ELECTRICAL NOTES

ELECTRICAL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS FOR THIS PROJECT.

1 GENERAL:

.1 CONFORM WITH APPLICABLE REQUIREMENTS OF THE MINISTRY OF LABOUR, AND THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.

.2 DO COMPLETE INSTALLATION IN ACCORDANCE WITH THE FOLLOWING:
- .1 ONTARIO ELECTRICAL SAFETY CODE;
- .2 ELECTRICAL SAFETY AUTHORITY.

.3 SUBMIT TO ELECTRICAL SAFETY AUTHORITY AND SUPPLY AUTHORITY NECESSARY NUMBER OF DRAWINGS AND SPECIFICATIONS FOR APPROVAL PRIOR TO COMMENCEMENT OF WORK.

.4 PAY ALL ELECTRICAL PERMIT AND INSPECTION FEES.

.5 GROUND COMPLETE SYSTEM IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND ELECTRICAL SAFETY AUTHORITY.

.6 IDENTIFICATION AND LABELLING:
- .1 IDENTIFY ELECTRICAL EQUIPMENT WITH LAMICOID NAMEPLATES, INCLUDING AMPERAGE, VOLTAGE, PHASE AND POWER SOURCE.
- .2 PROVIDE TYPEWRITTEN PANEL DIRECTORIES.
- .3 PROVIDE ADHESIVE LABEL ON ALL SWITCH, RECEPTACLE AND DEVICE COVER PLATES INDICATING SUPPLY CIRCUIT DESIGNATION.

.7 PROVIDE DIGITAL AND HARD COPY OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER THIS CONTRACT. BIND INSTRUCTIONS IN 3-RING BINDERS. INCLUDE THE FOLLOWING:
- .1 SCHEMATIC DIAGRAM OF ELECTRICAL SYSTEMS.
- .2 CONTROL SHOP DRAWINGS AND OPERATING SEQUENCE INCLUDING WIRING OF COMPONENTS.
- .3 WIRING DIAGRAM OF CONTROL PANELS.
- .4 OPERATING INSTRUCTIONS, INCLUDING START-UP AND SHUT-DOWN PROCEDURE.
- .5 MAINTENANCE INSTRUCTIONS INCLUDING PREVENTIVE MAINTENANCE INSTRUCTIONS FOR COMPONENTS OF THE EQUIPMENT.
- .6 COMPLETE PARTS LIST OF ASSEMBLIES AND THEIR COMPONENT PARTS, SHOWING MANUFACTURER'S NAME, CATALOGUE NUMBER, AND NEAREST REPLACEMENT SOURCE.
- .7 LIST OF RECOMMENDED SPARE PARTS AND QUANTITY OF EACH ITEM TO BE STOCKED.
- .8 MANUFACTURERS' WARRANTIES AND GUARANTEES.

.8 CLEAN ALL ELECTRICAL SYSTEMS AT PROJECT COMPLETION.

.9 COMPLETE AS-BUILT DRAWINGS SHOWING ALL CHANGES AS WORK PROGRESSES.

2 CONTRACTOR QUALIFICATIONS:

.1 ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE "TRADES QUALIFICATION AND APPRENTICESHIP ACT" AND REGULATIONS, BY PERSONS WHO HOLD THE FOLLOWING CERTIFICATES OF QUALIFICATION (AS APPLICABLE):
- .1 ELECTRICIAN: CONSTRUCTION & MAINTENANCE;
- .2 ELECTRICIAN: DOMESTIC & RURAL.

.2 ALL FIRE ALARM SYSTEM WORK SHALL BE PERFORMED BY PERSONS WHO HOLD ELECTRICIAN QUALIFICATIONS (ABOVE), AND IN ADDITION, WHO HOLD THE FOLLOWING CURRENT REGISTRATION WITH THE CANADIAN FIRE ALARM ASSOCIATION (CFAA):
- .1 FIRE ALARM TECHNICIAN.

3 EXISTING FACILITIES AND DEMOLITION:

.1 LOCATE AND PROTECT ALL EXISTING EXTERIOR SITE SERVICES.

.2 RETAIN AND PROTECT ALL EXISTING INTERIOR SERVICES AND BUILDING FABRIC. MAKE GOOD ANY AND ALL DAMAGE RESULTING FROM THIS WORK.

.3 CONNECTIONS TO EXISTING SERVICES SHALL BE COORDINATED WITH THE OWNER.

.4 EXECUTE WORK WITH LEAST POSSIBLE INTERFERENCE OR DISTURBANCE TO NORMAL USE OF THE EXISTING BUILDING.

.5 ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RELOCATING DEVICES, CONDUIT AND WIRING, ENCOUNTERED IN THE CLASSROOM AND CORRIDOR CEILING SPACES, WHICH CONFLICT WITH NEW ARCHITECTURAL, MECHANICAL OR ELECTRICAL CONSTRUCTION.

.6 CUTTING AND PATCHING:
- .1 EXECUTE CUTTING, FITTING AND PATCHING REQUIRED TO MAKE THE WORK FIT PROPERLY TOGETHER. CUT AND PATCH FOR PROCESS, MECHANICAL AND ELECTRICAL WORK.
- .2 COORDINATE WORK WITH OTHER TRADES SO THAT THERE IS A MINIMUM OF CUTTING, FITTING AND PATCHING.
- .3 DRILLING, CUTTING, FITTING AND PATCHING AND MAKING GOOD WHERE NECESSARY DUE TO FAILURE TO DELIVER ITEMS TO BE BUILT IN TIME OR INSTALLATION IN WRONG LOCATION, SHALL BE EXECUTED AS DIRECTED AT NO COST TO THE OWNER.
- .4 DRILLING AND CUTTING OF LOAD BEARING STRUCTURAL MEMBERS SHALL BE DONE ON PRIOR EXPRESS WRITTEN PERMISSION OF THE ENGINEER FOR EACH INSTANCE.
- .5 CUT HOLES ACCURATELY, WITH SMOOTH, TRUE, CLEAN EDGES. FIT UNITS TO TOLERANCES TO BEST STANDARD PRACTICE FOR APPLICABLE WORK.
- .6 HOLES IN BLOCK AND CONCRETE WORK SHALL BE SAWCUT OR CORE-DRILLED, AND SHALL NOT BE MADE WITH A HAMMER GUN.
- .7 PATCHED WORK SHALL BE INVISIBLE, SIZE HOLES AND OPENINGS FOR PIPES SO AS TO ALLOW FOR EXPANSION AND CONTRACTION OF SUCH PIPES.

.7 DESIGNATED SUBSTANCES:
- .1 DESIGNATED SUBSTANCES SHALL BE TREATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS.
- .2 SHOULD ANY DESIGNATED SUBSTANCES BE ENCOUNTERED IN THE AREA OF CONSTRUCTION, ALL WORK SHALL STOP IMMEDIATELY, AND THE OWNER AND ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
- .3 IF APPLICABLE, ASBESTOS REMOVAL SHALL BE COMPLETED IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT AND ONTARIO REGULATION 278 "DESIGNATED SUBSTANCE – ASBESTOS ON CONSTRUCTION PROJECTS AND IN BUILDINGS AND REPAIR OPERATIONS".

4 FIXTURES AND EQUIPMENT:

.1 PROVIDE SHOP DRAWINGS AND PRODUCT DATA FOR ALL ELECTRICAL FIXTURES AND EQUIPMENT FOR APPROVAL, PRIOR TO PROCUREMENT.

.2 INSTALL ALL ELECTRICAL FIXTURES AND EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

.3 EQUIPMENT AND MATERIAL TO BE CSA CERTIFIED. WHERE THERE IS NO ALTERNATIVE TO SUPPLYING EQUIPMENT WHICH IS NOT CSA CERTIFIED, OBTAIN SPECIAL APPROVAL FROM ELECTRICAL SAFETY AUTHORITY.

5 EQUIPMENT SUPPLIED BY OTHERS:

.1 GENERAL CONTRACTOR SHALL ASSUME FULL REPONSIBILITY FOR COORDINATING ELECTRICAL SERVICES AND CONNECTIONS FOR AIL EQUIPMENT, INCLUDING EQUIPMENT SUPPLIED BY TRADES OTHER THAN ELECTRICAL.

.2 ELECTRICAL CONTRACTOR SHALL TAKE FULL REPONSIBILITY FOR MAKING ALL ELECTRICAL SERVICE CONNECTIONS TO EQUIPMENT SUPPLIED BY OTHERS, INCLUDING:
- .1 REVIEW OF ALL SHOP DRAWINGS FOR EQUIPMENT SUPPLIED BY OTHERS, WHICH REQUIRE ELECTRICAL CONNECTIONS.
- .2 VERIFY AND CONFIRM ALL SERVICE CONNECTIONS WITH MANUFACTURER, SUPPLIER AND OTHER TRADES, PRIOR TO PROCUREMENT OF ELECTRICAL PANELS, BREAKERS, WIRE/CABLE, DISCONNECT SWITCHES, MOTOR STARTERS, RECEPTACLES AND RELATED EQUIPMENT.
- .3 REVIEW OF EQUIPMENT SUPPLIED BY OTHERS, SHALL INCLUDE ALL CONNECTION SIZES, LOCATIONS AND DETAILS, AND SHALL TAKE INTO ACCOUNT EQUIPMENT CLEARANCES AND INSTALLATION REQUIREMENTS.

6 CONDUITS:

.1 ELECTRICAL METALLIC TUBING (EMT), HOT DIPPED GALVANIZED STEEL, WITH THREADED CONNECTORS AND COUPLINGS, WHERE NOT SUBJECT TO MECHANICAL INJURY, IN SERVICE AREAS ONLY.

.2 RIGID PVC CONDUIT BELOW FLOOR AND IN CORROSIVE AREAS.

7 WIRES AND CABLE:

.1 VOLTAGE DROP:
- .1 FEEDER CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2% AT DESIGN LOAD.
- .2 BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED FOR MAX'M VOLTAGE DROP OF 3% AT DESIGN LOAD.

.2 BUILDING WIRES:
- .1 COMMERCIAL PROJECTS - IN CONDUIT SYSTEMS TO BE STRANDED COPPER CONDUCTORS FOR 10 AWG AND LARGER, MINIMUM SIZE 12 AWG, TYPE RW90.

.3 BUILDING WIRES IN CONCEALED LOCATIONS TO BE COPPER, MINIMUM SIZE 12 AWG, TYPE AS FOLLOWS:
- .1 WOOD FRAMED STRUCTURES – TYPE NMD90;
- .2 STEEL STUD OR STEEL FRAMED STRUCTURES – TYPE AC90;
- .3 CEILING RETURN AIR PLENUMS – TYPE AC90.

.4 ALL WIRING, CABINETS AND BOXES SHALL BE CONCEALED IN WALLS AND CEILINGS, UNLESS OTHERWISE NOTED OR APPROVED. SURFACE-MOUNTED WIRING IS NOT PERMITTED.

8 DATA AND TELEPHONE:

.1 SUPPLY AND INSTALL DATA AND TELEPHONE RUNS FROM SERVICE LOCATION TO EACH OUTLET.

.2 DATA/TELEPHONE:
- .1 DATA AND TELPHONE WIRES CAT 6.
- .2 DATA & TELEPHONE OUTLETS SHALL BE PROVIDED IN SEPARATE OUTLET BOXES & SEPARATE CONDUIT.
- .3 SUPPLY, INSTALL AND TERMINATE DATA AND TELEPHONE OUTLETS, AS FOLLOWS:
  - .1 1 PORT WALL PLATE – PANDUIT #CFG1WH;
  - .2 FACE PLATE JACK – PANDUIT #CJSE88TG, 2 COLOURS, COLOURS SELECTED BY OWNER'S IT REPRESENTATIVE;
  - .3 COVER PLATE – LEVITON #80401-W, 2 COLOURS, COLOURS SELECTED BY OWNER'S IT REPRESENTATIVE.
- .4 SUPPLY, INSTALL AND TERMINATE DATA AND TELEPHONE CABLES AT SERVICE LOCATION.
- .5 DATA AND TELEPHONE CABLES SHALL BE TERMINATED IN SEPARATE PATCH PANELS, AS FOLLOWS:
  - .1 PATCH PANEL – PANDUIT #CP24BLY (SUPPLY SUFFICIENT QUANTITY TO SEPARATE DATA AND TELEPHONE, AND TO SUIT NUMBER OF OUTLETS);
  - .2 PATCH PANEL JACK - PANDUIT #CJSE88TG, 2 COLOURS, COLOURS SELECTED BY OWNER'S IT REPRESENTATIVE.
- .6 ALL TELEPHONE AND DATA CABLING AND TERMINATIONS SHALL BE TESTED IN ACCORDANCE WITH ANSI/EIA/TIA 568-C.2 CATEGORY 6A BALANCED TWISTED –PAIR TELECOMMUNICATIONS CABLING AND COMPONENTS STANDARD, BY A THIRD PARTY TESTING AGENCY

9 SERVICE EQUIPMENT:

.1 ELECTRICAL SERVICE EQUIPMENT, PANELBOARDS AND DISCONNECT SWITCHES SHALL BE PRODUCT OF ONE MANUFACTURER THROUGHOUT PROJECT.

.2 CIRCUIT BREAKERS:
- .1 SUPPLY AND INSTALL GROUND FAULT & ARC-FAULT CIRCUIT PROTECTION, AS REQUIRED BY THE OESC.

.3 WORKING SPACE ABOUT ELECTRICAL EQUIPMENT SHALL BE PROVIDED IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE, INCLUDING THE FOLLOWING:
- .1 WORKING SPACE OF 3'4" (1m) WITH SECURE FOOTING;
- .2 WORKING SPACE OF 5'0" (1.5m) WITH SECURE FOOTING FOR EQUIPMENT 1200A OR MORE, OR RATED OVER 750V;
- .3 MINIMUM HEADROOM OF 7'3" (2.2m).

.4 FOR SPRINKLERED AREAS, SERVICE EQUIPMENT SHALL BE PROTECTED WITH NON-COMBUSTIBLE HOODS OR SHIELDS.

10 WIRING DEVICES:

.1 WIRING DEVICES OF ONE MANUFACTURER THROUGHOUT PROJECT – HUBBELL OR LEVITON.

.2 COMMERCIAL PROJECTS:
- .1 OUTLET BOXES:
  - .1 GANG BOXES WHERE WIRING DEVICES ARE GROUPED.
  - .2 BLANK COVER PLATES FOR BOXES WITHOUT WIRING DEVICES.
- .2 SWITCHES:
  - .1 HEAVY DUTY, 20A/120V;
  - .2 SINGLE POLE, AND THREE-WAY, AS APPLICABLE;
  - .3 COLOUR: SELECTED BY OWNER.
- .3 DUPLEX RECEPTACLES:
  - .1 MEDICAL CLINICS – HOSPITAL GRADE;
  - .2 EXTRA HARD USE, CSA TYPE 5-15 R, 15A/125V;
  - .3 GFI (GROUND FAULT CIRCUIT INTERRUPTER) WITH DETECT AND TRIP ON GROUND FAULT, STATUS INDICATOR LIGHT AND TEST SWITCH;
  - .4 TAMPER-RESISTANT WHERE REQUIRED BY CODE;
  - .5 COLOUR: SELECTED BY OWNER.
- .4 COVER PLATES:
  - .1 STAINLESS STEEL.

11 LIGHTING:

.1 GENERAL LIGHTING:
- .1 SUPPORT ALL LIGHTING IN ACCORDANCE WITH THE ONTARIO ELECTRICAL SAFETY CODE AND BULLETINS.
- .2 LIGHT FIXTURES SUPPORTED BY SUSPENDED CEILING SYSTEMS SHALL HAVE ADDITIONAL SUPPORT TO BUILDING STRUCTURE IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE BULLETIN #30-4-11.

.2 FUNCTIONAL TESTING OF LIGHTING CONTROL, IN ACCORDANCE WITH ASHRAE 90.1 (9.4.3):
- .1 LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED, AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

.3 EXIT AND EMERGENCY LIGHTING:
- .1 CONNECT DC CIRCUIT FROM EMERGENCY LIGHT BATTERY PACK TO ALL EXIT AND EMERGENCY LIGHTS.
- .2 SIZE EMERGENCY LIGHTING POWER PACK TO PROVIDE FULL LOAD POWER FOR 1 HR PERIOD.
- .3 EMERGENCY LIGHT BATTERY PACKS (UNIT EQUIPMENT) SHALL BE INSTALLED IN SUCH A MANNER THAT IT WILL BE AUTOMATICALLY ACTUATED UPON FAILURE OF THE POWER SUPPLY TO THE NORMAL LIGHTING IN THE AREA COVERED BY THAT UNIT EQUIPMENT PER OESC 46-304(4).

12 FIRE ALARM SYSTEM:

.1 FIRE ALARM SYSTEM SHALL BE ALTERED IN ACCORDANCE WITH CAN/ULC-S524, "INSTALLATION OF FIRE ALARM SYSTEMS".

.2 FIRE ALARM SYSTEM SHALL BE VERIFIED IN ACCORDANCE WITH CAN/ULC-S537, "VERIFICATION OF FIRE ALARM SYSTEMS".

.3 FIRE ALARM CONTROL AND ANNUNCIATOR PANEL SHALL HAVE SUFFICIENT POWER FOR UP TO 25% ADDITIONAL AUDIBLE DEVICES.

13 FIRE PROTECTION:

.1 ELECTRICAL CONTRACTOR RESPONSIBILITY:
- .1 REFER TO ARCHITECTURAL DRAWINGS, TO VERIFY LOCATION OF ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.
- .2 PROVIDE DRAWINGS FROM HILTI AND/OR 3M FOR FIRE PROTECTION OF ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS PENETRATING OR PASSING THROUGH A FIRE SEPARATION OR FIRE-RATED ASSEMBLY, FOR REVIEW BY ARCHITECT AND ENGINEER.
- .3 ALL ELECTRICAL MATERIALS, INCLUDING PANELS, BOXES, CABLE, WIRE, CONDUIT AND OUTLETS SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.

.2 ALL CABLING AND CONDUIT SHALL BE TIGHTLY FITTED AND SEALED WITH FIRESTOPPING MATERIAL AT ALL FIRE SEPARATIONS AND FIRE-RATED MEMBRANES.

.3 THE FOLLOWING CONDUCTORS SHALL BE PROTECTED IN ACCORDANCE WITH OBC 3.2.7.10:
- .1 ELECTRICAL FEEDER CONDUCTORS WHICH SERVE THE HOUSE AND COMMERCIAL ELECTRICAL PANELS;
- .2 BRANCH CIRCUIT CONDUCTORS WHICH SERVE THE FIRE ALARM SYSTEM;
- .3 BRANCH CIRCUIT CONDUCTORS WHICH SERVE EXIT AND EMERGENCY LIGHTING.
- .4 THIS PROTECTION SHALL INCLUDE CONFORMANCE TO ULC-S139 "FIRE TEST EVALUATION OF INTEGRITY OF ELECTRICAL CABLES", TO PROVIDE A CIRCUIT INTEGRITY RATING OF NOT LESS THAN 1 HOUR (2 HOUR FOR TALL BUILDINGS OR CONTAINED USE AREAS OR INTERCONNECTED FLOOR SPACES).

.4 PLENUMS (OBC 3.6.4.3):
- .1 ALL MATERIALS WITHIN THE PLENUM SHALL A FLAME-SPREAD RATING NOT MORE THAN 25 AND A SMOKE DEVELOPED CLASSIFICATION NOT MORE THAN 50.

.5 MOCK-UPS:
- .1 PREPARE MOCK-UPS OF TYPICAL FIRESTOP INSTALLATION OF THE FOLLOWING, FOR REVIEW AND APPROVAL BY THE OWNER, ENGINEER AND MUNICIPAL BUILDING INSPECTOR:
  - .1 ELECTRICAL PANELS, BOXES AND OUTLETS – FIRE-RATED WALL;
  - .2 CONDUIT AND CABLING – WALL AND CEILING/FLOOR FIRE SEPARATION.
- .2 ALL FIRESTOP INSTALLATIONS SHALL BE COMPLETED IN ACCORDANCE WITH THE APPROPRIATE PRODUCT INSTALLATION INSTRUCTIONS, AND THE REFERENCED UL/ULC LISTING AND/OR TEST STANDARD.
- .3 SUPPLY A COPY OF THE PRODUCT INSTALLATION INSTRUCTIONS WITH ULC LISTING AND/OR TEST STANDARD REFERENCE, FOR EACH INSTALLATION.
- .4 MOCK-UP MAY REMAIN AS PART OF WORK.

14 EARTHQUAKE LOAD:

.1 ALL ELECTRICAL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE EARTHQUAKE LOAD AND EFFECTS REQUIRED BY THE ONTARIO BUILDING CODE.

.2 ELECTRICAL ELEMENTS AND COMPONENTS (FIXTURES, EQUIPMENT, CONDUIT, ETC.), AND THEIR CONNECTIONS TO THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE SMACNA/ANSI SEISMIC RESTRAINT MANUAL OR OTHER GUIDELINE REFERENCED IN THE ONTARIO BUILDING CODE AND ONTARIO ELECTRICAL SAFETY CODE.

.3 PROVIDE SHOP DRAWINGS FOR SUPPORT, CONNECTIONS AND SEISMIC RESTRAINT OF ALL ELECTRICAL FIXTURES, EQUIPMENT, AND CONDUIT, INCLUDING, BUT NOT LIMITED TO:
- .1 SERVICE AND DISTRIBUTION EQUIPMENT;
- .2 LIGHT FIXTURES AND CEILING FANS;
- .3 ELECTRIC HEATING UNITS;
- .4 TYPICAL CONDUIT AND CABLE SUPPORTING SYSTEM.

THESE SHOP DRAWINGS SHALL BE DESIGNED AND SEALED BY A PROFESSIONAL ENGINEER IN THE PROVINCE OF ONTARIO, WITH EXPERIENCE IN SEISMIC ENGINEERING.

.4 FOLLOWING PROJECT COMPLETION, SEISMIC ENGINEER SHALL PROVIDE A LETTER OF FINAL SITE REVIEW.

.5 CONTRACTOR SHALL CARRY THE COST OF THE SEISMIC ENGINEERING, INCLUDING SITE REVIEWS, DESIGN AND SHOP DRAWING PREPARATION.

15 LOAD BALANCE:

.1 MEASURE PHASE CURRENT TO PANELBOARDS WITH NORMAL LOADS (LIGHTING) OPERATING AT TIME OF ACCEPTANCE. ADJUST BRANCH CIRCUIT CONNECTIONS AS REQUIRED TO OBTAIN BEST BALANCE OF CURRENT BETWEEN PHASES AND RECORD CHANGES.

.2 SUBMIT, AT COMPLETION OF WORK, REPORT LISTING PHASE AND NEUTRAL CURRENTS ON PANELBOARDS, OPERATING UNDER NORMAL LOAD. STATE HOUR AND DATE ON WHICH EACH LOAD WAS MEASURED, AND VOLTAGE AT TIME OF TEST.

16 EQUIPMENT SUPPORT:

.1 ALL ELECTRICAL EQUIPMENT, CONDUIT, WIRING, LIGHTING, DEVICES, AND RELATED ITEMS SHALL BE SECURELY SUPPORTED, ATTACHED AND FASTENED TO BUILDING STRUCTURE.

.2 HANGERS AND SUPPORTS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH MSS STANDARD SP-58, PIPE HANGERS AND SUPPORTS – MATERIALS, DESIGN, MANUFACTURE, SELECTION, APPLICATION, AND INSTALLATION.

.3 PLATFORMS SHALL BE FABRICATED FROM STRUCTURAL GRADE STEEL MEETING THE REQUIREMENTS OF THE ONTARIO BUILDING CODE, INCLUDING CSA STANDARD W59 WELDED STEEL CONSTRUCTION, AND THE REQUIREMENTS OF THE CANADIAN WELDING BUREAU.

17 COORDINATION:

.1 INFORMATION INVOLVING ACCURATE DIMENSIONING OF THE BUILDING SHALL BE TAKEN FROM SITE BY CONTRACTOR.

.2 DRAWINGS ARE IN DIAGRAMMATIC FORM, INTENDED TO CONVEY THE SCOPE OF WORK AND GENERAL ARRANGEMENT FOR EQUIPMENT. COORDINATE PHYSICAL LOCATION OF ALL EQUIPMENT WITH OTHER TRADES AND ALLOW FOR ANY ADDITIONAL CONDUIT, WIRING, FITTINGS, SUPPORTS, ETC., IN ORDER TO AVOID INTERFERENCE AND FACILITATE THE WORK.

.3 CONTRACTOR TO MAKE ANY NECESSARY MODIFICATIONS OR ADDITIONS, WITHOUT CHARGE, TO ACCOMMODATE SITE CONDITIONS AND COORDINATION.

.4 COORDINATE AND VERIFY ALL ELECTRICAL BRANCH CIRCUIT REQUIREMENTS FOR EQUIPMENT SUPPLIED BY OTHERS, PRIOR TO MATERIAL PROCUREMENT OR INSTALLATION.

.5 PROVIDE ALL WIRING TO ALL MECHANICAL EQUIPMENT, INCLUDING WIRING BELOW 50V. COORDINATE ALL MECHANICAL EQUIPMENT WIRING WITH MECHANICAL TRADES.

.6 ALL DEVICE AND OUTLET LOCATIONS SHALL BE CAREFULLY COORDINATED WITH THE GENERAL CONTRACTOR OR OWNER, TO ACCOMMODATE ALL FEATURES, INCLUDING PLUMBING FIXTURES, EQUIPMENT AND MILLWORK.

18 START-UP, COMMISSIONING AND TRAINING:

.1 START-UP AND COMMISSION THE FOLLOWING SYSTEMS:
- .1 MAIN ELECTRICAL SERVICE EQUIPMENT;
- .2 GENERAL LIGHTING;
- .3 EXIT AND EMERGENCY LIGHTING;
- .4 ELECTRIC HEATING UNITS;
- .5 FIRE ALARM.

.2 PERFORM SYSTEMATIC TESTS, PROCEDURES AND CHECKS ON SYSTEMS, AS FOLLOWS:
- .1 TO VERIFY OPERATION IN ACCORDANCE WITH CONTRACT DOCUMENTS, DESIGN CRITERIA AND INTENT, AND MANUFACTURER'S REQUIREMENTS;
- .2 TO ENSURE APPROPRIATE DOCUMENTATION IS PROVIDED;
- .3 TO EFFECTIVELY TRAIN BUILDING OPERATIONAL STAFF.

.3 SYSTEMS ARE TO BE OPERATED AT FULL CAPACITY, WITH CORRECTION OF ALL DEFICIENCIES AND ADJUSTMENTS TO MEET OPTIMUM PERFORMANCE.

.4 PROVIDE WRITTEN REPORT AT END OF COMMISSIONING OUTLINING EQUIPMENT OPERATIONAL CONDITIONS AND PARAMETERS.

ELECTRICAL LOAD CALCULATION

OTHER TYPES OF OCCUPANCY (OESC 8-210)

BASIC LOAD		AREA (sq.ft.)	AREA (sq.m)	BASIC LOAD (W/sq.m.)	DEMAND FACTOR	LOAD (W)
HOUSE:						
Basement		3252	302	25	1.00	7553
Ground Floor		3252	302	50	0.90	13596
Second Floor		3252	302	50	0.90	13596
ADDITION:						
Basement		1687	157	50	0.90	7053
Ground Floor		1687	157	25	1.00	3918
LINK:		1870	174	25	1.00	4343

ADDITIONAL LOAD		QTY	LOAD (W)	LOAD (Amp)	VOLTAGE (V)	PHASE FACTOR	DEMAND FACTOR	LOAD (W)
WATER HEATER		1	3000				1.00	3000
LIFT:	1 hp (est)	1		8	208	1.00	1.00	1664
AIR CONDITIONING:								
CU-1, CU-2, CU-3, CU-4, CU-5, CU-6		6		19.8	208	1.00	1.00	24710
RTU-1		1		26	208	1.00	1.00	5408

TOTAL LOAD

TOTAL LOAD	VOLTAGE (V)	PHASE FACTOR		
			(W)	84842
AMPERAGE	208	1.73	(A)	236
MAIN SERVICE SIZE (DE-RATED TO 80%)			(A)	295

NOTES:
1. ELECTRICAL LOAD CALCULATION IS BASED ON THE CALCULATION PROCEDURES FOR MINIMUM CIRCUIT AMPACITY OF THE SERVICE, AS OUTLINED IN THE ONTARIO ELECTRICAL SAFETY CODE, SECTION 8, SERVICE AND FEEDERS.

LIGHT FIXTURE SCHEDULE

UNIT	DESCRIPTION	NOM. DIM'N (in)	LAMP	LENS	COLOUR TEMP (K)	WATTS	MEAN LUMENS	VOLTAGE	ACCEPTABLE PRODUCT	NOTES
F1	LED LINEAR STRIP FIXTURE SURFACE	W - 3.2 L - 23 (NOM 2FT)	LED	FROSTED	4000	20	2700	120	PREMISE #CS3 BJ TAKE OR APPROVED EQUAL	
F2	LED LINEAR STRIP FIXTURE SURFACE	W - 3.2 L - 45.6 (NOM 4FT)	LED	FROSTED	4000	35	4500	120	PREMISE #CS3 BJ TAKE OR APPROVED EQUAL	
F3	LED RECESSED	W - 24 L - 24	LED	ACRYLIC HINGED	4000	39	4000	120	PREMISE #FPH2 BJ TAKE OR APPROVED EQUAL	DIMMABLE
F4	LED SURFACE	W - 24 L - 24	LED	ACRYLIC HINGED	4000	39	4000	120	PREMISE #FPH2 BJ TAKE OR APPROVED EQUAL	DIMMABLE WITH SURFACE MOUNT KIT
F5	LED RECESSED	W - 24 L - 48	LED	ACRYLIC HINGED	4000	39	4000	120	PREMISE #FPH2 BJ TAKE OR APPROVED EQUAL	DIMMABLE
F6	LED RECESSED POT WALL WASHER	3" DIA	LED		4000	9.5	1000	120	LIGHTOLIER #3R-C3L	WALL WASH
F7	LED WALL PACK MANDOOR	H - 8.5 W - 5.8 D - 3.1	LED	POLY CARB	4000	20	2669	120	PREMISE #MD2	WET LOCATION
F8	LED RECESSED POT EXTERIOR	6" DIA	LED		4000	21	2000	120	LIGHTOLIER #6-Z6RDL	WET LOCATION

ELECTRICAL LEGEND

NOTE: HEIGHT IS FROM FINISHED FLOOR TO CENTRE LINE OF EQUIPMENT, UNLESS OTHERWISE NOTED — HEIGHT

DESIGNATIONS

GF	GROUND FAULT CIRCUIT INTERRUPTER	
AF	ARC FAULT CIRCUIT INTERRUPTER	
AC	ABOVE COUNTER	
AFF	ABOVE FINISHED FLOOR	
C	COMPUTER	
CD	CLOTHES DRYER	
CW	CLOTHES WASHER	
E	EXISTING DEVICE - RETAIN	
R	EXISTING DEVICE - RELOCATE	
D	EXISTING DEVICE - TO BE REMOVED DISCONNECT & REMOVE DEVICE, WIRE BOX & CONDUIT BACK TO SOURCE	
WP	WEATHERPROOF	

DISTRIBUTION

	DISTRIBUTION PANEL	
$	SINGLE POLE TOGGLE SWITCH - 20A/120V	36"-43"/900-1100mm
$3	SWITCH - 3 WAY	36"-43"/900-1100mm
$M	SWITCH WITH MOTION SENSOR	36"-43"/900-1100mm
$MD	SWITCH WITH MOTION SENSOR & DIMMER	36"-43"/900-1100mm
M	LIGHT CONTROL MOTION SENSOR	
	DUPLEX RECEPTACLE (WALL) - 15A/120V	12"/300mm
	DUPLEX RECEPTACLE (SPLIT) - 15A/120V	12"/300mm
	DUPLEX RECEPTACLE 1/2 SWITCH- 15A/120V	12"/300mm
	NON-STANDARD RECEPTACLE - AS NOTED	AS NOTED
	DIRECT EQUIPMENT CONNECTION - AS NOTED	
	NON-FUSED DISCONNECT SWITCH	54"/1370mm
	FUSED DISCONNECT SWITCH	54"/1370mm
	BRANCH CIRCUIT	
	BRANCH CIRCUIT, SWITCHED	
P-1	BRANCH CIRCUIT, HOMERUNS TO PANEL	

LIGHTING

F	LIGHT FIXTURE - RECESSED	
F	LIGHT FIXTURE - SURFACE	
	LIGHT FIXTURE	

DATA COMMUNICATIONS

	TELEPHONE OUTLET (WALL)	PROVIDE 3/4" CONDUIT FROM BACK BOX TO SUSPENDED CEILING SPACE	12"/300mm
	TELEPHONE OUTLET (FLOOR)		-
	DATA OUTLET (WALL)		12"/300mm
	DATA OUTLET (FLOOR)		-
	TELEVISION OUTLET (WALL)		12"/300mm
	TELEVISION OUTLET (FLOOR)		-

EXIT & EMERGENCY LIGHTING

EX1	EXIT LIGHT, SURFACE MOUNTED, SINGLE FACE	90"/2300mm
EX2	EXIT LIGHT, END OR CEILING MOUNTED, SINGLE FACE	90"/2300mm
EX3	EXIT LIGHT, END OR CEILING MOUNTED, DOUBLE FACE	90"/2300mm
EL1	EMERGENCY LIGHT, BATTERY PACK	90"/2300mm
EL2	EMERGENCY LIGHT, DOUBLE REMOTE	90"/2300mm
EL3	EMERGENCY LIGHT, SINGLE REMOTE	90"/2300mm

FIRE ALARM

	FIRE ALARM HORN BELL	
PS	FIRE ALARM PULL STATION	36"-43"/900-1100mm
HD	FIRE ALARM HEAT DETECTOR	
SD	FIRE ALARM SMOKE DETECTOR	

MORRIS Engineering Ltd.
Brockville, Ontario 613-349-0555

LICENSED PROFESSIONAL ENGINEER 2022-04-18 M. A. MORRIS PROVINCE OF ONTARIO

No.	Date	REVISION
2	2022-04-18	ISSUED FOR TENDER, PERMIT & CONSTRUCTION
1	2022-03-30	FINAL REVIEW
0	2022-03-07	FOR REVIEW

Client:
COLBOURNE & KEMBEL ARCHITECTS
Kingston
Ontario

Project:
JOINT ADMIN. FACILITY
Renovations & Additions to 2069 Battersea Rd.

Drawing:
ELECTRICAL

Notes & Details

Design: M.MORRIS
Drawn: A.M.
Date: FEB 2022
Project: 607
Scale: AS NOTED

E001

EXIT & EMERGENCY LIGHT FIXTURE SCHEDULE

UNIT	DESCRIPTION	LAMP	HOUSING	VOLTAGE	ACCEPTABLE PRODUCT	NOTES
EX1	EXIT LIGHT SINGLE FACE SELF-POWERED	LED	ALUMINUM WHITE	120VAC 12 VDC	EMERGI-LITE #EA PREMISE OR APPROVED EQUAL	EXTRUDED ALUMINUM HOUSING AND FACE PLATE GREEN PICTOGRAM DIRECTION ARROW (WHERE REQUIRED) END OR CEILING MOUNTED
EX2	EXIT LIGHT DOUBLE FACE SELF-POWERED	LED	ALUMINUM WHITE	120VAC 12 VDC	EMERGI-LITE #EA PREMISE OR APPROVED EQUAL	EXTRUDED ALUMINUM HOUSING AND FACE PLATE GREEN PICTOGRAM DIRECTION ARROW (WHERE REQUIRED) END OR CEILING MOUNTED
EX3	EXIT AND EMERGENCY LIGHT COMBINATION UNIT BATTERY PACK 2 LAMPHEADS SELF-POWERED	2x6W LED	ALUMINUM WHITE	120VAC IN 12VDC OUT	EMERGI-LITE #EAC PREMISE OR APPROVED EQUAL	LONG LIFE SEALED LEAD LED EXIT PUSH TO TEST SWITCH AC "ON" PILOT LIGHT GREEN PICTOGRAM EXIT SIGN DIRECTION ARROW (WHERE REQUIRED)
EL1	EMERGENCY LIGHT BATTERY PACK WITH WITH 2 LAMPHEADS	2x6W LED	OFF-WHITE STEEL	120VAC IN 12VDC OUT	EMERGI-LITE #ESL PREMISE OR APPROVED EQUAL	LONG LIFE SEALED LEAD AC LINE CORD PUSH TO TEST SWITCH AC "ON" PILOT LIGHT
EL2	EMERGENCY LIGHT DOUBLE REMOTE HEAD	2x6W LED	OFF-WHITE	12VDC	EMERGI-LITE #EF9D PREMISE OR APPROVED EQUAL	
EL3	EMERGENCY LIGHT SINGLE REMOTE HEAD	1x6W LED	OFF-WHITE	12VDC	EMERGI-LITE #EF9 PREMISE OR APPROVED EQUAL	

ELECTRICAL PANEL 'A' (EXISTING)

Location:	STORAGE ROOM 021	Mounting:	SURFACE
Rated Amp:	200 A	Mains Amp:	-
Voltage:	120/208V	Phase, Wire:	3 PH, 4 W
Manufacturer:	Square D	Bus:	Aluminum
Cabinet:	Trim, Lockable Door	Breakers:	Bolt-On
TVSS:	-	Isolated Ground:	-

Load Watts	Load Description	Description	Breaker Amp	Pole	No.	Breaker No.	Pole	Amp	Description	Load Description	Load Watts
400	10F2	LIGHTS - 021,025,028,038	15	1	1	2	1	15	LIGHTS - CORR, 023, 024	10F2	400
200	F1,4F2	LIGHTS - 026,029	15	1	3	4	1	15	LIGHTS - NW STAIR	5F2, 2F3A	280
160	4F2	LIGHTS - E STAIR	15	1	5	6	1	15	RECEP - 021,023,CORR	5REC	1000
240	4F7,2F8	LIGHTS - EXTERIOR	15	1	7	8	1	15	RECEP - 038	2REC	400
100		LIGHTS - EXTERIOR CONTROL	15	1	9	10	1	15	RECEP - 038	2REC	400
600	3REC	RECEP - 028	15	1	11	12	1	15	RECEP - 038	2REC	400
200	REC	RECEP - 023	15	1	13	14	1	15	RECEP - 038	2REC	400
200	REC	RECEP - 024 WALL	15	1	15	16	1	15	RECEP - 026,029	2REC	400
1000	REC	RECEP - 024 COUNTER	15	1	17	18					
1000	REC	RECEP - 024 COUNTER	15	1	19	20					
800	REC	RECEP - 024 REFRIG	15	1	21	22					
					23	24					
					25	26	3	100	ELECTRICAL PANEL B		9480
					27	28					
					29	30					
20110		ELECTRICAL PANEL P1	100	3	31	32					
					33	34					
					35	36					
10410		ELECTRICAL PANEL P3	100	3	37	38	3	100	ELECTRICAL PANEL P4		11910
					39	40					
					41	42					
35.12	kW	CONNECTED LOAD							CONNECTED LOAD	kW	25.07
									TOTAL CONNECTED LOAD	kW	60.19

ELECTRICAL PANEL 'B' (EXISTING)

Location:	STORAGE ROOM 021	Mounting:	SURFACE
Rated Amp:	200 A	Mains Amp:	-
Voltage:	120/208V	Phase, Wire:	3 PH, 4 W
Manufacturer:	Square D	Bus:	Aluminum
Cabinet:	Trim, Lockable Door	Breakers:	Bolt-On
TVSS:	-	Isolated Ground:	-

Load Watts	Load Description	Description	Breaker Amp	Pole	No.	Breaker No.	Pole	Amp	Description	Load Description	Load Watts
560	14F2	LIGHTS - 108,109,111,112	15	1	1	2	1	15	LIGHTS - CORR,110,113,114	10F2	400
320	8F2	LIGHTS - 115,116,117,118,119	15	1	3	4					
600	3REC	RECEP - 108	15	1	5	6	1	15	RECEP - 109	4REC	800
400	2REC	RECEP - 110	15	1	7	8	1	15	RECEP - 111	REC	200
1000	5REC	RECEP - CORR,113	15	1	9	10	1	15	RECEP - 112	3REC	600
600	3REC	RECEP - 114	15	1	11	12	1	15	RECEP - 115	3REC	600
600	3REC	RECEP - 116	15	1	13	14	1	15	RECEP - 117	2REC	400
200	REC	RECEP - PHOTOCOPY	15	1	15	16	1	15	RECEP - A LOOVE	2REC	400
200	REC	RECEP - PHOTOCOPY	15	1	17	18	1	15	RECEP - 118	3REC	600
600	3REC	RECEP - 119	15	1	19	20	1	15	WA SHROOM	3F1,2REC	400
					21	22					
					23	24					
					25	26					
					27	28					
					29	30					
					31	32					
					33	34					
					35	36					
					37	38					
					39	40					
					41	42					
5.08	kW	CONNECTED LOAD							CONNECTED LOAD	kW	4.4
									TOTAL CONNECTED LOAD	kW	9.48

ELECTRICAL PANEL 'HOUSE' (NEW)

Location:	STORAGE ROOM	Mounting:	SURFACE
Rated Amp:	400 A	Mains Amp:	400 A MAIN BREAKER
Voltage:	120/208V	Phase, Wire:	3 PH, 4 W
Manufacturer:	Square D	Bus:	Aluminum
Cabinet:	Trim, Lockable Door	Breakers:	Bolt-On
TVSS:	-	Isolated Ground:	-

Load Watts	Load Description	Description	Breaker Amp	Pole	No.	Breaker No.	Pole	Amp	Description	Load Description	Load Watts
1000	FC-1	FANCOIL UNIT	15	2	1	2	2	15	FANCOIL UNIT	FC-3	1000
					3	4					
1000	FC-2	FANCOIL UNIT	15	2	5	6	2	15	FANCOIL UNIT	FC-4	1000
					7	8					
4100	CU-5	CONDENSING UNIT	35	2	9	10	2	35	CONDENSING UNIT	CU-1	4100
					11	12					
4100	CU-6	CONDENSING UNIT	35	2	13	14	2	35	CONDENSING UNIT	CU-2	4100
					15	16					
150	HRV-1	HEAT RECOVERY VENTILATOR	15	1	17	18	2	35	CONDENSING UNIT	CU-3	4100
150	HRV-2	HEAT RECOVERY VENTILATOR	15	1	19	20					
150	HRV-3	HEAT RECOVERY VENTILATOR	15	1	21	22	2	35	CONDENSING UNIT	CU-4	4100
					23	24					
					25	26	3	30	ROOFTOP UNIT	RTU-1	9300
					27	28					
					29	30					
					31	32					
					33	34					
					35	36					
					37	38	3	200	EXISTING SPLITTER		60190
					39	40					
					41	42					
10.65	kW	CONNECTED LOAD							CONNECTED LOAD	kW	87.89
									TOTAL CONNECTED LOAD	kW	98.54

ELECTRICAL PANEL 'P-1' (NEW)

Location:	CORRIDOR 041	Mounting:	RECESSED
Rated Amp:	100 A	Mains Amp:	100 A MAIN BREAKER
Voltage:	120/208V	Phase, Wire:	3 PH, 4 W
Manufacturer:	Square D	Bus:	Aluminum
Cabinet:	Trim, Lockable Door	Breakers:	Bolt-On
TVSS:	-	Isolated Ground:	-

Load Watts	Load Description	Description	Breaker Amp	Pole	No.	Breaker No.	Pole	Amp	Description	Load Description	Load Watts
400	F1,2F2,7F5	LIGHTS - 031,033,034,040,041	15	1	1	2	1	15	LIGHTS - 035,036,037	14F5	560
		SPARE	15	1	3	4					
800	4REC	RECEP - 031,041	15	1	5	6	1	15	RECEP - 033, 034	2REC	400
800	4REC	RECEP - 035	15	1	7	8	1	15	RECEP - 036	4REC	800
600	3REC	RECEP - 037	15	1	9	10	1	15	RECEP - 040	REC	200
400	2REC	RECEP - 037	15	1	11	12	1	15	RECEP - 040	REC	200
400	2REC	RECEP - 037	15	1	13	14					
400	2REC	RECEP - 037	15	1	15	16					
					17	18					
					19	20					
1200	P-1	SEWAGE PUMP	15	1	21	22	2	15	LIFT		1500
1200	P-2	SUMP PUMP	15	1	23	24					
150	HRV-3	HEAT RECOVERY VENTILATOR	15	1	25	26	3	60	ELECTRICAL PANEL P-2		7540
1280	F-1	FURNACE	15	1	27	28					
1280	F-2	FURNACE	15	1	29	30					
8.91	kW	CONNECTED LOAD							CONNECTED LOAD	kW	11.2
									TOTAL CONNECTED LOAD	kW	20.11

ELECTRICAL PANEL 'P-2' (NEW)

Location:	BREAKOUT SPACE 127	Mounting:	RECESSED
Rated Amp:	100 A	Mains Amp:	60 A MAIN BREAKER
Voltage:	120/208V	Phase, Wire:	3 PH, 4 W
Manufacturer:	Square D	Bus:	Aluminum
Cabinet:	Trim, Lockable Door	Breakers:	Bolt-On
TVSS:	-	Isolated Ground:	-

Load Watts	Load Description	Description	Breaker Amp	Pole	No.	Breaker No.	Pole	Amp	Description	Load Description	Load Watts
520	2F1,1F2,10F3	LIGHTS - 121,122,123,124,125,126,127	15	1	1	2	1	15	LIGHTS - 128	13F3	520
		SPARE	15	1	3	4					
400	2REC	RECEP - 121,122	15	1	5	6	1	15	RECEP - 123,124	2REC	400
200	REC	RECEP - 125 WALL	15	1	7	8	1	15	RECEP - 126	3REC	600
1000	REC	RECEP - 125 COUNTER	15	1	9	10	1	15	RECEP - 127	4REC	800
1000	REC	RECEP - 125 COUNTER	15	1	11	12	1	15	RECEP - 128	3REC	600
500	REC	RECEP - 125 REFRIG	15	1	13	14	1	15	RECEP - 128	3REC	600
400	2REC	RECEP - EXTERIOR	15	1	15	16					
					17	18					
					19	20					
					21	22					
					23	24					
					25	26					
					27	28					
					29	30					
4.02	kW	CONNECTED LOAD							CONNECTED LOAD	kW	3.52
									TOTAL CONNECTED LOAD	kW	7.54

ELECTRICAL PANEL 'P-3' (NEW)

Location:	RECEPTION 103	Mounting:	RECESSED
Rated Amp:	100 A	Mains Amp:	100 A MAIN BREAKER
Voltage:	120/208V	Phase, Wire:	3 PH, 4 W
Manufacturer:	Square D	Bus:	Aluminum
Cabinet:	Trim, Lockable Door	Breakers:	Bolt-On
TVSS:	-	Isolated Ground:	-

Load Watts	Load Description	Description	Breaker Amp	Pole	No.	Breaker No.	Pole	Amp	Description	Load Description	Load Watts
560	2F1,6F3, 6F6	LIGHTS - 100,101,104,105	15	1	1	2	1	15	LIGHTS - 102,103	5F3,4F3A	360
640	16F3	LIGHTS - 107	15	1	3	4	1	15	SPARE		
1000	5REC	RECEP - 100,101	15	1	5	6	1	15	RECEP - 102	3REC	600
250	REC	RECEP - 101 COUNTER	15	1	7	8	1	15	RECEP - 103	3REC	600
400	2REC	RECEP - 104,105	15	1	9	10	1	15	RECEP - 103	3REC	600
200		104 AUTO DOOR OPERATOR	15	1	11	12	1	15	RECEP - 107 WALL	5REC	1000
200		104 EMERG CALL ASSIST	15	1	13	14	1	15	RECEP - 107 COUNTER	REC	1000
400	2REC	RECEP - EXTERIOR	15	1	15	16	1	15	RECEP - 107 COUNTER	REC	1000
					17	18	1	15	RECEP - 107 REFRIG	REC	500
					19	20					
					21	22					
					23	24					
					25	26					
					27	28	2	15	ELECTRIC HEATER	ELH-1	1100
					29	30					
3.65	kW	CONNECTED LOAD							CONNECTED LOAD	kW	6.76
									TOTAL CONNECTED LOAD	kW	10.41

ELECTRICAL PANEL 'P-4' (NEW)

Location:	RM 208	Mounting:	RECESSED
Rated Amp:	100 A	Mains Amp:	100 A MAIN BREAKER
Voltage:	120/208V	Phase, Wire:	3 PH, 4 W
Manufacturer:	Square D	Bus:	Aluminum
Cabinet:	Trim, Lockable Door	Breakers:	Bolt-On
TVSS:	-	Isolated Ground:	-

Load Watts	Load Description	Description	Breaker Amp	Pole	No.	Breaker No.	Pole	Amp	Description	Load Description	Load Watts
600	15F2	LIGHTS - 201,202,203,204,205	15	1	1	2	1	15	LIGHTS - 206,207,208,209	11F2	440
120	F1,2F2	LIGHTS - 210,211,212	15	1	3	4	1	15	LIGHTS - 213,215,216	9F2	360
40	2F1	WA SHROOM	15	1	5	6	1	15	LIGHTS & RECEP - ATTIC	2F2,REC	400
600	3REC	RECEP - 201	15	1	7	8	1	15	RECEP - 202	2REC	400
600	3REC	RECEP - 203 WALL	15	1	9	10	1	15	RECEP - 204	2REC	400
200	REC	RECEP - 203 COUNTER	15	1	11	12	1	15	RECEP - 205	3REC	600
400	2REC	RECEP - 203 WORKSTATION	15	1	13	14	1	15	RECEP - 207	3REC	600
400	2REC	RECEP - 203 WORKSTATION	15	1	15	16	1	15	RECEP - 209	2REC	400
400	2REC	RECEP - 203 WORKSTATION	15	1	17	18	1	15	RECEP - 213	2REC	400
400	2REC	RECEP - 206	15	1	19	20	1	15	RECEP - 216	2REC	400
200	REC	RECEP - 208 COUNTER	15	1	21	22	1	15	RECEP - CORR	3REC	600
1000	5REC	RECEP - 208 WALL	15	1	23	24	1	15	SPARE		
600	3REC	RECEP - 210,211,212	15	1	25	26					
400	2REC	RECEP - 215	15	1	27	28					
400	2REC	RECEP - 215	15	1	29	30					
400	2REC	RECEP - 215	15	1	31	32					
					33	34					
					35	36					
					37	38					
					39	40					
					41	42	1	15	HEAT RECOVERY VENTILATOR	HRV-4	150
6.76	kW	CONNECTED LOAD							CONNECTED LOAD	kW	5.15
									TOTAL CONNECTED LOAD	kW	11.91

ELECTRICAL PANEL NOTES

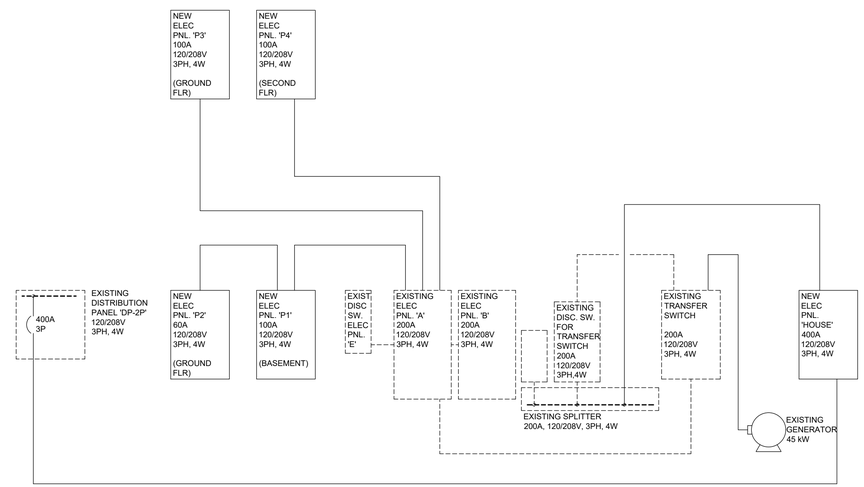
PANEL A & B	RE-USE EXISTING BREAKERS WHERE POSSIBLE
	SUPPLY NEW BREAKERS AS REQUIRED
	MARK OBSOLETE BREAKERS AS SPARE
1.0 DEVICES:	DEVICE QUANTITIES ARE APPROXIMATE
	DEVICES SHOWN ON FLOOR PLANS SHALL SUPERSEDE
2.0 IDENTIFICATION:	PERMANENT PANEL LABEL INDICATING NAME, AMP, VOLT, PHASE, WIRE
	TYPEWRITTEN CIRCUITING DIRECTORY
3.0 EQUIPMENT SUPPLIED BY OTHERS:	ELECTRICAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR SERVICING REQUIREMENTS
	FOR ALL EQUIPMENT SUPPLIED BY OTHERS
	ELECTRICAL CONTRACTOR SHALL COORDINATE ALL EQUIPMENT WIRING WITH OTHER TRADES.
	ELECTRICAL CONTRACTOR SHALL VERIFY AND CONFIRM ALL CIRCUITING, AND SHALL PROVIDE A NEW CIRCUITING LEGEND
	FOR APPROVAL BY OWNER AND ENGINEER, PRIOR TO PROCEEDING WITH WIRING OF PANEL.
	THIS CIRCUITING STUDY SHALL INCLUDE ALL EXISTING, ALTERED AND NEW CIRCUITS.
NOTATIONS:	
TBD	TO BE DETERMINED AND VERIFIED WITH OTHER TRADES

LIGHTING CONTROL SCHEDULE

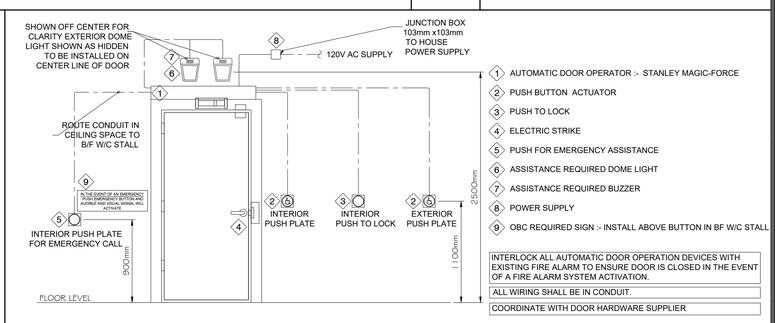
UNIT	DESCRIPTION	ELECTRICAL	ACCEPTABLE PRODUCT	NOTES
	WALL SWITCH MOTION SENSOR	120V	LEVITON #OSSMT-MAW	PASSIVE INFRARED (PIR) AND ULTRASONIC (U/S)
	WALL SWITCH MOTION SENSOR AND DIMMER	120V	LEVITON #4W SENSOR SWITCH #WSX-D OR APPROVED EQUAL	
	MOTION SENSOR CEILING MOUNTED		LEVITON #OSC05-M0W (500 SF) #OSC10-M0W (1,000 SF) #OSC20-M0W (2,000 SF)	PASSIVE INFRARED (PIR) AND ULTRASONIC (U/S) 24 VDC INFRARED SENSITIVITY, ULTRASONIC SENSITIVITY AND TIME DELAY CONTROL POWER PACK AS REQUIRED

ELECTRIC HEATER SCHEDULE

UNIT	DESCRIPTION	FAN CFM	DIMN	ELECTRICAL WATTS	VOLT	PHASE	ACCEPTABLE PRODUCT	NOTES
EUH-1	FAN FORCED HEATER COMMERCIAL GRADE	160	16.75W 21.5H	1125	208	1	DIMPLEX #RFI STELPRO OR APPROVED EQUAL	WHITE CONTROL: - BUILT-IN TSTAT RECESSED MOUNT BOX



1	ELECTRICAL SINGLE LINE DIAGRAM	
E002	SCALE: NTS	



NOTES:-

1. POWER SUPPLY TO BE MOUNTED IN THE CEILING.
2. ALL WALL MOUNTED MATERIAL IS TO HAVE WIRING BROUGHT BACK TO THE POWER SUPPLY BOX.
3. LOW VOLTAGE AND HIGH VOLTAGE WIRING ARE NOT TO BE RUN TOGETHER.
4. ONE 15A CIRCUIT IS NEEDED FOR THE POWER SUPPLY BOX.
5. BUTTON LOCATIONS ARE TO BE CENTERED 1100mm FROM FINISHED FLOOR LEVEL.
6. DOME LIGHT AND BUZZER ARE TO BE CENTERED 2500mm FROM FINISHED FLOOR LEVEL.
7. PRIOR TO INSTALLATION CONFIRM LOCATIONS WITH OWNER.
8. DOME LIGHT STANDARD OF ACCEPTANCE:- DUKANE 18A524 (TWO LAMP) CORRIDOR LIGHT WITH ONE LAVATORY CALL LIGHT, FAST FLASHING RED (60ppm) FOR USE AS INSIDE AND OUTSIDE LIGHT, OR APPROVED EQUIVALENT.
   BUZZER STANDARD OF ACCEPTANCE:- MALLORY SONALERT SC628A C/W 103mm x130mm (4"x4") SURFACE MOUNT BACK BOX OR APPROVE EQUIVALENT.
   POWER SUPPLY STANDARD OF ACCEPTANCE:- LAB-PS241F 12-24V DC / 1A POWER SUPPLY C/W BUILT IN GEL CELL BATTERY CHARGER, AUTOMATIC SWITCHOVER TO STANDBY BATTERY IN CASE OF AC POWER FAILURE & JUNCTION BOX, OR APPROVED EQUIVALENT.
   TRANSFORMER STANDARD OF ACCEPTANCE:- TP4016 PLUG-IN TRANSFORMER 120/16V AC 40Va, OR APPROVED EQUIVALENT.
9. BACKBOXES, CONDUITS AND 120V CIRCUIT BY ELECTRICIAN.

2	EMERGENCY CALL ASSIST SYSTEM	
E002	SCALE: NTS	

MORRIS
Engineering Ltd.
Brockville, Ontario 613-349-0555

LICENSED PROFESSIONAL ENGINEER
2022-04-18
M. A. MORRIS
PROVINCE OF ONTARIO

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Drawn:	A.M.
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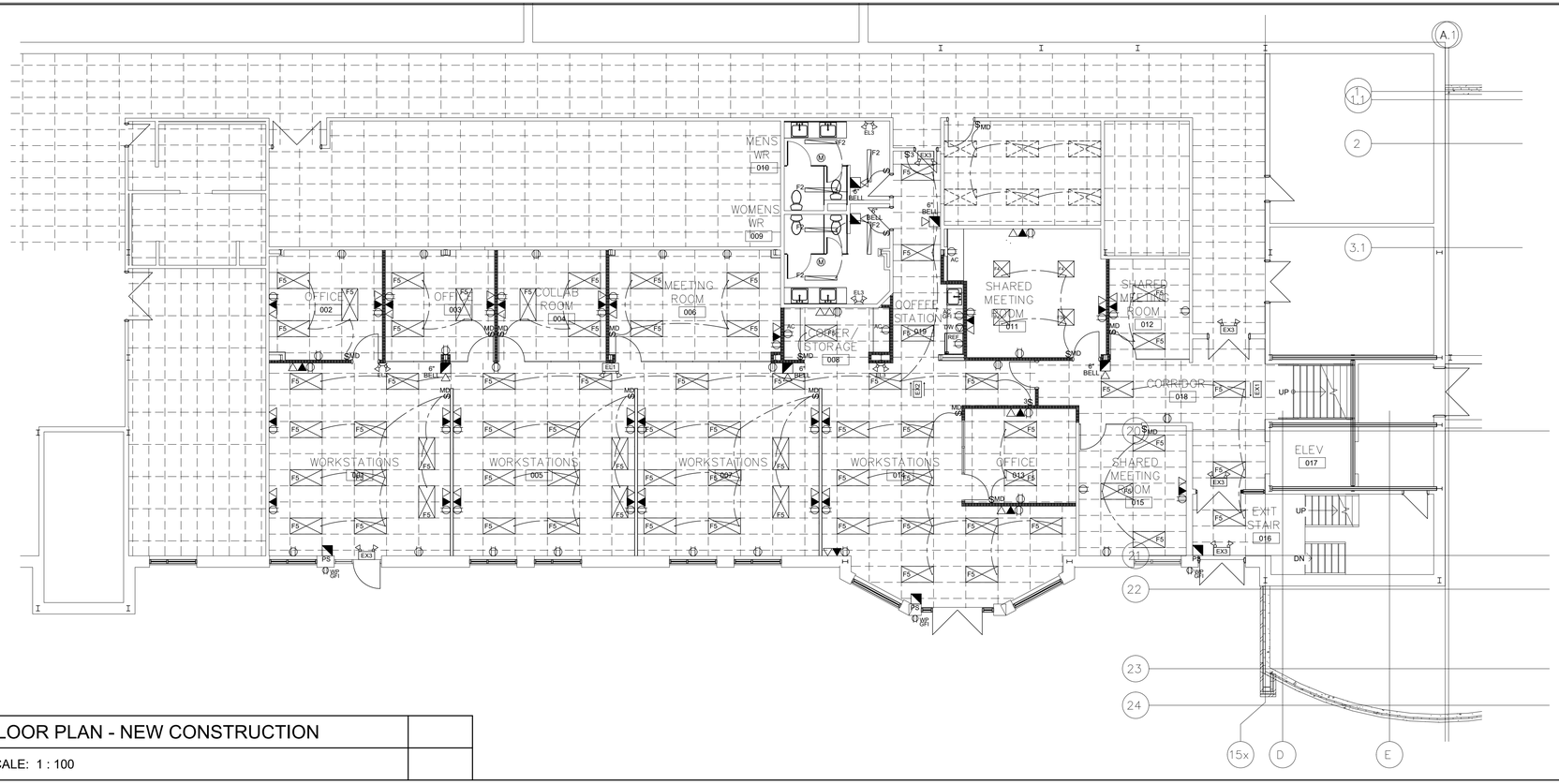
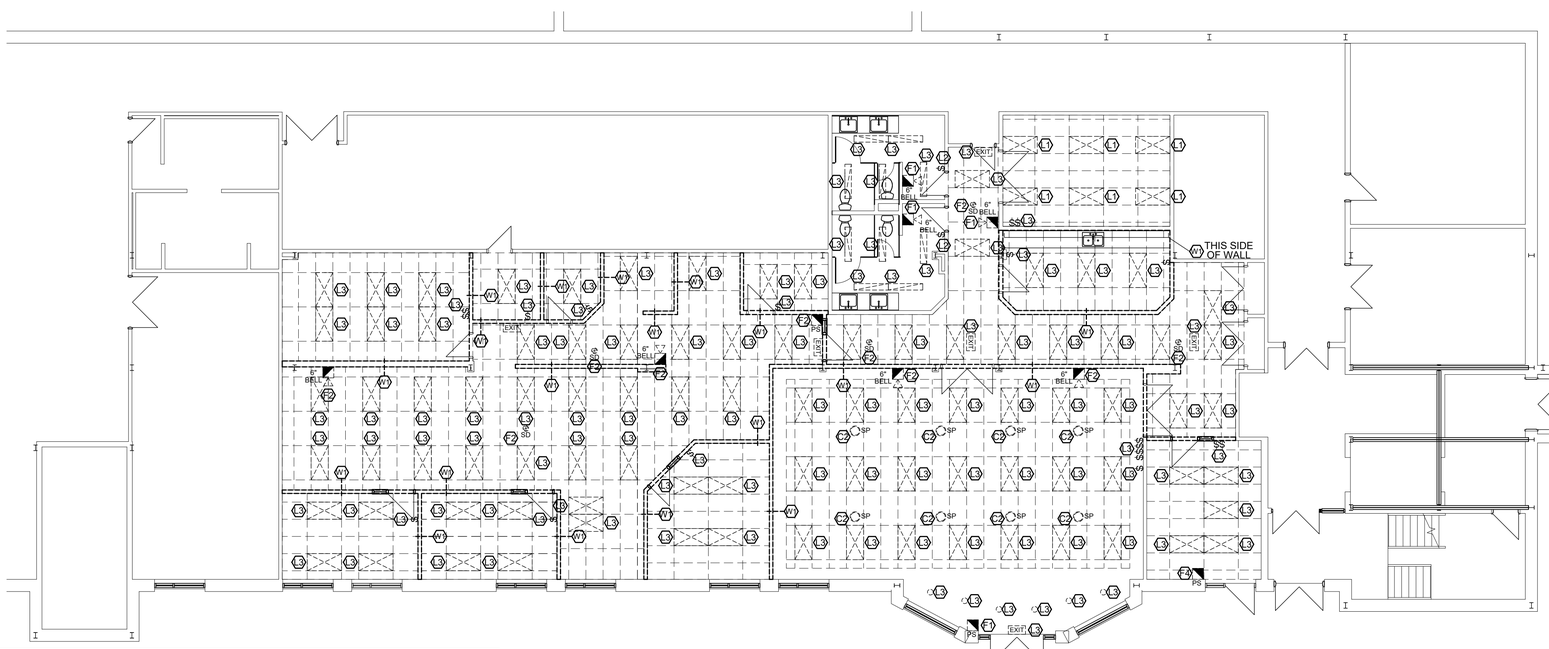
E002



2	FLOOR PLAN - NEW CONSTRUCTION	
E100	SCALE: 1 : 100	



1	FLOOR PLAN - DEMOLITION	
E100	SCALE: 1 : 100	

ELECTRICAL - DEMOLITION NOTES:

ALL ELECTRICAL OUTLETS & DEVICES IN WALLS OR CEILINGS THAT ARE TO BE REMOVED SHALL BE DISCONNECTED & REMOVED, INCLUDING BOX CONDUIT & WIRING, BACK TO SOURCE.

COMMUNICATIONS DEVICES:
- C1 RETAIN EXISTING COMMUNICATIONS DEVICE
- C2 DISCONNECT AND REMOVE EXISTING COMMUNICATIONS DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

FIRE ALARM DEVICES:
- F1 RETAIN EXISTING FIRE ALARM DEVICE
- F2 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW WALL/CEILING
- F3 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW HEIGHT
- F4 DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

LIGHT FIXTURES & SWITCHES:
- L1 RETAIN EXISTING LIGHT FIXTURE ALTER BRANCH CIRCUIT WIRING AND SWITCHING TO SUIT OR AS SHOWN
- L2 RETAIN EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE LOCATION & CIRCUIT REPLACE WITH NEW DEVICE
- L3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

POWER:
- P1 RETAIN EXISTING UNIT/DEVICE
- P2 DISCONNECT AND REMOVE EXISTING UNIT/DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

RECEPTACLES:
- R1 RETAIN EXISTING ELECTRICAL RECEPTACLE ALTER BRANCH CIRCUIT WIRING TO RETAIN SERVICE TO EXISTING RECEPTACLES
- R2 DISCONNECT AND REMOVE EXISTING ELECTRICAL RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

SECURITY SYSTEM:
- S1 RETAIN SECURITY DEVICE
- S2 DISCONNECT, REMOVE AND RELOCATE EXISTING SECURITY DEVICE
- S3 DISCONNECT AND REMOVE EXISTING SECURITY DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

WALLS TO BE DEMOLISHED
- W1 DISCONNECT AND REMOVE ALL OUTLETS AND DEVICES IN WALLS THAT ARE TO BE DEMOLISHED, INCLUDING ALL BOXES, CONDUIT AND WIRING BACK TO SOURCE

MORRIS Engineering Ltd.
Brockville, Ontario 613-349-0555

LICENSED PROFESSIONAL ENGINEER 2022-04-18 M. A. MORRIS PROVINCE OF ONTARIO

No.	Date	REVISION
2	2022-04-18	ISSUED FOR TENDER, PERMIT & CONSTRUCTION
1	2022-03-30	FINAL REVIEW
0	2022-03-07	FOR REVIEW

Client:
COLBOURNE & KEMBEL ARCHITECTS
Kingston
Ontario

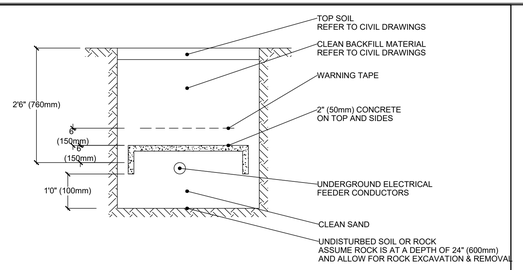
Project:
JOINT ADMIN. FACILITY
Renovations & Additions to 2069 Battersea Rd.

Drawing:
ELECTRICAL

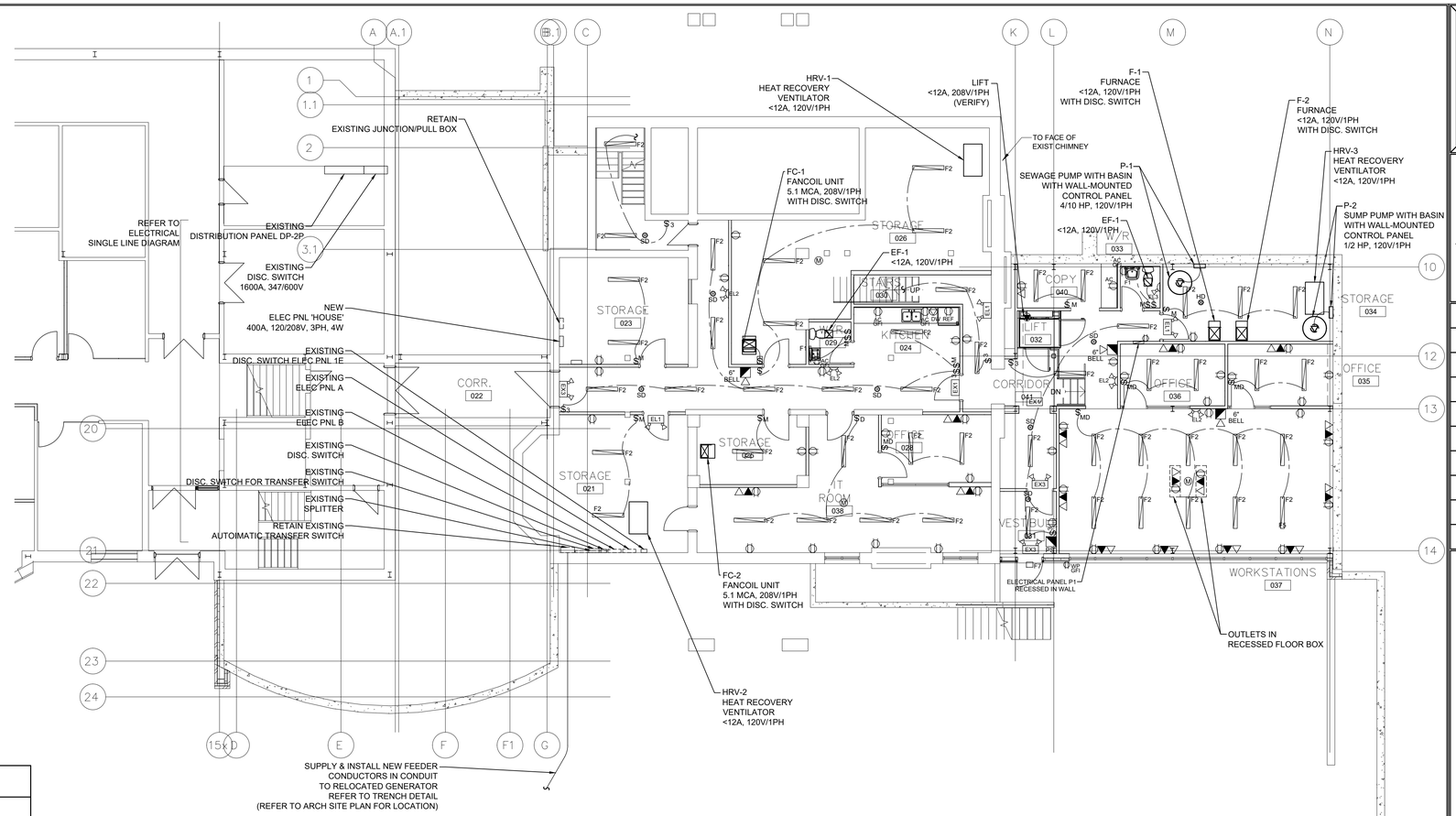
Level 0 Floor Plan

Design:	M.MORRIS
Drawn:	A.M.
Date:	FEB 2022
Project:	607
Scale:	AS NOTED

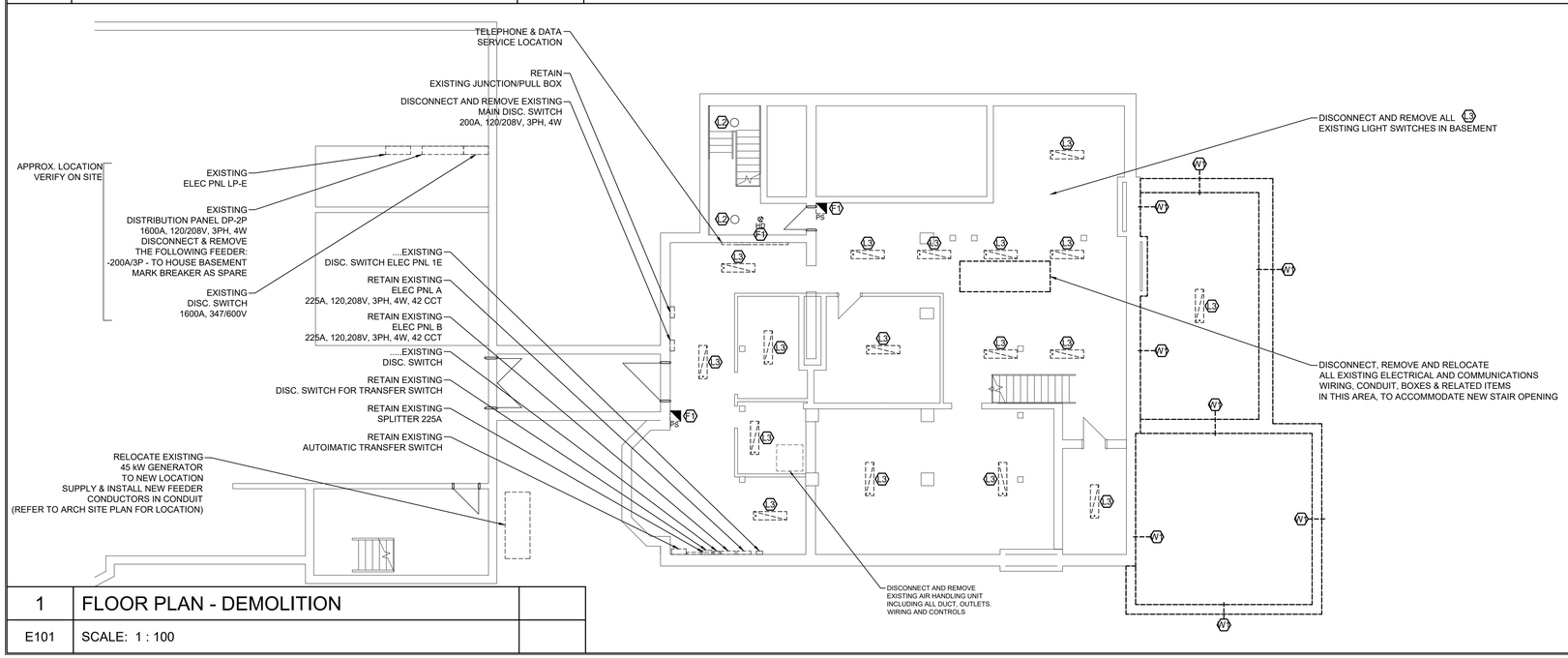
E100



3	TRENCH DETAIL - UNDERGROUND FEEDER LANDSCAPED AREA	
E101	SCALE: NTS	



2	FLOOR PLAN - NEW CONSTRUCTION	
E101	SCALE: 1 : 100	



1	FLOOR PLAN - DEMOLITION	
E101	SCALE: 1 : 100	

ELECTRICAL - DEMOLITION NOTES:

ALL ELECTRICAL OUTLETS & DEVICES IN WALLS OR CEILINGS THAT ARE TO BE REMOVED SHALL BE DISCONNECTED & REMOVED, INCLUDING BOX CONDUIT & WIRING, BACK TO SOURCE.

COMMUNICATIONS DEVICES:
- C1 RETAIN EXISTING COMMUNICATIONS DEVICE
- C2 DISCONNECT AND REMOVE EXISTING COMMUNICATIONS DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

FIRE ALARM DEVICES:
- F1 RETAIN EXISTING FIRE ALARM DEVICE
- F2 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW WALL/CEILING
- F3 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW HEIGHT
- F4 DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

LIGHT FIXTURES & SWITCHES:
- L1 RETAIN EXISTING LIGHT FIXTURE ALTER BRANCH CIRCUIT WIRING AND SWITCHING TO SUIT OR AS SHOWN
- L2 RETAIN EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE LOCATION & CIRCUIT REPLACE WITH NEW DEVICE
- L3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

POWER:
- P1 RETAIN EXISTING UNIT/DEVICE
- P2 DISCONNECT AND REMOVE EXISTING UNIT/DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

RECEPTACLES:
- R1 RETAIN EXISTING ELECTRICAL RECEPTACLE ALTER BRANCH CIRCUIT WIRING TO RETAIN SERVICE TO EXISTING RECEPTACLES
- R2 DISCONNECT AND REMOVE EXISTING ELECTRICAL RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

SECURITY SYSTEM:
- S1 RETAIN SECURITY DEVICE
- S2 DISCONNECT, REMOVE AND RELOCATE EXISTING SECURITY DEVICE
- S3 DISCONNECT AND REMOVE EXISTING SECURITY DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

WALLS TO BE DEMOLISHED
- W1 DISCONNECT AND REMOVE ALL OUTLETS AND DEVICES IN WALLS THAT ARE TO BE DEMOLISHED, INCLUDING ALL BOXES, CONDUIT AND WIRING BACK TO SOURCE

MORRIS
Engineering Ltd.
Brockville, Ontario 613-349-0555

LICENSED PROFESSIONAL ENGINEER
2022-04-18
M. A. MORRIS
PROVINCE OF ONTARIO

No.	Date	REVISION
2	2022-04-18	ISSUED FOR TENDER, PERMIT & CONSTRUCTION
1	2022-03-30	FINAL REVIEW
0	2022-03-07	FOR REVIEW

Client:
COLBOURNE & KEMBEL ARCHITECTS
Kingston
Ontario

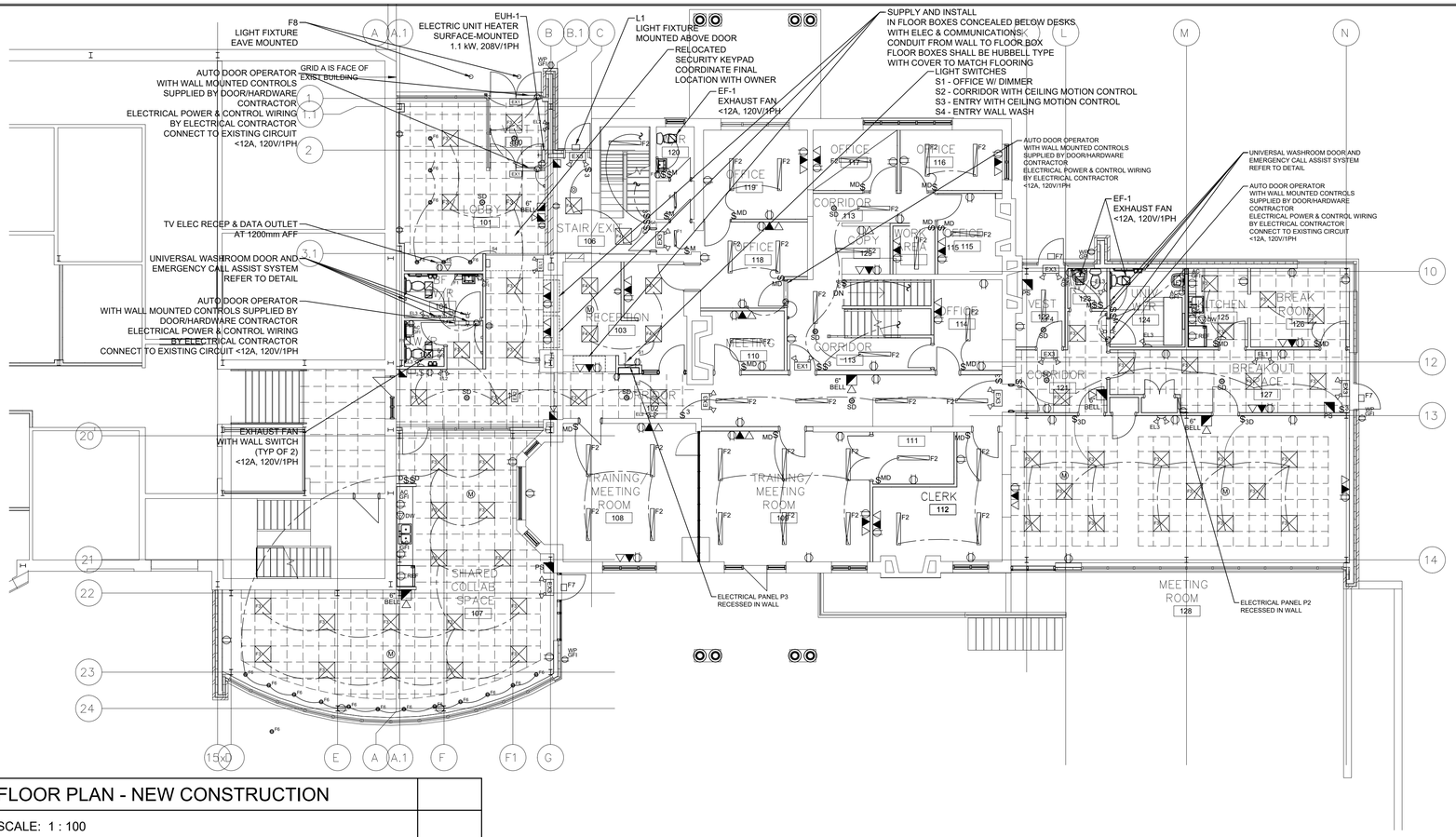
Project:
JOINT ADMIN. FACILITY
Renovations & Additions to 2069 Battersea Rd.

Drawing:
ELECTRICAL

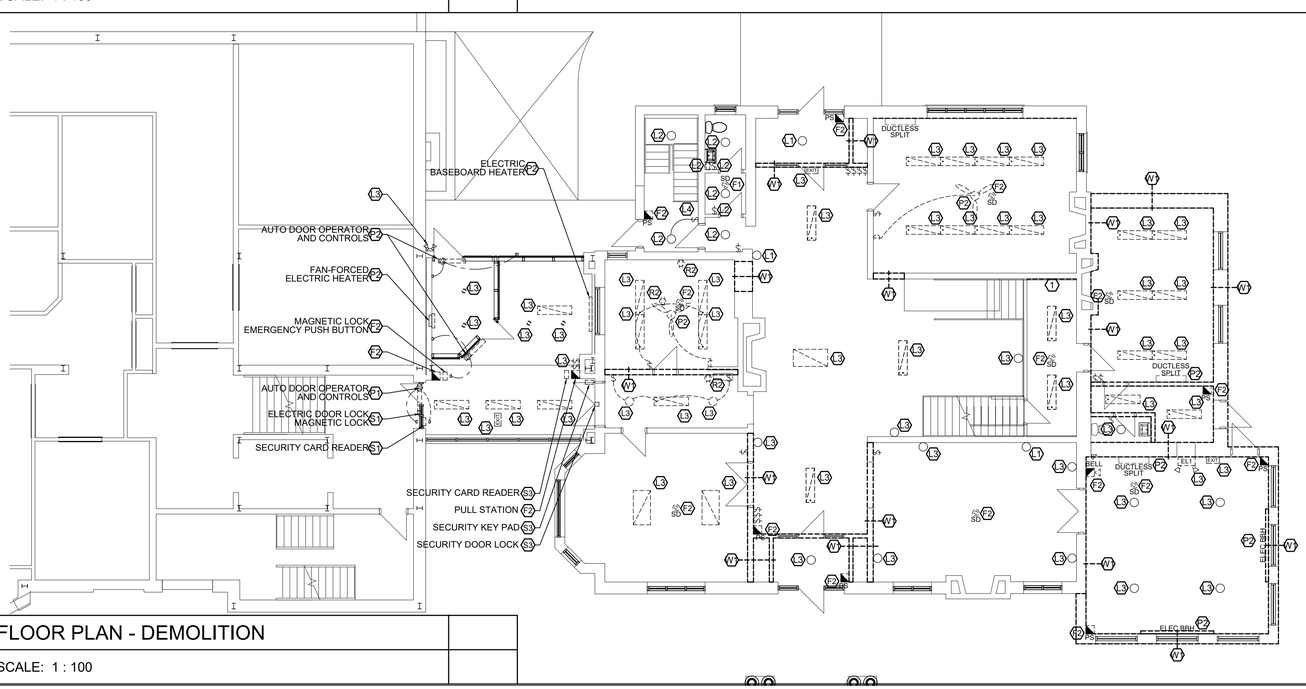
Basement Floor Plan

Design:	M.MORRIS
Drawn:	A.M.
Date:	FEB 2022
Project:	607
Scale:	AS NOTED

E101



2	FLOOR PLAN - NEW CONSTRUCTION	
E102	SCALE: 1 : 100	



1	FLOOR PLAN - DEMOLITION	
E102	SCALE: 1 : 100	

ELECTRICAL - DEMOLITION NOTES:

ALL ELECTRICAL OUTLETS & DEVICES IN WALLS OR CEILINGS THAT ARE TO BE REMOVED SHALL BE DISCONNECTED & REMOVED, INCLUDING BOX CONDUIT & WIRING, BACK TO SOURCE.

COMMUNICATIONS DEVICES:
- C1 RETAIN EXISTING COMMUNICATIONS DEVICE
- C2 DISCONNECT AND REMOVE EXISTING COMMUNICATIONS DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

FIRE ALARM DEVICES:
- F1 RETAIN EXISTING FIRE ALARM DEVICE
- F2 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW WALL/CEILING
- F3 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW HEIGHT
- F4 DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

LIGHT FIXTURES & SWITCHES:
- L1 RETAIN EXISTING LIGHT FIXTURE ALTER BRANCH CIRCUIT WIRING AND SWITCHING TO SUIT OR AS SHOWN
- L2 RETAIN EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE LOCATION & CIRCUIT REPLACE WITH NEW DEVICE
- L3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

POWER:
- P1 RETAIN EXISTING UNIT/DEVICE
- P2 DISCONNECT AND REMOVE EXISTING UNIT/DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

RECEPTACLES:
- R1 RETAIN EXISTING ELECTRICAL RECEPTACLE ALTER BRANCH CIRCUIT WIRING TO RETAIN SERVICE TO EXISTING RECEPTACLES
- R2 DISCONNECT AND REMOVE EXISTING ELECTRICAL RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

SECURITY SYSTEM:
- S1 RETAIN SECURITY DEVICE
- S2 DISCONNECT, REMOVE AND RELOCATE EXISTING SECURITY DEVICE
- S3 DISCONNECT AND REMOVE EXISTING SECURITY DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

WALLS TO BE DEMOLISHED
- W1 DISCONNECT AND REMOVE ALL OUTLETS AND DEVICES IN WALLS THAT ARE TO BE DEMOLISHED, INCLUDING ALL BOXES, CONDUIT AND WIRING BACK TO SOURCE

MORRIS
Engineering Ltd.
Brockville, Ontario 613-349-0555

LICENSED PROFESSIONAL ENGINEER
2022-04-18
M. A. MORRIS
PROVINCE OF ONTARIO

No.	Date	REVISION
2	2022-04-18	ISSUED FOR TENDER, PERMIT & CONSTRUCTION
1	2022-03-30	FINAL REVIEW
0	2022-03-07	FOR REVIEW

Client:
COLBOURNE & KEMBEL ARCHITECTS
Kingston
Ontario

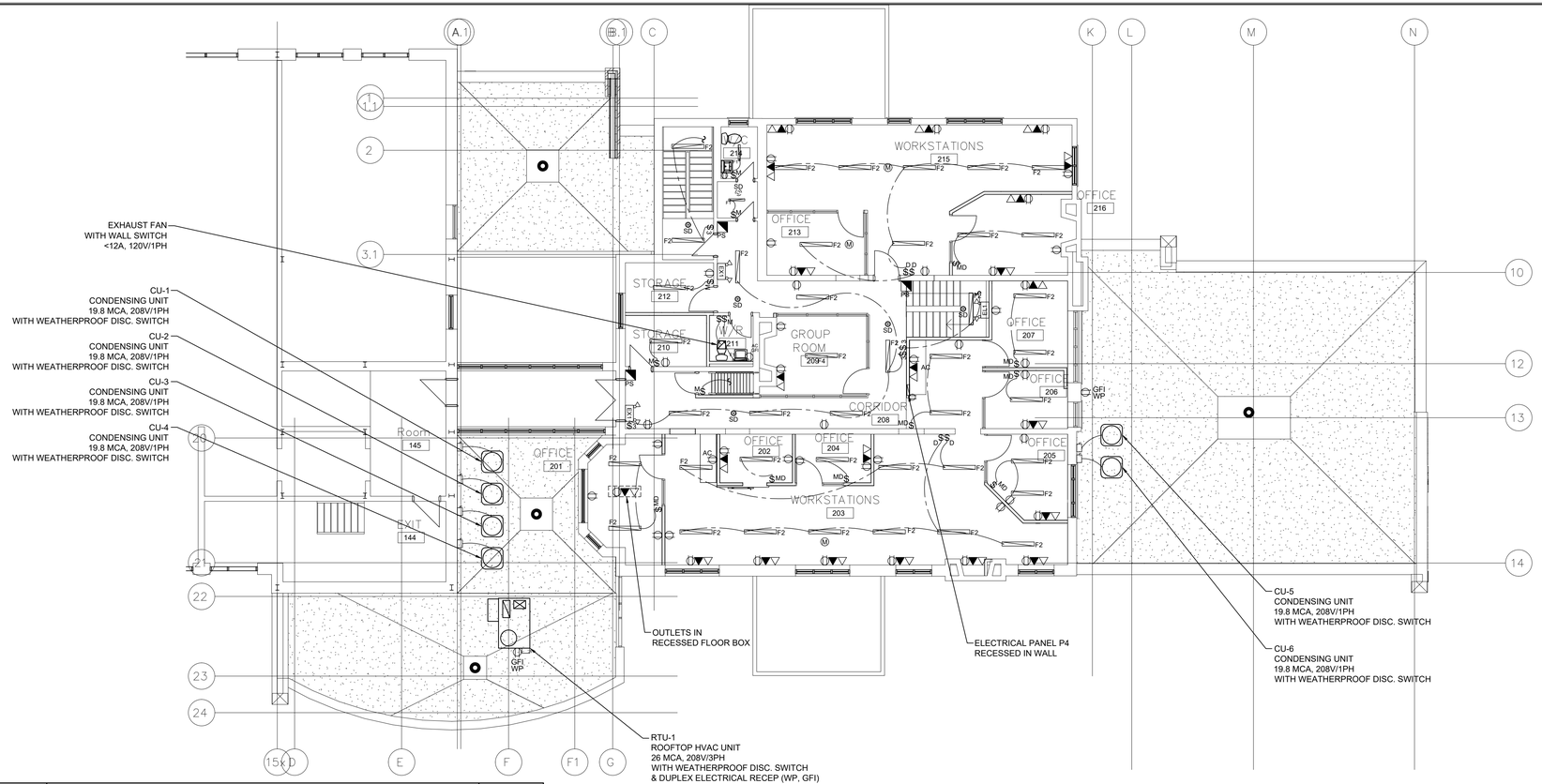
Project:
JOINT ADMIN. FACILITY
Renovations & Additions to 2069 Battersea Rd.

Drawing:
ELECTRICAL

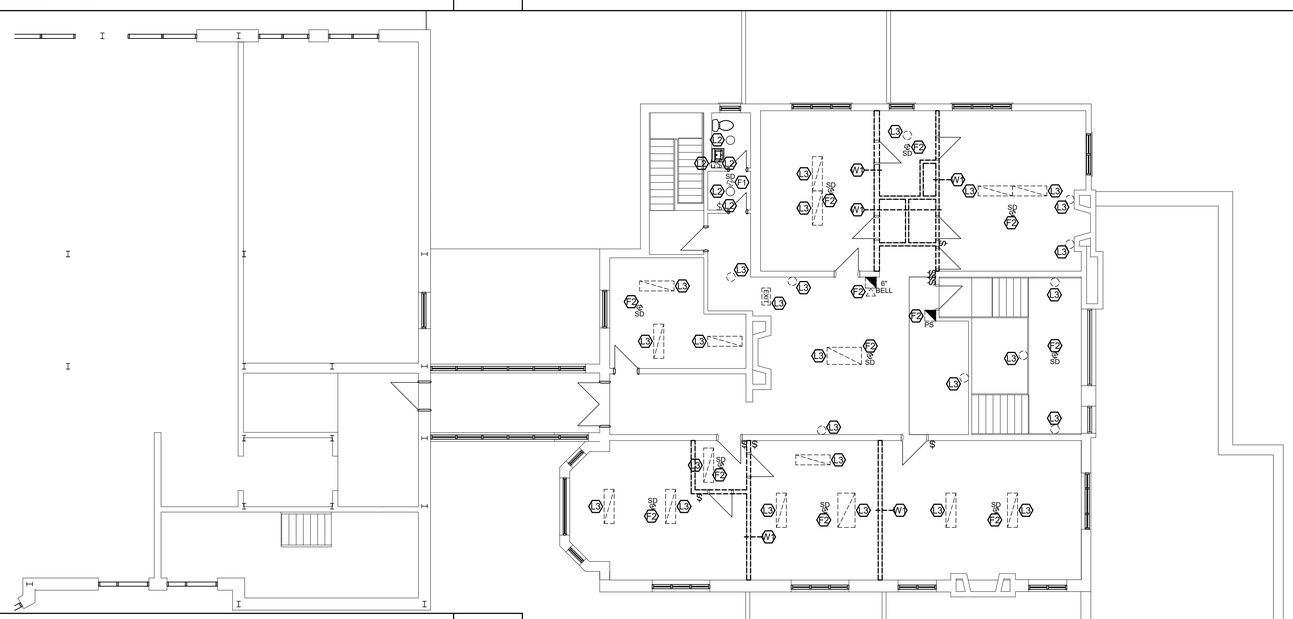
Ground Floor Plan

Design:	M.MORRIS
Drawn:	A.M.
Date:	FEB 2022
Project:	607
Scale:	AS NOTED

E102



2	FLOOR PLAN - NEW CONSTRUCTION	
E103	SCALE: 1 : 100	



1	FLOOR PLAN - DEMOLITION	
E103	SCALE: 1 : 100	

ELECTRICAL - DEMOLITION NOTES:

ALL ELECTRICAL OUTLETS & DEVICES IN WALLS OR CEILINGS THAT ARE TO BE REMOVED SHALL BE DISCONNECTED & REMOVED, INCLUDING BOX CONDUIT & WIRING, BACK TO SOURCE.

COMMUNICATIONS DEVICES:
- C1 RETAIN EXISTING COMMUNICATIONS DEVICE
- C2 DISCONNECT AND REMOVE EXISTING COMMUNICATIONS DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

FIRE ALARM DEVICES:
- F1 RETAIN EXISTING FIRE ALARM DEVICE
- F2 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW WALL/CEILING
- F3 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW HEIGHT
- F4 DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

LIGHT FIXTURES & SWITCHES:
- L1 RETAIN EXISTING LIGHT FIXTURE ALTER BRANCH CIRCUIT WIRING AND SWITCHING TO SUIT OR AS SHOWN
- L2 RETAIN EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE LOCATION & CIRCUIT REPLACE WITH NEW DEVICE
- L3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

POWER:
- P1 RETAIN EXISTING UNIT/DEVICE
- P2 DISCONNECT AND REMOVE EXISTING UNIT/DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

RECEPTACLES:
- R1 RETAIN EXISTING ELECTRICAL RECEPTACLE ALTER BRANCH CIRCUIT WIRING TO RETAIN SERVICE TO EXISTING RECEPTACLES
- R2 DISCONNECT AND REMOVE EXISTING ELECTRICAL RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

SECURITY SYSTEM:
- S1 RETAIN SECURITY DEVICE
- S2 DISCONNECT, REMOVE AND RELOCATE EXISTING SECURITY DEVICE
- S3 DISCONNECT AND REMOVE EXISTING SECURITY DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

WALLS TO BE DEMOLISHED
- W1 DISCONNECT AND REMOVE ALL OUTLETS AND DEVICES IN WALLS THAT ARE TO BE DEMOLISHED, INCLUDING ALL BOXES, CONDUIT AND WIRING BACK TO SOURCE

MORRIS
Engineering Ltd.
Brockville, Ontario 613-349-0555

LICENSED PROFESSIONAL ENGINEER
2022-04-18
M. A. MORRIS
PROVINCE OF ONTARIO

No.	Date	REVISION
2	2022-04-18	ISSUED FOR TENDER, PERMIT & CONSTRUCTION
1	2022-03-30	FINAL REVIEW
0	2022-03-07	FOR REVIEW

Client:
COLBOURNE & KEMBEL ARCHITECTS
Kingston
Ontario

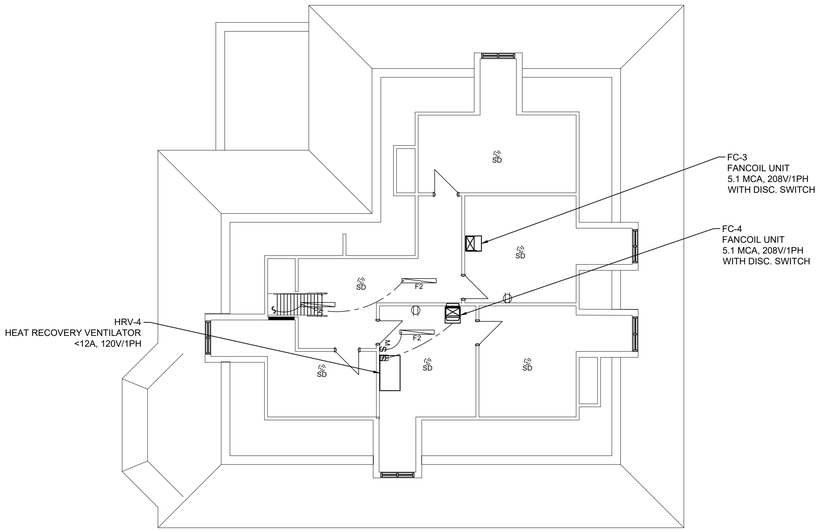
Project:
JOINT ADMIN. FACILITY
Renovations & Additions to 2069 Battersea Rd.

Drawing:
ELECTRICAL

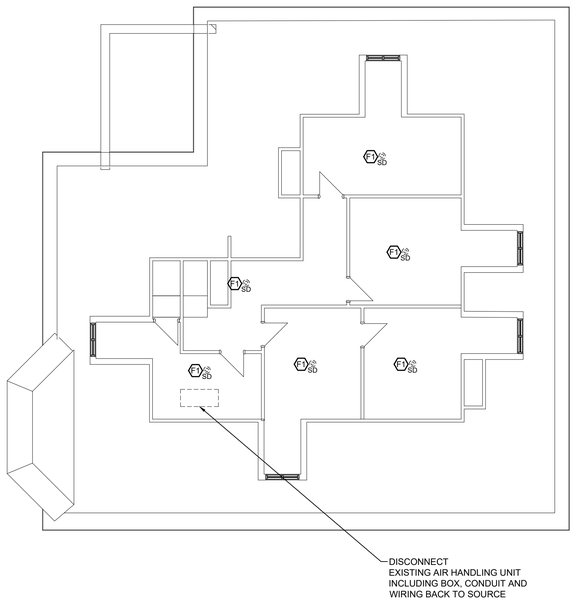
Second Floor Plan

Design:	M.MORRIS
Drawn:	A.M.
Date:	FEB 2022
Project:	607
Scale:	AS NOTED

E103



2	FLOOR PLAN - NEW CONSTRUCTION	
E104	SCALE: 1 : 100	



1	FLOOR PLAN - DEMOLITION	
E104	SCALE: 1 : 100	

ELECTRICAL - DEMOLITION NOTES:

ALL ELECTRICAL OUTLETS & DEVICES IN WALLS OR CEILINGS THAT ARE TO BE REMOVED SHALL BE DISCONNECTED & REMOVED, INCLUDING BOX CONDUIT & WIRING, BACK TO SOURCE.

COMMUNICATIONS DEVICES:
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- C2 DISCONNECT AND REMOVE EXISTING COMMUNICATIONS DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

FIRE ALARM DEVICES:
- F1 RETAIN EXISTING FIRE ALARM DEVICE
- F2 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW WALL/CEILING
- F3 DISCONNECT, REMOVE AND RELOCATE EXISTING FIRE ALARM DEVICE TO NEW HEIGHT
- F4 DISCONNECT AND REMOVE EXISTING FIRE ALARM DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL OR CEILING WHERE APPLICABLE

LIGHT FIXTURES & SWITCHES:
- L1 RETAIN EXISTING LIGHT FIXTURE ALTER BRANCH CIRCUIT WIRING AND SWITCHING TO SUIT OR AS SHOWN
- L2 RETAIN EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE LOCATION & CIRCUIT REPLACE WITH NEW DEVICE
- L3 DISCONNECT AND REMOVE EXISTING LIGHT FIXTURE, SWITCH OR RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

POWER:
- P1 RETAIN EXISTING UNIT/DEVICE
- P2 DISCONNECT AND REMOVE EXISTING UNIT/DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE PATCH AND REPAIR WALL OR CEILING, WHERE APPLICABLE

RECEPTACLES:
- R1 RETAIN EXISTING ELECTRICAL RECEPTACLE ALTER BRANCH CIRCUIT WIRING TO RETAIN SERVICE TO EXISTING RECEPTACLES
- R2 DISCONNECT AND REMOVE EXISTING ELECTRICAL RECEPTACLE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

SECURITY SYSTEM:
- S1 RETAIN SECURITY DEVICE
- S2 DISCONNECT, REMOVE AND RELOCATE EXISTING SECURITY DEVICE
- S3 DISCONNECT AND REMOVE EXISTING SECURITY DEVICE INCLUDING BOX, CONDUIT AND WIRING BACK TO SOURCE INFILL AND REPAIR WALL

WALLS TO BE DEMOLISHED
- W1 DISCONNECT AND REMOVE ALL OUTLETS AND DEVICES IN WALLS THAT ARE TO BE DEMOLISHED, INCLUDING ALL BOXES, CONDUIT AND WIRING BACK TO SOURCE

MORRIS
Engineering Ltd.
Brockville, Ontario 613-349-0555

LICENSED PROFESSIONAL ENGINEER
2022-04-18
M. A. MORRIS
PROVINCE OF ONTARIO

No.	Date	REVISION
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Client:
COLBOURNE & KEMBEL ARCHITECTS
Kingston
Ontario

Project:
JOINT ADMIN. FACILITY
Renovations & Additions to 2069 Battersea Rd.

Drawing:
ELECTRICAL

Attic Floor Plan

Design:	M.MORRIS
Drawn:	A.M.
Date:	FEB 2022
Project:	607
Scale:	AS NOTED

E104