

### ELECTRICAL SPECIFICATIONS

**A: GENERAL PROVISIONS**

1. THE WORK SHALL CONSIST OF FURNISHING LABOR, EQUIPMENT, AND MATERIALS TO PROVIDE THE COMPLETE INTEGRATED AND PROPER FUNCTIONING SYSTEMS AS SHOWN ON THE DRAWINGS.
2. ALL WORK SHALL BE DONE IN CONFORMANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS AND ORDINANCES.
3. ALL EQUIPMENT AND MATERIALS SHALL BE NEW OR EXISTING IN CONFORMANCE WITH APPLICABLE PROVISIONS OF NEMA, ANSI, UL, ETC...
4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER TRADES SO AS TO AVOID INTERFERENCES.
5. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL LAYOUT OF ELECTRICAL SYSTEMS. FIELD VERIFICATIONS OF DIMENSIONS IS DIRECTED.
6. SECURE PERMITS AND INSPECTIONS REQUIRED BY STATE AND LOCAL LAWS AND ORDINANCES.
7. UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER CERTIFICATES OF FINAL INSPECTIONS AND APPROVALS FROM AUTHORITIES HAVING JURISDICTION.
8. ALL WORKS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
9. CIRCUITS ON THE PLANS ARE TO DETERMINE LOAD AND PANEL SIZE. THE CONTRACTOR SHALL PROVIDE CIRCUITS AND ROUTING TO SUIT JOB CONDITIONS, AND BALANCE THE CONNECTED LOAD.
10. FURNISH AND INSTALL LIGHTING FIXTURES AND LAMPS AS CALLED FOR ON THESE PLANS. FIXTURES SHALL NOT BE SUPPORTED BY THE CEILING GRID BUT BY GUY WIRES FROM ABOVE.
11. CHECK EQUIPMENT FOR PROPER VOLTAGE, PHASE, AND AMP RATING BEFORE CONNECTION TO CIRCUITS.
12. THE ELECTRICAL SYSTEM SHALL BE COMPLETELY AND EFFECTIVELY GROUNDED AS REQUIRED IN ARTICLE 250 OF THE NEC. ALL RACEWAYS TO HAVE EQUIPMENT GROUND CONDUCTOR, AND WHEN CROSSING BUILDING EXPANSION JOINTS, EXPANSION FITTING WITH BONDING JUMPERS SHALL BE USED.

**B: RACEWAYS**

1. ALL WIRING SHALL BE INSTALLED IN APPROVED RACEWAYS. HOSPITAL GRADE ARMORED CABLE PROVIDING REDUNDANT GROUND IS ALLOWED.
2. MINIMUM CONDUIT SIZE SHALL BE 1/2" TRADE SIZE.
3. USE FLEXIBLE CONDUIT FOR SHORT FINAL CONNECTIONS TO VIBRATION EQUIPMENT SUCH AS MOTORS AND TRANSFORMERS. LIQUID-TIGHT FLEXIBLE CONDUIT SHALL BE USED IN DAMP AND WET LOCATIONS.
4. EXPOSED CONDUIT SHALL BE RUN PARALLEL TO BUILDING LINES.
5. DO NOT INSTALL CONDUITS LARGER THAN 1/3 THE SLAB THICKNESS IN CONCRETE SLABS.
6. PROVIDE APPROVED FIRE STOPPING MATERIALS AT ALL PENETRATIONS THROUGH FIRE RATED FLOOR AND WALLS TO PREVENT THE PASSAGE OF SMOKE, FIRE, TOXIC GAS OR WATER THROUGH THE PENETRATION EITHER BEFORE, DURING OR AFTER A FIRE, AS REQUIRED BY ARTICLE 300-21 OF THE N.E.C.
7. PROVIDE CABLE SUPPORTS IN ACCORDANCE WITH ARTICLE 300 OF THE N.E.C.
8. PROVIDE EXPANSION FITTINGS IN CONDUIT RUNS CROSSING STRUCTURAL EXPANSION JOINTS.
9. PANEL BOARDS SHALL BE CIRCUIT BREAKER TYPE. VERIFY NUMBER AND SIZES OF BREAKERS.

**C: CONDUCTORS**

1. ALL WIRING SHALL BE COPPER.
2. CONDUCTORS SHALL BE RATED 600V, WITH TYPE THIN INSULATION.
3. WIRES SIZES #10 AWG AND SMALLER SHALL BE SOLID CONDUCTOR WITH TYPE THIN INSULATION. WIRES SIZES #8 AND LARGER SHALL BE STRANDED WITH TYPE THIN INSULATION. CONTRACTOR TO USE HIS BEST DISCRETION IN THE INSTALLATION, LOCAL CODES SUPERSEDE.
4. MINIMUM CONDUCTOR SIZE SHALL BE #12. CONTROL WIRING MAY BE SMALLER.

**D: LIGHTING PANELS**

1. PROVIDE LIGHTING AND RECEPTACLE PANEL AS INDICATED ON THE PLANS AND AS SPECIFIED HEREIN. ALL PANELS SHALL BE DEAD FRONT, BOLT-ON CIRCUIT BREAKERS TYPE, PANELBOARDS AND SHALL BEAR THE U.L. LABEL AS WELL AS MEET ALL APPLICABLE NEMA REQUIREMENTS.
2. UNLESS OTHERWISE NOTED, TOP OF PANELS SHALL BE MOUNTED AT 4" A.F.F. TO TOP.
3. ALL PANELS SHALL HAVE TYPEWRITTEN CIRCUIT DIRECTORIES MOUNTED INSIDE OF DOOR.
4. PANELS SHALL BE SUITABLE FOR THE SERVICE RATING AND THE A.I.C. RATING INDICATED ON THE PANELS SCHEDULES.
5. ALL BREAKERS SHALL BE FULL SPACE, INDIVIDUAL FRAME TYPE. NO "PIGGY-BACK" OR TANDEM BREAKERS WILL BE PERMITTED.

**E: SAFETY SWITCHES**

1. ALL NEW SAFETY SWITCHES SHALL BE HEAVY DUTY TYPE "HD", FUSIBLE OR NON-FUSIBLE WITH POLES, AMPERE AND SERVICE RATINGS AS INDICATED ON THE PLANS. LUGS SHALL BE U.L. LISTED FOR CU-AL.
2. ENCLOSURES FOR SAFETY SWITCHES SHALL BE NEMA 1, EXCEPT FOR SWITCHES MARKED "WP" (WEATHERPROOF) SHALL BE NEMA 3R.

**F: FUSES**

1. ALL NEW FUSES SHALL HAVE A 200,000 AMP RMS SYMMETRICAL INTERRUPTING RATING UNLESS OTHERWISE NOTED. LOWER RATINGS MAY BE USED ONLY UPON POWER COMPANY ISSUING A LETTER WITH FAULT CURRENT ANALYSIS JUSTIFYING LOWER RATING. A COPY OF A LETTER MUST BE FORWARDED TO THE ARCHITECT OF RECORD.
2. NEW FUSES RATED 0 TO 600 AMPS SHALL BE AS FOLLOW:
  - a) CIRCUIT BREAKER PANEL PROTECTION - U.L. CLASS RK-1, DUAL ELEMENT (BUSSMANN "LOW PEAK" OR EQUAL)
  - b) MOTOR CIRCUIT PROTECTION - U.L. CLASS RK-5, DUAL ELEMENT (BUSSMANN "FUSETRON" OR EQUAL)
3. NEW FUSES RATED 601 AMPS OR LARGER SHALL BE U.L. CLASS L TIME DELAY (BUSSMANN "TI-CAP" OR EQUAL).

### LEGEND

- 4FT SUSPENDED FLUORESCENT FIXTURE
- 4FT SUSPENDED FLUORESCENT FIXTURE WITH EMERG. BATTERY BACKUP
- 2X4 FLUORESCENT OR LED FIXTURE
- 2X4 FLUORESCENT OR LED FIXTURE WITH EMERG. BATTERY BACKUP
- 2X2 FLUORESCENT FIXTURE
- 2X2 FLUORESCENT FIXTURE WITH EMERG. BATTERY BACKUP
- HI-HAT FIXTURE
- WALL MOUNTED FIXTURE
- 2'X2' AIR SUPPLY
- 2'X2' AIR RETURN
- EXHAUST FAN OR REGISTER
- OTHER AIR SUPPLY
- OTHER AIR RETURN OR EXHAUST
- EXIT SIGN WITH EMERGENCY BACKUP
- FAN MOTOR
- SWITCH
- THREE WAY SWITCH
- THREE WAY DIMMER SWITCH
- DIMMER SWITCH
- TIMER SWITCH (30 MIN. MAX.)

### GENERAL NOTES:

1. INCLUDE ALL ELECTRICAL AND MOUNTING ACCESSORIES, CONNECTORS, ETC.
2. ARCHITECT TO VERIFY TRIM FINISH
3. PROVIDE LIGHTING SUBMITTAL WITHIN 7 CALENDAR DAYS FROM CONTRACT DATE.
4. DIMENSIONS ARE NOMINAL. CONTRACTOR TO VERIFY EXACT SIZE PRIOR TO FABRICATION.
5. PROVIDE ALL LIGHTING FIXTURES AS SPECIFIED. SUBSTITUTIONS WILL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL FROM THE OWNER AND ARCHITECT.

### OCCUPANCY SENSOR SCHEDULE

- OCCUPANCY SENSOR INTEGRATED W/SWITCH SET TO 30 MIN. MAX. SENSORSWITCH WSD PDT MULTI-TECHNOLOGY
- ACUITY CONTROLS SENSOR SWITCH CM PDT 10 R
- ACUITY CONTROLS SENSOR SWITCH CM PDT 10 R ADC (AUTODIMMER)
- ACUITY CONTROLS SENSOR SWITCH CM ADC (AUTODIMMER)

CONTRACTOR TO PROVIDE LOW VOLTAGE DIMMING SYSTEMS W/ POWER PACK CABLING & 0-10V DIMMERS - COMPLETE SYSTEM.

### LIGHTING WATTAGE PER ROOM

RM NAME#	AREA (SQ.FT)	PROVIDED WATTS	MAX. ALLOW. WATTS/ WATTS PER SQ.FT
PARTITION OFFICE (101)	1,183	1074	1,301/1.1
CONFERENCE RM. (102)	312	414	343/1.1
OFFICE (103)	155	138	171/1.1
OFFICE (104)	155	138	171/1.1
OFFICE (105)	155	138	171/1.1
OFFICE (106)	155	138	171/1.1
OFFICE (107)	108	138	119/1.1
OFFICE (108)	106	138	117/1.1

ALL LIGHTING CIRCUITS CONTAINING EMERGENCY & EXIT LIGHTS SHALL HAVE BREAKER LOCKS

EMERGENCY LIGHTS & EXIST. SIGNS SHALL HAVE 90 MIN. BATTERY BACKUP.

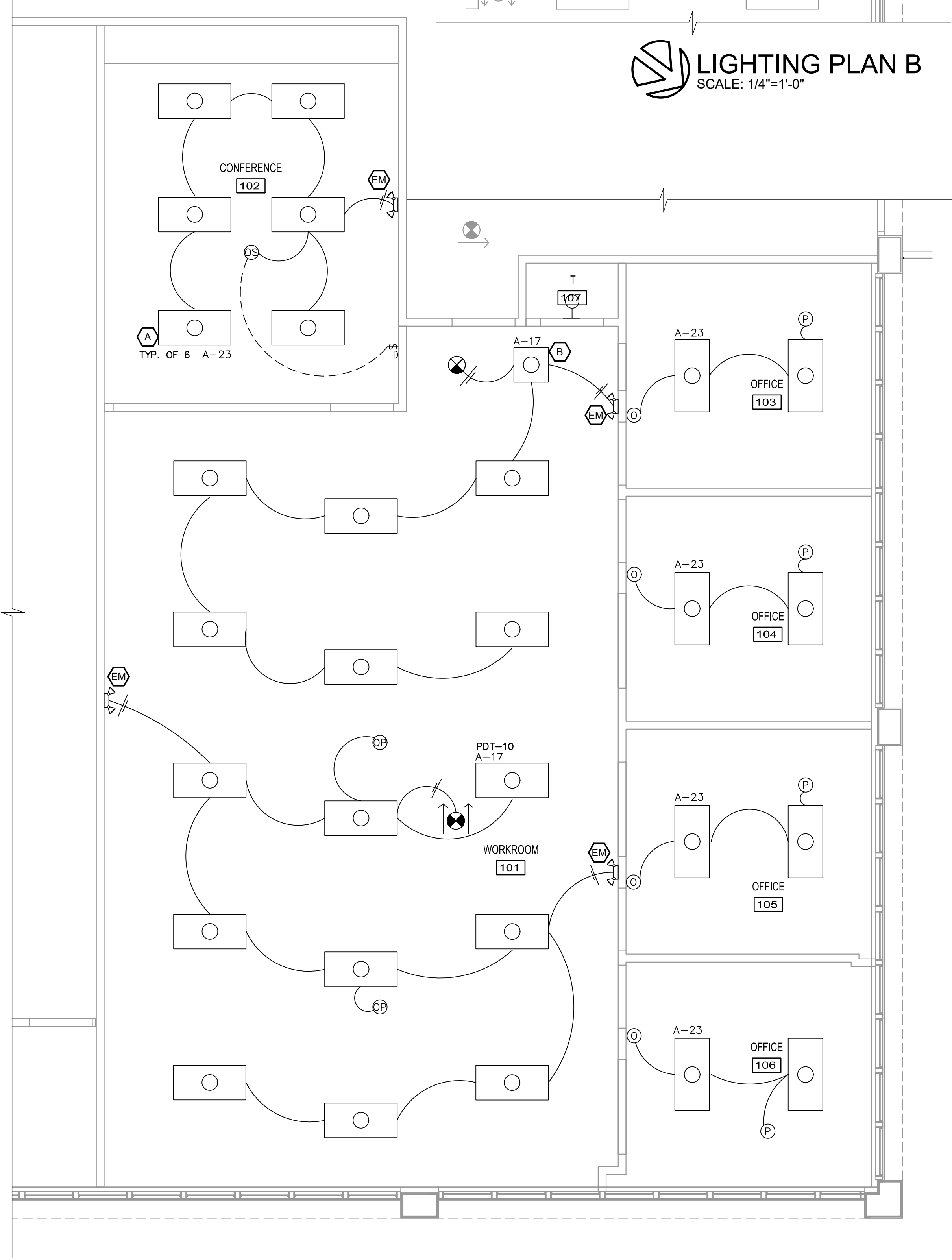
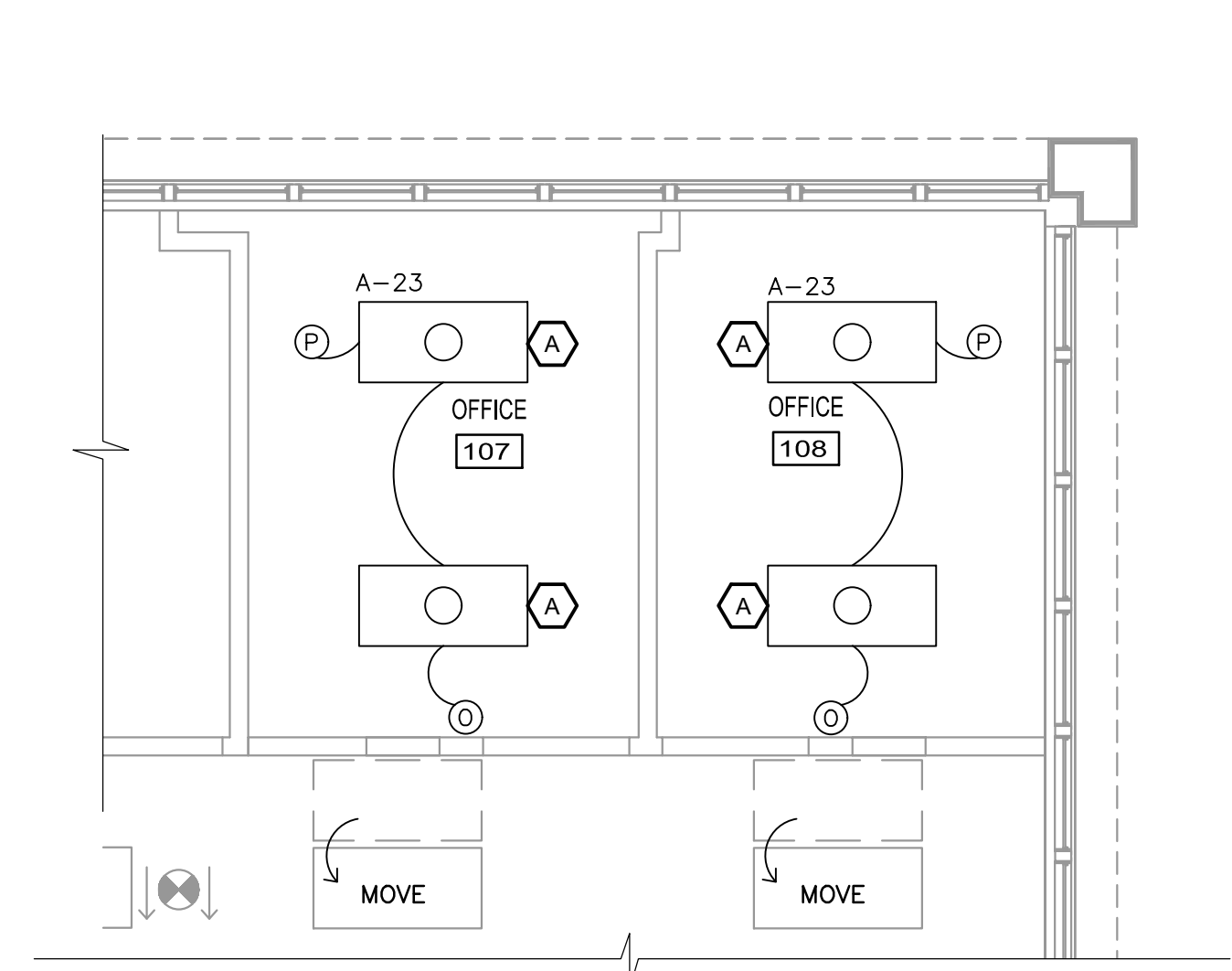
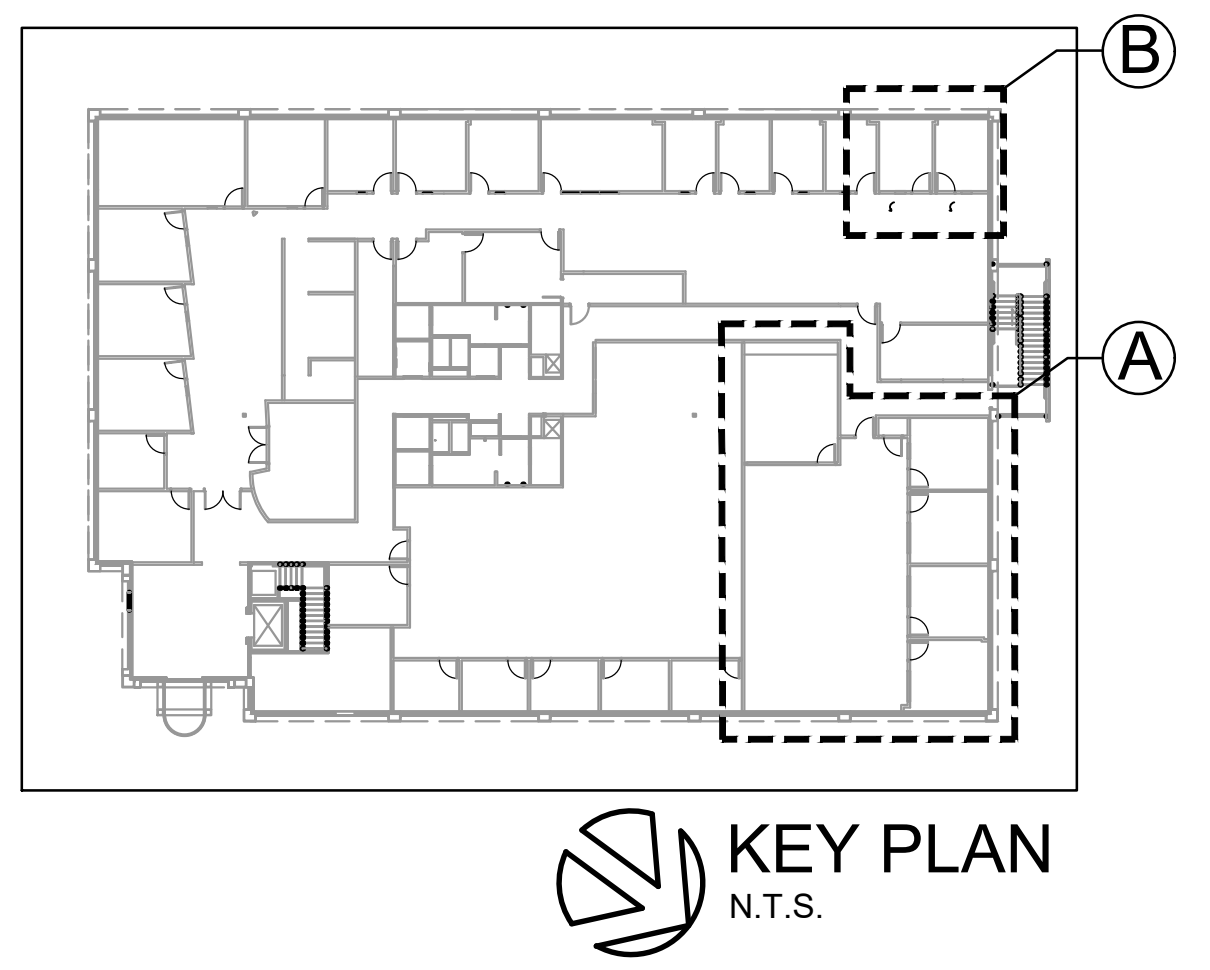
LOCATION OF ALL ELECTRICAL BOXES MUST BE CONFIRMED WITH CLIENT & ARCHITECT PRIOR TO WIRING. MOUNT BOXES & CALL FOR WALL-THRU - NO EXCEPTION.

### LIGHTING FIXTURE SCHEDULE

SYMBOL	TYPE	MOUNT	LAMP	VOLT	MANUFACTURER	CATALOG	REMARKS
	2X4 LAY IN LED	GRID	LED 69W	MVOLT	LITHONIA	2GTL4-70L-MVOLT EZ1-LP840	①
	2X2 LAY IN LED	GRID	LED 39	MVOLT	LITHONIA	2GTL2-40L-MVOLT EZ1-LP840	①
	EMERGENCY LIGHT	SURFACE	1.44W LED		LITHONIA	ELM2-1/2-EL	① ②
	EXIT LIGHT	SURFACE	3.8W LED		DUAL LITE	EDGR-1-R-EL	① ② SINGLE FACE
	EXIT LIGHT	SURFACE	3.8W LED		DUAL LITE	ELX-618-G-AL-2-CL	① ② DOUBLE FACE
	EMERGENCY LIGHTING	SURFACE	BY MFR.		MAXILUME	ELM-809-W	

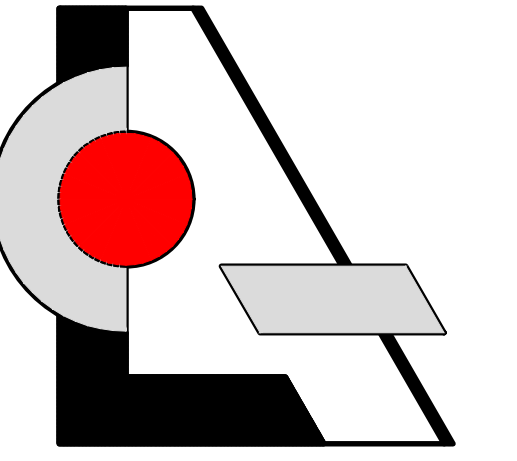
ALL LIGHT COLOR TEMPERATURE 4000K - 4100K \* INDICATES GENERAL NOTE

① 90 MINUTE BACK-UP



NOTE: PROVIDE ALL REQUIRED LOW VOLTAGE DIMMERS, DIMMING CONTROL PACKS & WIRING REQUIRED TO OPERATE MANUAL & AUTOMATIC DIMMING SHOWN IN THIS PLAN

**LIGHTING PLAN A**  
SCALE: 1/4"=1'-0"



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REVISIONS / DATE

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LES LAW A. CZACZYK AIA  
AR 00015391

PROJ. NO. 16180.well  
DESIGNED BY LAC  
DRAWN BY MSB  
DATE 07/25/16  
SCALE AS SHOWN

**LIGHTING PLAN  
RISERS  
NOTES**