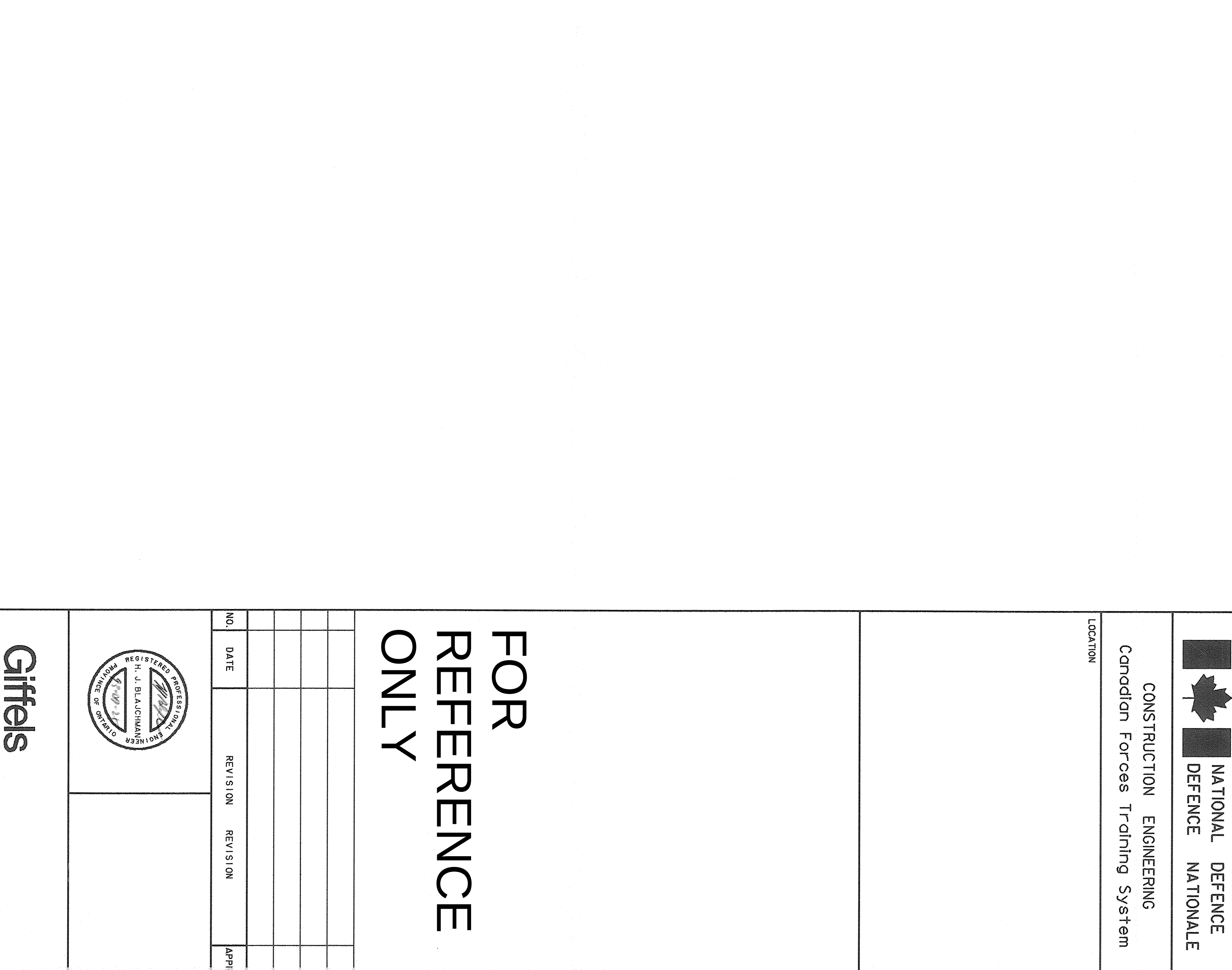


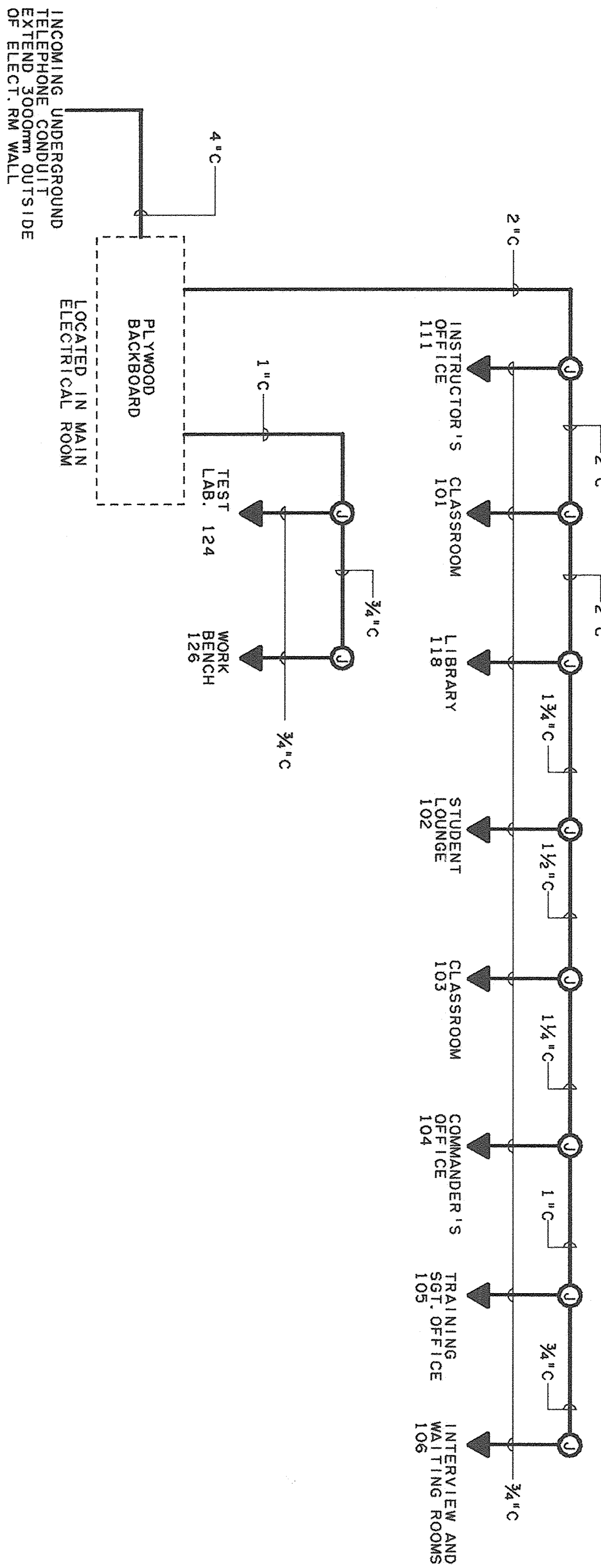
ANNEX “C”

REFERENCE DRAWINGS – EXISTING BUILDING - ELECTRICAL

[illegible]

 CONSTRUCTION ENGINEERING Canadian Forces Training System		DEFENCE NATIONAL	
LOCATION			
FOR REFERENCE ONLY			
			
Giffels <u>Giffels Associates Limited</u> Consulting Engineers and Architects GIFFELS PROJECT NO. C9200			
SCALE-ECHELLE 1 : 1			
PROJECT-PROJET CFB BORDEN, BORDEN, ONTARIO.			
NEW WELDING SCHOOL BUILDING NO. A-253 CFB BORDEN BORDEN, ONTARIO.			
TRADE-METIER ELECTRICAL		DATE 93-06-01	
SUBJECT-SUBJET LEGEND . SCHEDULES AND NOTES			
PRODUCTION		CONCURRENCE-ASSENTIMENT	
DESIGNED ETUDE D. BHANDARI DRAWN DESIGN C. TRIVEZI CHECKED VERIFIE D. BHANDARI		<i>[Signature]</i> FREEMAN'S ALL CITYSHO <i>[Signature]</i>	
\$300. CFTSHO			
DWG.-DESSIN NO. T-B147-6883-501		SHEET NO. OF	





TELEPHONE SYSTEM RISER DIAGRAM

FIRE ALARM RISER DIAGRAMS

FOR
REFERENCE
ONLY

NO.	DATE	REVISION	REVISION	APP.



Giffels
Giffels Associates Limited
Consulting Engineers and Architects
GIFFELS PROJECT NO. C91200

SCALE-ECHELLE

PROJECT-PROJET

NEW WELDING SCHOOL
BUILDING NO. A-253
CFB BORDEN
BORDEN, ONTARIO.

TRADE-METTER ELECTRICAL	DATE 93-06-01
----------------------------	------------------

FIRE ALARM AND TELEPHONE
SYSTEM RISERS
DIAGRAMS

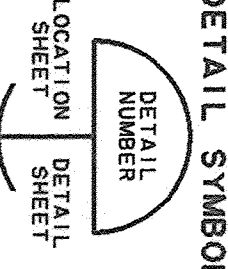
PRODUCTION	CONCURRENCE-ASSESSMENT
1. The production of the product is the first step in the process.	1. The assessment of the product is the first step in the process.
2. The production of the product is the second step in the process.	2. The assessment of the product is the second step in the process.
3. The production of the product is the third step in the process.	3. The assessment of the product is the third step in the process.
4. The production of the product is the fourth step in the process.	4. The assessment of the product is the fourth step in the process.
5. The production of the product is the fifth step in the process.	5. The assessment of the product is the fifth step in the process.
6. The production of the product is the sixth step in the process.	6. The assessment of the product is the sixth step in the process.
7. The production of the product is the seventh step in the process.	7. The assessment of the product is the seventh step in the process.
8. The production of the product is the eighth step in the process.	8. The assessment of the product is the eighth step in the process.
9. The production of the product is the ninth step in the process.	9. The assessment of the product is the ninth step in the process.
10. The production of the product is the tenth step in the process.	10. The assessment of the product is the tenth step in the process.

DESIGNED D. BHANDARI		B. Munged
ETUDE		
DRAWN C. THIEUDY		
DRESSING VERRE	CHECKED D. BHANDARI	P.M. Kunkel / P.T.
	S&SD CFTSHO	
DMG - DESIGN NO. T-B1-47-8883-504		SHEET NO. OF

LOCATION

FOR
REFERENCE
ONLY

NO.	DATE	REVISION	REVISION	APP.
1	92-10-30	65% FOR REVIEW		



Giffels

Giffels Associates Limited
Consulting Engineers and Architects
Giffels Project No. C9800

SCALE: EGGULE
1:100
PROJECT: CFB BORDEN, BORDEN, ONTARIO.

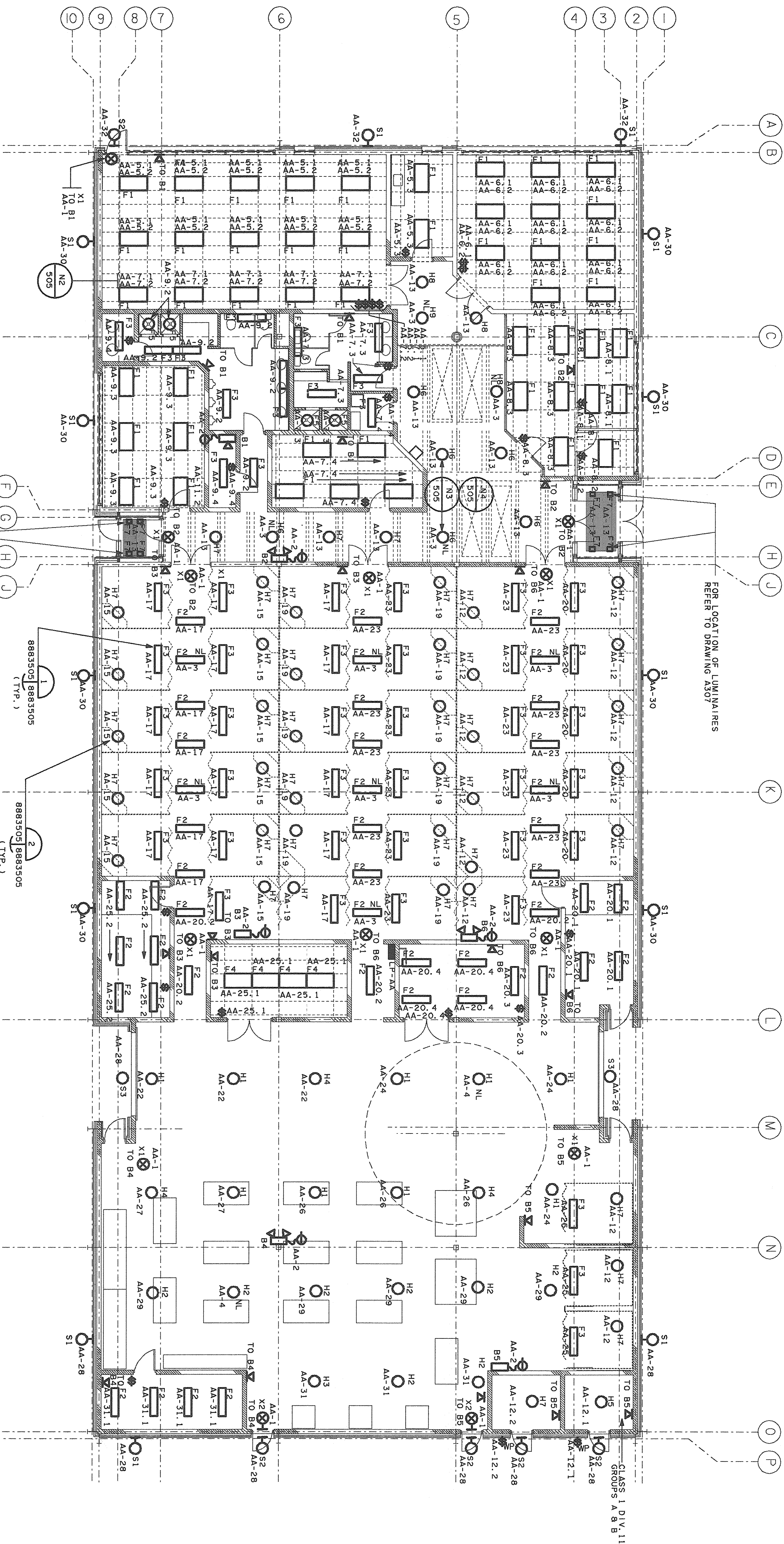
NEW WELDING SCHOOL
BUILDING NO. A-253
CFB BORDEN
BORDEN, ONTARIO.

TRADE: WELDER	DATE
ELECTRICIAN	93-06-01

SUBJECT: LIGHTING LAYOUT - GROUND FLOOR

PRODUCTION	CONCURRENCE-ASSESSMENT
DESIGNED: D. BHANDARI	ETUDE: D. BHANDARI
DRAWN: C. TRIVEDI	DESIGNE: C. TRIVEDI
CHECKED: D. BHANDARI	VERIFIE: D. BHANDARI
\$500 CTS/9H	\$500 CTS/9H
DATE: 93-06-01	DATE: 93-06-01
T-B147-8883-505	T-B147-8883-505

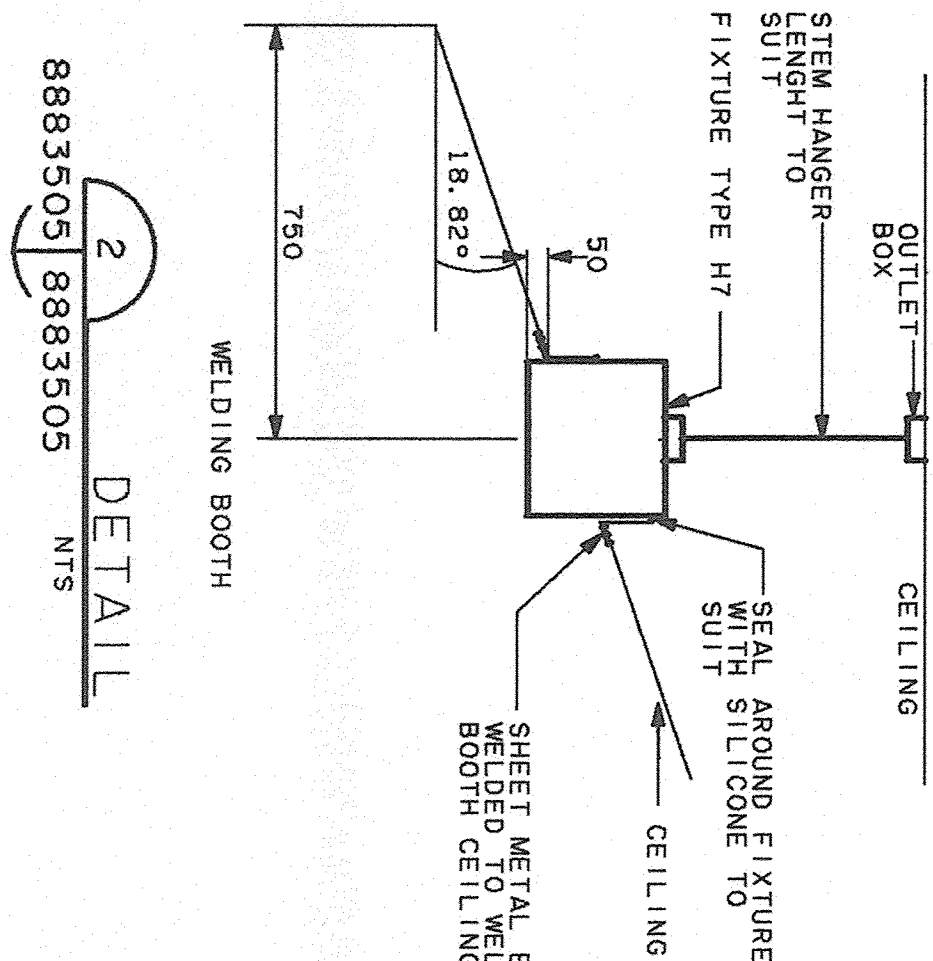
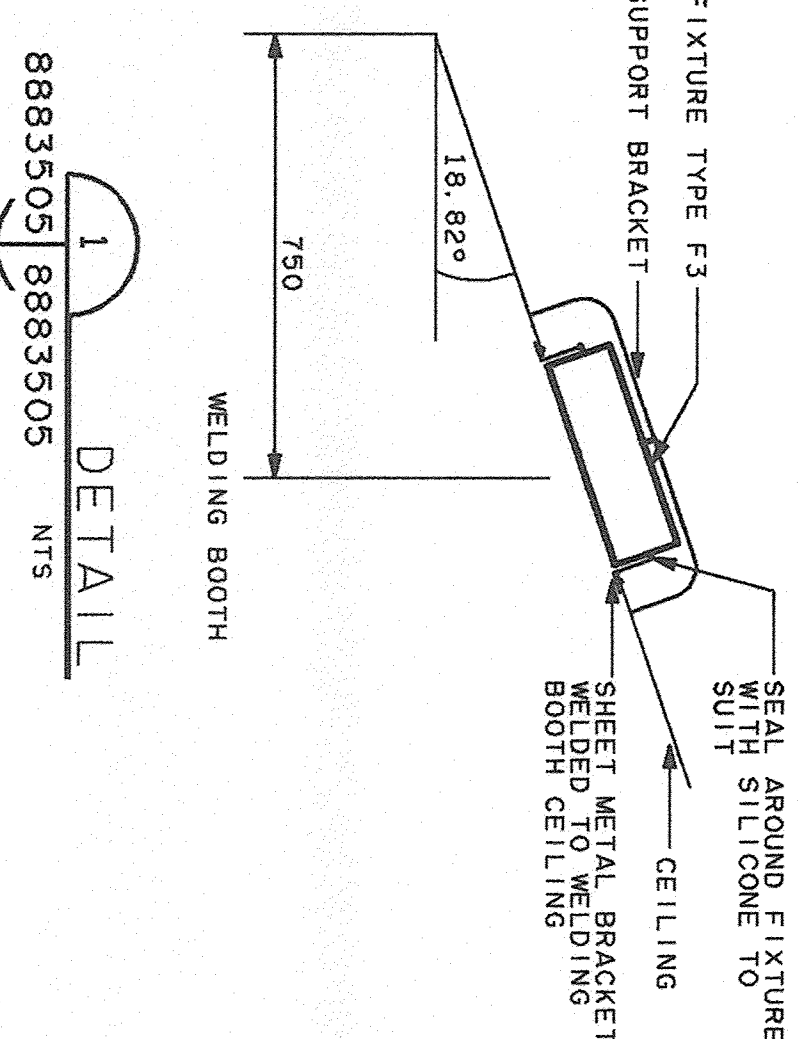
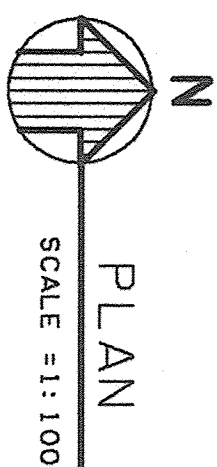
Canada



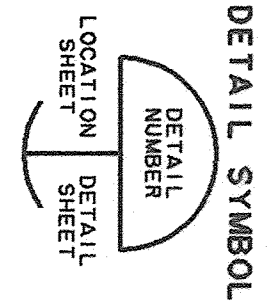
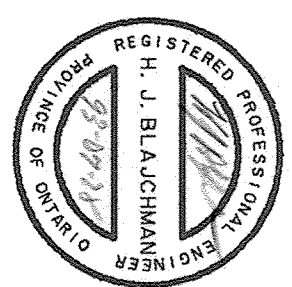
FOR LOCATION OF LUMINAIRES
REFER TO DRAWING A307

FOR LOCATION OF LUMINAIRES
REFER TO DRAWING A307

- NOTES:
1. ALL LIGHTING CONDUCTORS WITHIN THE WELDING ZONE SHALL BE RIGID METAL CONDUIT. THE WELDING ZONE IS A 18.82° WEDGING POINT BETWEEN THE POWER SOURCE AND WELDING ARC.
 2. SWITCHING SEQUENCE FOR 3 LAMP FIXTURES
AA-5.1 -- CIRCUIT FOR OUTER 2 LAMPS
AA-5.2 -- CIRCUIT FOR MIDDLE LAMP
3. BOTTOM OF FIXTURES TO BE LEVEL WITH THE BOTTOM OF THE JOIST.



FOR
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Consulting Engineers and Architects
GIFTELS PROJECT NO. C91200

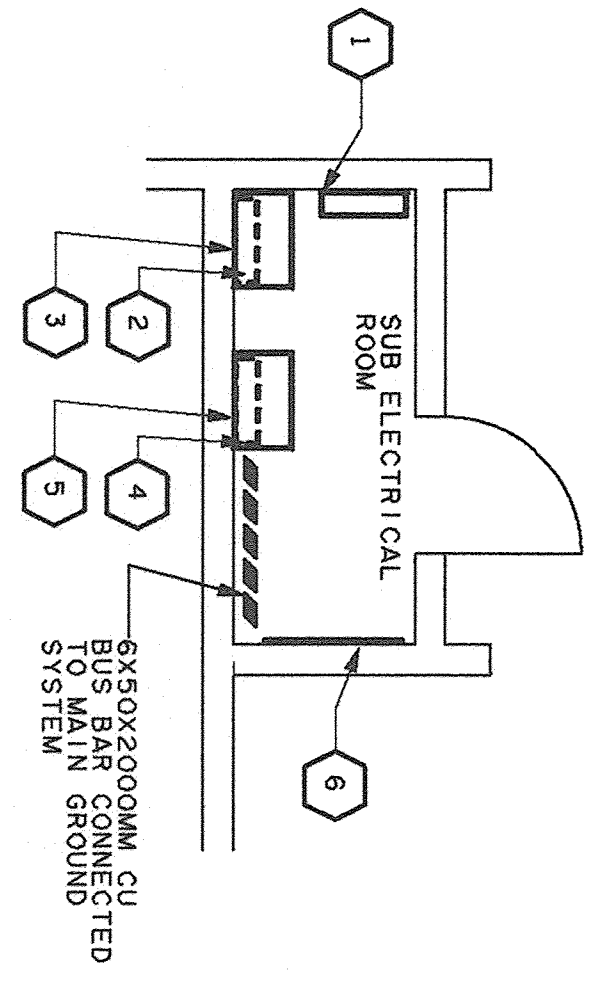
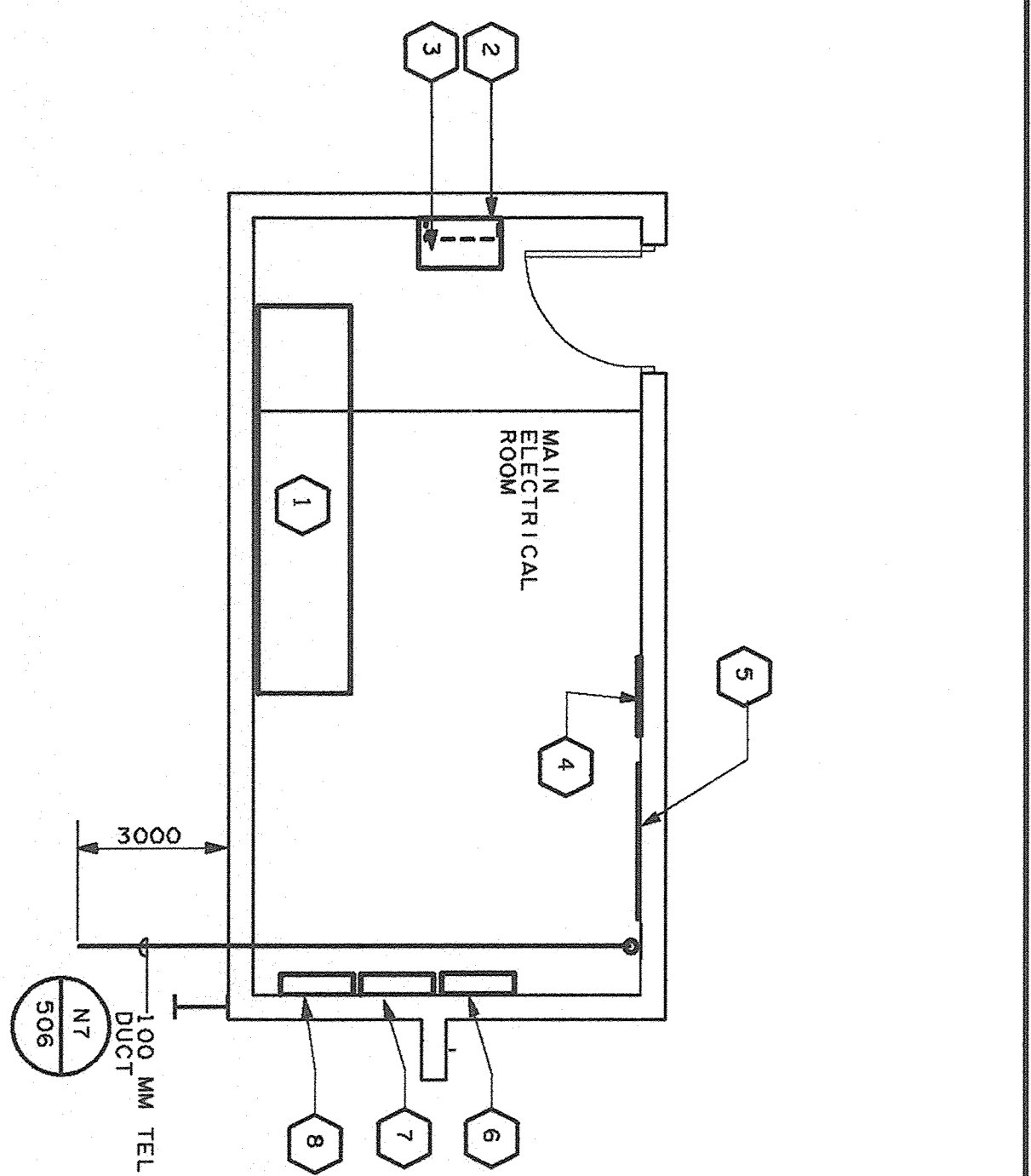
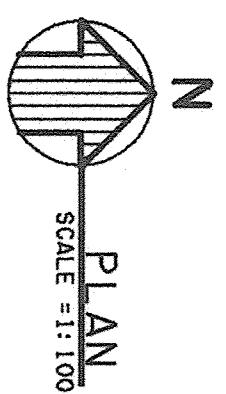
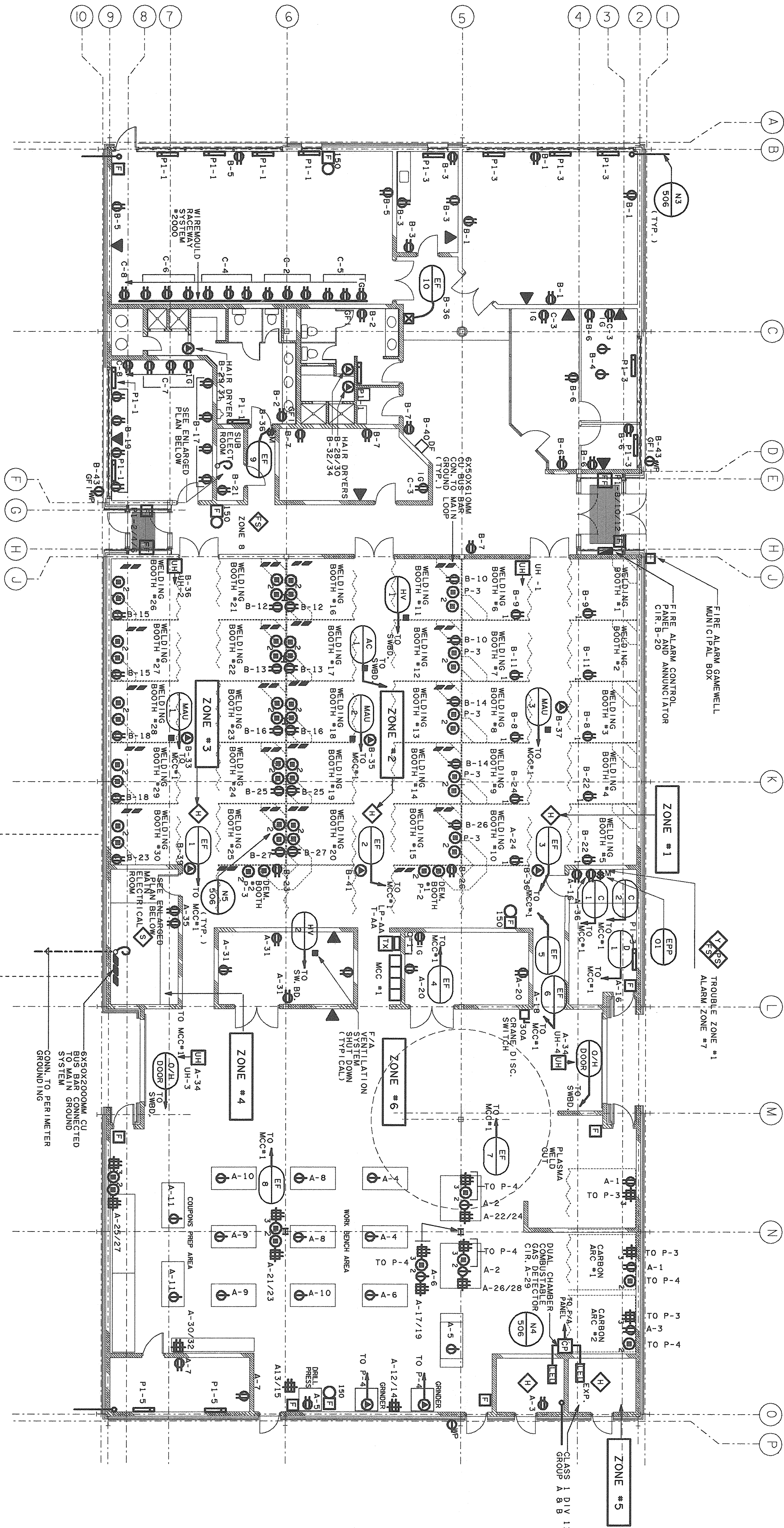
SCALE: SHEET
1:100

PROJECT: PROJECT
CFB BORDEN, BORDEN, ONTARIO.

NEW WELDING SCHOOL
BUILDING NO. A-253
CFB BORDEN
BORDEN, ONTARIO.

TRADE-METER ELECTRICAL	DATE 93-06-01
SUBJECT-SUBJECT POWER AND AUXILIARY SYSTEM LAYOUT	

PRODUCTION	CONCURRENCE-ASSESSMENT
DESIGNED D. BRANDANI	APPROVED D. BRANDANI
ETUDE C. TRIEVE	REVISED C. TRIEVE
DRAWN C. TRIEVE	CHECKED D. BRANDANI
VERIFIED D. BRANDANI	ISSUED D. BRANDANI
DATE T-8147-8883-506	SHEET NO. OF

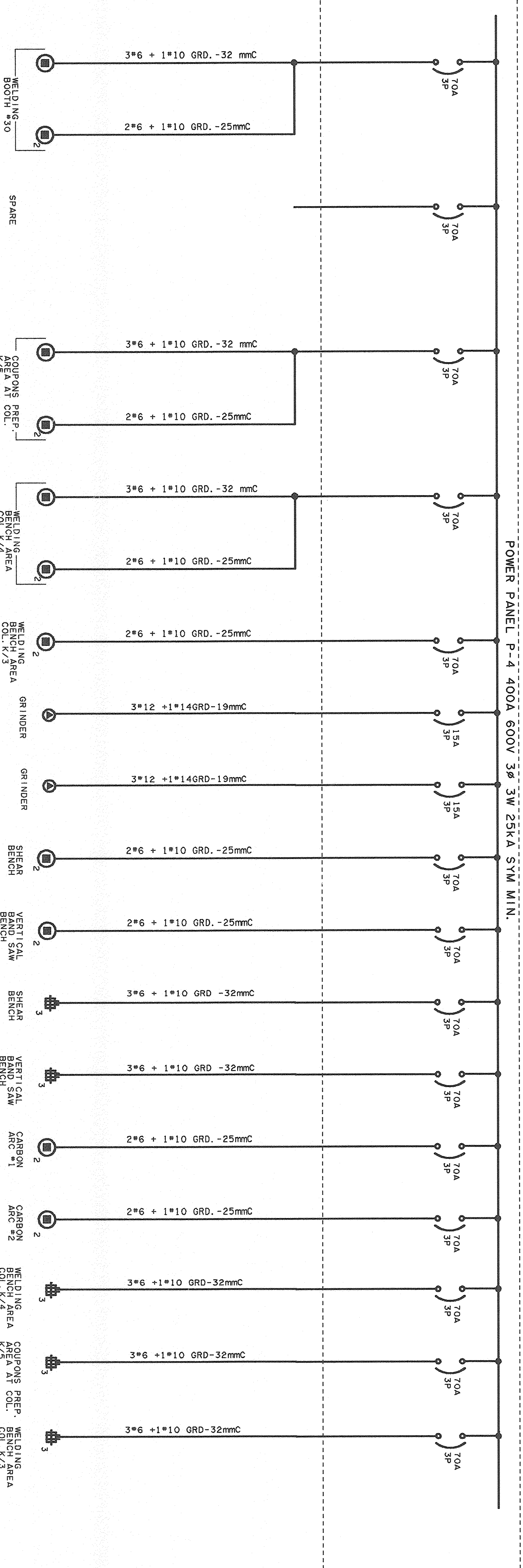
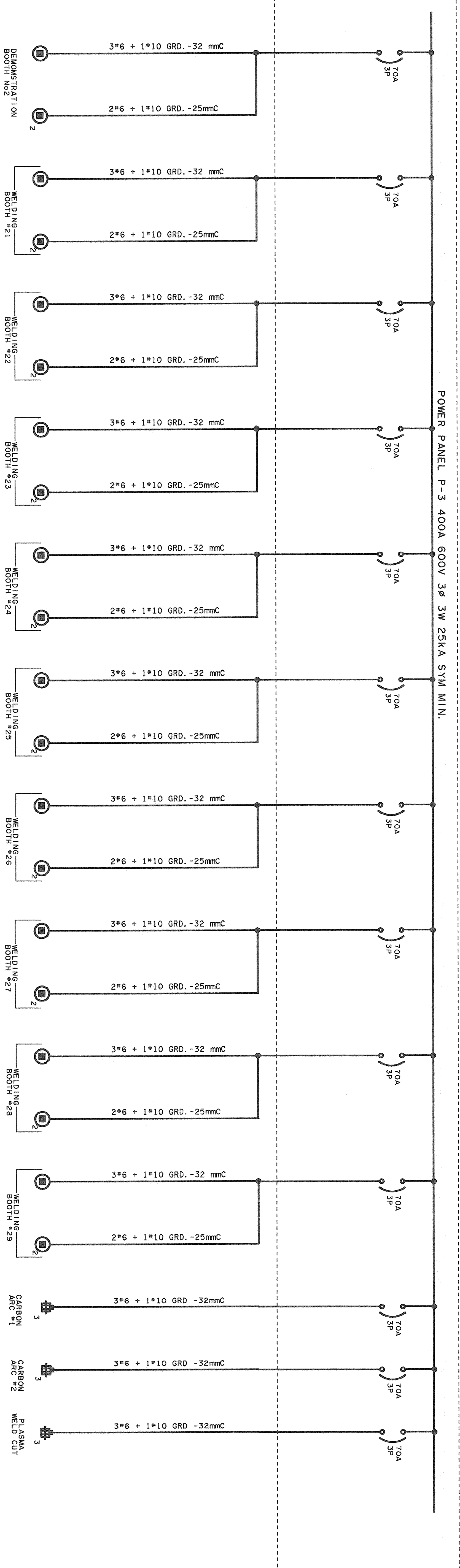
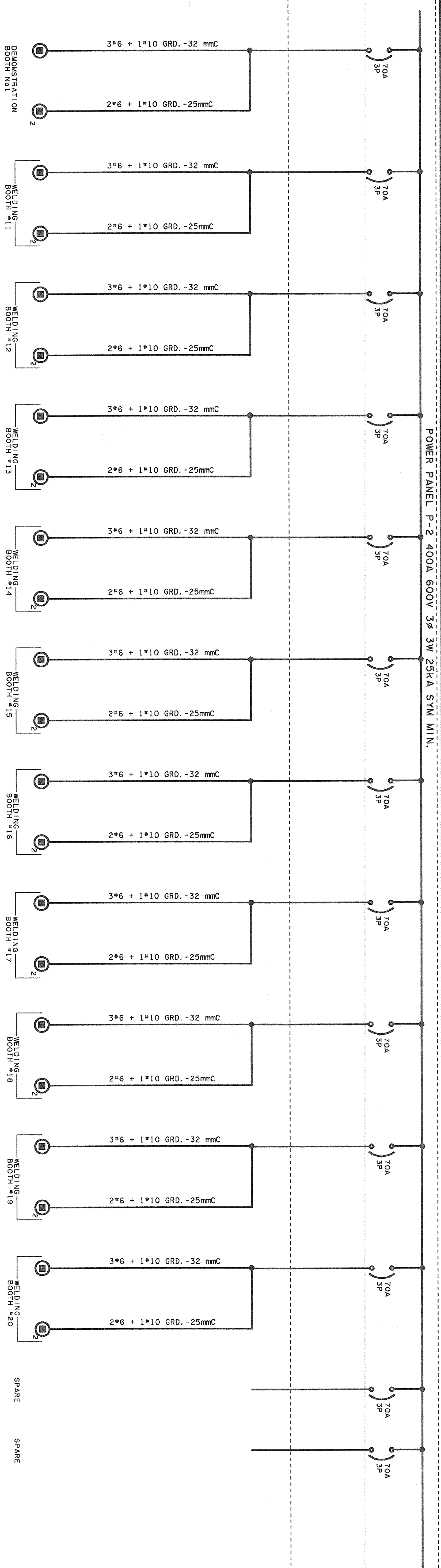


- SERVICE ENTRANCE SWITCHBOARD
- BRANCH CIRCUIT PANEL 'A'
- TRANSFORMER FOR BRANCH CIRCUIT PANEL 'A'
- FUTURE DATA GATHERING PANEL
- BELL TELEPHONE BACK BOARD
- DISTRIBUTION PANEL 'P2' (FOR WELD BOOTHS)
- DISTRIBUTION PANEL 'P3' (FOR WELD BOOTHS)
- DISTRIBUTION PANEL 'P4' (FOR WELD BOOTHS)

- DISTRIBUTION PANEL 'P1' (FOR ELECT. HEATING)
- BRANCH CIRCUIT PANEL 'B'
- TRANSFORMER FOR PANEL 'B'
- BRANCH CIRCUIT PANEL 'C'
- POWER COND. TONER FOR PANEL 'C'
- BELL TELEPHONE BACK BOARD

NOTES

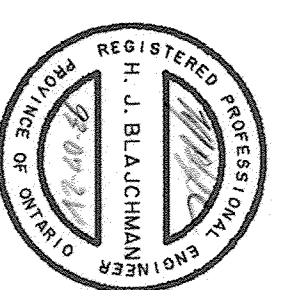
- PROVIDE SIGN AT EACH LOCATION WHERE THERE ARE 2P AND 3P WELDER ON THE SAME BREAKER. WHITE LETTERS ON RED BACKGROUND. WELDER MUST NOT BE PLUGGED IN SIMULTANEOUSLY.
- ALTERNATE 2P WELDER ACROSS PHASES A/B, B/C, A/C.
- PROVIDE 2" CONDUIT FOR FUTURE USE. TURN UP AND CAP INSIDE BUILDING CAP AND MARK.
- CONDUITING E.G. DETECTOR TO BE DUAL CHAMBER. 120V POWER SOURCE. 5A 24VDC ALARM RELAY. CAT #3603.
- PROVIDE UNISTRUT SUPPORT FOR OUTLETS IN WELDING BOOTH, SECURE PROPERLY TO BOOTH WALL.
- ALL ELECTRICAL EQUIPMENT IN THE ELECTRICAL ROOM 112 AND 125 TO BE SPRINKLERPROOF.
- ROUTE TELEPHONE DUCT OUTSIDE OF TRANSFORMER COMPOUND. (THE TENDED AREA).



NOTES:

1. ALL BREAKERS TO HAVE INTERRUPTING CAPACITIES RMS SYMMETRICAL AMPERES 25000A.

NO.	DATE	REVISION	REVISION	APP.



Giffels
Giffels Associates Limited
Consulting Engineers and Architects
GIFFELS PROJECT NO. C91200

SCALE-ECHELLE

PROJECT-PROJET
CFB BORDEN, BORDEN, ONTARIO.

NEW WELDING SCHOOL
BUILDING NO. A-253
CFB BORDEN
BORDEN, ONTARIO.

TRADE-METER ELECTRICAL	DATE 93-06-01
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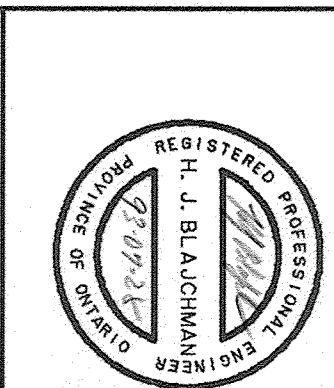
POWER PANEL SINGLE LINE

PRODUCTION		CONCURRENCE-ASSESSMENT	
DESIGNED D. BHANDARI		<i>P. Mungoshi</i>	
DRAWN C. THAYED			
DESSEINE VERGIE			
CHECKED D. BHANDARI			
	SSO CFTSHO		FREEMARSHALL CFTSHO
	<i>[Signature]</i>		<i>[Signature]</i>

DWG.-DESSIN NO.
 T-B1-47-8853-507

SHEET NO.
 OF

LOCATION



Giffels
Giffels Associates Limited
Consulting Engineers and Architects
Giffels Project No. C6920

SCALE:EGHLE

PROJECT:PROJECT
CFB BORDEN, BORDEN, ONTARIO.

NEW WELDING SCHOOL
BUILDING NO. A-253
CFB BORDEN
BORDEN, ONTARIO.

TRANS-METER
ELECTRICAL DATE 93-06-01

SUBJECT:SUBET
PANEL SCHEDULE

PRODUCTION CONCURRENCE/ASSENTMENT

DESIGNED BY BHADARI
ETUDE
DRAWN C. S
DESSINE
CHECKED D BHADARI
VERIFIE
5500 CTSNO
T-B147-8863-508
SHEET NO.
OF

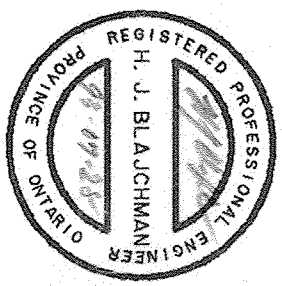
FOR
REFERENCE
ONLY

BUS RATING: 120/208V. 3 PH. 4 WIRE. 100 A MOUNTING: FLUSH MAIN BREAKER RATING: A. MAIN LUGS SYM. A SURFACE BRANCH BRKR IC RATING: 14 KA.RMS. SYM. COLUMN OPTIONS: DOUBLE LUGS SPRINKLER PROOF. STAINLESS STEEL TRIM CIRCLE AROUND CIRCUIT NO. INDICATES HANDLE LOCKING DEVICE * INDICATES SHUNT TRIP										PANELBOARD DESIGNATION RP-C LAYOUT DWG NO. 506									
CCT		LOAD DESCRIPTION		VOLT-AMPS		WIRE		VOLT-AMPS		LOAD DESCRIPTION		CCT		LOAD DESCRIPTION		CCT		LOAD DESCRIPTION	
No.		A B C		AMP SIZE		AMP SIZE		AMP SIZE		A B C		No.		A B C		No.		A B C	
1		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		2		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
3		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		4		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
5		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		6		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
7		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		8		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
9		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		10		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
11		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		12		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
13		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		14		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
15		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		16		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
17		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		18		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
19		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		20		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
21		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		22		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
23		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		24		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
25		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		26		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
27		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		28		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
29		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		30		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
31		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		32		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
33		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		34		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
35		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		36		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
37		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		38		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
39		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		40		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
41		2 RECEPT. W. AREA		1200		1 15 12		12 15 1		1200		42		3 RECEPT. W. AREA		1200		3 RECEPT. W. AREA	
SUB TOTAL VA		2000		1200		1200		1200		1200		2000		1200		1200		1200	
TOTAL KVA/A		4.0		2.4		2.4		2.4		2.4		4.0		2.4		2.4		2.4	
DEMAND FACTOR		%		DEMAND		KVA		TOTAL CURRENT		24.4 A		KVA		TOTAL ALLOWED		KVA		TOTAL ALLOWED	

BUS RATING: 120/208V. 3 PH. 4 WIRE. 225 A MOUNTING: FLUSH MAIN BREAKER RATING: A. MAIN LUGS 225 A SURFACE BRANCH BRKR IC RATING: 14 KA.RMS. SYM. COLUMN OPTIONS: ☐ DOUBLE LUGS. ☐ SPRINKLER PROOF. ☐ STAINLESS STEEL TRIM CIRCLE AROUND CIRCUIT NO. INDICATES HANDLE LOCKING DEVICE * INDICATES SHUNT TRIP										PANELBOARD DESIGNATION RP-B LAYOUT DWG NO. 506									
CCT		LOAD DESCRIPTION		VOLT-AMPS		WIRE		VOLT-AMPS		LOAD DESCRIPTION		CCT							
No.		A B C		AMP SIZE		AMP SIZE		AMP SIZE		A B C		No.							
1	4 RECEPT. OFFICE	800	—	1	15 12	12 15 1	400	—	—	2 RECEPT. W. ROOM	2	2							
3	4 RECEPT. OFFICE	800	—	1	15 12	12 15 1	400	—	—	2 RECEPT. OFFICE	4	4							
5	4 RECEPT. OFFICE	800	—	1	15 12	12 15 1	1000	5	—	2 RECEPT. OFFICE	6	8							
7	4 RECEPT. OFFICE	800	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	8	8							
9	2 RECEPT. W. BOOTH	1200	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	10	10							
11	2 RECEPT. W. BOOTH	1200	—	1	15 12	12 15 1	—	—	—	2 RECEPT. W. BOOTH	12	12							
13	2 RECEPT. W. BOOTH	1200	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	14	14							
15	2 RECEPT. W. BOOTH	1200	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	16	16							
17	2 RECEPT. OFFICE	800	—	1	15 12	12 15 1	250	—	—	FIRE ALARM PANEL	18	18							
19	1 RECEPT. ELECT. RM	400	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	20	20							
21	1 RECEPT. OFFICE	400	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	22	22							
23	2 RECEPT. W. BOOTH	1200	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	24	24							
25	2 RECEPT. W. BOOTH	1200	—	1	15 12	12 15 1	1200	—	—	2 RECEPT. W. BOOTH	26	26							
27	2 RECEPT. W. BOOTH	1200	—	1	15 12	12 15 2	—	—	—	HAIR DRYER WMR	28	28							
29	HAIR DRYER WMR	1150	—	1	15 12	12 15 2	—	—	—	HAIR DRYER	30	30							
31	—	1150	—	—	—	12 15 2	1150	—	—	HAIR DRYER	32	32							
33	HAIR-1	500	—	1	15 12	12 15 1	—	—	—	HAIR DRYER	34	34							
35	HAIR-2	500	—	1	15 12	12 15 1	—	—	—	500UH-1, 2-FE-9 & EF-10	36	36							
37	HAIR-3	500	—	1	15 12	12 15 1	500	—	—	EF-3	38	38							
39	FF-1	500	—	1	15 12	15 1	300	—	—	DRINKING FOUNTAIN	40	40							
41	FF-2	500	—	1	15 12	15 1	—	—	—	SPARE	42	42							
43	2 OUTDOOR RECEPT	800	—	1	15 12	15 1	—	—	—	SPARE	44	44							
45	SPARE	—	—	1	15	15 1	—	—	—	SPARE	46	46							
47	SPARE	—	—	1	15	15 1	—	—	—	SPARE	48	48							
49	SPARE	—	—	1	15	15 1	—	—	—	SPARE	50	50							
51	—	—	—	—	—	—	—	—	—	—	52	52							
53	—	—	—	—	—	—	—	—	—	—	54	54							
55	—	—	—	—	—	—	—	—	—	—	56	56							
57	—	—	—	—	—	—	—	—	—	—	58	58							
59	—	—	—	—	—	—	—	—	—	—	60	60							
61	—	—	—	—	—	—	—	—	—	—	62	62							
63	—	—	—	—	—	—	—	—	—	—	64	64							
65	—	—	—	—	—	—	—	—	—	—	66	66							
SUB TOTAL VA		17250	9800	6150			15900	8600	6250										
TOTAL KVA		B		C						KVA TOTAL ALLOWED		KVA							
DEMAND FACTOR		% DEMAND		26.56 KVA		TOTAL CURRENT		73.73 A											

FOR
REFERENCE
ONLY

NO.	DATE	REVISION	REVISION	APPR.

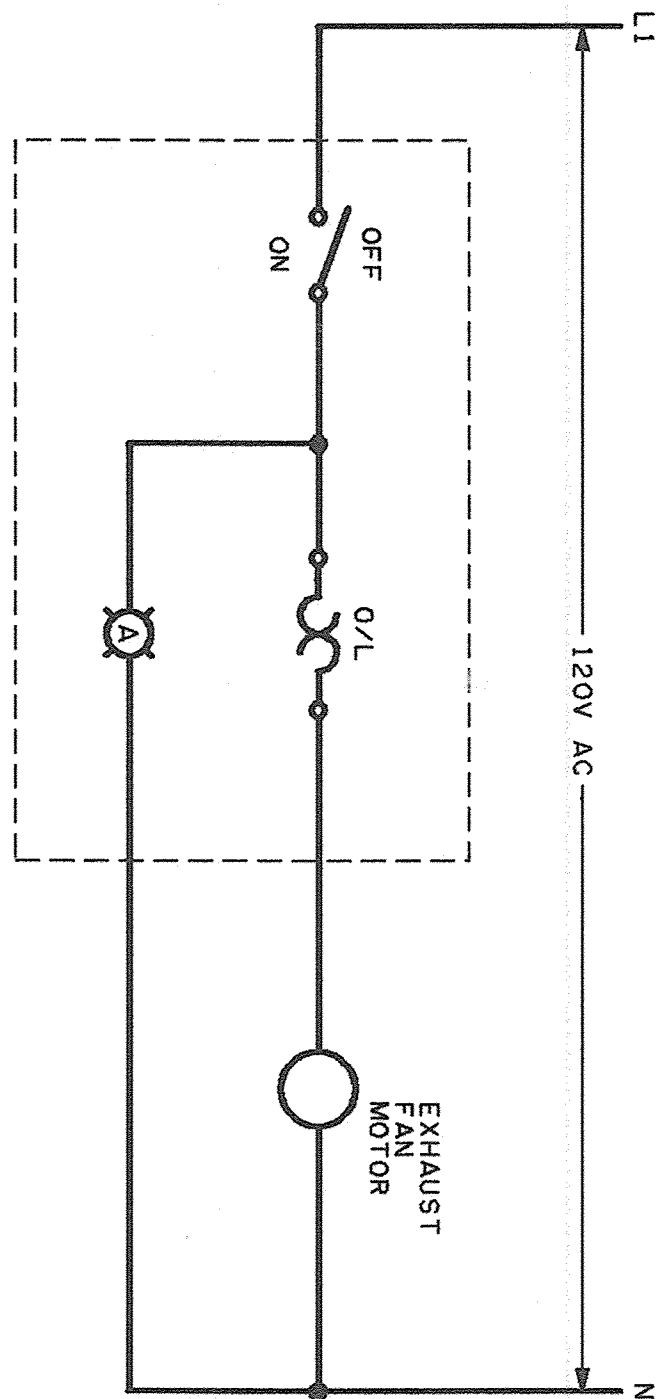


Giffels
Giffels Associates Limited
Consulting Engineers and Architects
GIFFELS PROJECT NO. C9200

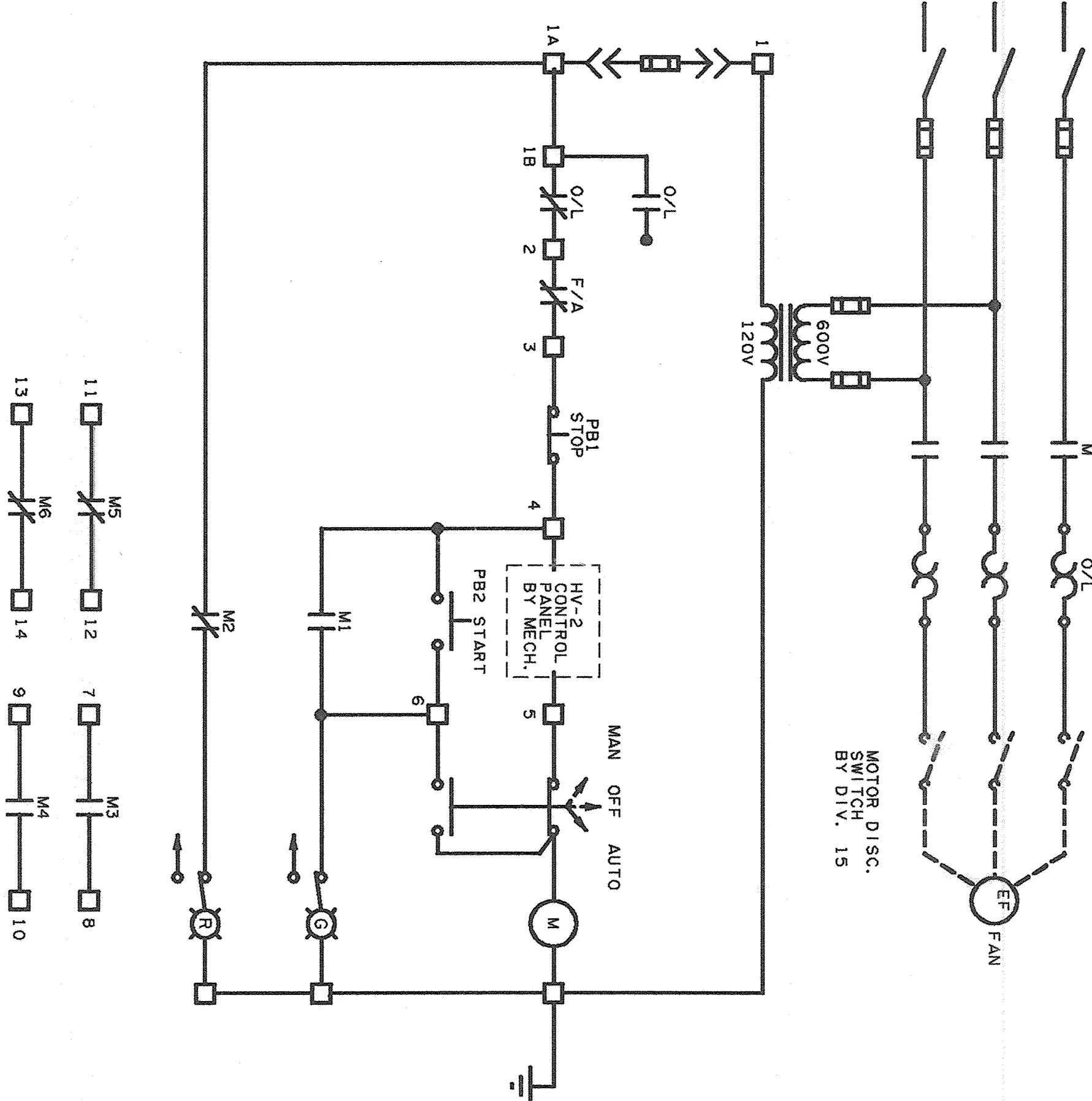
SCALE-CHIEFLE	
PROJECT-PROJET	CFB BORDEN, BORDEN, ONTARIO.
	NEW WELDING SCHOOL BUILDING NO. A-253 CFB BORDEN BORDEN, ONTARIO.

TRADE-METIER	DATE
ELECTRICIAN	93-06-01
SUBJECT-SUJET	
SCHÉMATICS	

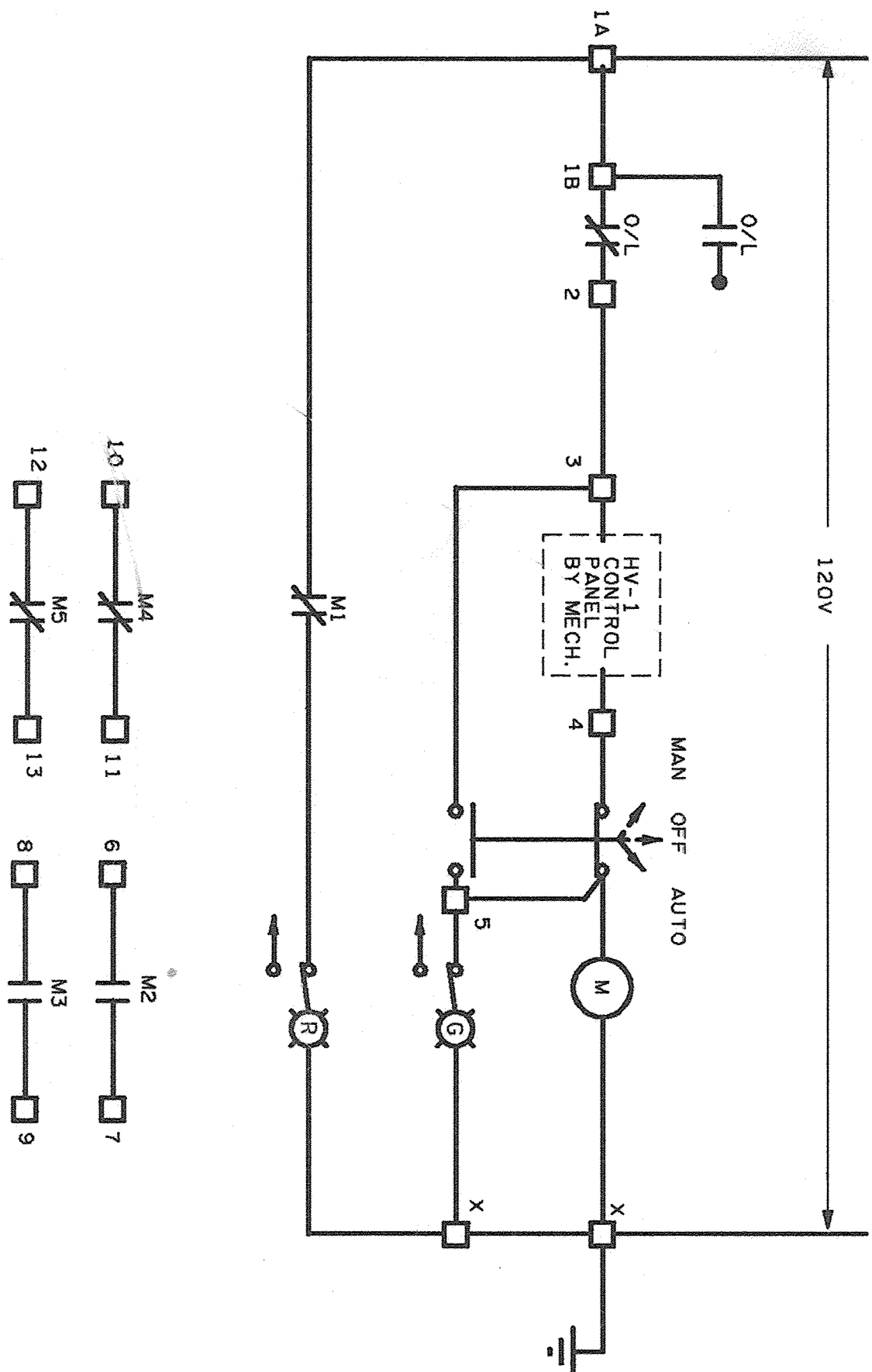
PRODUCTION	CONCURRENCE-ASSENTIEMENT
DESIGNED D. BHANDARI	DR. BHANDARI
ETUDE	
DRAWN C. SANTON	
DESSINE	
CHECKED D. BHANDARI	FREEMAN, C. SANTON
VERIFIE	
SSD CTSNO	SSD CTSNO
DWG.-DESSIN NO.	SHEET NO.
T-B147-8883-509	OF



SCHEMATIC FOR EXHAUST FAN EF-9



SCHEMATIC FOR EXHAUST FAN EF-4, 5, 6, 7 8 8



SCHEMATIC FOR EXHAUST FAN EF-10