SPECIFICATIONS

1. DEFINITION: THE WORD "PROVIDE" MEANS FURNISH, INSTALL, FEED AND CONNECT WITH ALL ACCESSORIES AND ANCILLARY EQUIPMENT FOR A COMPLETE AND OPERABLE INSTALLATION.

2. CODES: ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL ADOPTED APPLICABLE CODES AND ORDINANCES.

3. COMPLETE INSTALLATION: PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, ACCESSORIES, ETC., NECESSARY TO ACCOMPLISH A COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.

4. GROUNDING: TEST EXISTING SERVICE NEUTRAL FOR ADEQUACY AND FOR GROUND CONTINUITY. GROUND ALL EQUIPMENT AND SYSTEM NEUTRAL IN ACCORDANCE WITH ARTICLE 250 OF THE NEC. PROVIDE CODE-SIZED EQUIPMENT GROUNDING CONDUCTOR IN ALL FEEDERS AND BRANCH CIRCUIT RACEWAYS. WHERE ISOLATED GROUNDS ARE INDICATED, PROVIDE INSULATED CONDUCTOR.

5. CIRCUITING: ALL WIRING SHALL BE IN CONDUIT, CONCEALED EXCEPT WHERE NOTED. EMT WITH DIE CAST SET SCREW FITTINGS MAY BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM -24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE TRANSITIONS AND STUB-UPS. RGS OR IMC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. METAL-CLAD CABLE (TYPE MC) MAY BE USED WHERE ALLOWED BY CODE AND LOCAL AUTHORITIES HAVING JURISDICTION (ALL HOMERUNS SHALL BE IN CONDUIT) AND INSTALLED PER NEC ARTICLE 330. TYPE ENT RACEWAY IS NOT ALLOWED. CONNECT RECESSED AND SUSPENDED LIGHT FIXTURES, MOTORIZED AND VIBRATING EQUIPMENT WITH STEEL FLEX OR SEALTITE CONDUIT. ALL CONDUIT SHALL HAVE A PULL CORD IF OTHERWISE EMPTY.

6. WIRING: WIRE SHALL BE COPPER UNLESS OTHERWISE NOTED, STRANDED IN SIZES #8 AWG AND LARGER. WHERE ALUMINUM IS INDICATED, WIRE SHALL BE COMPACTED-STRAND TYPE WITH JOINT COMPOUND AT TERMINATIONS. INSULATION SHALL BE TYPE 'THW', 'THWN' OR 'THHN' ('XHHW' FOR ALUMINUM). ALUMINUM CONDUCTORS SHALL NOT BE USED IN SIZES SMALLER THAN #1/0 (100A EQUIPMENT FEEDER), AND WHEN USED SHALL BE TERMINATED IN INSULATED COMPRESSION-TYPE CU/AL FITTING ('MAC-ADAPT' OR EQUAL).

7. NEW FUSES AND CIRCUIT BREAKERS: FUSES AND CIRCUIT BREAKERS SHALL BE SIZED PER ACTUAL NAMEPLATE OF EQUIPMENT SERVED. CIRCUIT BREAKERS SHALL BE RATED FOR THEIR RESPECTIVE APPLICATION (i.e., MOTOR CIRCUIT PROTECTOR, GROUND FAULT CIRCUIT INTERRUPTER, ARC FAULT CIRCUIT INTERRUPTER, ETC.). FUSES SHALL BE DUAL-ELEMENT, CURRENT LIMITING, AND SHALL BE INTERCHANGEABLE BETWEEN FRAME SIZES WITH STANDARD FACTORY FUSE REDUCERS. PROVIDE LOCKABLE SPARE FUSE CABINET WITH THREE (3) SPARE FUSES OF EACH SIZE USED.

8. EXISTING CONDITIONS: THE DRAWINGS INDICATE NEW WORK TO BE PERFORMED AND DO NOT PURPORT TO SHOW ALL EXISTING CONDITIONS. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND GAIN FAMILIARITY WITH ALL EXISTING AND PROPOSED CONDITIONS WHICH MAY AFFECT THE COURSE OF THIS WORK. CONTRACTOR SHALL REPORT ALL DISCREPANCIES AND UNACCEPTABLE CONDITIONS TO ENGINEER PRIOR TO BID. NO CHANGE ORDERS WILL BE ALLOWED FOR FAILURE TO COMPLY WITH THIS REQUIREMENT.

9. EXISTING OUTLETS: EXISTING OUTLETS AND CIRCUITING NOT IN CONFLICT WITH NEW CONDITIONS SHALL REMAIN. EXTEND OUTLETS TO NEW SURFACES, CAULK AND PROVIDE JUMBO PLATES AS REQUIRED TO PRESENT A SERVICEABLE AND FINISHED APPEARANCE.

10. EXISTING SWITCHGEAR: REUSE EXISTING SWITCHGEAR AND PANELS IN PLACE WHERE SO INDICATED. MODIFY AS REQUIRED TO ACCOMMODATE NEW REQUIREMENTS. PROVIDE NEW CIRCUIT BREAKERS AND/OR FUSES AS REQUIRED WITH A.I.C. RATING TO MEET OR EXCEED THAT OF EXISTING DEVICES. REARRANGE EXISTING CIRCUITS WITHIN PANELS TO AGREE WITH NEW PANEL SCHEDULES. TRACE AND IDENTIFY ALL EXISTING CIRCUITS ON NEW AS-BUILT PANEL SCHEDULES.

11. NEW EQUIPMENT STANDARDS: ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). LIGHTING FIXTURES SHALL HAVE, AT A MINIMUM, CLASS "P" BALLASTS AND ACRYLIC LENSES. SERVICE EQUIPMENT SHALL BE FACTORY- ASSEMBLED COMMERCIAL GRADE, CONFIGURED PER SERVING UTILITY STANDARDS. PANELBOARDS SHALL HAVE BOLT-ON CIRCUIT BREAKERS. WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH NYLON PLATES, LUTRON 'DECORA' STYLE IN PUBLIC/FRONT OF HOUSE SPACES, COLOR PER ARCHITECT. RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS. REFER TO FOOD SERVICE NOTES (WHERE APPLICABLE TO THIS PROJECT) FOR ADDITIONAL REQUIREMENTS.

12. PERMITS: OBTAIN AND PAY FOR ALL BUILDING AND WORKING PERMITS AND INSPECTION FEES REQUIRED FOR THIS PROJECT.

13. DEMOLITION: PROVIDE COMPLETE ELECTRICAL DEMOLITION. REMOVE EXISTING OUTLETS AND EQUIPMENT IN CONFLICT WITH NEW CONDITIONS. EXISTING CONDUITS REMOVED FROM SERVICE MAY BE ABANDONED IN PLACE IF IN A CONCEALED LOCATION. REMOVE ALL WIRE FROM ABANDONED RACEWAYS. CONTRACTOR SHALL ENSURE CONTINUITY OF EXISTING CIRCUITING PASSING THROUGH DEMOLITION AREAS - EXTEND AND/OR RELOCATE AS NECESSARY. SHIFT OR RELOCATE EXISTING EQUIPMENT AND CIRCUITING AS REQUIRED TO ACCOMMODATE NEW WORK.

14. SALVAGE: ALL EXISTING EQUIPMENT REMOVED DURING THE COURSE OF THIS PROJECT SHALL BE OFFERED TO OWNER FOR SALVAGE. ANY EQUIPMENT SELECTED BY OWNER SHALL BE DELIVERED TO OWNER ON SITE. ALL REMAINING EQUIPMENT BECOMES THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.

15. TEMPORARY CONSTRUCTION POWER: PROVIDE TEMPORARY ELECTRICAL POWER DISTRIBUTION AND LIGHTING AS REQUIRED FOR ALL TRADES REQUIRING SERVICE DURING THE COURSE OF THIS PROJECT IN COMPLIANCE WITH ALL NEC AND OSHA REQUIREMENTS. (ENERGY COSTS BY OTHERS.)

16. LOCATIONS: INDICATED LOCATIONS OF ALL OUTLETS AND EQUIPMENT ARE SUBJECT TO CHANGE. SHIFT/RELOCATE/RECONFIGURE ANY OUTLET, EQUIPMENT OR CONNECTION POINT UP TO 10' AS DIRECTED BY ENGINEER AND/OR ARCHITECT AT NO ADDED COST.

17. MATCH EXISTING: EXISTING EQUIPMENT AND SYSTEMS SHALL BE CONSIDERED A MINIMUM STANDARD TO BE MET, IF NOT OTHERWISE EXCEEDED BY THESE PLANS AND SPECIFICATIONS. NEW MATERIALS AND EQUIPMENT SHALL MATCH EXISTING IN APPEARANCE AND FUNCTION.

18. SUBMITTALS: SUBMIT EIGHT (8) HARD COPIES OR ONE (1) ELECTRONIC COPY OF FACTORY SHOP DRAWINGS FOR ALL NEW LIGHTING FIXTURES, SWITCHGEAR, PANELS, MOTOR CONTROL, WIRING DEVICES, ETC. PROPOSED FOR THIS PROJECT. PROPOSED SUBSTITUTIONS SHALL BE EQUAL OR SUPERIOR TO SPECIFIED ITEMS IN ALL ASPECTS - PROVIDE COMPLETE DOCUMENTATION FOR REVIEW AND APPROVAL. DETERMINATION OF EQUALITY RESTS SOLELY WITH ENGINEER.

19. FIRE STOPPING: ALL PENETRATED FIRE RATED SURFACES SHALL BE FIRE SEALED WITH APPROVED U.L. LISTED FIRE STOPPING MATERIALS AS LISTED WITHIN ARCHITECTURAL SPECIFICATIONS. DO NOT EXCEED MAXIMUM ALLOWABLE SURFACE PENETRATIONS DEPENDENT ON RATING OF SURFACES. REFER TO ARCHITECTURAL DRAWINGS FOR DETERMINATION OF PENETRATION LOCATIONS THROUGH FIRE RATED ASSEMBLIES.

20. GUARANTEE: THE COMPLETE ELECTRICAL SYSTEM, AND ALL PORTIONS THEREOF, SHALL BE GUARANTEED TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. PROMPTLY REMEDY SUCH DEFECTS AND ANY SUBSEQUENT DAMAGE CAUSED BY THE DEFECTS OR REPAIR THERETO AT NO EXPENSE TO THE OWNER. LIGHT BULBS ARE EXEMPT FROM THIS GUARANTEE, BUT SHALL BE NEW AND UNUSED AT TIME OF FINAL ACCEPTANCE.

21. IDENTIFICATION: IDENTIFY ALL EQUIPMENT, SWITCHBOARD CIRCUITS AND ELECTRICALLY- CONNECTED EQUIPMENT WITH ENGRAVED NAMEPLATES. NAMEPLATES SHALL BE FASTENED WITH A MINIMUM OF TWO (2) SCREWS. PANEL DIRECTORIES SHALL BE TYPED.

22. PANELBOARDS: PANELS SHALL HAVE FLUSH MONO-FLAT TRIM, PIANO HINGED DOORS AND COVER (DOOR-IN-DOOR) WITH LOCKABLE MASTER-KEYED FLUSH CATCHES AND BOLT-ON CIRCUIT BREAKERS. FLUSH-MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: ONE (1) 3/4" CONDUIT FOR EACH THREE (3) SPARE/SPACE CIRCUITS. REFER TO PANEL SCHEDULES FOR ADDITIONAL REQUIREMENTS.

23. TAMPERPROOF: ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE DEMONSTRATED TO BE TAMPERPROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PAD LOCKABLE.

24. SUPPORTS AND HANGERS: SUPPORT AND ALIGN ALL RACEWAYS, CABINETS, BOXES, BACKBOXES, FIXTURES, AND EQUIPMENT FROM STRUCTURE. SECURE ALL SUPPORTING METHODS BY MEANS OF TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION BOLTS IN SOLID MASONRY, CONCRETE PRESET INSERTS OR EXPANSION BOLTS IN CONCRETE, MACHINE SCREWS OR BOLTS IN METAL, AND WOOD SCREWS IN WOOD CONSTRUCTION. ALL SUPPORTING SYSTEMS AND COMPONENTS SHALL BE RATED TO MEET OR EXCEED MANUFACTURER'S SPECIFICATIONS FOR INTENDED USE, AND SHALL BE INSTALLED ACCORDINGLY.

25. ELECTRICAL ROOM CODE COMPLIANCE: DUE TO THE DIAGRAMMATIC NATURE OF THE DESIGN DOCUMENTS (ELECTRICAL, MECHANICAL, PLUMBING, FIRE SPRINKLER, ETC.), IT SHALL BE THIS CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH ALL OTHER SUBCONTRACTORS AT THE START OF THIS PROJECT TO INFORM AND VERIFY THAT NO FOREIGN SYSTEMS OR EQUIPMENT PASS THROUGH THE DESIGNATED ELECTRICAL ROOMS AND THAT A MINIMUM OF 7'-0" IS PROVIDED AS CLEAR HEADROOM ALONG ACCESS PATHS TO ALL ELECTRICAL ROOMS. ANY REROUTING OR RELOCATION OF SYSTEMS THAT A SUBCONTRACTOR FEELS WILL COMPROMISE THE INITIAL DESIGN INTENT SHALL BE DESCRIBED IN WRITING AND FORWARDED TO THE DESIGN ENGINEER FOR FURTHER REVIEW. ALL PIPING TO HVAC UNITS THAT COOL ELECTRICAL ROOMS SHALL BE LOCATED ABOVE THE ENTRY DOORS WHENEVER POSSIBLE. THE SPRINKLER PIPING TO PROVIDE PROTECTION FOR THE ELECTRICAL ROOM IS PREFERRED TO ENTER THE ROOM ABOVE THE ENTRY DOOR AND RUN DOWN THE AISLE SPACES OF THE ROOM. ALL INSTALLATIONS SHALL BE FULLY COORDINATED AMONGST ALL TRADES.

26. ELECTRICALLY-OPERATED EQUIPMENT-FEEDERS AND OVERCURRENT DEVICES COORDINATION: FEEDERS AND OVERCURRENT DEVICES (INCLUDING STARTERS, DISCONNECTS, ETC.) HAVE BEEN DESIGNED BASED ON INFORMATION PROVIDED BY THE RESPONSIBLE CONSULTANT AND/OR DESIGNATED SUPPLIER. PRIOR TO ROUGH-IN, COORDINATE WITH THE APPROPRIATE TRADE AND/OR INSTALLER TO DETERMINE THAT THE ACTUAL NAMEPLATE ELECTRICAL REQUIREMENTS MATCH THIS DESIGN. ALL COST REDUCTION, VALUE ENGINEERING, SUBSTITUTION PROPOSALS, ETC. CONCERNING ELECTRICALLY-POWERED EQUIPMENT AND SYSTEMS WHICH IMPACT THE ELECTRICAL SYSTEMS OF THIS PROJECT SHALL INCLUDE ALL ELECTRICAL COSTS AND/OR CREDITS ASSOCIATED WITH SUCH PROPOSALS AND SHALL BE COORDINATED AMONGST THE GENERAL CONTRACTOR AND ALL AFFECTED TRADES PRIOR TO SUBMISSION FOR REVIEW.

27. COORDINATION: THIS PROJECT REQUIRES A HIGH LEVEL OF COORDINATION AND COOPERATION WITH OWNER, ARCHITECT, OTHER TRADES, VENDORS AND SPECIALTY CONTRACTORS. THIS CONTRACTOR SHALL OBTAIN AND STUDY SHOP DRAWINGS OF ALL ELECTRICALLY-CONNECTED EQUIPMENT AND SHALL ADJUST POINTS OF CONNECTION, LOCATIONS AND MOUNTING HEIGHTS AS NECESSARY PRIOR TO ROUGH-IN.

28. BIDDING: THE CIVIL, ARCHITECTURAL, MECHANICAL, PLUMBING, KITCHEN AND/OR INTERIOR DRAWINGS MAY CONTAIN DETAILED DESCRIPTIONS, CIRCUITING AND CONNECTION REQUIREMENTS WHICH MAY BE PART OF DIVISION 26 RESPONSIBILITIES. THIS CONTRACTOR SHALL NOT SUBMIT BIDS ON THIS PROJECT BEFORE REVIEWING ALL PROJECT DRAWINGS, SPECIFICATIONS, AND ADDENDA.

29. FIRE ALARM: EXISTING FIRE ALARM SYSTEM TO REMAIN. MAINTAIN IN CONSTANT OPERATION DURING THIS PROJECT. NEW COMPONENTS AND CIRCUITING SHALL BE FACTORY CERTIFIED AS BEING PROJECT-SPECIFIC COMPATIBLE WITH EXISTING SYSTEM. ALL CONNECTIONS TO EXISTING SYSTEM SHALL BE PERFORMED BY FACTORY CERTIFIED TECHNICIAN AND SHALL BE ACCEPTED BY OWNER'S SYSTEM MONITORING AGENCY. THE CONTRACTOR SHALL PROVIDE A COMPLETE FIRE ALARM SYSTEM AND SHALL BE IN FULL ACCORDANCE WITH LOCAL, STATE AND ADA REQUIREMENTS. THESE DOCUMENTS DO NOT INDICATE DEVICES, OUTLETS, CONNECTIONS, AND CIRCUITRY NECESSARY FOR A COMPLETE FIRE ALARM SYSTEM. OBTAIN FIRE MARSHAL APPROVED SHOP DRAWINGS PRIOR TO COMMENCEMENT OF ROUGH-IN. PROVIDE COMPLETE SYSTEM TESTING UPON COMPLETION OF INSTALLATION AND PRIOR TO FIELD ACCEPTANCE BY OWNER.

30. ADDITIONAL SYSTEMS AND EQUIPMENT CONNECTIONS: IN ADDITION TO EQUIPMENT POWER FEEDERS AND CONNECTIONS INDICATED ON THE ELECTRICAL DRAWINGS, PROVIDE 120V CONTROL POWER CONNECTIONS TO SMOKE/FIRE DAMPERS, VAV BOXES, TEMPERATURE CONTROL AND FIRE ALARM PANELS, DOOR HOLDING/LATCHING DEVICES, ETC. AS INDICATED IN THE PROJECT DRAWINGS AND SPECIFICATIONS AS WELL AS ALL DESIGN-BUILD SYSTEM DRAWINGS.

ITEM	POWER SOURCE	NO. PER 20A CIRCUIT	PROVIDE SMOKE DETECTORS
FIRE/SMOKE DAMPER	EMERGENCY	10	YES
VAV TERMINAL (NO FAN)	NORMAL (VERIFY)	10	NO
TEMPERATURE CONTROL PANEL	EMERGENCY (VERIFY)	1	NO
FIRE ALARM CONTROL PANEL	EMERGENCY	1	NO
DOOR HOLDING/LATCHING DEVICES	EMERGENCY	10	NO

31. HOURS OF OPERATION: CONDUCT WORK TO MINIMIZE DISRUPTION OF OWNER'S ONGOING BUSINESS OPERATIONS. PROVIDE BARRICADES, NOISE ABATEMENT AND DUST CONTAINMENT MEASURES TO ENSURE THE SAFETY AND COMFORT OF PATRONS, STAFF AND WORKERS. INTERRUPTIONS OF EXISTING POWER, COMMUNICATIONS OR FIRE ALARM SYSTEMS SHALL BE PERFORMED ONLY AT SUCH TIMES AS DIRECTED BY RESIDENT ENGINEER. OUTAGES SHALL BE MOMENTARY IN NATURE, EACH SUCH OUTAGE (OR OPERATION WHICH MAY POSE RISK OF AN ACCIDENTAL OUTAGE) SHALL BE SCHEDULED A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE.

ELECTRICAL SYMBOL LIST

NOTE: THIS IS A MASTER SCHEDULE. NOT ALL SYMBOLS AND/OR ABBREVIATIONS CONTAINED HEREIN MAY APPEAR ON THE DRAWINGS.

- FLUORESCENT FIXTURE - RECESSED, LAY-IN
- FLUORESCENT FIXTURE - RECESSED, FLANGED
- FLUORESCENT FIXTURE - SURFACE
- FLUORESCENT FIXTURE - SUSPENDED
- FLUORESCENT FIXTURE - OPEN STRIP WITH WIRE GUARD
- FLUORESCENT FIXTURE - WALL MOUNTED
- INCANDESCENT, H.I.D. OR MINI-FLUORESCENT - SURFACE OR RECESSED, PER FIXTURE SCHEDULE
- INCANDESCENT, H.I.D. OR MINI-FLUORESCENT - WALL BRACKET
- INCANDESCENT, H.I.D. OR MINI-FLUORESCENT - WALL WASH
- LOW VOLTAGE INCANDESCENT FIXTURE
- CHANDELIER (PROVIDE 5X STRUCTURAL BACKING)
- FAN (PROVIDE 5X STRUCTURAL BACKING)
- SPOTLIGHT - J-BOX OR TRACK MOUNTED - TRACK LENGTH AS INDICATED
- STEP LIGHT - SURFACE OR RECESSED, PER FIXTURE SCHEDULE
- BOLLARD
- POLE OR POST - ARM OR TOP MOUNTED CUT-OFF LUMINAIRE
- TWIN-LAMP BATTERY PACK - UNSWITCHED, WALL MOUNTED (LOCATE 12" BELOW CEILING U.O.N.)
- TWIN-LAMP BATTERY PACK - UNSWITCHED, CEILING MOUNTED, FLUSH OR SURFACE PER FIXTURE SCHEDULE
- EXIT LIGHT - FACES AND ARROWS AS INDICATED, UNIVERSAL MOUNTING, UNSWITCHED
- EXIT LIGHT - COMBINATION SINGLE FACE. ARROWS AS INDICATED WITH TWIN LAMP BATTERY PACK, UNIVERSAL MOUNTING, UNSWITCHED.
- EXIT LIGHT - LOW LEVEL: 6" - 8" A.F.F. TO BOTTOM, 4" MAX. OFF DOOR FRAME
- LV — LOW VOLTAGE — LED — LED
- N — NEON
- S^X ETC. — FIXTURE, EQUIPMENT ON EMERGENCY
- S^X, S^2 — SWITCHES AT +48" TO TOP UON (PER ADA)
- S — SWITCH - SINGLE POLE
- S^2 — SWITCH - DOUBLE POLE
- S^3 — SWITCH - THREE WAY
- S^4 — SWITCH - FOUR WAY
- M — SWITCH - OCCUPANCY TYPE
- M — SWITCH - OCCUPANCY TYPE, CEILING MOUNTED
- S^X — SWITCH - EMERGENCY
- S^P — SWITCH - PILOT TOGGLE (CONFIRM LIGHTED POSITION)
- S^K — SWITCH - KEYED OPERATED
- D — SWITCH - SLIDER TYPE ELECTRONIC DIMMER (WATTAGE RATING AS REQUIRED)
- S^MC — SWITCH - MOMENTARY CONTACT: SPDT CENTER OFF UON
- S^M — MANUAL MOTOR STARTER - POLES AND HEATERS AS REQUIRED
- PE — PHOTOELECTRIC SWITCH - 1500 VA UON
- SIGNAGE OUTLET CONNECTION
- DEVICES AT +18" TO CENTER LINE UON (PER ADA)
- ETC. — DEVICES MOUNTED IN MULTIPLE UNDER COMMON COVER MAXIMUM HEIGHT ON WALLS = +48" TO TOP UON (PER ADA)
- DEVICES MOUNTED IN OR ABOVE BACKSPLASH MAXIMUM HEIGHT ON WALLS = +48" TO TOP UON (PER ADA)
- DEVICES IN MULTI-COMPARTMENT FLUSH FLOOR MOUNTED UON
- RECEPTACLE - DUPLEX
- RECEPTACLE - DUPLEX - HALF SWITCHED (TOP HALF)
- RECEPTACLE - DUPLEX - INTEGRAL GFCI CIRCUITRY
- RECEPTACLE - DUPLEX - ISOLATED GROUND (ORANGE FACE): NEMA 520R/IG
- RECEPTACLE - DOUBLE DUPLEX
- RECEPTACLE - DOUBLE DUPLEX - INTEGRAL GFCI CIRCUITRY
- RECEPTACLE - SPECIAL TYPE (SEE ADDITIONAL NOTES)
- RECEPTACLE(S) - CEILING MOUNTED
- PLUG MOLD SURFACE RACEWAY SYSTEM (2-CIRCUIT WITH OUTLETS 18" O.C. U.O.N.) MOUNTED ABOVE BACKSPLASH U.O.N.
- TELEPOWER POLE
- SD — SMOKE DETECTOR - LOCAL ONLY, 120V, W/INTEGRAL BATTERY AND ALARM HORN. WALL MOUNT AT 12" BELOW CEILING
- SD — SMOKE DETECTOR - LOCAL ONLY, 120V, W/INTEGRAL BATTERY, STROBE, AND ALARM HORN. WALL MOUNT AT 12" BELOW CEILING
- OUTLET - CLOCK
- OUTLET - TELEPHONE
- OUTLET - VOICE / DATA
- OUTLET - DATA
- OUTLET - TELEVISION
- OUTLET - DOOR BELL/BUZZER
- OUTLET - MICROPHONE
- OUTLET - VOLUME CONTROL (+48" TO TOP UON)
- OUTLET - SPEAKER 8" COAXIAL W/ BACK BOX AND GRILLE
- OUTLET - THERMOSTAT (REF. MECHANICAL DRAWINGS)
- TV / SECURITY CAMERA - FIXED (MOUNTING PER PLANS)
- TV / SECURITY CAMERA - PTZ - PAN, TILT, ZOOM (MOUNTING PER PLANS)

- SWITCHGEAR
- PANELBOARD - SURFACE MOUNTED
- PANELBOARD - FLUSH MOUNTED
- EXISTING / RELOCATED PANELBOARD - SURFACE MOUNTED
- EXISTING / RELOCATED PANELBOARD - FLUSH MOUNTED
- TRANSFORMER
- ENCLOSED CIRCUIT BREAKER
- FIRE ALARM EQUIPMENT
- FMD — COMBINATION FIRE/SMOKE DAMPER
- SD — SMOKE DAMPER
- SHUNT TRIP STATION
- CONTROL STATION AT +48" TO TOP UON (PER ADA)
- RELAY
- CONTACTOR WITH INTEGRAL HOA SELECTOR
- MAGNETIC STARTER, SIZE 1 UON
- DISCONNECT SWITCH: 30/3 UON (F=FUSIBLE (FPEN), N=NONFUSED)
- COMBINATION STARTER & DISCONNECT: SIZE 1 UON
- VFD — VARIABLE FREQUENCY DRIVE
- SINGLE-PHASE MOTOR CONTROL ASSEMBLY: HP-RATED SWITCH AND POWER RELAY-20/1 (U.O.N.)
- PULLBOX - SIZE AND LOCATION AS REQUIRED
- JUNCTION BOX - SIZE PER NEC REQUIREMENTS
- MC / 1 — MECHANICAL EQUIPMENT DESIGNATION
- M — MOTOR OUTLET
- F1 / LED 3 — LIGHTING FIXTURE DESIGNATION: TYPE F1, 120 WATTS QUANTITY = 3
- LOAD C: KVA (A); LOAD D: KVA (A); LOAD S: KVA (A) — C = CONNECTED LOAD; D = DEMAND LOAD; S = STANDBY LOAD — EQUIPMENT LOAD SUMMARY (EXPRESSED IN KVA AND AMPS)
- SHEET NOTE DESIGNATION
- 42 — FEEDER DESIGNATION (SEE FEEDER SCHEDULE)
- CIRCUITING IN WALL OR ABOVE CEILING
- CIRCUITING IN FLOOR OR BELOW GRADE
- TICS = NO. OF #12 WIRES IF MORE THAN TWO; ISOLATED GROUND WIRE
- A-1, E-1, 7 — HOMERUN: (4) #12, 3/4"C. TO PANEL A - CIR. 1,3,5
- STUB-OUT — CIRCUIT DOWN
- COPPER GROUND (SIZE PER PLANS) — CIRCUIT UP
- SO — MOISTURE SEAL-OFF

30/3	30 AMP / 3 POLE (REPRESENTATIVE)
AL	ALUMINUM
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMP INTERRUPTING CURRENT
ATS	AUTOMATIC TRANSFER SWITCH
BKBD	BACKBOARD
C	CONDUIT (WITH PULL CORD IF OTHERWISE EMPTY)
CU	COPPER
(E)	EXISTING TO REMAIN
F	FUSE (DUAL-ELEMENT, TIME DELAY)
FBO	FURNISHED BY OTHERS
FPEN	FUSE PER EQUIPMENT NAMEPLATE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
IG	ISOLATED GROUND
K	KCMIL (300 KCMIL = 300K)
NF	NON-FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
(R)	EXISTING TO BE RELOCATED
RGS	RIGID GALVANIZED STEEL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
UNSW	UNSWITCHED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UON	UNLESS OTHERWISE NOTED
WP	WEATHER PROOF (NEMA 3R)
(X)	EXISTING TO BE REMOVED
XFMR	TRANSFORMER

DRAWING INDEX

SHEET NUMBER	SHEET TITLE	PERMIT ISSUE DATE: 01-08-2018	1	2	3	4
E0.0	SYMBOL LIST AND SCHEDULES	●				
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E0.2	SINGLE LINE DIAGRAM	●				
E0.3	SINGLE LINE DIAGRAM	●				
E1.0	ELECTRICAL OVERVIEW PLAN	●				
E1.1	ENLARGED ELECTRICAL PLAN - 1ST FLOOR	●				
E4.1	ENLARGED SUPPORT YARD - ELECTRICAL PLAN	●				
E4.2	ENLARGED MECHANICAL YARD - ELECTRICAL PLAN	●				
ED5.1	ELECTRICAL ROOF DEMO PLAN	●				
E5.1	ELECTRICAL ROOF PLAN	●				
	TOTAL	10				

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L17268

HARD ROCK CASINO 4 - EXPANSION
CENTRAL PLANT ADDITION
777 WEST CHEROKEE STREET
CATOOSA, OK 74015

ISSUE DATE: 01-08-2018

REVISIONS:

#	DESCRIPTION	DATE

STAMP

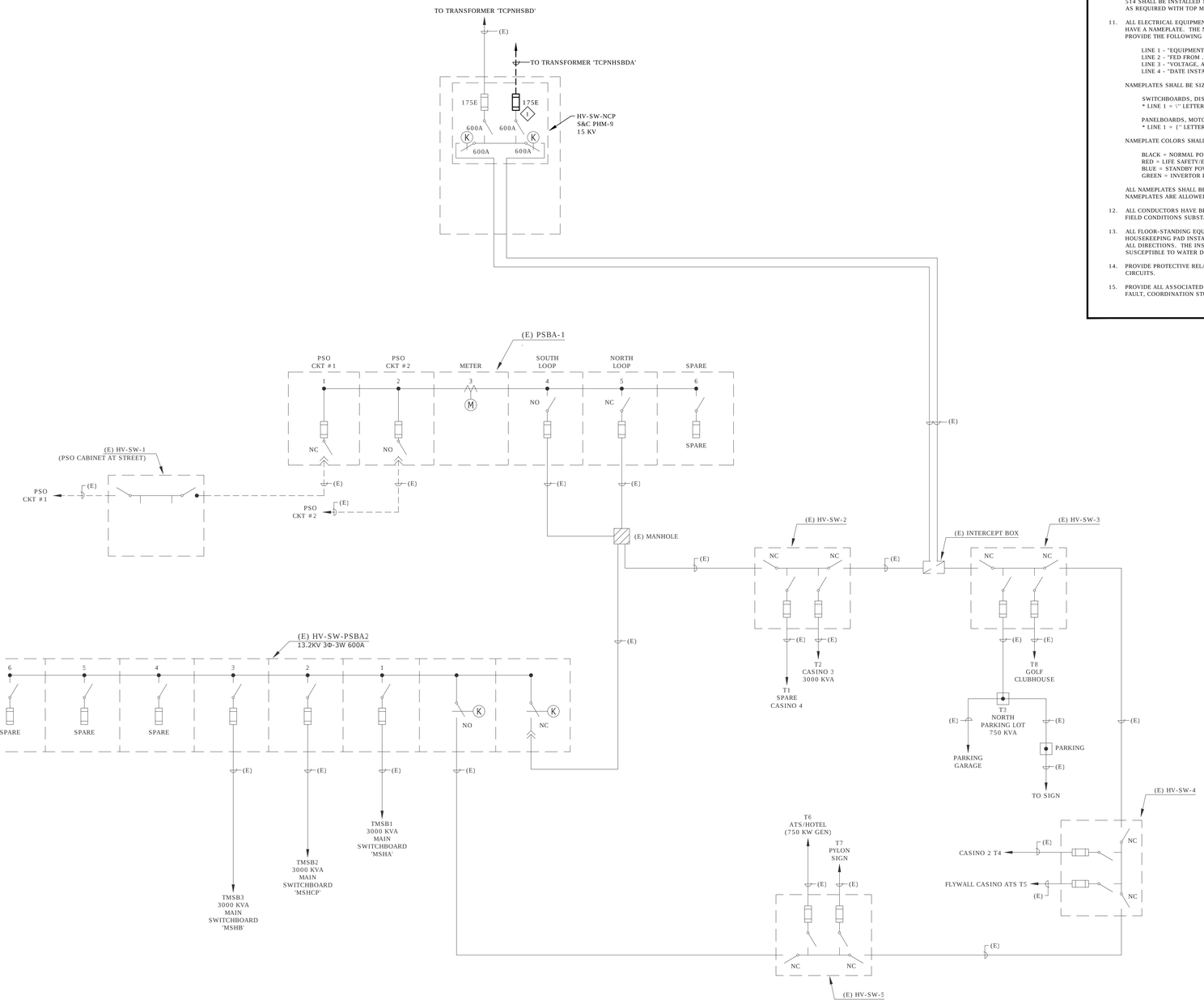
01/08/2018

SHEET TITLE:

SYMBOL LIST AND SCHEDULES

SHEET

E0.0



A E0.1 SINGLE LINE DIAGRAM
NTS

SINGLE-LINE NOTES:

1. ALL SWITCHGEAR, PANELBOARDS, ETC. ARE TO BE UL LISTED FOR THEIR LOCATION AND INTENDED USE. ALL EQUIPMENT SHALL BE BRACED FOR FAULT CURRENT RATINGS ASSOCIATED WITH THEIR VOLTAGE AND LOCATION WITHIN THE SYSTEM.
2. ALL EQUIPMENT, FEEDERS, CIRCUITS, SERVICES, ETC. SHALL BE GROUNDED PER NEC ARTICLE 250.
3. ALL FEEDERS ARE BASED ON COPPER CONDUCTORS AND SHALL CARRY A SEPARATE GROUNDING CONDUCTOR.
4. ALL SWITCHES OR CIRCUIT BREAKERS ARE THREE POLE UNLESS OTHERWISE NOTED.
5. ALL SWITCHBOARDS SHALL BE OF SWITCHBOARD CONSTRUCTION WITH COPPER BUSSING AND ALL SECTIONS SHALL ALIGN IN FRONT. MAIN SWITCHBOARDS SHALL CONTAIN CUSTOMER METERING FOR VOLTAGE, AMPACITY, DEMAND AND PEAK DEMAND PER PHASE.
6. ALL MAIN SWITCHBOARDS SHALL HAVE FACTORY INSTALLED TRANSIENT VOLTAGE SURGE PROTECTION. COORDINATE WITH LOCAL UTILITY COMPANY.
7. ALL DISTRIBUTION BOARDS SHALL BE OF SWITCHBOARD CONSTRUCTION WITH COPPER BUSSING AND ALL SECTIONS SHALL ALIGN IN FRONT.
8. ALL DISTRIBUTION PANELBOARDS SHALL BE OF QMR/CCB CONSTRUCTION WITH COPPER BUSSING WITH A DEPTH OF LESS THAN 14" AND ALL SECTIONS SHALL ALIGN IN FRONT.
9. PANELBOARDS SHALL HAVE FLUSH MONO-FLAT TRIM, PIANO HINGED DOORS AND COVER (DOOR-IN-DOOR) WITH LOCKABLE MASTER-KEYED FLUSH CATCHES AND BOLT-ON CIRCUIT BREAKERS. FLUSH MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: (1) 1" CONDUIT FOR EACH (4) SPARE/SPACE CIRCUITS.
10. ALL PANELBOARDS INSTALLED IN GARAGES OR AREAS COMPLYING WITH NEC ARTICLE 500, 511, AND/OR 514 SHALL BE INSTALLED 18" ABOVE FLOOR LINE TO BOTTOM OF PANEL AND SHALL BE IN MULTIPLE PANELS AS REQUIRED WITH TOP MOST BREAKER NO HIGHER THAN 6'-7" A.F.F. PER NEC ARTICLE 404.
11. ALL ELECTRICAL EQUIPMENT (i.e. SWITCHBOARDS, PANELBOARDS, DISCONNECTS, STARTERS, ETC.) SHALL HAVE A NAMEPLATE. THE NAMEPLATE SHALL BE PHENOLIC WITH ENGRAVED WHITE LETTERS AND SHALL PROVIDE THE FOLLOWING INFORMATION:

    LINE 1 - "EQUIPMENT NAME"
    LINE 2 - "FED FROM . . ."
    LINE 3 - "VOLTAGE, AMPACITY, PHASE"
    LINE 4 - "DATE INSTALLED"

    NAMEPLATES SHALL BE SIZED BASED ON THE FOLLOWING:

    SWITCHBOARDS, DISTRIBUTION BOARDS, TRANSFORMERS:
    * LINE 1 = \" LETTERS, LINES 2, 3, & 4 = |" LETTERS

    PANELBOARDS, MOTOR CONTROL CENTERS, DISCONNECTS, STARTERS, ETC:
    * LINE 1 = {" LETTERS, LINES 2, 3, & 4 = |" LETTERS

    NAMEPLATE COLORS SHALL BE AS FOLLOWS:

    BLACK = NORMAL POWER
    RED = LIFE SAFETY/EMERGENCY POWER
    BLUE = STANDBY POWER
    GREEN = INVERTOR POWER

    ALL NAMEPLATES SHALL BE FASTENED WITH A MINIMUM OF TWO (2) SCREWS. NO SELF ADHESIVE NAMEPLATES ARE ALLOWED.
12. ALL CONDUCTORS HAVE BEEN REVIEWED FOR VOLTAGE DROP. CONTRACTOR IS TO NOTIFY ENGINEER IF FIELD CONDITIONS SUBSTANTIALLY INCREASE CONDUCTOR LENGTH.
13. ALL FLOOR-STANDING EQUIPMENT LOCATED AT GRADE OR BELOW SHALL HAVE A MINIMUM 4" HIGH HOUSEKEEPING PAD INSTALLED UNDER THEM. PAD SHALL EXTEND 4" BEYOND EQUIPMENT FOOTPRINT IN ALL DIRECTIONS. THE INSTALLATION OF A PAD SHALL ALSO APPLY TO EQUIPMENT THAT MIGHT BE SUSCEPTIBLE TO WATER DAMAGE THAT IS LOCATED IN AREAS OTHER THAN AT GRADE.
14. PROVIDE PROTECTIVE RELAYS FOR PHASE FAILURE AND UNDERVOLTAGE FOR ALL MOTOR-RELATED CIRCUITS.
15. PROVIDE ALL ASSOCIATED COSTS FOR THIRD PARTY TESTING FOR ALL EQUIPMENT, CONDUCTORS, GROUND FAULT, COORDINATION STUDY, ETC.

GENERAL NOTES:

1. MINIMUM EQUIPMENT A.I.C. RATINGS ARE 14K A.I.C. @ 480/277V AND 10K A.I.C. @ 208/120V UNLESS OTHERWISE NOTED.
2. THE DESIGN PROFESSIONAL HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE A.I.C. RATINGS INDICATED FOR EACH DEVICE ARE ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.
3. THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS AND FEEDERS PER 2005 NATIONAL ELECTRICAL CODE ARTICLE 210.19(A)(1), FPN NO. 4.
4. PANELBOARD LOAD SUMMARIES INCLUDE ADDITIONAL 25% OF ALL CONTINUOUS AND LARGEST MOTOR LOADS WHERE APPLICABLE.

SHEET NOTES:

1. FURNISH AND INSTALL NEW S&C FUSE TYPE SML-20 OR APPROVED EQUIVILANT.

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HARD ROCK CASINO 4 - EXPANSION
CENTRAL PLANT ADDITION
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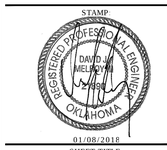


01/08/2018

SHEET TITLE:

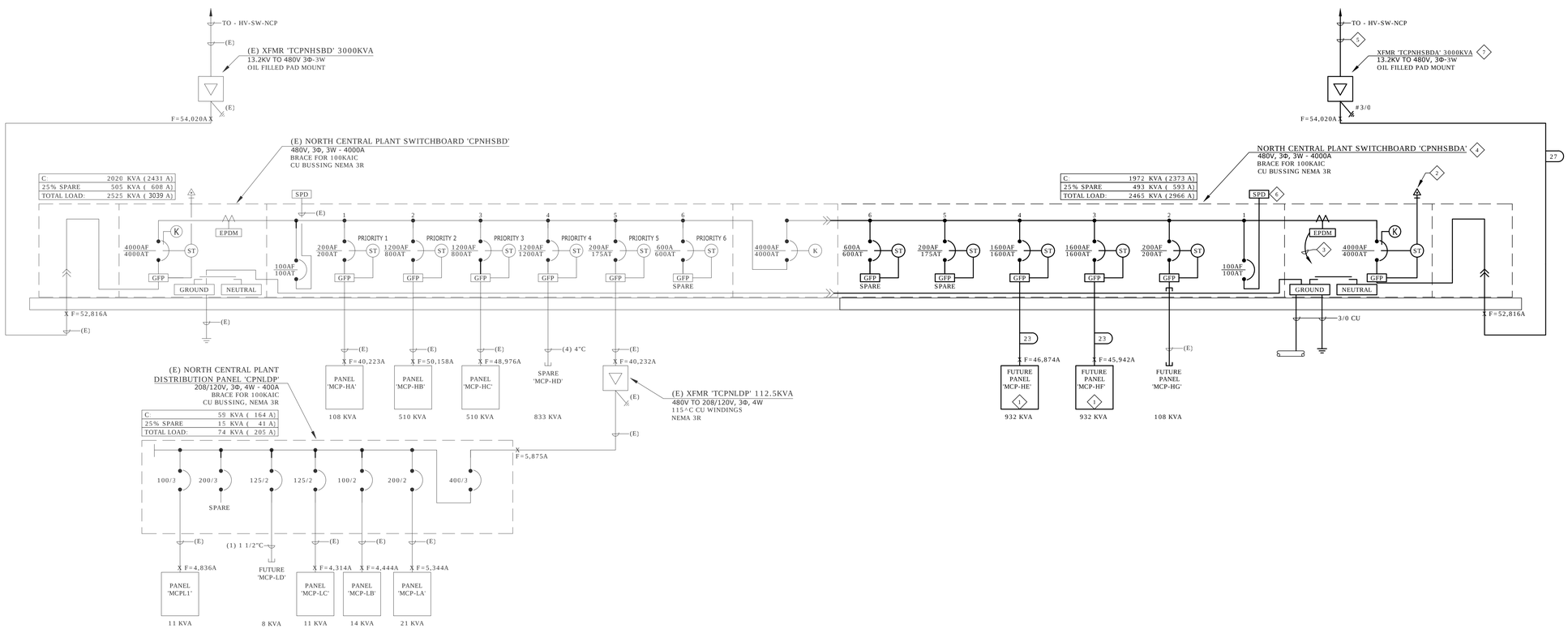
SINGLE LINE DIAGRAM

SHEET

E0.1

FEEDER SCHEDULE

FEEDER	AMPERE	CONDUIT AND WIRE (COPPER) THWN, 3~, 3W.	GROUND	FEEDER	AMPERE	CONDUIT AND WIRE (COPPER) THWN, 3~, 4W.	GROUND
1	20	1/2" - 3 - #12	#12	31	20	1/2" - 4 - #12	#12
2	30	1/2" - 3 - #10	#10	32	30	3/4" - 4 - #10	#10
3	40	3/4" - 3 - #8	#10	33	40	1" - 4 - #8	#10
4	50	1" - 3 - #6	#10	34	50	1 1/4" - 4 - #6	#10
5	60	1" - 3 - #6	#10	35	60	1 1/4" - 4 - #6	#10
6	70	1 1/4" - 3 - #4	#8	36	70	1 1/4" - 4 - #4	#8
7	80	1 1/4" - 3 - #4	#8	37	80	1 1/4" - 4 - #4	#8
8	100	1 1/4" - 3 - #2	#8	38	100	1 1/2" - 4 - #2	#8
9	125	1 1/2" - 3 - #1	#6	39	125	1 1/2" - 4 - #1	#6
10	150	1 1/2" - 3 - #1/0	#6	40	150	2" - 4 - #1/0	#6
11	175	2" - 3 - #2/0	#6	41	175	2" - 4 - #2/0	#6
12	200	2" - 3 - #3/0	#6	42	200	2" - 4 - #3/0	#6
13	225	2" - 3 - #4/0	#4	43	225	2 1/2" - 4 - #4/0	#4
14	250	3" - 3 - #250 K	#4	44	250	3" - 4 - #250 K	#4
15	300	4" - 3 - #350 K	#4	45	300	4" - 4 - #350 K	#4
16	350	4" - 3 - #500 K	#2	46	350	4" - 4 - #500 K	#2
17	400	4" - 3 - #500 K	#2	47	400	4" - 4 - #500 K	#2
18	500	(2) 3" - 6 - #250 K	(2) #2	48	500	(2) 3" - 8 - #250 K	(2) #2
19	600	(2) 4" - 6 - #350 K	(2) #1	49	600	(2) 4" - 8 - #350 K	(2) #1
20	800	(2) 4" - 6 - #500 K	(2) #1/0	50	800	(2) 4" - 8 - #500 K	(2) #1/0
21	1000	(4) 4" - 12 - #250 K	(4) #2/0	51	1000	(4) 4" - 16 - #250 K	(4) #2/0
22	1200	(4) 4" - 12 - #350 K	(4) #3/0	52	1200	(4) 4" - 16 - #350 K	(4) #3/0
23	1600	(5) 4" - 15 - #500 K	(5) #4/0	53	1600	(5) 4" - 20 - #500 K	(5) #4/0
24	2000	(6) 4" - 18 - #500 K	(6) #250 K	54	2000	(6) 4" - 24 - #500 K	(6) #250 K
25	2500	(7) 4" - 21 - #500 K	(7) #350 K	55	2500	(7) 4" - 28 - #500 K	(7) #350 K
26	3000	(8) 4" - 24 - #500 K	(8) #400 K	56	3000	(8) 4" - 32 - #500 K	(8) #400 K
27	4000	(11) 4" - 33 - #500 K	(11) #500 K	57	4000	(11) 4" - 44 - #500 K	(11) #500 K



A
E0.2
SINGLE LINE DIAGRAM
NTS

GENERAL NOTES:

1. SEE SHEET E0.1 FOR SINGLE LINE NOTES.

SHEET NOTES:

1. PANEL FURNISHED AND INSTALLED BY OTHERS AS PART OF PRE-MANUFACTURED CENTRAL PLANT.
2. LOCATE AT EXISTING FIRE COMMAND CENTER.
3. 1" CONDUIT TO LOW VOLTAGE PULLBOX.
4. PROVIDE AS LINE ITEM COST FACTORY INSTALLED SWITCHBOARD SPACE HEATERS FOR EACH CUBICLE. INCLUDE ALL REQUIRED POWER SOURCES AND OVER-CURRENT PROTECTION. PROVIDE ADJUSTABLE THERMOSTAT AND INDICATOR LIGHT ON DOOR OF EACH CUBICLE.
5. 6"C- 3#2/0 TYPE MV105 133% 15 KV CABLE.
6. PROVIDE SURGE PROTECTIVE DEVICE TO PROVIDE 160K PER PHASE PROTECTION. MOUNT IN WEATHERPROOF ENCLOSURE.
7. FURNISH NEW TRANSFORMER OF MATCHING MANUFACTURE AS INSTALLED AT SOUTH CENTRAL PLANT TO MAINTAIN MANUFACTURE CONSISTENCY ON PROPERTY.

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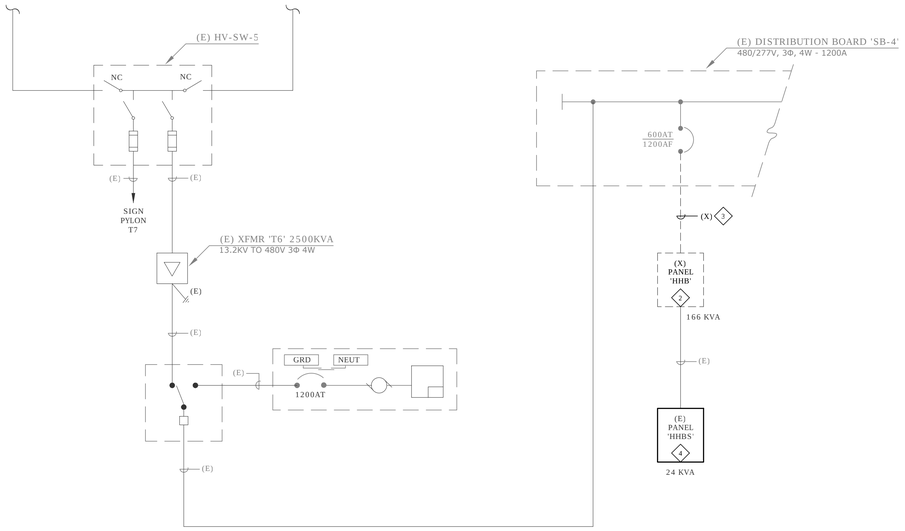
SHEET TITLE:

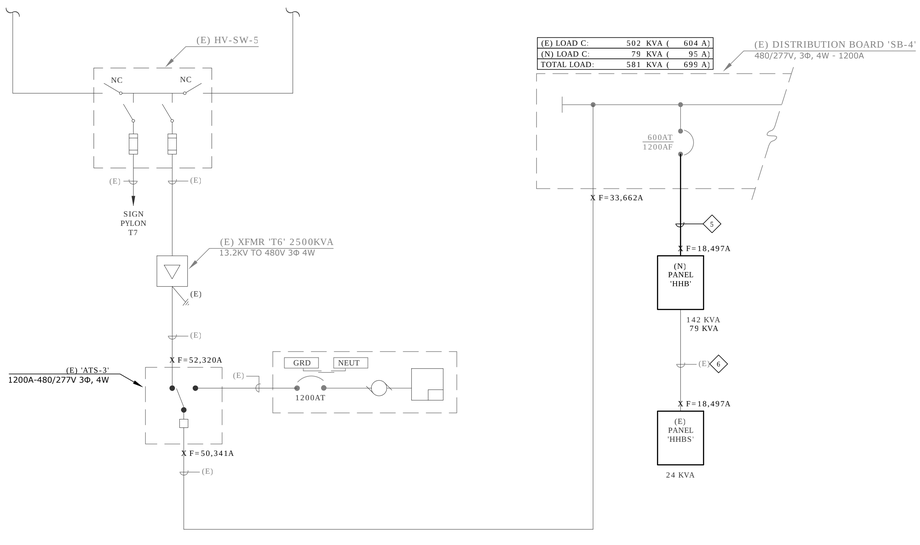
SINGLE LINE DIAGRAM

SHEET

E0.2



A E0.3 SINGLE LINE DIAGRAM - CASINO - DEMOLITION
NTS



B E0.3 SINGLE LINE DIAGRAM - CASINO - NEW WORK
NTS

GENERAL NOTES:

1. A COORDINATION STUDY SHALL BE PROVIDED AS PART OF THE SWITCHBOARD AND PANELBOARD SUBMITTAL PACKAGE. THIS STUDY SHALL INCLUDE A SINGLE LINE DIAGRAM, PROTECTIVE DEVICE COORDINATION STUDY, AND TIME CURRENT CURVES ILLUSTRATING COORDINATION. THE STUDY SHALL BE GENERATED UTILIZING COMPUTER SOFTWARE (SKM POWER TOOLS OR APPROVED EQUAL), AND SHALL BE SEALED AND SIGNED BY A LICENSED PROFESSIONAL ENGINEER.
2. AN ARC FLASH ANALYSIS SHALL BE PROVIDED IN COMPLIANCE WITH NFPA 70E, BASED ON THE SINGLE LINE DIAGRAM AND APPROVED EQUIPMENT MANUFACTURER USED AS THE BASIS OF DESIGN. THIS ANALYSIS SHALL BE SEALED AND SIGNED BY A LICENSED PROFESSIONAL ENGINEER. EQUIPMENT SHALL BE CLEARLY AND UNIQUELY IDENTIFIED AND INCLUDE VOLTAGE AND RATINGS. CONTRACTOR SHALL ACQUIRE UTILITY INFORMATION FROM THE SERVING UTILITY COMPANY. RECOMMENDATIONS SHALL BE INCLUDED FOR ADJUSTABLE CIRCUIT BREAKER SETTINGS. LABELING SHALL BE PROVIDED FOR ALL ELECTRICAL PANELS AND SWITCHBOARDS, IDENTIFYING THE SAFE APPROACH BOUNDARY (NO GREATER THAN LEVEL 3) AS WELL AS THE REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR ACCESSING EACH PANEL OR SWITCHBOARD.
3. MINIMUM EQUIPMENT A.I.C. RATINGS ARE 14K A.I.C. @ 480/277V AND 10K A.I.C. @ 208/120V UNLESS OTHERWISE NOTED.
4. THE DESIGN PROFESSIONAL HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE A.I.C. RATINGS INDICATED FOR EACH DEVICE ARE ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.
5. THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS AND FEEDERS PER 2011 NATIONAL ELECTRICAL CODE ARTICLE 210.19(A)(1), FPN NO. 4.
6. PANELBOARD LOAD SUMMARIES INCLUDE ADDITIONAL 25% OF ALL CONTINUOUS AND LARGEST MOTOR LOADS WHERE APPLICABLE.

SHEET NOTES:

1. CIRCUITS WITH AN (X) DESIGNATION TO BE DEMOLISHED. CIRCUITS WITH AN (R) DESIGNATION TO BE RELOCATED TO NEW PANEL 'HHB'.
2. EXISTING 400A PANEL TO BE REMOVED.
3. EXISTING FEEDER TO BE REMOVED.
4. EXISTING PANEL TO REMAIN.
5. (2) 4"C - 8#350KCMIL & 2#1 GND. CU THHN/THWN.
6. RECONNECT EXISTING FEED FROM PANEL 'HHB' TO PANEL 'HHBS'
7. EXISTING CIRCUITS TO BE RECONNECTED TO NEW PANEL. PROVIDE JUNCTION BOXES, CONDUIT, CONDUCTORS, ETC. AS REQUIRED TO EXTEND EXISTING CIRCUITS TO NEW PANEL.
8. EXISTING CIRCUITS TO BE REMOVED THIS SHALL INCLUDE BUT NOT LIMITED TO CONNECTIONS TO EQUIPMENT SERVED.

NEMA RATING: 1

TYPE	DESCRIPTION	LOAD	BREAKER	CKT	CKT	BREAKER	LOAD	DESCRIPTION	TYPE
			25	1	2	25			
(R)	EXISTING LOAD			3	4			EXISTING LOAD	(R)
			3	5	6	3			
			25	7	8	25			
(R)	EXISTING LOAD			9	10			EXISTING LOAD	(R)
			3	11	12	3			
	SPACE			13	14	25			
	SPARE		20	15	16			EXISTING LOAD	(R)
			2	17	18	3			
			30	19	20	25			
(R)	EXISTING LOAD			21	22			EXISTING LOAD	(X) 8
			3	23	24	3			
			30	25	26	30			
(R)	EXISTING LOAD			27	28			EXISTING LOAD	(X)
			3	29	30	3			
			30	31	32	30			
(R)	EXISTING LOAD			33	34			EXISTING LOAD	(X)
			3	35	36	3			
			15	37	38	20/1		EXISTING LOAD	(R)
(R)	EXISTING LOAD			39	40	20		EXISTING LOAD	(R)
			3	41	42	2			

VOLTS: (●) 480 /277V, 3Ø, 4W.
AMPS: ( ) 100A ( ) 225A (●) 400A ( ) _____
MAIN: ( ) MCB . . (●) MLO
LUGS: ( ) DBL. LUGS ( ) FEED-THRU
MTD: (●) SURFACE ( ) FLUSH
BUSS: (●) COPPER ( ) ALUMINUM
DOOR: (●) DOOR IN DOOR ( ) STANDARD

1 EXISTING HHB

EXISTING LOAD: 186 KVA (224 A)
FEED-THRU LOAD: 24 KVA (29 A)
NEW LOAD: 0 KVA (0 A)
TOTAL LOAD 210 KVA (253 A)
NEUTRAL BUS: (●) 100% ( ) 200%
GROUND BUS: (●) STANDARD ( ) ISOLATED
AIC RATING: ( ) 10K ( ) 14K ( ) 22K (●) 22K

C E0.3 DEMO - PANEL SCHEDULE
NTS

NEMA RATING: 1

TYPE	DESCRIPTION	LOAD	BREAKER	CKT	CKT	BREAKER	LOAD	DESCRIPTION	TYPE
			25	1	2	25			
	EXISTING LOAD			3	4			EXISTING LOAD	
			3	5	6	3			
			25	7	8	25			
	EXISTING LOAD			9	10			EXISTING LOAD	
			3	11	12	3			
	SPARE		20/1	13	14	25			
	SPARE		20	15	16			EXISTING LOAD	
			2	17	18	3			
			30	19	20	20/1		SPARE	
	EXISTING LOAD			21	22	20/1		SPARE	
			3	23	24	20/1		SPARE	
			30	25	26			SPACE	
	EXISTING LOAD			27	28			SPACE	
			3	29	30			SPACE	
			30	31	32	125	26330		
	EXISTING LOAD			33	34		26330	PHX-1	
			3	35	36	3	26330		
			15	37	38	20/1		EXISTING LOAD	
	EXISTING LOAD			39	40	20		EXISTING LOAD	
			3	41	42	2			

VOLTS: (●) 480 /277V, 3Ø, 4W.
AMPS: ( ) 100A ( ) 225A ( ) 400A (●) 600A
MAIN: ( ) MCB . . (●) MLO
LUGS: ( ) DBL. LUGS (●) FEED-THRU
MTD: (●) SURFACE ( ) FLUSH
BUSS: (●) COPPER ( ) ALUMINUM
DOOR: (●) DOOR IN DOOR ( ) STANDARD

NEW HHB

EXISTING LOAD: 142 KVA (171 A)
FEED-THRU LOAD: 24 KVA (29 A)
NEW LOAD: 79 KVA (95 A)
TOTAL LOAD 245 KVA (295 A)
NEUTRAL BUS: (●) 100% ( ) 200%
GROUND BUS: (●) STANDARD ( ) ISOLATED
AIC RATING: ( ) 10K ( ) 14K ( ) 22K (●) 25K

D E0.3 NEW - PANEL SCHEDULE
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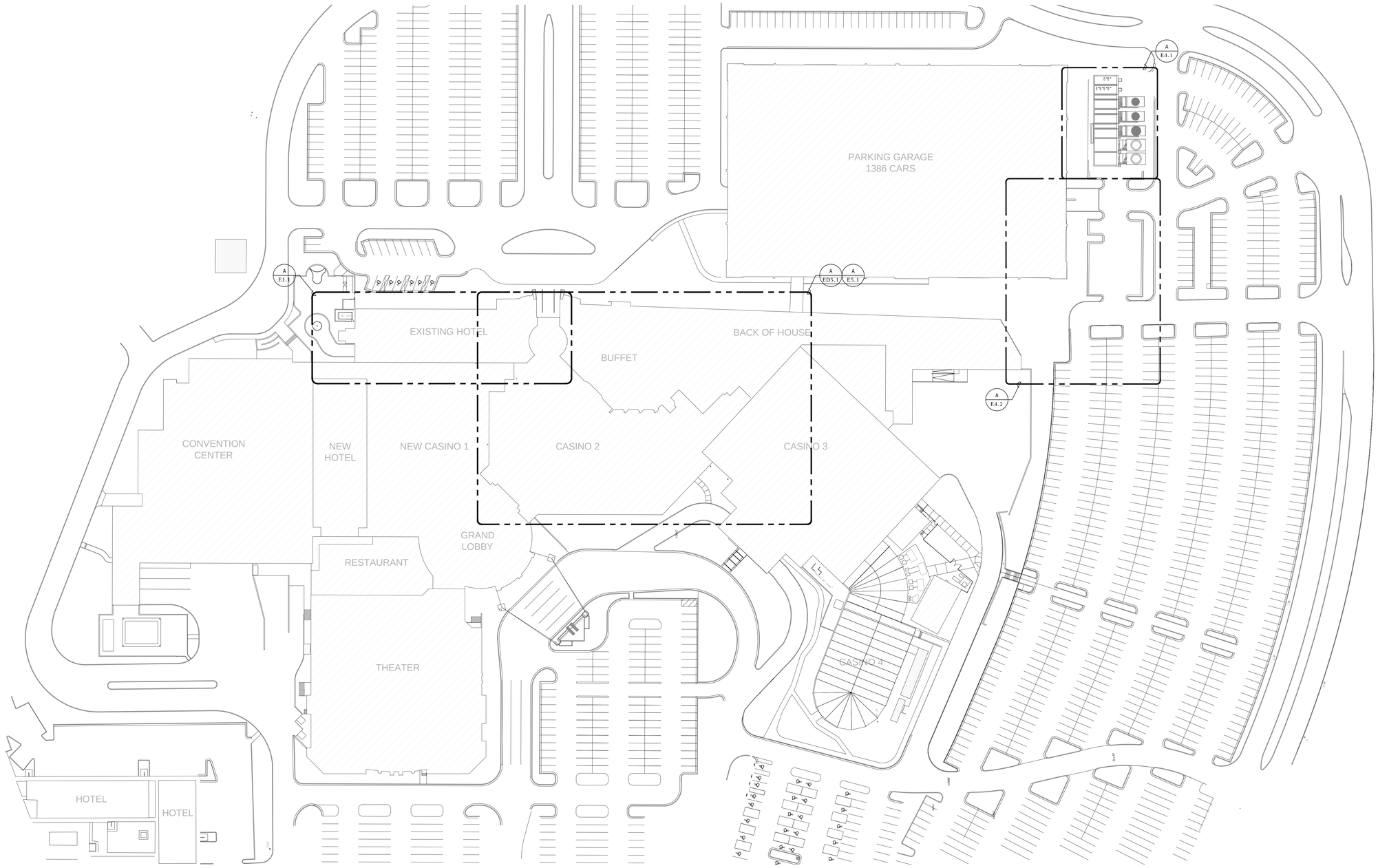
SHEET TITLE:

SINGLE LINE DIAGRAM

SHEET

E0.3



A E1.0 ELECTRICAL OVERVIEW PLAN
1" = 50'-0"

0' 25' 50' 100'

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REGISTERED PROFESSIONAL ENGINEER
DAVID A. MELCHIOR
OKLAHOMA

01/08/2018

SHEET TITLE:

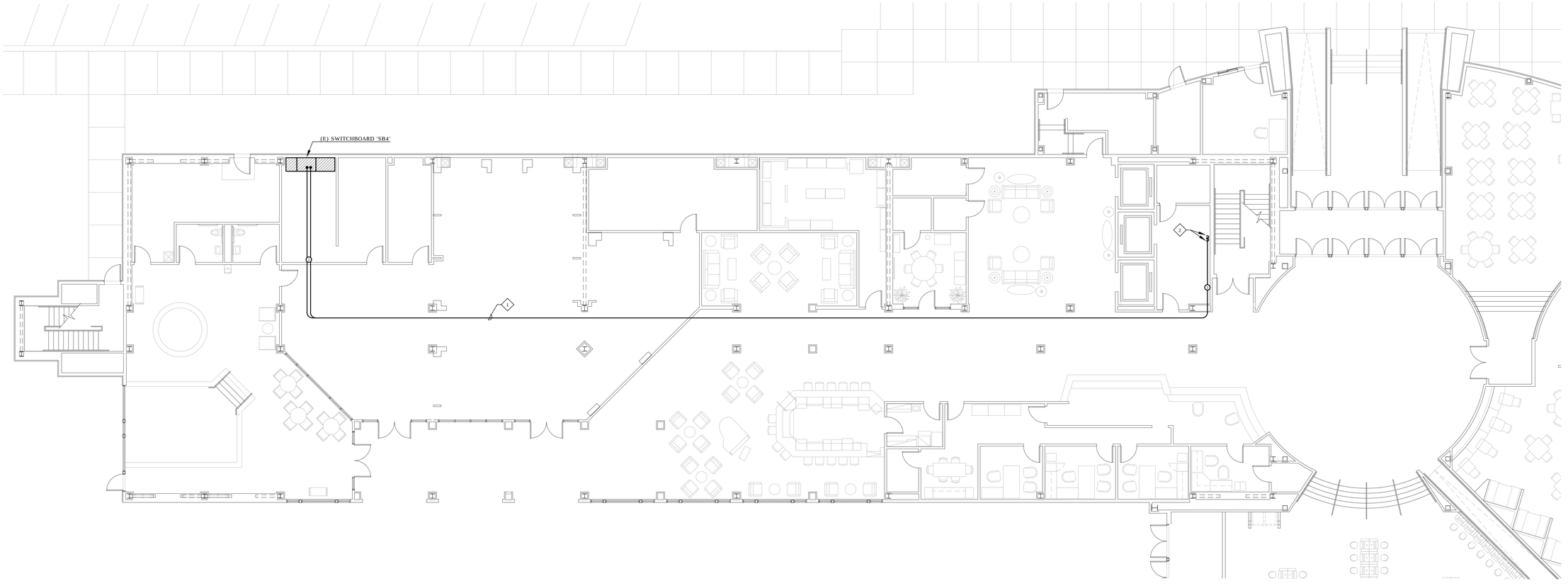
ELECTRICAL OVERVIEW PLAN

SHEET

E1.0

SHEET NOTES:

1. APPROXIMATE ROUTING OF NEW FEEDER TO PANEL 'HHB' ON LEVEL 7 ABOVE VERIFY EXACT ROUTING OF NEW FEEDERIN FIELD WITH OWNERS REPRESENTATIVE PRIOR TO ROUGH-IN.
2. ROUTE FEED VERTICAL. REFER TO SHEET E5.1 FOR CONTINITATION.



A E1.1 ENLARGED ELECTRICAL PLAN - 1ST FLOOR

1/8" = 1'-0"

0' 2' 4' 8' 16'

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REGISTERED PROFESSIONAL ENGINEER
DAVID J. MELICHAR
OKLAHOMA

01/08/2018

SHEET TITLE:

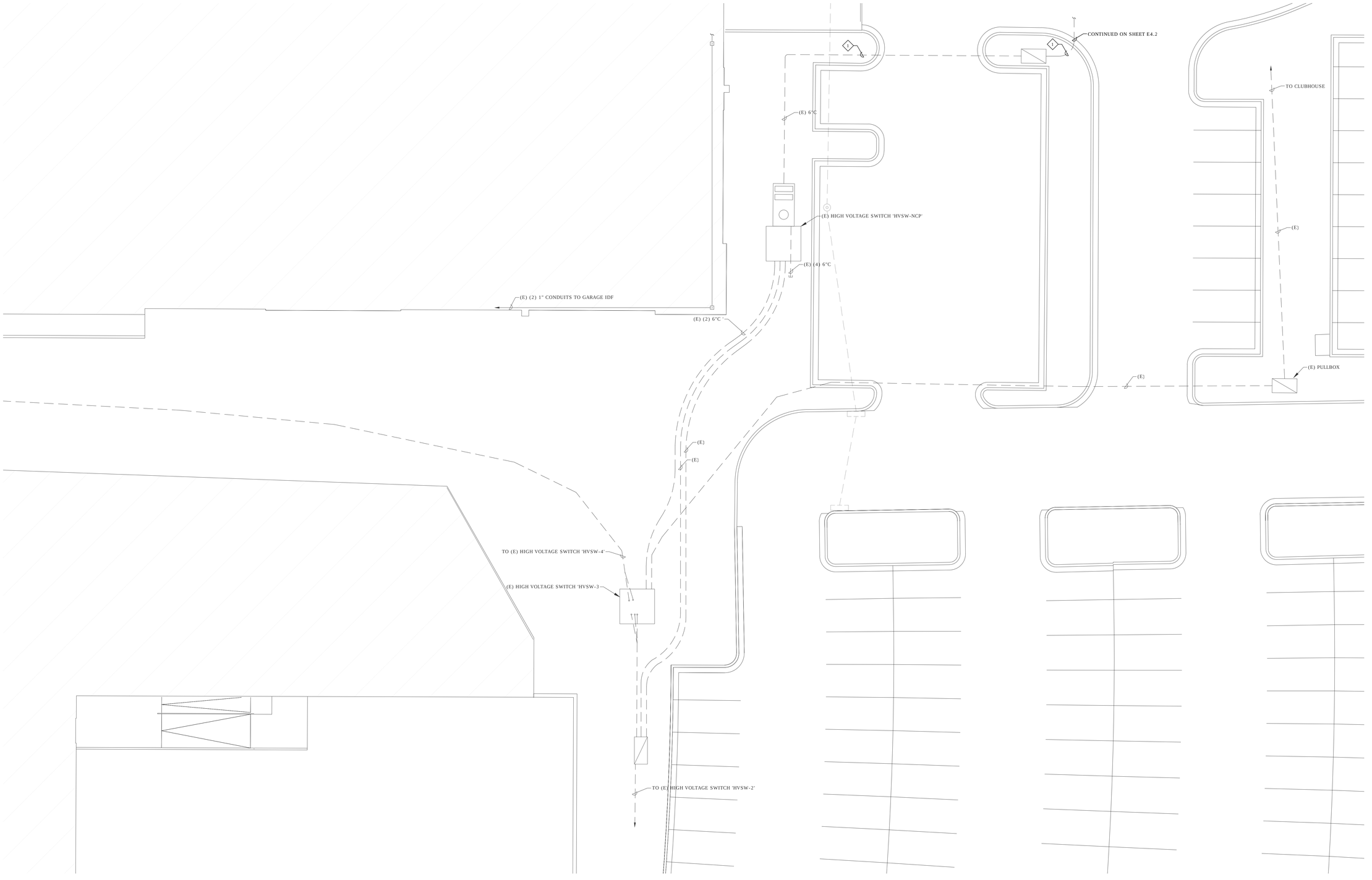
ENLARGED ELECTRICAL PLAN - 1ST FLOOR

SHEET

E1.1

SHEET NOTES:

1. ROUTE FEEDERS THROUGH EXISTING CONDUIT. REFER TO SHEET E0.2 FOR FEEDER INFORMATION AND FURTHER DETAILS.



A / E4.1 ENLARGED SUPPORT YARD - ELECTRICAL PLAN

3/32" = 1'-0"

0' 4' 8' 16' 24'

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REGISTERED PROFESSIONAL ENGINEER
DAVID W. MELOTT
OKLAHOMA

01/08/2018

SHEET TITLE:

ENLARGED SUPPORT YARD - ELECTRICAL PLAN

SHEET

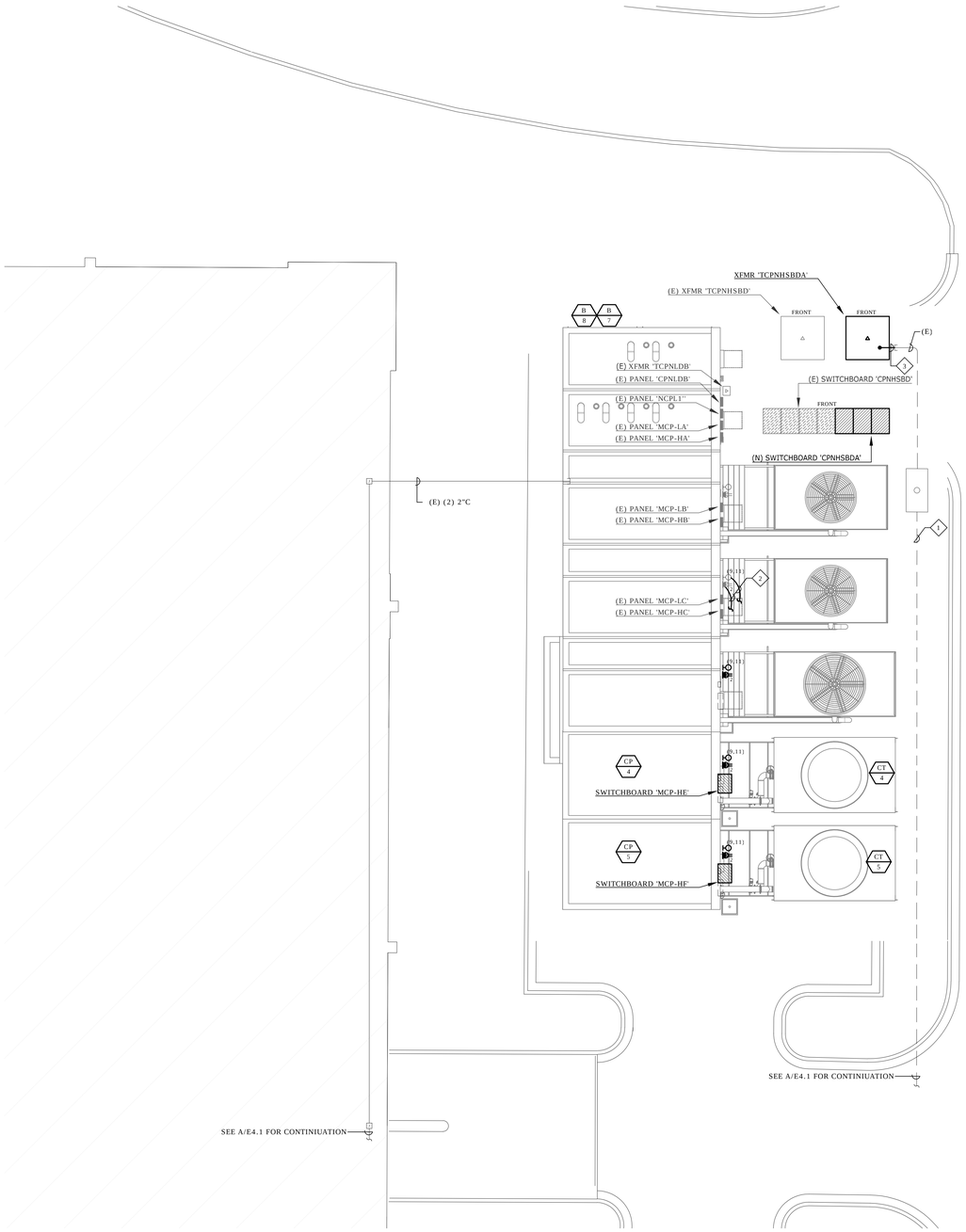
E4.1

GENERAL NOTES:

1. ALL CIRCUITS SHALL CARRY A GREEN GROUND CONDUCTOR.

SHEET NOTES:

1. ROUTE FEEDERS THROUGH EXISTING CONDUIT. REFER TO SHEET E0.2 FOR FEEDER INFORMATION AND FURTHER DETAILS.
2. INTERCEPT / EXTEND EXISTING BRANCH CIRCUIT WHICH SERVED EXISTING LIGHTING & OUTLETS AND CONNECT TO NEW DEVICES AS INDICATED.
3. INTERCEPT AND EXTEND EXISTING UNDERGROUND PRIMARY CONDUIT AND ROUTE TO NEW TRANSFORMER.



A / E4.2 ENLARGED MECHANICAL YARD - ELECTRICAL PLAN

3/32" = 1'-0"

0' 4' 8' 16' 24'

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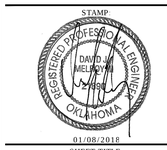


01/08/2018

SHEET TITLE:

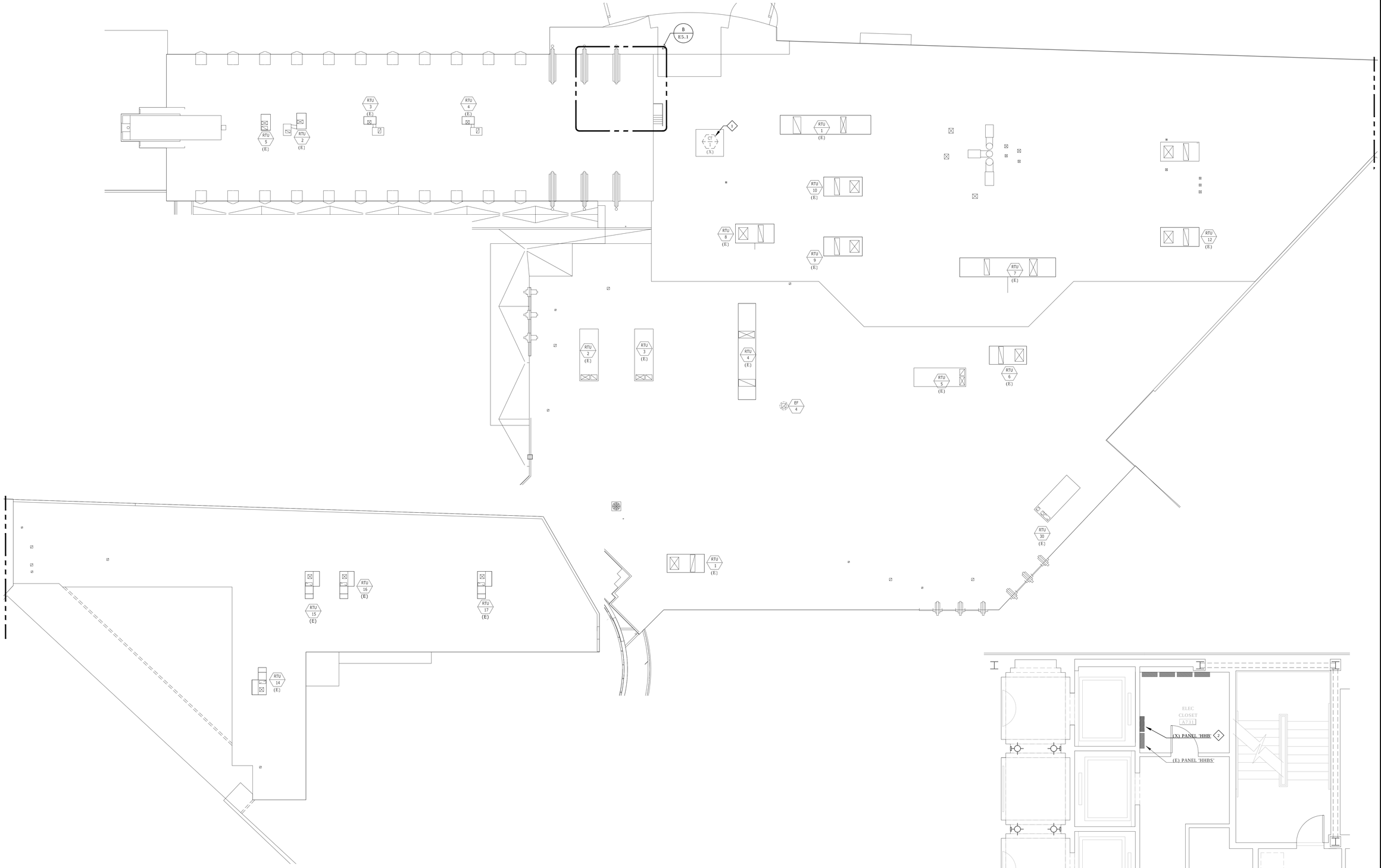
ENLARGED MECHANICAL YARD - ELECTRICAL PLAN

SHEET

E4.2

SHEET NOTES:

1. EXISTING MECHANICAL UNIT TO BE REMOVED. THIS SHALL INCLUDE, BUT NOT LIMITED TO DISCONNECT, CONDUIT, CONDUCTORS, ETC. BACK TO SOURCE.
2. EXISTING PANEL 'HHB' TO BE REMOVED AND REPLACED WITH NEW. REFER TO SHEET E0.3 FOR FURTHER INFORMATION.



A ED5.1 ELECTRICAL ROOF DEMO PLAN
1/16" = 1'-0"

B ED5.1 ENLARGED ELECTRICAL ROOM DEMO PLAN-7TH FLOOR
1/4" = 1'-0"

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REVISIONS:

#	DESCRIPTION	DATE

STAMP

REGISTERED PROFESSIONAL ENGINEER
DAVID J. MELCHER
OKLAHOMA

01/08/2018

SHEET TITLE:

ELECTRICAL ROOF DEMO PLAN

SHEET

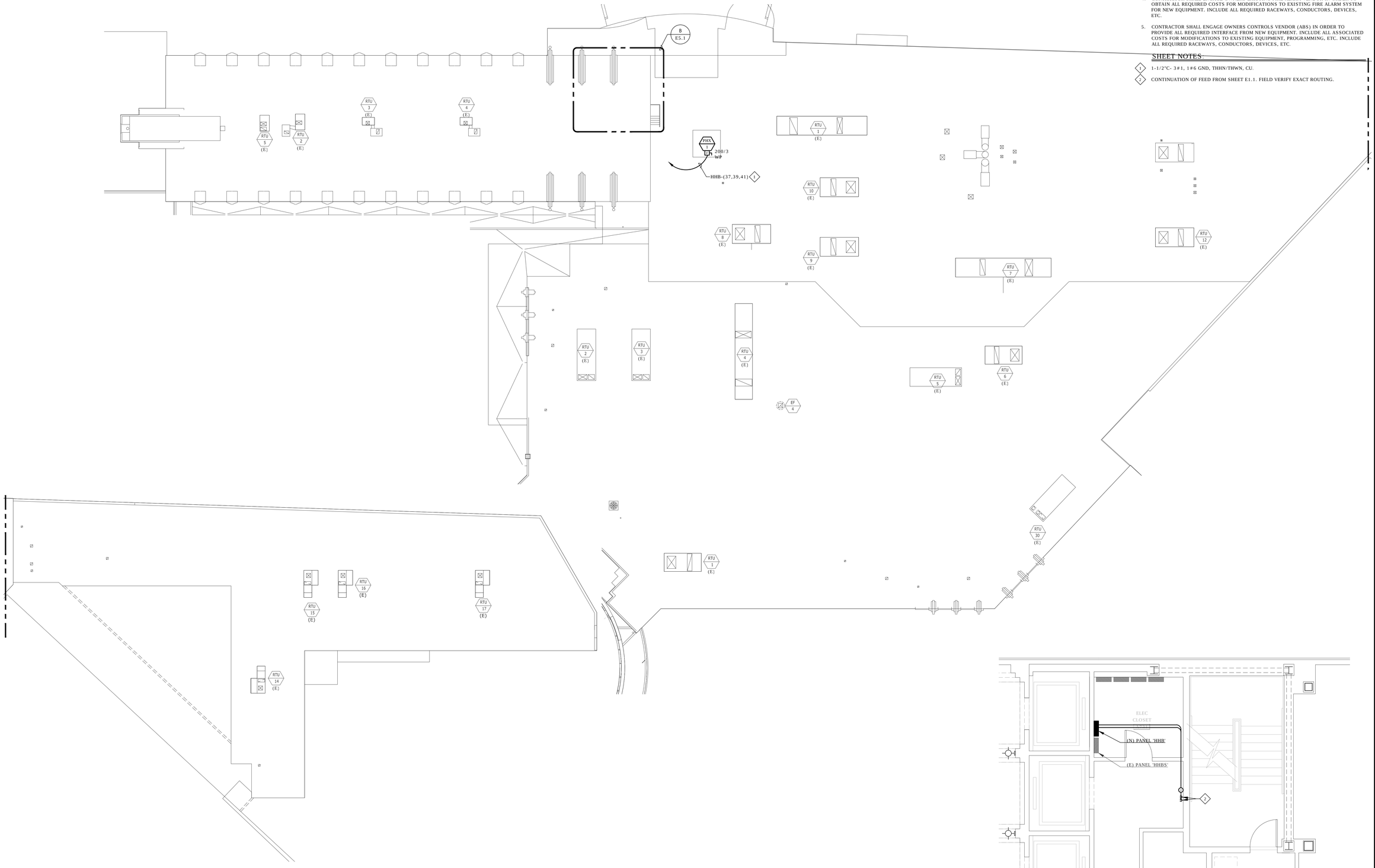
ED5.1

GENERAL NOTES:

1. ALL CIRCUITS SHALL CARRY A GREEN GROUND CONDUCTOR.
2. ALL ELECTRICAL WORK ON THE ROOF SHALL BE NEMA 3R WEATHERPROOF RATED. ALL CONDUIT ROUTES ON THE ROOF SHALL BE APPROVED BY THE OWNERS CONSTRUCTION MANAGER PRIOR TO START OF WORK.
3. CONTRACTOR SHALL ENGAGE OWNERS EXISTING LIGHTNING PROTECTION SYSTEM MANUFACTURER FOR ADDED MECHANICAL COMPONENTS TO THE EXISTING SYSTEM. INCLUDE ALL ASSOCIATED COSTS FOR NEW WORK AND PROVIDE NEW UL MASTER LABEL SHOWING INSTALLATION MEETS ALL REQUIREMENTS.
4. CONTRACTOR SHALL ENGAGE OWNERS EXISTING FIRE ALARM VENDOR IN ORDER TO OBTAIN ALL REQUIRED COSTS FOR MODIFICATIONS TO EXISTING FIRE ALARM SYSTEM FOR NEW EQUIPMENT. INCLUDE ALL REQUIRED RACEWAYS, CONDUCTORS, DEVICES, ETC.
5. CONTRACTOR SHALL ENGAGE OWNERS CONTROLS VENDOR (ABS) IN ORDER TO PROVIDE ALL REQUIRED INTERFACE FROM NEW EQUIPMENT, INCLUDE ALL ASSOCIATED COSTS FOR MODIFICATIONS TO EXISTING EQUIPMENT, PROGRAMMING, ETC. INCLUDE ALL REQUIRED RACEWAYS, CONDUCTORS, DEVICES, ETC.

SHEET NOTES:

1. 1-1/2"C- 3#1, 1#6 GND, THHN/THWN, CU.
2. CONTINUATION OF FEED FROM SHEET E1.1. FIELD VERIFY EXACT ROUTING.



A E5.1 ELECTRICAL ROOF PLAN
1/16" = 1'-0"

NORTH

B E5.1 ENLARGED ELECTRICAL ROOM PLAN - 7TH FLOOR
1/4" = 1'-0"

NORTH

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HARD ROCK CASINO 4 - EXPANSION
CENTRAL PLANT ADDITION
777 WEST CHEROKEE STREET
CATOOSA, OK 74015

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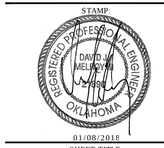

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E5.1