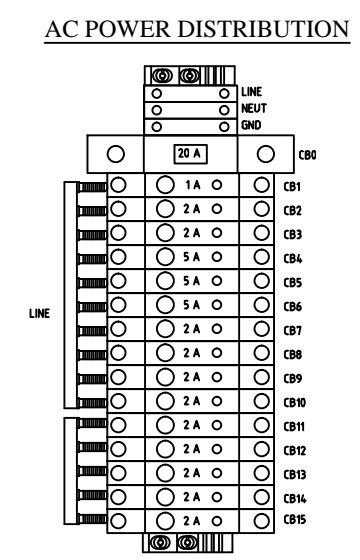
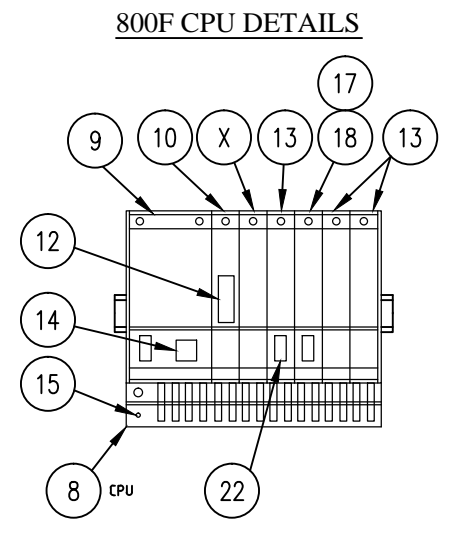
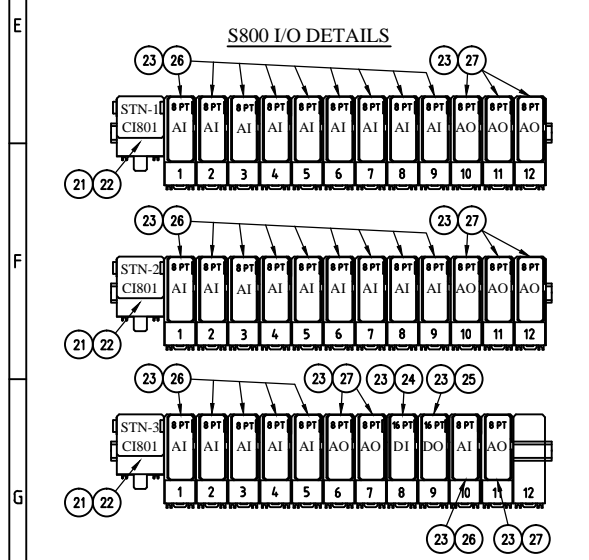


ITEM	QTY	MFR	DESCRIPTION	PART NO.	ITEM	QTY	MFR	DESCRIPTION	PART NO.
39	565	ENTRELEC	STANDARD TERMINAL BLOCK, M 4/6, WITH TEST 2mm TEST SOCKET	115 217.14	1	1	RITTAL	ES 5000 CABINET, 1800MM X 1600MM X 400MM [H W D] C/W MOUNTING PANEL	5784.500
40	47	ENTRELEC	FUSED TERMINAL BLOCKM4/8.SF	115 657.25	2	1	RITTAL	SO CABLE PLINTH FOR THE ABOVE ITEM, 200 MM HIGH	2906.200
41	23	ENTRELEC	TERMINAL BLOCKS, M 6/8	115 118.11	3	1	RITTAL	SZ STANDARD HANDLE SYSTEM C/W KEY	2435.000
42	14	ENTRELEC	END SECTION, M4/6	118 368.16	4	1	RITTAL	SZ PRINT POCKETS	2513.000
43	5	ENTRELEC	END SECTION, M4/8.SF	116 951.15	5	1	RITTAL	SZ STANDARD LIGHT UL 60HZ, 120VAC, 14W, ULc APPROVED, WITH INTERGRAL DOOR SWITCH	4138.250
44	28	ENTRELEC	END STOP (ALL RAILS)	206 351.16	7	1	BY NRCAN	LAMACOID LABEL, 250mm X 150mm (W X H), ENGRAVED WITH 15mm HIGH TEXT AS INDICATED, BLACK LETTERING ON WHITE	
45	57	ENTRELEC	SEPARATOR END SECTION, RAIL MOUNT, SCF6	118 707.03	8	1	ABB	PM 803F, BASE UNIT 16 MB, BATTERY-BUFFERED RAM	3BDH000530R
46	9.5m	ENTRELEC	ASSEMBLY RAIL, PR30 (TS 35/F6), DIN 3, 35mm, 2 meter	173 220.05	9	1	ABB	SA 811F, POWER SUPPLY 115/230 VAC	3BDH000013R
47	16	ENTRELEC	RAIL OFFSET MTG BRACKET, TS0441-SM6 40mm HIGH	101 655.06	10	1	ABB	EI 813F, ETHERNET MODULE 10BASET	3BDH000022R
48	4	ENTRELEC	RAIL OFFSET MTG BRACKET, TS0441-SM6 20mm HIGH	101 653.04	11	1	ABB	FI 830F, FIELDBUS MODULE, PROFIBUSDP	3BDH000032R
49	6	ENTRELEC	COMB-TYPE JUMPER BAR, PC6, 10 POLE, 35A, (M 4/6)	113 548.26	12	1	ABB	AM 811F, BATTERY MODULE	3BDH000050R
50	6	ENTRELEC	COMB-TYPE JUMPER BAR, PC81, 10 POLE, 35A, (M 4/8.SF)	173 523.11	13	1	ABB	AM 895F, FRONT PANEL, 4 PCS	3BDH000044R
51	2	ENTRELEC	COMB-TYPE JUMPER BAR, PC81, 10 POLE, 50A, (M 6/8)	163 313.24	14	1	ABB	TK 809F, SUPPLY CABLE 115/230 VAC, US PLUG, 2 M	3BDM000212R
52	56	ENTRELEC	SHIELD CONNECTOR, CBMS, PKG OF 10	178 745.14	15	1	ABB	RY 885F, GROUNDING STRAP, 2 PCS.	3BDM000169R
53	40	ENTRELEC	SM6 MTG BRACKET SCREWS	101 659.12	16	1	ABB	S8 808F, BATTERY FOR RAM BUFFERING, 2 PCS	3BDM000199R
54		ENTRELEC	TERMINAL BLOCK BLANK MARKING TAGS, 6mm SPACING, 10X10 PER CARD, VERTICAL PRINTED NUMBER RANGE (SEE ATTACHMENT FOR CUSTOM LABELS)	233 000.01	17	1	ABB	"TK 821F, SERIAL CABLE (2 CHANNEL), INTEGRAL CONNECTORS, 0.5 M, CONNECTION FI 820F TO TERMINAL BLOCK TB 870F"	3BDM000150R
55		ENTRELEC	HORIZONTAL MARKER HOLDER, ATTACHED ACROSS END-STOP, PKG OF 10	163 211.26	18	1	ABB	TB 870F, TERMINAL BLOCK, FOR SERIAL INTERFACE	3BDM000160R
56					19	3	ABB	SD831 POWER SUPPLY DEVICE, INPUT A.C. 100/240 V OR D.C. 110/300 V. OUTPUT D.C. 24 V 3A.	3BSC610064R
57	.0m	IBICO	WIRE DUCT, 4.0 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-4040G	20	2	ABB	SD834 POWER SUPPLY DEVICE, INPUT A.C. 100-240 V OR D.C. 110-300 V. OUTPUT D.C. 24 V 20A	3BSC610067R
58	5.1m	IBICO	WIRE DUCT, 3.0 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-3040G	21	4	ABB	"CI801-EA PROFIBUS DP-V1 COMMUNICATION INTERFACE INCLUDING: 1 PCE POWER SUPPLY CONNECTOR 1 PCE TB807 MODULEBUS TERMINATOR"	3BSE022366R
59	4.4m	IBICO	WIRE DUCT, 2.25 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-2240G	22	3	EASYCONN	PBR PROFIBUS CONNECTOR, 90 DEG (PA03135)	VIP4972-0DPO
60	1.3m	IBICO	WIRE DUCT, 1.5 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-1540G	23	4,000,000	ABB	"TU810V1 COMPACT MODULE TERMINAL-ON UNIT, MTU, 50V 2X8 SIGNAL TERMINALS, RATED ISOL 50V"	3BSE0113230R
61	.0m	IBICO	WIRE DUCT, 1.0 x 4.0 IN., 8/PK, GRY, SLOTTED, 2M, WITH COVER	T1-1040G	24	1	ABB	"DI810-EA DIGITAL INPUT 24V D.C. 2X8 CH. RATED ISOLATION 50V."	3BSE008508R
62					25	1	ABB	DO810-EA DIGITAL OUTPUT 24 V D.C. 2X8 CH 0.5A	3BSE008510R
63	1.0m	ILSCO	6-14 AWG COPPER BUS BAR WITH SUPPORTS	N-174	26	24	ABB	A0810V2-EA ANALOG INPUT 1X8 CH WITH HART, 0(4)...20mA, 0(1)...5V, 12BIT, SINGLE ENDED, 0.1%, RATED, ISOL 50V	3BSE052604R
64	10	RESISTOR	249 OHM, 1/2 WATT	N-174	27	8	ABB	A0810V2-EA ANALOG OUTPUT 1*8 CHANNELS, 0(4)...20mA 0(4)...20mA, 14BIT RLMAX 500/850 OHMS, RATED ISOL 50V	3BSE038415R
65					28				
66					29	1	WEIDMULLER	CB4200 SERIES, SINGLE POLE, THERMAL MAGNETIC BREAKER, 250VAC, 1.0A	9101203500
					30	10	WEIDMULLER	CB4200 SERIES, SINGLE POLE, THERMAL MAGNETIC BREAKER, 250VAC, 2.0A	9101503500
					31	0	WEIDMULLER	CB4200 SERIES, SINGLE POLE, THERMAL MAGNETIC BREAKER, 250VAC, 3.0A	9101703500
					32	3	WEIDMULLER	CB4200 SERIES, SINGLE POLE, THERMAL MAGNETIC BREAKER, 250VAC, 5.0A	9101803500
					33	0	WEIDMULLER	CB4200 SERIES, SINGLE POLE, THERMAL MAGNETIC BREAKER, 250VAC, 10.0A	9101903500
					34	3	WEIDMULLER	JUMPER, COB 10 STRAIGHT, INSULATED, COMB 2/IP	9970590000
					35	1	WEIDMULLER	MARKING TAGS, DEK 5/5, VERTICAL, NUMBERED 1-50	473560001
					36	1	WEIDMULLER	CB4200 SERIES, SINGLE POLE, HYDRAULIC MAGNETIC, BRANCH RATED CIRCUIT BREAKER, 250VAC, 20.0A	9926251020
					37	1	WEIDMULLER	RECEPTICAL, DIN RAIL MOUNT, 15A, DUPLEX, TYPE DRAC DP 15	6720005421
					38				

NOTES:
 1. CONTRACTOR TO ENSURE SUFFICIENT GROUNDING HARDWARE AVAILABLE. NEW GROUNDING BUS TO BE MOUNTED AS REQUIRED.
 2. LABEL TO BE MOUNTED ON CABINET EXTERIOR. LAMACOID LABEL, 250mm X 150mm (W X H), ENGRAVED WITH 15mm HIGH TEXT AS INDICATED, BLACK LETTERING ON WHITE



NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		
No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD

DESIGNED
R. McNAIR
 DRAWN
R. McNAIR
 CHECKED
 APPROVED
 DATE
2016/11/11
 SCALE
NONE

PROJECT
NRCAN CANMET DCSG/HIPROX
 TITLE
ELECTRICAL
DCSG-HIPROX
CONTROL SYSTEM CABINET ASSY
DCSG-CC-01

CLIENT
Natural Resources Canada
CANMET Energy Technology Center
Ressources naturelles Canada
Centre de la technologie de l'énergie de CANMET

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	100	1

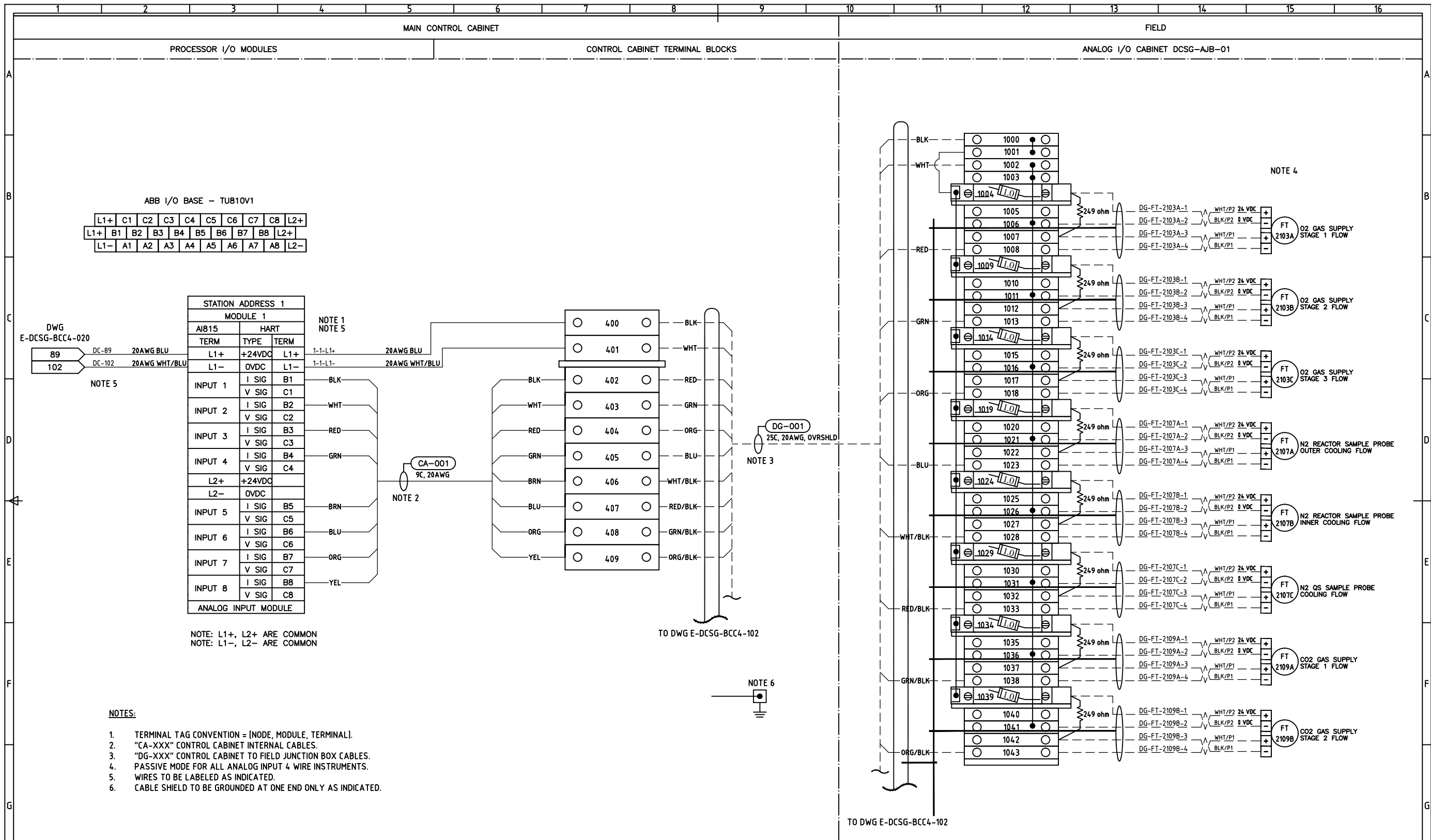


ABB I/O BASE - TU810V1

L1+	C1	C2	C3	C4	C5	C6	C7	C8	L2+
L1+	B1	B2	B3	B4	B5	B6	B7	B8	L2+
L1-	A1	A2	A3	A4	A5	A6	A7	A8	L2-

STATION ADDRESS 1

MODULE 1		
TERM	TYPE	TERM
L1+	+24VDC	L1+
L1-	OVDC	L1-
INPUT 1	I SIG	B1
	V SIG	C1
INPUT 2	I SIG	B2
	V SIG	C2
INPUT 3	I SIG	B3
	V SIG	C3
INPUT 4	I SIG	B4
	V SIG	C4
L2+	+24VDC	
L2-	OVDC	
INPUT 5	I SIG	B5
	V SIG	C5
INPUT 6	I SIG	B6
	V SIG	C6
INPUT 7	I SIG	B7
	V SIG	C7
INPUT 8	I SIG	B8
	V SIG	C8
ANALOG INPUT MODULE		

NOTE: L1+, L2+ ARE COMMON
NOTE: L1-, L2- ARE COMMON

- NOTES:
1. TERMINAL TAG CONVENTION = [NODE, MODULE, TERMINAL].
 2. "CA-XXX" CONTROL CABINET INTERNAL CABLES.
 3. "DG-XXX" CONTROL CABINET TO FIELD JUNCTION BOX CABLES.
 4. PASSIVE MODE FOR ALL ANALOG INPUT 4 WIRE INSTRUMENTS.
 5. WIRES TO BE LABELED AS INDICATED.
 6. CABLE SHIELD TO BE GROUNDED AT ONE END ONLY AS INDICATED.

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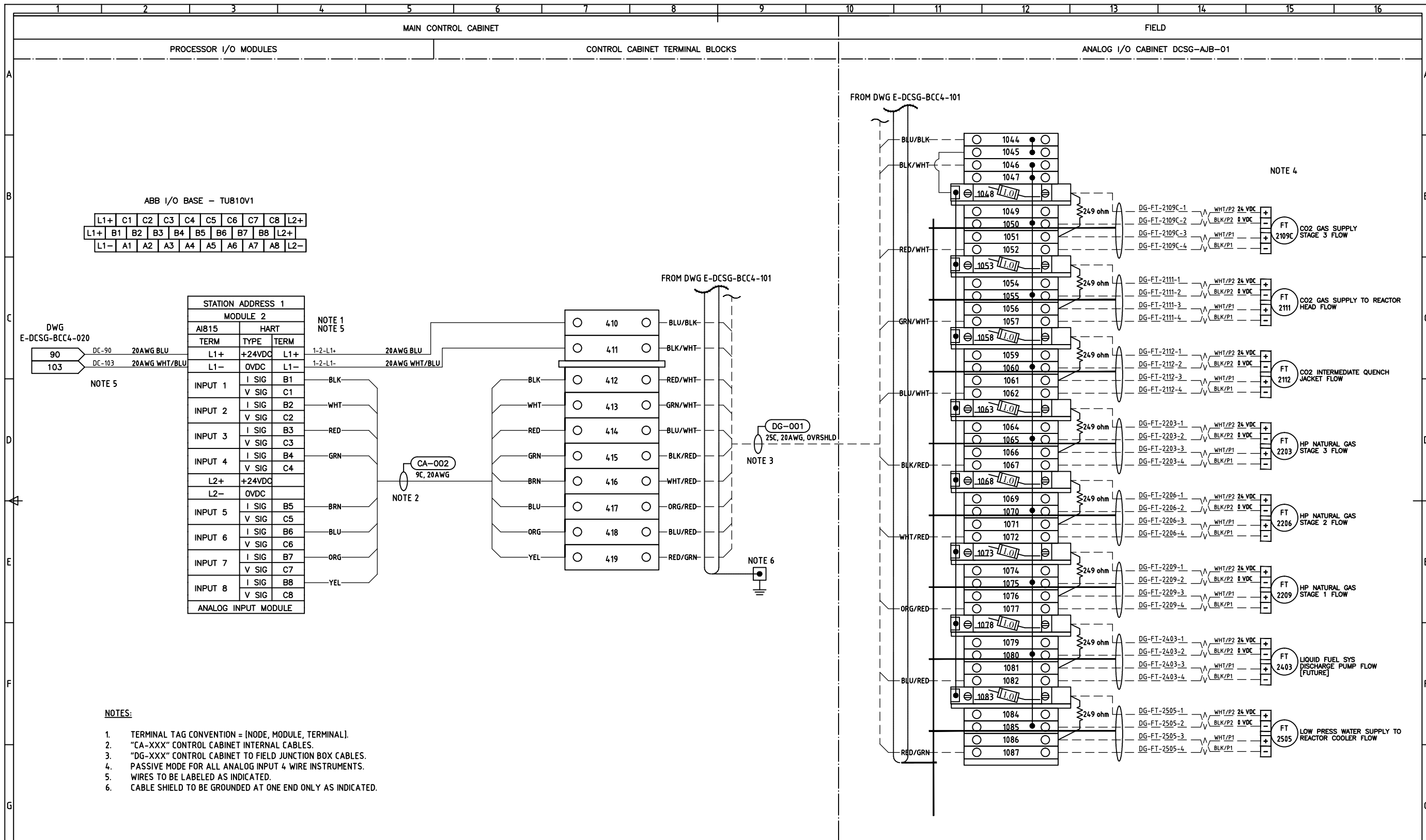
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DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 1 - MODULE 1

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	101	1



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1	2017/03/24	ISSUE FOR TENDER	RCM		
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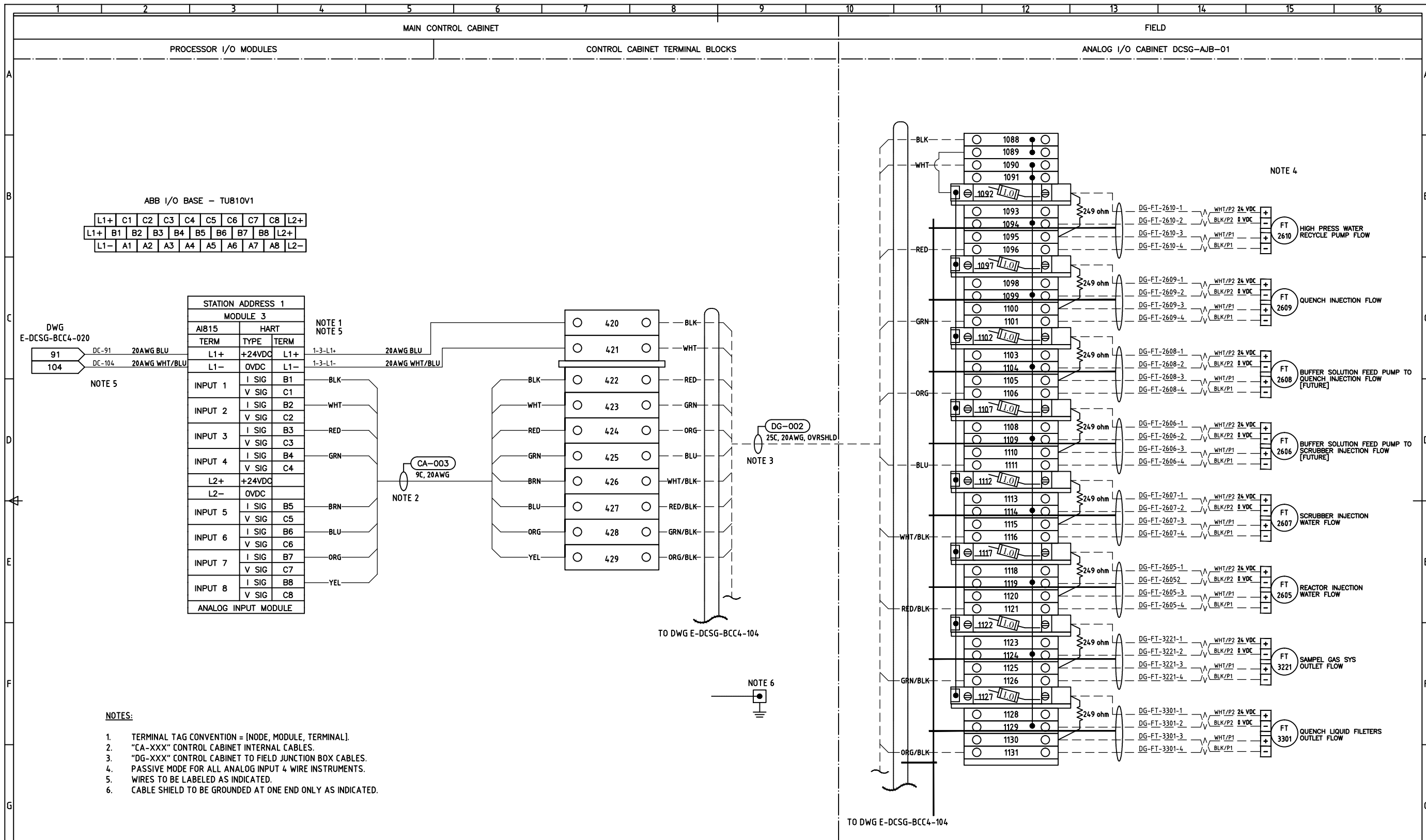
CLIENT: Natural Resources Canada / Ressources naturelles Canada
CANMET Energy Technology Center / Centre de la technologie de l'énergie de CANMET

DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED: []
APPROVED: []
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX

TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 1 - MODULE 2

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	102	1



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1	2017/03/24	ISSUE FOR TENDER	RCM		
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0	2017/02/02	ISSUE FOR CLIENT REVIEW	RCM		
No		REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD

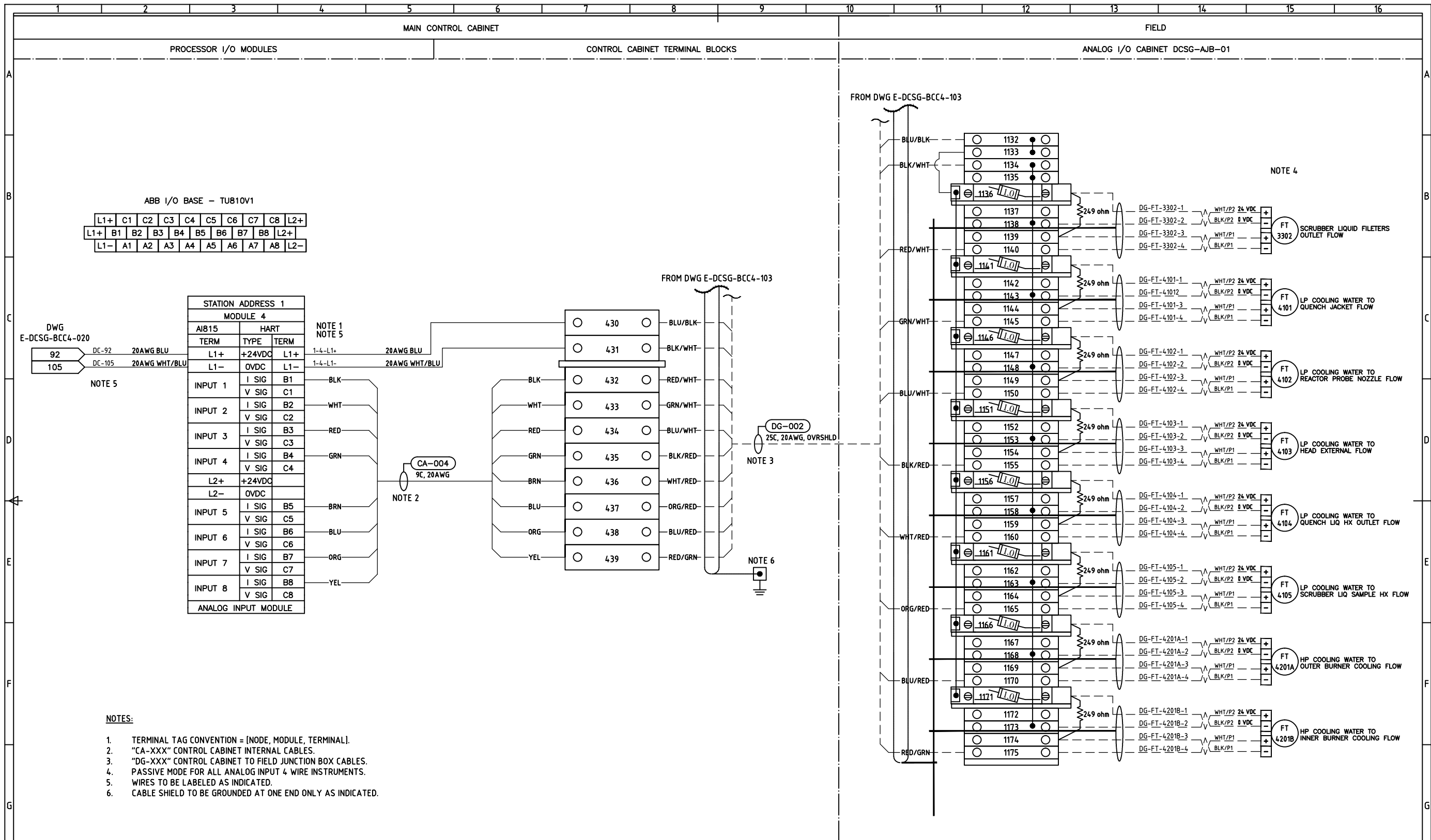
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DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 1 - MODULE 3				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 103	REV: 1



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1	2017/03/24	ISSUE FOR TENDER	RCM		
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No		REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD

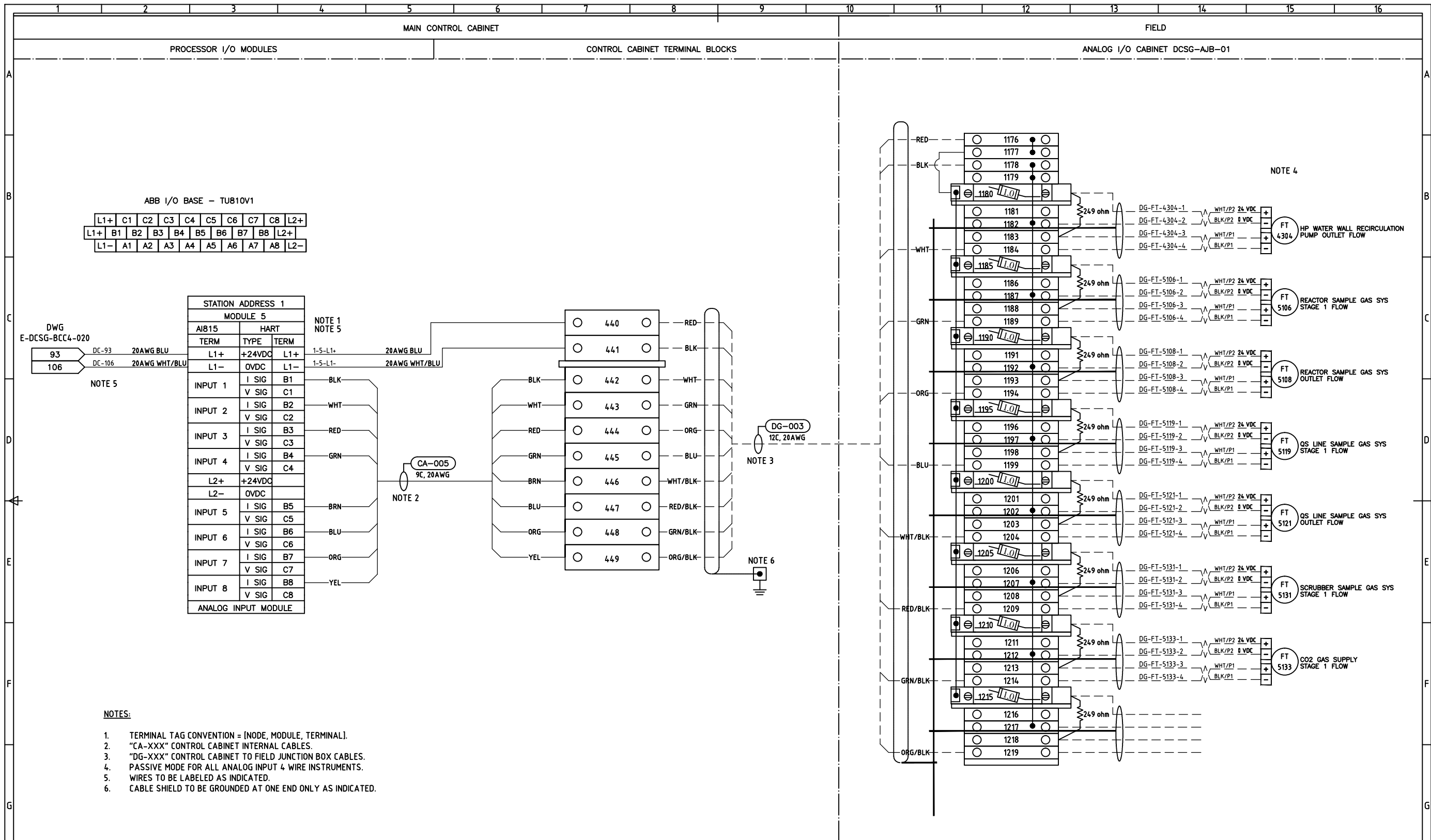
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DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 1 - MODULE 4				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 104	REV: 1



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1	ISSUE FOR TENDER	2017/03/24	RCM		
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DRAWN: R. McNAIR
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APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 1 - MODULE 5				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 105	REV: 1

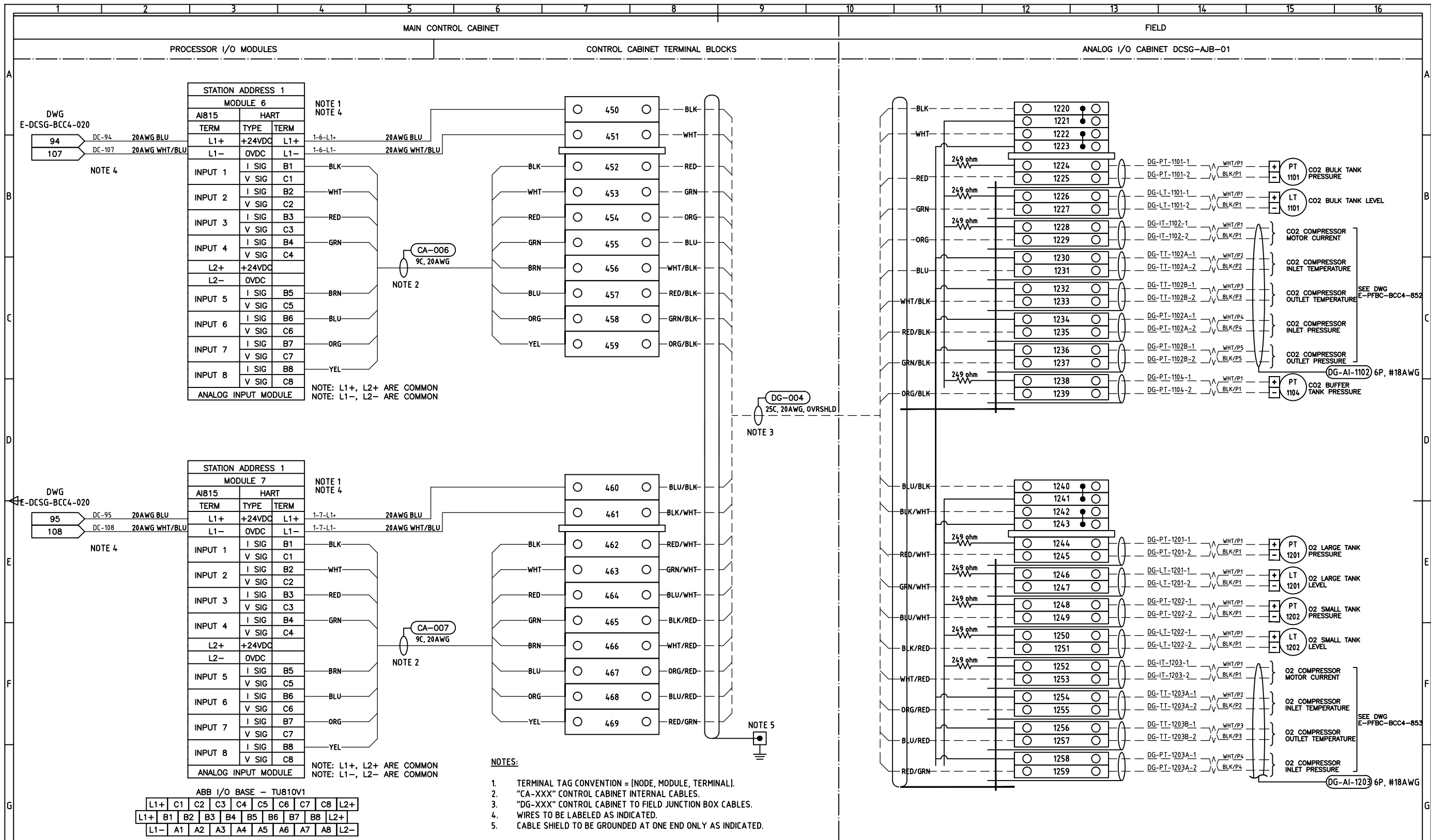


ABB I/O BASE - TU810V1

L1+	C1	C2	C3	C4	C5	C6	C7	C8	L2+
L1+	B1	B2	B3	B4	B5	B6	B7	B8	L2+
L1-	A1	A2	A3	A4	A5	A6	A7	A8	L2-

- NOTES:
1. TERMINAL TAG CONVENTION = [NODE, MODULE, TERMINAL].
 2. "CA-XXX" CONTROL CABINET INTERNAL CABLES.
 3. "DG-XXX" CONTROL CABINET TO FIELD JUNCTION BOX CABLES.
 4. WIRES TO BE LABELED AS INDICATED.
 5. CABLE SHIELD TO BE GROUNDED AT ONE END ONLY AS INDICATED.

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R. McNAIR

DRAWN
R. McNAIR

CHECKED

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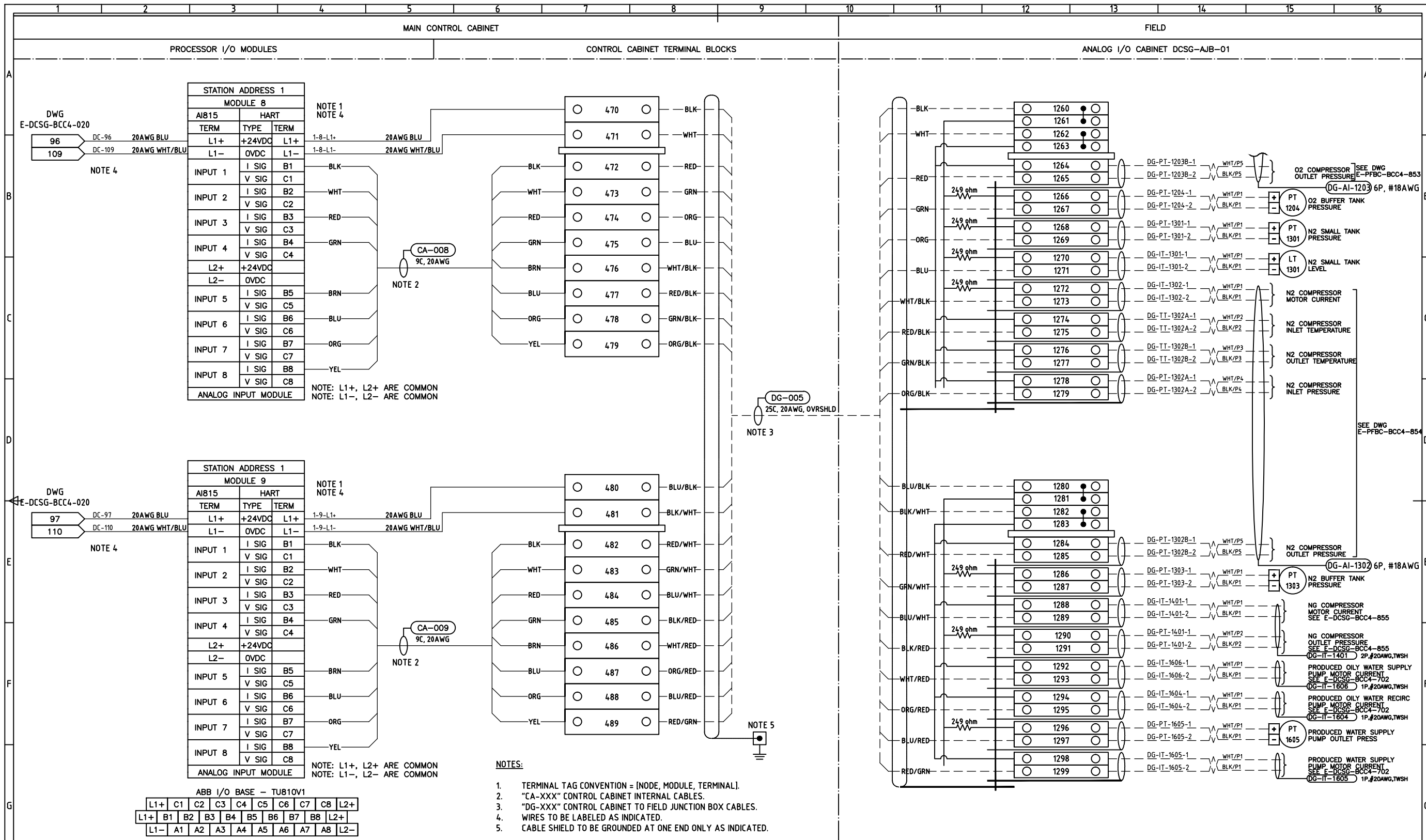
DATE
2016/11/11

SCALE
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PROJECT
NRCAN CANMET DCSG/HIPROX

TITLE
ELECTRICAL
DCSG-HIPROX
MAIN CABINET ANALOG INPUT WIRING
NODE ADDRESS 1 - MODULES 6 & 7

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	106	1



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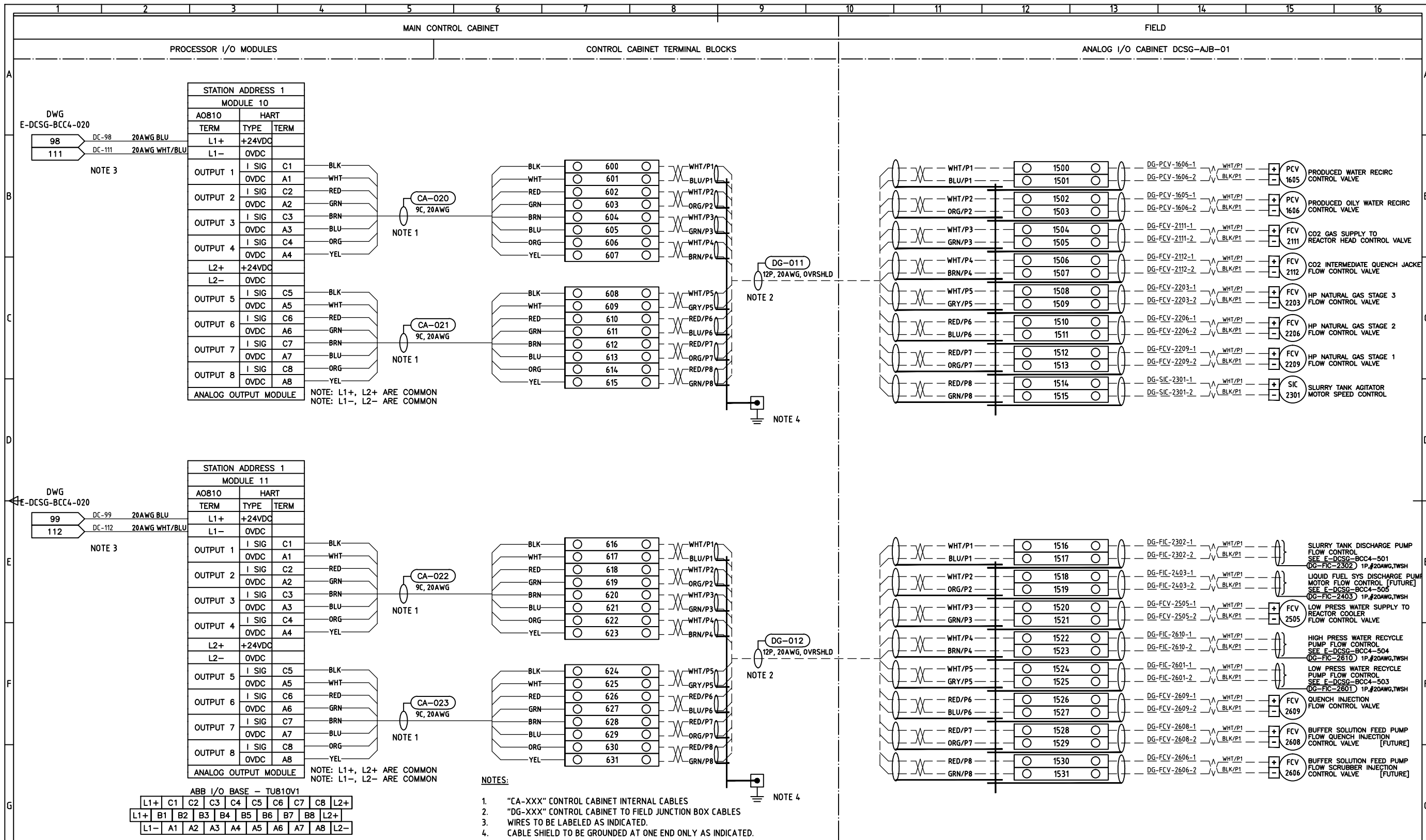
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DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 1 - MODULES 8 & 9				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 107	REV: 1



NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		

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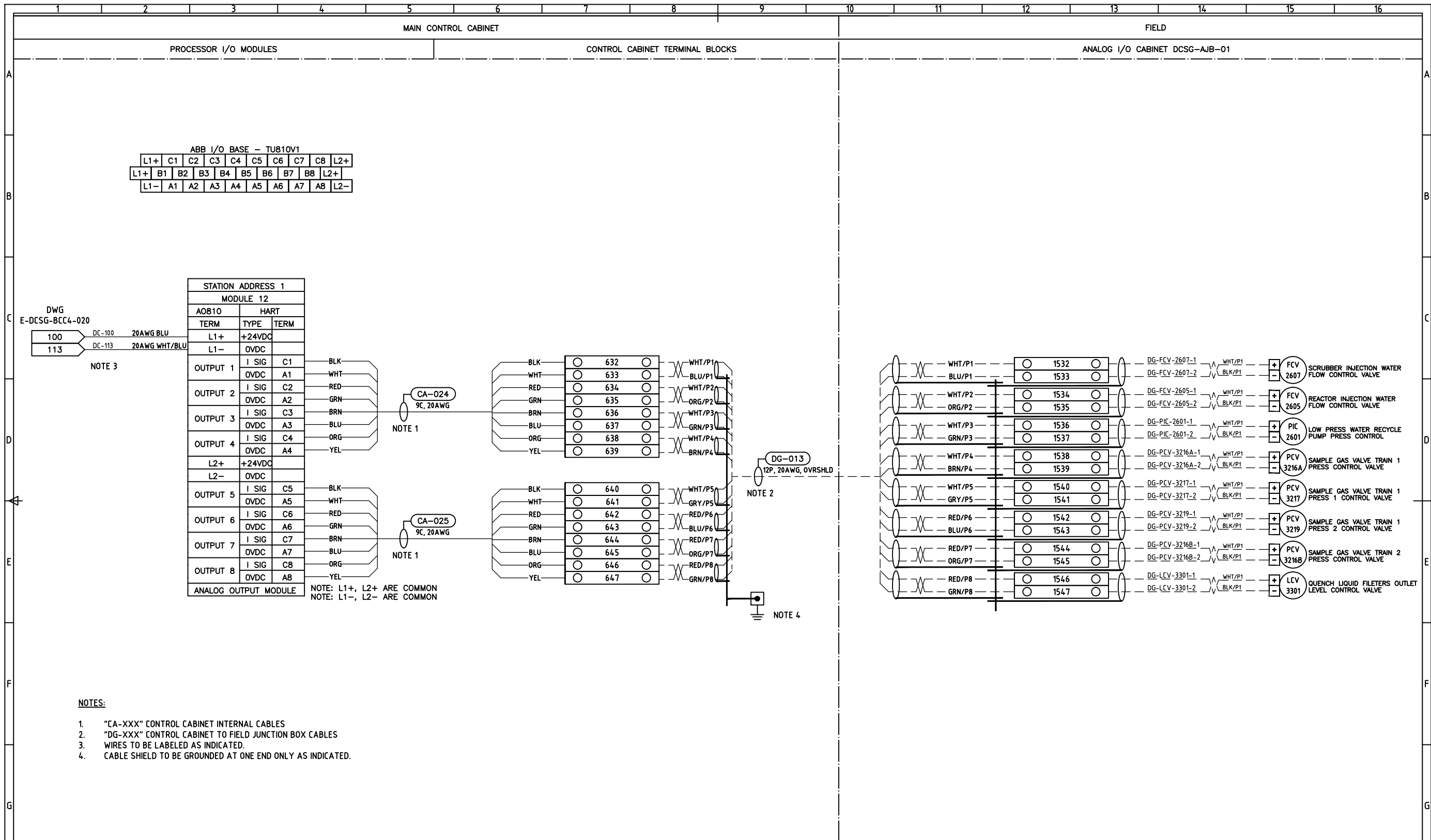
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CANMET Energy Technology Center / Centre de la technologie de l'énergie de CANMET

DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG OUTPUT WIRING NODE ADDRESS 1 - MODULES 10 & 11				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 108	REV: 1



REV	DATE	DESCRIPTION	BY	CHKD	APPD
1	2017/03/24	ISSUE FOR TENDER	RCM		
0	2017/02/02	ISSUE FOR CLIENT REVIEW	RCM		
No		REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD

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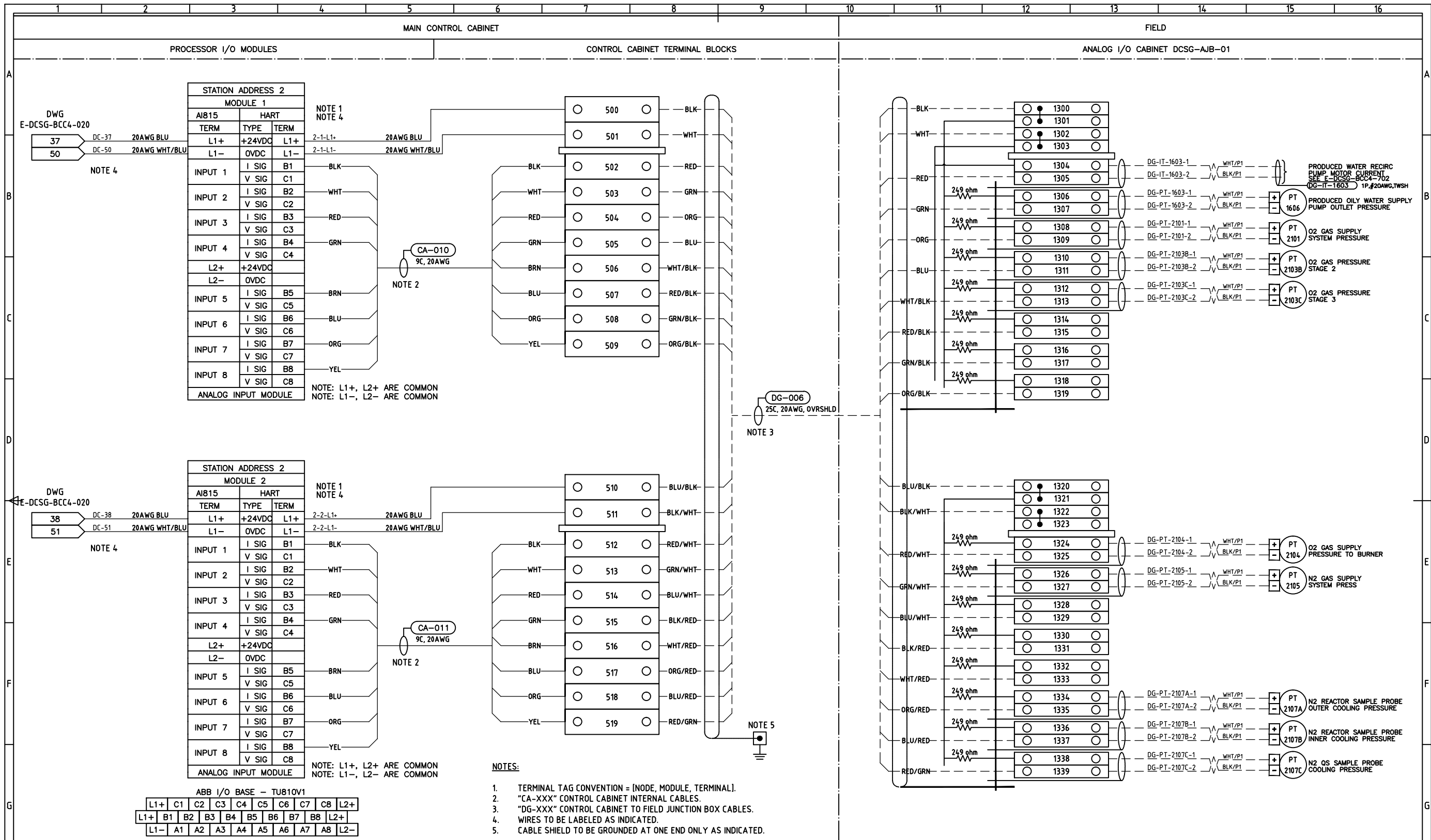
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CLIENT: **Canada**
Natural Resources Canada
CANMET Energy Technology Center
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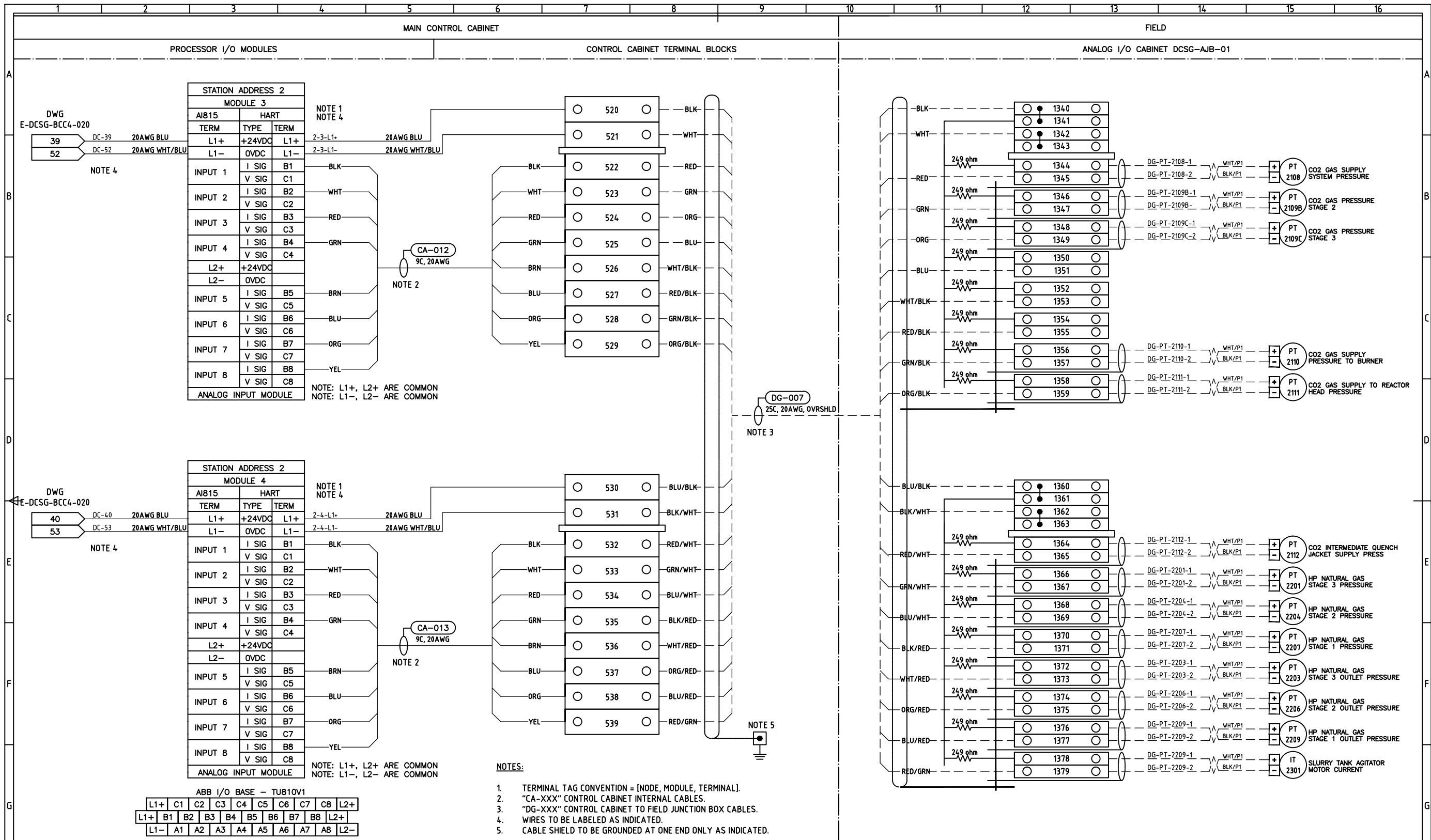
DESIGNED	R. McNAIR
DRAWN	R. McNAIR
CHECKED	
APPROVED	
DATE	2016/11/11
SCALE	NONE

PROJECT				
NRCAN CANMET DCSG/HIPROX				
TITLE				
ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG OUTPUT WIRING NODE ADDRESS 1 - MODULE 12				
USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	109	1



DESIGNED R. McNAIR		PROJECT NRCAN CANMET DCSG/HIPROX	
DRAWN R. McNAIR		TITLE ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 2 - MODULES 1 & 2	
CHECKED		USER E	
APPROVED		PROJECT DCSG	
DATE 2016/11/11		BUILDING BCC4	
SCALE NONE		DRAWING 110	
		REV. 1	

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0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		
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0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		
No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD

REFERENCE DRAWINGS

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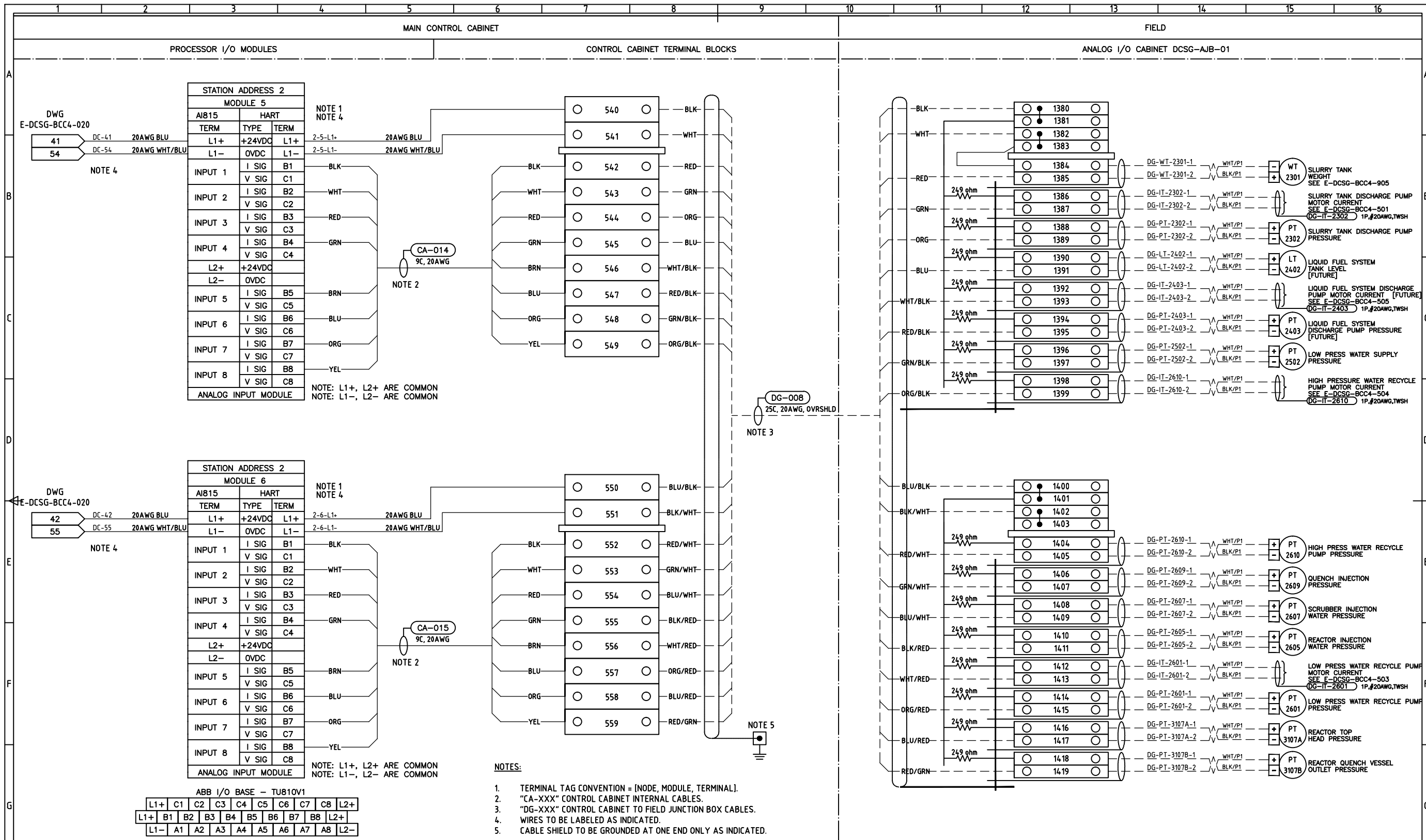
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CLIENT: Natural Resources Canada / Ressources naturelles Canada
CANMET Energy Technology Center / Centre de la technologie de l'énergie de CANMET

DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX
TITLE: ELECTRICAL DCSG-HIPROX
MAIN CABINET ANALOG INPUT WIRING
NODE ADDRESS 2 - MODULES 3 & 4

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	111	1



NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		

REFERENCE DRAWINGS

NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		

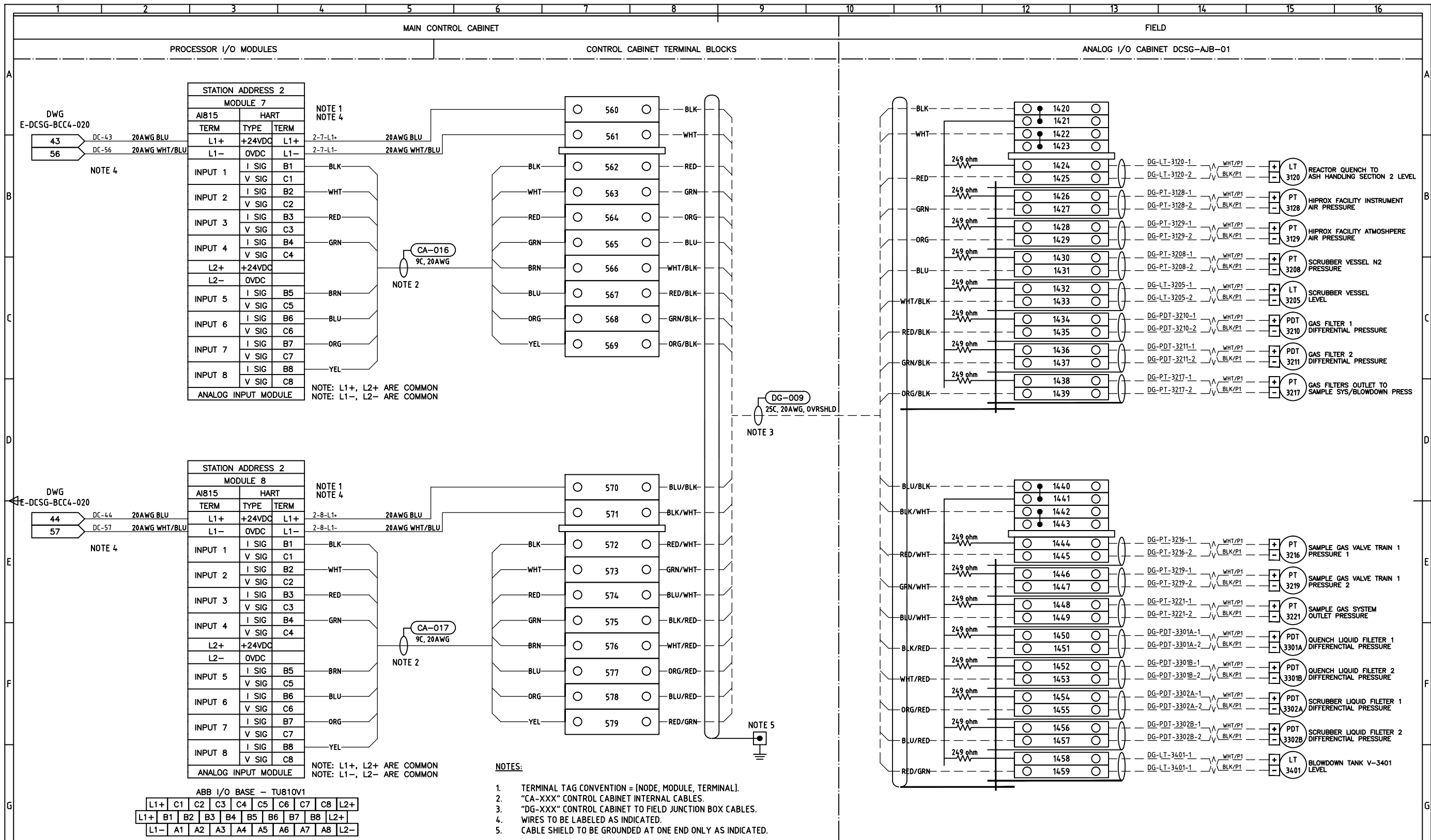
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CANMET Energy Technology Center / Centre de la technologie de l'énergie de CANMET

DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 2 - MODULES 5 & 6				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 112	REV: 1



NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		

REFERENCE DRAWINGS

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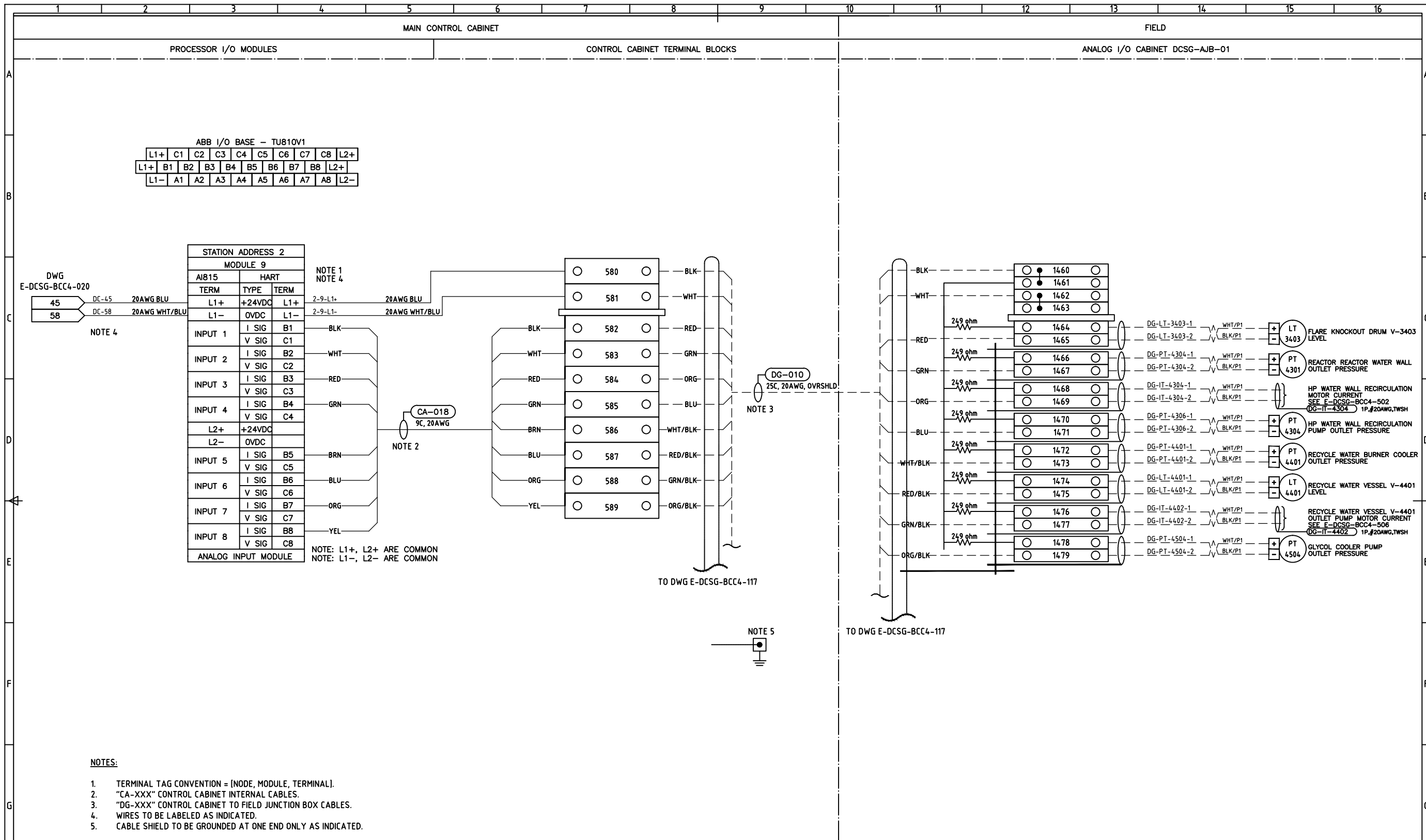
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DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 2 - MODULES 7 & 8

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	113	1

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NOTES:

1. TERMINAL TAG CONVENTION = [NODE, MODULE, TERMINAL].
2. "CA-XXX" CONTROL CABINET INTERNAL CABLES.
3. "DG-XXX" CONTROL CABINET TO FIELD JUNCTION BOX CABLES.
4. WIRES TO BE LABELED AS INDICATED.
5. CABLE SHIELD TO BE GROUNDED AT ONE END ONLY AS INDICATED.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
REFERENCE DRAWINGS			REVISION REGISTER												
			1	ISSUE FOR TENDER	2017/03/24	RCM									
			0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM									
			No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD							

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R. McNAIR

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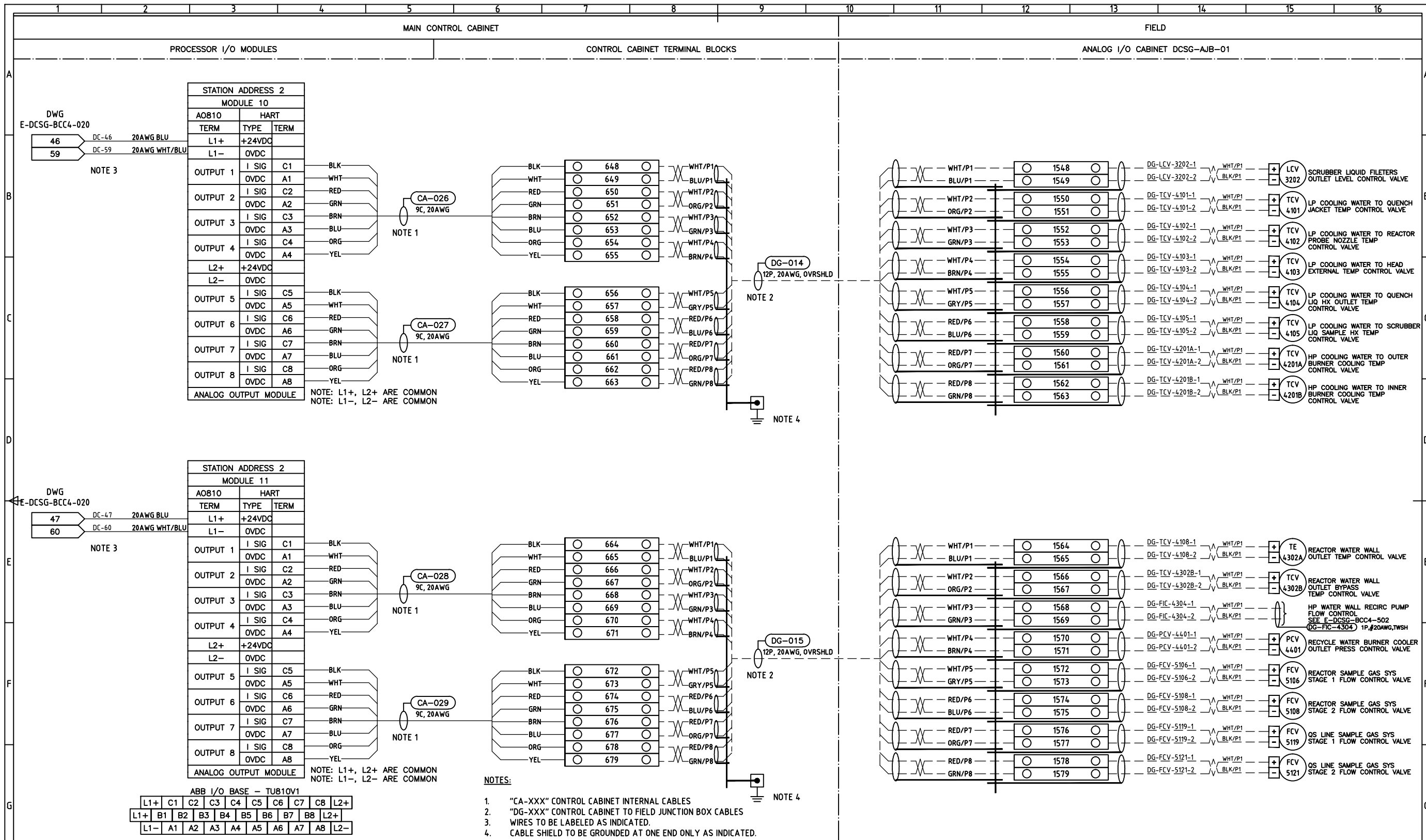
DATE
2016/11/11

SCALE
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PROJECT
NRCAN CANMET DCSG/HIPROX

TITLE
ELECTRICAL
DCSG-HIPROX
MAIN CABINET ANALOG INPUT WIRING
NODE ADDRESS 2 - MODULES 9

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	114	1



NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		

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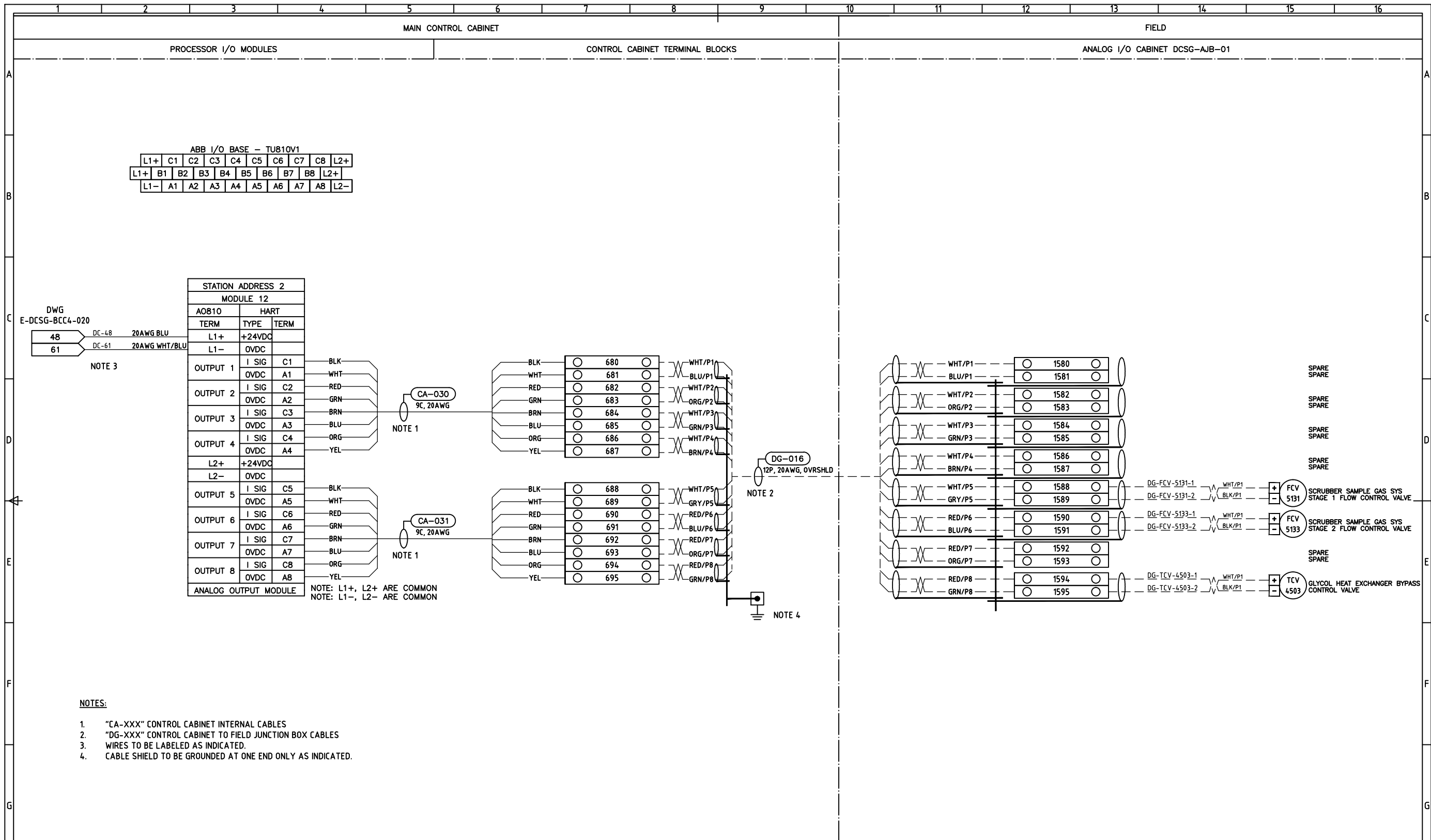
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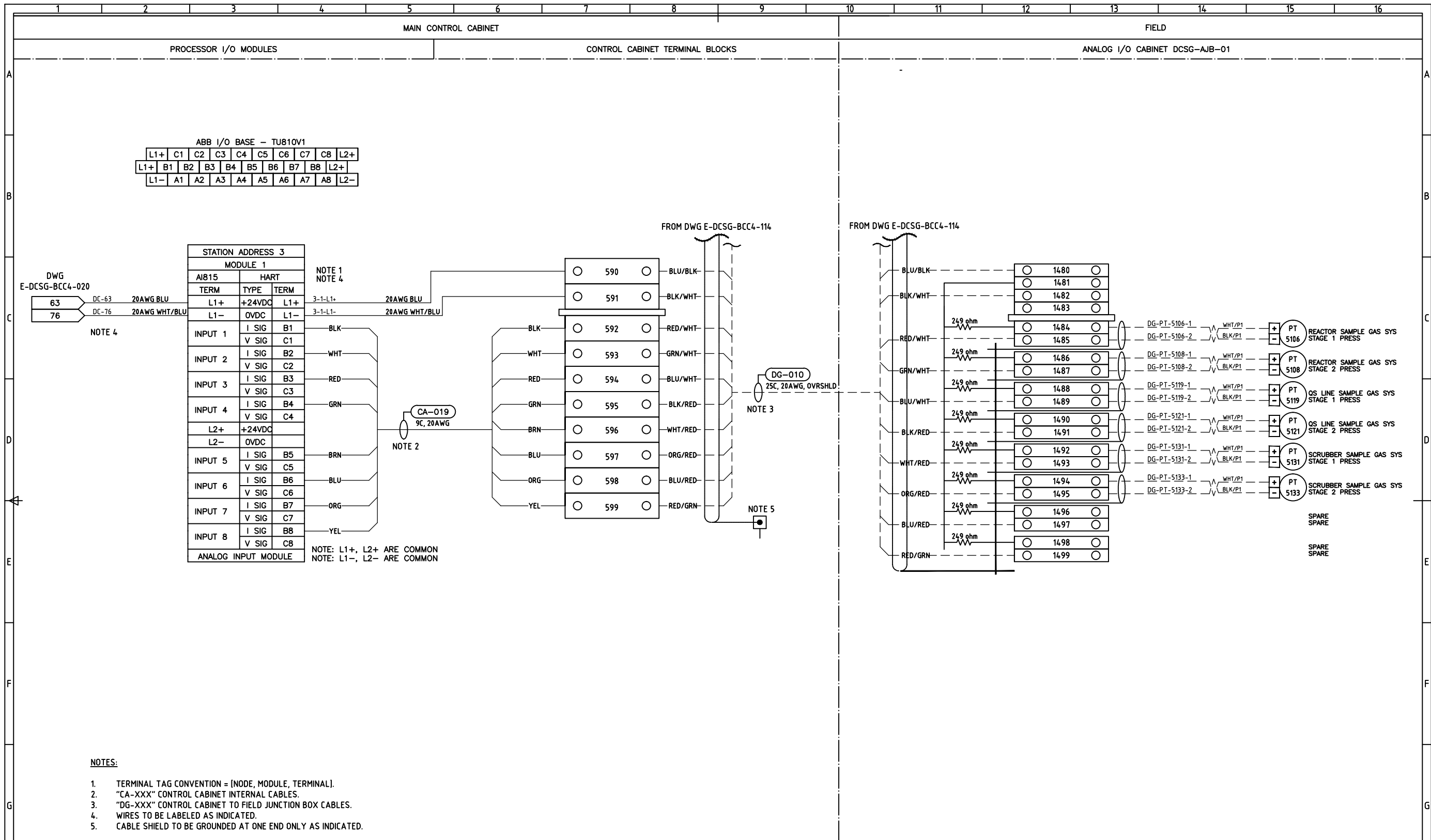
CLIENT: Natural Resources Canada / Ressources naturelles Canada
 CANMET Energy Technology Center / Centre de la technologie de l'énergie de CANMET

DESIGNED: R. McNAIR
 DRAWN: R. McNAIR
 CHECKED:
 APPROVED:
 DATE: 2016/11/11
 SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG OUTPUT WIRING NODE ADDRESS 2 - MODULES 10 & 11				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 115	REV.: 1



REFERENCE DRAWINGS		REVISION REGISTER					 excellence by design www.miriton.com		DESIGNED R. McNAIR DRAWN R. McNAIR CHECKED APPROVED DATE 2016/11/11 SCALE NONE		PROJECT NRCAN CANMET DCSG/HIPROX TITLE ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG OUTUT WIRING NODE ADDRESS 2 - MODULE 12 USER: E, PROJECT: DCSG, BUILDING: BCC4, DRAWING: 116, REV: 1				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16



NOTES:

1. TERMINAL TAG CONVENTION = [NODE, MODULE, TERMINAL].
2. "CA-XXX" CONTROL CABINET INTERNAL CABLES.
3. "DG-XXX" CONTROL CABINET TO FIELD JUNCTION BOX CABLES.
4. WIRES TO BE LABELED AS INDICATED.
5. CABLE SHIELD TO BE GROUNDED AT ONE END ONLY AS INDICATED.

REV	DATE	DESCRIPTION	BY	CHKD	APPD	
1	2017/03/24	ISSUE FOR TENDER	RCM			
0	2017/02/02	ISSUE FOR CLIENT REVIEW	RCM			
No		REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD

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DESIGNED
R. McNAIR

DRAWN
R. McNAIR

CHECKED

APPROVED

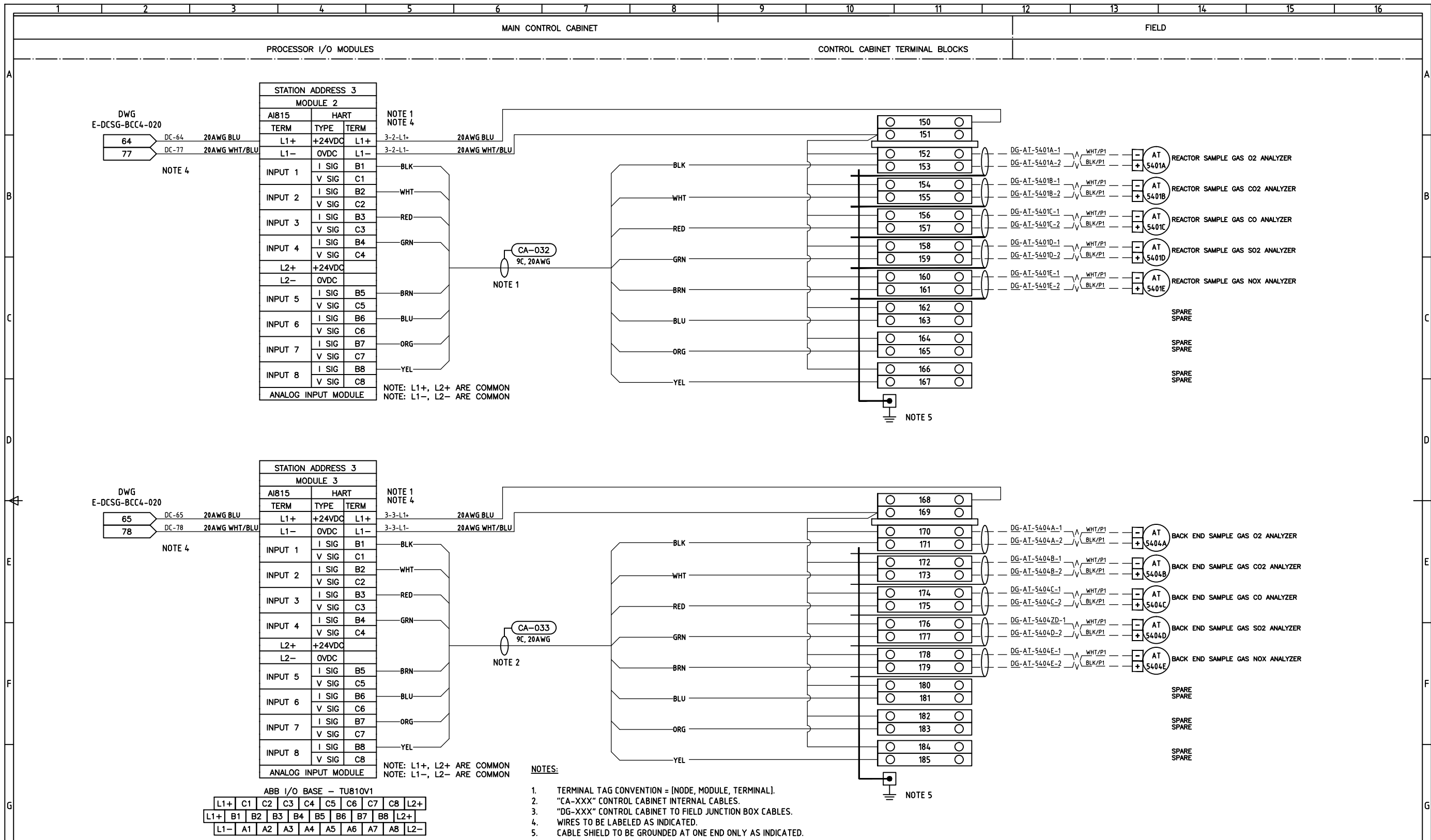
DATE
2016/11/11

SCALE
NONE

PROJECT
NRCAN CANMET DCSG/HIPROX

TITLE
ELECTRICAL
DCSG-HIPROX
MAIN CABINET ANALOG INPUT WIRING
NODE ADDRESS 3 - MODULE 1

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	117	1



REV	DESCRIPTION	DATE	BY	CHKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		
No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD

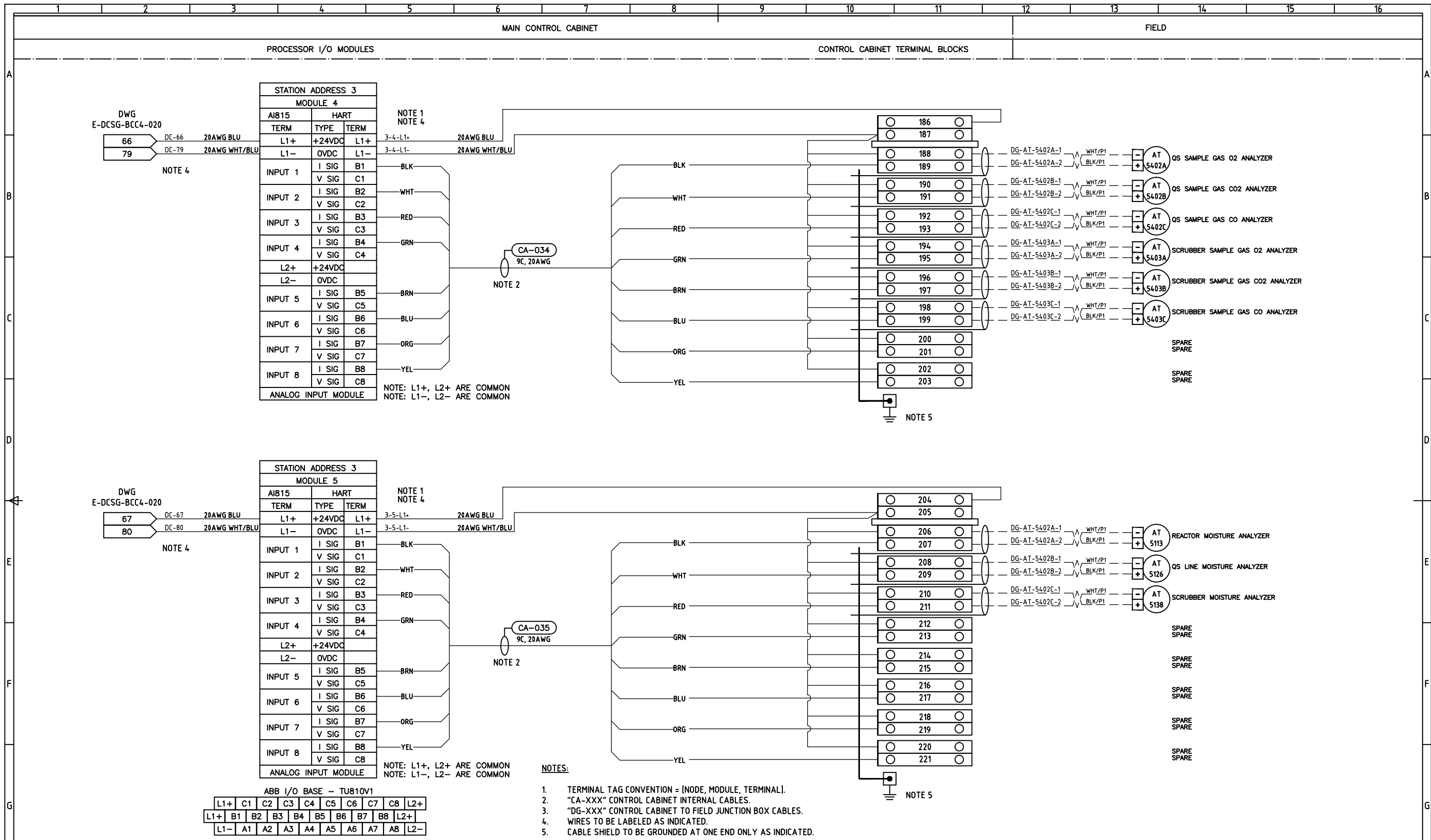
REFERENCE DRAWINGS

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CLIENT: **Canada**
Natural Resources Canada
CANMET Energy Technology Center

DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX				
TITLE: ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG INPUT WIRING NODE ADDRESS 3 - MODULES 2 & 3				
USER: E	PROJECT: DCSG	BUILDING: BCC4	DRAWING: 118	REV: 1



No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		

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R. McNAIR

DRAWN
R. McNAIR

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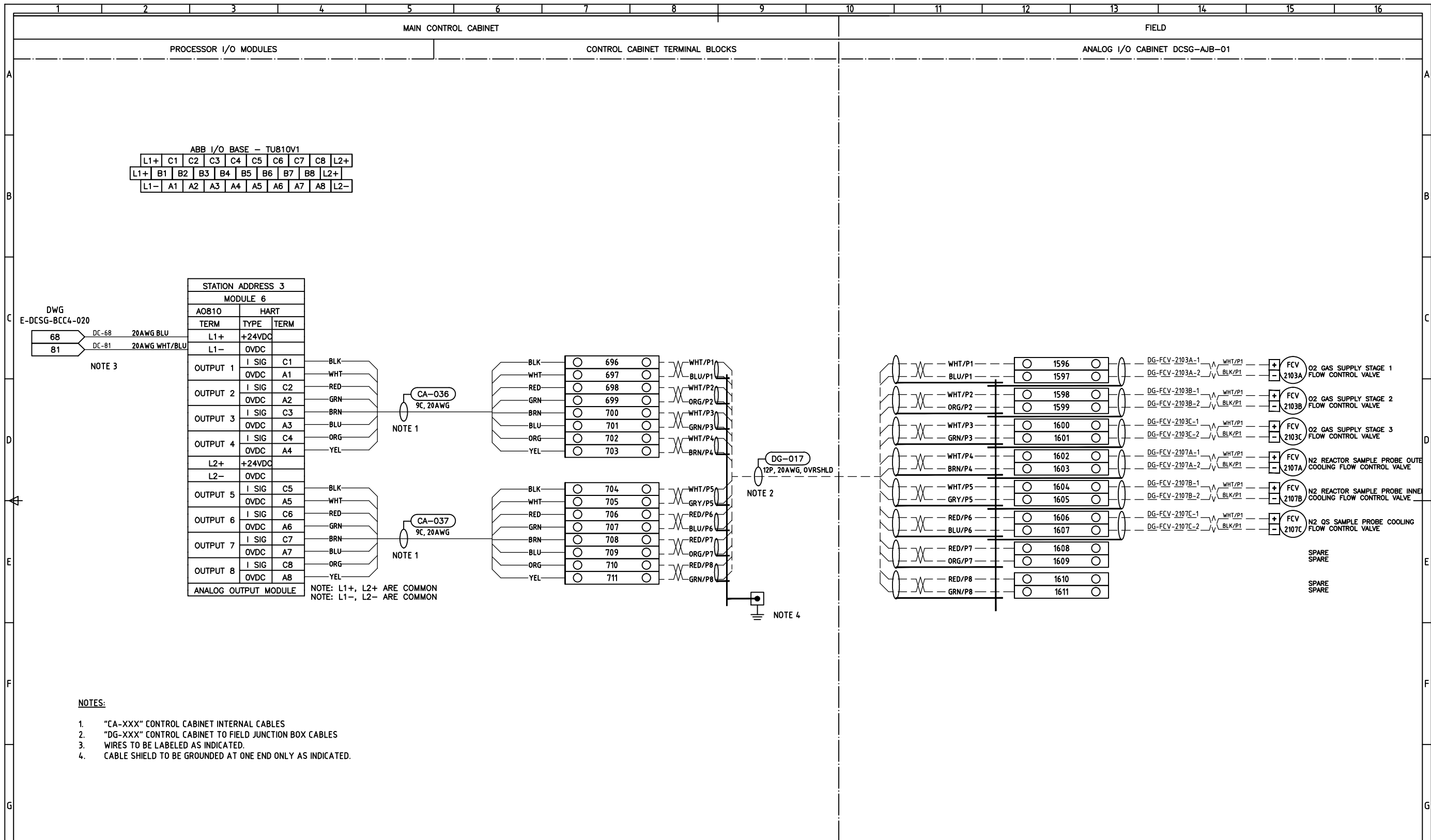
DATE
2016/11/11

SCALE
NONE

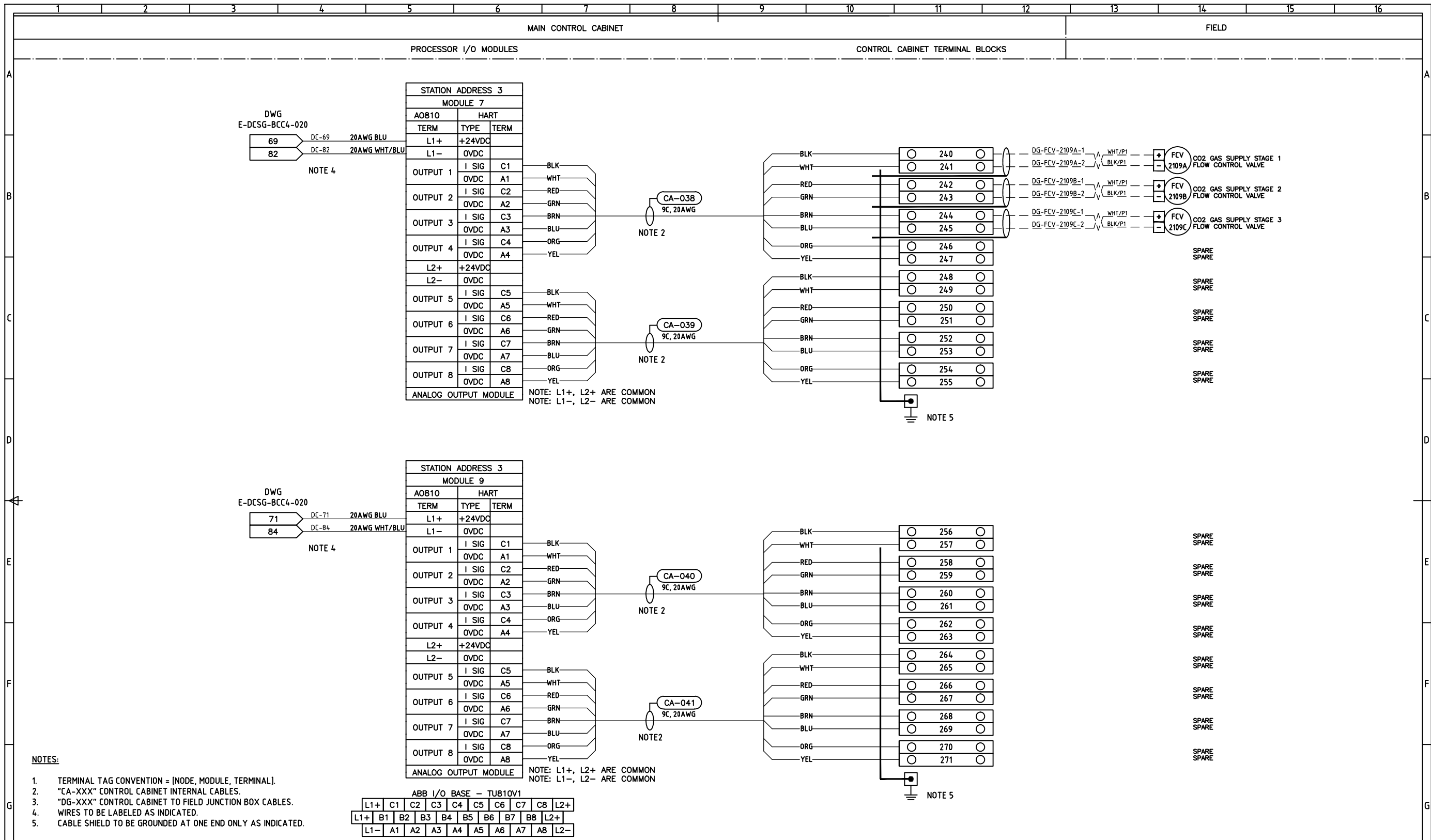
PROJECT
NRCAN CANMET DCSG/HIPROX

TITLE
ELECTRICAL
DCSG-HIPROX
MAIN CABINET ANALOG INPUT WIRING
NODE ADDRESS 3 - MODULES 4 & 5

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	119	1



REFERENCE DRAWINGS		REVISION REGISTER							DESIGNED R. McNAIR DRAWN R. McNAIR CHECKED APPROVED DATE 2016/11/11 SCALE NONE		PROJECT NRCAN CANMET DCSG/HIPROX TITLE ELECTRICAL DCSG-HIPROX MAIN CABINET ANALOG OUTPUT WIRING NODE ADDRESS 3 - MODULE 6 USER: E PROJECT: DCSG BUILDING: BCC4 DRAWING: 120 REV: 1				
		1	ISSUE FOR TENDER	2017/03/24	RCM			CLIENT Natural Resources Canada Ressources naturelles Canada CANMET Energy Technology Center Centre de la technologie de l'énergie de CANMET							
		0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM										
		No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD								



NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		

REFERENCE DRAWINGS

REVISION REGISTER

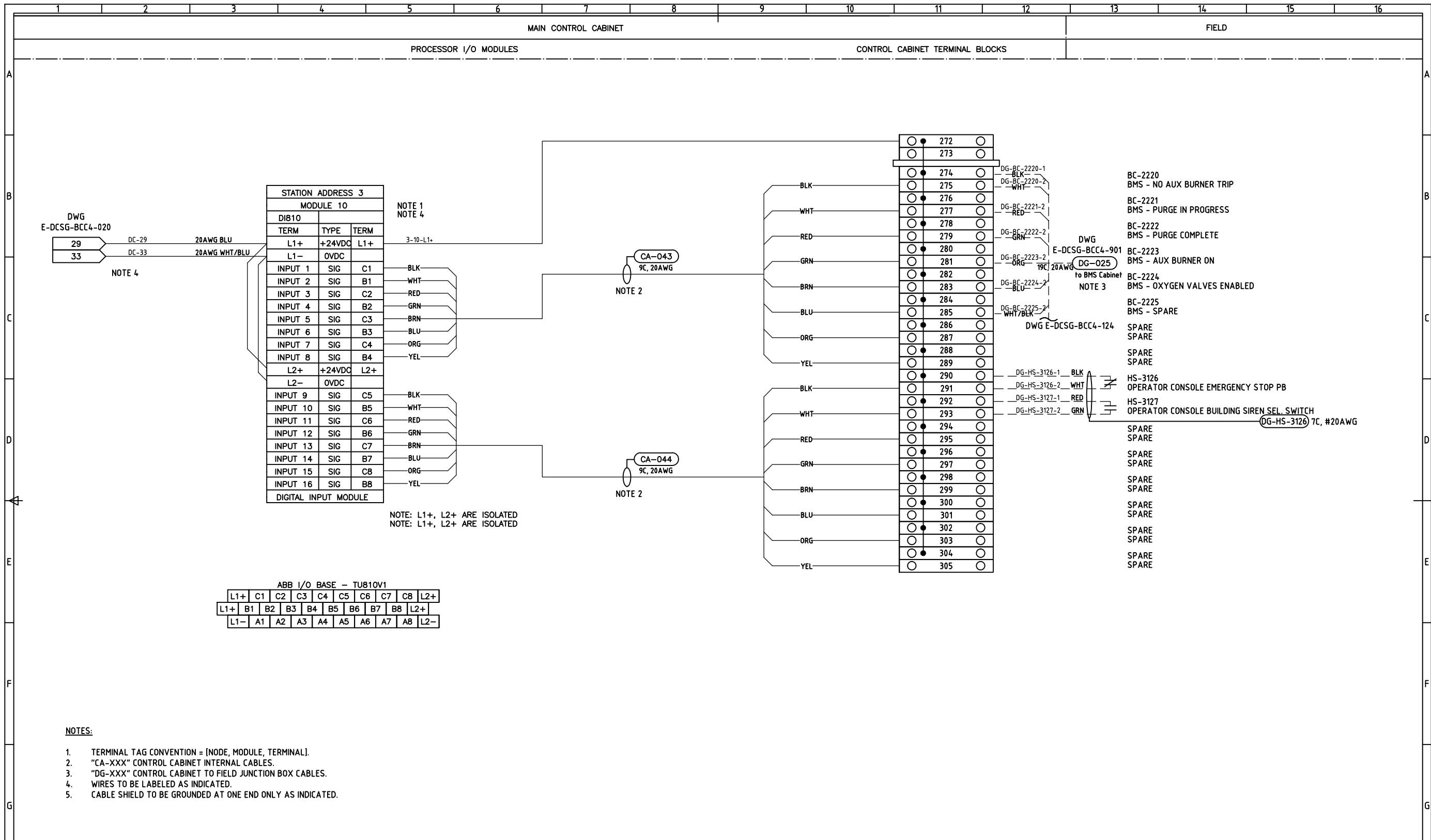
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CLIENT: **Canada**
Natural Resources Canada
CANMET Energy Technology Center

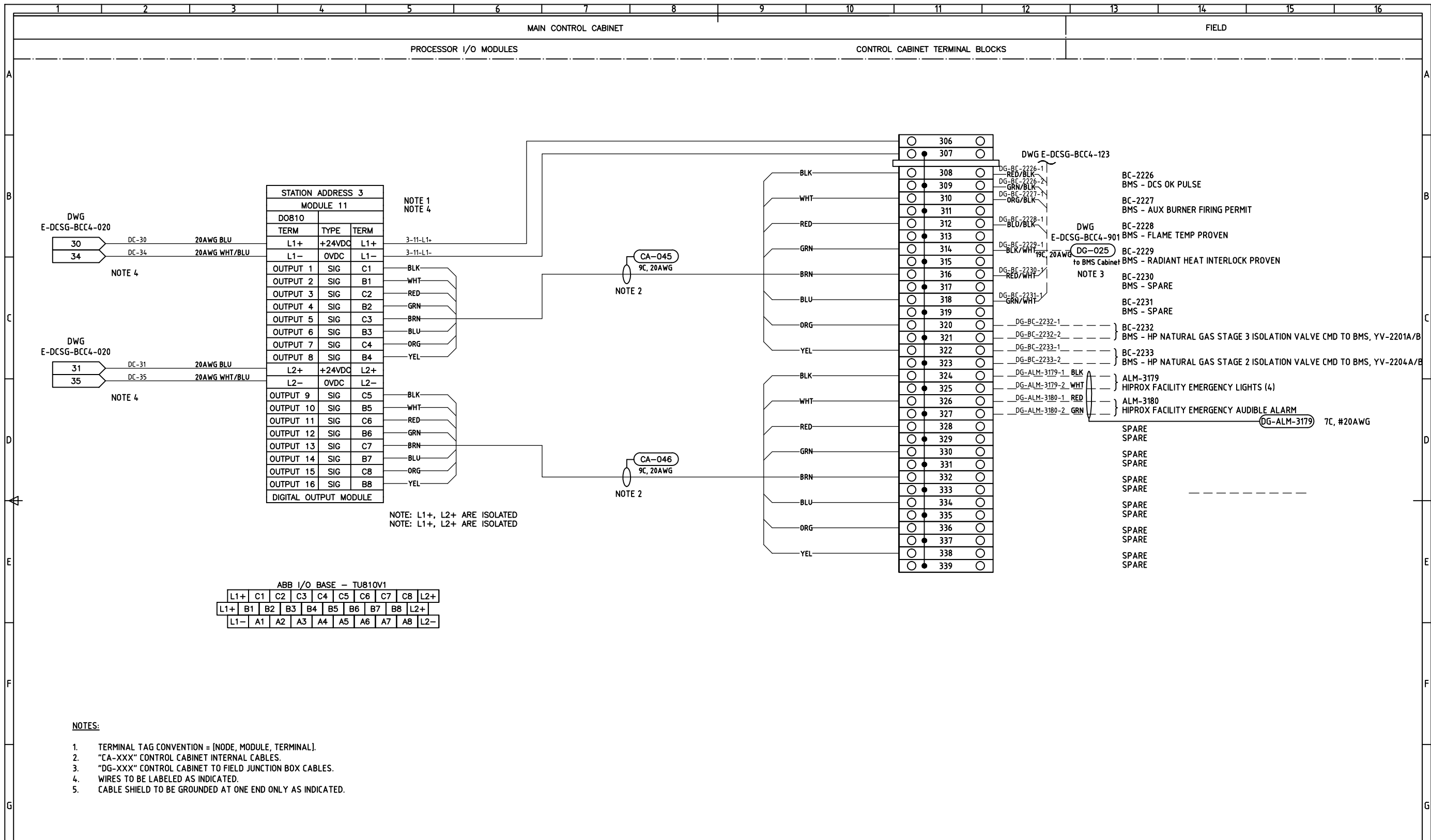
DESIGNED: R. McNAIR
DRAWN: R. McNAIR
CHECKED:
APPROVED:
DATE: 2016/11/11
SCALE: NONE

PROJECT: NRCAN CANMET DCSG/HIPROX
TITLE: ELECTRICAL DCSG-HIPROX
MAIN CABINET ANALOG OUTPUT WIRING
NODE ADDRESS 3 - MODULES 7 & 9

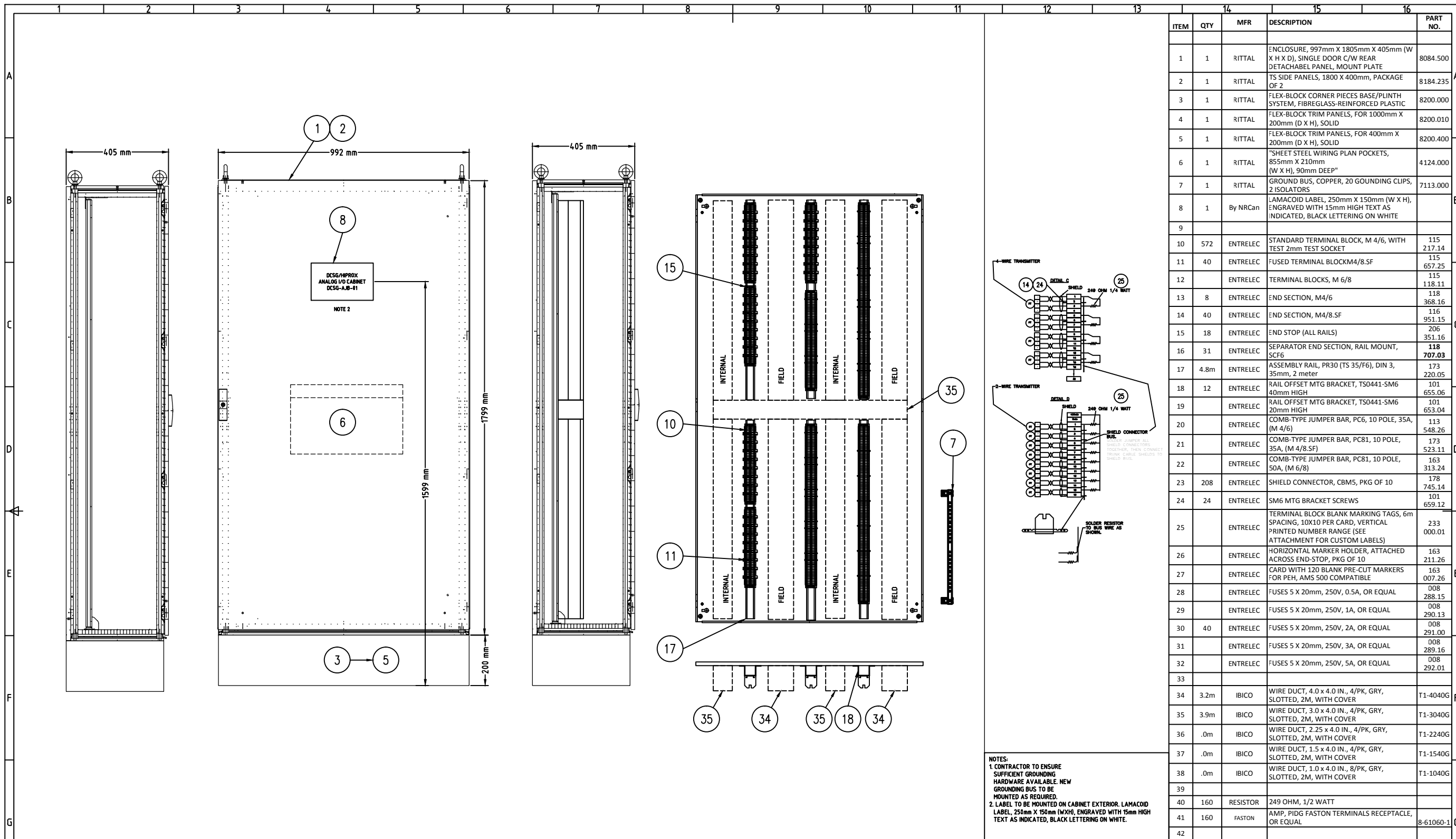
USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	121	1



REFERENCE DRAWINGS				REVISION REGISTER						DESIGNED R. McNAIR DRAWN R. McNAIR CHECKED APPROVED DATE 2016/11/11 SCALE NONE		PROJECT NRCAN CANMET DCSG/HIPROX TITLE ELECTRICAL DCSG-HIPROX MAIN CABINET DIGITAL INPUT WIRING NODE ADDRESS 3 - MODULE 10				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
				1	ISSUE FOR TENDER	2017/03/24	RCM					USER	PROJECT	BUILDING	DRAWING	REV.
				0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM					E	DCSG	BCC4	123	1
				No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD							



REFERENCE DRAWINGS		REVISION REGISTER					excellence by design www.minton.com		DESIGNED R. McNAIR DRAWN R. McNAIR CHECKED APPROVED		PROJECT NRCAN CANMET DCSG/HIPROX TITLE ELECTRICAL DCSG-HIPROX MAIN CABINET DIGITAL OUTPUT WIRING NODE ADDRESS 3 - MODULE 11				
		1	ISSUE FOR TENDER	2017/03/24	RCM			DATE 2016/11/11		USER E PROJECT DCSG BUILDING BCC4 DRAWING 124 REV. 1					
		0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM			SCALE NONE							
		No	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD								



ITEM	QTY	MFR	DESCRIPTION	PART NO.
1	1	RITTAL	ENCLOSURE, 997mm X 1805mm X 405mm (W X H X D), SINGLE DOOR C/W REAR DETACHABLE PANEL, MOUNT PLATE	8084.500
2	1	RITTAL	TS SIDE PANELS, 1800 X 400mm, PACKAGE OF 2	8184.235
3	1	RITTAL	FLEX-BLOCK CORNER PIECES BASE/PLINTH SYSTEM, FIBREGLASS-REINFORCED PLASTIC	8200.000
4	1	RITTAL	FLEX-BLOCK TRIM PANELS, FOR 1000mm X 200mm (D X H), SOLID	8200.010
5	1	RITTAL	FLEX-BLOCK TRIM PANELS, FOR 400mm X 200mm (D X H), SOLID	8200.400
6	1	RITTAL	"SHEET STEEL WIRING PLAN POCKETS, 855mm X 210mm (W X H), 90mm DEEP"	4124.000
7	1	RITTAL	GROUND BUS, COPPER, 20 GROUNDING CLIPS, 2 ISOLATORS	7113.000
8	1	By NRCAN	LAMACOID LABEL, 250mm X 150mm (W X H), ENGRAVED WITH 15mm HIGH TEXT AS INDICATED, BLACK LETTERING ON WHITE	
9				
10	572	ENTRELEC	STANDARD TERMINAL BLOCK, M 4/6, WITH TEST 2mm TEST SOCKET	115 217.14
11	40	ENTRELEC	FUSED TERMINAL BLOCKM4/8.SF	115 657.25
12		ENTRELEC	TERMINAL BLOCKS, M 6/8	115 118.11
13	8	ENTRELEC	END SECTION, M4/6	118 368.16
14	40	ENTRELEC	END SECTION, M4/8.SF	116 951.15
15	18	ENTRELEC	END STOP (ALL RAILS)	206 351.16
16	31	ENTRELEC	SEPARATOR END SECTION, RAIL MOUNT, SCF6	118 707.03
17	4.8m	ENTRELEC	ASSEMBLY RAIL, PR30 (TS 35/F6), DIN 3, 35mm, 2 meter	173 220.05
18	12	ENTRELEC	RAIL OFFSET MTG BRACKET, TS0441-SM6 40mm HIGH	101 655.06
19		ENTRELEC	RAIL OFFSET MTG BRACKET, TS0441-SM6 20mm HIGH	101 653.04
20		ENTRELEC	COMB-TYPE JUMPER BAR, PC6, 10 POLE, 35A, (M 4/6)	113 548.26
21		ENTRELEC	COMB-TYPE JUMPER BAR, PC81, 10 POLE, 35A, (M 4/8.SF)	173 523.11
22		ENTRELEC	COMB-TYPE JUMPER BAR, PC81, 10 POLE, 50A, (M 6/8)	163 313.24
23	208	ENTRELEC	SHIELD CONNECTOR, CBM5, PKG OF 10	178 745.14
24	24	ENTRELEC	SM6 MTG BRACKET SCREWS	101 659.12
25		ENTRELEC	TERMINAL BLOCK BLANK MARKING TAGS, 6m SPACING, 10X10 PER CARD, VERTICAL PRINTED NUMBER RANGE (SEE ATTACHMENT FOR CUSTOM LABELS)	233 000.01
26		ENTRELEC	HORIZONTAL MARKER HOLDER, ATTACHED ACROSS END-STOP, PKG OF 10	163 211.26
27		ENTRELEC	CARD WITH 120 BLANK PRE-CUT MARKERS FOR PEH, AMS 500 COMPATIBLE	163 007.26
28		ENTRELEC	FUSES 5 X 20mm, 250V, 0.5A, OR EQUAL	008 288.15
29		ENTRELEC	FUSES 5 X 20mm, 250V, 1A, OR EQUAL	008 290.13
30	40	ENTRELEC	FUSES 5 X 20mm, 250V, 2A, OR EQUAL	008 291.00
31		ENTRELEC	FUSES 5 X 20mm, 250V, 3A, OR EQUAL	008 289.16
32		ENTRELEC	FUSES 5 X 20mm, 250V, 5A, OR EQUAL	008 292.01
33				
34	3.2m	IBICO	WIRE DUCT, 4.0 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-4040G
35	3.9m	IBICO	WIRE DUCT, 3.0 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-3040G
36	.0m	IBICO	WIRE DUCT, 2.25 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-2240G
37	.0m	IBICO	WIRE DUCT, 1.5 x 4.0 IN., 4/PK, GRY, SLOTTED, 2M, WITH COVER	T1-1540G
38	.0m	IBICO	WIRE DUCT, 1.0 x 4.0 IN., 8/PK, GRY, SLOTTED, 2M, WITH COVER	T1-1040G
39				
40	160	RESISTOR	249 OHM, 1/2 WATT	
41	160	FASTON	AMP, PIDG FASTON TERMINALS RECEPTACLE, OR EQUAL	8-61060-1
42				

NOTES:
 1. CONTRACTOR TO ENSURE SUFFICIENT GROUNDING HARDWARE AVAILABLE. NEW GROUNDING BUS TO BE MOUNTED AS REQUIRED.
 2. LABEL TO BE MOUNTED ON CABINET EXTERIOR. LAMACOID LABEL, 250mm X 150mm (W X H), ENGRAVED WITH 15mm HIGH TEXT AS INDICATED, BLACK LETTERING ON WHITE.

NO	REVISION DESCRIPTION	DATE (Y/M/D)	DRAWN	CKD	APPD
1	ISSUE FOR TENDER	2017/03/24	RCM		
0	ISSUE FOR CLIENT REVIEW	2017/02/02	RCM		
No					

DESIGNED
R. McNAIR

DRAWN
R. McNAIR

CHECKED

APPROVED

DATE
2016/11/11

SCALE
NONE

PROJECT
NRCAN CANMET DCSG/HIPROX

TITLE
ELECTRICAL
DCSG-HIPROX
ANALOG IO CABINET ASSY
DCSG-AJB-01

USER	PROJECT	BUILDING	DRAWING	REV.
E	DCSG	BCC4	150	1