

COMMUNICATIONS	
	TELEPHONE OUTLET - CONDUIT (SEE SPECS) C/W CAT 6 CABLEING AND RJ11 OUTLET
	COMPUTER OUTLET - CONDUIT (SEE SPECS) C/W CAT 6 CABLEING AND RJ45 OUTLET
	VOIP PHONE OUTLET - CONDUIT (SEE SPECS) C/W CAT 6 CABLEING AND RJ45 OUTLET
	COMBINATION TELEPHONE AND COMPUTER OUTLET CONDUIT (SEE SPECS) C/W 2x CAT 6 CABLEING, 1x RJ45 And 1x RJ11 OUTLETS
	SPECIAL TELEPHONE OUTLET FOR FAX AND MODEM, CAT 6 CABLE AND RJ11 OUTLET, RUN SEPARATE LINE TO MAIN TERMINAL BOARD
	WIRELESS ACCESS POINT RECEPTACLE DEDICATED FOR CONDUIT (SEE SPECS) C/W CAT 6 CABLEING AND RJ45 OUTLET
	COMBINATION TELEPHONE AND COMPUTER OUTLET FOR MODULAR FURNITURE, 2x CAT 6 CABLEING, 1x RJ45 AND 1x RJ11 OUTLETS, FISH CABLEING THROUGH FURNITURE AND TERMINATE AT DESK.
	COMPUTER OUTLET FOR MODULAR FURNITURE, CAT 6 CABLEING AND RJ45 OUTLET, FISH CABLEING THROUGH FURNITURE AND TERMINATE AT DESK
	CABLE TV OUTLET - 3/4" (19mm) CONDUIT C/W RG6 CABLEING AND F CONNECTOR
	CLOCK
	COMMUNICATION DEVICES MOUNTED IN 2 CHANNEL RACEWAY
	COMMUNICATION NOTES: NUMBER BESIDE THE OUTLET DENOTES NUMBER OF OUTLETS

SECURITY, ACCESS CONTROL, CCTV	
	AREA TYPE BREAK GLASS DETECTOR
	SINGLE-PANE TYPE BREAK GLASS DETECTOR
	DOOR CONTACT
	ROLL-UP OR OVERHEAD DOOR CONTACT
	ELECTRONIC KEY PAD
	MOTION DETECTOR
	PHOTO-ELECTRIC BEAM SOURCE
	PHOTO-ELECTRIC BEAM REFLECTOR
	SECURITY SYSTEM ALARM SIGNAL
	VIDEO MONITORING CAMERA
	POWER DOOR PUSH BUTTON OPERATOR
	AUTOMATIC DOOR OPENER
	CARD READER
	ELECTRIC STRIKE
	MAGNETIC LOCK
	MAGNETIC LOCK KEY SWITCH
	OCCUPIED LIGHT CAMDEN LED ANNUNCIATOR CM-AF-500
	PUSH TO RELEASE
	PUSH TO LOCK CAMDEN PUSHBUTTON CM-400/8
	REQUEST TO EXIT
	SCRAMBLE PAD
	HANDS FREE SWITCH CAMDEN SUREWAVE CM-324/3
	WAVE TO LOCK

PUBLIC ADDRESS SYSTEM AND INTERCOM	
	CEILING MOUNTED SPEAKER
	WALL MOUNTED SPEAKER
	MICROPHONE
	INTERCOM
	VOLUME CONTROL

NURSECALL SYSTEM	
	SINGLE PATIENT STATION - VOICE
	SINGLE PATIENT STATION - TONE
	EMERGENCY STATION
	STAFF STATION
	CODE BLUE STATION
	CODE PINK STATION
	DOME LIGHT - CEILING MOUNTED
	DOME LIGHT - WALL MOUNTED
	ZONE LIGHT - CEILING MOUNTED
	ZONE LIGHT - WALL MOUNTED
	CODE PINK DOME LIGHT - CEILING MOUNTED
	CODE PINK DOME LIGHT - WALL MOUNTED
	ANNUNCIATOR CONTROL UNIT

FIRE ALARM	
	PHOTOELECTRIC TYPE SMOKE DETECTOR
	PHOTOELECTRIC TYPE SMOKE DETECTOR WITH A RELAY BASE
	PHOTOELECTRIC TYPE SMOKE ALARM, 120VAC WITH BATTERY BACKUP, INTERCONNECTED AS SHOWN
	PHOTOELECTRIC TYPE DUCT SMOKE DETECTOR
	RATE OF RISE AND 57 °C FIXED TEMPERATURE HEAT DETECTOR
	92 °C FIXED TEMPERATURE HEAT DETECTOR
	MANUAL PULL STATION
	ELECTRIC SUPERVISED VALVE
	FLOW SWITCH
	PRESSURE SWITCH
	FIRE ALARM SIGNALING APPLIANCE - SINGLE STROKE BELL
	FIRE ALARM SIGNALING APPLIANCE - VIBRATING
	FIRE ALARM SIGNALING APPLIANCE - HORN
	FIRE ALARM SIGNALING APPLIANCE - STROBE
	FIRE ALARM SIGNALING APPLIANCE - COMBINATION HORN AND STROBE
	FIRE ALARM DOOR RELEASE DEVICE
	FIRE ALARM SPEAKER - WALL/COLUMN MOUNT
	FIRE ALARM SPEAKER - CEILING MOUNT
	FIRE FIGHTERS HANDSET
	FIRE ALARM ANNUNCIATOR PANEL
	FIRE ALARM CONTROL PANEL
	CARBON MONOXIDE DETECTOR
	CONNECT TO FIRE ALARM SYSTEM AND POWER

LIGHTING FIXTURES	
	SURFACE OR RECESS MOUNTED LIGHTING FIXTURES. LETTER DENOTES TYPE.
	SURFACE OR RECESS MOUNTED LIGHTING FIXTURES ON AN EMERGENCY OR NIGHT LIGHT CIRCUIT. LETTER DENOTES TYPE.
	SURFACE OR RECESS MOUNTED LIGHTING FIXTURES, LETTER DENOTES TYPE.
	SURFACE OR RECESS MOUNTED LIGHTING FIXTURES ON AN EMERGENCY OR NIGHT LIGHT CIRCUIT. LETTER DENOTES TYPE.
	WALL OR COLUMN MOUNTED LIGHTING FIXTURES, LETTER DENOTES TYPE.
	WALL OR COLUMN MOUNTED LIGHTING FIXTURES ON AN EMERGENCY OR NIGHT LIGHT CIRCUIT. LETTER DENOTES TYPE.
	SURFACE OR SUSPENDED STRIP LIGHTING FIXTURE. LETTER DENOTES TYPE.
	B-1-2 LIGHTING CIRCUITING NOTE, B-PANELBOARD I.D., 1- BRANCH CIRCUIT, 2-LOCAL (SWITCH) CIRCUIT.
	SWITCH, SINGLE-POLE, SINGLE-THROW
	CEILING MOUNTED OCCUPANCY SENSOR, REFER TO SCHEDULE FOR TYPE
	WALL SWITCH OR WALL/CORNER MOUNTED OCCUPANCY SENSOR, REFER TO SCHEDULE FOR TYPE
	TYPICAL SWITCH NOTES, CIRCUITING: B-PANEL BOARD I.D., 1-BRANCH CIRCUIT, 2-LOCAL (SWITCH) CIRCUIT. XX-SUBSCRIPT(S): E-EMERGENCY POWER, D-DIMMING, LV- LOW VOLTAGE WALLSTATION P-PILOT LIGHT, 3-THREE WAY, 4-FOUR WAY, YS-VACANCY SENSOR, WP- WEATHERPROOF
	LIGHTING CONTROL OPERATION, REFER TO THE SCHEDULE FOR CONTROL FUNCTIONALITY IN THE SPACE.

EMERGENCY LIGHTING AND EXIT SIGNS	
	SURFACE MOUNTED EMERGENCY LIGHTING FIXTURE
	RECESSED EMERGENCY LIGHTING FIXTURE
	EXIT/RUNNING MAN PICTOGRAM SIGN
	EMERGENCY LIGHTING FIXTURE AND BATTERY
	EMERGENCY LIGHTING FIXTURE, BATTERY AND EXIT SIGN
	DC -X DC - DENOTES A SOURCE OF DC POWER X - DENOTES POWER SOURCE IDENTIFICATION
	DC POWER CIRCUITING NOTE: X - DC POWER SOURCE IDENTIFICATION 2 - BRANCH CIRCUIT

LEGEND	
THIS LEGEND REPRESENTS THE SYMBOLS COMMONLY USED. NOT ALL SYMBOLS MAY APPEAR ON THE DRAWINGS. SHOULD A SYMBOL BE FOUND ON THE DRAWING AND NOT APPEARING ON THE LEGEND, THE CONTRACTOR SHALL SUBMIT A QUESTION TO HAVE THE SYMBOL CLARIFIED IN AN ADDENDUM PRIOR TO SUBMITTING A BID.	

ABBREVIATIONS	
20A	DENOTES 5-20R DEVICE
AC	ABOVE COUNTER
ADO	AUTOMATIC DOOR OPENER
AE	APPROVED EQUAL
AFF	ABOVE FINISHED FLOOR
AN	FIRE ALARM ANNUNCIATOR
BD	RECEPTACLE DEDICATED FOR PATIENT BED
BH	BASEBOARD HEATER
CB	CIRCUIT BREAKER
ER	EXISTING TO BE RELOCATED
EX	EXISTING TO REMAIN
FH	FORCED-AIR HEATER
GFI	EQUIPMENT SO NOTED TO BE SUPPLIED WITH A GROUND FAULT CIRCUIT INTERRUPTER
HSPK	HOUSEKEEPING
JB	JUNCTION BOX
PD	POWER DOOR
R	RELAY WITH AUXILIARY CONTACTS
REL	RELOCATED ITEM IN NEW LOCATION
REM	EXISTING TO BE REMOVED IN IT'S ENTIRETY
T	TRANSFORMER
UH	UNIT HEATER
UN	UNLESS NOTED OTHERWISE
W	WALL MOUNT - VERIFY HEIGHT
WP	EQUIPMENT SO NOTED TO BE SUPPLIED WITH THE MANUFACTURERS WEATHER-PROOFING OPTION(S)

POWER LAYOUT	
	DISCONNECT SWITCH (DS)
	COMBINATION STARTER (CS)
	MAGNETIC STARTER (MG)
	MANUAL STARTER (CS)
	POWER PANEL
	POWER TRANSFORMER
	ELECTRIC HEATING EQUIPMENT
	EQUIPMENT SUPPLIED BY OTHERS REQUIRING ELECTRICAL POWER CONNECTION REFER TO EQUIPMENT SCHEDULE
	EQUIPMENT SUPPLIED BY OTHERS REQUIRING ELECTRICAL POWER CONNECTION REFER TO OWNER EQUIPMENT SCHEDULE
	ALL MODES OF OPERATION OF EQUIPMENT SO NOTED TO BE SHUT DOWN BY THE ALARM CONDITION OF THE FIRE ALARM CONTROL PANEL
	PUSH BUTTON
	PUSH BUTTON STATION
	THERMOSTAT
	TIME CLOCK
	JIFFY POLE
	120V HARDWIRE CONNECTION
	208V, 1Ø HARDWIRE CONNECTION
	208V, 3Ø HARDWIRE CONNECTION
	600V, 3Ø HARDWIRE CONNECTION
	JUNCTION BOX
	HAND DRYER
	FLOOR BOX

WIRING DEVICES	
	SPECIAL RECEPTACLE, REFER TO NOTES OR DESCRIPTION FOR TYPE
	125 VOLT, 2-POLE, 3-WIRE, STRAIGHT BLADE RECEPTACLE, 15 AMP SIMPLEX UNO.
	125 VOLT, 2-POLE, 3-WIRE, STRAIGHT BLADE RECEPTACLE, 15 AMP DUPLEX UNO.
	125 VOLT, 2-POLE, 3-WIRE, STRAIGHT BLADE HALF- SWITCHED RECEPTACLE, 15 AMP DUPLEX CONTROLLED VIA LOCAL SWITCH
	125 VOLT, 2-POLE, 3-WIRE, STRAIGHT BLADE RECEPTACLE, 15 AMP DUPLEX UNO
	125/250 VOLT, 3-POLE, 4-WIRE, STRAIGHT BLADE RECEPTACLE, AMPERAGE AS NOTED
	125 VOLT, 2-POLE, 3-WIRE, STRAIGHT BLADE RECEPTACLE, 15 AMP DUPLEX UNO ON EMERGENCY OR UPS POWER
	VERTICAL LINE THROUGH ANY RECEPTACLE SYMBOL INDICATES A NON-STANDARD MOUNTING HEIGHT THAT MUST BE FIELD DETERMINED
	125 VOLT, 2-POLE, 3-WIRE, STRAIGHT BLADE RECEPTACLE, 15 AMP DUPLEX FOR SYSTEMS FURNITURE
	125 VOLT, 2-POLE, 3-WIRE, STRAIGHT BLADE RECEPTACLE, 15 AMP DUPLEX FOR SYSTEMS FURNITURE ON EMERGENCY OR UPS POWER
	RECEPTACLES MOUNTED IN 2 CHANNEL RACEWAY
	TYPICAL RECEPTACLE NOTES: CIRCUITING: B-PANELBOARD I.D., 1-BRANCH CIRCUIT, SUBSCRIPT: XX-CURRENT RATING (IF NOTED).

DEMOLITION NOTES	
1. THE CONTRACTOR SHALL ARRANGE TO TOUR THE FACILITY WITH THE MAINTENANCE STAFF PRIOR TO SUBMITTING A BID ON THE PROJECT. 2. DURING THE CONTRACTORS SITE TOUR THEY SHALL BECOME FAMILIAR WITH THE EXISTING BUILDING CONSTRUCTION AND THE LOCATIONS OF THE EXISTING COMMUNICATION CLOSETS, LOCAL POWER PANELS, FIRE ALARM AND OTHER SYSTEMS BEING WORKED ON AS PART OF THIS CONTRACT. 3. THE CONTRACTOR AND MAINTENANCE STAFF SHALL OPEN EXISTING PANELS AND SYSTEMS TO BECOME FAMILIAR WITH THE EXISTING SYSTEMS AND TO DETERMINE THE FULL SCOPE OF WORK REQUIRED TO CARRY OUT THE PROJECT. THE CONTRACTOR SHALL PROVIDE NEW BREAKERS, DATA/VOICE COMPONENTS, FIRE ALARM DEVICES, LIGHTING SYSTEM COMPONENTS, ETC TO FACILITATE A COMPLETE AND FUNCTIONING SYSTEM AT PROJECT COMPLETION. 4. THE CONTRACTOR SHALL MEASURE OFF ANY DISTANCES NOT INDICATED FOR HOME RUNNING NEW SERVICES (POWER, FIRE ALARM, SECURITY ETC) AND INCLUDE MATERIALS AND LABOUR REQUIRED IN THEIR BID PRICE. 5. COORDINATE ALL DEMOLITION WITH GENERAL CONTRACTOR. EVERY EFFORT HAS BEEN MADE TO OUTLINE THE DEMOLITION SCOPE OF WORK, HOWEVER THE DEMOLITION DRAWINGS REPRESENT ONLY THE GENERAL LOCATION AND NUMBER OF FITTINGS, FIXTURES, DEVICES, EQUIPMENT ETC. TO ASSIST IN EVALUATING THE DEMOLITION SCOPE OF WORK. DRAWINGS ARE BASED ON PREVIOUS AS-BUILTS OR FIELD EVALUATIONS. 6. IT IS THE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE DURING THE TENDER PERIOD TO DETERMINE THE EXACT SCOPE OF DEMOLITION WORK, QUANTITIES AND THOROUGHLY UNDERSTAND THE SITE CONDITIONS FOR CARRYING OUT THE SAME. REQUESTS FOR EXTRAS DUE TO FAILURE TO PROPERLY EVALUATE THE CONDITIONS THAT AFFECT DEMOLITION SCOPE OF WORK WILL NOT BE CONSIDERED. 7. THE CONTRACTOR SHALL SUBMIT QUESTIONS IN WRITING 5 DAYS PRIOR TO TENDER CLOSING TO ALLOW FOR QUESTIONS TO BE FORMALLY ANSWERED IN AN ADDENDUM. 8. UNLESS EXISTING CIRCUITS NUMBERS ARE INDICATED ON THE DEMOLITION PLANS, ALL CIRCUITS SHOWN ON THE NEW LAYOUTS ARE NEW CIRCUITS. EXCEPTIONS TO THIS INCLUDE CIRCUITS SHOWN ON THE DEMOLITION PLAN AND AGAIN ON THE NEW LAYOUT. THE CIRCUIT SHOWN BOTH TIMES IS EXISTING AND LOCALIZED IN THE AREA OF WORK. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING FOR ALL NEW CIRCUITS: NEW CONDUIT, WIRING, BREAKERS, SUPPORTS, BACKBOXES, FACEPLATES, RECEPTACLES, ETC FOR A COMPLETE SYSTEM. 9. EXISTING CIRCUITS BEING REUSED WILL BE INDICATED BY A CIRCUIT NUMBER (IE 2415) OR A GENERIC NUMBER (IE C77). CCT 7 INDICATES THAT THE LIGHTING OR DEVICE IS TO BE CONNECTED TO 1 OF 7 EXISTING CIRCUITS IN THE AREA THAT HAS BECOME FREE AFTER DEMOLITION. THE CONTRACTOR SHALL BALANCE LOADS AND SHUFFLE BREAKERS AFTER THE PANEL LOADS HAVE BEEN CONNECTED TO EQUALLY LOAD EACH PHASE. 10. WHERE EXISTING LIGHTING CIRCUITS HAVE BEEN REUSED, CONTRACTOR SHALL VERIFY EXISTING VOLTAGE OF CIRCUITS PRIOR TO SUBMITTING ANY SHOP DRAWINGS OR ORDERING OF FIXTURES, SENSORS, CONTROLS, ETC. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IN FIXTURE VOLTAGE AND EXISTING CIRCUIT VOLTAGE.	

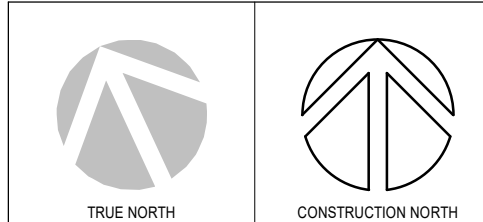
FIRE ALARM	
1. ALL NEW FIRE ALARM DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH CAN/ULC 5524. 2. FIRE ALARM DEVICES SHALL BE REVERIFIED IN ACCORDANCE WITH CAN/ULC 5537. 3. FIRE ALARM GRAPHIC SHALL BE UPDATED IN ALL LOCATIONS TO REFLECT THE UPDATED LAYOUT OF THE FIRE ALARM SYSTEM. 4. CONNECT ALL ASSOCIATED ALARM, SUPERVISORY ZONE WIRING, AND SIGNAL CIRCUIT WIRING ETC TO FIRE ALARM PANEL. 5. ALL WIRING TO BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND THE ONTARIO ELECTRICAL SAFETY CODE. 6. WHERE FIRE PROTECTION AND LIFE SAFETY SYSTEMS, AND SYSTEMS WITH FIRE PROTECTION AND LIFE SAFETY FUNCTIONS ARE INTEGRATED WITH EACH OTHER, THE SYSTEMS SHALL BE TESTED AS A WHOLE IN ACCORDANCE WITH CAN/ULC 51001, "INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS", TO VERIFY THAT THE SYSTEMS HAVE BEEN PROPERLY INTEGRATED.	

SEISMIC NOTES	
1. PROVIDE ALL LABOUR AND MATERIALS NECESSARY FOR THE SEISMIC RESTRAINT AND ANCHORAGE FOR ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, CONDUITS, RACEWAYS, ETC. TO CONFORM WITH ONTARIO BUILDING CODE (OBC) 4.1, 4.1.8 AND ALL OTHER APPLICABLE REGULATIONS. THE CONTRACTOR SHALL RETAIN AND PAY FOR SPECIALIST SEISMIC ENGINEER TO DESIGN AND INSPECT THE SEISMIC RESTRAINTS OF THE ELECTRICAL SYSTEM COMPONENTS COVERED UNDER DIVISION 26, 27, 28 FOR THIS CONTRACT. 2. PROVIDE SEISMIC RESTRAINTS INCLUDING BOLTS, SLACK CABLE BRACES AND MISCELLANEOUS FRAMING AND CONNECTIONS. EQUIPMENT MANUFACTURER SHALL BE RESPONSIBLE FOR ENSURING THAT THE EQUIPMENT HAS ADEQUATE STRENGTH FOR SEISMIC RESTRAINTS AND ANCHORAGE OF EQUIPMENT FRAMING. FOR TRANSFORMERS PROVIDE VIBRATION ISOLATORS IN SUCH A WAY THAT VIBRATION ISOLATION IS MAINTAINED TOGETHER WITH SEISMIC RESTRAINT. FOR SUSPENDED EQUIPMENT PROVIDE CABLE OR RIGID BRACES TO RESTRAIN EQUIPMENT AGAINST SEISMIC LOADS. FOR LUMINAIRES SUSPENDED IN ACOUSTIC CEILINGS PROVIDE INDEPENDENT SUPPORT FROM STRUCTURE USING CABLES, WIRES OR CHAINS. WHERE DRILLING OF THE STRUCTURE IS REQUIRED FOR ANCHORAGE, THE DRILLING SHALL BE SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER. 3. SUBSTANTIAL COMPLETION WILL NOT BE CONSIDERED WITHOUT THE SUBMISSION OF A SIGNED AND SEALED LETTER OF ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW, AS REQUIRED BY THE OBC. THE CONTRACTOR WILL NOT BE ENTITLED TO ANY ADDITIONAL COMPENSATION ARISING FROM THE DIRECTIONS GIVEN BY THE SEISMIC ENGINEER FOR SEISMIC RESTRAINT AND ANCHORAGE OF THE ELECTRICAL SYSTEMS.	

PATIENT CARE NOTES	
1. THE FOLLOWING APPLIES WHERE APPLICABLE PATIENT CARE DESIGNATIONS ARE SHOWN ON THE DRAWINGS AND DENOTED AS BASIC CARE, INTERMEDIATE CARE AND CRITICAL CARE. 2. REFER TO THE ONTARIO ELECTRICAL SAFETY CODE SECTION 24, PATIENT CARE AREAS AND TO CSA INTERNATIONAL #232-CURRENT EDITION, "ELECTRICAL SAFETY AND ESSENTIAL ELECTRICAL SYSTEMS IN HEALTH CARE FACILITIES" AND COMPLY WITH THESE CODES AND STANDARDS. 3. PROVIDE ALL TESTING AS OUTLINED IN SECTION 5 OF CSA INTERNATIONAL #232-CURRENT EDITION AND SUBMIT TO CONSULTANT A COMPLETE 'SUMMARY OF TESTING OF BUILDING ELECTRICAL SYSTEMS' AS PER TABLE 9 IN THIS STANDARD. 4. PROVIDE 16S GREEN GROUND IN 12mm CONDUIT BETWEEN NORMAL AND ESSENTIAL POWER PANELS SERVING THE SAME BED OR PATIENT CARE LOCATION. 5. WHERE RECEPTACLES, SYSTEMS OUTLETS, SWITCHES, ETC. ARE SHOWN BACK TO BACK ON COMMON WALLS, MOUNT DEVICES 150mm APART HORIZONTALLY TO MINIMIZE SOUND TRANSMISSION BETWEEN ROOMS. DO NOT CONNECT BACK TO BACK OUTLETS WITH COMMON RACEWAY. 6. REFER TO SPECIFICATION FOR WIRING LIMITATION/CONDITION TO PATIENT CARE AREAS IN ORDER TO LIMIT 120V CIRCUIT VOLTAGE DROP TO WITHIN 3%. 7. THE FOLLOWING IS A LIST OF THE PATIENT CARE AND THEIR DESIGNATION. EACH OUTLET IN THE PATIENT CARE AREA IS TO BE TESTED ACCORDINGLY, REFER TO COMMISSIONING IN SPECIFICATION:	
CRITICAL CARE NONE INTERMEDIATE CARE NONE BASIC CARE INJECTION AND STRETCHER ROOMS IN NEW ADDITION, 116, 118, 119, 120 AND 121	

GENERAL NOTES

1. THE ELECTRICAL DRAWINGS REPRESENT A PORTION OF THE PROJECT. THE CONTRACTOR IS TO FAMILIARIZE THEMSELVES WITH ALL OF THE DRAWINGS IN THE PACKAGE AS SOME WORK MAY BE SHOWN ON OTHER DRAWINGS IN THE PACKAGE. CONTRACTOR IS TO DETERMINE FULL EXTENT OF PROJECT PRIOR TO SUBMITTING BID.
2. THE DRAWINGS ARE NOT TO BE SCALED FOR INSTALLATION PURPOSES. ALL MEASUREMENTS ARE TO BE OBTAINED FROM ARCHITECTURAL PLANS, ELEVATIONS, SHOP DRAWINGS OR BE OBTAINED FROM FIELD MEASUREMENTS.
3. CONTRACTOR IS TO REVIEW ARCHITECTURAL DRAWINGS AND PROVIDE ALL NECESSARY PARTS AND ACCESSORIES AND FIRESTOPPING AS REQUIRED TO CONFORM WITH ARCHITECTURAL FIRE RATINGS.
4. CONTRACTOR IS TO REMOVE ALL EXISTING DEAD AND ABANDONED CONDUIT AND WIRING BACK TO SOURCE, WHERE NOT POSSIBLE TO REMOVE EXISTING CONDUIT, CONDUIT IS TO BE LEFT BEHIND AND EXISTING WIRE IS TO BE REMOVED AND REPLACED WITH A PULL ROPE.
5. CONTRACTOR IS TO PROVIDE ELECTRONIC REVIT "AS-BUILT" DRAWINGS IN .RVT AND PDF FORMAT AT THE COMPLETION OF THE PROJECT. VERSION OF REVIT FILES TO BE CONFIRMED WITH PRIME CONSULTANT AND PROVIDED TO MATCH ACCORDINGLY.
6. UNLESS NOTED OTHERWISE, ALL WIRING SHALL BE IN CONDUIT AND CONCEALED IN WALLS AND CEILING SPACES. BX IS PERMITTED IN SPECIAL CIRCUMSTANCES AND SHORT DROPS FROM JUNCTION BOXES TO LIGHT FIXTURES, REFER TO SPECIFICATIONS. CONDUIT RUNS ARE TO BE PARALLEL TO WALL STUDS AND DROP FROM JUNCTION BOXES MOUNTED IN THE CEILING SPACE. HORIZONTAL RUNS IN WALLS WILL ONLY BE ACCEPTED UNDER SPECIAL CIRCUMSTANCES (IE OFFSET TO AVOID STRUCTURAL ABOVE) WITH WRITTEN APPROVAL FROM THE OWNER/CONSULTANT.
7. ALL DATA/COMM WIRING FROM EACH OUTLET IS TO BE PROVIDED IN MIN. 1" (25mm) CONDUITS FROM OUTLET TO THE SOURCE (BACK AND/OR BOX/BULK). CONTRACTOR CAN GROUP CABLING AND INSTALL A LARGER RUN BACK TO THE SOURCE. WHERE CABLE IS PERMITTED TO RUN FREE-AIR, A CONDUIT SHALL BE INSTALLED FROM THE OUTLET TO THE FIRST ACCESSIBLE CEILING SPACE. PROVIDE BUSHINGS AT TOP OF WALL AND TRANSITION TO T-HOOKS (WITHIN ROOM) OR CABLE TRAY (AT CORRIDOR). CABLE IS NOT PERMITTED TO BE EXPOSED ON CEILING. COMM WIRING SHALL BE IN CONDUIT FOR ALL RUNS TO THE FREE AIR. PROVIDE BUSHINGS AT TOP OF WALL TO ACCESSIBLE CEILINGS TO EXPOSED CEILINGS SHALL BE IN CONDUIT THROUGHOUT THE EXPOSED AREA. PROVIDE 12" (300mm) STUBS INTO THE EXPOSED AREAS WITH BUSHINGS. CONDUIT SHALL NOT EXCEED 12' (3600mm) WITHOUT A PULL POINT.
8. UNLESS SPECIFICALLY NOTED AS "CABLING BY OTHERS", THE CONTRACTOR SHALL INCLUDE FOR ALL CABLING TO DEVICES, OUTLETS, ETC. AS SHOWN FOR A COMPLETE AND FUNCTIONING SYSTEM.
9. CONTRACTOR IS TO MAINTAIN POWER AND COMMUNICATION CIRCUITS IN AREAS OUTSIDE OF THE CONSTRUCTION AREA. PROVIDE TEMPORARY CONNECTIONS AS REQUIRED, COORDINATE WITH OWNER.
10. EQUIPMENT BEING REMOVED AND NOT BEING REUSED REMAIN THE PROPERTY OF THE OWNER AND IS TO BE STORED ON SITE. ANY EQUIPMENT THE OWNER DEEMS NO INTEREST IN IS TO BE DISPOSED OF IN A LAWFUL AND SAFE MANNER BY THIS TRADE.
11. CONTRACTOR IS TO REFERENCE TO ARCHITECTURAL PLANS AND CEILING DETAILS TO VERIFY THAT NO INTERFERENCE EXISTS PRIOR TO THE INSTALLATION OF FIXTURES AND DEVICES IN WALLS AND CEILINGS.



KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.02.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DESCRIPTION	DATE
REVISIONS:		2025.09.25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT / ENGINEER BEFORE PROCEEDING.

ONLY FIGURED DIMENSIONS MUST BE USED.

THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.

THE DRAWING IS PROTECTED BY COPYRIGHT.

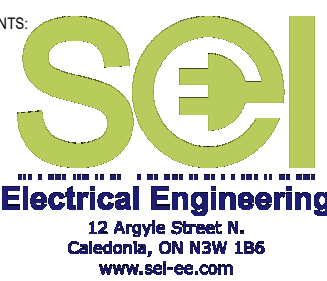
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.

DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEARCH

CONSULTANTS:



PROJECT: **WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT**

835 KING ST W, KITCHENER, ON
N2G 1G3

DRAWING TITLE:
SCHEDULES

DRAWN BY:	DATE:
-----------	-------

CHECKED BY:	SCALE:
-------------	--------

PROJECT NO.: 25-030

DRAWING NO.:

E001

LIGHTING FIXTURE NOTES

GENERAL NOTES:

1. CONTRACTOR IS TO INCLUDE FOR ALL ACCESSORIES AS REQUIRED FOR A FULL AND COMPLETE INSTALLATION. PARTS NUMBERS SHOWN ARE GENERALLY FOR FIXTURE ONLY. REFER TO ARCHITECTURAL CEILING SCHEDULE FOR CEILING TYPES AND PROVIDE REQUIRED ACCESSORIES (IE DRYWALL PLANK KIT, ETC). DISCREPANCIES BETWEEN THE DESCRIPTION AND PART NUMBER SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO SUBMITTING A BID.
2. THE CONTRACTOR IS TO ALLOW FOR NORMAL DELAY ON FIXTURES (6-8 WEEKS FROM ACCEPTANCE OF SHOP DRAWINGS). FIXTURES FROM A QUICK SHIP PROGRAM WILL BE NOTED WHERE APPLICABLE. CONTRACTOR IS TO SUBMIT SHOP DRAWINGS FOR FIXTURES AS SOON AS POSSIBLE TO AVOID DELAY OF THE PROJECT. ALTERNATES WILL NOT BE ACCEPTED TO EXPEDITE A SCHEDULE.
3. PENDANT AND LINEAR FIXTURES SHOWN AS END TO END ARE TO BE ORDERED AS CONTINUOUS RUN FIXTURES UNLESS SPECIFICALLY NOTED OTHERWISE. FIXTURES ARE GENERALLY LISTED AS A MODULE TO CLARIFY THE BALLAST AND LAMP REQUIRED FOR EACH MODULE.
4. CONTRACTOR SHALL SUPPLY TO OWNER AND/OR CONSULTANT ANY DOCUMENTATION AS REQUIRED FOR OWNER TO APPLY FOR ENERGY INCENTIVES INCLUDING BUT NOT LIMITED TO BILLS OF SALE, ETC.
5. CONTRACTOR SHALL VERIFY AND INCLUDE FOR MULTIPLE BALLASTS REQUIRED FOR MULTIPLE SWITCHING.
6. ALL FIXTURES ARE TO HAVE SHOP DRAWINGS SUBMITTED TO THE CONSULTANT PRIOR TO ORDERING FOR GENERAL REVIEW. CONTRACTOR MUST INCLUDE SHOP DRAWINGS FOR ALL LAMPS BEING INSTALLED WITH FIXTURES.
7. ALL FIXTURES TO BE 4100K UNLESS NOTED OTHERWISE.
8. DIMMERS SHALL BE COMPATIBLE LIGHT FIXTURE AND BE CAPABLE OF 0-100% OPERATION. ELY DIMMERS TO BE PROVIDED FOR ELECTRONIC OR LED FIXTURES. DIMMER SHALL BE BY SENSORSWITCH, LUTRON OR APPROVED EQUAL.
9. FIXTURES BEING SUBMITTED AS AN APPROVED EQUAL ARE TO BE SUBMITTED TO THE CONSULTANT FOR APPROVAL NO LESS THAN 5 BUSINESS DAYS BEFORE CLONING. SUBMITTALS SHALL BE CLEARLY LABELLED AND HAVE COMPLETE FIXTURE CUTS STATING INCLUDED OPTIONS, ACCESSORIES AND FIXTURE EFFICIENCY. SUBMITTALS NOT MEETING THIS CRITERIA WILL BE REJECTED. IES FILES FOR FIXTURES MUST HAVE AN IES LAB CERTIFICATION.

ITEM	DESCRIPTION	MODEL #	LUMENS / COLOUR	VOLTAGE / WATTAGE	MOUNTING	DIMMING	COMMENTS
A	Z-0" VANITY LIGHT	LITHONIA CAT No. FMWCL5-24IN-MVOLT-30K35K40K-90CR I-BN	NOMINAL 1800 LUMENS / 3000	120 V / 18 W	WALL MOUNT	0-10V	FITURE TO HAVE COLOUR SELECTION SWITCH SET TO 40K. SET BOTTOM END OF DIMMER TO NOT ALLOW VANITY LIGHT TO TURN OFF WHILE DIMMING MAIN LIGHTS
B	1x4 LED FLAT PANEL TROFFER	LITHONIA CAT No. CPX-1x4-5000LM-80CRI-40K-SWL-MN1- ZT-MVOLT	NOMINAL 5000 LUMENS / 4100K	120 V / 42 W	RECESSED	1% 0-10V	
C	2x2 LED FLAT PANEL TROFFER	LITHONIA CAT No. CPX-2x2-1000LM-80CRI-40K-SWL-MN1- ZT-MVOLT	NOMINAL 2000 LUMENS / 4100K	120 V / 16 W	RECESSED	1% 0-10V	
D	1x4 LED VANDAL RESISTANT TROFFER	LUMINAIRE LED CAT No. VRP 1x4 FL MN1 ZT 4000LM 40K 80CRI MVOLT PFC125 AMF TXIPS	NOMINAL 3500 LUMENS / 4100K	120 V / 33 W	RECESSED	0-10V	
F	100mm (4") RECESSED LED VANDAL RESISTANT DOWNLIGHT FITURE	LUMINAIRE LED CAT No. VRDL 4 GB MN1 ZT 1500LM WD 40K 80CRI MVOT CPL AMF	NOMINAL 1500 LUMENS / 4100K	120 V / 19 W	RECESSED	1% 0-10V	
G	LUMINOUS CEILING DISPLAY PANELS (SKY FACTORY) SUPPLIED BY DIV. 1, INSTALLED AND WIRED BY THE ELECTRICAL CONTRACTOR C/W 120V POWER, 24V LV CONTROL WIRING AND DIMMING CONTROL SWITCHES. REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR INSTALLATION AND WIRING DETAILS			120 V /	RECESSED		

LIGHTING CONTROL OPERATION SCHEDULE

ITEM	DESCRIPTION
a	SWITCH MOUNTED VACUANCY SENSOR. THE OCCUPANT ENTERS THE SPACE AND MANUALLY TURNS ON THE LIGHTING. THE OCCUPANCY SENSOR IS SET TO TURN THE LIGHTING OFF AT 30 MINUTES OF NO ACTIVITY. SPACE TYPES: STORAGE AND CARETAKING AREAS CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH MULTIPLE SWITCHES (REFER TO PLANS). THE OCCUPANT ENTERS THE SPACE AND THE SENSORS TURN THE LIGHTING ON. THE OCCUPANCY SENSOR IS SET TO TURN THE LIGHTING OFF AT 30 MINUTES OF NO ACTIVITY. THE FIXTURES HAVE DRAWING CONTROLS. IN THE EVENT OF A POWER FAILURE, THE LIGHTING WILL RISE TO FULL OUTPUT UNTIL NORMAL POWER IS RESTORED.
b	SPACE TYPES: CORRIDOR SWITCH MOUNTED DIMMER. THE OCCUPANT ENTERS THE SPACE AND MANUALLY TURNS ON THE LIGHTING TO THE PRESET DIMMING LEVEL. LIGHTING IS MANUALLY TURNED OFF BY THE OCCUPANT WHEN LEAVING THE SPACE.
c	SPACE TYPES: OFFICES, INJECTION ROOMS AND STRETCHER AREAS CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR WITH SWITCH. THE OCCUPANT ENTERS THE SPACE AND THE SENSORS TURN THE LIGHTING ON. THE OCCUPANCY SENSOR IS SET TO TURN THE LIGHTING OFF AT 30 MINUTES OF NO ACTIVITY.
d	SPACE TYPES: STORAGE

SENSOR NOTES AND SCHEDULE

GENERAL NOTES:

1. ALL DEVICES AND SENSORS ARE TO HAVE SHOP DRAWINGS SUBMITTED TO THE CONSULTANT FOR REVIEW AND COMMENT PRIOR TO ORDER.
2. ALL SENSORS ARE TO BE IN COMPLIANCE WITH NEMA WD-7-2011. ANY SENSORS NOT IN COMPLIANCE WILL BE REJECTED.
3. PROVIDE ALL SENSORS, POWER PACKS AND RELAY UNITS AS REQUIRED FOR A COMPLETE INSTALLATION. PASSIVE INFRARED SENSORS, ULTRASONIC, LASER, AND THERMAL IMAGING SENSORS SHALL BE AS NOTED BELOW (REFER TO PLANS FOR DEVICE LAYOUT). PART NUMBERS SHOWN ARE GENERAL, FOR DEVICE ONLY.
4. THIS CONTRACTOR SHALL ALLOW FOR ON SITE ADJUSTMENTS OF TIME DELAY, AIMING AND SENSITIVITY.
5. FINAL PLACEMENT OF SENSORS ARE TO BE CONFIRMED ON SITE WITH ALL PIPING, DUCTWORK, EQUIPMENT, ETC. PRIOR TO ROUGH-IN, TO ENSURE CLEAR VIEW OF THE ENTRANCE DOOR AND THE OVERALL SPACE. THIS CONTRACTOR TO REFER TO AND FOLLOW ALL SPECIFICATIONS SPECIFIED BY THE CONSULTANT AND INSTRUCTIONS FOR PLACEMENT LOCATIONS AND SENSOR COVERAGE.
6. CEILING MOUNTED SENSORS SHALL BE AT A CEILING LEVEL, WHERE CEILING EXISTS. WHERE CEILING IS NOT PRESENT SENSORS TO BE CEILING MOUNTED AT A HEIGHT OF 8'-0" TO 10'-0". WALL MOUNTED SENSORS SHALL BE MOUNTED 8'-0" A.F.F. WALL STATION SENSORS SHALL BE AS PER SPECIFICATIONS AND STANDARD SWITCH LOCATIONS. ALL MOUNTING HEIGHTS ARE TO BE CONFIRMED ON SITE AND APPROVED ACCORDING TO THE CONSULTANT'S REQUIREMENTS.
7. APPROVED ALTERNATE BY: WATTS/STROUD, LUTRON, H-MOSS, SENSORSWITCH. SENSORS BEING SUBMITTED AS EQUALS SHALL MEET SPECIFIED CAPABILITIES, COVERAGE(S), SENSITIVITY ADJUSTMENT, TIME DELAY, ETC. AS SPECIFIED IN THE CONSULTANT'S REQUIREMENTS. THIS SHALL AN ALTERNATE FAF TO MEET INTENT OF DESIGN. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE ADDITIONAL SENSORS AND OR PARTS TO MEET INTEND OF DESIGN AND FUNCTIONALITY.
8. ELECTRICAL CONTRACTOR SHALL ALLOW FOR TRAINING AND EXPLANATION OF CONTROLLED SYSTEMS TO END USER.
9. ELECTRICAL CONTRACTOR TO ENGAGE THIRD PARTY FOR FUNCTIONAL TESTING OF LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS AND PROVIDE REPORT OF ACCEPTANCE TO ENGINEER. UPON COMPLETION PRIOR TO OCCUPANCY.

ITEM	DESCRIPTION
OS-1	WALL MOUNTED, DUAL-TECH, SINGLE LEVEL SENSOR IN AREAS AS SHOWN, SENSOR TO BE SET FOR VACANCY MODE FOR MANUAL ON/XY WALL IN PUSH BUTTON AND AUTOMATIC OFF AFTER PRESET TIME. 180° COVERAGE PATTERN UP TO 1000 SO FEET.
OS-2	SENSOR SWITCH CAT NO. WSKA-PDT-SA-WH OR APPROVED EQUAL NIGHT LIGHT DUAL TECHNOLOGY OUTPUSH CABLE. LARGE ROOMS AND COVERAGE. REAR PLUG PATCH CABLE. SENSORS SHALL BE COMPLETE WITH EMERGENCY POWER PACK FOR DIMMING, NORMAL POWER PACK AND ON/OFF/DIMMING CONTROL SWITCHES. PROVIDE MAINTENANCE BULB CABLES WITH LENGTHS AND SUFFICIENT TO SUIT INSTALLATION.
OS-3	NIGHT NON PDT 10 RUB EMERGENCY POWER PACK - NIGHT NPP16 E RF EP NORMAL POWER PACK - NIGHT NPS 90 DIMMER SWITCH - NIGHT NPD20A-1X WH C/W WSKPDA-1X WH WH PATCH CABLES - NIGHT CATS-XJ-1

EMERGENCY LIGHTING FIXTURE SCHEDULE

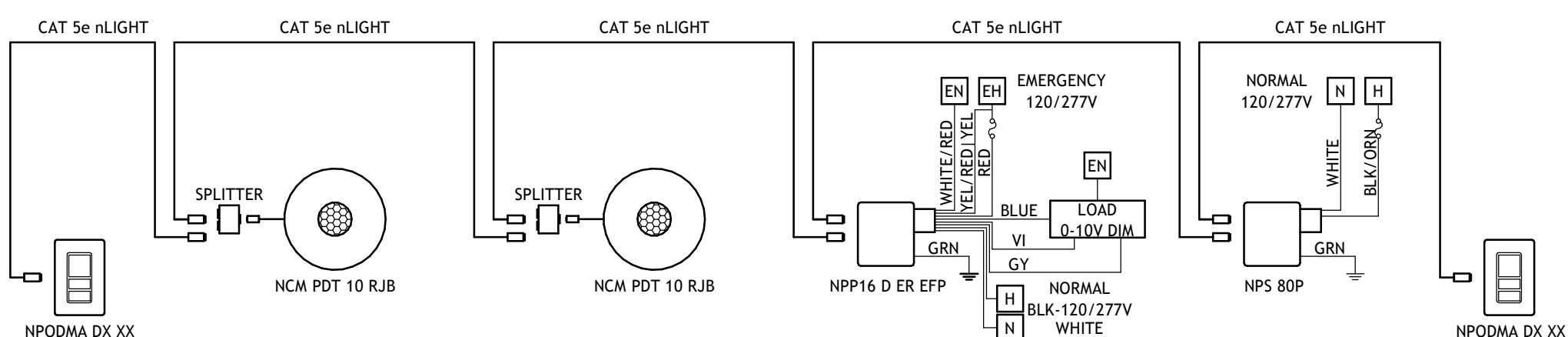
1. CONTRACTOR IS TO INCLUDE FOR ALL ACCESSORIES AS REQUIRED FOR A FULL AND COMPLETE INSTALLATION. PARTS NUMBERS SHOWN ARE GENERALLY FOR FUTURE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE LIST OF PARTS.
2. INSTALLATION OF EMERGENCY LIGHTING AND UNIT EQUIPMENT SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO CODE REQUIREMENTS.
3. EMERGENCY BATTERIES SHALL BE SIZED TO MAINTAIN CONNECTED LOAD FOR MINIMUM 1 HOUR.
4. FOR ALL EXIT SIGNS THERE SHALL BE SPACE FOR SINGLE OR DOUBLE FACE, CEILING RECESSED OR WALL MOUNTED.
5. SUBMITTALS FOR LIGHTING SHALL BE REQUIRED TO HAVE SHOP DRAWINGS SUBMITTED TO THE CONSULTANT PRIOR TO ORDERING FOR APPROVAL. CONTRACTOR MUST INCLUDE SHOP DRAWINGS FOR ALL LAMPS BEING INSTALLED WITH FIXTURES.
6. SUBMITTALS FOR EMERGENCY LIGHTING SHALL BE REQUIRED TO HAVE SUBMITTED TO THE CONSULTANT FOR APPROVAL NO LESS THAN 5 BUSINESS DAYS BEFORE CLOSING. SUBMITTALS SHALL BE CLEARLY LABELED AND INCLUDE COMPLETE FIXTURE CATALOG STATING INCLUDED PARTS AND ACCESSORIES. SUBMITTALS NOT MEETING THIS CRITERIA WILL BE REJECTED.
7. THE CONTRACTOR SHALL INCLUDE FOR TWO (2) SPARE EXIT SIGNS TO BE INSTALLED AS DIRECTED BY OWNER/ENGINEER/BUILDING OFFICIAL. UNINSTALLED SPARE SIGNS SHALL BE TURNED OVER TO OWNER IF NOT REQUIRED.
8. PRIOR TO THE INSTALLATION OF EXIT SIGNS, THE CONTRACTOR SHALL COORDINATE WITH OTHER TRADES TO ENSURE THE EXIT SIGNS ARE NOT OBSCURED BY OTHERS SUCH AS PARTITIONS, DUCTS, ETC. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND REQUEST INSTRUCTION TO COMPLETE THE INSTALLATION SHOULD AN OBSTRUCTION PRESENT. THE SIGN IS TO BE CLEARLY VISIBLE FROM A DISTANCE.

ITEM	DESCRIPTION
EXIT SIGN	EMERGENCY RUNNING EXIT SIGN C/W DIRECTIONAL PICTOGRAMS FOR ON-SITE DIRECTION SELECTION. 1-1.5W LED 120V, AC ONLY. REFER TO FLOOR PLANS FOR SINGLE OR DOUBLE FACE, CEILING RECESSED OR WALL MOUNT. STANPRO 'RWXL' SERIES RWXL-X-WH-UDC-0 OR APPROVED EQUAL

SPECIAL WORDING SIGN SCHEDULE

1. PROVIDE NEW SPECIAL WORDING SIGN FOR ENTRANCE INTO ROOM. REFER TO SIEMENS DRAWINGS FOR ADDITIONAL DETAILS ON WIRING AND CIRCUIT INFORMATION TO COMPLETE THE INSTALLATION AND THE INTERCONNECTION OF THE SIGN WITH THE EQUIPMENT.

ITEM	DESCRIPTION
RADIATION ON SIGN	SPECIAL WORDING LED EXIT SIGN. 120V AC ONLY (NO DC) OPERATION C/W WHITE FINISH, UNIVERSAL MOUNT, SINGLE FACE WITH RED LETTERING, WHITEOUT AND SPECIAL WORDING TO READ "RADIATION ON". CONFIRM WORDING WITH SIEMENS PRIOR TO SHOP DRAWINGS.
	STANPRO CAT No. SLEXSC-1-WH-UDC-RADIATION ON-RW-WO OR APPROVED EQUAL



CORRIDOR EMERGENCY LIGHTING CONTROL DIAGRAM

GRAM	1
N.T.S.	E00

 WRHN Waterloo Regional Health Network		
PROJECT LOGO		
 TRUE NORTH	 CONSTRUCTION NORTH	
KEY PLAN		
RE-ISSUED FOR TENDER (2026.09.02)		
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.02.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DESCRIPTION	DATE
REVISIONS:		2025.09.25
DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING. ONLY Y FIGURED DIMENSIONS MUST BE USED. THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE. THE DRAWING IS PROTECTED BY COPYRIGHT. ALL DIMENSIONS ARE SHOWN IN MILLIMETERS. DO NOT SCALE THE DRAWINGS.		
mcCallumSather Westinghouse HQ, 2nd Floor 286 Sanford Ave. N Hamilton, ON N1B 6A1 905.526.6700 www.mccallumsather.com		
SEAL		
CONSULTANTS		
 Electrical Engineering 12 Airlyle Street, N. Caledonia, ON N3W 1B6 www.sei-ee.com		
PROJECT: WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT		
835 KING ST W, KITCHENER, ON N2G 1G3		
DRAWING TITLE: SPECIFICATIONS 1		
DRAWN BY: DN		DATE: 09/09/24
CHECKED BY: DP		SCALE: NTS
PROJECT NO.: 25-030		
DRAWING NO.: E050		

3. **INSTALLATION**
1. INSTALL RACEWAY SYSTEM, INCLUDING OVERHEAD DISTRIBUTION SYSTEM, FISH WIRE, TERMINAL CABINETS, OUTLET BOXES, FLOOR BOXES, PULL BOXES, COVER PLATES, CONDUIT, SLEEVES AND CAPS, SERVICE POLES, MISCELLANEOUS AND POSITIONING MATERIAL TO CONSTITUTE COMPLETE SYSTEM.
 2. ALL SPECIFIED TELEPHONE AND DATA TERMINATION BOXES ARE TO BE FLUSH MOUNTED IN THE WALL 300mm ABOVE THE FLOOR UNLESS OTHERWISE SPECIFIED. THE WALL TERMINATION BOXES ARE TO BE 100mm X 54mm TO ACCOMMODATE 25mm CONDUIT. ALL CONDUIT FROM WALL TERMINATION BOXES IS TO BE 25mm UNLESS OTHERWISE SPECIFIED.
 3. ALL CONDUIT RUNS ARE TO BE CONTINUOUS FROM THE SPECIFIED OUTLET LOCATION TO THE ELECTRICAL ROOM OR TELEPHONE BACKBOARD. ALL JUNCTION AND PULL BOXES ARE TO BE ACCESSIBLE.
 4. ALL EMPTY CONDUIT IS TO HAVE BOTH ENDS OF THE CONDUIT RUN LABELLED AS ITS PURPOSE AND DESTINATION. ALL EMPTY CONDUIT RUNS ARE TO HAVE A PULL CORD INSTALLED THROUGH THEIR ENTIRE RUN WITH BOTH ENDS BEING TIED OFF.
 5. CONDUITS FROM EACH TELEPHONE AND DATA OUTLET TO BE 20mm (3/4") EMT INTO ACCESSIBLE CEILING SPACE OR AS SHOWN ON DRAWINGS.
 6. INSTALL BLANK PLATES FOR ALL UNUSED OUTLETS.

7. **SURFACE RACEWAY SYSTEM**
1. **PRODUCT DATA**
 1. SUBMIT PRODUCT DATA IN ACCORDANCE WITH SECTION 1.14. PROVIDE SHOP DRAWINGS OF RACEWAY LAYOUTS INCLUDING ELEVATIONS.
 2. INDICATE TYPES OF RACEWAYS WITH TERMINOLOGY SIMILAR TO THAT USED IN THIS SECTION.
 3. ALL WIRING IS TO BE FISHED IN WALLS WITH CONDUITS. SURFACE RACEWAY SHALL BE INSTALLED WHERE WALLS ARE NOT FISHABLE (IE. STRUCTURAL CONCRETE) AND MUST BE DONE WITH PERMISSION OF THE OWNER/CONSULTANT UNLESS SPECIFICALLY NOTED AS SURFACE RACEWAY ON THE DRAWINGS.
 2. **PRODUCTS**
 1. LOW PROFILE RACEWAY
 1. TWO PIECE, STEEL ASSEMBLY
 2. FINISH: IVORY
 3. NECESSARY SWITCH, RECEPTACLE, EXTENSION BOXES, ADAPTERS AND UTILITY FITTINGS REQUIRED FOR COMPLETE INSTALLATION.
 4. HUBBELL 500 SERIES OR APPROVED EQUAL
 2. THREE CHANNEL RACEWAY
 1. TWO PIECE, ALUMINUM ASSEMBLY, C/W BARRIERS.
 2. FINISH: ALUMINUM
 3. NECESSARY SWITCH, RECEPTACLE, EXTENSION BOXES, ADAPTERS AND UTILITY FITTINGS REQUIRED FOR COMPLETE INSTALLATION.
 4. HUBBELL ALU7680. REFER TO NOTES ON DRAWING FOR ADDITIONAL INFORMATION OR APPROVED EQUAL
 3. **FITTINGS**
 1. ELBOWS, TEES, COUPLINGS AND HANGER FITTINGS: MANUFACTURED AS ACCESSORIES TO RACEWAY SUPPLIED.
 4. **INSTALLATION**
 1. INSTALL RACEWAYS BEFORE INSTALLATION OF WIRING. INSTALL COVERS FOR RACEWAYS AND FITTINGS AFTER INSTALLATION OR WIRING.
 2. INSTALL CONDUIT FOR RACEWAY IN WALL. NO RACEWAY SHALL BE INSTALLED FROM THE CEILING TO FEED HORIZONTAL RUNS. CONDUITS ARE TO BE OVERSIZED TO ALLOW FOR FUTURE WIRING AND COMMUNICATIONS CABLING TO ADDED.
 3. INSTALL SUPPORTING BRACKETS, ELBOWS, TEES, CONNECTORS, FITTINGS, BUSHINGS, ADAPTORS AS REQUIRED.
 4. KEEP NUMBER OF ELBOWS, OFFSETS, CONNECTIONS TO MINIMUM.
 5. USE WIRING WITH MECHANICAL PROTECTION IN CHANNEL RACEWAYS.
 6. INSTALL BARRIERS IN RACEWAYS WHERE DIFFERENT VOLTAGE SYSTEMS ARE INDICATED.

8. **EXISTING FIRE ALARM SYSTEM**
1. **GENERAL**
 1. THE EXISTING FIRE ALARM SYSTEM IS OF SIEMENS MANUFACTURE. CONTACT RYAN BROCKWAY ryan.brockway@seimens.com FOR SYSTEM DETAILS.
 2. ALL FIRE DETECTION AND SIGNALING DEVICES SHALL BE CONNECTED TO ZONES AS INDICATED ON PLANS.
 3. SUPPLY AND INSTALL ADDITIONAL THERMAL DETECTORS, MANUAL PULL STATIONS, FIRE BELLS AND SMOKE DETECTORS (FD007441), ALL AS SHOWN ON DRAWINGS.
 4. WIRE NEW AND RELOCATED DEVICES INTO FIRE ALARM ZONE IN THIS AREA.
 5. ALL NEW WIRING FOR ALARM SYSTEM SHALL BE MINIMUM #14 RW90 RUN IN CONCEALED CONDUIT.
 6. ELECTRICAL CONTRACTOR IS TO ENGAGE AN APPROVED TESTING COMPANY TO VERIFY THAT ALL NEW AND EXISTING FIRE ALARM DEVICES WITHIN SCOPE OF WORK AREA HAVE BEEN WIRED AND ARE OPERATING PROPERLY. PROVIDE A CERTIFICATE OF VERIFICATION AND TEST REPORT. ELECTRICAL CONTRACTOR TO PROVIDE ASSISTANCE TO TESTING COMPANY AS REQUIRED BY THEM. INCLUDE ALL COSTS IN TENDER PRICE.
 7. SYSTEM TO BE INSTALLED IN ACCORDANCE WITH CAN/ULC S-524 (CURRENT EDITION) AND OFC-410(M).
 8. TESTS AND VERIFICATION TO BE PERFORMED IN ACCORDANCE WITH CAN/ULC-5537 (CURRENT EDITION).
 9. WHERE FIRE PROTECTION AND LIFE SAFETY SYSTEMS, AND SYSTEMS WITH FIRE PROTECTION AND LIFE SAFETY FUNCTIONS ARE INTEGRATED WITH EACH OTHER, THE SYSTEMS SHALL BE TESTED AS A WHOLE IN ACCORDANCE WITH CAN/ULC-51001, "INTEGRATED SYSTEMS TESTING OF FIRE PROTECTION AND LIFE SAFETY SYSTEMS", TO VERIFY THAT THE SYSTEMS HAVE BEEN PROPERLY INTEGRATED.
 10. PROVIDE 3/4"Ø CONDUIT DIRECTLY TO TELEPHONE BACKBOARD FOR TELEPHONE LINE AND CONNECTION BY MONITOR COMPANY.
 11. PROVIDE 4#14 WIRES TO EACH ELEVATOR CONTROLLER FROM MAIN FIRE CONTROL PANEL FOR ELEVATOR RECALL.
 12. SMOKE DETECTORS IN FRONT OF ELEVATOR DOORS SHALL BE C/W NORMALLY CLOSED CONTACTS THE OPEN UPON ACTIVATION.
 13. PROVIDE AND INSTALL LAMACOID GRAPHICS BESIDE MAIN CONTROL PANEL AND ANNUNCIATOR PANEL.
 14. PROVIDE OPERATION AND MAINTENANCE DATA FOR FIRE ALARM SYSTEM.
 15. ARRANGE AND PAY FOR ON-SITE LECTURES AND DEMONSTRATIONS BY FIRE ALARM EQUIPMENT MANUFACTURER TO TRAIN OPERATIONAL PERSONNEL IN USE AND MAINTENANCE OF FIRE ALARM SYSTEM.
 16. INCLUDE FOR ALL COSTS INVOLVED FROM BOTH MANUFACTURERS AND THE ELECTRICAL CONTRACTORS WORK IN TOTAL TENDER PRICE FROM THE ELECTRICAL CONTRACTOR.
 17. THE CONTRACTOR SHALL ENSURE THE VERIFICATION OF THE FIRE ALARM INCLUDES ANY SECURITY DOORS. THE CONTRACTOR AND FIRE ALARM COMPANY SHALL TEST THE DOORS TO ENSURE THEY CLOSE AND/OR UNLOCK ON LOCAL CONTROL AND ON FACILITY WIDE. THE DOORS ARE TO BE TESTED AS A COMPLETE SYSTEM WITH THE SECURITY AND FIRE ALARM DEVICES.

9. **EMERGENCY LIGHTING SYSTEM:**
1. **GENERAL**
 1. SUPPLY AND INSTALL SEPARATE 12 VOLT DC LIGHTING SYSTEMS AS SHOWN ON THE PLANS AND AS DESCRIBED HEREIN.
 2. WIRE 347 VOLT NORMAL POWER TO ALL EMERGENCY LIGHT FIXTURES AND ALL "EXIT" FIXTURES AS SHOWN ON THE PLANS.
 3. THE BATTERY UNIT SHALL MEET THE REQUIREMENTS OF CSA STANDARD C22.2, NO. 141 - UNIT EQUIPMENT FOR EMERGENCY LIGHTING.
 4. THE EMERGENCY UNITS SHALL BE CAPABLE OF SUPPLYING THE WATTAGE AS INDICATED, FOR AT LEAST THIRTY (30) MINUTES TO 91% END VOLTAGE; AND FOR NINETY (90) MINUTES TO AUTOMATIC CUT-OFF.
 5. CHARGER AND CONTROLS SHALL CONSIST OF THE FOLLOWING STANDARD FEATURES:
 1. SOLID STATE AUTOMATIC-TYPE CHARTER.
 2. PRESS TO TEST SWITCH.
 3. "ON" AND "HIGH CHARGE" PILOT LIGHTS.
 4. READY/DISCONNECT SWITCH AND LIGHT.
 5. FUSED PROTECTION.
 6. AUTOMATIC TEST FEATURE COMPLETE WITH ALARM.
 7. REMOTE TEST FEATURE.
 8. SUPPLY VOLTAGE: 120/347 VAC.
 9. OUTPUT VOLTAGE: 12 VDC, SELF-POWERED
 10. SEALED, MAINTENANCE FREE.
 11. LED HEADS WHERE SPECIFIED AS A BATTERY UNIT WITH HEADS.
 6. EACH BATTERY SHALL OPERATE AT LEAST TEN (10) YEARS ENTIRELY UNATTENDED. THE BATTERY SHALL BE SEALED LEAD, LONG-LIFE TYPE.
 7. MOUNTING HEIGHTS OF ALL BATTERY UNITS TO BE 2130 MM (7'). INSTALL UNIT AS INDICATED ON DRAWINGS.
 8. WARRANTY: ALL EQUIPMENT IS TO BE WARRANTED FOR A PERIOD OF TWO (2) YEARS FROM THE DATE OF FINAL ACCEPTANCE. FOR BATTERIES, THE WARRANTY IS EXTENDED TO 120 MONTHS, WITH A NO-CHARGE REPLACEMENT DURING THE FIRST 5 YEARS AND A PRO-RATE CHARGE ON THE SECOND 5 YEARS.
 9. WIRING: WIRING TO THE EMERGENCY LIGHTS AND EXIT FIXTURES SHALL BE RW90 MINIMUM # 10 GAUGE FOR EACH CIRCUIT AND RUN IN CONDUIT. WIRING SIZES IN ACCORDANCE WITH MANUFACTURERS COMMENDATIONS FOR DISTANCES REQUIRED.
 10. REMOTE EMERGENCY LIGHTING FIXTURES: SUPPLY AND INSTALL EXIT LIGHTING FIXTURES, TYPE 'X', AND LAMPS AS SPECIFIED IN LIGHT FIXTURE SCHEDULE AND SHOWN ON DRAWINGS.
 11. WIRE ALL SYSTEMS USING CONCEALED #10 AWG WIRING RUN IN EMT OR ARMOURD CABLE.

2. **TESTING AND VERIFICATION:**
 1. WHEN THE INSTALLATION OF THE BATTERY UNITS, AND ALL ASSOCIATED REMOTE EMERGENCY LIGHTS HAVE BEEN COMPLETED, RETAIN THE SERVICES OF A QUALIFIED REPRESENTATIVE OF THE EQUIPMENT MANUFACTURER TO TEST THE COMPLETION AND OPERATION OF THE SYSTEM.
 2. FOLLOWING COMPLETION OF THE TEST, OBTAIN A LETTER FROM THE MANUFACTURER/SUPPLIER, STATING THAT THE NEW BATTERY UNIT AND ASSOCIATED LIGHTS HAVE BEEN COMPLETELY CHECKED AND ARE OPERATING SATISFACTORILY.
 3. A COPY OF THIS LETTER IS TO BE FORWARDED TO THE CONSULTING ENGINEER AND ONE COPY TO THE ARCHITECT.

10. **EXIT LIGHTS:**
1. **PRODUCTS**
 1. AS SHOWN ON DRAWINGS.
 2. ALL EQUIPMENT IS TO BE WARRANTED FOR A PERIOD OF TWO (2) YEAR FROM DATE OF FINAL ACCEPTANCE.
 3. EXIT LIGHT TO BE SUITABLE FOR 120V/347 AC AND 12V DC.
 2. **INSTALLATION**
 1. INSTALL EXIT LIGHTS.
 2. CONNECT FIXTURES TO EXIT LIGHT CIRCUITS.
 3. CONNECT EMERGENCY LAMP SOCKETS TO EMERGENCY CIRCUITS.
 4. ENSURE THAT EXIT LIGHT CIRCUIT BREAKER IS LOCKED IN ON POSITION.

11. **OVER FLOOR RACEWAY**
1. **SHOP DRAWING PRODUCT DATA**
 1. PROVIDE SHOP DRAWINGS IN ACCORDANCE WITH SECTION 1.14.
 2. SHOP DRAWINGS TO CLEARLY INDICATE ALL MATERIAL SUPPLIED BY THIS SECTION, INSTALLATION INSTRUCTIONS AND ALL DIMENSIONS.
 2. **PRODUCTS**
 1. CONNECTRAC RACEWAY SYSTEMS. SYSTEM SHALL BE COMPLETE WILL ALL ACCESSORIES FOR A COMPLETE INSTALLATION. CONTRACTOR SHALL UTILIZE THE MANUFACTURE POWER CABLE FOR USE WITH THE SYSTEM.
 2. THE CONTRACTOR SHALL PROVIDE LAYOUTS FOR VARIOUS RUN TYPES TO VERIFY PRODUCTS AND ACCESSORIES BEING USED ALONG WITH PROPOSED LAYOUTS. DATA CABLE COUNTS SHALL BE INCLUDED TO VERIFY CABLE FILL WITHIN THE RACEWAY HAS NOT BEEN EXCEEDED.
 3. **INSTALLATION**
 1. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 2. PROVIDE FURNITURE MONUMENTS TO TRANSITION FROM FURNITURE WHIP TO CONNECTRAC CABLE. FURNITURE WHIPS ARE TO BE SHORTENED TO LIMIT COILED CABLING ON THE FLOOR. CABLING SHALL BE NEAT AND TIDY.
 3. COMMUNICATIONS CABLING SHALL BE TRANSITIONED TO SEALTIGHT CONDUIT AND CONNECTED TO THE FURNITURE.
 4. SLOPED FLOOR ACCESSORIES SHALL BE PROVIDED AND INSTALLED TO SUIT ARCHITECTS LAYOUT.
 5. BOARDROOM TABLES ARE TO HAVE POWER CIRCUITS ONLY. PROVIDE RACEWAY AND MANUFACTURE POWER CABLE. RACEWAY SHALL RUN BETWEEN THE WALL AND A TABLE LEG. COORDINATE WORK ON SITE WITH TENNANTS FURNITURE SUPPLIER. TERMINATE WIRING IN JUNCTION BOX AND CONNECT TABLE MONUMENT PROVIDED BY OTHERS.

12. **NURSE CALL**
1. EXPAND EXISTING AUSTCO NURSE CALL SYSTEM.
 2. PROVIDE FULL NURSE CALL DEVICE SOLUTION INCLUDING BACK BOXES AND CONDUITS IN WALL UP TO CEILING VOID 150mm ABOVE FINISH CEILING LEVEL.
 3. THE CONTRACTOR SHALL ENGAGE KR COMMUNICATION FOR THE SUPPLY, INSTALL AND PROGRAMMING OF NEW NURSE CALL SYSTEM DEVICES. CONTACT KR COMMUNICATIONS : DOUG TEMPEST CELL (519) 281-9138 DOUG.TEMPEST@KRCOMMUNICATIONS.CA
 4. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL ALL EMPTY CONDUIT RACEWAY FROM DEVICE BOX TO EXTEND 150mm ABOVE CEILING SPACE C/W PULL STRING. PROVIDE ALL J-HOOKS AND WALL PENETRATIONS AS REQUIRED BY NURSE CALL INSTALLER TO PULL WIRING FROM NEW NURSE CALL DEVICES TO NURSE CALL CONTROL PANEL HEAD END EQUIPMENT.

13. **LIGHTNING PROTECTION SYSTEM**
1. EXISTING LIGHTING PROTECTION EQUIPMENT MOUNTED ON ROOF (CONDUCTOR GRID & AIR TERMINALS) TO REMAIN IN PRESENT LOCATION AND BE USED TO EXTEND LIGHTING PROTECTION SYSTEM TO THE INTO ALL NEW MECHANICAL EQUIPMENT
 2. ALL NEW LIGHTING PROTECTION MATERIALS TO BE UL AND CSA LISTED SUITABLE FOR LIGHTING PROTECTION EQUIPMENT TO MATCH EXISTING CLASS II APPLICATION.
 3. PROVIDE SUITABLE LENGTHS OF TIN PLATED COPPER CONDUCTORS FOR ALL NEW CONNECTIONS SHOWN ON CONTRACT DOCUMENTS
 4. NEW CONDUCTORS SHALL BE OF EQUAL SIZE OR GREATER THAN EXISTING MAIN LIGHTING CONDUCTOR.
 5. ALL NEW FITTINGS AND CONNECTORS SHALL BE BOLT PRESSURE, HIGH COMPRESSION TYPE, CRIMP STYLE FITTINGS ARE NOT ACCEPTABLE.
 6. ALL MATERIALS TO BE NEW AND UL AND CSA LISTED FOR LIGHTING PROTECTION EQUIPMENT
 7. ACCEPTABLE - TIN PLATED CONDUCTORS CAT.#DOM C5TUL
 - PARALLEL FITTINGS CAT.# DOM BFC10UL
 - PARALLEL BONDING FITTINGS DOM CAT.# BFC11UL
 8. APPROVED SUPPLIER AND INSTALLER: DOMINION LIGHTNING ROD COMPANY (DUNDAS ONT.)

14. **DEMOLITION FOR ELECTRICAL**
1. **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. **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. **LUMINAIRE CLEANING**
 - 3.1 CLEAN EXISTING LUMINAIRES TO REMAIN AND EXISTING LUMINAIRES TO BE RE-USED AND RELOCATED.

4. **LUMINAIRE RELAMPING (IF APPLICABLE)**
 - 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. **LUMINAIRE REPLACEMENT**
 - 5.1 PROVIDE NEW FIXTURE CHAIN HANGERS TO INDEPENDENTLY SUPPORT NEW LUMINAIRES FROM THE BUILDING STRUCTURE, SUPPORTED AT OPPOSITE ENDS. RE-USE EXISTING LIGHT CIRCUIT AND EXTEND AS REQUIRED TO CONNECT NEW LIGHT FIXTURES IN NEW CEILINGS. RE-INSTALL IN SAME LOCATIONS AS REMOVED FIXTURES. COORDINATE WITH MECHANICAL AND ARCHITECTURAL CEILING MOUNTED EQUIPMENT.

6. **SELECTIVE DEMOLITION FOR ELECTRICAL**
 - 6.1 REMOVE ALL ELECTRICAL EQUIPMENT AND DEVICES ON REDUNDANT STRUCTURES. MAKE SAFE ALL CIRCUITS.
 - 6.2 MAINTAIN CONTINUITY OF REMAINING DEVICES AND CIRCUITS.
 - 6.3 TO MAKE SAFE: WITHDRAW REDUNDANT WIRING AND REMOVE UNWANTED CONDUIT/WIRING AND ACCESSORIES. POSITION BREAKERS TO OFF POSITION AND UPDATE PANEL SCHEDULES.
 - 6.4 MAKE SAFE ANY REDUNDANT DEVICES AS SHOWN ON OTHER DRAWINGS.
 - 6.5 WHEN RELOCATING OR REMOVING EQUIPMENT, SHOULD ANY CIRCUITS BE ABANDONED, THE CONDUCTORS TO THESE CIRCUITS MUST BE REMOVED OR PROPERLY TERMINATED.

15. **SECURITY CAMERAS**
1. THE CONTRACTOR SHALL ENGAGE AND CARRY IN THEIR PRICE FOR HOSPITALS CURRENT CCTV VENDOR TO SUPPLY, INSTALL AND WIRE NEW SECURITY CAMERAS SHOWN ON DRAWINGS.
 2. CONTRACTOR SHALL INCLUDE FOR ALL ROUGH-INS AND DATA CABLING (CAT 6A) TO IT CLOSEST.

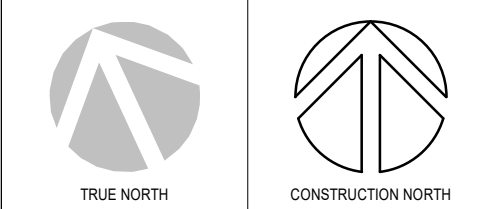
16. **DOOR ACCESS CONTROL**
1. CONTRACTOR TO SUPPLY AND INSTALL COMPLETE CONDUIT RACEWAYS FOR DOOR ACCESS CONTROLS FROM EACH DOOR ACCESS DEVICE TO SECURITY HEAD END EQUIPMENT IN DATA/IT ROOM OR EXISTING SECURITY ROOM DESIGNATED BY HOSPITAL. COORDINATE WITH ARCHITECTURAL DOOR HARDWARE SCHEDULE AND AVAILABLE SPARE NODES ON EXISTING CONTROLLER.

17. **PA SYSTEM & SPEAKERS**
1. CONTRACTOR SHALL ENGAGE AND CARRY IN PRICE FOR HOSPITALS CURRENT P/A SYSTEM VENDOR TO SUPPLY, INSTALL AND WIRE ALL NEW SPEAKERS C/W WIRING, HARDWARE AND PROGRAMMING AS REQUIRED TO CONNECT TO THE EXISTING PA SYSTEM.

18. **TWO WAY VOICE COMMUNICATION**
1. INTERCOM SYSTEM SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. A SAMPLE VENDOR/SPECIFICATION OF THIS PRODUCT IS LOUROE ELECTRONICS CAT No. ASK-4 KIT.



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DESCRIPTION	DATE

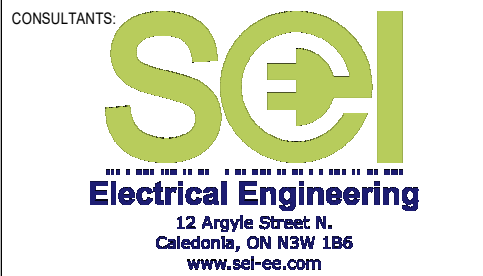
REVISIONS: 2025.09.25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

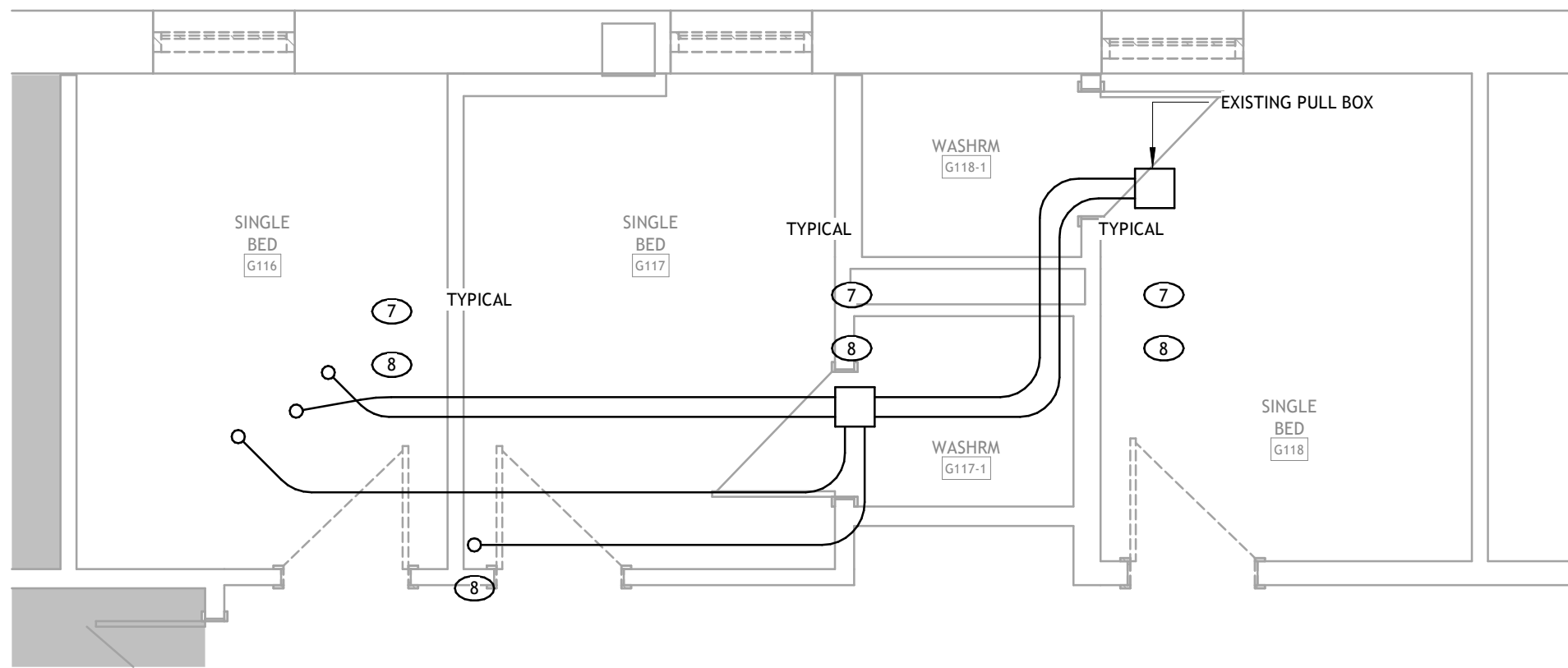
835 KING ST W, KITCHENER, ON N2G 1G3

DRAWING TITLE:
SPECIFICATIONS 2

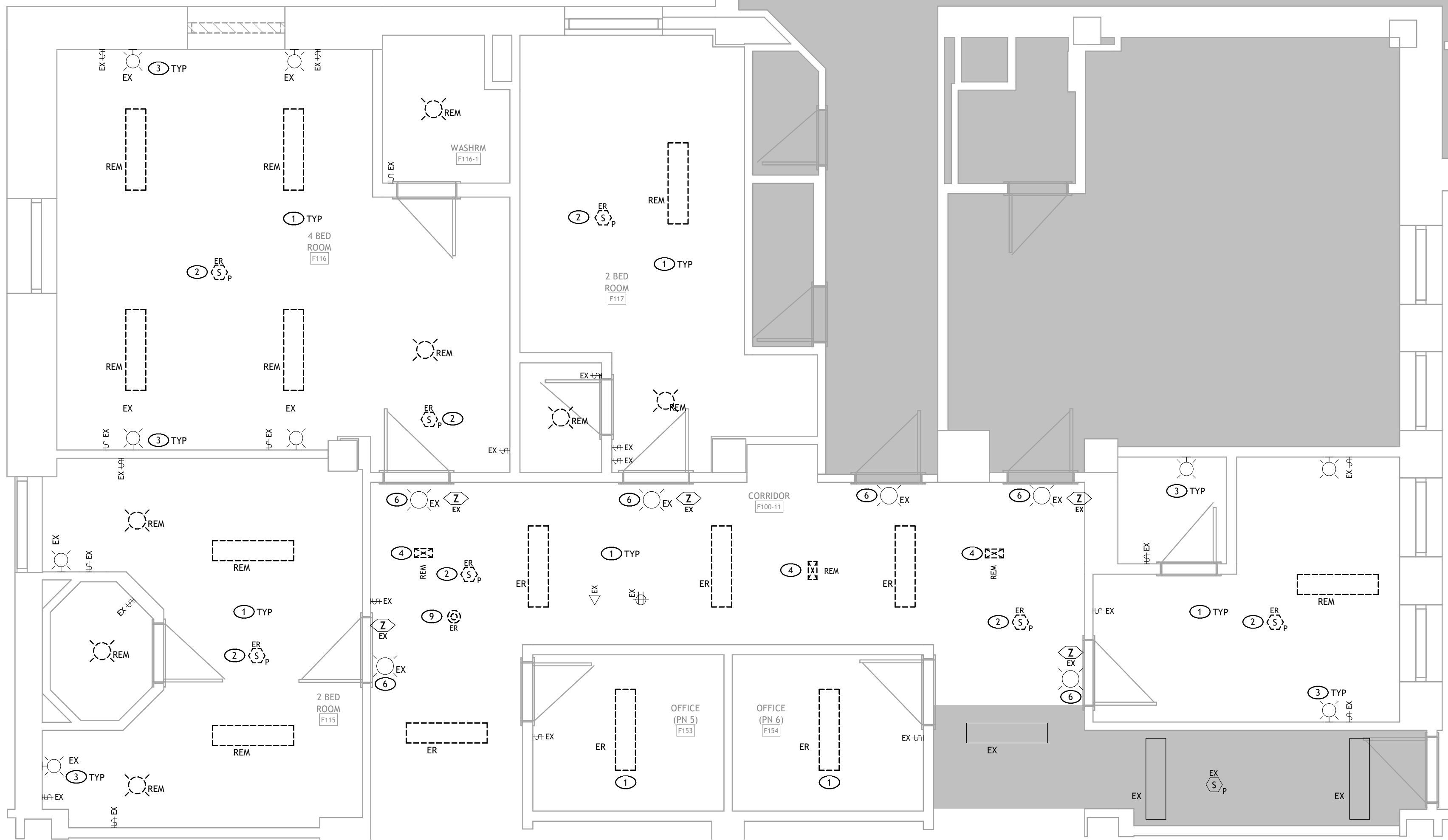
DRAWN BY:	DN	DATE:	09/09/24
CHECKED BY:	DP	SCALE:	NTS

PROJECT NO: **25-030**

DRAWING NO.: **E051**



LEVEL 1 CEILING CAVITY DEMOLITION 2 E200
1/4" = 1'-0"



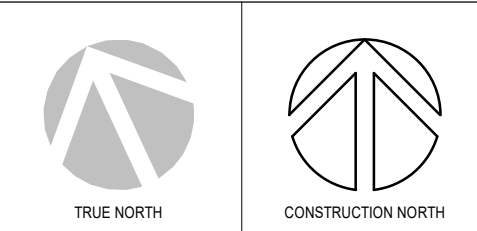
LEVEL 1 CEILING - DEMOLITION 1 E200
1/4" = 1'-0"

NOT IN CONTRACT LEGEND	
	SHADING DENOTES AREAS THAT ARE NOT IN CONTRACT

- DRAWING NOTES:**
- 1 DISCONNECT AT SOURCE, MAKE SAFE AND REMOVE EXISTING LIGHT FIXTURE AND REMOVE OFF SITE. MAINTAIN EXISTING LIGHT CIRCUIT FOR RE-USE.
 - 2 DISCONNECT EXISTING FIRE ALARM DEVICE FROM CEILING COMPLETE WITH PROTECTIVE CAGE AND STORE IN A SAFE PLACE FOR RE-INSTALLATION IN NEW CEILING. PRIOR TO REMOVAL OF FIRE ALARM DEVICE, ENGAGE FIRE ALARM TECHNICIAN TO BYPASS THIS ADDRESSABLE DEVICE DURING CONSTRUCTION.
 - 3 EXISTING WALL FIXTURE AND ALL CONTROL SWITCHING TO REMAIN AND BE REUSED.
 - 4 EXISTING CEILING MOUNTED EXIT SIGNS TO BE REMOVED AND REPLACED WITH NEW SIGNS. PRESERVE EXISTING CIRCUITS FOR REUSE TO CONNECT NEW SIGNS.
 - 5 EXISTING CEILING MOUNTED CCTV CAMERA TO REMAIN IN EXISTING LOCATION.
 - 6 EXISTING LIGHTS IN BULKHEAD AND NURSECALL DOME LIGHTS TO REMAIN.
 - 7 EXISTING EMPTY CONDUIT RACEWAYS AND PULL BOXES LOCATED WITHIN CEILING SPACE ABOVE CEILING LEVEL 1 AND UNDER SIDE OF LEVEL 2 ARE EXISTING AND WERE LEFT ABANDONED FROM A PREVIOUS PROJECT. THESE EXISTING CONDUITS ARE TO BE REMOVED TO MAKE ROOM FOR NEW CONDUIT RACEWAYS AND PULL BOXES REQUIRED FOR THE NEW LEVEL 2 PET CT SCANNER AS PER INSTALLATION DRAWINGS E400 THROUGH E404. CONTRACTOR MAY RE-USE, REWORK AND REPURPOSE PORTIONS OF EXISTING EMPTY CONDUITS AND PULL BOXES IF PRACTICAL AND SIZES MEET REQUIREMENTS OF SIEMENS INSTALLATION DRAWINGS.
 - 8 ALL EXISTING CONDUIT STUB-UPS AND EXISTING CORE HOLES IN EXISTING FLOOR SLAB TO BE REMOVED AND SEALED. ALL NEW CONDUIT STUB-UPS, CORE DRILLS AND PULL BOXES TO BE IN ACCORDANCE TO SIEMENS INSTALLATION DRAWINGS.
 - 9 EXISTING SPEAKER TO BE CAREFULLY REMOVED AND STORED IN SAFE LOCATION FOR RE-INSTALL IN NEW CEILING.



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

REVISIONS	
No.	DESCRIPTION
2	RE-ISSUED FOR TENDER
1	ISSUED FOR TENDER
0	ISSUED FOR TENDER
A	ISSUED FOR PERMIT

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

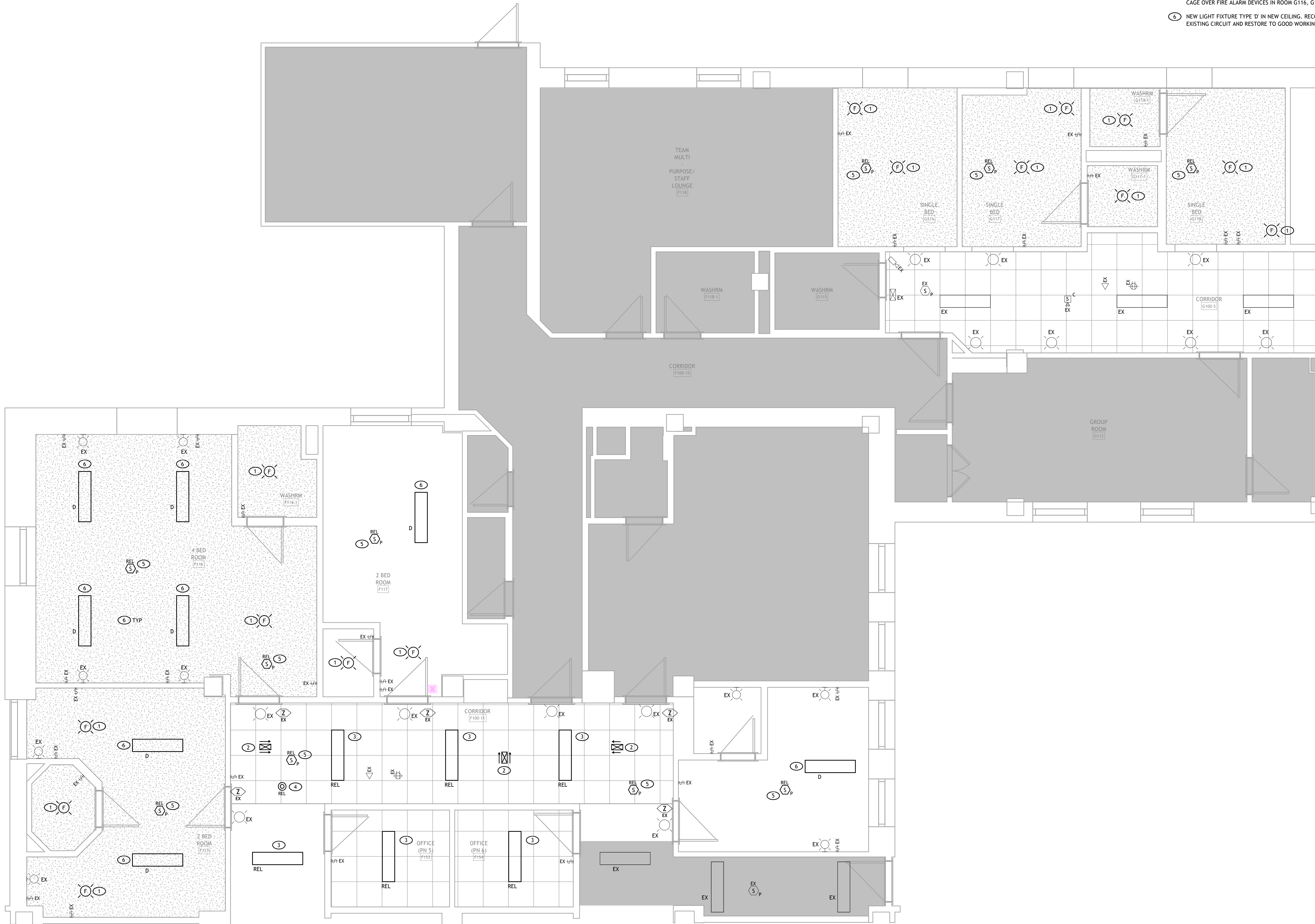
835 KING ST W, KITCHENER, ON N2G 1G3

DRAWING TITLE:
LEVEL 1 DEMOLITION LIGHTING AND DEVICES

DRAWN BY:	DN	DATE:	09/09/24
CHECKED BY:	DP	SCALE:	As indicated

PROJECT NO: 25-030
DRAWING NO:

E200



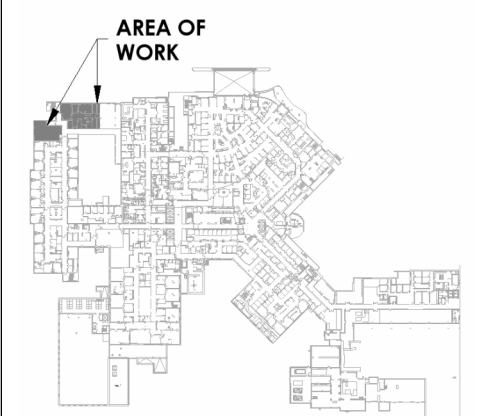
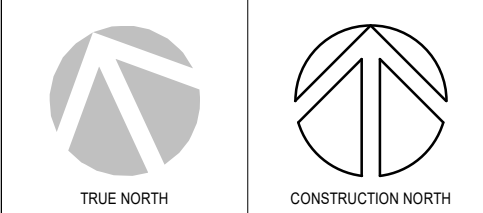
NOT IN CONTRACT LEGEND	
	SHADING DENOTES AREAS THAT ARE NOT IN CONTRACT

DRAWING NOTES:

- 1 NEW LIGHTING FIXTURES TYPE 'F' IN NEW CEILINGS. RECONNECT EXISTING CIRCUIT AND RESTORE TO GOOD WORKING ORDER.
- 2 NEW GREEN RUNNING MAN EXIT SIGN INSTALLED IN NEW CEILING. RECONNECT TO EXISTING CIRCUIT AND RESTORE TO GOOD WORKING ORDER.
- 3 EXISTING LIGHT FIXTURE FROM DEMOLITION PHASE RE-INSTALLED IN NEW CEILING. RECONNECT TO EXISTING CIRCUITS AND RESTORE TO GOOD WORKING ORDER.
- 4 EXISTING SPEAKER FROM DEMOLITION PHASE. RE-INSTALL IN NEW CEILING AND RECONNECT TO EXISTING WIRING AND RESTORE TO GOOD WORKING ORDER.
- 5 EXISTING FIRE ALARM DEVICE TO BE RE-INSTALLED AND WIRED TO EXISTING ZONE CIRCUIT. CONTRACTOR TO ENGAGE THIRD PARTY CERTIFIED FIRE ALARM SERVICE TO TEST AND RE-VERIFY DEVICES. CONTRACTOR TO RE-INSTALL EXISTING PROTECTIVE CAGE OVER FIRE ALARM DEVICES IN ROOM G116, G117 AND G118.
- 6 NEW LIGHT FIXTURE TYPE 'D' IN NEW CEILING. RECONNECT TO EXISTING CIRCUIT AND RESTORE TO GOOD WORKING ORDER.



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

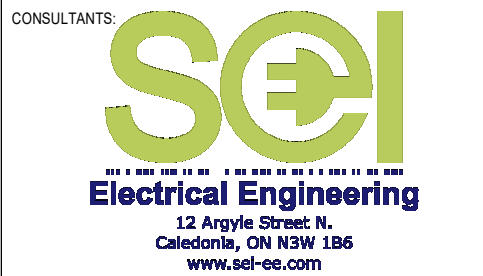
No.	DESCRIPTION	DATE
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.02.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28

REVISIONS:
2025.09.25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT / ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON N2G 1G3

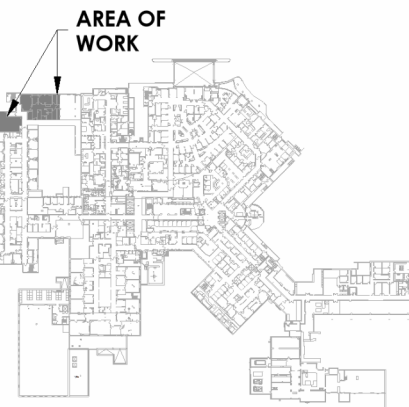
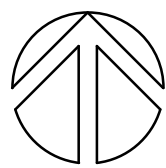
DRAWING TITLE:
LEVEL 1 PROPOSED LIGHTING AND DEVICES

DRAWN BY:	DN	DATE:	09/09/24
CHECKED BY:	DP	SCALE:	As indicated

PROJECT NO: **25-030**

DRAWING NO: **E201**

LEVEL 1 CEILING - PROPOSED 1
1/4" = 1'-0" E201



RE-ISSUED FOR TENDER
(2026.09.02)

2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.02.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DESCRIPTION	DATE

REVISIONS: 2025.09.25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:



PROJECT:
**WATERLOO REGIONAL HEALTH
NETWORK @ MIDTOWN - PET CT**

835 KING ST W, KITCHENER, ON
N2G 1G3

DRAWING TITLE:
**LEVEL 2 DEMOLITION
LIGHTING**

DRAWN BY:	DN	DATE:	09/09/24
CHECKED BY:	DP	SCALE:	As indicated

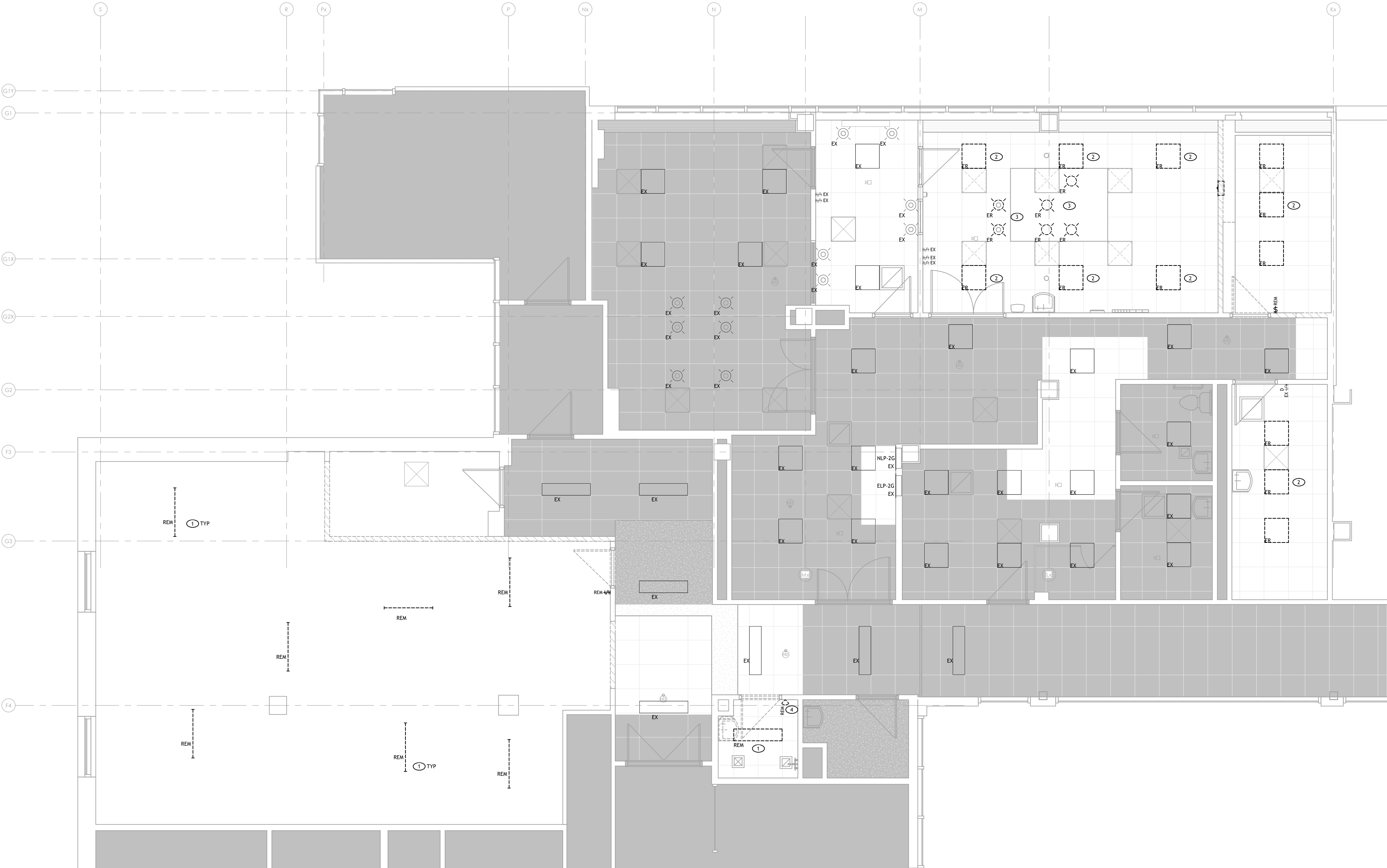
PROJECT NO. **25-030**

DRAWING NO. **E202**

NOT IN CONTRACT LEGEND	
	SHADING DENOTES AREAS THAT ARE NOT IN CONTRACT

DRAWING NOTES:

- EXISTING LIGHTING FIXTURES TO BE REMOVED AND CIRCUITS PULLED BACK TO POINT OF RE-USE (JUNCTION BOX) FOR CONNECTION OF NEW LIGHTING FIXTURES.
- EXISTING LIGHT FIXTURES IN THESE ROOMS TO BE REMOVED AND RELOCATED. STORE IN A SAFE PLACE. COORDINATE WITH NEW OR REVISED CEILING AS REQUIRED TO ACCOMMODATE NEW CEILING CHANGES.
- EXISTING DOWNLIGHTS TO BE REMOVED AND BE REUSED AND RELOCATED IN NEW CEILING GRID. DISCONNECT AT SOURCE, MAKE SAFE AND CAREFULLY REMOVE AND STORE IN SAFE LOCATION FOR RE-INSTALLATION. MAINTAIN EXISTING LIGHT CIRCUITS AND CONTROLS. REFER TO NEW LIGHTING LAYOUT DRAWING.
- REMOVE EXISTING SWITCH CONTROL AND PROVIDE BLANK COVER PLATE. PULL WIRING BACK TO POINT OF RE-USE TO BE RE-USED FOR NEW LIGHT CONTROL. SEE NEW LIGHTING LAYOUT DRAWING.

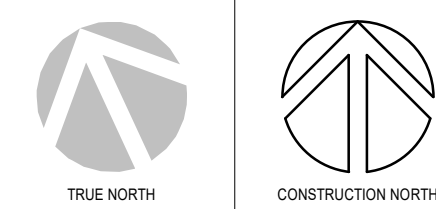


NOT IN CONTRACT LEGEND
SHADING DENOTES AREAS THAT ARE NOT IN CONTRACT

- DRAWING NOTES:
- EXISTING LIGHTING IN THESE AREAS TO BE RE-USED AND RELOCATED AS SHOWN. MAINTAIN EXISTING FIXTURES, CONTROLS AND CIRCUITS.
 - EXISTING DOWNLIGHTS TO BE RELOCATED TO AVOID CONFLICT WITH LUMINOUS CEILING PANEL.
 - LUMINOUS CEILING DISPLAY PANELS SUPPLIED AND INSTALLED BY DIV. 1 CONTRACTOR AND SKYFACTORY AND WIRED BY ELECTRICAL CONTRACTOR. PANELS SHALL BE COMPLETE WITH TWO ON/OFF CONTROL SWITCHES AS RECOMMENDED BY MANUFACTURE. PROVIDE 120V, 24V CONTROL WIRING AND TWO DIMMING CONTROL SWITCHES.
 - EXISTING FIXTURES TO REMAIN AND BE RELOCATED TO ADJACENT CEILING TILE AS REQUIRED TO SUIT THE NEW CEILING CONFIGURATION.
 - REWORK WIRING AND CONNECT THIS FIXTURE IN MACHINE ROOM TO EMERGENCY CIRCUIT EZG-1 FROM ADJACENT EMERGENCY LIGHT.
 - RECONNECT NEW LIGHT FIXTURE TO EXISTING LIGHT CIRCUIT. PROVIDE NEW OCCUPANCY SENSOR AND CONTROL. WIRING AS REQUIRED.
 - CONNECT THIS LIGHT TO NEAREST JUNCTION BOX OF EXISTING CORRIDOR LIGHT CIRCUIT.



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026 09 02)

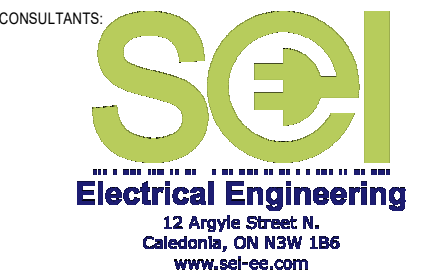
2	RE-ISSUED FOR TENDER	2026 09 02
1	ISSUED FOR TENDER	2026 02 27
0	ISSUED FOR TENDER	2025 12 12
A	ISSUED FOR PERMIT	2025 11 28
No.	DESCRIPTION	DATE

REVISIONS: 2025 09 25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON
N2G 1G3

DRAWING TITLE:
LEVEL 2 PROPOSED LIGHTING

DRAWN BY: DN DATE: 09/09/24
CHECKED BY: DP SCALE: As indicated

PROJECT NO: 25-030

DRAWING NO: **E203**

THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SIEMENS DRAWINGS

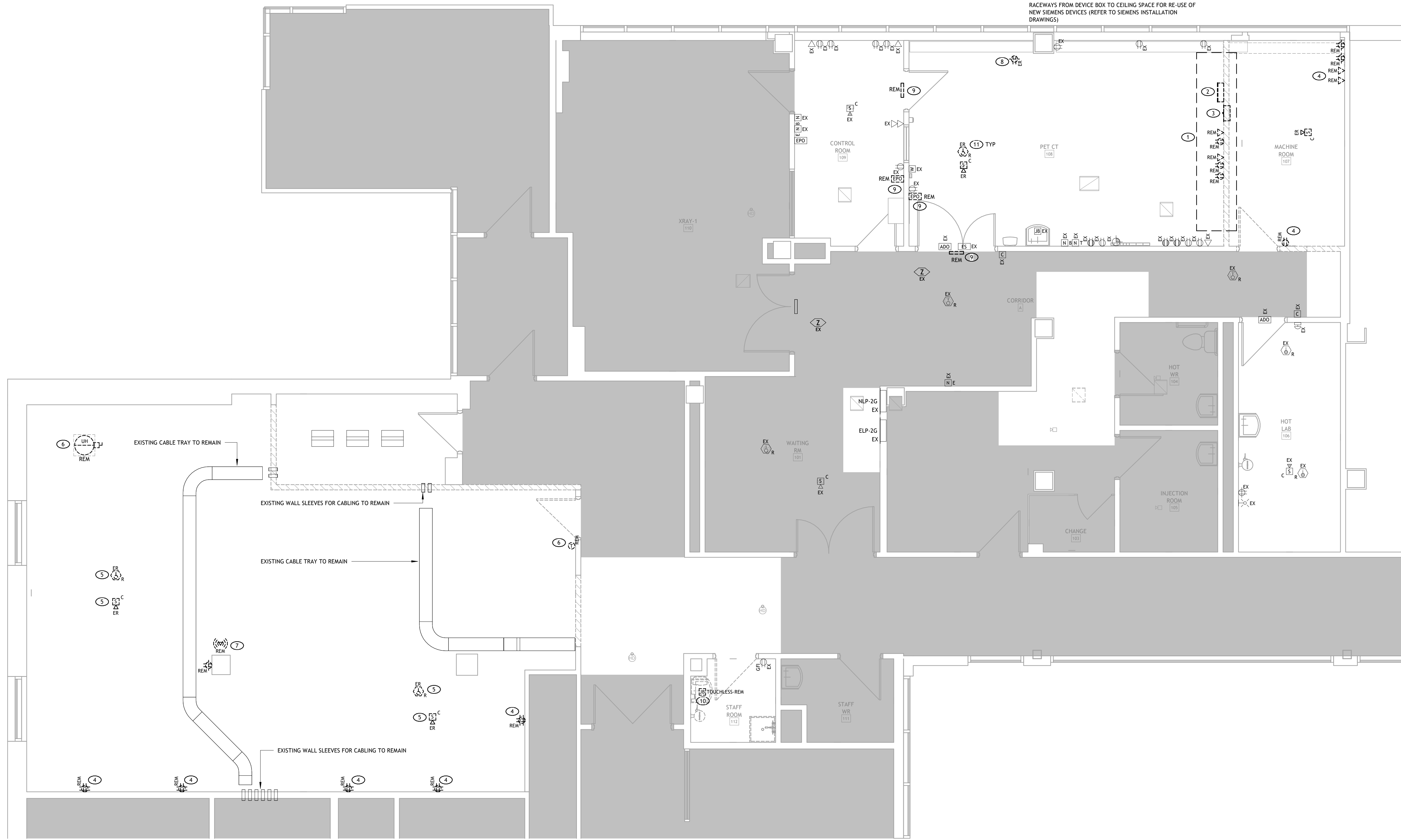
LEVEL 2 LIGHTING 1
1/4" = 1'-0" E203

NOT IN CONTRACT LEGEND	
	SHADING DENOTES AREAS THAT ARE NOT IN CONTRACT

DRAWING NOTES:

- 1 DISCONNECT AT SOURCE, MAKE SAFE AND REMOVE ALL DEVICES LOCATED ON THIS WALL TO BE DEMOLISHED. REMOVE CONDUITS AND PULL BACK WIRING TO POINT OF RE-USE (JUNCTION BOX). REPURPOSE CIRCUITS FOR NEW RENOVATION.
- 2 EXISTING SHUNT TRIP BREAKER. DISCONNECT AT SOURCE, MAKE SAFE, CAREFULLY REMOVE AND HAND OVER TO OWNER.
- 3 EXISTING DISCONNECT. DISCONNECT AT SOURCE, MAKE SAFE, CAREFULLY REMOVE AND HAND OVER TO OWNER.
- 4 DISCONNECT AT SOURCE, MAKE SAFE AND REMOVE ALL RECEPTACLES IN THIS AREA. PULL BACK CIRCUITS TO POINT OF RE-USE (JUNCTION BOX) FOR RE-USE IN RENOVATED SPACE. NOTE CIRCUITS AS SPARE.
- 5 EXISTING FIRE ALARM DEVICES, EXISTING FIRE ALARM DEVICES TO BE REMOVED AND FIRE ALARM ZONE TO BE PUT ON BYPASS THROUGHOUT CONSTRUCTION. MAINTAIN EXISTING WIRING AND JUNCTION BOXES FOR RE-USE IN NEW RENOVATION.
- 6 EXISTING UNIT HEATER TO BE REMOVED. DISCONNECT AT SOURCE, MAKE SAFE AND PULL CIRCUIT BACK TO POINT OF RE-USE (JUNCTION BOX). THERMOSTAT REMOVAL BY OTHERS.
- 7 EXISTING WI-FI DEVICE. ENGAGE HOSPITAL IT STAFF AND PREFERRED DATA CONTRACTOR TO REMOVE WI-FI ACCESS POINT DEVICE AND CABLE.
- 8 RELOCATE EXISTING LIFT POWER SUPPLY AS REQUIRE TO SUIT NEW PATIENT LIFT 'PARK' LOCATION. EXTEND CIRCUIT AS REQUIRED.
- 9 REMOVE EXISTING 'EPO' DEVICES AND 'XRAY-ON' LIGHTS. MAINTAIN EXISTING JUNCTION BOXES AND EMPTY CONDUIT RACEWAYS FROM DEVICE BOX TO CEILING SPACE FOR RE-USE OF NEW SIEMENS DEVICES (REFER TO SIEMENS INSTALLATION DRAWINGS)

- 10 EXISTING POWER SUPPLY TO TOUCHLESS SINK CONTROLS TO BE REMOVED AND PULLED BACK TO SOURCE PANEL.
- 11 RELOCATE EXISTING FIRE ALARM DEVICES AS REQUIRED TO ACCOMMODATE NEW CEILINGS. PROVIDE RE-VERIFICATION.



LEVEL 2 POWER AND SYSTEMS - DEMOLITION
1/4" = 1'-0" E300

Waterloo Regional Health Network

PROJECT LOGO

AREA OF WORK

KEY PLAN

RE-ISSUED FOR TENDER
(2026 09 02)

2	RE-ISSUED FOR TENDER	2026 09 02
1	ISSUED FOR TENDER	2026 02 27
0	ISSUED FOR TENDER	2025 12 12
A	ISSUED FOR PERMIT	2025 11 28
No.	DESCRIPTION	DATE

REVISIONS: 2025 09 25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather

Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:

Electrical Engineering
12 Argyle Street N.
Cambridge, ON N3W 1B5
www.sei-ee.com

PROJECT:

WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON N2G 1G3

DRAWING TITLE:

LEVEL 2 DEMOLITION POWER & SYSTEMS PLAN

DRAWN BY:	DN	DATE:	09/09/24
CHECKED BY:	DP	SCALE:	As indicated

PROJECT NO.	25-030
DRAWING NO.:	E300

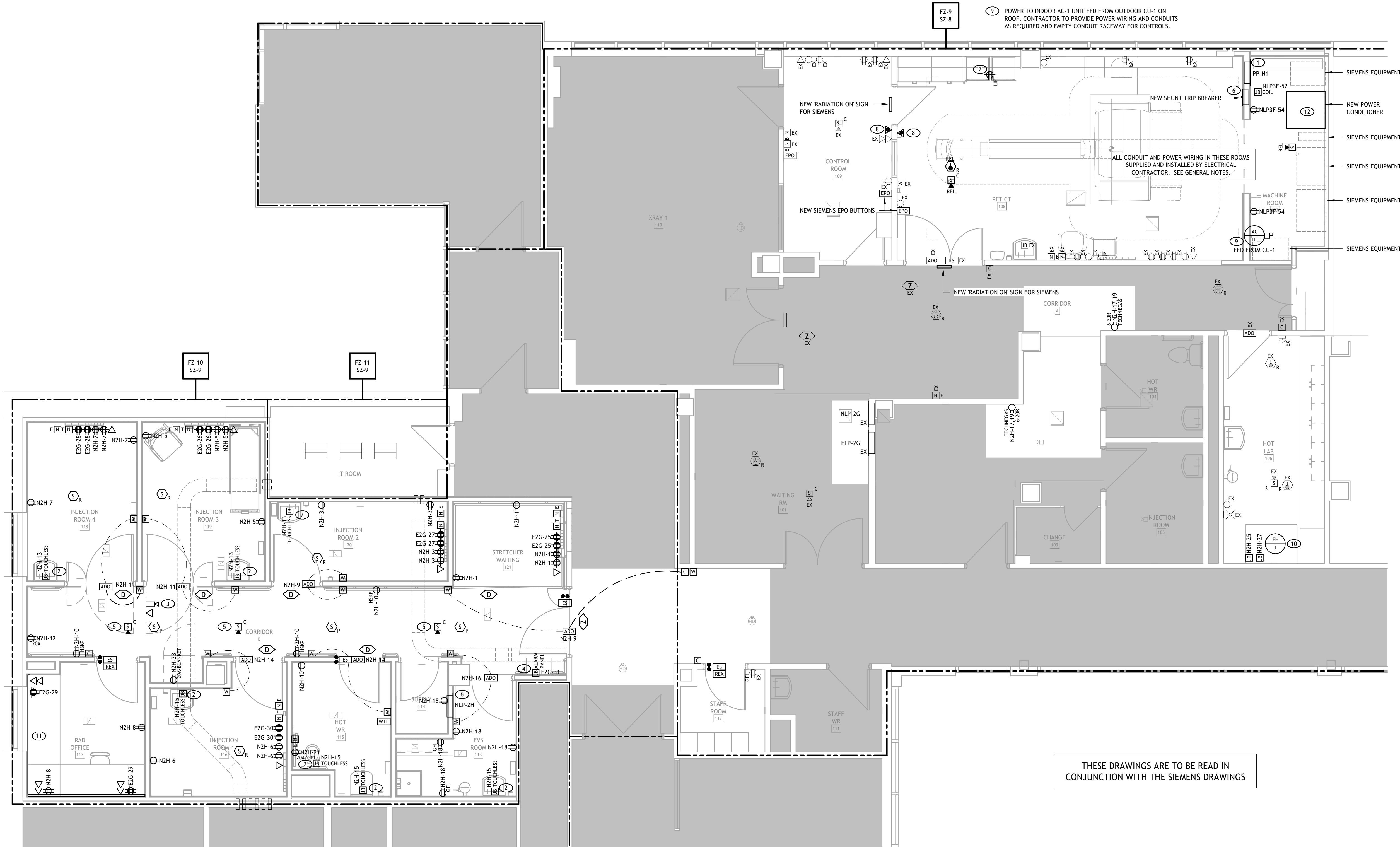
NOT IN CONTRACT LEGEND	
	SHADING DENOTES AREAS THAT ARE NOT IN CONTRACT

GENERAL NOTES:

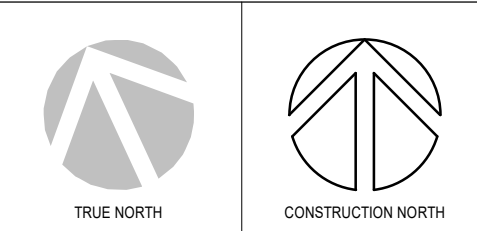
- A. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS E400 THROUGH E404 (SIEMENS INSTALLATION DETAILS) FOR ALL CONDUIT AND WIRING ROUTING TO PET CT SCANNER AND ASSOCIATED SCANNER EQUIPMENT
- B. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT RACEWAYS, JUNCTION BOXES, ACCESSIBLE SPLIT-REMOVAL COVER PULL BOXES FOR POWER AND CONTROL EQUIPMENT LOCATED BELOW FLOOR SLAB, IN CEILING SPACES, IN WALLS AS WELL AS CONDUIT RACEWAYS TO OUTDOOR COOLING UNIT ON ROOF.
- C. COORDINATE MECHANICAL CONDUITS REQUIRED FOR INDOOR AND OUTDOOR COOLING SYSTEM WATER HOSES AND SUPPLY AS REQUIRED.
- D. COORDINATE EXACT LOCATION OF ALL ELECTRICAL CONDUITS THROUGH FLOOR SLAB PRIOR TO CORE DRILLING CONCRETE SLEEVES THROUGH EXISTING FLOOR SLABS AND ROOF SLAB.
- E. COORDINATE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL TO ENSURE ACCESSIBILITY OF DEVICES.

DRAWING NOTES:

- 1 NEW 480/277V, 225 AMP PANEL PP-N1 SURFACE MOUNTED IN MACHINE ROOM. REFER TO PANEL SCHEDULES.
- 2 PROVIDE 120V, 15A CIRCUIT TERMINATION IN CEILING SPACE AT THIS SINK LOCATION FOR USE WITH LV TRANSFORMER AND WIRING OF TOUCHLESS INFRARED FAUCET CONTROLS. LOW VOLTAGE TRANSFORMER FAUCETS AND IR CONTROLS SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY THE ELECTRICAL CONTRACTOR.
- 3 NEW 360 DEGREE CCTV CAMERA SUPPLIED AND INSTALLED BY GRH PREFERRED VENDOR. EXACT LOCATION TO BE DETERMINED ON SITE BY HOSPITAL STAFF. ELECTRICAL CONTRACTOR TO SUPPLY AND INSTALL POWER AND DATA CABLES AS REQUIRED AND CONNECT TO EXISTING CCTV/SECURITY HEAD END EQUIPMENT/SYSTEM. REFER TO SPECIFICATIONS.
- 4 MEDICAL GAS ALARM PANEL. PROVIDE A 15A, 120V CIRCUIT AT THIS LOCATION AND TERMINATE. COORDINATE WITH PANEL SUPPLIER/INSTALLER FOR EXACT LOCATION PRIOR TO ROUGH-IN.
- 5 FIRE ALARM - CEILING MOUNTED SPEAKER. SUPPLY AND INSTALL NEW FIRE ALARM EVACUATION SPEAKER AS SHOWN AND TIE INTO EXISTING FIRE ALARM ZONE C/W ALL CONDUIT AND WIRE AS REQUIRED.
- 6 150A, 480V, 3P SHUNT TRIP BREAKER AND ENCLOSURE. WIRE TO TWO EXISTING "EPO" PUSH BUTTONS. REFER TO SINGLE LINE DIAGRAM ON E500.
- 7 RELOCATE EXISTING POWER SUPPLY FOR LIFT TO FACILITATE NEW LOCATION. COORDINATE WORK WITH GENERAL TRADES AND EXTEND EXISTING CIRCUIT TO NEW LOCATION AS REQUIRED.
- 8 TWO WAY VOICE COMMUNICATION INTERCOM SYSTEM SUPPLIED, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- 9 POWER TO INDOOR AC-1 UNIT FED FROM OUTDOOR CU-1 ON ROOF. CONTRACTOR TO PROVIDE POWER WIRING AND CONDUITS AS REQUIRED AND EMPTY CONDUIT RACEWAY FOR CONTROLS.
- 10 NEW FUME HOOD. THE CONTRACTOR IS TO INCLUDE FOR SPECIAL ESA INSPECTION OF EQUIPMENT AS IT IS NOT CERTIFIED FOR USE IN CANADA. PROVIDE REPORT TO ARCHITECT/ENGINEER OF FINDINGS. ANY DEFICIENCIES WILL BE ADDRESSED BY CHANGE. PROVIDE 2x 120V, 20A CIRCUITS FOR THE HOOD AND ALLOW FOR BOTH HARDWIRE AND RECEPTACLE CONNECTION. CONFIRM POWER REQUIREMENTS WHEN EQUIPMENT ARRIVES ON SITE. NOTIFY THE ENGINEER OF REQUIREMENTS AND DISCREPANCIES.
- 11 PROVIDE 3 CHANNEL ALUMINUM RACEWAY FOR OFFICE. CHANNEL IS TO BE MOUNTED AT APPROXIMATELY 2'-1 1/2" TO THE TOP FROM THE FLOOR. COORDINATE MOUNTING HEIGHT AND OUTLET LOCATIONS ON SITE WITH OWNER TO SUIT FURNITURE. CONDUITS TO EACH CHANNEL ARE TO BE OVER SIZED AND ACCESSIBLE IN THE CEILING WITH PULL ROPES TO ADD FUTURE CIRCUITS AND ADDITIONAL COMMUNICATIONS CABLING. HUBBELL ALUMINUM 3 COMPARTMENT RACEWAY CAT NO. HBLALU7420 C/W ACCESSORIES TO COMPLETE THE INSTALLATION OR APPROVED EQUAL. PROVIDE SHOP DRAWINGS FOR REVIEW INCLUDING LAYOUT AND LOCATIONS PRIOR TO ROUGH-IN.
- 12 PROVIDE A NEW POWER CONDITIONER (480-480/277V). REFER TO SINGLE LINE DIAGRAM FOR MAKE/MODEL INFORMATION.



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

No.	DESCRIPTION	DATE
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28

REVISIONS: 2025.09.25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

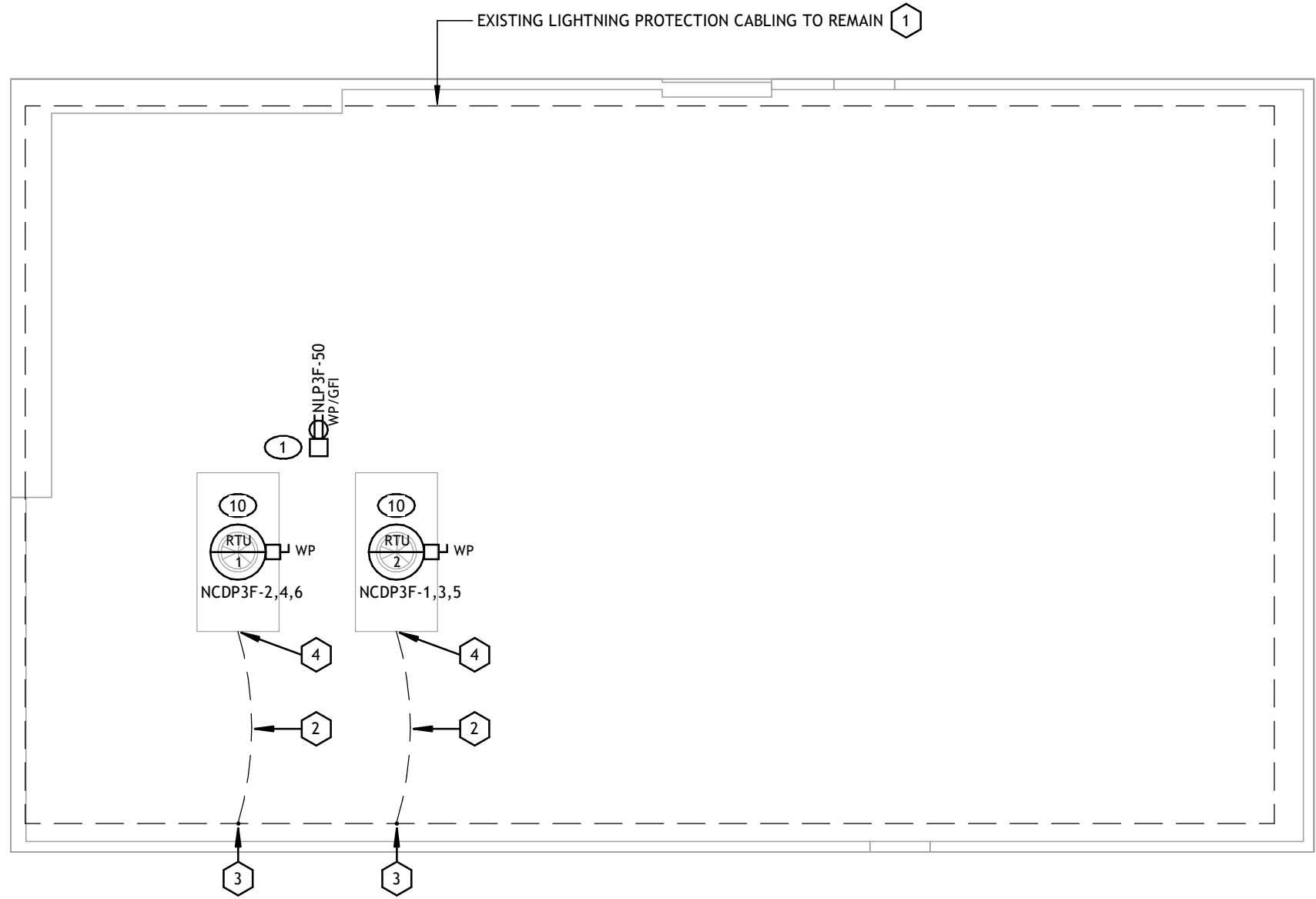
835 KING ST W, KITCHENER, ON N2G 1G3

DRAWING TITLE:
LEVEL 2 PROPOSED POWER & SYSTEMS PLAN

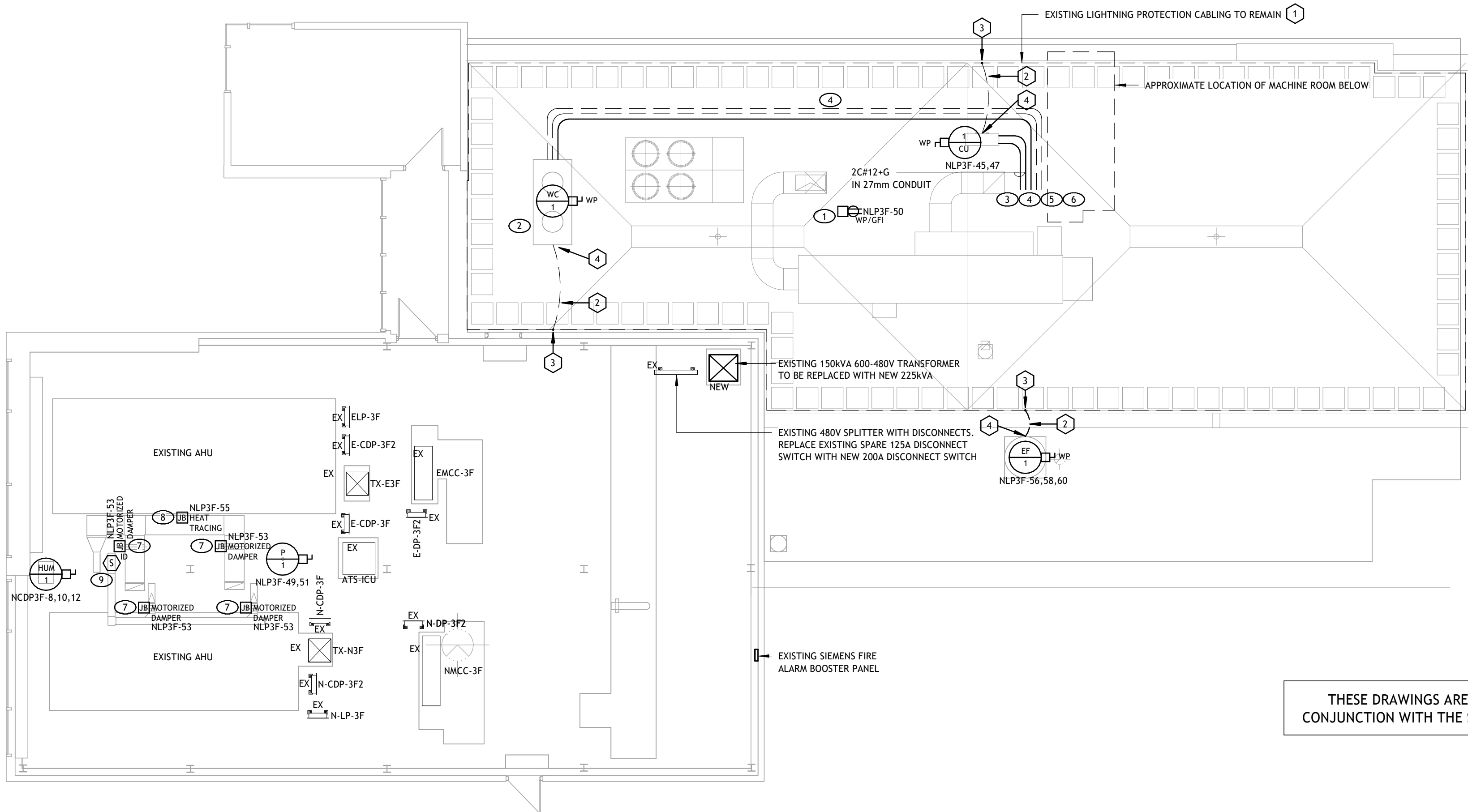
DRAWN BY: DN DATE: 09/09/24
CHECKED BY: DP SCALE: As indicated

PROJECT NO: 25-030

DRAWING NO: E301



ROOF - POWER AND SYSTEMS 2
1/8" = 1'-0" E302



THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SIEMENS DRAWINGS

LEVEL 3 PENTHOUSE - POWER AND SYSTEMS 1
1/8" = 1'-0" E302

LIGHTNING PROTECTION NOTES:

- EXISTING LIGHTNING PROTECTION CABLE AND AIR TERMINALS TO REMAIN AND BE LEFT IN TACT.
- LIGHTNING PROTECTION CABLE LENGTH TO SUIT AS REQUIRED. APPROVED: DOMINION LIGHTNING ROD CAT No. DOM CSTUL TIN PLATED ROPY LAY COPPER LIGHTNING CONDUCTOR CLASS II
- PARALLEL FITTING APPROVED: DOMINION LIGHTNING ROD CAT No. DOM BFCIDUL CAST DUAL BOLT HEAVY DUTY PARALLEL FITTINGS.
- BOLT PLATE APPROVED: DOMINION LIGHTNING ROD CAT No. BFBBL CAST BOLT 2-WAY BONDING PLATE.

GENERAL NOTES:

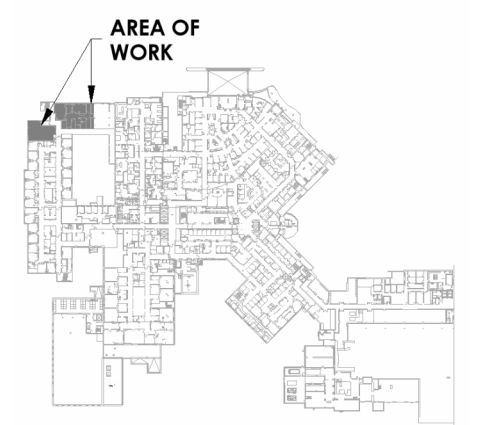
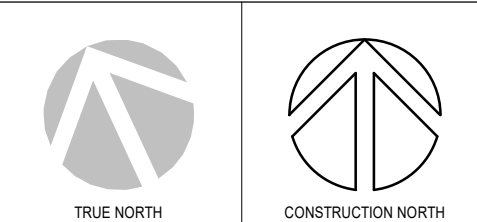
- THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWINGS E400 THROUGH E404 (SIEMENS INSTALLATION DETAILS) FOR ALL CONDUIT AND WIRING ROUTING TO PET CT SCANNER AND ASSOCIATED SCANNER EQUIPMENT
- ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT RACEWAYS, JUNCTION BOXES, ACCESSIBLE SPLIT-REMOVAL COVER PULL BOXES FOR POWER AND CONTROL EQUIPMENT LOCATED BELOW FLOOR SLAB, IN CEILING SPACES, IN WALLS AS WELL AS CONDUIT RACEWAYS TO OUTDOOR COOLING UNIT ON ROOF.
- COORDINATE MECHANICAL CONDUITS REQUIRED FOR INDOOR AND OUTDOOR COOLING SYSTEM WATER HOSES AND SUPPLY AS REQUIRED.
- COORDINATE EXACT LOCATION OF ALL ELECTRICAL CONDUITS STUB-UPS WITH SIEMENS DRAWINGS AND PROVIDE X-RAY OF FLOOR SLAB PRIOR TO CORE DRILLING CONCRETE SLEEVES THROUGH EXISTING FLOOR SLABS AND ROOF SLAB.
- COORDINATE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL TO ENSURE ACCESSIBILITY OF DEVICES.

DRAWING NOTES:

- MAINTENANCE RECEPTACLE FOR ROOFTOP EQUIPMENT. PROVIDE A RECEPTACLE ON A POST FLASHED INTO THE ROOF. LEXCOR FLASH-TITE ELECTRICAL OUTLET POST BY LEXSUCO, 51mm x 762mm HIGH C/W WITH RECEPTACLE AN IN USE COVER. COORDINATE WORK WITH GENERAL TRADES TO FLASH IN THE POST WITH THE ROOFING SYSTEM. SEAL AND MAKE GOOD ALL ROOF PENETRATIONS.
- NEW OUTDOOR UNIT FOR PET-CT SCANNER
- SUPPLY AND INSTALL 480V CIRCUIT (4C#12-G IN 27mm PVC & EMT CONDUITS) RUNNING FROM OUTDOOR COOLING SYSTEM TO NEW 480V PANELBOARD PP-N1 LOCATED IN MACHINE ROOM. RUN CONDUITS ON ROOF (SHARE SLEEPERS) AND PENETRATE ROOF TO MACHINE ROOM. PATCH AND MAKE GOOD ALL ROOF PENETRATIONS. RESTORE TO WATER TIGHT CONDITION.
- PVC CONDUITS FOR HIGH PRESSURE WATER HOSES BY MECHANICAL CONTRACTOR. COORDINATE WORK WITH MECHANICAL AND GENERAL TRADES. SHARE SLEEPERS AND ROUTE POWER AND CONTROL CONDUIT AND WIRING WITH HIGH PRESSURE WATER HOSE CONDUITS. UTILIZE THE DOG HOUSE PROVIDED AND RUN CONDUITS DOWN AND SEAL WEATHERTIGHT. REFER TO MECHANICAL ROOF PLAN DRAWING FOR ADDITIONAL INFORMATION.
- CU-1 FED FROM PANEL NLP-3F. PROVIDE A NEW 2P BREAKER C/W 2C#12-G IN 27mm CONDUIT (PVC ON EXTERIOR AND EMT ON INTERIOR).
- OUTDOOR CU-1 FEEDS INDOOR AC-1. SUPPLY AND INSTALL 27mm CONDUIT RUNNING FROM OUTDOOR UNIT ON ROOF TO INDOOR UNIT IN MACHINE ROOM C/W 2C#12-G POWER WIRING AND CONTROL WIRING. COORDINATE WITH SPLIT SYSTEM INSTALLER FOR EXACT LOCATIONS.
- PROVIDE A 15A, 120V CIRCUIT IN JUNCTION BOX AT THIS LOCATION FOR USE BY MOTORIZED DAMPER. TERMINATE AS REQUIRED. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS.
- PROVIDE JUNCTION BOX(S) IN THE CEILING SPACE FOR HEAT TRACING BY MECHANICAL. COORDINATE WORK WITH MECHANICAL TRADES PRIOR TO ROUGH-IN. PROVIDE TERMINATIONS FOR EQUIPMENT AND WIRING SUPPLIED BY MECHANICAL TRADES.
- SUPPLY AND INSTALL DUCT TYPE SMOKE DETECTOR IN SUPPLY AIR DUCT TO SATISFY CAN/ULC-5524 REQUIREMENTS. COORDINATE WITH MECHANICAL CONTRACTOR FOR SUITABLE LENGTH AND LOCATION OF AIR SAMPLING TUBE. SUPPLY AND INSTALL REMOTE INDICATOR LAMP ON CEILING TO IDENTIFY EXACT LOCATION OF DUCT DETECTOR. WIRE TO NEW FAN SHUT DOWN ZONE ON THE EXISTING FIRE ALARM PANEL. PROVIDE THIRD PARTY VERIFICATION AND TESTING REPORT.
- ROOF TOP UNITS RTU-1 AND RTU-2 REQUIRE FAN SHUTDOWN ON FIRE ALARM ACTIVATION. SUPPLY AND INSTALL 2C#12-GND IN EMT CONDUIT FOR FAN SHUT DOWN UPON GENERAL FIRE ALARM SIGNAL. RUN CONDUIT AND WIRE FROM RTU-1 AND RTU-2 STARTER W/PD TO EXISTING FIRE ALARM PANEL. CONNECT FAN SHUT DOWN RELAY TO NEW FIRE ALARM ZONE. REVISE FIRE ALARM PANEL AND ANNUNCIATOR TO REFLECT NEW ZONE.



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026 09 02)

2	RE-ISSUED FOR TENDER	2026 09 02
1	ISSUED FOR TENDER	2026 09 27
0	ISSUED FOR TENDER	2025 12 12
A	ISSUED FOR PERMIT	2025 11 28
No.	DESCRIPTION	DATE

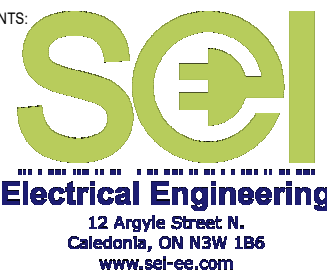
REVISIONS: 2025 09 25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON
N2G 1G3

DRAWING TITLE:
**LEVEL 3 AND ROOF
PROPOSED POWER &
SYSTEMS PLAN**

DRAWN BY: DN DATE: 09/09/24
CHECKED BY: DP SCALE: As indicated

PROJECT NO: 25-030

DRAWING NO:

E302



WRHN
Waterloo Regional
Health Network

NOTE: Additional accessories that typically accompany the system will require storage space.

*5 System includes the Sensor Port, Relay Box, Disable Switch and Laptop in the control room. The Load Cell (not shown) is located on the Patient Table in the Exam Room.

E400

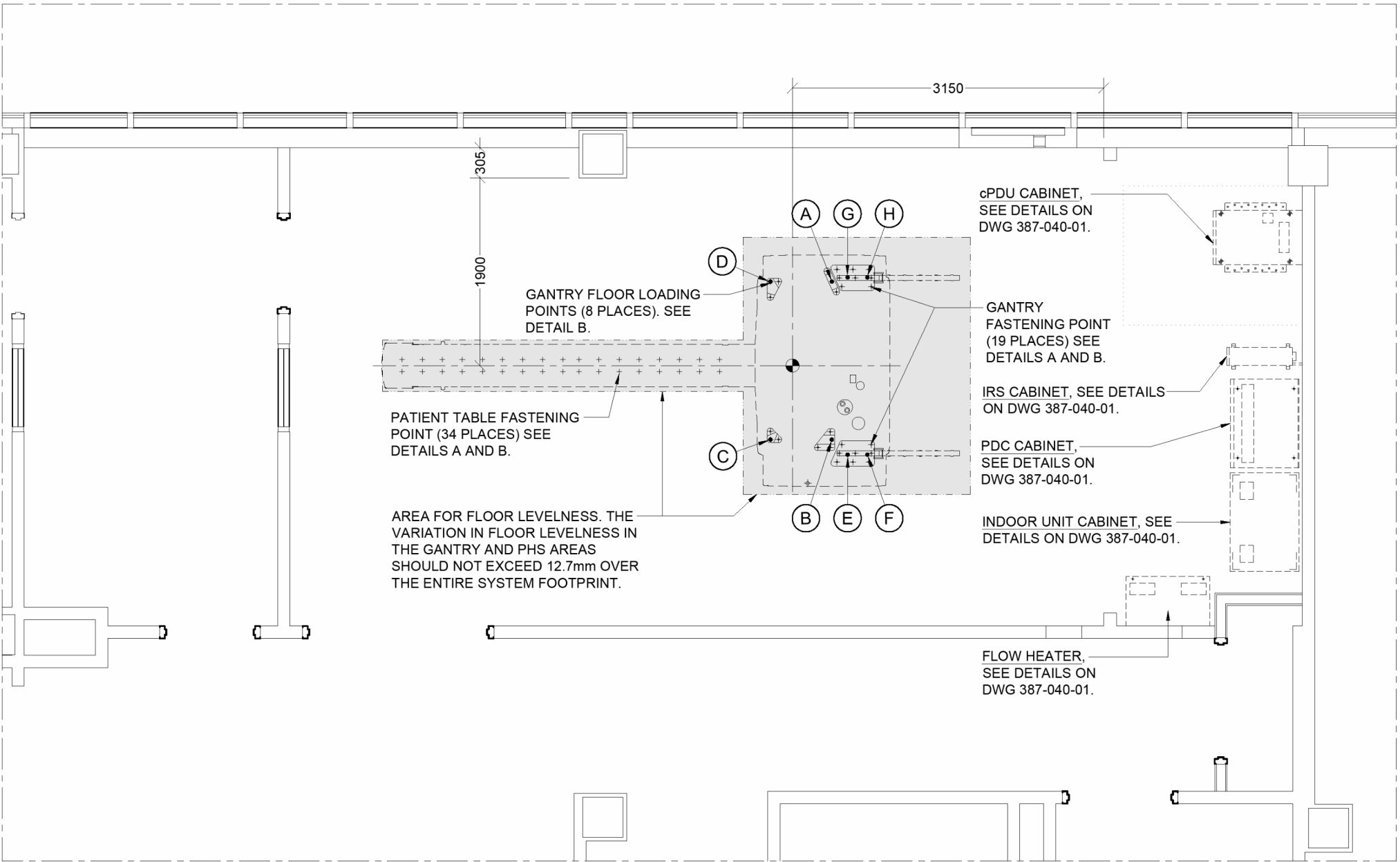
NOTE: Additional accessories that typically accompany the system will require storage space.

01	F
----	---

THIS SIEMENS DRAWING TO BE READ IN CONJUNCTION WITH ENTIRE ELECTRICAL DRAWING SET. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT RACEWAYS, JUNCTION BOXES, ACCESSIBLE SPLIT REMOVABLE COVER PULL BOXES FOR ALL PET CT SCANNER POWER AND CONTROL EQUIPMENT BELOW AND ABOVE FLOOR SLAB IN CEILINGS AND IN WALLS AS WELL AS CONDUIT RACEWAYS FOR OUTDOOR COOLING UNIT ON ROOF.

FLOOR/WALL STRUCTURAL LAYOUT

1 : 50

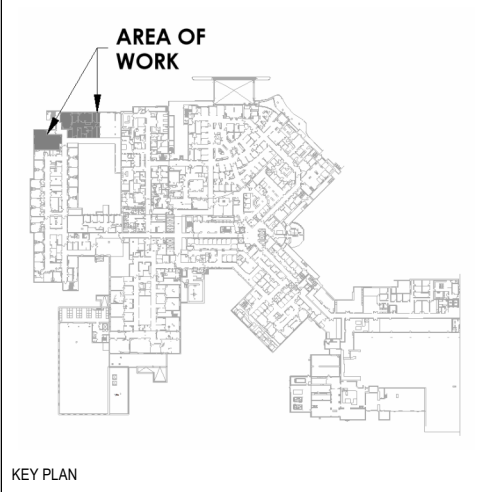
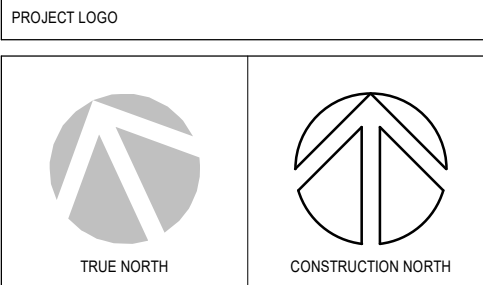


STRUCTURAL NOTES:

- 1 - All slab coring and drilling for final equipment mounting are provided by the Contractor/Customer. These areas shall be scanned using acceptable industry methods.
- 2 - When installation does not conform with drawing submitted, the SIEMENS Project Manager must be contacted before any design changes may be made.
- 3 - All dimensions shown are from finished surfaces.
- 4 - All pre-installed base plates are to be mounted by the Contractor/Customer. Installation must be coordinated with, and under the supervision of, the SIEMENS Project Manager.
- 5 - All structural support details shown are sample details based upon typical and standard building practices and are not intended as actual construction details. All construction details and support calculations shall be prepared by a professional Structural Engineer at the Customer's expense. In the event an existing support system is to be used, it will be the Customer's responsibility to verify the integrity of that system.

All SIEMENS electrical and structural systems shown on the STRUCTURAL CEILING LAYOUT have been coordinated with the Siemens equipment locations as shown on the EQUIPMENT LAYOUT PLAN (see DWG 387-040-01). Any changes to the SIEMENS equipment configuration as shown, due to placement of OEM/non-SIEMENS lighting, structural, electrical and mechanical systems must be approved, in writing, by the SIEMENS Project Manager prior to the completion of construction documents.

No	REVISIONS	CHKD
A	KISHAN B. 28 AUG 25 - Added flow heater.	1

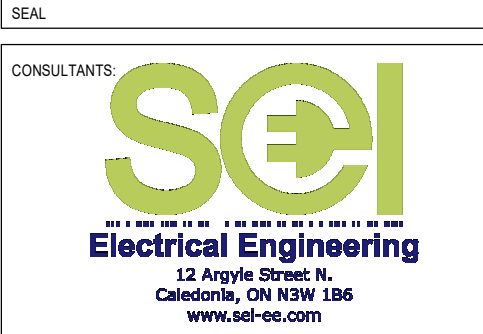


RE-ISSUED FOR TENDER
(2026.09.02)

No.	DESCRIPTION	DATE
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

McCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON
N2G 1G3

DRAWING TITLE:
SIEMENS INSTALLATION REFERENCE DRAWING SHEET 2

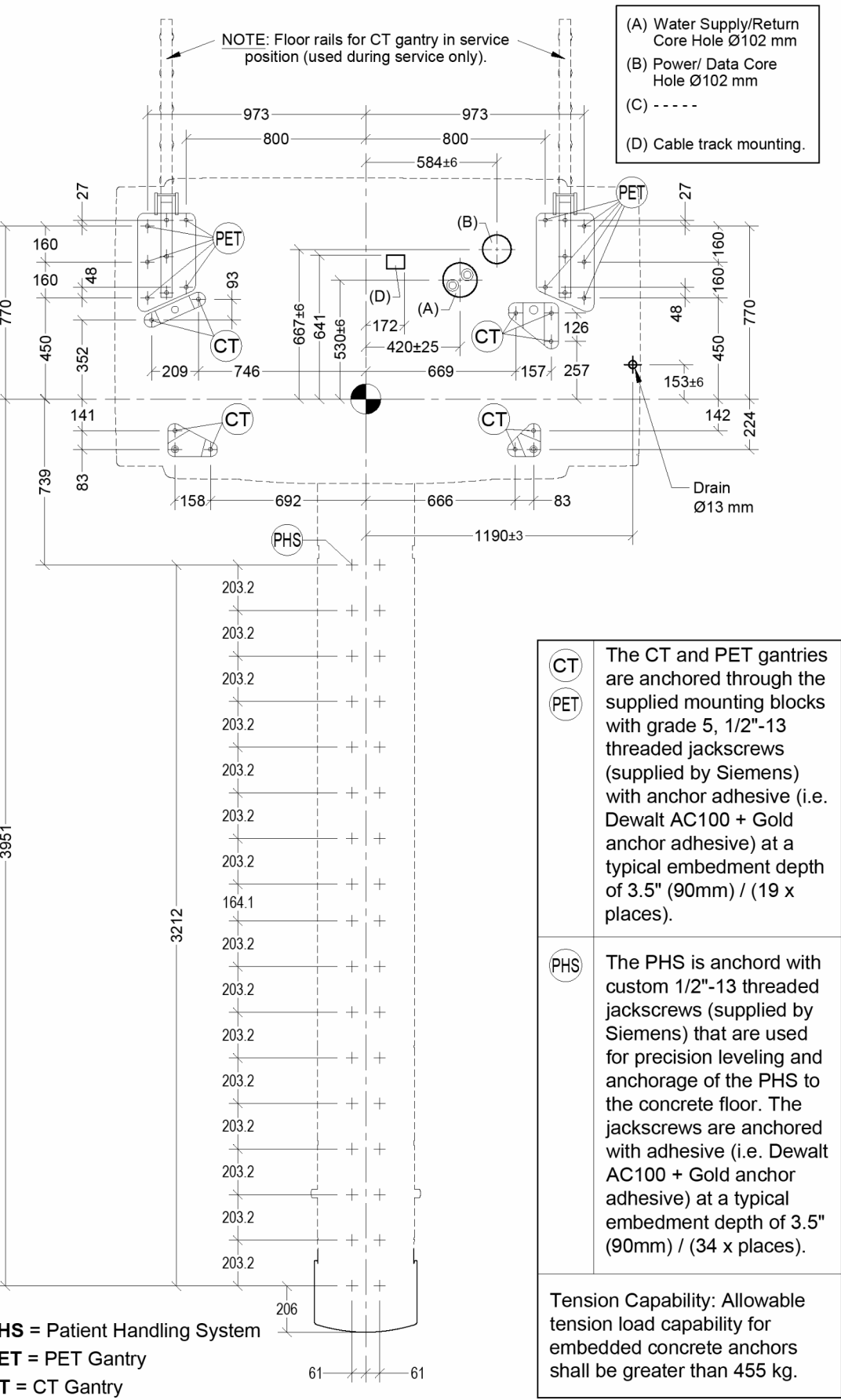
DRAWN BY: DN DATE: 09/09/24
CHECKED BY: DP SCALE: As indicated

PROJECT NO: 25-030

DRAWING NO: **E401**

DETAIL A (n.t.s.)

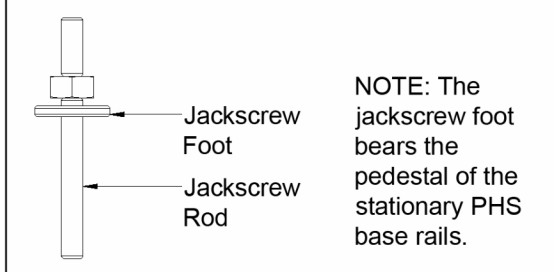
BIOGRAPH FLOOR ANCHORING



SYSTEM FLOOR LOADING NOTES:

- 1 - The system must be installed in a vibration-free location. The minimum allowable concrete thickness of the scanner room floor, for non-seismic regions, is 114mm (4.5"). The floor must be of concrete class C20/25 to C50/60. Concrete must be cured at least 28 days prior to machine installation. Concrete Properties: Minimum compressive strength 20 MPa (2900 psi); compressive modulus of elasticity greater than 20884 MPa (3000000 psi); flexural modulus of elasticity greater than 20884 MPa (3000000 psi).
- 2 - Floor plate supplied and installed by SIEMENS. Maximum floor level variation over the area of the system (see FLOOR STRUCTURAL LAYOUT) = 12.7 mm over 3050 mm.
- 3 - Prior to the start of installation, it is the Customer's responsibility to ensure that the floor has sufficient load-bearing capacity for the BIOGRAPH system. Remove floor covering in the load bearing areas. A vinyl floor covering with a minimum static load limit rating of 5.2 MPa (750 psi) is recommended under the machine area.
- 4 - DO NOT DRILL AREA. It is important to avoid the area under the gantry and PHS where there are bolt holes. Core holes in the DO NOT DRILL AREAS will weaken the structural integrity of the mount points within the zones. Do not locate core holes within 191 mm (7.5") of the EDGE of any floor anchor point.

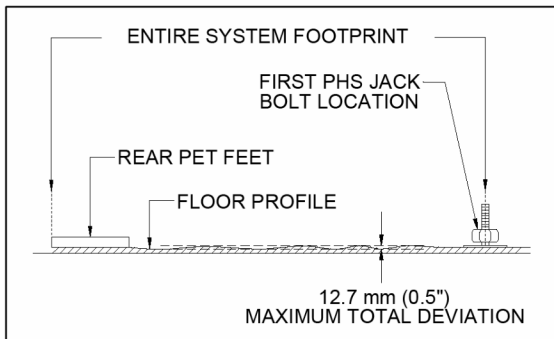
JACKSCREW (CT, PET, and PHS)



EARTHQUAKE ZONE REQUIREMENTS:

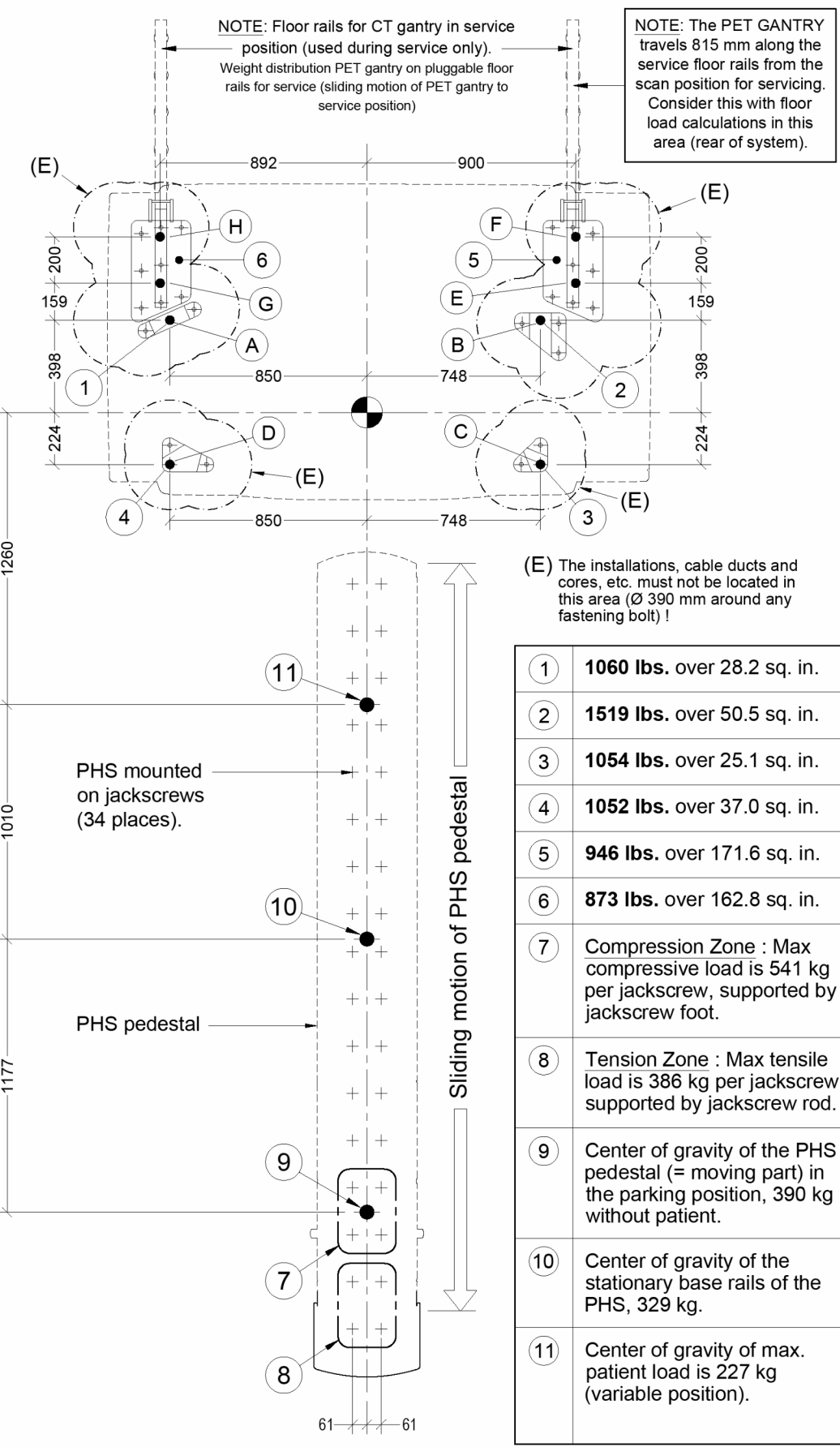
- (E1) PET/CT GANTRY: Bolt the gantry to the floor using anchors at the specified locations. Installation materials to be supplied by Siemens.
- (E2) PHS: Bolt the table to the floor using anchors at the specified locations. With the Seismic configuration, the outside row of bolts is used. Installation materials to be supplied by Siemens.
- (E3) IRS Cabinet: Bolt the IRS cabinet to the floor or wall. Fastening materials to be supplied by others. Additional fastening may be required per local or national regulations.
- (E4) PDC, ePDU, CWC, INDOOR UNIT, & FLOW HEATER Cabinets: Bolt cabinets to the floor, pre-drilled holes in the bottom of the cabinets have been provided. Fastening materials to be supplied by others. Additional fastening may be required per local or national regulations.
- (E5) IRS, ACS, PRS Towers: There are no mounting holes in the tower; consult the PH to determine an appropriate method for fastening. Fastening materials to be supplied by others. Additional fastening may be required per local or national regulations.

FLOOR LEVELNESS DEVIATION

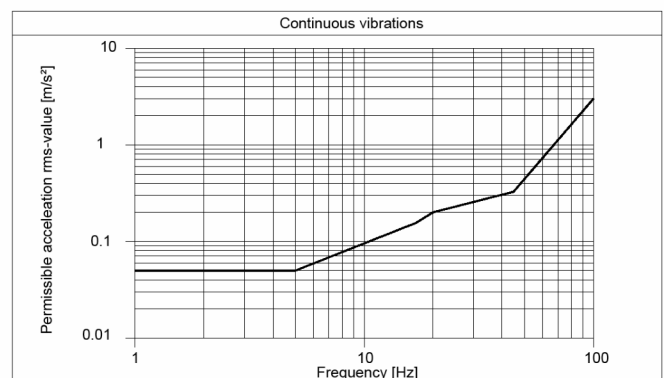


DETAIL B (n.t.s.)

BIOGRAPH FLOOR LOADING



FLOOR AND BUILDING VIBRATIONS:



Floor and building vibrations can reduce image quality! Sources that produces vibrations are any other sources of striking vibrations and/or any transient vibrations has to be less than 0.5 m/s² peak-to-peak in the time domain (e.g. railroad routes, subways, roads, road work and construction sites, hospital power plants, mines, open-cast minings, quarries (explosions), ferry moorings). The vibrations have to be measured with a sampling rate of 1000 Hz.

In the three spatial directions, acceleration in vibrations at the mounting points of the computer tomograph (Gantry and Patient Handling System PHS) must not exceed the thresholds as described in the diagram "Continuous vibrations".

GANTRY FLOOR LOADING

SEE GANTRY OUTLINE & FLOOR LOADING

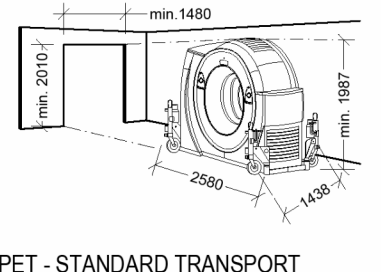
CT Load Point (adjustable)	A	B	C	D	TOTAL
Load (Static) [kg]	481	689	478	477	2215
Area [cm²]	182	326	162	239	
Amplitude (Dynamic) [kg]	29	41	53	40	

PET Load Point (adjustable)	E	F	G	H	TOTAL
Load (Static) [kg]	167	262	154	242	825
Area [cm²]	1107	1050			

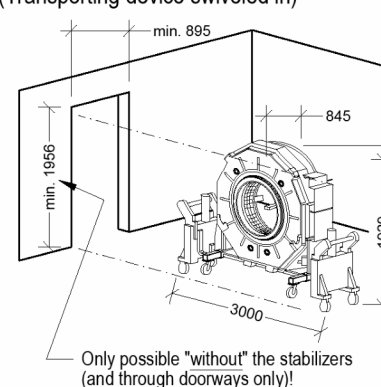
- The values indicated for floor load are valid only if the gantry is level (even level adjustable feet).
- The static loading is due to the gantry's own weight. The dynamic loading occurs during gantry rotation.
- Anchoring the gantry through the feet is not possible.
- The gantry with patient table and on-site mounting plates must be installed so as to be free of vibration.

TRANSPORT REQUIREMENTS (n.t.s.)

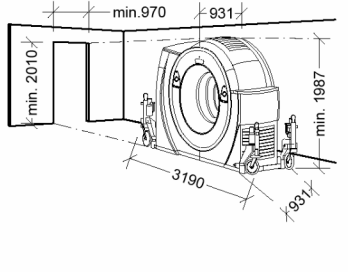
CT - STANDARD TRANSPORT
(Transporting device swiveled out)



PET - STANDARD TRANSPORT
(Transporting device swiveled in)



CT - NARROW TRANSPORT
(Transporting device swiveled in)



TRANSPORT CONDITIONS

When transporting the gantry, individual points may receive higher loads than others (i.e. 3 points may carry the load when the floor is not level). When installing the gantry on concrete or computer flooring, the weight capacity of each floor plate should be minimum 400 kg.
NOTE: If required, cover the transport routes with metal sheets for load distribution.

ENVIRONMENTAL CONDITIONS

Designation:	Storage:	Transport:
Ambient Temperature	+10°C ... +30°C	-20°C ... +50°C
Temperature Gradient	10° C/h	10° C/h
Relative Humidity	20% ... 75%	10% ... 90%
Barometric Pressure	700 to 1060 hPa	700 to 1060 hPa
max. Storage Time	6 months	2 months

THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE FOLLOWING SIEMENS DOCUMENTATION:

DWG#	DESCRIPTION
387-040-01	GENERAL ROOM LAYOUT
387-040-02	STRUCTURAL REQUIREMENTS
387-040-03	MECHANICAL REQUIREMENTS
387-040-04	ELECTRICAL REQUIREMENTS (PROJECT)
387-040-05	ELECTRICAL REQUIREMENTS (GENERAL)

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

THIS DRAWING DOES NOT PROVIDE RADIATION PROTECTION SPECIFICATIONS. IT IS SUGGESTED THAT A LICENSED RADIATION PHYSICIST BE CONSULTED.

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED. ALL ITEMS NOT SPECIFIED IN THE EQUIPMENT LEGEND (eg. COUNTERS) ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/CONTRACTOR, ON APPROVAL BY THE CUSTOMER.

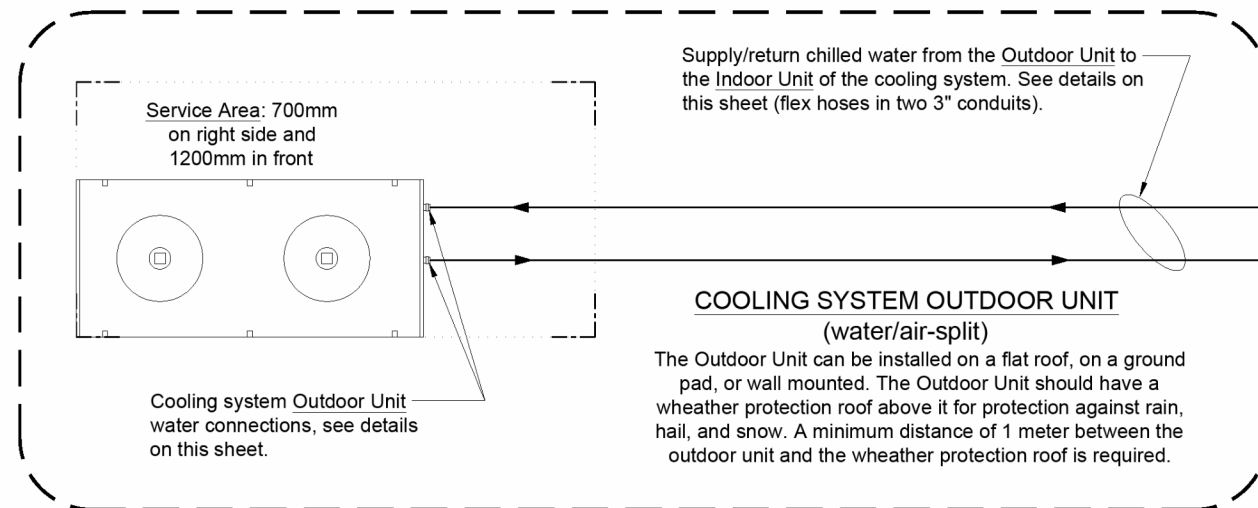
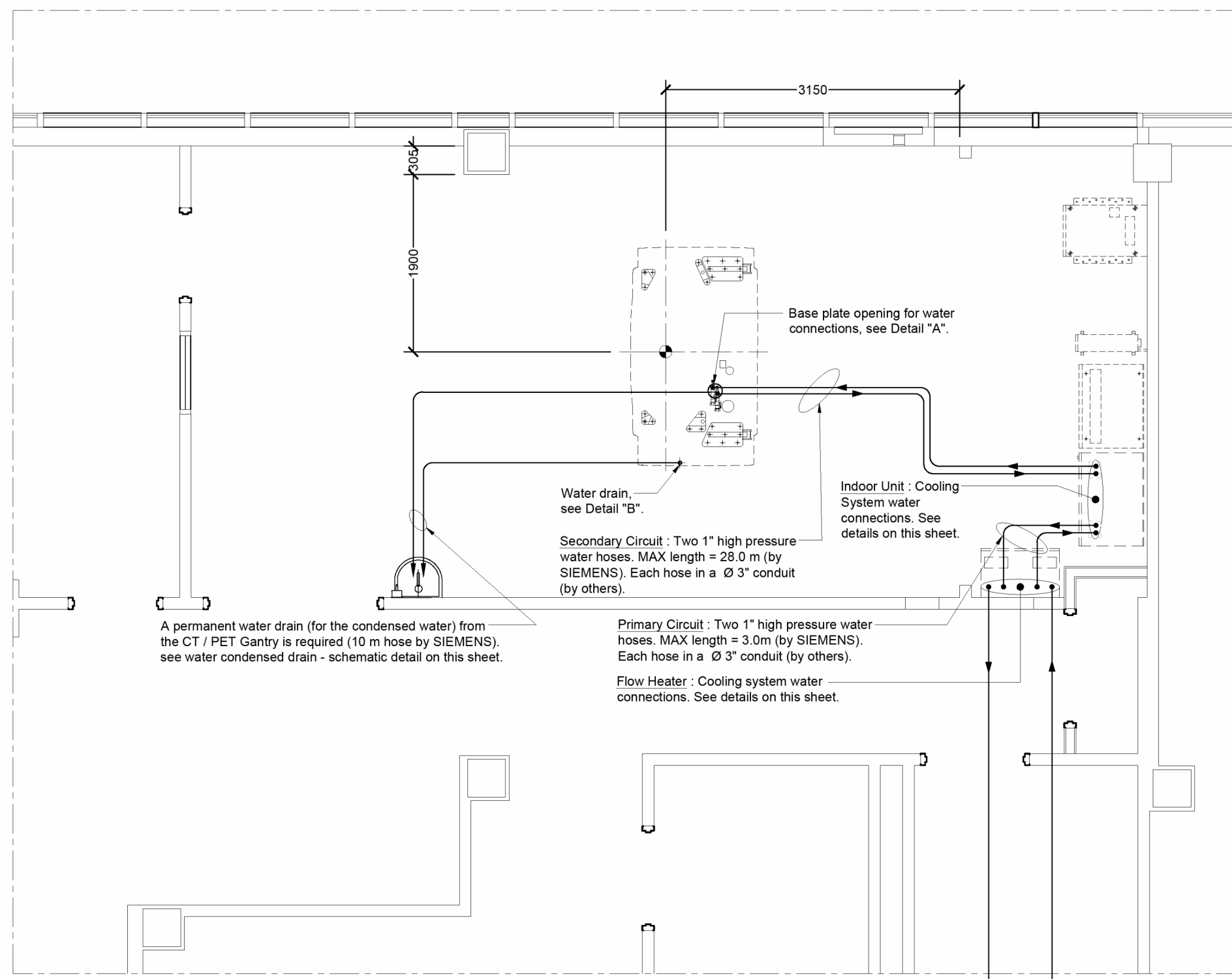
METRIC to IMPERIAL CONVERSIONS:
1000mm = 39.37" 1'-0" = 304.8mm 1kg = 2.205lbs.
Scale 1:50

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES.

THIS PLANNING PROPOSAL, TOGETHER WITH ANY ENCLOSED DOCUMENTATION AND SPECIFICATIONS, IS BASED ON THE MOST CURRENT TECHNICAL INFORMATION AVAILABLE AT THE TIME OF ISSUE. WE RESERVE THE RIGHT TO MAKE CHANGES AS DICTATED BY TECHNICAL DEVELOPMENTS.

SEISMIC REQUIREMENTS: ADDITIONAL ANCHORING MAY BE REQUIRED IF SITE IS DEEMED AS 'SEISMIC ZONE' BY LOCAL CODES. THE CUSTOMER MUST VERIFY THE LOCAL CODES REQUIREMENTS AND ADVISE THE SIEMENS PROJECT MANAGER.

MECHANICAL LAYOUT



GENERAL ENVIRONMENT REQUIREMENTS

TEMPERATURE / RELATIVE HUMIDITY

COMPONENTS	AIR TEMP. (°C)	RELATIVE HUMIDITY (%)	TEMP GRADIENT MAX. (°C/h)	AIR PRESSURE (hPa)
EXAM ROOM: Gantry and Patient Table	+18 to +28	20 - 75 %	2	1.5
EQUIPMENT ROOM	+18 to +30	20 - 75 %	2	n/a
CONTROL ROOM	+18 to +28	20 - 75 %	n/a	750 - 1060
OUTDOOR UNIT: with the Water/Air-Split system.	-30 to +50	0 - 100	n/a	
	+40 to +50	+3		

*2 With DewPoint below 17° C.
*3 Only with the "Flow Heater" cabinet option.

SYSTEM ENVIRONMENT

- Recommended ceiling height in the exam room and control areas is 2440 mm to the finished ceiling. Minimum ceiling height is 2300 mm.

RECOMMENDED GENERAL REQUIREMENTS

RADIATION INTERLOCK

We recommend the installation of this item. This door switch prevents radiation release when the door to the exam room is opened. The radiation interlock is connected to the PDC cabinet.

AIR INTAKE AND AIR FILTER

When supplying air from the outside (fresh air), we recommend the on-site use of coarse filters: filter class EU3 to EU4 for filtering dust particles up to >10µm.

AIR POLLUTION

Room ventilation must ensure that noxious matters do not enter the room. Pollution through hydrosulfides (e.g. exhaust fumes and waste water from film processors, exposed sewer drainage, other exhaust fumes) regardless how small the amount in air must be prevented (e.g. extractor fan, siphon, changes in air intake, etc.).

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

THIS DRAWING DOES NOT PROVIDE RADIATION PROTECTION SPECIFICATIONS. IT IS SUGGESTED THAT A LICENSED RADIATION PHYSICIST BE CONSULTED.

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED. ALL ITEMS NOT SPECIFIED IN THE EQUIPMENT LEGEND (e.g. COUNTERS) ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/CONTRACTOR, ON APPROVAL BY THE CUSTOMER.

METRIC TO IMPERIAL CONVERSIONS:
1000mm = 39.37" 1'-0" = 304.8mm 1kg = 2.205lbs.
Scale 1:50

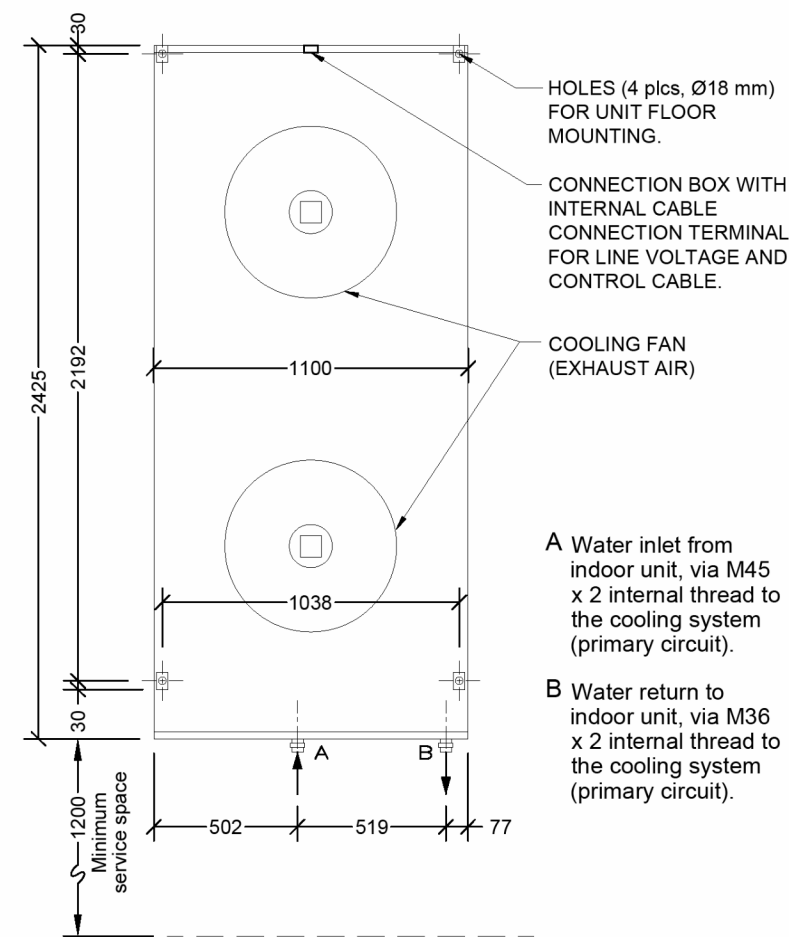
ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES.

THIS PLANNING PROPOSAL, TOGETHER WITH ANY ENCLOSED DOCUMENTATION AND SPECIFICATIONS, IS BASED ON THE MOST CURRENT TECHNICAL INFORMATION AVAILABLE AT THE TIME OF ISSUE. WE RESERVE THE RIGHT TO MAKE CHANGES AS DICTATED BY TECHNICAL DEVELOPMENTS.

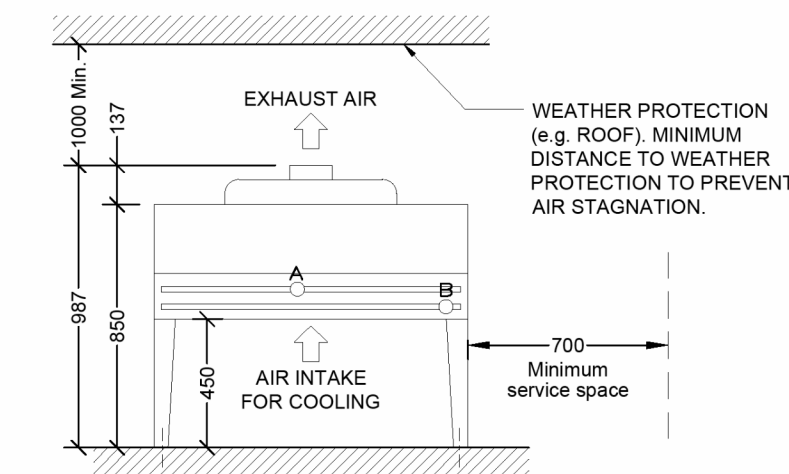
SEISMIC REQUIREMENTS:
ADDITIONAL ANCHORING MAY BE REQUIRED IF SITE IS DEEMED AS "SEISMIC ZONE" BY LOCAL CODES. THE CUSTOMER MUST VERIFY THE LOCAL CODES REQUIREMENTS AND ADVISE THE SIEMENS PROJECT MANAGER.

OUTDOOR UNIT WATER CONNECTIONS (n.t.s.)

PLAN VIEW



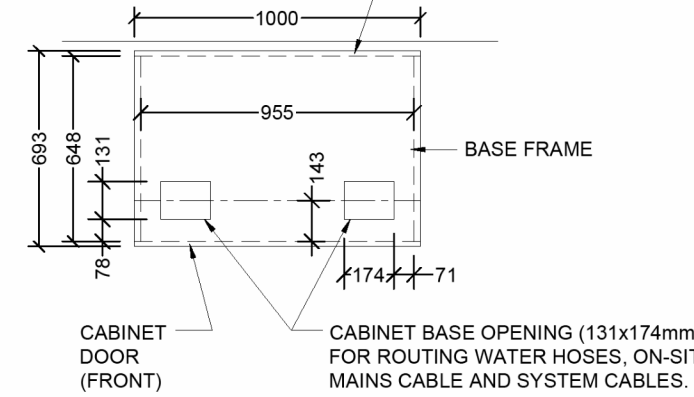
FRONT VIEW



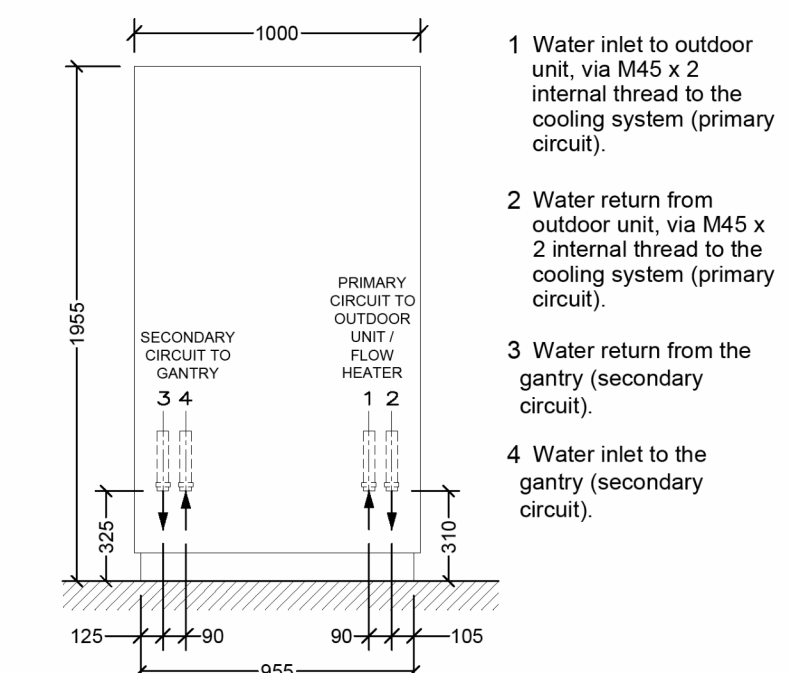
NOTES:
- Unit must always be anchored to the floor. Drill holes are included in the floor stands; anchors to be supplied by customer/contractor.
- Wall mounting the unit is possible. The customer/contractor is responsible to provide a solid and vibration-free mounting, designed by a Structural Engineer. Total weight to be supported = 186 kg.
- Unit air flow: 9000 m³/h. Maintain minimum clearances for service and air circulation: sides = 700 mm; front (connections side) = 1200 mm.

INDOOR UNIT WATER CONNECTIONS (n.t.s.)

PLAN VIEW

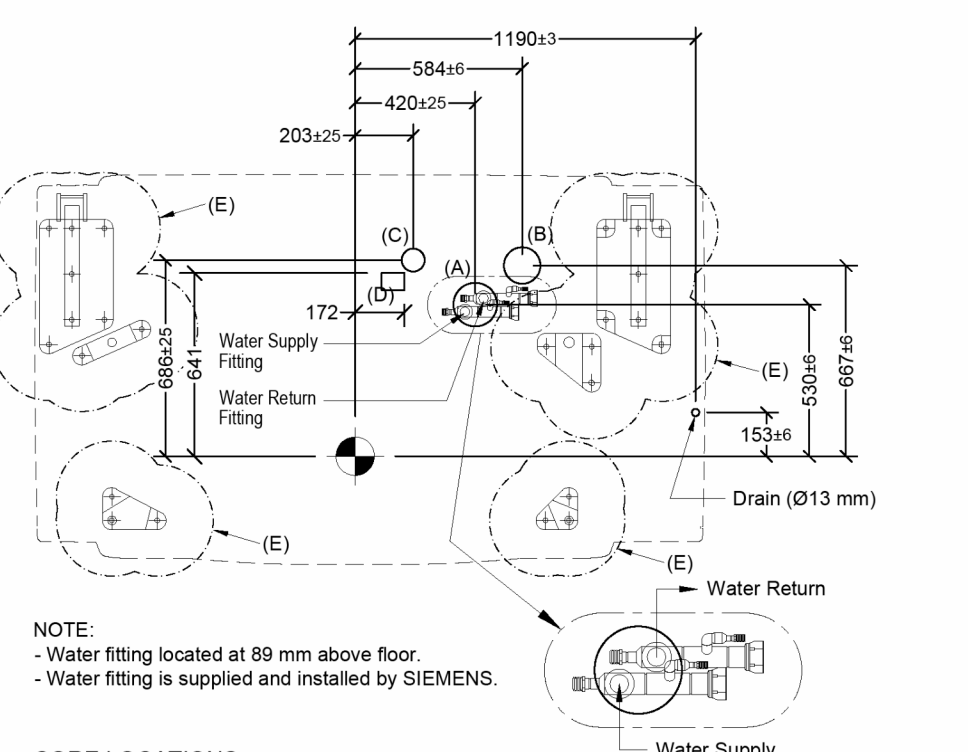


FRONT VIEW



DETAIL A (n.t.s.)

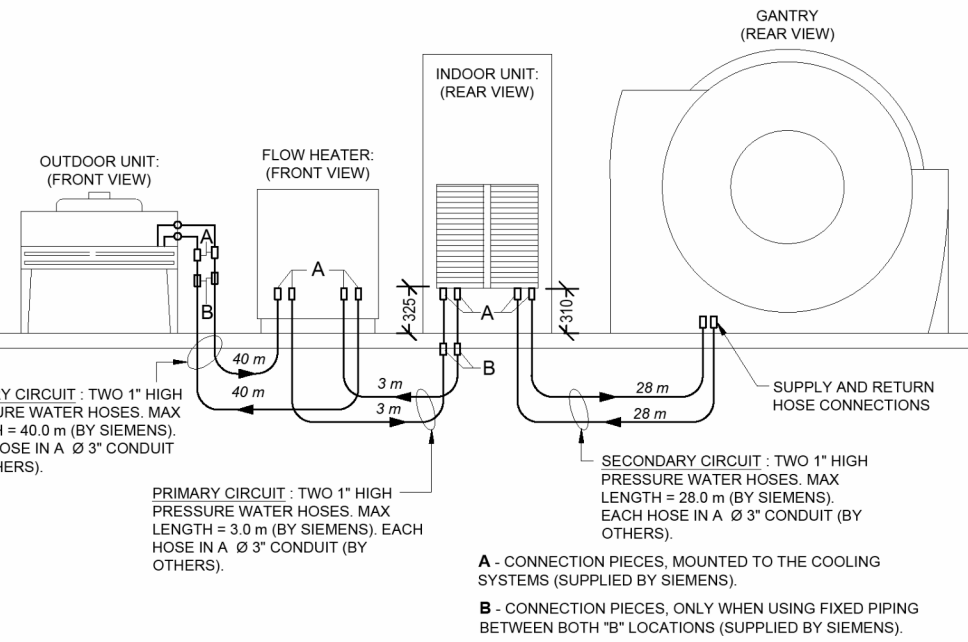
BIOGRAPH COOLING WATER CONNECTION



CORE LOCATIONS

- (A) Water Supply/Return Core Hole Ø152 mm
- (B) Power/Data Core Hole Ø127 mm
- (C) Ø80 mm core for data cables.
- (D) Cable track mounting.
- (E) The installations, cable ducts and cores, etc. must not be located in this area (Ø 350 mm around any fastening bolt!)

SCHEMATIC DIAGRAM FOR ON-SITE COOLING CIRCUIT (Water/Air-Split)

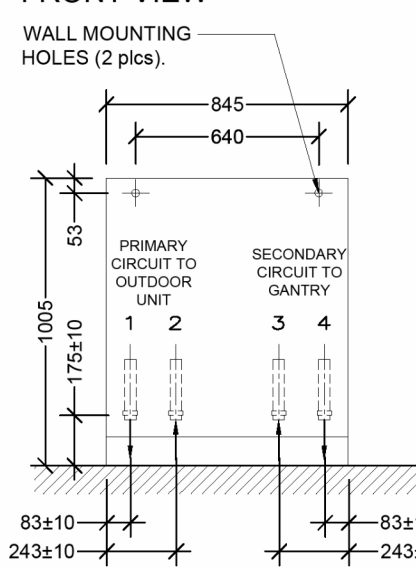


NOTES

- HEIGHT DIFFERENCE:
- Between the Indoor unit and the Gantry: maximum ±10 m.
- Between the Outdoor Unit and the Indoor Unit: maximum ±20 m.
- Between the Outdoor Unit and the Flow Heater: maximum ±20 m.
- WATER HOSES:
- INDOOR UNIT/SECONDARY COOLING CIRCUIT: Supplied by Siemens; maximum length 28 m, outer diameter = 34 mm (without thermal insulation); acceptable bending radius = 150 mm.
- OUTDOOR UNIT TO FLOW HEATER/PRIMARY COOLING CIRCUIT: Supplied by Siemens; maximum length 40 m, outer diameter = 44 mm; acceptable bending radius = 320 mm. NOTE: Thermal insulation must be provided by the customer/contractor.
- FLOW HEATER TO INDOOR UNIT/PRIMARY COOLING CIRCUIT: Supplied by Siemens; maximum length 3 m, outer diameter = 44 mm; acceptable bending radius = 320 mm. NOTE: Thermal insulation must be provided by the customer/contractor. NOTE: Due to the minimum hose bending radius, it is recommended that the unit be installed 300 mm min. above finished floor.
- HOSE/PIPE CONNECTIONS:
- GANTRY AND INDOOR UNIT: connected hoses or pipes with inside threads M36 x 2, external Ø40 mm, compression ring screw connections.
- INDOOR UNIT AND OUTDOOR UNIT: connected hoses or pipes with inside threads M45 x 2, external Ø44 mm, compression ring screw connections.
- FLOW HEATER: connected hoses or pipes to the cooling systems with inside threads 2 x adapters for M45 x 2 metric to M36 x 2.
- HOSE EXTENSION:
- INDOOR UNIT TO GANTRY: Up to maximum 50 m with internal Ø11" hose, or up to 70 m with internal Ø11-1/4" hose.
- OUTDOOR UNIT TO INDOOR UNIT: Up to maximum 60 m with internal Ø11-1/4" hose, or up to 100 m with internal Ø2" hose.
- FIXED PIPING KIT (OPTIONAL - must be requested): Includes the - Includes the installation material to connect the delivered flexible cooling hoses with on-site fixed piping. - 4 x connection pieces (DN25, DN25-VA) - 4 x adapters M45x2 metric to G1 inside thread.
- Acceptable piping material: PVC, copper and high-grade steel (recommended and preferred).
- For vibration damping, install a piece of flexible water hose (approx. 500 mm) between the fixed piping and all water connections of the water/air-split cooling system/gantry.

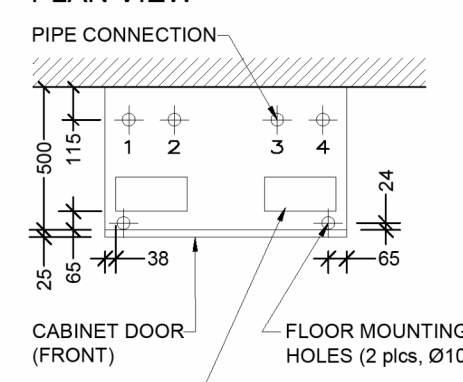
FLOW HEATER WATER CONNECTIONS (n.t.s.)

FRONT VIEW



- 1 Water inlet from Outdoor Unit (primary circuit).
- 2 Water inlet to Indoor Unit Cabinet (primary circuit).
- 3 Water inlet from Indoor Unit Cabinet (primary circuit).
- 4 Water inlet to Outdoor Unit (primary circuit).

PLAN VIEW



- 1 Water inlet from Outdoor Unit (primary circuit).
- 2 Water inlet to Indoor Unit Cabinet (primary circuit).
- 3 Water inlet from Indoor Unit Cabinet (primary circuit).
- 4 Water inlet to Outdoor Unit (primary circuit).

REQUIREMENTS FOR THE PRIMARY COOLING CIRCUIT (between the Outdoor Unit and the Indoor Unit)

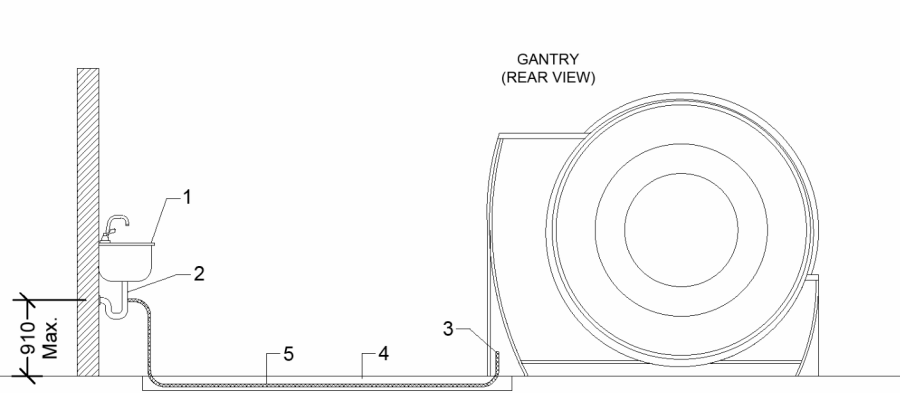
Designation:	Description:
Output to exhaust air	Outdoor Unit: 35 kW maximum. Flow Heater Unit: 0.50 kW maximum.
Air Intake Temperature Range	Outdoor Unit: -30°C to + 50°C (or -40°C to + 50°C with the Flow Heater Option) When installing in an air-conditioned room, room air must be added at lower or higher air intake temperatures (the mixing of air had to be provided on-site).
Water quality	Potable water
Filling pressure (static)	3 bar after filling procedure.
Operating pressure	Nominal: 2 - 5 bar at the pump output.
Anti-freeze	May be added to the Primary Circuit ONLY. The antifreeze that is part of the delivery volume of the flow heater has to always be ADDED to the cooling circuit of the cooling system water/air-split. 40:60 mixing ratio (glycol:water). Only for ambient air temperature range: -30°C to + 50°C
Switching off	Outdoor Unit: Is supplied with power by an on-site voltage cable via the Indoor Unit. A power relay is located in the Indoor Unit that switches the power to the Outdoor Unit when the cooling system is switched on by the CT system itself. Flow Heater: Switching off is not permitted. Permanent operation is required. The system may be switched OFF for emergency power OFF and service. After a power failure or inadvertent switch OFF, the system requires max. 30 minutes warm-up time.

REQUIREMENTS FOR THE SECONDARY COOLING CIRCUIT (between the Gantry and Indoor Unit)

Designation:	Description:
Water quality	Potable water
Filling pressure (static)	2 bar after filling procedure.
Operating pressure	Nominal: 4 - 5 bar at the pump output.
General Requirements	Room planning requirements: - with 3/4" screw connection, within 10 m of the CT. - water drain (for filling procedure), e.g. sink near the gantry.
Switching off	The cooling system is switched off automatically when switching off the entire CT system.
Anti-freeze	Not permitted for the secondary (gantry) cooling circuit!

DETAIL B (n.t.s.)

CONDENSED WATER DRAIN - SCHEMATIC



- 1 Sink.
- 2 Water drain.
- 3 Outlet for the condensed water hose at the gantry.
- 4 Cable duct.
- 5 Two condensed water hose (by Siemens).
Specifications:
- Length: 10 m delivered (20 m max).
- Outer diameter: 6 mm and 10 mm
- Acceptable bending radius: 30 mm
- Max. flow rate: 2 l/h (@75% humidity)

SITE READINESS GUIDELINES

The following general conditions are necessary to have the status of "ready site":
1) Proper power available at SIEMENS equipment power cabinet location and all power outlets functioning.
2) Air conditioning/humidification systems complete, tested, and functioning properly according to SIEMENS specifications.
3) Proper lighting installed and functioning.
4) Plumbing complete except for any final connections to SIEMENS equipment.
5) All cable trays/ducts/conduits correctly sized, located, and installed according to the SIEMENS drawings.
6) All reinforcement plates/unistrut installed as required.
7) Room for equipment installation and immediate vicinity is dust-free and is to remain so for the duration of the installation.
8) A secure area (approximately 10' x 10') is available at equipment delivery for parts and installation tools.
9) Customer supplied cameras and processors installed.
10) Customer approval for SIEMENS remote services (SRS) connection, and customer's I.T. contact information and IP addresses established.
11) Walls to be primed and painted, floors to be tied except in areas of the equipment base plates.

If these conditions are not met, the SIEMENS project manager and the designated SIEMENS installation supervisor shall reschedule the installation start date. NOTE: additional cost may be incurred by the customer/contractor and delivery dates may need to be rescheduled, when the SIEMENS site readiness guidelines are not met.

THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE FOLLOWING SIEMENS DOCUMENTATION:

DWG#	DESCRIPTION
387-040-01	GENERAL ROOM LAYOUT
387-040-02	STRUCTURAL REQUIREMENTS
387-040-03	MECHANICAL REQUIREMENTS
387-040-04	ELECTRICAL REQUIREMENTS (PROJECT)
387-040-05	ELECTRICAL REQUIREMENTS (GENERAL)

No	REVISIONS	CHKD
A	KISHAN B. 28 AUG 25 - Added flow heater.	1

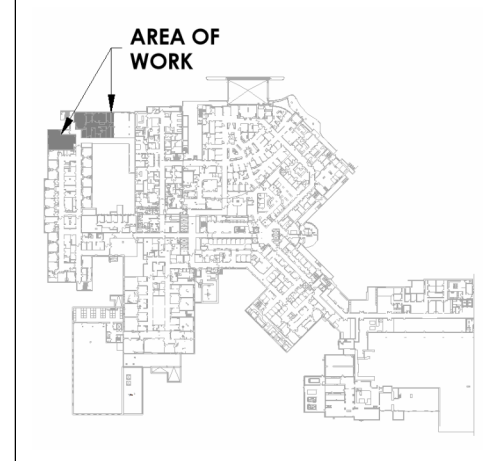
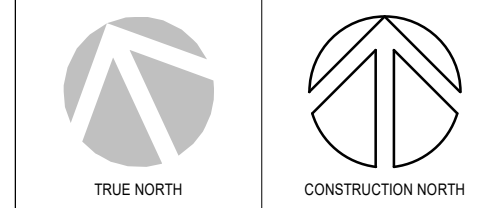
SUBMITTED FOR: ☐ Approval ☐ Your use ☐ Your records ☒ Installation APPROVED: _____	SIEMENS Healthineers
--	--------------------------------

Siemans Healthcare Limited Planning Department NOTE: ALL DIMENSIONS SHOWN MUST BE VERIFIED ON THE SITE. THIS DRAWING IS NOT TO BE REPRODUCED WITHOUT WRITTEN AUTHORIZATION.	CUSTOMER: GRAND RIVER HOSPITAL KITCHENER, ONTARIO MECHANICAL REQUIREMENTS
---	---

EQUIPMENT: BIOGRAPH VISION	FGR: M130-000.891.01.04.02
DRAWN BY: KISHAN B.	SCALE: AS NOTED
CHKD BY: ---	DATE: 27 AUG 2025
HOSPITAL #: 387	PROJECT: 040
DRAWING/SKETCH #	REVISION #
03	A



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

No.	DESCRIPTION	DATE
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PREPARE	2025.11.28

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:



PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON N2G 1G3

DRAWING TITLE:
SIEMENS INSTALLATION REFERENCE DRAWING SHEET 3

DRAWN BY:	DN	DATE:	09/09/24
CHECKED BY:	DP	SCALE:	As indicated

PROJECT NO: **25-030**

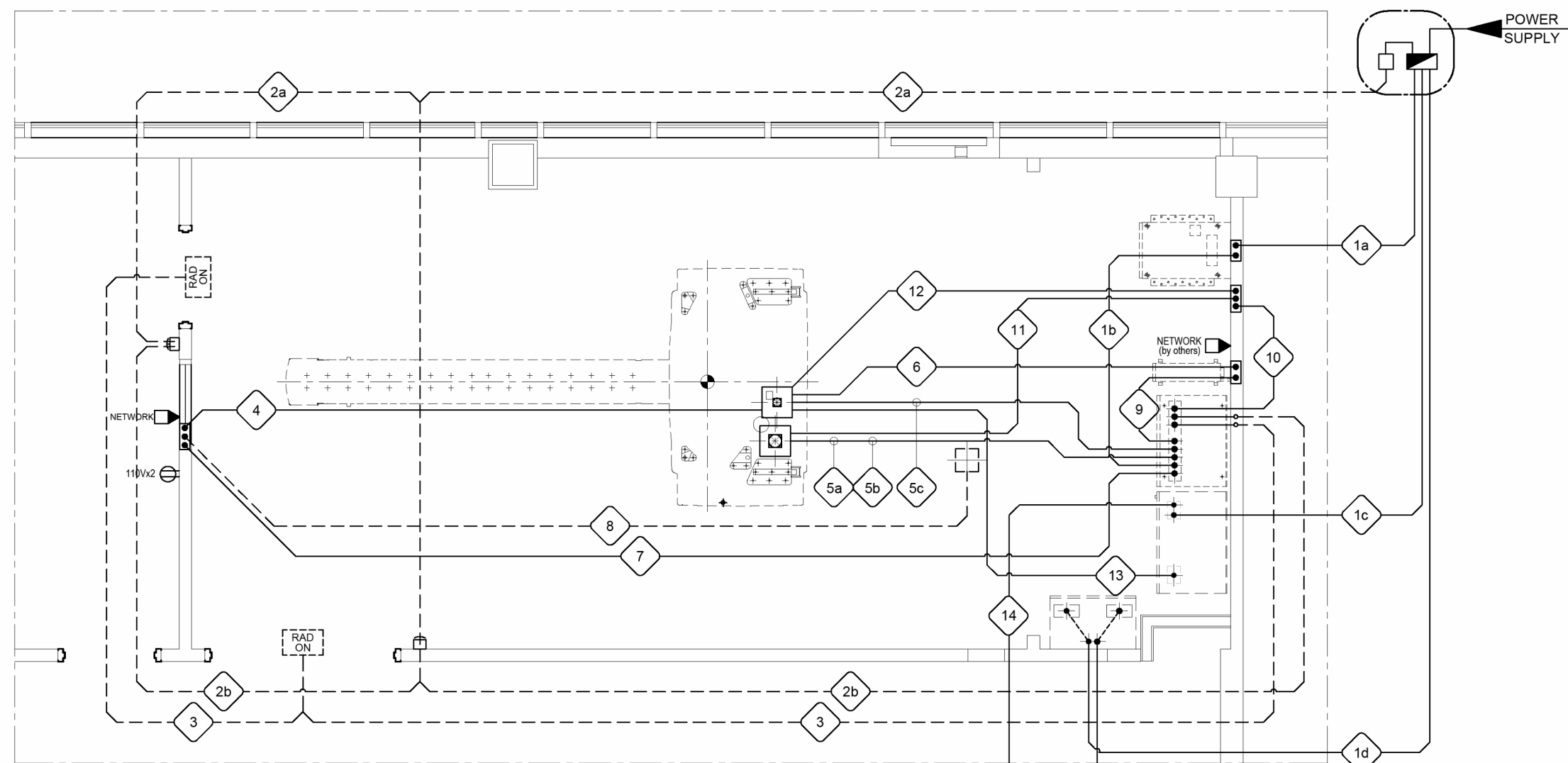
DRAWING NO:

E402

THIS SIEMENS DRAWING TO BE READ IN CONJUNCTION WITH ENTIRE ELECTRICAL DRAWING SET. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT RACEWAYS, JUNCTION BOXES, ACCESSIBLE SPLIT REMOVABLE COVER PULL BOXES FOR ALL PET CT SCANNER POWER AND CONTROL EQUIPMENT BELOW AND ABOVE FLOOR SLAB IN CEILINGS AND IN WALLS AS WELL AS CONDUIT RACEWAYS FOR OUTDOOR COOLING UNIT ON ROOF.

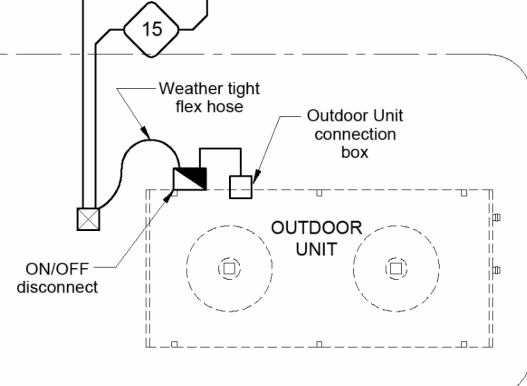
RACEWAY LAYOUT

1 : 50



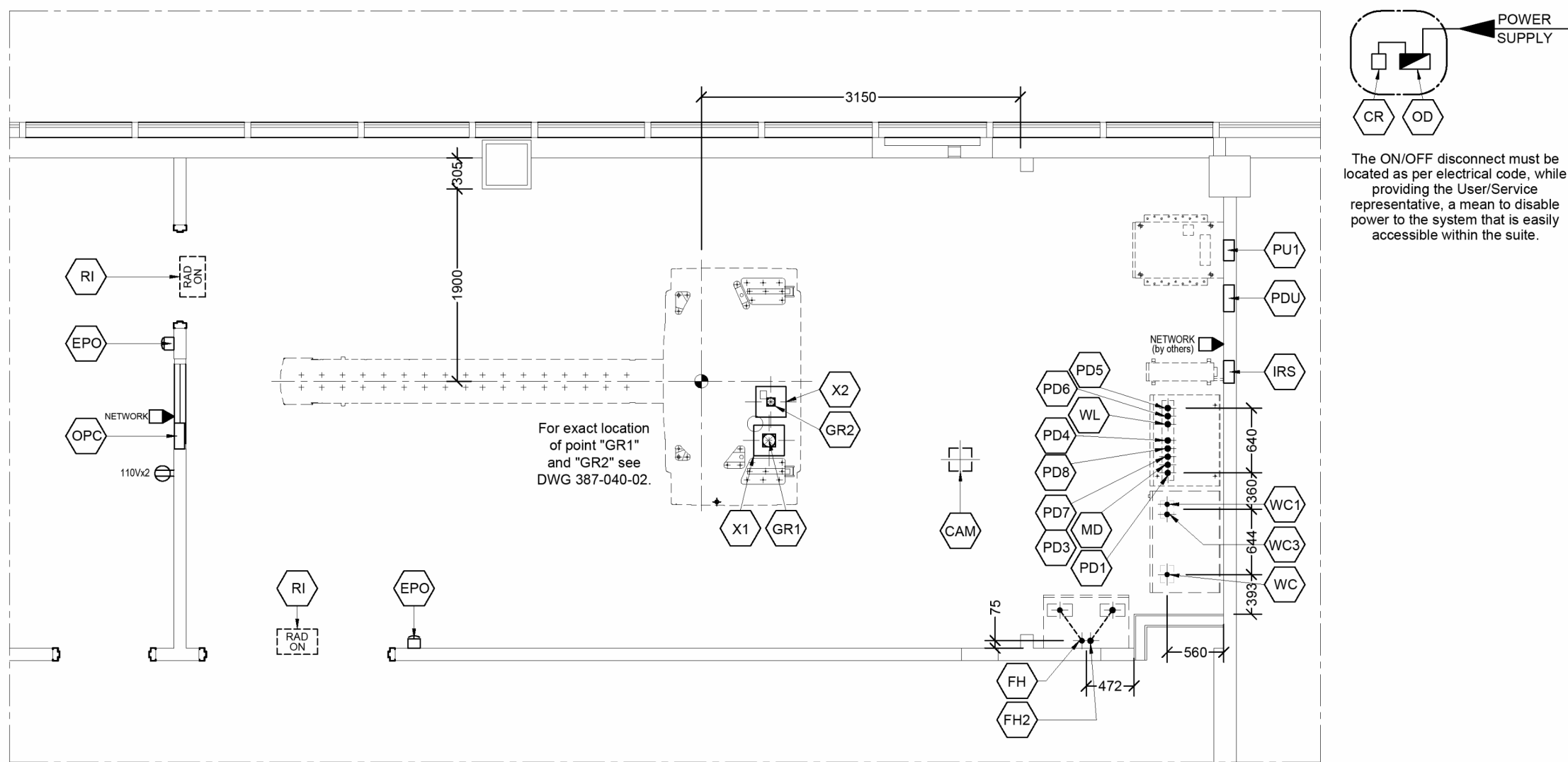
OUTDOOR UNIT

An ON/OFF disconnect is to be attached to the Outdoor Unit (supplied by Customer or by Siemens if part of the order). A weather tight flex hose is to be provided (by others) for all cabling between point "WC2" and the Outdoor Unit's connection box and the ON/OFF disconnect.



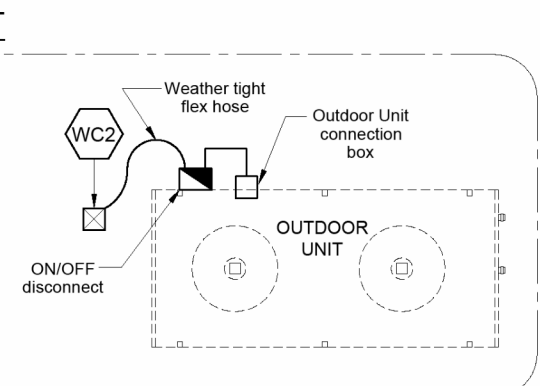
CONNECTION POINT LAYOUT

1 : 50



OUTDOOR UNIT

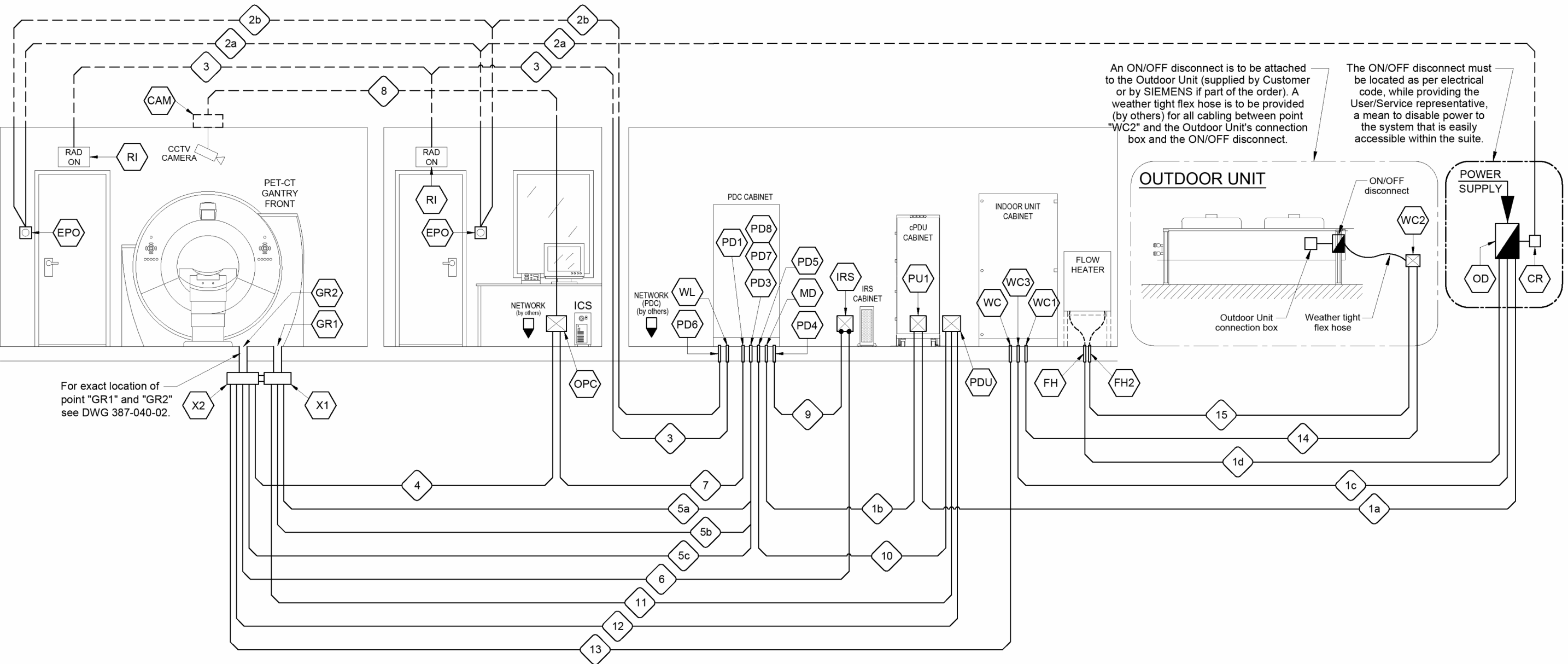
An ON/OFF disconnect is to be attached to the Outdoor Unit (supplied by Customer or by Siemens if part of the order). A weather tight flex hose is to be provided (by others) for all cabling between point "WC2" and the Outdoor Unit's connection box and the ON/OFF disconnect.



CONNECTION POINT NOTES

- *1 Emergency Shunt Trip (EST) is at the customer's discretion (optional), unless required by local electrical code. To ensure that the EST does not become disabled unintentionally, the shunt trip is to be supplied with continuous power (e.g. emergency/critical hospital power) not from the main system power supply. All EST devices to be equipped with a hinged plastic clear cover to protect against accidental activations (by others).
 - *2 SIEMENS provides low voltage control switch.
 - *3 The ON/OFF disconnect must be located as per electrical code, while providing the User/Service representative, a means to disable power to the system that is easily accessible within the suite.
 - *4 In case of an emergency, the UPS must be switched OFF and held, until mechanical/electrical reset, via an on-site EPOEM switch.
 - *5 Refer to CONNECTION POINT NOTES below.
 - *6 The specified conduits are only for the cable connections between the components. For additional conduit requirements for the water hoses, refer to the Mechanical Installation DWG 387-040-03.
- RI - RADIATION ON indicator sign, located above the door. To be supplied and installed by Contractor/Customer. See ELECTRICAL NOTE #13 for additional information. Connection to floating ground switching contact (24V / 2A DC or 24V / 1A DC output voltage). Cable supplied by Contractor/Customer.
- NOTE: It is recommended that electronic thermostats are used to provide better accuracy and operational safety.

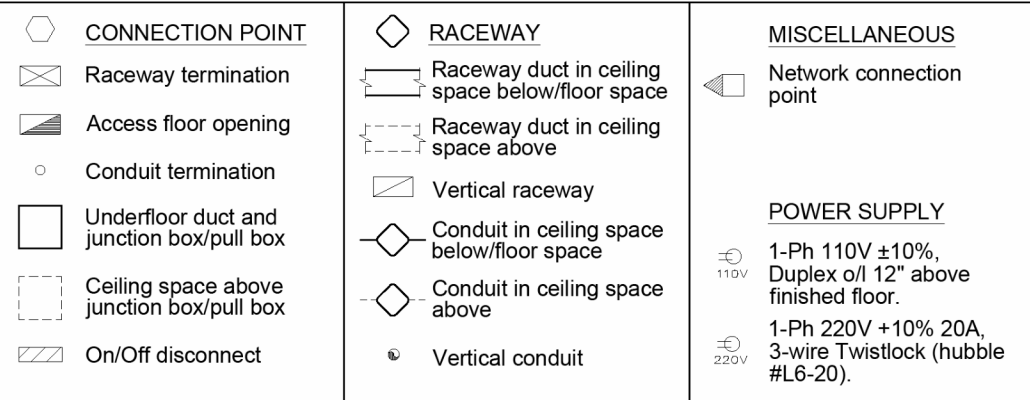
SCHEMATIC (n.t.s.)



ELECTRICAL NOTES

- 1 - All wires and multi-conductor cables installed by contractor shall be standard, flexible and flame seal type, and are to be left with minimum 6'-0" tail at each termination unless otherwise specified.
- 2 - The electrical contractors shall provide all necessary pull boxes, conduits, raceways, fittings, bushings, cables and other items as per the electrical plan unless otherwise specified.
- 3 - All cable outlets, pull boxes and raceways described in this drawing as being set flush with finished floor are to be of the waterproof type with gasketed metal covers.
- 4 - All conduits which are left empty for the cables supplied by SIEMENS shall be provided with Greenlee Conduit Measuring tape (Cat.# N435 or equivalent).
- 5 - All conduit bends are to have large sweeping radius. Only standard conduit elbows are to be used. Only rigid conduits can be used for the entire conduit run.
- 6 - All cable ducts shown are to be supplied with a removable cover.
- 7 - Each conduit termination indicated on the drawing shall be finished with plastic bushing.
- 8 - Conduits and raceways shown are indicated schematically and are not to be used for actual runs. Contractor is to determine the SHORTEST RUN available prior to installation.
- 9 - The electrical work in this installation shall be performed in strict compliance with Canadian Electrical Code, or local Codes, whichever is more stringent.
- 10 - When installation does not conform with drawing submitted, the SIEMENS Project Manager must be contacted before any design changes may be made.
- 11 - All slab coring and drilling for raceway installations and final equipment mounting are provided by the Contractor/Customer. These areas shall be scanned using acceptable industry methods.
- 12 - All dimensions shown are from finished surfaces.
- 13 - If the Line Impedance specification is not met, the maximum generator output (kW) will not be possible.
- 14 - The conduit/raceway layout as shown considers the mandatory separation of power and signal cables. Any changes to, or consolidation of, conduits/ducts must be approved by the SIEMENS Project Manager.
- 15 - ALL WIRES/CONDUCTORS of the POWER SUPPLY MUST be of EQUAL SIZE, regardless of local codes, and supplied BY CONTRACTOR. The safety GROUND MUST be ISOLATED, to protect the system from interference. All materials and equipment not by SIEMENS MUST be GROUNDED SEPARATELY. The Siemens equipment ground must be continuous, with no breaks or use of conduit/chassis or earth as the sole grounding path.
- 16 - All power supply requirements are to be designed and/or approved by a Electrical Engineer. SIEMENS recommends the incoming power lines be analyzed for transient surges and impulses, sags and overvoltages.
- 17 - Cable trays shown in the access floor space are to be supplied only if required by local Electric Code.

SYMBOL LEGEND



GENERAL NOTES

NOTE: The information contained in this drawing is based on the most current technical information available at the time this drawing was issued. We reserve the right to make changes as dictated by technical product developments. Connection points that are not dimensioned may be located at the Customer's discretion. The location of these items as shown on this drawing indicate the preferred SIEMENS location only.

POWER SUPPLY
1-Ph 110V ±10%, Duplex oil 12" above finished floor.
1-Ph 220V ±10% 20A, 3-wire Twistlock (hubbles #16-20).

THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE FOLLOWING SIEMENS DOCUMENTATION:

DWG#	DESCRIPTION
387-040-01	GENERAL ROOM LAYOUT
387-040-02	STRUCTURAL REQUIREMENTS
387-040-03	MECHANICAL REQUIREMENTS
387-040-04	ELECTRICAL REQUIREMENTS (PROJECT)
387-040-05	ELECTRICAL REQUIREMENTS (GENERAL)

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

THIS DRAWING DOES NOT PROVIDE RADIATION PROTECTION SPECIFICATIONS. IT IS SUGGESTED THAT A LICENSED RADIATION PHYSICIST BE CONSULTED.

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED. ALL ITEMS NOT SPECIFIED IN THE EQUIPMENT LEGEND (eg. COUNTERS) ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/CONTRACTOR, ON APPROVAL BY THE CUSTOMER.

METRIC TO IMPERIAL CONVERSIONS:
1000mm = 39.37" 1'-0" = 304.8mm 1kg = 2.205lbs.
Scale 1:50
0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.
ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES.

THIS PLANNING PROPOSAL, TOGETHER WITH ANY ENCLOSED DOCUMENTATION AND SPECIFICATIONS, IS BASED ON THE MOST CURRENT TECHNICAL INFORMATION AVAILABLE AT THE TIME OF ISSUE. WE RESERVE THE RIGHT TO MAKE CHANGES AS DICTATED BY TECHNICAL DEVELOPMENTS.

SEISMIC REQUIREMENTS:
ADDITIONAL ANCHORING MAY BE REQUIRED IF SITE IS DEEMED AS 'SEISMIC ZONE' BY LOCAL CODES. THE CUSTOMER MUST VERIFY THE LOCAL CODES REQUIREMENTS AND ADVISE THE SIEMENS PROJECT MANAGER.

No	REVISIONS	CHG
A	KISHAN B. 28 AUG 25 - Added flow heater.	1

SUBMITTED FOR:
☐ Approval
☐ Your use
☐ Your records
☒ Installation
APPROVED: _____

SIEMENS Healthineers

Siemens Healthcare Limited
Planning Department

NOTE: ALL DIMENSIONS SHOWN MUST BE VERIFIED ON THE SITE. THIS DRAWING IS NOT TO BE REPRODUCED WITHOUT WRITTEN AUTHORIZATION.

CUSTOMER:
GRAND RIVER HOSPITAL
KITCHENER, ONTARIO
ELECTRICAL REQUIREMENTS

EQUIPMENT:
BIOGRAPH VISION

FIG#:
M130-000.891.01.04.02

DRAWN BY:
KISHAN B.

SCALE:
AS NOTED

CHCKD BY:

DATE:
27 AUG 2025

HOSPITAL #:
387

PROJECT #:
040

DRAWING SKETCH #:

REVISION #:

04

A

PROJECT LOGO

KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

No.	DESCRIPTION	DATE
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DATE	

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:

PROJECT:
WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON N2G 1G3

DRAWING TITLE:
SIEMENS INSTALLATION REFERENCE DRAWING SHEET 4

DRAWN BY: DN DATE: 09/09/24
CHECKED BY: DP SCALE: As indicated

PROJECT NO: 25-030

DRAWING NO: **E403**

D 610614

THIS SIEMENS DRAWING TO BE READ IN CONJUNCTION WITH ENTIRE ELECTRICAL DRAWING SET. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT RACEWAYS, JUNCTION BOXES, ACCESSIBLE SPLIT REMOVABLE COVER PULL BOXES FOR ALL PET CT SCANNER POWER AND CONTROL EQUIPMENT BELOW AND ABOVE FLOOR SLAB IN CEILINGS AND IN WALLS AS WELL AS CONDUIT RACEWAYS FOR OUTDOOR COOLING UNIT ON ROOF.

POWER SUPPLY SCHEDULE (100kW)

MAIN POWER SUPPLY:			
LINE CONNECTION:3N-480V ±10%, 50/60Hz ±2%			
MAX. LOOP IMPEDANCE: ...145 mΩ (measured from L to PE)			
MAX. LINE IMPEDANCE: ...125 mΩ			
MAINS FUSE:150 A NH, Type gG/G (3 fuses required: L1, L2, L3), 1 fuse per phase.			
POWER CONSUMPTION:			
Operating Mode	Power Consumption (CT / PET System)	Water/Air Split Chiller (option)	Flow Heater (option)
Operation (momentary rating):	150 kVA	19 kVA	9 kVA
System ON (standby) (long time rating):	10 kVA	19 kVA	9 kVA
System ON (CompOn) (long time rating):	8.5 kVA	19 kVA	9 kVA
System OFF (long time rating):	7.7 kVA	0 kVA	9 kVA

CONNECTION VALUE = Nominal line voltage x 125A x 1.73

If an on-site system pre-transformer is required for adjusting the line voltage, the transformer must be designed for a minimum of 160 kVA.

SIZE OF CONNECTION TERMINAL FOR PDC CABINET:

L1, L2, L3, N, PE: 25 - 95 mm² / 4 to 3/0 AWG

N, PE: 16 mm² / 6 AWG

SIZE OF CONNECTION TERMINAL FOR PDU CABINET:

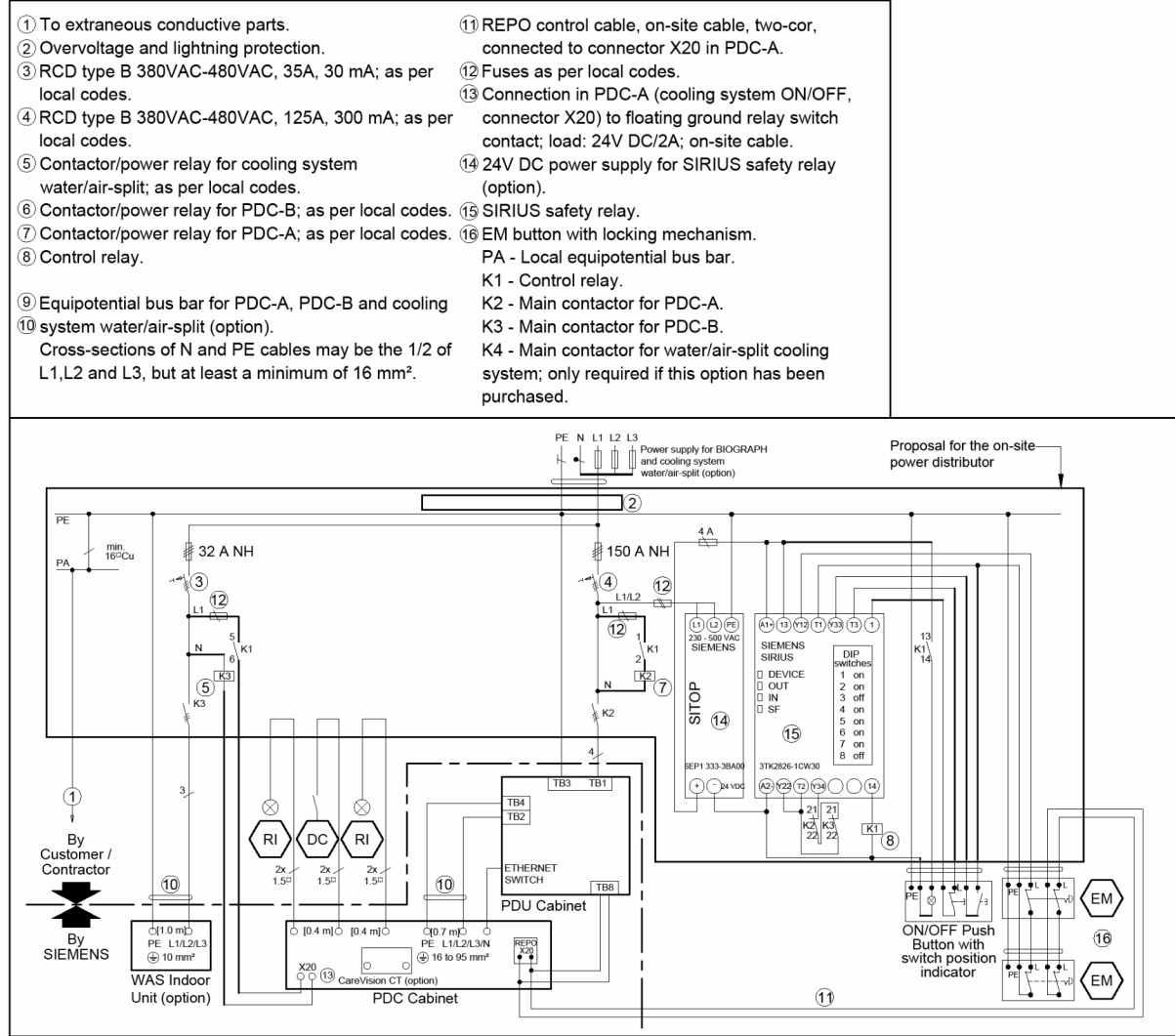
L1, L2, L3, N: 2/0 to 2 AWG

PE: 2 to 350 MCM

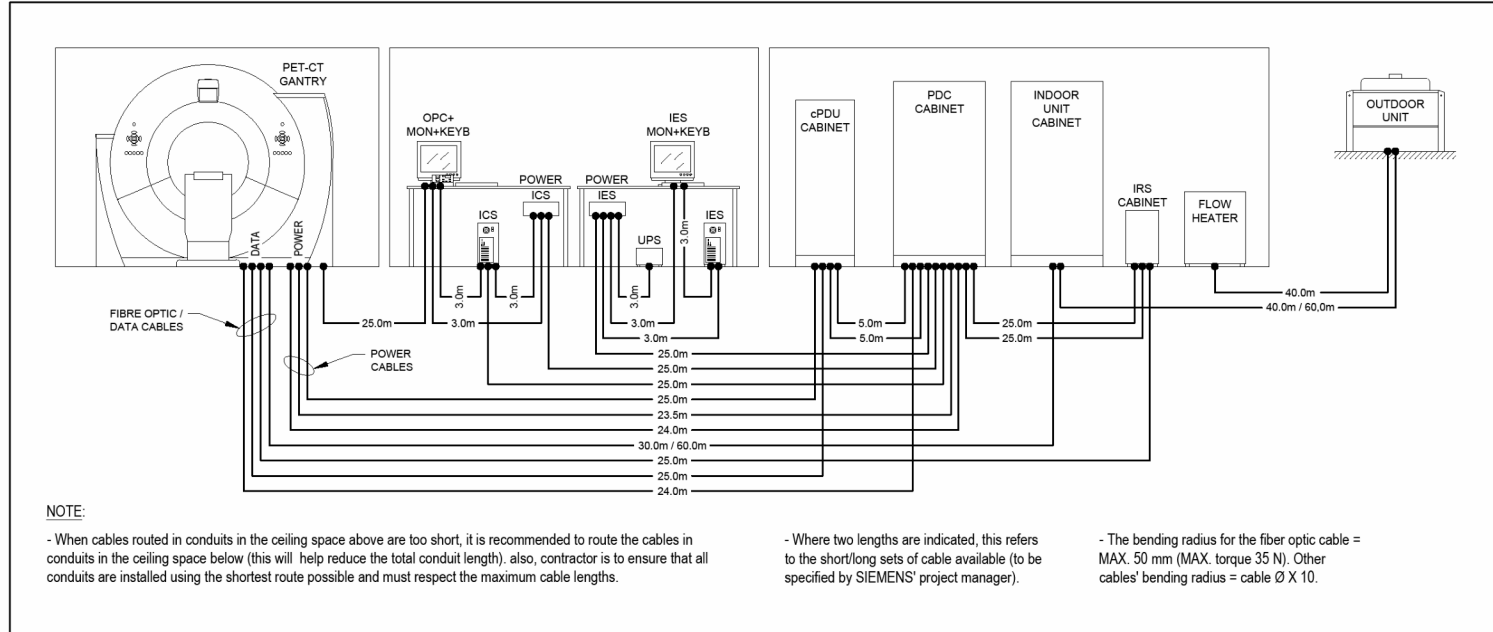
To ensure fail-safe operations, we recommend running the line voltage directly from the in-house transformer to the power distributor. The voltage supply for the CT system should be routed directly from the power distributor to the power distribution panel of the CT system.

Other systems e.g. X-ray, MR and CT systems, elevator motors, HVAC units, lighting) cannot be connected to the mains power supply.

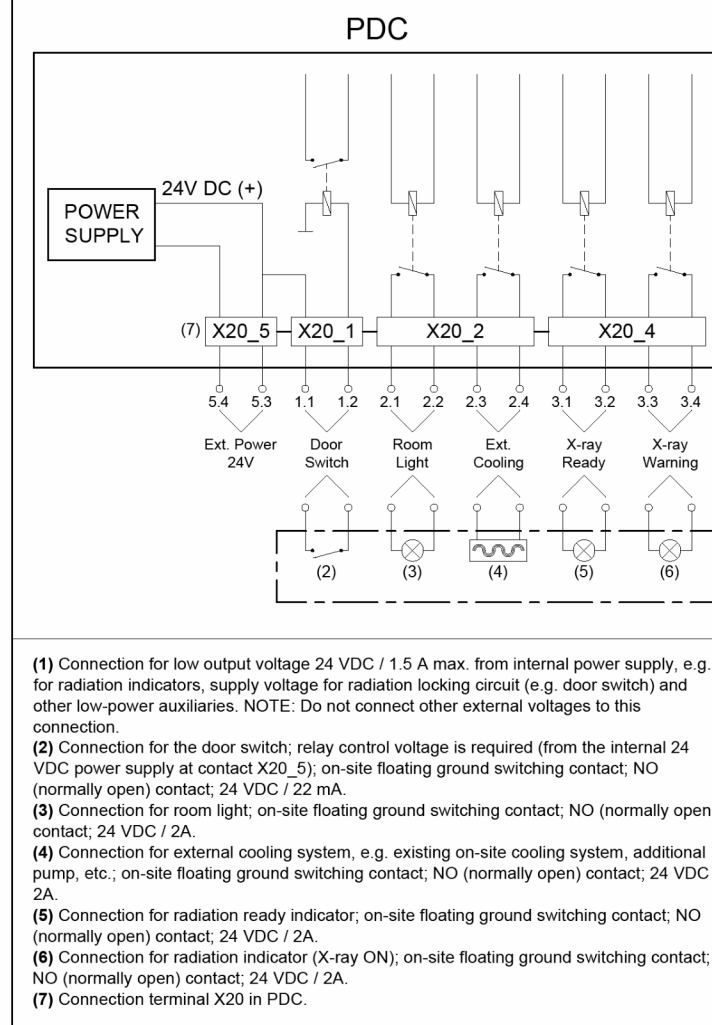
POWER DISTRIBUTION DIAGRAM (PROPOSAL / FOR REFERENCE ONLY)



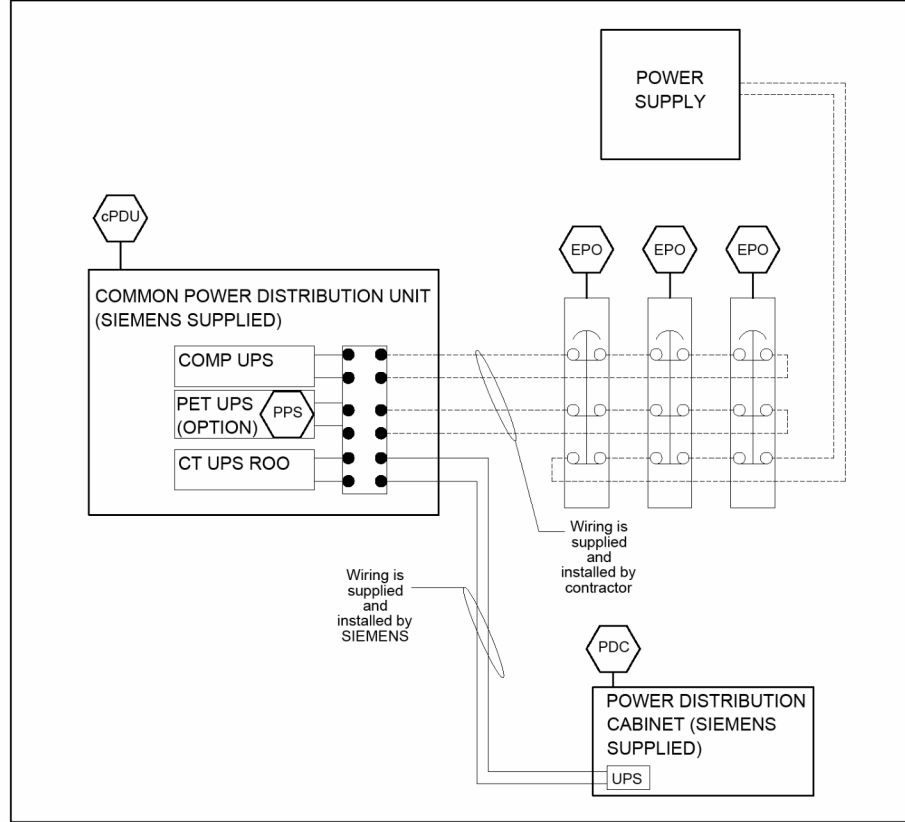
CABLE SPECIFICATIONS (n.t.s.)



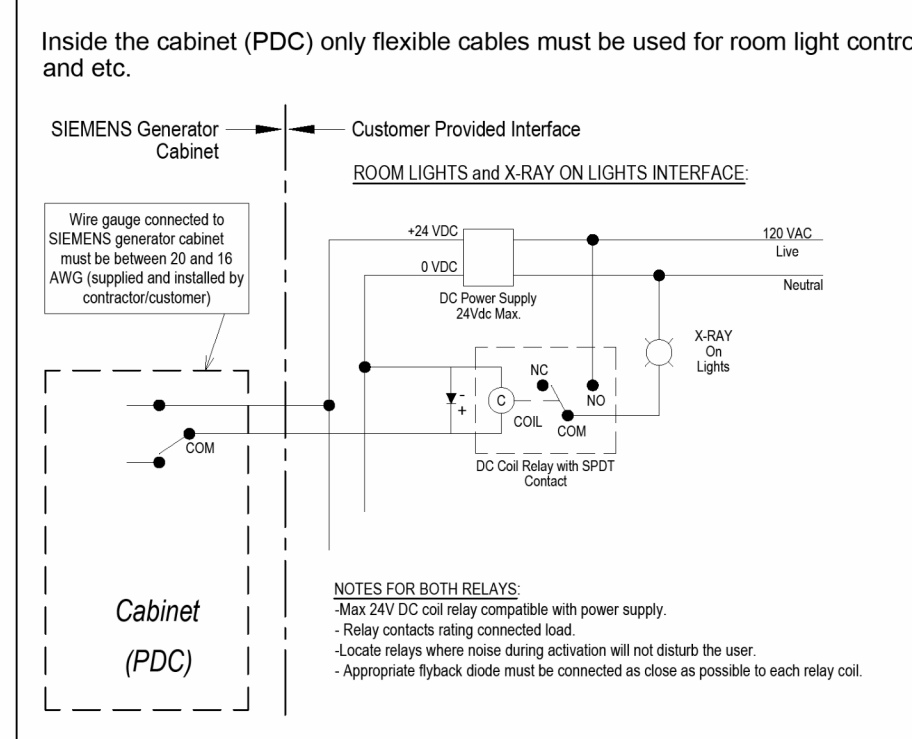
ELECTRICAL CONNECTIONS/TERMINALS IN PDC



EPO DIAGRAM



SYSTEM CONNECTIONS: Room Light and Radiation Warning

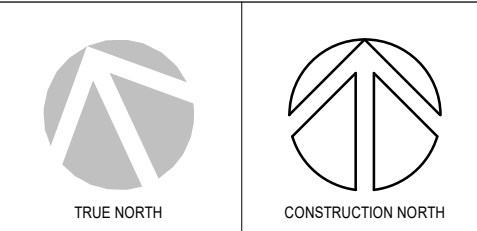


No REVISIONS

CHKD



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER (2026.09.02)

2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DATE	

REVISIONS: 2025.09.25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT / ENGINEER BEFORE PROCEEDING.

ONLY FIGURED DIMENSIONS MUST BE USED.

THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.

THE DRAWING IS PROTECTED BY COPYRIGHT.

ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.

DO NOT SCALE THE DRAWINGS.

McCallumSather

Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallsather.com

SEAL

CONSULTANTS:



PROJECT:

WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON N2G 1G3

DRAWING TITLE:

SIEMENS INSTALLATION REFERENCE DRAWING SHEET 5

DRAWN BY: DN DATE: 09/09/24

CHECKED BY: DP SCALE: As indicated

PROJECT NO: 25-030

DRAWING NO:

E404

IN ORDER TO AVOID DELAY IN INSTALLATION, SIEMENS CANADA LTD. PLANNING DEPT. SHOULD BE CONSULTED PRIOR TO INSTALLATION. FINAL ARCHITECTURAL DWGS SHOULD BE MADE AVAILABLE TO SIEMENS AT THIS TIME TO VERIFY THAT ALL REQUIREMENTS HAVE BEEN ADHERED TO.

THIS DRAWING DOES NOT PROVIDE RADIATION PROTECTION SPECIFICATIONS. IT IS SUGGESTED THAT A LICENSED RADIATION PHYSICIST BE CONSULTED.

SOME EQUIPMENT SHOWN ON THIS DRAWING IS OPTIONAL. PLEASE REFER TO QUOTATIONS FOR ACTUAL EQUIPMENT TO BE DELIVERED. ALL ITEMS NOT SPECIFIED IN THE EQUIPMENT LEGEND (e.g. COUNTERS) ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER/CONTRACTOR, ON APPROVAL BY THE CUSTOMER.

METRIC TO IMPERIAL CONVERSIONS:

1000mm = 39.37" 1'-0" = 304.8mm 1kg = 2.205lbs.

Scale 1:50

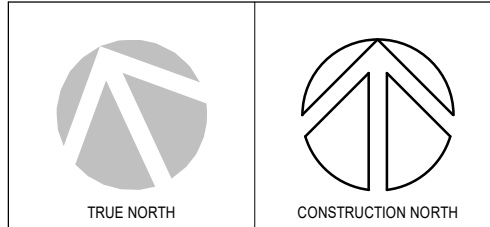
0' 1' 2' 3' 4' 5' 6' 7' 8' 9' 10'

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED.

ALL DIMENSIONS SHOWN ARE FROM FINISHED SURFACES.

THIS PLANNING PROPOSAL, TOGETHER WITH ANY ENCLOSED DOCUMENTATION AND SPECIFICATIONS, IS BASED ON THE MOST CURRENT TECHNICAL INFORMATION AVAILABLE AT THE TIME OF ISSUE. WE RESERVE THE RIGHT TO MAKE CHANGES AS DICTATED BY TECHNICAL DEVELOPMENTS.

ADDITIONAL ANCHORING MAY BE REQUIRED IF SITE IS DEEMED AS 'SEISMIC ZONE' BY LOCAL CODES. THE CUSTOMER MUST VERIFY THE LOCAL CODES REQUIREMENTS AND ADVISE THE SIEMENS PROJECT MANAGER.



NO.	DESCRIPTION	DATE
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28

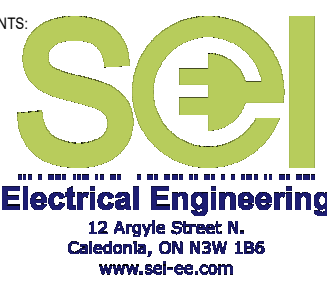
NO.	DESCRIPTION	DATE
2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:



PROJECT:
**WATERLOO REGIONAL HEALTH
NETWORK @ MIDTOWN - PET CT**

**835 KING ST W, KITCHENER, ON
N2G 1G3**

DRAWING TITLE:
SINGLE LINE DIAGRAMS

DRAWN BY: DN DATE: 09/09/24

CHECKED BY: DP SCALE: NTS

PROJECT NO: 25-030

DRAWING NO:

E500

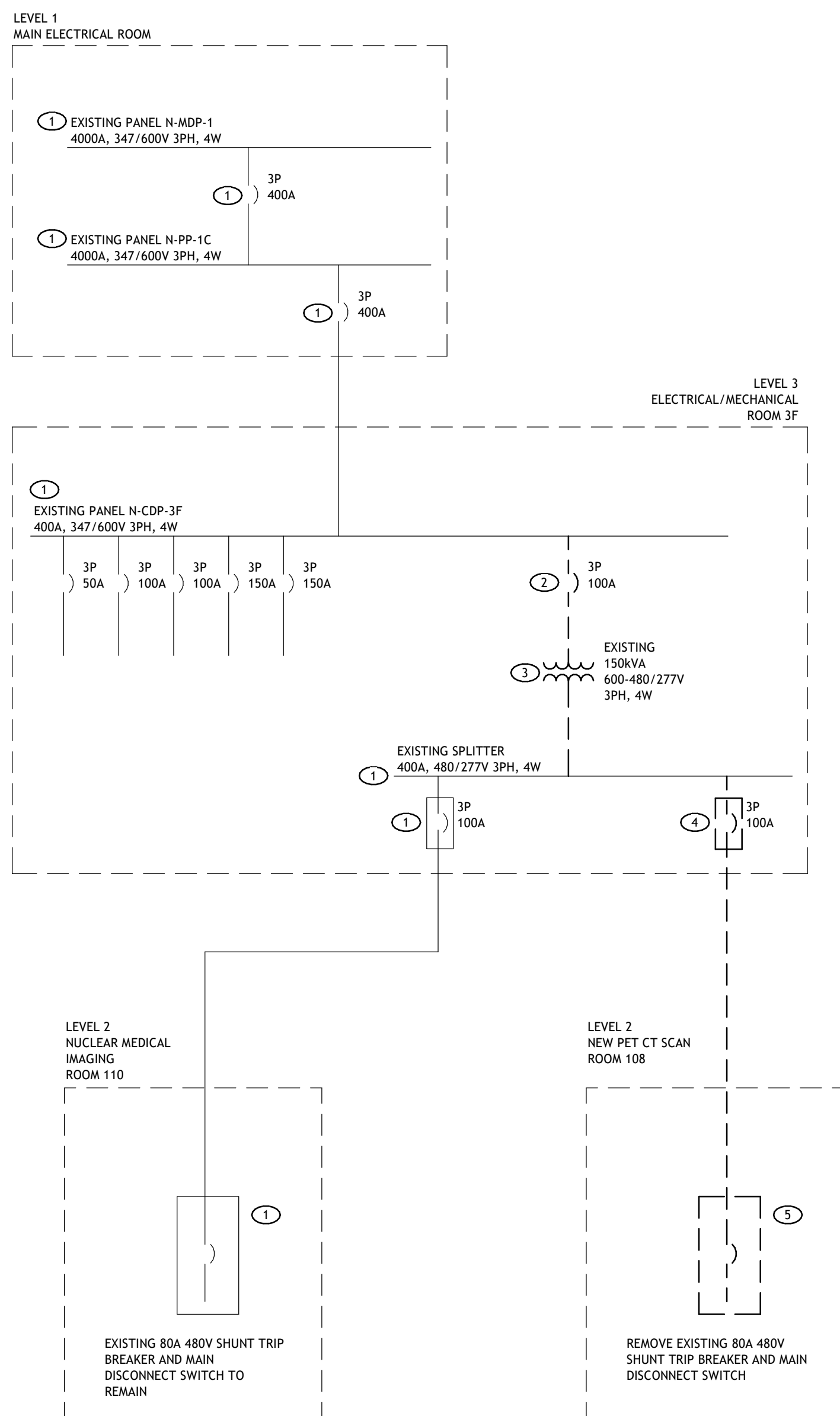
WIRE AND CONDUIT SCHEDULE		
TYPE	DESCRIPTION	RATING
1	2CF12 + GND IN 21mm CONDUIT	25A
2	4C#1/0-#1/0 INSULATED GND (L1,L2,L3,N,PE) IN 53mm EMT CONDUIT	150A
3	TWO RUNS OF 3C#1/0+ GND IN TWO 53mm EMT CONDUITS	300A
4	TWO RUNS OF 4C#2/0 + GND IN TWO 53mm EMT CONDUITS	350A
5	TWO (2) EMPTY 63mm (3") CONDUITS	-
6	3CF10+GND IN PVC CONDUIT (SEE DWGS E402, E403)	35A
7	3CF10+GND IN EMT, PVC CONDUIT AND FLEX TECK CABLE AS REQ'D (SEE DWGS E402, E403)	35A
8	4C#3/0-#1/0 INSULATED GND (L1,L2,L3,N,PE) IN 63mm EMT CONDUIT	200A

SEISMIC BRACING:

- ALL ELECTRICAL SYSTEMS IN THE BUILDING SHALL BE INSTALLED TO COMPLY WITH SEISMIC BRACING REQUIREMENTS AS STATED IN THE 2012 ONTARIO BUILDING CODE.
- LATERAL SUPPORT FOR ALL SUSPENDED ELECTRICAL SYSTEMS (CONDUITS, BUSWAYS, CABLETROUGHES AND LUMINAIRES) SHALL BE DESIGNED AS REQUIRED BY 2012 OBC CLAUSE 4.1.8.18.
- PROVIDE SEISMIC BRACING FOR ALL CONDUIT GREATER THAN 50MM DIAMETER AND FOR ALL LIFE SAFETY SYSTEMS CONDUIT. PROVIDED TRANSVERSE BRACES AT A MAXIMUM OF 12 METRE CENTRES; LONGITUDINAL BRACES AT A MAXIMUM 24 METRE CENTRES.
- FOR ALL FLOOR MOUNTED EQUIPMENT, PROVIDE LATERAL SEISMIC RESISTANCE FOR ALL VIBRATION ISOLATION EQUIPMENT AND FOR ALL FIX-MOUNTED EQUIPMENT.
- REFER TO DRAWINGS E400, E401, E402, E403 AND E404 FOR CONDUIT AND WIRING ROUTING OF SIEMENS MEDICAL IMAGING EQUIPMENT. ELECTRICAL CONTRACTOR TO PROVIDE ALL CONDUIT RACEWAYS FOR POWER AND CONTROL WIRING TO ALL SIEMENS EQUIPMENT BELOW SLAB, ABOVE CEILINGS AND IN WALLS.
- CONTRACTOR SHALL ENSURE ALL WORK IS COORDINATED WITH GRH STAFF AND ALL POWER SHUT DOWNS ARE TO BE SCHEDULED IN ADVANCE SO NOT TO IMPRE THE DAILY WORK PROCESS OF THE HOSPITAL. CONTRACTOR SHALL ADHERE TO ALL GRH INFECTION CONTROL AND SCREENING PROCEDURES.

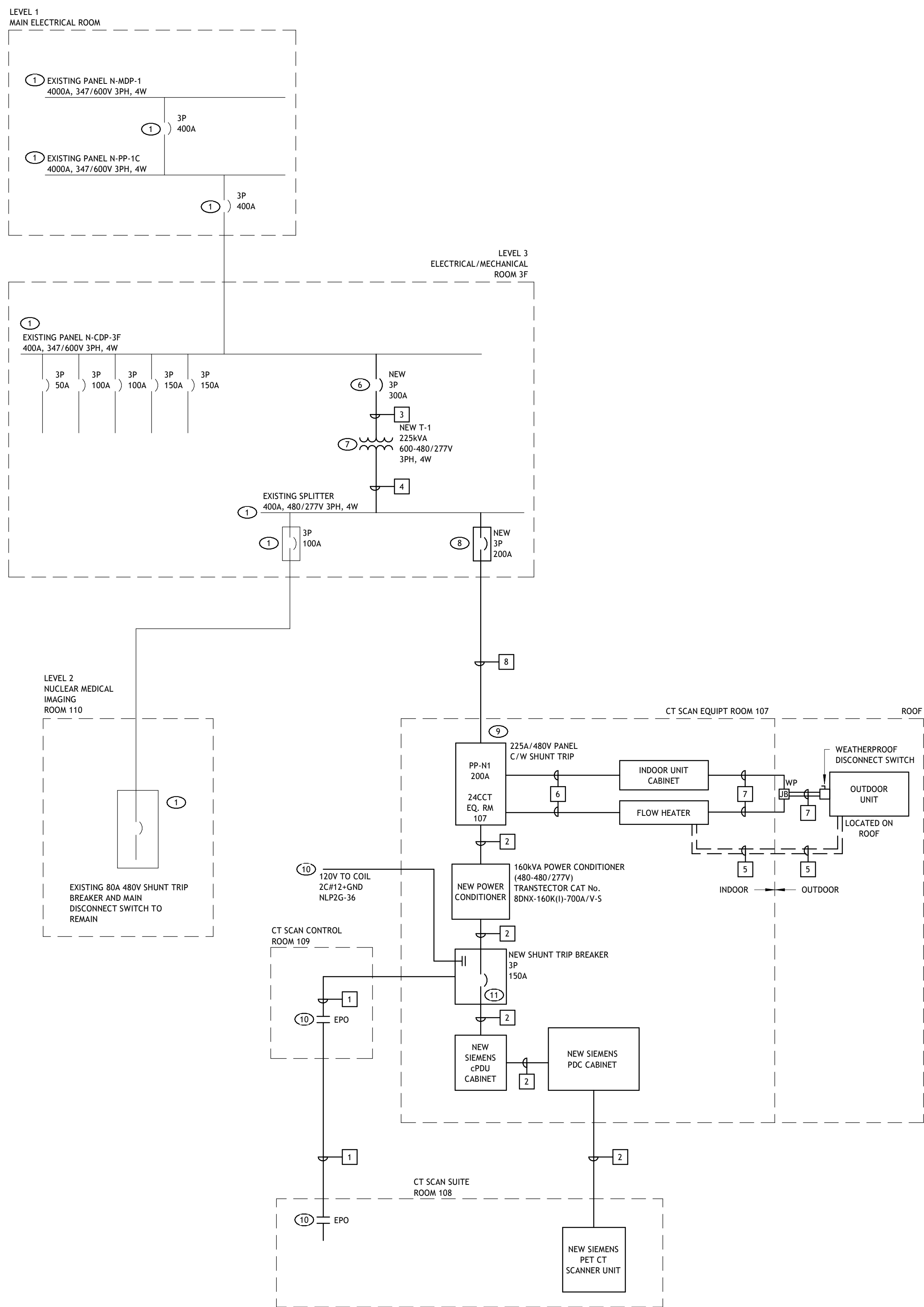
DETAIL NOTES:

- EXISTING ELECTRICAL EQUIPMENT TO REMAIN AND BE RE-USED IN PRESENT LOCATION
- EXISTING 100A, 3P, 600V BREAKER TO BE CAREFULLY DISCONNECTED AND MADE "SPARE" TO BE REPLACED WITH A NEW 300A, 3P, 600V BREAKER TO FEED NEW PET CT SCANNER.
- EXISTING 150kVA 600-480V TRANSFORMER TO BE CAREFULLY DISCONNECTED AT SOURCE MADE SAFE AND RELOCATED TO VACANT AREA IN PENTHOUSE TO MAKE ROOM FOR NEW 225kVA TRANSFORMER.
- EXISTING 100AMP BREAKER DISCONNECT SWITCH TO BE CAREFULLY REMOVED, AND HANDED OVER TO HOSPITAL ENGINEERING/ELECTRICAL STAFF. TO BE REPLACED WITH NEW 200AMP FUSED DISCONNECT SWITCH
- EXISTING SHUNT TRIP BREAKER AND BEVCO MAIN SYSTEM DISCONNECT PANEL TO BE CAREFULLY REMOVED AND HANDED OVER TO HOSPITAL ENGINEERING/ELECTRICAL STAFF.
- SUPPLY AND INSTALL ONE NEW 300A, 3P, 600V, BREAKER (50kAIC RATED) TO FEED NEW SIEMENS PET CT SCANNER. NEW BREAKER TO BE COMPATIBLE WITH EXISTING SQUARE "D" PANEL BOARD N-CDP-3F.
- SUPPLY AND INSTALL ONE NEW 225kVA TRANSFORMER 600V-480/277V C/W 100mm HIGH CONCRETE HOUSE KEEPING PAD. TRANSFORMER TO BE SECURELY ANCHORED TO FLOOR WITH APPROPRIATE BOLTS, ANCHORS AND TRANSFORMER ISOLATION PADS . CONNECT TO EXISTING 400AMP SPLITTER.
- SUPPLY AND INSTALL ONE NEW 200AMP, 480V 3-POLE MOLDED CASE CIRCUIT BREAKER, C/W TYPE 1 ENCLOSURE, SUITABLE PAD LOCKING BRACKET AND ALL MOUNTING HARDWARE AND SUPPORTS REQUIRED TO SECURELY MOUNT TO EXISTING UNISTRUT SUPPORT STEEL.
- DISTRIBUTION POWER PANEL BOARD PP-N1 FOR PET CT SCANNER LOADS SUPPLY AND INSTALL ONE NEW 225A, 277/480V, 3 PHASE, 4 WIRE, 24 CIRCUIT DISTRIBUTION PANEL BOARD C/W 200A MAIN SHUNT TRIP BREAKER, 120V COIL, AND ALL BRANCH BREAKERS SHOWN ON DRAWING E502 FOR PANEL BOARD DETAILS. ACCEPTABLE: Eaton's PRL3a PANELBOARD C/W SMT2P11K SHUNT TRIP UNIT OR APPROVED EQUAL BY SCHNEIDER/SQUARE.D.
- SUPPLY AND INSTALL TWO EMERGENCY POWER OFF "EPO" PUSHBUTTON KITS AT TWO LOCATIONS (EXACT LOCATIONS TO BE DETERMINED ON SITE AS DIRECTED BY GRH STAFF AND SIEMENS INSTALLERS. EPO'S C/W BACK BOXES, HOUSING WITH CLEAR PROTECTIVE HINGED COVER, CONTACTS, RED PULL/PUSH RESET BUTTON AND ALL WIRING AND INTERCONNECT TO FORM A COMPLETE EPO UNIT WITH PET CT SCANNER, SHUNT TRIP BREAKER, SIEMENS cPDU CABINET AND SIEMENS UPS. REFER TO SIEMENS INSTALLATION WIRING DRAWINGS. ACCEPTABLE: SIEMENS EPO SERIES CAT#35U1801-0NB00-2AC2 C/W LIFT COVER OR APPROVED EQUAL (BY ST1 STOPPER STATIONS SERIES). PROVIDE 120V, 15A CIRCUIT FROM EXISTING SPARE BREAKER NLP-2G-36.
- 150A, 480V, 3 POLE SHUNT TRIP BREAKER C/W 120V COIL AUXILIARY CONTACT, 120V SHUNT TRIP UNIT AND ALL ASSOCIATED POWER AND CONTROL WIRING TO EPO'S. PROVIDE RECESSED NEMA 1 STEEL ENCLOSURE C/W FLUSH MOUNT COVER PLATE WITH LOCKABLE BREAKER HASP, UL/CSA APPROVED ASSEMBLY.



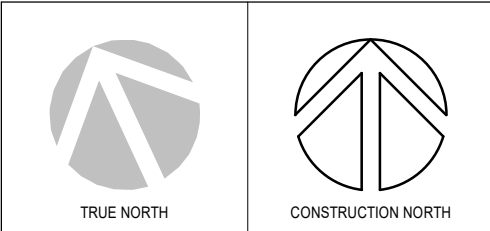
EXISTING/DEMOLITION 480V DISTRIBUTION - SINGLE LINE DIAGRAM

1
E500



NEW NORMAL POWER 480V DISTRIBUTION - SINGLE LINE DIAGRAM

2
E500



RE-ISSUED FOR TENDER
(2026.09.02)

2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.03.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DATE	

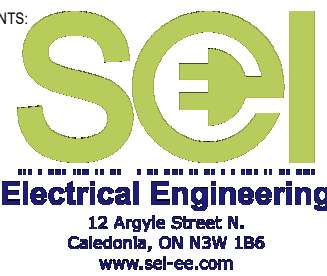
REVISIONS:	2025.09.25
------------	------------

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT/ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave., N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:



PROJECT:
**WATERLOO REGIONAL HEALTH
NETWORK @ MIDTOWN - PET CT**

**835 KING ST W, KITCHENER, ON
N2G 1G3**

DRAWING TITLE:
SINGLE LINE DIAGRAMS

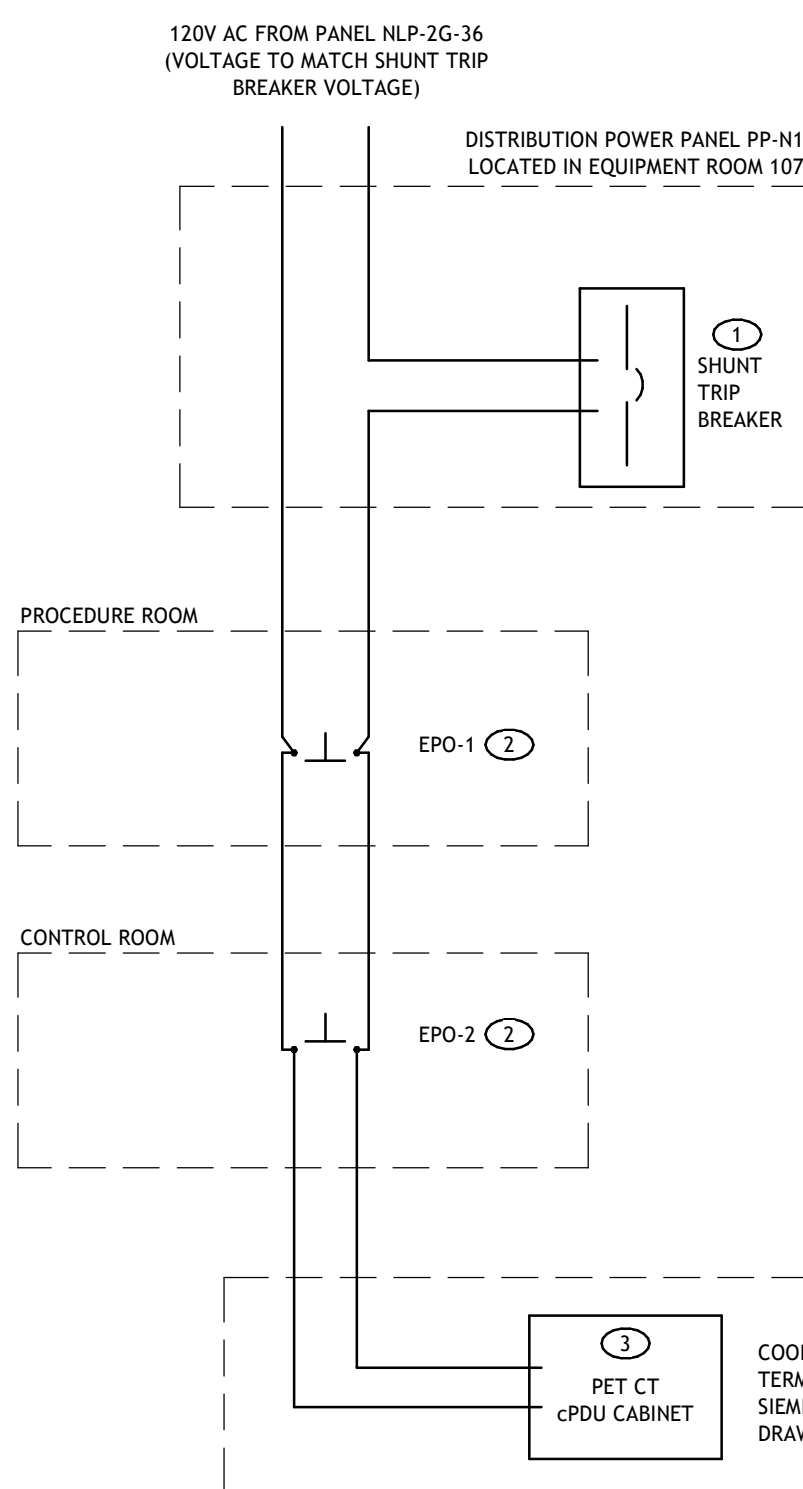
DRAWN BY: DN DATE: 09/09/24

CHECKED BY: DP SCALE: 1/4" = 1'-0"

PROJECT NO. 25-030

DRAWING NO.:

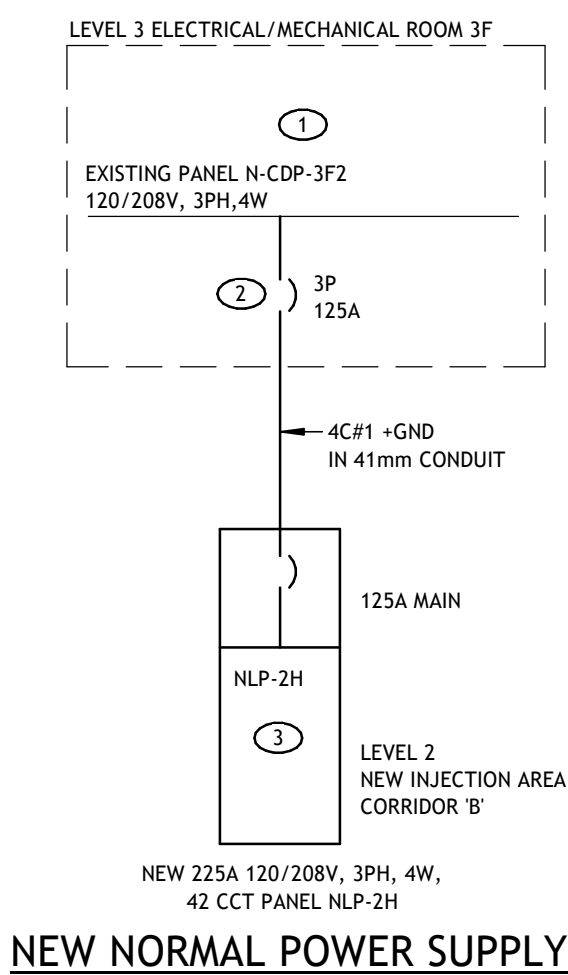
E501



DETAIL NOTES:

- SHUNT TRIP BREAKER WITHIN NEW 225A DISTRIBUTION PANEL. PROVIDE 120V POWERS SUPPLY AND INTERCONNECT WITH TWO EPO PUSHBUTTONS AND SIEMENS PDU CABINET.
- TWO EMERGENCY POWER OFF "EPO" PUSHBUTTON SWITCHES SUPPLIED INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR C/W BACK BOXES AND CONDUIT RACEWAYS. EXACT LOCATIONS TO BE DETERMINED ON SITE AS DIRECTED BY SIEMENS EQUIPMENT INSTALLERS, C/W CLEAR PROTECTIVE HINGED COVER, WIRING AND INTERCONNECT WITH PET CT SCANNER, SHUNT TRIP BREAKER, SIEMENS cPDU CABINET AND SIEMENS UPS. REFER TO SIEMENS INSTALLATION DRAWINGS.
- SIEMENS PET CT/cPDU CABINET

EMERGENCY POWER OFF WIRING DIAGRAM

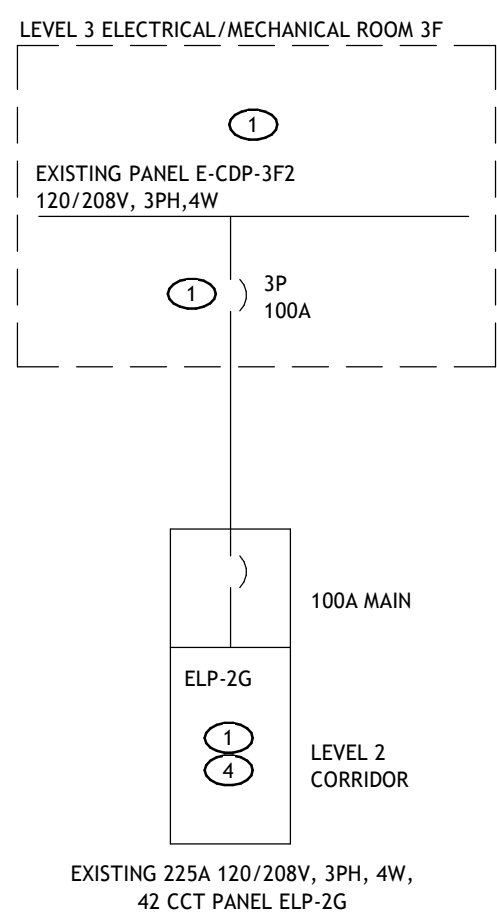


NEW NORMAL POWER SUPPLY

DETAIL NOTES:

- EXISTING DISTRIBUTION EQUIPMENT TO BE REUSED
- NEW 125A, 3-POLE BRANCH BREAKER INSTALLED IN EXISTING BLANK SPACES
- NEW 225AMP 120/208V, 3PH, 4W, 42 CIRCUIT PANEL NLP-2H C/W INTEGRAL 125A MAIN BREAKER LOCATE NEW PANEL WITHIN NEW PREP AREA AND RECESS WITHIN NEW WALL PARTITION AS SHOWN ON PLAN DRAWING, C/W ALL CONDUIT AND WIRING.
- EXISTING 100A PANEL INCLUDES 20 SINGLE POLE SPACES AVAILABLE FOR FUTURE EMERGENCY CIRCUIT IN RENOVATED AREAS

NEW 120/208V DISTRIBUTION-SINGLE LINE DIAGRAM



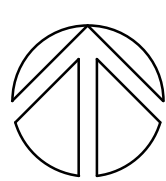
EXISTING EMERGENCY POWER SUPPLY

NEW BRANCH PANEL: PP-N1														
Volts: 277/480 Wye				AIC Rating				Supply From:						
Phases: 3				Mains Type: Copper										
Wires: 4				Enclosure: Type 2										
Mains Rating: 225 A				Shunt Trip Breaker: 150 A										
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT	
N1-1	CT SCANNER PDC CABINET VIA 150A SHUNT TRIP BREAKER	150 A	3	0 W	0 W							CT INDOOR UNIT CABINET (CHILLER)	N1-2	
N1-3						0 W	0 W							N1-4
N1-5								0 W	0 W					N1-6
N1-7						0 W	0 W							N1-8
N1-9	SPARE	15 A	3			0 W	0 W					INDOOR FLOW HEATER	N1-10	
N1-11								0 W	0 W					N1-12
N1-13														N1-14
N1-15														N1-16
N1-17													N1-18	
N1-19													N1-20	
N1-21													N1-22	
N1-23													N1-24	
				Total Load:	0 W		0 W		0 W		0 W			
				Total Amps:	0 A		0 A		0 A					
Panel Location: SINGLE BED G118														
Notes:														
Mounting: Surface				PANEL SHALL BE COMPLETE WITH SHUNT TRIP MAIN BREAKER AND CONNECTED TO EPO POWER BUTTONS IN THE CT SCANNER ROOM										

NEW BRANCH PANEL: NLP-2H													
Volts: 120/208 Wye				AIC Rating				Supply From: N-CDP-3F2					
Phases: 3				Mains Type: Copper									
Wires: 4				Enclosure: Type 2									
Mains Rating: 225 A				Main Breaker: 125 A									
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
NZH-1	RECEPTACLES INJECTOR ROOM 121	15 A	1	800 W	169 W					1	20 A	LIGHTING	NZH-2
NZH-3	RECEPTACLES INJECTOR ROOM 120	15 A	1			800 W	245 W			1	20 A	LIGHTING	NZH-4
NZH-5	RECEPTACLES INJECTOR ROOM 119	15 A	1					800 W	600 W	1	15 A	RECEPTACLES INJECTOR ROOM 116	NZH-6
NZH-7	RECEPTACLES INJECTOR ROOM 118	15 A	1	800 W	600 W					1	15 A	RECEPTACLES IN RAD OFFICE 117	NZH-8
NZH-9	AUTOMATIC DOOR	15 A	1			1000 W	500 W			1	15 A	HOUSEKEEPING RECEPTACLES	NZH-10
NZH-11	AUTOMATIC DOOR	15 A	1					1000 W	200 W	1	15 A	RECEPTACLE	NZH-12
NZH-13	TOUCHLESS FIXTURES POWER	15 A	1	0 W	1000 W					1	15 A	AUTOMATIC DOOR	NZH-14
NZH-15	TOUCHLESS FIXTURES POWER	15 A	1			0 W	500 W			1	15 A	AUTOMATIC DOOR	NZH-16
NZH-17	TECHNEGAS	15 A	2					200 W	1000 W	1	15 A	RECEPTACLES IN EV ROOM 113	NZH-18
NZH-19				200 W	--					1	--	SPACE	NZH-20
NZH-21	RECEPTACLE IN HOT WR 115	20 A	1			200 W	--			1	--	SPACE	NZH-22
NZH-23	BLANKET WARMING	20 A	1					1500 W	--	1	--	SPACE	NZH-24
NZH-25	FUME HOOD	20 A	1	0 W	--					1	--	SPACE	NZH-26
NZH-27	FUME HOOD	20 A	1			0 W	--			1	--	SPACE	NZH-28
NZH-29	SPACE	--	1					--	--	1	--	SPACE	NZH-30
NZH-31	SPARE	15 A	1	0 W	0 W					1	15 A	SPARE	NZH-32
NZH-33	SPARE	15 A	1			0 W	0 W			1	15 A	SPARE	NZH-34
NZH-35	SPARE	15 A	1					0 W	0 W	1	15 A	SPARE	NZH-36
NZH-37	SPARE	15 A	1	0 W	0 W					1	15 A	SPARE	NZH-38
NZH-39	SPARE	15 A	1			0 W	0 W			1	20 A	SPARE	NZH-40
NZH-41	SPARE	15 A	1					0 W	0 W	1	20 A	SPARE	NZH-42
				Total Load:		3569 W		3245 W		5300 W		12113 W	
				Total Amps:		30 A		27 A		45 A			
Panel Location: CORRIDOR F100-11													
Notes:													
Mounting: Surface													



PROJECT LOGO



KEY PLAN

RE-ISSUED FOR TENDER
(2026.09.02)

2	RE-ISSUED FOR TENDER	2026.09.02
1	ISSUED FOR TENDER	2026.09.27
0	ISSUED FOR TENDER	2025.12.12
A	ISSUED FOR PERMIT	2025.11.28
No.	DESCRIPTION	DATE

REVISIONS: 2025.09.25

DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ARCHITECT / ENGINEER BEFORE PROCEEDING.
ONLY FIGURED DIMENSIONS MUST BE USED.
THE CONTRACTOR MUST CHECK THE DIMENSIONS ON SITE.
THE DRAWING IS PROTECTED BY COPYRIGHT.
ALL DIMENSIONS ARE SHOWN IN MILLIMETERS.
DO NOT SCALE THE DRAWINGS.

mcCallumSather
Westinghouse HQ, 2nd Floor
286 Sanford Ave. N
Hamilton, ON L8L 6A1
905.526.6700
www.mccallumsather.com

SEAL

CONSULTANTS:



PROJECT:

WATERLOO REGIONAL HEALTH
NETWORK @ MIDTOWN - PET CT

835 KING ST W, KITCHENER, ON
N2G 1G3

DRAWING TITLE:

PANEL SCHEDULES - NEW
PANELS

DRAWN BY:	DN	DATE:	09/09/24
CHECKED BY:	DP	SCALE:	

PROJECT NO. 25-030

DRAWING NO.:

E502

FILED: 2025.09.25 10:00 AM
PROJECT: 25-030
DRAWING: WATERLOO REGIONAL HEALTH NETWORK @ MIDTOWN - PET CT
DRAWING TITLE: PANEL SCHEDULES - NEW PANELS
DRAWING NO.: E502

EXISTING BRANCH PANEL: N-LP-3F													
Volts: 120/208 Wye Phases: 3 Wires: 4 Mains Rating: 225 A				AIC Rating Mains Type: Copper Enclosure: Type 2				Supply From:					
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
NLP3F-1	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-2
NLP3F-3	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-4
NLP3F-5	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-6
NLP3F-7	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-8
NLP3F-9	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-10
NLP3F-11	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-12
NLP3F-13	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-14
NLP3F-15	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-16
NLP3F-17	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-18
NLP3F-19	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-20
NLP3F-21	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-22
NLP3F-23	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-24
NLP3F-25	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-26
NLP3F-27	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-28
NLP3F-29	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-30
NLP3F-31	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-32
NLP3F-33	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-34
NLP3F-35	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-36
NLP3F-37	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-38
NLP3F-39	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-40
NLP3F-41	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-42
NLP3F-43	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	NLP3F-44
NLP3F-45						0 W	0 W			1	15 A	EXISTING LOAD	NLP3F-46
NLP3F-47	CU-1 (NEW)	25 A	2					0 W	0 W	1	15 A	EXISTING LOAD	NLP3F-48
NLP3F-49				0 W	400 W					1	20 A	ROOF RECEPTACLE (NEW)	NLP3F-50
NLP3F-51	CIRCULATION PUMP P1 (NEW)	15 A	2			0 W	0 W			1	15 A	SHUNT TRIP COIL (NEW)	NLP3F-52
NLP3F-53	MOTORIZED DAMPERS (NEW)	15 A	1					0 W	400 W	1	15 A	MACHINE ROOM RECEPTACLES (NEW)	NLP3F-54
NLP3F-55	HEAT TRACING (NEW)	20 A	1	0 W	0 W					1	15 A		NLP3F-56
NLP3F-57	SPACE	--	1			--	0 W			3	15 A	EXHAUST FAN EF-1 (NEW)	NLP3F-58
NLP3F-59	SPACE	--	1					--	0 W				NLP3F-60
NLP3F-61	SPACE	--	1	--	--					1	--	SPACE	NLP3F-62
NLP3F-63	SPACE	--	1			--	--			1	--	SPACE	NLP3F-64
NLP3F-65	SPACE	--	1					--	--	1	--	SPACE	NLP3F-66
NLP3F-67	SPACE	--	1	--	--					1	--	SPACE	NLP3F-68
NLP3F-69	SPACE	--	1			--	--			1	--	SPACE	NLP3F-70
NLP3F-71	SPACE	--	1					--	--	1	--	SPACE	NLP3F-72
Total Load:				400 W		0 W		400 W		800 W			
Total Amps:				4 A		0 A		4 A					
Panel Location: MECHANICAL PENTHOUSE F301													
Notes:													
Mounting: Surface													

EXISTING BRANCH PANEL: ELP-2G													
Volts: 120/208 Wye Phases: 3 Wires: 4 Mains Rating: 225 A				AIC Rating Mains Type: Copper Enclosure: Type 2				Supply From:					
Main Breaker: 200 A													
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
EZG-1	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	EZG-2
EZG-3	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	EZG-4
EZG-5	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	EZG-6
EZG-7	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	EZG-8
EZG-9	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	EZG-10
EZG-11	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	EZG-12
EZG-13	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	EZG-14
EZG-15	EXISTING LOAD	15 A	1			0 W	0 W			1	15 A	EXISTING LOAD	EZG-16
EZG-17	EXISTING LOAD	15 A	1					0 W	0 W	1	15 A	EXISTING LOAD	EZG-18
EZG-19	EXISTING LOAD	15 A	1	0 W	0 W					1	15 A	EXISTING LOAD	EZG-20
EZG-21	EXISTING LOAD	15 A	1			0 W	331 W			1	15 A	LIGHTING (NEW)	EZG-22
EZG-23	EXISTING LOAD	15 A	1					0 W	6 W	1	15 A	EXIT SIGNS (NEW)	EZG-24
EZG-25	RECEPTACLES IN STRETCHER 121 (NEW)	15 A	1	400 W	400 W					1	15 A	RECEPTACLES IN INJECTION ROOM 119 (NEW)	EZG-26
EZG-27	RECEPTACLES IN INJECTION ROOM 120 (NEW)	15 A	1			400 W	400 W			1	15 A	RECEPTACLES IN INJECTION ROOM 118 (NEW)	EZG-28
EZG-29	RECEPTACLES IN RAD OFFICE 117 (NEW)	15 A	1					800 W	400 W	1	15 A	RECEPTACLES IN INJECTION ROOM 116 (NEW)	EZG-30
EZG-31	MEDICAL GAS ALARM PANEL (NEW)	15 A	1	0 W									EZG-32
EZG-33													EZG-34
EZG-35													EZG-36
EZG-37													EZG-38
EZG-39													EZG-40
EZG-41													EZG-42
Total Load:				800 W		1131 W		1206 W				3137 W	
Total Amps:				7 A		10 A		10 A					
Panel Location: Space 42g													
Notes:													
Mounting: Surface													

EXISTING BRANCH PANEL: N-CDP-3F														
Volts: 347/600 Wye				AIC Rating				Supply From:						
Phases: 3				Mains Type: Copper										
Wires: 4				Enclosure: Type 2										
Mains Rating: 400 A														
Main Breaker: 400 A														
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT	
NCDP3F-1	RTU 2 (NEW)	15 A	3	3880 W	3880 W					3	15 A	RTU 1 (NEW)	NCDP3F-2	
NCDP3F-3					3880 W	3880 W								NCDP3F-4
NCDP3F-5							3880 W	3880 W						NCDP3F-6
NCDP3F-7	SPACE	--	3	--	0 W					3	15 A	HUMIDIFIER (NEW)	NCDP3F-8	
NCDP3F-9					--	0 W		--	0 W				NCDP3F-10	
NCDP3F-11							--	0 W	NCDP3F-12					
NCDP3F-13	EXISTING LOAD	50 A	3	0 W	0 W					3	250 A	EXISTING LOAD (150kVA TRANSFORMER)	NCDP3F-14	
NCDP3F-15						0 W	0 W						NCDP3F-16	
NCDP3F-17								0 W	0 W				NCDP3F-18	
NCDP3F-19	EXISTING LOAD	100 A	3	0 W	0 W					3	100 A	EXISTING LOAD	NCDP3F-20	
NCDP3F-21						0 W	0 W						NCDP3F-22	
NCDP3F-23								0 W	0 W				NCDP3F-24	
NCDP3F-25	NMCC-3F (EXISTING)	150 A	3	0 W	0 W					3	150 A	TX-3NF (EXISTING)	NCDP3F-26	
NCDP3F-27						0 W	0 W						NCDP3F-28	
NCDP3F-29								0 W	0 W				NCDP3F-30	
Total Load:				7760 W		7760 W		7760 W		23279 W				
Total Amps:				22 A		22 A		22 A						
Panel Location: MECHANICAL PENTHOUSE F301														
Notes:														
Mounting: Surface														

EXISTING BRANCH PANEL: N-CDP-3F2													
Volts: 120/208 Wye Phases: 3 Wires: 4 Mains Rating: 225 A				AIC Rating Mains Type: Copper Enclosure: Type 2				Supply From: TX-N3F					
Main Breaker: 200 A													
CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
NCDP3F2-1	NLP-2H (NEW)	125 A	3	3569 W	0 W					3	35 A	SPARE (EXISTING)	NCDP3F2-2
NCDP3F2-3					3245 W	0 W							
NCDP3F2-5	NLP-3F (EXISTING)	100 A	3	0 W	0 W			5300 W	0 W	3	100 A	SPARE (EXISTING)	NCDP3F2-6
NCDP3F2-7						0 W	0 W						
NCDP3F2-9	NLP-1F (EXISTING)	70 A	3					0 W	0 W	3	70 A	SPARE (EXISTING)	NCDP3F2-10
NCDP3F2-11					0 W	0 W							
NCDP3F2-13	NLP-1F (EXISTING)	70 A	3					0 W	0 W	3	70 A	SPARE (EXISTING)	NCDP3F2-14
NCDP3F2-15							0 W	0 W					
NCDP3F2-17	NLP-1F (EXISTING)	70 A	3					0 W	0 W	3	70 A	SPARE (EXISTING)	NCDP3F2-18
NCDP3F2-19					0 W	0 W							
NCDP3F2-21	NLP-1G3 (EXISTING)	70 A	3					0 W	0 W	3	70 A	SPARE (EXISTING)	NCDP3F2-22
NCDP3F2-23							0 W	0 W					
NCDP3F2-25	NLP-1G3 (EXISTING)	70 A	3							3	100 A	NLP-1D2 (EXISTING)	NCDP3F2-26
NCDP3F2-27							0 W	0 W					
NCDP3F2-29	SPARE (EXISTING)	70 A	3					0 W	0 W	3	100 A	NLP-1D (EXISTING)	NCDP3F2-30
NCDP3F2-31					0 W	0 W							
NCDP3F2-33	SPACE (EXISTING)	70 A	3					0 W	0 W	3	70 A	NLP-1G (EXISTING)	NCDP3F2-34
NCDP3F2-35							0 W	0 W					
NCDP3F2-37	SPACE (EXISTING)	70 A	3	--	0 W					3	70 A	NLP-1G2 (EXISTING)	NCDP3F2-38
NCDP3F2-39							--	0 W					
NCDP3F2-41	SPACE (EXISTING)	70 A	3					--	0 W	3	70 A	NLP-1F3 (EXISTING)	NCDP3F2-42
NCDP3F2-43					--	0 W							
NCDP3F2-45	NLP-1F4 (EXISTING)	125 A	3					--	0 W	3	125 A	SPARE (EXISTING)	NCDP3F2-46
NCDP3F2-47					0 W	0 W							
NCDP3F2-49	NLP-1F4 (EXISTING)	125 A	3					0 W	0 W	3	125 A	SPARE (EXISTING)	NCDP3F2-50
NCDP3F2-51							0 W	0 W					
NCDP3F2-53								0 W	0 W				NCDP3F2-54
Total Load:				3569 W		3245 W		5300 W		12113 W			
Total Amps:				30 A		27 A		45 A					
Panel Location: MECHANICAL PENTHOUSE F301													
Notes:													
Mounting: Surface													

