



MCW Consultants Ltd.

Site Instruction

Date: May 14, 2017

Queen's Quay Terminal
207 Queen's Quay West, Suite 615
Toronto, Ontario M5J 1A7

Phone (416) 598-2920
Fax (416) 598-5394
www.mcw.com

Project Name: AQUAVISTA - Bayside

Client: TRIDEL Corporation

To: TRIDEL Corporation

Attention: Chadi Loza

Fax number: -

Distribution: Vince Mirarchi -TRIDEL
Chadi Loza - TRIDEL
Christina Lee -KIRKOR
Al Medeiros -MCW
Michael Hunter-MCW
Mark Furtado-MCW
Sarfraz H. Jaffrey-MCW

Project 8489D

No.:

SI No.: E 018

Page No.: 1 of 1+ 1 attached

Office: Toronto

From: Sunanda Perera
Tao Li

Provide itemized labour, equipment and material costs for Work listed below. Do not proceed with any of the listed Work prior to issuance of signed Change Order.

Title: Revision – Fire Pump Breaker & feeder.

Specification:

Spec	Issued	Items
		N/A

Electrical:

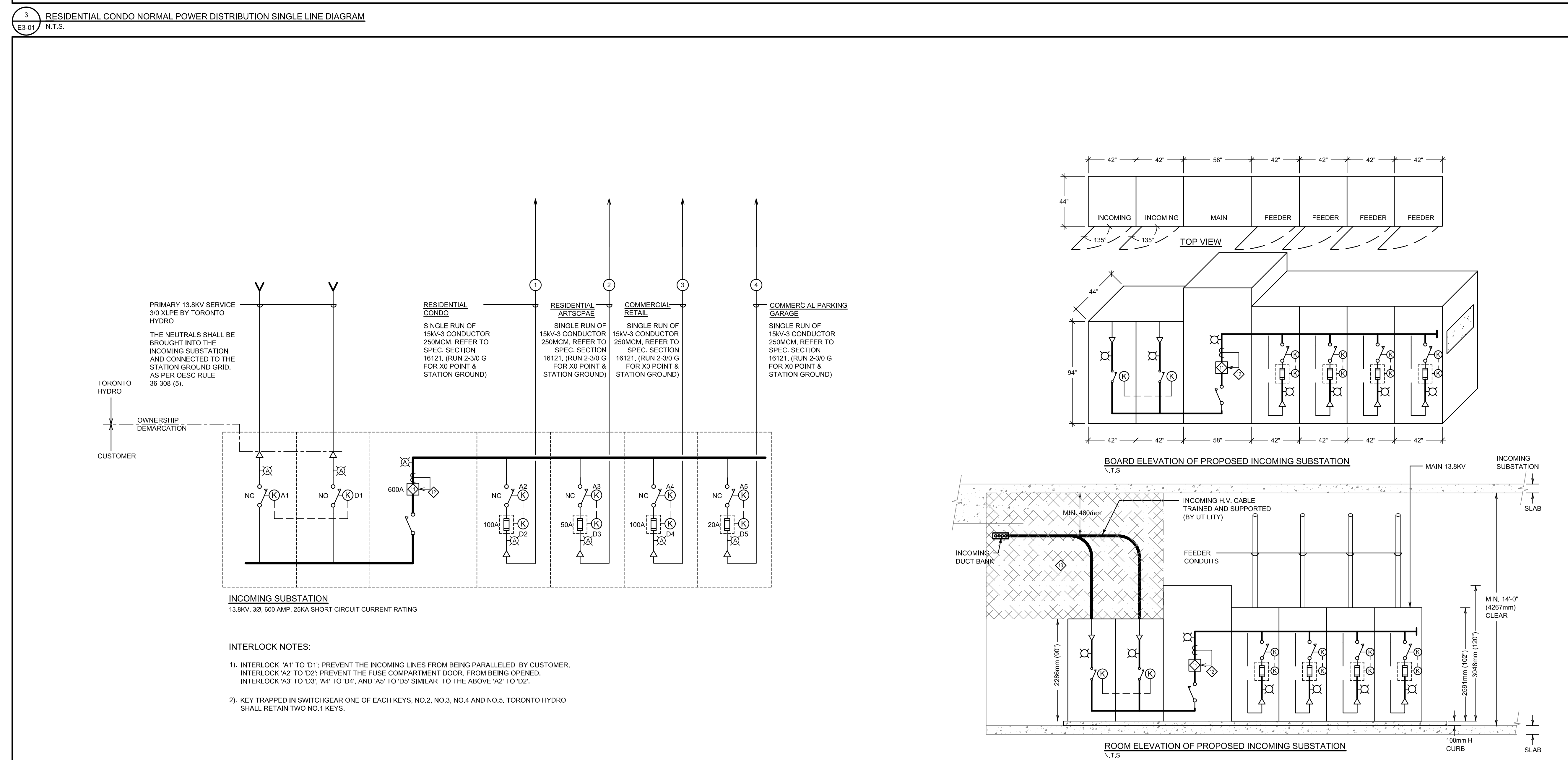
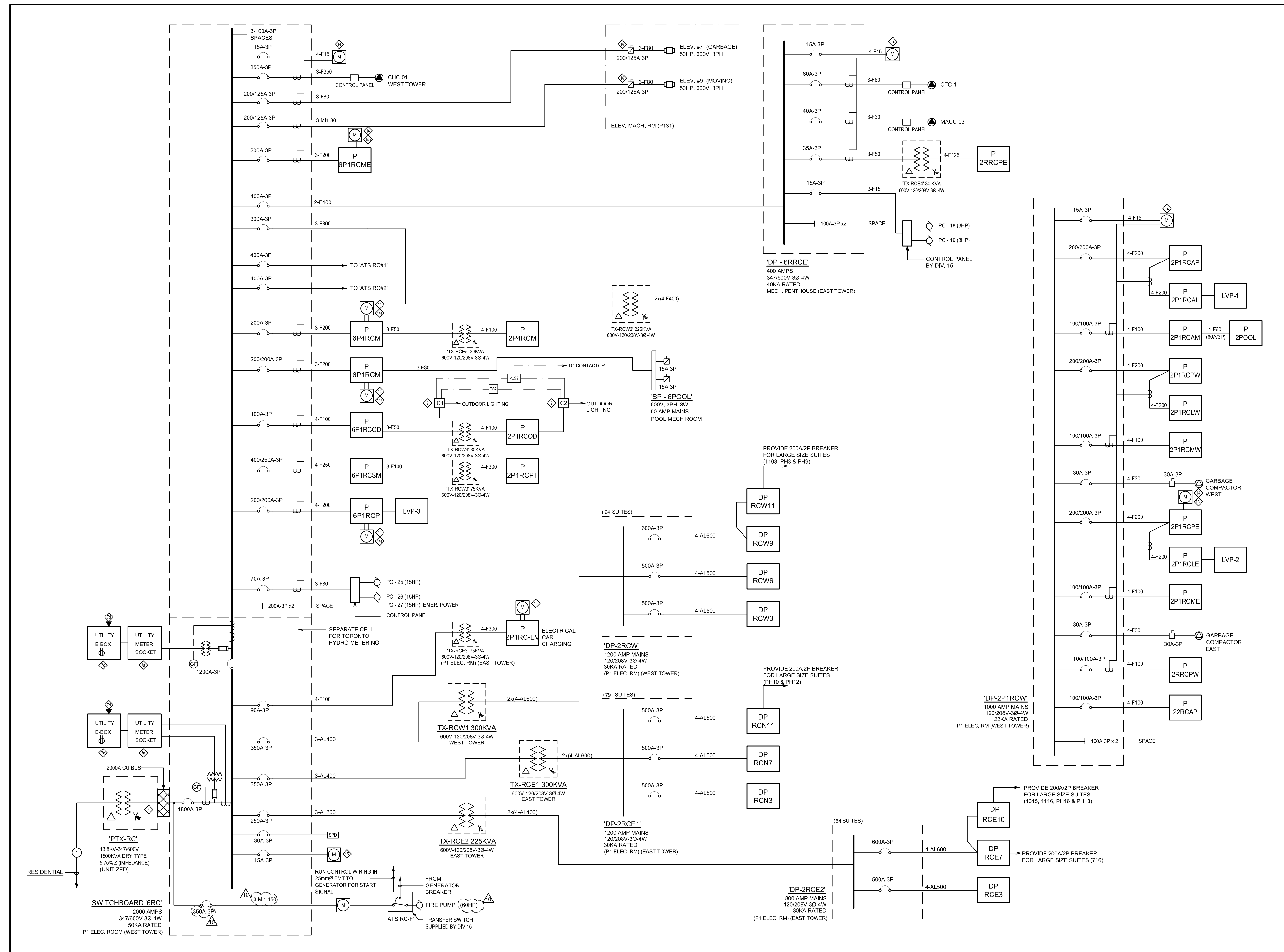
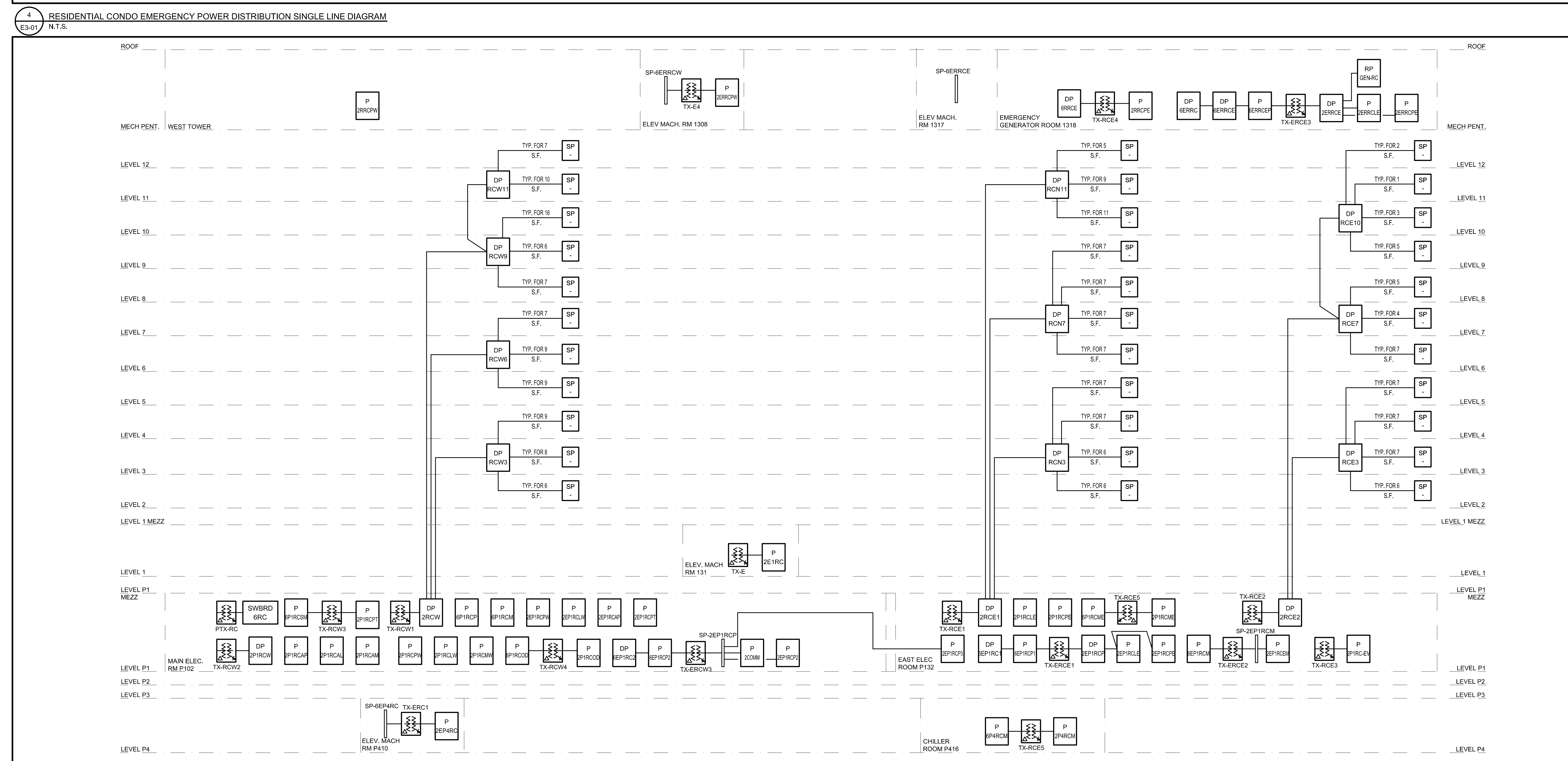
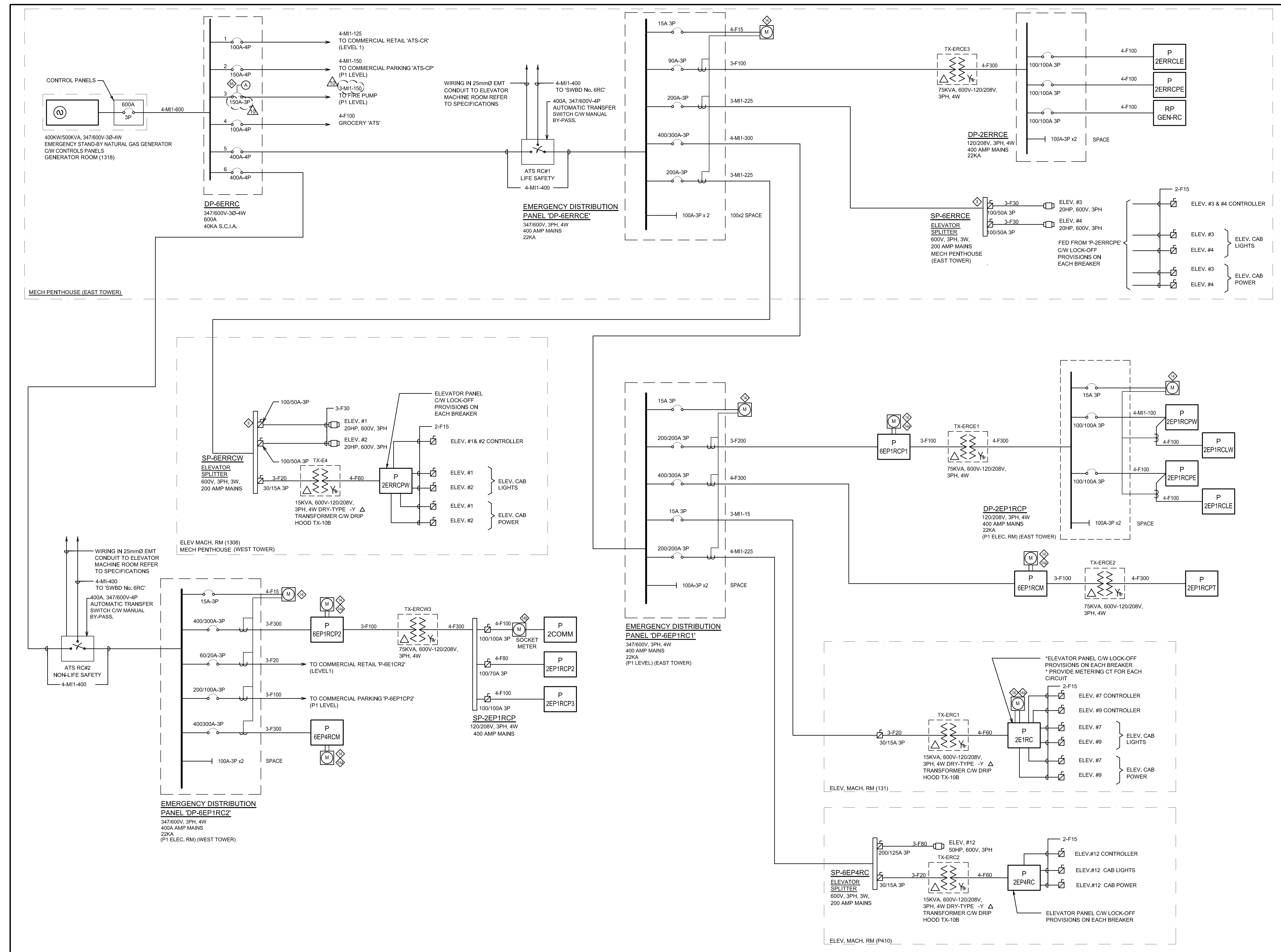
Drawing No.	Drawing Issued	Items
E3-01	Yes	Revise OCPD size and feeder size to fire pump as shown.

ME Schedule:

Drawing No.	Drawing Issued	Items
		N/A

Reason for Issue – Design Coordination with shop drawing.

End of SI-E018



200V, 2-HOUR FIRE-RATED MIN. CABLE SCHEDULE													
MINIMUM CABLE THICKNESS (INCHES)													
SINGLE CONDUCTOR	MAX SPREAD SIZE	REF. AMP. SIZE			MAX SPREAD SIZE	REF. AMP. SIZE			SINGLE CONDUCTOR	MAX SPREAD SIZE	REF. AMP. SIZE		
		15	25	14		15	25	14			15	25	14
PRESENTIAL NO. OF CONDUCTORS	10	M1-20	20	12	10	M1-20	20	12	10	M1-20	20	12	10
	20	M1-20	20	12	20	M1-20	20	12	20	M1-20	20	12	20
	30	M1-20	20	12	30	M1-20	20	12	30	M1-20	20	12	30
	40	M1-20	20	12	40	M1-20	20	12	40	M1-20	20	12	40
	50	M1-20	20	12	50	M1-20	20	12	50	M1-20	20	12	50
	60	M1-20	20	12	60	M1-20	20	12	60	M1-20	20	12	60
	70	M1-20	20	12	70	M1-20	20	12	70	M1-20	20	12	70
	80	M1-20	20	12	80	M1-20	20	12	80	M1-20	20	12	80
	90	M1-20	20	12	90	M1-20	20	12	90	M1-20	20	12	90
	100	M1-20	20	12	100	M1-20	20	12	100	M1-20	20	12	100
TWO CONDUCTORS	15	M1-20	20	12	15	M1-20	20	12	15	M1-20	20	12	15
	20	M1-20	20	12	20	M1-20	20	12	20	M1-20	20	12	20
	30	M1-20	20	12	30	M1-20	20	12	30	M1-20	20	12	30
	40	M1-20	20	12	40	M1-20	20	12	40	M1-20	20	12	40
	50	M1-20	20	12	50	M1-20	20	12	50	M1-20	20	12	50
	60	M1-20	20	12	60	M1-20	20	12	60	M1-20	20	12	60
	70	M1-20	20	12	70	M1-20	20	12	70	M1-20	20	12	70
	80	M1-20	20	12	80	M1-20	20	12	80	M1-20	20	12	80
	90	M1-20	20	12	90	M1-20	20	12	90	M1-20	20	12	90
	100	M1-20	20	12	100	M1-20	20	12	100	M1-20	20	12	100
FOUR CONDUCTORS	15	M1-20	20	12	15	M1-20	20	12	15	M1-20	20	12	15
	20	M1-20	20	12	20	M1-20	20	12	20	M1-20	20	12	20
	30	M1-20	20	12	30	M1-20	20	12	30	M1-20	20	12	30
	40	M1-20	20	12	40	M1-20	20	12	40	M1-20	20	12	40
	50	M1-20	20	12	50	M1-20	20	12	50	M1-20	20	12	50
	60	M1-20	20	12	60	M1-20	20	12	60	M1-20	20	12	60
	70	M1-20	20	12	70	M1-20	20	12	70	M1-20	20	12	70
	80	M1-20	20	12	80	M1-20	20	12	80	M1-20	20	12	80
	90	M1-20	20	12	90	M1-20	20	12	90	M1-20	20	12	90
	100	M1-20	20	12	100	M1-20	20	12	100	M1-20	20	12	100

NOTE:
THIS TABLE IS BASED ON 100% CONDUCTORS CARRYING CURRENT TO THE
LOAD-OTHER CARRYING CONDUCTORS ARE NEUTRAL OR FOR CONTROL, SIGNAL,
OPERATING FUNCTIONS, ETC. ONLY. IF 80% OF THE CONDUCTORS ARE
CARRYING CURRENT CARRYING CURRENTS.

UPDATED JAN. 2015.

MAX BREAKER SIZE	MAX FEEDER REF	WIRE SIZE	AMP- BTPC	CORRECTED AMP- BTPC	CONDUIT SIZE			BENDING CONDUCTORS
					1"	1 1/2"	2"	
100	A12	#2	65	75	41 (102)	55 (139)	70 (178)	#2
100	A12	#2	65	75	41 (102)	55 (139)	70 (178)	#2
150	AL100	#1	100	92	63 (93)	83 (93)	101 (144)	#2
150	AL12	#2	125	120	73 (93)	93 (93)	111 (144)	#2
150	AL12	#2	125	120	73 (93)	93 (93)	111 (144)	#2
200	AL100	#1	150	140	83 (93)	103 (93)	121 (144)	#2
200	AL100	#1	150	140	83 (93)	103 (93)	121 (144)	#2
200	AL100	#200KCM	200	184	78 (93)	93 (93)	112 (144)	#2
200	AL100	#200KCM	200	184	78 (93)	93 (93)	112 (144)	#2
250	AL200	#200KCM	250	224	78 (93)	93 (93)	112 (144)	#2
300	AL400	#400KCM	300	264	78 (93)	93 (93)	112 (144)	#2
400	AL400	#250KCM	400	355	-	-	-	#2
400	AL400	#250KCM	400	355	-	-	-	#2
400	AL400	#250KCM	400	448	-	-	-	#2
400	AL400	#250KCM	400	560	-	-	-	#1
400	AL400	#250KCM	400	672	-	-	-	#1

[illegible]

NOTES:

1. N/A

2. 20A MULTIPLE LIGHTING CIRCUITS FOR OUTDOOR LIGHTING. COL C1A TYPE 1 METAL ENCLOSURE. REFER TO DRAWING FOR INDIVIDUAL VOLTAGE RATINGS. REFER TO PLAN FOR CABLE CIRCUITS TO BE CONTROLLED.

3. PROVIDE FRAME BOLT FOR THE ABOVE MOUNTING DISCREETLY AS SHOWN IN DETAIL. BOLT AND NUT TO BE IN EACH ELECTRICAL ROOM.

4. SECONDARY NEUTRAL TO BE GROUNDED TO THE SUBSTATION ELECTRODE WITH A 30 MM COPPER CONDUCTOR.

5. SECONDARY NEUTRAL TO 70% TRANSFORMER SHALL BE GROUNDED TO THE SUBSTATION ELECTRODE WITH A COPPER CONDUCTOR SIZED AS PER TABLE 17 OF NEC.

6. THE LOW VOLTAGE CONDUCTOR SIZES OF THE TRANSFORMER SHALL BE BONDED TO THE TRANSFORMER ENCLOSURE GROUND BUS WITH A COPPER CONDUCTOR SIZED AS PER TABLE 17 OF THE CODE.

7. PROVIDE AND INSTALL THE FOLLOWING FOR TRANSFORMER SOCKET AND 6-BLOCK:

7a) METER SOCKET SHALL NOT BE TRANSFORMER RATED. NO AUTOMATIC BYPASS. PROVISION FOR A 10 POLE TEST PANEL, LOCABLE COVER. TO BE GROUND EXTERNALLY BY A 30MM GROUNDING. 150 (10-12) TO CENTER OF OPENING.

7b) METER CONDUIT 414MM (16") CONDUIT. NO 18° PERBEN NOTED UNLESS APPLIED FOR DISTRICT METERING CHAIR ELEVATOR. (CONDUIT FROM METER TO METER SOCKET SHALL BE 100MM CONDUIT. MAXIMUM OF THREE 90 DEGREE BENDS. MAXIMUM CONDUIT LENGTH IS 30m (100').

7c) METER SOCKET SHALL BE 100MM CONDUIT. IT IS TO BE MOUNTED OUTSIDE. RIGIDWALL 100 TO THE METER SOCKET. THE 100MM SHALL BE CONNECTED TO THE SOCKET WITH A 16MM (5/8") CONDUIT. A 150V OUTLET RECEPTACLE WILL BE LOCATED IN THIS ROOM. IF POSSIBLE THE 120V SUPPLY SHOULD COME FROM UP.

7d) 6-BLOCK SHALL BE LOCABLE.

7e) 6-BLOCK CONDUIT 150MM (12") CONDUIT. SUBMERGED AT BOTH ENDS. WITH ALL STRIKES MUST EXTEND FROM JUST ABOVE TO METER SOCKET TO WIRE. (CONDUIT RIGIDWALL 150MM WILL BE TERMINATED IN THE MAINFIRE ROOM.)

8. COPPER CABLE WITH EQUIVALENT CABLE RATING WITH FIRE RATED ENCLOSURE OR BURIED IN CONCRETE AS PER CBC ARE ALLOWED TO USE IN LEU OF MCC CABLE.

9. IN THE EMERGENCY CONDITION, ONE ELEVATOR SHALL WORK AT A TIME ALONG WITH FIRE FIGHTERS ELEVATOR.

10. INTERLOCK AS RC IC WITH FIRE PUMP ATS. IF THE FIRE PUMP OPERATIONS REQUIRED DURING EMERGENCY CONDITION, SWITCH OFF THE ATS RCIC.

11. N/A

12. VACUUM CIRCUIT BREAKER SHALL MEET ALL REQUIREMENT OF TORONTO HYDRO CUSTOMER OWNED SUBSTATION STANDARD.

13. OVER CURRENT, PHASE AND GROUND FAULT.

14. PROVIDE GALVANIZED CHAIN LINK FENCE IN FRONT OF A ROW OF BUILDING BLOCK TO PROTECT HYDRO WIRES. PROVIDE TWO PHASE AND GROUND FAULT.

15. METERING EQUIPMENT (MCC) METERING CABINET FOR LEAD PROGRESS SUPPLIED BY PROVIDENT, INSTALLED BY ELECTRICAL CONTRACTOR.

16. REFER TO DRAWING 500-MCC METERING SCHEDULES FOR QUANTITY OF CT.

17. METERING EQUIPMENT (3-BLOCK METERING) FOR LEAD PROGRESS SUPPLIED BY PROVIDENT, INSTALLED BY ELECTRICAL CONTRACTOR.

18. HYDRO METER SUPPLIES BY TORONTO HYDRO, INSTALLED BY ELECTRICAL CONTRACTOR.

19. ALTERNATE CABLE SHALL BE USED FOR THE DISCONNECT SWITCH FOR BATTERY LOWERING SIGNAL, WHEN POWER FAILS.

ELECTRICAL PANEL AND CIRCUIT DESIGNATION

1. 2-TERMINAL	1" - DENOTES CIRCUIT NUMBER
2" - DENOTES WIRE TYPE GREAT TOWER	
3" - DENOTES FIRE PROTECTIVE TOWER	
4" - DENOTES RESIDENTIAL CONDUIT	
5" - DENOTES RESIDENTIAL CONDUIT	
6" - DENOTES CABLE (CABLE, PL PL) (L)	
7" - DENOTES EMERGENCY PANEL	
8" - DENOTES 100MM OR 150MM	
9" - DENOTES 300MM	

2. ADDITIONAL DESIGNATIONS

LAST LETTER OF THE PANEL DESIGNATION CAN BE REPLACED WITH FOLLOWING LETTERS FOR DIFFERENT TYPES OF PANELS:

CO - OUTDOOR LIGHTING	NO - OF THE PANELS DESIGNATION CAN BE REPLACED IN THE FOLLOWING DESIGNATIONS:
AD - ADJACENT LIGHTING	CC - COMMERCIAL PARKING GARAGE
AP - APARTMENT POWER	CS - COMMERCIAL RETAIL
AR - INDUSTRIAL RECREATION POWER	CR - RECREATIONAL WATERSIDE
PT - FIRE TRAILING	
SR - SMOKE DETECTOR	
M - MECHANICAL POWER	

3. IF THERE ARE MORE THAN ONE PANEL IN ONE BLOCK WITH SAME DESIGNATION, THEY ARE DIFFERENTIATED BY ADDING 1, 2, 3, ETC. IN BRACKET.

AFTER THE LAST LETTER OF THE PANEL DESIGNATION.