1 ELECTRICAL SITE PLAN
E1 SCALE: 1:100

SITE PLAN

NOTES

1. EXTERIOR LIGHTING TO BE CONTROLLED BY PHOTOCELL AND 24/7 TIMER. SEE DETAIL 3 DWG E14.
2. MOUNT FIXTURE TYPE 'G' AT 4700mm.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
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NOV 11/20
PROVINCE OF ONTARIO
ELECTRICAL

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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET,
PORT HOPE, ONTARIO

TITLE
ELECTRICAL SITE PLAN

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E1
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6643F1.dwg

2 E3 SERVICE ROOM – EQUIPMENT ELEVATION
SCALE: N.T.S.

1 E2 SINGLE LINE DIAGRAM
SCALE: N.T.S.

HOUSE PANEL 'H'

120/208V, 3 PHASE, 4 WIRE, 225A BUS, 84 CIRCUIT, BOLT–ON BREAKERS 22KA IC

DESCRIPTION	LOAD	BKR	CCT	CCT	BKR	LOAD	DESCRIPTION
BASEMENT CORRIDOR RECS	x	15A	1	2	15A	x	BASEMENT LIGHTS
FIRST FLOOR CORRIDOR RECS	x	15A	3	4	15A	x	FIRST FLOOR LIGHTS
SECOIND FLOOR CORRIDOR RECS	x	15A	5	6	15A	x	SECOND FLOOD LIGHTS
ELEC ROOM REC	x	15A	7	8	15A	x	EAST STAIR LIGHTS
TELEPHONE RECS	x	15A	9	10	15A	x	WEST STAIR LIGHTS
MAIN ENTRANCE HEATER	1.5K	20A	11	12	15A	x	WASHER
UH–1	1.5K		13	14	15A	x	WASHER
EAST STAIR MAIN FLOOR HEAT	1.5K	20A	15	16	30A	x	DRYER
UH–5	1.5K		17	18		x	
EAST STAIR BASEMENT HEATER	1.5K		19	20	30A	x	DRYER
UH–2	1.5K		21	22		x	
WEST STAIR MAIN FLOOR HEAT	1.5K	20A	23	24	15A	x	WASHER
UH–3	1.5K		25	26	15A	x	WASHER
WEST STAIR BASEMENT HEATER	1.5K	20A	27	28	30A	x	DRYER
UH–4	1.5K		29	30		x	
EAST STAIR SECOND HEATER	1.5K	20A	31	32	30A	x	DRYER
UH–7	1.5K		33	34		x	
WEST STAIR SECOND HEATER	1.5K	20A	35	36	40A	x	HWH
UH–6	1.5K		37	38		x	
LIFT	x	15A	39	40	15A	x	SPARE
FA PANEL	x	15A	41	42	15A	x	EXIT SIGNS
SPARE	x	15A	43	44	15A	x	x
SPARE	x	15A	45	46	15A	x	x
DOOR OPERATORS	x	15A	47	48	15A	x	x
BASEMENT ELECTRICAL EF	x	15A	49	50	15A	x	x
MAIN FLOOR LAUNDRY EF	x	15A	51	52	15A	x	x
2ND FLOOR LAUNDRY EF	x	15A	53	54	15A	x	x
MUA–1	x	20A	55	56	15A	x	x
	x		57	58	15A	x	EXTERIOR LIGHTS
	x		59	60	15A	x	ETP–1,2,3

* ASTERISK INDICATES GFI BREAKER

SUITE PANEL 'S' (1)

120/208V, 1 PHASE, 3 WIRE, 125A BUS, 30 CIRCUIT, BOLT–ON BREAKERS 10KA IC

DESCRIPTION	LOAD	BKR	CCT	CCT	BKR	LOAD	DESCRIPTION
AC–1 / AC–2 (3)	x	25A / 40A	1	2	15A	x	HWT–1
	x		3	4		x	
LIVING AREA REC	x	*15A	5	6	15A	x	WASHROOM EXHAUST FAN
DINING AREA REC	x	*15A	7	8	15A	x	SUITE LIGHTING
BEDROOM REC	x	*15A	9	10	*15A	x	EXTERIOR GFI REC & LT
BEDROOM REC	x	*15A	11	12	15A	x	
BEDROOM/ENTRY/STORAGE REC	x	*15A	13	14	15A	x	x
FRIDGE REC	x	15A	15	16	15A	x	x
KITCHEN RANGE HOOD	x	15A	17	18	15A	x	x
STOVE REC	x	50A	19	20	15A	x	x
	x		21	22	15A	x	x
KITCHEN COUNTER REC	x	20A	23	24	15A	x	x
KITCHEN COUNTER REC	x	20A	25	26	15A	x	x
KITCHEN COUNTER REC	x	20A	27	28	15A	x	x
WASHROOM REC	x	20A	29	30	15A	x	x

CONNECTED LOAD PER PHASE: * *

TOTAL CONNECTED LOAD: *

x
x

* ASTERISK INDICATES AFCI ARC FAULT BREAKER

3 E2 PANEL SCHEDULES
SCALE: N.T.S.

NOTES

1. ALL SUITE PANELS SHALL BE RATED 10KA IC.
2. PROVIDE POWER TO CONTROL CABINET FOR MAKE UP AIR UNITS MUA–1
3. COORDINATE BREAKER SIZE REQUIREMENTS WITH MECHANICAL DRAWINGS AND UNIT INSTALLED.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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PROJECT
MULTI–UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
SINGLE LINE DIAGRAM

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E2
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

1 E3 LOWER FLOOR POWER
SCALE: 1:75

2 E3 LOWER FLOOR LIGHTING
SCALE: 1:75

ELECTRICAL ROOM EQUIPMENT LIST

1. METERING SECTIONS C/W MAIN BREAKERS SEE DETAIL 2 DWG E2
2. HOUSE PANEL 'H'.
3. 4'x8'x3/4" PLYWOOD BACKBOARD FOR TELEPHONE AND CATV.

NOTES

1. LIFT TO BE INSTALLED AS PER MANUFACTURERS INSTALLATION REQUIREMENTS.
2. COORDINATE POWER AND WIRING REQUIREMENTS FOR ACCESSIBLE DOOR OPERATORS WITH ARCHITECT.
3. COORDINATE LOCATION OF ELECTRONIC TRAPSEAL PRIMMER WITH MECHANICAL.
4. EF-1 EXHAUST FAN TO HAVE REVERSE ACTING THERMOSTAT. COORDINATE POWER FAN WITH MECHANICAL.
5. PROVIDE CONDUIT FOR DOOR OPERATOR PUSH BUTTONS COORDINATE WITH ARCHITECT.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET,
PORT HOPE, ONTARIO

TITLE
BASEMENT FLOOR POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E3
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6643E3.dwg

1 GROUND FLOOR POWER
E4 SCALE: 1:75

2 GROUND FLOOR LIGHTING
E4 SCALE: 1:75

NOTES

1. COORDINATE POWER AND WIRING REQUIREMENTS FOR ACCESSIBLE DOOR OPERATORS WITH ARCHITECT.
2. COORDINATE LOCATION OF ELECTRONIC TRAPSEAL PRIMMER WITH MECHANICAL.
3. EF-2/3 ARE DRYER EXHAUST FANS (ONE FOR EACH DRYER). COORDINATE POWER FOR DRYER FAN EF-2 WITH MECHANICAL.
4. PROVIDE CONDUIT FOR DOOR OPERATOR PUSH BUTTONS COORDINATE WITH ARCHITECT.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
GROUND FLOOR POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E4
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E3.dwg

1 SECOND FLOOR POWER
E5 SCALE: 1:75

2 SECOND FLOOR LIGHTING
E5 SCALE: 1:75

NOTES

1. COORDINATE POWER AND WIRING REQUIREMENTS FOR ACCESSIBLE DOOR OPERATORS WITH ARCHITECT.
2. COORDINATE LOCATION OF ELECTRONIC TRAPSEAL PRIMMER WITH MECHANICAL.
3. EF-4/5 ARE DRYER EXHAUST FANS (ONE FOR EACH DRYER). COORDINATE POWER FOR DRYER FAN EF-4/5 WITH MECHANICAL.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
SECOND FLOOR POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E5
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E3.dwg

1 UNIT TYPE 'A' POWER
E6 SCALE: 1:30

2 UNIT TYPE 'B' POWER
E6 SCALE: 1:30

3 UNIT TYPE 'A' LIGHTING
E6 1:30

4 UNIT TYPE 'B' LIGHTING
E6 1:30

NOTES

1. SMOKE ALARMS TO BE HARD WIRED INTERCONNECTED IN SUITES AND c/w STROBES ON WASHROOM LIGHT CCT.
2. RUN ALL SUITE PHONE, DATA AND CABLE WIRING IN SUITE TO COMMUNICATION PANEL.
3. PROVIDE 120V DUPLEX RECEPTACLE IN COMMUNICATIONS PANEL
4. BASEMENT UNITS DO NOT HAVE EXTERIOR RECEPTACLE, EXTERIOR LIGHT OR EXTERIOR LIGHT CONTROL.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
TYPICAL UNIT '1' & '2' POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E6
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E7.dwg

1 UNIT TYPE 'C' POWER
E7 SCALE: 1:30

2 UNIT TYPE 'D' POWER
E7 SCALE: 1:30

3 UNIT TYPE 'C' LIGHTING
E7 1:30

4 UNIT TYPE 'D' LIGHTING
E7 1:30

NOTES

1. SMOKE ALARMS TO BE HARD WIRED INTERCONNECTED IN SUITES AND c/w STROBES ON WASHROOM LIGHT CCT.
2. RUN ALL SUITE PHONE, DATA AND CABLE WIRING IN SUITE TO COMMUNICATION PANEL.
3. PROVIDE 120V DUPLEX RECEPTACLE IN COMMUNICATIONS PANEL
4. BASEMENT UNITS DO NOT HAVE EXTERIOR RECEPTACLE, EXTERIOR LIGHT OR EXTERIOR LIGHT CONTROL.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
TYPICAL UNIT 'C' & 'D' POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E7
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E7.dwg

1 UNIT TYPE 'E' POWER
E8 SCALE: 1:30

2 UNIT TYPE 'F' POWER
E8 SCALE: 1:30

3 UNIT TYPE 'E' LIGHTING
E8 1:30

4 UNIT TYPE 'F' LIGHTING
E8 1:30

NOTES

1. SMOKE ALARMS TO BE HARD WIRED INTERCONNECTED IN SUITES AND c/w STROBES ON WASHROOM LIGHT CCT.
2. RUN ALL SUITE PHONE, DATA AND CABLE WIRING IN SUITE TO COMMUNICATION PANEL.
3. PROVIDE 120V DUPLEX RECEPTACLE IN COMMUNICATIONS PANEL
4. BASEMENT UNITS DO NOT HAVE EXTERIOR RECEPTACLE, EXTERIOR LIGHT OR EXTERIOR LIGHT CONTROL.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
TYPICAL UNIT 'E' & 'F' POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E8
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E7.dwg

1 UNIT TYPE 'G' POWER
E9 SCALE: 1:30

2 UNIT TYPE 'H' POWER
E9 SCALE: 1:30

3 UNIT TYPE 'G' LIGHTING
E9 1:30

4 UNIT TYPE 'H' LIGHTING
E9 1:30

NOTES

1. SMOKE ALARMS TO BE HARD WIRED INTERCONNECTED IN SUITES AND c/w STROBES ON WASHROOM LIGHT CCT.
2. RUN ALL SUITE PHONE, DATA AND CABLE WIRING IN SUITE TO COMMUNICATION PANEL.
3. PROVIDE 120V DUPLEX RECEPTACLE IN COMMUNICATIONS PANEL

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
TYPICAL UNIT 'G' & 'H' POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E9
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E7.dwg

1 UNIT TYPE 'I' POWER
E10 SCALE: 1:30

2 UNIT TYPE 'I' LIGHTING
E10 1:30

NOTES

1. SMOKE ALARMS TO BE HARD WIRED INTERCONNECTED IN SUITES AND c/w STROBES ON WASHROOM LIGHT CCT.
2. RUN ALL SUITE PHONE, DATA AND CABLE WIRING IN SUITE TO COMMUNICATION PANEL.
3. PROVIDE 120V DUPLEX RECEPTACLE IN COMMUNICATIONS PANEL

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

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PROJECT
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TITLE
TYPICAL UNIT 'I'
POWER AND LIGHTING

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E10
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E7.dwg

LEGEND OF SYMBOLS

	CEILING MOUNTED LIGHTING FIXTURES.
	WALL MOUNTED LIGHTING FIXTURES.
	CEILING MOUNTED LIGHTING FIXTURES ON NIGHT LIGHTING CIRCUIT.
EXIT	EXIT SIGN WITH DIRECTIONAL ARROWS AS INDICATED.
	REMOTE EMERGENCY LIGHTING FIXTURES, SINGLE OR DOUBLE HEAD.
EM1	EMERGENCY LIGHTING BATTERY UNIT – LETTER DENOTES TYPE.
$	S.P.S.T. LOCAL TOGGLE SWITCH – 120V
$3 $4	THREE OR FOUR–WAY SWITCH.
$A	WALL MOUNTED MANUAL ON/ AUTO OFF OCCUPANCY SENSOR SWITCH.
$T	5 BUTTON TIMER SWITCH OFF,5,10,15,30 MINUTE SETTINGS
	15A/125V DUPLEX "U" GROUND RECEPTACLE WALL MOUNTED
GFI	15A/125V GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE WALL MOUNTED.
	15A/125V "U" GROUND SPLIT–WIRED DUPLEX RECEPTACLE EACH HALF ON SEPARATE CIRCUIT CONTROLLED BY A 15A/2P BREAKER.
	DUPLEX RECEPTACLE AT NON STANDARD HEIGHT OR ABOVE COUNTER AS INDICATED.
T GFI	20A/125V GROUND FAULT INTERRUPTER T–SLOT STYLE DUPLEX RECEPTACLE WALL MOUNTED CSA CONFIGURATION 5–20RA.
	50A/250V STOVE RECEPTACLE
	30A, 208V DRYER RECEPTACLE
	PANELBOARD – RECESSED OR SURFACE MOUNTED
J	DISCONNECT SWITCH
	DIRECT CONNECTION TO EQUIPMENT AS INDICATED.
JB	JUNCTION BOX OR PULL BOX
	TELEPHONE OUTLET – WALL MOUNTED
	DATA OUTLET – WALL MOUNTED
	COMBINED VOICE/DATA OUTLET
TC	TIME CLOCK. 7 – DAY PROGRAMMABLE
C	CONTACTOR
1000W T	ELECTRIC BASEBOARD HEATER C/W INTEGRAL THERMOSTAT SIZE AS SHOWN (208V/1PH) SUPPLIED BY MECHANICAL AND INSTALLED BY ELECTRICAL
2 E2	REFER TO DETAIL 2 ON DRAWING No. E2
CATV	CABLE T.V. OUTLET
AF	INDICATES RECEPTACLE PROTECTED BY ARC FAULT CIRCUIT BREAKER
WP	DENOTES WEATHERPROOF
•	DENOTES OVER COUNTER
AFF	DENOTES MOUNTING HEIGHT ABOVE FINISHED FLOOR
	FAN FORCED ELECTRIC HEATER SUPPLIED BY MECHANICAL AND INSTALLED BY ELECTRICAL
AN	FIRE ALARM SYSTEM PANEL (REMOTE ANNUNCIATOR, AND FIRE ALARM CONTROL PANEL AS INDICATED)
	FIRE ALARM SYSTEM MANUAL PULL STATION.
	FIRE ALARM HORN/STROBES
	FIRE ALARM STROBE
	DOOR HOLD OPEN
M	IN SUITE MINI–HORN
	FIRE ALARM SMOKE DETECTOR CONNECTED TO CENTRAL FIRE ALARM SYSTEM.
	COMBINATION FIXED TEMPERATURE RATE OF RISE HEAT DETECTOR.
	HANDICAPPED DOOR OPERATOR BUTTON
A	120V STAND ALONE SMOKE ALARM/CARBON MONOXIDE ALARM C/W BATTERY BACKUP AND A VISUAL SIGNALING COMPONENT.
	DUCT SMOKE DETECTOR
IC	INTERCOM CALL STATION

EMERGENCY LIGHTING & EXIT SCHEDULE

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL No.
	NEW EMERGENCY LIGHTING BATTERY PACK, 100 WATTS, 12VDC, 10 YEAR C/W TWO 5W MR16 LED HEADS	LUMACELL OR APPROVED EQUAL	RG12S100/2LD9 C/W SHO016BR
	NEW EMERGENCY LIGHTING BATTERY PACK, 100 WATTS, 12VDC, 10 YEAR	LUMACELL OR APPROVED EQUAL	RG12S100 C/W SHO016BR
	SINGLE REMOTE HEAD, 12VDC, 5W, MR16 LED	LUMACELL OR APPROVED EQUAL	MQM1LD9
	DUAL REMOTE HEAD, 12VDC, 5W, MR16 LED	LUMACELL OR APPROVED EQUAL	MQM2LD9
EXIT	NEW EXTRUDED ALUMINUM SELF POWERED PICTOGRAM "RUNNING MAN" EXIT SIGN, SINGLE FACE, WALL OR CEILING MOUNT AS INDICATED, ARROWS AS INDICATED, LED LAMPS FOR 120VAC, CSA–22.2 NO.141–10 LISTED AND CERTIFIED, C/W NICAD BATTERY AND BRUSHED ALUMINUM HOUSING.	LUMACELL OR APPROVED EQUAL	LA1WS

LIGHT FIXTURE SCHEDULE

FIXTURE TYPE	DESCRIPTION	MANUFACTURER	MODEL NO.
A	WALL MOUNTED LED WALL PACK, BRONZE FINISH, 27 W WEATHER PROOF, 4000K 120V WITH FULL CUTOFF DOOR	EATON OR APPROVED EQUIVALENT	LDWP–FC–3B–ED–7040
B	15" DIAMETER, LOW PROFILE CEILING MOUNTED LED FIXTURE WITH WHITE ACRYLIC DIFFUSER AND 1700 LUMENS, 21.3 WATTS, 4000K CCT FOR OPERATION AT 120V.	EATON METALUX	FM15–W–R–40–R
C	11" DIAMETER, LOW PROFILE CEILING MOUNTED LED FIXTURE WITH WHITE ACRYLIC DIFFUSER AND 1100 LUMENS, 13.3 WATTS, 4000K CCT FOR OPERATION AT 120V.	EATON METALUX	FM11–W–R–40–E
D	30" LONG LED VANITY WALL BRACKET C/W ETCHED TRIPLEX GLASS DIFFUSER 39.5W LIGHTING, 2700K, 2925 LUMENS, BRUSHED NICKEL FINISH FOR 120V OPERATION.	WAC	ELEMENTUM WS–7230
F	WALL MOUNTED LED WALL PACK, BRONZE FINISH, 18 W WEATHER PROOF, 4000K 120V	EATON OR APPROVED EQUIVALENT	XTOR2B–W
G	WALL MOUNTED LED WALL PACK, BRONZE FINISH, 26 W WEATHER PROOF, 4000K 120V	EATON OR APPROVED EQUIVALENT	XTOR3B–W
H	12" ROUND SURFACE MOUNTED LED DOWNLIGHT 4000K, 90CRI, 3400 LUMENS, 26.6W, 120V WITH WHITE TRIM	EATON METALUX	SMD12R209SWHE
I	4' LED UTILITY WRAPAROUND FIXTURE 4000K, 80CRI, 3400 LUMENS, 31W, 120V	EATON METALUX	4WP3040R
J	1'X4' LED RECESSED PANEL FIXTURE 4000K, 80CRI, 4200 LUMENS, 40W, 120V	EATON METALUX	RT14SP
K	1294mm LONG LED WALL BRACKET, 4000 LUMENS, 39.5 WATTS, IMPACT MODIFIED LINEAR FACETED REFRACTOR, 3500K, 82 CRI C/W OCCUPANCY SENSOR FOR 50% LEVELS WHEN UNOCCUPIED, 1400 LUMEN BATTERY PACK.	LITHONIA	WL4–40L–EZ1–LP835–N80 –NESPDT7–DIM50–EL14L

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
D.R.MILLEN
100134238
NOV 11/20
PROVINCE OF ONTARIO
ELECTRICAL

NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY THE ENGINEER.

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KIRKLAND ENGINEERING LTD.

PROJECT
MULTI–UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
LEGEND AND SCHEDULES

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E11
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E11.dwg

SPECIFICATION

1. GENERAL CONDITIONS
1. DO ALL WORK IN ACCORDANCE WITH ONTARIO ELECTRICAL SAFETY CODE, CURRENT EDITION, BASED UPON THE CANADIAN ELECTRICAL CODE, PART I, CSA STANDARD C22.1, AND ALL BULLETINS TO DATE.

2. SCOPE OF WORK
2.1 PROVIDE ALL MATERIALS EQUIPMENT AND LABOUR TO PROVIDE A COMPLETE OPERATING INSTALLATION AS DESIGNATED IN THIS SPECIFICATION AND AS INDICATED ON THE DRAWINGS EXCEPT WHERE OTHERWISE NOTED.
2.2 THE SCOPE OF WORK INCLUDES, BUT IS NOT LIMITED TO, SUPPLY AND INSTALLATION OF THE FOLLOWING ITEMS:
2.2.1 POWER DISTRIBUTION.
2.2.2 LIGHTING
2.2.3 EMERGENCY LIGHTING AND EXIT SIGNAGE.
2.2.4 FEEDERS AND OVER CURRENT PROTECTION FOR MECHANICAL EQUIPMENT.
2.2.5 MAIN SERVICE BOARD C/W METERING SYSTEM.
2.2.6 MOTOR STARTERS FOR MECHANICAL EQUIPMENT.
2.2.7 EMPTY RACEWAY SYSTEM FOR TELEPHONE AND CABLE TV SYSTEMS
2.2.8 FIRE ALARM SYSTEM

3. GENERAL
3.1 ALL MATERIALS SHALL BE CSA APPROVED, NEW AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

4. IDENTIFICATION
4.1 WIRES TO BE COLORED AS FOLLOWS: 120V AC NEUTRAL WHITE
12V DC BLUE.
120V AC SWITCHED, BLACK OR RED.
120V AC LINE, BLACK.

4.2 PROVIDE LAMICOID LABELS FOR NEW OR REVISED BREAKER PANELS, SPLITTERS AND DISCONNECTS.
4.3 PROVIDE TYPED CIRCUIT LISTING FOR NEW OR REVISED BREAKER PANELS.

5. EXAMINATION OF SITE
5.1 PRIOR TO SUBMITTING TENDERS, THIS CONTRACTOR SHALL VISIT THE SITE TO DETERMINE ALL EXISTING CONDITIONS.
5.2 ALLOW FOR ALL COSTS ASSOCIATED WITH COMPLETING THE WORK OF DIVISION 16 IN ACCORDANCE WITH EXISTING SITE AND BUILDING CONDITIONS.
5.3 NO ALLOWANCE FOR EXTRA PAYMENTS TO THE CONTRACTOR WILL BE MADE BY THE OWNER FOR FAILING TO VISIT AND EXAMINE SITE CONDITIONS.

6. INSURANCE
6.1 SUB-CONTRACTOR SHALL MAINTAIN SUCH INSURANCE AS WILL FULLY PROTECT BOTH THE OWNER AND THE SUB-CONTRACTOR FROM ANY AND ALL CLAIMS UNDER THE WORKMEN'S COMPENSATION ACT, ALSO ALL INSURANCE AS NOTED WITHIN ARCHITECTURAL GENERAL CONDITIONS.

7. AS BUILT DRAWINGS
7.1 MAINTAIN A SEPARATE SET OF WHITE PRINTS ON THE SITE AND NOTE ALL CHANGES AND DEVIATIONS FROM THE ORIGINAL DESIGN. TWO SETS OF THESE DRAWINGS SHOWING ALL AS-BUILT CONDITIONS SHALL BE FORWARDED TO THE ARCHITECT AT THE COMPLETION OF THIS CONTRACT AND BEFORE APPLYING FOR FINAL PAYMENT.

8. REVISIONS AND EXTRAS
8.1 ADDITIONAL MONEY OVER THE CONTRACT PRICE SHALL NOT BE PAID UNLESS AN APPROVED CHANGE ORDER IS ISSUED BY THE ARCHITECT. CLAIMS FOR EXTRAS SHALL BE SUBMITTED WITH A COMPLETE BREAKDOWN OF MATERIAL, LABOUR , HOURLY RATES, ETC.

9. CLEAN UP
9.1 BE RESPONSIBLE TO KEEP THE AREA CLEAN AT ALL TIMES AND TO PERIODICALLY REMOVE ALL DEBRIS.

10. CUTTING AND PATCHING
10.1 ALL CUTTING AND PATCHING REQUIRED FOR THE WORK OF THIS DIVISION SHALL BE CARRIED OUT BY THIS DIVISION. NO CHASING BLOCK WORK WILL BE ALLOWED. CUTTING AND DRILLING SHALL BE PERFORMED IN A MANNER SO AS TO CAUSE LITTLE DAMAGE. BE RESPONSIBLE AND PAY FOR ANY DAMAGE TO THE BUILDING INCURRED BY WORK OF THIS DIVISION.

11. COORDINATION
11.1 BE RESPONSIBLE TO COORDINATE THE INSTALLATION OF EQUIPMENT, CONDUIT WORK, LIGHTING FIXTURES, ETC. WITH OTHER TRADES AND THE OWNER'S REPRESENTATIVE PRIOR TO THE ACTUAL INSTALLATION.

12. RESPONSIBILITY
12.1 BE RESPONSIBLE FOR ELECTRICAL WORK UNTIL THE COMPLETION AND FINAL ACCEPTANCE, FOR REPLACING ANY ITEM THAT MAY BE DEFECTIVE, DAMAGED, LOST OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER OR DELAY TO THE COMPLETION OF THE PROJECT.

13. WIRING MATERIALS AND METHODS
13.1 USE MATERIALS AND METHODS APPROVED BY ONTARIO ELECTRICAL CODE FOR USE IN NON-COMBUSTIBLE CONSTRUCTION.
13.2 ALL BUILDING WIRE SHALL BE COPPER TYPE RW90-XLPE WHERE APPROPRIATE EXCEPT WHERE OTHERWISE NOTED.
13.3 USE MINIMUM OF #12 AWG FOR BRANCH CIRCUIT WIRING.
13.4 ARMORED CABLE TYPE AC90 (BX) WITH INTERLOCKING ARMOUR FABRICATED FROM ALUMINUM STRIP C/W COPPER INSULATED CONDUCTORS, SIZE AS INDICATED, TO BE USED IN CONCEALED WALL AND CEILING CAVITIES.

14. SHOP DRAWINGS AND PRODUCT DATA
14.1 'SHOP DRAWINGS' MEANS DRAWINGS, DIAGRAMS, ILLUSTRATIONS, SCHEDULES, PERFORMANCE, CHARTS, BROCHURES, AND OTHER DATA WHICH ARE TO BE PROVIDED BY CONTRACTOR TO ILLUSTRATE DETAILS OF A PORTION OF THE WORK.
14.2 INDICATE MATERIALS METHODS OF CONSTRUCTION AND ATTACHMENT OR ANCHORAGE, NECESSARY FOR COMPLETION OF WORK.
14.3 ADJUSTMENTS MADE ON SHOP DRAWINGS BY OWNER OR ENGINEER ARE NOT INTENDED TO CHANGE CONTRACT PRICE.
14.4 MAKE CHANGES IN SHOP DRAWINGS AS OWNER OR ENGINEER MAY REQUIRE.
14.5 SUBMIT 6 HARD COPIES, OR 1 HIGH QUALITY ELECTRONIC COPY OF PRODUCT DATA SHEETS OR BROCHURES FOR LIGHTING FIXTURES, EMERGENCY LIGHTING, EXIT SIGNS, MAIN SERVICE BOARD, MOTOR STARTERS, FIRE ALARM EQUIPMENT AND POWER DISTRIBUTION EQUIPMENT.
14.6 PROVIDE 2 MAINTENANCE MANUALS COMPLETE WITH WARRANTEE, CERTIFICATE OF INSPECTION BY ESA, FIRE ALARM VERIFICATION REPORT, AND COPY OF ALL PRODUCT LITERATURE AND MAINTENANCE INFORMATION.

15. SYSTEMS DEMONSTRATION
15.1 PRIOR TO FINAL INSPECTION DEMONSTRATE OPERATION OF EACH SYSTEM TO OWNER AND ENGINEER.
15.2 INSTRUCT PERSONNEL IN OPERATION ADJUSTMENT AND MAINTENANCE OF EQUIPMENT AND SYSTEMS, USING PROVIDED OPERATION AND MAINTENANCE DATA AS BASIS FOR INSTRUCTION.

16. PERMITS, FEES AND INSPECTION
16.1 SUBMIT TO ELECTRICAL SAFETY AUTHORITY NECESSARY NUMBER OF DRAWINGS AND SPECIFICATIONS FOR EXAMINATION AND APPROVAL PRIOR TO COMMENCEMENT OF WORK.
16.2 PAY ASSOCIATED FEES, INCLUDING EQUIPMENT APPROVAL INSPECTION FEE.
16.3 OWNER WILL PROVIDE DRAWINGS AND SPECIFICATIONS REQUIRED BY ELECTRICAL SAFETY AUTHORITY AT NO COST.
16.4 NOTIFY ENGINEER OF CHANGES REQUIRED BY ELECTRICAL SAFETY AUTHORITY PRIOR TO MAKING CHANGES.
16.5 FURNISH CERTIFICATES OF ACCEPTANCE FROM ELECTRICAL SAFETY AUTHORITY AND AUTHORITIES HAVING JURISDICTION OF COMPLETION OF WORK TO ENGINEER.

17. THIRD PARTY TESTING
17.1 THE CONTRACTOR IS RESPONSIBLE TO PROVIDE THIRD PARTY TESTING OF THE LIGHTING SYSTEM IN ACCORDANCE WITH ASHRAE STANDARD 90.1-2010, SECTION 9.4.4 FUNCTIONAL TESTING. THE PARTY RESPONSIBLE FOR THE FUNCTIONAL TESTING SHALL NOT BE DIRECTLY INVOLVED IN EITHER THE DESIGN OR CONSTRUCTION OF THE PROJECT AND SHALL PROVIDE DOCUMENTATION CERTIFYING THAT THE INSTALLED LIGHTING CONTROLS MEET OR EXCEED ALL DOCUMENTED PERFORMANCE CRITERIA.
17.2 LIGHTING CONTROL DEVICES AND CONTROL SYSTEMS SHALL BE TESTED TO ENSURE THAT CONTROL HARDWARE AND SOFTWARE ARE CALIBRATED, ADJUSTED, PROGRAMMED AND IN PROPER WORKING CONDITION IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.
17.3 WHEN SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULE CONTROLS OR PHOTOSENSORS ARE INSTALLED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
17.2.1 CONFIRM THAT THE PLACEMENT, SENSITIVITY AND TIME-OUT ADJUSTMENTS FOR OCCUPANT SENSORS YIELD ACCEPTABLE PERFORMANCE, LIGHTS TURN OFF ONLY AFTER SPACE IS VACATED. WHERE AN AUTO-ON MODE HAS BEEN SELECTED, LIGHTS DO NOT TURN ON UNLESS SPACE IS OCCUPIED.
17.2.2 CONFIRM THAT THE TIME SWITCHES AND PROGRAMMABLE SCHEDULE CONTROLS ARE PROGRAMMED CORRECTLY TO TURN THE LIGHTS OFF.
17.2.3 WHERE DAYLIGHT HARVESTING CAPABILITY HAS BEEN INSTALLED, CONFIRM THAT PHOTOSENSOR CONTROLS REDUCE ELECTRIC LIGHT LEVELS BASED ON THE AMOUNT OF USABLE DAYLIGHT IN THE SPACE AS SPECIFIED.

18. WARRANTY
18.1 AFTER THE WORK IS COMPLETED, GIVE A WRITTEN GUARANTEE FOR ONE YEAR COVERING WORKMANSHIP AND MATERIALS. REPAIR OR REPLACE, WITHOUT EXPENSE TO THE OWNER, ANY DEFECTS DUE TO WORKMANSHIP OR MATERIALS WHICH IN THE OWNER'S OPINION, ARE NOT DUE TO MISUSE OR NEGLECT.

19. CONDUITS AND RACEWAYS
19.1 RIGID GALVANIZED STEEL CONDUIT TO BE USED WHERE SUBJECT TO MECHANICAL DAMAGE.
19.2 ELECTRICAL METALLIC TUBING (EMT) WITH COUPLINGS TO BE USED EXCEPT WHERE EMBEDDED IN CONCRETE OR SUBJECT TO UNDUE MOISTURE OR MECHANICAL DAMAGE.
19.3 RIGID PVC CONDUIT WHERE EMBEDDED IN CONCRETE OR BELOW GRADE.
19.4 FLEXIBLE ALUMINUM CONDUIT WITH WEATHERPROOF COVERING TO BE USED WHERE SUBJECT TO VIBRATION OR STRAIN RELIEF.
19.5 CONDUITS IN FINISHED AREA SHALL BE CONCEALED.
19.6 CONDUITS SHALL BE MINIMUM 1/2".

20. INSTALLATION OF OUTLETS
20.1 THE DRAWINGS SHOW APPROXIMATE LOCATION OF OUTLETS, EXACT LOCATION SHALL BE COORDINATED ON THE SITE WITH OTHER TRADES, ARCHITECTURAL DRAWINGS, ETC. OUTLETS INACCURATELY LOCATED SHALL BE READJUSTED OR RELOCATED AT THE CONTRACTOR'S EXPENSE. UNLESS OTHERWISE NOTED ON THE DRAWING LOCATE OUTLETS AS FOLLOWS:
20.1.1 RECEPTACLES, TELEPHONE AND DATA OUTLETS (15.7") 400mm ABOVE FINISHED FLOOR.
20.1.2 OUTLETS OVER COUNTER (45") 1143mm ABOVE FLOOR OR CO-ORDINATION.
20.1.3 OUTLETS IN MECHANICAL, ELECTRICAL AND TELEPHONE ROOMS (48") 1220mm ABOVE FLOOR.
20.1.4 LIGHT SWITCHES NOT LESS THAN (35.4") 900mm AND NOT MORE THAN (43") 1100mm ABOVE FLOOR.
20.2 RACEWAYS SHALL BE EMT UNLESS OTHERWISE NOTED.
20.3 SUPPORT OUTLET BOXES, JUNCTION BOXES, CONDUIT AND THE LIKE.

21. RECEPTACLES
21.1 WHITE DUPLEX RECEPTACLES CSA TYPE 5-15R, 125V OR CSA 5-20A 20A, T-SLOT, U GROUND.
21.2 WHITE COVER PLATES.
21.3 IF RECEPTACLE IS SURFACE MOUNTED USE CAST BOX AND STAINLESS STEEL COVER PLATE.

22. EXCAVATION, BACKFILL AND CONCRETE WORK
22.1 WHERE REQUIRED FOR UNDERGROUND SERVICE (POWER OR TELEPHONE) THE EXCAVATION, BACKFILL AND CONCRETE WORK SHALL BE BY THE GENERAL CONTRACTOR. THE ELECTRICAL TRADE SHALL SUPERVISE THE PROCESSING OF CONCRETE AROUND DUCT BANK, TO ENSURE THEY ARE FREE FROM VOIDS SHALL ADVISE THE GENERAL CONTRACTOR OF THIS WORK FOR INCLUSION IN THE GENERAL CONTRACTOR'S TENDER PRICE.

23. MECHANICAL EQUIPMENT
23.1 PROVIDE ALL CONDUIT, WIRING, SPLITTERS, OUTLET BOXES AND DISCONNECT SWITCHES AS SHOWN. ALL MOTORS, STARTERS AND CONTROL WIRING PROVIDED BY MECHANICAL DIVISION UNLESS OTHERWISE NOTED. INSTALL ALL STARTERS AND WIRE COMPLETE. ALL EXTERIOR DISCONNECTS TO BE WEATHERPROOF.
23.2 THE ELECTRICAL CONTRACTOR SHALL VERIFY ALL MOTOR CONNECTION FOR PROPER PHASE ROTATION, WHERE APPLICABLE.

24. SWITCHES
24.1 20A, 120V, SINGLE POLE SWITCHES
24.2 WHITE TOGGLE
24.3 WHITE COVER PLATES.
24.4 IF SWITCH IS SURFACE MOUNTED USE CAST BOX.

25. EQUIPMENT FOR EMERGENCY LIGHTING
25.1 SUPPLY VOLTAGE: 120V AC
25.2 OUTPUT VOLTAGE: 12V DC.
25.3 OPERATIONS TIME: 30 MINUTES MINIMUM
25.4 CABINET: SUITABLE FOR DIRECT OR SHELF MOUNTING TO WALL C/W KNOCKOUTS FOR CONDUIT, REMOVABLE OR HINGED FRONT PANEL FOR EASY ACCESS TO BATTERIES.

26. TELEPHONE CABLE T.V./COMPUTER RACEWAY SYSTEM. (ETC.)
26.1 PROVIDE EMPTY CONDUIT SYSTEMS FOR TELEPHONE AS SHOWN ON THE DRAWINGS.
26.2 WHERE CONDUITS NOT SHOWN ON DRAWINGS PROVIDE CONDUITS FROM OUTLET BOX TO ACCESSIBLE CEILING SPACE.
26.3 THIS CONTRACTOR SHALL PROVIDE AND/OR COORDINATE THE SIZE, TYPE AND LOCATION OF THE INCOMING TELEPHONE CONDUIT WITH THE TELEPHONE COMPANY OR THE BUILDING OWNER.
26.4 RACEWAYS (OTHER THAN INCOMING) SHALL BE EMT.
26.5 A MAXIMUM OF 2 LONG RADIUS 90 DEGREE BENDS SHALL BE PROVIDED BETWEEN PULL BOXES.
26.6 A WIRE SHALL BE PULLED AND LEFT IN EACH CONDUIT RUN TO FACILITATOR THE FUTURE PULLING OF WIRES.
26.7 PROVIDE NECESSARY BOXES AND ASSOCIATED COVER PLATES AS REQUIRED FOR THE ABOVE SYSTEMS.

27. TEMPORARY SERVICES
27.1 IN CASES OF NEW CONSTRUCTION, ALL TEMPORARY ELECTRICAL SERVICES, AS REQUIRED, SHALL BE PROVIDED BY THE GENERAL CONTRACTOR AS SPECIFIED IN THE ARCHITECTURAL/STRUCTURAL CONTRACT DOCUMENTATION.
27.2 PROVIDE TEMPORARY GENERAL LIGHTING THROUGHOUT CONSTRUCTION SITE. LIGHTING STRINGS WITH LAMPS AT SUITABLE CENTERS TO CONFORM TO CONSTRUCTION STANDARDS AND ALL AUTHORITIES HAVING JURISDICTION.
27.3 PROVIDE TEMPORARY GENERAL POWER SUPPLIES WITH RECEPTACLES FOR ALL TRADES AS DIRECTED BY THE GENERAL CONTRACTOR.
27.4 MAINTAIN THE TEMPORARY FACILITIES IN GOOD REPAIR AND SAFE WORKING CONDITION THROUGHOUT THE DURATION OF CONSTRUCTION PROJECT.
27.5 REMOVE AT THE END OF PROJECT THE ABOVE NOTED TEMPORARY SYSTEM.

PART 1 – GENERAL:

1.1 APPLICABLE PROVISIONS OF THE GENERAL CONDITIONS APPLY TO THIS SECTION.

1.2 THE TELEPHONE ACCESS CONTROL SYSTEM SPECIFIED IS THAT OF MIRCOM TECHNOLOGIES LTD. CATALOGUE AND MODEL NUMBERS ARE INTENDED TO ESTABLISH THE TYPE AND QUALITY OF EQUIPMENT AND SYSTEM DESIGN, AS WELL AS EXACT OPERATING FEATURES REQUIRED.

PART 2 – SCOPE:

2.1 FURNISH AND INSTALL PER PLANS AND SPECIFICATIONS, A COMPLETE TELEPHONE ACCESS CONTROL SYSTEM, WHICH IS CAPABLE OF CONTROLLING ACCESS INTO THE COMPLEX BY USING THE TELEPHONE ACCESS SYSTEM TO COMMUNICATE WITH THE RESIDENTS IN THE BUILDING. THE SYSTEM SHALL HANDLE THE TOTAL NUMBER OF RESIDENTS IN THE BUILDING, AND TO HAVE THE CAPABILITY OF ADDING FUTURE RESIDENTS TO THE SYSTEM WITHOUT CHANGING ANY OF THE EQUIPMENT THAT IS INSTALLED.
2.2 THE TELEPHONE ACCESS SYSTEM SHALL USE THE TELEPHONES THAT ARE INSTALLED IN EACH RESIDENCE, AND SHALL REQUIRE NO EXTERNAL TELEPHONE LINE TO ACCESS TELEPHONES. THE SYSTEM SHALL BE A MIRCOM TECHNOLOGIES LIMITED MUS-2036K NSL (NO SUBSCRIBER LINE) ACCESS SYSTEM, WHEREAS THE OWNER DOES NOT PAY FOR ANY TELEPHONE LINES TO ACCESS THE INDIVIDUAL RESIDENCE.
2.3 SYSTEM SHALL CONSIST OF A LOBBY ENTRANCE PANEL THAT CONSISTS OF A TELEPHONE ACCESS CONTROLLER, AND THE REQUIRED NUMBER OF DIRECTORIES.

2.4 THE MASTER NSL RELAY CABINET SHALL BE LOCATED NEXT TO THE MAIN TELEPHONE CABINET IN THE MECHANICAL ELECTRICAL ROOM 009.

2.5 PROVIDE WIRING AND POWER TRANSFORMERS AS PER DETAIL 2 ON THIS SHEET.

PART 3 – EQUIPMENT:

3.1 THE LOBBY ENTRANCE PANEL SHALL INCLUDE SUFFICIENT DIRECTORY SPACE FOR ALL RESIDENT NAMES AND CALLING CODES. A KEY LOCKED FRAME CONSTRUCTION SHALL INHIBIT UNAUTHORIZED TAMPERING OF THE ENTRY PANEL, BUT ALLOW EASY PERIODIC MAINTENANCE. A MINIMUM 3/16" THICKNESS LEXAN MATERIAL SHALL BE USED ON THE DIRECTORY PANEL.

3.2 THE TELEPHONE ACCESS SYSTEM SHALL HAVE A HANDSET OPERATION.

3.3 WHERE APPLICABLE, THE TELEPHONE ACCESS SYSTEM SHALL HAVE A COMPLETE DIRECTORY PANEL THAT IS CAPABLE OF HANDLING THE NUMBER OF RESIDENTS IN THE BUILDING, TO DESIGNATE THE CODE TO BE ENTERED BY THE VISITOR TO ENABLE COMMUNICATION TO THE RESIDENT BY TELEPHONE.
3.4 THE MAIN CONTROLLING ACCESS SYSTEM INTO THE BUILDING OR COMPLEX SHALL BE CONTROLLED BY THE MUS-2036K TELEPHONE ACCESS KIT. THE SYSTEM IS CONSTRUCTED OF A HEAVY GAUGE STAINLESS STEEL ENCLOSURE AND CAN BE SURFACE MOUNTED.

3.5 THE DISPLAY IS OF A SUPER TWIST EXTENDED TEMPERATURE RANGE WHICH IS BACK-LIT.

3.6 THE SYSTEM USES TELEPHONE LINE RELAY CARDS FOR COMMUNICATION WHICH ALLOWS FOR DUPLEX COMMUNICATION BETWEEN VISITORS AND RESIDENTS. RESIDENTS CAN HAVE A UNIQUE 1 TO 4 DIGIT CODE.
3.7 THE SYSTEM IS TOTALLY PROGRAMMABLE AT ITS INTENDED INSTALLATION VIA AN INTEGRATED METAL KEYPAD.

3.8 THE SYSTEM CAN DETECT WHEN OFF LINE AND HANG UP ACCORDINGLY.

3.9 THE COMBINATION OF PULSE OR TOUCH TONE PHONES CAN BE USED ON THE SYSTEM.

3.10 THE RESIDENT CAN USE THEIR OWN PHONE TO ESTABLISH COMMUNICATION WITH THE VISITOR. IF THE RESIDENT DESIRES THE VISITOR TO ENTER, THEY CAN DIAL "9" WHICH CAUSES THE ENTRANCE DOOR TO OPEN FOR A PREDETERMINED TIME BETWEEN 1 – 99 SECONDS. IF ENTRY IS NOT DESIRED, THEN ACCESS CAN BE REFUSED BY SIMPLY HANGING UP.

3.11 THE SYSTEM IS INDUSTRY CANADA/F.C.C. APPROVED.

3.12 THE SYSTEM IS SUPPLIED BY MIRCOM TECHNOLOGIES LTD., COMPLETE WITH THE REQUIRED POWER INPUT TRANSFORMER AND A CONTROLLER FOR 60 RESIDENTS.

3.13 THE TERMINATION BETWEEN THE SYSTEM AND THE PHONE BLOCK (BIX) HAVE TO BE DONE BE A SPECIALIZED COMPANY.

3.14 PROVIDED ALL NECESSARY STAINLESS STEEL PLATES ON TO CONCEAL ANY "HES".

3.15 PROVIDED VERIFICATION AND TEST FOR THE TELEPHONE ACCESS.

3.16 PROVIDED VERIFICATION AND TEST FIRE ALARM SYSTEM AS PER CAN/ULC-S537M01.

4.0 MODEL NUMBERS AND DESCRIPTIONS

4.1 LOBBY PANEL

MUS-2036K SELF CONTAINED, HANDSET UNIT C/W 36 NAME PAPER DIRECTORY, 2 X 20 LCD DISPLAY, KEYPAD, BACKBOX,TELEPHONE CONTROLLER FOR 60 RESIDENTS AND TWO PS-4 TRANSFORMER.
4.2 NSL COMPONENTS

2008M MASTER NSL RELAY CABINET. SUPPORTS EIGHT 2012 TELEPHONE LINE RELAY CARDS.
2012 12 UNIT TELEPHONE LINE RELAY CARD
9106 6 FT. RELAY CABLE (ONE REQUIRED PER 2012 TELEPHONE LINE RELAY CARD)

4.3 ACCESSORIES

USFT-2000 FLUSH TRIM RING

5.0 DIMENSIONS

5.1 MUS-3140H

15 11/16"H X 10 1/16"W X 3 1/2"D

USFT-2000

16 7/8"H X 10 1/4"W X 3 7/16"D

1 / E12 NON SUBSCRIBER DOOR ENTRY SYSTEM SPECIFICATIONS
N.T.S.

28. FIRE ALARM
28.1 PROVIDE ALL MATERIAL EQUIPMENT AND LABOUR REQUIRED FOR A COMPLETE AND ADEQUATE INSTALLATION OF THE FIRE ALARM SYSTEM AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN. MATCH EXISTING SYSTEM.
28.2 SHOP DRAWINGS FOR THE COMPLETE SYSTEM, INCLUDING LAYOUT OF EQUIPMENT, ZONING AND COMPLETE WIRING DIAGRAMS FOR CONNECTIONS AND DEVICES, AND METHODS OR OPERATION SHALL BE SUBMITTED.
28.3 ALL COMPONENTS OF THE SYSTEM, ITS INSTALLATION AND THE SYSTEM AS A WHOLE SHALL BE ULC LISTED AND LABELED AND SHALL MEET THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION OF THE APPLICATION. THE ENTIRE INSTALLATION SHALL BE CARRIED OUT IN ACCORDANCE WITH CAN. ULC S524 AND SHALL BE VERIFIED IN ACCORDANCE WITH CAN. ULC S537.
28.4 BREAKER FOR FIRE ALARM CONTROL PANEL AND BOOSTER PANELS TO BE LOCKABLE AND CLEARLY IDENTIFIED BY PAINTING IT RED.
28.5 PROVIDE SEPARATE CIRCUITS FROM CONTROL PANEL TO EACH ZONE OF INITIATING DEVICES.
28.6 SINGLE STAGE OPERATION.
28.7 ACTUATION OF ANY SINGLE OPERATION DEVICE TO INITIATE BUILDING EVACUATION ALARM DEVICES TO OPERATE IN TEMPORAL CODE. CONFIRM WITH LOCAL AUTHORITY.
28.8 ZONE OF ALARM DEVICE TO BE INDICATED ON CONTROL PANEL.
28.9 POWER SUPPLY IS 120VAC, 60Hz INPUT, 24VDC OUTPUT FROM RECTIFIER TO OPERATE ALARM AND SIGNAL CIRCUITS WITH STANDBY POWER GELL CELL BATTERIES. MINIMUM EXPECTED LIFE OF FOUR YEARS, SIZED IN ACCORDANCE WITH NBC.
28.10 PROVIDE FIRE ALARM SYSTEM RISER DIAGRAM IN CONTROL PANEL.
28.11 ARRANGE AND PAY FOR ON-SITE LECTURE AND DEMONSTRATION BY FIRE ALARM EQUIPMENT MANUFACTURER TO TRAIN OPERATIONAL PERSONNEL IN USE AND MAINTENANCE OF FIRE ALARM SYSTEM.
28.12 COORDINATE WITH MANUFACTURER TO PROVIDE STROBE LIGHT SYNCHRONIZATION MODULES AS REQUIRED.
28.13 PROVIDE SUFFICIENT OUTPUT MODULES IN FIRE ALARM CONTROL PANEL.
28.14 PROVIDE OUTPUT POWER BOOSTERS AS REQUIRED. COORDINATE WITH MANUFACTURER.
28.15 ALL FIRE ALARM JUNCTION BOXES SHALL BE PAINTED RED.

MIRCOM NSL SINGLE ENTRANCE SYSTEM WIRING APPLICATION

NOTES

1. COORDINATE ALL WIRING REQUIREMENTS WITH MIRCOM.
2. ALL TRANSFORMERS MUST BE INSTALLED OUTSIDE THE ENCLOSURE.
3. EQUIPMENT SHOWN IS FOR "SUBSCRIBER" OPTION. CONTRACTOR TO PROVIDE SEPARATE PRICING FOR THIS OPTION AS WELL AS "NON-SUBSCIBER" SYSTEM SHOWN IN DETAIL 3.
4. MINIMUM SYSTEM CAPACITY IS TO ACCOMMODATE UP TO 24 SUITES.

2 / E12 NON SUBSCRIBER DOOR ENTRY SYSTEM WIRING DIAGRAM
SCALE: N.T.S.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
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100134238
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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

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SPECIFICATIONS & DETAILS

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APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E12.dwg

SCHEDULE OF FIRE ALARM ANNUNCIATOR ZONES

F/A ZONE	SPRINKLER ZONE	TROUBLE ZONE	DESCRIPTION
1			LOWER FLOOR
2			FIRST FLOOR
3			SECOND FLOOR
4			EAST STAIRWELL
5			WEST STAIRWELL
6			DUCT DETECTOR MUA

NOTES:

1. SUPPLY NEW FIRE ALARM CONTROL PANEL FROM NEW 15 AMP, 1P LOCK-ON BREAKER IN HOUSE PANEL
2. RISER DIAGRAM IS NOT TO SCALE.
3. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF DEVICES. QUANTITY OF LINE ISOLATION MODULES IS APPROXIMATE ONLY. PROVIDE QUANTITY REQUIRED BY CODE FOR ACTUAL INSTALLATION ROUTING USED.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

REVISIONS

Kirkland Engineering Ltd BCIN: 28857

REGISTERED PROFESSIONAL ENGINEER
D.R.MILLEN
100134238
NOV 11/20
PROVINCE OF ONTARIO
ELECTRICAL

NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY THE ENGINEER.

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PROJECT
MULTI-UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET, PORT HOPE, ONTARIO

TITLE
FA RISER DIAGRAM

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E13
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E13.dwg

NOTES

1. CONTRACTOR IS TO PROVIDE A THREE PAIR TELEPHONE WIRE IN CONDUIT FOR EACH SUITE TO BELL STANDARDS.

2. IN EACH SUITE UNDER THE SUITE ELECTRICAL PANEL CONTRACTOR SHALL PROVIDE A 14.5 x 30 x 3.5 INCH DEEP NON–METALLIC CENTRAL PANEL BOX FOR TERMINATION OF THE ¾" CONDUITS AND WIRING FOR TELEPHONE AND CABLE WIRING. COORDINATE BOX TYPE WITH BELL CANADA. THE WIRING WITHIN THE SUITES AFTER THE CENTRAL PANEL BOX NEED NOT BE IN CONDUIT.

3. CONDUIT SHALL BE SMOOTH (NON RIBBED) AND THE PATH SHALL HAVE A MAXIMUM OF THREE 90 DEGREE BENDS AND A TOTAL LENGTH OF NOT MORE THAN 30 METERS. FOR RUNS WITH MORE THAN THREE 90 DEGREE BENDS OR LONGER THAN 30 METERS AND INTERMEDIATE PULL BOX IS REQUIRED.

4. CONTRACTOR TO SUPPLY THREE PAIR TELEPHONE WIRE IN CONDUIT FOR AMENITY ROOM, LOBBY, VESTIBULE + OFFICE.

1 E14 TELEPHONE SYSTEM RISER DIAGRAM
SCALE: N.T.S.

NOTES

1. CONTRACTOR IS TO PROVIDE CONDUIT SYSTEM AS SHOWN TO CABLE PROVIDER STANDARDS.

2. IN EACH SUITE UNDER THE SUITE ELECTRICAL PANEL CONTRACTOR SHALL PROVIDE A 14.5 x 30 x 3.5 INCH DEEP NON–METALLIC CENTRAL PANEL BOX FOR TERMINATION OF THE ¾" CONDUITS AND WIRING FOR TELEPHONE AND CABLE WIRING. COORDINATE BOX TYPE WITH BELL CANADA. THE WIRING WITHIN THE SUITES AFTER THE CENTRAL PANEL BOX NEED NOT BE IN CONDUIT.

3. CONDUIT SHALL BE SMOOTH (NON RIBBED) AND THE PATH SHALL HAVE A MAXIMUM OF THREE 90 DEGREE BENDS AND A TOTAL LENGTH OF NOT MORE THAN 30 METERS. FOR RUNS WITH MORE THAN THREE 90 DEGREE BENDS OR LONGER THAN 30 METERS AND INTERMEDIATE PULL BOX IS REQUIRED.

4. CONTRACTOR TO SUPPLY CONDUIT AS PER CABLE PROVIDER STANDARDS TO LOBBY.

2 E14 CABLE SYSTEM RISER DIAGRAM
SCALE: N.T.S.

3 E14 EXTERIOR LIGHTING CONTROL DETAILS
SCALE: N.T.S.

NO.	DESCRIPTION	DATE	BY
0	ISSUED FOR PERMIT AND TENDER	20/11/11	DRM

REVISIONS

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D.R.MILLEN
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PROJECT
MULTI–UNIT RESIDENTIAL RECONSTRUCTION

48 WELLINGTON STREET,
PORT HOPE, ONTARIO

TITLE
TELEPHONE & CABLE RISERS & DETAILS

DESIGN	DRM	SCALE	AS NOTED
DRAWN	IAB	DWG NO.	E14
CHECKED	DRM		
APPROVED	DRM		
PROJECT	6709		

CADD FILE NO. 6709E14.dwg