

Russellville Independent Athletic Fieldhouse

RUSSELLVILLE INDEPENDENT SCHOOL DISTRICT
355 S SUMMER ST, RUSSELLVILLE, KY 42276

Construction Documents
6.28.2024

CLIENT PROJECT #: PROJECT NUMBER
UK PROJECT MANAGER: RAYMOND HAUNSZ



BUILDING SCIENCE LEADERSHIP

CMTA Project Manager: Matt Wade
mwade@cmta.com

115 MEMORIAL DRIVE
PADUCAH, KY 42001
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GENERAL INFORMATION

GOVERNING REGULATIONS

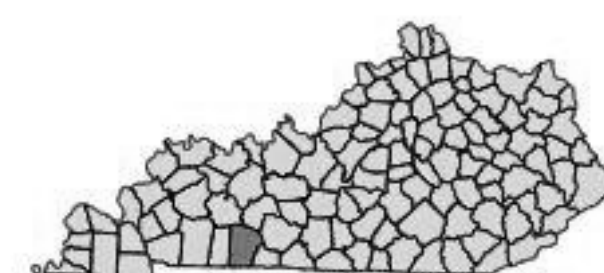
KENTUCKY BUILDING CODE	2013
INTERNATIONAL MECHANICAL CODE.....	2012
INTERNATIONAL ENERGY CONSERVATION CODE.....	2012
KENTUCKY PLUMBING CODE.....	2013
NATIONAL ELECTRICAL CODE NFPA 70.....	2014
SPRINKLER SYSTEMS NFPA 13.....	2010

PROJECT DESCRIPTION

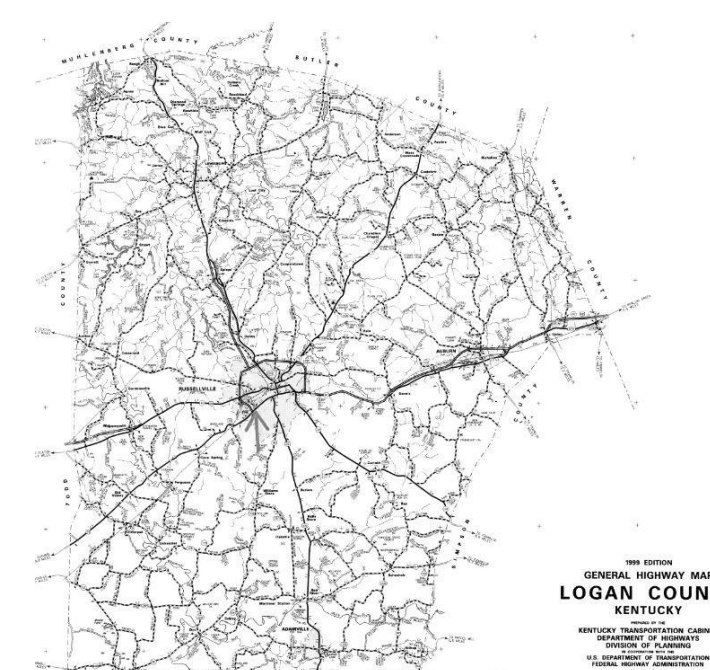
THIS PROJECT CONSISTS OF HVAC AND ELECTRICAL WORK REQUIRED FOR THE INSTALLATION OF CIRCULATION FANS IN THE ATHLETIC FIELDHOUSE FOR RUSSELLVILLE INDEPENDENT SCHOOL DISTRICT IN RUSSELLVILLE, KY.

PROJECT LOCATION

VICINITY MAP: STATE



VICINITY MAP: CITY



VICINITY MAP: LOCAL / CAMPUS



PROJECT TEAM

PROJECT MANAGER: MATT WADE
ELECTRICAL ENGINEER: BRAD REEVES / MELVIN MOSS
MECHANICAL ENGINEER: MATT WADE

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COVER SHEET

CLIENT/CMTA JOB #:	XRAF24
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CHECKED:	BWR

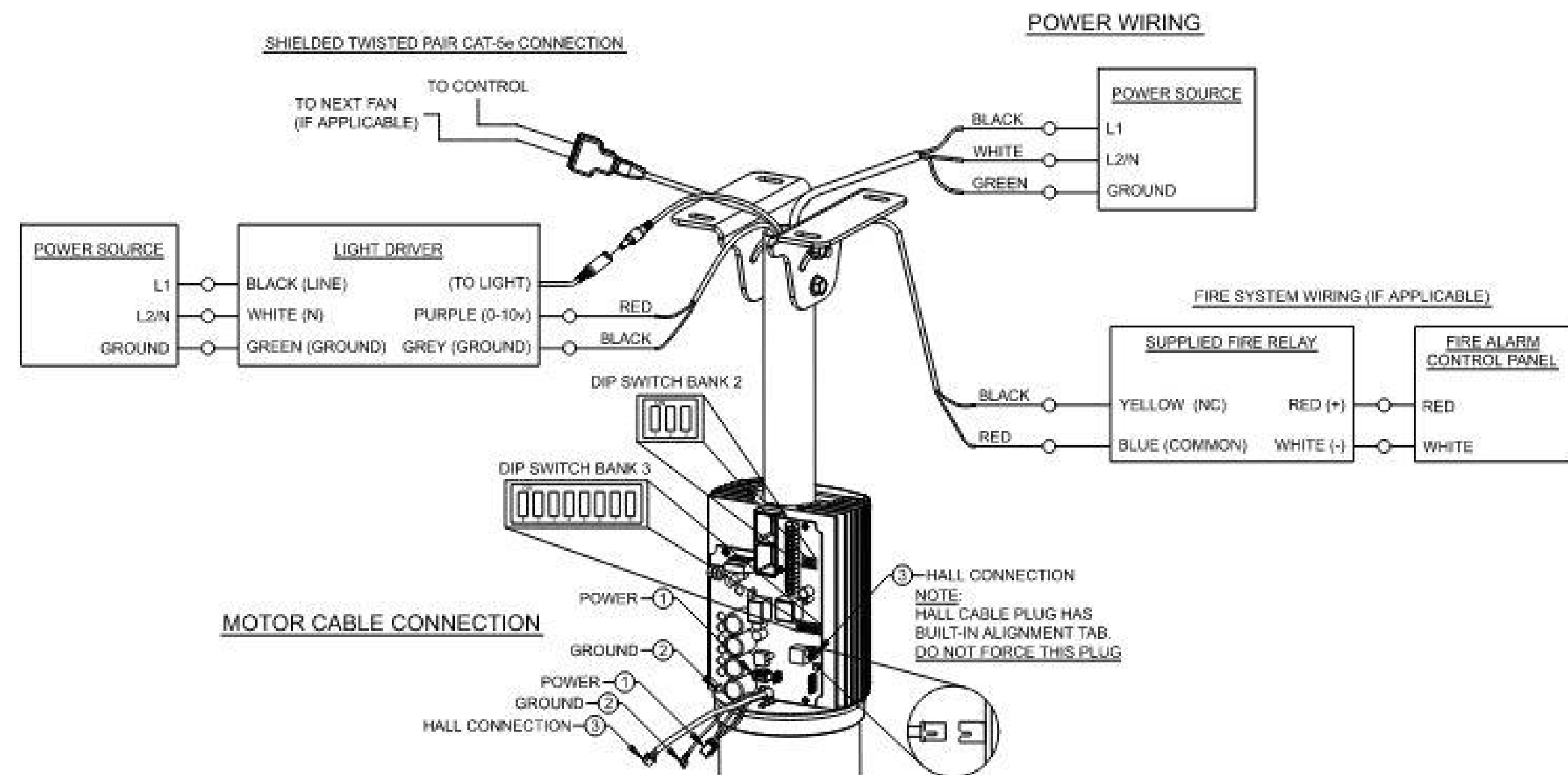
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G-001

CIRCULATION FAN SCHEDULE										
MARK	MANUFACTURER	MODEL #	TYPE	WEIGHT	DIAMETER	BLADES	ELECTRICAL DATA			REMARKS
							FLA	VOLTAGE	PHASE	
CF-1	GREENHECK	DC-S-14-13LV	HIGH VOLUME, LOW SPEED	135	14'	5	5 A	115 V	1	

REMARKS

1. PROVIDE WITH LED LIGHT KIT, 230V, 1000 LUMEN OUTPUT RATING, 4000K COLOR TEMPERATURE. REQUIRES SEPARATE 115V POWER FROM FAN.
2. I-BEAM MOUNTING KIT REQUIRED.
3. DOWNWAVE WITH CONCEALED WIRES. TOTAL DROP LENGTH TO BE 24".
4. PROVIDE CONTROLLER CAPABLE OF CONTROLLING ALL FOUR FANS (STANDARD TOUCHSCREEN, CONTROLLER TO BE POWERED THROUGH 24V SUPPLIED BY FAN'S VFD VIA CAT-SE COMMUNICATION CABLE.
5. SOUND PRESSURE 30DBA.
6. FACTORY MOUNTED AND WIRED VARIABLE FREQUENCY DEVICE (VFD).
7. ELECTRICAL WARRANTY: 1 YR.
8. MECHANICAL WARRANTY: 10 YR.
9. SHALL BE LICENSED TO BEAR THE AMA CERTIFIED RATING SEAL FOR CIRCULATING FAN PERFORMANCE TO ENSURE PERFORMANCE AS CATALOGED IN FILE.
10. ENTIRE FAN ASSEMBLY SHALL BE UL.
11. PERFORMANCE CAPABILITIES UP TO 55,800 CFM.
12. MAXIMUM CONTINUOUS OPERATING TEMPERATURE OF 104 DEGREES FAHRENHEIT.
13. DESIGNED FOR FORWARD AND REVERSE OPERATION CAPABILITIES.
14. FAN SHALL BEAR A PERMANENTLY AFFIXED MANUFACTURER'S MYLAR NAMEPLATE CONTAINING MODEL NUMBER, INDIVIDUAL SERIAL NUMBER, AND ELECTRICAL REQUIREMENTS OF FAN.
15. MULTIPLE-HUBS NOT ACCEPTED. PROVIDE SINGLE STAINLESS HUB WITH GRADE 5 SAE BOLTS MINIMUM.
16. AIRFOIL BLADES SHALL BE INTERNALLY REINFORCED SUCH THAT BLADE DEFLECTION SHALL NOT EXCEED $+/- 2.4"$ WHILE FAN IS IN STANDY OR OPERATION.
17. MOTORS SHALL BE OF THE HIGH TORQUE, LOW SPEED DIRECT DRIVE TYPE, CAREFULLY MATCHED TO THE FAN LOAD AND FURNISHED AT THE SPECIFIED VOLTAGE AND PHASE.
18. MOTORS SHALL BE AN INTERNAL ROTOR DESIGN.
19. MOTORS SHALL INCLUDE PLUG-AND-PLAY CONNECTORS FOR ALL WIRING TO THE VFD.
20. MOTORS SHALL INCLUDE AN INTERNALLY-MOUNTED THERMISTOR FOR CONTINUOUS MONITORING OF THE MOTOR'S INTERNAL TEMPERATURE.
21. MOTORS SHALL INCLUDE CLASS B INSULATION.
22. MOTOR ENCLOSURE IP54.
23. VFD ENCLOSURE IP50.
24. VFD SHALL BE FACTORY PROGRAMMED AND DESIGNED FOR MODBUS RS-485 COMMUNICATION WITH CONTROL DEVICES VIA THE MODBUS COMMUNICATION PROTOCOL.
25. VFD SHALL BE PROVIDED WITH PLUG-AND-PLAY WIRING FOR EASE OF INSTALLATION.
26. VFD SHALL BE FACTORY-WIRED FOR POWER AND CONTROL OF LED LIGHT.
27. VFD SHALL INCLUDE TWO THERMISTORS FOR CONTINUOUS MONITORING OF VFD'S INTERNAL AND EXTERNAL TEMPERATURE.
28. VFD SHALL INCLUDE INTELLIGENT PROTECTION SYSTEMS TO PREVENT FAILURES CAUSED BY OVER/UNDER-VOLTAGE, OVER-CURRENT, OVER-TEMPERATURE, OVER-SPEED, AND FAN IMPACT.
29. ALL HARDWARE SHALL BE MINIMUM OF SAE GRADE 5.
30. FACTORY INSTALLED SAFETY RETENTION CABLES.
31. STANDARD FINISH.
32. CONTROLS SHALL BE CAPABLE OF OPERATING ONE OR MULTIPLE FANS AS SPECIFIED. CONTROLS SHALL PROVIDE START/STOP, SPEED, AND ROTATION DIRECTION CONTROL CAPABILITIES AS WELL AS DIAGNOSTIC AND FAULT HISTORY INFORMATION FOR EACH FAN.
33. CONTROLS SHALL ALSO BE CAPABLE OF TURNING ON/OFF FAN MOUNTED LIGHT.
34. CONTROLS SHALL HAVE DUE-TO-FAULT PLUG AND PLAY CONNECTION TO FANS.
35. PROVIDE WITH 100' OF CAT-SE CONTROL CABLE FOR EACH FAN.



① FAN WIRING DETAIL

SCALE: NONE

PANELBOARD AND WIRING SCHEDULE

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NEW BREAKERS TO BE INSTALLED
IN THE CIRCUIT SPACE DESIGNATED
ON PANEL SCHEDULE

ELECTRICAL DEMOLITION NOTES:

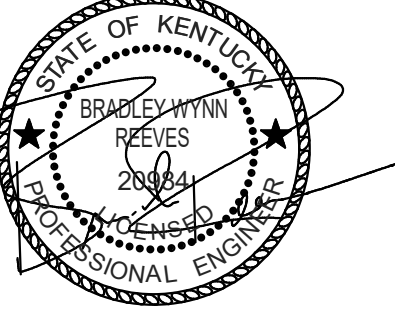
- A. DOTTED LINES INDICATE ITEMS FOR REMOVAL (UNLOD) AND SOLID HOLLOW LINES INDICATE EXISTING ITEMS TO REMAIN.
- B. THE CONTRACTOR SHALL MAINTAIN THE CONTINUITY OF EXISTING ELECTRICAL CIRCUITS. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMAIN, WHEN DEMOLITION OF AN ELECTRICAL DEVICE (OR CIRCUIT) IS INDICATED ON THE DRAWINGS: THE CONTRACTOR SHALL ENSURE THAT OTHER DEVICES OR EQUIPMENT "UPSTREAM" OR "DOWNSTREAM" OF THE DEVICES TO BE REMOVED SHALL REMAIN IN "PRE-DEMOLITION" WORKING ORDER. "LEFT-OVER" CIRCUIT BREAKERS SHALL REMAIN, BE SWITCHED TO OFF POSITION, AND BE LABELED AS SPARES IN THEIR PANELS.
- C. THE CONTRACTOR SHALL IDENTIFY ALL EXISTING ELECTRICAL DEVICES, LOCATIONS OF DEVICES, CONNECTIONS, ETC., INDICATED ON THIS DRAWING WERE TAKEN FROM VARIOUS SOURCES. THEY ARE DIAGRAMMATIC ONLY AND ARE SUBJECT TO VARIATION FROM EXISTING CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AT ALL. THE CONTRACTOR PROPOSING TO DO ANY PART OF THE WORK INDICATED HEREON SHALL VISIT THIS SITE AND DETERMINE HIS OWNERS THAT THE CONTRACTOR HAS COMPLETE ALL WORK REQUIRED FOR THE BID WHICH HE PROPOSES.
- D. REMOVE ALL ASSOCIATED BACKBOXES, CONDUIT AND CONDUCTORS FOR DEVICES / FIXTURES / ETC., BEING REMOVED (BACK TO SOURCE).
- E. REMOVE ALL EXISTING PATCHES, FLOORS OR CEILINGS WHERE DEVICES ARE SHOWN TO BE REMOVED (PATCH AND CEILING TO RECEIVE NEW DEVICES AND PATCHES TO BE REPAIRED).
- F. COORDINATE DISPOSAL OF ALL FIXTURES, DEVICES, ETC. (INDICATED FOR DEMOLITION) WITH OWNER. TURN OVER ITEMS REMOVED TO OWNER AT THEIR OPTION.
- G. COORDINATE WITH OWNER FOR GRADES FOR THE REMOVAL AND/OR RELOCATION OF ELECTRICAL DEVICES AND CONNECTIONS ASSOCIATED WITH THEIR EQUIPMENT.
- H. REMOVE ALL PATCH AND REPAIR ALL EXISTING WALLS / CEILINGS AS REQUIRED WHERE DEVICES ARE BEING REMOVED OR INSTALLED.
- I. EXISTING ELECTRICAL SYSTEMS IN CONFLICT WITH CONSTRUCTION SHALL BE REMOVED PRIOR TO INSTALLATION OF DEVICES AND EQUIPMENT SHOWN ON PLANS.
- J. ALL EXISTING PLANS AFFECTED BY THIS CONTRACTOR'S WORK SHALL BE PROVIDED WITH NEW TYPE-WRITTEN PANEL DIRECTORIES AND PANEL SCHEDULES. PANEL SCHEDULES SHALL BE PROVIDED WITH PANEL NUMBERS FROM THESE DRAWINGS. DIRECTORIES SHALL BE DETAILED AND COORDINATED WITH OWNER'S SUITE NUMBERS, FINAL ROOM NAME AND ROOM NAME. ALL PANEL IDENTIFICATIONS, ETC., UNUSED BREAKERS SHALL BE IN OFF POSITION.

ELECTRICAL GENERAL NOTES:

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Construction Documents



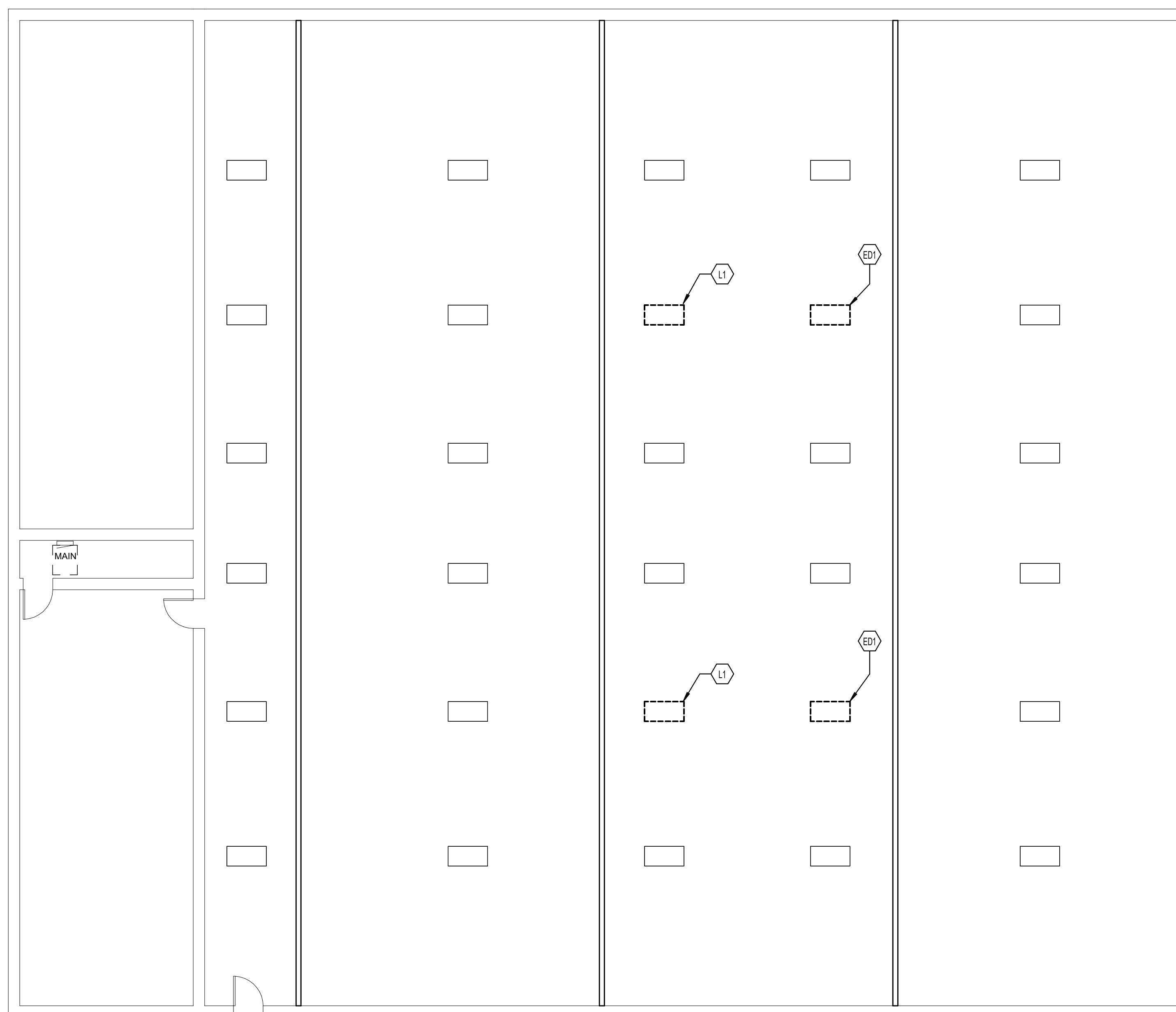
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ELECTRICAL LEGEND

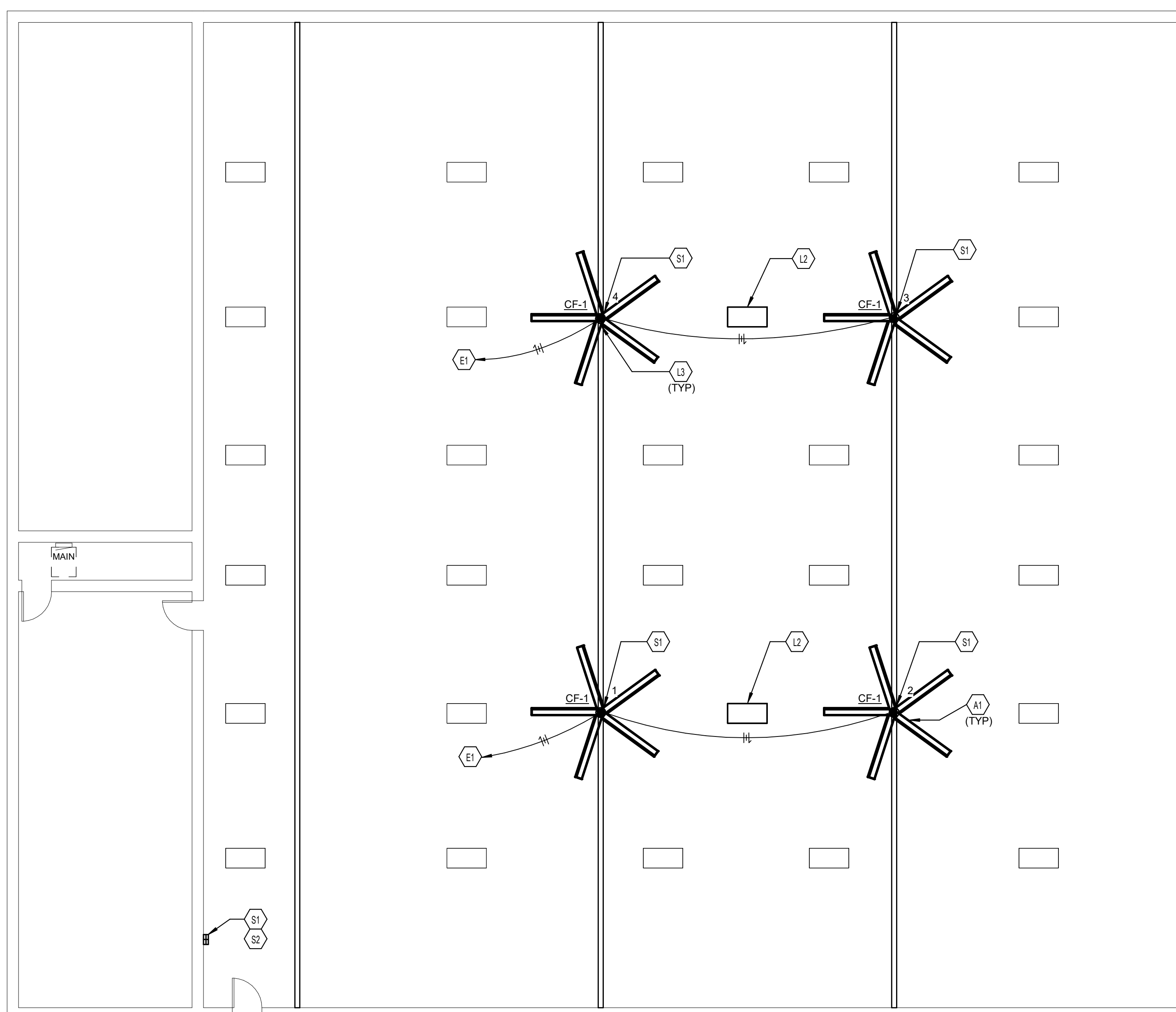
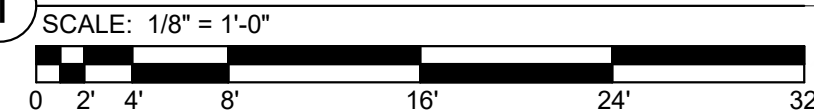
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REVISIONS

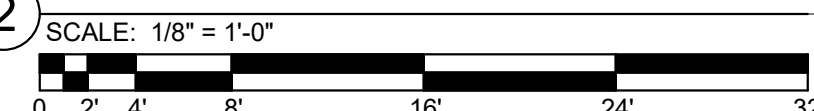
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1 ELECTRICAL DEMOLITION PLAN



② ELECTRICAL NEW WORK PLAN

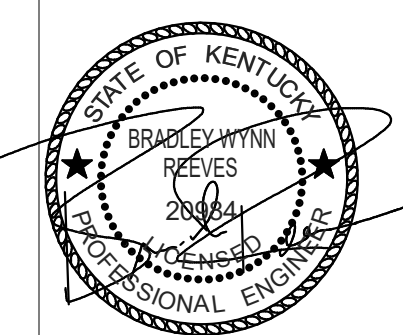


TAGGED NOTES

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| A1 | CIRCULATION FAN TO BE INSTALLED IN LOCATION SHOWN ON DRAWINGS. IT IS TO BE MOUNTED ON THE CROSS BEAM IF STRUCTURE. REFER TO MANUAL FOR INFORMATION. |
| E | PROVIDE 120V POWER TO NEW CIRCULATION FAN FED FROM MAIN PANEL. PROVIDE 20 AMP 120V CIRCUIT BREAKER WITH 20A CIRCUIT BREAKER SWITCH FOR EACH CROWN PANEL. MAIN PANEL MANUFACTURER AND MODEL IS SQUARE D CIRCUIUS. |
| ED1 | INSTALL EIGHT FUTURE 120V CIRCULATION FAN. EACH FAN CIRCULATION FAN. REMOVE CONDUIT BACK TO JUNCTION BOX. |
| L | SALVAGE FUTURE FOR RELOCATION IN NEW WORK. REFER TO SHEET E3.0 FOR NEW LOCATION. |
| S | REMOVE FUTURE TO BE RELOCATED IN NEW LOCATION SHOWN ON DRAWINGS. RUN NEW FLEX MC CABLED FROM NEAREST EXISTING LIGHTING JUNCTION BOX TO POWER FUTURE. |
| L | PROVIDE POWER SEPARATE FROM POWER FEEDING FAN TO RELOCATED FAN LED. PROVIDE 20 AMP 120V CIRCUIT BREAKER FROM NEAREST EXISTING LIGHTING JUNCTION BOX TO POWER FUTURE. |
| S1 | USE PROVIDED CAT-5 CABLE INCLUDED WITH FAN SHIPMENT TO CONNECT FANS TO CONTROL TO FAN NETWORK. WHEN NETWORKING ADDRESS, REFER TO MANUAL FOR INITIALIZATION AND SETUP OF NETWORK. |
| S2 | MOUNT CONTROLLER ON WALL AS SHOWN ON DRAWING IN LINE WITH EXISTING LIGHTING CONTROLS. |



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ELECTRICAL PLAN

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E2.0