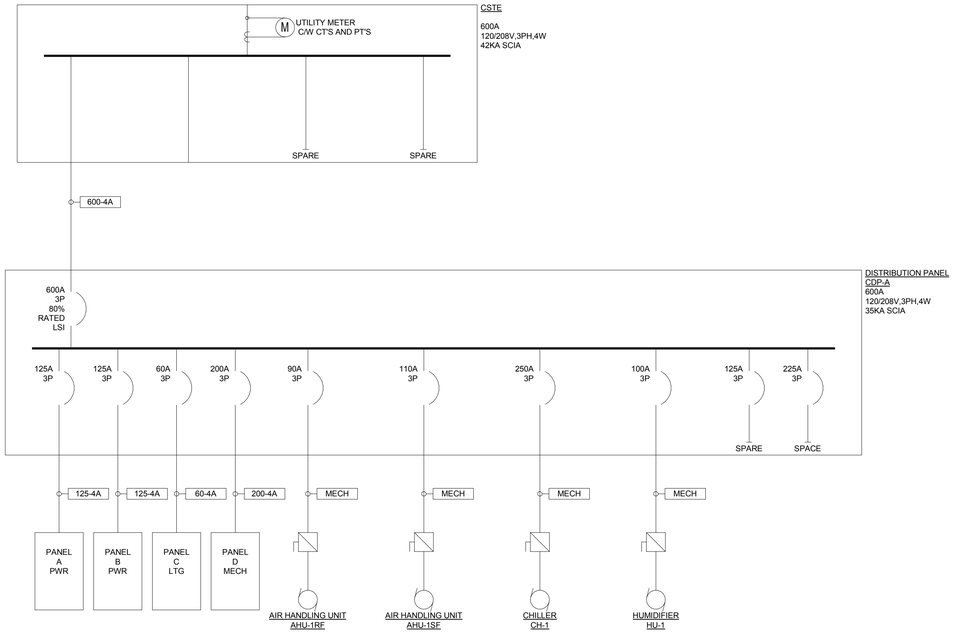


1 / E5.1 POWER DISTRIBUTION RISER DIAGRAM

SCALE: NTS

Feeder Schedule - Wire in Conduit - Al

Feeder Name (# denotes no. of conductors)	Wire Size		Min. Conduit Size [mm]			Max Length [m] @80%		Circuit Ampacity [A]
	Phase & Neutral	Bond	2C	3C	4C	208V	600V	
60-#A	#4	#8	27	35	35	23	68	65
70-#A	#3	#6	27	35	35	25	73	75
90-#A	#2	#6	27	35	35	24	70	90
100-#A	#1	#6	35	41	41	27	78	100
125-#A	2/0	#6	41	53	53	31	90	135
150-#A	3/0	#4	41	53	53	31	90	155
175-#A	4/0	#4	53	53	63	32	94	180
200-#A	250 MCM	#4	53	63	78	31	91	205
250-#A	350 MCM	#3	63	78	78	31	91	250
300-#A	500 MCM	#3	78	78	91	32	94	310
400-#A	(2) 4/0	(2) #4	(2) 53	(2) 53	(2) 63	28	94	360
600-#A	(2) 500 MCM	(2) #3	(2) 78	(2) 78	(2) 91	31	91	619
MECH	REFER TO MECHANICAL EQUIPMENT SCHEDULE							

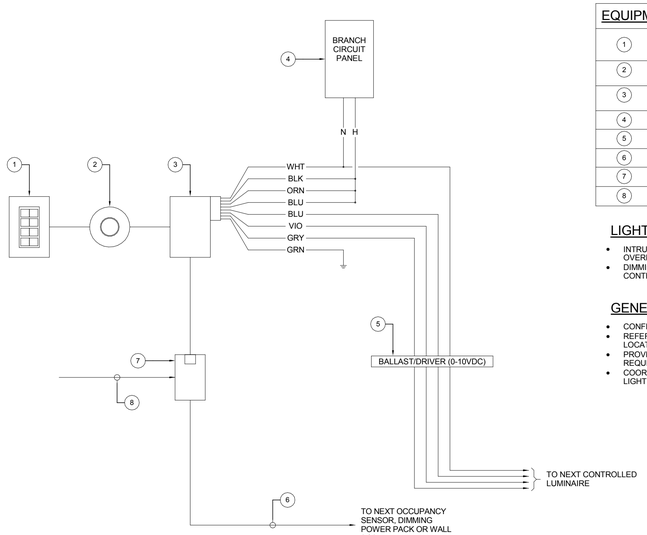
TRANSFORMER CALCULATION

	CSTE	225950 VA
TOTAL DEMAND VOLT AMPERES		169457 VA
SIZE FOR 65% OF ESTIMATED DEMAND LOAD		110147 VA
EXISTING TRANSFORMER		

ELECTRICAL LOAD ESTIMATE

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND LOAD
Other	245 VA	100.00%	245 VA
RCPT	43594 VA	61.47%	26797 VA
LITES	7699 VA	100.00%	7699 VA
MTR	60144 VA	83.89%	50458 VA
SPEC	720 VA	100.00%	720 VA
HEAT	32820 VA	0.01%	3 VA
AC	80935 VA	100.00%	80935 VA
PKG-RCPT	2599 VA	100.00%	2599 VA
TOTAL VOLT AMPERES	228757 VA		169457 VA
CALCULATED AMPERES	635 A		470 A

DEMAND FACTOR DETERMINATION:
GENERAL LIGHTING (LITES): 100% OF CONNECTED LOADS.
RECEPTACLES (RCPT): FIRST 10 kVA AT 100%, REMAINDER AT 50%.
COMPUTER LOADS (COMP): INCLUDED WITH RECEPTACLES.
MOTOR LOADS (MTR): LARGEST MOTOR AT 125%, REMAINDER AT 75%.
HEATING OR AIR COND (HEAT OR AC): LARGEST TOTAL OF HEAT OR AC.
SPECIFIC LOADS (SPEC): LARGEST AT 100%, REMAINDER AT 100%.



EQUIPMENT LIST

1	SINGLE ZONE WALLPOD ON/OFF PUSHBUTTON LIGHTING CONTROL nLIGHT MODEL - nPODM-WH
2	AUTOMATIC DIMMING DAYLIGHT SENSOR CONTROL nLIGHT MODEL - nCM-ADCX
3	0-10VDC DIMMING RELAY POWER PACK nLIGHT MODEL - nPP16-D
4	120/208V/3PHASE/4W BRANCH CIRCUIT PANEL
5	CONTROLLED LED LUMINAIRE C/W 0-10VDC 10% DIMMING DRIVER
6	NETWORK CONNECTION - CAT5 CABLE
7	INPUT/OUTPUT CONTACT CLOSURE INTERFACE nLIGHT MODEL - nIO 3
8	INPUT FROM INTRUSION ALARM SYSTEM

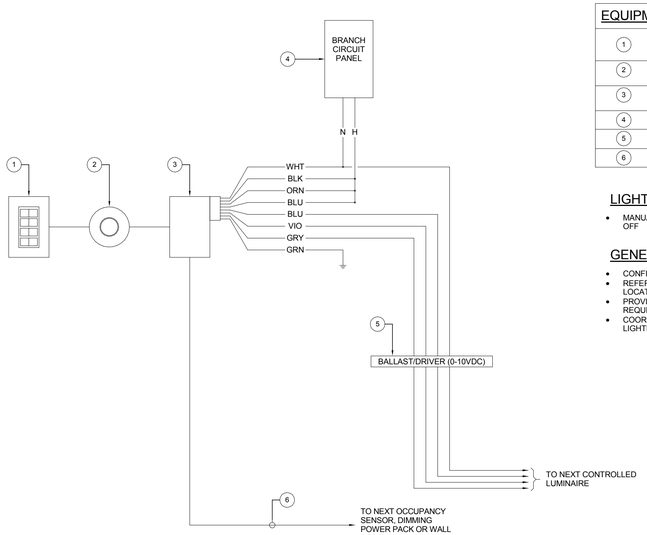
LIGHTING CONTROL DESCRIPTION

- INTRUSION ALARM INTEGRATION FOR ON/OFF CONTROL C/W MANUAL OVERRIDE ON/OFF CONTROL.
- DIMMING DAYLIGHT SENSOR CONTROL FOR PERIMETER LIGHTING CONTROL AS INDICATED.

GENERAL NOTES

- CONFIRM REQUIREMENTS WITH SYSTEM SUPPLIER.
- REFER TO ELECTRICAL LAYOUTS FOR EQUIPMENT QUANTITIES AND LOCATIONS AND CONTROLLED ZONES.
- PROVIDE ALL NECESSARY RELAYS AND POWER PACK CONTROLS AS REQUIRED TO MAKE A COMPLETE SYSTEM.
- COORDINATE BALLAST/DRIVER TYPE AND ENSURE COMPATIBILITY WITH LIGHTING CONTROL SYSTEM REQUIREMENTS.

MAIN LIBRARY LIGHTING CONTROL SCHEMATIC



EQUIPMENT LIST

1	SINGLE ZONE WALLPOD ON/OFF RAISE/LOWER PUSHBUTTON LIGHTING CONTROL nLIGHT MODEL - nPODM-DX-WH
2	CEILING MOUNT 360 DEGREE DUAL TECHNOLOGY OCCUPANCY SENSOR - nLIGHT MODEL - nCM-PDT-9-RJB
3	0-10VDC DIMMING RELAY POWER PACK nLIGHT MODEL - nPP16-D
4	120/208V/3PHASE/4W BRANCH CIRCUIT PANEL
5	CONTROLLED LED LUMINAIRE C/W 0-10VDC DIM TO BLACK/OFF DIMMING DRIVER
6	NETWORK CONNECTION - CAT5 CABLE

LIGHTING CONTROL DESCRIPTION

- MANUAL DIMMING ON/OFF CONTROL C/W VACANCY OCCUPANCY SENSOR OFF

GENERAL NOTES

- CONFIRM REQUIREMENTS WITH SYSTEM SUPPLIER.
- REFER TO ELECTRICAL LAYOUTS FOR EQUIPMENT QUANTITIES AND LOCATIONS AND CONTROLLED ZONES.
- PROVIDE ALL NECESSARY RELAYS AND POWER PACK CONTROLS AS REQUIRED TO MAKE A COMPLETE SYSTEM.
- COORDINATE BALLAST/DRIVER TYPE AND ENSURE COMPATIBILITY WITH LIGHTING CONTROL SYSTEM REQUIREMENTS.

MULTI-PURPOSE LIGHTING CONTROL SCHEMATIC

APEGM
Certificate of Authorization
Epp Siepman Engineering Inc.
No. 4035

PROVINCE OF MANITOBA
M G PENNER
Member
23792
PROFESSIONAL ENGINEER
2016-03-31

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O 16-03-31 Issued for Construction
revision

OWNER

Winnipeg

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PROJECT
Windsor Park Library

ADDRESS
1201 Archibald Street

DATE
February 28, 2016

SCALE
12" = 1'-0"

power distribution riser diagram

E5.1