

Contractor to verify all dimensions  
& conditions on site and immediately  
notify the engineer of all discrepancies.

revisions	description	date
0	ISSUED FOR DESIGN DEVELOPMENT	2013/02/22
1	ISSUED FOR 90% CONSTRUCTION DOCUMENTS (VOL. 1)	2013/06/16
2	ISSUED FOR 90% CONSTRUCTION DOCUMENTS (VOL. 2)	2013/06/29
3	ISSUED FOR 100% CONSTRUCTION DOCUMENTS	2013/10/16
4	ISSUED FOR ADDENDUM #5	2014/02/10
5	ISSUED FOR 90% CONSTRUCTION DOCUMENTS (VOL. 1)	2014/02/10

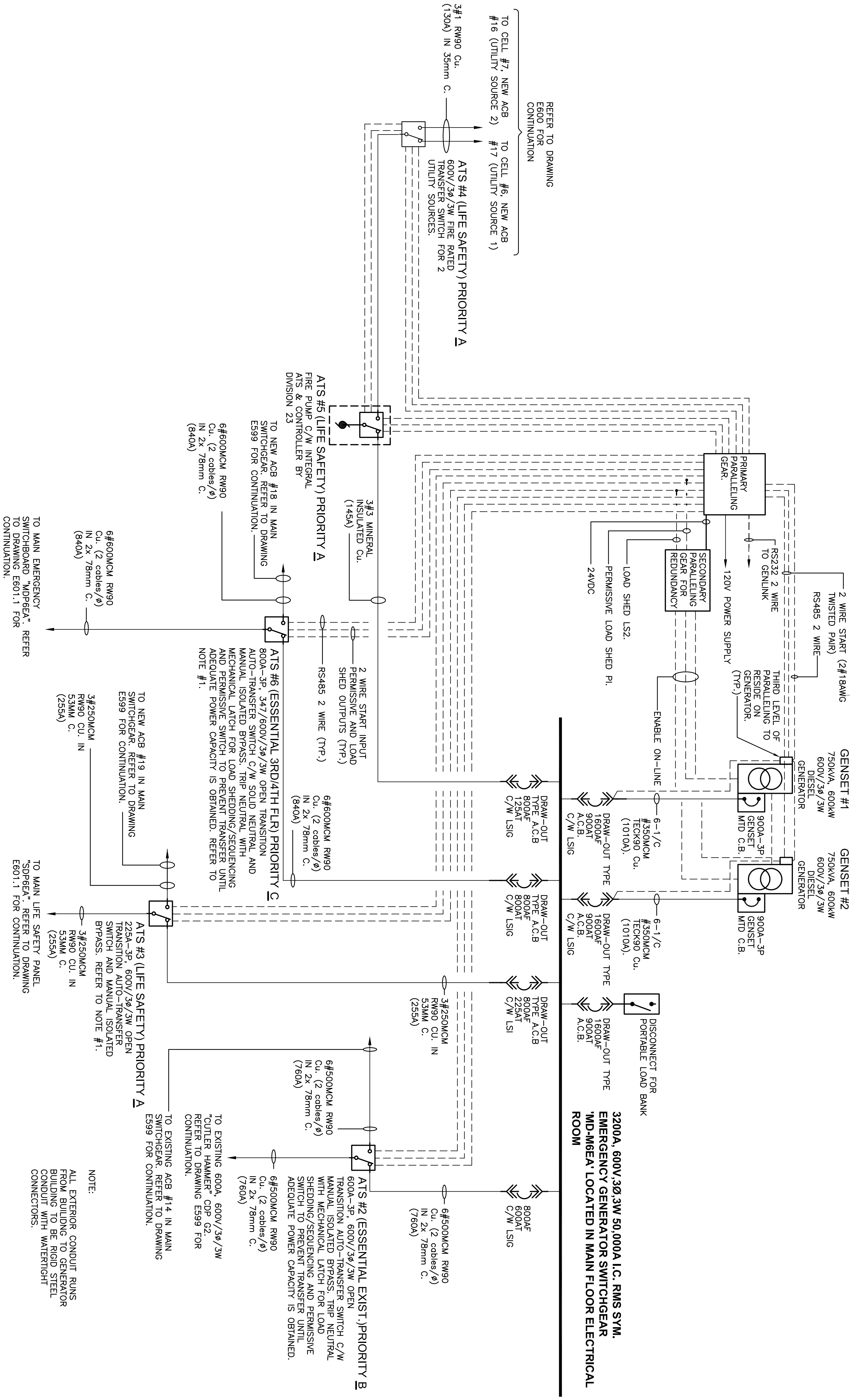
project  
SIR FREDERICK BANTING  
RESEARCH CENTRE  
ANIMAL TO WET LAB CONVERSION

251 SIR FREDERICK BANTING WAY, ON

drawing  
dessin

DISTRIBUTION SINGLE  
LINE DIAGRAM-EMERGENCY  
(DIESEL) POWER

Designed By	P. KIEMENY	Conçu par	(yyyy/mm/dd)
Date		Date	
Drawn By	P. LAPOINTE	Dessiné par	(yyyy/mm/dd)
Date		Date	
Reviewed By	P. KIEMENY	Examiné par	(yyyy/mm/dd)
Date		Date	
Approved By	P. KIEMENY	Approuvé par	(yyyy/mm/dd)
Date		Date	
Tender		Submission	
Project Manager	Administrateur de projets		
Project no.	R.044033.002	No. du projet	
Drawing no.	E601-X1	No. du dessin	



347/600V/3Ø/4W DISTRIBUTION (EMERGENCY SUPPLY)

ATS PRIORITY SEQUENCING SCHEDULE	
PRIORITY LEGEND	ATS FUNCTION/DESCRIPTION
A – ATS TO TRANSFER IMMEDIATELY ON POWER FAILURE	ATS #1 – EXISTING FOR 800kW GENERATING SYSTEM TO REMAIN, NO WORK.
B – ATS TO TRIP TO NEUTRAL POSITION UNTIL PERMISSIVE SIGNAL FROM GENSETS PARALLELING GEAR INDICATING ADEQUATE POWER IS AVAILABLE TO TRANSFER WITHIN 15 SECONDS UPON LOSS OF NORMAL POWER.	ATS #2 (PRIORITY B) – EXISTING 600A, 600V/3Ø/3W SERVING 500kW GENERATING PENTHOUSE SYSTEM CDP “G2” TO BE REPLACED WITH NEW ATS C/W OPEN TRANSITION ISOLATED BYPASS, NEUTRAL TRIP POSITION W/ MECHANICAL LATCH FOR LOAD SHEDDING/SEQUENCING AND PERMISSIVE SWITCH FOR EXISTING BUILDING LOADS.
C – ATS TO TRIP TO NEUTRAL POSITION UNTIL PERMISSIVE SIGNAL FROM GENSETS PARALLELING GEAR INDICATING ADEQUATE POWER CAPACITY IS OBTAINED.	ATS #3 (PRIORITY A) – NEW 225A, 600V/3Ø/3W OPEN TRANSITION C/W ISOLATED BYPASS FOR NEW LIFE SAFETY LOADS.
	ATS #4 (PRIORITY A) – NEW 500P, 600V/3Ø/3W FIRE PUMP RATED ATS FOR 2 UTILITY SOURCES SWITCHING.
	ATS #5 (PRIORITY A) – NEW 500P, 600V/3Ø/3W INTEGRAL ATS/FIRE PUMP PACKAGE FOR DIESEL SWITCHING.
	ATS #6 (PRIORITY C) – NEW 800A, 600V/3Ø/3W OPEN TRANSITION C/W ISOLATED BYPASS, NEUTRAL TRIP POSITION W/ MECHANICAL LATCH FOR LOAD SHEDDING/SEQUENCING AND PERMISSIVE SWITCH FOR ANIMAL WING 3RD/4TH FLOOR LOADS.
SEQUENCE OF OPERATIONS – UTILITY POWER FAILURE EVENT	
1. ATS #3 & #5 TO BE ON PRIORITY “A”.	
2. ATS #2 TO BE ON PRIORITY “B”.	
3. ATS #6 TO BE ON PRIORITY “C”.	
4. ATS #4 TO BE ON PRIORITY “A”.	
5. ATS #4 & #5 CONTROLS TO BE INTERCONNECTED AS FOLLOWS: – ATS #4 NORMAL POSITION IS SOURCE #1, SOURCE #2 IS ALTERNATE POSITION. IF FAILURE IS DETECTED, ATS TO TRANSFER TO SOURCE #2 AUTOMATICALLY IF POWER IS SENSED ONLY. IF BOTH SOURCES ARE NOT ENERGIZED, ATS #4 TO SEND SIGNAL TO ATS#5 TO AUTOMATICALLY TRIP.	
– GENERATOR RUNNING – LOAD SHEDDING.	
– NORMAL OPERATION, GENSETS RUNNING AND ATS #2, #3 & #6 ENGAGED.	
– IF START SIGNAL FROM ATS #4/#5 (FIRE PUMP) IS RECEIVED AND AVAILABLE CAPACITY TO BE 300kW, ATS #5 CAN TRANSFER. IF CAPACITY IS NOT AVAILABLE, ATS #6 & #2 TO DROP OUT IN SEQUENCE AS REQUIRED.	
– MINIMUM ALLOWABLE GENSET CAPACITY TO BE 10% (1080kW), SHUTDOWN ATS IN PRIORITY SEQUENCE TO MEET MINIMUM CAPACITY.	