

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	SHEET KEYNOTE
	REVISION NUMBER
LINETYPES	
	NEW WORK
	WORK TO BE DEMOLISHED, OR REMOVED
	EXISTING MATERIAL/EQUIPMENT/SERVICES TO REMAIN
	FUTURE WORK (NOT IN SCOPE)
	EXTENTS OF FIRE ALARM ZONE, WET LOCATION, OR OTHER AREA AS NOTED ON PLANS
ABBREVIATIONS	
E	EXISTING TO REMAIN UNLESS OTHERWISE NOTED
R	EXISTING TO BE DEMOLISHED/REMOVED
ER	EXISTING TO BE RELOCATED
RE/RE	REUSE/REINSTALL
RL	EXISTING AT NEW LOCATION
C	CEILING MOUNTED CONNECTION
W	WALL MOUNTED CONNECTION
F	FLOOR MOUNTED CONNECTION
ℓ	CENTRE LINE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
O/C	OVER COUNTER
U/C	UNDER CABINET
U/F	UNDER RAISED FLOOR
CCT	CIRCUIT
CTE	CONNECT TO EXISTING
AFCI	ARC FAULT CIRCUIT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFI	GROUND FAULT INTERRUPTER
IG	ISOLATED GROUND
TL	TWIST LOCK
TR	TAMPER RESISTANT
WG	WIRE GUARD
WP	WEATHER PROOF
XP	EXPLOSION PROOF
RI	ROUGH-IN ONLY
NIC	NOT IN CONTRACT
SM.	SIMILAR TO
TYP.	TYPICAL
CW	COMPLETE WITH
DO	DOOR OPERATOR
HK	HOUSE KEEPING
GND	BONDING CONDUCTOR
ABBREVIATIONS - CODES AND STANDARDS	
OBC	ONTARIO BUILDING CODE
OESC	ONTARIO ELECTRICAL SAFETY CODE
OFC	ONTARIO FIRE CODE
ABBREVIATIONS - CEILING TYPES	
ACT	ACOUSTIC CEILING TILE (T-BAR)
EXP	EXPOSED CEILING
OWSJ	OPEN WEB STEEL JOISTS
PCC	PAINTED OR POPCORN CEILING ON EXPOSED CONCRETE
WD	WOOD CEILING
ANNOTATIONS	
CL	CLOSET
WR	WASHROOM
PLUMBING	
ETP	ELECTRONIC TRAP PRIMER
PSC	PLUMBING SENSOR CONTROL (TOUCHLESS FAUCETS)
WC	WATER CLOSET
HT	HEAT TRACING CABLE SYSTEM
HVAC	
	THERMOSTAT OR TEMPERATURE SENSOR
	TIMER CONTROL
BBH	ELECTRIC BASEBOARD HEATER (BBH)
FFH	FORCED FLOW HEATER
ERV	ENERGY RECOVERY VENTILATOR
HRU	HEAT RECOVERY UNIT
MUA	MAKE-UP AIR UNIT
CONDUIT AND BOXES	
	CONDUIT WITH END BUSHING
	CONDUIT UP
	CONDUIT DOWN
	CONDUIT CONTINUES
	JUNCTION BOX
	PULL BOX
	HAND HOLE
CONNECTIONS TO EQUIPMENT	
DW	DISHWASHER
FR	FRIDGE
MW	MICROWAVE
HD	HAND DRYER, ALLOW UP TO 208V-1PH-20A
	1-PHASE DIRECT CONNECTION OUTLET AS NOTED. INCLUDE FINAL CONNECTION TO EQUIPMENT.
	3-PHASE DIRECT CONNECTION OUTLET AS NOTED. INCLUDE FINAL CONNECTION TO EQUIPMENT.
THIS LEGEND IS GENERIC. ALL SYMBOLS LISTED MAY NOT BE APPLICABLE FOR THIS PROJECT. REFER TO FLOOR PLANS TO DETERMINE USED DEVICES AND EQUIPMENT.	

ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	SYSTEM FURNITURE WALL FEED FOR POWER AND TELECOMMUNICATIONS UNLESS NOTED OTHERWISE. 'C' ADJACENT TO SYMBOL DENOTES CEILING FEED, 'F' ADJACENT TO SYMBOL DENOTES FLOOR FEED.
W	ADJACENT TO 3-PHASE DIRECT CONNECTION, DENOTES WALL SYSTEM FURNITURE FEED FOR POWER AND COMMUNICATIONS.
	CONNECTION TO SINGLE PHASE MOTOR, HP (KW) AS NOTED. PROVIDE LOCAL DISCONNECT.
	THREE PHASE MOTOR, HP (KW) AS NOTED. PROVIDE LOCAL DISCONNECT.
LIGHTING CONTROLS	
REFER TO SPECIFICATIONS AND RESPECTIVE SCHEDULES FOR EXACT REQUIREMENTS	
	SWITCH OR OTHER USER INTERFACE DEVICE AS DESCRIBED ON LIGHTING CONTROLS SCHEDULE.
	3-WAY SWITCH
DIM	ADJACENT TO SWITCH, DENOTES DIMMING SWITCH.
K	ADJACENT TO SWITCH, DENOTES KEY SWITCH.
T	ADJACENT TO SWITCH, DENOTES COUNTDOWN TIMER SWITCH
AT	ADJACENT TO SWITCH, DENOTES ASTRONOMICAL TIMER SWITCH
DS	ADJACENT TO SWITCH, DENOTES DOOR SWITCH
PIR	PASSIVE INFRARED SENSOR
DT	DUAL TECHNOLOGY SENSOR
UT	ULTRASONIC SENSOR
OS	SENSOR (TYPE UNKNOWN)
M	ADJACENT TO SWITCH, DENOTES MASTER CONTROL FOR ALL LUMINAIRES IN A ROOM OR SPACE, OR AS NOTED.
	WALL MOUNTED SWITCH/OCCUPANCY SENSOR. 'PIR' DENOTES 'PASSIVE INFRARED', 'DT' DENOTES 'DUAL PASSIVE INFRARED/ULTRASONIC', 'LINE VOLTAGE TO SUIT CONTROL LED CIRCUIT', OR AS NOTED.
RP	RELAY PANEL
PP	POWER PACK
SC	SCENE CONTROLLER.
	PHOTOCELL SENSOR.
	PHOTOCELL SENSOR. 'PC' DENOTES CLOSED LOOP PHOTOCELL CONTROL, 'PO' DENOTES OPEN LOOP PHOTOCELL CONTROL.
	CEILING MOUNTED OCCUPANCY SENSOR. 'PIR' DENOTES 'PASSIVE INFRARED', 'UT' DENOTES 'ULTRASONIC' (OR MICROPHONIC), 'DT' DENOTES 'DUAL TECHNOLOGY', 'OS' DENOTES UNKNOWN TECHNOLOGY.
	WALL MOUNTED OCCUPANCY SENSOR.
DISTRIBUTION EQUIPMENT	
	TRANSFORMER, PANEL VIEW
	SURFACE MOUNTED LIGHTING AND RECEPTACLE PANELBOARD
	RECESSED RECEPTACLE AND LIGHTING PANELBOARD
	DISTRIBUTION PANELBOARD
	DISCONNECT SWITCH
	CONTACTOR
	LOOSE STARTER, COORDINATE STARTING CHARACTERISTIC WITH EQUIPMENT REQUIREMENTS.
	COMBINATION STARTER.
VFD	ADJACENT TO STARTER, DENOTES VARIABLE FREQUENCY DRIVE
POWER RECEPTACLES AND BOXES	
	120V U-GROUND DUPLEX RECEPTACLE.
	120V U-GROUND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
	120V U-GROUND 20A DUPLEX RECEPTACLE.
	120V U-GROUND 20A DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
	120V U-GROUND DUPLEX RECEPTACLE - AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
	120V U-GROUND 20A DUPLEX RECEPTACLE - AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
	120V U-GROUND DUPLEX RECEPTACLE - HALF OF RECEPTACLE AUTOMATICALLY CONTROLLED (ASHRAE 90.1-2013, 8.4.2).
	MANUALLY CONTROLLED SPLIT RECEPTACLE
	120V U-GROUND QUAD RECEPTACLE.
	120V U-GROUND DUPLEX RECEPTACLE C/W ONE TYPE A AND ONE TYPE C USB CHARGING PORTS.
	120V U-GROUND DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER TOP C/W ONE TYPE A AND ONE TYPE C USB CHARGING PORTS.
	14-30R RECEPTACLE FOR LAUNDRY DRYER, OR OTHER RECEPTACLE AS NOTED
	14-50R RECEPTACLE FOR ELECTRONIC RANGE, OR OTHER RECEPTACLE AS NOTED. PROVIDE 40A/2P BREAKER TO SUIT.
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	SPECIAL RECEPTACLE. VERIFY OUTLET REQUIREMENTS PRIOR TO TOUGH-IN.
	SPECIAL RECEPTACLE. VERIFY OUTLET REQUIREMENTS PRIOR TO TOUGH-IN. FLOOR RECEPTACLE OR RECEPTACLE IN FLOOR BOX (POWER ONLY)
	SERVICE POLE. PROVIDE POWER TO JUNCTION BOX IN CEILING SPACE ABOVE. DEVICES ON POLE AS NOTED ON PLANS.
FB1	ADJACENT TO FLOOR RECEPTACLE, DENOTES FLOOR BOX TYPE
*	ADJACENT TO DEVICE, DENOTES DEVICE CONNECTED TO EMERGENCY POWER
SYMBOLS IN ACCORDANCE WITH IES DG-3-00 AND IES HB-10-11 WHERE NOT DETAILED OTHERWISE HERE. REFER TO LIGHTING SCHEDULE FOR FURTHER DETAILS AND EXACT FIXTURE REQUIREMENTS.	
	LINEAR LUMINAIRE, SURFACE MOUNTED TO CEILING
	LINEAR LUMINAIRE, RECESSED IN CEILING
	LINEAR LUMINAIRE, SUSPENDED, PENDANT, CHAIN, STEM, OR AIRRAFT CABLE HUNG TO SUIT APPLICATION, OR AS NOTED IN SCHEDULE. "X", WHEN USED DENOTES POWER FEED LOCATION.
	LINEAR LUMINAIRE, WALL MOUNTED
	AS ABOVE, CONNECTED TO EMERGENCY OR NIGHT LIGHTING CIRCUIT AS INDICATED.
	ROUND OR SQUARE DOWNLIGHT, RECESSED
	RECESSED DOWNLIGHTS, CONNECTED TO EMERGENCY OR NIGHT LIGHT CIRCUIT
	ROUND SUSPENDED LUMINAIRE
	WALL SCONCE OR OTHER WALL MOUNTED LUMINAIRES.
EM	CONNECTED TO EMERGENCY NIGHT LIGHT CIRCUIT (24 HOUR)
CE	CONNECTED TO EMERGENCY CIRCUIT. PROVIDE CUL 924 LISTED SHUNT TRIP RELAY OR EQUAL, TO PERMIT CONTROL OF LUMINAIRE WITH ZONING BASED ON LOCAL LIGHTING CONTROLS.
NL	LUMINAIRE CONNECTED TO NON-EMERGENCY NIGHT LIGHT CIRCUIT (24 HOUR)
A, B, Z1, Z2, ETC.	DENOTES ZONING/CIRCUITING ASSIGNMENTS FOR LUMINAIRES AND CONTROLS IN THE SAME SPACE.
EMERGENCY LIGHTING	
REFER TO EMERGENCY LIGHTING FIXTURE SCHEDULE FOR EXACT FIXTURE REQUIREMENTS.	
	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN. SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS. (1 FACE)
	CEILING OR WALL MOUNTED ILLUMINATED EXIT SIGN. SHADED AREA INDICATES ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS. (2 FACES)
SL	DENOTES 'SELF-LUMINOUS' EXIT SIGN
PL	PHOTOLUMINOUS EXIT SIGN
	EMERGENCY LIGHTING BATTERY UNIT, WITH AND WITHOUT HEADS.
	ONE AND TWO HEAD WALL MOUNTED EMERGENCY LIGHTING REMOTE UNITS.
	ONE AND TWO HEAD CEILING MOUNTED EMERGENCY LIGHTING REMOTE UNITS.
	RECESSED EMERGENCY REMOTE HEAD.
EM	DENOTES 'EMERGENCY'
CCT	CORRELATED COLOUR TEMPERATURE
CRI	COLOUR RENDERING INDEX
TELECOMMUNICATIONS	
	SYSTEM FURNITURE FEED.
W	ADJACENT TO SYSTEM FURNITURE FEED, DENOTES WALL SYSTEM FURNITURE FEED FOR COMMUNICATIONS.
F	ADJACENT TO SYSTEM FURNITURE FEED, DENOTES FLOOR SYSTEM FURNITURE FEED FOR COMMUNICATIONS.
C	ADJACENT TO SYSTEM FURNITURE FEED, DENOTES CEILING SYSTEM FURNITURE FEED FOR COMMUNICATIONS (SERVICE POLE OR DROP CORD AS NOTED).
	CABLE TRAY (LADDER TYPE)
	CABLE TRAY (BASKET TYPE)
	WALL MOUNTED DATA (D) OR VOICE (V) OUTLET. PROVIDE 1V AND 1D UNLESS NOTED OTHERWISE.
	WALL MOUNTED VOICE (TELEPHONE) OUTLET. PROVIDE 1V UNLESS NOTED OTHERWISE.
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	WALL MOUNTED DATA OUTLET. PROVIDE 1D UNLESS NOTED OTHERWISE.
	WALL MOUNTED TELEVISION OUTLET.
	VOICE, DATA, OR TV OUTLET AS DESCRIBED ABOVE, MOUNTED ABOVE COUNTER TOP OR AS INSTRUCTED ON SITE.
B	ADJACENT TO COMMUNICATIONS OUTLET, INDICATES BLANK-OFF PLATE.
	HDMI OUTLET.
	AUDIO VIDEO GANG, AS NOTED.
	WIRELESS ACCESS POINT (WIFI)
	AUDIO VISUAL SYSTEM SPEAKER, CEILING MOUNTED.
	AUDIO VISUAL SYSTEM SPEAKER, WALL MOUNTED.
	PUBLIC ADDRESS SYSTEM SPEAKER, CEILING MOUNTED.
	PUBLIC ADDRESS SYSTEM SPEAKER, WALL MOUNTED.
	PUBLIC ADDRESS SYSTEM HANDSET
	PUBLIC ADDRESS SYSTEM ADMIN CONTROL CONSOLE
	PUBLIC ADDRESS SPEAKER VOLUME CONTROL SWITCH
INTC	INTERCOM
IDC	INSULATION DISPLACEMENT CONNECTION
	CLOCK
	GPS CLOCK SYSTEM MASTER TRANSMITTER
	GPS CLOCK SYSTEM GPS RECEIVER
	GPS CLOCK SYSTEM SETTELITE TRANSMITTER (RECEIVER)
	GPS CLOCK SYSTEM RECEIVER SWITCH
ACCESS CONTROL AND DOOR HARDWARE	
	CARD READER
	DOOR ALARM SOUNDER
	DOOR CONTACT
	OVERHEAD DOOR CONTACT
	ELECTRIC LATCH RETRACTION
	ELECTRIC STRIKE
	ELECTRIC POWER TRANSFER CABLE
	POWER TRANSFER HINGE
	KEY SWITCH
	ELECTROMAGNETIC LOCK
	MOTORIZED LATCH RETRACTION. PROVIDE 120 V.
	MUSHROOM HEAD PUSH BUTTON FOR REQUEST TO EXIT/ MAGLOCK RELEASE, OR OTHER PUSH BUTTON AS INDICATED
	BARRIER FREE DOOR OPERATOR PUSH BUTTON
	TOUCHLESS "WAVE SWITCH" FOR DOOR OPERATOR CONTROL
	DOOR BELL C/W SOUNDER AND STROBE
	DOOR BELL (SOUNDER ONLY)
INTRUSION DETECTION	
	GLASS BREAK (GB)
	MOTION DETECTOR (MD)
	KEYPAD (KP)
	VIDEO SURVEILLANCE
	CCTV CAMERA
C/P	CCTV CAMERA, CEILING OR POLE MOUNTED
	CCTV CAMERA, WALL MOUNTED
PTZ	PAN-TILT-ZOOM
DURESS SYSTEM	
	DURESS BUTTON (MOUNTED ON UNDERSIDE OF TABLETOP)
	WALL MOUNTED DURESS BUTTON WITH POLYCARBONATE ANTI-TAMPER COVER
	DURESS SYSTEM STROBE LIGHT
CACF	CENTRAL ALARM AND CONTROL FACILITY
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FAAG	FIRE ALARM ACTIVE ANNUNCIATOR C/W GRAPHIC
FAPG	FIRE ALARM PASSIVE GRAPHIC
DGP	DATA GATHERING PANEL
FAZ	FIRE ALARM ZONE
FSZ	FIRE ALARM SUPERVISORY ZONE
FDSPCP	FIRE DETECTION, SUPPRESSION, AND PRE-ACTION CONTROL PANEL
FDSCP	FIRE DETECTION AND SUPPRESSION CONTROL PANEL
	FIRE ALARM PANEL (FACP, FAAP, FAMP) AS DENOTED ON PLANS
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	FIRE DETECTION - INITIATION DEVICES
	MANUAL PULL STATION (MPS)
LX	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES PULL STATION C/W POLYCARBONATE (LEXAN) COVER.
WG	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES PULL STATION C/W WIRE GUARD COVER.
A	WHERE NOTED ADJACENT TO MANUAL PULL STATIONS, DENOTES MANUAL PULL STATION C/W AUXILIARY CONTACT
	PHOTOELECTRIC SMOKE DETECTOR
	SAME AS ABOVE, WALL MOUNTED
SA	WHEN ADJACENT TO PHOTOELECTRIC SMOKE DETECTOR, INDICATES RESIDENTIAL SMOKE ALARM
	SAME AS ABOVE, WALL MOUNTED
	RESIDENTIAL SMOKE ALARM, 120 VOLT, COMPLETE WITH STROBE. FOR AREAS AS INDICATED ON PLANS BY "CO", PROVIDE INTEGRAL CARBON MONOXIDE DETECTION.
	SAME AS ABOVE, WALL MOUNTED
	DUCT MOUNTED SMOKE DETECTOR
CO	CARBON MONOXIDE DETECTOR
VESDA	VERY EARLY SMOKE DETECTING APPARATUS
BSDT	BEAM SMOKE DETECTOR TRANSMITTER
BSDR	BEAM SMOKE DETECTOR RECEIVER (OR REFLECTOR)
ASD	ASPIRATING SMOKE DETECTOR
	END OF LINE (EOL) DEVICE ON ZONE INITIATION OR SIGNAL CIRCUITS
	HEAT DETECTOR - FIXED TEMPERATURE
	SAME AS ABOVE, WALL MOUNTED
HT	ADJACENT TO HEAT DETECTOR, DENOTES "HIGH TEMPERATURE"
	HEAT DETECTOR - 94 DEGREES C (200 DEGREES F) FIXED TEMPERATURE
	HEAT DETECTOR - 58 DEGREES C (135 DEGREES F) FIXED TEMPERATURE AND RATE OF RISE
	LINEAR HEAT DETECTION CABLE
	FLOW SWITCH
FIRE DETECTION AND ALARM - SUPERVISORY DEVICES	
	LOW TANK LEVEL
	LOSS OF POWER
	LOW TEMPERATURE
	PRESSURE SWITCH
	SUPERVISED VALVE
	SUPERVISED VALVE
FIRE DETECTION AND ALARM - SIGNALLING DEVICES	
	FIRE ALARM BELL, WALL MOUNTED.
C	ADJACENT TO BELL OR HORN, DENOTES CEILING MOUNTED.
	FIRE ALARM HORN
M	ADJACENT TO FIRE ALARM HORN, DENOTES 'MINI' HORN
	FIRE ALARM HORN/STROBE, WALL MOUNTED.
	FIRE ALARM EVACUATION SPEAKER, CEILING MOUNTED
	FIRE ALARM EVACUATION SPEAKER, COMPLETE WITH STROBE LIGHT, CEILING MOUNTED
	FIRE ALARM EVACUATION SPEAKER COMPLETE WITH STROBE LIGHT, WALL MOUNTED
	SILENCE SWITCH
	FIRE ALARM WALL MOUNTED BELL COMPLETE WITH STROBE LIGHT
FIRE DETECTION AND ALARM - VOICE COMMUNICATION DEVICES	
	EMERGENCY TELEPHONE FOR FIREFIGHTER'S USE
FIRE DETECTION AND ALARM - OTHER DEVICES	
	END OF LINE DEVICE
	WIRE GUARD
	"DO NOT ENTER" SIGN
	KEY SWITCH FOR FIREFIGHTER CONTROL OF ELEVATOR RECALL, OR AS NOTED
	ISOLATOR MODULE
	OUTPUT RELAY, FUNCTION AS INDICATED
	CONTROL MODULE
	MONITOR MODULE
	MAGNETIC DOOR HOLDER AND RELEASING DEVICE ("HOLD OPEN")
	FIRE SUPPRESSION RELEASING STATION
	FIRE SUPPRESSION ABORT STATION
SINGLE LINE DIAGRAM	
	AIR CIRCUIT BREAKER
	MOLDED CASE CIRCUIT BREAKER
	DISCONNECT (UNFUSED)
	FUSE
	METERING CABINET
	TRANSFORMER
	BUS DUCT
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ELECTRICAL LEGEND	
SYMBOL	DESCRIPTION
	GENERATOR
	AUTOMATIC TRANSFER SWITCH
	AUTOMATIC TRANSFER SWITCH COMPLETE WITH SINGLE SIDED BYPASS ISOLATION
	AUTOMATIC TRANSFER SWITCH COMPLETE WITH SINGLE SIDED BYPASS ISOLATION
ATS	AUTOMATIC TRANSFER SWITCH
C	CONTACTOR
DP	DISTRIBUTION PANELBOARD
LP	LIGHTING PANELBOARD
MCB	MOBILE CONNECTION BOX
MCC	MOTOR CONTROL CENTRE
MTS	MANUAL TRANSFER SWITCH
RP	RECEPTACLE PANELBOARD
SPD	SURGE PROTECTIVE DEVICE
STS	STATIC TRANSFER SWITCH
SWBD	SWITCHBOARD
TX	TRANSFORMER
UPS	UNINTERRUPTIBLE POWER SUPPLY
HEALTHCARE POWER	
	EMERGENCY POWER OFF PUSH BUTTON
	WARNING SIGN 'X-RAY ON'
NURSE CALL DEVICES	
	STAFF PRESENCE STATION
	INFRARED DETECTOR
	NURSE CALL DOME LIGHT 'ZL' WHERE SHOWN DENOTES CORRIDOR ZONE LIGHT 'ZLC' WHERE SHOWN DENOTES CORRIDOR ZONE LIGHT C/W CHIME
	SINGLE BED NURSE CALL BED STATION
	DUAL BED NURSE CALL STATION
	NURSE CALL PATIENT WASHROOM EMERGENCY STATION - PULL CORD TYPE
	NURSE CALL EMERGENCY STATION - PULL CORD TYPE
	NURSE CALL EMERGENCY STATION - WATERPROOF PULL CORD TYPE
	NURSE CALL EMERGENCY STATION - PUSH BUTTON TYPE
	NURSE CALL EMERGENCY STATION - WATERPROOF PUSH BUTTON TYPE
	NURSE CALL EMERGENCY STATION - PULL CORD TYPE WITH PRIORITY CALL
	NURSE CALL MASTER STATION
	NURSE CALL SUB-MASTER STATION
	NURSE CALL DUTY STATION
	NURSE CALL STAFF STATION
	NURSE CALL STAFF REGISTER
	NURSE CALL EQUIPMENT AND AREA CONTROL UNITS
	NURSE CALL CODE BLUE STATION
	NURSE CALL CODE WHITE STATION
	NURSE CALL CODE PINK STATION
	NURSE CALL VIOLENT SITUATION WIRELESS (CODE WHITE) INFRARED RECEIVED CEILING MOUNTED, 'RX' WHERE SHOWN DENOTES RADIO FREQUENCY RECEIVER.
	PATIENT WANDERING
	INFANT PROTECTION
	TELEMETRY ANTENNA
	NARCOTICS ALARM LIGHT
	NARCOTICS CABINET ALARM ANNUNCIATOR 'DS' WHERE SHOWN INDICATES DOOR SWITCH
	"LASER IN USE" LIGHTING FIXTURE - WALL MOUNTED
	"LASER IN USE" LIGHTING FIXTURE - CEILING MOUNTED
	"X-RAY IN USE" LIGHTING FIXTURE - WALL MOUNTED
	"X-RAY IN USE" LIGHTING FIXTURE - WALL MOUNTED
DETAIL REFERENCES	
	SHEET KEYNOTE
	REVISION NUMBER
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ELECTRICAL DRAWING LIST	
DRAWING NUMBER	DRAWING TITLE
E-001	ELECTRICAL LEGEND AND DRAWING LIST
E-002	ELECTRICAL SPECIFICATION I
E-003	ELECTRICAL SPECIFICATION II
E-100	ELECTRICAL PARTIAL LEVEL 1 KEY PLAN
E-200	LEVEL 1 - ELECTRICAL LIGHTING LAYOUT - DEMOLITION (PHASE 0)
E-201	LEVEL 1 - ELECTRICAL LIGHTING LAYOUT - DEMOLITION (PHASE 1 AND 3)
E-202	LEVEL 1 - ELECTRICAL POWER LAYOUT - DEMOLITION (PHASE 1 AND 3)
E-203	LEVEL 1 - COMMUNICATION, FIRE ALARM AND DOOR ACCESS CONTROL SYSTEMS LAYOUT - DEMOLITION (PHASE 1 AND 3)
E-300	LEVEL 1 - ELECTRICAL LIGHTING LAYOUT - NEW WORK (PHASE 0,

00	PROCUREMENT AND CONTRACTING REQUIREMENTS	
	00 30 00 - AVAILABLE INFORMATION	
1.0	Existing Condition Information	
1.1	The Consultant does not warrant them for completeness, and it remains the Contractor's responsibility to verify field conditions inferred from such materials.	
1.2	Electrical drawings are to be considered diagrammatical. Visit the site to review the existing site conditions prior to submitting bid and include all costs associated with installation of electrical services. Include in Bid for all offsets, transition pieces, fittings, etc. as required for a complete installation. Examine routing in which electrical services are proposed to be located.	
1.4	Locations of existing and new services are approximate. Location of new services and equipment may be relocated to suit site conditions at no additional cost to the contract. Before installing equipment, ensure that all access requirements have been provided. Refer to drawings for access requirements. Ensure that mechanical services do not obstruct access requirements for existing and new electrical equipment - coordinate with mechanical contractor.	
00 70 00	- GENERAL CONDITIONS	
	1.0 Intent	
1.1	Include all material, labour, equipment, and plant construction as necessary to make a complete installation as shown and specified hereinafter.	
1.2	The organizational structure of the Specifications does not imply how the work is assigned to various design disciplines, trades, or subcontractors. The MasterFormat numbering system is not intended to determine which particular elements of the project manual are prepared by a particular discipline. Similarly, it is not intended to determine what particular work required by the project manual is the responsibility of a particular trade. It shall be the Contractor's responsibility to ensure that the systems specified hereafter are complete and operative.	
1.3	Contractor shall review all base building standards and adhere to said standards throughout the construction process.	
2.0	Drawings and Specifications	
2.1	The drawings and specifications are complementary each to the other, and what is called for by one, is to be binding as if called for by both.	
2.2	The drawings provide design intent, and are not to be used to measure or quantify material. Contractor is to coordinate installation of work so as to meet the design intent.	
00 73 00	- SUPPLEMENTARY CONDITIONS	
	1.0 General	
1.1	Refer to Architectural drawings for exact location of dimensioned equipment and devices.	
1.2	Refer to Architectural drawings for additional notes which complement these specifications.	
01	GENERAL REQUIREMENTS	
	01 10 00 - SUMMARY	
1.0	Summary of Work	
1.1	Demolition of existing, reconfiguration, and new facility services to suit changes to Owner's equipment.	
1.2	Space reconfiguration including partition modifications and associated revisions to facility services.	
01 31 00	- PROJECT MANAGEMENT AND COORDINATION	
	1.0 Project Coordination	
1.1	Read specifications and drawings of other trades, and conform with their requirements before proceeding with any work specified here as related to other trades. Cooperate with all other trades on the job, so that all equipment can be satisfactorily installed, and so that no delay is caused to any other trades.	
1.2	Prior to fabrication and installation of equipment, ensure that such items can be installed as indicated without interference with the structure, or the work of other trades. If any materials are fabricated or installed prior to the investigation and reaching of a solution to the possible interference problems, necessary changes shall be made at the Contractor's expense.	
1.3	Provide code or manufacturer required clear space for servicing, disassembly, and removal of equipment and components.	
2.0	Facility Services Coordination	
2.1	Maintain all operational building services; shutdown of services shall only take place as authorized by base building and request to be in writing.	
2.2	Co-ordinate with Owner for scheduling of all work required to be done after office hours and weekends, i.e., drilling through slab, power shutdowns, interfacing to life safety systems, etc. all costs involved, including work to be done by the Property Management's approved fire alarm and life safety systems contractor, etc., shall be at Tenant Contractor's expense.	
01 33 00	- SUBMITTAL PROCEDURES	
	1.1 Before delivery to site of any item of equipment, submit shop drawings complete with all data, pre-checked by the Contractor and stamped accordingly, for review by the Consultant. Indicate project name on each brochure or sheet, make reference to the number and title of the appropriate specification section, and provide adequate space to accommodate the Consultant's review stamp(s).	
1.2	Submit shop drawings to the Consultant in electronic (PDF) format, as coordinated after award of contract. Where submittals are derived from digital originals, to ensure maximum quality and legibility, do not print and rescanned documents; submittals made as such will be immediately rejected.	
01 40 00	- QUALITY REQUIREMENTS	
	1.0 Permits and Fees	
1.1	Obtain and pay for all Permits and fees required for the execution and inspection of the Work and pay all charges incidental to such Permits. Submit to the Authority Having Jurisdiction the necessary number of drawings and specifications for examination and approval prior to commencement of work.	
1.2	Arrange and pay for any special inspection of equipment specified if and when required.	
2.0	Codes and Standards	
2.1	Comply with current regulations of all applicable provincial and municipal codes and regulations, including, but not limited to, the Ontario Building Code, and the requirements of any Authorities Having Jurisdiction (AHJ).	
2.2	Comply with other standards as related to each trade.	
3.0	References	
3.1	Health Canada / Workplace Hazardous Materials Information System (WHMIS), Material Safety Data Sheets (MSDS).	
3.2	Ontario Building Code.	
4.0	Quality Assurance	
4.1	Qualifications: Work to be carried out by qualified, licensed tradespersons or apprentices in accordance with Authorities Having Jurisdiction.	
4.2	Only first class workmanship will be accepted, not only in regards to durability, efficiency and safety, but also in regards to neatness of detail. Present a neat and clean appearance on completion. Any unsatisfactory workmanship will be replaced at no extra cost.	
4.3	Conform to the best practices applicable to the type of work. Install all equipment and systems in accordance with manufacturers' recommendations, and consistent with the general requirements of the specification.	
5.0	Field Quality Control	
5.1	Carry out tests in presence of Owner, or designated representative.	
5.2 of	Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of project	
6.0	Inspections	
6.1	Furnish a Certificate of Acceptance from Inspection Department on completion of work.	
6.2 and	The Consultant will carry out inspections and prepare deficiency lists for action by the Contractor, during, or completion of the Project.	
01 60 00	- PRODUCT REQUIREMENTS	
	1.0 General	
1.1	Products certified by a recognized testing agency accredited by the Standards Council of Canada, and bear a certification mark from that agency, for example the CSA certification mark, cUL listing, or ULC listing. Where certified or listed material and equipment is not available, obtain special approval from Authority Having Jurisdiction before delivery to project site, and submit the approval to the Consultant.	
1.2	Products described in this specification are considered to be the minimum standard of acceptance.	
1.3	All materials to meet flame spread rating requirements of all Authorities Having Jurisdiction.	
2.0	Substitution of Specified Equipment	
2.1	"Approved equal" shall be defined as an alternate approved by the Consultant.	
3.0	Product Storage and Handling Requirements	
3.1	Store all equipment and materials in dry locations.	
01 70 00	- EXECUTION REQUIREMENTS	
	1.0 Examination and Preparation	
1.1	Prior to submitting Tender, the Contractor shall carefully examine the Site and ascertain all conditions which affect the Work.	
1.2	No extras will be allowed for work resulting from conditions that would have been evident upon a thorough examination of electrical closets, rooms and ceiling spaces, whether exposed or not.	
1.3	Verify location and sizes of existing services prior to making new connections to ensure that the existing systems have adequate capacities to accommodate new loads.	
2.0	Execution	
2.1	Location of Outlets	
.1	The Consultant reserves the right to change the location of outlets to within 3 m (10 feet) from the point indicated on the drawings without extra charge, providing the Contractor is advised before installation is made.	
2.2	Mounting Heights: where not dimensioned on the architectural or interior designer's drawings, the centerline of the device or operating control as follows:	
.1	Thermostats: 1200 mm (47 inch) AFF (Above Finished Floor).	
.2	Light switches: 1100 mm (43 inch) AFF.	
.3	Duplex receptacles: min. 400 mm (16 inch) AFF.	
.4	Duplex receptacles (over counter): 175 mm (7 inch) above counter or furniture height.	
.5	Duplex receptacles (electrical and mechanical rooms): 1100 mm (43 inch) AFF.	
.6	Emergency lighting remote heads: 300 mm (12 inch) below finished ceiling, or 2400 mm (94 inch) AFF for exposed areas or areas with ceiling height above 2750 mm (108 inch).	
.7	Communications outlets: to match adjacent power receptacles.	
.8	Fire alarm pull stations: 1200 mm (47 inch) AFF.	
.9	Fire alarm audible devices: 150 mm (6 inch) below finished ceiling for ceiling heights less than 2450 mm (96 inch), or 2300 mm (91 inch) AFF for exposed areas, all measured to the top of the device.	
.10	Exact dimensions to be provided and approved by Consultant prior to any rough-in.	
.11	Any mounting heights not specified are to be coordinated with the Consultant prior to installation.	
3.0	Cutting and Patching	
3.1	The Contractor will be responsible for all cutting and patching required for the installation.	
3.2	Structural members are not to be cut without the consent of the Structural Consultant.	
3.3	Restore finishes to match existing surroundings.	
4.0	Cleaning and Waste Management	
4.1	The Contractor and associated sub trades, at all times during construction, is to keep the site free of all debris, boxes, packing, etc., resulting from performance of the Work.	
4.2	At the completion of this Work, the installation is to be left in a clean and finished condition.	
4.3	Clean and touch up surfaces of shop-painted equipment scratched or marred during shipment or installation, to match original paint.	
4.4	Remove and dispose off-site, all materials removed, abandoned, and not to remain, designated for salvage, or be re-used in an appropriate manner acceptable to local authorities having jurisdiction, specifically equipment and materials considered hazardous to the environment, unless otherwise noted to be turned over to the Owner or to the Landlord.	
5.0	Starting and Adjusting	
5.1	Conduct acceptance tests to demonstrate that the equipment and systems meet the specified requirements. Tests may be conducted as soon as conditions permit, and consequently the Contractor is to make all changes, adjustments, or replacements required as the preliminary tests may indicate prior to the final tests. Tests are as specified in various sections of the specifications.	
5.2	Carry out tests in the presence of the Consultant. Provide instruments, meters, equipment and personnel required to conduct tests during and at conclusion of Project. The Contractor shall be in charge of the plant during tests. The Contractor shall assume responsibility for damages in the event of injury to the personnel, building, equipment, and shall bear all costs for liability, repairs, and restoration in this connection. Submit test results.	
5.3	Test new and interfaced systems for proper operation to ensure that the quality and reliability of the base building system is not altered or reduced.	
01 77 00	- CLOSEOUT PROCEDURES	
	1.0 Building Permit Compliance	
1.1	Prior to requesting the Consultant's letter "Review of General Conformance" for submission to the municipal building department to allow occupancy, the following items must be complete and submitted to the Consultant, as applicable:	
.1	General	
.1	Submit all applicable inspection reports from Authorities Having Jurisdiction.	
.2	Continuity of fire separations at service penetrations must be complete.	
.3	All seismic restraint requirements must be complete (if applicable).	
.2	Electrical	
.1	Provide Certificate of Acceptance from Electrical Inspection Department.	
.2	Any devices not installed must have the wiring made safe and terminated in an outlet box complete with cover.	
.3	All outlets must have cover plates installed. All electrical equipment not located in service rooms must have covers and/or doors installed complete.	
.4	Emergency Lighting	
.1	Emergency lighting system must be operational and tested by Contractor. Where battery units and remote heads are indicated on the drawing, provide certification letter from equipment manufacturer indicating the system meets code requirements.	
.2	If the building is provided with emergency power with CSA C282 equipment (emergency generator or similar), the contractor is to perform light meter measurements and submit a letter indicating the system meets code requirements.	
.3	Simulate normal power failure within the premises in the presence of the owner's representative. Test and verify exit lights and emergency lighting operations under emergency conditions. Submit letter of certification copy to General Contractor stating that the systems have been tested and the methods of installation and performance are satisfactory to all parties.	
.4	All exit signs must be installed and operational.	
.3	Electronic Safety and Security	
.1	Fire alarm system and devices must be operational. Submit fire alarm verification report per CAN/ULC-SS37, and submit audibility test. Indicate tap settings of all signalling devices.	
1.2	If any of the above items have not been completed at the time of Consultant's Inspection, and the letter of "assurance of professional field review and compliance" cannot be issued, any costs for subsequent inspections will be charged to the Contractor.	
2.0	Substantial Performance	
2.1	Prior to requesting Substantial Performance Inspection, the following items must be complete and submitted to the General Contractor, as applicable:	
.1	General	
.1	Project record drawings must be submitted to Consultant for review.	
.2	Maintenance manuals must be submitted to Consultant for review	
.2	Electrical	
.1	Provide final Certificate of Acceptance from Electrical Inspection Department.	
.2	Receptacles, and all direct equipment connections labelled with source and circuit number.	
.3	All panelboards provided with typewritten panel schedules.	
2.2	If any of the above items have not been completed at the time of the Substantial Performance Inspection, and the Substantial Performance certificate cannot be issued, any costs for subsequent inspections will be charged to the Contractor.	
3.0	Operation and Maintenance (O&M) Manuals	
3.1	Submit one digital copy, searchable PDF format, to General Contractor.	
3.2	O&M Manuals to include:	
.1	As-Built Drawings (AutoCAD and PDF format)	
.2	Testing and Commissioning Reports	
.3	Inspection Certificates	
.4	Verification Reports and Certificates for all life safety systems	
.5	Electrical	
.1	Panelboard schedules	
.2	Lighting controls functional testing report.	
.6	Communications	
.1	Structured cabling testing reports.	
.7	Warranties	
.8	Training records	
.9	Operation and Maintenance procedures.	
.10	Reviewed shop drawings of all new equipment (arranged by Specification section number)	
4.0	Project Record Documents	
4.1	Record Drawings	
.1	Maintain a drawing set on Site, complete with red-line record of all revisions. Provide exact dimensions and routing of below-grade or below-slab services. Indicate the following:	
.1	Electrical	
.1	All circuiting as installed and all power and systems junction box locations, as well as conduit routes.	
.2	Coordinate access to Consultant's electronic files.	
.3	Complete record drawings accurately marked up in red ink must be submitted for review. Once reviewed, prepare as-built drawings in a neat manner, showing all deviations in work as per site red-line drawing.	
4.2	Electronic as-built drawings	
.1	On completion of Work, submit, to the General Contractor electronic drawings in AutoCAD and PDF format, and one full size hard copy of as-built AutoCAD files.	
.2	Submit electronic copies of 'As-Built' record drawings (in AutoCAD format) indicating actual circuits used and equipment installed on site and final unconditional certificate of approval from ESA and Building Inspection Department to Landlord.	
5.0	Warrantes	
5.1	Submit a written guarantee to the Owner for one year from the date of acceptance. This guarantee shall bind the Contractor to correct, replace or repair promptly any defective equipment workmanship without cost to the Owner.	
26	ELECTRICAL	
	26 01 00 - OPERATION AND MAINTENANCE OF ELECTRICAL SYSTEMS	
1.0	TRACING EXISTING ELECTRICAL CIRCUITS	
1.1	Trace all circuits in the area of work listed as existing, and verify existing conditions prior to any modifications as indicated.	
1.2	Where drawings indicate "connect to existing circuit", use a spare breaker, where available. Otherwise, verify existing load with a meter and advise the Consultant if the additional load will cause a circuit to trip.	
1.3	Where provided panelboard schedules indicate "Existing Circuit" or similar, provide the correct description for the circuit. Existing Circuit will not be acceptable in the final panelboard schedules submitted as part of closeout submittals.	
2.0	EXISTING CABLING IN RETURN AIR PLENUMS	
2.1	In ceilings being used as a return air-plenum, Contractor to review existing low-voltage cabling uncovered as part of the work.	
2.2	Immediately notify the Consultant if any existing cables identified are not plenum rated (i.e. CMP, or FT-6 rated).	
3.0	LUMINAIRE CLEANING	
3.1	Clean existing luminaires to be re-used and existing luminaires to remain.	
4.0	LUMINAIRE RELAMPING	
4.1	Provide new lamps for existing luminaires. Dispose of existing lamps in accordance with Recycling Council of Ontario's "Take Back The Light" program.	
5.0	LUMINAIRE REPLACEMENT	
5.1	Provide new fixture chain hangers to independently support new luminaires from the building structure, supported at opposite ends.	
26 05 00	- COMMON WORK RESULTS FOR ELECTRICAL	
	1.0 REFERENCES	
1.1	Canadian Standards Association (CSA)	
.1	CSA-C22.1, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations.	
.2	Ontario Electrical Safety Code (OESC), Latest edition.	
.3	CAN/CSA-C22.2.	
.4	CAN/CSA-C22.3 No. 1-06, Overhead Systems.	
.5	CAN3-C235-83(R2006), Preferred Voltage Levels for AC Systems, 0 to 500 00 V.	
.6	Do underground systems in accordance with CSA C22.3 No.7-06, Underground Systems, except where specified otherwise.	
2.0	SELECTIVE DEMOLITION FOR ELECTRICAL	
2.1	Remove all electrical equipment and devices on redundant structures. Make safe all circuits.	
2.2	Maintain continuity of remaining devices and circuits.	
2.3	To make safe: withdraw redundant wiring and remove unwanted conduit/wiring and accessories. Position breakers to off position and update panel schedules.	
2.4	Make safe any redundant devices as shown on other drawings.	
2.5	When relocating or removing equipment, should any circuits be abandoned, the conductors to these circuits must be removed or properly terminated as detailed in OESC Rule 2-126, Rule 12-114, Rule 12-3000 and OESC Bulletin 12-25 (latest version).	
3.0	LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES	
3.1	Conductors: minimum #12 AWG solid, and stranded for #8 AWG and larger. Copper conductors sized as indicated with RW90, 600 V insulation of chemically cross-linked thermosetting CSA C22.2 no. 35-M1986.	
3.2	AC90 (commonly referred to as BX) cable maximum wire size to be #12 AWG unless otherwise noted. AC90 to be used only as drop to lighting fixtures and as drop to wiring devices in partitions from ceiling junction box/conduit combination. Maximum run of AC90 to be 3 m (10 feet) where exposed in lay-in suspended ceiling space only. Do not install exposed AC90. Do not daisy chain (leap frog) AC90 between luminaires.	
3.3	All conductors used outdoor or in wet locations: RWU90 copper.	
3.4	Wire and Box Connectors:	
.1	Wire connectors: PVC insulation, steel shall be spring pressure type, current carrying parts copper or copper alloy sized to suit copper conductors as indicated in CSA C22.2 no. 64-1980.	
.2	Splicing connectors: fixture type current carrying parts copper or copper alloy sized to fit copper conductors #12 AWG with insulating materials of thermoplastic material to CSA C22.2 no.75M-83.	
.3	Clamps to connectors: to CSA C22.2 no.18-M1987 for flexible circuit.	
.4	Lugs, terminals, or screws used for termination of wiring to be suitable for copper conductors.	
3.5	Voltage Drop:	
.1	Feeder conductors: maximum voltage drop of 2%.	
.2	Branch circuit conductors: maximum voltage drop of 3%.	
4.0	CONDUIT FOR ELECTRICAL SYSTEMS	
4.1	Rigid metal conduit: to CSA C22.2 no. 45-M1981.	
4.2	Electrical Metallic Tubing (EMT), with couplings to CSA C22.2 no. 83-M1985.	
4.3	Rigid PVC conduit: to CSA C22.2 no. 136-1966.	
4.4	Flexible metal conduit and liquid-tight flexible metal conduit: to CSA C22.2 no. 56-1977.	
4.5	Conduit Fastenings:	
.1	One hole steel strap to secure surface conduits 50 mm (2 inch) and smaller. Use two hole steel straps for conduits larger than 50 mm (2 inch).	
.2	Beam clamps to secure conduits to exposed steel work.	
.3	Channel type supports for two or more conduits at 1.5 m (5 foot) on centre.	
4.6	Conduit Fittings:	
.1	Fittings for raceways to CSA C22.2 no.18-M1987. Fittings manufactured for use with conduit specified. Factory "ells" where 90° bends are required for 50 mm (2 inch) and larger conduits.	
.2	Cast fittings are not permitted to be used.	
4.7	Branch circuits, control wiring, etc.	
.1	Conceal conduit work in finished areas unless otherwise noted.	
.2	Run conduit exposed in unfinished areas such as service rooms, rooms with no suspended ceilings, service tunnels, and penthouses. Install parallel to building lines.	
.3	Use electrical metallic tubing (EMT) for branch circuits unless noted otherwise.	
.4	Use PVC conduit for exterior work unless noted otherwise.	
.5	Use liquid tight flexible conduit for connection to motors.	
.6	Use flexible metal conduit for connection to recessed incandescent fixtures without a pre-wired outlet box, connection to surface fixtures, work in movable metal partitions, or transformers.	
.7	Flexible metal conduit for fixtures in finished areas only where chain hanging is specified. Tie wrap the flexible conduit to the chain.	
.8	Install conduit and sleeves prior to pouring of concrete. Sleeves through concrete: schedule 40 steel pipe sized for free passage of conduit, and protruding 50.8 mm (2 inch).	
.9	Install cables, conduits and fittings to be embedded or plastered over, neatly and close to building structure so furring can be kept to minimum.	
5.0	BOXES FOR ELECTRICAL SYSTEMS	
5.1	Junction and Pull Boxes:	
.1	Junction and pull boxes: to CSA C22.2 no. 40-M1988 welded steel construction, with screw-on flat covers for surface mounting.	
.2	Covers with 25.4 mm (1 inch) minimum extension all around, for flush mounted pull and junction boxes. Only main junction and pull boxes are indicated. Provide all boxes so as not to exceed 30 m (100 foot) of conduit run between pull boxes.	
5.2	Outlet boxes, conduit boxes to CSA C22.2 no.18-M1987.	
5.3	Sheet Steel Outlet Boxes:	
.1	Hot Dipped Galvanized steel single and multi-gang flush device boxes for flush installation, minimum size 75 mm x 50 mm x 32 mm (3 inch x 2 inch x 1-1/4 inch). 100 mm (4 inch) square outlet boxes when more than one conduit enters one side with extension.	

10.0	OVERCURRENT PROTECTIVE DEVICE COORDINATION	26 22 00 - LOW-VOLTAGE TRANSFORMERS	26 22 00 - LOW-VOLTAGE TRANSFORMERS	26 22 00 - LOW-VOLTAGE DISTRIBUTION EQUIPMENT	26 52 13 16 - EXIT SIGNS	6.0	Boxes for Communications Systems		
10.1	Ensure circuit protective devices such as overcurrent trips, relays and fuses are installed to required values and settings.	1.0	LOW-VOLTAGE TRANSFORMERS	2.0	WIRING DEVICES	6.1	The outlets and surface mount boxes shall support the network system by providing high-density in-wall, surface mount or modular office furniture cabling applications. The outlets consist of faceplates for flush and recessed in-wall mounting as well as mounting to the modular office furniture systems. The surface mount boxes can be mounted where in-wall applications are not possible or to support applications where surface mount is the best option.		
11.0	EQUIPMENT WIRING	1.1	To CSA C22 for dry type transformers and CSA C802 with the following features:	2.1	Switches	1.0	EXIT SIGNS PER SCHEDULE.		
11.1	Provide the following services for equipment supplied by other trades:	.1	CSA type 2 drip-proof enclosure.	.1	Manually operated ac switches to CSA C22.2 no. 111-M1986.	1.1	Internally illuminated exit signs consisting of a green and white LED pictogram ("Running Man").		
.1	The trade supplying the equipment will be responsible for supply of motors, starters, variable frequency drives, and Motor Control Centres.	.2	Comply with ANSI, NEMA, and IEEE Standards.	.2	Snap switches to CSA C22.2 no. 55-M1986.	1.2	Certified to CSA 22.2 No.141-10, and meet ISO 3864-1 and ISO 7010.		
.2	In every instance, install starter, motor control centre, variable frequency drive (VFD), etc. and wire to line side of the starter, the Motor Control Centre, or VFD. Extend wiring from starter, motor control centre or VFD to motor.	.3	Final coating to be ASA 61 grey epoxy power.	.3	15A and 20A-120V, single pole, double pole, three-way, and four-way switches with pilot lights and or key operator as indicated.	1.3	Include a standard single face with optional double-faceplate included.		
.3	Provide 600 mm (24 inch) of flexible waterproof conduit for final connection to motors.	.4	60 Hz operating frequency, 600-120/208 V, 3ø, delta-wye 3-phase with 3-coil, ANN type.	.4	Switches of one manufacturer throughout project.	1.4	Maximum 5 Watts per face.		
.4	Provide disconnect switches where required by code and as indicated on the drawings.	.5	Four (4) taps, 2øFCAN and 2øFCBN with 2.5% per tap.	.5	Finish colour as selected by Architect. Confirm colour prior to ordering.	1.5	Manufacturers: Lumacell, Emergillite, Beghelli, Stanpro.		
.5	Where individual starters and controls are grouped together provide a panel for mounting this equipment. Provide a feeder, main fused disconnect and a splitter of adequate size and capacity and wire to line side of the starters on this panel and from starters to motors.	.6	Copper windings.	.6	Provide specification grade local 20A, 120 volt and 20A, 347 volt switches, AC type with matching cover plate, decoa type.	2.0	EXTRA MATERIALS: Allow the cost for material and for installation of an additional three exit signs, single face or dual face, to be installed as directed by the Consultant during construction. Include 15.24 m (50 feet) of wire and conduit per exit sign.		
.6	Ascertain exact locations of starters, motor control centres, motors, motorized dampers, VAV boxes, infra-red plumbing fixture controls and heating control valves from other drawings and coordinate exact locations with appropriate trade.	.7	Epoxym impregnation, anti-vibration pads, electrostatic shield.	2.2	Receptacles	27	COMMUNICATIONS		
11.2	Plumbing equipment wiring	.8	220 insulation class and 115°C (239°F) winding temperature rise.	.1	Receptacles, plugs and similar wiring devices to CSA C22.2 no. 42-M1984, specification grade.	27 05 00 - COMMON WORK RESULTS FOR COMMUNICATIONS	27 05 00 - COMMON WORK RESULTS FOR COMMUNICATIONS		
.1	Provide branch circuit wiring and an outlet for each infra-red plumbing fixture control. Control wiring performed by plumbing trade.	.9	To be wall mounted for 45 kVA or less unless otherwise noted.	.2	Duplex or single receptacles, CSA type 5-15R, 125V, 15A, U-ground, with the following features:	1.0	References		
11.3	HVAC equipment wiring	.10	Heavy gauge steel with rust and corrosion protection.	.1	Suitable for no. 10 AWG for back and side wiring.	1.1	TIA/EIA-568-B Commercial Building Telecommunications Cabling Standard		
.1	In the case of unit heaters, reheat coils and cabinet unit heaters, terminate wiring on terminals provided. Control wiring, thermostat integration, and other controls are to be performed by the supplying trade.	.11	1-2 KV class with 10 KV BIL.	.2	Decora type.	1.2	TIA/EIA-568-B.1 General Requirements		
.2	Provide branch circuit wiring and an outlet for each motorized damper, variable air volume box (VAV Box), or heating control valve. Control wiring performed by HVAC trade.	.12	Double neutral connector.	.3	Break-off links for use as split receptacles.	1.3	TIA/EIA-568-B.2 Balanced Twisted Pair Cabling Components Standard		
11.4	Motor Sizing	1.2	Meet or exceed the nominal efficiencies shown in Table 8.1 of ASHRAE 90.1-2010.	.4	Eight (8) back wired entrances, four (4) side wiring screws.	1.4	TIA/EIA-568-B.2.1 Transmission performance for 4 pair 100-Ohm category 6		
.1	Motors up to and including 1/2 HP, shall be 1 phase, 60 Hz, 120 volts.	1.3	Average sound levels:	.5	Double wipe contacts, and riveted grounding contacts.	1.5	TIA/EIA-569-A Commercial Building Standard for Telecom Pathways and Spaces		
.2	Motors above 1/2 HP as indicated on drawings.	.1	45 dB max up to 45 kVA.	.6	Provide specification grade 15A, 120 volt, "U" ground receptacles, duplex type with matching cover plates, colour to match facility standards.	1.6	TIA/EIA-606 Administration Standard for the Telecommunications Infrastructure of Commercial Buildings		
12.0	PATIENT CARE AREAS	.2	50 db max up to 150 kVA.	.7	Receptacles of one manufacturer throughout project.	2.0	Data Cable Installation		
12.1	Comply with requirements for patient care areas (PCA) included in Work as required by Section 24 of OESC. Patient care areas are identified on drawings or in schedule appended to end of this Section. Review final PCA nomenclature with Consultant prior to start of Work.	.3	55 db max up to 300 kVA.	2.3	Cover Plates	2.1	All UTP voice and data modules shall be 8-pin RJ45's conforming to the category 6 standard 4-Pair UTP.		
12.2	Note that room and area names/numbers are based on information available at time of preparation of documents and such names/numbers may be revised in later documents or during construction of Work. In no way are patient care area classifications to be reduced due to name/number revisions. Confirm exact classifications as per local governing electrical code requirements to suit final construction and any design changes made by Consultant.	.4	60 db max up to 500 kVA.	.1	Cover plates for wiring devices to suit the wiring device.	24	AWG, CSA, CMP/FT6 Plenum fire rated. The jacks must accept either RJ 45 or RJ 11 male plugs without causing any damage or degradation to the connector.		
12.3	Provide testing and verification of circuits and devices to confirm compliance with OESC.	1.4	Manufacturers:	.2	Cover plates from one manufacturer throughout project.	2.2	Provide 6m of slack at both end of each cable to permit future relocation, neatly coil slack in ceiling space, tied wrapped using velcro tie wraps only.		
26 05 00 - COMMISSIONING OF ELECTRICAL SYSTEMS		.1	STI	.3	Sheet steel utility box cover for wiring devices installed in surface mounted utility boxes in service areas.	2.3	Ensure the EMI /RFI separation distance are maintained.		
1.0	STARTUP	.2	Delta transformer	.4	Stainless Steel cover plates for all flush mount boxes.	2.4	All data cables shall be terminated with the jack color Blue for data and black for Voice.		
1.1	Startup equipment to NETA ATS standards.	.3	Hammond	5	Stainless steel cover plates for all surface mount cast boxes in finished areas.	2.5	All main horizontal cable runs and horizontal cable runs within corridors shall be enclosed in EWT conduit. Any penetrations through fire rated walls shall also be enclosed in conduit and fire stopped on both the interior and exterior diameter of the conduit with ULC approved fire stop. Cabling within individual spaces may be run "free-air" with appropriate supports and harnesses.		
2.0	CONDUCT FOLLOWING TESTS:	.4	Square D by Schneider Electric	6	Where exposed to the weather, cover plates suitable for wet locations whether or not a plug is inserted into the receptacle.	2.6	Cabling contractor to determine location of main conduit runs. Utilize existing cable tray where possible and provide extension with same type.		
2.1	Insulation resistance testing:	1.5	T-connected transformers are not acceptable.	26 28 00 - LOW-VOLTAGE CIRCUIT PROTECTIVE DEVICES	1.0	FUSES	2.7	Route all cables to maintain minimum separations from sources of lighting, power cables, HVAC and other electrical equipment, provide additional materials in order to meet the minimum separation requirements.	
.1	Megger circuits, feeders and equipment up to 350 V with a 500 V instrument.	1.0	DISTRIBUTION PANELBOARDS	1.0	FUSES	2.8	All data and voice cables are to be pulled in continuous runs. No cable splices are allowed.		
.2	Megger 350-600 V circuits, feeders and equipment with a 1000 V instrument.	.1	Manufacturers:	1.1	Dimensions and Performance: CSA C22.2 No. 248 Series, Class as specified or indicated.	2.9	All cabling must be routed to minimize cross-overs and congestion.		
.3	Check resistance to ground before energizing.	1.2	Description: CSA C22.2 no.29, circuit breaker type.	1.2	Voltage: Provide fuses with voltage rating suitable for circuit phase-to-phase voltage.	2.10	When terminating the cable at modular jacks and termination panels, the length of un-jacketed conductors shall not exceed 1" (25 MM). The amount of untwisting of cable conductors must not be greater than 1/2" (13MM) after termination.		
3.0	LOAD BALANCING:	1.3	Panelboard bus: copper, ratings as indicated. Provide copper ground bus in each panelboard.	1.3	Power Load Feeder Switches: HRC-1 Class J time delay type (Gould type AJT).	2.11	Each cable and termination jack shall be labeled with mechanically printed identification label. Cable labels to match existing. Cable label shall be a minimum of 2" (50MM) wide of sufficient length to permit clear overlap to be wrapped completely around cable at least one and a half times.		
3.1	Measure phase current to panelboards with normal loads (lighting) operating at time of acceptance; adjust branch circuit connections as required to obtain best balance of current between phases and record changes. Balance the loading on feeders so that unbalanced load is less than 10 per cent.	1.4	Minimum integrated short circuit rating: 10 000 amperes RMS symmetrical for 240 volt panelboards; 25 000 amperes RMS symmetrical for 600 volt panelboards, or as indicated.	1.4	Other Feeder Switches: HRC-1 Class J time delay type (Gould type AJT).	2.12	Provide Cable Test Report.		
3.2	Measure phase voltages at loads and adjust transformer taps to within 2% of rated voltage of equipment.	1.5	Molded case circuit breakers: NEMA AB 1, circuit breakers with integral thermal and instantaneous magnetic trip in each pole. Provide circuit breakers CSA classified as type HACR for air conditioning equipment branch circuits.	2.0	ENCLOSED SWITCHES	2.12	Labeling Standard shall be met: Closet number - Rack letter & Patch panel number - Drop number e.g. F346-A5-22.		
3.3	Provide upon completion of work, load balance report: phase and neutral currents on panelboards, dry-type transformers and motor control centres, operating under normal load, as well as hour and date on which each load was measured, and voltage at time of test.	1.6	Molded case circuit breakers with current limiters: NEMA AB 1, circuit breakers with replaceable current limiting elements, in addition to integral thermal and instantaneous magnetic trip in each pole.	2.1	Fusible and non-fusible, disconnect switch in CSA Enclosure, size as indicated.	3.0	Grounding and Bonding for Communications Systems		
4.0	COMMISSIONING OF LIGHTING:	1.7	Current limiting molded case circuit breakers: NEMA AB 1, circuit breakers with integral thermal and instantaneous magnetic trip in each pole, coordinated with automatically resetting current limiting elements in each pole. Interrupting rating 100 000 symmetrical amperes, let through current and energy level less than permitted for same size class RK5 fuse.	2.2	Provision for padlocking in on-off switch position by one lock.	3.1	Bond all telecommunication cable trays, data cabinets, data racks, and all other metallic communication infrastructure components to the nearest TMGB or TGB using a minimum #6 AWG conductor and appropriate 2 hole compression lug grounding hardware.		
4.1	Functional testing of lighting to be performed by a third party or manufacturer's representative.	1.8	Circuit breaker accessories: trip units and auxiliary switches as indicated.	2.3	Mechanically interlocked door to prevent opening when handle in ON position.	4.0	Pathways for Communications		
4.2	Lighting control devices and control systems shall be tested to ensure that control hardware and software are calibrated, adjusted, programmed, and in proper working condition in accordance with the construction documents and manufacturer's installation instructions.	1.9	Cabinet front: surface type, fastened hinge and latch, metal directory frame, finished in manufacturer's standard gray enamel.	2.4	Fuses: size as indicated.	4.1	Communications conduits shall be minimum 27 mm (1 inch) diameter conduit from single gang box in partition to accessible ceiling space for maximum six communications drops per wall box. Conduit shall be complete with pull wire for addition of communications drops.		
4.3	When occupant sensors, time switches, programmable schedule controls, or photosensors are installed, at a minimum, perform the following procedures:	1.10	Breaker positions labeled as "spare" or "space" constituting no less than 20% of available breaker positions, whether identified or not in panelboard schedules.	2.5	Fuse holders: suitable without adaptors, for type and size of fuse indicated.	4.2	Conduit Pathways		
.1	Confirm that the placement, sensitivity and time-out adjustments for occupant sensors yield acceptable performance, lights turn off only after space is vacated and do not turn on unless space is occupied.	1.11	Two keys for each panelboard and key panelboards alike.	2.6	Quick-make, quick-break action.	.1	Conduit to CSA C22.2.		
.2	Confirm that time switches and programmable schedule controls are programmed to turn the lights off.	1.12	Breakers feeding motors: motor rated.	2.7	On-off switch position indication on switch enclosure cover.	.2	Provide end bushings.		
.3	Confirm that photosensor controls reduce electric lights levels based on the amount of usable daylight in the space as specified.	1.13	Breakers for lighting circuits: switch rated.	26 29 00 - LOW-VOLTAGE CONTROLLERS	1.0	ENCLOSED STARTERS	4.3	Junction and Pull Boxes:	
26 09 00 - INSTRUMENTATION AND CONTROL FOR ELECTRICAL SYSTEMS		1.14	Circuit breakers feeding transformers rated accordingly.	1.0	LUMINAIRE SUPPORTS	.1	Junction and Pull Boxes, to CSA C22.2 No. 40-M1988 welded steel construction with screw-on flat covers for surface mounting.		
1.0	LIGHTING CONTROL DEVICES	2.0	LIGHTING AND RECEPTACLE PANELBOARDS	1.1	LUMINAIRE SUPPORTS	.2	Covers with 25 mm (1 inch) minimum extension all around, for flush mounted pull and junction boxes. Only main junction and pull boxes are indicated. Provide all boxes so as not to exceed 30 m (100 feet) of conduit run between pull boxes.		
1.1	Occupancy Sensors, Time Switches, etc.	2.1	To CSA 22.2 no 29-M1983 with the following features:	1.2	Provide chain hangers to independently support luminaires from the building structure, supported at opposite ends.	4.4	Surface Raceway and Vertical Outlet Pole		
.1	As described in applicable schedules.	.1	250V panelboards: bus and breakers rated for 10 000 asymmetrical interrupting capacity, or as indicated.	2.0	LED INTERIOR LUMINAIRES	.1	Surface raceway and vertical outlet poles refers to a surface raceway system used for branch circuit wiring and/or data network, voice, video and other low-voltage cabling shall be supplied by others, unless identified on the drawings.		
.2	Configure sensors to turn off lighting a maximum of 30 minutes of all occupants leaving the space. Confirm exact set point with the Consultant prior to installation.	.2	Sequence phase bussing with odd numbered breakers on left and even on right, with each breaker identified by permanent number identification as to circuit number.	2.1	Performance tested in accordance with IES LM-79, LM-80, and L70 lumen maintenance at 50 000 hours or greater calculated per IES TM-21 extrapolation.	5.0	Hangers and Supports for Communications Systems		
1.2	Dimming Switches	.3	Panelboards: mains, number of circuits, and number and size of branch circuit breakers as indicated.	2.2	Drivers minimum 0.9 power factor, THD less than or equal to 20%, 0-10 volt dimming standard, or alternate protocol to suit controls.	5.1	Cable Support System		
.1	Provide dimmers with linear slide controls, and sized to suit loads controlled for fluorescent, incandescent, low voltage magnetic and low voltage electronic lighting as indicated.	.4	Two keys for each panelboard and key panelboards alike.	2.3	5 year warranty.	.1	Open top cable supports shall be utilized as a pathway for communication cabling. The J Hook cable supports shall be manufactured from a non-conductive material suitable for use in air-handling spaces. The cable support must maintain complete horizontal and vertical 25 mm (1 inch) bend radius control and must manage up to 50 four-pair UTP cables. The system must allow for the ability to add future cable routing capacity. The cable support must provide the ability to retain the cable bundle with Hook and Loop Cable Ties. J-hooks fasteners shall be placed at maximum of 4'-0" intervals so the cables are properly supported and lower cables are not stressed and deformed due to the weight of the cable bundle.		
.2	All dimmers shall incorporate an air gap which shall be accessible without removing the faceplate.	.5	Copper bus with full size neutral.	2.4	80 CRI minimum.				
.3	Dimmer shall meet UL 20 and UL 1472 limited short circuit test requirements for snap switches;	.6	Mains suitable for bolt on breakers 25 mm (1 inch) or 19 mm (3/4 inch) wide.	2.5	Luminaire efficacy in accordance with DesignLights Consortium (DLC), or Energy Star, as applicable.				
.4	Dimmer shall meet ANSI/IEEE standard C62.41, tested to withstand voltage surges of up to 6000 V and current surges of up to 200 A without damage. Manufacturer shall provide file card upon request showing their compliance with the above standards.	.7	Finish trim and door baked grey enamel.	26 52 13.13 - EMERGENCY LIGHTING	1.0	BATTERY UNITS AND REMOTE HEADS PER SCHEDULE.			
.5	Gang dimmers shown side by side on plans under one seamless, multi-gang faceplate.	2.2	Molded case circuit breakers to CSA C22.2 no. 5-M1986.	1.1	Use minimum 10 gauge or heavier if needed to provide a maximum voltage drop of 5%. Consult manufacturer's table for sizing the minimum gauge and length of wire runs permitted for connected loads to ensure a maximum voltage drop of 5% from the battery unit to the farthest emergency remote, in accordance with OEC and local inspection authorities.	1.0	BATTERY UNITS AND REMOTE HEADS PER SCHEDULE.		
.6	Dimmers: rated 1000 W, unless otherwise noted.	2.3	Bolt-on molded case circuit breaker, quick-make, quick break type for manual and automatic operation with temperature compensation for 40°C (104°F) ambient.	1.2	Provide breaker lock on emergency lighting circuit at source panelboard.	1.1	Use minimum 10 gauge or heavier if needed to provide a maximum voltage drop of 5%. Consult manufacturer's table for sizing the minimum gauge and length of wire runs permitted for connected loads to ensure a maximum voltage drop of 5% from the battery unit to the farthest emergency remote, in accordance with OEC and local inspection authorities.		
.7	Finish colour by architect/designer.	2.4	Common-trip breakers with single handle for multi-pole applications.	1.2	Provide breaker lock on emergency lighting circuit at source panelboard.	1.3	Contractor to certify in writing to the Consultant that the system is complete, installed per CSA C22.2 No. 141, has been tested, and operates for the specified battery run time, and meets voltage drop requirements.		
.8	Manufacturers: CSA Approved reputable manufacturer.	2.5	All panels to be flush or surface mounted as indicated.	1.3	Contractor to certify in writing to the Consultant that the system is complete, installed per CSA C22.2 No. 141, has been tested, and operates for the specified battery run time, and meets voltage drop requirements.	1.4	Manufacturers: Lumacell, Emergillite, Beghelli, Stanpro.		
		2.6	Lock-on devices on emergency lighting, night lights, security and exit light circuits.						
		2.7	Breakers feeding motors: motor rated.						
		2.8	Breakers for lighting circuits: switch rated.						
		2.9	Circuit breakers feeding transformers rated accordingly.						

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2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14
NO	DESCRIPTION	DATE

SHEET REVISION

PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

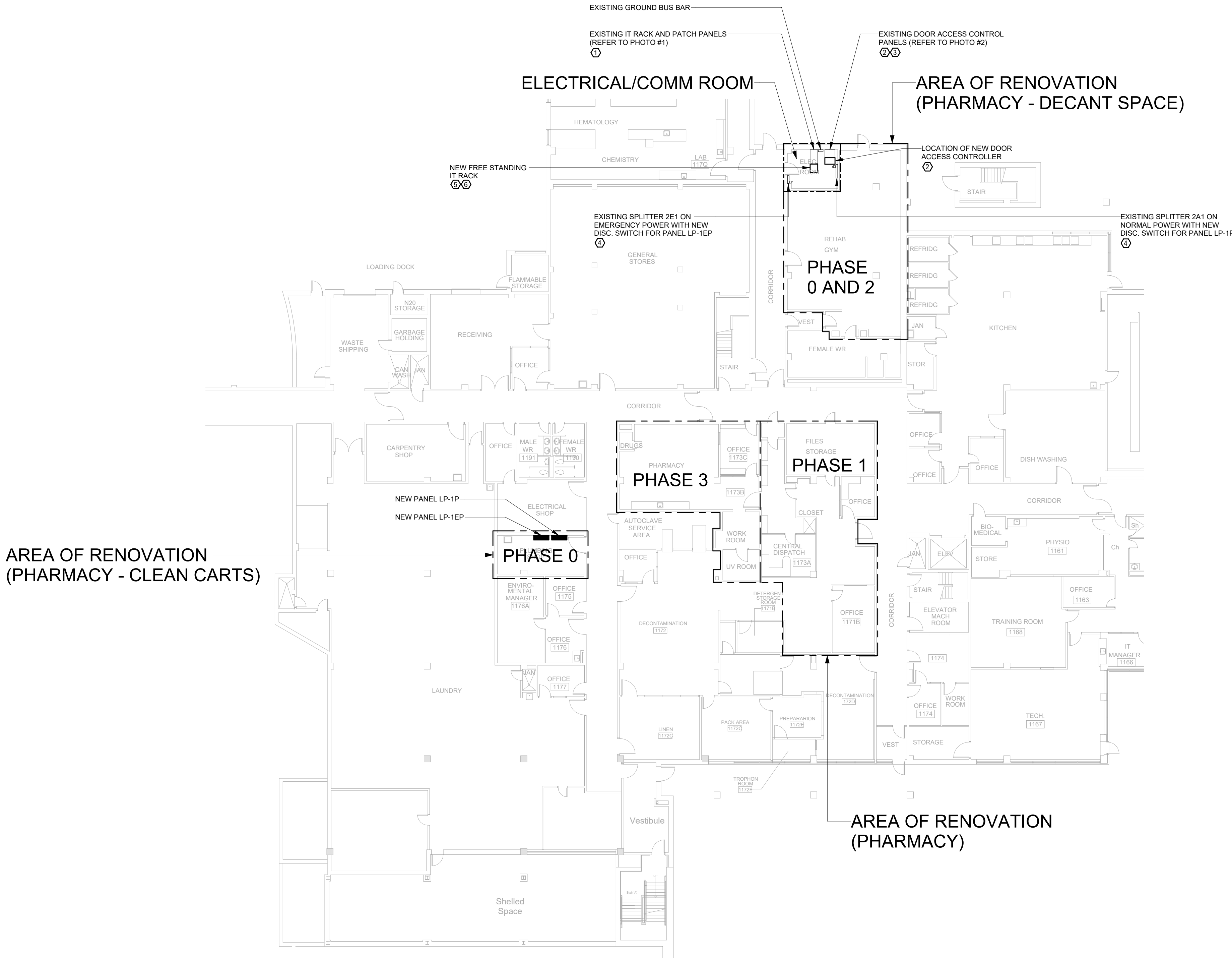
TITLE: ELECTRICAL SPECIFICATION I

PROJECT NO: 23001A	DRAWING NO: E
CHECKED: C.T./P.Y.	

E-003

DRAWING KEY NOTES

- ① ALL NEW DATA DROPS FOR PHARMACY SHALL BE TERMINATED AT EXISTING IT RACK AND PATCH PANELS IN ELECTRICAL/COMM ROOM, UNLESS OTHERWISE NOTED. REFER TO DRAWING E-303 AND E-304.
- ② PROVIDE NEW DOOR ACCESS CONTROLLER AND POWER SUPPLY TO MATCH EXISTING FOR NEW CARD READERS AT PHARMACY AREA. REFER TO DRAWINGS E-304 AND E-501.
- ③ CONNECT NEW DOOR ACCESS CONTROL POWER SUPPLY TO EXISTING DOOR ACCESS CONTROL 120 VOLT CIRCUIT.
- ④ REFER TO ELECTRICAL POWER DISTRIBUTION DIAGRAM AND PANEL SCHEDULES ON DRAWING E-400.
- ⑤ PROVIDE NEW FREE STANDING IT RACK (PANDUIT NETKEY) C/W 3 X 24 PORTS CAT.6A PATCH PANELS, 2 VERTICAL WIREWAY AND 4 HORIZONTAL WIREWAY CABLE MANAGEMENT SYSTEM FOR TERMINATION OF NEW DATA DROPS IN PHARMACY AREA.
- ⑥ PROVIDE #6 GREEN INSULATED GROUND CONDUCTOR FOR IT RACK AND CONNECT TO EXISTING GROUND BUS BAR IN ELECTRICAL/COMM ROOM.



2 PHOTO #1 - IT RACK AND PATCH PANELS
SCALE: N.T.S.



3 PHOTO #2 - DOOR ACCESS CONTROL PANELS
SCALE: N.T.S.

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1 ELECTRICAL PARTIAL LEVEL 1 KEY PLAN

SCALE: 1 : 200

NO	DESCRIPTION	DATE
2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14

PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
ELECTRICAL PARTIAL LEVEL 1 KEY PLAN

PROJECT NO:
23001A
CHECKED:
C.T.

DRAWING NO:

E-100



- ① EXISTING LUMINAIRE C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.
- ② EXISTING LIGHT SWITCH C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.

1. CONTRACTOR TO VISIT THE SITE DURING THE TENDERING PERIOD TO DETERMINE THE EXIST SCOPE OF DEMOLITION WORK AND TO BECOME THE FULLY FAMILIAR WITH THE EXISTING ELECTRICAL SYSTEMS AND CARRYING OUT THE SCOPE. REQUEST FOR EXTRAS WILL NOT BE CONSIDERED FOR FAILURE TO PROPERLY EVALUATE CONDITIONS WHICH AFFECT THE SCOPE OF DEMOLITION WORK.
2. IN SOME CASES, GENERAL LOCATIONS AND TYPES OF SOME ELECTRICAL EQUIPMENT AND LIGHT FIXTURES ARE INDICATED FOR REFERENCE PURPOSE IN ORDER TO ASSIST IN EVALUATING SCOPE OF DEMOLITION WORK.
3. COORDINATE ALL DEMOLITION WORK WITH GENERAL CONTRACTOR. REFER TO CONSTRUCTION PHASING SCHEDULE.
4. ELECTRICAL CONTRACTOR TO CONFIRM AND COORDINATE THE DEGREE OF DEMOLITION OR RELOCATION OF EXISTING LIGHTING FIXTURES AND CONTROLS WITH THE OWNER PRIOR TO WORK. EXISTING LIGHTING FIXTURES TO BE DEMOLISHED, SHALL BE TRACED TO SOURCE, DISCONNECTED AND MADE SAFE PRIOR TO DISPOSAL. ANY ABANDONED CIRCUITS ARE TO BE MADE SPARES AND UPDATED ON THE PANEL SCHEDULE.
5. IN EVERY INSTANCE WHERE IT IS REQUIRED IN THE SPECIFICATION OR ON DRAWING THAT EQUIPMENT AND MATERIALS TO BE REMOVED, ALL ASSOCIATED CONDUIT, WIRING AND FITTINGS SHALL BE REMOVED.
6. ALL OPENINGS IN BUILDING RISER, IF APPLICABLE, SHALL BE SEALED WITH APPROVED FIRE STOP MATERIAL. ANY FIREPROOFING MATERIAL REMOVED WILL BE REPLACED WITH A SUITABLE AND APPROVED FIREPROOFING MATERIAL. SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS TO APPLICABLE BUILDING AND FIRE CODES.
7. CONTRACTOR TO CONDUCT OWN SURVEY AND VERIFY EXISTING CONDITIONS.
8. COORDINATE WITH THE CLIENT TO CONFIRM EQUIPMENT OR SYSTEMS/DEVICES TO REMAIN.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REFINISHING OF DAMAGED BUILDING AREAS AND FINISHES AFFECTED BY THE WORKS AS OUTLINED UNDER SCOPE OF WORK OF THIS PROJECT.
10. ALL INSTALLATIONS WITHIN EXISTING AREAS SHALL BE COORDINATED WITH OWNER AND DESIGNER. ALL NEW INSTALLATION MUST BE PERFORMED IN A MANNER TO ELIMINATE ANY INTERFERENCE TO STAFF AND NORMAL OPERATION OF THE FACILITY.
11. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND DISTRIBUTION OF TEMPORARY POWER AND LIGHTING WITHIN THE PREMISES DURING THE CONSTRUCTION PERIOD. EXPOSED ELECTRICAL CONDUITS OUTSIDE THE AREA OF WORK SHALL NOT BE PERMITTED.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL THE WORK WITH ALL OTHERS. THE WORK OF THE OWNER AND ALL WORK SHALL BE SCHEDULED AND CARRIED OUT BY THE CONTRACTOR IN A MANNER TO ENSURE CONTINUED AND NON-INTERRUPTED OPERATION OF EXISTING FACILITY.
13. CONTRACTOR SHALL IDENTIFY AND LABEL CLEARLY ALL CIRCUITS, WIRING SERVICES, JUNCTION BOXES, PULLBOXES, DATA DROPS, DEVICES AND EQUIPMENT INSTALLED AND CONNECTED UNDER SCOPE OF WORK OF THIS PROJECT. IDENTIFICATION SHALL BE AS PER OWNER'S REQUIREMENTS AND ALL MARKINGS SHALL BE OF NON-ERASABLE LAMACOID TYPE. COORDINATE ALL LABELING WITH THE OWNER AND CONSULTANT.
14. CONTRACTOR TO ENSURE ANY DAMAGE TO EXISTING ELECTRICAL CONDUIT AND CONNECTION TO BE REPLACED OR FIXED PRIOR TO RE-INSTALLATION.
15. CONTRACTOR TO NOTIFY OWNER OF ANY EXISTING DAMAGES PRIOR TO COMMENCING OF WORK. ANY DAMAGE TO EXISTING ELECTRICAL SYSTEMS INSIDE THE AREA OF WORK IS TO BE IS TO BE THOROUGHLY INSPECTED, ANY COMPROMISE TO THE INTEGRITY SHOULD BE MADE KNOWN TO THE OWNER.
16. WHEREVER POSSIBLE, REUSE EXISTING CIRCUITS MADE AVAILABLE DURING DEMOLITION PHASE, WHERE NEEDED PROVIDE AND INSTALL NEW COMPATIBLE ELECTRICAL EQUIPMENT. CONTRACTOR TO VERIFY AVAILABLE CIRCUITS ON SITE, AS PANEL BOARD SCHEDULES MAY NOT BE UP TO DATE.
17. WHERE EXISTING EQUIPMENT SHOWN TO REMAIN LOCATED AT WALL/Ceilings DESIGNATED FOR REMOVAL, TEMPORARY SUPPORTS SHALL BE PROVIDED TO MAINTAIN OPERATION OF EXISTING EQUIPMENT.
18. ALL EXISTING ELECTRICAL EQUIPMENT SHOWN DEMOLITION DRAWINGS ARE FOR REFERENCE ONLY. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING ELECTRICAL EQUIPMENT. ELECTRICAL CONTRACTOR TO INCLUDE IN CONTRACT TO VERIFY SITE CONDITION AND TO REMOVE ALL EXISTING ELECTRICAL EQUIPMENT INCLUDING BRANCH CIRCUITS NOT REQUIRED FOR FINAL INSTALLATION.
19. ELECTRICAL CONTRACTOR SHALL INCLUDE IN CONTRACT FOR RELOCATION OF ELECTRICAL EQUIPMENT, FEEDERS AND BRANCH CIRCUITS WHERE INTERFERED WITH NEW WORK. REWORK AND REPAIRS AS REQUIRED BY THE CONTRACTOR TO BE PROVIDED TO REMAIN WHICH ARE AFFECTED BY THE ALTERNATION OR DEMOLITION

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2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14
NO	DESCRIPTION	DATE

SHEET REVISION

PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
LEVEL 1 - ELECTRICAL LIGHTING LAYOUT
- DEMOLITION (PHASE 0)

PROJECT M

23001A

CHECKED:

DRAWING NO:

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1200

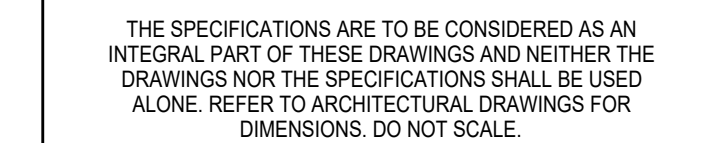


- CLIENT:
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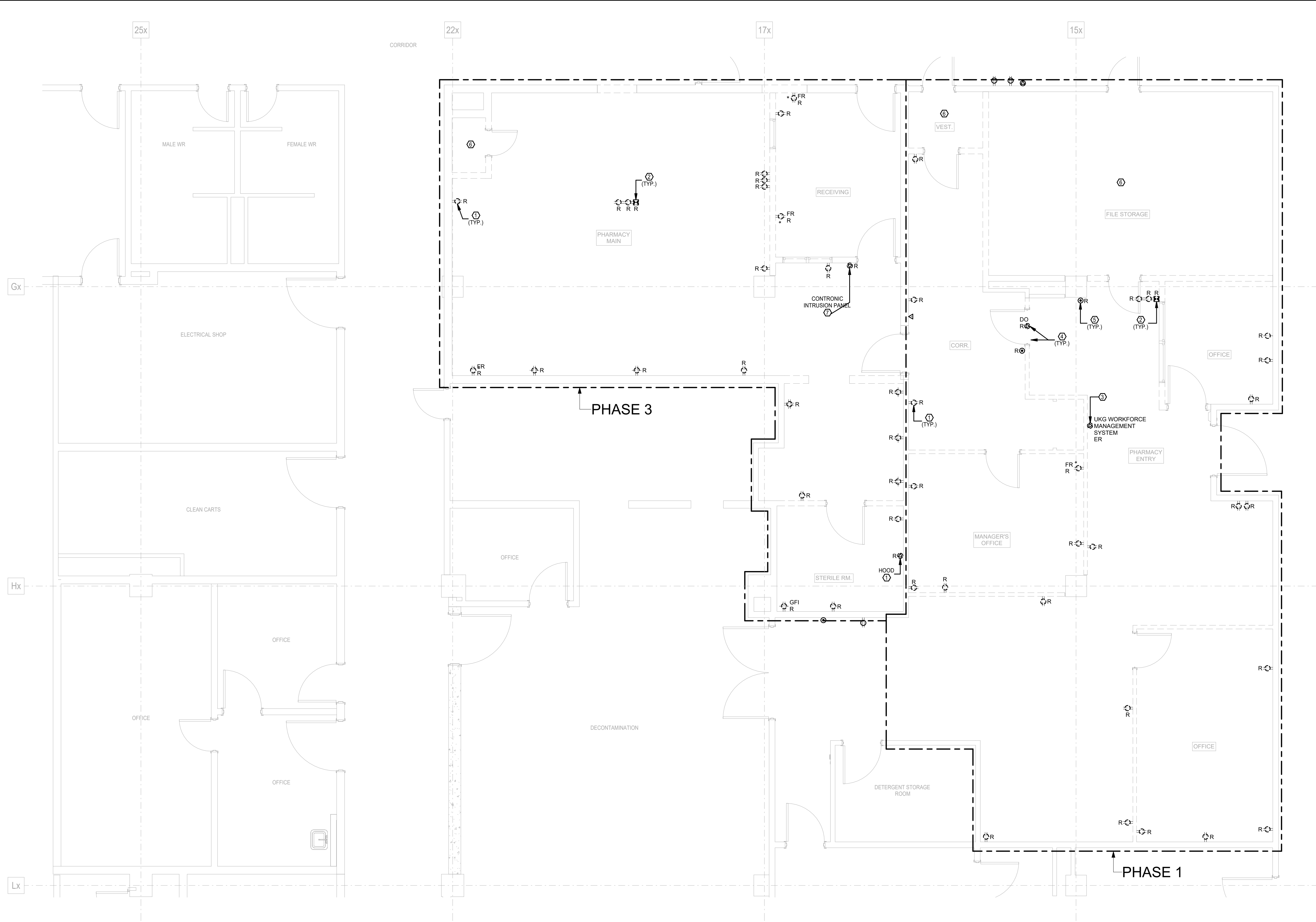
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2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14
NO	DESCRIPTION	DATE
SHEET REVISION		

TITLE:
LEVEL 1 - ELECTRICAL LIGHTING LAYOUT
- DEMOLITION (PHASE 1 AND 3)

PROJECT NO: 23001A	DRAWING NO: E-201
CHECKED: C.T./P.Y.	



1 LEVEL 1 - ELECTRICAL POWER LAYOUT - DEMOLITION (PHASE 1 AND 3)
SCALE: 1 : 50

- DEMOLITION KEY NOTES**
- 1 EXISTING RECEPTACLE C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.
 - 2 EXISTING PACK POLE C/W ASSOCIATED RECEPTACLE, DATA, CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.
 - 3 EXISTING UKG WORKFORCE MANAGEMENT PANEL TO BE RELOCATED. REFER TO DRAWING E-302 FOR NEW LOCATION.
 - 4 EXISTING DOOR OPERATOR C/W ELECTRIC STRIKE, ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.
 - 5 EXISTING BARRIER FREE PUSH BUTTON C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED.
 - 6 INCLUDE IN CONTRACT TO REMOVE ALL EXISTING RECEPTACLES C/W ASSOCIATED CONDUIT AND WIRING IN THIS ROOM.
 - 7 EXISTING CONTRONIC INTRUSION ALARM PANEL SYSTEM C/W ASSOCIATED CONDUIT, WIRING AND DEVICES TO BE REMOVED.
 - 8 EXISTING FUME HOOD C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED.

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NO	DESCRIPTION	DATE
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1	ISSUED FOR 100% DD	2025-10-14

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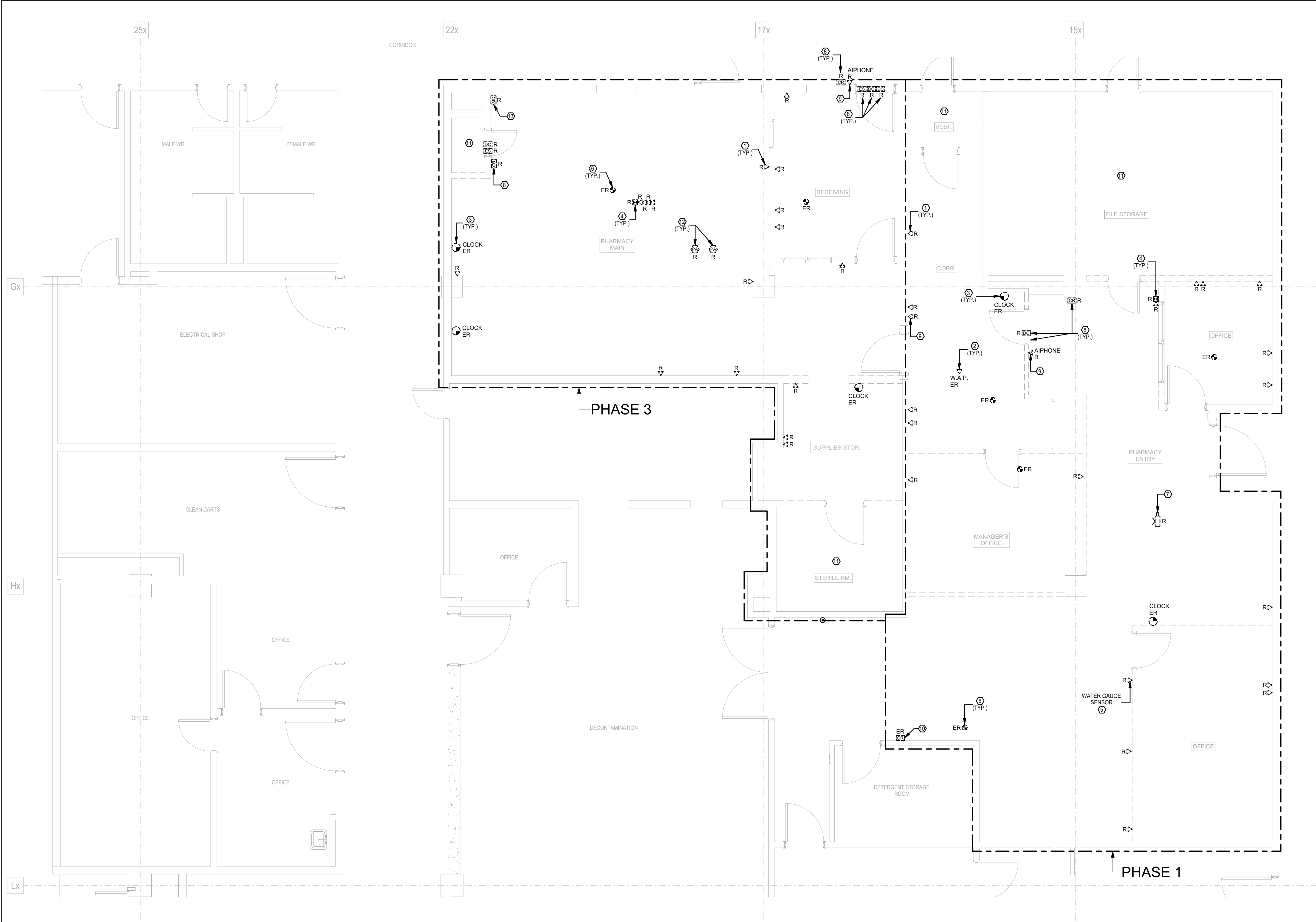
PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
LEVEL 1 - ELECTRICAL POWER LAYOUT - DEMOLITION (PHASE 1 AND 3)

PROJECT NO:
23001A

CHECKED:
C.T.J.P.Y.

DRAWING NO:
E-202



- DEMOLITION KEY NOTES**
- 1 EXISTING DATA OUTLET C/W ASSOCIATED CONDUIT AND CABLE TO BE REMOVED BACK TO SOURCE PANEL.
 - 2 EXISTING WIRELESS ACCESS POINT (W.A.P.) TO BE RELOCATED. REFER TO DRAWING E-304 FOR NEW LOCATION.
 - 3 EXISTING CLOCK TO BE RELOCATED. REFER TO DRAWING E-304 FOR NEW LOCATION.
 - 4 EXISTING PACK POLE C/W ASSOCIATED RECEPTACLE, DATA, CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.
 - 5 EXISTING SENSOR C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL. COORDINATE WITH GC TO HAND THE EQUIPMENT BACK TO HOSPITAL.
 - 6 EXISTING FIRE ALARM SMOKE DETECTOR TO BE RELOCATED. REFER TO DRAWING E-304 FOR NEW LOCATION.
 - 7 EXISTING SECURITY CCTV CAMERA C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED AND RELOCATED. REFER TO DRAWING E-310 FOR LOCATION.
 - 8 EXISTING SECURITY DOOR ACCESS CONTROL DEVICES C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.
 - 9 EXISTING VIDEO INTERCOM SYSTEM C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED BACK TO SOURCE PANEL.
 - 10 EXISTING SECURITY CARD READER TO BE RELOCATED TO SUIT NEW LAYOUT. REFER TO DRAWING E-304 FOR NEW LOCATION.
 - 11 INCLUDE IN CONTRACT TO REMOVE ALL EXISTING DATA/TEL OUTLETS C/W ASSOCIATED CONDUIT AND WIRING IN THIS ROOM.
 - 12 EXISTING PUBIC ADDRESS SPEAKER C/W ASSOCIATED CONDUIT AND CABLE TO BE REMOVED BACK TO SOURCE PANEL.
 - 13 EXISTING SECURITY MOTION DETECTOR C/W ASSOCIATED CONDUIT AND WIRING TO BE REMOVED.

1 LEVEL 1 - ELECTRICAL COMMUNICATION, FIRE ALARM SYSTEM AND DOOR ACCESS CONTROL LAYOUT - DEMOLITION (PHASE 1 AND 3)
SCALE: 1 : 50

CLIENT:

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PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
LEVEL 1 - COMMUNICATION, FIRE ALARM AND DOOR ACCESS CONTROL SYSTEMS LAYOUT - DEMOLITION (PHASE 1 AND 3)

PROJECT NO:
23001A

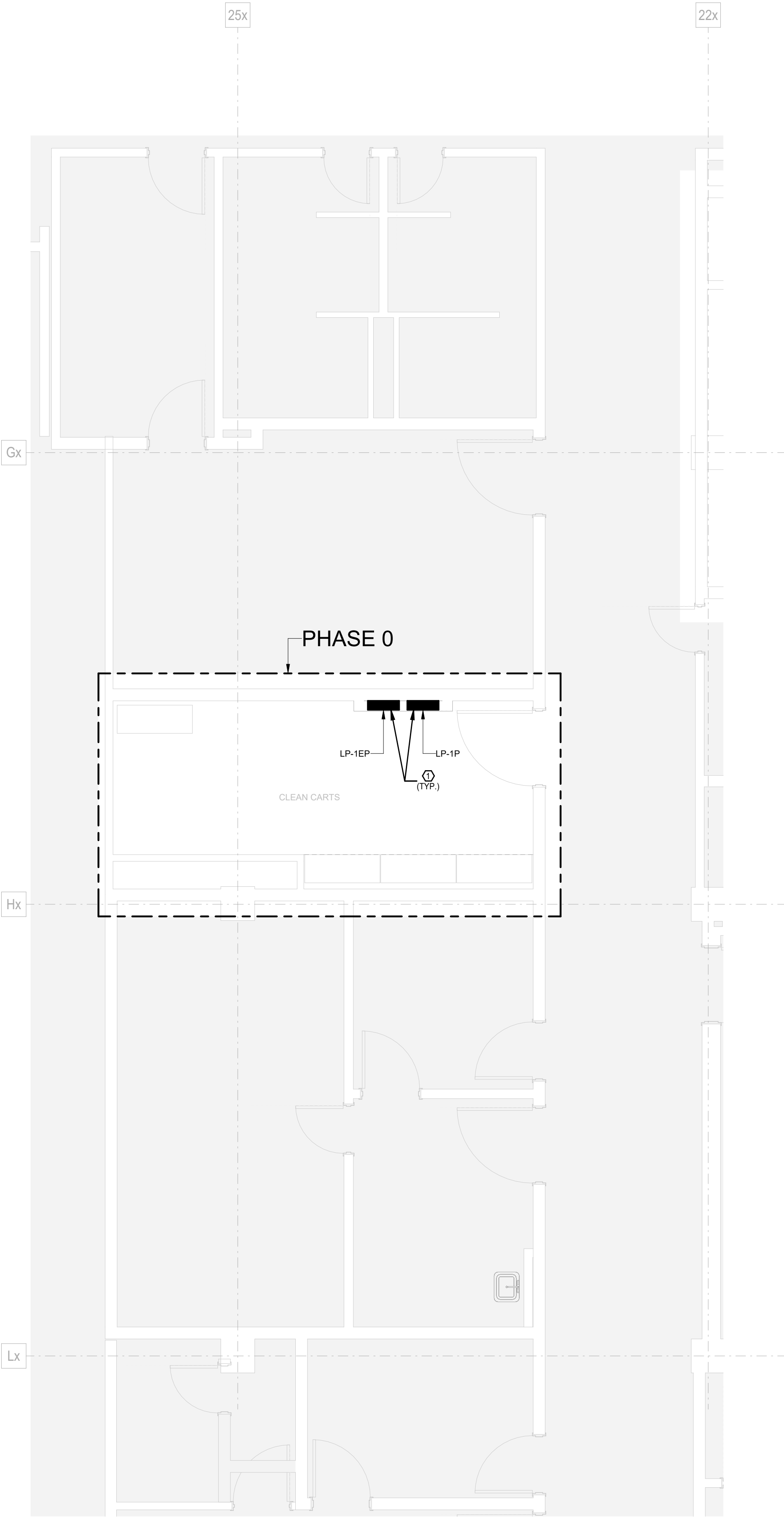
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DRAWING NO:
E-203

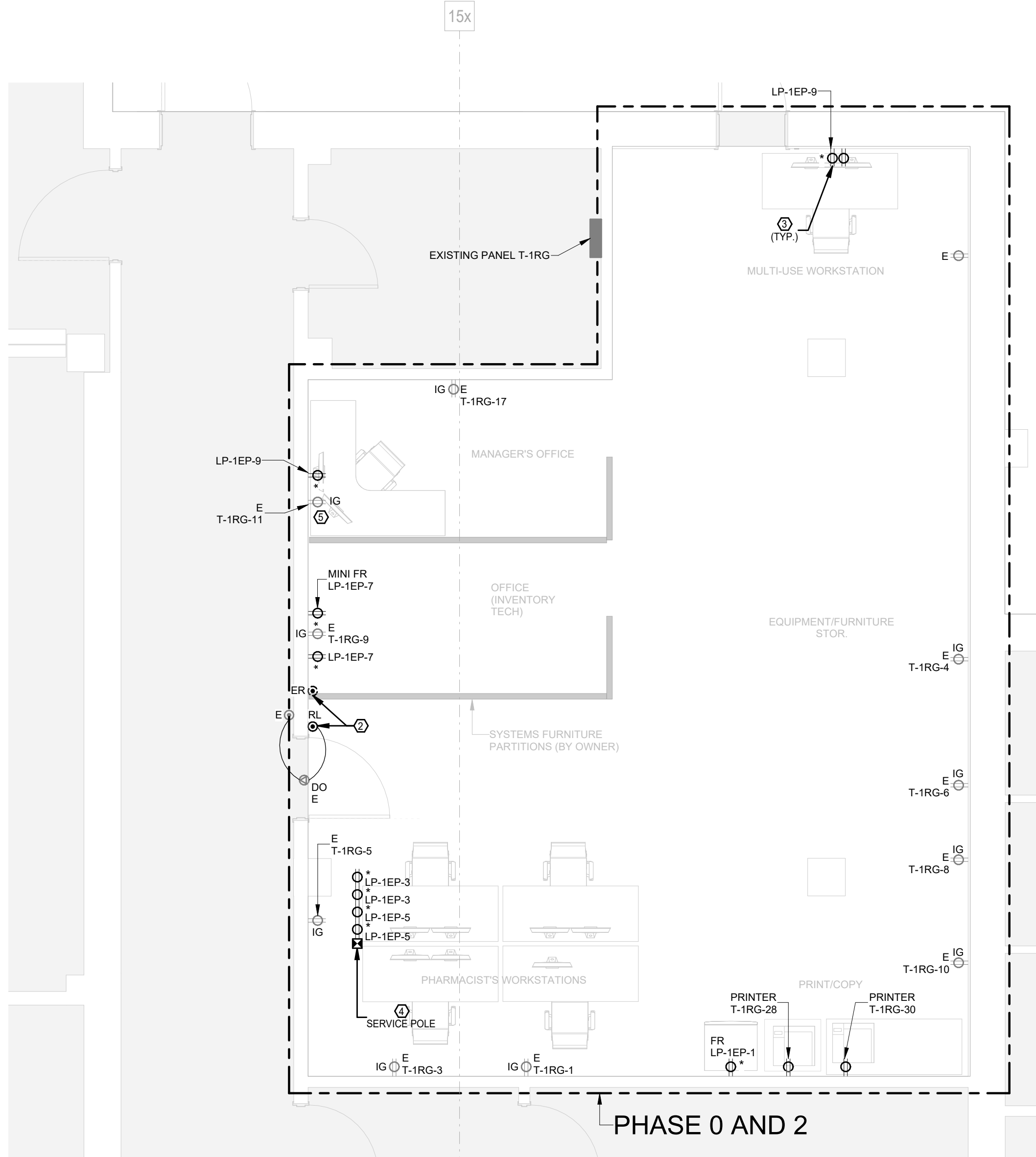


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PROJECT: PHARMACY 1112 St. Andrews Dr, Midland, ON L4R 4P4	
TITLE: LEVEL 1 - ELECTRICAL LIGHTING LAYOUT - NEW WORK (PHASE 0, 1 AND 3)	
PROJECT NO: 23001A	DRAWING NO: E-300
CHECKED: C.T.J.P.Y.	



2 LEVEL 1 CLEAN CARTS - ELECTRICAL POWER LAYOUT - NEW WORK (PHASE 0)
SCALE: 1 : 50



1 LEVEL 1 DECANT SPACE - ELECTRICAL POWER LAYOUT - NEW WORK (PHASE 0 AND 2)
SCALE: 1 : 50

- DRAWING KEY NOTES**
- 1 PROVIDE NEW ELECTRICAL PANEL. REFER TO ELECTRICAL POWER DISTRIBUTION DIAGRAM AND PANEL SCHEDULES ON DRAWING E-400.
 - 2 REMOVE AND RELOCATE EXISTING PUSH BUTTON FOR AUTOMATIC DOOR OPERATOR TO AVOID INTERFERENCE WITH NEW SYSTEM FURNITURE PARTITION. EXTEND CONDUIT, WIRING AND ADJUST TO SUIT.
 - 3 PROVIDE SURFACE MOUNTED RECEPTACLES ON BLOCK WALL AS SHOWN.
 - 4 PROVIDE NEW 2 COMPARTMENT ALUMINUM SERVICE POLE C/W ADD-ON COVERS FOR POWER, RECEPTACLES, DATA OUTLETS, CONDUIT AND WIRING TO SUIT FURNITURE LAYOUT (MANUFACTURE: LEGRAND WIREMOLD CAT. #AMDT-P-4). SERVICE POLE SHALL BE BLACK IN COLOUR. REFER TO DRAWING E-303 FOR QUANTITY OF DATA OUTLETS.
 - 5 INCLUDE IN CONTRACT TO REINSTALL EXISTING RECEPTACLE WITH SURFACE BOX PROPERLY

CLIENT:

 1112 St Andrews Dr, Midland, ON L4R 4P4

CONSULTANT:

 250 Rowntree Dairy Rd, Woodbridge, ON L4L 5J7 905-507-0800 www.quasargroup.com

HC-24-104

SEAL:



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NO	DESCRIPTION	DATE
2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14

SHEET REVISION

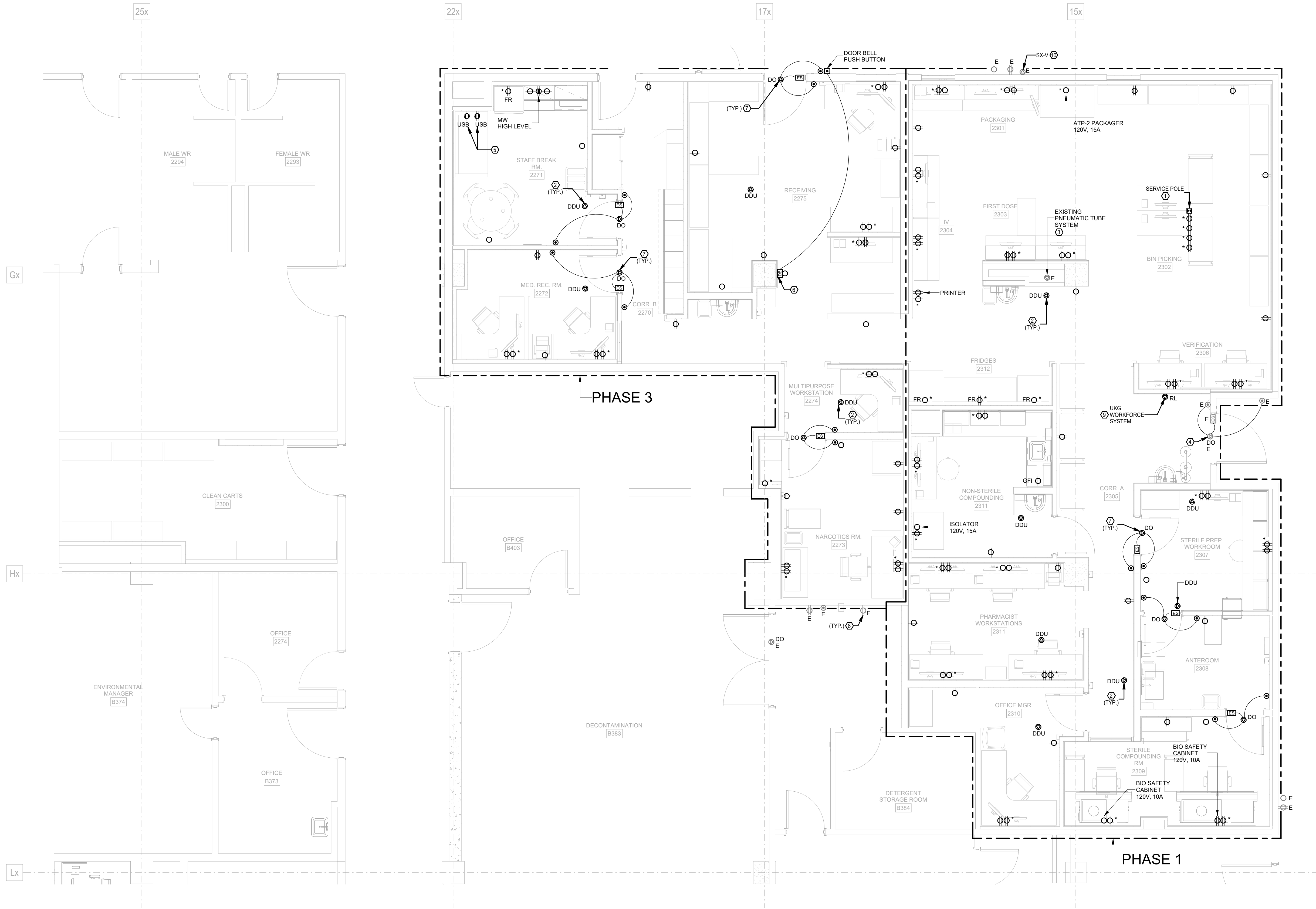
PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
LEVEL 1 - ELECTRICAL POWER LAYOUT - NEW WORK (PHASE 0 AND 2)

PROJECT NO:
23001A

CHECKED:
C.T.P.Y.

DRAWING NO:
E-301



1 LEVEL 1 - ELECTRICAL POWER LAYOUT - NEW WORK (PHASE 1 AND 3)
SCALE: 1 : 50

- DRAWING KEY NOTES**
- 1 PROVIDE NEW 2 COMPARTMENTS ALUMINUM SERVICE POLE C/W ADD-ON COVERS FOR POWER, RECEPTACLES, DATA OUTLETS, CONDUIT AND WIRING TO SUIT FURNITURE LAYOUT (MANUFACTURE: LEGRAND WIREMOLD CAT. #AMOTP-4). SERVICE POLE SHALL BE BLACK IN COLOUR. REFER TO DRAWING E-304 FOR QUANTITY OF DATA OUTLETS.
 - 2 PROVIDE 120V OUTLET FOR DUAL DUCT TERMINAL UNIT. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATION.
 - 3 EXISTING PNEUMATIC TUBE SYSTEM TO REMAIN.
 - 4 EXISTING BARRIER FREE DOOR OPERATOR C/W PUSHBUTTON AND ELECTRIC STRIKE TO REMAIN.
 - 5 PROVIDE RECEPTACLE C/W USB IN STAFF BREAK ROOM 2271.USB CHARGER RECEPTACLE SHALL BE 15A, 120V COMMERCIAL GRADE WITH COMBINATION USB PORTS (ONE TYPE A AND ONE TYPE C), HIGH POWER 5 AMP, 5 VOLT USB OUTPUT, USB PORTS RATED 10,000 CYCLES. HUBBELL #USB15ACSWWR.
 - 6 PROVIDE DOOR BELL SYSTEM C/W PUSH BUTTON AND BELL. COORDIANTE EXACT LOCATION WITH ARCHITECT AND PHARMACY PRIOR TO INSTALLATION.
 - 7 DOOR OPERATOR COMPLETE WITH PUSH BUTTONS AND ELECTRIC STRIKE TO BE SUPPLIED BY DOOR HARDWARE CONTRACTOR. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL REQUIRED BACK BOXES, CONDUIT, WIRING AND FINAL HOOK UP TO ALL DEVICES. OBTAIN WIRING AND SCHEMATIC FROM DOOR HARDWARE CONTRACTOR/SHOP DRAWING. COORDINATE ALL WORK WITH DOOR HARDWARE CONTRACTOR.
 - 8 EXISTING DUPLEX RECEPTACLE TO REMAIN. ADJUST CONDUIT, WIRING TO SUIT NEW LAYOUT AS REQUIRED.
 - 9 EXISTING UKG WORKFORCE MANAGEMENT PANEL AT NEW LOCATION. EXTEND CONDUIT, WIRING AND ADJUST TO SUIT.
 - 10 EXISTING ITI SX-V PANEL TO REMAIN.

CLIENT:

 1112 St Andrews Dr, Midland, ON L4R 4P4

CONSULTANT:

 250 Rowntree Dairy Rd, Woodbridge, ON L4L 5J7 905-507-0800 www.quasargroup.com

HC-24-104

SEAL:



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NO	DESCRIPTION	DATE
2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14

SHEET REVISION

PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
LEVEL 1 - ELECTRICAL POWER LAYOUT - NEW WORK (PHASE 1 AND 3)

PROJECT NO:
23001A

CHECKED:
C.T.J.P.Y.

DRAWING NO:
E-302



- ① PROVIDE DATA OUTLET C/W 21mm (3/4") CONDUIT TERMINATE IN ACCESSIBLE SPACE. CAT6A F/UTP PLENUM RATED CABLE(S), CAT6 RJ45 JACK(S), COVER PLATE(S), LABEL(S) AND TERMINATION AT BOTH ENDS. TERMINATE DATA CABLE(S) AT PATCH PANEL IN LEVEL 1 ELECTRICAL/COMM ROOM. PROVIDE QUANTITY OF DATA DROP AS SHOWN.
- ② EXISTING DATA OUTLET TO REMAIN.
- ③ EXISTING WIRELESS ACCESS POINT (W.A.P.) TO REMAIN.
- ④ EXISTING PUBLIC ADDRESS SPEAKER TO REMAIN.
- ⑤ EXISTING CLOCK TO REMAIN.
- ⑥ EXISTING CARD READER AND MAGLOCK TO REMAIN.
- ⑦ EXISTING FIRE ALARM PULL STATION TO REMAIN.
- ⑧ EXISTING FIRE ALARM BELL TO REMAIN.
- ⑨ EXISTING FIRE ALARM SMOKE DETECTOR TO REMAIN.
- ⑩ PROVIDE CAT.6A F/UTP PLENUM RATED CABLES AND CAT.6A RJ45 JACKS IN THE NEW ALUMINUM SERVICE POLE TO SUIT FURNITURE LAYOUT. REFER TO DRAWING E-301 FOR QUANTITY OF RECEPTACLES.

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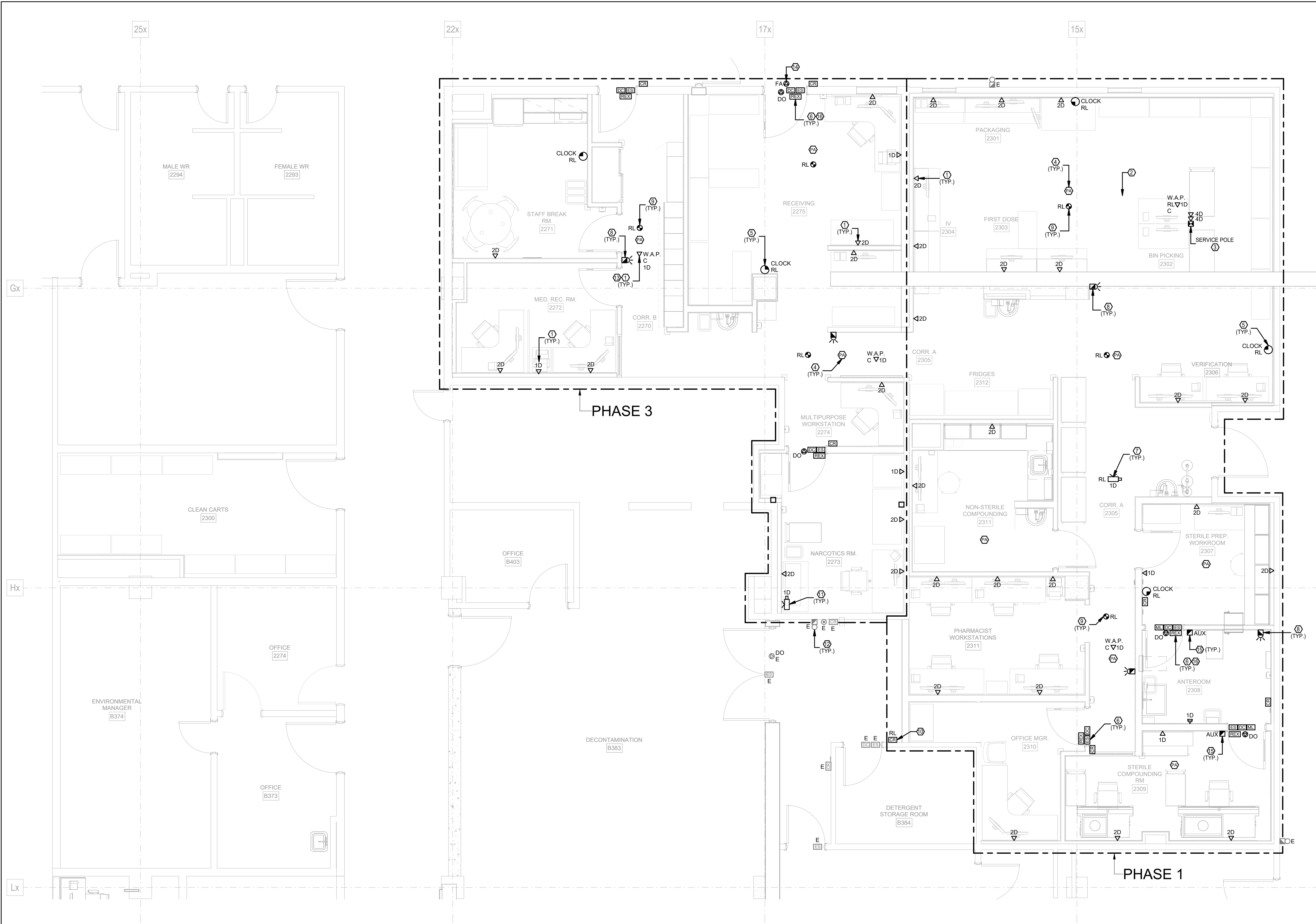
2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14
NO	DESCRIPTION	DATE

PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE: LEVEL 1 - COMMUNICATION, FIRE ALARM AND DOOR ACCESS CONTROL LAYOUT - NEW WORK (PHASE 0 AND 2)

CHECKED:
C.T./P.Y.

E-303



- DRAWING KEY NOTES**
- 1 PROVIDE DATA OUTLET C/W 21mm (3/4") CONDUIT TERMINATE IN ACCESSIBLE SPACE, CAT 6A FT6 PLENUM RATED CABLE(S), CAT 6A RJ45 JACK(S), COVER PLATE(S), LABEL(S) AND TERMINATION AT BOTH ENDS. TERMINATE DATA CABLE(S) AT PATCH PANEL IN ELECTRICAL/COMM ROOM. PROVIDE QUANTITY OF DATA DROP AS SHOWN.
 - 2 EXISTING DATA OUTLET FOR WIRELESS ACCESS POINT AT NEW LOCATION. EXTEND CONDUIT, WIRING AND ADJUST TO SUIT.
 - 3 PROVIDE CAT 6A FT6 PLENUM RATED CABLES AND CAT 6A RJ45 JACKS IN THE NEW ALUMINUM SERVICE POLE TO SUIT FURNITURE LAYOUT. REFER TO DRAWING E-302 FOR QUANTITY OF RECEPTACLES.
 - 4 PROVIDE PUBLIC ADDRESS SPEAKER TO MATCH EXISTING TYPE C/W ASSOCIATED CONDUIT, WIRING AND CONNECT TO NEAREST SPEAKER CIRCUIT.
 - 5 EXISTING CLOCK AT NEW LOCATION. EXTEND CONDUIT, WIRING AND ADJUST TO SUIT NEW LAYOUT.
 - 6 REFER TO DRAWING E-501 FOR DOOR ACCESS CONTROL REQUIREMENT. RETAIN SERVICE OF APPROVED GBGH ACCESS CONTROL CONTRACTOR TO PERFORM ALL REQUIRED DOOR ACCESS CONTROL WORK.
 - 7 EXISTING SECURITY CAMERA AT NEW LOCATION. EXTEND CONDUIT, WIRING AND ADJUST TO SUIT NEW LAYOUT.
 - 8 PROVIDE NEW FIRE ALARM BELL WITH STROBE LIGHT C/W ASSOCIATED CONDUIT, WIRING AND CONNECT TO CORRESPONDING FIRE ALARM ZONE. INCLUDE TESTING AND VERIFICATION. RETAIN SERVICE OF APPROVED GBGH FIRE ALARM CONTRACTOR TO PERFORM ALL FIRE ALARM WORK.
 - 9 EXISTING SMOKE DETECTOR AT NEW LOCATION. EXTEND CONDUIT, WIRING ADJUST TO SUIT. INCLUDE TESTING AND VERIFICATION. RETAIN SERVICE OF APPROVED GBGH FIRE ALARM CONTRACTOR TO PERFORM ALL FIRE ALARM WORK.
 - 10 EXISTING CARD READER AT NEW LOCATION. EXTEND CONDUIT, WIRING AND ADJUST TO SUIT. RETAIN SERVICE OF APPROVED GBGH DOOR ACCESS CONTROL CONTRACTOR TO PERFORM ALL DOOR ACCESS CONTROL WORK.
 - 11 PROVIDE ROUGH-IN FOR SECURITY CAMERA. COORDINATE WITH SECURITY CONTRACTOR FOR REQUIREMENT PRIOR TO INSTALLATION.
 - 12 EXISTING FIRE ALARM BELL IN RECESS BOX TO REMAIN.
 - 13 PROVIDE NEW DATA OUTLET AT CEILING FOR WIRELESS ACCESS POINT.
 - 14 PROVIDE FIRE ALARM INTERFACE WITH AUTOMATIC DOOR OPERATOR INCLUDING ALL REQUIRED FA RELAY, CONDUIT AND WIRING. DOOR OPERATOR SHALL BE RELEASED OR DE-ENERGIZED UPON RECEIVING FIRE ALARM SIGNAL. INCLUDE FINAL TESTING AND VERIFICATION.
 - 15 PROVIDE FIRE ALARM PULL STATION WITH AUXILIARY CONTACT/RELAY INCLUDING ASSOCIATED CONDUIT, WIRING FOR INTERFACE AND RELEASE OF MAGLOCK REFER TO DRAWING E-501.
 - 16 PROVIDE ALL REQUIRED WIRING INTERFACE WITH AUTOMATIC DOOR OPERATOR.

1 LEVEL 1 - ELECTRICAL COMMUNICATION, FIRE ALARM SYSTEM AND DOOR ACCESS CONTROL LAYOUT - NEW WORK (PHASE 1 AND 3)
SCALE: 1 : 50

CLIENT:

GEORGIAN BAY General Hospital 1112 St Andrews Dr, Midland, ON L4R 4P4

CONSULTANT:

QUASAR CONSULTING GROUP 250 Rowntree Dairy Rd, Woodbridge, ON L4L 5J7 905-507-0800 www.quasarog.com

HC-24-104

SEAL:

LICENSED PROFESSIONAL ENGINEER 2025-12-17 T. C. TRAN PROVINCE OF ONTARIO

THE SPECIFICATIONS ARE TO BE CONSIDERED AS AN INTEGRAL PART OF THESE DRAWINGS AND NEITHER THE DRAWINGS NOR THE SPECIFICATIONS SHALL BE USED ALONE. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. DO NOT SCALE.

2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14
NO	DESCRIPTION	DATE

SHEET REVISION

PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
LEVEL 1 - COMMUNICATION, FIRE ALARM AND DOOR ACCESS CONTROL LAYOUT - NEW WORK (PHASE 1 AND 3)

PROJECT NO:
23001A

CHECKED:
C.T.J.P.Y.

DRAWING NO:
E-304

ELECTRICAL PANELBOARD SCHEDULE								
NEW PANEL ID: LP-1EP			VOLTS: 120/208V			LOCATION: CLEAN CARTS 2300		
MAIN BUS: 125A			PHASE: 3			FED FROM: EXISTING SPLITTER 2A1		
MAIN BREAKER: N/A			WIRE: 4			FEED ENTRY AT: TOP/BOTTOM		
TYPE: SIEMENS P2			MOUNTING: SURFACE			FEEDER: NEW		
INTERRUPTING CAPACITY: 10KA			ENCLOSURE RATING: SPRINKLER PROOF			REMARKS		
CIR NO.	DESCRIPTION	WATTAGE	BREAKER	Φ	BREAKER	WATTAGE	DESCRIPTION	CIR NO.
1	DECANT SPACE FRIDGE RECEPT.		15A	A				2
3	DECANT SPACE SERVICE POLE RECEPTS.		15A	B				4
5	DECANT SPACE SERVICE POLE RECEPTS.		15A	C				6
7	DECANT SPACE MINI FRIDGE RECEPT.		15A	A				8
9	DECANT SPACE OFFICE RECEPTS.		15A	B				10
11				C				12
13				A				14
15				B				16
17				C				18
19				A				20
21				B				22
23				C				24
25				A				26
27				B				28
29				C				30
31				A				32
33				B				34
35				C				36
37				A				38
39				B				40
41				C				42
43				A				44
45				B				46
47				C				48
49				A				50
51				B				52
53				C				54
55				A				56
57				B				58
59				C				60
61				A				62
63				B				64
65				C				66
			TOTAL: 0 W					
NOTES: * - PROVIDE LOCKABLE BREAKER ** - PROVIDE GFI TYPE BREAKER *** - COORDINATE EXACT BREAKER SIZE WITH EQUIPMENT SHOP DRAWINGS								

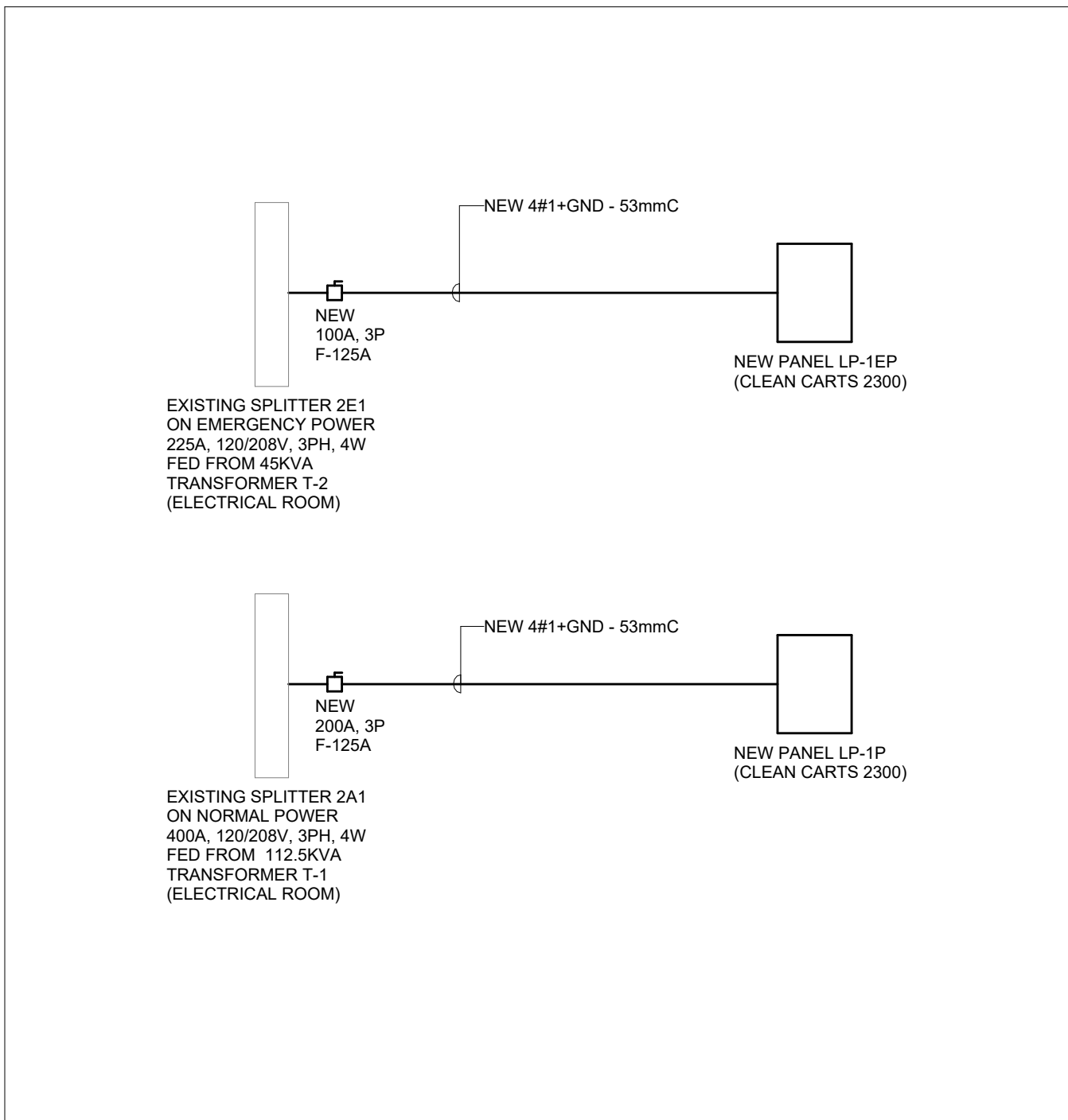
ELECTRICAL PANELBOARD SCHEDULE								
NEW PANEL ID: LP-1P			VOLTS: 120/208V			LOCATION: CLEAN CARTS 2300		
MAIN BUS: 125A			PHASE: 3			FED FROM: EXISTING SPLITTER 2A1		
MAIN BREAKER: N/A			WIRE: 4			FEED ENTRY AT: TOP/BOTTOM		
TYPE: SIEMENS P2			MOUNTING: SURFACE			FEEDER: NEW		
INTERRUPTING CAPACITY: 10KA			ENCLOSURE RATING: SPRINKLER PROOF			REMARKS		
CIR NO.	DESCRIPTION	WATTAGE	BREAKER	Φ	BREAKER	WATTAGE	DESCRIPTION	CIR NO.
1				A				2
3				B				4
5				C				6
7				A				8
9				B				10
11				C				12
13				A				14
15				B				16
17				C				18
19				A				20
21				B				22
23				C				24
25				A				26
27				B				28
29				C				30
31				A				32
33				B				34
35				C				36
37				A				38
39				B				40
41				C				42
43				A				44
45				B				46
47				C				48
49				A				50
51				B				52
53				C				54
55				A				56
57				B				58
59				C				60
61				A				62
63				B				64
65				C				66
			TOTAL:			0 W		

NOTES:

* - PROVIDE LOCKABLE BREAKER

** - PROVIDE GFI TYPE BREAKER

*** - COORDINATE EXACT BREAKER SIZE WITH EQUIPMENT SHOP DRAWINGS



1 ELECTRICAL POWER DISTRIBUTION DIAGRAM
SCALE: N.T.S.

1112 St Andrews Dr,
Midland, ON
L4R 4P4

250 Rowntree Dairy Rd.
Woodbridge, ON L4L 5J7
905-507-0800
www.quasargroup.com

HC-24-104

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2	ISSUED FOR PERMIT/TENDER	2025-12-17
1	ISSUED FOR 100% DD	2025-10-14
NO	DESCRIPTION	DATE

SHEET REVISION

PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

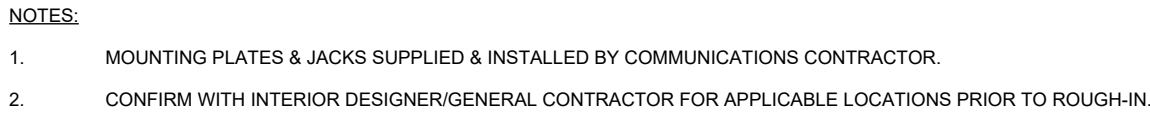
TITLE:
ELECTRICAL POWER DISTRIBUTION
DIAGRAM AND PANEL SCHEDULES

PROJECT NO:
23001A
CHECKED:
C.T./P.Y.

DRAWING NO:
E-400



SCALE: N.T.S.



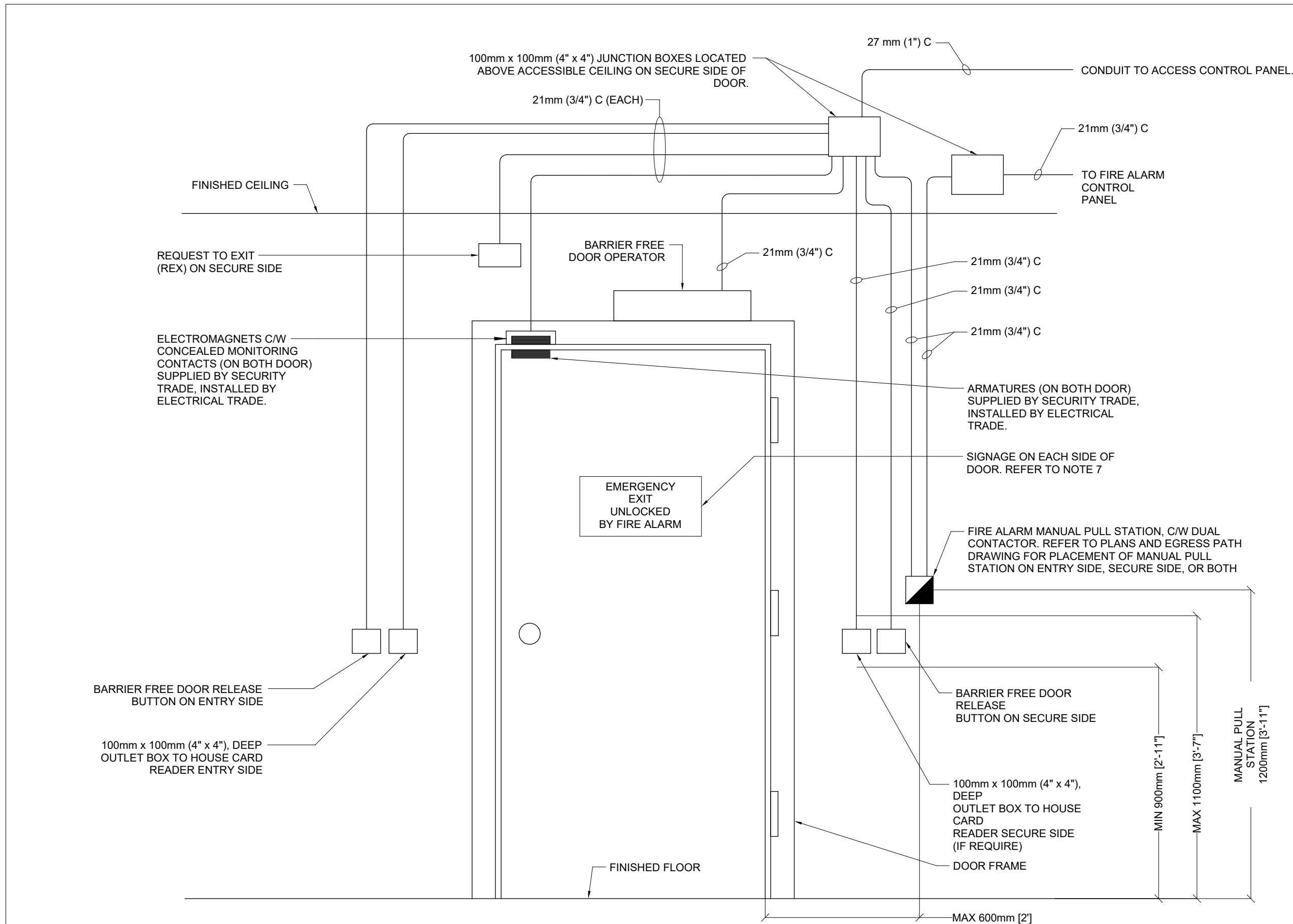
SCALE: N.T.S.

NOTES:

1. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION, QUANTITY, MOUNTING HEIGHT AND SPECIFIC REQUIREMENT.
2. ALL LUMINAIRE SHALL BE PROVIDED AS SPECIFIED. NO ALTERNATE/SUBSTITUTION IS ALLOWED. THIS CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS FOR REVIEW TO CONSULTANT WITHIN ONE WEEK OF AWARDED THE PROJECT.

SCALE:N.T.S.

E-500



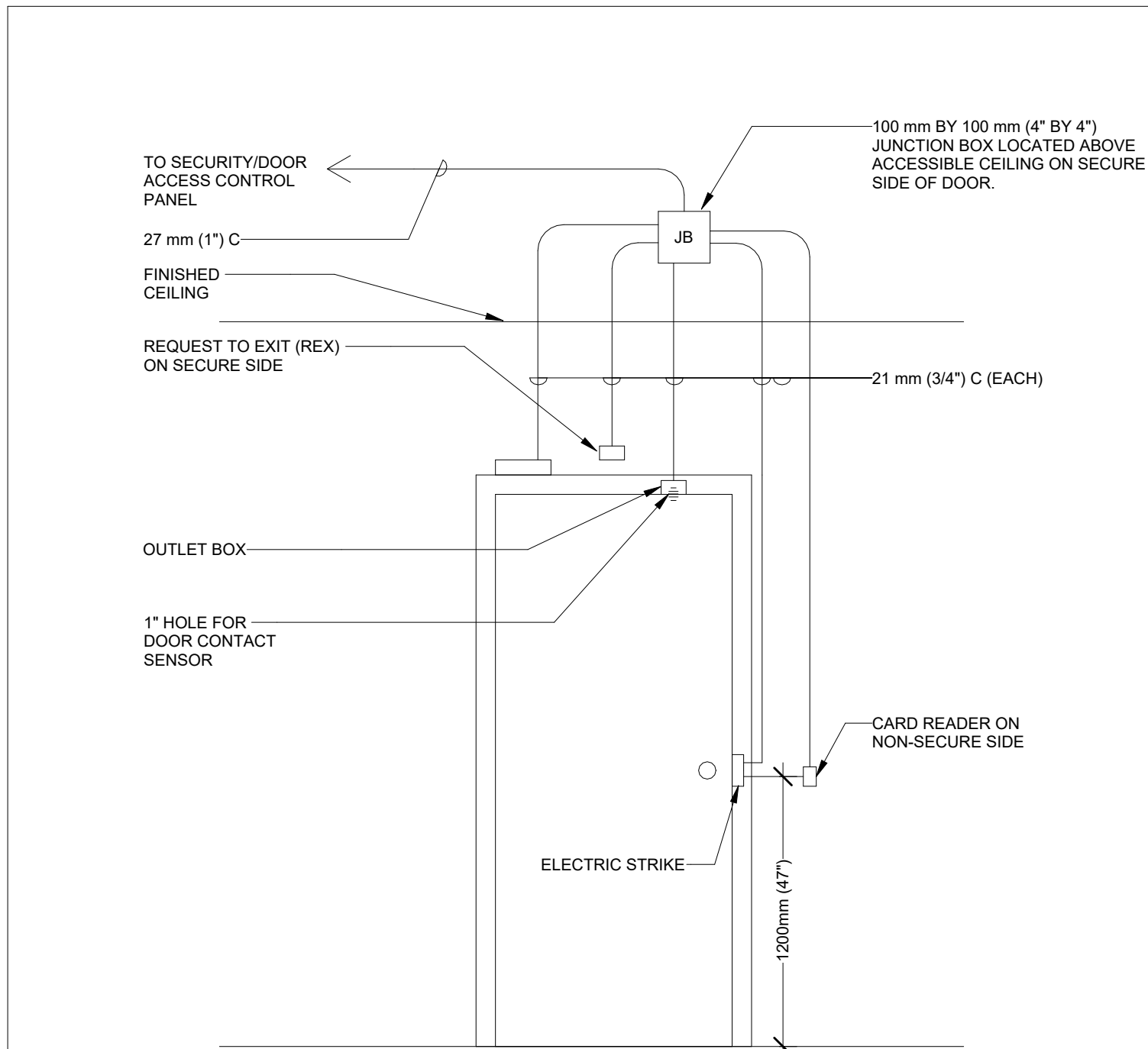
DETAIL NOTES:

1. ALL CONDUITS MINIMUM 21mm (3/4") UNLESS NOTED OTHERWISE. PROVIDE PULL STRINGS IN ALL CONDUITS FOR SECURITY CONTRACTOR.
2. CONFIRM EXACT REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO START OF ROUGH-IN INSTALLATION.
3. OUTLET BOXES AND CONDUIT ROUGH-INS FOR ACCESS CONTROL DEVICES TO BE PROVIDED BY ELECTRICAL TRADE.
4. ALL EXPOSED DEVICES OR WIRES TO BE MOUNTED INSIDE SECURE AREA.
5. PROVIDE EMERGENCY LIGHTS ON BOTH SIDES OF DOOR WITH ELECTROMAGNETIC LOCKS AS PER O.B.C.
6. METRIC DIMENSIONS GOVERN.
7. PROVIDE A LEGIBLE SIGN PERMANENTLY MOUNTED ON EACH SIDE OF THE DOOR HAVING THE WORDS "EMERGENCY EXIT UNLOCKED BY FIRE ALARM" AS PER O.B.C.

MAGLOCK DEVICE EMERGENCY SEQUENCE OF OPERATION:

REF AS PER O.B.C.:

- a. MAGLOCKS TO RELEASE IMMEDIATELY UPON ACTIVATION OF THE ALARM SIGNAL FROM THE FIRE ALARM SYSTEM.
- b. THE LOCKING DEVICE RELEASES IMMEDIATELY UPON LOSS OF POWER TO THE FIRE ALARM CONTROL PANEL, OR LOSS OF POWER CONTROLLING THE ELECTROMAGNETIC LOCKING MECHANISM AND ITS AUXILIARY CONTROLS.
- c. THE LOCKING DEVICE RELEASES IMMEDIATELY UPON ACTUATION OF A MANUALLY OPERATED SWITCH EASILY ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL AND LOCATED NEAR THE MAIN ENTRANCE OF THE BUILDING.
- d. THE LOCKING DEVICE RELEASES IMMEDIATELY UPON A FAULT BEING DETECTED IN THE ELECTRICAL CIRCUIT BETWEEN THE FIRE ALARM CONTROL PANEL AND THE CONTROLLER OF THE LOCKING DEVICE.
- e. THE LOCKING DEVICE RELEASES IMMEDIATELY UPON THE OPERATION OF A MANUAL PULL STATION FOR THE FIRE ALARM SYSTEM LOCATED ON THE WALL NOT MORE THAN 600 MM FROM THE DOOR.
- f. UPON RELEASE, THE LOCKING DEVICE MUST BE RESET MANUALLY BY THE ACTUATION OF THE MANUALLY OPERATED SWITCH.
- g. THE OPERATION OF ANY BYPASS SWITCH, WHERE PROVIDED FOR TESTING OF THE FIRE ALARM SYSTEM, CAUSES AN AUDIBLE SIGNAL AND A VISUAL SIGNAL TO BE INDICATED AT THE FIRE ALARM ANNUNCIATOR PANEL AND AT THE MONITORING STATION.



NOTES:

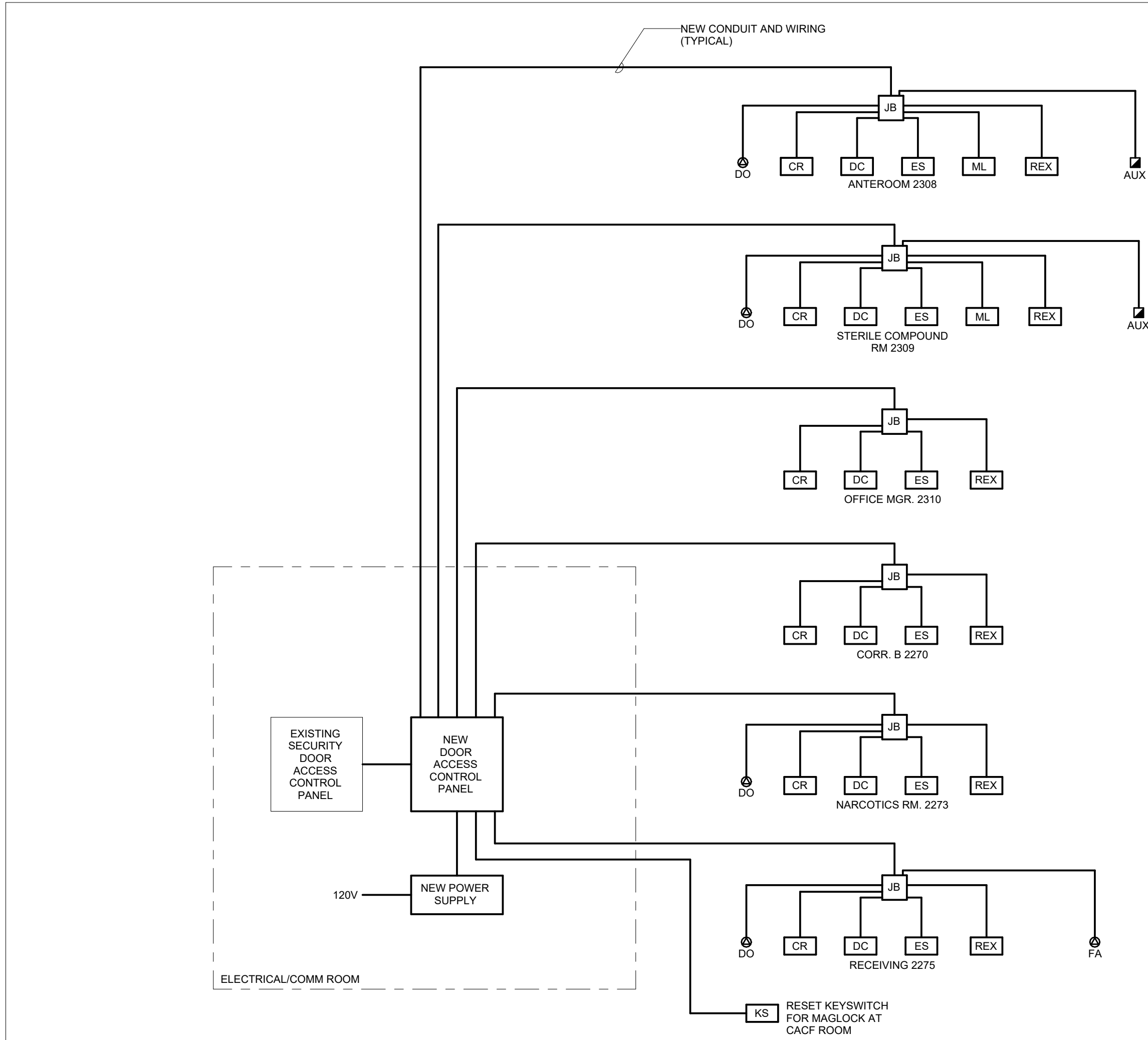
1. ALL CONDUITS SHALL BE 21mm (3/4") C UNLESS OTHERWISE NOTED.
2. CONFIRM EXACT REQUIREMENTS WITH SECURITY CONTRACTOR PRIOR TO INSTALLATION.
3. OUTLET BOXES FOR DEVICES.
4. COORDINATE THE SECURITY CONTRACTOR EXACT SCOPE OF WORK PRIOR TO ROUGH-IN.
5. ALL EXPOSED DEVICES OR WIRES TO BE MOUNTED INSIDE SECURE AREA.
6. PROVIDE PULL STRINGS IN ALL CONDUITS.

SINGLE DOOR MAGLOCK

SCALE: N.T.S.

SINGLE DOOR ELECTRIC STRIKE

SCALE: N.T.S.



NOTES:

1. SECURITY DOOR ACCESS CONTROL SYSTEM CONTRACTOR SHALL PROVIDE THE FOLLOWING ITEMS UNDER DIVISION 28 SCOPE OF WORK:
 1. A COMPLETE SECURITY DOOR ACCESS CONTROL SYSTEM, SALTO G44 SERIES INCLUDING THE FOLLOWING COMPONENTS:
 1. DOOR ACCESS CONTROL PANEL.
 2. POWER SUPPLY PANELS AND BACK-UP BATTERY.
 3. CARD READERS MODULES.
 4. PROXIMITY READERS.
 5. DOOR CONTACTS.
 6. REQUEST FOR EXIT DEVICES.
 2. ALL WIRING AND FINAL CONNECTION FROM DEVICES TO CONTROL PANEL.
 3. ALL WIRING INTERFACE BETWEEN BARRIER FREE DOOR OPERATOR AND DOOR ACCESS CONTROL SYSTEM.
 4. WIRING AND CONNECTION FOR DOOR STRIKES AND MAGLOCKS, 12/24VOLT DC/AC. POWER SUPPLY FOR STRIKE AND MAGLOCK SHALL BE PART OF DOOR ACCESS CONTROLLER.
 5. MAGLOCK RELEASE/RESET KEY SWITCH IN CACF ROOM.
 6. LEGIBLE SIGN HAVING THE WORDS "EMERGENCY EXIT UNLOCKED BY FIRE ALARM" PERMANENTLY MOUNTED ON THE DOOR. LETTERING ON SIGN SHALL BE RED ON WHITE 27mm HIGH AND 6.25 STROKE.
 7. MAGLOCK BUILDING PERMIT.
 8. ALL DOORS EQUIPPED WITH MAGNETIC DOOR LOCKS MUST ALSO BE EQUIPPED WITH CONTACT ALARMS TO ENSURE DOORS ARE LOCKED PROPERLY OR TO ALERT STAFF OF UNAUTHORIZED EXITING WHEN THE MAGNETIC LOCKS ARE DISENGAGED.
 9. ALL REQUIRED TESTING AND PROGRAMMING.
 10. RETAIN SERVICE OF GBCH APPROVED SECURITY DOOR ACCESS CONTROL SYSTEM CONTRACTOR (SURLOCK HOMES LTD.) TO PROVIDE ALL WORK RELATED TO DOOR ACCESS CONTROL SYSTEM AS DESCRIBED ABOVE.
2. GENERAL CONTRACTOR WILL PROVIDE THE FOLLOWING AS PART OF DOOR HARDWARE:
 1. BARRIER FREE AUTO DOOR OPERATOR AND PUSH BUTTONS.
 2. ELECTRIC STRIKE 12/24 VOLT DC/AC.
 3. OPENING IN DOOR FRAME FOR DOOR CONTACT.
 4. CURRENT TRANSFER HINGE.
 5. MAGLOCK.
 6. INTEGRATION MODULE BOX FOR AUTO DOOR OPERATOR INTERFACE WITH SECURITY DOOR ACCESS CONTROL SYSTEM.
 7. REFER TO ARCHITECTURAL DOOR HARDWARE SCHEDULE AND ELECTRICAL ELEVATION SYSTEM DRAWING.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE THE FOLLOWING:
 1. COMPLETE RACEWAY SYSTEM C/W CONDUIT, WIRING, CABLES, PULL BOXES, OUTLETS AND ALL NECESSARY MATERIALS AS REQUIRED AND/OR SHOWN ON THE DRAWINGS READY FOR SECURITY DOOR ACCESS SYSTEM CONTRACTOR AND DOOR HARDWARE SUPPLIER EQUIPMENT INSTALLATION.
 2. WIRING AND 120 VOLT CONNECTION FOR BARRIER FREE DOOR OPERATOR, DOOR POWER SUPPLY, WIRING AND FINAL CONNECTION TO PUSH BUTTON.
 3. FIRE ALARM PULL STATION C/W AUXILIARY CONTACT/RELAY, CONDUIT AND WIRING FOR MAGLOCK INTERFACE WITH FIRE ALARM SYSTEM.
 4. CONDUIT AND WIRING FOR MAGLOCK RESET KEYSWITCH AT CACF ROOM. EXACT LOCATION OF KEYSWITCH TO BE VERIFIED ON SITE.
 5. ALL CONDUITS SHALL BE 21mm UNLESS OTHERWISE NOTED.

SECURITY DOOR ACCESS CONTROL SYSTEM DETAIL

SCALE: N.T.S.

CLIENT:

Georgian Bay General Hospital
1112 St Andrews Dr,
Midland, ON
L4R 4P4

CONSULTANT:

Quasar Consulting Group
250 Rowntree Dairy Rd.
Woodbridge, ON L4L 5J7
905-507-0800
www.quasargroup.com

HC-24-104

SEAL:



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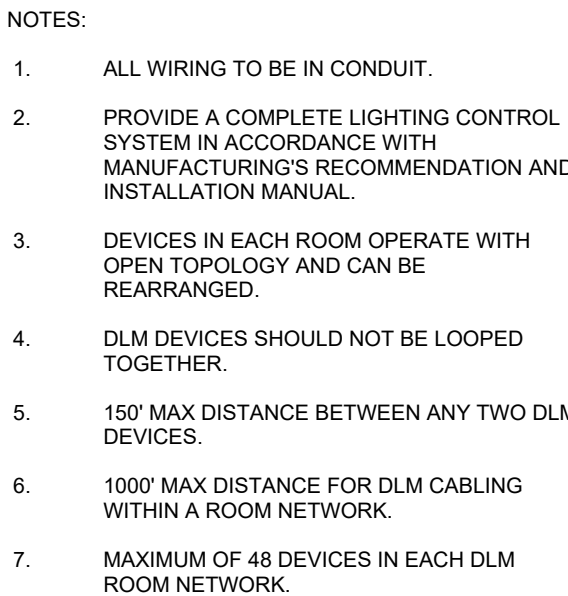
PROJECT:
PHARMACY
1112 St. Andrews Dr, Midland, ON L4R 4P4

TITLE:
SECURITY DOOR ACCESS CONTROL
DETAILS

PROJECT NO:
23001A
CHECKED:
C.T.P.Y.

DRAWING NO:

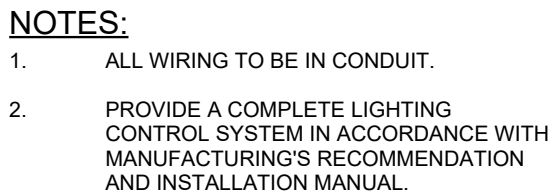
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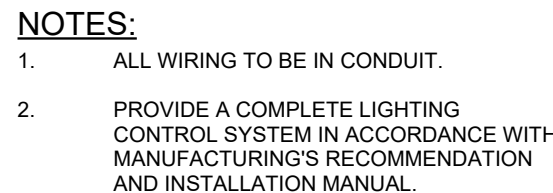
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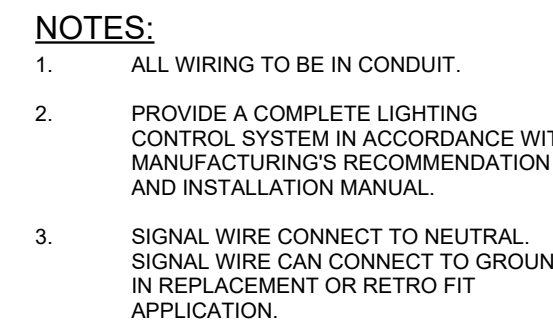
4



3



2



1