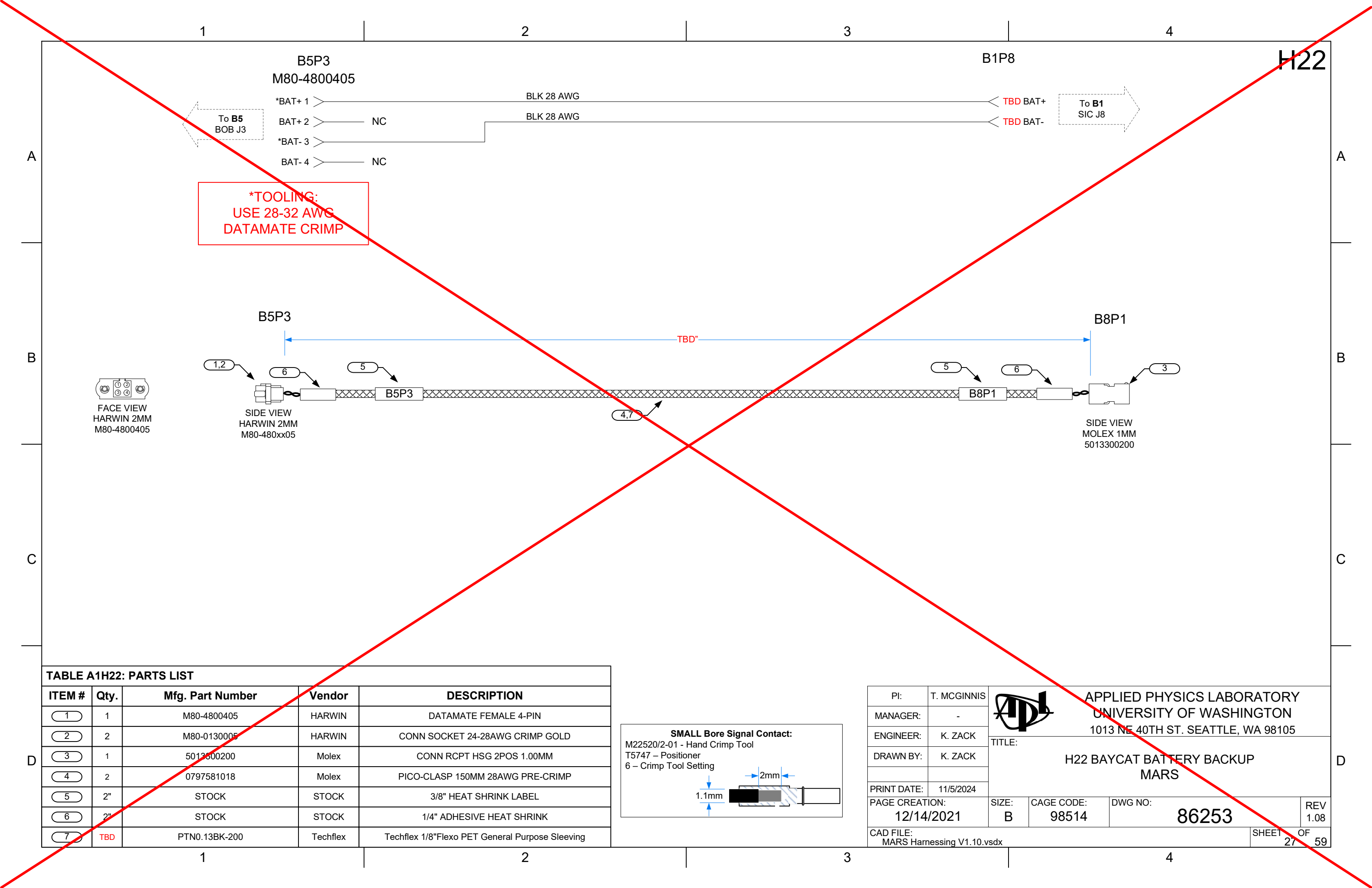












*TOOLING:
USE 28-32 AWG
DATAMATE CRIMP



SIDE VIEW
HARWIN 2MM
M80-480xx05

SIDE VIEW
MOLEX 1MM
5013300200

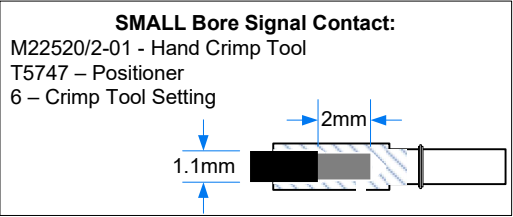
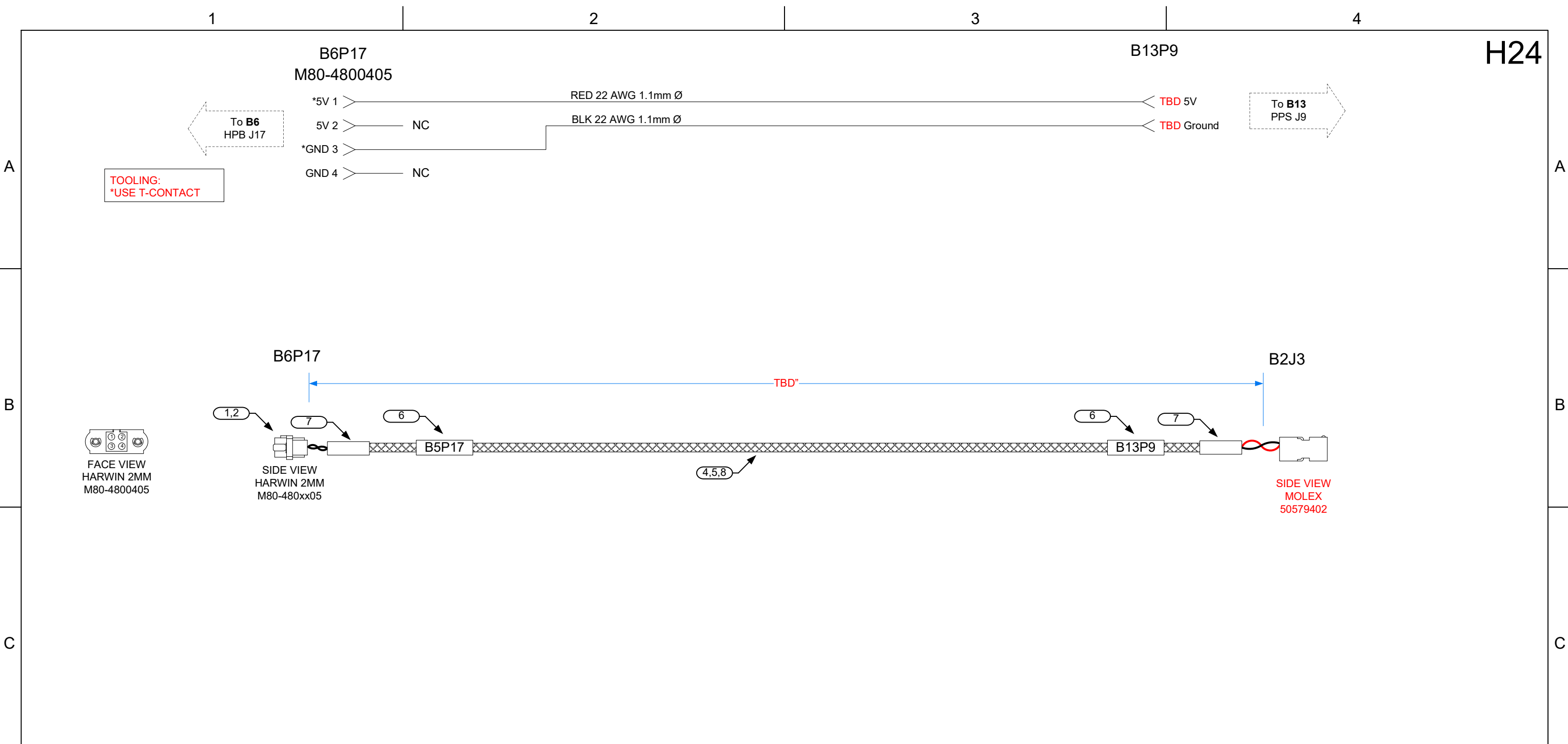
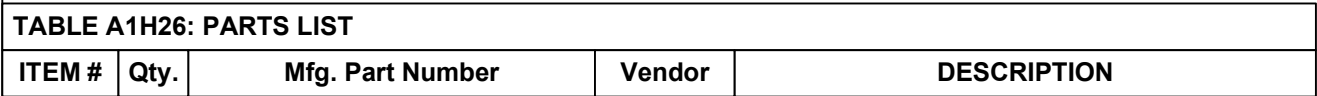
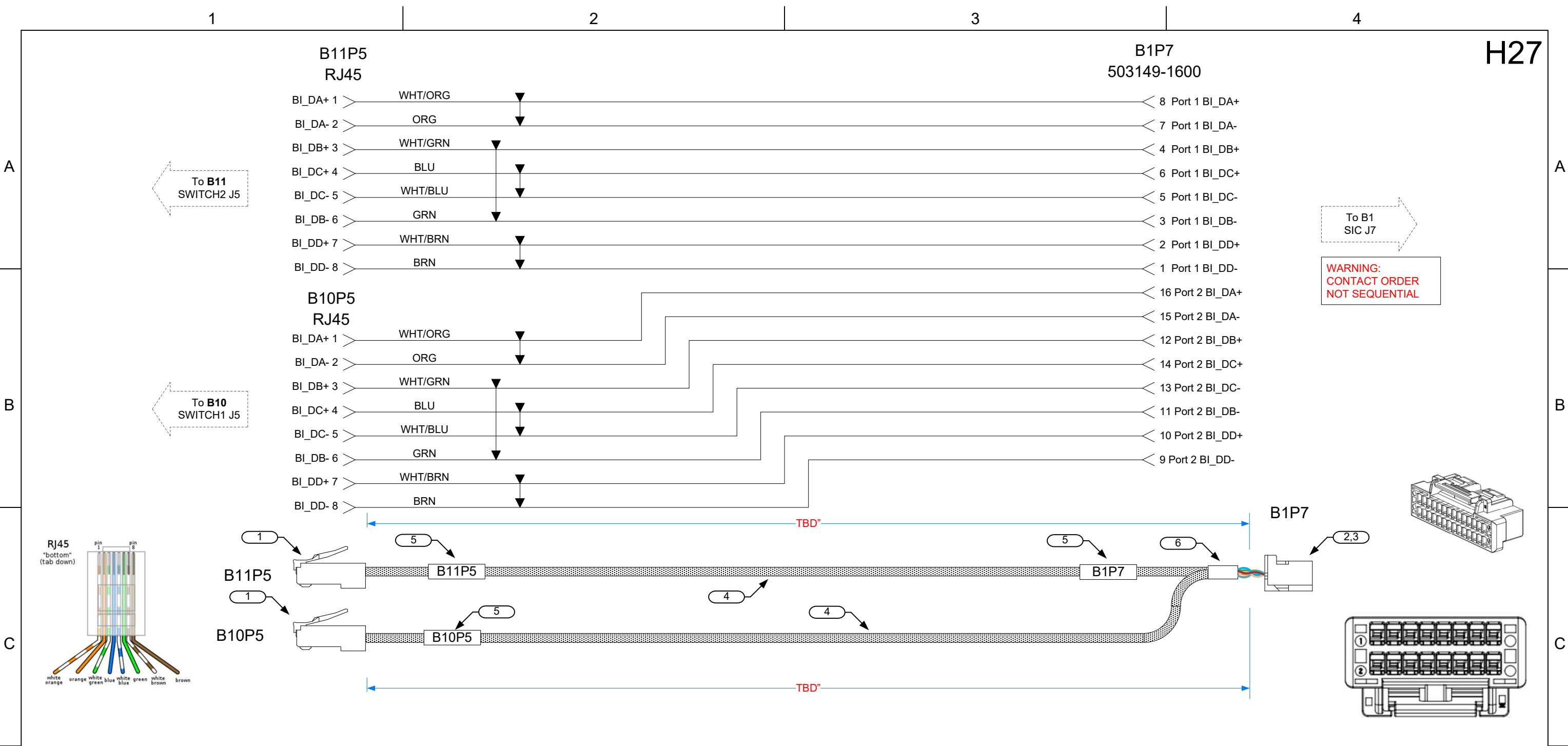


TABLE A1H22: PARTS LIST				
ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	2	M80-0130005	HARWIN	CONN SOCKET 24-28AWG CRIMP GOLD
3	1	5013300200	Molex	CONN RCPT HSG 2POS 1.00MM
4	2	0797581018	Molex	PICO-CLASP 150MM 28AWG PRE-CRIMP
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving

PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105		
MANAGER:	-			
ENGINEER:	K. ZACK	TITLE: H22 BAYCAT BATTERY BACKUP MARS		
DRAWN BY:	K. ZACK			
PRINT DATE:	11/5/2024			
PAGE CREATION:	12/14/2021	SIZE: B	CAGE CODE: 98514	DWG NO: 86253
CAD FILE: MARS Harnessing V1.10.vsd			SHEET 27	OF 59



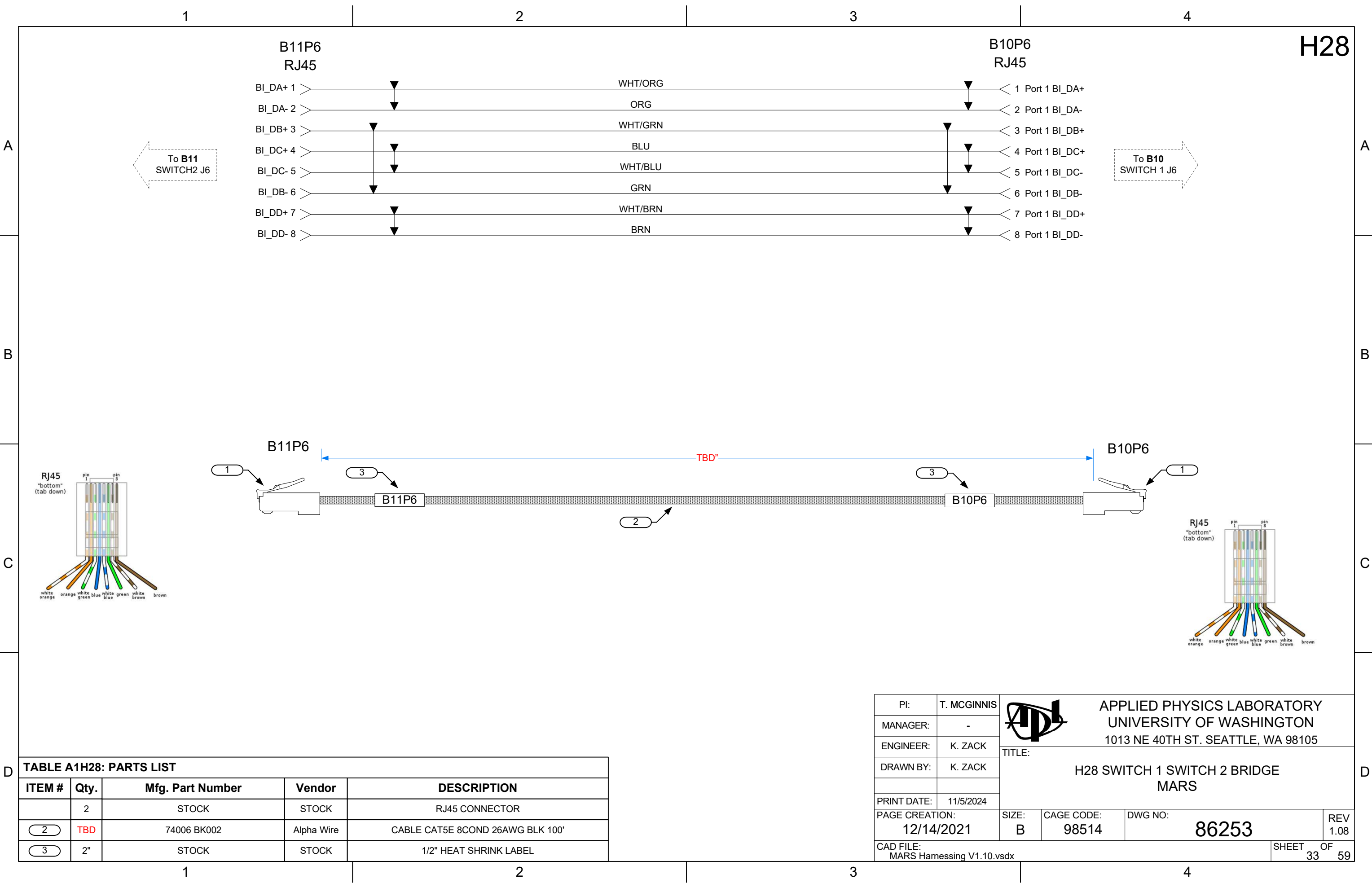


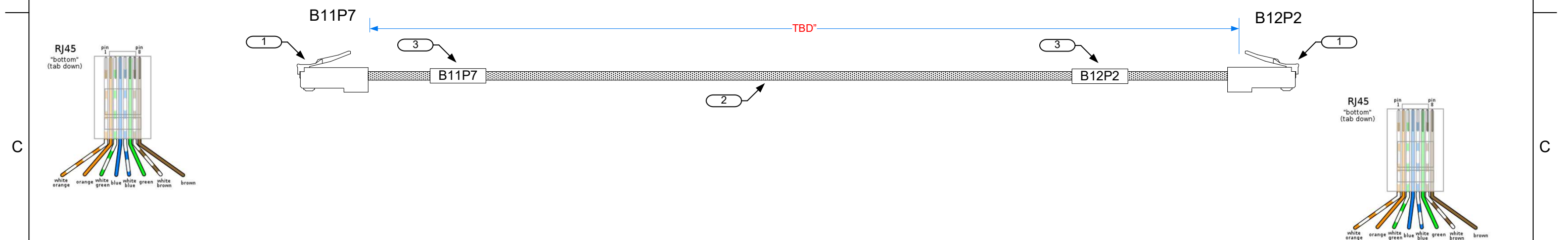
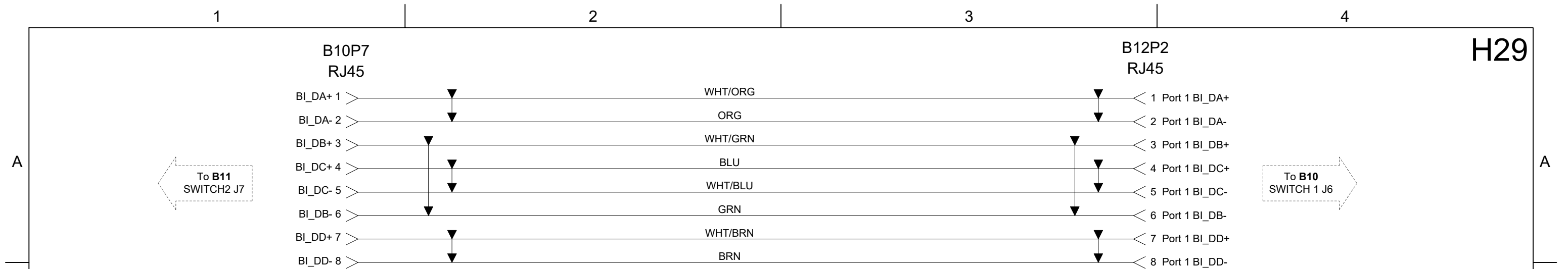


PLAN TO USE
EXISTING
VERSALOGIC CABLE

TABLE A1H27: PARTS LIST				
ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	STOCK	STOCK	RJ45 CONNECTOR
2	2	503149-1600	Molex	Molex CLIK-Mate 503149 16 Pin
3	16	2130287000	Molex	CRIMP TERM 1.5 #24-26 C AU0.76
4	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
5	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK

PI:	T. MCGINNIS				APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105								
MANAGER:	-				H27 PC104 ETHERNET MARS								
ENGINEER:	K. ZACK	TITLE:											
DRAWN BY:	K. ZACK												
PRINT DATE:	11/5/2024	SIZE:			CAGE CODE:			DWG NO:			REV		
PAGE CREATION:	12/14/2021												
CAD FILE:		MARS Harnessing V1.10.vsd			SHEET			OF			32 OF 59		





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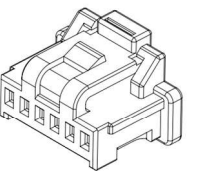
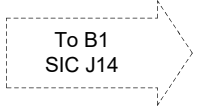
TABLE A1H29: PARTS LIST				
ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
	2	STOCK	STOCK	RJ45 CONNECTOR
2	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
3	2"	STOCK	STOCK	1/2" HEAT SHRINK LABEL

PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H29 Meinberg SyncBox Ethernet MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION:		SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021		B	98514	86253	1.08
CAD FILE:					SHEET
MARS Harnessing V1.10.vsd					OF
					34 59

To **B15**
DIGI PORT 1

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

WARNING:
CONTACT ORDER
NOT SEQUENTIAL



ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	STOCK	STOCK	RJ45 CONNECTOR
2	1	503149-1600	Molex	Molex Pico-Clasp 501330 10 POS Connector
3	10	0797581019	Molex	PICO-CLASP 300MM 28AWG PRE-CRIMP
4	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
5	2	M80-0110005	HARWIN	DATAMATE 22AWG FEMALE CRIMP
6	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
7	TBD	2845/19 BK001	HARWIN	22 AWG BLACK WIRE PTFE 1.07mm Ø
8	TBD	2845/19 WH001	HARWIN	22 AWG WHITE WIRE PTFE 1.07mm Ø
9	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
10	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
11	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving
12	2"	STOCK	STOCK	1/8" CLEAR HEAT SHRINK

PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105				
MANAGER:	-					
ENGINEER:	K. ZACK					
DRAWN BY:	K. ZACK					
		TITLE: H30 PC104 MVC CONTROLLER & CONSOLE SERIAL MARS				
PRINT DATE:	11/5/2024					
PAGE CREATION: 12/14/2021		SIZE: B	CAGE CODE: 98514	DWG NO: 86253		REV 1.08
CAD FILE: MARS Harnessing V1.10.vsd					SHEET 35 OF 59	

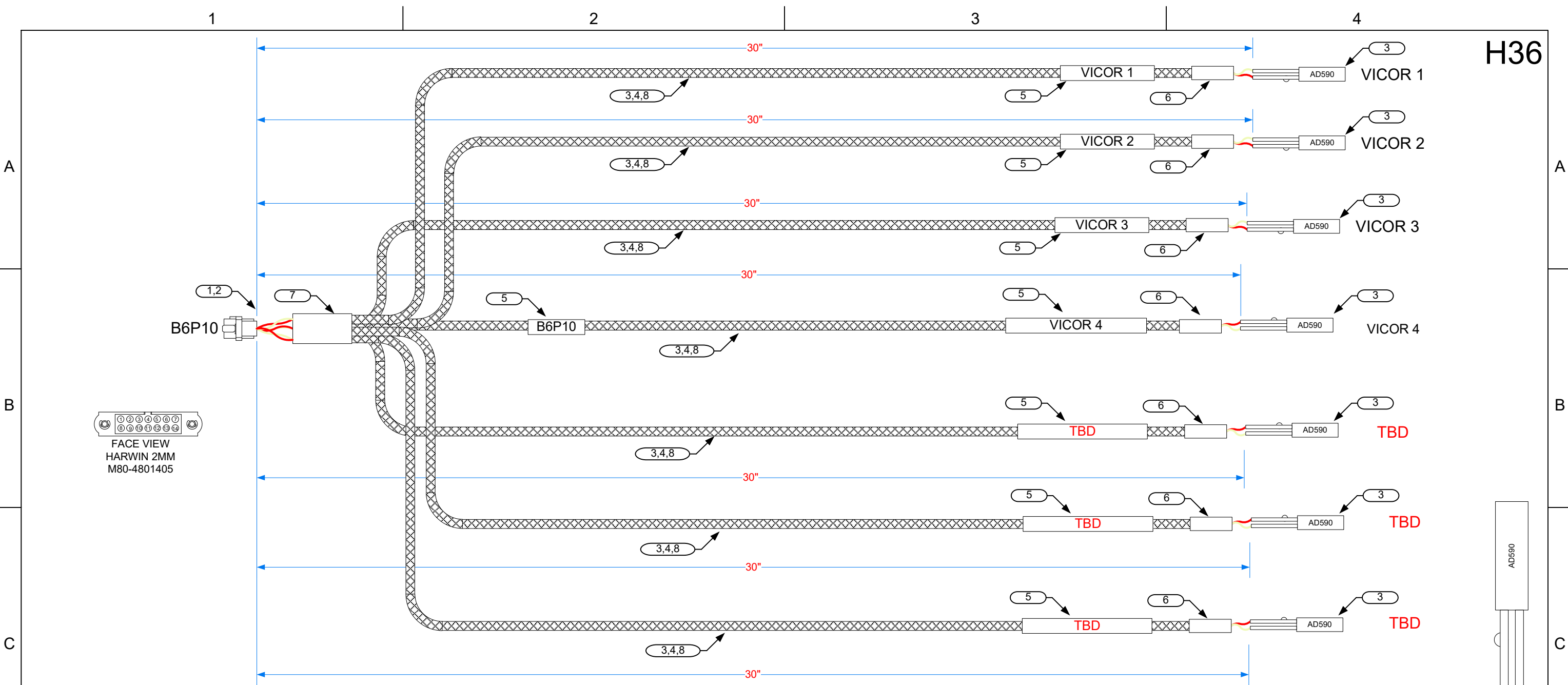
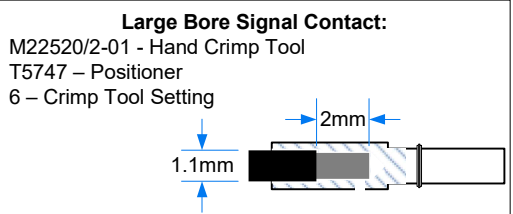


TABLE A1H36: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4801405	HARWIN	DATAMATE FEMALE 14-PIN
2	6	M80-0110005	HARWIN	DATAMATE 22AWG FEMALE CRIMP
3	3	AD590JF	Analog Devices Inc.	SENSOR ANALOG -55C-150C 2FLATPK
3	TBD	2845/19 WH001	Alpha	22 AWG WHITE WIRE PTFE 1.07mm Ø
4	TBD	2845/19 RD001	Alpha	22 AWG RED WIRE PTFE 1.07mm Ø
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	2"	STOCK	STOCK	3/4" ADHESIVE HEAT SHRINK
8	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeveing



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105		
MANAGER:	-			
ENGINEER:	K. ZACK	H36 PG2 HPB TEMPERATURE SENSORS MARS		
DRAWN BY:	K. ZACK			
PRINT DATE:	11/5/2024	SIZE:	CAGE CODE:	DWG NO:
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CAD FILE:	MARS Harnessing V1.10.vsd	SHEET 42 OF 59		REV 1.08

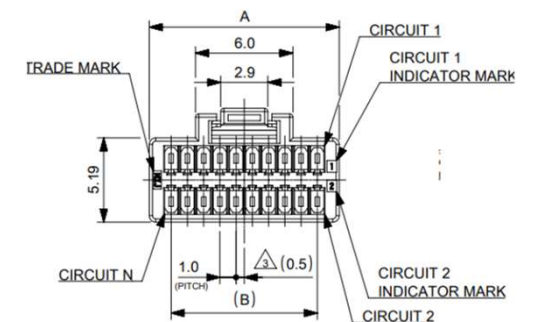
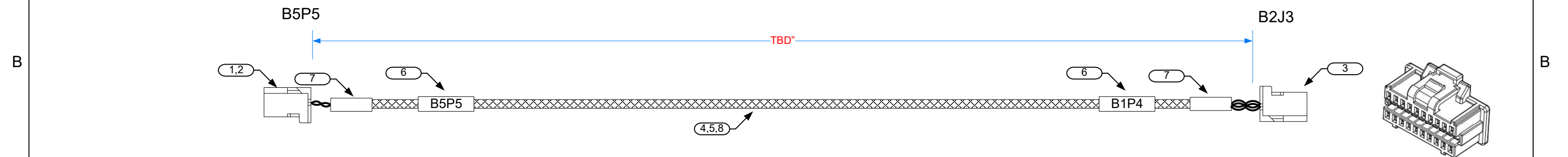
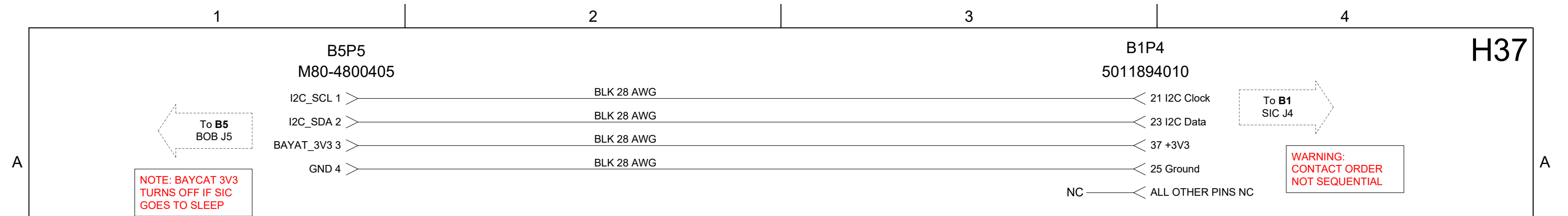
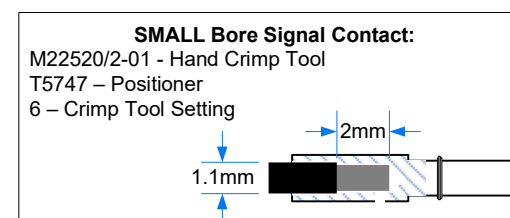
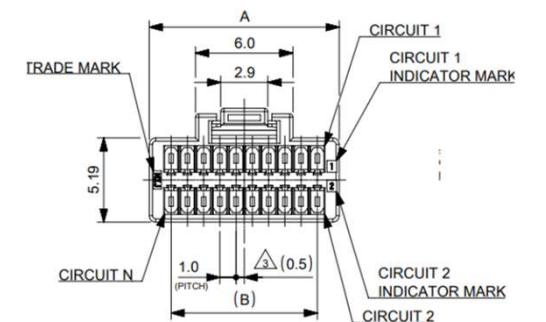
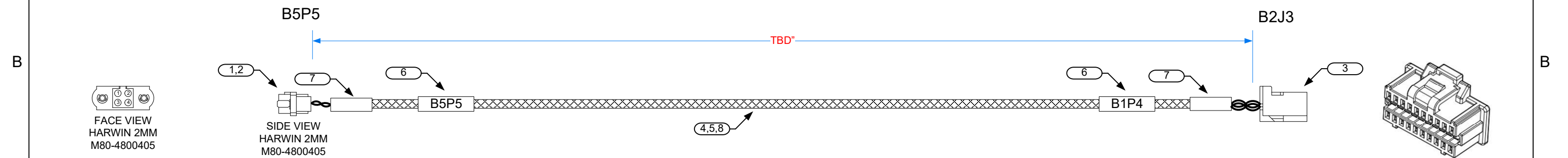
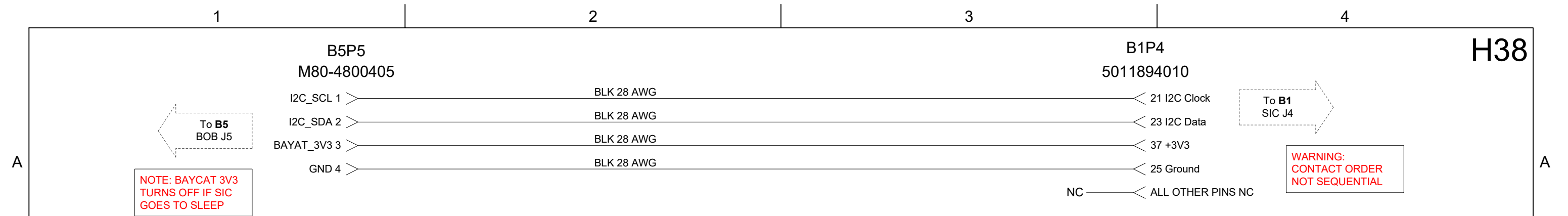


TABLE A1H37: PARTS LIST	
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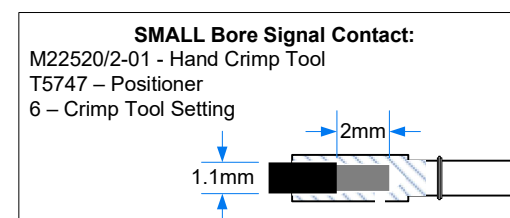
ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	4	M80-0130005	HARWIN	CONN SOCKET 24-28AWG CRIMP GOLD
3	1	5011894010	Molex	CONN RCPT HSG 40POS 1.00MM
4	4	0797581018	Molex	PICO-CLASP 150MM 28AWG PRE-CRIMP
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving



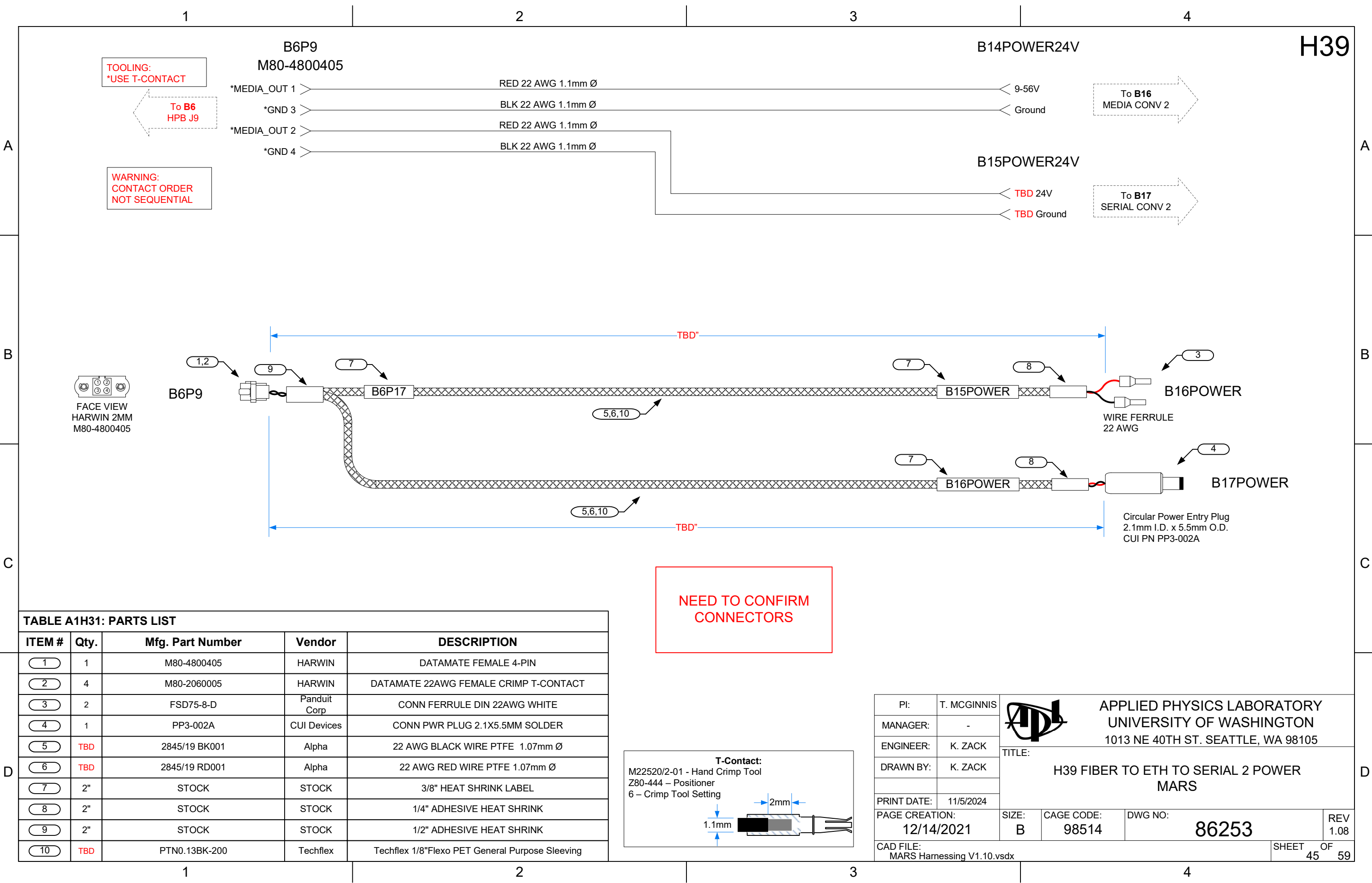
PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H37 PC104 TO PADDLEBOARD I2C MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION:		SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021		B	98514	86253	1.08
CAD FILE:					SHEET
MARS Harnessing V1.10.vsd					OF
					43 59

[illegible]

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	1	M80-4800405	HARWIN	DATAMATE FEMALE 4-PIN
2	4	M80-0130005	HARWIN	CONN SOCKET 24-28AWG CRIMP GOLD
3	1	5011894010	Molex	CONN RCPT HSG 40POS 1.00MM
4	4	0797581018	Molex	PICO-CLASP 150MM 28AWG PRE-CRIMP
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/4" ADHESIVE HEAT SHRINK
7	TBD	PTN0.13BK-200	Techflex	Techflex 1/8"Flexo PET General Purpose Sleeving



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H38 PADDLEBOARD TO BOB I2C MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION:		SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021		B	98514	86253	1.08
CAD FILE:					SHEET OF
MARS Harnessing V1 10 vstd					44 OF 59

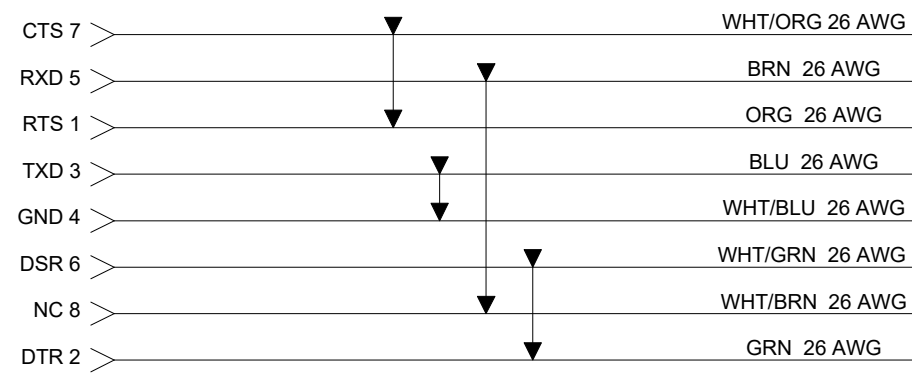


WARNING:
CONTACT MAY BE
WRONG, NON
STANDARD LACKING
DOCUMENTATION

To B10
SWITCH 1

WARNING:
CONTACT ORDER
NOT SEQUENTIAL

B10CONSOLE
RJ45



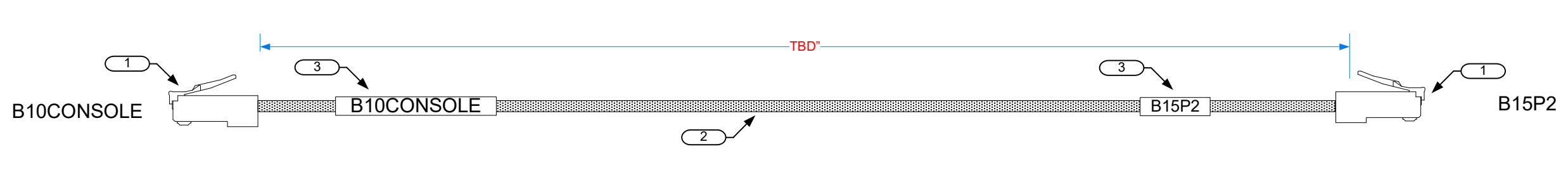
B15P2
RJ45



*WARNING: USING A
8PIN RJ45 NOT 10 PIN,
OK TO DO, BUT PINS
NUMBERS OFFSET BY 1

To B15
DIGI PORT

WARNING:
CONTACT ORDER
NOT SEQUENTIAL



RJ45
PLUG
FACE AND
BOTTOM
VIEWS

NEED TO UPDATE
INFO ABOUT
CONNECTED DEVICES
FOR 8 CABLE
ASSEMBLIES

RJ45
PLUG
FACE AND
BOTTOM
VIEWS

B15P2

From RJ-45	Signal	Direction	Signal	To DB-9
10	DCD	←	DCD	1
6	RxD	←	RxD	2
5	TxD	→	TxD	3
9	DTR	→	DTR	4
7	SG	↔	SG	5
2	DSR	←	DSR	6
3	RTS	→	RTS	7
8	CTS	←	CTS	8
1	RI	←	RI	9
4	GND	↔	GND	Shell

TABLE A1H33: PARTS LIST

ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	STOCK	STOCK	RJ45 CONNECTOR
6	TBD	74006 BK002	Alpha Wire	CABLE CAT5E 8COND 26AWG BLK 100'
9	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL

PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105		
MANAGER:	-			
ENGINEER:	K. ZACK	TITLE: H41-48 PORT SERVER – SERIAL SPLITTER MARS		
DRAWN BY:	K. ZACK			
PRINT DATE:	11/5/2024			
PAGE CREATION:	12/14/2021	SIZE: B	CAGE CODE: 98514	DWG NO: 86253
CAD FILE: MARS Harnessing V1.10.vsd			SHEET 47	OF 59

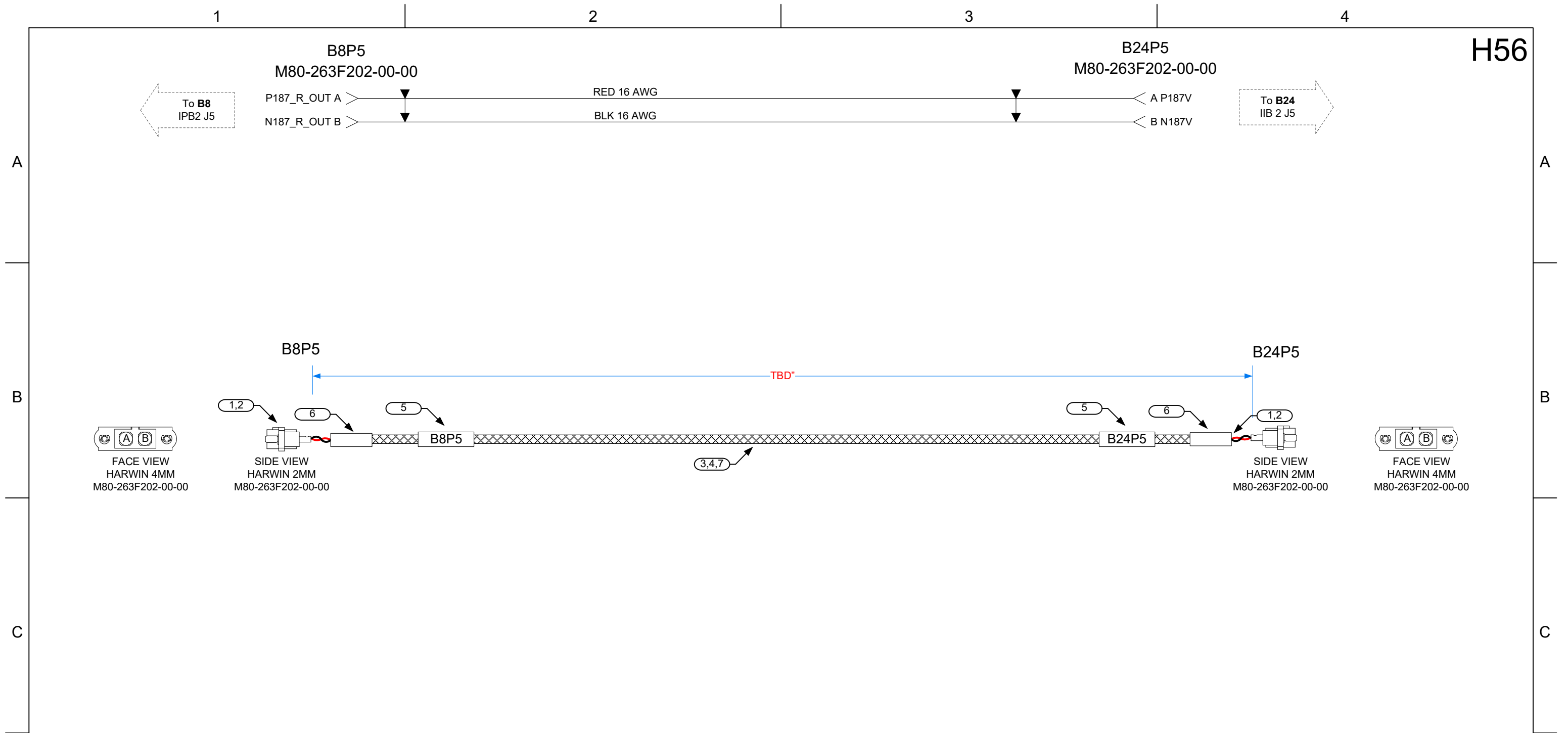
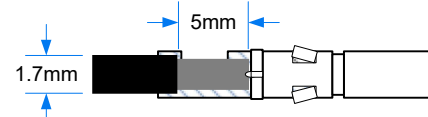


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ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD		HARWIN	16 AWG BLACK WIRE PTFE
4	TBD		HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE: *Power Contact (16AWG):*
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H56 IPS 2 CHB 375V Out IIB 2 MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION:		SIZE:	CAGE CODE:	DWG NO:	REV
12/14/2021		B	98514	86253	1.08
CAD FILE:					SHEET OF
MARS Harnessing V1.10.vsd					55 OF 59

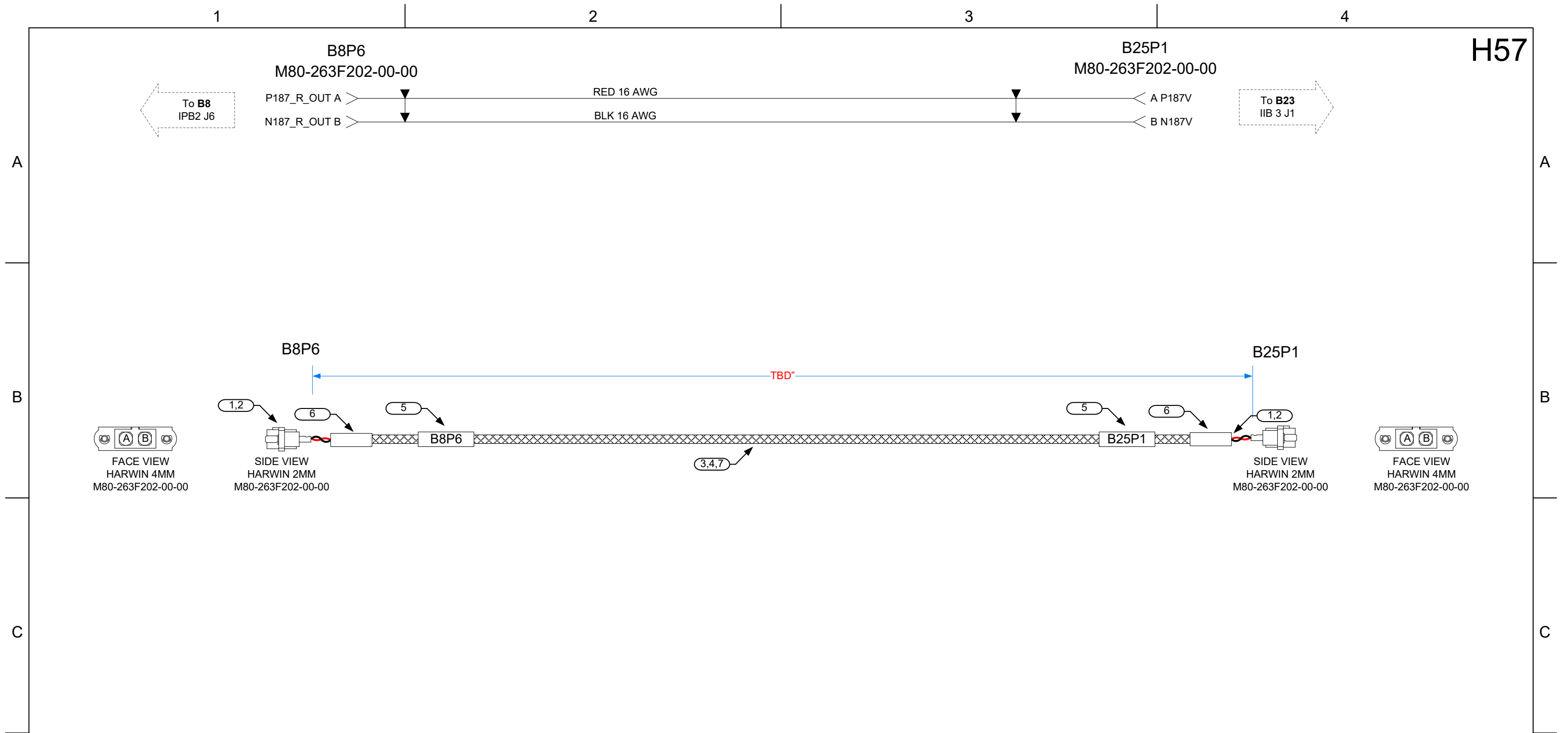
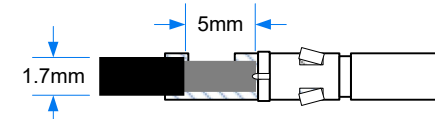


TABLE A1H4: PARTS LIST	
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ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD		HARWIN	16 AWG BLACK WIRE PTFE
4	TBD		HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE: *Power Contact (16AWG):*
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H57 IPS 2 CHC 375V Out IIB 3 MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
PAGE CREATION: 12/14/2021		SIZE: B	CAGE CODE: 98514	DWG NO: 86253	REV 1.08
CAD FILE: MARS Harnessing V1.10.vsdw					SHEET OF 56 59

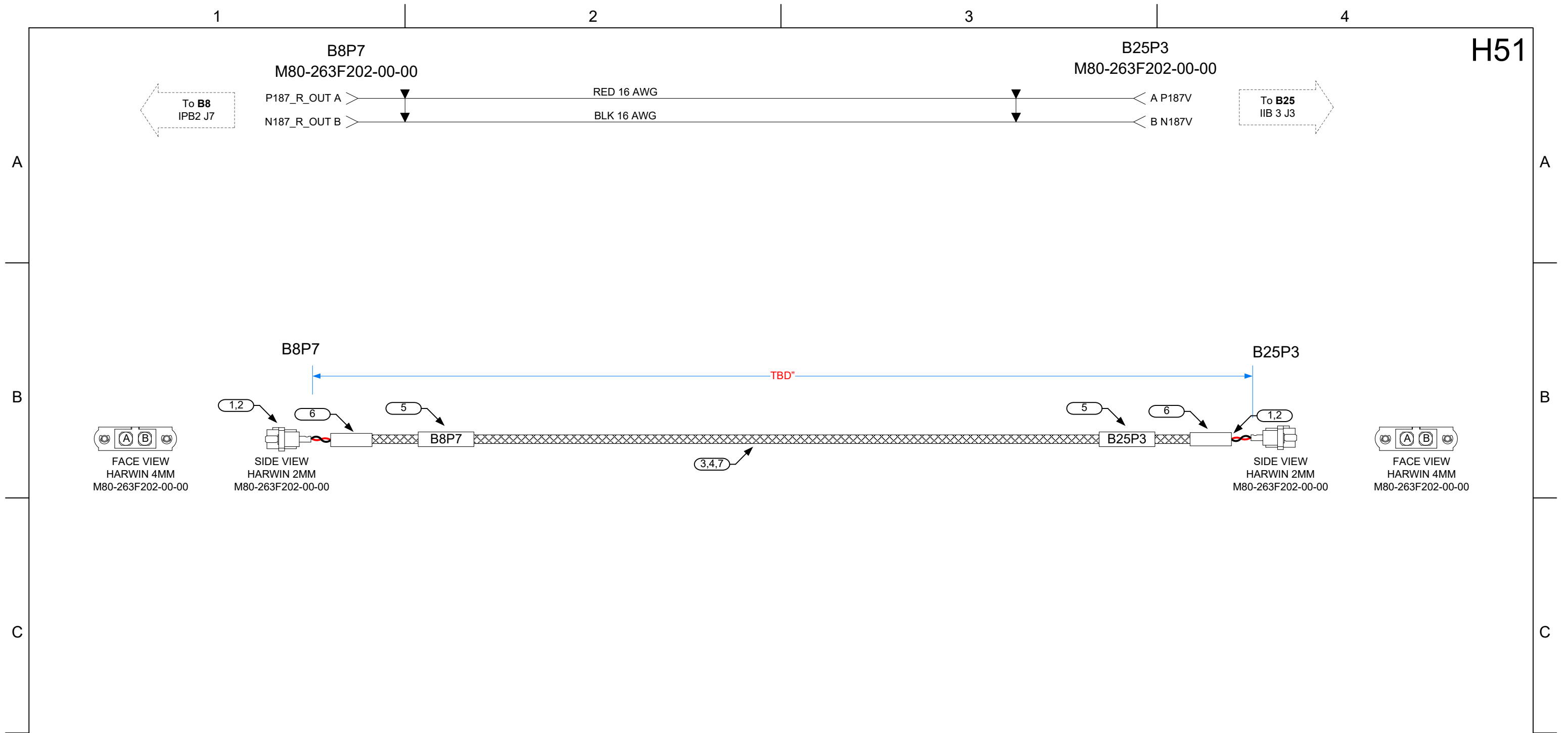
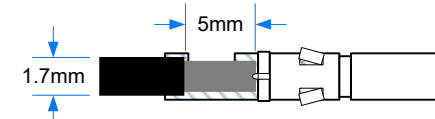


TABLE A1H4: PARTS LIST	
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ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD		HARWIN	16 AWG BLACK WIRE PTFE
4	TBD		HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE: *Power Contact (16AWG):*
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS	 APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105			
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H51 IPS 1 CHA 375V Out IIB 1 MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
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CAD FILE:					SHEET
MARS Harnessing V1.10.vsd					OF
					57
					59

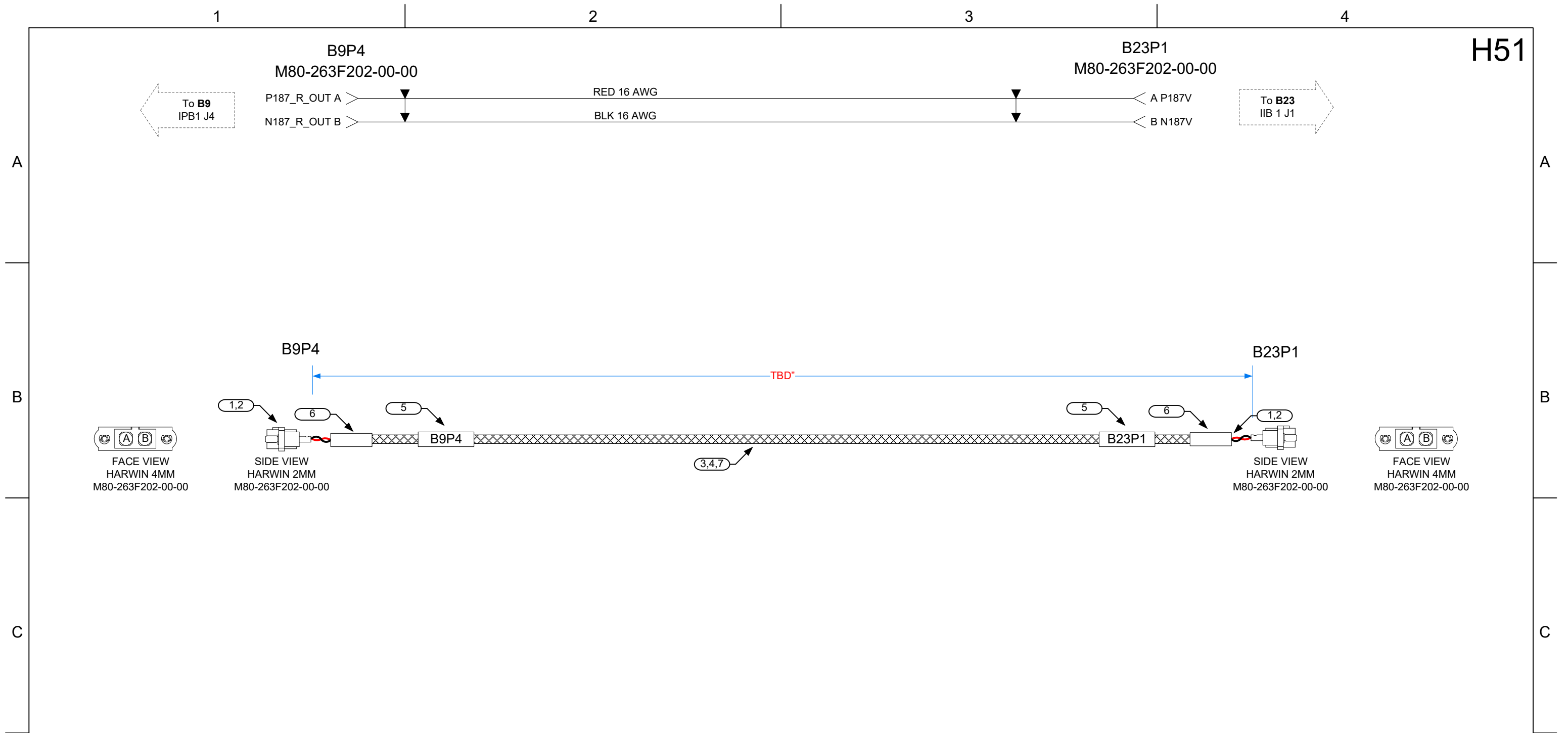
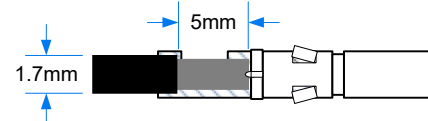


TABLE A1H4: PARTS LIST	
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ITEM #	Qty.	Mfg. Part Number	Vendor	DESCRIPTION
1	2	M80-263F202-00-00	HARWIN	20A 2 PIN DATAMATE POWER
2	4	M80-327	HARWIN	CONN SOCKET 16AWG CRIMP/SLD GOLD
3	TBD		HARWIN	16 AWG BLACK WIRE PTFE
4	TBD		HARWIN	16 AWG RED WIRE PTFE
5	2"	STOCK	STOCK	3/8" HEAT SHRINK LABEL
6	2"	STOCK	STOCK	1/2" ADHESIVE HEAT SHRINK
7	TBD	PTN0.25BK-200	Techflex	Techflex 1/4"Flexo PET General Purpose Sleeving

NOTE: *Power Contact (16AWG):*
Z80-290 - Extraction tool
5x – Contact Replacement In Insulator



PI:	T. MCGINNIS			APPLIED PHYSICS LABORATORY UNIVERSITY OF WASHINGTON 1013 NE 40TH ST. SEATTLE, WA 98105	
MANAGER:	-				
ENGINEER:	K. ZACK	TITLE: H51 IPS 1 CHA 375V Out IIB 1 MARS			
DRAWN BY:	K. ZACK				
PRINT DATE:	11/5/2024				
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CAD FILE:					SHEET
MARS Harnessing V1.10.vsdw					OF
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					59

