ELECTRICAL ABBREVIATIONS

1PH SINGLE-PHASE
1P SINGLE POLE
2/C TWO-CONDUCTOR
3/C THREE-CONDUCTOR
3PH THREE-PHASE
4/C FOUR-CONDUCTOR
4W FOUR-WIRE

A/C UNIT AIRCONDITIONING UNIT
A/E ARCHITECT/ENGINEER
AAP ALARM ANNUNCIATOR PANEL
AC ALTERNATING CURRENT OR ARMORED CABLE
ACC ACCESSIBLE
ADDL ADDITIONAL
ADJ ADJACENT, ADJOINING
ADO AUTOMATIC DOOR OPENER
AF AMPERE FRAME OR AMP FUSE
AFC ABOVE FINISHED COUNTER, AUTOMATIC FREQUENCY CONTROL, OR AVAILABLE FAULT CURRENT
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AH AMPERE HOUR
AHJ AUTHORITY HAVING JURISDICTION
AIC AMPERE INTERRUPTING CAPACITY
ALT ALTERNATE
AMB OR A AMBIENT
AMP AMPERE
ARCH ARCHITECT
ASC AMPS SHORT CIRCUIT
AT AMPERE TRIP
ATS AUTOMATIC TRANSFER SWITCH
AUTO AUTOMATIC
AV AUDIO VISUAL

BAT BATTERY
BC BARE COPPER
BD BOARD
BFFBELOW FINISH FLOOR
BIL BASIC INSULATION LEVEL
BLDG BUILDING
BPIP BOILER PLANT INSTRUMENTATION PANEL
BRKR BREAKER
BYP BYPASS

C CONDUIT
CAB CABINET
CALC CALCULATE
CAPCAPACITY
CAT CATALOG
CATV COMMUNITY ANTENNA TELEVISION
CCR CONTROL CONTACTOR
CCTV CLOSED CIRCUIT TELEVISION
cd CANDELA
CD CONSTRUCTION DOCUMENTS
CF CONTRACTOR FURNISHED
CF/CI CONTRACTOR FURNISHED/CONTRACTOR INSTALLED
CF/OI CONTRACTOR FURNISHED/OWNER INSTALLED
CFE CONTRACTOR FURNISHED EQUIPMENT
CHW CHILLED WATER
CHWP CHILLED WATER PUMP
CKT CIRCUIT
CKT BRKR CIRCUIT BREAKER
CLF CURRENT LIMITING FUSE
CLG CEILING
CMU CONCRETE MASONRY UNIT
COAX COAX CABLE
COMM COMMUNICATION
COMPT COMPARTMENT
CONC CONCRETE
CONT CONTINUE
CONTR CONTRACTOR
COORD COORDINATE
CPT CONTROL POWER TRANSFORMER
CRI COLOR RENDERING INDEX
CT CURRENT TRANSFORMER
CTV CABLE TELEVISION
CU COPPER
CU FT CUBIC FEET
CUR CURRENT

DB DECIBEL OR DIRECT BURIAL
DC DIRECT CURRENT
DCP DIMMER CONTROL PANEL
DEG C DEGREES CELSIUS
DEG F DEGREES FAHRENHEIT
DEMO DEMOLITION
DIAG DIAGRAM
DISC DISCONNECT
DISTR DISTRIBUTION
DISTR PNL DISTRIBUTION PANEL
DMR SW DIMMER SWITCH
DN DOWN
DPDT DOUBLE POLE, DOUBLE THROW
DPST DOUBLE POLE, SINGLE THROW
DRSW DOOR SWITCH
DS DISCONNECT SWITCH
DWG DRAWING

EC EMPTY CONDUIT
EG EQUIPMENT GROUND
EL ELEVATION
ELEC ELECTRIC OR ELECTRICAL
ELEV ELEVATOR
EMCP EMERGENCY MONITORING CONTROL PANEL
EM EMERGENCY
EMI ELECTROMAGNETIC INTERFERENCE
EMT ELECTRICAL METALLIC TUBING
ENCL ENCLOSURE
EPO EMERGENCY POWER OFF
EPRF EXPLOSION PROOF
ESMT EASEMENT
EWC ELECTRIC WATER COOLER
EWH ELECTRIC WATER HEATER
EXIST EXISTING
(E) EXISTING

FA FIRE ALARM
FAAP FIRE ALARM ANNUNCIATOR PANEL
FABL FIRE ALARM BELL
FABX FIRE ALARM BOX
FACP FIRE ALARM CONTROL PANEL
FATC FIRE ALARM TERMINAL CABINET
FC FOOTCANDLE
FI FILM ILLUMINATOR
FIXT FIXTURE
FLA FULL LOAD AMPS
FLEX FLEXIBLE METALLIC CONDUIT
FLT FLOODLIGHT
FLUOR FLUORESCENT
FLUOR FIXT FLUORESCENT FIXTURE
FOUTT TELEPHONE FLOOR OUTLET
FP FIRE PROTECTION
FT FEET OR FOOT
FU SW FUSED SWITCH
FVNR FULL VOLTAGE NON-REVERSING
FVR FULL VOLTAGE REVERSING

G OR GND GROUND OR GENERATOR
GEN GENERATOR
GFCI GROUND FAULT CIRCUIT INTERRUPTER
GTB GROUND TERMINAL BOX

HID HIGH INTENSITY DISCHARGE
HOA HAND-OFF-AUTOMATIC
HP HORSEPOWER
HT HEIGHT
HZ HERTZ

IESNA ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
IMC INTERMEDIATE METAL CONDUIT
INCAND INCANDESCENT
IR INFRARED
IWH INSTANTANEOUS WATER HEATER

J-BOX JUNCTION BOX

kV KILOVOLT
kVA KILOVOLT AMPERE
kVAH KILOVOLT AMPERE PER HOUR
kVAR KILOVOLT AMPERE REACTIVE
kW KILOWATT
kWH KILOWATT HOUR
kWHM KILOWATT HOUR METER

LED LIGHT EMITTING DIODE
LF LINEAR FEET (FOOT)
LM LUMEN
LP LIGHT POLE
LPS LOW PRESSURE SODIUM
LRA LOCKED ROTOR AMPS
LTCP LOCAL TEMPERATURE CONTROL PANEL
LT LIGHT
LTG LIGHTING
LTG PNL LIGHTING PANEL
LTNG LIGHTNING
LV LOW VOLTAGE

MATV MASTER ANTENNA TELEVISION SYSTEM
MAX MAXIMUM
MC METAL-CLAD
MCA MINIMUM CIRCUIT AMPS
MCB MAIN CIRCUIT BREAKER
MCC MOTOR CONTROL CENTER
MDP MAIN DISTRIBUTION PANEL
MECH MECHANICAL
MG MOTOR GENERATOR
MH MANHOLE
MIN MINIMUM
MOCP MAXIMUM OVERCURRENT PROTECTION
MLO MAIN LUGS ONLY
MT MOUNT
MTD MOUNTED
MTG MOUNTING
MTS MANUAL TRANSFER SWITCH
MV MEDIUM VOLTAGE
MVA MEGAVOLT-AMPERE
MW MEGAWATT MICROWAVE

NA NOT APPLICABLE
NEC NATIONAL ELECTRICAL CODE
NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT OR N NEUTRAL
(N) NEW
NFPA NATIONAL FIRE PROTECTION ASSOCIATION
NIC NOT IN CONTRACT
NL NIGHT LIGHT
NO NORMALLY OPEN
NS NO SCALE
NTS NOT TO SCALE

OC ON CENTER
OD OUTSIDE DIAMETER
OL OVERLOAD

P POLE
PA PUBLIC ADDRESS
PB PANELBOARD, PULL BOX, OR PUSHBUTTON
PBPU PREFABRICATED BEDSIDE PATIENT UNIT
PCB POLYCHLORINATED BIPHENYL
PEC PHOTOELECTRIC CELL
PED PEDESTAL
PEND PENDANT
PF POWER FACTOR
PH PHASE
PNL PANEL
POD POWER OPERATED DAMPER
PT POTENTIAL TRANSFORMER
PTRV POWER TYPE ROOF VENTILATION
PVC POLYVINYL CHLORIDE (PLASTIC)
PWR POWER

RCP REFLECTED CEILING PLAN
REC RECESSED
RECPT RECEPTACLE
RGS RIGID GALVANIZED STEEL
RM ROOM
RMS ROOT MEAN SQUARE
REQD REQUIRED

SCC SHORT CIRCUIT CAPACITY
SES SERVICE ENTRANCE SECTION
SD SMOKE DETECTOR
SF SQUARE FOOT (FEET)
SHT SHEET
SI INTERNATIONAL SYSTEM OF UNITS
SPEC SPECIFICATION
SPST SINGLE POLE, SINGLE THROW
SURF SURFACE
SW SWITCH
SWBD SWITCHBOARD
SWGR SWITCHGEAR

TC TIME CLOCK
TEL TELEPHONE
TP TWISTED PAIR
TPS TWISTED PAIR SHIELDED
TTB TELEPHONE TERMINAL BOARD
TV TELEVISION
TYP TYPICAL

UFD UNDERFLOOR DUCT
UGND UNDERGROUND
UL UNDERWRITERS LABORATORY
UON UNLESS OTHERWISE NOTED
UPS UNINTERRUPTIBLE POWER SUPPLY
UTIL UTILITY

V VOLT
VA VOLT AMPERE
VAR VOLT AMPERE REACTIVE
VFD VARIABLE FREQUENCY DRIVE
VOLT VOLTAGE

W WATT
WAP WIRELESS ACCESS POINT
WH WATER HEATER
WP WEATHERPROOF

XFER TRANSFER
XFMR TRANSFORMER

ELECTRICAL SYMBOLS - DIAGRAM

- MOTOR, SINGLE-PHASE
- TRANSFORMER
- EARTH GROUND
- JUNCTION BOX
- PULL BOX
- FUSE WITH RATING
- MOLDED CASE CIRCUIT BREAKER
- SWITCH AND FUSE UNIT
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH, UNFUSED
- (M) METER
- (A) AMMETER
- (V) VOLTMETER
- (W) WATTMETER
- WH WATT-HOUR METER
- (1) ELECTRICAL NOTE

ELECTRICAL SYMBOLS - POWER PLAN

- MOTOR, SINGLE-PHASE
- T TRANSFORMER, PLAN
- EARTH GROUND
- JUNCTION BOX
- BRANCH CIRCUIT HOMERUN. LINES INDICATE NUMBER OF CIRCUITS, NEUTRAL, AND SWITCH LEG CONDUCTORS. ONE SEPARATE GREEN GROUNDING CONDUCTOR SHALL BE PROVIDED FOR EACH HOMERUN; NOT SHOWN
- PB PULL BOX
- FLOOR OUTLET, DATA COMMUNICATION
- POKE THRU, POWER/DATA COMBO
- $PB PUSH BUTTON STATION
- PANELBOARD CABINET, FLUSH MOUNTED
- PANELBOARD CABINET, SURFACE MOUNTED
- RECEPTACLE, CLOCK HANGER
- RECEPTACLE, DUPLEX, +15"
- RECEPTACLE, DUPLEX ON EMERGENCY POWER, +15"
- GFI RECEPTACLE, DUPLEX WITH GROUND FAULT CIRCUIT INTERRUPTER, +15"
- RECEPTACLE, QUADRUPLEX, +15"
- TELEPHONE / DATA OUTLET
- SPEAKER, CEILING MOUNTED
- SPEAKER, WALL MOUNTED
- TELEVISION OUTLET
- S "s" DENOTES EXISTING SURFACE MOUNTED ELECTRICAL
- DISCONNECT SWITCH, FUSED
- DISCONNECT SWITCH, UNFUSED
- $ SWITCH
  F = FUSED SWITCH — K = KEY OPERATED
  L = LOCK — LM= LOW VOLTAGE MASTER
  M = MANUAL MOTOR STARTING — MC= MOMENTARY CONTACT
  MP= MOTOR SNAP WITH PILOT LIGHT — P = WITH PILOT LIGHT
  (THERMAL TYPE)
  PB= PUSH BUTTON STATION — RC= REMOTE CONTROL
  WP= WEATHER PROOF — X = EXPLOSION PROOF
- DASHED SYMBOLS DENOTE EXISTING
- (1) ELECTRICAL NOTE

ELECTRICAL SYMBOLS - FIRE ALARM PLAN

- F FIRE ALARM MANUAL PULL STATION, +45"
- SMOKE DETECTOR, CEILING MOUNTED
- HEAT DETECTOR, CEILING MOUNTED
- DUCT SMOKE DETECTOR, SYSTEM TYPE
- VISUAL STROBE LIGHT
- AUDIBLE/VISUAL (HORN/STROBE)
- H HORN
- 15 15 "15" DENOTES STROBE CANDELA RATING
- MM ADDRESSABLE MONITOR MODULE
- CM ADDRESSABLE CONTROL MODULE
- NAC NOTIFICATION APPLIANCE CIRCUIT POWER EXTENDER PANEL
- WF FIRE SPRINKLER WATERFLOW SWITCH
- TS FIRE SPRINKLER TAMPER SWITCH
- PIV FIRE SPRINKLER TAMPER SWITCH
- DUCT SMOKE DETECTOR, 120V TYPE
- EOL END-OF-LINE DEVICE
- (1) ELECTRICAL NOTE

ELECTRICAL SYMBOLS - LIGHTING PLAN

- $ SINGLE POLE SWITCH, +48" TOP OF BOX AFF.
- $3 3-WAY SWITCH, +48" TOP OF BOX AFF.
- $K KEYED SWITCH, +48" TOP OF BOX AFF.
- LIGHT FIXTURE CEILING MOUNTED
- LIGHT FIXTURE, RECESSED MOUNTED
- LIGHT CONTROL STATION
- LIGHT CONTROL PANEL
- LIGHT FIXTURE, SURFACE MOUNTED FLUORESCENT, 2'x4'
- LIGHT FIXTURE, SURFACE MOUNTED FLUORESCENT, 1'x4'
- LIGHT TRACK WITH HEADS AS SHOWN
- LIGHT FIXTURE, STRIP/INDUSTRIAL FLUORESCENT; LETTER INDICATES TYPE.
- LIGHT FIXTURE, WALL MOUNTED
- LIGHT FIXTURE, 2'x2', RECESSED
- LIGHTING, TWO HEAD EMERGENCY BATTERY POWER
- EXIT SIGN, WALL MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN
- EXIT SIGN, CEILING MOUNTED WITH DIRECTIONAL ARROWS AND FACES AS SHOWN
- S OCCUPANCY SENSOR POWER SWITCHPAK, CEILING MOUNTED
- OCCUPANCY SENSOR, CEILING MOUNTED
- OCCUPANCY SENSOR, +45"
- EXISTING LIGHT
- A LIGHTING FIXTURE TYPE
- (1) ELECTRICAL NOTE

GENERAL NOTES

A. ALL FINAL LOCATIONS AND ARRANGEMENTS OF LIGHTING FIXTURES SHALL BE OBTAINED FROM THE ARCHITECTURAL REFLECTED CEILING PLAN.

B. LIGHTING FIXTURES WITH MORE THAN TWO LAMPS SHALL HAVE TWO OUTER LAMPS CONTROLLED WITH ONE SWITCH AND INNER LAMP(S) CONTROLLED BY A SECOND SWITCH.

C. (1) EACH BRANCH CIRCUIT HOMERUN SHALL HAVE NO MORE THAN THREE CIRCUITS. EACH BRANCH CIRCUIT HOMERUN SHALL HAVE A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR.

D. MULTI-GANG BACKBOXES FOR DIFFERENT VOLTAGES AND TYPES OF EMERGENCY AND NORMAL BRANCH WIRING DEVICES SHALL HAVE DIVIDERS BETWEEN DEVICES.

GENERAL NOTES - DEMOLITION

A. WHERE EXISTING EQUIPMENT, SUCH AS LIGHTING FIXTURES, WIRING DEVICES, CONDUITS, ETC., SHOWN ON PLANS TO BE REMOVED, CUT/CAP CONDUITS AT THE AREA OF WORK PERIMETER AND REMOVE CONDUIT WITHIN THE WORK AREA, DISCONNECT WIRING AT THE OVERCURRENT PROTECTIRVE DEVICE AND REMOVE WIRING COMPLETELY FROM THE ABANDONED CONDUITS.

B. REMOVE ALL ACCESSIBLE ABANDONED WIRING OF ALL TYPES, OR CAP AND LABEL IN JUNCTION BOX FOR RE-USE, IN COMPLIANCE WITH THE NATIONAL ELECTRIC CODE.

C. MAINTAIN AND RESTORE, IF INTERRUPTED, ALL CONDUITS AND CONDUCTORS PASSING THROUGH RENOVATED AREAS AND SERVICING UNDISTURBED AREAS.

D. CONTRACTOR SHALL REMOVE AND REPLACE ANY EXISTING ALUMINUM CONDUCTORS WITH COPPER CONDUCTORS BY CHANGE ORDER. COORDINATE WITH COTR FOR DIRECTION.

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