DIRECT EQUIPMENT CONNECTION WITH THERMAL RATED DISCONNEC

SWITCH LOW VOLTAGE TWO (2) CAT6 PER LOCATION UNLESS NOTED OTHERWISE TWO (2) CAT6 PER LOCATION, ABOVE COUNTER

ABOVE COUNTER DOUBLE DUPLEX RECEPTACLE

TWO (2) CAT6 PER LOCATION, FLOOR/CEILING TV LOCATION, (1) SHIELDED CAT 6 WITH 3' SERVICE LOOP HOMERUN TO AV RACK. SEE SHEET E200 FOR MORE INFORMATION. MODULAR PLUG TERMINATION ON BOTH ENDS.

**Electrical Specifications:** 

equipment or appurtenances.

"broom swept" condition.

the General Contractor.

2. Contract documents and field conditions

immediately upon discovery.

the inspections

5. Change Orders

of the change order.

A. The requirements set forth in these specifications and

contractor drawings are minimum requirements. Any local or

national codes and/or building requirements which are stricter

or more restrictive in nature shall take precedence. It is the

Contractors responsibility to familiarize himself with all the

project requirements whether specifically stated or implied

prior to the purchase or installation of any electrical

labor, materials, accessories and equipment required for a

B. The Electrical Contractor shall provide and pay for all permits,

C. Materials and installation shall comply with all local and

national codes and applicable amendments, all utility

requirements, all laws and ordinances, OSHA, NFPA 70E and

all AHJ (authorities having jurisdiction) requirements. It is the

Electrical Contractors responsibility to becoming familiar with

all local Codes and ordinances to ensure compliance. The

Electrical Contractor shall not perform any electrical work or

for a period of (1) year after final acceptance of the work

all items associated to their trade in order to maintain a

systems as required in order to obtain approvals from local

jurisdictions, Owners insurance and underwriters, and Owners

G. The contract documents are not a direction for the contractor

to violate any codes or local amendments. Should the

contractor believe a code violation is present in the contract

documents he shall bring it to the attention of the engineer

immediately with an accompanying code reference or

standard. The contractor shall not proceed with any work until

H. The Electrical Contractor shall engage and/or hold the

contract of any required sub-contractors (low voltage, fire

alarm, etc.) as necessary to fulfill the required electrical

contract. The Electrical Contractor shall coordinate scope with

A. The drawings shall serve to indicate the general intent of the

design and layout of the electrical systems. The design

documents may not include all items required. Accessories

and other components are diagrammatic unless specifically

shown or dimensioned. Existing conditions are reflective of

as-built/as-designed drawings and items that were visually

observable during the time of the field survey. Due to

occupancy, not all areas may have been field surveyed. The

Contractor shall review all existing conditions prior to Bid and

shall identify all areas in question within his Bid. Items not

identified during the bidding process will be assumed to have

B. As the extent of the Engineer's field survey is visual review in

nature, the Contractor shall notify the Engineer immediately o

any materials or equipment observed, identified or believed to

be inadequate, unsuitable, unsatisfactory or in violation of any

existing laws, ordinances or rules prior to installation and/or

documents and specifications, of all trades prior to submitting

a Bid or commencing work. In addition, the Contractor sha

visit the project site and adjacent areas prior to submitting a

Bid or commencing work. Identify all discrepancies between

D. Contract documents include drawings, specifications, sketches,

meeting minutes, verbal field directives, etc. Where conflicting

information exists. the Contractor shall submit an RFI for

review and response. In all cases the more stringent of the

schedule, it is the Contractors responsibility to contact the

Engineer for timely inspections. The Contractor shall not cover.

encase or otherwise impeded visual observation of any

equipment, conduit, feeders, boxes, etc. which require

inspection prior to contacting the Engineer for an inspection.

The Contractor shall provide an appropriate notice to the

Engineer (a minimum of three days) for proper scheduling of

The shut-down of any system or portion of a system, shall be

approved in writing from the Owner two weeks prior to the

include any costs for temporary connections including temporary

panels, generators, etc. as required. Shutdowns shall be

A. All cost change requests shall be submitted using the latest

edition of "RSMeans Electrical Cost Data". All requests shall

be submitted broken down based on material cost per item.

linear foot, etc.; labor cost including cost per man hour and

quantity of hours; overhead and profit percentage; total cost

B. All change requests shall be accompanied by the initiating

documents the original, and changes were based off of.

dimensional drafting or BIM implementation.

bid shall be reviewed using RSMeans.

C. Any associated costs for drafting to include the document

D. Should the Contractor elect not to use RSMeans, this

change into the "AS-BUILT" documents shall not exceed 10%

of the cost of change request. This shall include three

qualification must be outlined in writing in the Contractors

bid. Alternatives to RSMeans shall be submitted in all inclusive

(material and labor) unit prices, and each unit price shall be

defined in the Contractors bid. All items not defined in the

sketch, addenda, bulletin, directive, etc. including number for

tracking. All change requirements shall include the date of

4. Within the drawings or specifications, where conflicts in size,

assumed to be done on premium time.

superior quality shall govern and be furnished.

3. Where the existing electrical systems are to remain in service.

E. As the Engineer may not be provided a complete project

C. The Contractor shall be required to examine all contract

been field verified and no issues or conflicts exist.

the potential conflict has been resolved.

install any electrical components which are against Code.

D. The Contractor shall guarantee all materials and workmanship

E. Clean Up: The contractor is responsible for daily cleanup of

F. Approvals: the contractor is required to test, adjust and retest

complete and functional electrical system(s).

General

FUTURE CELL ANTENNA CHASE, 2½ CONDUIT AND HOME RUN TO AV GOOSENECK MIC CALLBACK, 4 CONDUCTOR SHIELDED, COORDINATE EXACT

LOCATION WITH FOOD & BEVERAGE WIRELESS ACCESS POINT, 3/4"C (IN HARD LID LOCATIONS ONLY) TO LV BACKBOARD AT EQUIPMENT PLATFORM, (2) CAT6 PER LOCATION. CAMERA, (1) CAT6 PER LOCATION TO DEDICATED PATCH PANEL IN IDF.

360 CAMERA, (1) CAT6 PER LOCATION TO DEDICATED PATCH PANEL IN

SWITCH DIMMER SWITCH **☆** 3W 3-WAY SWITCH 4-WAY SWITCH \$ VS VACANCY SENSOR (WALL MOUNT) OCCUPANCY SENSOR (WALL MOUNT) LOW VOLTAGE MOMENTARY CONTACT SWITCH

¢ OR TIME CLOCK OVER RIDE SWITH VACANCY SENSOR (CEILING) OCCUPANCY SENSOR (CEILING)

BATTERY EMERGENCY LIGHT (WALL MOUNT) BATTERY EMERGENCY LIGHT (CEILING MOUNT) EXIT SIGN

DAYLIGHT SENSOR (CEILING)

UPPERCASE LETTER DENOTES FIXTURE TAG LOWERCASE LETTER DENOTES SWITCH DESIGNATION

FIRE ALARM

LIGHTING

CEILING MOUNTED FIRE ALARM VISUAL ANNUNCIATION DEVICE (STROBE) WALL MOUNTED FIRE ALARM VISUAL ANNUNCIATION DEVICE (STROBE CEILING MOUNTED FIRE ALARM AUDIBLE / VISUAL ANNUNCIATION DEVICE (SPEAKER

' HORN STROBE) WALL MOUNTED FIRE ALARM AUDIBLE / VISUAL ANNUNCIATION DEVICE (SPEAKER / HORN STROBE)

FIRE ALARM SMOKE DETECTOR FIRE ALARM DUCT DETECTOR

FIRE ALARM HEAT DETECTOR (RATE OF RISE) PLUS FIXED TEMPERATURE

FIRE ALARM HEAT PULL STATION FIRE ALARM WATERFLOW SWITCH

FIRE ALARM TAMPER SWITCH FIRE ALARM DUCT DETECTOR TEST STATION (KEYED, AUDIBLE/VISUAL) FARM FR FIRE ALARM ADDRESSABLE RELAY MODULE

FIRE ALARM CONTROL PANEL FIRE ALARM REMOTE ANNUNCIATOR PANEL

FIRE ALARM NAC PANEL

FIRE ALARM FAN SHUTDOWN RELAY

**MISCELLANEOUS** 

JUNCTION BOX PULL BOX

CONDUIT CONCEALED IN WALL, CEILING OR UNDERGROUND. CENTER LINES DENOTE UNDERGROUND/FLOOR CONDUIT. DASHED LINES DENOTE DEMOLITION

ARROWHEAD DENOTES HOMERUN TO PANE SLASHED DENOTE QUANTITY OF CONDUCTORS DOT DENOTES GROUND LONG SLASH DENOTES NEUTRAL CONDUCTOR.

SHORT SLASH DENOTES PHASE CONDUCTOR, SWITCH LEG OR CONTROL.

FLEXIBLE CONDUIT WHIP - MAX 6'-0" IN LENGTH METER

0\_\_\_\_ FUSED SWITCH -CIRCUIT BREAKER FNCLOSED CIRCUIT BREAKER

KEYED NOTE TAG

KEYED NOTE TAG

REVISION NOTE TAG

**ELECTRICAL ABBREVIATIONS** 

AFF ABOVE FINISHED FLOOP

ELECTRICAL CONTRACTOR

BOH BACK OF HOUSE

CIRCUIT

EX EXISTING

HD HAND DRYFR

MT MOUNT

NL NIGHT LIGHT

PL PILOT LIGHT

TC TIMECLOCK

SM SURFACE MOUNT

WP WFATHFRPROOF

CENTER LINE

DEDICATED

ETR EXISTING TO REMAIN

ER EXISTING. RELOCATED

FAC FIRE ALARM CONTRACTOR

GENERAL CONTRACTOR

LVC LOW VOLTAGE CONTRACTOR

MC MECHANICAL CONTRACTOR

PC PLUMBING CONTRACTOR

FPC FIRE PROTECTION CONTRACTOR

GFI GROUND FAULT CIRCUIT INTERRUPTER

ROOF EQUIPMENT LOCATED ON ROOF ABOVE

TTC TELEPHONE TERMINAL CABINET

W WALL MOUNT AT 48" A.F.F.

ANNOTATION

FUSED SWITCH E. The Contractor shall coordinate all phasing requirements with the General Contractor and/or Architect during bid. All costs DISCONNECT SWITCH to accommodate required phasing shall be included in bid. FUSED DISCONNECT SWITCH F. All projects prepared using Revit or other three dimensional design tool shall not be assumed by the Contractor to be COMBINATION STARTER DISCONNECT SWITCH W/H.O.A 100% coordinated installation documents. The Contractor shall fully field survey existing conditions and prepare shop

> drawings coordinated with all other trades. A. The Contractor shall obtain and pay for all permits, fees, taxes. inspections. etc. necessary for the completion of the work. Any permit fees excluded shall be outlined in the Contractors bid.

7. Submittals and shop drawings A. Any contractor submittals or calculations required by the local AHJ, in order to obtain occupancy shall be provided the Electrical Contractor. The Electrical Contractor shall include any fees required for such submission in his bid.

B. The Contractor shall prepare and submit to the Authority Having Jurisdiction, the fire alarm documents, including drawings, battery calculations, equipment cuts, etc. Fire alarm drawings provided in the contract documents are provided for the fire alarm contractors use only and are generic in nature. The fire alarm contractor shall provide all required equipment as is required per local Code and NFPA 72.

C. Shop drawings shall include Contractor's name, job address, manufacturers' names, catalog numbers, cuts, diagrams, dimensions and maintenance clearances, etc., required for the proper review of the complete electrical submittals. Submittals shall be in logical groups: for example, all lighting fixtures and associated lighting controls. Contractor shall submit "systems" of components together for complete review. For example, lighting fixtures and controls shall be submitted together so that driver/ballast types can be reviewed with the controls being submitted. An electrical coordination study (where required) shall be submitted with the electrical equipment submittals. The contractor is responsible for submitting components and equipment together for review -

partial submittals shall not be reviewed D. Submittal reviews are a courtesy review for general conformance and do not imply a guarantee of existing conditions or building measurements. A submittal review in no wav alleviates the Contractor of ensuring compatibility and functionality systems, components, or other responsibilities under the contract.

E. Shop drawings will require a minimum of (5) business days for review. The Contractor shall include the required review time in all project and construction schedules. There shall be no additional compensation or consideration for failure to include the proper review time.

F. Shop drawing review by the Engineer or Architect does not relieve the Contractor from providing all required materials, equipment, etc. as indicated in the contractor documents. G. The shop drawing submittals shall be in electronic (.PDF) format unless noted otherwise in the Architectural specifications. Where hard copies are submitted, a minimum of (3) copies will be provided. Electronic shop drawings greater than 1MB in size shall not be submitted via email, but shall be posted to an accessible public site (and the Architects upon request). The following items shall be submitted for review as applicable by project:

7.G.1. Lighting fixtures, lamps and ballasts. 7.G.2. Lighting controls and lighting control systems. 7.G.3. Receptacles, switches, wiring devices, floor fittings,

7.G.4. Fuses, disconnect switches, motor starters. 7.G.5. Panelboards, transformers and other distribution equipment

7.G.6. Fire alarm system, including point-to-point drawings. 7.G.7. Security and access control equipment, CCTV cameras, card readers, proximity, sensors, control 12

panels, etc. 7.G.8. Structured cabling systems including cable tray, racks, patch panels, etc. 7.G.9. Test results. Failure to submit test results to the

engineer shall be interpreted as all tests have been performed and have been found satisfactory or in compliance with all applicable codes, NETA and manufacturers guidelines and requirements. 7.G.10. Electrified items provided by other trades IE, elevators, kitchen equipment, etc. shall also be

coordination approval. H. The Contractor shall submit to the Engineer for review enlarged plans of all electrical and mechanical rooms that contain electrical distribution equipment. These plans shall include all switchgear, switchboards, distribution & panel boards, transformers, ATS', generators, UPS', etc. Plans shall reflect dimensions of equipment consistent with submitted product data. Plans shall include any ductwork, piping, sprinkler lines, etc. so as to reflect maintained code required clearances. Those plans shall be submitted concurrently w/product data for a comprehensive review by the Engineer. Cost to reinstall or replace or repurchase equipment due to the failure to submit these plans will not be approved. . No equipment shall be purchased or installed without a approved shop drawing submitted. Failure to comply with this

provision, the Contractor does at his own risk.

J. Substitutions 7.J.1. The Contractor may substitute in accordance with the Architectural general provisions of the specifications. Where no Architect is present in the project, all substitutions must be presented in writing, with the Contractors bid, and indicate the reason for such substitution — schedule impact, product availability, cost savings, etc. No substitutions will be accepted without prior approval

of the Engineer and Architect and/ or Owner. 7.J.2. The Contractor is required to provide equivalent physical size, materials, weight, performance, criteria, as the product specified. In addition, any differences between the product specified and the substitution which may affect other trades IE electrical characteristics, mechanical characteristics etc. shall be accounted for prior to suggesting the substitution. All cost impacts to all other trades including engineering design fees if any, shall be accounted for in the substitution. No additional costs shall be approved after the approval of the

Requests for Information (RFI)

A. Where design intent is unclear, field conditions require change in design, or for any similar issues requiring change to design intent, the contractor shall submit in writing a formal RFI to the engineer for clarification. Assumptions made by the contractor without a confirmed RFI by the Engineer/Owner will preclude the contractor from compensation should these assumptions be determined to be in error or non-code compliant. B. Where the contractor deviates from code requirements of

design intent without approval by the Owner and design team. he does so at his own risk. Failure to meet code requirements or design intent may result in correction of the installation without compensation to the contractor. C. RFI's or other clarifications will require a minimum of (3) business days for review. The Contractor shall include the required review time in all project and construction schedules.

requested shut down. The bid is to include the cost of any temporary wiring and/or connections. The Contractor shall There shall be no additional compensation or consideration for failure to include the proper review time. Responses provided verbally or in email format shall be considered part of the Contract. Additional sketches may or may not be provided at quantity or quality occur, the larger size, greater quantity, and the Engineer's discretion.

9. Cutting, patching and modifications to existing structures A. All cutting, drilling and patching of building concrete, masonry or other structural components shall be included by the Contractor. Under no conditions may structural components be modified or altered in any way without written approval from the Engineer and Structural Engineer.

B. Fire seal all penetrations through rated walls, ceilings and floors with approved firestopping: 3M "Fire Barrier CP-25." or Thomas & Betts "Flame Safe". All fire ratings shall be maintained using an approved, UL listed method and/or

A. All temporary power and connections as required and/or identified by the Owner or Construction Manager, shall be provided by the Electrical Contractor. The Electrical Contractor shall be responsible for providing temporary power, lighting and fire alarm coverage as required throughout the construction period, including the required phasing in order to complete the construction. The Contractor shall provide proper physical separation between existing areas and areas of construction to include temporary partitions, visqueen, etc.

B. All equipment and lugs shall be rated for a minimum temperature of 75°C unless noted otherwise. C. The Electrical Contractor shall disconnect and remove any abandoned or unused electrical equipment within the area of work. All abandoned or unused equipment not identified on the contract documents shall be approved for removal by the building owner prior to demolition. D. All materials and equipment shall be stored, handled, and

installed in accordance with the manufacturers' recommendations and any local ordinances. E. All construction methods, installation, equipment and materials shall be in compliance with any and all building and/or client standards and all local Codes. In no case shall any building or client standard direct the Electrical Contractor to provide or install any components which are against code or good engineering practices.

F. Backboxes and equipment recessed into opposite sides of a fire rated wall assembly shall be located at least 24" horizontally from each other, or shall be protected with fire wrap/putty pads. Electrical boxes or equipment total openings exceeding 100 square inches within 100 square feet shall be protected with a UL listed material and method to maintain the fire rating. Contractor shall ensure that the fire rating of all assemblies shall be maintained using a UL listed material and method for the application.

G. Electrical panels shall not be recessed into fire rated walls. The contractor shall submit in writing a formal RFI in the event that the plans conflict with this requiremen 11. Demolition and removal of systems A. The Contractor shall review with the Owner prior to removal. all equipment, fixtures, devices, etc., which are to be salvaged. All items to be salvaged shall be removed, protected and stored as required prior to return to the Owner. All items

re-used shall be removed from the site by the Contractor. Include in the bid, the cost of proper disposal of all debris or refuse. Bid shall also include cost to recycle equipment and materials as required IE fluorescent lamps, etc. B. Modify existing equipment as required to facilitate work indicated on the contract documents. Coordinate all work required with existing equipment manufacturers. C. Where existing electrical work must be removed, it shall be completely removed, back to the first outlet to remain. Conduit that is embedded in concrete or inaccessible may be filled, capped and abandoned in place. Remove all existing

wire and identify the conduits at each end as abandoned and

equipment, lighting fixtures and outlets that are outside the

D. The Electrical Contractor shall maintain service to all

provide the date of abandonment.

that the Owner does not wish to salvage and/or to be not

<u>3-1/2</u>" <u>162 111 80 61 47</u>

limits of construction. Extend and/or re-route circuits as 13. Conductors

E. The Electrical Contractor shall be responsible for damage caused to the existing conditions, new conditions and/or other Contractor's work, including damage outside the limits of construction. The Contractor, at his own cost, shall repair and/or replace any existing equipment that is to remain that is damaged. Contractor shall patch and repair all existing conditions affected by construction to their original condition. The Contractor shall cap all unused raceways, boxes or knockouts and identify immediately any abandoned equipment, feeders or raceways requiring removal.

G. The Electrical Contractor shall disconnect and make safe for removal any mechanical, plumbing, or equipment provided by others as listed elsewhere in the contract documents. H. It shall be understood that the contract drawings may not show all items requiring demolition either due to existing conditions or the inability to survey all existing areas due to occupancy at the time of design. The contractor shall provide to 3% at the farthest device U.N.O. a reasonable assumption and include an allocation in the bid to include the removal of said equipment as part of the

Raceways - USE ONLY AS ALLOWED BY CODE / AUTHORITY HAVING JURISDICTION. A. In general, EMT, RMC and IMC shall be used indoors. RMC,

IMC and RNC shall be used outdoors and only as allowed by local jurisdiction. RMC & IMC shall be used where subject to physical damage and in mechanical spaces below 10-0" a.f.f. B. Electrical metallic tubing (EMT) Hot dipped galvanized, mild steel tube, zinc coated shall be used for all power and lighting branch circuits. EMT fittings shall be of the steel compression or set screw type. Compression type fittings shall be used in all plenum areas, hazardous locations and areas subject to significant dust and or chemical use. forwarded to the electrical engineer for review and

C. Conduit of any size used for communications or data wiring. located indoors, shall be EMT U.N.O. The raceways shall be appropriately sized for the intended cabling. Where low voltage design is not included in the contract documents, the Contractor shall coordinate with the General Contractor or Owner, during bid, to determine appropriate size of conduit D. Rigid metallic conduit (RMC) or intermediate metal conduit

(IMC) Hot dipped galvanized, mild steel tube, zinc coated threads with an outer coating of zinc bichromate shall be used for power conduit 3" diameter or larger, or any size conduit when encased in the floor slab or located in areas subject to damage (IE mechanical spaces, loading docks, etc. below 10'-0"). RSC shall be used for incoming electrical service. U.N.O., any size conduit routed outdoors, or where in direct contact with the earth. Where exposed to corrosive environments or liquids, conduit shall be PVC coated IMC with a zinc supplemental substrate coating. All RSC and IMC

fittings and couplings shall be threaded. . RNC (PVC) may be used outdoors where allowed by code and indicated on the contract documents. All PVC conduits shall contain a dedicated ground wire. All PVC conduits under parking lots and roadways shall be a minimum schedule 80. F. Intermediate metal conduit (IMC) Hot dipped galvanized, mild steel tube, zinc coated threads with an outer coating of zinc

G. Flexible metal conduit (FMC): Galvanized or zinc metalized steel, single strip interlocked construction with continuous ground conductor. . Armor clad cable (flexible): (AC) Copper conductor wrapped in

fire retardant moisture resistant paper, 600 volt, thermoplastic insulation, 90 deg. C, interlocked steel tape armor with continuous bond conductor, armor + bond conductor listed as an EGC installed with matchina/recommended fittinas anti-short, insulated bushings. Metal clad cable (flexible): (MC) Copper conductor, 600 volt.

thermoplastic insulation, 90 deg. C, interlocked metallic tape armor with continuous ground conductor wrapped in polypropylene assembly tape and installed with matching/recommended fittings. J. All empty raceways shall be provided with nylon pull strings K. Provide a minimum of (4) 7/4" and (2) 1" conduit stubs

above the ceiling at each panel for future connections. .. Minimum conduit size for interior installations shall be 1/2" unless otherwise indicated or required by local ordinance. Where installed outside, minimum conduit size shall be 34". unless otherwise indicated.

M. Where "stub-ups" are indicated, conduit shall be run vertically to a minimum of 6" above finished ceiling or in open areas a minimum of 10'-0" a.f.f. or 6" below deck or into joist space. All stubbed conduits, sleeves, and otherwise open conduits that do not terminate in a fitting or body shall be terminated with bushings.

N. Communications system and low voltage control cabling raceway. Provide raceways for all communications circuits as required. Where allowed by local Code and building management, cabling, where exposed or above accessible ceiling may be run in free—air when properly supported from structure above via bridle rings and/or j-hooks. Provide plenum rated cable as required

D. Temperature controls wiring may be zip tied to the conduit that serves the equipment being controlled. communications and low voltage cabling shall not be zip tied to electrical raceway but supported as indicated in part D

P. The raceway system for combination telephone/data outlets shall utilize a 4" square 2-1/8" deep back box with single gang flush wall opening with a 3/4" conduit to the raceway system. Where no raceway system is required, all open air cabling shall be properly supported by j-hooks, bridle rings, etc. from structure above.

Q. Contractor shall coordinate all low voltage work with the Owners low voltage contractors and provide conduit and back boxes as required, sized per Code. Contractor shall assume a minimum of (2) low voltage cables (CAT 6) within each conduit. All low voltage conduit shall be sized per the cable manufacturer's recommendations, current BICSI standards and shall be sized for a maximum of 40% fill capacity. R. All raceways shall be concealed unless noted otherwise

S. Each switch, lighting fixture, receptacle and other miscellaneous devices shall be provided with a galvanized steel outlet box. All unused knockouts and openings must be sealed. Boxes shall be sized per Code and shall allow for adequate space for devices, wiring and wire nuts. Boxes shall be securely and adequately supported from adjacent

T. Final connections to motors, transformers and similar equipment that are subject to vibration or adjustment shall be made with sections of flexible metal conduit. The minimum length shall be 18" and the maximum shall be three feet. Installation of variable frequency drives (VFD's) shall be within manufacturer recommended distances to prevent harmonic and/or reflected wave issues but shall not exceed 70'. U. In suspended ceilings where recessed lighting fixtures are installed, flexible metal conduit may be used to service the light fixture to an adjacent junction box. The flexible metal conduit shall be 3/8" minimum, in lengths not exceeding 6'

V. The Contractor may reuse existing raceways wherever possible, provided they are of adequate size, cleaned, in good condition and are properly supported. All wiring shall be new. Where conduit systems are used as a ground path, continuity of ground shall be tested prior to reuse. W. In suspended ceilings, provide dedicated support for conduit

and junction boxes directly from the structure. Do not support electrical systems from ceiling grids, piping, conduit. ductwork, etc. Provide unistrut racking or other approved supports sized to support the load required +25% spare

X. Provide expansion joints fittings as required for thermal expansion and physical movement. Refer to Architectural specifications and plans for more information. Y. Maximum Quantity of Cables In Conduit: Refer to the chart below for low voltage cabling conduit sizing. Where technology design is provided as part of the project, refer to the technology plans for additional information.

MAXIMUM QUANTITY OF CABLES IN CONDUIT

Cable Outside Diameter Conduit 0.19 0.23 0.27 0.31 0.35 3/4" 7 5 3 2 2 <u>1" 12 8 6 4 3</u> <u>1-1/4" 21 14 10 7 6</u> <del>- 47 32 23 17 13</del> <u>2-1/2" 82 56 40 31 24</u> <u>3" 124 85 61 46 36</u>

<u>4</u>" <u>208 142 103 78 61</u>

A. Interior branch circuit conductors shall be type THHN/THWN 600V rated insulated copper conductors. Wire that is installed in raceways outdoors, or in damp or wet locations shall be type XHHW-2, 600 volt insulated copper. No wire smaller than no. 12 AWG shall be used for lighting or power wiring. Wire no. 10 and larger shall be stranded. Aluminum conductor shall not be accepted unless specifically called for in the <u>design documents</u>. Terminals shall be dual rated CU/AL.

B. Branch circuit homeruns for 120 volt circuits over 75' long and for 277 volt circuits over 125' long shall be minimally one standard wire size larger than what is required for the ampere rating of protective device. The Contractor i responsible for the adjustment of all feeder sizes as required to accommodate voltage drop. Sizes shown on design documents are minimum sizes. Voltage drop shall be limited

C. All branch circuits and feeders shall be sized, in parity, to match the over current protective device upstream unless noted otherwise D. Isolated grounding receptacle branch circuit wiring shall consist of a dedicated phase, neutral and isolated (insulated)

grounding conductors for each circuit. . Wire size shown on the contract drawings is a minimum size only. The contractor shall adjust the branch circuit size accordingly to account for the voltage drop. Maximum voltage drop allowed= 3% at the final device. Provide dedicated neutrals for all circuits. Sharing of neutrals is not acceptable.

A. Provide a dedicated grounding conductor for all circuits. Use of the metallic conduit system as a ground path is not B. Comply with UL467 for grounding and bonding of equipment. C. Comply with all local jurisdictional requirements for grounding

D. All service ground connections shall be via a listed non-reversible pressure connector, exothermic welding process or part of a listed assembly. All main grounding system connections shall be accessible for testing. E. All cable to steel ground connections shall be exothermically

The Contractor shall provide photographic evidence of all concealed ground connections prior to cover. G. All exterior buried ground connections shall be provided with ground test wells unless noted otherwise.

H. All new building shall be provided with the following ground connections: building steel (where present), connection incoming water service, UFER ground, ground ring and supplementary ground rod (3/4" x 10'-0" steel). All service grounds shall be installed and bonded per NEC Article 250. Unless otherwise noted, all main telecommunication termination points (NETPOP's, MDF's, IDF's, etc.) shall be provided with a TIA-607-C/BICSI standard, minimum 12 "L x 4"H x ¼" thick, predrilled, copper, telecommunications ground bus with 600V insulated standoff's and 1#6AWG ground connection between IDF's/MDF's, to building steel and back to the main building ground unless noted otherwise. Wiring Devices

A. Devices shall be flush mounted, unless otherwise noted. B. Special receptacles shall be as noted on the drawings or as required by specific equipment. Verify equipment requirements prior to installation. The Contractor shall provide all special

C. Receptacles and switches shall be rectangular decorator style with smooth face, 20A rated, specification grade commercial, back and side wired, plated steel wrap-around bridge, rocker type switch operators and thermoplastic nylon face. Where new receptacles are being provided adjacent to existing match existing receptacle style. Standard finder-groove style receptacles may be used in mechanical or unfinished spaces. In finished spaces, standard finder-groove style receptacles maybe substituted where detailed in the Contractors a bid and approved by the Owner/Architect. Unless noted otherwise, all receptacles shall be mounted vertically with the ground prong up. Where installed adjacent to existing to remain devices. match receptacle orientation unless noted otherwise. D. Faceplates shall be thermoplastic nylon and in kitchens or

bars Type 302/304 stainless steel, nonmagnetic. E. The color of receptacles, switches, dimmers and wall plates shall be as specified by Architect. Isolated grounding outlets and cover plates shall be identified with an orange triangle. Provide permanent marking on the inside of cover plate of each wiring device indicating panel and circuit number serving

F. Contractor shall verify with the Architectural plans, equipment cuts, kitchen equipment drawings, etc. wiring device requirements prior to rough—in and provide per the manufacturers requirements. G. Wiring devices shall be manufactured by Hubbell, Leviton or Pass & Seymour-Legrand. H. Unless noted otherwise, provide pilot switch for control of

each exhaust fan. The toggle shall illuminate when the fan is on. Engrave the nameplate with the name of the equipment. I. All exterior receptacles shall be weatherproof and provided with "in-use" covers. I. All single phase receptacles rated 150 volts to ground or less, 50 amps or less and three phase receptacles rated 150

volts to ground or less, 100 amps or less installed in bathrooms, kitchen, outdoors, roof tops, within 6'-0" from the top inside edge of a sink bowl, wet locations, locker rooms containing showers, garages and service bays, crawl spaces and unfinished, uninhabitable portions of basements shall be GFCI. Provide motor rated GFCI breakers in lieu of GFCI receptacles for all kitchen motor and or compressor loads for refrigerators, mixers, blenders, etc. to avoid nuisance tripping. Coordinate availability of combination GFCI/shunt trip devices with specific electrical distribution manufacturer during bid. Provide contactor as required for GFCI devices located underneath ansul based hoods to provide for both GFCI protection and disconnection upon ansul

K. All 15A and 20A, 125V and 250V, non-locking type receptacles located in the following areas shall be tamper resistant: child care facilities, pre-K though elementary schools, business offices, corridors, waiting rooms in medical offices, dental clinics and outpatient facilities, gymnasiums, transportation waiting rooms, auditoriums and dormitories.

M. Where floor fittings require penetration of or installation in the floor slab. they shall be listed for the purpose and shall have a fire rating equal to the floor rating. Coordinate all device locations with Architect, furniture layout, structural beams and floor construction prior to beginning work. Provide all required flanges, covers, devices, etc. as indicated. Finish selection shall be by the Architect. Include minimum cost for brass coverplate and carpet flange in bid unless noted otherwise. Provide fire caulk or other approved materials to maintain floor ratings around poke thru device as required. N Shallow flush floor boxes shall be adjustable, single gang

cast iron construction, with round or rectangular satin finish brass cover plate and matching carpet flange. Manufactured by Wiremold or Hubbell. O. Floor boxes: Provide Wiremold Evolution floor boxes with modules as required for the quantity of devices shown. 14.C.1. Provide brass cover plate and flange finish that matches floor finish type. confirm with architect

and owner prior to ordering. 14.C.2. Boxes shall be sealed to match the floor rating 14.C.3. Boxes shall be set level to the finished floor. 14.C.4. Combine power and low voltage devices into the same floor box where possible. 14.C.5. Provide a sketch in writing detailing the quantity and locations of EFB10 floor boxes.

Each gang box can support one duplex or six kevstones max. 14.C.7. Size floor boxes as indicated below: 14.C.7.1. <u>Wiremold EFB6:</u> 6 gangs max. 14.C.7.2. <u>Wiremold EFB8:</u> 8 gangs max. 14.C.7.3. Wiremold EFB10: 10 gangs max.

14.C.6. Floor box shall have K.O.'s from 3/4" to 2"

14.C.7.4. Wi<u>remold EFBFF:</u> provide where furniture feed/whips are required. P. Poke Thru's: Provide Wiremold Evolution floor boxes with modules as required for the quantity of devices shown. 14.D.1. Provide brass cover plate and flange finish that matches floor finish type, confirm with architect

and owner prior to ordering. designer shall be either a locally registered Professional Engineer or a level IV NICET certified designer. The fire alarm 14.D.2. Poke thrus shall be sealed to match the floor contractor shall submit the formal fire alarm plans, battery calculation, cut sheets, wiring diagrams, etc. as required to 14.D.3. Poke thrus shall be installed level to the finished the local Authority Having Jurisdiction for review and approval. The fire alarm contractor shall pay all fees associated with

14.D.4. Combine power and low voltage devices into the

14.D.5. Provide a sketch in writing detailing the quantity

14.D.6. Floor box shall have K.O.'s from 3/4" to 2".

14.D.7.4. Wi<u>remold \*ATFF:</u> provide where furniture

. Remove unused through—floor fittings and patch slab as

required to restore its structural integrity. Remove associated

conduit raceways and cabling in ceiling space below. Do not

K. Provide furniture whips from floor boxes for power and

tele/data as required to feed furniture partitions. Provide

wiring devices with EMT within furniture partitions where

L. Where connections to Walkerduct systems are provided, refer

A. The Contractor shall verify the ceiling type before ordering

lighting fixtures. Fixtures shall be provided with the proper

frame or adapter to receive the type of ceiling and come

complete with lamps, lenses, end caps, mounting hardware,

drivers/power supplies (and enclosures where required) etc.

Modify the fixture catalog numbers as required to obtain the

B. Continuous runs of linear fixtures shall be arranged such that

a continuously lit cove with no visible shadows or breaks.

C. Lighting distributor shall provide maximum wattage labels to

D. Provide current limiters for all track lighting. Limiters shall be

sized to carry the load for the quantity of heads shown to

be installed plus two extra heads. Size limiter to the nearest

E. Each lighting fixture shall be rigidly supported from the

building construction and shall include suspension hangers,

devices and other work for fixture support. Fixtures shall not

be supported from the ceiling grid system unless the ceiling

system is specifically listed for that use and all the required

such as UL, ETL, CSA, etc. or shall be field tested and

labeled in the field prior to installation. Include cost of field

F. All light fixtures shall bear the approval of a listed agency

G. Provide inline fuse for all fluorescent ballasts. Field install

H. Lamp color, where not specified, shall be 3500K. The

Contractor must confirm final lamp temperature with the

Provide dedicated neutrals to all lighting fixtures and for all

J. The Contractor shall provide as all commissioning services

commissioning shall include all functional testing as defined

by the IECC and as indicated in the Lighting Control Narrative

provided as part of the project. The Contractor shall hire a

licensed professional engineer to perform the commissioning

K. All exterior lighting fixture shall be wet or damp listed based

L. Light switches, sensors, photosensors, and zoning are shown

for design intent. The contractor is expected to provide

additional/ancillary components required for a compatible and

fully functioning system, such as coordinating dimming

technology types, providing power packs, wall stations

coordinating switch bank elevations, confirming faceplate

engraving with the owner, etc. In the event that design intent

is unclear or requires clarification to provide the appropriate

materials, the contractor shall submit a formal written RFI to

M. Dimmers shall be thin profile with electronic touch switch and

linear slide control. Dimmers shall be compatible with the light

fixture ballast, driver or low voltage transformers. Where

dimmers are installed in a ganged installation or stacked,

remove fins between devices. De-rate for heat as required.

Install stacked receptacles with a minimum of 4 ½" vertical

separation. Provide separate neutrals for each dimmer and

Provide dimmers compatible with dimming technology (ELV,

MLV, Forward Phase/Triac, 0-10V, etc.). Minimum dimmer

wattage rating shall be the maximum available for a single

gang. Provide additional power packs, power extenders,

dummy loads, large dimmers (2-gang), and all other

equipment/accessories as required to control each zone as

indicated. Contractor shall provide any ancillary components as

required to ensure compatibility and a fully functioning

system. It remains the responsibility of the contractor to

coordinate and ensure that the lighting controls and devices

being controlled (ballasts, low voltage transformers, drivers,

O. All occupancy / vacancy sensors shall be tested and adjusted

prior to turn-over to the occupant. The Contractor shall

explain to the Client the operation of the device prior to

leaving the site and shall instruct the occupant how to adjust

the device post-construction. Manual on/off functionality shall

be set according to local energy code requirements. Provide

additional testing, adjustments, and documentation as required

by the latest IECC Energy Code requirements for "Lighting"

system functional testing", to be performed by a registered

design professional. Include in bid time to return to the

project site (30) days and (6) months post-occupancy for

A. Provide a fully functional extension of the building fire alarm

system or new system as indicated on contract drawings.

Include all necessary hardware and software improvements and

point-to-point wiring diagrams. Provide additional circuits,

power supplies and amplification as required. Test, adjust,

program and recertify the system at the completion of

construction. Update all zone maps & schedules as required.

B. All fire alarm devices shall comply with the Americans with

C. All fire alarm devices shall fully comply with NFPA 72 and

D. All fire alarm strobes within viewing distance shall be

H. All fire alarm devices shall be installed per NFPA 72 and local

requirements. Devices shown are for reference only. Provide

quantity of devices and appropriate candela and/or dB levels

l. Provide addressable fire alarm modules at all water flow and

tamper switches as required by the fire protection contractor.

Note: due to the design build nature of the fire protection

system, these devices may not be indicated on the electrical

shall be red in color. Where allowed by local code, fire alarm

integrity cable may be provided in lieu of full conduit runs

with prior approval from the engineer. Cabling shall be plenum

approved in return plenum areas. In all cases, where fire

alarm wiring is exposed to damage (IE exposed below 10'-0"

a.f.f.), in run in inaccessible areas or above hard ceilings and

within walls, the fire alarm cabling shall be run in conduit.

K. Include in base bid, cost to install (3) additional audio visual

and (3) additional visual devices in additional to those

indicated on plan to allow for fire department field requests.

L. The Contractor shall connect the fire alarm to a central

M. The fire alarm contractor, shall become the role of Engineer

of Record for the fire alarm system and affix the designers

seal or license number as required for permit. The fire alarm

station or local fire department or provide radio equipment

for monitoring as required based on local jurisdictional or

plans. Coordinate with the general contractor prior to bid.

J. All fire alarm cabling shall be run in conduit. The conduit

E. Manufacturer: Match existing or provide new as indicated.

F. All new fire alarm systems shall be fully addressable.

G. Utilize building approved Contractor where applicable.

Disabilities Act and shall match building standard.

ICC/ANSI A117.1-2003. Section 7.702.

as required for proper coverage.

Owner requirements.

synchronized.

the adjustment of all sensor settings.

one single continuous cover plate for multiple dimmers.

N. Dimmers shall be Lutron Nova T, series or approved equal.

required by the 2018 IFCC specifically lighting control.

all fixtures with reduced lamping for energy Code compliance

that no more than 6" of any end of a run is unlit. Provide

fixtures, fittings, and connectors sized as required to provide

Each gang box can support one duplex or six

same floor box where possible.

keystones max.

and locations of 10AT poke thrus.

14.D.7. Size floor boxes as indicated below:

14.D.7.1. <u>Wiremold 6AT:</u> 6 gangs max.

14.D.7.2. <u>Wiremold 8AT:</u> 8 gangs max.

feed/whips are required.

abandon through—floor fittings in place.

to plans for additional information.

necessary options and accessories.

prior to shipping the fixture to the field.

nominal size provided by the manufacturer.

mounting and supporting hardware is provided.

fuses in any fixture not manufactured with a fuse.

labeling in bid.

dimming zones.

portion of the project.

on installation location.

Architect prior to ordering.

14.D.7.3. <u>Wiremold 10AT:</u> 10 gangs max.

securing the fire alarm permit and inspections. N. The fire alarm contractor shall provide training for the Owner

prior to turn-over for the proper operation and maintenance of the fire alarm system per the manufacturers Electrical Distribution A. All electrical distribution shall be provided with fully rated,

copper bussing B. All new circuit breakers for existing panelboards shall match existing building panelboard manufacturer and breaker type. C. All new circuit breakers for existing panelboards shall be provided with interrupting ratings exceeding the available short circuit current. The Contractor shall be responsible for confirming available fault current.

D. New panelboards shall utilize bolt on type branch circuit breakers, with withstand ratings exceeding the available short circuit current. Manufactured by Siemens, General Electric, Square D, Eaton or approved equal. Provide full length, copper bussing within panel boards with fully rated neutral. The Contractor is responsible for providing arc flash labeling on the cover of all new electrical equipment. Where required by local Code, the Contractor shall provide detailed arc flash labels at all new and relocated electrical equipment per OSHA/NFPA 70E recommendations including, PPE requirements, incident energy level, safe working distance, etc.

E. Provide arc fault circuit breakers for all circuit breakers serving bathrooms, kitchens, family & living rooms, bedrooms and other habitable spaces in residential occupancies . Coordinate installation of electrical equipment with other trades. Do not install electrical equipment below ductwork, piping, etc. Allow for Code required clearance above all

G. The Contractor shall review the complete contract documents and provide starters and disconnects as indicated. Where the plans are ambiguous or unclear, the Contractor shall include the cost of starters and/or disconnects as required and identify such ambiguity in his bid. Disconnects and starters shall be located within sight of the equipment they are serving and be accessible.

H. The Contractor may, utilize the overcurrent protective devices within the panel board as the disconnecting means for an appliance or motor ONLY AS ALLOWED BY LOCAL CODE and ONLY WHERE APPROVED BY THE AHJ. All OCPD's used as disconnecting means shall be provided with lock-open devices

Three-phase motor starters shall be of the combination type consisting of a fused or non-fused disconnect switch and an across—the—line magnetic starter. Starter contactors shall be minimum NEMA Size 1. All three-phase motor starters shall be furnished with solid-state overload relays to protect all three phases. The relays shall be adjusted for the particular motor it is used with, based on actual nameplate data. Provide one set of form C auxiliary contacts, (1 N.O. and 1 N.C.) in each starter. Provide internal control transformer as required. Mount the control transformer inside the starter enclosure. Both primary and secondary sides of the control transformer shall be fused. Provide a hand-off-automatic

selector switch on the cover, with motor on/off pilot lights. Manufactured by Siemens, Square D, or equal. Transformers shall be dry type, listed, with aluminum winding 220°C class insulation, 150°C temperature rise, totally enclosed except for ventilation openings and six (6) 2½% voltage taps. Provide vibration isolators. Where floor mounted, mount on 4" concrete pad. Do not mount transformers greater than 45kVA above dropped ceilings. Manufactured by Square D, General Electric, Eaton or Hammond. K. Transformers shall meet minimum current energy efficiency

levels as defined by the DOE. Surge Protection Devices (SPD's) 16.M.1. SPD shall be listed and labeled as defined in NEC, by UL, and marked for intended location and 16.M.2. MCOV of the SPD shall not be less than 115% for 480/277V and 125% for 208/120V.

entrance OCPD shall be Type 1. SPDs installed on the load side of the service entrance OCPD shall also be Type 1. 16.M.4. SPDs installed at distribution panels shall be Type 16.M.5. SPDs installed at branch panels shall be Type 3.

16.M.3. SPDs installed on the line side of the service

16.M.6. SPDs shall provide the following accessories and 16.M.6.1. Internal fusing for SPD protection. 16.M.6.2. Indicator lights for power and protection 16.M.6.3. Audible alarm with silencing switch.

16.M.6.4. Surge counter with reset switch. Integral disconnect for externally mounted 16.M.7. SPDs shall have ratings as follows: 16.M.7.1. Distribution level: 160kA per phase, 80kA

16.M.7.2. Branch level: 120kA per phase, 60kA pe 16.M.7.3. Protection modes for L-N, L-G, N-G, L-L 16.M.8. The short circuit interrupting rating of the SPD shall be greater than the available short circuit of the point on the system where installed. 16.M.9. Provide a minimum 30A circuit breaker as dedicated disconnecting means for the SPD unless

indicated otherwise. Coordinate exact OCPD size with manufacturer. M. Fuses 601 ampere and above shall be 600 volt rated, current limiting, time delay, class L, as manufactured by Bussmann

N. Fuses 600 ampere and below shall be current—limiting, dual element, time delay, rejection type, class RK-1, as manufactured by Bussmann or equal. O. Provide minimum 4" concrete housekeeping pad for all floor mounted equipment. Mechanical/HVAC/Plumbing/Fire Protection

17.A.1. Refer to the mechanical drawings for exact location of motors. 17.A.2. Contractor shall wire, set and connect

individual motors, controls and equipment 3. Provide local disconnect switches for all motors. disconnects, starters, variable frequency drives, etc. installed by the Electrical Contractor shall be installed so as to provide the Code required clearances. Locations are shown for reference only. The Contractor shall coordinate with all trade prior to rough-in. 19. Execution and completion

mounting heights of the electrical equipment. S. Refer to architects device mounting legend for device mounting heights. T. All device mounting heights shall comply with the Americans with Disabilities Act and/or any local accessibility J. Unless otherwise noted, mounting heights shall be as follows:

R. Refer to architectural drawings for exact locations and

A.F.F. to center. Refer to plans for orientation. W. Switches shall be mounted 42" A.F.F. to center or unless indicated differently on the Architectural drawings. X. Above—counter outlets and switches shall be mounted at 48"A.F.F. to center, but shall be coordinated with the Y. Wall-mounted telephones shall be mounted 48" A.F.F. to

Receptacles and communications outlets shall be mounted 1

Z. Fire alarm devices: 19.1.1. Audible, visual or combination audible/visual alarm devices, where wall mounted, shall be mounted 80"A.F.F. to centerline or 6" below ceiling, whichever is lower. 19.1.2. Manual pull stations shall be wall-mounted 48" A.F.F. to center.

19.1.3. Audible and visual duct detector test stations shall

be wall mounted 48" A.F.F. to center.

AA. Contractor shall give careful consideration to existing

conditions including columns, beams, suspended ceilings, pipes

ductwork, expansion joints, etc. Contractor shall coordinate with all other trades and install electrical appurtances so as to maximize headroom and maintain code required clearances in all cases. The contractor shall notify the Architect Engineer where conflicts occur prior to rough—in. The contractor, under no circumstances, shall penetrate o otherwise modify structural members including but not limited to structural slabs/ floors, ceilings, beams, walls, columns,

etc. without prior written approval from the electrical engineer and structural engineer and/ or architect. AB. The contractor shall make every effort to minimize noise during construction. Noise shall be kept within maximum OSHA recommended levels and/or other local authorities having jurisdiction. Numbered circuits are for convenience of design only; field conditions may vary. Indicate the actual circuit

numbers used on the "as-built" drawings. Electrical Contractor shall comply with all recommended arc flash safety practices per NFPA70E. Utilize appropriately rated personnel protective equipment (PPE) as required Where new electrical distribution equipment is being installed or existing is significantly modified, contractor shall provide updated arc flash boundary hazard warning labels. AD. All work installed within the ceiling plenum shall be in

accordance with wiring method requirements for air handling ceiling spaces. Refer to the mechanical and architectura drawings for plenum areas and additional information. AE. Unless otherwise noted, all floor mounted equipment shall be installed on a 4" concrete housekeeping pad witl appropriate bolts or rods to secure the pad to the floor slab.

system meets the requirements of the local Electrical Code Adiust as reauired. AG. Insulation resistance testing shall be performed on all reused wiring and equipment. Measured insulation resistance shall conform to the current adopted electrical code and any

AF. Provide ground tests as required to ensure grounding

AH. The Contractor must check all transformers, power panels, feeders, power and control cables and connections and motors to assure correct phase sequence and rotation. Al. Test all power and control electrical circuits for circuit continuity and functional tests.

Acceptance Testing for Electrical Power Distribution Equipment and Systems must be in accordance with NETA AK. Submit all test results to Engineer for review and

shall be cleaned, exercised and repaired as required.

thermal scanned and a report prepared by a qualified thermal testing agency. Provide test results with recommendations for remediation as required to the Engineer AN. Failure to submit test results to the Engineer for review shall be interpreted as tests have been performed as required and have been found in compliance with code, NETA and

AL. All overcurrent protective devices that are to be reused

AM. All existing electrical distribution equipment (panelboards

transformers, breakers, switch and fuses, etc.) shall be

manufacturers quidelines. A. Upon completion of construction, the Contractor shall balance each panel so that there is no more than 10% difference between phases. The load shall be monitored during the peak demand period.

B. The Contractor shall provide new typewritten panel directories

for all panels changed or added. Provide engraved plastic

labels permanently attached (no adhesives) for all new panels and distribution equipment. C. Prior to turn-over, the Contractor shall provide written documentation certifying that all equipment and systems have been properly installed per code, cleaned, adjusted an

D. The Contractor shall provide all operation and maintenance manuals for all equipment at turn-over E. The Contractor shall provide original "as-built" documents in both hard copy and AutoCAD drawing files. Submit as-buil drawings to Engineer. Cost to produce these documents shall be included in the bid. No additional compensation after the project has been awarded will be provided F. Contractor Final Payment Final payment shall be withheld until

the receipt of final certification of occupancy, approval

as-builts, and owners training and corrections of a

deficiencies and punch list items have been received.

20.G.1. The Engineer, at his discretion may make portion of the contract documents available in electronic format. These documents are proprietary and remain the Engineer's property and shall be used solely with respect to this project. The documents will be provided for the convenience of the user for use in preparing shop drawings and/or coordination drawings related to the construction of this project only. The engineer shall be held harmless for the use of the electronic documents

by Others. 20.4.2 "As-Built" documents shall include all revisions bulletins, addenda, etc. included as a part of the

> dimensions and conditions at the jol site and notify Aria Group Architects Inc. of any dimensional errors. omissions or discrepancies befor not scale these drawings COPYRIGHT

> > 2021/08/19 ISSUED FOR

JOHN M. Dohn thomas

REQUIRED TO REFLECT FULL COORDINATION ACROSS ALL TRADES AND SHALL BE SUBMITTED FOR REVIEW, COORDINATED DRAWINGS SHALL BE SIGNED OFF BY ALL OTHER TRADES PRIOR TO BEING SUBMITTED FOR REVIEW. PLANS SHALL BE PREPARED AT A MINIMUM OF 1/8" SCALE OR THE SCALE OF THE DESIGN DRAWINGS, WHICHEVER IS LARGER. NO EQUIPMENT SHALL

DRAWINGS.

THIS PROJECT FALLS UNDER THE PROVISIONS OF SEISMIC

DESIGN CATEGORY D, RISK CATEGORY 2. THE CONTRACTOR

SHALL COMPLY WITH ASCE7-10 FOR ALL FLOOR MOUNTED

ELECTRICAL EQUIPMENT > 400LBS; ON ALL CONDUIT

SYSTEMS 2-1/2" AND LARGER AND ON ALL TRAPEZE

SUPPORTED RACEWAYS SUPPORTING LOADS > 10LBS/FT.

PROVIDE BRACING AND SUPPORTS AS REQUIRED PER THE COORDINATED SHOP DRAWINGS SHALL BE PROVIDED BY EACH SUBCONTRACTOR AND SHALL CONTAIN A LAYOUT OF ALL DUCTWORK, CONDUIT, PIPING, EQUIPMENT. STRUCTURE, WALLS, CEILING, ETC. AS

SEE PLANS Sheet No. BE INSTALLED WITHOUT APPROVED SHOP



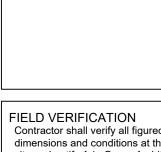
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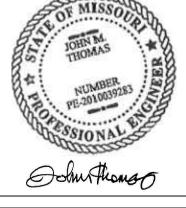
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beginning or fabricating any work. D Aria Group Architects, Inc. shall retain all common law, statutory and other reserved rights. These drawings and related documents shall not be duplicated, disclosed or otherwise without written consent of Aria Gro

NO. DATE REMARKS REVISIONS



ELECTRICAL Job No. Drawn

Drawing Title

204530

Date Scale 08/06/2021

### **ELECTRICAL NOTES (DIVISION 26)**

- FURNISH AND INSTALL CORD AND PLUG SET(S).
- 2. INSTALL KEC (SECTION 114000) FURNISHED CORD AND PLUG SET(S).
- 3. FURNISH AND INSTALL DEVICE & COVER IN KEC (SECTION 114000) FURNISHED JUNCTION BOX.
- 4. CONNECT TO JUNCTION BOX, DEVICE, & COVER FURNISHED BY KEC (SECTION 114000).
- CONNECT WITH LIQUID TIGHT CONDUIT FROM JUNCTION BOX TO EQUIPMENT/DEVICE(S) FOR A DIRECT CONNECTION.
- 6. CONNECT WITH LIQUID TIGHT CONDUIT FROM JUNCTION BOX THROUGH CONTROL TO EQUIPMENT/DEVICE(S) FOR A DIRECT CONNECTION.
- 7. CONNECT THRU DISPOSER CONTROL TO SOLENOID VALVE AND MOTOR.
- 8. CONNECT THRU KEC (SECTION 114000) FURNISHED REMOTE CONTROL SWITCH(ES).
- 9. FURNISH AND INSTALL SWITCH. CONNECT TO LIGHTS FURNISHED AND INSTALLED BY KEC (SECTION 114000).
- 10. CONNECT POWER SUPPLY TO KEC (SECTION 114000) FURNISHED LOAD CENTER. COUNTER SHALL BE PREWIRED AND SHIPPED IN SECTIONS. CONNECT BETWEEN SECTIONS.
- 11. CONNECT TO KEC (SECTION 114000) FURNISHED JUNCTION BOX AT WALK-IN DOOR ASSEMBLY. LIGHT FIXTURE AT DOOR IS PREWIRED TO FACTORY MOUNTED LIGHT SWITCH. MOUNT ADDITIONAL KEC (SECTION 114000) FURNISHED LIGHTS WHERE INDICATED AND CONNECT TO SWITCH. CONDUIT SHALL BE INSTALLED ABOVE WALK-IN AND NOT EXPOSED ON INTERIOR UNLESS REQ'D. CONDUIT PENETRATING WALK-IN SHALL BE NON-METALLIC OR PVC. .
- 12. FOAM & SEAL INSIDE AND OUTSIDE OF CONDUIT PENETRATIONS THRU WALK-IN.
- 13. CONNECT KEC (SECTION 114000) FURNISHED TEMPERATURE ALARM SYSTEM. COORDINATE WITH BUILDING SYSTEMS.
- 14. FURNISH AND INSTALL FUSED DISCONNECT AT CONDENSING UNIT.
- 15. INSTALL KEC (SECTION 114000) FURNISHED DEFROST TIMER. CONNECT THRU TIMER TO EVAPORATOR COIL.
- 16. CONNECT FROM KEC (SECTION 114000) FURNISHED CONDENSING UNIT, THRU DEFROST TIMER, TO EVAPORATOR COIL. 17. PROVIDE NEMA RECEPTACLE WITH WEATHER COVER BEHIND FREEZER EVAPORATOR COIL FOR DRAIN LINE HEATER.
- 18. CONNECT EXHAUST FAN THRU FAN CONTROL CONTACTS IN DISHWASHER.
- 19. CONNECT TABLE LIMIT SWITCH TO DRY CONTACT ON KEC (SECTION 11400) FURNISHED DISH MACHINE.
- 20. CONNECT DRAIN WATER TEMPERING DEVICE PER MANUFACTURER'S RECOMMENDATIONS.
- 21. CONNECT THRU KEC (SECTION 114000) FURNISHED LIGHT SWITCH MOUNTED IN FACE OF HOOD OR HOOD CONTROL CABINET TO LIGHT FIXTURES IN HOOD(S). INTERWIRE LIGHT FIXTURES BETWEEN HOOD SECTIONS AS REQUIRED.
- 22. CONNECT THRU KEC (SECTION 114000) FURNISHED FAN CONTROL SWITCH MOUNTED IN FACE OF HOOD OR HOOD CONTROL CABINET TO EXHAUST FAN(S)/MAKE-UP AIR UNIT(S). INTERWIRE THRU MOTOR STARTER(S)/VARIABLE FREQUENCY DRIVE(S) AND OVERLOAD PROTECTION DEVICE(S) AS
- REQUIRED. INSTALL AND/OR INTERWIRE THE KEC (SECTION 114000) FURNISHED HOOD HEAT SENSOR(S) AND SMOKE SENSORS AS REQUIRED. 23. CONNECT 120 VOLT FROM KEC (SECTION 114000) FURNISHED MICRO SWITCH IN FIRE SUPPRESSION SYSTEM CONTROL PANEL TO SHUNT TRIP BREAKER(S) FOR SHUT DOWN OF POWER TO ALL ELECTRICAL DEVICES UNDER HOOD(S) AND 18" OUTSIDE PERIMETER OF HOOD(S). CONNECT FROM MICRO SWITCH TO DIVISION 26 FURNISHED RELAY(S) OR SWITCHES FOR SHUT DOWN/CONTROL OF HOOD LIGHTS, MAKE-UP AIR FAN, AND FIRE ALARM SYSTEM. EC IS RESPONSIBLE FOR ANY REQUIRED INTERWIRING/CONTROL WIRES FOR THE FIRE SUPPRESSION SYSTEM AND ASSOCIATED ELECTRICAL GAS SOLENOID VALVES.
- 24. CONNECT 120 VOLT FROM KEC (SECTION 114000) FURNISHED MICRO SWITCH IN FIRE SUPPRESSION SYSTEM CONTROL PANEL THRU MANUAL RESET RELAY TO ELECTRIC GAS VALVE. PROVIDE CONTROL/INTERWIRING BETWEEN THE FIRE SUPPRESSION SYSTEM AND ASSOCIATED ELECTRICAL GAS SOLENOID VALVES, RESET RELAYS, AND PULL STATIONS AS REQ'D.
- 25. PROVIDE CONCEALED CONDUIT AND RECESSED OCTAGONAL JUNCTION BOX IN WALL AT 42"-48" AFF FOR REMOTE MANUAL PULL STATION(S). COORDINATE LOCATION(S) WITH FIRE SUPPRESSION SYSTEM CONTRACTOR AND AUTHORITIES HAVING JURISDICTION PRIOR TO ROUGH-IN.
- 26. VERIFY UTILITIES FOR EXISTING/NIC EQUIPMENT AND PROVIDE FOR AS REQ'D.
- 27. INSTALL 3/4" EMPTY CONDUIT AND JUNCTION BOX FOR DATA CONNECTION. VERIFY EXACT REQUIREMENTS AND TERMINATION POINTS PRIOR TO ROUGH-IN.
- 28. PROVIDE AND INSTALL AN APPROVED GFCI RECEPTACLE.

AC-1 DFSS-1		VOLT/PHASE	PANEL										
	Lub austau.			CKT#	AMPS	MCA	OCPD	kW	HP	STARTER	DISC.	FEEDER	
DECC 1	AIR CURTAIN	120/1	M1	36	11.25	-	20	-	1.1	MFR	MFR	2#12+1#12G-3/4"C	
DF35-1	DUCT FREE SPLIT SYSTEM	208/1	M1	48/50	-	19	30	-	-	MFR	MFR	2#10+1#10G-3/4"C	INDOOR DISCONNECT BY MF
DFSS-2	DUCT FREE SPLIT SYSTEM	208/1	M1	52/54	-	9	20	-	-	MFR	MFR	2#12+1#12G-3/4"C	INDOOR DISCONNECT BY MF
EDH-1	ELECTRIC DUCT HEATER	208/3	M1	8/10/12	7.8	-	20	2.8	N.A	MFR	MFR	3#12+1#12G-3/4"C	
EDH-2	ELECTRIC DUCT HEATER	208/3	M1	14/16/18	23.3	-	30	8.4	N.A	MFR	MFR	3#10+1#10G-3/4"C	
EDH-3	ELECTRIC DUCT HEATER	208/3	M1	20/22/24	7.7	-	20	2.7	N.A	MFR	MFR	3#12+1#12G-3/4"C	
ECH-1	ELECTRIC CEILING HEATER	120/1	M1	32	13	-	20	0.75	-	-	1P-20A	2#12+1#12G-3/4"C	
ECH-2	ELECTRIC CEILING HEATER	120/1	M1	34	13	-	20	0.75	-	-	1P-20A	2#12+1#12G-3/4"C	
EUH-1	ELECTRIC UNIT HEATER	208/3	M1	26/28/30	27.1	-	35	5.6	-	MFR	3P-60A	3#8+1#10G-3/4"C	
KEF-1L	KITCHEN EXHAUST FAN	208/3	M1	37/39/41	4.4	ı	20	ı	1.5	HOOD CP	MFR	3#12+1#12G-3/4"C	
KEF-1M	KITCHEN EXHAUST FAN	208/3	M1	43/45/47	4.4	-	20	ı	1.5	HOOD CP	MFR	3#12+1#12G-3/4"C	
KEF-1R	KITCHEN EXHAUST FAN	208/3	M1	49/51/53	4.4	-	20	-	1.5	HOOD CP	MFR	3#12+1#12G-3/4"C	
KEF-2L	KITCHEN EXHAUST FAN	208/3	M1	55/57/59	4.4	-	20	-	1.5	HOOD CP	MFR	3#12+1#12G-3/4"C	
KEF-2R	KITCHEN EXHAUST FAN	208/3	M1	61/63/65	4.4	-	20	-	1.5	HOOD CP	MFR	3#12+1#12G-3/4"C	
KEF-3	KITCHEN EXHAUST FAN	120/1	M1	42	8.4	-	20	-	0.5	HOOD CP	MFR	2#12+1#12G-3/4"C	INTERLOCK WITH DISHWASHER
EF-1	EXHAUST FAN	120/1	M1	44	7.2	-	20	-	1/3	NEMA 1	MFR	2#12+1#12G-3/4"C	
EF-2	EXHAUST FAN	120/1	M1	46	5.8	-	20	-	1/4	NEMA 1	MFR	2#12+1#12G-3/4"C	
MAU-1	MAKE UP UNIT	208/3	M1	1/3/5	27	33.8	60	-	10	HOOD CP	3P-60A	3#6+1#10G-3/4"C	
MAU-1	MAKE UP UNIT CONDENSER 1	208/3	M1	7/9/11	17.4	21.4	30	-	-	N/A	3P-30A	3#10+1#10G-3/4"C	
MAU-1	MAKE UP UNIT CONDENSER 2	208/3	M1	13/15/17	17.4	21.4	30	-	-	N/A	3P-30A	3#10+1#10G-3/4"C	
MAU-1	MAKE UP UNIT CONDENSER 3	208/3	M1	2/4/6	17.4	21.4	30	-	-	N/A	3P-30A	3#10+1#10G-3/4"C	
MAU-1	MAKE UP UNIT CONTROLS	120/1	M1	38	-	-	20	200W	-	N/A	1P-20A	2#12+1#12G-3/4"C	
MAU-2	MAKE UP UNIT	208/3	M1	19/21/23	6.1	7.7	15	-	2	HOOD CP	3P-30A	3#12+1#12G-3/4"C	
MAU-2	MAKE UP UNIT CONDENSER 1	208/3	M1	25/27/29	9.07	11.2	20	-	-	N/A	3P-30A	3#12+1#12G-3/4"C	
MAU-2	MAKE UP UNIT CONDENSER 2	208/3	M1	31/33/35	17.4	21.4	30	-	-	N/A	3P-30A	3#10+1#10G-3/4"C	
MAU-2	MAKE UP UNIT CONTROLS	120/1	M1	40	-	-	20	200W	-	N/A	1P-20A	2#12+1#12G-3/4"C	
RTU-1	ROOFTOP UNIT	208/3	LDP1	14/16/18	-	66	80	-	-	MFR	100A/3P	3#4+1#8G-1"C	
RTU-2	ROOFTOP UNIT	208/3	LDP1	20/22/24	-	66	80	-	-	MFR	100A/3P	3#4+1#8G-1"C	
RTU-3	ROOFTOP UNIT	208/3	LDP1	26/28/30	-	72	90	-	-	MFR	100A/3P	3#3+1#8G-1"C	
RTU-4	ROOFTOP UNIT	208/3	LDP1	32/34/36	-	30	40	-	-	MFR	60A/3P	3#8+1#10G-3/4"C	
RTU-5	ROOFTOP UNIT	208/3	LDP1	38/40/42	-	115	150	-	-	MFR	200A/3P	3#1/0+1#6G-1-1/2"C	
RTU-6	ROOFTOP UNIT	208/3	LDP1	31/33/35	-	30	40	-	-	MFR	60A/3P	3#8+1#10G-3/4"C	
WH-1	WATER HEATER (TOTAL OF 7)	120/1	LP1	29,31,33,35,37,	-	-	20	200W	-	MFR	1P-20A	2#12+1#12G-3/4"C	FOR EACH OF (7) WATER HEATERS
RP-1	RECIRCULATION PUMP	120/1	LP1	39,41 43	-	-	20	200W	0.08	MFR	1P-20A	2#12+1#12G-3/4"C	HEATERS
WS-1	WATER SOFTENER	120/1	LP1	9	-	-	20	200W	-	MFR	1P-20A	2#12+1#12G-3/4"C	
PP-1	BOOSTER PUMP	208/3	LP1	45/47/49	10.6	_	20	-	3	VFD BY PC	30A/3P	3#12+1#12G-3/4"C	
ERH (8)	RADIANT HEATER	208/1	M1	73 THRU 80	29	-	40	3	-	-	2P-20A	2#12+1#12G-3/4"C	EC TO PROVIDE (4) 40A/ 208V/1PH FEEDS FROM PANEL TO SOLAIRA CONTROLLER IN MEZZANINE INDIVIDUAL 20A/208V/1PH FEEDS FROM CONTROLLEF TO HEATERS. PROVIDE (1) REMOTE CONTROL SWITCH PER (2) HEATERS. REFER TO

MECHANICAL EQUIPMENT SCHEDULE

1. REFER TO MECHANICAL PLANS AND SCHEDULES PRIOR TO ROUGH-IN.

400N )-

400N )—

400A

MLO

200A

MLO

120/208V

1200A

SPD

2. ALL STARTERS SHALL BE COMBINATION STARTER/DISCONNECTS U.N.O. 3. ALL STARTERS/DISCONNECTS SHALL BE LOCATED WITHIN SIGHT OF THE EQUIPMENT SERVED, AT A LOCATION APPROVED BY THE ARCHITECT U.N.O.

- INCLUDE A SECOND GROUND

ISOLATED GROUND.

KP1

120/208V | 120/208V

3PH, 4W || 3PH, 4W

400A

MLO

FED

CONDUCTOR, 1-#8 CU, FOR

KP2

MLO

- 4. ALL EXTERIOR STARTERS/DISCONNECTS SHALL BE IN NEMA 3R ENCLOSURES U.N.O. 5. ALL CIRCUIT BREAKERS SERVING MULTI-MOTOR MECHANICAL EQUIPMENT SHALL BE HACR RATED.
- 6. PROVIDE 3/4" EMPTY CONDUIT AND BACKBOX AT T-STAT OR SENSOR WITH CONDUIT ROUTED BACK TO UNIT SERVED FOR USE BY T.C.C.

POS

100A

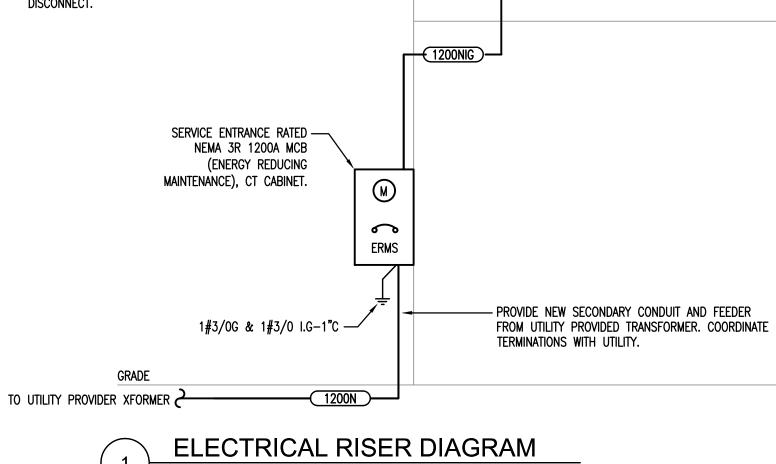
MLO

## **ELECTRICAL SERVICE NOTES:**

1. COORDINATE ALL REQUIREMENTS WITH LOCAL UTILITY.

2. PROVIDE ARC FLASH HAZARD WARNING LABELS PER IEEE

- 1584 AND NFPA 70E (2015) TO INDICATE APPROACH BOUNDARY, INCIDENT ENERGY AVAILABLE, PPE REQUIREMENTS, ETC. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AVAILABLE FAULT CURRENT FROM THE UTILITY AND CALCULATING AVAILABLE FAULT CURRENT/ARC FLASH AT ALL POINTS OF ELECTRICAL DISTRIBUTION.
- 3. ALL EXTERIOR EQUIPMENT SHALL BE NEMA 3R RATED.
- 4. MAINTAIN ALL REQUIRED SERVICE CLEARANCES IN FRONT OF ELECTRICAL EQUIPMENT.
- 5. ALL FEEDERS SHALL BE COPPER. ALUMINUM CONDUCTORS ARE STRICTLY PROHIBITED.
- 6. MAIN BUILDING GROUND SYSTEM. PROVIDE CONNECTION TO INCOMING SIDE OF WATER SERVICE (JUMPER OVER METER), SUPPLEMENTAL GROUND ROD (5/8" X 10'-0"), CONNECTION TO BUILDING STEEL, UFER GROUND IN NEW FOUNDATION AND GROUND RING, BOND ALL SERVICE GROUNDS TO MAIN BUILDING GROUND SYSTEM PER ARTICLE 250 OF THE NEC AND ALL LOCAL AMENDMENTS.
- PROVIDE ENGRAVED NAMEPLATE AT NEW SERVICE DISCONNECT.



SCALE: NOT TO SCALE

	;	3 PHASE, 4 W	RE		3 WIRE
OCPD	No. Sets	Conductors	EGC	C. (in)	C. (in)
20	1	4#12	12	3/4	3/4
25	1	4#10	10	3/4	3/4
30	1	4#10	10	3/4	3/4
35	1	4 #8	10	3/4	3/4
40	1	4 #8	10	3/4	3/4
45	1	4 #8	10	3/4	3/4
50	1	4 #8	10	3/4	3/4
60	1	4 #6	10	1	3/4
70	1	4 #4	8	1-1/4	1
80	1	4 #4	8	1-1/4	1
90	1	4 #3	8	1-1/4	1
100	1	4 #2	8	1-1/4	1-1/4
125	1	4 #1	6	1 1/2	1-1/4
150	1	4 #1/0	6	2	1-1/2
175	1	4 #2/0	6	2	1-1/2
200	1	4 #3/0	6	2	2
225	1	4 #4/0	4	2-1/2	2
250	1	4 #250 Kcmil	4	2-1/2	2
300	1	4 #350 Kcmil	4	3	2-1/2
400	1	4 #600 Kcmil	3	3-1/2	3
450	2	4#4/0	2	2-1/2	2
500	2	4 #250 Kcmil	2	3	2
600	2	4 #350 Kcmil	1	3	2-1/2
800	2	4 #600 Kcmil	1/0	3-1/2	3
1000	3	4 #500 Kcmil	2/0	3-1/2	3
1200	3	4 #600 Kcmil		3-1/2	3
1600	4	4 #600 Kcmil		3-1/2	3
2000	5	4 #600 Kcmil	250 Kcmil	3-1/2	3-1/2
2500	6	4 #600 Kcmil		3-1/2	3-1/2
3000	8	4 #500 Kcmil		3-1/2	3
4000	10	4 #600 Kcmil	500 Kcmil	4	3-1/2

WITH NEUTRAL, 4 WIRE. "400" INDICATES 400 OCPD, 3 WIRE. "400N2" INDICATES 400 OCPD, 5 WIRE (DBL. NEUTRAL). "400NIG" INDICATES 400A OCPD WITH NEUTRAL AND ISOLATED GROUND, 6 WIRE.

> COORDINATED SHOP DRAWINGS SHALL BE PROVIDED BY EACH SUBCONTRACTOR AND SHALL CONTAIN A LAYOUT OF ALL DUCTWORK, CONDUIT, PIPING, EQUIPMENT, STRUCTURE, WALLS, CEILING, ETC. AS REQUIRED TO REFLECT FULL COORDINATION ACROSS ALL TRADES AND SHALL BE SUBMITTED FOR REVIEW. COORDINATED DRAWINGS SHALL BE SIGNED OFF BY ALL OTHER TRADES PRIOR TO BEING SUBMITTED FOR REVIEW. PLANS SHALL BE PREPARED AT A MINIMUM OF 1/8" SCALE OR THE SCALE OF THE DESIGN DRAWINGS, WHICHEVER IS LARGER. NO EQUIPMENT SHALL BE INSTALLED WITHOUT APPROVED SHOP DRAWINGS.

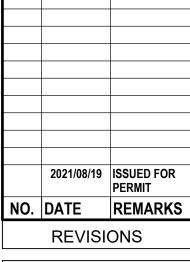


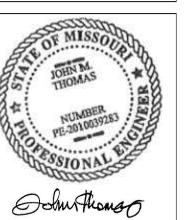
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FIELD VERIFICATION Contractor shall verify all figured dimensions and conditions at the job site and notify Aria Group Architects, Inc. of any dimensional errors. omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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Drawing Title ELECTRICAL

CW

204530 SEE PLANS

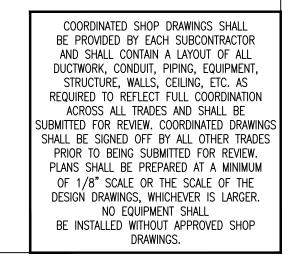
Sheet No.

08/06/2021

								FOODSERVI	CE ELECTRICAL	SCHEDULE		
ITEM NO.	QTY	DESCRIPTION	VOLTS	CYCLE	PHASE	KW	HP	AMPS	TYPE	NEMA	HGT AFF	
8	2	UNDERBAR BLENDER STATION	120	60	1			15.00	JBW		15"	15.0 AMP CIRCUIT; DIV. 26 TO MOUNT KEC SUPPLIED DUPLEX RECEPTACLE AND BRANCH TO CONNECTION
11 11.1	<u>1</u> 1	4 DOOR REMOTE BACKBAR REFRIGERATED CABINET REFRIGERATED BACKBAR CABINET CONDENSING UNIT	120 208	60	1		3/4	2.50 9.10	CONDUIT DISCONNECT		28"	CONNECT W/ LIQUID TIGHT CONDUIT  NOTE 14; DISCONNECT AT UNIT ON ROOF
12	1	3 DOOR REMOTE BACKBAR REFRIGERATED CABINET	120	60	1		3/4	2.00	CONDUIT		28"	CONNECT W/ LIQUID TIGHT CONDUIT
12.1	1	REFRIGERATED BACKBAR CABINET CONDENSING UNIT	208	60	1		1/2	7.00	DISCONNECT			NOTE 14; DISCONNECT AT UNIT ON ROOF
12.2	1	2 DOOR REFRIGERATED BACKBAR CABINET	120	60	1			1.60	CONDUIT		28"	CONNECT W/ LIQUID TIGHT CONDUIT
16	1	ROTARY GLASS WASHER	120	60	1			4.30	DR		400	DR HEIGHT TIGHT TO BAR TOP; MOUNT DR HORIZONTALLY
18 22	1	FREEZER BUILT-IN WARMING DRAWER	120 120	60	1			7.50	DR JBW		18" 18"	15.0 AMP CIRCUIT
23	1	REACH-IN UNDERCOUNTER REFRIGERATOR	120	60	1		1/5	5.00	DR	5-15P	18"	
26	1	ICE CREAM DIPPING CABINET	120	60	1		1/4	5.70	DR	5-15P	18"	
27	1	WALK-IN MEAT COOLER	120	60	1			3.00	JBH			NOTE 11, 12
27.1	1	WALK-IN MEAT COOLER EVAPORATOR COIL	120	60	1		1.1/0	1.60	JBH			
27.2	1	WALK-IN MEAT COOLER CONDENSING UNIT WALK-IN FREEZER	208 120	60	3		1 1/2	11.10 3.00	DISCONNECT JBH			NOTE 14; DISCONNECT AT UNIT ON ROOF  NOTE 11, 12
28.1	<u> </u>	WALK-IN FREEZER WALK-IN FREEZER EVAPORATOR COIL	208	60	1			9.80	JBH			NOTE 11, 12
28.2	1	WALK-IN FREEZER COOLER CONDENSING UNIT	208	60	3		2	10.80	DISCONNECT			NOTE 14; DISCONNECT AT UNIT ON ROOF
28.3	1	WALK-IN FREEZER COIL DRAIN HEAT TAPE	120	60	1				SR			NOTE 17 (IN USE COVER)
29	1	WALK-IN PRODUCE COOLER	120	60	1			3.00	JBH			NOTE 11, 12
29.1	2	WALK-IN PRODUCE COOLER EVAPORATOR COIL WALK-IN PRODUCE COOLER CONDENSING UNIT	120	60	1 2		1 1/2	0.80 7.70	JBH DISCONNECT			NOTE 14; DISCONNECT AT UNIT ON ROOF
31	1	SINGLE SECTION REACH-IN REFRIGERATOR	208 120	60	1		1/4	6.00	DISCONNECT	5-15P	84"	NOTE 14, DISCONNECT AT UNIT ON ROOF
32	1	BEER COOLER (LIGHTS)	120	60	1		.,.	3.00	JBH	0 101		NOTE 11, 12
32.1	1	BEER COOLER EVAPORATOR COIL	120	60	1			1.60	JBH			NOTE 12, 15; ELECTRIC DFA
32.2	1	BEER COOLER CONDENSING UNIT	208	60	3		1 1/2	11.10	DISCONNECT			NOTE 14; DISCONNECT AT UNIT ON ROOF
33	1	99" REFRIGERATED PIZZA TABLE HOT FOOD SERVING COUNTER	120 208	60	1		1/2	14.00 8.32	DR SPR	6-15P	18" 18"	
35	3	68" REFRIGERATED PIZZA TABLE	208 120	60	1		1/3	8.32	DR	6-15P 5-15P	18"	
37	1	MICROWAVE CONVECTION OVEN	208	60	1		1,0	40.00	SPR	6-50P	48"	
38	1	32' - 0" PASS THRU SHELF	120/208	60	1		1		CONDUIT			BRANCH TO CONNECTIONS FOR ITEMS # 38.5, #38.6, #38.8, #38.9, & #38.10; DIV. 26 TO MAKE FINAL CONNECTIONS. ELECTRIC DFA; REFER TO CUSTOM SHO
20.0		DDOD IN LIGHT WELL	100	22	4			4.00	ID		2.4"	DRAWING WIRING DIAGRAM
38.3	3	DROP-IN HOT WELL 60" HEAT LAMP WITH LIGHTS	120 120/208	60	1			4.20 16.00	JBW		24"	NOTE 4
38.5 38.6	1	36" DISPLAY LIGHT	120/208	60	1			0.08				
38.8	1	72" HEAT LAMP WITH LIGHTS	120/208	60	1			19.60				
38.9	1	66" HEAT LAMP WITH LIGHTS	120/208	60	1			17.50				
38.10	2	54" HEAT LAMP WITH LIGHTS	120/208	60	1			14.00				
40	1	MICROWAVE OVEN	120	60	1		4/5	17.70	DR	5-20P	66"	
41 42	1	32" REFRIGERATED SANDWICH UNIT 75" REFRIGERATED EQUIPMENT STAND	120 120	60	1		1/5	7.20 10.00	DR DR	5-15P 5-15P	18"	
43	1	36" RANGE W/ CONVECTION OVEN	120	60	1		1/3	4.00	DR	J-13F	18"	CONVECTION OVEN BASE
46	1	32" REFRIGERATED SANDWICH UNIT	120	60	1		1/5	7.20	DR	5-15P	18"	
47	1	36" COUNTERTOP GRIDDLE	120	60	1			1.00	DR	5-15P	18"	
48	1	DECK BROILER	120	60	1			2.00	DR		48"	
52	1	52" REFRIGERATED EQUIPMENT STAND	120	60	1		1/5	8.00	DR DR	5-15P	18" 48"	
53.1 54	<u> </u>	FRYER PUMP 27" WORKTOP FREEZER	120 120	60	1		1/5	9.00 5.00	DR	5-15P 5-15P	18"	
55	1	64" REFRIGERATED SANDWICH UNIT	120	60	1		1/2	12.00	DR	5-15P	18"	
56	1	PASTA COOKER	120	60	1			2.00	DR		18"	
58	1	EXHAUST HOOD-MAIN COOKLINE		0					JBH			NOTE 21, 22, 23; REFER TO HOOD DRAWINGS; DIV. 26 TO PROVIDE SERVICE DFA THRU EMS ITEM # 93 TO FANS ON ROOF
59	1	EXHAUST HOOD - PREP LINE COOK & HOLD CABINET	120	0	1	1.00		16.00	JBH	E 20D	18"	NOTE 21, 22, 23; REFER TO HOOD DRAWINGS; DIV. 26 TO PROVIDE SERVICE DFA THRU EMS ITEM # 93 TO FANS ON ROOF
61 62	1	DOUBLE CONVECTION OVEN	120 120	60 60	1	1.90	1/2	16.00 7.90	SR DR	5-20P 5-15P	18"	(2) DR'S (1) AT 18" & (1) AT 48"
64	1	BOILERLESS STEAMER W/ WATER FILTER	208	60	3	10.00	1/2	28.00	SPR	L15-30P	48"	(2) BRO (1) AT TO & (1) AT 40
67	1	30 GAL TILTING SKILLET	120	60	1			5.00	JBW		24"	NOTE 4
69	1	74" WORKTABLE	120	60	1			15.00	DR	5-20R	48"	(2) DUPLEX CONVENIENCE OUTLET
71	1	78" WORKTABLE 102" WORKTABLE	120	60	1			15.00	DR	5-20R	48"	DUPLEX CONVENIENCE OUTLET
73 75	1	40QT MIXER	120 220	60	1		2	15.00 12.00	DR SPR	5-20R L6-30P	48" 24"	DUPLEX CONVENIENCE OUTLET
76	1	TUMBLER	120	60	1		2	4.00	DR	L0-301	24	
81	1	CONVEYOR TYPE DISHWASHER	208	60	3			48.80	JBW/DISC		64"	NOTE 6, 19, 26; DIV. 26 TO PROVIDE DISCONNECT & INTERWIRE TO DISHMACHINE; COORDINATE ROUGH-IN LOCATION W/ DISCONNECT
81.1	1	DRAIN WATER TEMPERING KIT - BY VENDOR	120	60	1			15.00	DR		12"	NOTE 20, 26; 15.0 AMP CIRCUIT; FOR DRAIN WATER TEMPERING KIT
82	1	BOOSTER HEATER	208	60	3			149.90	JBW/DISC		12"	NOTE 4, 26; DIV. 26 TO PROVIDE DISCONNECT & INTERWIRE TO BOOSTER HEATER. COORDINATE ROUGH-IN LOCATION W/ DISCONNECT.
83	1	CONDENSATE HOOD (FANILICHT SWITCH)		0								REFER TO HOOD DRAWINGS FOR ADDITIONAL INFO
83.1	1	CONDENSATE HOOD (FAN/LIGHT SWITCH) SLICER	120	60	1		1/2	7.00	DR	5-15P	48"	
92	1	FIRE SUPPRESSION SYSTEM	120	60	1		112	20.00	JBH	U- 101	70	NOTE 23; 20.0 AMP CIRCUIT; ELECTRIC DFA
92.1	2	FIRE SUPPRESSION PULL STATION		0							48"	NOTE 25; VERIFY LOCATION W/ FIRE SUPPRESSION CONTRACTOR AND LOCAL INSPECTOR
100	1	GLYCOL CHILLER	120	60	1		1/2	22.70	JBW			
109	1	REFRIGERATED TRUFFLE CASE	100	60	1	0.76	475	10.10	SR	5-15P	10"	STUB UP AND BRANCH TO DR IN MILLWORK CABINET SUPPLIED BY KEC
110	2	36" BOTTLE COOLER UNDERBAR HAND SINK	120	60	1		1/5	4.60 20.00	DR	5-15P	18" 12"	
111	3	GLASSWASHER	120 120	60	1			12.00	SR		12"	NOTE 1, 26; DIV. 26 TO PROVIDE CORD & PLUG
113	4	24" BOTTLE COOLER	120	60	1		1/6	1.90		5-15P	10	,,,,
116.2	1	REMOTE WATER CHILLER	120	60	1		1/5	3.00	DR		18"	
128	1	FOOD PROCESSOR	120	60	1		1 1/2	9.00	DR		48"	NOTE 26
129	1	60" WORK TABLE	120	60	1			15.00	DR	5-20P	48"	DUPLEX CONVENIENCE OUTLET
140 145	1	7 QT MIXER VEGETABLE DRYER	120 120	60	1			6.00 2.70	DR DR	5-15P	48"	
BL	3	BUG LIGHT	120	60	1			15.00	DR	U-1UF	72"	NOTE 26
C1	3	RECIPE MONITOR	0					. 5.66				NOTE 26
C4	1	1800# ICE CUBER	208	60	1			17.00	JBW/DISC		84"	NOTE 5; DIV. 26 TO PROVIDE DISCONNECT IF REQUIRED & INTERWIRE TO ICE MAKER
C4.2	1	ICE MAKER REMOTE CONDENSING UNIT	208	60	1			1.00	DISCONNECT			ELECTRICAL POWER TO REMOTE CONDENSER SUPPLIED FROM ICE MACHINE
C7	1	SODA DISPENSER	120	60	1	0.00		16.00	DR	5-20P	12"	NOTE 26
C8	1	ESPRESSO MACHINE	208	60	1	0.00		8.00	SPR DR	L6-30P 5-15P	42"	NOTE 26; 30 AMP CIRCUIT
C9 C10	1	COFFEE GRINDER COFFEE MAKER	120 208	60	1			24.30	SPR	L14-30P	42" 42"	NOTE 26  NOTE 26; 30 AMP CIRCUIT
C10	1	ICED TEA MAKER	120	60	1			14.20	SR	5-15P	42"	NOTE 26
C18	2	SODA CARBONATOR	120	60	1			15.00	DR	5-15P	84"	NOTE 26; 15.0 AMP CIRCUIT
C19	1	CO2 TANK		0								NOTE 26
C20	1	NITROGEN TANK/BLENDER	120	60	1			15.00	DR	F 00=	60"	NOTE 26
C21	1	OIL TANK CONVIENIENCE OUTLETS	120	60	1			20.00	QR	5-20P	84"	NOTE 26; W/ ANALOG PHONE JACK AT 84" AFF
CO	I	CONVIENIENCE OUTLETS	120	60	<u> </u>	<u> </u>		15.00	DR	5-20R	42"	DUPLEX CONVIENIENCE OUTLETS

EACH PIECE OF KITCHEN EQUIPMENT SHALL BE PROVIDED WITH A RECEPTACLE OR READILY ACCESSIBLE DISCONNECT SWITCH. TYP.
PROVIDE A MUSHROOM STYLE EMERGENCY POWER OFF DEVICES FOR THE BOOSTER HEATER AND DISHWASHER WITH SHUT TRIP BREAKER IN LIEU OF
A LOCAL DISCONNECT. COORDINATE FINAL KEC REQUIRMENTS WITH KITCHEN EQUIPMENT CUTS PRIOR TO ROUGH—IN.

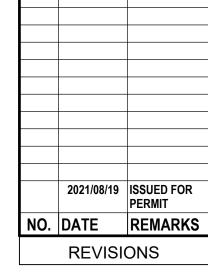
SEE SHEET E101 FOR FOOD SERVICE ELECTRICAL NOTES

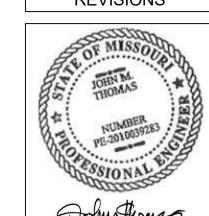




FIELD VERIFICATION Contractor shall verify all figured dimensions and conditions at the job site and notify Aria Group Architects, Inc. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do not scale these drawings.

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Drawing Title

Job No.

204530 Scale

SEE PLANS 08/06/2021

# **GENERAL NOTES**

- 1. BLACK TRIM RINGS TO BE FACTORY PAINTED SHERWIN WILLIAMS CARBIDE BLACK POLANE T (RAL# F63B12), AND ARE NOTED BY A -b IN THE FIXTURE TAG.
- 2. ALL LAMPS SHALL BE SYLVANIA, PHILIPS, SATCO, OR TCP, UNLESS NOTED OTHERWISE AND PROVIDED BY G.C.
- 3. ALL INTERIOR AND EXTERIOR SURFACE AND RECESSED LIGHT FIXTURES SHALL BE LABELED "U.L. LISTED."
- 4. BATTERY PACKS PROVIDED FOR ALL EXIT SIGNS AND EMERGENCY EGRESS FIXTURES SHALL BE RATED FOR MINIMUM 90 MINUTE OPERATION AT FULL OUTPUT.
- 5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS AND/OR THE MISCELLANEOUS LIGHTING DETAIL SHEETS FOR EXACT LOCATIONS OF LIGHT FIXTURES.
- 6. FOR ALL LIGHTOLIER/DAYBRITE/GARDCO/PHILIPS/CHLORIDE LIGHTING FIXTURES, CONTACT JULIE BLANKENHEIM, 630-488-7403.

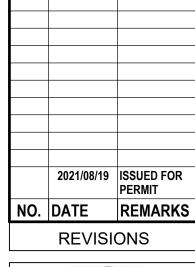
			ARCHITEC1	TURAL L	<b>IGHT</b>	FI)	TURE SCHEDULE	
	TYPE	MANUFACTURER / MODEL #	LAMP	VOLTAGE	WATTS	VA	DESCRIPTION	QUANTITY
K1		DAYBRITE 2EVG54LH8304DUNVDIM	INTEGRAL LED	UNIVERSAL	55		2'X4', RECESSED 3000K LED TROFFER, PRISMATIC LENS AND ELECTRONIC BALLAST, @ B.O.H.	29
K1-E M		DAYBRITE 2EVG54LH8304DUNVDIM-EMLED	INTEGRAL LED	UNIVERSAL	55		2'X4', RECESSED 3000K LED TROFFER, PRISMATIC LENS, ELECTRONIC BALLAST AND EMERGENCY BATTERY PACK FOR TWO LAMPS RATED FOR 1100 TO 1400 LUMENS, @ B.O.H.	11
K3	<b>&gt;</b>	DAYBRITE T232-UNV-1/2-EB-IOP232-LWN-FKR-126-CG-4 INSTANT START BALLAST	(2) 14WTLED PHILIPS INSTANT FIT- 3000K	UNIVERSAL	28		4'-0", STANDARD STRIP WITH 2-LAMP T8, AND ELECTRONIC BALLAST, WITH WIRE GUARD AND CHAIN HANGER KIT	2
K3-E M	<b>&gt;</b>	DAYBRITE T232-120-1/2-EB10R-E5-FKR-126-CG-4 INSTANT START BALLAST & EMERGENCY BATTERY PACK	(2) 14WTLED PHILIPS INSTANT FIT- 3000K	UNIVERSAL	28		4'-0", STANDARD STRIP WITH 2-LAMP T8, AND ELECTRONIC BALLAST AND EMERGENCY BATTERY PACK, WITH WIRE GUARD AND CHAIN HANGER KIT	2
K4		DAYBRITE 2EVG30L830-2-D-UNV-DIM	(2) 14WTLED PHILIPS INSTANT FIT- 3000K	UNIVERSAL	28		2'X2', RECESSED DIMMABLE 3000K LED @ B.O.H.	1
LS1		NOVA FLEX NF-PRO-0-120-24V-2700K	WARM WHITE LED, LAMP INTEGRAL	12V	PER DRIVER		DIMMING COMPATIBILITY TO BE VERIFIED BY PROJECT, 0-10V AND MLV DIMMING DRIVERS ARE AVAILABLE. REFER TO RCP & MISC. LIGHTING DETAIL SHEETS FOR QUANTITY/LOCATION. LED TAPE LIGHT. SURFACE MOUNTED w/ LOW PROFILE CHANNEL (CONCEALED). CLEAR PANEL USE FOR TASK LIGHTING AND AND SOFT PANEL USED FOR MILLWORK & SUSPENDED BARREL LIGHTING	45 D
LS3		ONMILIGHT FIXTURE: GEN-27-SHO-CC LEADER:- DRIVERS AS REQUIRED PER PLAN	2700K LED	24V	5.3 / FT		DIMMING COMPATIBILITY TO BE VERIFIED BY PROJECT, 0-10V AND MLV DIMMING DRIVERS ARE AVAILABLE.  REFER TO RCP & MISC. LIGHTING DETAIL SHEETS FOR QUANTITY/LOCATION.  STRIP LIGHT AT MILLWORK WINE DISPLAYS	6
R2-b	0	LIGHTOLIER FRAME: 4RN ENGINE: C4L10827MZ10U TRIM: C4RDLCL - PAINT BLACK	2700K LED	120V	11		4" LED RECESSED DOWNLIGHT - DIMMABLE WITH 0-10V DIMMER (INTERNAL LENS STANDARD IS APPROVED FOR OVER FOOD SERVICE) BLACK FLANGE. MEDIUM SPREAD BEAM. 1000 LUMENS - USE FOR CEILING HEIGHTS BETWEEN 9' AND 12'	90
R3-b	0	LIGHTOLIER FRAME: 3RN ENGINE: C3RA10927NSZ10U TRIM: C3RAPBKBK - PAINT BLACK	2700K LED	120V	13		3" RECESSED ADJUSTABLE PINHOLE APERTURE DOWNLIGHT - DIMMABLE WITH 0-10V DIMMER PINHOLE SPOT LIGHT. BLACK FLANGE 1000 LUMENS - USED TO LIGHT TABLES	32
R5		LIGHTOLIER FRAME: 3RN ENGINE: C3RA10927FLZ10U TRIM: C3RACL	2700K LED	120V	13		3" RECESSED ADJUSTABLE APERTURE 1,000 LUMEN LED ACCENT LIGHT. DIMMABLE WITH 0-10V DIMMER WHITE FLANGE WIDE FLOOD-USED FOR CEILING HEIGHTS 10'-12'	11
R5-b	0	LIGHTOLIER FRAME: 3RN ENGINE: C3RA10927FLZ10U TRIM: C3RACL - PAINTED BLACK	2700K LED	120V	13		3" RECESSED ADJUSTABLE APERTURE 1,000 LUMEN LED ACCENT LIGHT. DIMMABLE WITH 0-10V DIMMER BLACK FLANGE WIDE FLOOD-USED FOR CEILING HEIGHTS 10'-12'	17
R6		LIGHTOLIER LYTECASTER FRAME-IN-KIT: L3NZ10U LIGHT ENGINE: L308927NF ROUND TRIM: L3RAPW	2700K LED	120V			RECESSED ADJUSTABLE LED DOWNLIGHT WITH PINHOLE APERTURE. DIMMABLE WITH 0-10V DIMMER WHITE FLANGE USED FOR CEILING HEIGHTS BETWEEN 8'-10'	6
R7		LIGHTOLIER FRAME IN KIT: 4RN LIGHT ENGINE: P4RDL20827CLZ10U	2700K LED	120V	21		4" ROUND DOWNLIGHT WHITE FLANGE USED IN RESTROOMS	18
S1		LUCIFER LIGHTING COMPANY PUKLED LPK SEMI-RECESSED LED LPK-1-80L-02A-27-B	4.3W AC LED	120V/12V	4.3		SEMI-RECESSED PUK LIGHT WITH BLACK TRIM RING. PROVIDE WITH REMOTE POWER SUPPLY. REFER TO RCP & MISC. LIGHTING DETAIL SHEETS FOR QUANTITY/LOCATION AND INSTALLATION TYPE. USED FOR MILLWORK LIGHTING	20
S3-b		JUNO - TRAC MASTER AVANT GARDE CYLINDRA T254L 27K 80CRI PDIM SP B	2700K 80 CRI 15W LED SP	120V	15		SURFACE MOUNTED MONOPOINT WITH CANOPY AND ELV TRANSFORMER  - = MONOPOINT W/ NO STEM a = MONOPOINT W/ 12" STEM b = MONOPOINT W/ 18" STEM c = MONOPOINT W/ 24" STEM	34
	- <b>\( -</b>						* NOTE: STEMS CAN BE COMBINED FOR ADDITIONAL LENGTHS AND ARE NOTED BY TWO LETTERS SURFACE MOUNTED MONOPOINT WITH CANOPY AND ELV TRANSFORMER  - = MONOPOINT W/ NO STEM a = MONOPOINT W/ 12" STEM b = MONOPOINT W/ 18" STEM c = MONOPOINT W/ 24" STEM	
							* NOTE: STEMS CAN BE COMBINED FOR ADDITIONAL LENGTHS AND ARE NOTED BY TWO LETTERS	
Γ1	$\nabla$	LIGHTOLIER MODEL: LT08RNF827BKVA/6074BK	2700K LED	120V	9		LED TRACK HEAD, 2700K IN BLACK NARROW FLOOD DISTRIBUTION, ELV DIMMING BLACK FINISH. 18" STEM.	43
TR6	TR4	LIGHTOLIER 6006NBK 6' TRACK 6048NBK LIVE END					LIGHTOLIER BASIC LYTESPAN SINGLE CIRCUIT TRACK BLACK FINISH REFER TO PLAN FOR TRACK HEADS	7
TR8	TR4	LIGHTOLIER 6008NBK 8' TRACK 6048NBK LIVE END		***			LIGHTOLIER BASIC LYTESPAN SINGLE CIRCUIT TRACK BLACK FINISH REFER TO PLAN FOR TRACK HEADS	4

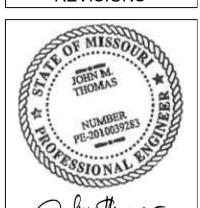
			EXTER	IOR LIGH	IT FIX	TU	RE SCHEDULE	
	TYPE	MANUFACTURER / MODEL #	LAMP	VOLTAGE	WATTS	VA	DESCRIPTION	QUANTITY
CF	$\mathcal{K}$	FANIMATION SPITFIRE (DAMP RATED) MODEL: MA6721BK BLADES: B6720		120V			MOTOR ASSEMBLY: MATTE GREIGE FAN ASSEMBLY BLADES: 60" SWEEP SPITFIRE NATURAL WOOD BLADE SET W/ FAN CONTROL BY LUTRON MODEL #DVFSQ-F-BL	4
RH-2		SOLAIRA ICR SERIES MODEL: SICR4024OB-SMART34-DV-SM-WSD		208V	3,000		ELECTRIC HEATER AT PATIO, SOLAIRA SMART 16A DUAL VOLTAGE VARIABLE CONTROL, 34.5"L x 10"W x 4.33"D DUAL VOLTAGE DIGITAL CONTROLLER: SMART34-DV WALL SWITCH FOR SMART34-DV: SM-WSD BLACK FINISH MOUNT HEATER AT 45 DEGREE ANGLE W/ STANDARD FACTORY BRACKET	8
X1-b	0	LIGHTOLIER FRAME: 6RN ENGINE: C6L15927WZ10U TRIM: C6RDLCL PAINTED BLACK		120V/227V			CALCULITE GEN 3 - 6" ROUND RECESSED LED DOWNLIGHT. UL WET LOCATION LISTED. BLACK FLANGE USED FOR EXTERIOR CANOPY DOWNLIGHTING	2
ХЗ	$\nabla$	RAB LIGHTING LFP16B	(1) 7 WATT TCP LED7P1627KFL	120V	60		LAMP BEAM ANGLE TO BE 30 DEGREE SPREAD BLACK FINISH SURFACE LIGHTING USED AT REGULAR HARD LID PATIO CANOPIES	20
X5-E M	•	GARDCO 121-16L-700-WW-G4-3-EBPC-120-BK	LED	120V	_		SURFACE MOUNTED 2 LAMP LED WALL PACK WITH MEDIUM THROW CUT OFF OPTICS AND EMERGENCY BATTERY OPTION. BLACK FINISH	9
XSC1	5	DECORATIVE SCONCE MFR: KUZCO STYLE: MICA MODEL: AT6606	3000K LED	120V	15W		FINISH: BLACK SIZE: 5-1/2" W X 4-1/2" H X 1-1/2"D LOCATION: EXTERIOR WALL REFER TO ELEVATIONS FOR MOUNTING HEIGHT	4

	TYPE	MANUFACTURER / MODEL #	LAMP	VOLTAGE	WATTS	VA	DESCRIPTION	QUANTITY
EM1		EXITRONIX LED-90	LED	120V	12		EMERGENCY LIGHTING FOR FRONT OF HOUSE. WHITE HOUSING	2
EM1-b		EXITRONIX LED-90BL	LED	120V	12		EMERGENCY LIGHTING FOR FRONT OF HOUSE. BLACK HOUSING	5
EX1	$\otimes$	PHILIPS - CHLORIDE CALIBER SERIES CN6RWW21C	LED INCLUDED WITH UNIT	120V	3.8		SINGLE-SIDED, WALL OR CEILING MOUNTED, EDGE-LIT, LED EXIT SIGN TO BE USED IN FRONT OF HOUSE. WHITE FINISH	1
EX1-b	$\otimes$	PHILIPS - CHLORIDE CALIBER SERIES CN6RWB21C	LED INCLUDED WITH UNIT	120V	3.8		WALL OR CEILING MOUNTED, EDGE-LIT, LED EXIT SIGN TO BE USED IN FRONT OF HOUSE BLACK FINISH	11
EX2	$\otimes$	PHILIPS CHLORIDE VE SERIES VERWEM	LED INCLUDED WITH UNIT	120V	3.62		LED EXIT SIGN WITH THERMOPLASTIC HOUSING AND 2 STENCIL FACES TO BE USED IN BACK OF HOUSE WHITE FINISH	5

		DECORAT	IVE LIG	HT F	IXT	URE SCHEDULE	
TYPE	MANUFACTURER / MODEL #	LAMP	VOLTAGE	WATTS	VA	DESCRIPTION	QUANTITY
P1	DECORATIVE PENDANT MRF: TROY LIGHTING STYLE: DISTRICT MODEL: F5571	(1) 4.5W DIMMABLE LED / T9 (8") / E26 / CLEAR / 2700K	120V	4.5W		FINISH: SATIN BLACK/TOPAZ GLASS SIZE: 8"W x 15.75"H LOCATION: PRIVATE DINING ROOM, REFER TO ENLARGED PLAN FOR MOUNTING HEIGHTS	5
P2	DECORATIVE PENDANT MRF: TROY LIGHTING STYLE: ELLIOT MODEL: F6223	(3) 4W DIMMABLE LED / G9 WEDGEBASE XENON / 2700K	120V	6W		FINISH: TEXTURED BLACK SIZE: 25" DIA x 20" H LOCATION: BAR DINING, MOUNT AT 8'-4" A.F.F.	5
P3	DECORATIVE PENDANT MRF: TROY LIGHTING STYLE: DISTRICT MODEL: F5571	(1) 4.5W DIMMABLE LED / T9 (8") / E26 / CLEAR / 2700K	120V	4.5W		FINISH: SATIN BLACK/TOPAZ GLASS SIZE: 8"W x 15.75"H LOCATION: PRIVATE DINING ROOM, REFER TO ENLARGED PLAN FOR MOUNTING HEIGHTS	6
P4	DECORATIVE PENDANT MRF: TROY LIGHTING STYLE: DISTRICT MODEL: F5571	(1) 4.5W DIMMABLE LED / T9 (8") / E26 / CLEAR / 2700K	120V	4.5W		FINISH: SATIN BLACK/TOPAZ GLASS SIZE: 8"W x 15.75"H LOCATION: PRIVATE DINING ROOM, REFER TO ENLARGED PLAN FOR MOUNTING HEIGHTS	4
P5	DECORATIVE PENDANT MRF: TROY LIGHTING STYLE: DISTRICT MODEL: F5571	(1) 4.5W DIMMABLE LED / T9 (8") / E26 / CLEAR / 2700K	120V	4.5W		FINISH: SATIN BLACK/TOPAZ GLASS SIZE: 8"W x 15.75"H LOCATION: PRIVATE DINING ROOM, REFER TO ENLARGED PLAN FOR MOUNTING HEIGHTS	10
SC1	WALL SCONCE MFR: ONE FOURTY THREE STYLE: WALLACE LAMP MODEL:	LED				FINISH: BLACK LAMP W/ BRASS SHADE/BRASS HARDWARE SIZE: 5" PLATE X 17" H X 12" D LOCATION: RETAIL	7
SC2	WALL SCONCE MFR: MITZI STYLE: BELINDA MODEL: H415101A-OB	LED				FINISH: OLD BRONZE SIZE: 6" W X 14" W X 7" H LOCATION: BATHROOMS	9
TBL1	TABLE LAMP MFR: PAGE ONE LIGHTING STYLE: CENTURY LED TABLE LAMP MODEL:	3000K LED	120V	7W		FINISH: SATIN FARK GRAY WITH SMOKE GLASS SIZE: 5.9" DIA X 17.6" H LOCATION: HOST STAND	1

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Drawing Title

Job No. 204530

Scale SEE PLANS 08/06/2021

Sheet No.

COORDINATED SHOP DRAWINGS SHALL
BE PROVIDED BY EACH SUBCONTRACTOR
AND SHALL CONTAIN A LAYOUT OF ALL
DUCTWORK, CONDUIT, PIPING, EQUIPMENT,
STRUCTURE, WALLS, CEILING, ETC. AS
REQUIRED TO REFLECT FULL COORDINATION
ACROSS ALL TRADES AND SHALL BE
SUBMITTED FOR REVIEW. COORDINATED DRAWINGS
SHALL BE SIGNED OFF BY ALL OTHER TRADES
PRIOR TO BEING SUBMITTED FOR REVIEW.
PLANS SHALL BE PREPARED AT A MINIMUM
OF 1/8" SCALE OR THE SCALE OF THE
DESIGN DRAWINGS, WHICHEVER IS LARGER.
NO EQUIPMENT SHALL
BF INSTALLED WITHOUT APPROVED SHOP BE INSTALLED WITHOUT APPROVED SHOP DRAWINGS.

1. Contractor shall provide adequate withstand rating of equipment per available fault current from the existing utility or distribution. Coordinate with utility. 2. Contractor shall provide a circuit schedule directory in or on the face of electric panel.

3362 K #64 BOILERLESS STEAMER
3362 K ST

800 K #81.1, DRAIN WATER TEMPERING KIT

1044 K #140 MIXER +#145 VEGETABLE DRYER

1333 K #27.2 WALK-IN COOLER CONDENSING UNIT

K #32.2 BEER COOLER CODENSING UNIT

480 K #76 TUMBLER
K #40 MICROWAVE OVEN

Subtotal #2

104 K #C4.2 ICE MAKER REMOTE CONDENSING UNIT

#37 MICROWAVE CONVECTION OEN

K #28.2 WALK-IN FREEZER CONDENSING UNIT

K #29.2 WALK-IN PRODUCE COOLER CONDENSING UNIT

#11.1 REFRIGERATED BACKBAR CABINET CONDENSING UNIT

#12.1 REFRIGERATED BACKBAR CABINET CONDENSING UNIT

1019 K #28.1WALK-IN FREEZER EVAPPRATOR COIL

C Amps No. No. Amps 20 1 2

20 9 10 ST 11 12 70 20 13 14

SI 23 24 20 **25 26** 30 1

20 63 64

426.9 Amps 277.5 Demand Amps

FT= FEED THRU, ST=SHUNT TRIP, AF=ARC FAULT, GF=GROUND FAULT, GC=GFCI, LO=LOCK ON

Min. withstand:

#67 GAL TILTING SKILLET

#61 COOK AND HOLD OVEN

#54 27" WORKTOP FREEZER

#53.1 FRYER PUMP

#71 CON. OUTLET

(2) #BL BUGLIGHTS

#C4 ICE BUBER

EPO (DW, BH) SPARE

Subtotal #1 Subtotal #2 Subtotal #1 + #2

(3) #C1

#128 FOOD PROCESSOR

#C20 NITROGEN TANK/BLENDER #C18 SODA CARBONATOR

#83.1 CONDENSATE HOOD (FAN/LIGHT SWITCH)

Total Panel Load: 153.8 KVA

2. Contractor shall provide a circuit schedule directory in or on the face of electric panel.

Volts: 120/208V 3ph 4W

400 A MLO

1. Contractor shall provide adequate withstand rating of equipment per available fault current from the existing utility or distribution. Coordinate with utility.

#C18 SODA CARBONATOR

FEED THRU LOAD TO KP2

#46 REFRIGERATED SANDWICH UNIT

#42 75" REFRIGERATED EQUIPMENT STAND

#52 52" REFRIGERATED EQUIPMENT STAND

#55 REFRIGERATED SANDWICH UNIT #31 REACH-IN REFRIGERATOR

#92 FIRE SUPPRESSION SYSTEM

#93 FIRE SUPPRESSION SYSTEM (2) #69 CON. OUTLETS

#73 CON. OUTLET + #129 CON. OUTLET

#47 GRIDDLE + #56 COOKER + #43 RANGE + #48 BROILER K

#62 DL. OVEN

#62 DL. OVEN

Name:	CH Lee S	Summit											
Tag:	M1												
iug.	Load											Load	
Load	type	Α	В	С	Amps	No.	No.	Amps	Α	В	С	type	Load
Loau	Н	3242			Aiii þa	1	2	Amps	2089			Н	Load
MAU-1, UNIT	H	3242	3242		60	3	4	30	2000	2089		Н.	MAU-1, COND 3
	H		5242	3242	100	5	6			2003	2089	Н	
	H	2089		0242		7	8		937		2000		1
MAU-1, COND 1	H	2000	2089		30	9	10	20	557	937		BH BH	EDH-1
	Н		2000	2089		11	12			001	937		1
	Н	2089		2000		13	14		2798			BH BH	
MAU-1, COND 2	Н		2089		30	15	16	30		2798		EH	EDH-2
	Н			2089		17	18		20 (2) (2)		2798	EH	
	Н	733				19	20		925			EH	
MAU-2, UNIT	Н		733		15	21	22	20		925		EH	EDH-3
	Н			733		23	24				925	EH	
	Н	1089		,		25	26		3254			EH	
MAU-2, COND 1	Н		1089		20	27	28	35	7000 000 100	3254		EH	EUH-1
***************************************	Н			1089		29	30	100000000			3254	EH	
	Н	2089				31	32	20	1560			EH	ECH-1
MAU-2, COND 2	Н		2089		30	33	34	20		1560		EH	ECH-2
	Н		1 1 1 CONT. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2089		35	36	20	0 0		1350	Н	AC-1
	Н	528				37	38	20	200			Н	MUA-1 CONTROL
KEF-1L	Н		528		20	39	40	20		200		Н	MUA-2 CONTROL
	Н			528		41	42	20			1008	Н	KEF-3
	Н	528				43	44	20	864			Н	EF-1
KEF-1M	Н		528		20	45	46	20		696		Н	EF-2
	Н			528		47	48	30			1976	Н	DFSS-1
	Н	528				49	50	30	1976			Н	DF33-1
KEF-1R	Н		528		20	51	52	00	7	936		Н	DEGG A
	Н			528		53	54	20			936	Н	DFSS-2
	Н	528				55	56					PC-19811	
KEF-2L	Н	-	528		20	57	58						SPACE
	H		020	528		59	60						1
	Н	528		020		61	62		2882			EQ	1
KEF-2R	H	320	528		20	63	64	30	2002	2882		EQ	TRASH COMPACTOR
THE ZIV	Н		520	528	20	65	66			2002	2882	EQ	-
	11			320		67	68		2882		2002	EQ	-
SPACE								30	2002	2882			TRASH COMPACTOR
STAGE						69	70	30		2002	2002	EQ	- TIVASIT COMI ACTOR
	-	2040				71	72		2040		2882	EQ	
(2) PATIO HEATERS	EH	3016			40	73	74	40	3016	2010		BH	(2) PATIO HEATERS
	EH		3016	0040		75	76			3016	0010	EH	
(2) PATIO HEATERS	EH			3016	40	77	78	40			3016	EH	(2) PATIO HEATERS
	EH	3016				79	80		3016			EH	27 1407
SPACE						81	82						SPACE
SPACE						83	84						SPACE
Subtotal #1		20006	<u>16990</u>	<u>16990</u>					<u>26399</u>	22175	24053		Subtotal #2
Subtotal #2		26399	22175	24053									
Subtotal #1 + #2		<u>46405</u>	<u>39165</u>	<u>41043</u>									
Total Panel Load:	126.6	KVA		351.5	Amps	38	6.8	Demand	Amps				
	120/208V	3ph	4W		thstand:		42k						
Mains:		AMLO		Spcl. provisions:									
	SEE PLA						IP.AF=AB	C FAULT. 6	F=GROUND	FAULT,GC=	GFCI.LO=LC	OCKON	8/17/202

1. Contractor shall provide adequate withstand rating of equipment per available fault current from the existing utility or distribution. Coordinate with utility. 2. Contractor shall provide a circuit schedule directory in or on the face of electric panel.

Name:	CH Lee S	Summit											
Tag:	KP2												
	Load											Load	
Load	type	Α	В	С	Amps	No.	No.	Am ps	Α	В	C	type	Load
#33 REFRIGERATED PIZZA TABLE	K	1680			20	1	2	20	1664			K	#38.5, HEAT LAMP
#34 HOT FOOD SERVING COUNTER	K		865		20	3	4	20		1664		K	#30.5, FILAT LAWIF
#34 HOT FOOD SERVING COUNTER	K			865	20	5	6	25			2038	K	#38.8, HEAT LAMP
#35 REFRIGERATED PIZZA TABLE	K	960			20	7	8	23	2038			K	- 430.0, FIEAT EAWII
#34 HOT FOOD SERVING COUNTER	K		865		20	9	10	25		1820		K	#38.9, HEAT LAMP
#34 NOT I GOD CERVING GOOM ER	K			865	20	11	12	20			1820	K	#00.3, HE (1 E (W)
#35 REFRIGERATED PIZZA TABLE	K	960			20	13	14	20	1456			K	-#38.10, HEAT LAMP
#35 REFRIGERATED PIZZA TABLE	K		960		20	15	16			1456		K	
#41 REFRIGERATED SANDWICH UNIT	K			864	20	17	18	20			1456	K	#38.10, HEAT LAMP
#C8 ESPRESSO MACHINE	K	2200			30	19	20		1456			K	
	K		2200			21	22	20		400		K	#38.6 + #38.6
#CO CON. OUTLET	K			400	20	23	24	20			300	K	#11 BACKBAR REFRIGERATED CANINE
#C9 COFFEE GRINDER	K	960	0507		20	25	26	20	432	1100		K	#12 + #12.2 (REFRIGERATED CABINETS
#C10 COFFEE MAKER	K		2527		30	27	28	20		1100	540	K	#8 UNDERBAR BLENDER STATION
WAS US DEEDISEDATOR	K	000		2527	00	29	30	20	000		516	K	#16 GLASS WASHER
#23 UC. REFRIGERATOR	K	600	1510		20	31	32	20	800	1440		K	#18 FREEZ ER
(3) #38.3 DRIP-IN HOT WELL #22 WARMING DRAWER	K		1512	900	20	33	34	20		1440	1100	K	#112 GLASSWASHER  #8 UNDERBAR BLENDER STATION
#C12 ICED TEA MAKER	K	1704		900	20	35 37	36	20	648		1100	K K	#32 BEER COOLER LIGHT + #32.1 EVAI
#C7 SODA DISPENSER	K	1704	800		20	39	40	30	040	2724		K	#100 GLYCOL CHILLER
#C19 CO2 TANK	K		000	1000	20	41	42	20		2124	1440	K	#112 GLASSWASHER
#C21 OIL TANK	K	1000		1000	20	43	44	20	1176		1440	K	#109 REFRIGERATED TRUFFLE CASE
SPARE	S	1000			20	45	46	20	1170	1104		K	(2) #110 BOTTLE COOLERS
SPARE	S				20	47	48	20		1104	456	K	(2) #113 BOTTLE COOLERS
SPARE	S				20	49	50	20	456		430	K	(2) #113 BOTTLE COOLERS
	S				20	51	52	20	430	540		****	The state of the s
SPARE	S				20	53		20		540		K S	#116.2 REMOTE WATER CHILLER + #BL SPARE
SPARE					20		54	20					The state of the s
SPARE	S					55	56	1.7.3.41				S	SPARE
SPARE	S				20	57	58	20				S	SPARE
SPARE	S				20	59	60	20				S	SPARE
		40004	0700	7400					40400	40040	0400		0.14.1.190
Subtotal #1		10064	9730				-		<u>10126</u>	12248	9126		Subtotal #2
Subtotal #2		10126	12248				1						
Subtotal #1 + #2		<u>20190</u>	<u>21978</u>	<u>16548</u>			-						
		10.4						_					
Total Panel Load		KVA			Amps		05.9 42l	Demand	Amps				
	120/208V	3ph	4VV		thstand:								
Mains		AMLO		Spcl. pro									
	SEE PLA	NS		FT= FEED T	HRU,ST=S	HUNTTA	HP,AF=A	RC FAULT, 0	F=GROUND	FAULT,GC=	GFCI, LO=LC	ICK ON	8/
Notes:												nate with	

	Load											Load	
Load	type	Α	В	С	Amps	No.	No.	Amps	Α	В	С	type	Load
RTU GFCI'S	R	720			20	1	2	20	720			L	LIGHTING
OILET RECEPT	R		360		20	3	4	20		607		L	LIGHTING
OILET RECEPT	R			360	20	5	6	20			1122	L	LIGHTING
MPLOYEE TOILET RECPT	R	540			20	7	8	20	618			L	LIGHTING
WATER SOFTENER (WS-1)	R		200		20	9	10	20		979		L	LIGHTING
GEN REC, MEZZ	R			360	20	11	12	20			1156	L	LIGHTING
GENERAL RECEPT	R	900			20	13	14	20	1103		W 16-15	L	LIGHTING
GENERAL RECEPT	R		720		20	15	16	20	77 1. 17 1.	865		L	LIGHTING
(ITCHEN GENERAL RECEPT	R			540	20	17	18	20			1240	L	PAIO LIGHTING + FAN
VRA PPING RM RECEPT	R	540			20	19	20	20					SPARE
SPRING RM RECEPT	R		180		20	21	22	20					SPARE
SHADE MOTORS	R			500	20	23	24	20					SPARE
SHADE MOTORS	R	500			20	25	26	20					SPARE
SHADE MOTORS	R		500		20	27	28	20				L	MENU & EASEL BOARD
WH-1	HW			180	20	29	30	20			1200	L	EXTERIOR SIGNAGE
WH-1	HW	180			20	31	32	20	1200			L	EXTERIOR SIGNAGE
WH-1	HW	, 5,5	180		20	33	34	20		1200		L	EXTERIOR SIGNAGE
WH-1	HW		.00	180	20	35	36	20			1200	L	MONUMENT
WH-1	HW	180			20	37	38	20	200		.200	EQ	GREASE PUMP
WH-1	HW	100	180		20	39	40	20	200	1000		EQ	POWER DOOR
WH-1	HW		100	180	20	41	42	20 LO		1000	200	EQ	SECURITY SYSTEM
RP-1	EQ	180		100	20	43	44	20 LO	200		200	EQ	CO2 ALARM PANEL
M I	EQ	100	1273			45	46	20 LO	200	400		EQ	ALARM SYSTEM
PP-1	EQ		1275	1273	20	47	48	20 LO		400	800	EQ	FACP
		1272		1213	20		11.01.51	VIVI 6 *****	105		800	-	
20.05	EQ	1273			00	49	50	20 LO	105	200		L .	EXIT SIGNS
SPARE	S				20	51	52	20		393	4000	L	EXTERIOR LIGHTING
SPARE	S				20	53	54	20			1200	L	SITE LIGHTING
SPARE	S				20	55	56		1200			L	
SPARE	S				20	57	58	20				S	SPARE
SPARE	S				20	59	60	20				S	SPARE
Subtotal #1		5013	3593	3573					5346	5444	8118		Subtotal #2
Subtotal #2		5346	5444	8118					0040	<u> </u>	0110		Gubtotul #2
Subtotal #1 + #2		10359	9037	11691									-
Subtotal #1 + #2		10359	9037	11091									
Total Panel Load:	31.1	KVA		86.3	Amps	10	3.1	Demand	Amps				
Volts: 1	20/208V	3ph	4W	Min. wit	thstand:		42k						
													1
						HUNT TR	IP AF=AF	CEAULTE	F=GBOUND	FAULT GC=0	aecli∩=i∩	ICK ON	8/17/20
	_/\						,				_ ,,		0/11/20
Mains:  Mounting: S  Notes:  Contractor shall provide a	200 SEE PLAI	AMLO NS		Spcl. pro	OVISIONS:		IP,AF=AF	C FAULT, G	ar=GROUND		72		1

CH Lee Summit

Name:	CH Lee S	Summit														
Tag:	POS															
	Load								İ			Load				
Load	type	Α	В	С	Amps	No.	No.	Am ps	Α	В	С	type	Load			
POS - CHECKING	R	720		:	20	1	2	20	720			R	POS - BAR DINING			
POS - CHECKING	R		360		20	3	4	20		1200		R	DIGITAL SIGNS WITH M			
POS - TASTING BAR	R			720	20	5	6	20		10000000	360	R	POS - BACK BAR			
TASTING BAR USB OUTLETS	R	720			20	7	8	20	720			R	POS - BAR DINING			
TASTING BAR USB OUTLETS	R		720		20	9	10	20	i	720		R	POS - BACK BAR			
POS DINING	R			720	20	11	12	20			540	R	HOST			
POS DINING	R	720			20	13	14	20	720			R	BAR USB OUTLETS			
SPARE	R				20	15	16	20		720		R	BAR USB OUTLETS			
AV ROOM	R			360	20	17	18	20				S	SPARE			
AV ROOM	R	360			20	19	20	20	1080			R	KDS			
AV ROOM	R		360		20	21	22	20		540		R	KDS			
(3) TV - BACK BAR	R			1080	20	23	24	20			720	R	KDS			
(2) TV - TASTING BAR	R	720			20	25	26	20	800			R	OFFICE COPIER			
(2) TV (EXTERIOR)	R		720		20	27	28	20		720		R	OFFICE			
(1) TV & RECEPT PDR	R			540	20	29	30	20			720	R	OFFICE			
(1) TV & RECEPT PDR	R	540			20	31	32	20	360			R	TV - BREAK AREA			
RADIO CHARGER RECEPT.	R		180		20	33	34	20				S	SPARE			
SPARE	S				20	35	36	20				S	SPARE			
SPARE	S				20	37	38	20				S	SPARE			
SPARE	S				20	39	40	20				S	SPARE			
SPARE	S				20	41	42	20				S	SPARE			
Subtotal #1		3780	2340	3420					4400	3900	2340		Subtotal #2			
Subtotal #2		4400	3900	2340												
Subtotal #1 + #2		<u>8180</u>	6240	<u>5760</u>												
Total Panel Load:	20.2	KVA		56.0	Amps	48	3.8	Demand	Amps							
Volts:	120/208V	3ph 4	1W		thstand:		42									
Mains:		AMLO	W 40 KM	Spcl. pro		IG BU			-							
1,000,000,000,000,000	Mounting: SEE PLANS						FT=FEED THRU, ST=SHUNT TRIP, AF=ARC FAULT, GF=GROUND FAULT, GC=GFCI, LO=LOCK ON 8/1									
Notes:		_					on the sale of the					sent to control				
1. Contractor shall provide					-			ent from the	e existing (	utility or dis	tribution.	Coordin	ate with utility.			
2. Contractor shall provide	a circuit s	chedule dir	ectoryin	or on the fa	ace of ele	ectric pa	nel.									
3																
4																

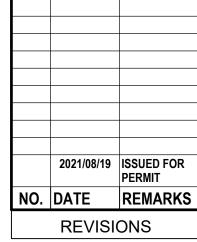
		20	35	30	20				3	SPARE					
		20	37	38	20				S	SPARE					
		20	39	40	20				S	SPARE					
		20	41	42	20				S	SPARE				NEDIEIO A	TION
														O VERIFICA actor shall ver	
40	3420					4400	3900	2340		Subtotal #2				nsions and cor	
<u>40</u>	2340													nd notify Aria	
40	5760												Inc. of	f any dimensic sions or discre	nal errors, pancies be
														ning or fabrica	
	56.0	Amps	48	8.8	Demand	dAmps							not so	cale these drav	vings.
	Min. wi	thstand:		42k									COP	YRIGHT	
	Spcl. pro	visions:	I.G. BU	S										Group Archited	
	FT=FEED T	HRU, ST=S	HUNTTR	IP,AF=AF	RC FAULT, (	GF=GROUND	FAULT, GC=	GFCI,LO=LC	OCKON		8/17/2021		all co	ommon law, sta ved rights. The	atutory and
														d documents	
of e	quipment	per avai	lable fa	ult curre	nt from th	ne existing	utility or di	istribution	Coordin	ate with utility.				cated, disclose	
in	or on the f	ace of ele	ectric pa	nel.									l l	ut written cons tects, Inc.	ent of Aria
			•										Aidill	10013, 1110.	

COORDINATED SHOP DRAWINGS SHALL BE PROVIDED BY EACH SUBCONTRACTOR AND SHALL CONTAIN A LAYOUT OF ALL DUCTWORK, CONDUIT, PIPING, EQUIPMENT, STRUCTURE, WALLS, CEILING, ETC. AS REQUIRED TO REFLECT FULL COORDINATION ACROSS ALL TRADES AND SHALL BE SUBMITTED FOR REVIEW. COORDINATED DRAWINGS SHALL BE SIGNED OFF BY ALL OTHER TRADES PRIOR TO BEING SUBMITTED FOR REVIEW. PLANS SHALL BE PREPARED AT A MINIMUM OF 1/8" SCALE OR THE SCALE OF THE DESIGN DRAWINGS, WHICHEVER IS LARGER. NO EQUIPMENT SHALL BE INSTALLED WITHOUT APPROVED SHOP DRAWINGS.

540 NW CHIPMAN ROAD, LEE'S SUMMIT MO 64086

at the job Architects, rors, es before ny work. Do

c. shall retain y and other





Drawing Title

Job No. 204530 Scale

SEE PLANS 08/06/2021

NO	OTES:
1.	PRO\

- OVIDE DIMMER TO MATCH LOAD TYPE AND WATTAGE. VERIFY WITH FINAL LIGHT FIXTURE SHOP DRAWINGS PRIOR TO PURCHASE
- 2. PROVIDE DEDICATED NEUTRAL FOR EACH CONTROL ZONE. 3. ALL LIGHTING NOT CONTROLLED VIA LOCAL SENSOR SHALL BE ROUTED THROUGH THE RELAY PANEL FOR AUTOMATIC ON/OFF CONTROL. REFER TO DETAIL
- 4. ALL EMERGENCY LIGHTING SHALL BE CONNECTED TO THE ROOM LIGHTING CIRCUIT IN WHICH IT IS LOCATED, AHEAD OF ANY SWITCH FOR CONTINOUS OPERATION.
- 5. ALL EXIT SIGNS SHALL BE ON A DEDICATED, LOCK-ON, 24/7/365 CIRCUIT. 6. REFER TO PLANS AND DETAILS FOR SWITCH BANK INFORMATION.
- 7. COORDINATE INSTALLATION OF DIMMER SWITCHES WITH MANUFACTURERS REQUIREMENTS. DE-RATE GANGED SWITCHES AS REQUIRED. PROVIDE MINIMUM OF 4 1/2" VERTICAL SPACING BETWEEN DIMMER SWITCHES.

WALL DIMMER SCHEDULE LEVITON									
TYPE	WATTAGE	MODEL#	POWER EXTENDER						
0-10V	1200VA	IP710-LFZ	PE300-D0W						
HALOGEN	600W	LEV836700							
ELV	600W	VRE06-1LZ	PE400-10W						
MLV	450W	IPM06-1LZ	PE100-10W						
LED	150W	IPL06-10Z							
CFL	150W	IPL06-10Z							
INC.	600W	IPI06-1LZ	PE400-10W/PE100-						

NOTE: PROVIDE LEVITON OR APPROVED EQUAL. PROVIDE WALL DIMMERS FOR EACH LOAD TYPE AND WATTAGE AS INDICATED HERE. PROVIDE POWER EXTENDERS AS REQUIRED. LOCATE POWER EXTENDERS IN AN ACCESSIBLE LOCATION AS DIRECTED BY OWNER AND ARCHITECT TO PRESERVE AESTHETICS. PROVIDE POWER EXTENDERS AS REQUIRED. THE CONTRACTOR SHALL PROVIDE SINGLE GANG RINGS ON

LARGER BOXES FOR PROPER COORDINATION WITH DIMMER

COVERS.

SOLAIRA HEATER CONTROLS (ELECTRIC) SCALE: NOT TO SCALE

ONE (1) SMART-DV-34 —

\_\_\_\_\_\_

SM-WSD

SEE SWITCH BANK

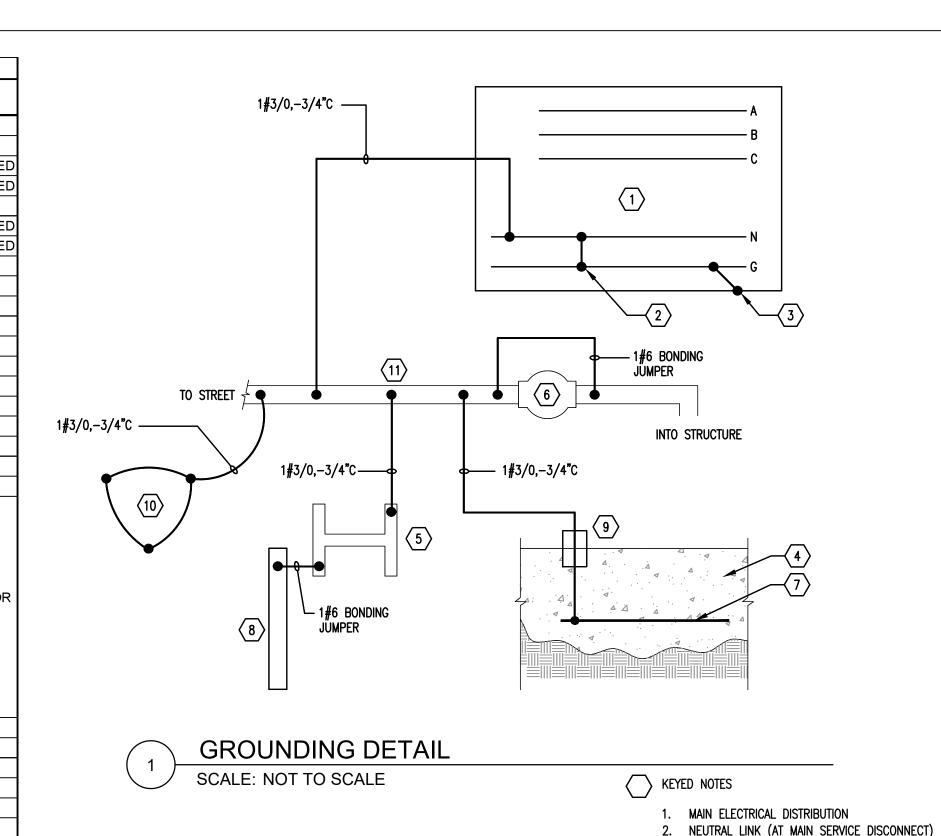
CONTROLS.

DETAIL FOR QTY OF

SOLAIRA SMART

CONTROLLER PER TWO (2) 3KW

HEATERS. LOCATED IN MEZZANINE.



4. CONCRETE FOUNDATION (UFER) STEEL COLUMN (STRUCTURAL) 6. WATER METER 7. 1/2" STEEL REINFORCING BAR OR 1#4 BARE COPPER CONDUCTOR, MINIMUM 20'-0" IN LENGTH AND MIN. 2" ABOVE 8. MAIN GROUND ROD. 5/8" IN DIAMETER X 10' IN LENGTH. DRIVEN INTO EARTH. COPPER CLAD OR STAINLESS STEEL. NON-METALLIC SLEEVE FOR CORROSION PROTECTION. GROUND RING (NEW CONSTRUCTION). MINIMUM 1#2AWG BARE COPPER CONDUCTOR, NOT LESS THAN 20'-0" IN LENGTH, BURIED IN DIRECT CONTACT WITH EARTH. CONNECTIONS TO WATER PIPE SHALL BE MADE WITHIN 5'-0" OF SERVICE ENTRANCE.

EQUIPMENT GROUND

ON/OFF BUTTON STATION FOR ALL ZONES SWITCH BANK "A" SCALE: NOT TO SCALE

LIGHTING CONTROL NARRATIVE BASIS OF DESIGN IS LEVITON. PROVIDE TWO (2) NETWORKED RELAY PANELS, 42 RELAYS EACH, LOW VOLTAGE WALLSTATIONS FOR ON/OFF SCENE CONTROL, AND A TIMECLOCK. DIMMING SHALL BE VIA LOCAL WALL DIMMERS. PROVIDE DEDICATED

ON/OFF BUTTON

SWITCH BANK "F"

SCALE: NOT TO SCALE

STÁTION FOR

ALL ZONES

STATION FOR

SWITCH BANK "E"

SCALE: NOT TO SCALE

ALL ZONES

CIRCUIT FOR CONTROL PANEL POWER FROM LOCAL PANEL. AREAS WHERE NO OCCUPANCY SENSORS ARE SHOWN:
THESE AREAS SHALL BE MANUAL ON VIA WALL STATION, AUTO SWEEP OFF AT 12AM. THIS INCLUDES OPEN AREAS, CORRIDORS, AND OTHER AREAS WHERE NO OCCUPANCY SENSORS ARE INDICATED.

AREAS WHERE VACANCY SENSORS (VS) ARE SHOWN: LIGHTING SHALL BE MANUAL ON, AUTO OFF.

AREAS WHERE OCCUPANCY (OS) SENSORS ARE SHOWN: LIGHTING SHALL BE AUTO ON, AUTO OFF.

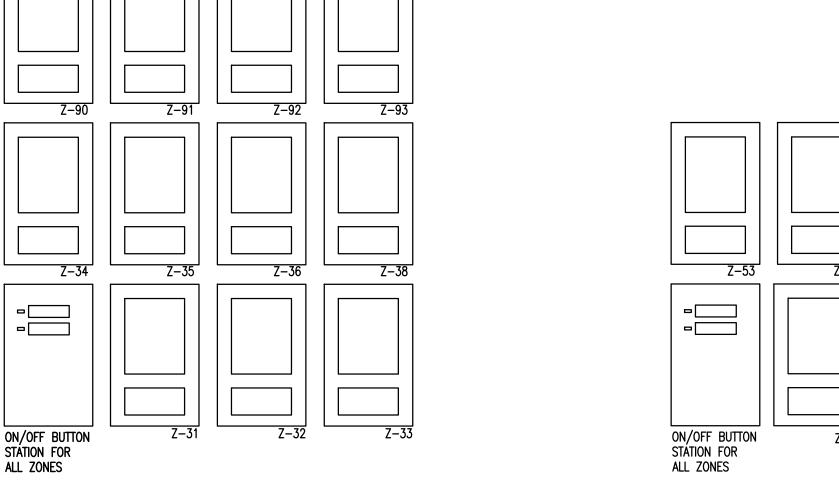
SCHEDULES AND TIMING: ALL OCCUPANCY AND VACANCY SENSORS SHALL TIME OUT AFTER 15 MINUTES. TIMECLOCK SHALL BE: INTERIOR, ON AT 7AM, OFF AT 1HR PAST CLOSE, M-F, OFF ON HOLIDAYS. EXTERIOR LIGHTING SHALL BE ON AT 5PM, OFF AT 1AM WEEKDAYS, WEEKENDS, AND HOLIDAYS. LOCAL OVERRIDES SHALL PROVIDE NO MORE THAN 2

HOURS OVERRIDE ON. CONFIRM ALL SETTINGS AND SCHEDULES WITH OWNER.

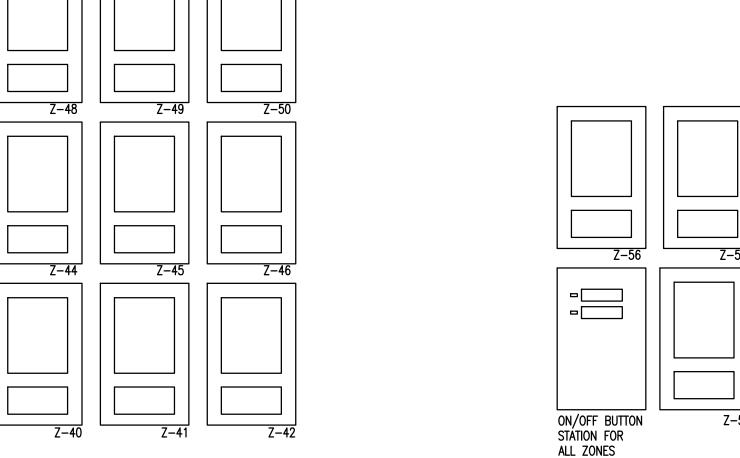
SWITCH BANKS, WHERE INDICATED:
SEE SWITCH BANK DETAILS, THIS SHEET, FOR QUANTITY AND ZONING. DIMMERS SHALL PROVIDE DIMMING FROM 10% OR LOWER TO 100%. PROVIDE A QS WALL STATION AT EVERY SWITCH BANK FOR ON/OFF CONTROL. ALL ZONES CONTROLLED AT THE GIVEN SWITCH BANK SHALL BE CONTROLLED BY THE QS WALL STATION.

EXTERIOR LIGHTS:
LIGHTING SHALL BE AUTO ON BY PHOTO CELL, AUTO OFF AT 2:00AM BY TIME

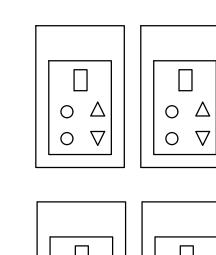
<u>DIMMER BACKBOXES:</u> PROVIDE SINGLE-GANG RING ON ALL MULTI-GANG BOXES.



SWITCH BANK "B' SWITCH BANK "C" SCALE: NOT TO SCALE SCALE: NOT TO SCALE



SWITCH BANK "D" SCALE: NOT TO SCALE



PATIO HEATER CONTROLS: PROVIDE SOLAIRA SMART-34-DV CONTROLLER IN MEZZANINE, ONE FOR EVERY TWO (2) 3KW HEATERS. PROVIDE ONE (1) SM-WSD REMOTE WALL SWITCH FOR EACH SMART-34-DV CONTROLLER.

PROVIDE CLEAR LOCKING

COORDINATE LOCATION OF

CONTROLLER WITH ARCHITECT

AND OWNER IN A CONCEALED, ACCESSIBLE LOCATION.

COVER OVER CONTROLS.

0 7		0 7
SWITCH	4	BANK

LIGHTING CONTROL LEGEND

— LINE VOLTAGE WIRING --- LOW VOLTAGE WIRING, PROVIDE PER MANUFACTURER'S REQUIREMENTS

DIM DIMMING MODULE TC TIMECLOCK WALL STATION OR LOCAL OVERRIDE. \$\int \"ws-xx" denotes \"wall station,

Z2 🚫 LOCAL DIMMER LOCATED IN SWITCH LIGHTING BANK, TYPICAL. SEE DETAILS, THIS CONTROL PANEL SHEET FOR MORE INFORMATION TYPICAL OF TWO 120V BRANCH -CIRCUIT(S), TYPICAL C DEVICES, TYPICAL WS−1 ─ WALL STATION NUMBER, TYPICAL. PROVIDES MANUAL OVERRIDE

ON/OFF. ONE WALL STATION PER SWITCH BANK. SEE LIGHTING CONTROL DETAILS FOR MORE INFORMATION.

LIGHTING CONTROL DIAGRAM SCALE: NOT TO SCALE

FAN CONTROLS: PROVIDE

WALL CONTROLS.

LUTRON MODEL #DVFSQ-F-BL

LIGHTING CONTROL NOTES 1. FIXTURE TAGS, CONTROLS, ZONES, QUANTITIES, AND CONTROL SCHEMES SHOWN HERE ARE FOR DESIGN INTENT ONLY. SEE FLOOR PLAN FOR ACTUAL FIXTURES, QUANTITIES, CONTROLS,

BE PROVIDED BY EACH SUBCONTRACTOR AND SHALL CONTAIN A LAYOUT OF ALL DUCTWORK, CONDUIT, PIPING, EQUIPMENT, STRUCTURE, WALLS, CEILING, ETC. AS REQUIRED TO REFLECT FULL COORDINATION ACROSS ALL TRADES AND SHALL BE SUBMITTED FOR REVIEW. COORDINATED DRAWINGS SHALL BE SIGNED OFF BY ALL OTHER TRADES PRIOR TO BEING SUBMITTED FOR REVIEW. PLANS SHALL BE PREPARED AT A MINIMUM OF 1/8" SCALE OR THE SCALE OF THE DESIGN DRAWINGS, WHICHEVER IS LARGER. NO EQUIPMENT SHALL BE INSTALLED WITHOUT APPROVED SHOP DRAWINGS.

COORDINATED SHOP DRAWINGS SHALL

 $\overline{\Gamma}$   $\delta$ 540 NW CHIF ROAD, LEE'S MO 64086 

FIELD VERIFICATION Contractor shall verify all figured dimensions and conditions at the job site and notify Aria Group Architects, Inc. of any dimensional errors, omissions or discrepancies before beginning or fabricating any work. Do

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2021/08/19 ISSUED FOR NO. DATE REMARKS REVISIONS

Solm thomso Drawing Title

ELECTRICAL

Drawn Job No. 204530 Scale

CW Date SEE PLANS | 08/06/2021

EXH	AUST .	FAN	INFORMATION - JOB#4	950104													
FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFAC	TURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	EF-58L	1	DU180HFA	CAPTIV	EAIRE	2080	1,125	1047	DDP,PREMIUM	1.500	0.6030	3	208	4.4	480 FPM	160	11.7
2	EF-58M	1	DU180HFA	CAPTIV	EAIRE	2080	1.125	1047	ODP,PREMIUM	1.500	0.6030	3	208	4.4	480 FPM	160	11.7
3	EF-58R	1	DU180HFA	CAPTIV	EAIRE	2080	1.125	1047	ODP,PREMIUM	1.500	0.6030	3	208	4.4	480 FPM	160	11.7
5	EF-59L	1	DU180HFA	CAPTIV	EAIRE	1800	1.125	1009	ODP,PREMIUM	1.500	0.5250	3	208	4.4	416 FPM	160	11.6
6	EF-59R	1	DU180HFA	CAPTIV	EAIRE	1800	1.125	1009	ODP,PREMIUM	1.500	0.5250	3	208	4.4	416 FPM	160	11.6
8	DISH	1	DU50HFA	CAPTIV	EAIRE	1125	0.500	1459	ODP	0.500	0.3510	1	115	8.4	428 FPM	81	15.5
CONDENSER DETAILS																	
FAN UNIT	TAG		FAN UNIT MODEL #	CONDENSER	TONNAGE	VOL	_TAGE	PHASE	FREQUENCY	МС	CA	RLA	,	MAX FUSE	MIN WIRE	SEER	

COND	ENSER	DETAILS										
FAN UNIT NO	TAG	FAN UNIT MODEL #	CONDENSER NO	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX FUSE SIZE	MIN WIRE SIZE	SEER
			1	5	208-230	3 PHASE	60 HZ	21.4 AMPS	17.4 AMPS	30 AMPS	10 AWG	14
4	MUA-58	A3-D.500-24D-MPU	2	5	208-230	3 PHASE	60 HZ	21.4 AMPS	17.4 AMPS	30 AMPS	10 AWG	14
			3	5	208-230	3 PHASE	60 HZ	21.4 AMPS	17.4 AMPS	30 AMPS	10 AWG	14
7	7 MUA-59	A2-D,500-20D-MPU	1	2.5	208-230	3 PHASE	60 HZ	11.2 AMPS	9.07 AMPS	20 AMPS	14 AWG	14
	MUH-39	AZ-D.300-20D-MP0	2	5	208-230	3 PHASE	60 HZ	21.4 AMPS	17.4 AMPS	30 AMPS	10 AWG	14

MUA	JA FAN INFORMATION - JOB#4950104											_							
FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	BLOWER	HDUSING	MIN CFM	DESIGN CFM	ESP	RPM	MOTOR ENCL	HP	ВНР	PHASE	VOLT	FLA	MCA	МПСР	WEIGHT (LBS)	SONES
4	MUA-58	1	A3-D,500-24D-MPU	24MF-3-MOD	A3-D.500	3500	5400	0.500	1659	DDP,PREMIUM	10.000	7.9450	3	208	27.0	33.8A	60A	2382	18.1
7	MUA-59	1	A2-D.500-20D-MPU	20MF-2-MOD	A2-D.500	2000	2850	0.500	1457	DDP,PREMIUM	2.000	1.6030	3	208	6.1	7.7A	15A	1505	13.9

GAS .	FIRED 1	MAKE-U	P $AIR$ $l$	UNIT(S)			
FAN UNIT NO	TAG	INPUT BTUs	OUTPUT BTUs	GAS TYPE	BURNER EFFICIENCY(%)		
4	MUA-58	393295	361831	65°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92
7	MUA-59	207572	190966	65*F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92

4	MUA-58	393295	361831	65°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92
7	MUA-59	207572	190966	65°F	7 IN. W.C. – 14 IN. W.C.	NATURAL	92
COILS	S - JOF	8#49501	04				

2 YEAR PARTS WARRANTY. SCR-13 BIRD SCREEN.

1 2 YEAR PARTS WARRANTY.

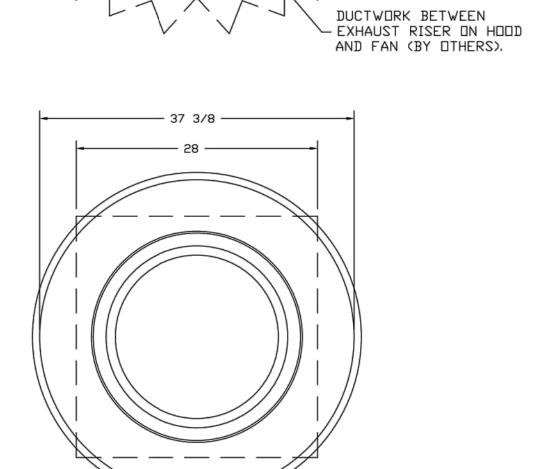
1 I 15-BDD DAMPER.

DISH

CUILS	<u> </u>	3#495	0104																			
FAN UNIT TA		COIL	DESIGN						COOLING									HEATING				
	TAG	TYPE	CFM	ENTERING DB TEMP	ENTERING WB TEMP	LEAVING DB TEMP	LEAVING WB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	TOTAL CAPACITY	SENSIBLE CAPACITY	LATENT CAPACITY	ENTERING DB LEAVING DB TEMP	ENTERING FLUID TEMP	LEAVING FLUID TEMP	FLUID FLOW RATE	PERCENT GLYCOL	STEAM PRESSURE	TOTAL CAPACITY	SENSIBLE CAPACITY
4	MUA-58	DX	5400	93.0°F	76,0°F	76.6°F	66.9°F					180.0 MBH	90.1 MBH	89.9 MBH								
7	MUA-59	DX	2850	93.0°F	76.0°F	77.6°F	67,4°F					90.0 MBH	44.7 MBH	45.3 MBH								

N O	PTIONS	S		
AN				
NIT	TAG	QTY	DESCRIPTION	
		1	GREASE BOX.	FANS #1 (EF-58L), #2 (EF-58M), #3 (EF-58R), #5 (EF-59L) - DU180HFA EXHAUST F
, l	EF-58L	1	UPBLAST FAN WHEEL ACCESS PORT.	
<b>'</b>   '		1	EXHAUST FAN HEAT BAFFLE.	
		1	2 YEAR PARTS WARRANTY.	37 3/8
		1	GREASE BOX.	
		1	UPBLAST FAN WHEEL ACCESS PORT.	
2   1	EF-58M	1	EXHAUST FAN HEAT BAFFLE.	
	<u> </u>	1	2 YEAR PARTS WARRANTY.	
		1	GREASE BOX.	
	+	1	UPBLAST FAN WHEEL ACCESS PORT.	
3   1	EF-58R	1		
	-	1	EXHAUST FAN HEAT BAFFLE.	
$\dashv$		1	2 YEAR PARTS WARRANTY.	33 3/4
	]	1	INLET PRESSURE GAUGE, 0-35".	
	[	1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC.	
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED.	
		1	MOTORIZED BACKDRAFT DAMPER FOR A3-D HOUSING, MEETS AMCA CLASS 1A RATING.	
	Ī	1	TOTAL CFM MONITORING FOR MUA UNITS.	GREASE DRAI
	İ		15 TON 3 CIRCUIT (5/5/5) MODULAR PACKAGED AC COOLING OPTION FOR SIZE 3 DF/EH	
		1	MUA (2250 TO 4800 CFM), 208V/230V, 3 PHASE, COOLING THERMOSTAT OR PROGRAMMABLE	2 1
	MUA-58		STAT REQUIRED FOR PROPER OPERATION.	16 1/2 1
		1	DOWNTURN PLENUM FOR SIZE 3 DX COIL MODULE.	
		1	MPU3-15-AC MOISTURE ELIMINATOR OPTION - ALLOWS COOLING COIL FACE VELOCITY TO	
		1	INCREASE TO 650 FPM. INCREASES COOLING COIL MAX CFM TO 5650 CFM.	
		1	CONDENSER SUPPORT FOR SIZE 3, 15 TON MOD PACKAGE UNIT.	26
	Ī	1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH	
		1	VFD) - THREE PHASE ONLY.	
		1	2 YEAR PARTS WARRANTY.	
		1	GREASE BOX.	DUCTWORK E EXHAUST RI
	Ī	1	UPBLAST FAN WHEEL ACCESS PORT.	AND FAN (B
ا	EF-59L	1	EXHAUST FAN HEAT BAFFLE.	
	}	1	2 YEAR PARTS WARRANTY.	
+		1	GREASE BOX.	
		1	UPBLAST FAN WHEEL ACCESS PORT.	37 3/8
1	EF-59R	1	EXHAUST FAN HEAT BAFFLE.	
	-	1		
+		1	2 YEAR PARTS WARRANTY.	
		1	INLET PRESSURE GAUGE, 0-35".	
		1	MANIFOLD PRESSURE GAUGE, -5 TO 15" WC.	
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED.	
		1	MOTORIZED BACKDRAFT DAMPER FOR A2-D HOUSING, MEETS AMCA CLASS 1A RATING.	
		1	TOTAL CFM MONITORING FOR MUA UNITS.	
	Ī		7.5 TON 2 CIRCUIT (2.5/5) MODULAR PACKAGED AC COOLING OPTION FOR SIZE 2 DF/EH	
·   ı	MUA-59	1	MUA (1125 TO 3000 CFM), 208V/230V, 3 PHASE, COOLING THERMOSTAT OR PROGRAMMABLE	
- [ '	MUA-59		STAT REQUIRED FOR PROPER OPERATION.	
		1	DOWNTURN PLENUM FOR SIZE 2 DX COIL MODULE.	
		1	SEPARATE 120V WIRING PACKAGE (REQUIRED AND USED ONLY FOR DCV OR PREWIRE WITH	\\   \\ \\
		1	VFD) - THREE PHASE ONLY.	
		1	SIZE 2 DIRECT FIRED HEATER LOW CFM PROFILE PACKAGE. USED ON HEATERS UNDER 2500	
			CFM.	
1				

3/ 3/8	- ROOF
	- REST
	- UL70
	- VAR
	- INTE
	- THER
	- HIGH
	- GREA
	- NEMA
' \ \oldots	
33 3/4	NORM
22 5/8	EXHA
	WHIL UNTII
	THER
	DETE
GREASE DRAIN.	WOUL
	<u>ABND</u>
2	EXHA
16 1/2	WHIL
.	AT 6
	15 MI
	DAMA
	AN U



TOP VIEW

# FEATURES:

EXHAUST

YES

WEIGHT

38 LBS

38 FB2

38 LB2

144 LBS

144 LBS

38 FB2

34 LBS

107 LBS

107 LBS

34 LBS

UNIT

TAG

1 EF-58L YES 2 EF-58M YES 3 EF-58R YES

5 EF-59L YES 6 EF-59R YES

CURB ASSEMBLIES

TAG

EF-58L

EF-58M

EF-58R

MUA-58

EF-59L

EF-59R

MUA-59

DISH

4 | MUA-58 |

7 | MUA-59 |

8 DISH

ND DN FAN

1 # 1

3 | # 3 |

4 # 4

4 # 4

# 4

5 # 5

6 | # 6 |

7 # 7

7 | # 7 |

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS). - ROOF MOUNTED FANS.
- ESTAURANT MODEL. L705 AND UL762 AND ULC-S645 ARIABLE SPEED CONTROL,

SUPPLY

ITEM

CURB

RAIL

RAIL

CURB

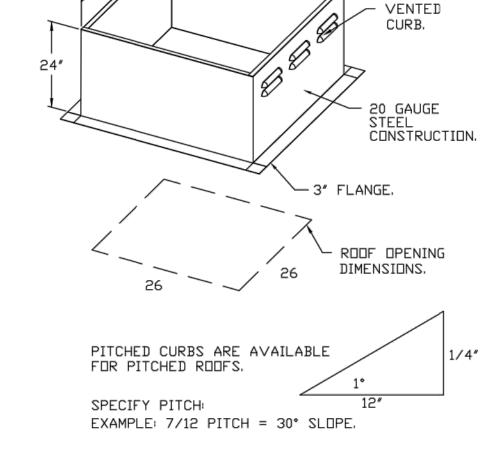
YES

YES

HINGED.

GREASE GRAVITY WALL SIDE GRAVITY MOTORIZED WALL CUP DAMPER MOUNT DISCHARGE DAMPER DAMPER MOUNT

- TERNAL WIRING. ERMAL OVERLOAD PROTECTION (SINGLE PHASE). IGH HEAT OPERATION 300°F (149°C). REASE CLASSIFICATION TESTING.
- EMA 3R SAFETY DISCONNECT SWITCH. RMAL TEMPERATURE TEST HAUST FAN MUST OPERATE CONTINUOUSLY HILE EXHAUSTING AIR AT 300°F (149°C) NTIL ALL FAN PARTS HAVE REACHED ERMAL EQUILIBRIUM, AND WITHOUT ANY TERIORATING EFFECTS TO THE FAN WHICH OULD CAUSE UNSAFE OPERATION.
- NORMAL FLARE-UP TEST HAUST FAN MUST OPERATE CONTINUOUSLY ILE EXHAUSTING BURNING GREASE VAPORS 600°F (316°C) FOR A PERIOD OF MINUTES WITHOUT THE FAN BECOMING MAGED TO ANY EXTENT THAT COULD CAUSE UNSAFE CONDITION.
- <u>OPTIONS</u> GREASE BOX. UPBLAST FAN WHEEL ACCESS PORT. EXHAUST FAN HEAT BAFFLE, 2 YEAR PARTS WARRANTY.



SIZE

26.500"W X 26.500"L X 24.000"H 0.250:12.000 PITCH ALONG LENGTH, RIGHT VENTED

26.500"W X 26.500"L X 24.000"H 0.250:12.000 PITCH ALONG LENGTH, RIGHT VENTED

26.500"W X 26.500"L X 24.000"H 0.250:12.000 PITCH ALONG LENGTH, RIGHT VENTED

35.000"W X 84.000"L X 20.000"H 0.250:12.000 PITCH ALONG WIDTH, RIGHT INSULATED.

26.500"W X 26.500"L X 24.000"H 0.250:12.000 PITCH ALDNG LENGTH, RIGHT VENTED

26.500"W X 26.500"L X 24.000"H 0.250:12.000 PITCH ALONG LENGTH, RIGHT VENTED.

31.000"W X 79.000"L X 20.000"H 0.250:12.000 PITCH ALONG WIDTH, RIGHT INSULATED. 19.500"W X 19.500"L X 24.000"H 0.250:12.000 PITCH ALONG LENGTH, RIGHT VENTED

6.000"W X 35.000"L X 20.000"H 0.250:12.000 PITCH ALDNG LENGTH, RIGHT

6.000"W X 35.000"L X 20.000"H 0.250:12.000 PITCH ALONG LENGTH, RIGHT.

6.000"W X 31.000"L X 20.000"H 0.250:12.000 PITCH ALONG LENGTH, RIGHT.

VERIFY ELECTRIC REQUIREMENTS \_\_\_\_PHASE \_\_\_\_VOLT Verify Electric Requirements to Ensure That Fan Motors and Electric Packages are Coordinated

\_\_\_\_ ' \_\_\_\_ Curb Pitch Required in order to manufacture the curb to specification.

N.	Northern Ohio Office	806 Morrison Rd, Gahanna, OH, 43230 PHONE: FAX: (919) 227-5925 EMAIL
IN		

REVISIONS

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**DATE:** 6/22/2021

DWG.#:

4950104

SCALE:

3/4" = 1'-0"

**MASTER DRAWING** 

SHEET NO.

COORDINATED SHOP DRAWINGS SHALL

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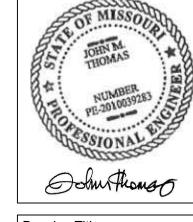
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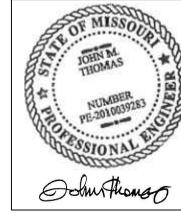
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HOOD DETAILS

Job No. 204530

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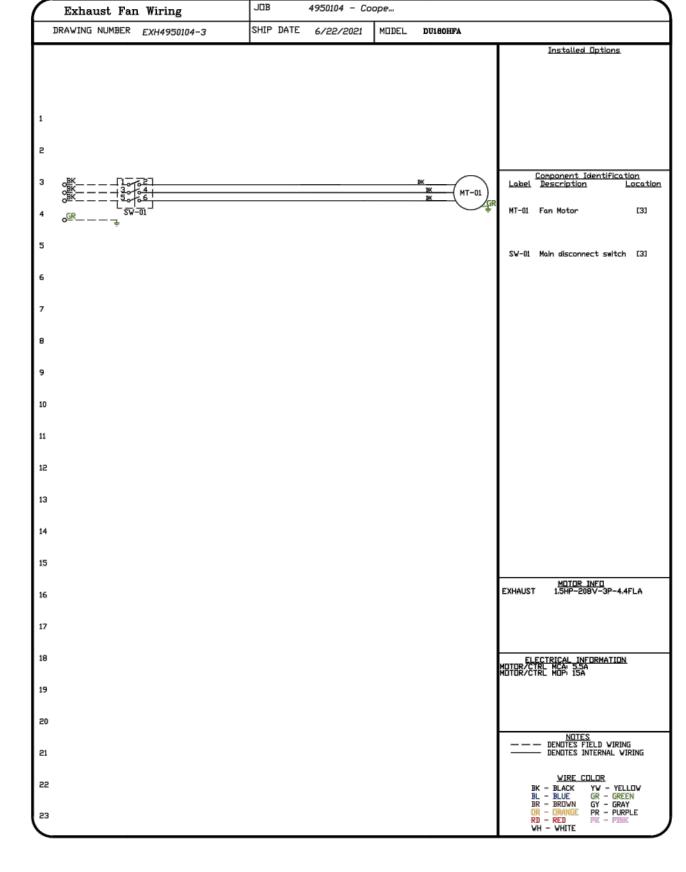
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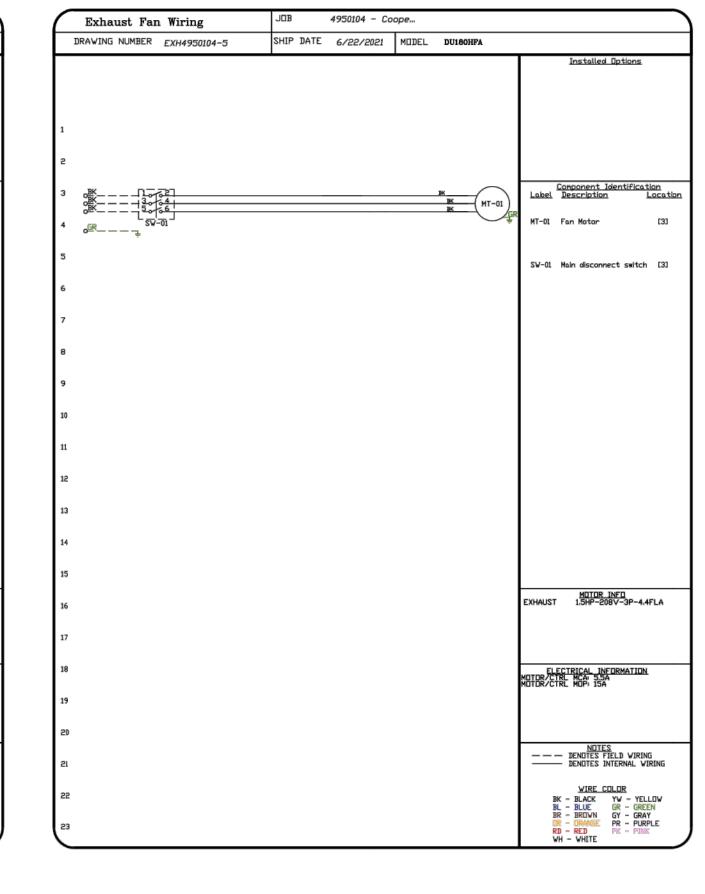
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Job No. 204530

Scale SEE PLANS | 08/06/2021







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**DATE:** 6/22/2021

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DWG.#: 4950104

SCALE:

3/4" = 1'-0"

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SHEET NO.

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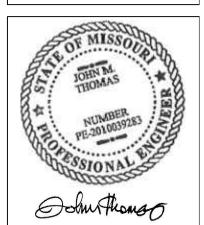
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204530 Scale SEE PLANS 08/06/2021

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DRIOR TO BEING SUBMITTED FOR REVIEW Sheet No.

REVISIONS

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**DATE:** 6/22/2021

4950104

SCALE:

3/4" = 1'-0"

**MASTER DRAWING** 

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DWG.#:

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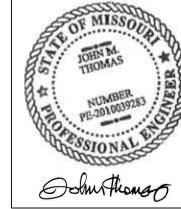
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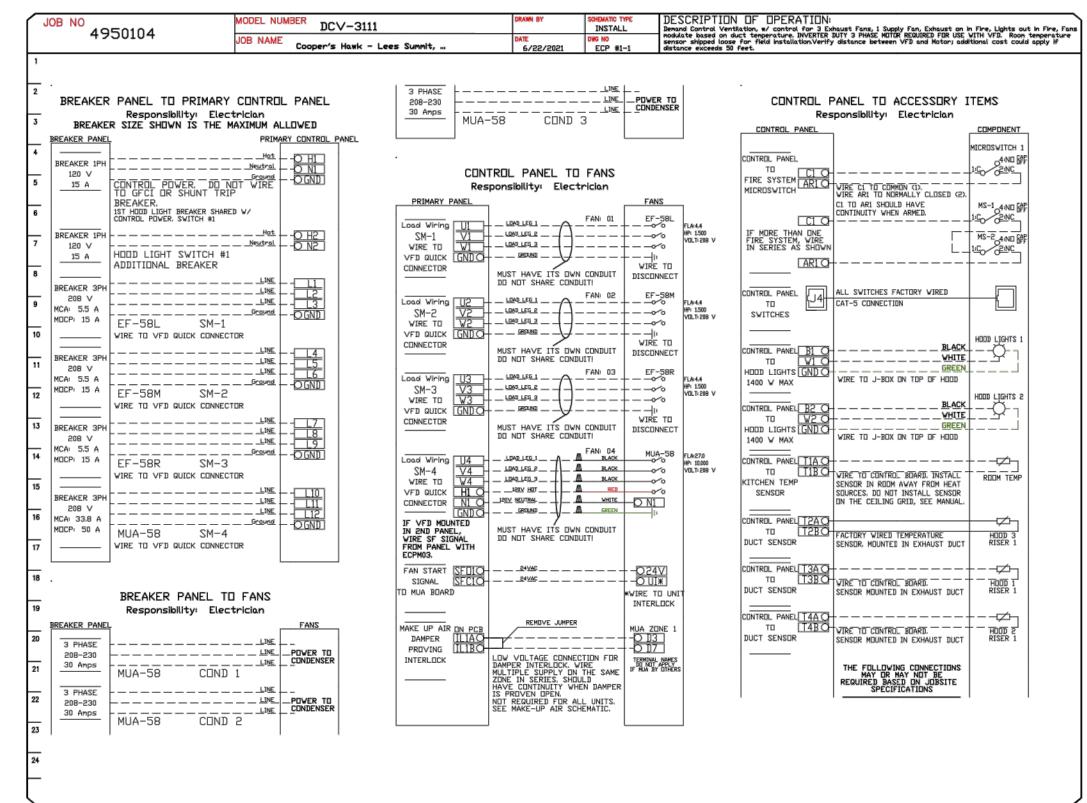


Drawing Title HOOD DETAILS

Job No. 204530 Scale SEE PLANS

08/06/2021 Sheet No.

ALL POWER FEED FROM VARIABLE FREQUENCY DRIVES IN HOOD CONTROL PANEL TO FAN MOTORS MUST BE IN SEPARATE STEEL CONDUIT - OR MOTOR/VFD FAILURE MAY OCCUR



SWITCHES

LOCATION

CABINET RIGHT

H00D # 3

04 - UTILITY CABINET RIGHT

HOOD # 5

02 - FACE MOUNT RIGHT SIDE OF HOOD

H00D # 6

QUANTITY

1 LIGHT

1 FAN

1 LIGHT

1 FAN

1 LIGHT

1 FAN

OPTION

SMART CONTROLS DCV

SMART CONTROLS DCV

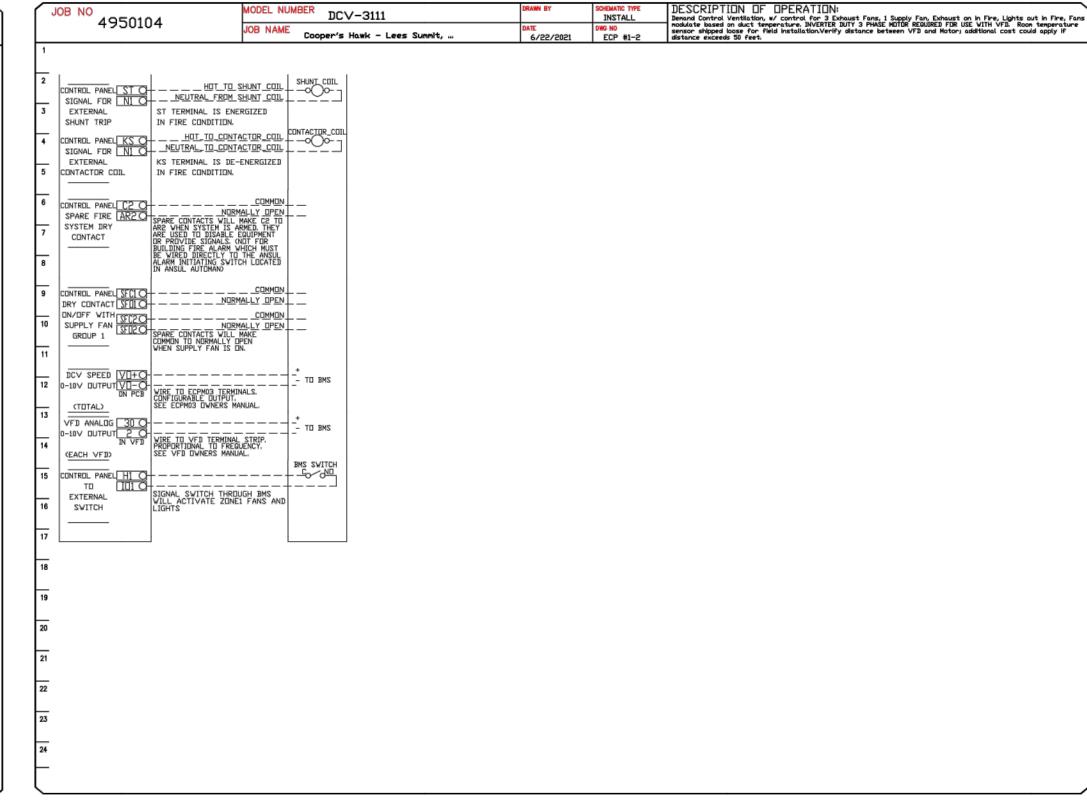
<u> ELECTRICAL PACKAGE - JOB#4950104</u>

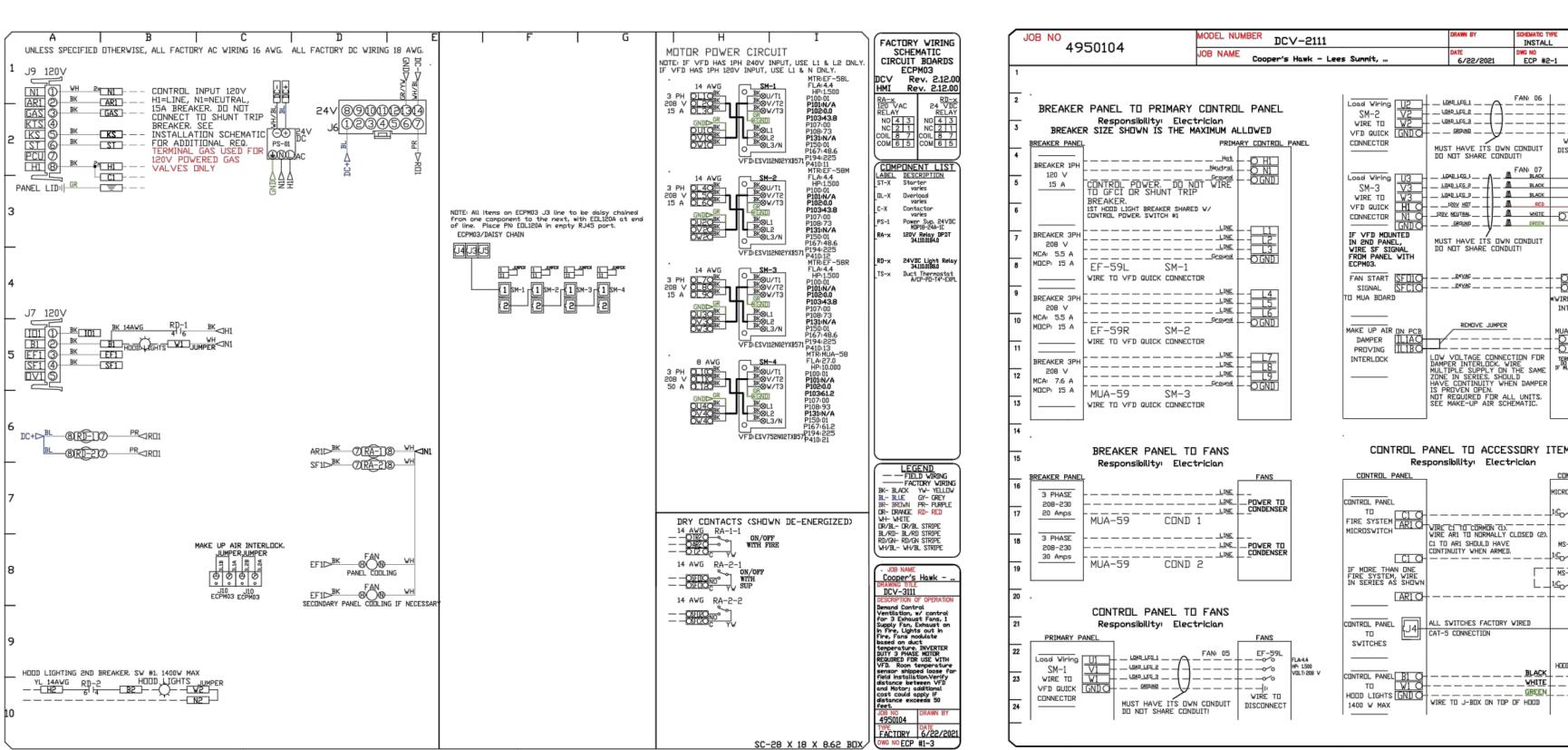
EP-1 DCV-3111 UTILITY CABINET RIGHT

2 | EP-2 | DCV-2111 | UTILITY CABINET RIGHT

PACKAGE #

3 | Item #83 | Switches





FANS CONTROLLED

FAN TAG

EF-58M

EF-58R

MUA-58

EF-59L

MUA-59

TYPE | 0 HP VOLT FLA

EXHAUST 3 1.500 208 4.4

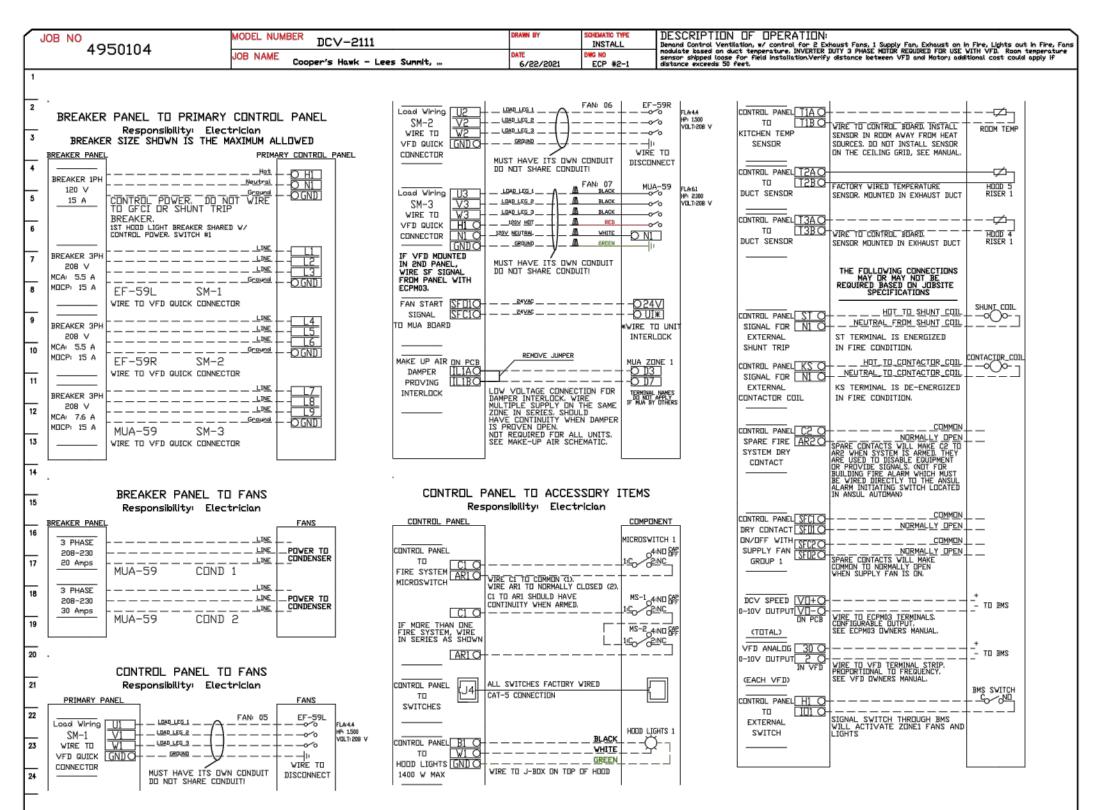
EXHAUST 3 1.500 208 4.4

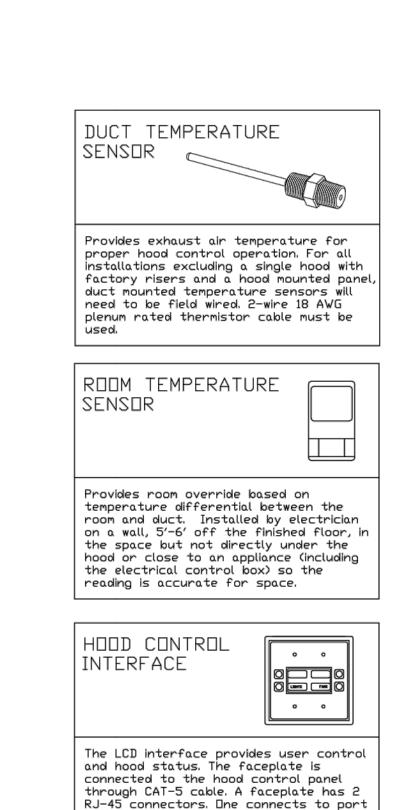
EXHAUST 3 1.500 208 4.4

SUPPLY 3 10.000 208 27.0

EXHAUST 3 1.500 208 4.4

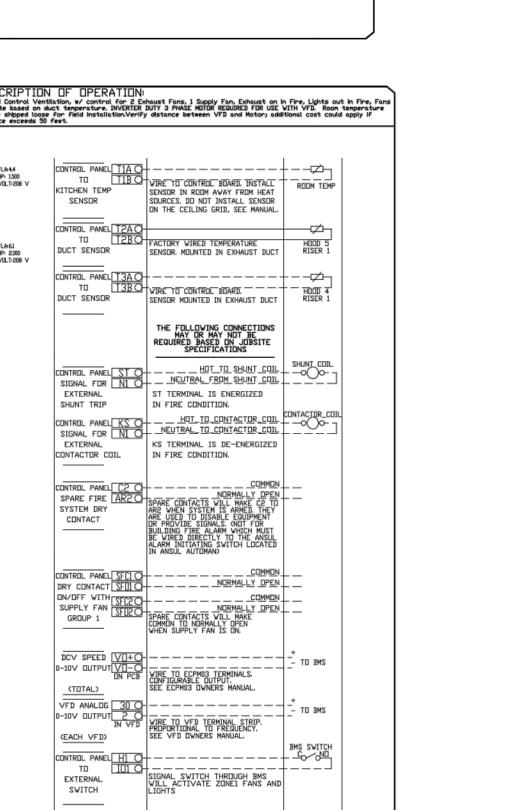
EXHAUST 3 1.500 208 4.4 SUPPLY 3 2.000 208 6.1

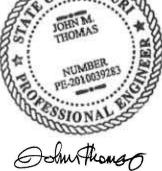




J4 or J5 in the hood control panel and the other will typically be occupied by a

RJ-45 end-of-line terminator.





Job No. 204530

HOOD DETAILS

Scale SEE PLANS

08/06/2021

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**DATE:** 6/22/2021 DWG.#: 4950104

DRAWN BY: MAP-52 SCALE:

3/4" = 1'-0" MASTER DRAWING

SHEET NO.

Drawing Title

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OF 1/8" SCALE OR THE SCALE OF THE DESIGN DRAWINGS, WHICHEVER IS LARGER. NO EQUIPMENT SHALL BE INSTALLED WITHOUT APPROVED SHOP DRAWINGS.

MOTOR POWER CIRCUIT NOTE: All items on ECPM03 J3 line to be daisy chained from one component to the next, with EOL120A at end of line. Place PN: EOL120A in empty RJ45 port. ECPM03/DAISY CHAIN 1sm-1 1sm-2 1sm-3 DC+DBL 8RD-17 PR⊲RD1 ARIDBK (RA-1)8 WH NI SFIDBK (RA-2)8 WH MAKE UP AIR INTERLUCK.

JUMPERJUMPER

THE STATE OF THE ST 14 AWG RA-2-2 SC-20 × 18 × 8.62 BOX

DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS: - CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.2.8 (2015).

- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET, THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.

- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL,
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS, THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO

- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.

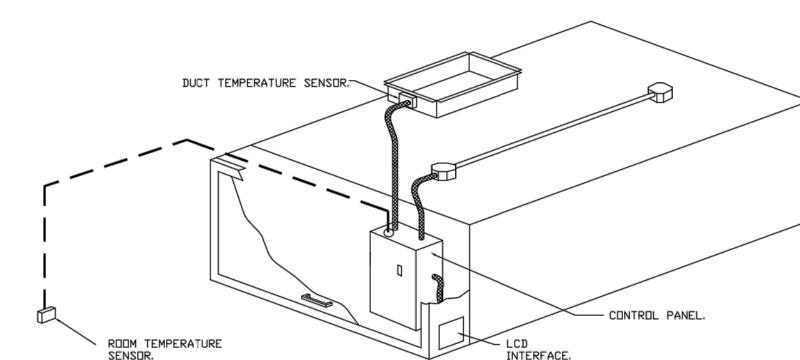
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.

- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED, OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.

- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION -IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:

CALCULATE THE SPEED REFERENCE SIGNAL.

- A. ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION. B. INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
- C. VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION. D. DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
- E. MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
- F. A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION. G. AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS: THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY

AUTOMATIC: THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR, FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD, DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE, IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL, PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE, DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING

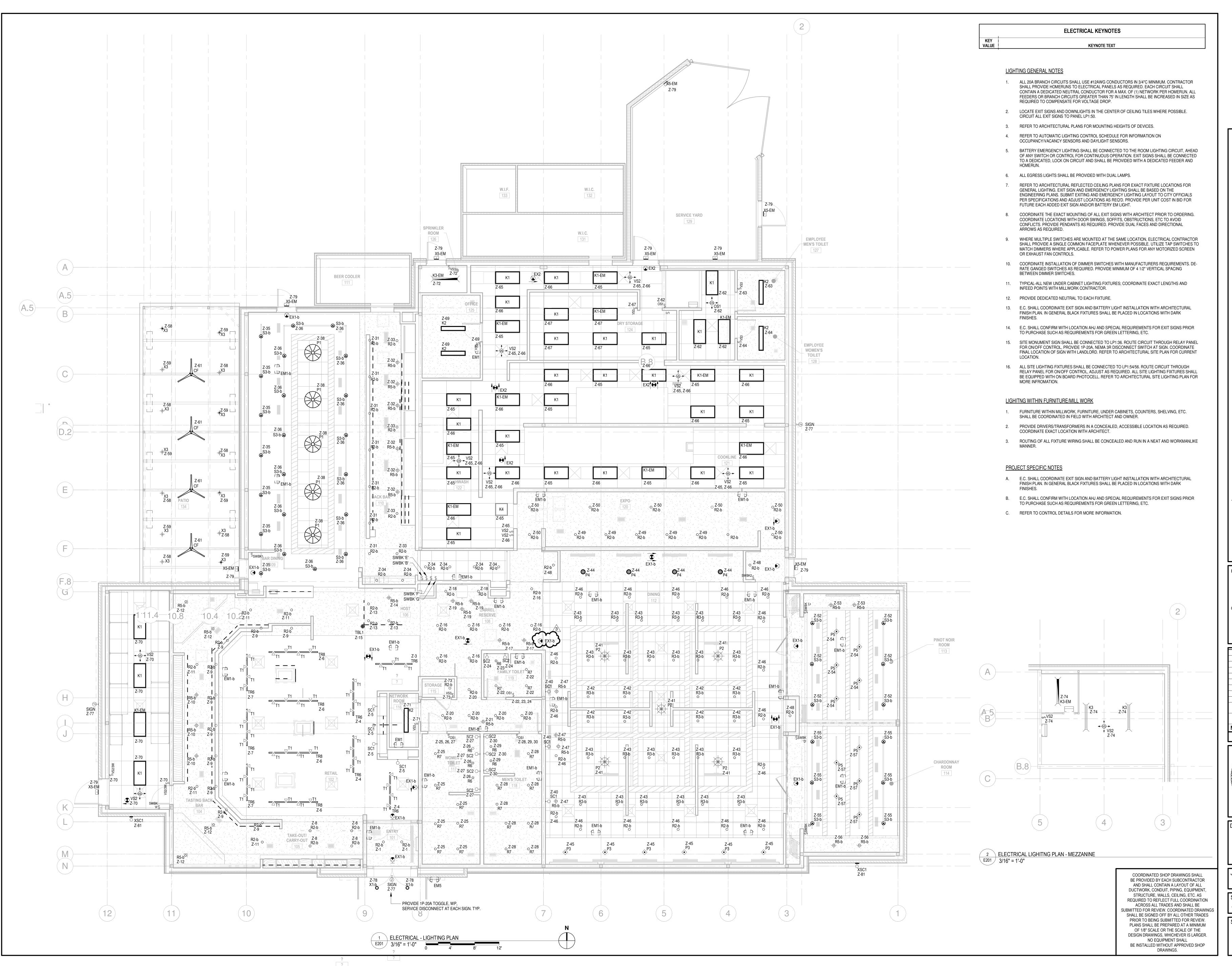
MANUAL: THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.

SCHEDULE: A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY, THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME, DURING UNDCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA DFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.

OTHER: THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR

FIRE: UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN, FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.

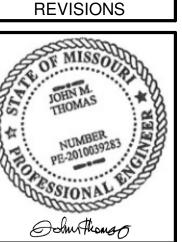
EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS DUTLINED IN IECC 403.2.8. HARD-WIRED INTERLOCK).



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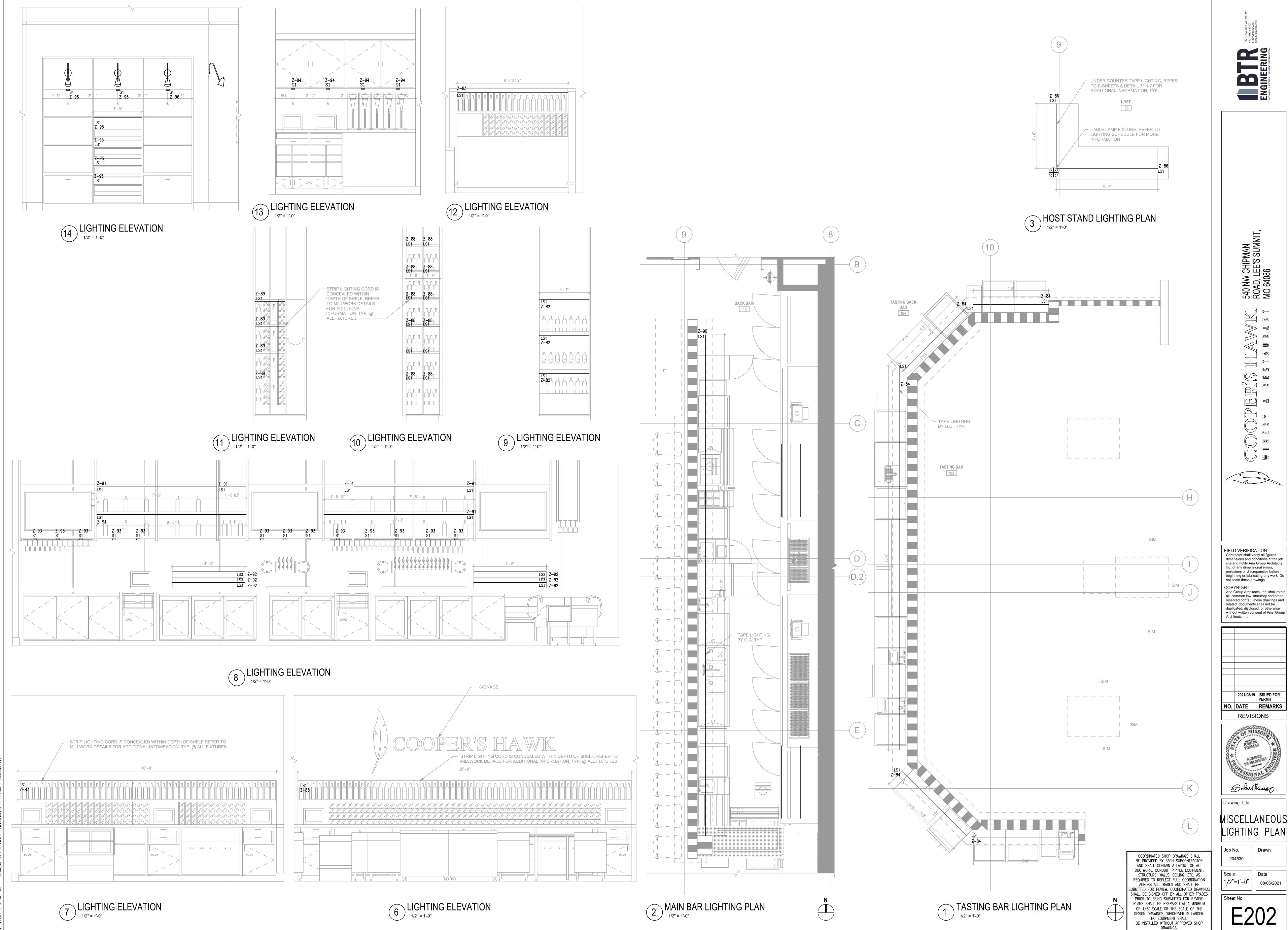
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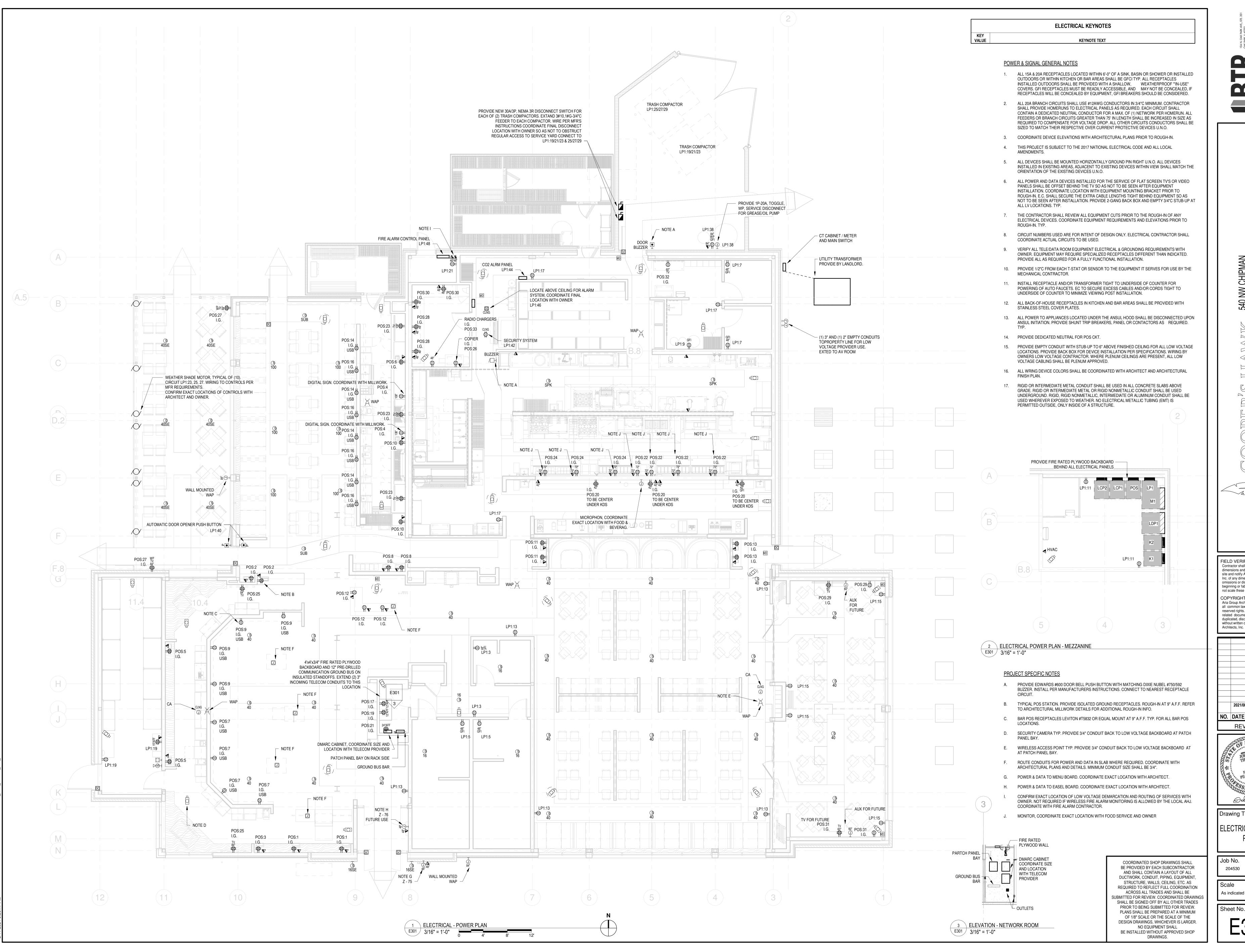
ELECTRICAL -LIGHTING PLAN

Job No. 204530

Scale 08/06/2021

As indicated





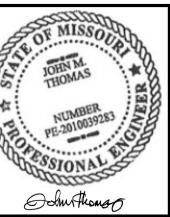
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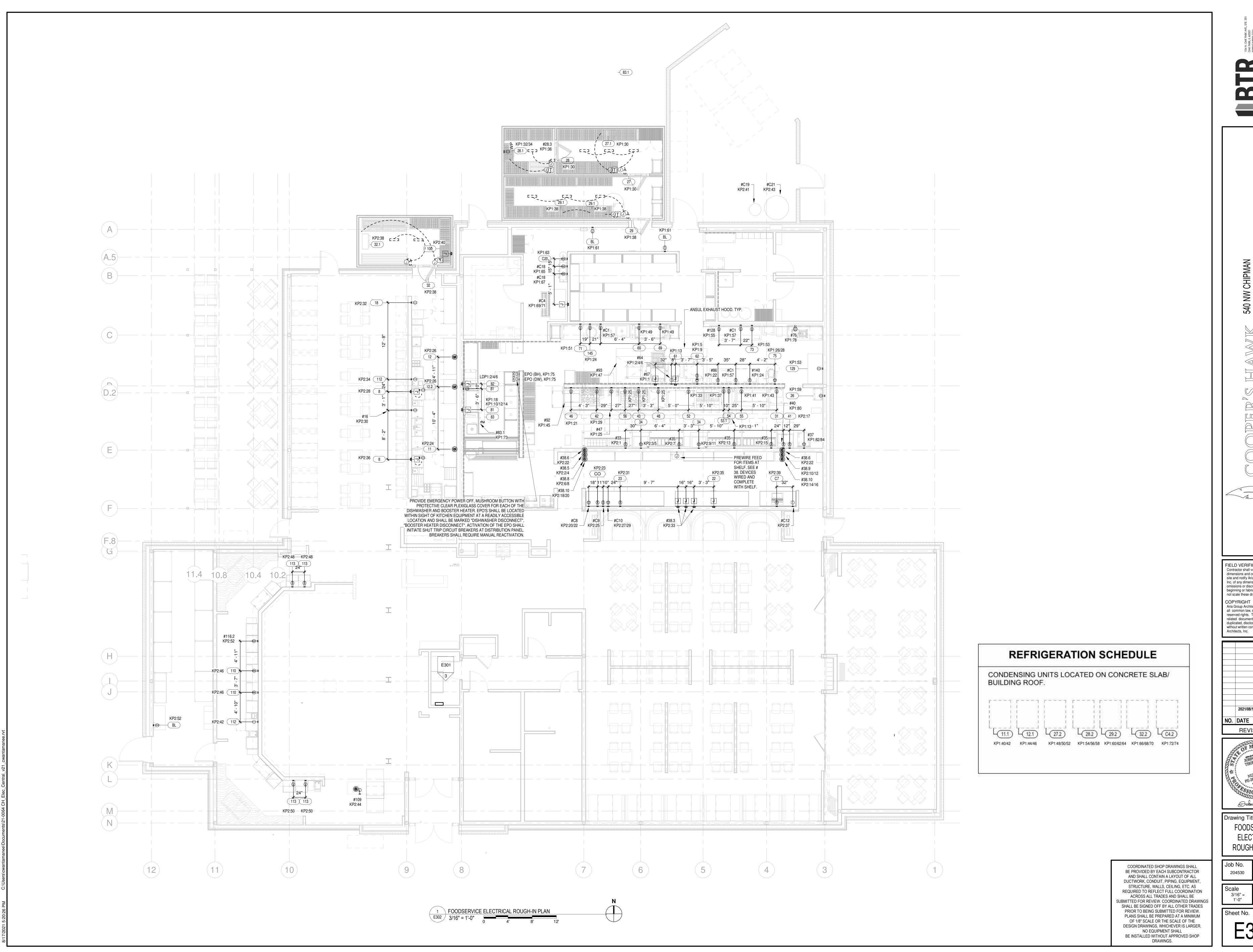
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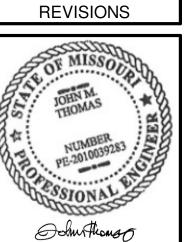
**ELECTRICAL - POWER** PLAN

08/06/2021



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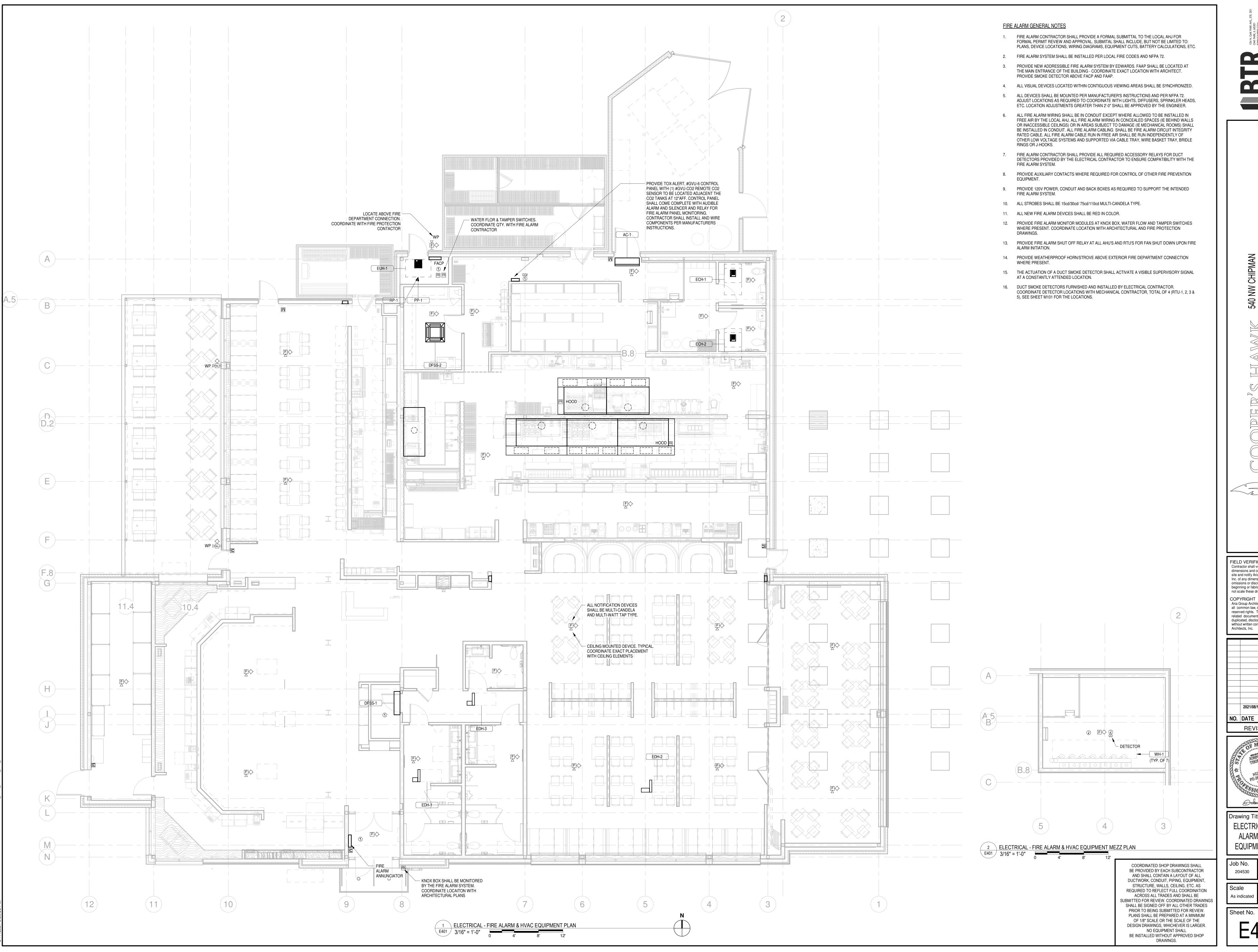


Drawing Title FOODSERVICE **ELECTRICAL** 

ROUGH-IN PLAN 204530



Scale 3/16" = 08/06/2021 1'-0" Sheet No.



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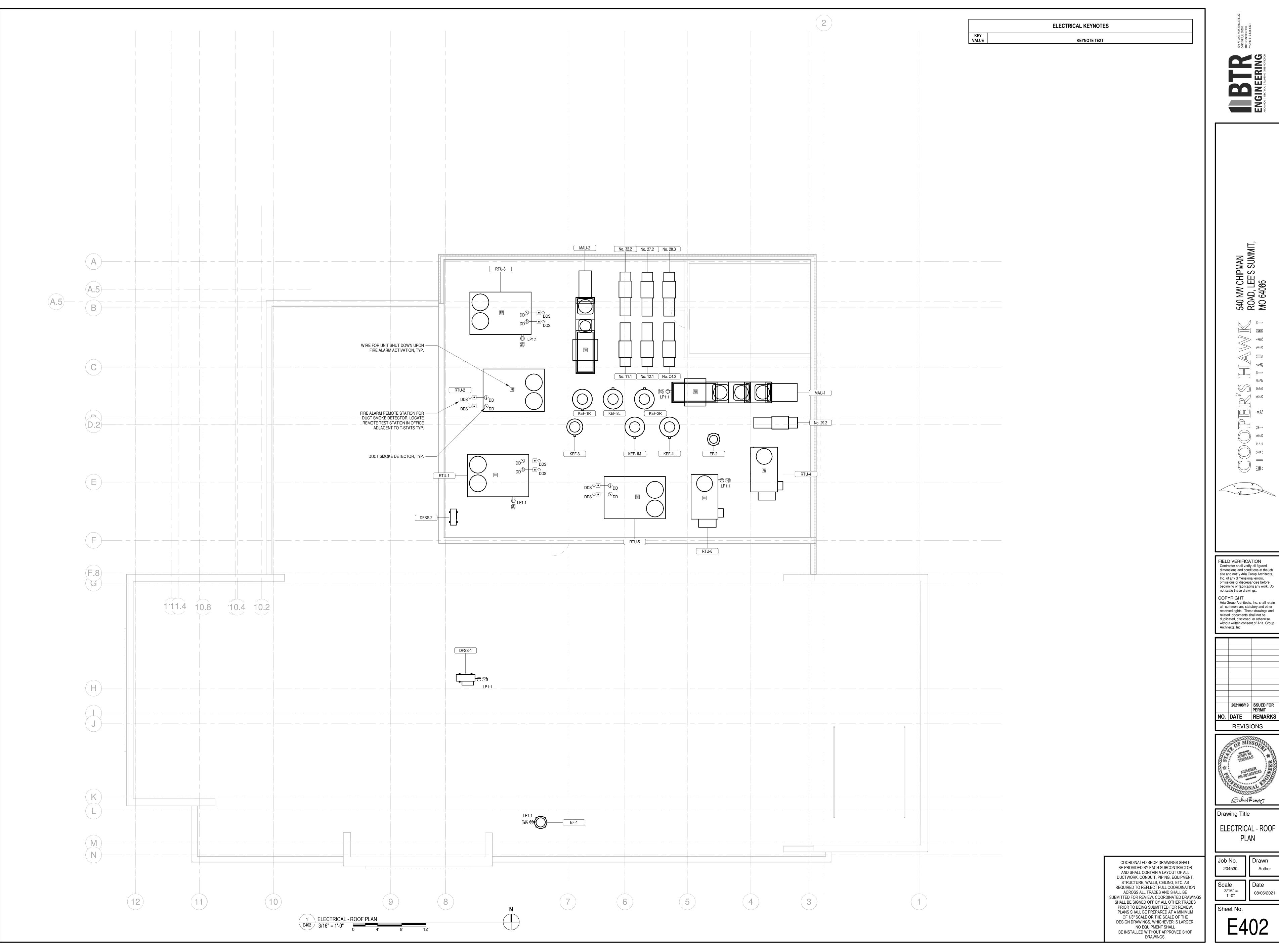


Drawing Title ELECTRICAL - FIRE ALARM & HVAC **EQUIPMENT PLAN** 

204530

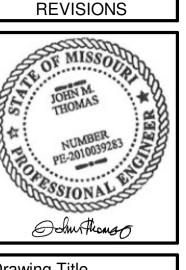
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Scale As indicated



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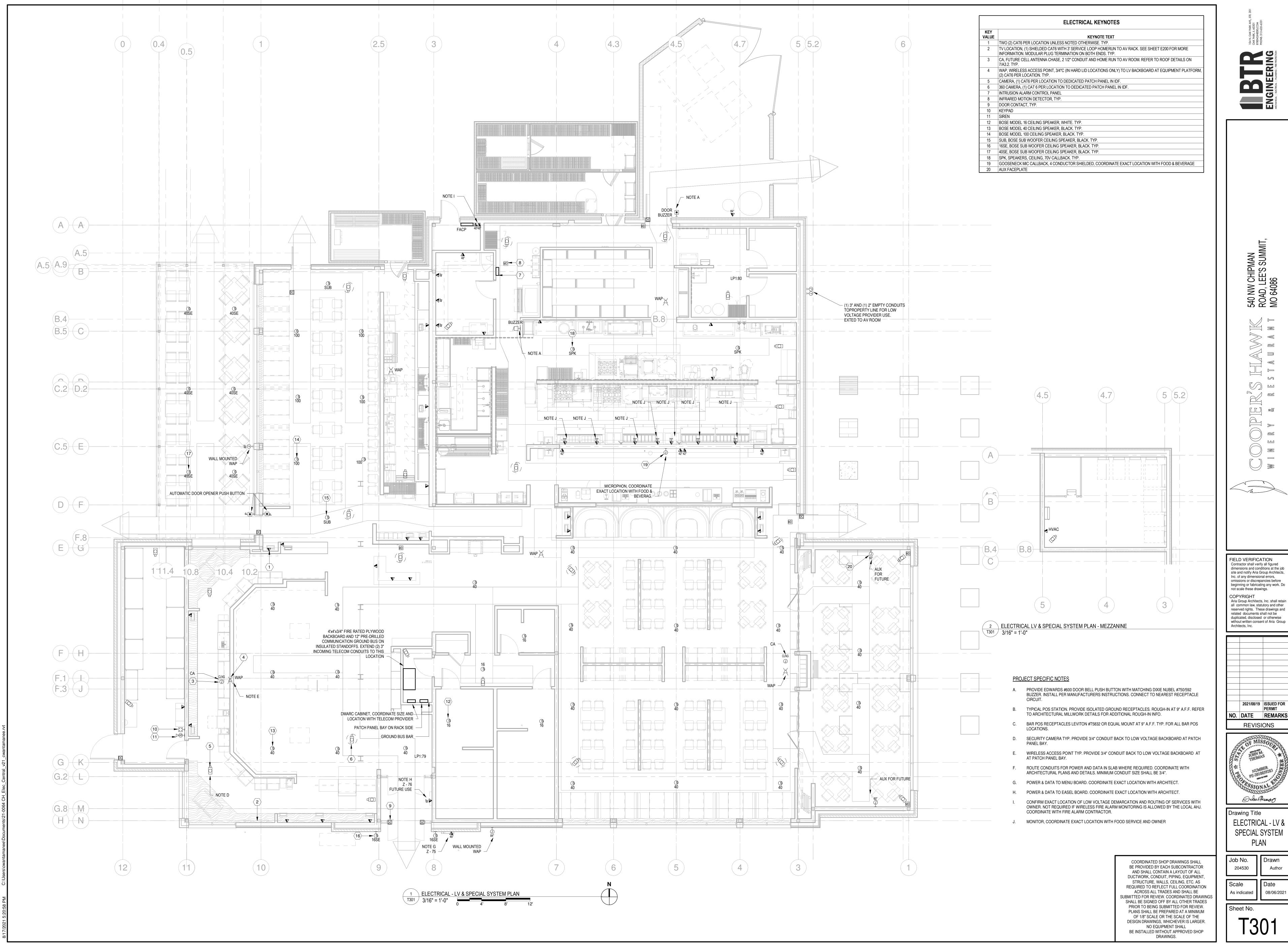


Drawing Title ELECTRICAL - ROOF

PLAN

204530 Scale

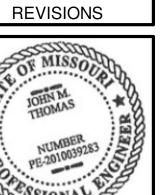
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SPECIAL SYSTEM PLAN

08/06/2021