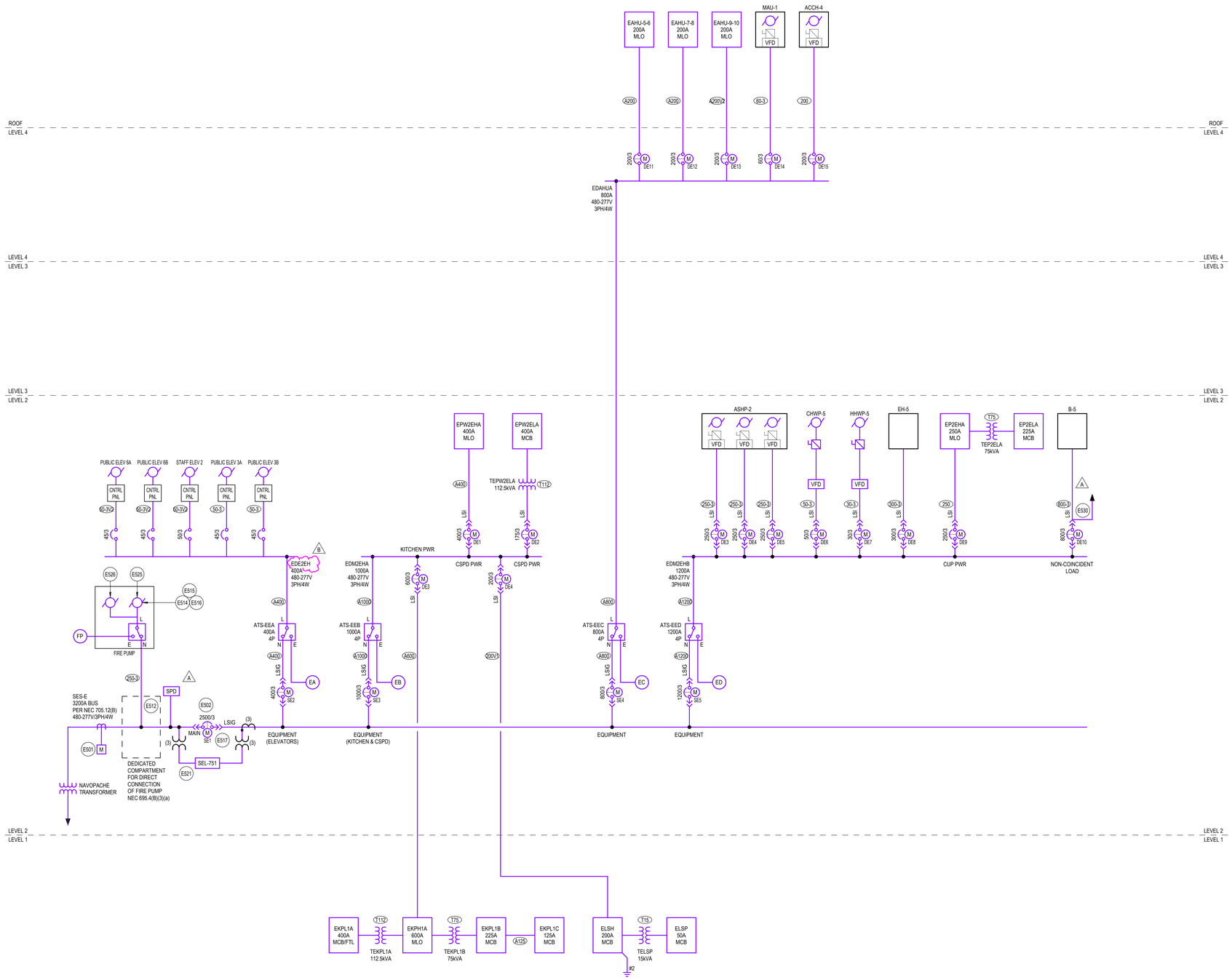

1 ONE LINE DIAGRAM - SES-E, 1 OF 2
SCALE: NOT TO SCALE

GENERAL SHEET NOTES

A. **BASE BUILD** SCOPE SHALL ONLY INCLUDE EMPTY CONDUITS OF FEEDERS SHOWN ON THIS SHEET WITH FEEDER TAGS.
B. **ADD ALTERNATE SCOPE** SHALL INCLUDE PV PANELS, CARPORTS, DC CONDUCTORS, INVERTERS, AC CONDUCTORS, AC COMBINER BOXES, PV DISTRIBUTION BOARDS.
C. SEE DRAWING E0.1 FOR ABBREVIATIONS, SYMBOLS, GENERAL NOTES.
D. THE CONTRACTOR SHALL COORDINATE EXACT LOCATION OF EQUIPMENT POWER CONNECTIONS WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.
E. COORDINATE FINAL LOCATION OF MECHANICAL EQUIPMENT AND ASSOCIATED DISCONNECT SWITCHES, STARTERS, VFDS, CONTROL POWER AND OTHER POWER REQUIREMENTS WITH DIV 23 AND MECHANICAL DRAWINGS.
F. SEE MECHANICAL EQUIPMENT SCHEDULE FOR ASSOCIATED OVERCURRENT DEVICES, DISCONNECT SWITCHES, STARTERS AND WIRES.
G. VOLTAGE DROP SHALL BE LIMITED TO LESS THAN 3% FOR ALL BRANCH CIRCUITS AND 2% FOR ALL FEEDERS.
H. CONTRACTOR SHALL COORDINATE AND FIELD VERIFY REQUIREMENT OF NEUTRAL CONDUCTOR FOR ALL EQUIPMENT AND PROVIDE NEUTRAL CONDUCTOR AS NECESSARY.
I. ALL LIFE SAFETY AND LIGHTING PANELBOARDS SHALL BE EQUIPPED WITH TYPE 2 SPD.
J. ALL AUTOMATIC TRANSFER SWITCHES SHALL BE 4 POLE AND EQUIPPED WITH BYPASS ISOLATION.
K. ALL UTILITY TRANSFORMERS DESCRIBED AS NAVOPACHE TRANSFORMER TO BE COORDINATED WITH UTILITY AND PROVIDED BY UTILITY. COORDINATE ALL FINAL REQUIREMENTS
A AND AVAILABLE FAULT CURRENT CONTRIBUTIONS BASED ON SUPPLIED EQUIPMENT. BASIS OF DESIGN 2500KVA, AND 5%Z.
L. ELECTRICAL EQUIPMENT SHALL BE CONFIGURED AS FOLLOWS:
-SERVICE ENTRANCE SECTIONS - UL891 REAR CONNECTED SWITCHBOARD
-DISTRIBUTION SWITCHBOARDS WITH DRAWOUT CIRCUIT BREAKERS - UL891 REAR CONNECTED SWITCHBOARD
-GENERATOR PARALLELING GEAR - UL1558 SWITCHGEAR

SHEET KEYNOTES

E501 NAVOPACHE UTILITY METER. METER SHALL BE EQUIPPED WITH CAPABILITY TO INTERFACE WITH BMS. ELECTRICAL CONTRACTOR SHALL PROVIDE REQUIRED CONDUIT AND COMMUNICATION WIRING FROM METER TO POINT OF INTERFACE WITH BMS.
E502 COMPLIANCE WITH "NEC 240.87 ARC ENERGY REDUCTION" REQUIRED. REDUCTION METHOD SHALL ALLOW FOR REQUIRED SELECTIVE DEVICE COORDINATION AND ARC FLASH REQUIREMENTS. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.
E512 DIRECT CONNECTION OF FIRE PUMP AS ALLOWED BY NEC 695.3(A)(1) AND IN COMPLIANCE WITH NEC 695.4(A).
E514 FIRE PUMP CONTROLLER SHALL BE MONITORED BY THE FIRE ALARM SYSTEM. LOSS OF NORMAL POWER SHALL ACTIVATE SUPERVISORY ALARM AS FACP.
E515 PROVIDE CONTROL WIRING IN COMPLIANCE WITH NEC 695.14. BMS MONITORING SHALL BE PROVIDED.
E516 LISTED SINGLE POINT NORMAL & EMERGENCY CONNECTION (WITH INTEGRAL AUTOMATIC TRANSFER SWITCH). INTERNAL WIRING FROM CONTROLLER(S) TO PUMP MOTOR(S) SHALL BE RUN IN CONDUIT TYPE AS SPECIFIED BY NEC 695.6(D) & (F). ALL INTERNAL WIRING SHALL BE PROVIDED BY EQUIPMENT MANUFACTURER. ALL REQUIRED MARKINGS & APPROPRIATE PLAQUES SHALL BE PROVIDED IN COMPLIANCE WITH THE NEC.
E517 PROVIDE PERMANENT IDENTIFICATION PLAQUE INDICATING THE FOLLOWING: ELECTRICAL SERVICE #5 OF 5. GENERATORS LOCATED IN ELECTRICAL EQUIPMENT YARD, GENERATOR DISCONNECTS LOCATED IN ADJACENT ELECTRICAL ROOM IN GMDB. PV DISCONNECT LOCATED AT END OF THIS ELECTRICAL EQUIPMENT LINEUP.
E521 PROVIDE RELAY PROTECTION ELEMENTS REQUIRED BY UTILITY AND MULTIPLE GENERATOR AND PV MONITORING AND CONTROL SYSTEM MANUFACTURER. INTEGRATE SEL RELAY AND PROGRAMMING INTO MULTIPLE GENERATOR AND PV MONITORING SYSTEM AND CIRCUIT BREAKER. PROVIDE AND PROGRAM PROTECTION ELEMENT SET POINTS AND LOGIC WITHIN THE RELAY. REFER TO SEL-751 DETAIL FOR ADDITIONAL INFORMATION.
E525 ELECTRIC FIRE PUMP BY FIRE SUPPRESSION DELEGATED DESIGN. PROVIDED WITH ATS INTEGRAL TO PUMP CONTROLLER WITH INTEGRAL DISCONNECT. PROVIDE CONNECTION AS SHOWN FOR UP TO 150HP 480V/3-PHASE ELECTRIC PUMP.
E526 ELECTRIC FIRE BOOSTER JOCKEY PUMP BY FIRE SUPPRESSION DELEGATED DESIGN. PROVIDED WITH PUMP CONTROLLER WITH INTEGRAL DISCONNECT. PROVIDE CONNECTION AS SHOWN FOR UP TO 1.5HP 480V/3-PHASE ELECTRIC PUMP. TAP SHALL ORIGINATE WITHIN FIRE PUMP
A ROOM AND BE LESS THAN 10FT CABLE LENGTH TO CONTROLLER PER TAP RULES.
E530 PROVIDE SHUNT TRIP CIRCUIT BREAKER FOR INTERFACE WITH BOILER EMERGENCY SHUTDOWN EPO SWITCHES. REFER TO EMP2.2.G FOR ADDITIONAL INFORMATION.

FEEDER SCHEDULE

"A" DENOTES ALUMINUM CONDUCTORS, ALL OTHER CONDUCTORS SHALL BE COPPER

30-3	3#10 + 1#10 G, 3/4" C
50-3	3#6 + 1#10 G, 3/4" C
50-3V2	3#4 + 1#6 G, 1" C
60-3	3#4 + 1#10 G, 1 1/4" C
200	4#3/0 + 1#6 G, 2" C
200V1	2 SETS OF 4#300KCMIL + 1#1/0 G, (2) 3" C
250	4#250KCMIL + 1#4 G, 3"C
250-3	3#250KCMIL + 1#4 G, 2 1/2" C
300-3	3#350KCMIL + 1#4 G, 3" C
800-3	3 SETS OF 3#300KCMIL + 1#1/0 G, (3) 3" C
A125	4#2/0 + 1#6 G, 2" C
A200	4#250KCMIL + 1#4 G, 2 1/2" C
A200V2	4#300KCMIL + 1#3 G, 2 1/2" C
A400	2 SETS OF 4#250KCMIL + 1#1 G, (2) 2 1/2" C
A600	2 SETS OF 4#500KCMIL + 1#2/0 G, (2) 3" C
A800	3 SETS OF 4#400KCMIL + 1#3/0 G, (3) 3" C
A1000	3 SETS OF 4#600KCMIL + 1#4/0 G, (3) 3 1/2" C
A1200	4 SETS OF 4#500KCMIL + 1#250KCMIL G, (4) 3" C
T15	15KVA TRANSFORMER, 480-208Y/120V, 3PH PRIMARY FEEDER: 3#10 + 1#10 G, 3/4" C SECONDARY FEEDER: 4#4 + 1#8 G, 1 1/4" C BONDING JUMPERS & GROUNDING ELECTRODE CONDUCTOR: #8
T75	75KVA TRANSFORMER, 480-208Y/120V, 3PH PRIMARY FEEDER: 3#1/0 + 1#6 G, 1 1/2" C SECONDARY FEEDER: 4#4/0 + 1#2 G, 2 1/2" C BONDING JUMPERS & GROUNDING ELECTRODE CONDUCTOR: #2
T112	112.5KVA TRANSFORMER, 480-208Y/120V, 3PH PRIMARY FEEDER: 3#3/0 + 1#6 G, 2" C SECONDARY FEEDER: 2 SETS OF 4#3/0 + 1#2 G, (2) 2" C BONDING JUMPERS & GROUNDING ELECTRODE CONDUCTOR: #2

IHS Whiteriver Hospital

200 W Hospital Drive
Whiteriver, Arizona, 85941

IHS Project #: 131445
IHS Contract #: 75H70123R00008
IHS Award Date: 02/02/2024

BASED ON PROGRAM OF REQUIREMENTS DATED [**03/26/22**], POR AMENDMENT DATED [**02/03/25**], AND ON SCHEMATIC DRAWINGS APPROVED [**11/19/24**].

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ISSUED FOR	DATE
BID ADDENDUM-B	30APR26
BID ADDENDUM-A	16APR26
FINAL CONSTRUCTION DOCUMENTS	05MAR26

SEALS AND SIGNATURES

Registered Professional Engineer (Electrical) CERTIFICATE NO. 54673 DANIEL L. PETERSON Date Signed 04-30-26 ARIZONA, U.S.A.
EXPIRES: 6-30-28

ELECTRICAL ONE LINE DIAGRAM - SES-E

Drawn By: Whittington Checked By: Baca

14904.000
PROJECT NUMBER

CD **E5.5.1**
SHEET NUMBER

Plot Date: 4/30/2026 4:53:49 PM Whittington