

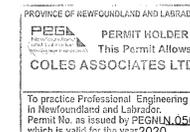
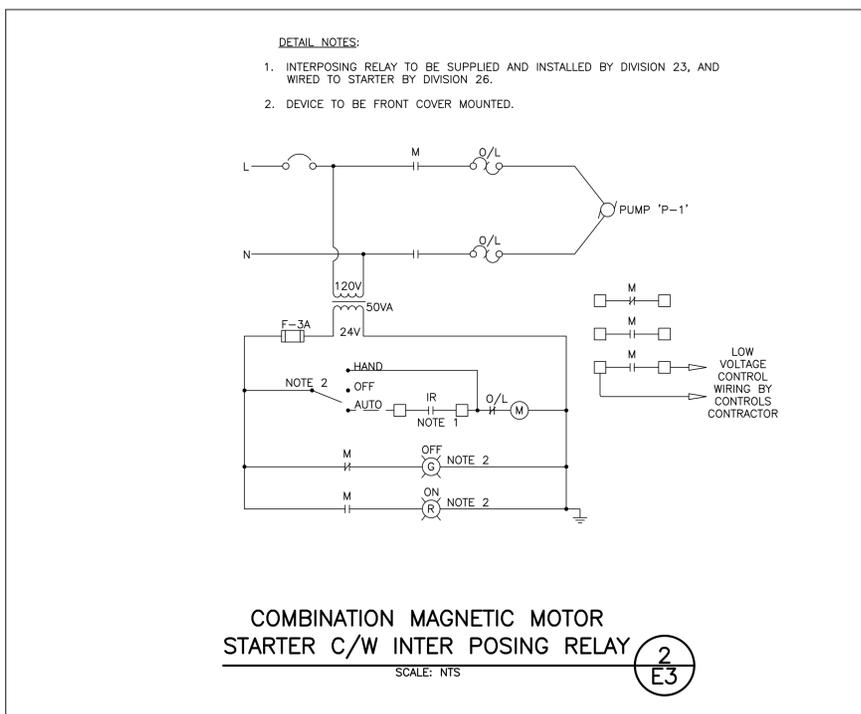
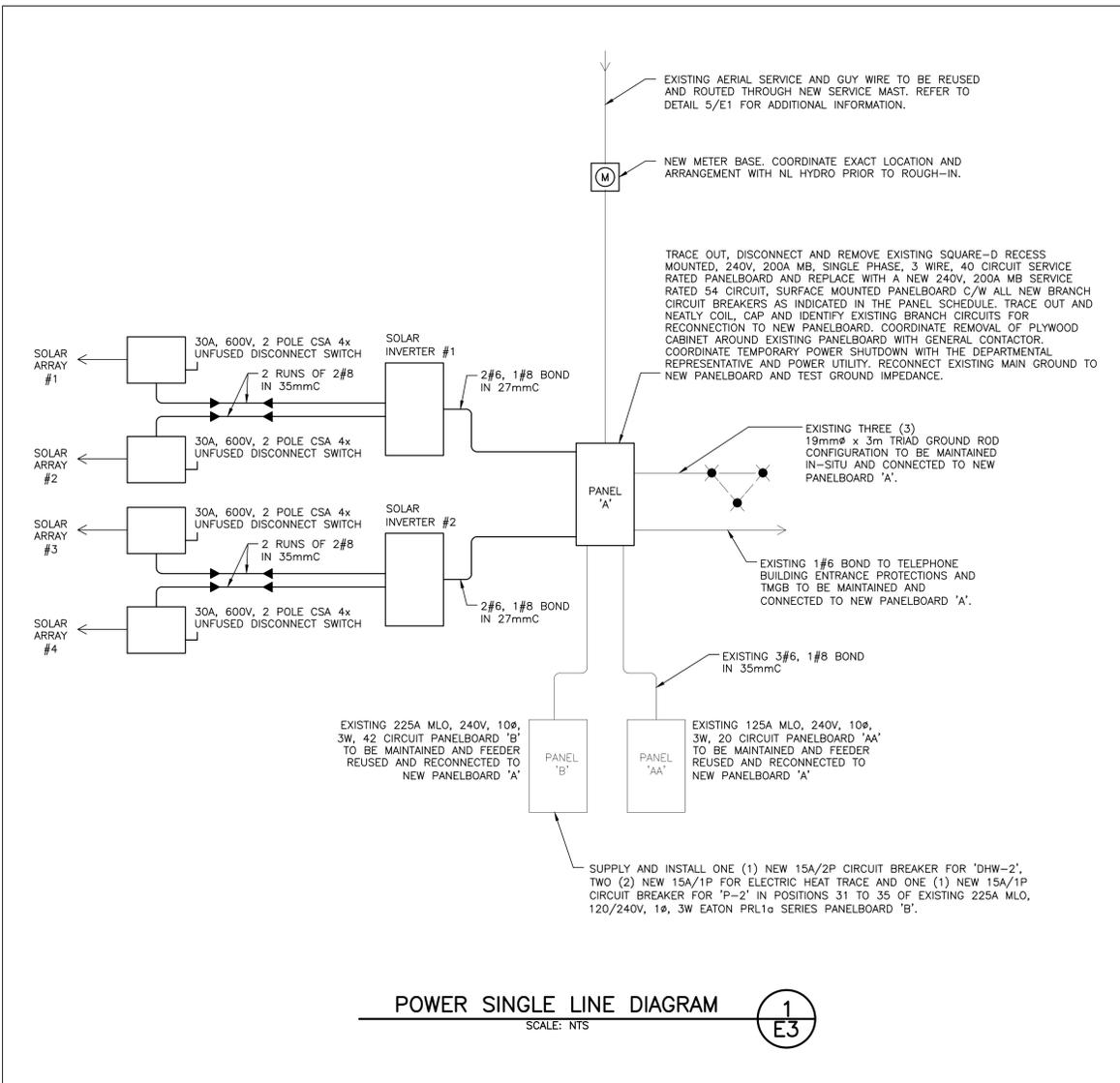
MAIN SERVICE DEMAND CALCULATION			
REFERENCING CSA 22.1-18 8-210	TOTAL BASIC DEMAND (W)	7,920	
REFERENCING CSA 22.1-18 8-210, 62-118	TOTAL HEAT DEMAND (W)	12,488	
REFERENCING CSA 22.1-18 8-210	TOTAL DEMAND, OTHER EQUIPMENT (W)	17,088	
	TOTAL ELECTRIC DEMAND (W)	37,496	
	MINIMUM SERVICE SIZE AT 240V	156A	
	(x 1.25)	196A	

DEMAND CALCULATION IS BASED OFF OF THE OPERATION OF A SINGLE, IN-LINE BIO-MASS FUELED BOILER TO SERVE AS THE BUILDINGS PRIMARY HEATING SOURCE. DEMAND CALCULATION DOES NOT INCLUDE AN ADDITIONAL 15KW ELECTRIC, IN-LINE BOILER, SERVING AS A SECONDARY, BACK-UP HEAT SOURCE WHICH IS TO BE INTERLOCKED WITH CURRENT BIO-MASS, PRIMARY HEAT SOURCE OR ANY INTERLOCK WITH COOLING LOADS OR SOLAR ARRAY CONTRIBUTION. FOR REFERENCE THE THREE YEAR AVERAGE ANNUAL CONSUMPTION TO MAY 2020 FOR THE FACILITIES METER (#P36675) IS 20,117 KWH.

MECHANICAL EQUIPMENT SCHEDULE											
TYPE	LOCATION	DESCRIPTION	VOLTS	PHASE	RATED		AMPS	REMARKS			
					KW	HP					
B-1	MECH/ELEC ROOM 104	BIOMASS BOILER	240	1	3.8	-	16	INSTALL LOCAL 30A, 240V UNFUSED DISCONNECT SWITCH, AND REMOTE SHUTDOWN SWITCH OUTSIDE MECH/ELEC ROOM 104. ALL WIRING ASSOCIATED WITH PELLET SHED MONITORING, ASH REMOVAL TO BE COMPLETED BY CONTROLS CONTRACTOR. POWER WIRING TO PELLET SHED MOTORIZED PELLET AUGER FROM BOILER CONTROL PANEL CONTRACTOR TO BE SUPPLIED, INSTALLED AND TERMINATED BY ELECTRICAL CONTRACTOR.			
B-2	MECH/ELEC ROOM 104	ELECTRIC BOILER	240	1	15.0	-	62.5	IN LINE ELECTRIC BOILER IS AN EMERGENCY BACKUP HEAT SOURCE. UNIT TO BE C/W MANUFACTURER INSTALLED DISCONNECT SWITCH. CONNECT WITH 3#4, 1#8 BOND IN 35mmC.			
CU-1	OUTDOORS	CONDENSER	240	1	-	-	29 (MCA)	INSTALL 2#8 TECK THROUGH A LOCAL 60A, 240V UNFUSED CSA TYPE 4X DISCONNECT SWITCH TO THE OUTDOOR CONDENSER. COORDINATE EXACT LOCATION OF CONDENSER ONSITE PRIOR TO ROUGH-IN. SEAL EXTERIOR PENETRATION WITH LOW VOC MASTIC COMPOUND. ALL CONTROLS WIRING TO FAN COILS BY CONTROLS CONTRACTOR.			
DHW-2	GARAGE	ELECTRIC HOT WATER	240	1	1.5	-	6.25	INSTALL LOCAL MANUAL MOTOR SWITCH. COORDINATE EXACT LOCATION ON SITE PRIOR TO ROUGH-IN.			
ERV-1	MECH/ELEC ROOM 104	ERV-1	120	1	0.3	-	-	INSTALL LOCAL MANUAL MOTOR SWITCH. COORDINATE EXACT LOCATION ON SITE PRIOR TO ROUGH-IN.			
FC-1	MECH/ELEC ROOM 104	VRF FAN COIL	240	1	-	-	(MOCP)	INSTALL LOCAL MANUAL MOTOR SWITCH IN ACCESSIBLE LOCATION COORDINATE EXACT LOCATION ONSITE WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. ALL CONTROLS WIRING TO OUTDOOR CONDENSER IS BY CONTROLS CONTRACTOR			
P-1	MECH/ELEC ROOM 104	CIRCULATION PUMP	120	1	0.3	1/2	-	INSTALL LOCAL COMBINATION MAGNETIC MOTOR STARTER REFER TO DETAIL 2/E3 FOR ADDITIONAL INFORMATION.			
P-2	GARAGE	CIRCULATION PUMP	120	1	0.1	-	0.8	INSTALL LOCAL MANUAL MOTOR SWITCH. COORDINATE EXACT LOCATION ON SITE PRIOR TO ROUGH-IN.			

PANEL 'A'													
DESIGNATION	LOAD		P	BKR	CIRCUIT				BKR	P	LOAD		DESIGNATION
	A	B			1	2	3	4			A	B	
LIGHTS RMS 100 & 101	-	-	1	15	1	A	2	15	1	-	-	RECEPTS RM 108 & 100	
EXTERIOR GFCI RECEPT	-	-	1	15	3	B	4	15	1	-	-	LIGHTS RMS 102 & 103	
RECEPT RMS 102 & 103	-	-	1	15	5	A	6	15	1	-	-	LIGHTS RMS 107 & 108	
RECEPT COMM. RADIO	-	-	1	15	7	B	8	15	1	-	-	RECEPT RM 106-2 & 106-3	
SPARE	-	-	1	15	9	A	10	15	1	-	-	HALLWAY LIGHTS	
UNDER COUNTER FRIDGE	-	-	1	15	11	B	12	15	1	-	-	LIGHTS 106-3, 106-4, 106-5, JAN/HOOD	
WATER LINE HEAT TRACE	-	-	1	15	13	A	14	15	1	-	-	LIGHTS RMS 106-1 & 106-2	
EMERG. LIGHT/SMOKE ALARM (*)	-	-	1	15	15	B	16	15	1	-	-	EXTERIOR RECEPT	
RECEPTS RM 101/ DOOR OPENER	-	-	1	15	17	A	18	15	1	-	-	WATER PUMP	
LIGHTING RM 109/EXTERIOR	-	-	1	15	19	B	20	15	1	-	-	RECEPTS - 106-4	
GFCI RECEPT WR/CHANGE RM	-	-	1	15	21	A	22	15	1	-	-	RECEPTS - 106-1, 106-2	
RECEPT MICROWAVE	-	-	1	15	23	B	24	15	1	-	-	RECEPTS - MECH / ELEC ROOM	
RANGE RECEPT	-	-	2	50	25	A	26	15	1	-	-	COUNTER RECEPTACLE	
HOUSEKEEPING RECEPTS	-	-	1	15	27	B	28	15	1	-	-	COUNTER RECEPTACLE	
ERV-1	-	300	1	15	31	B	32	40	2	-	3480	CU-1	
RECEPTS FAX/COPIER	-	-	1	15	33	A	34	15	1	-	3480	PANELBOARD 'B'	
CIRCULATION PUMP 'P-1'	-	300	1	15	35	B	36	60	2	-	-	REAR LIGHT	
PANEL 'AA'	-	-	2	60	37	A	38	15	1	-	-	TELECOMMUNICATIONS RECEPTACLE (*)	
BOILER 'B-1'	1920	-	2	20	41	A	42	15	2	-	676	SOLAR INVERTER #1 (ARRAY 1 & 2)	
	1920	-			43	B	44	15	2	-	676		
BOILER 'B-2'	7500	-	2	75	45	A	46	15	1	-	240	SOLAR INVERTER #1 (ARRAY 3 & 4)	
	7500	-			47	B	48	15	1	-	-		
PELLET SHED	240	-	1	15	49	A	50	50	2	-	-		
SPARE	-	-	1	15	51	B	52	50	2	-	-		
SPARE	-	-	1	15	53	A	54	50	2	-	-		
PHASE LOADS	9660	10020								4396	4156		
TOTAL PHASE LOADS	14056	14176								SUPPLY: 120/240V, 1Ø, 3W			
TOTAL LOADS	28232									MANS: 200A MB, TOP FED, SERVICE RATED, 10 KAIC			
CURRENT AT 240V/1PH	117.6									NUMBER OF CIRCUITS: 54			
										MOUNTING: SURFACE			

(*) INDICATES LOCKING BREAKER



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revisions		date

project **DFO ST. LEWIS BUILDING UPGRADES** project

drawing **ELECTRICAL DETAILS** dessin

designed	E.S.C., P.ENG	conçu
date	JUNE 2020	
drawn	M.E.M., C.E.T.	dessiné
date	JUNE 2020	
approved	E.S.C., P.ENG	approuvé
date	JUNE 2020	
Tender	D.S., PMP	Soumission
FWGSC Project Manager	Administrateur de projets IPGSC	no. du projet
project number	R.108233.001	
drawing no.	E3 OF 3	no. du dessin