

LIGHTING & POWER PLAN  
SCALE 1/4" = 1'-0"

## 1. ELECTRICAL GENERAL REQUIREMENTS

- 1.1 SUPPLY AND INSTALL ALL ITEMS, ARTICLES, MATERIALS, LABOR, EQUIPMENT AND TOOLS NECESSARY TO COMPLETE ALL SYSTEMS AND EQUIPMENT AS SHOWN ON THE DRAWINGS AND AS DESCRIBED IN THIS SPECIFICATION, PROVIDING A COMPLETE AND FULLY OPERATIONAL ELECTRICAL INSTALLATION.
- 1.2 THE DRAWING DOES NOT SHOW ALL ARCHITECTURAL AND STRUCTURAL DETAILS. ANY INFORMATION INVOLVING ACCURATE MEASUREMENT OF THE BUILDING SHALL BE MEASURED ON THE SITE. ANY CHANGES OR ADDITIONS TO ACCOMMODATE THE SITE CONDITIONS SHALL BE MADE WITHOUT CHARGE TO THE OWNER.
- 1.3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION BETWEEN THE MECHANICAL AND ELECTRICAL WORK.
- 1.4 ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL CODES AND AUTHORITIES HAVING JURISDICTION INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
  - \* LATEST EDITION OF THE ONTARIO BUILDING CODE
  - \* ONTARIO ELECTRICAL SAFETY CODE
- 1.5 ALL WORK SHALL BE DONE IN A WORKMAN-LIKE MANNER TO THE SATISFACTION OF THE CONSULTANT. WORK NOT ACCEPTABLE TO THE CONSULTANT SHALL BE REMOVED AND REPLACED WITH SPECIFIED PRODUCTS AT NO COST TO THE OWNER.
- 1.6 WHERE FIRE RATED WALLS, FLOORS, ROOF OR PARTITIONS ARE PIERCED TO ACCOMMODATE CONDUITS, WIREWAYS, RACEWAYS, CABLES, ETC., PROVIDE ALL NECESSARY SEALS, FITTINGS, BARRIERS AND FIRE STOP MATERIALS AND ASSEMBLIES, TO RESTORE THE INSTALLATION TO ITS ORIGINAL OR INTENDED FIRE RATING, TO THE SATISFACTION OF THE GOVERNING AUTHORITIES HAVING JURISDICTION.
- 1.7 THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER ABOUT ANY DEVIATION FROM THE ORIGINAL DESIGN.
2. WIRE
  - 2.1 ALL WIRING SHALL BE CONCEALED (I.E.) RECESSED BEHIND FINISHED SURFACES IN ALL FINISHED AREAS.
  - 2.2 ALL WIRE AND CABLE SHALL BE SIZED AND INSTALLED IN ACCORDANCE THE CODE REQUIREMENTS. NO WIRE SMALLER THAN NO. 14 AWG SHALL BE USED. ALL CONDUCTORS SHALL BE SOLID COPPER.
  - 2.3 BX CABLE SHALL BE USED FOR ALL BRANCH CIRCUIT WIRING.
3. LIGHTS SPECIFICATION
  - 3.1 ALL RECESSED LIGHTING FIXTURES SHALL BE THERMALLY PROTECTED IN ACCORDANCE WITH CODE.
  - 3.2 FIXTURE AND EQUIPMENT LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. CONTRACTOR TO VERIFY SITE CONDITION PRIOR TO INSTALLATION AND REPORT DISCREPANCIES TO ENGINEER. COORDINATE WORK WITH OTHER TRADES.
  - 3.3 SUPPLY AND INSTALL NEW CSA APPROVED AND ULC LISTED ELECTRICAL EQUIPMENT, SYSTEMS AND ASSOCIATED WIRING AS INDICATED.

## ELECTRICAL LEGEND

§	15A, 120V SINGLE POLE LIGHT SWITCH (QUANTITY =12), 41" AFF
§o	WALL MOUNTED OCCUPANCY SENSOR, SENSOR SWITCH, WSX PDT, 41" AFF
§ PL	15A, 120V PILOT LIGHT SWITCH LOCATE NEAR HOT WATER TANK TO CONTROL UNDERFLOOR HEAT TRACE RECEPTACLE, (QTY = 2 ), 41" AFF.
□	TIMER SWITCH, INTERMATIC E1600WC, DECORA, PROGRAMMABLE, ASTONOMIC FEATURE, 41" AFF.
△	TYPE A - 2'x4' LED LIGHT FIXTURE RECESSED INTO SUSPENDED CEILING, PHILIPS DAY-BRITE, 2FG FLUXGRID G 428 840 4 D UNV DIM., 33.9W 4000K LED (QUANTITY =80)
□	LED EXTERIOR LIGHT FIXTURE (QUANTITY =4)
⊕	120V, 15A DUPLEX RECEPTACLE 16" A.F.F. TO TOP, (QUANTITY =32)
⊕ C	120V, 15A DUPLEX CLOK RECEPTACLE 84" A.F.F. TO TOP, (QUANTITY =4)
⊕ GFI	120V, 15A GFI RECEPTACLE 16" A.F.F. TO TOP, (QUANTITY =2)
⊕ HT	120V, 15A HT RECEPTACLE LOCATED IN CRAWL SPACE, HEAT TRACE TO BE SUPPLIED AND INSTALLED BY OTHERS, (QUANTITY =2)
EP-1	EP-1 400A 120/208V/3Ø 4 WIRE ELECTRICAL PANEL C/W 400A MAIN BREAKER, (QUANTITY =1). SEE PANEL SCHEDULE.
EP-2	EP-2 100A 120/208V/3Ø 4 WIRE ELECTRICAL PANEL C/W 100A MAIN BREAKER EP-2 TO BE CONNECTED TO MAIN DISTRIBUTION PANEL EP-1 (QUANTITY =4), 190 IN 1.5" EMT. SEE PANEL SCHEDULE.
□	EMPTY J.BOX FOR MANUAL PULL STATION AT 47" A.F.F. TO TOP C/W EMPTY CONDUIT 1/2" Ø STUBBED INTO CEILING SPACE C/W BLANK COVER, (QUANTITY =4)
□	EMPTY J.BOX FOR FIRE ALARM BELL AT 90" A.F.F. TO TOP AND MIN 6" BELOW CLG C/W EMPTY CONDUIT 1/2" Ø STUBBED INTO CEILING SPACE C/W BLANK COVER, (QUANTITY =4)
▽	EMPTY J.BOX FOR DATA/VOICE, 16" A.F.F. TO TOP C/W EMPTY CONDUIT 1/2" Ø STUBBED INTO CEILING SPACE C/W BLANK COVER, (QUANTITY =4)
▽	OCCUPANT SENSOR FOR LIGHTING CONTROL, WATTSTOPPER, DT-200 C/W BZ-150 POWER PACK, (QUANTITY =4)
□	BASEBOARD HEATER C/W UNIT MOUNTED THERMOSTAT, (QUANTITY =8)
□	BASEBOARD HEATER C/W UNIT MOUNTED THERMOSTAT, (QUANTITY =4)
⚡	DIRECT EQUIPMENT CONNECTION 208V, 2 POLE.

1. ALL ELECTRICAL SPLIT WORK ON SITE IS BY OTHERS. NRB TO PROVIDE NECESSARY JUNCTION BOXES ON EACH SIDE OF SPLIT.

PANEL 'EP-1' SCHEDULE											
NO.	WATTS	A	P	LOAD DESCRIPTION	#	LOAD DESCRIPTION	P	A	WATTS	NO.	
1		100			A		100		2		
3	19200	100	3	PANEL CLASSROOM 1	B	PANEL CLASSROOM 3	3	100	19200	4	
5		100			C		100		6		
7		100			A		100		8		
9	19200	100	3	PANEL CLASSROOM 2	B	PANEL CLASSROOM 4	3	100	19200	10	
11		100			C		100		12		
13	100	15	1	EXTERIOR LIGHTING	A				14		
15					B				16		
17					C				18		
19					A	SPARE	1	15	---	20	
21					B	SPARE	1	15	---	22	
23					C	SPARE	1	15	---	24	
TOTAL LOAD											
76.9KW CLASSROOM 1 400A 208/120 3/4 PANELBOARD SURFACE 400A-3P											

PANEL 'EP-2' SCHEDULE											
NO.	WATTS	A	P	LOAD DESCRIPTION	#	LOAD DESCRIPTION	P	A	WATTS	NO.	
1	500	15	1	RECEPT CLASSROOM	A	ELECTRIC BASEBOARD HEATERS	2	20	3000	2	
3	500	15	1	RECEPT CLASSROOM	B			20		4	
5	700	15	1	LIGHTING AND FAN	C	ELECTRIC BASEBOARD HEATERS	2	20	2500	6	
7					A			20		8	
9					B	UNIT VENTILATOR	2	80	12000	10	
11					C			80		12	
13					A					14	
15					B					16	
17					C	WATER HEATER	*2	1	30	2000	18
19					A	RECEPT HEAT TRACE	*1, *2	1	15	400	20
21					B	SPARE	1	15	---	22	
23					C	SPARE	1	15	---	24	
TOTAL LOAD											
19.2KW TYPICAL CLASSROOM 100A 208/120 3/4 LOAD CENTRE FLUSH 100A-3P											

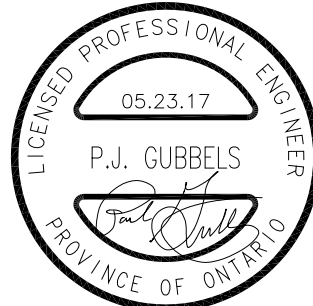
\* NOTES:  
1. BREAKER SHALL BE GFD WITH 30mA TRIP.  
2. BREAKER REQUIRES IN CLASSROOMS 1 AND 4 ONLY.

THIS ENGINEERING SEAL INDICATES GENERAL COMPLIANCE WITH CURRENT CODE REQUIREMENTS FOR THE ELECTRICAL SYSTEMS INDICATED ON THE DRAWINGS. THE DRAWINGS ARE SCHEMATIC IN NATURE, AND MAY NOT CONTAIN ALL DETAILS NECESSARY FOR A COMPLETE INSTALLATION. THE DRAWINGS ARE INTENDED TO BE USED BY CONSTRUCTION PROFESSIONALS FAMILIAR WITH CURRENT CODES AND GOOD BUILDING PRACTICE. THE DRAWINGS ARE FOR THE EXCLUSIVE USE BY N.R.B. MNE ASSUMES NO RESPONSIBILITY FOR ANY UNAUTHORIZED USE.

THE FOLLOWING DESIGN ASPECTS ARE NOT INCLUDED WITHIN THIS PROJECTS SCOPE OF WORK:

- ELECTRICAL SITE SERVICING.

MNE ASSUMES NO RESPONSIBILITY FOR THE DESIGN ASPECTS OUTSIDE OF THE SCOPE OF WORK, NOR OUTSIDE THE ELECTRICAL DISCIPLINE.



**MNE**  
ENGINEERING

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No.	DATE	REVISIONS
1	05.23.17	ISSUED FOR BUILDING PERMIT

DATE	DRAWING STATUS
5-18-17	ISSUED FOR CUST. APPROVAL



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DRAWN BY	PROJECT COORDINATOR	DATE
N.R.B.	P.J.G.	05-17-17

PROJECT  
**CONSEIL SCOLAIRE PUBLIC DE NORD-EST DE L'ONTARIO**  
HEARST, ON

## LIGHTING AND POWER PLAN

PROJECT #	176014
MNE PROJECT #	17010-32
DRAWING #	E1