ELECTRICAL ABBREVIATIONS

A	AMPERE	HP	HORSEPOWER
AC	ABOVE COUNTER	HZ	HERTZ
AFF	ABOVE FINISHED FLOOR	IC	INTERRUPTING CAPACITY
AHJ	AUTH. HAVING JURISDICTION	ICE	ICE MACHINE
BLDG	BUILDING	INCAND	INCANDESCENT
C	CONDUIT	JB	JUNCTION BOX
CB	CIRCUIT BREAKER	KVA	KILOVOLT AMPERE
CKT	CIRCUIT	KW	KILOWATT
CLG	CEILING	LTG	LIGHTING
CLOS	CLOSET	MAX	MAXIMUM
CO	CONDUIT ONLY	MCB	MAIN CIRCUIT BREAKER
COMM	COMMUNICATION	MIN	MINIMUM
CONT	CONTINUATION	MLO	MAIN LUGS ONLY
CORR	CORRIDOR	MTD	MOUNTED
CP	CONDENSATE PUMP	MTG	MOUNTING
CU	COPPER	MW	MICROWAVE
DED	DEDICATED	N	NEW DEVICE
DF	DRINKING FOUNTAIN	NEC	NATIONAL ELECTRICAL CODE
DISC	DISCONNECT	NTS	NOT TO SCALE
DN	DOWN	OC	ON CENTER
DW	DISHWASHER	P	POLE
DWG	DRAWING	PB	PULL BOX
E	EXISTING DEVICE	ø	PHASE
EC	ELECTRICAL CONTRACTOR	PNL	PANEL
ELEC	ELECTRICAL	PWR	POWER
ELEV	ELEVATOR	R	RELOCATED DEVICE
EMERG	EMERGENCY	RECEPT	RECEPTACLE
EP	ELECTRICAL PANEL	RM	ROOM
EQPT	EQUIPMENT	SECT	SECTION
ER	EXISTING TO BE RELOCATED	SW	SWITCH
EXIST	EXISTING	SPKLR	SPRINKLER
FA	FIRE ALARM	TELE	TELEPHONE
FBO	FURNISHED BY OTHERS	TYP	TYPICAL
FCO	FUSED CUTOUT	UC	UNDERCOUNTER
FDR	FEEDER	UON	UNLESS OTHERWISE NOTED
FL	FLOOR	V	VOLT OR VOLTAGE
FLUOR	FLUORESCENT	XFORMER	TRANSFORMER
G, GRD	GROUND	W	WATT
GC	GENERAL CONTRACTOR	WM	WIREMOLD
GFI	GROUND FAULT INTERRUPTING	WP	WATER PROOF

ELECTRICAL GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE (NEC), NATIONAL FIRE CODE (NFPA), STATE BUILDING CODES, CODES AND REQUIREMENTS OF THE LOCAL CITY, AND OWNERS REQUIREMENTS.
2. ALL CONDUITS AND EQUIPMENT SHALL BE INSTALLED AND GROUND IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE APPLICABLE LOCAL AND NATIONAL CODES.
3. ALL MATERIAL SHALL BE UNDERWRITERS' LABORATORIES LISTED FOR ITS APPLICATION WHERE SUCH LISTING IS APPLICABLE.
4. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS. MAINTAIN HEADROOM AND SPACE CONDITIONS.
5. SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK). NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT HORIZONTAL RUNS OF METALLIC RACEWAYS NOT MORE THAN 10 FT APART. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
6. PASS RACEWAYS OVER WATER, STEAM OR OTHER PIPING WHEN PULL BOXES ARE NOT REQUIRED. NO RACEWAY WITHIN 3 INCHES OF STEAM OR HOT WATER PIPES OR APPLIANCES (EXCEPT PIPE CROSSINGS WHERE RACEWAY SHALL BE AT LEAST 1 INCH FROM PIPE COVERS).
7. VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE.
8. NO CONDUIT SMALLER THAN 3/4", NOR WIRE SIZE SMALLER THAN NO. 12 A.W.G. FOR POWER SHALL BE USED UNLESS OTHERWISE NOTED.
9. ALL 120V BRANCH CIRCUITS GREATER THAN 100 LINEAR FEET SHALL BE #10AWG MIN.
10. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
11. SET BOXES SQUARE AND TRUE WITH BUILDING FINISH. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRONS.
12. PROVIDE ELECTRICAL OUTLET PLATE GASKET SEALS AT RECEPTACLES, SWITCHES, AND OTHER ELECTRICAL BOXES ON EXTERIOR WALLS AND ON INTERIOR WALLS BETWEEN CONDITIONED AND NON-CONDITIONED SPACES.
13. COVERS OF JUNCTION AND PULLBOXES SHALL BE READILY ACCESSIBLE.
14. PROVIDE PULLBOXES WHERE INDICATED, WHERE REQUIRED BY CODE AND WHEREVER NECESSARY TO FACILITATE PULLING OF WIRE. COORDINATE PULLBOX LOCATIONS WITH OTHER TRADES.
15. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF NORMAL AND EMERGENCY CIRCUITS. COMMON BOXES: PROVIDE BARRIERS BETWEEN EMERGENCY AND NORMAL WIRING.
16. SUPPORT PANEL, JUNCTION AND PULLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
17. INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS: ONLY WITH WRITTEN CONSENT OF OWNER. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES. ALARM AND EMERGENCY SYSTEMS ARE NOT TO BE INTERRUPTED.
18. FIRESTOPPING SHALL BE INSTALLED WHENEVER WIRING OR RACEWAYS CROSS FIRE RATED CONSTRUCTION. PUTTY PADS SHALL BE INSTALLED AT RECEPTACLES IN FIRE RATED WALLS AS REQUIRED BY CODE.
19. ALL CIRCUIT NUMBERS INDICATED ON PLANS ARE FOR CLARITY ONLY, FIELD CONDITIONS PREVAIL.
20. ALL TERMINATION LUGS SHALL BE SIZED ACCORDINGLY TO ACCOMMODATE INDICATED CONDUCTORS.
21. CONTRACTOR SHALL TEST AND BALANCE ELECTRICAL PANELS ASSOCIATED WITH NEW WORK TO A MAXIMUM IMBALANCE OF 10%.
22. ALL CUTTING AND PATCHING SHALL BE FULLY COORDINATED WITH THE GENERAL CONTRACTOR.
23. PANEL DIRECTORIES SHALL BE UPDATED TO CONFORM TO WORK COMPLETED UNDER THIS CONTRACT. UPDATED DIRECTORIES TO BE TYPE-WRITTEN.
24. UPON COMPLETION OF THE WORK, THREE MARKED UP SETS OF "AS-BUILT" DRAWINGS SHALL BE SUBMITTED TO THE OWNER.
25. ELECTRICAL CONTRACTOR SHALL VISIT AND EXAMINE CAREFULLY THE EXISTING AREAS AFFECTED BY THIS WORK TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND WITH DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK PRIOR TO SUBMISSION OF A PROPOSAL.
26. THE CONTRACTOR, BEFORE INSTALLING ANY OF THE WORK, SHALL SEE THAT IT DOES NOT INTERFERE WITH CLEARANCES REQUIRED FOR FINISHED COLUMNS, HUNG CEILINGS, PLASTER, PARTITIONS, WALLS, ETC., AS SHOWN IN THE ARCHITECTURAL DRAWINGS AND DETAILS.
27. CONTRACTOR SHALL PROVIDE ARC FLASH WARNING LABELING ON ELECTRICAL EQUIPMENT AS REQUIRED BY NEC 2017 ARTICLE 110.16 AND 110.24.

ELECTRICAL DEMOLITION NOTES

1. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL COSTS ASSOCIATED WITH REMOVALS AND RELOCATIONS OF ELECTRICAL WORK AS DESCRIBED IN THE SPECIFICATIONS WITH ALLOWANCES FOR EXPECTED OR UNFORSEEN DIFFICULTIES WHEN CONCEALED WORK HAS BEEN OPENED. NO CLAIMS FOR ADDITIONAL WORK ASSOCIATED WITH DEMOLITION WILL BE ACCEPTED, EXCEPT WHERE CONSIDERED JUSTIFIABLE BY THE ENGINEER.
2. THE CONTRACTOR SHALL REMOVE AND/OR RELOCATE ALL EXISTING ELECTRICAL WORK WHICH INTERFERES WITH THE NEW ARCHITECTURAL AND ELECTRICAL LAYOUTS IN FULL COORDINATION WITH THE ENGINEER'S DEMOLITION PLANS. ALL SYSTEMS WHICH ARE NO LONGER REQUIRED TO FUNCTION SHALL BE DE-ENERGIZED AND DISCONNECTED AT THE SOURCE OF POWER SUPPLY.
3. THE CONTRACTOR SHALL PERFORM DEMOLITION AND REMOVAL WORK WITH MINIMUM INTERFERENCE WITH FUNCTIONING ELECTRICAL SYSTEMS. ALL AFFECTED SYSTEMS SHALL BE RECONNECTED AND RESTORED.
4. DEMOLITION AND REMOVAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. THE CONTRACTOR SHALL PATCH, REPAIR OR OTHERWISE RESTORE ANY DAMAGED BUILDING SURFACE TO ITS ORIGINAL CONDITION.
5. THE CONTRACTOR SHALL REMOVE ALL ELECTRICAL LIGHTING, RECEPTACLES SWITCHES AND OTHER DEVICES, COMPLETE WITH ASSOCIATED WIRING, CONDUITS, ETC., FROM PARTITIONS OR CEILING THAT ARE TO BE REMOVED. WHERE THE REMOVAL OF THESE ITEMS DISRUPTS EXISTING WIRING THAT IS TO REMAIN, THE CONTRACTOR SHALL INSTALL JUNCTION BOXES AND OTHER DEVICES AND PROVIDE BYPASS CONNECTIONS NECESSARY TO MAKE CIRCUITS AFFECTED CONTINUOUS AND READY FOR OPERATION. OTHERWISE, WIRING SHALL BE REMOVED BACK TO THE NEAREST ELECTRICAL JUNCTION BOX THAT IS TO REMAIN OR TO PANELBOARD.
6. ALL REUSED RACEWAYS WHICH BECOME EXPOSED DURING THE ALTERATION WORK SHALL BE REMOVED AND REROUTED CONCEALED BEHIND FINISHED SURFACES.
7. ALL UNUSED CONCEALED OUTLET BOXES OR FLOOR OUTLETS SHALL BE PROVIDED WITH MATCHING BLANK COVERS.
8. EXISTING PANEL DIRECTORIES AFFECTED BY THE ALTERATION WORK SHALL BE MODIFIED TO REFLECT THE BRANCH CIRCUIT WIRING CHANGES.
9. PORTIONS OF FEEDER RUNS TO BE REMOVED AS A RESULT OF DEMOLITION WORK, BUT WHICH ARE REQUIRED TO REMAIN ENERGIZED, SHALL BE CUT AT CONVENIENT LOCATIONS, REROUTED AND RECONNECTED. NEW FEEDER EXTENSIONS SHALL MATCH EXISTING ONES IN ALL RESPECTS, CABLE TYPE, CONDUCTOR AMPACITY, CONDUIT SIZES, ETC.
10. THE CONTRACTOR SHALL NOTIFY THE OWNER AT THE APPROPRIATE TIME OF THE PROJECTED DEMOLITION AND PHASING SCHEDULE SO THAT REMOVAL OR RELOCATION OF AFFECTED UTILITIES MAY BE CARRIED OUT IN COORDINATION WITH THE PROJECT REQUIREMENTS. THE CONTRACTOR SHALL FOLLOW CLOSELY THE ENGINEER'S DEMOLITION AND PHASING SCHEDULE AND PROCEED IN THE SPECIFIED SEQUENCE.
11. ALL EXISTING MATERIAL AND EQUIPMENT IN USABLE CONDITION, WHICH IS TO BE REMOVED UNDER THIS CONTRACT, SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF BY THE ELECTRICAL CONTRACTOR, AS DIRECTED BY THE OWNER.
12. EXISTING CONDUITS ROUTED IN SLAB AND TURNING OUT OF SLAB SHALL BE CUT BACK TO 1" INTO SLAB AND OPENING PATCHED.
13. ALL EXISTING UNUSED WIRING SHALL BE DISCONNECTED AT EACH END AND REMOVED.
14. CONTRACTOR SHALL DISCONNECT POWER TO ALL MECHANICAL EQUIPMENT BEING TAKEN OUT OF OPERATION. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO DEMOLITION.

ELECTRICAL LIGHTING LEGEND

a 1 — 'a' – FIXTURE CONTROLLED BY SWITCH/OCCUPANCY SENSOR 'a'
'1' – DENOTES CIRCUIT NUMBER

REFER TO THIS DRAWING FOR LIGHTING SPECIFICATIONS FOR ALL FIXTURES. COORDINATE ALL WORK INCLUDING ALL LIGHT FIXTURE SPECIFICATIONS WITH ARCHITECTURAL DRAWINGS.

NEW CEILING MOUNTED EDGE-LIT LED EXIT SIGN WITH BATTERY PACK. DIRECTIONAL ARROWS AS INDICATED ON PLANS. SHADED AREAS INDICATE ILLUMINATED FACE/FACES.
DUAL-LITE EVE SERIES MODEL#: EVE-U-R-W-E-I' OR MATCH EXISTING.

NEW CEILING MOUNTED COMBINATION LED EXIT/EMERGENCY LIGHT WITH BATTERY PACK. DIRECTIONAL ARROWS AS INDICATED ON PLANS. SHADED AREAS INDICATE ILLUMINATED FACE/FACES.
DUAL-LITE EVC SERIES MODEL#: 'EVC-U-R-W-I' OR APPROVED EQUAL.

NEW EMERGENCY LIGHTING UNIT. DUAL-LITE EV SERIES MODEL#: 'EV-4-I-02L' OR APPROVED EQUAL.

OS a — NEW CEILING MOUNTED VACANCY SENSOR INFRARED/ULTRASONIC DUAL TECHNOLOGY. HUBBELL #'OMNI DT' OR APPROVED EQUAL.
'a' – CONTROLS LIGHTING FIXTURES DESIGNATED 'a'

S^a — NEW CEILING MOUNTED VACANCY SENSOR OVERRIDE SWITCH. PROVIDE ROOM CONTROLLER COMPATIBLE OVERRIDE SWITCH FOR ALL ROOMS EQUIPPED WITH A LIGHTING CONTROL ROOM CONTROLLER.
'a' – CONTROLS LIGHTING FIXTURES DESIGNATED 'a'

ϕ_a — NEW WALL MOUNTED OCCUPANCY SENSOR INFRARED/ULTRASONIC DUAL TECHNOLOGY WITH MANUAL SWITCH. HUBBELL #'LIGHTHAWK2' OR APPROVED EQUAL.
'a' – CONTROLS LIGHTING FIXTURES DESIGNATED 'a'

ELECTRICAL POWER LEGEND

1 GFI +XX — NEW WALL MOUNTED 20A, 120V DUPLEX RECEPTACLE.
'GFI' – DENOTES GROUND FAULT INTERRUPTER
'+XX' – DENOTES MOUNTING HEIGHT XX" AFF.
'1' – DENOTES CIRCUIT NUMBER

NEW CEILING MOUNTED 20A, 120V DUPLEX RECEPTACLE.

20A FB — NEW PEDESTAL FLOOR MOUNTED 208 NEMA RECEPTACLE. HUBBELL MODEL#: 'SA6685' OR APPROVED EQUAL.
'20A' – DENOTES DEVICE AMPERAGE RATING.

20A FB — NEW PEDESTAL FLOOR MOUNTED 20A, 120V DUPLEX RECEPTACLE. HUBBELL MODEL#: 'SA6685' OR APPROVED EQUAL.

WP FB — NEW EXTERIOR WATERPROOF FLOOR BOX WITH 20A, 120V QUADRUPLEX RECEPTACLE. WIREMOLD MODEL#: 'XB814C520C2BK'. EACH DUPLEX RECEPTACLE SHALL BE PROVIDED WITH A DEDICATED CIRCUIT.

NEW SURFACE MOUNTED ELECTRICAL PANEL.

PANEL(X,X) — NEW BRANCH CIRCUIT HOMERUN TO ELECTRIC PANEL. HALF ARROWS INDICATE NUMBER OF CIRCUITS.

J — NEW WALL MOUNTED JUNCTION BOX SIZED PER NEC.

S_T — NEW SWITCH WITH THERMAL OVERLOAD PROTECTION FOR FRACTIONAL HORSEPOWER MOTORS.

30/3 — NEW UNFUSED DISCONNECT SWITCH
30/3 – DENOTES 30 AMP/3-POLE SWITCH

FIRE ALARM LEGEND

F — NEW CEILING MOUNTED FIRE ALARM SYSTEM AUDIO/VISUAL ALARM.

F — NEW FIRE ALARM SYSTEM AUDIO/VISUAL ALARM; MOUNT AT 80" AFF.

D — NEW SYSTEM TYPE FIRE DUCT MOUNTED ALARM SMOKE DETECTOR. COORDINATE WITH MECHANICAL CONTRACTOR.

LIGHTING FIXTURE SCHEDULE

NEW RECESSED 2'X2' LED LIGHTING FIXTURE. COLUMBIA LIGHTING MODEL#: 'CFP22-3335-HE' OR APPROVED EQUAL.

NEW RECESSED 2'X4' LED LIGHTING FIXTURE. COLUMBIA LIGHTING MODEL#: 'CFP24-4135-HE' OR APPROVED EQUAL.

NEW 6" RECESSED LED DOWNLIGHT LIGHTING FIXTURE. PRESCOLITE MODEL#: 'LC6SL-6LCLS-10L-35K-8-WT' OR APPROVED EQUAL.

ELECTRICAL DRAWING INDEX

DRAWING NO.	DRAWING TITLE
E001	ELECTRICAL NOTES AND LEGEND
E100	KITCHEN ELECTRICAL DEMOLITION PLAN
E101	KITCHEN ELECTRICAL LIGHTING PLAN
E102	KITCHEN ELECTRICAL POWER PLAN
E103	TERRACE ELECTRICAL PLAN
E104	ROOF ELECTRICAL POWER PLAN
E200	ELECTRICAL RISER DIAGRAM AND PANEL SCHEDULES
E201	ELECTRICAL DETAILS
E300	ELECTRICAL SPECIFICATIONS (1 OF 2)
E301	ELECTRICAL SPECIFICATIONS (2 OF 2)

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
67 Federal Rd., Bldg. A, Ste. 201
Brookfield, CT 06804
Tel: (203) 663-3703
www.LongEngineers.com

DOB BSCAN

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NORTH

OLD OAKS COUNTRY CLUB

PROJECT ADRESS

ELECTRICAL NOTES & LEGEND

SEAL & SIGNATURE

DATE:	08-13-21
PROJECT NO.:	21-826
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CHECKED BY:	TL
DRAWING NO:	E001.00
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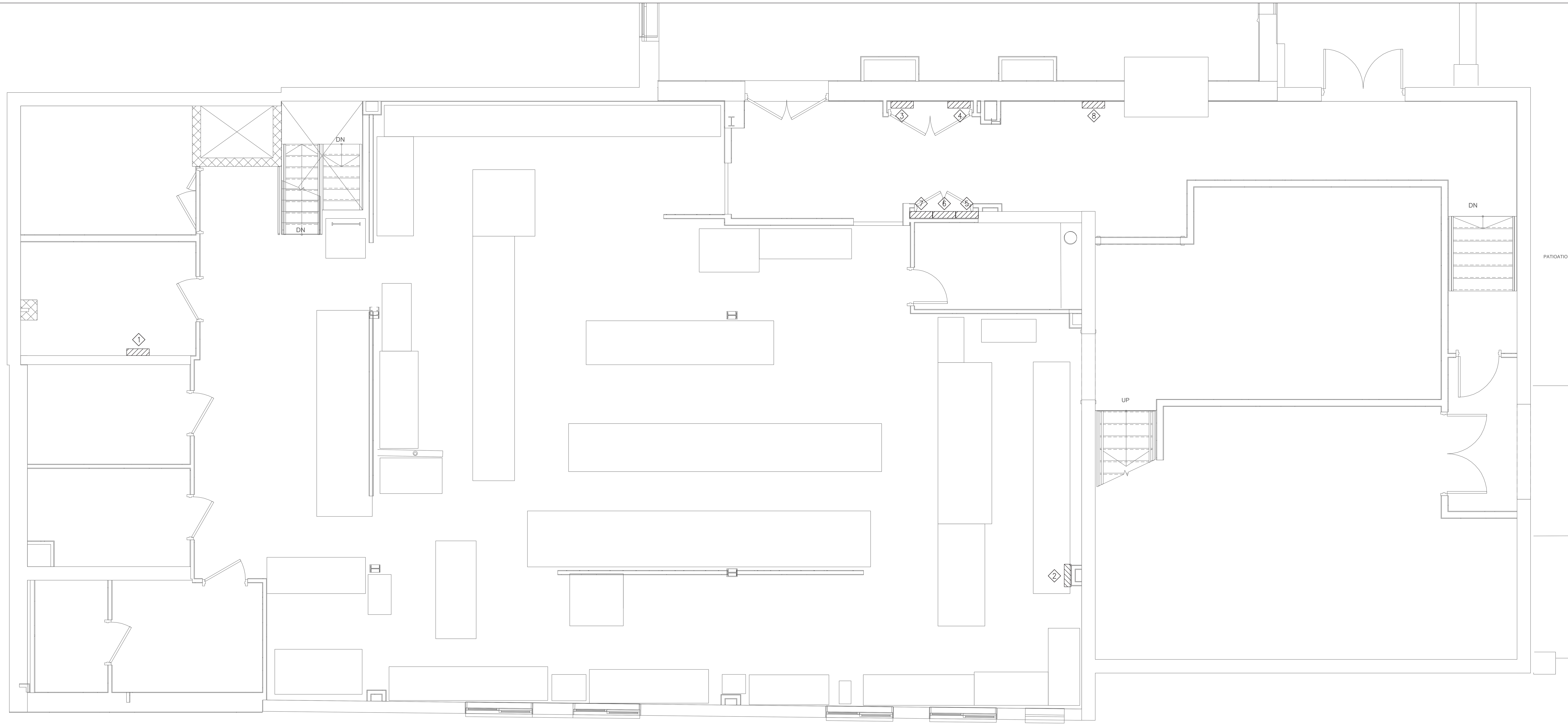

1 □ITC□EN ELECTRICAL DEMOLITION PLAN

SCALE: 1/4" = 1'-0"

ELECTRICAL DEMOLITION □ E□ NOTES

1. EXISTING PANEL 'PA4D2' 208V, 3Ø, 4W. TO BE REMOVED. REMOVE ALL CONDUIT AND WIRING. ALL EXISTING CIRCUITS TO REMAIN SHALL BE RE-CIRCUITED INTO NEW 400A, 208V, PANEL 'K1'.
2. EXISTING PANEL 'PA6A' 208V, 3Ø, 4W. TO BE REMOVED. REMOVE ALL CONDUIT AND WIRING. ALL EXISTING CIRCUITS TO REMAIN SHALL BE RE-CIRCUITED INTO NEW 400A, 208V, PANEL 'K1'.
3. EXISTING PANEL 'PA4A' 208V, 3Ø, 4W. TO BE REMOVED. REMOVE ALL CONDUIT AND WIRING. ALL EXISTING CIRCUITS TO REMAIN SHALL BE RE-CIRCUITED INTO NEW 400A, 208V, PANEL 'K1'.
4. EXISTING PANEL 'PA4A1' 100A, 208V, 3Ø, 4W. TO BE REMOVED. REMOVE ALL CONDUIT AND WIRING. ALL EXISTING CIRCUITS TO REMAIN SHALL BE RE-CIRCUITED INTO NEW 400A, 208V, PANEL 'K1'.
5. EXISTING PANEL 'PA5' 208V, 3Ø, 4W. TO BE REMOVED. REMOVE ALL CONDUIT AND WIRING. ALL EXISTING CIRCUITS TO REMAIN SHALL BE RE-CIRCUITED INTO NEW 400A, 208V, PANEL 'K1'.
6. EXISTING PANEL 'PA6' 208V, 3Ø, 4W. TO BE REMOVED. REMOVE ALL CONDUIT AND WIRING. ALL EXISTING CIRCUITS TO REMAIN SHALL BE RE-CIRCUITED INTO NEW 400A, 208V, PANEL 'K1'.
7. EXISTING PANEL 'PA7' 208V, 3Ø, 4W. TO BE REMOVED. REMOVE ALL CONDUIT AND WIRING. ALL EXISTING CIRCUITS TO REMAIN SHALL BE RE-CIRCUITED INTO NEW 400A, 208V, PANEL 'K1'.
8. EXISTING LIGHTING CONTROL PANEL 'GP20-1204ML-20' 140A, 208V, 3Ø, 4W. TO BE RELOCATED. EXTEND ALL CONDUIT, WIRING, AND EXISTING CIRCUITS TO REMAIN TO NEW LOCATION. REFER TO DRAWING E102 FOR NEW LOCATION.

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
67 Federal Rd., Bldg. A, Ste. 201
Brookfield, CT 06804
Tel: (203) 663-3703
www.LongEngineers.com

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PROJECT ADRESS

KITCHEN ELECTRICAL DEMOLITION PLAN

SEAL & SIGNATURE

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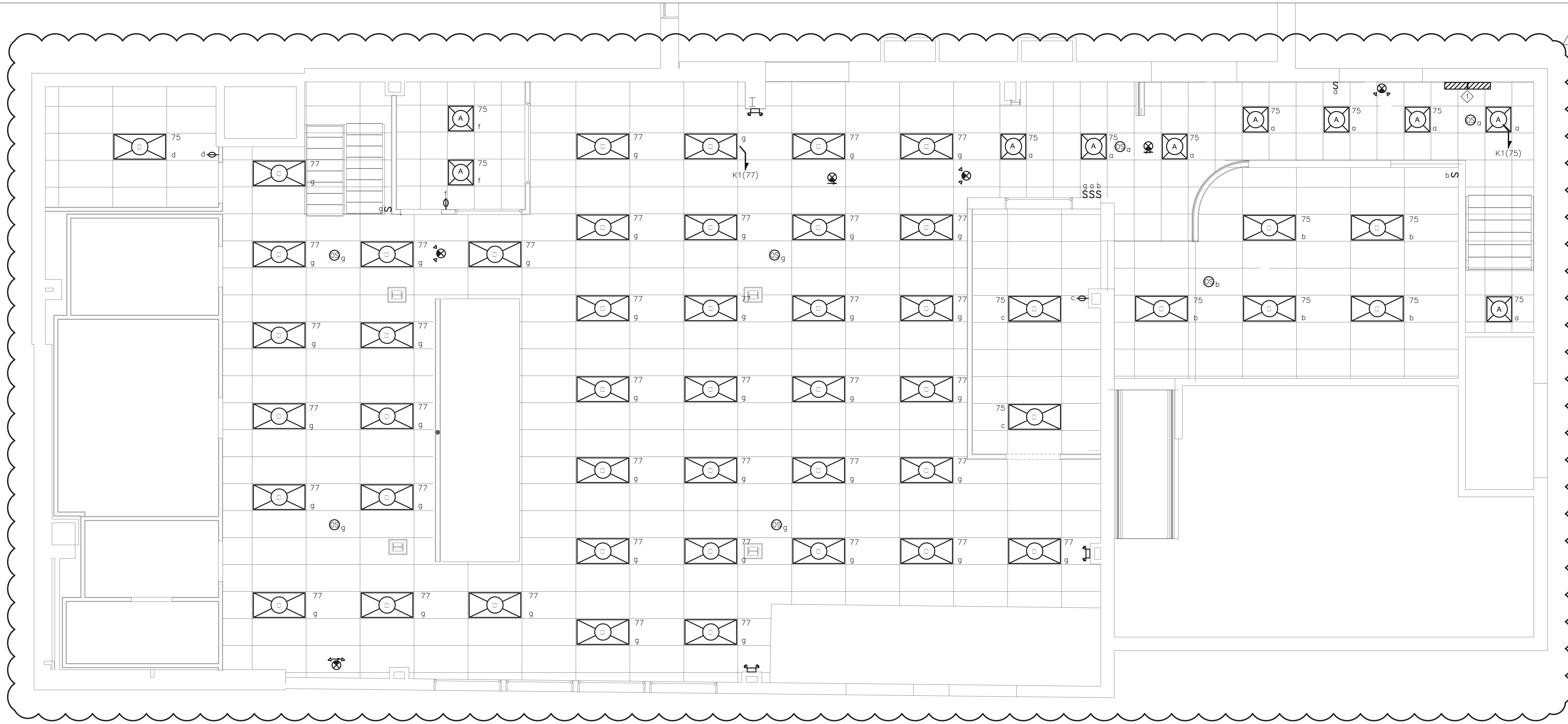

1 □ITC□ EN ELECTRICAL LI□□ TIN□ PLAN

SCALE: 1/4" = 1'-0"

ELECTRICAL LI□□ TIN□ NOTES

1. CONTRACTOR SHALL REFER TO DRAWING E001 FOR DEMOLITION NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
2. CIRCUIT NUMBERS SHOWN ARE FOR REFERENCE ONLY.
3. CONTRACTOR SHALL CIRCUIT (2)#12+#12 GRD. IN 3/4"C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
4. ALL LIGHTING FIXTURES OUTSIDE THE AREA OF WORK SHALL REMAIN AS IS, MAINTAIN CIRCUITS CONTINUITY AND FUNCTIONALITY.
5. PROVIDE ADDITIONAL UNSWITCHED BATTERY PACK POWER SENSING LEG(S) FOR ALL SWITCHED FIXTURES CONTAINING STANDBY EMERGENCY BATTERY BALLAST (EM).
6. ALL NEW WALL MOUNTED EMERGENCY LIGHTING UNITS, EXIT SIGNS AND COMBINATION EXIT/EM FIXTURES, SHALL BE CONNECTED TO THE "HOT" UNSWITCHED SIDE OF THE LIGHTING CIRCUIT IN THE AREA THE FIXTURE IS COVERING.
7. CONTRACTOR SHALL COORDINATE EXACT LOCATION AND FREQUENCY OF ALL CEILING MOUNTED AND WALL MOUNTED OCCUPANCY SENSORS WITH MANUFACTURER PRIOR TO INSTALLATION. LOCATION OF SENSORS ARE DIAGRAMMATIC, CONTRACTOR SHALL LOCATE AND AIM SENSOR IN LOCATION REQUIRED FOR COMPLETE AND PROPERLY FUNCTIONING COVERAGE WITHIN RANGE OF SENSOR. PROVIDE ALL POWER RACKS, WIRE CONTROL HARDWARE AND EQUIPMENT TO PROVIDE OCCUPANCY SENSOR LIGHTING CONTROL SYSTEM. TYPICAL FOR ALL SENSORS INDICATED.
8. CEILING MOUNTED OR WALL MOUNTED OCCUPANCY SENSORS SHALL CONTROL LIGHTING IN THE ENTIRE ROOM, UNLESS OTHERWISE NOTED.
9. COORDINATE ALL LIGHTING SWITCH LOCATIONS WITH ARCHITECT.

ELECTRICAL □ E□ NOTES

1. NEW PANEL "K1" 400A, 208V, 3ø, 4W., 84-POLE, 2-SECTION.

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

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Brookfield, CT 06804
Tel: (203) 663-3703
www.LongEngineers.com

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1	09.17.21	OWNER/GC	ADDENDUM #1

NORTH

OLD OAKS COUNTRY CLUB

PROJECT ADRESS

KITCHEN ELECTRICAL LIGHTING PLAN

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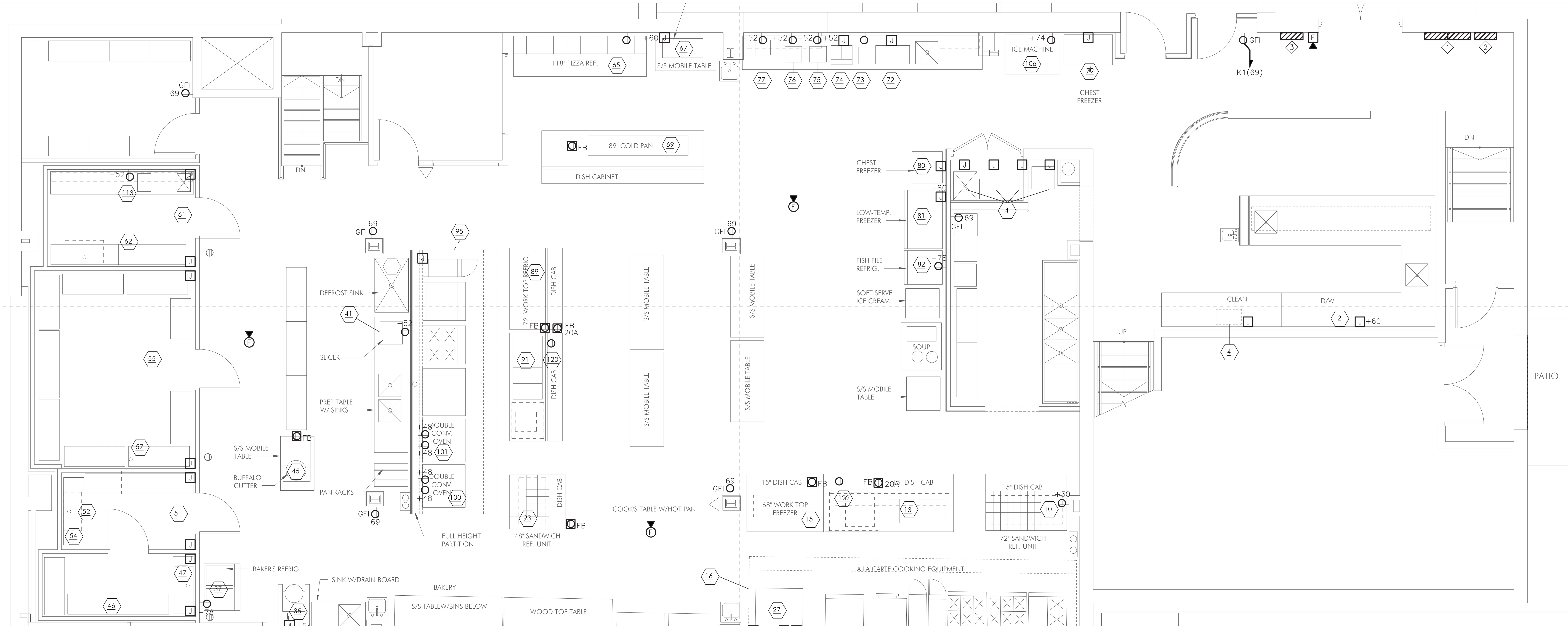

1 □ITC□ EN ELECTRICAL PO□ ER PLAN

SCALE: 1/4" = 1'-0"

FOOD SERVICE EQUIPMENT SCHEDULE

Item	Qty	Category	Manufacturer	Model	Voltage	Phase	Amps	Kw	Hp	Direct	Plug	Circuit	Circuit Breaker	
2	1	DISHWASHER	CMA DISHMACHINES	EST-66 H	208	3	58.0	45.0	–	X		K2(1,3,5)	60A, 3P	(4)#6 + #10 GRD. IN 1"C.
4	5	HOT WATER BOOSTER	HUBBELL	J645R	208	3	125.0	45.0	–	X		MDP(1), MDP(3) MDP(5), MDP(7) MDP(9)	200A, 3P	(4)#3/0 + #6 GRD. IN 2"C.
10	1	SANDWICH UNIT REFRIGERATOR	CONTINENTAL	SW72N18M	115	1	6.1	–	–		X	K1(1)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
13	1	HOT PAN	ATLAS METAL	WIH-4	208	1	16.7	4.0	–		X	K1(3,5)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
15	1	WORKTOP FREEZER	CONTINENTAL	CFA68-D	115	1	10.7	–	–		X	K1(7)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
16	1	EXHAUST HOOD	RATIONAL	EO-FPSP	115	1	–	0.6	–	X		K1(9)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
27	2	SELFCOOKING CENTER	PITCO	SG14	208	3	59.0	–	–	X		K1(79,81,83) K1(44,46,48)	70A, 3P	(4)#4 + #8 GRD. IN 1-1/4"C.
35	1	60 QT MIXER	HOBART	HL600	208	3	10.0	–	–	X		K1(11,13,15)	20A, 3P	(4)#12 + #12 GRD. IN 3/4"C.
37	1	REACH-IN REFRIGERATOR	CONTINENTAL	2RN	115	1	6.9	–	–		X	K1(17)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
41	1	MEAT SLICER	HOBART	2712	120	1	–	–	1/2		X	K1(19)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
45	1	FOOD CUTTER	HOBART	84145	120	1	–	–	1/2		X	K1(21)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
46	1	FREEZER	IMPERIAL BROWN	–	115	1	–	0.2	–	X		K1(23)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
47	1	FREEZER DEFROST	IMPERIAL BROWN	CEL0045BS6EEAB0200	208	1	4.9	1.05	–	X		K1(25,27)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
51	1	COOLER	IMPERIAL BROWN	–	115	1	–	0.1	–	X		K1(35)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
52	1	COOLER DEFROST	IMPERIAL BROWN	CEL0055AS6AMAB0200	115	1	0.9	–	–	X		K1(37)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
55	1	REFRIGERATOR	IMPERIAL BROWN		115	1	–	–		X		K1(39)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
57	1	REFRIGERATOR DEFROST	IMPERIAL BROWN	CEL0095AS6AMAB0200	115	1	1.8	–	–	X		K1(41)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
61	1	REFRIGERATOR	IMPERIAL BROWN	–	115	1	–	0.1	–	X		K1(14)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
62	1	REFRIGERATOR DEFROST	IMPERIAL BROWN	CEL0060AS6AMAB0200	115	1	0.9	–	–	X		K1(16)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
65	1	PIZZA PREP REFRIGERATOR	CONTINENTAL	CPA118	115	1	16.6	–	–		X	K1(24)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
67	1	CHEESEMELTERS	VULCAN	1036C	208	1	17.3	3.6	–	X		K1(26,28)	30A, 2P	(3)#10 + #10 GRD. IN 3/4"C.
69	1	COLD PAN	ATLAS METAL	RM-6	120	1	10.7	–	1/2		X	K1(30)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
72	1	ESPRESSO MACHINE	RANCILIO GROUP	RAN C5 S 12-20	208	1	30.0	4.3	–	X		K1(62,64)	30A, 2P	(3)#10 + #10 GRD. IN 3/4"C.
73	1	TWIN COFFEE GRINDER	WILBUR CURTIS	ILGD-10	120	1	8.0	0.96	–		X	K1(32)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
74	1	COFFEE BREWER	WILBUR CURTIS	GEMTS10A1000	220	1	35.4	7.6	–	X		K1(34,36)	40A, 2P	(3)#8 + #10 GRD. IN 3/4"C.
75	1	CONVEYOR TOASTER	HATCO	TQ-400	208	1	10.7	–	–		X	K1(65,67)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
76	1	CONVEYOR TOASTER	HATCO	TQ-10	120	1	15.0	1.8	–		X	K1(40)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
77	1	MICROWAVE	BY OWNER	–	120	1	–	–	–		X	K1(38)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
79	1	CHEST FREEZER	EXISTING	–	120	1	–	–	–	X		K1(58)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
80	1	CHEST FREEZER	EXISTING	–	120	1	–	–	–	X		K1(60)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
81	1	REACH-IN FREEZER	CONTINENTAL	2F-LT	208	1	13.1	–	–	X		K1(43,45)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
82	1	FISH FILE UPRIGHT	CONTINENTAL	DL1RS-SS-F	115	1	5.5	–	–		X	K1(42)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
89	1	WORKTOP REFRIGERATOR	CONTINENTAL	SW72N	115	1	2.46	–	–		X	K1(47)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
91	1	HOT PAN	ATLAS METAL	WIH-4	208	1	16.7	4.0	–		X	K1(49,51)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
93	1	SANDWICH UNIT REFRIGERATOR	CONTINENTAL	SW48N12M	115	1	4.5	–	–		X	K1(53)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
95	1	EXHAUST HOOD	RATIONAL	EO-FPSP	115	1	0.5	–	–	X		K1(55)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
100	2	CONVECTION OVEN	SOUTHBEND	SLG22	115	1	7.9	–	–		X	K1(57) K1(59)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
101	2	CONVECTION OVEN	SOUTHBEND	SLG22	115	1	7.9	–	–		X	K1(61) K1(63)	20A, 1P	(2)#12 + #12 GRD. IN 3/4"C.
102	1	SELFCOOKING CENTER	PITCO	SG14	208	3	59.0	–	–		X	K1(52,54,56)	70A, 3P	(4)#4 + #8 GRD. IN 1-1/4"C.
106	1	ICE CUBE MACHINE	EXISTING	–	208	1	18.5	–	–		X	K1(71,73)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
113	1	VACUUM PACKING MACHINE	EXISTING	–	115	1	15.0	–	–	X		K1(69)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
120	1	INFRARED STRIP HEATER	HATCO	GRAH-84	208	1	9.9	2.05	–		X	K1(66,68)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.
122	1	INFRARED STRIP HEATER	HATCO	GRAH-96	208	1	11.5	2.4	–		X	K1(70,72)	20A, 2P	(3)#12 + #12 GRD. IN 3/4"C.

FIRE ALARM NOTES

1. PROVIDE NEW FIRE ALARM DEVICES AND WIRING AS INDICATED ON FLOOR PLANS AND RISER. ALL FIRE ALARM WIRING SHALL BE #14 TWISTED FOR STROBES PANEL #16 TWISTED/SHIELDED FOR SPEAKERS. (PLENUM RATED.)
2. CONTRACTOR SHALL EXTEND FIRE ALARM WIRING AND CONDUIT TO NEW FIRE ALARM DEVICES. ALL NEW FIRE ALARM DEVICES SHALL BE ADA COMPLIANT. ALL FIRE ALARM DEVICES IN THE AREA OF WORK SHALL BE SYNCHRONIZED. WHERE EXISTING FIRE ALARM DEVICES DO NOT HAVE SYNCHRONIZING ABILITY THE FIRE ALARM DEVICE SHALL BE REPLACED WITH NEW.
3. THE NEW FIRE ALARM SYSTEMS SHALL BE AN EXTENSION OF THE EXISTING BASE BUILDING FIRE ALARM SYSTEM. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH THE BASE BUILDING FIRE ALARM SYSTEM. COORDINATE ALL WORK WITH THE BASE BUILDING FIRE ALARM VENDOR. ALL FIRE ALARM WIRING SHALL BE CONFIRMED WITH FIRE ALARM VENDOR PRIOR TO INSTALLATION.
4. CONTRACTOR IS RESPONSIBLE FOR PROGRAMING/MODIFYING, UPGRADING, CONTROL MODULES, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND CODE COMPLIANT SYSTEM. ELECTRICAL CONTRACTOR SHALL HIRE BUILDING FIRE ALARM VENDOR TO DO FINAL FIRE ALARM CONNECTIONS. CONTRACTOR RESPONSIBLE TO INSTALL END OF LINE RESISTOR FOR NEW DEVICES. PROVIDE CONTROL PANEL PARTS AS REQUIRED.
5. CONTRACTOR IS RESPONSIBLE FOR ALL FIRE ALARM PERMIT AND INSPECTION COST.
6. CONTRACTOR TO CONFIRM THAT EXISTING FIRE ALARM PANEL IS ADEQUATE TO HANDLE NEW FIRE ALARM STROBES. IF INADEQUATE, CONTRACTOR SHALL PROVIDE AND INSTALL A NEW STROBE INTERFACE PANEL WITH (2) STROBE CIRCUITS TO ACCOMMODATE NEW FIRE ALARM STROBES.
7. BUILDING FIRE ALARM SYSTEM TO REMAIN ACTIVE DURING CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL NOTIFY BUILDING OWNER IF CONSTRUCTION FLOORS ARE TAKEN OFF SYSTEM. ELECTRICAL CONTRACTOR TO PAY ANY COST ASSOCIATED WITH ANY FIRE WATCH REQUIRED BY LOCAL OFFICIALS DURING THE TIME THAT SYSTEM IS OFF LINE.

ELECTRICAL PO□ ER NOTES

1. CONTRACTOR SHALL REFER TO DRAWING E001 FOR DEMOLITION NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
2. CIRCUIT NUMBERS ARE FOR DIAGRAMMATIC PURPOSE ONLY.
3. ALL ELECTRICAL DEVICES SHALL BE MOUNTED 18" AFF, U.O.N.
4. CONTRACTOR SHALL CIRCUIT (2)#12+#12 GRD. IN 3/4"C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
5. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL BRANCH CIRCUITING TO ELECTRICAL DEVICES TO REMAIN. ELECTRICAL CONTRACTOR SHALL EXTEND AND RECONNECT ANY BRANCH CIRCUITING THAT BECOME DISCONNECTED DUE TO DEMOLITION.
6. CONTRACTOR TO REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND EXACT REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. CONTRACTOR TO COORDINATE ALL WORK WITH MECHANICAL AND PLUMBING CONTRACTORS.
7. CONTRACTOR SHALL COORDINATE NEMA OUTLET AND PLUG CONFIGURATION WITH EQUIPMENT MANUFACTURER(S) SPECIFICATIONS PRIOR TO INSTALLATION.
8. ALL RECEPTACLES IN KITCHEN AREA SHALL BE GFI RECEPTACLES.
9. COORDINATE ALL ELECTRICAL REQUIREMENTS AND WORK WITH FOODSERVICE EQUIPMENT PLANS.
10. COORDINATE ALL KITCHEN EQUIPMENT ELECTRICAL REQUIREMENTS AND RECEPTACLE MOUNTING HEIGHTS WITH MANUFACTURERS SPECIFICATIONS.

ELECTRICAL □ E□ NOTES

1. NEW PANEL 'K1' 400A, 208V, 3ø, 4W., 84-POLE, 2-SECTION.
2. NEW PANEL 'K2' 400A, 208V, 3ø, 4W., 42-POLE.
3. RELOCATED LIGHTING CONTROL PANEL 'GP20-1204ML-20' 140A, 208V, 3ø, 4W.

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
67 Federal Rd., Bldg. A, Ste. 201
Brookfield, CT 06804
Tel: (203) 663-3703
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DOB BSCAN

ISS/REV | DATE | ISSUED TO | DESCRIPTION

NORTH

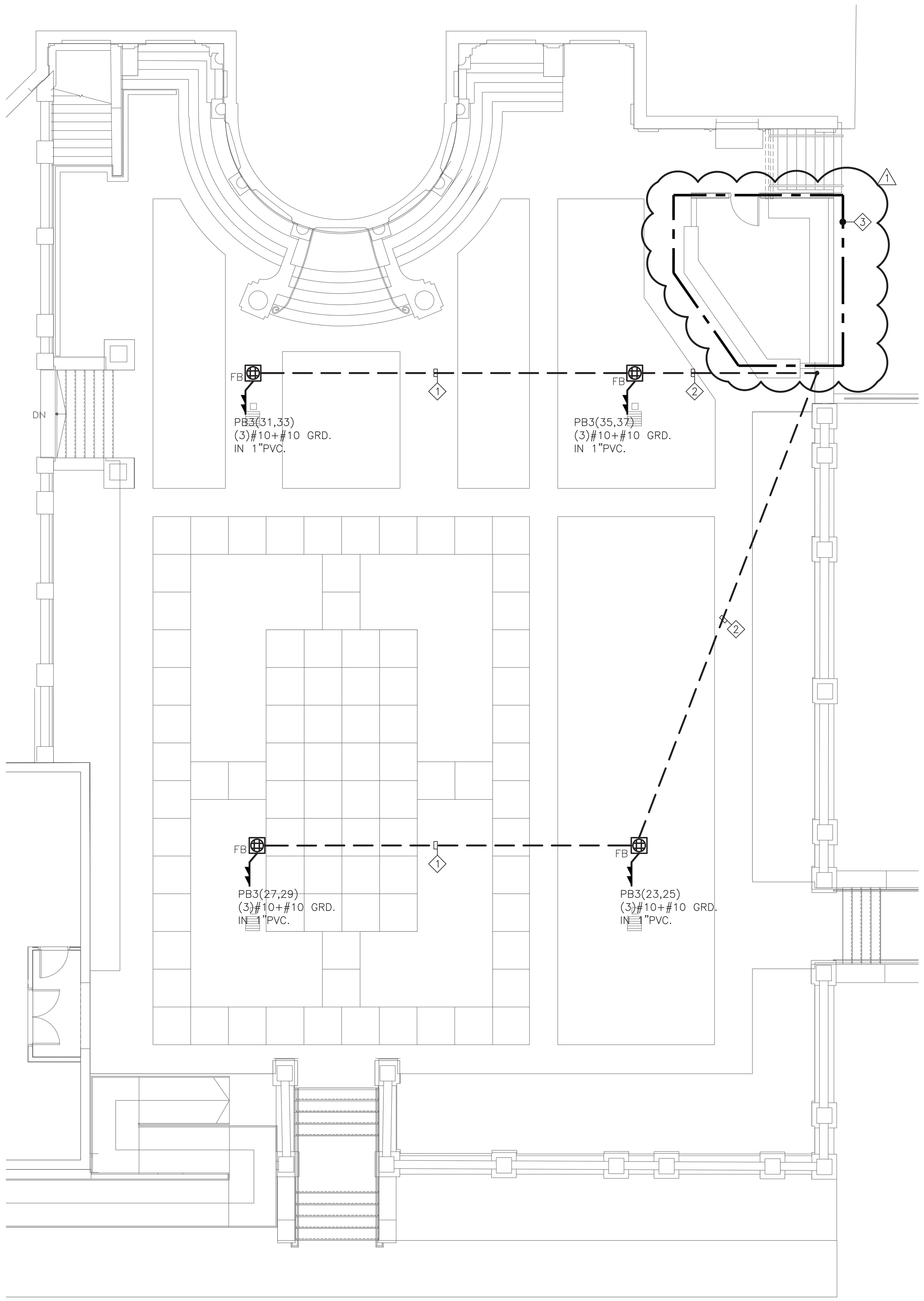
OLD OAKS COUNTRY CLUB

PROJECT ADRESS

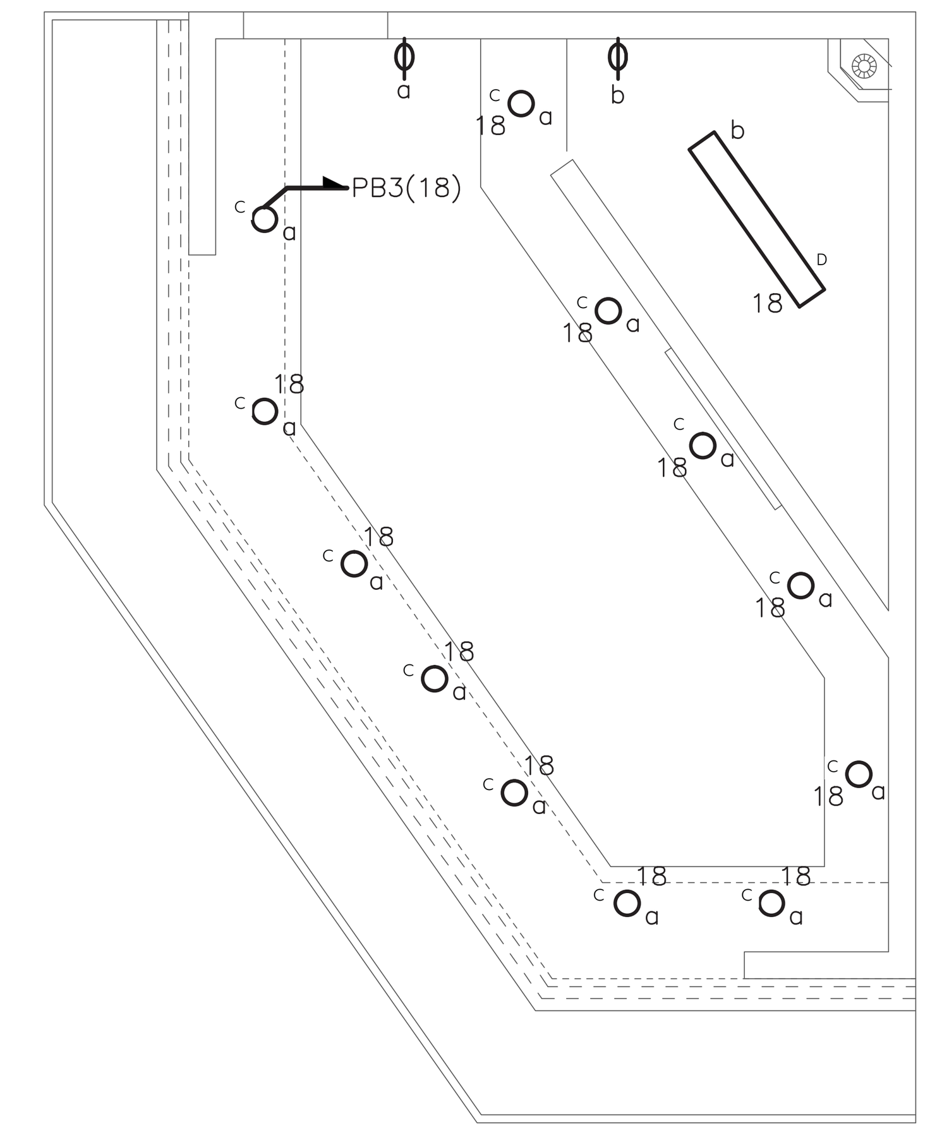
KITCHEN ELECTRICAL POWER PLAN

SEAL & SIGNATURE

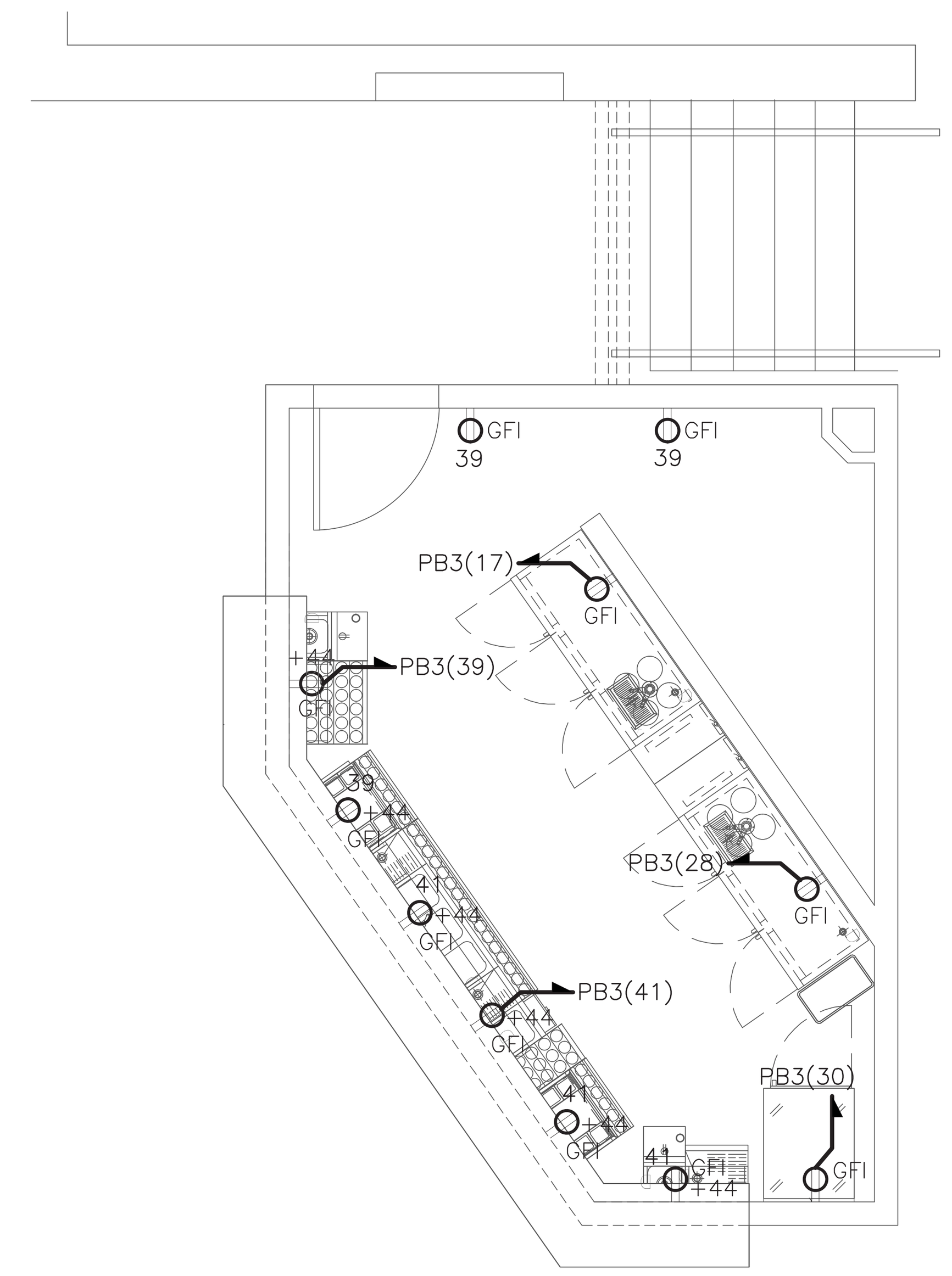
DATE:	08-13-21
PROJECT NO.:	21-826
DRAWN BY:	VH
CHECKED BY:	TL
DRAWING NO:	E102.00
CAD FILE NO:	J:\Proj2016\694 BASIS



1 TERRACE ELECTRICAL PLAN
SCALE: 1/□" = 1'-0"



□ □AR ELECTRICAL LI□□TIN□ PART PLAN
SCALE: 1/4" = 1'-0"



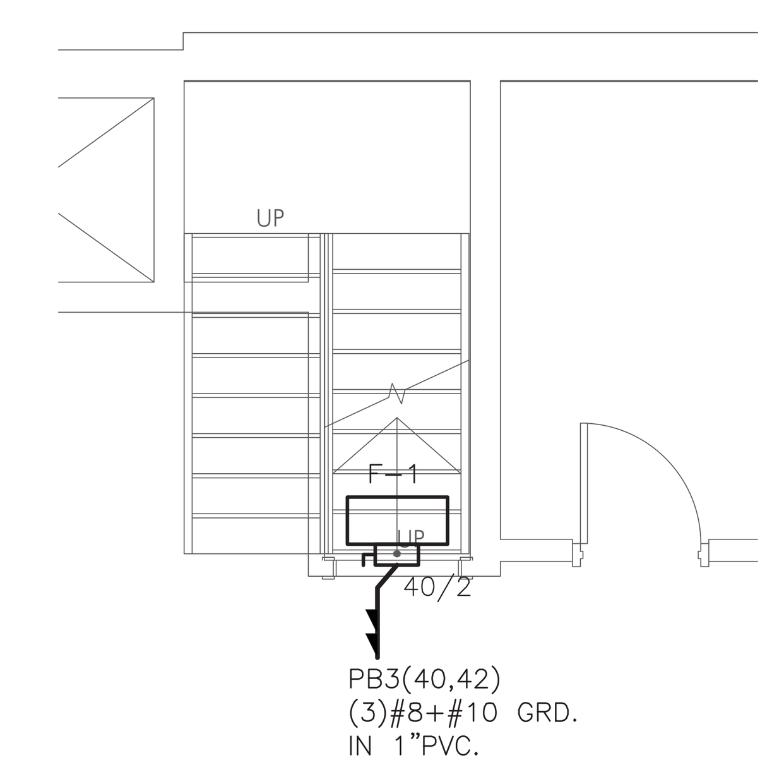
□ □AR ELECTRICAL PO□ ER PART PLAN
SCALE: 1/4" = 1'-0"

ELECTRICAL PO□ ER NOTES

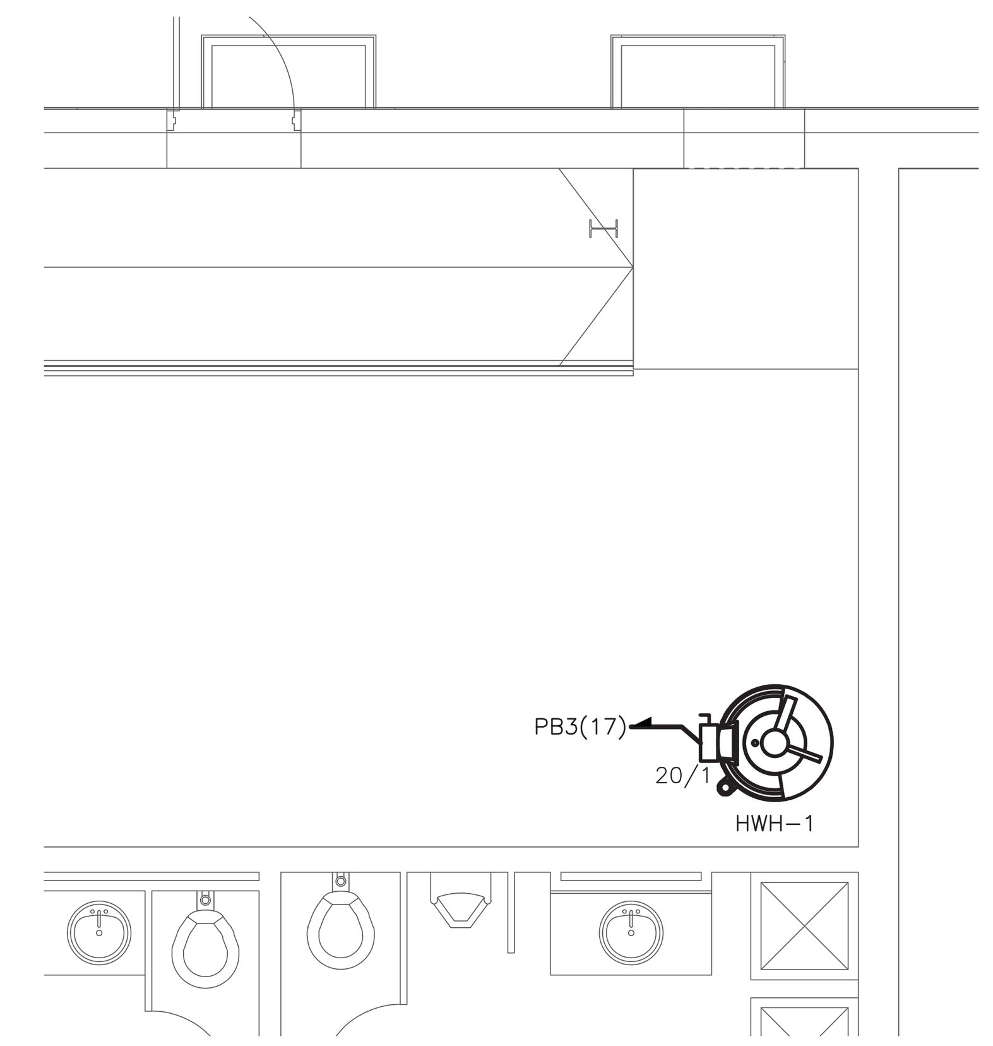
1. CONTRACTOR SHALL REFER TO DRAWING E001 FOR DEMOLITION NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
2. CIRCUIT NUMBERS ARE FOR DIAGRAMMATIC PURPOSE ONLY.
3. ALL ELECTRICAL DEVICES SHALL BE MOUNTED 18" AFF, U.O.N.
4. CONTRACTOR SHALL CIRCUIT (2)#12+#12 GRD. IN 3/4"C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
5. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL BRANCH CIRCUITING TO ELECTRICAL DEVICES TO REMAIN. ELECTRICAL CONTRACTOR SHALL EXTEND AND RECONNECT ANY BRANCH CIRCUITING THAT BECOME DISCONNECTED DUE TO DEMOLITION.
6. CONTRACTOR TO REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND EXACT REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. CONTRACTOR TO COORDINATE ALL WORK WITH MECHANICAL AND PLUMBING CONTRACTORS.
7. ALL FLOOR BOX RECEPTACLES IN TERRACE AREA SHALL BE PROTECTED BY A GFCI TYPE CIRCUIT BREAKER.
8. ALL RECEPTACLES IN BAR AREA SHALL BE GFI RECEPTACLES.
9. COORDINATE ALL ELECTRICAL REQUIREMENTS AND WORK WITH FOODSERVICE EQUIPMENT PLANS.
10. COORDINATE ALL KITCHEN EQUIPMENT ELECTRICAL REQUIREMENTS AND RECEPTACLE MOUNTING HEIGHTS WITH MANUFACTURERS SPECIFICATIONS.

ELECTRICAL □ E□ NOTES

1. NEW 3/4" PVC TO NEW EXTERIOR FLOOR BOX. COORDINATE EXACT ROUTING OF CONDUIT IN FIELD.
2. NEW 1" PVC TO NEW EXTERIOR FLOOR BOX. COORDINATE EXACT ROUTING OF CONDUIT IN FIELD.
3. REFER TO PART PLANS #2 AND #3 FOR ADDITIONAL WORK IN THIS AREA.



4 ELECTRICAL LO□ ER LE□ EL PART PLAN
SCALE: 1/4" = 1'-0"



□ ELECTRICAL LO□ ER LE□ EL PART PLAN
SCALE: 1/4" = 1'-0"

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
67 Federal Rd., Bldg. A, Ste. 201
Brookfield, CT 06804
Tel: (203) 663-3703
www.LongEngineers.com

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ISS/REV	DATE	ISSUED TO	DESCRIPTION
1	09.17.21	OWNER/GC	ADDENDUM #1

NORTH

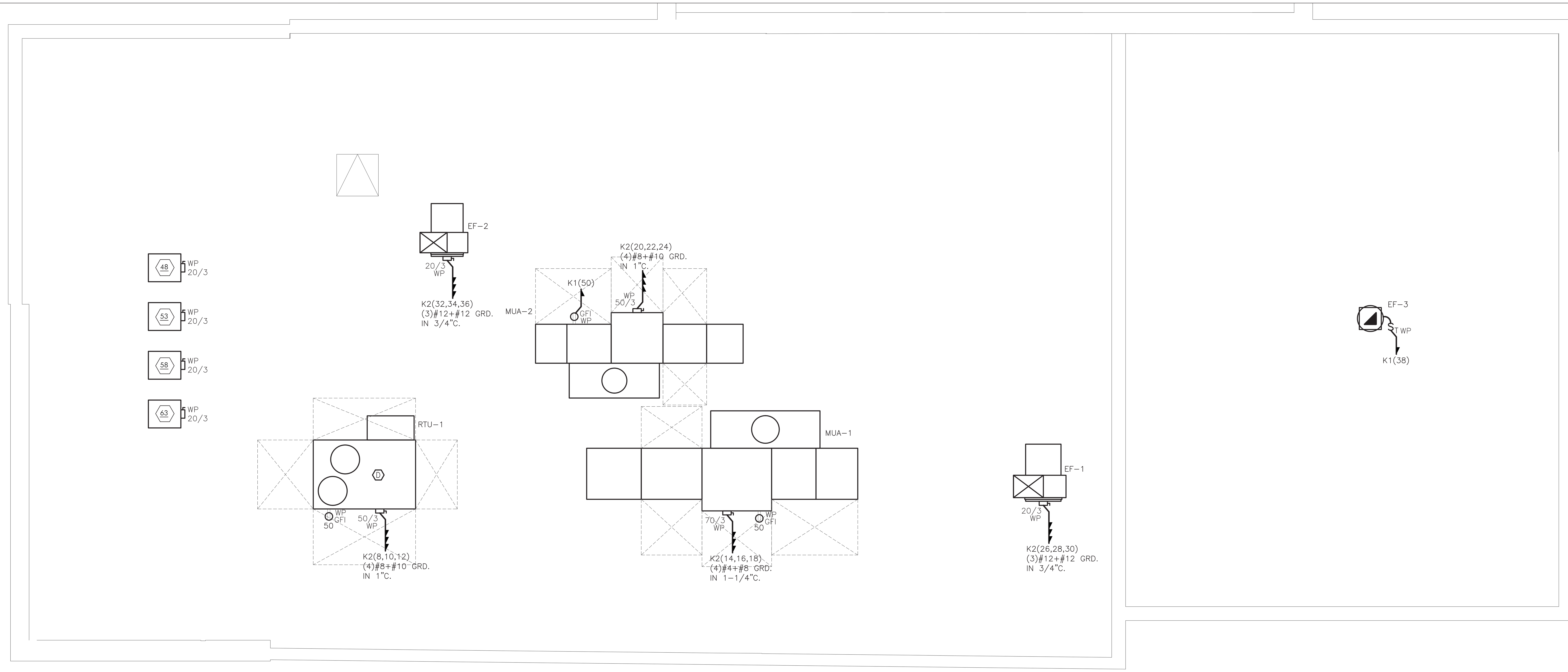
OLD OAKS COUNTRY CLUB

PROJECT ADRESS

TERRACE ELECTRICAL PLAN

SEAL & SIGNATURE

DATE:	08-13-21
PROJECT NO.:	21-826
DRAWN BY:	VH
CHECKED BY:	TL
DRAWING NO:	E103.00
CAD FILE NO:	J:\Proj2016\694 BASIS



1 ROOF ELECTRICAL PO□ ER PLAN

SCALE: 1/4" = 1'-0"

FOOD SERVICE EQUIPMENT SCHEDULE														
Item	Qty	Category	Manufacturer	Model	Voltage	Phase	Amps	Kw	Hp	Direct	Plug	Circuit	Circuit Breaker	
48	1	FREEZER COMPRESSOR	IMPERIAL BROWN	CCH0010MCACZ	208	3	20.0	–	–	X		K1(29,31,33)	20A, 3P	(4)#12 + #12 GRD. IN 3/4"C.
53	1	REFRIGERATOR COMPRESSOR	IMPERIAL BROWN	CCH0005MCACZ	208	3	20.0			X		K1(2,4,6)	20A, 3P	(4)#12 + #12 GRD. IN 3/4"C.
58	1	REFRIGERATOR COMPRESSOR	IMPERIAL BROWN	CCH0010MCACZ	208	3	20.0	–	–	X		K1(8,10,12)	20A, 3P	(4)#12 + #12 GRD. IN 3/4"C.
63	1	REFRIGERATOR COMPRESSOR	IMPERIAL BROWN	CCH0005MCACZ	208	3	20.0	–	–	X		K1(18,20,22)	20A, 3P	(4)#12 + #12 GRD. IN 3/4"C.

FIRE ALARM NOTES

1. PROVIDE NEW FIRE ALARM DEVICES AND WIRING AS INDICATED ON FLOOR PLANS AND RISER. ALL FIRE ALARM WIRING SHALL BE #14 TWISTED FOR STROBES PANEL #16 TWISTED/SHIELDED FOR SPEAKERS. (PLENUM RATED.)
2. CONTRACTOR SHALL EXTEND FIRE ALARM WIRING AND CONDUIT TO NEW FIRE ALARM DEVICES. ALL NEW FIRE ALARM DEVICES SHALL BE ADA COMPLIANT. ALL FIRE ALARM DEVICES IN THE AREA OF WORK SHALL BE SYNCHRONIZED. WHERE EXISTING FIRE ALARM DEVICES DO NOT HAVE SYNCHRONIZING ABILITY THE FIRE ALARM DEVICE SHALL BE REPLACED WITH NEW.
3. THE NEW FIRE ALARM SYSTEMS SHALL BE AN EXTENSION OF THE EXISTING BASE BUILDING FIRE ALARM SYSTEM. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH THE BASE BUILDING FIRE ALARM SYSTEM. COORDINATE ALL WORK WITH THE BASE BUILDING FIRE ALARM VENDOR. ALL FIRE ALARM WIRING SHALL BE CONFIRMED WITH FIRE ALARM VENDOR PRIOR TO INSTALLATION.
4. CONTRACTOR IS RESPONSIBLE FOR PROGRAMING/MODIFYING, UPGRADING, CONTROL MODULES, ETC. AS REQUIRED TO PROVIDE A COMPLETE AND CODE COMPLIANT SYSTEM. ELECTRICAL CONTRACTOR SHALL HIRE BUILDING FIRE ALARM VENDOR TO DO FINAL FIRE ALARM CONNECTIONS. CONTRACTOR RESPONSIBLE TO INSTALL END OF LINE RESISTOR FOR NEW DEVICES. PROVIDE CONTROL PANEL PARTS AS REQUIRED.
5. CONTRACTOR IS RESPONSIBLE FOR ALL FIRE ALARM PERMIT AND INSPECTION COST.
6. CONTRACTOR TO CONFIRM THAT EXISTING FIRE ALARM PANEL IS ADEQUATE TO HANDLE NEW FIRE ALARM STROBES. IF INADEQUATE, CONTRACTOR SHALL PROVIDE AND INSTALL A NEW STROBE INTERFACE PANEL WITH (2) STROBE CIRCUITS TO ACCOMMODATE NEW FIRE ALARM STROBES.
7. BUILDING FIRE ALARM SYSTEM TO REMAIN ACTIVE DURING CONSTRUCTION. ELECTRICAL CONTRACTOR SHALL NOTIFY BUILDING OWNER IF CONSTRUCTION FLOORS ARE TAKEN OFF SYSTEM. ELECTRICAL CONTRACTOR TO PAY ANY COST ASSOCIATED WITH ANY FIRE WATCH REQUIRED BY LOCAL OFFICIALS DURING THE TIME THAT SYSTEM IS OFF LINE.

ELECTRICAL PO□ ER NOTES

1. CONTRACTOR SHALL REFER TO DRAWING E001 FOR DEMOLITION NOTES. CONTRACTOR SHALL COORDINATE ALL DEMOLITION WORK WITH ARCHITECTURAL DRAWINGS.
2. CIRCUIT NUMBERS ARE FOR DIAGRAMMATIC PURPOSE ONLY.
3. ALL ELECTRICAL DEVICES SHALL BE MOUNTED 18" AFF, U.O.N.
4. CONTRACTOR SHALL CIRCUIT (2)#12+#12 GRD. IN 3/4"C. TO PANEL AND CIRCUIT INDICATED, UNLESS OTHERWISE NOTED.
5. ELECTRICAL CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL BRANCH CIRCUITING TO ELECTRICAL DEVICES TO REMAIN. ELECTRICAL CONTRACTOR SHALL EXTEND AND RECONNECT ANY BRANCH CIRCUITING THAT BECOME DISCONNECTED DUE TO DEMOLITION.
6. CONTRACTOR TO REFER TO MECHANICAL AND PLUMBING DRAWINGS FOR LOCATION AND EXACT REQUIREMENTS OF ALL MECHANICAL AND PLUMBING EQUIPMENT. CONTRACTOR TO COORDINATE ALL WORK WITH MECHANICAL AND PLUMBING CONTRACTORS.
7. CONTRACTOR SHALL COORDINATE NEMA OUTLET AND PLUG CONFIGURATION WITH EQUIPMENT MANUFACTURER(S) SPECIFICATIONS PRIOR TO INSTALLATION.
8. ALL RECEPTACLES IN KITCHEN AREA SHALL BE GFI RECEPTACLES.
9. COORDINATE ALL ELECTRICAL REQUIREMENTS AND WORK WITH FOODSERVICE EQUIPMENT PLANS.
10. COORDINATE ALL KITCHEN EQUIPMENT ELECTRICAL REQUIREMENTS AND RECEPTACLE MOUNTING HEIGHTS WITH MANUFACTURERS SPECIFICATIONS.

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
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ISS/REV	DATE	ISSUED TO	DESCRIPTION

NORTH

OLD OAKS COUNTRY CLUB

PROJECT ADRESS

ROOF ELECTRICAL POWER PLAN

SEAL & SIGNATURE

DATE: 08-13-21
PROJECT NO.: 21-826
DRAWN BY: VH
CHECKED BY: TL
DRAWING NO: E104.00

CAD FILE NO:
J:\Proj2016\694 BASIS

PANEL: MDP (EXISTING) LOCATION: MAIN ELE. RM. BUILDING: 3100 PURCHASE ST.	120/208 VOLTS, 3 PHASE, 4 WIRE BUS BARS: COPPER	MAIN BUS 1600 AMPS ☐ MCB ■ MLO MAIN BRK – AMPS – P KAIC RATING –

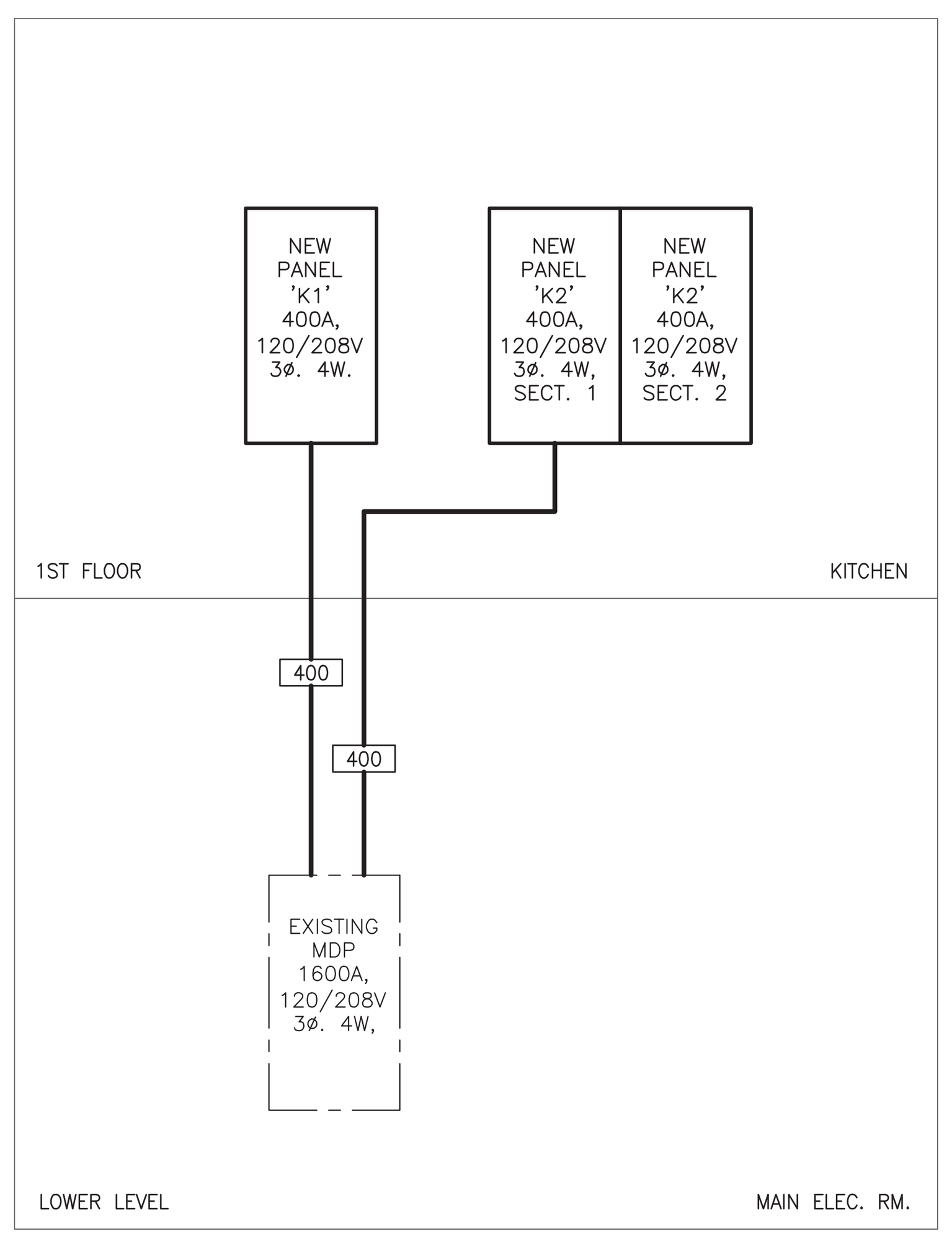
CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA) A	B	C	LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
1	200	HOT WATER BOOSTER (4)	–	–			–	NEW PANEL 'K1'	400	2
			–		–		–			
	3P.		–			–	–		3P.	
3	20	HOT WATER BOOSTER (4)	–	–			–	NEW PANEL 'K2'	400	4
			–		–		–			
	3P.		–			–	–		3P.	
5	20	HOT WATER BOOSTER (4)	–	–			–	EXISTING	–	6
			–		–		–			
	3P.		–			–	–		3P.	
7	20	HOT WATER BOOSTER (4)	–	–			–	EXISTING	–	8
			–		–		–			
	3P.		–			–	–		3P.	
9	20	HOT WATER BOOSTER (4)	–	–			–	EXISTING	–	10
			–		–		–			
	3P.		–			–	–		3P.	
11	–	EXISTING	–	–			–	EXISTING	–	12
			–		–		–			
	3P.		–			–	–		3P.	
				–	–	–				
				–						

PANEL: K1 (SECTION 1) (NEW) LOCATION: KITCHEN BUILDING: 3100 PURCHASE ST.	120/208 VOLTS, 3 PHASE, 4 WIRE MOUNTING : ■ SURFACE ☐ FLUSH BUS BARS: COPPER	MAIN BUS 400 AMPS ☐ MCB ■ MLO MAIN BRK – AMPS – P KAIC RATING –

CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA) A	B	C	LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
1	20	SANDWICH UNIT REF (10)	–	–			–	FREEZER COMPRESSOR (48)	20	2
3	20	HOT PAN (13)	–		–		–			4
5	2P		–			–	–		3P	6
7	20	WORKTOP FREEZER (15)	–	–			–	REF. COMPRESSOR (58)	20	8
9	20	EXHAUST HOODS (16)	–		–		–			10
11	20	60 QT MIXER (35)	–			–	–		3P	12
13			–	–			–	REFRIGERATOR (61)	20	14
15	3P		–		–		–	REFRIGERATOR DEFROST (62)	20	16
17	20	REACH–IN REF (37)	–			–	–	REF. COMPRESSOR (63)	20	18
19	20	MEAT SLICER (41)	–	–			–			20
21	20	FOOD CUTTER (45)	–		–		–		3P	22
23	20	FREEZER (46)	–			–	–	PIZZA PREP REF. (65)	20	24
25	20	FREEZER DEFROST (47)	–	–			–	CHEESE MELTERS (67)	30	26
27	2P		–		–		–		2P	28
29	20	FREEZER COMPRESSOR (48)	–			–	–	COLD PAN (69)	20	30
31			–	–			–	TWIN COFFEE GRINDER (73)	20	32
33	3P		–		–		–	COFFEE BREWER (74)	40	34
35	20	REFRIGERATOR (51)	–			–	–		2P	36
37	20	REFRIGERATOR DEFROST (62)	–	–			–	MICROWAVE (77)	20	38
39	20	REFRIGERATOR (55)	–		–		–	CONVEYOR TOASTER (76)	20	40
41	20	REFRIGERATOR DEFROST (57)	–			–	–	FISH FILE (82)	20	42
				–	–	–				
				–						

PANEL: K1 (SECTION 2) (NEW) LOCATION: KITCHEN BUILDING: 3100 PURCHASE ST.	120/208 VOLTS, 3 PHASE, 4 WIRE MOUNTING : ■ SURFACE ☐ FLUSH BUS BARS: COPPER	MAIN BUS 400 AMPS ☐ MCB ■ MLO MAIN BRK – AMPS – P KAIC RATING –

CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA) A	B	C	LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
43	20	REACH–IN FREEZER (81)	–	–			–	SELF COOKING CENTER (27)	70	44
45	2P		–		–		–			46
47	20	WORKTOP REF. (89)	–			–	–		3P	48
49	20	HOT PAN (91)	–	–			–	GFI RECEPTACLE	20	50
51	2P		–		–		–	SELF COOKING CENTER (102)	70	52
53	20	SANDWICH UNIT REF. (93)	–			–	–			54
55	20	EXHAUST HOOD (95)	–	–			–		3P	56
57	20	CONVECTION OVEN (100)	–		–		–	CHEST FREEZER (79)	20	58
59	20	CONVECTION OVEN (100)	–			–	–	CHEST FREEZER (80)	20	60
61	20	CONVECTION OVEN (101)	–	–			–	ESPRESSO MACHINE (72)	30	62
63	20	CONVECTION OVEN (101)	–		–		–		2P	64
65	20	CONVEYOR TOASTER (75)	–			–	–	INFRARED STRIP HEATER (120)	20	66
67	2P		–	–			–		2P	68
69	20	VACUUM PACK. MACH. (113)	–		–		–	INFRARED STRIP HEATER (122)	20	70
71	20	ICE CUBE MACHINE (106)	–			–	–		2P	72
73	2P		–	–			–	SPACE	–	74
75	20	LIGHTING	–		–		–	SPACE	–	76
77	20	LIGHTING	–			–	–	SPACE	–	78
79	70	SELF COOKING CENTER (27)	–	–			–	SPACE	–	80
81			–		–		–	SPACE	–	82
83	3P		–			–	–	SPACE	–	84
				–	–	–				
				–						



1 ELECTRICAL RISER DIA□ RAM
NOT TO SCALE

FEEDER LE□ END

400	(4)600MCM + #3 GRD. IN 4"C.

ALL WIRE SIZES ARE BASED ON COPPER FEEDERS UNLESS OTHERWISE SPECIFIED.
UPGRADE FEEDERS AS NEEDED FOR NO MORE THAN 3% VOLTAGE DROP.

PANEL: K2 (NEW) LOCATION: KITCHEN BUILDING: 3100 PURCHASE ST.	120/208 VOLTS, 3 PHASE, 4 WIRE MOUNTING : ■ SURFACE ☐ FLUSH BUS BARS: COPPER	MAIN BUS 400 AMPS ☐ MCB ■ MLO MAIN BRK – AMPS – P KAIC RATING –

CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA) A	B	C	LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
1	60	DISHWASHER (2)	–	–			–	SPACE	–	2
3			–		–		–	SPACE	–	4
5	3P		–			–	–	SPACE	–	6
7	–	SPACE	–	–			–	RTU–1	50	8
9	–	SPACE	–		–		–			10
11	–	SPACE	–			–	–		3P	12
13	–	SPACE	–	–			–	MUA–1	70	14
15	–	SPACE	–		–		–			16
17	–	SPACE	–			–	–		3P	18
19	–	SPACE	–	–			–	MUA–2	50	20
21	–	SPACE	–		–		–			22
23	–	SPACE	–			–	–		3P	24
25	–	SPACE	–	–			–	EF–1	20	26
27	–	SPACE	–		–		–			28
29	–	SPACE	–			–	–		3P	30
31	–	SPACE	–	–			–	EF–2	20	32
33	–	SPACE	–		–		–			34
35	–	SPACE	–			–	–		3P	36
37	–	SPACE	–	–			–	EF–1	20	38
39	–	SPACE	–		–		–	F–1	40	40
41	–	SPACE	–			–	–		2P	42
				–	–	–				
				–						

PANEL: PB3 (EXISTING) LOCATION: BASEMENT ELEC. RM. BUILDING: 3100 PURCHASE ST.	120/208 VOLTS, 3 PHASE, 4 WIRE MOUNTING : ■ SURFACE ☐ FLUSH BUS BARS: COPPER	MAIN BUS 225 AMPS ☐ MCB ■ MLO MAIN BRK – AMPS – P KAIC RATING –

	CKT. NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD (KVA)	PER PHASE (KVA) A	B	C	LOAD (KVA)	DESCRIPTION OF LOAD	TRIP AMPS	CKT. NO.
	1	–	EXISTING	–	–			–	EXISTING	–	2
	3	–	EXISTING	–		–		–	EXISTING	–	4
	5	–	EXISTING	–			–	–	EXISTING	–	6
	7	–	SPACE	–	–			–	EXISTING	–	8
	9	–	EXISTING	–		–		–	EXISTING	–	10
	11	–	EXISTING	–			–	–	EXISTING	–	12
	13	–	EXISTING	–	–			–	EXISTING	–	14
	15	–	EXISTING	–		–		–	EXISTING	–	16
	17	20	BACK BAR EQUIPMENT	–			–	–	BAR LIGHTING	20	18
	19	–	EXISTING	–	–			–	EXISTING	–	20
	21	–	EXISTING	–		–		–	EXISTING	–	22
*	23	20	RECEPTACLES	–			–	–	EXISTING	–	24
*	25	20	RECEPTACLES	–	–			–	EXISTING	–	26
*	27	20	RECEPTACLES	–		–		–	BACK BAR EQUIPMENT	20	28
*	29	20	RECEPTACLES	–			–	–	REACH–IN REFRIGERATOR	20	30
*	31	20	RECEPTACLES	–	–			–	EXISTING	–	32
*	33	20	RECEPTACLES	–		–		–	EXISTING	–	34
*	35	20	RECEPTACLES	–			–	–	EXISTING	–	36
*	37	20	RECEPTACLES	–	–			–	HWH–1	20	38
	39	20	GFI RECEPTACLES	–		–		–	SPACE	–	40
	41	20	GFI RECEPTACLES	–			–	–	SPACE	–	42
					–	–	–				
					–						

NOTES:

* 1. CIRCUIT BREAKER SHALL BE A GFCI TYPE CIRCUIT BREAKER.

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
67 Federal Rd., Bldg. A, Ste. 201
Brookfield, CT 06804
Tel: (203) 663-3703
www.LongEngineers.com

DOB BSCAN

ISS/REV	DATE	ISSUED TO	DESCRIPTION
1	09.17.21	OWNER/GC	ADDENDUM #1

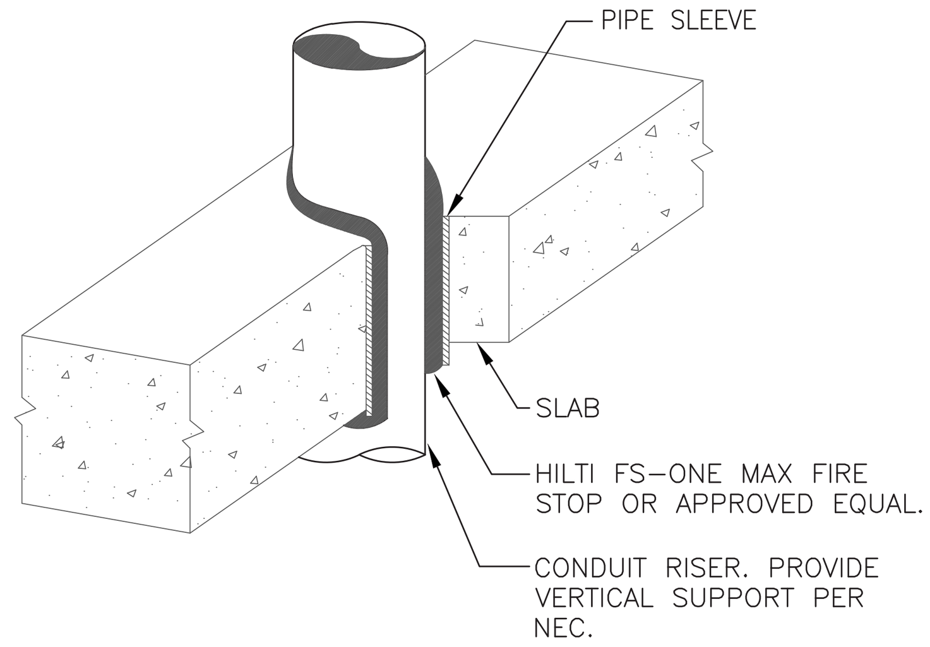
NORTH

OLD OAKS COUNTRY CLUB

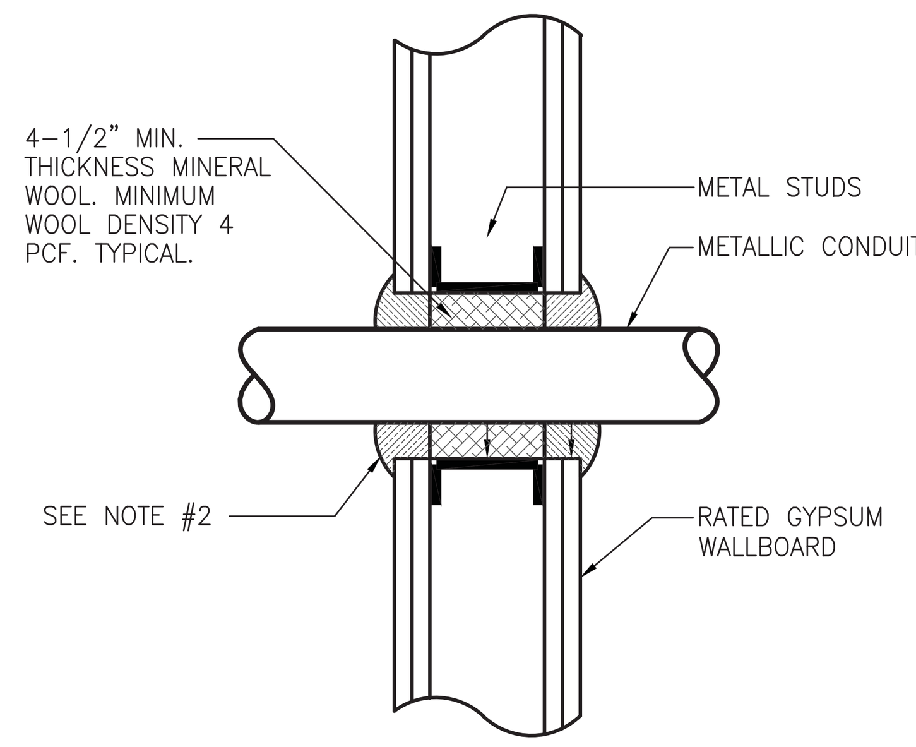
PROJECT ADRESS

ELECTRICAL RISER DIAGRAM & PANEL SCHEDULES

SEAL & SIGNATURE	
DATE:	08-13-21
PROJECT NO.:	21-826
DRAWN BY:	VH
CHECKED BY:	TL
DRAWING NO:	E200.00
CAD FILE NO:	J:\Proj2016\694 BASIS



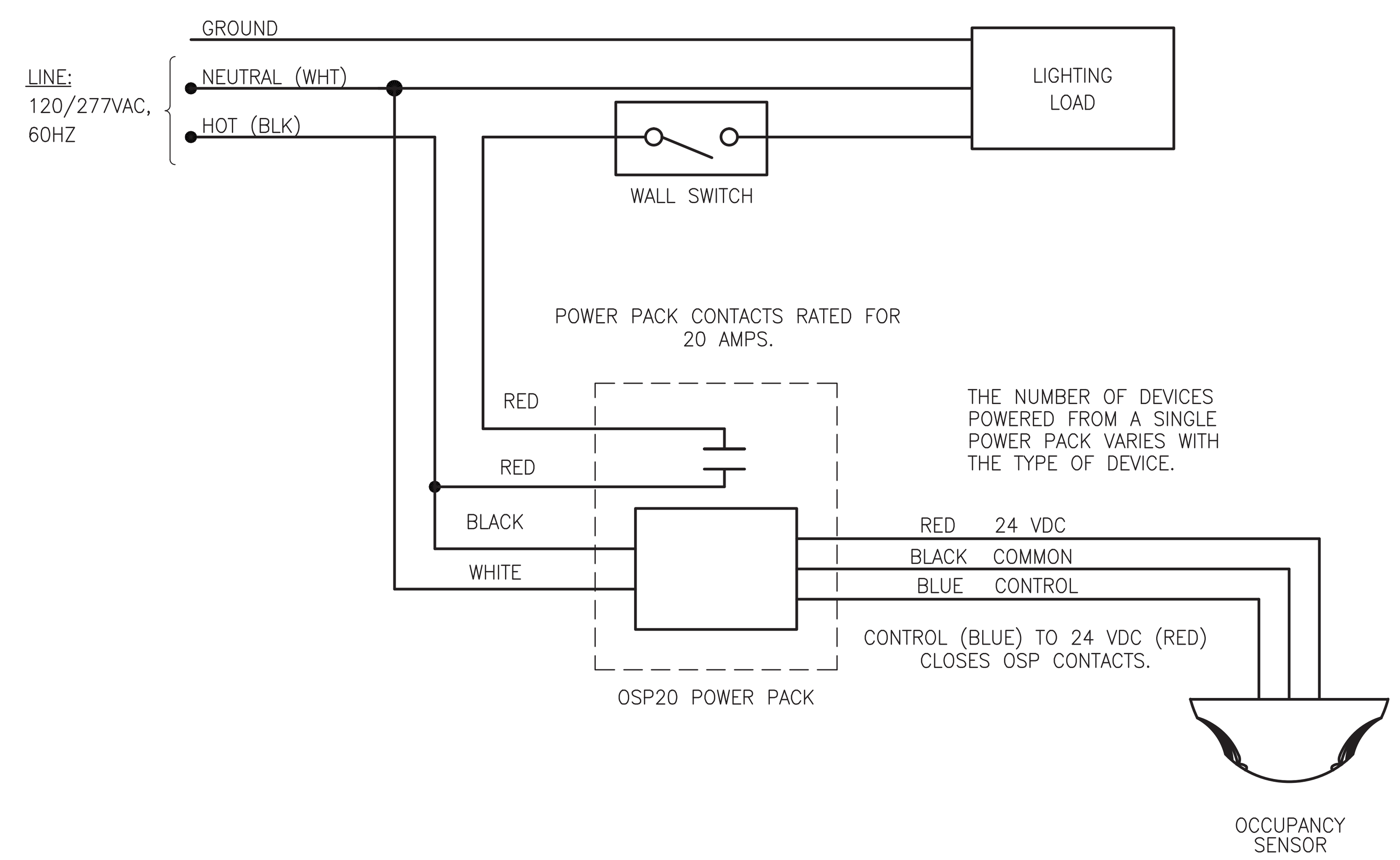
1 **□ERTICAL COND□ IT PENETRATION DETAIL**
NOT TO SCALE



NOTES:

1. CONDUIT SHALL BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE ANNULAR SPACE BETWEEN CONDUIT AND WALL OPENING SHALL BE 0" TO A MAXIMUM OF 1"
2. HILTI FS-ONE MAX FIRESTOP PUTTY OR APPROVED EQUAL. MIN. 5/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. AT POINT CONTACT LOCATION BETWEEN PENETRANT AND WALL, A 1/4" CROWN OF FILL MATERIAL SHALL BE APPLIED AT THE CONDUIT/WALL INTERFACE ON BOTH SIDES OF THE ASSEMBLY, LAPPING 1/4" ON THE CONDUIT AND 1/4" BEYOND THE PERIPHERY OF THE OPENING.
3. ASSEMBLY SHALL BE INSTALLED TO COMPLY WITH UL FIRESTOP ASSEMBY WL1175.

□ **T□ PICAL COND□ IT □□PS□ M □ ALL PENETRATION DETAIL**
NOT TO SCALE



□ **OCC□ PANC□ SENSOR □ IRIN□ DIA□ RAM**
NOT TO SCALE

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P: 203.708.0047
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DOB BSCAN

ISS/REV	DATE	ISSUED TO	DESCRIPTION

NORTH

OLD OAKS COUNTRY CLUB

PROJECT ADRESS

ELECTRICAL DETAILS

SEAL & SIGNATURE

DATE:	08-13-21
PROJECT NO.:	21-826
DRAWN BY:	VH
CHECKED BY:	TL
DRAWING NO:	E201.00
CAD FILE NO:	J:\Proj2016\694 BASIS

□□□□TRI□A□□P□□I□I□ATION□

PART 1– GENERAL

1. GENERAL REQUIREMENTS:

A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.

B. ALL APPLICABLE CODES, LAWS, AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIAL WHICH VIOLATES ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.

C. ITEMS AND SERVICES NOT SHOWN ON DRAWINGS BUT MENTIONED IN SPECIFICATIONS, OR VISE VERSA, OR ITEMS AND SERVICES NECESSARY TO RENDER THE WORK COMPLETE AND READY FOR OPERATION SHALL BE PROVIDED WITHOUT ADDITIONAL COST.

D. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH THE EXISTING BASE BUILDING CONSTRUCTION STANDARDS.

E. PRIOR TO SUBMISSION OF BID THE CONTRACTOR SHALL VISIT THE JOB SITE AND ASCERTAIN THE ACTUAL FIELD CONDITIONS AS THEY RELATE TO THE WORK AS INDICATED ON THE DRAWINGS AND DESCRIBED HEREIN.

F. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTIONS OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK, AND THE ACCESS TO SUCH SPACES, HAS BEEN MADE AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT THE EXECUTION OF THE WORK. THE CONTRACTOR IS RESPONSIBLE TO INDICATE ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND ACTUAL FIELD CONDITIONS PRIOR TO SUBMITTAL OF BID. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THE ON–SITE INSPECTION SHALL VERIFY EXISTING CONDUIT (SIZES, CLEARANCES, ETC) AND CONDITIONS.

G. INVESTIGATE EACH SPACE THOROUGHLY TO DETERMINE WHICH EQUIPMENT MUST BE MOVED. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM THE MANUFACTURER IN SECTIONS IN SIZES SUITABLE FOR MOVING THROUGH AVAILABLE RESTRICTIVE SPACES. DETERMINE FROM BUILDING OWNER AND/OR TENANT AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.

H. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS REQUIRED. MAINTAIN HEADROOM AND SPACE CONDITIONS.

I. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.

J. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES AND CHARGES IN MAKING UP THE WORK PROPOSAL.

K. CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES, AT TIMES NOT TO NTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN ONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.

L. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER ORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.

M. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.

N. PROVIDE ALL NECESSARY FLASHING AND COUNTERFLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AS REQUIRED.

O. ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE, ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.

P. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.

Q. UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.

R. ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.

S. INSURANCE: IN ACCORDANCE WITH BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.

T. THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATES OF INSPECTION AND APPROVAL.

U. FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.

V. ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.

2. SCOPE OF WORK:

A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMITY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.

B. THE SCOPE OF WORK SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1) DISCONNECTION AND REMOVAL OF ELECTRICAL EQUIPMENT AS REQUIRED FOR NEW INSTALLATION, INCLUDING ALL CONDUCTORS AND CONDUIT BACK TO THEIR SOURCE.

2) PROVIDING OF LIGHT FIXTURES AND LAMPS INCLUDING EXIT AND EMERGENCY LIGHTING AND ALL ASSOCIATED COMPONENTS AND BRANCH CIRCUITING.

3) PROVIDING FOR NEW RACEWAYS AND CONDUCTORS FOR LIGHTING AND POWER.

4) CUTTING, CHANNELING, AND CHASING REQUIRED TO ACCOMMODATE THE ELECTRICAL INSTALLATION AND ROUGH PATCHING.

5) ADDITIONS AND MODIFICATIONS TO EXISTING POWER DISTRIBUTION EQUIPMENT AND RELATED FEEDERS.

6) PROVIDING OF HVAC POWER AND WIRING AND FINAL CONNECTIONS TO HVAC EQUIPMENT.

7) PROVIDING OF ELECTRICAL CONDUIT, JUNCTION BOXES, PULL BOXES, ETC., REQUIRED FOR ALL ELECTRICAL AND MECHANICAL EQUIPMENT.

8) GROUNDING OF ALL EQUIPMENT AS REQUIRED BY THE NATIONAL ELECTRICAL CODE (NEC) AND AS SHOWN ON THE DRAWINGS.

9) MAINTAIN CONTINUITY OF EXISTING CIRCUITING TO ADJACENT AREAS NOT AFFECTED BY THE NEW WORK.

10) PROVIDING TELEPHONE/DATA AND SIGNAL EMPTY CONDUIT, JUNCTION BOXES, PULLBOXES, SLEEVES, AND FISHWIRES.

11) PROVIDING ALL REQUIRED ADDITIONS AND MODIFICATIONS TO THE NEW/EXISTING BUILDING FIRE ALARM SYSTEM.

12) PROVIDING RECEPTACLES, LIGHT SWITCHES, DISCONNECT SWITCHES, FUSES, DIMMERS, OUTLET BOXES, CONTACTORS AND OTHER WIRING DEVICES INCLUDING RELATED BRANCH CIRCUIT WIRING.

13) PROVIDING TEMPORARY LIGHT AND POWER DURING CONSTRUCTION.

C. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLEMENTED OR SPECIFIED HEREIN.

D. THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

E. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.

3. SHOP DRAWINGS:

A. PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT, CONTRACTOR SHALL PROVIDE COMPLETE SETS OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, INDICATING CAPACITY, DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.

B. INDICATE ON EACH SHOP DRAWINGS SUBMITTED:

1) PROJECT NAME AND LOCATION
2) NAME OF ARCHITECT AND ENGINEER
3) ITEM IDENTIFICATION
4) APPROVAL STAMP OF PRIME CONTRACTOR

C. SUBMISSIONS:

1) SUBMISSIONS 11 IN. X 17 IN. OR SMALLER: IF THE SUBMISSION IS A CATALOG CUT, THEN THE CONTRACTOR SHALL SUBMIT ONE ORIGINAL AND TWO COPIES. OTHERWISE, HE SHALL SUBMIT THREE COPIES. THE ARCHITECT WILL FORWARD THE ORIGINAL AND ONE COPY (TWO COPIES WHEN NO ORIGINAL IS RECEIVED) TO THE ENGINEER. ALL CATALOG CUTS SHALL BE COMPLETE.

2) SUBMISSIONS LARGER THAN 11 IN. X 17 IN.: SUBMIT TWO PRINTS TO THE ARCHITECT. THE ARCHITECT WILL FORWARD ONE PRINT TO THE ENGINEER.

3) SUBMISSIONS MAY BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

D. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING ITEMS AND ASSOCIATED COMPONENTS:

1) PANELBOARDS (INCLUDING DIMENSIONS, SCHEDULES, AND CATALOG CUTS).
2) CIRCUIT BREAKERS
3) FIRE ALARM DEVICES
4) LIGHTING FIXTURES AND LAMPS
5) DISCONNECT SWITCHES AND FUSES
6) WALL SWITCHES
7) WIRING DEVICES

4. AS–BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS:

A. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.

B. THESE INSTRUCTIONS SHALL BE TYPED ON 8–1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS. CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER.

C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.

D. REPRODUCIBLE "AS–BUILT" DRAWINGS SHALL BE PROVIDED INDICATING THE AS INSTALLED CONDITIONS OF THE WORK. "AS–BUILT" DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AND/OR THE CLIENT AFTER COMPLETION OF THE INSTALLATION.

5. GENERAL PROVISIONS FOR ELECTRICAL WORK:

A. SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL" HAVE BEEN OMITTED FOR BREVITY.

B. DEFINITIONS:

1) "ELECTRICAL CONTRACTOR", "THE CONTRACTOR": THE PARTY OR PARTIES THAT HAVE BEEN DULY AWARDED THE CONTRACT FOR AND ARE THEREBY MADE RESPONSIBLE FOR THE ELECTRICAL WORK AS DESCRIBED HEREIN.

2) "ARCHITECT", "ENGINEER", "OWNERS REPRESENTATIVE": THE PARTY OR PARTIES RESPONSIBLE FOR INTERPRETING, ACCEPTING, AND OTHERWISE RULING ON THE PERFORMANCE UNDER THIS CONTRACT.

3) "PROVIDE": TO SUPPLY, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.

4) "INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.

5) "FURNISH" OR "SUPPLY: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.

6) "WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.

7) "WIRING": RACEWAY, FITTINGS, WIRE, BOXES AND RELATED ITEMS.

8) "CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES, WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.

9) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.

10) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

C. TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING HOURS OF ALL TRADES. COST OF ENERGY WILL BE PAID FOR BY OWNER. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.

D. QUALITY ASSURANCE:

1) QUALITY AND GAUGE OF MATERIALS: NEW, BEST OF THEIR RESPECTIVE KINDS, FREE FROM DEFECTS AND LISTED BY UNDERWRITERS LABORATORIES, INC., OR OTHER NATIONALLY APPROVED TESTING AGENCY AND BEARING THEIR LABEL. MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.

2) GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PART 1 PARAGRAPH 2.D.

3) HEIGHTS OF OUTLETS:

a) FROM FINISHED FLOOR TO CENTER LINE OF OUTLETS FOR:

RECEPTACLES AND TELEPHONES:	1 FT.–6 IN. (U.O.N.)
WALL SWITCHES:	4 FT.–0 IN.
WALL FIXTURES:	7 FT.–0 IN.
MOTOR CONTROLS:	5 FT.–0 IN.
FIRE ALARM STROBE LIGHTS:	6 FT.–8 IN. OR 6 IN. BELOW CEILING (WHICHEVER IS LOWER)
GONGS AND HORNS:	7 FT.–6 IN.
FIRE ALARM PULL STATIONS:	4 FT.–0 IN.

b) EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.

PART 2– PRODUCTS/APPLICATION

1. LOW–VOLTAGE DISTRIBUTION EQUIPMENT:

A. PROVIDE COMPLETE EQUIPMENT INCLUDING: SWITCHES, FUSES, CIRCUIT BREAKERS, PANELS AND TRANSFORMERS.

B. ALL EQUIPMENT SHALL CONFORM TO NEMA, ANSI AND IEEE STANDARDS.

2. APPROVED MANUFACTURERS:

A. DISCONNECT SWITCHES:	SQUARE D, GE, EATON, SIEMENS
B. PANELBOARDS:	SQUARE D, GE, EATON, SIEMENS (MATCH BUILDING STANDARD)
C. CIRCUIT BREAKERS:	SQUARE D, GE, EATON, SIEMENS (MATCH BUILDING STANDARD)
D. RACEWAYS:	NATIONAL WIRE PRODUCTS, WHEATLAND, REPUBLIC
E. WIRE/CABLE:	ROME PHELPS DODGE, GENERAL CABLE, SIMPLEX, SOUTHWIRE
F. RECEPTACLES:	HUBBELL, LEVITON
G. LIGHT SWITCHES:	HUBBELL, LEVITON
H. DIMMER SWITCHES:	LUTRON
I. OCCUPANCY SENSORS:	HUBBELL, LUTRON
J. EXIT SIGNS:	DUAL–LITE, ATLITE, LIGHT ALARM (MATCH BUILDING STANDARD)
K. FLOOR BOXES:	HUBBELL, WIREMOLD

3. WIRING DEVICES:

A. PROVIDE COMPLETE MATERIAL AND ACCESSORIES AS NOTED.

B. LOCAL WALL SWITCHES SHALL BE SPECIFICATION GRADE, TOGGLE, QUIET TYPE, RATED 20 AMP, 120/277 VOLT, AC. SIMILAR TO HUBBELL NOS. 1221 (SINGLE POLE), 1222 (DOUBLE POLE), 1223 (3–WAY) AND 1224 (4–WAY).

C. DIMMERS SHALL BE RATED AT VOLTAGE COMPATIBLE WITH FIXTURE, WATTAGE SIZE AS REQUIRED. WHERE DIMMER SWITCHES ARE LOCATED NEXT TO SINGLE POLE OR VARIABLE SPEED TYPE SWITCHES, THE SINGLE POLE/VARIABLE SPEED SWITCHES SHALL MATCH THE DIMMING SWITCH STYLE. DIMMERS, WHERE GANGED TOGETHER, SHALL BE PROPERLY DERATED BASED ON MANUFACTURERS RECOMMENDATIONS. FINS OF DIMMERS SHALL NOT BE REMOVED IN MULTIGANG INSTALLATIONS. PROVIDE OVER–SIZED JUNCTION BOX FOR MOUNTING OF WALL DIMMERS.

D. INSERTION RECEPTACLES SHALL BE SPECIFICATION GRADE DUPLEX CONVENIENCE 125 VOLTS, 2 POLE, 3 WIRE, U GROUND SLOT. GROUNDED, EXCEPT AS NOTED. MEETING NEMA STANDARDS, PUBLICATION WD–1–1971. SIMILAR TO HUBBELL NOS. 5362 (20 AMP) AND 5262 (15 AMP).

1) SINGLE, EXCEPT AS NOTED: 20 AMP STRAIGHT BLADE, SIMILAR TO HUBBELL NO. 5361. 125 VOLT, 2 POLE, 3 WIRE, GROUNDED.

2) SPECIAL USE: NONINTERCHANGEABLE TYPES AND RATINGS.

3) GROUND FAULT INTERRUPTER RECEPTACLES: FEED–THRU TYPE. SIMILAR TO HUBBELL NOS. GF5362 (20 AMP) AND GF5262 (15 AMP).

4) CLOCKS: SINGLE REGRESSED RECEPTACLE, 5 WIRE, SIMILAR TO HUBBELL NO. 5708.

E. DEVICE PLATES: SEE ARCHITECT FOR TYPE. FOR RECEPTACLES WITH OTHER THAN 120 VOLT, INSCRIBE VOLTAGE AVAILABLE.

F. ALL SWITCHES AND RECEPTACLES TO BE WHITE UNLESS OTHERWISE SPECIFIED BY ARCHITECT.

G. MOUNTING ORIENTATION OF DEVICES (HORIZONTAL OR VERTICAL) TO BE COORDINATED WITH ARCHITECT.

H. MULTIPLE DEVICES AT A COMMON LOCATION SHALL BE INSTALLED IN A COMMON MULTI–GANG BOX WITH A SINGLE COMMON FACEPLATE. DERATE DIMMER SWITCHES PER MANUFACTURER'S REQUIREMENTS WHEN GANGED.

4. RACEWAYS:

A. PROVIDE RACEWAYS ONLY AS HERE–IN SPECIFIED, EXCEPT AS NOTED. RACEWAYS SHALL BE RUN CONCEALED, EXCEPT AS NOTED.

B. PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE, STRAP HANGERS, OR WALL BRACKETS. PROVIDE U–BOLTS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND CONNECTED TO ACCEPTABLE SUPPORTS. PROVIDE RISER CLAMPS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND RESTING ON SLAB. FOR THROUGH–THE–FLOOR SYSTEMS, UTILIZE AN ASSEMBLY SIMILAR TO HUBBELL FIRE RATED POKE–THROUGH FLOOR BOX SYSTEM. FOR ABOVE FLOOR FITTINGS TELEPHONE SHALL BE BUSHED HOLE AND POWER SHALL BE DUPLEX RECEPTACLE OR OTHER AS NOTED. PROVIDE SEPARATION BARRIER BETWEEN POWER AND TELEPHONE COMPARTMENTS. PROVIDE JUNCTION BOX ON UNDERSIDE OF FLOOR. PACK FITTING TO RESTORE FIRE RATING OF FLOOR.

C. SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U–BOLTS. SPACING OF SUPPORTS SHALL BE A MINIMUM OF 10 FT ON CENTER FOR METALLIC RACEWAY AND AS REQUIRED FOR NONMETALLIC RACEWAY. SPACING SHALL BE 5 FT ON CENTER FOR WIREWAYS AND PER CODE AND AS NOTED FOR OTHERS. MOUNT SUPPORTS TO STRUCTURE MASONRY WITH TOGGLE BOLTS ON HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK, MACHINE SCREWS ON METAL, BEAM CLAMPS ON FRAMEWORK, WOOD SCREWS ON WOOD, AND PAN THROUGH STRAPS IN METAL DECK. NAILS, RAWL PLUGS OR WOOD PLUGS SHALL NOT BE PERMITTED. WHERE REQUIRED BY STRUCTURE, FURNISH THROUGH BOLTS AND FISHPLATES.

D. EXPOSED RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS. PROVIDE CLEARANCE WITH WATER, STEAM OR OTHER PIPING (MINIMUM 3 IN. SEPARATION FROM STEAM AND HOT WATER PIPES, EXCEPT 1 IN. FROM PIPE COVER AT CROSSINGS AND 18 IN. FOR PARALLEL RUNS). FOR HUNG CEILING OUTLETS, RUN IN HUNG CEILING AND CONNECT TO CEILING SUPPORT CHANNELS. IN MASONRY AND POURED CONCRETE, RUN VERTICALLY ONLY.

E. MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC RACEWAYS WITH GROUND CONDUCTOR, AND IN FLEXIBLE CONDUIT FOR FEEDERS AND MOTOR TERMINALCONNECTIONS.

F. EMPTY RACEWAYS OVER 10 FT LONG: PROVIDE FISH OR PULL WIRE, GALVANIZED OR NYLON ROPE.

G. PROVIDE RACEWAYS COMPLETE WITH BOXES, FITTINGS, AND ACCESSORIES.CONDUIT OR TUBING SIZES REFERRED TO IN SPECIFICATIONS AND ON DRAWINGS ARE NOMINAL DIAMETERS. MINIMUM DIAMETER SHALL BE 3/4 IN.

H. ALL WIRES TO BE RUN IN CONDUIT. METAL CLAD (TYPE MC) MAY BE USED FOR CONCEALED BRANCH CIRCUITRY IN TENANTS SPACE ONLY WHEN APPROVED BY BUILDING MANAGEMENT AND WHERE PERMITTED BY CODE. EMT SHALL BE USED OUTSIDE TENANT SPACE AND IN BUILDING CLOSETS.

I. RIGID STEEL CONDUIT SHALL BE PERMITTED FOR FEEDERS AND BRANCH CIRCUITS. PAINT MALE THREADS OF FIELD–THREADED CONDUIT WITH GRAPHITE–BASE PIPE COMPOUND AND BUTT CONDUIT ENDS. TOUCH UP MARRED SURFACES AND FIELD–CUT THREADS, CRCCOLD GALVANIZED.

J. ELECTROMETALLIC TUBING (EMT) SHALL BE PERMITTED FOR BRANCH CIRCUITS ONLY IN DRY LOCATIONS, DRY WALLS, HUNG CEILINGS, HOLLOW BLOCK WALLS AND FURRED SPACES. EMT SHALL NOT BE PERMITTED IN RAISED FLOORS.

K. CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH RACEWAY COUPLING.

L. CONDUIT FOR INTERIOR BRANCH CIRCUITS SHALL BE THIN WALL TUBING (EMT), SIZED PER DRAWING, 3/4" MINIMUM.

M. ELECTROMETALLIC TUBING (EMT): THIN WALL PIPE, GALVANIZED, THREADLESS. GALVANIZED RIGID STEEL ELBOWS, 2 IN. OR LARGER.

N. RIGID METAL CONDUIT: INDUSTRY STANDARD STEEL CONDUIT (3/4" MIN., 4" MAX.)

O. THREADED FITTINGS SHALL BE USED WITH RIGID CONDUIT. DOUBLE SET SCREW FITTINGS SHALL BE USED WITH EMT.

P. FLEXIBLE STEEL CONDUIT: CONTINUOUS SINGLE STRIP, GALVANIZED, GROUNDING TYPE.

Q. FLEXIBLE STEEL CONDUIT MAY BE USED ONLY FOR:

1) SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICABLE.

2) FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE: MINIMUM 4 FT LENGTHS, MAXIMUM 6 FT. LENGTHS.

3) FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMERS AND OTHER VIBRATING EQUIPMENT: WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH 18 IN. WITH SLACK. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END.

4) FOR EXPANSION JOINT CROSSINGS. CROSS AT RIGHT ANGLES AND ANCHOR ENDS. CONNECT GROUND CONDUCTOR TO ENCLOSURE OR RACEWAY AT EACH END.

R. EXPANSION FITTINGS: INSTALL AT RIGHT ANGLES WITH CLIP CENTERED IN EXPANSION JOINT. PROVIDE LENGTH OF RUNS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PRESET FITTINGS SHALL ALLOW FOR TEMPERATURE VARIATION.

S. FLEXIBLE METALLIC CONDUIT: ANGLE WEDGE TYPE WITH INSULATED THROAT.

T. BUSHINGS: METALLIC INSULATED TYPE.

U. WIREWAYS: WIRE SHALL BE AS NOTED, MINIMUM NO. 16 GAUGE STEEL WITH GROUND CONTINUITY. FINISH SHALL BE BAKED ENAMEL. COVERS SHALL BE SCREW–ON.

V. SURFACE METAL RACEWAY: SIZE AS NOTED. BASE 0.04 IN., COVER 0.25 IN. MATERIAL SHALL BE STEEL. FINISH SHALL BE BAKED ENAMEL. COVERS SHALL BE SCREW–ON.

W. RACEWAYS PASSING THROUGH FIRE–RATED CONSTRUCTION, ALL OPENINGS TO BE SEALED WITH FIRE SEALANT AS REQUIRED TO MAINTAIN THE EXISTING FIRE RATING.

X. INSTALL ACCESSIBLE JUNCTION AND PULLBOXES CLEAR OF OTHER TRADES AND SUPPORTED FROM BUILDING STRUCTURE INDEPENDENT OF CONDUIT.

Y. PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING ONE CONDUCTOR RETURN. MAXIMUM RESISTANCE SHALL BE 25 OHMS.

5. PULL BOXES, PANEL BOXES, AND OUTLET BOXES:

A. OUTLET BOXES: EXCEPT AS OTHERWISE REQUIRED BY CONSTRUCTION, DEVICES OR WIRING, BOXES SHALL BE STAMPED STEEL, 4 IN. SQUARE OR OCTAGON FOR FIXTURES. BOXES ABOVE CEILING SHALL BE 1–1/2 IN. DEEP. BOXES IN CEILING OR SLAB SHALL BE 3 IN. DEEP. BOXES IN WALL FOR FIXTURES SHALL BE 2–3/4 IN. DEEP. BOXES IN WALL FOR RECEPTACLES AND SWITCHES SHALL BE 1–1/2 IN. DEEP. FURNISH WITH RAISED COVERS AND FIXTURE STUDS WHERE REQUIRED. WITHOUT FIXTURE OR DEVICE: FURNISH BLANK COVER. OFFSET BACK–TO–BACK OUTLETS WITH MINIMUM 6 IN. SEPARATION.

B. JUNCTION AND PULL BOXES: GALVANIZED SHEET STEEL WITH SCREW–ON COVERS, EXCEPT AS NOTED. FURNISH WITH INSULATED SUPPORTS FOR CABLES. LOCATIONS SHALL BE AS NOTED OR REQUIRED AND ACCESSIBLE. PROVIDE BARRIERS IN NEW AND RENOVATED BOXES BETWEEN EMERGENCY AND NORMAL WIRING. FLOOR BOXES SHALL BE SUITABLE FOR CONDUIT AND DEVICES NOTED. RAISED OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH ABOVE FLOOR FITTING. TELEPHONE: BUSHED HOLE. POWER: DUPLEX RECEPTACLE OR OTHER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY. FLUSH OUTLETS SHALL BE HUBBELL #B2414 SERIES WITH FLUSH FLOOR FITTING FOR TELEPHONE AND FLUSH DUAL FLAP COVER WITH DUPLEX RECEPTACLE FOR POWER AS NOTED. INCREASE SIZE TO SUIT AS NECESSARY.

C. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. OUTLET BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRON OR GROUT IN WITH MASONRY. VERIFY OUTLET LOCATIONS IN FINISHED SPACES WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISHES. PROVIDE BARRIERS BETWEEN SWITCHES CONNECTED TO DIFFERENT PHASES FOR VOLTAGES EXCEEDING 150 VOLTS TO GROUND.

D. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES. CONCEAL JUNCTION AND PULL BOXES IN FINISHED SPACES. WHERE NECESSARY, REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. BOXES SHALL BE ACCESSIBLE. SUPPORT BOXES FROM BUILDING STRUCTURE, INDEPENDENT OF CONDUIT. PROVIDE FLOOR–TO–CEILING CHANNELS FOR MOUNTING ON DRYWALL AND LIGHTWEIGHT CONSTRUCTION. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILINGS SHALL BE ACCESSIBLE THROUGH OPENING CREATED BY REMOVAL OF FIXTURE. SECURE TO BLACK IRON SUPPORT. MOTOR TERMINAL BOXES: COORDINATE WITH MOTOR BRANCH CIRCUIT CONDUIT AND WIRING; ADD BOX VOLUME WHERE REQUIRED.

E. PROVIDE PULL BOXES AND JUNCTION BOXES IN LONG STRAIGHT RUNS OF RACEWAY TO ASSURE THAT CABLES ARE NOT DAMAGED WHEN THEY ARE PULLED, TO FULFILL REQUIREMENTS AS TO THE NUMBER OF BENDS PERMITTED IN RACEWAY BETWEEN CABLE ACCESS POINTS, THE ACCESSIBILITY OF CABLE JOINTS AND SPLICES, AND THE APPLICATION OF CABLE SUPPORTS.

F. PULLBOXES AND JUNCTION BOXES SHALL BE SIZED SO THAT THE MINIMUM BENDING RADIUS CRITERIA SPECIFIED FOR THE WIRES AND CABLE ARE MAINTAINED.

G. USE WEATHERPROOF BOXES, JUNCTION BOXES AND DEVICES FOR ALL REQUIRED WEATHERPROOF INSTALLATION.

H. OUTLET BOXES SHALL BE PROVIDED FOR ALL LOW VOLTAGE DEVICES (I.E. TELEPHONE/DATA, SECURITY, FIRE ALARM, ETC.) COORDINATE BOX SIZE AND DEPTH WITH RESPECTIVE VENDOR.

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
67 Federal Rd., Bldg. A, Ste. 201 Brookfield, CT 06804
Tel: (203) 663-3703 www.LongEngineers.com

DOB BSCAN

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NORTH

OLD OAKS COUNTRY CLUB

PROJECT ADRESS

ELECTRICAL SPECIFICATIONS (1 OF 2)

SEAL & SIGNATURE

DATE:	08-13-21
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ELECTRICAL SPECIFICATIONS (CONT'D)

6. WIRES AND CABLES:

   A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE REFERENCE SHALL BE AWG EXCEPT AS NOTED.

   B. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER). GENERAL USE CABLING SHALL BE NO. 12 MINIMUM. AT 120 VOLTS AND OVER 100 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. AT 265 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM.

   C. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE NO. 14 MINIMUM. AT 120 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 12 MINIMUM.

   D. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.

   E. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCEA STANDARDS. TYPE THHN OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED. TYPE SFF-2 SHALL BE UTILIZED FOR BRANCH CIRCUITS LOCATED IN WIRING CHANNELS OF CONTINUOUS FLUORESCENT FIXTURES AND IN AMBIENT TEMPERATURES OVER 90 DEG C. FOR UNGROUNDED ISOLATED BRANCH CIRCUITS PROVIDE CROSS-LINKED POLYETHYLENE INSULATION (TYPE XHHW).

   F. METAL CLAD (TYPE MC) MAY BE USED FOR CONCEALED BRANCH CIRCUITRY IN TENANTS SPACE ONLY WHEN APPROVED BY BUILDING MANAGEMENT AND WHERE PERMITTED BY CODE. EMT SHALL BE USED OUTSIDE TENANT SPACE AND IN BUILDING CLOSETS. STATE IN PROPOSAL THAT PRICE IS BASED UPON THE USE OF MC.

   G. COLOR CODING SHALL BE AS FOLLOWS:

      1) 120/208 VOLT SYSTEM: BLACK FOR A PHASE, RED FOR B PHASE, BLUE FOR C PHASE.

      2) 277/480 VOLT SYSTEM: BROWN FOR A PHASE, ORANGE FOR B PHASE, YELLOW FOR C PHASE.

      3) NEUTRAL WIRE SHALL UTILIZE WHITE OUTER COVERING THROUGHOUT.

      4) EQUIPMENT GROUND WIRE SHALL UTILIZE GREEN OUTER COVERING THROUGHOUT.

      5) WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION TO OVERLAP CONDUCTORS WITH 6 IN. COLOR TAPING IN ACCESSIBLE LOCATIONS.

   H. PROVIDE FLAMEPROOF LINEN OR FIBER TAGS IN ACCESSIBLE LOCATIONS FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.

   I. TERMINATIONS, SPLICES AND TAPS UNDER 600 VOLTS: COPPER CONDUCTORS NO. 10 AND SMALLER SHALL UTILIZE COMPRESSION-TYPE OF TWIST-ON SPRING-LOADED CONNECTORS AND CLEAR NYLON-INSULATED COVERING. COPPER CONDUCTORS NO. 8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING. CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTISEIZE COMPOUND ON TANG.

   J. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32 DEG F. PROVIDE THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN COMPUTER AREA RAISED FLOORS.

   K. LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS.

   L. PERFORM CONTINUITY AND INSULATION TESTS. MEGGER TEST 100 PERCENT OF FEEDERS, 10 PERCENT OF BRANCH CIRCUITS AND ALL MOTOR BRANCH CIRCUITS OVER 25 HP. PERFORM TESTS PRIOR TO CONNECTING EQUIPMENT AND IN PRESENCE OF AUTHORIZED REPRESENTATIVES. SUBMIT WRITTEN REPORT OF RESULTS. CORRECT OR REPLACE CABLE TESTING BELOW MANUFACTURER'S STANDARDS.

   M. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32°F (0C). PROVIDE CABLE SUPPORTS FOR WIRE IN RISER CONDUITS AS REQUIRED BY CODE.

7. GROUNDING:

   A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED TO PROVIDE AN ELECTRICALLY GROUNDING PATH TO THE GROUNDING ELECTRODE IN A CODE APPROVED MANNER.

   B. METAL RACEWAYS, METAL ENCLOSURES OF ELECTICAL DEVICES AND EQUIPMENT, LIGHTING FIXTURES AND OTHER EQUIPMENT SHALL BE COMPLETELY GROUNDED.

   C. PROPER HARDWARE REQUIRED FOR COMPLETE GROUNDING SYSTEM SHALL BE INSTALLED BY THE CONTRACTOR. USE EXOTHERMIC WELDING PROCESS FOR INACCESSABLE CONNECTIONS.

   D. USE AN INTERNAL BONDING CONDUCTOR WHERE FLEXIBLE METALLIC CONDUITS ARE INSTALLED.

   E. GROUND MOTORS FROM GROUNDING BUSHING IN THE STARTER TO THE MOTOR FRAME.

   F. GROUNDING CONDUCTOR SHALL BE RUN WITH THE CIRCUIT CONDUCTORS AND TERMINATED TO AN APPROVED GROUNDING TERMINAL.

   G. PROVIDE SUPPLEMENTARY GROUND BONDING WHERE METALLIC CONDUITS TERMINATE AT METAL CLAD EQUIPMENT (OR AT THE METAL PULL BOX OF EQUIPMENT) FOR WHICH A GROUND BUS IS SPECIFIED WITH A BUSHING OF THE GROUNDING TYPE CONNECTED INDIVIDUALLY TO GROUND BUS.

   H. ALL GROUND WIRES SHALL BE SUITABLY PROTECTED FROM MECHANICAL INJURY.

   I. CONTRACTOR SHALL PROVIDE ALL REQUIRED GROUNDING AND BONDING FOR ALL NEW I.T. RACKS.

8. LIGHTING FIXTURES:

   A. COORDINATE ALL WORK INCLUDING ALL LIGHT FIXTURE SPECIFICATIONS WITH ARCHITECTURAL DRAWINGS.

   B. PROVIDE FIXTURES ("LUMINARIES"), COMPONENTS AND LAMPS. FIXTURES SHALL BE COMPLETELY FACTORY ASSEMBLED, WIRED AND EQUIPPED WITH ALL NECESSARY SOCKETS, BALLASTS, SUPPORTING HARDWARE, AND ACCESSORIES.

   C. ALL LIGHTING FIXTURE MOUNTING HARDWARE SHALL MATCH AND BE COORDINATED WITH THE NEW CEILING SYSTEM TYPE. ALL FIXTURES SHALL BE EQUIPPED WITH "EARTHQUAKE" CLIPS. ALL LIGHTING FIXTURES SHALL BE INSTALLED WITH SEISMIC BRACING AS INDICATED ON ARCHITECTURAL CEILING DETAILS.

   D. ALL FIXTURES SHALL BE FREE OF LIGHTING LEAKS BELOW CEILING.

   E. FLUORESCENT BALLAST SHALL BE UL'S CLASS "P" AND SHALL CONFORM TO ANSI AND UL SPECIFICATIONS WITH LABELS OF APPROVAL BY UL AND CERTIFICATION BY C.B.M. BALLASTS SHALL COMPLY WITH THE STATE ENERGY CODE. BALLASTS FOR FLUORESCENT LAMPS SHALL BE OF THE ENERGY SAVING SUPER LOW HEAT DESIGN WITH HIGH POWER FACTOR (0.9 MINIMUM) AND A HIGH BALLAST FACTOR (0.95 MINIMUM). ALL BALLASTS SHALL BE SUPPLIED AS UNIVERSAL VOLTAGE, SUITABLE TO BE CONNECTED TO 120V OR 277V LIGHTING.

   F. WHERE DIMMING OF FLUORESCENT FIXTURES IS REQUIRED, THE ELECTRONIC BALLAST INSTALLED MUST BE COMPATIBLE WITH THE DIMMING SPECIFIED.

   G. WHERE DIMMING OF LOW VOLTAGE FIXTURES IS REQUIRED, THE STEP DOWN VOLTAGE TRANSFORMER SHALL BE ELECTRONIC (OR MAGNETIC) AS NOTED BY THE LIGHTING DESIGNER/ARCHITECT SCHEDULE. CONTRACTOR WILL BE RESPONSIBLE FOR REVIEWING FIXTURE SPECIFICATION AND ENSURING DIMMER SWITCH INSTALLED IS COORDINATED WITH FIXTURE TYPE.

   H. ALL RECESSED FIXTURES SHALL BE SET FLUSH INTO ACOUSTIC TILE CEILINGS.

9. OCCUPANCY SENSORS:

   A. CONTRACTOR'S WORK SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, APPLIANCES, CONTROL HARDWARE, SENSORS, WIRE, JUNCTION BOXES, AND EQUIPMENT NECESSARY FOR A COMPLETELY OPERATIONAL SENSOR CONTROL SYSTEM, AS DESCRIBED HEREIN.

   B. ALL SENSORS SHALL BE EITHER SELF-CONTAINED OR INSTALLED AS OF OTHER SPECIFIED SYSTEMS OF THE DUAL TECHNOLOGY TYPE PROVIDING VOLUMETRIC COVERAGE WITH THE DETECTION AREA. SENSORS SHALL BE SOLID-STATE DESIGN AND BE DESIGNED FOR ENERGY CONSERVATION.

   C. SENSORS LOCATED IN ADJACENT ROOMS OR SPACES, OR SENSORS CONTROLLING DIFFERENT LIGHTING FIXTURES OR ZONES WITHIN THE SAME ROOM, SHALL OPERATE AT DIFFERENT FREQUENCIES IN ORDER TO PREVENT INTERFERENCE (CROSS TALK) BETWEEN SENSORS.

   D. SENSORS SHALL HAVE THE FOLLOWING FUNCTIONS:

      1) TIMED DELAY FOR TURNING LIGHTS OFF: ADJUSTABLE OVER A RANGE OF 1 TO 30 MINUTES.

      2) MANUAL OVERRIDE SWITCH: TURNS LIGHTS OFF MANUALLY REGARDLESS OF TIMED DELAY.

      3) ISOLATED RELAY CONTACT: OPERATES ON DETECTION OF OCCUPANCY OR VACANCY, AS INDICATED, TO ACTIVATE AN INDEPENDENT FUNCTION.

      4) AMBIENT LIGHT LEVEL SENSOR: ADJUSTABLE FOR SETTING A LEVEL OF AMBIENT ILLUMINATION ABOVE WHICH THE SENSOR WILL NOT TURN THE LIGHTS ON.

   E. INFRARED SENSORS: DETECTS OCCUPANCY BY A COMBINATION OF HEAT AND MOVEMENT IN ZONE COVERAGE.

   F. ULTRASONIC SENSORS: EMITS A BEAM OF ULTRASONIC ENERGY AND DETECTS OCCUPANCY BY A SENSING A CHANGE IN PATTERN OF REFLECTED ULTRASONIC ENERGY.

   G. DUAL TECHNOLOGY SENSORS: USES A COMBINATION OF INFRARED AND ULTRASONIC DETECTION METHODS TO DISTINGUISH BETWEEN OCCUPIED AND UNOCCUPIED CONDITIONS FOR THE AREA COVERED.

   H. ALL OCCUPANCY SENSORS SHALL BE SET AT FULL SENSITIVITY AND MAXIMUM FOOT CANDLES. COVERAGE SHALL REMAIN CONSTANT AFTER SENSITIVITY CONTROL HAS BEEN SET. SENSOR TIME DELAY SHALL BE SET.

   I. FOR ADDITIONAL INFORMATION, INCLUDING MOUNTING REQUIREMENTS AND WIRING DIAGRAMS, REFER TO MANUFACTURER'S TECHNICAL LITERATURE AND DETAILS ON DRAWINGS.

   J. SENSORS TO BE PROVIDED WITH MASKING TAPE FOR INFRARED COMPONENTS TO PREVENT FALSE TRIPPING OUTSIDE THE COVERAGE AREA.

   K. BEFORE TENANT MOVE-IN DATE AND TURN OVER OF THE PROJECT, THE ELECTRICAL CONTRACTOR SHALL COORDINATE WITH SENSOR TECHNICAL REPRESENTATIVE TO FIELD ADJUST SENSOR SENSITIVITY AND LOCATION TO ENCOMPASS ENTIRE ROOM OR AREA WITHOUT NUISANCE TRIPPING FROM ADJACENT AREAS.

   L. OCCUPANCY SENSORS SHALL DERIVE POWER FROM LIGHTING CIRCUIT SERVING LIGHT FIXTURES IT CONTROLS.

10. SELF-POWERED EXIT SIGNS:

   A. FURNISH AND INSTALL SELF-POWERED EXIT SIGNS COMPLETE WITH INTEGRAL BATTERY/CHARGER CAPABLE OF OPERATING THE SIGN FOR 90 MINUTES IN THE EVENT OF A POWER FAILURE.

   B. UNIT TO HAVE SEALED NICKEL CADMIUM BATTERY, LED ILLUMINATORS, TEST BUTTON, AND INDICATING LIGHT.

   C. BATTERY/CHARGER PACK SHALL BE MOUNTED ABOVE THE SIGN. CEILING MOUNTED SIGNS SHALL BE ARRANGED SO THAT THE PACK IS RECESSED ABOVE THE CEILING. WALL MOUNTED SIGNS SHALL HAVE CONCEALED BATTERY PACKS.

   D. EXIT SIGNS SHALL MATCH BUILDING STANDARD OR BE MANUFACTURED BY DUAL-LITE, ATLITE, LIGHT ALARMS, OR APPROVED EQUAL.

11. PANELBOARDS:

   A. DISTRIBUTION PANELS: SWITCHING UNITS SHALL BE 3 PHASE, 4 WIRE CIRCUIT-BREAKER TYPE UNLESS OTHERWISE NOTED ON PANEL SCHEDULES. BUS BARS SHALL BE HARD DRAWN COPPER, MINIMUM 98% CONDUCTIVITY, SILVER OR TIN-PLATED JOINTS. CABINETS SHALL BE GALVANIZED SHEET STEEL BACK BOX, WITH DOOR AND TRIM AND LAPPED AND WELDED CORNERS. HARDWARE SHALL BE CHROME-PLATED WITH FLUSH LOCK/LATCH HANDLE ASSEMBLY (UP TO 48 IN. HIGH DOORS) OR VAULT HANDLE, LOCK AND 3-POINT CATCH (LARGER THAN 48 IN. HIGH DOORS). HINGES SHALL BE SEMI-CONCEALED, 5-KNUCKLE STEEL WITH NONFERROUS PINS, 180-DEG OPENING, LOCATED A MAXIMUM 26 IN. ON CENTERS. MINIMUM GUTTER SPACES FOR LIGHTING PANELS SHALL BE 5-3/4 IN. SIDES, TOP AND BOTTOM. DIRECTORY HOLDER SHALL BE METAL FRAME WITH CLEAR PLASTIC, TRANSPARENT COVER. A TYPEWRITTEN LIST INDICATING FEEDER CABLE AND CONDUIT SIZE, CIRCUIT NUMBERS, OUTLETS SUPPLIED AND THEIR LOCATIONS SHALL BE PROVIDED.

   B. PROVIDE CODE GAUGE STEEL DOORS FOR ALL PANELBOARD BOXES. FRONT COVER SHALL BE A "DOOR WITHIN A DOOR" TYPE. THE OUTER DOOR (TRIM) SHALL ALLOW ACCESS TO ENTIRE PANELBOARD BOX INCLUDING GUTTER SPACES. OUTER DOOR (TRIM) SHALL BE ATTACHED DIRECTLY TO BOX BY A FULL LENGTH PIANO HINGE. THE INNER DOOR SHALL ALLOW ACCESS TO CIRCUIT BREAKERS ONLY. PROVIDE LOCK AND SET OF KEYS FOR INNER DOOR PER PANELBOARD.

   C. PROVIDE A COPPER EQUIPMENT GROUND BAR IN EACH PANEL, AND A COPPER ISOLATED GROUND BAR IN NOTED PANELS.

   D. PANELS SHALL BE PROVIDED WITH NEUTRAL BARS SIZED AT 200% OF THE PHASE BUS BARS.

   E. PHASE LEGS OF ALL PANELS SHALL BE BALANCED AT SUPPLY POINT TO WITHIN 10% AFTER ALL CIRCUITS ARE WIRED AND LOADS CONNECTED. ANY PANEL FOUND WITH UNBALANCED LOADS SHALL HAVE ITS CIRCUITS REARRANGED AS REQUIRED TO BALANCE PHASE LEGS.

   F. PROVIDE MULTI-CABLE LUGS WHERE REQUIRED. DOUBLE LUGGING SHALL NOT BE PERMITTED.

   G. MOUNTING HEIGHT SHALL BE A MAXIMUM OF 6 FT.-6 IN. FROM FLOOR TO TOP OF SWITCH UNIT.

   H. UPDATE DIRECTORIES ON EXISTING PANELBOARDS WHERE CIRCUITING HAS CHANGED.

   I. PANELS SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMICOID NAMEPLATE AFFIXED WITH EPOXY CEMENT.

12. CIRCUIT BREAKERS:

   A. CIRCUIT BREAKERS: MOLDED CASE BREAKERS SHALL BE THERMAL-MAGNETIC, QUICK-MAKE, QUICK-BREAK, BOLT-ON TYPE, MANUALLY OPERATED WITH INSULATED TRIP-FREE HANDLE. MULTI-POLE TYPE BREAKERS SHALL CONTAIN INTERNAL TRIP BAR. TERMINALS SHALL BE SUITABLE FOR COPPER OR ALUMINUM CABLE. FURNISH AUXILIARY DEVICES WHERE REQUIRED FOR SHUNT-TRIPPING, OPEN AND CLOSE MOTOR OPERATOR AND ALARM INDICATION. ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED. FRAMES, IC AND INTERCHANGEABLE TRIPS SHALL BE AS FOLLOWS:

      1) MINIMUM SHORT CIRCUIT RATING OF 10,000 AMPERES SYMMETRICAL FOR 120/208V PANELS OR HIGHER WHERE NOTED.

      2) MINIMUM SHORT CIRCUIT RATING OF 14,000 AMPERES SYMMETRICAL FOR 277/480V PANELS OR HIGHER WHERE NOTED.

   B. FOR PANELBOARD APPLICATIONS, CIRCUIT BREAKERS SHALL BE BOLTED TO THE PANELBOARD BUS BARS. WHERE CIRCUIT BREAKERS ARE INSTALLED IN EXISTING PANELBOARDS, BREAKERS SHALL BE OF THE SAME MANUFACTURER AND INTERRUPTING RATING. BREAKERS SHALL BE COMPATIBLE WITH EXISTING PANELBOARD.

   C. MULTIWIRE BRANCH CIRCUITS SUPPLYING POWER TO MORE THAN ONE DEVICE OR EQUIPMENT SHALL BE PROVIDED WITH A MEANS TO DISCONNECT SIMULTANEOUSLY ALL UNGROUNDED CONDUCTORS AT THE PANELBOARD WHERE THE BRANCH CIRCUIT ORIGINATES. COORDINATE WITH LOCAL AUTHORITY HAVING JURISDICTION THE MEANS REQUIRED TO MEET NEC SECTION 210.4(B).

   D. TESTS: OPEN AND CLOSE LOAD BREAK SWITCHING DEVICES UNDER LOAD.

13. DISCONNECT SWITCHES:

   A. DISCONNECT SWITCHES SHALL BE FUSED OR NONFUSED AS NOTED. VOLTAGE SHALL BE AS REQUIRED. SWITCHES SHALL BE HEAVY DUTY, EXCEPT AS NOTED, AND HORSEPOWER RATED FOR MOTOR LOADS. TOGGLE TYPE SWITCHES SHALL BE NONFUSED, LOAD BREAK, HAVING MAXIMUM RATINGS OF 20 AMP AT 600 VOLTS AND 30 AMP AT 240 VOLTS. KNIFE-BLADE TYPE SWITCHES SHALL BE LOAD BREAK, QUICK-MAKE QUICK-BREAK, UL CLASS R UP TO 600 AMP. MAXIMUM RATING EXCEPT AS NOTED SHALL BE 800 AMP. ARC QUENCHERS SHALL BE PROVIDED. SWITCHES SHALL BE SIMILAR TO GENERAL ELECTRIC QMR. ALL SWITCH ENCLOSURES SHALL BE DEAD FRONT, NEMA TYPE 1, EXCEPT AS NOTED.

   B. OUTDOOR DISCONNECT SWITCHES SHALL BE SIMILAR TO INDOOR, EXCEPT LISTED FOR OUTDOOR APPLICATIONS (NEMA 3R OR 4, AS REQUIRED).

14. TELEPHONE AND DATA EMPTY CONDUIT SYSTEM:

   A. PROVIDE LABOR, MATERIALS, AND SERVICES FOR A COMPLETE AND SAFE INSTALLATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION FOR THE SYSTEM INCLUDING THE FOLLOWING: CONDUIT, PULL BOXES, OUTLET BOXES, AND SLEEVES.

   B. PROVIDE MINIMUM 2" DEEP 2 GANGED OUTLET BOXES. DEVICES BY OTHERS.

   C. CONDUIT SHALL BE 3/4" IN. MINIMUM. FURNISH EMPTY CONDUIT FROM OUTLET TO NEAREST ACCESSIBLE HUNG CEILING.

   D. ALL RACEWAYS SHALL BE EMT WITH BUSHED TERMINATIONS AT HUNG CEILING WITH (NYLON CORD).

   E. EQUIPMENT TO CONFORM TO THE REQUIREMENTS OF TELEPHONE COMPANY.

15. FIRE ALARM SYSTEM:

   A. CONTRACTOR SHALL PROVIDE A COMPLETE OPERATIONAL FIRE ALARM SYSTEM FOR THE WORK AREA(S), INCLUDING INTERTIES TO THE EXISTING BUILDING FIRE ALARM SYSTEM, FOR ALL NEW FIRE ALARM WORK, INCLUDING:

      1) FIRE ALARM SPEAKER/STROBE OR HORN/STROBE DEVICES
      2) FIRE ALARM STROBE DEVICES
      3) FIRE ALARM PULL STATIONS
      4) SMOKE DETECTORS
      5) HEAT DETECTORS

   B. CONTRACTOR SHALL ALSO INCLUDE ALL COMPONENTS TO UPGRADE THE EXISTING BASE BUILDING SYSTEM EXPANSION INCLUDING, BUT NOT LIMITED TO, RELAY CARDS, STROBE CONTROL PANELS, AMPLIFIERS, ETC.

   C. CONTRACTOR TO OBTAIN THE SERVICES OF THE BASE BUILDING FIRE ALARM VENDOR TO DEVELOP AND DESIGN A CODE COMPLIANT, FULLY FUNCTIONAL FIRE ALARM SYSTEM. ALL WORK TO BE DONE IN COORDINATION WITH BASE BUILDING FIRE ALARM VENDOR AND BUILDING MANAGEMENT.

   D. ALL EQUIPMENT SHALL MEET REQUIREMENTS OF NFPA 72, ALL APPLICABLE CODES, AND LOCAL LAWS, AND BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS. ALL FINAL CONNECTIONS TO BE MADE BY THIS CONTRACTOR WITH THE APPROVAL AND SUPERVISION OF THE BUILDING OWNER AND FIRE ALARM SYSTEM VENDOR.

   E. ALL COST ASSOCIATED WITH CONNECTIONS AND REPROGRAMMING OF THE EXISTING FIRE ALARM SYSTEM TO BE PAID BY THIS CONTRACTOR.

   F. BUILDING FIRE ALARM SYSTEM INTEGRITY SHALL BE MAINTAINED AT ALL TIMES (BEFORE, DURING, AND AFTER DEMOLITION AND/OR CONSTRUCTION. IT IS THIS CONTRACTOR'S RESPONSIBILITY TO MAINTAIN OPERATION OF ALL EXISTING FIRE ALARM DEVICES AT ALL TIMES.

   G. ELECTRICAL CONTRACTOR SHALL CONFIRM THAT ALL EXISTING WIRING ON TENANT FLOOR IS COMPLIANT WITH LATEST FIRE ALARM STANDARDS AND BUILDING REQUIREMENTS. IF WIRING DOES NOT MEET LATEST STANDARDS AND BUILDING REQUIREMENTS ALL WIRING SHALL BE REPLACED AS PART OF THIS PROJECT.

   H. ALL FIRE ALARM DEVICES ARE TO BE FULLY COMPATIBLE WITH THE EXISTING BUILDING ADDRESSABLE FIRE ALARM SYSTEM.

   I. INSTALLATION SHOULD BE THOROUGHLY TESTED WITH THE INSTALLER AND BUILDING PERSONNEL, BEFORE ANY FINAL INSPECTION IS SCHEDULED.

   J. SUBMISSION OF BID ACKNOWLEDGES THAT CONTRACTOR HAS CONTACTED THE BASE BUILDING VENDOR AND HAS INCLUDED ALL COMPONENTS FOR A CODE COMPLIANT SYSTEM. ADDITIONAL CLAIMS FOR CHANGES IN VENDOR SCOPE OR ADDITIONAL DEVICES/COMPONENTS, UNLESS INITIATED BY TENANT, WILL NOT BE ACCEPTED.

   K. ALL AUDIO VISUAL WALL MOUNTED FIRE ALARM DEVICES SHALL BE WHITE WITH WHITE FACE PLATE AND RED LETTERING UNLESS OTHERWISE DIRECTED BY ARCHITECT.

PART 3– EXECUTION

1. GENERAL:

   A. PERFORM THE WORK AT SUCH TIME AND IN SUCH MANNER AS TO MINIMIZE INTERFERENCE WITH BUILDING'S NORMAL OPERATION. NOTIFY BUILDING MANAGEMENT REPRESENTATIVES IN ADVANCE EACH TIME A SERVICE OUTAGE OR INTERRUPTION WILL BE REQUIRED. SCHEDULE SUCH SERVICE OUTAGE OR INTERRUPTION ONLY AFTER HAVING RECEIVING APPROVAL OF DATE, HOUR, AND TIME INTERVAL REQUIRED THEREOF. SCHEDULE OF WORK AS DIRECTED SHALL BE FOLLOWED AS CLOSELY AS POSSIBLE.

   B. COORDINATE WITH THE BUILDING OWNER FOR ANY SERVICE INTERRUPTION OF EXISTING SYSTEMS AND GIVE NOTICE AS REQUIRED BY BUILDING RULES AND REGULATIONS OR A MINIMUM OF FIVE (5) DAYS PRIOR TO ANY WORK, WHICHEVER IS MORE STRINGENT. CONTRACTOR IS TO PERFORM WORK ON PREMIUM TIME SO AS TO NOT DISTURB EXISTING TENANTS ON OTHER FLOORS.

   C. OPENINGS AROUND ELECTRICAL PENETRATIONS THROUGH FIRE RESISTANCE RATED WALLS, PARTITIONS, FLOORS, OR CEILINGS SHALL BE FIRE STOPPED USING APPROVED METHODS. SEALANT SHALL BE RATED FOR 3 HOURS. TELECOMMUNICATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING FIRE STOPPING IN 'IT' CONDUITS/SLEEVES/PENETRATIONS AFTER 'IT' WIRES ARE PULLED.

   D. MAINTAIN GROUND CONTINUITY THROUGHOUT ALL SYSTEMS.

   E. MAINTAIN CONTINUITY AND PROTECT ALL EXISTING CIRCUITS TO REMAIN SERVING EQUIPMENT WITHIN THE BASE BUILDING CORE AREAS OR OTHER TENANT AREAS AFFECTED BY THE ALTERATION WORK. WHENEVER IT IS REQUIRED THAT AN EXISTING CIRCUIT BE MODIFIED, REVISED, DISCONNECTED, OR REMOVED IT SHALL BE UNDERSTOOD THAT THE CIRCUIT SHALL BE RECONNECTED AND SERVICE RE-ESTABLISHED IN THE REMAINING PORTION OF THE CIRCUIT AFFECTED BY THE ALTERATION.

   F. PRIOR TO ANY CHASING, CHOPPING, OR CORE DRILLING BEING PERFORMED, THE CONTRACTOR SHALL FIELD INVESTIGATE CONDITIONS AND COORDINATE WITH ALL APPROPRIATE TRADES TO ENSURE THAT WORK WILL BE IN HARMONY WITH OTHER WORK AND NOT AFFECT ANY EXISTING BUILDING SYSTEMS. X-RAY SLABS IF REQUIRED. THIS WORK MUST BE APPROVED BY BUILDING MANAGEMENT PRIOR TO PROCEEDING. ALL CORING/CHASING SHALL BE DONE ON OVERTIME.

   G. FOR TEMPORARY POWER, FURNISH AND INSTALL WIRING FOR ADEQUATE LIGHT AND SMALL TOOLS POWER FOR THE PROJECT. THIS SHALL INCLUDE STRINGERS, LAMPS, OUTLETS, BREAKERS, AND FUSING, AS IT IS NECESSARY. ALL TEMPORARY WIRING SHALL BE REMOVED FROM SPACE AT COMPLETION OF PROJECT.

   H. WHEN USING TEMPORARY LIGHTING, THE CONTRACTOR SHALL CLEARLY LABEL PANELS AND BREAKERS USED FOR LIGHTING. LOCATION OF PANELS TO BE SHOWN ON FLOOR PLAN POSTED AT ENTRANCE TO WORK AREA. PROPER TEMPORARY LIGHTING AND POWER MUST BE INSTALLED AND MAINTAINED IN ALL WORK AREAS. CONNECTIONS TO EXISTING STAIRWELL AND EXIT LIGHT SYSTEMS ARE NOT PERMITTED. TEMPORARY LIGHT STREAMERS, WHERE SPLICED, ARE TO HAVE COMPRESSION FITTINGS OR BE SOLDERED.

   I. THE CONTRACTOR SHALL CUT BACK TO THE FLOOR, WALL OR CEILING, REMOVE WIRING AND PLUG BOTH ENDS OF CONCEALED CONDUITS MADE OBSOLETE BY THIS ALTERATION. EXPOSED CONDUITS, WIREWAYS, OUTLET BOXES, PULL BOXES, HANGERS, ETC. MADE OBSOLETE BY THE ALTERATION WORK SHALL BE REMOVED, UNLESS OTHERWISE NOTED.

   J. IT IS POSSIBLE THAT THERE WILL BE CERTAIN REMOVALS AND RELOCATIONS OF THE EXISTING ELECTRICAL INSTALLATION NECESSARY FOR THE SATISFACTORY PERFORMANCE OF THE WORK. THESE CHANGES CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS, BUT MUST BE CONSIDERED BY THE CONTRACTOR WHILE REVIEWING THE EXISTING CONDITIONS AT THE SITE AND PREPARING THE PROPOSAL.

2. IDENTIFICATION AND LABELING:

   A. ALL PANELBOARDS, CONTROL PANELS, DISCONNECT SWITCHES, ENCLOSED CIRCUIT BREAKERS, TRANSFORMERS, CABINETS, ATS'S, UPS'S, AND THE LIKE SPECIFIED HEREIN SHALL BE CLEARLY IDENTIFIED WITH THE EQUIPMENT DESIGNATION AND VOLTAGE RATING. IDENTIFICATION SHALL BE BY ENGRAVED WHITE CORE, BLACK LAMICOID NAMEPLATE WITH 3/4 IN. LETTERING AFFIXED WITH EPOXY CEMENT.

   B. JUNCTION BOXES, SPLICE BOXES, ETC., SHALL BE IDENTIFIED WITH PANEL AND CIRCUIT NUMBERS, FOR CIRCUITS CONTAINED THEREIN. FACEPLATE OF SWITCHES FOR EQUIPMENT SUCH AS MOTORIZED SCREENS, ETC., SHALL BE IDENTIFIED WITH THE NAME OF THE DEVICE CONTROLLED. IDENTIFICATION SHALL BE INDELIBLE MARKER IN CONCEALED LOCATIONS AND ADHESIVE ('P' TOUCH TYPE) LABELS IN EXPOSED LOCATIONS. EMERGENCY DEVICES SHALL BE IDENTIFIED IN RED.

   C. EMPTY CONDUITS SHALL BE IDENTIFIED WITH TAGS AT BOTH ENDS INDICATING THE LOCATION OF THE TERMINATION OF THE OPPOSITE END.

   D. FIRE ALARM SYSTEM JUNCTION BOXES SHALL BE PAINTED FIRE DEPARTMENT RED. APPROVED IDENTIFICATION CARDS SHALL BE FURNISHED ADJACENT TO ALL CONTROL PANELS AND MANUAL STATIONS.

   E. CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT OF ORIGIN AND TERMINATION OF THE CIRCUIT.

   F. PANELBOARDS AND ASSOCIATED EQUIPMENT THAT WILL REQUIRE ADJUSTMENT, SERVICING, INSPECTION, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED INDICATING VOLTAGE AND WARNING QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC-FLASH HAZARDS PER NEC SECTION 110.16 AND NFPA 70E.

3. PRODUCT DELIVERY, STORAGE AND HANDLING:

   A. MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.

   B. ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS SHALL BE PERMITTED. CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.

4. EXISTING EQUIPMENT REFURBISHMENT:

   A. WHERE PANELBOARDS, SWITCHES, CIRCUIT BREAKERS, TRANSFORMERS, ETC. ARE EXISTING TO BE REUSED THE CONTRACTOR SHALL CLEAN AND REFURBISH THE EQUIPMENT. THIS SHALL INCLUDE TIGHTENING ALL CONNECTIONS, REPLACING DEFECTIVE MECHANISMS, EXERCISING MECHANISMS AND PROVIDING ANY MISCELLANEOUS COMPONENTS SO THE EQUIPMENT IS IN FIRST CLASS WORKING ORDER.

   B. ALL EXISTING LIGHTING FIXTURES TO REMAIN AND RELOCATED LIGHTING FIXTURES IN AREA OF WORK IS TO BE CLEANED AND RELAMPED.

5. PROTECTION:

   A. CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND EQUIPMENT UNTIL FINALLY INSPECTED, TESTED, AND ACCEPTED. MATERIALS AND EQUIPMENT SHALL BE CAREFULLY STORED WHICH ARE NOT IMMEDIATELY INSTALLED AFTER DELIVERY TO SITE. CLOSE EXPOSED PARTS OF THE WORK WITH TEMPORARY COVERS OR PLUGS DURING CONSTRUCTION TO PREVENT ENTRY OF MOISTURE OR OBSTRUCTING MATERIALS.

   B. PROTECT THE WORK AND MATERIAL OF OTHERS FROM DAMAGE INSTALLED AS PART OF THIS CONTRACT. RESTORE ANY WORK DAMAGED AND BE RESPONSIBLE FOR ALL CURRENT WORK AND ASSOCIATED COSTS.

   C. BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.

PARTNERS FOR ARCHITECTURE
48 UNION STREET,
STAMFORD, CT 06906
P: 203.708.0047
WWW.PFARCH.NET

LONG CONSULTING
67 Federal Rd., Bldg. A, Ste. 201 Tel: (203) 663-3703
Brookfield, CT 06804 www.LongEngineers.com

DOB BSCAN

ISS/REV	DATE	ISSUED TO	DESCRIPTION

NORTH

OLD OAKS COUNTRY CLUB

PROJECT ADRESS

ELECTRICAL SPECIFICATIONS (2 OF 2)

SEAL & SIGNATURE

DATE:	08-13-21
PROJECT NO.:	21-826
DRAWN BY:	VH
CHECKED BY:	TL
DRAWING NO:	E301.00
CAD FILE NO:	J:\Proj2016\694 BASIS