SYMBOL LEGEND

GENERAL
- NEW EQUIPMENT
- EXISTING EQUIPMENT
- EXISTING DEVICE TO BE REMOVED (RISER AND ONE-LINE)
- EXISTING DEVICE TO BE REMOVED (DEMOLITION PLAN)

DRAWING NOTES AND DESIGNATIONS
- X — DRAWING KEYED NOTES
- X — SEQUENCE OF CONSTRUCTION REFERENCE TAG
- X/X — EQUIPMENT DESIGNATIONS
- X — ROOM NUMBER
- X — FEEDER NUMBER
- X — REVISION NOTATION
- (X INDICATES NUMBER)

RACEWAYS
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- CAPPED CONDUIT

WIRE AND CABLE
- #10 1LNL1-12 — MULTI-CIRCUIT HOME RUN IN NEC CONDUIT TO ASSOCIATED PANELBOARD. SLASH MARKS INDICATE QUANTITY OF WIRES. PHASE WIRE SIZE SHOWN FOLLOWING THE # SYMBOL (IF APPLICABLE). ALPHA NUMERIC DESIGNATION INDICATES SOURCE PANELBOARD AND CIRCUITS.
- GREEN GROUND WIRE, #12 AWG UNLESS OTHERWISE NOTED
- SPLICE

SINGLE LINE
- MEDIUM-VOLTAGE DRAWOUT AIR CIRCUIT BREAKER
- SWITCH AND FUSE UNIT
- MOLDED CASE CIRCUIT BREAKER
- LOW-VOLTAGE DRAWOUT AIR CIRCUIT BREAKER
- FUSED DRAWOUT POTENTIAL TRANSFORMER
- PANEL A — PANELBOARD
- T? — DRY-TYPE TRANSFORMER
- ST — SHUNT TRIP
- MOTOR STARTER
- A — AMMETER
- V — VOLTMETER
- W — WATTMETER
- WH — WATT-HOUR METER
- 50 — INSTANTANEOUS OVERCURRENT OR RATE-OF-RISE RELAY
- 51 — AC-TIME OVERCURRENT RELAY
- 67 — AC-DIRECTIONAL OVERCURRENT RELAY
- 86 — LOCK OUT RELAY
- POTHEAD
- STRESS CONE
- CABLE SPLICE BOX
- 15 KV DEAD FRONT ELBOW (600A)
- KK — KIRK-KEY INTERLOCK DEVICE

LIGHTING
- $2 — SWITCH
BLANK = SINGLE POLE
2 = DOUBLE POLE
3 = THREE-WAY
- LIGHT FIXTURE CEILING MOUNTED
- A — LIGHT FIXTURE, FLUORESCENT, LETTER INDICATES TYPE.
- LIGHT FIXTURE ON EMERGENCY CIRCUIT – LETTER INDICATES TYPE.
- LIGHT FIXTURE, WALL MOUNTED
- LIGHT POLE, ONE LUMINAIRE
- LIGHT POLE, TWO LUMINAIRES
- EXIT SIGN, WALL MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN
- EXIT SIGN, CEILING MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN

BOXES AND CABINETS
- J — DEVICE BOX WITH BLANK COVER PLATE
- J — JUNCTION BOX
- PB — PULL BOX
- CABINET, TOP OF TRIM 6'-2" A.F.F.
- 208Y/120V-3ø-4W PANEL. REFER TO PANEL SCHEDULES FOR SIZE, RATING AND MOUNTING TYPE. ALSO REFER TO ONE LINE DIAGRAM.
- 480Y/277V-3ø-4W PANEL. REFER TO PANEL SCHEDULES FOR SIZE, RATING AND MOUNTING TYPE. ALSO REFER TO ONE LINE DIAGRAM.

SWITCHGEAR
- # — LOW VOLTAGE POWER SWITCHGEAR CIRCUIT BREAKER
- MEDIUM VOLTAGE INTERRUPTER SWITCH
- 1 — POTENTIAL TRANSFORMER (NUMBER INDICATES QUANTITY)
- 3 — CURRENT TRANSFORMER (NUMBER INDICATES QUANTITY)
- AM — AMMETER
- AS — AMMETER SWITCH
- VM — VOLTMETER
- VS — VOLTMETER SWITCH
- DM — DIGITAL METER UNIT

GROUNDING AND BONDING
- G — NEC GROUND CONDUCTOR
- GROUND ROD
- EARTH GROUND

LOW VOLTAGE TRANSFORMERS
- T — TRANSFORMER (PLAN DENOTATION)
- TRANSFORMER (SINGLE-LINE DENOTATION)
- 3-PHASE, 3-WIRE DELTA CONNECTION
- 3-PHASE WYE, NEUTRAL UNGROUNDED CONNECTION
- 3-PHASE WYE, NEUTRAL GROUNDED CONNECTION

BUSWAYS
- PLUG-IN OR FEEDER BUSWAY

PANELBOARDS
- EXISTING PANELBOARD

PROTECTIVE DEVICES
- CB 30 — SEPARATELY ENCLOSED CIRCUIT BREAKER, NUMBER INDICATES TRIP RATING, FLUSH MOUNTED 44" A.F.F.
- NON-FUSED DISCONNECT SWITCH, SURFACE MOUNTED 44" A.F.F. GENERALLY, 5'-0" A.F.F. IN EQUIPMENT ROOMS
- 30 — FUSED DISCONNECT SWITCH, NUMBER INDICATES FUSE SIZE, SURFACE MOUNTED 44" A.F.F. GENERALLY, 5'-0" IN EQUIPMENT ROOMS
- R 50 — RELAY; LETTER INDICATES RELAY TYPE
50 = INSTANTANEOUS OVERCURRENT OR RATE-OF-RISE
51 = AC-TIME OVERCURRENT
67 = AC-DIRECTIONAL OVERCURRENT
86 = LOCK OUT
- BPS — BOLTED PRESSURE SWITCH
- CIRCUIT BREAKER (SINGLE-LINE)
- FUSE (SINGLE-LINE)
- FUSE (SINGLE-LINE)
- K — KEY INTERLOCK SYSTEM – REFER TO SPECIFICATIONS

ABBREVIATIONS

A	AMPERE
AF	AMPERE FRAME
AFF	ABOVE FINISH FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AM	AMMETER
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	CIRCUIT BREAKER
C	CONDUIT
CAT	CATALOG
CKT	CIRCUIT
CLG	CEILING
CT	CABLE TRAY / CURRENT TRANSFORMER
CU	COPPER
DIA	DIAMETER
DIV	DIVISION
DN	DOWN
DWG	DRAWING
EM	EMERGENCY
E	EXISTING
ER	EXISTING TO REMAIN
EA	EACH
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
ETA	EXISTING TO BE ABANDONED
ERL	EXISTING TO BE RELOCATED
ETR	EXISTING TO REMAIN
EX	EXISTING TO BE REMOVED
FLR	FLOOR
G	GROUND
GA	GAUGE
GEC	GROUND ELECTRODE CONDUCTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTOR
GFI	GROUND FAULT INTERRUPTING
GND	GROUND
HP	HORSEPOWER
HSKPG	HOUSEKEEPING
HTR	HEATER
ID	INSIDE DIAMETER
IMC	INTERMEDIATE METAL CONDUIT
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KW	KILOWATT
KWH	KILOWATT HOUR
LA	LIGHTNING ARRESTER
LTD	LONG TIME DELAY
LTG	LIGHTING
MAX	MAXIMUM
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANELBOARD
MECH	MECHANICAL
MFS	MAIN FUSED SWITCH
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MV	MEDIUM VOLTAGE
N	NEW
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OCPD	OVERCURRENT PROTECTIVE DEVICE
OD	OUTSIDE DIAMETER
OH	OVERHEAD
P	POLE
PB	PULLBOX/PUSHBUTTON
PNL	PANELBOARD
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
RCP	REFLECTED CEILING PLANS
RE	RELOCATE EXISTING
REC	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
SCIR	SHORT CIRCUIT INTERRUPTING RATING
SCHED	SCHEDULE
SFL	SUB FEED LUGS
SH	SHEET
SPC	SPACE
SPD	SURGE PROTECTION DEVICE
SPEC	SPECIFICATION
SPR	SPARE
STD	SHORT TIME DELAY
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SES	SERVICE ENTRANCE SWITCHGEAR
TC	TERMINAL CABINET
TERM	TERMINAL
TEL	TELEPHONE
THD	TOTAL HARMONIC DISTORTION
TVSS	TRANSIENT VOLTAGE SURGE SUPRESSION
TYP	TYPICAL
UG	UNDERGROUND
USS	UNIT SUBSTATION
V	VOLT
VA	VOLT-AMPS
VM	VOLTMETER
W	WATT

ELECTRICAL EQUIPMENT DESIGNATIONS

02 4-LC 1

- 02 — BUILDING
- 4 — FLOOR
- LC — EQUIPMENT NAME
- 1 — SEQUENCE NUMBER
- NUMBERS IN SEQUENCE – 1,2,3,ETC.

ATSC	AUTOMATIC TRANSFER SWITCH (CRITICAL)
ATSF	AUTOMATIC TRANSFER SWITCH (FIRE PUMP)
ATSG	AUTOMATIC TRANSFER SWITCH (GENERAL)
ATSM	AUTOMATIC TRANSFER SWITCH (MIXED)
ATSS	AUTOMATIC TRANSFER SWITCH (LIFE SAFETY)
ATSX	AUTOMATIC TRANSFER SWITCH (X-RAY)
BPS	BOLTED PRESSURE SWITCH
CB	CIRCUIT BREAKER
CRT	FIRE ALARM CRT ANNUNCIATOR
DS	UNFUSED DISCONNECT SWITCH
FAP	FIRE ALARM ANNUNCIATOR
FATC	FIRE ALARM TERMINAL CABINET
FDS	FUSED DISCONNECT SWITCH
FPU	FIELD PROCESSING UNIT
GC	GENERAL PURPOSE CONTACTOR
IEC	INTERCOM EQUIPMENT CABINET
LC	LIGHTING CONTACTOR
LVC	LOW VOLTAGE LIGHTING CABINET
LVS	LOW VOLAGE POWER SWITCHGEAR
MCCG	MOTOR CONTROL CENTER (GENERAL)
MCCN	MOTOR CONTROL CENTER (NORMAL)
MTSG	MANUAL TRANSFER SWITCH (GENERAL)
MVS	MEDIUM VOLTAGE SWITCHGEAR
NEC	NURSE CALL EQUIPMENT CABINET
PBL	PLUG-IN BUSWAY LIGHTING
PBP	PLUG-IN BUSWAY POWER
PSU	PATIENT SERVING UNIT
PSWGR	PARALLELING SWITCHGEAR
SFP	SURGICAL FACILITY PANEL
SWBDC	SWITCHBOARD (CRITICAL)
SWBDE	SWITCHBOARD (EMERGENCY)
SWBDG	SWITCHBOARD (GENERAL)
SWBDN	SWITCHBOARD (NORMAL)
SWBDS	SWITCHBOARD (LIFE SAFETY)
T	TRANSFORMER
TBTP	TELECOMMUNICATION BACKBONE TERMINATION PANEL
TDTP	TELECOMMUNICATION DEVICE TERMINATION PANEL
TMGR	TELECOMMUNICATION MAIN GROUND BUS
TRGB	TELECOMMUNICATION ROOM GROUND BUS
TC	TIMECLOCK
TVSS	TRANSIENT VOLTAGE SURGE SUPRESSOR
USSHV	UNIT SUBSTATION AT 480Y/277 SECONDARY VOLTAGE
USSLV	UNIT SUBSTATION AT 208Y/120 SECONDARY VOLTAGE
S	SUB-BASEMENT
B	BASEMENT
G	GROUND
1	FIRST FLOOR
2	SECOND FLOOR
M	MEZZANINE
##	"02" BUILDING (SEE SITE PLAN FOR BUILDING DESIGNATIONS)

PANELBOARD DESIGNATIONS

02 4 P E L 1

- 02 — BUILDING
- 4 — FLOOR
- P — TYPE
- E — SYSTEM/SOURCE
- L — VOLTAGE
- 1 — SEQUENCE NUMBER
- NUMBERS IN SEQUENCE – 1,2,3,ETC.

H	480Y/277V
L	240V OR 208Y/120V
C	CRITICAL BRANCH
E	EMERGENCY BRANCH
G	GENERAL BRANCH (EQUIPMENT)
I	ISOLATED POWER PANELBOARD
N	NORMAL BRANCH
O	OPERATING ROOM PANELBOARD
S	LIFE SAFETY BRANCH
L	LIGHTING AND APPLIANCE PANELBOARD
P	POWER DISTRIBUTION PANELBOARD
X	X-RAY PANELBOARD
S	SUB-BASEMENT
B	BASEMENT
G	GROUND FLOOR
1	FIRST FLOOR
2	SECOND FLOOR
M	MEZZANINE
##	"02" BUILDING (SEE SITE PLAN FOR BUILDING ESIGNATIONS)

EQUIPMENT NAME
SYSTEM/SOURCE
VOLTAGE
(FORMER NAME)
FED FROM
FEEDS

EQUIPMENT NAME LABEL DETAIL

GENERAL NOTES

1. VERIFY EXACT LOCATION OF CONNECTION POINTS PRIOR TO CONNECTION.
2. THIS PROJECT INVOLVES WORKING IN AREAS WITH LARGE AMOUNTS OF FACILITY INFRASTRUCTURE, BURIED OR OTHERWISE. CONTRACTOR SHALL EXERCISE EXTREME CARE PRIOR TO COMMENCING ANY DIGGING, DEMOLITION OR NEW WORK.
3. PROVIDE GROUNDING PER NEC. PROVIDE GREEN EQUIPMENT GROUNDING CONDUCTOR IN ALL BRANCH AND FEEDER CIRCUITS SIZED PER NEC.
4. CONDUIT SHALL BE CONTINUOUS AND COMPLETE BETWEEN PANELS, JUNCTION, OUTLET, PULL AND FIXTURE BOXES. IT SHALL BE KEPT CLEAN AND UNOBSTRUCTED INSIDE WITH ENDS FREE OF BURRS OR OTHER PROJECTIONS WHICH WOULD DAMAGE OR IMPEDE PULLING OF WIRE. ALL CONDUIT SHALL BE INSTALLED PARALLEL AND PERPENDICULAR TO THE BUILDING LINES. ALL CONDUIT SHALL BE ROUTED CONCEALED IN FINISHED AREAS EXCEPT WHERE OTHERWISE NOTED.
5. UNLESS OTHERWISE NOTED, ALL WIRES AND CABLES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL WIRING SHALL BE IN CONDUIT OR AS NOTED. ALL SPLICES SHALL BE MADE AT OUTLET BOXES, PULL BOXES OR JUNCTION BOXES. AT ALL JOINTS, CONDUCTORS SHALL BE SPLICED OR JOINED AS TO BE MECHANICALLY AND ELECTRICALLY SECURE.
6. IDENTIFICATION OF NEUTRAL, GROUNDING OF CIRCUITS, NUMBER OF WIRES IN CONDUIT SHALL COMPLY IN ALL RESPECTS WITH THE REQUIREMENTS OF THE NEC.
7. WIRE SHALL NOT BE DRAWN INTO CONDUIT UNTIL ALL WORK WHICH COULD CAUSE INJURY TO THE CONDUCTORS IS COMPLETED.
8. ALL MATERIAL SHALL CONFORM TO NEMA, ANSI AND U.S. STANDARDS, WHICHEVER APPLIES AND SHALL BEAR THE INSPECTION LABEL OF UNDERWRITER LABORATORIES, INC.
9. ALL BOXES AND ENCLOSURES SHALL BE SET PLUMB, SQUARE AND SECURELY FASTENED. BOXES IN FINISHED WALLS SHALL BE FLUSH WITH FINISH SURFACE. ALL PULL AND JUNCTION BOXES SHALL BE SIZED PER NEC ARTICLE 314.
10. TEMPORARY SHUTDOWNS SHALL BE SCHEDULED WITH CONTRACTING OFFICER THREE (3) WEEKS IN ADVANCE SO AS NOT TO INTERFERE WITH NORMAL DAYTIME OPERATION AND AT NO ADDITIONAL COST.
11. PROVIDE UL LISTED FIRE RATED SEALS FOR ALL RACEWAY PENETRATIONS THROUGH FIRE RATED WALLS, SLABS, AND CEILINGS. ALL PROPOSED FIRE STOPPING MATERIAL SHALL BE APPROVED BY THE LOCAL FIRE INSPECTOR AND CONTRACTING OFFICER PRIOR TO INSTALLATION.
12. PROVIDE GROUNDING AND BONDING OF ALL METAL RACEWAYS AS REQUIRED BY NEC.
13. PROVIDE NEW PRINTED DIRECTORIES FOR ALL PANELS INSTALLED OR MODIFIED UNDER THIS CONTRACT.
14. ALL ELECTRICAL WORK SHALL BE IN STRICT COMPLIANCE WITH THE CURRENT EDITION OF THE NEC AS ADOPTED BY THE LOCAL JURISDICTION INCLUDING ANY LOCAL AMENDMENTS, ORDINANCES, AND INTERPRETATIONS. ELECTRICAL WORK SHALL ALSO COMPLY WITH ANY APPLICABLE FEDERAL AND STATE REGULATIONS.
15. COORDINATE INSTALLATION OF CONDUIT WITH OTHER TRADES AND EQUIPMENT SUPPLIERS AS REQUIRED PRIOR TO ROUGH-IN.
16. PROVIDE AND MAINTAIN ELECTRICAL SAFETY AND WORKING CLEARANCES IN FRONT OF AND AROUND ALL ELECTRICAL PANELS AND DISTRIBUTION EQUIPMENT IN ACCORDANCE WITH NEC.
17. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND CORE DRILLING ALL PENETRATIONS THROUGH FLOORS, WALLS, ETC.
18. IT IS NOT INTENDED THAT THE PLANS INDICATE ALL CONDUIT ROUTES, PULL BOXES, ETC. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ACTUAL CONDUIT ROUTING, QUANTITY, AND LOCATION OF PULL BOXES WITHIN ACCESSIBLE LOCATIONS. PROVIDE SCREW-COVER PULL BOXES IN CONDUIT RUNS AS REQUIRED TO LIMIT NUMBER OF BEND TO NO MORE THAN THREE (3) OR 270° TOTAL. SIZE PULL BOXES IN ACCORDANCE WITH NEC. DOCUMENT ON RECORD DRAWINGS THE SIZE AND LOCATION OF PULL BOXES USED IN FEEDER CONDUIT RUNS.
19. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION ABOUT QUALITY AND GENERAL INSTALLATION REQUIREMENTS OF ELECTRICAL CONSTRUCTION MATERIALS, ITEMS, AND DEVICES.
20. PROVIDE MISCELLANEOUS STEEL AS REQUIRE TO SUPPORT ELECTRICAL RACEWAYS AND OTHER USE FRAMING SYSTEMS AS MANUFACTURED BY UNISTRUT, B-LINE, OR APPROVED EQUIVALENT.
21. CONDUIT RUNS ARE SHOWN FOR REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS AND DETERMINE SHORTEST AND LEAST DISRUPTIVE ROUTE FOR CONDUIT RUNS. COORDINATE WITH OTHER TRADES AND CONFIRM ROUTE SELECTION WITH OWNER PRIOR TO BID. ANY DEVIATIONS FROM DRAWINGS SHALL BE SHOWN IN DETAIL ON AS-BUILT DRAWINGS BY CONTRACTOR.
22. SECURE AND PAY ALL PERMITS AND FEES NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK.
23. FOR QUALITY ASSURANCE, ALL EQUIPMENT SHALL BE UL LISTED AND APPROVED. ALSO, PERFORM WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CONTRACTOR ASSOCIATION (NECA) "STANDARD OF INSTALLATION"
24. "FURNISH" SHALL BE DEFINED AS TO SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION AND SIMILAR OPERATIONS. "INSTALL" SHALL BE DEFINED AS WORK WHICH INCLUDES THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION AND SIMILAR OPERATIONS. "PROVIDE" SHALL BE DEFINED AS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE. "WIRING", SHALL BE DEFINED AS TO BE ALL INCLUSIVE OF RACEWAYS, CONDUCTORS, JUNCTION BOXES, SAFETY SWITCHES AND MAKING FINAL CONNECTIONS.
25. CAREFULLY EXAMINE THE SITE AND COMPARE THE DRAWINGS WITH EXISTING ELECTRICAL INSTALLATIONS. BE THOROUGHLY AWARE OF ALL EXISTING CONDITIONS WITHIN THE SCOPE OF HIS BY THE ACT OF SUBMITTING A BID, THE CONTRACTOR SHALL HAVE DEEMED TO HAVE MADE SUCH EXAMINATION AND TO HAVE ACCEPTED SUCH CONDITIONS AND TO HAVE MADE ALLOWANCE THEREFORE IN PREPARING HIS BID.
26. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC. SIZE AND LOCATION OF EQUIPMENT AND WIRING ARE SHOWN TO SCALE WHERE POSSIBLE, BUT MAY BE DISTORTED FOR CLARITY ON THE DRAWINGS. FINAL LOCATIONS OF OUTLETS AND EQUIPMENT SHALL BE AS SHOWN IN ENLARGED DETAILS OR AS APPROVED BY THE ARCHITECT.
27. THE PLANS DO NOT INDICATE ALL THE NECESSARY BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK TO CONFORM TO THE STRUCTURE, MAINTAIN HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS.
28. VERIFY LOCATIONS OF ALL ELECTRICAL EQUIPMENT WITH ARCHITECTURAL DRAWINGS AND INTERIOR DETAILS AND FINISHES. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS, ALLOW FOR OVERHEAD PIPES, DUCTS, AND MECHANICAL EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE, AND CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
29. PROVIDE NEMA RATED, ACCESSIBLE, SCREW COVER, PULL BOXES IN CONDUIT RUNS LONGER THAN 100 FEET AND AS REQUIRED TO LIMIT NUMBER OF BENDS TO 270 DEGREES TOTAL. SIZE PULL BOXES IN ACCORDANCE WITH NEC ARTICLE 314.
30. MOUNT EQUIPMENT SAFETY SWITCHES DIRECTLY ON UNIT SERVED WHERE REQUIRED. SWITCHES SHALL BE ACCESSIBLE AND MTD. SUCH THAT DOOR HINGE OPEN AT LEAST 90 DEGREES WITHOUT OBSTRUCTION.
31. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE BY MEANS OF AN INSULATED GROUNDING CONDUCTOR INSTALLED WITH FEEDER CONDUCTORS IN ALL CONDUITS WHETHER OR NOT INDICATED ON DRAWINGS. GROUNDING CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH NEC TABLE 250.122. PROVIDE GROUNDING CONDUCTOR IN ALL TELEPHONE AND CATV SERVICE CONDUITS.
32. PROVIDE ALL CUTTING AND PATCHING WHICH MAY BE REQUIRED FOR THE PROPER INSTALLATION OF THE NEW ELECTRICAL WORK. ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP, AND FINISH AND SHALL ACCURATELY MATCH ALL ADJACENT WORK.
33. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING OWNER. ALARM, EMERGENCY AND LIFE SAFETY SYSTEMS SHALL NOT BE INTERRUPTED OR COMPROMISED.
34. CLEAN UP RESULTANT DEBRIS FROM THIS WORK AND REMOVE FROM THE SITE. DISCONNECT AND REMOVE ALL TEMPORARY POWER INCLUDING BUT, NOT NECESSARILY LIMITED TO PANELS, FIXTURES, BOXES AND WIRING.
35. TEST FOR GROUNDS AND SHORTS, TO INSURE PROPER OPERATION OF ELECTRICAL EQUIPMENT. REPAIR OR REPLACE FAULTY EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.

SEISMIC NOTE

1. ALL EQUIPMENT SHALL BE CONSTRUCTED AND LISTED FOR USE IN THE APPROPRIATE SEISMIC ZONE OF THE PROJECT. SEE SHEET S-001 AND RELATED SPECIFICATION SECTIONS.

DEMOLITION NOTES

1. DEMOLITION PLANS ARE FOR GENERAL INFORMATION OF EXISTING DEVICES AND EQUIPMENT AND ARE NOT INTENDED TO BE TOTALLY INCLUSIVE OF ALL DEMOLITION REQUIRED. THESE PLANS ARE NOT RECORD DRAWINGS AND SHALL BE CONSIDERED ONLY FOR THE GENERAL SCOPE OF THE DEMOLITION REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE TO DEMOLISH ALL ITEMS NECESSARY FOR NEW WORK TO BE ADEQUATELY PERFORMED PROPERLY BY ALL RESPECTIVE TRADES. CONTRACTOR SHALL VISIT THE PROJECT SITE AND THOROUGHLY INSPECT THE CURRENT FIELD CONDITIONS FOR DEMOLITION REQUIREMENTS.
2. THIS PROJECT INVOLVES WORKING IN AREAS WITH LARGE AMOUNTS OF FACILITY INFRASTRUCTURE, BURIED OR OTHERWISE. CONTRACTOR SHALL EXERCISE EXTREME CARE PRIOR TO COMMENCING ANY DIGGING, DEMOLITION OR NEW WORK.
3. CONTRACTOR SHALL OBTAIN FROM THE VETERAN'S ADMINISTRATION COTR A COPY OF A RECENT SITE UTILITY SURVEY PERFORMED BY PEGASUS UTILITY LOCATING SERVICES. CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES PRIOR TO COMMENCING WORK.
4. AN ATTEMPT HAS BEEN MADE TO SHOW ALL EXISTING ELECTRICAL ITEMS TO BE REMOVED OR TO REMAIN BUT, IS NOT SHOWN COMPREHENSIVELY. THE DEMOLITION PLANS, RISER DIAGRAMS, SINGLE LINES, AND THESE DEMOLITION NOTES ARE INTENDED AS A GENERAL GUIDE TO THE DEMOLITION REQUIRED FOR THIS PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE OR RELOCATE EXISTING ELECTRICAL ITEMS AS REQUIRED TO ACCOMPLISH THE PROPOSED WORK. FIGURE A COMPLETE JOB AS NONE OTHER SHALL BE ACCEPTED.
5. NO ATTEMPT HAS BEEN MADE TO SHOW THE EXTENT OF ARCHITECTURAL, MECHANICAL AND GENERAL DEMOLITION WORK ON THE ELECTRICAL DRAWINGS. CONTRACTOR SHALL REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR RELATED INFORMATION.
6. CONTRACTOR SHALL VISIT THE EXISTING SITE AND THE EXISTING PREMISES OF THE WORK AND MAKE NOTE OF ALL CONDITIONS AFFECTING THE INSTALLATION, AND INCLUDE ALL AS PART OF THE DEMOLITION SCOPE OF WORK. SUBMISSION OF A PROPOSAL SHALL PRESUPPOSE KNOWLEDGE OF SUCH CONDITIONS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED WHERE EXTRA LABOR OR MATERIALS ARE REQUIRED.
7. ALL DEMOLITION WORK SHALL BE ACCOMPLISHED THRU PHASING OF CERTAIN AREAS WHILE MAINTAINING UNAFFECTED AREAS AS FURTHER OUTLINED IN THE SEQUENCE OF CONSTRUCTION AND AS DIRECTED BY THE CONTRACTING OFFICER.
8. REMOVE EXISTING ELECTRICAL ITEMS NOTED ON PLANS OR DESCRIBED WITHIN THESE NOTES BACK TO THEIR RESPECTIVE SOURCE, JUNCTION BOX OR NEXT DEVICE WHICH IS SCHEDULED TO REMAIN FOR POSSIBLE EXTENSION OF EXISTING WIRING FOR NEW CONSTRUCTION.
9. FIELD VERIFY ALL SERVICES THAT ORIGINATE IN THE AREA OF DEMOLITION BUT SERVE ITEMS LOCATED IN EXISTING AREAS TO REMAIN.
10. ALL DEMOLISHED EQUIPMENT NOT INDICATED TO BE RE-USED SHALL BE RETURNED TO THE GOVERNMENT OR DISPOSED OF IN A PROPER AND LEGAL MANNER AS DIRECTED BY CONTRACTING OFFICER AND IN STRICT ACCORDANCE WITH EPA. CONTRACTOR SHALL PAY ALL EXPENSES ASSOCIATED WITH DISPOSAL. ALL ITEMS DESIGNATED FOR DISPOSAL SHALL BE REMOVED FROM THE PREMISES OR PROJECT SITE WITHIN 72 HOURS.
11. EXISTING CONDUITS MAY BE RE-USED PROVIDED THAT THEY MEET NEC SIZE REQUIREMENTS FOR FILLS, ARE ELECTRICALLY CONTINUOUS, ARE SUPPORTED PER NEC AND THEY ARE CLEANED AND SWABBED PRIOR TO INSTALLATION OF NEW WIRING.
12. RACEWAY THAT IS EITHER UNDER OR IN THE FLOOR SLAB MAY BE ABANDONED IN PLACE. REMOVE ALL WIRING AND DEVICES AS SHOWN ON THE PLANS. PATCH FLOOR SURFACE AS REQUIRED TO MATCH EXISTING AND TO PROVIDE AN EVEN SURFACE.
13. TEMPORARY SHUTDOWNS SHALL BE SCHEDULED WITH CONTRACTING OFFICER THREE (3) WEEKS IN ADVANCE SO AS NOT TO INTERFERE WITH NORMAL DAYTIME OPERATION AND AT NO ADDITIONAL COST.
14. PATCH EXISTING WALLS TO REMAIN FOLLOWING REMOVAL OF ANY ELECTRICAL ITEM THAT WILL NOT BE REPLACED FOR NEW CONSTRUCTION. MATCH EXISTING WALL SURFACE AND FINISH. WORK TO BE PERFORMED BY WORKMEN SKILLED IN THE TRADE.

PROJECT NOTES

1. THIS PROJECT INVOLVES THE REPLACEMENT OF VARIOUS DISTRIBUTION ELEMENTS OF THE NORMAL AND THE ESSENTIAL ELECTRICAL SYSTEM IN AN OPERATIONAL HOSPITAL. ANY NECESSARY OUTAGES MUST BE PLANNED, WITH PRIOR NOTICE AS DEFINED ON TITLE SHEET, APPROVED BY THE VA COTR, AND BE OF LIMITED SCOPE AND DURATION. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY POWER TO ANY LOADS SERVED BY EQUIPMENT BEING REMOVED OR REPLACED AS REQUIRED TO PERMIT THE FACILITY TO CONTINUE FUNCTIONING IN ITS MISSION. CONTRACTOR SHALL BE REQUIRED TO PROVIDE ANY AND ALL FUEL AS REQUIRED. EXISTING FACILITY GENERATORS MAY BE USED IF APPROVED BY THE VA. MAINTAINANCE AND SYSTEM OPERATIONAL REIMBURSEMENT MAY BE REQUIRED. (1)

3. CONTRACTOR SHALL REFERENCE SITE UTILITY PLANS FROM "OTHER" PROJECTS. PLANS ARE SUPPLIED BY VA COTR AND ARE INTENDED TO ASSIST THE CONTRACTOR IN HIS WORK. HOWEVER, CONTRACTOR IS RESPONSIBLE TO CONFIRM ALL SITE UTILITIES PRIOR TO COMMENCING WORK. OWNER PROVIDED SITE UTILITIES PLANS ARE FOR REFERENCE ONLY AND ARE NOT TO BE SCALED OR CONSIDERED ALL-INCLUSIVE.

4. THERE ARE MANY UNDERGROUND CRITICAL UTILITIES IN AND AROUND BUILDING 13 AND BUILDING 2. ALL DEMOLITION, EXCAVATION, AND CONSTRUCTION WORK MUST BE DONE WITH CARE. FACILITY UTILITY DRAWINGS WILL BE PROVIDED FOR REFERENCE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ALL VERIFICATION AND LOCATING REQUIREMENTS.

5. CONTRACTORS SHALL VERIFY AND CONFIRM NUMBER, TYPE, AND HORIZONTAL AND VERTICAL LOCATIONS OF ALL UTILITIES BEFORE PERFORMING ANY WORK. DISCREPANCIES BETWEEN DRAWINGS AND FIELD CONDITIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE COR.

6. RACEWAY ROUTING INDICATED IS PROPOSED AND SUBJECT TO EXISTING CONDITIONS. CONTRACTOR SHALL ROUTE ALL RACEWAYS AROUND OBSTACLES ENCOUNTERED, AS ACCEPTABLE TO COTR. WHERE NECESSARY, TRENCHING MAY REQUIRE ADDITIONAL DEPTH TO AVOID AND RUN BELOW EXISTING UTILITIES.

7. ALL WORK NEAR UNDERGROUND UTILITIES SHALL BE HAND-EXCAVATED.

8. WHEN UTILITY LINES ARE EXPOSED THEY SHALL BE SUPPORTED UNTIL WORK IS COMPLETE. PLANS FOR ALL REQUIRED SUPPORTS SHALL BE INCORPORATED INTO TRENCHING PLANS.

9. OWNER PROVIDED SITE UTILITIES PLANS ARE FOR REFERENCE ONLY AND ARE NOT TO BE SCALED OR CONSIDERED ALL-INCLUSIVE.

10. WORK HOURS FOR THE UNDERGROUND PORTION OF THE WORK, AND FOR AREAS WHICH IMPACT BUILDING ENTRANCES SHALL BE FROM 20:00 TO 05:30 HOUR, MONDAY THROUGH FRIDAY. TRAFFIC CONTROL SHALL BE THE CONTRACTOR'S RESPONSIBILITY, INCLUDING AHAs, TRAFFIC CONTROL PLANS, FLAGGERS, SIGNAGE, BARRICADES, LIGHTING, ETC., AS REQUIRED. ALL TRENCHES AND HOLES SHALL BE PLATED AND RESTORED FOR TRAFFIC BY 05:30, MONDAY, THROUGH FRIDAY. NOTE: SATURDAY AND SUNDAY WORK TIMES ARE NOT RESTRICTED. TRAFFIC CONTROL PLANS SHALL BE DEVELOPED BY A COMPANY WHICH REGULARLY PERFORMS TRAFFIC CONTROL SOLUTIONS AND SHALL REQUIRE A ROADWAY DESIGN ENGINEER CERTIFICATION.

11. STORAGE ON SITE IS EXTREMELY LIMITED. ALL MATERIAL IS EXPECTED TO BE BROUGHT ON SITE AS REQUIRED. PERMANENT ON SITE STORAGE WILL BE PROVIDED IF AND AS AVAILABLE.

12. AS A PART OF THIS CONTRACT, THE CONTRACTOR SHALL PROVIDE THE VA WITH AN ALLOWANCE OF 28,000 GALLONS OF NO. 2 DIESEL FUEL BASED UPON THE COST OF FUEL AT TIME OF BID FROM A FUEL DISTRIBUTING COMPANY. THIS FUEL SHALL BE AVAILABLE FOR ORDER UPON REQUEST BY THE VA THROUGHOUT THE JOB.

13. ALL CONTRACT EMPLOYEES SHALL BE REQUIRED TO ATTEND A FACILITY SAFETY MEETING. THIS MEETING IS HELD EVERY OTHER MONDAY AT 0830 FOR UP TO 1 HOUR.

14. ADDITIVE ALTERNATE #11 – PROVIDE SKM POWER*TOOLS SOFTWARE, PTW VERSION 7.0. PROVIDE DAPPER, CAPTOR, ARC FLASH EVALUATION, A_FAULT, IEC_FAULT, EQUIPMENT EVALUATION, HI_WAVE, UNBALANCED/SINGLE PHASE STUDIES, DISTRIBUTION RELIABILITY, GROUND MAT. PROVIDE SOFTWARE SUITE WITH LICENSE AND PRODUCT SUPPORT FOR 2 YEARS.

"BID SET"

Revisions:	Date
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(1) ADDENDUM NO. 1	08/18/2015

CONSULTANT:

Registered Professional Engineer (Electrical) Certificate No. 33470 RADAMES O. COCCO Date Signed 08.18.2015 ARIZONA, U.S.A. Expires 3/31/2017

CONSULTANT:

Westlake Reed Leskosky
One East Camelback Road
Suite 690
Phoenix, Arizona 85012
www.WRLdesign.com

ARCHITECT/ENGINEERS:

AES Group, Inc.
11031 SOUTH PIKES PEAK DRIVE #202
PARKER, COLORADO 80138
PH: 303.841.3922
WWW.AES-GRP.COM

Drawing Title: ELECTRICAL GENERAL NOTES
-
-

Approved: Project Director

Project Title: SITE ELECTRICAL DISTRIBUTION UPGRADE

Location: PHOENIX, AZ

Date: 03-06-2015 | Checked: | Drawn:

Project Number: 644-13-015 / 644-14-003

Building Number: 1, 8, 16, 21, 31

Drawing Number: E-001

Dwg. -- of 49

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231