LIGHTING

- 2x4 FLUORESCENT FIXTURE; Ab — ASSOCIATED CONTROL DEVICE; FIXTURE TYPE (SEE LIGHT FIXTURE SCHEDULE)
- 1x4 FLUORESCENT FIXTURE
- 2x2 FLUORESCENT FIXTURE
- FIXTURE WIRED TO UNSWITCHED NORMAL CIRCUIT
- FIXTURE WIRED TO UNSWITCHED EMERGENCY CIRCUIT
- FIXTURE WIRED TO SWITCHED EMERGENCY CIRCUIT
- DOWN LIGHT
- FLUORESCENT STRIP
- WALL MOUNTED FIXTURES
- TRACK LIGHTING
- POLE MOUNTED SITE LIGHTING FIXTURE; ab — FIXTURE TYPE (SEE LIGHT FIXTURE SCHEDULE)
- FLOOD LIGHT
- WALL WASH LIGHT FIXTURE
- EXIT SIGN, CEILING MOUNTED; ARROW INDICATES EGRESS DIRECTION; SHADING INDICATES SIGN FACE
- EXIT SIGN, WALL MOUNTED; SHADING INDICATES SIGN FACE
- DUAL HEAD EMERGENCY LIGHT BATTERY PACK; TD — TIME DELAY RESET
- REMOTE EMERGENCY LIGHTING HEAD
- WP — WALL PACK
- S_3 — 3-WAY TOGGLE SWITCH
- S_a — SINGLE POLE TOGGLE SWITCH; INDICATES CONTROLLED FIXTURE
- S_4 — 4-WAY TOGGLE SWITCH
- S_{II} — DUAL LEVEL SWITCHING
- S_D — DIMMER SWITCH. INCANDESCENT OR FLUORESCENT AS REQUIRED.
- S_P — TOGGLE SWITCH WITH PILOT LIGHT
- S_T — TIMER SWITCH, SPRING WOUND
- S_{DT} — SINGLE POLE DOUBLE THROW TOGGLE SWITCH, CENTER POSITION OFF
- S_{WP} — WEATHER PROOF
- S_{XP} — EXPLOSION PROOF
- S_{OS} — OCCUPANCY SENSOR SWITCH
- UNSWITCHED CONTINUATION OF BRANCH CIRCUIT
- HOME RUN
- OCCUPANCY SENSOR; a. INDICATES CONTROLLED FIXTURE; INDICATES AIMING DIRECTION
- OSR — OCCUPANCY SENSOR RELAY
- DS — DAYLIGHT SENSOR; LIGHTS CONTROLLED BY SENSOR

POWER

- (4) 30A — NON-FUSED SAFETY SWITCH; AMPERE RATING; NEMA ENCLOSURE RATING
- F J 60AS 40AF (4) — FUSED SAFETY SWITCH. TOP NUMBER INDICATES SWITCH AMPERE RATING. LOWER NUMBER INDICATES FUSE RATING; NEMA ENCLOSURE
- 1 (4) — MAGNETIC MOTOR STARTER. FVNR UNLESS INDICATED OTHERWISE; NEMA ENCLOSURE RATING; NEMA SIZE (TYPICAL)
- CB 20/1 — COMBINATION CIRCUIT BREAKER/MAGNETIC MOTOR STARTER; FIRST NUMBER INDICATES CIRCUIT BREAKER AMPERE RATING; SECOND NUMBER INDICATES NEMA STARTER SIZE
- F 60/40/1 — COMBINATION FUSED DISCONNECT/MAGNETIC MOTOR STARTER; NUMBERS INDICATE DISCONNECT AMPERE RATING/FUSE RATING/NEMA STARTER SIZE
- 30/1 — NON-FUSED DISCONNECT/MAGNETIC MOTOR STARTER; FIRST NUMBER INDICATES CIRCUIT BREAKER AMPERE RATING; SECOND NUMBER INDICATES NEMA STARTER SIZE
- M OL — MANUAL MOTOR STARTER. TOGGLE OPERATED, 1,2 OR 3 POLE AS REQUIRED. OVERLOAD PROTECTION
- M — MANUAL MOTOR SWITCH, TOGGLE OPERATED, SINGLE PHASE. 1 OR 2 POLE AS REQUIRED (NO OVERLOAD PROTECTION)
- CB 100A — ENCLOSED CIRCUIT BREAKER; AMPERE RATING
- 5 — ELECTRIC MOTOR, NUMBER INDICATES HORSEPOWER RATING
- 5 — EXPLOSION PROOF MOTOR
- VAV — VARIABLE AIR VOLUME CONTROL ACTUATORS
- HS H/O/A — LOCAL SELECTOR SWITCH; H/O/A – HAND/OFF/AUTO
- EMO — EMERGENCY OFF BREAK GLASS STATION
- PB — PUSHBUTTON STATION
- J — JUNCTION BOX
- T — TRANSFORMER
- P — POWER POLE
- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- EY CONDUIT SEAL
- E — DUPLEX RECEPTACLE, NEMA 5-20R. INSTALLED ON EMERGENCY CIRCUIT (TYPICAL)
- GFI DUPLEX RECEPTACLE, NEMA 5-20R
- HOSPITAL GRADE DUPLEX RECEPTACLE, NEMA 5-20R
- HOSPITAL GRADE GFCI DUPLEX RECEPTACLE, NEMA 5-20R
- IG — HOSPITAL GRADE ISOLATED GROUND DUPLEX RECEPTACLE, NEMA 5-20R
- SINGLE RECEPTACLE, NEMA 5-20R
- DOUBLE DUPLEX (QUADRUPLEX) RECEPTACLE, NEMA 5-20R
- HOSPITAL GRADE DOUBLE DUPLEX RECEPTACLE NEMA 5-20R
- S — SWITCHED RECEPTACLE
- FLOOR OUTLET, DUPLEX RECEPTACLE, NEMA 5-20R
- POWER RECEPTACLE, 480 VOLT NEMA CONFIGURATION AS NOTED.
- POWER RECEPTACLE, 240 VOLT NEMA CONFIGURATION AS NOTED.
- PANELBOARD, NORMAL POWER
- PANELBOARD, EMERGENCY POWER
- MULTI OUTLET ASSEMBLY

FIRE ALARM

- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR
- M — FIRE ALARM MASTER BOX
- F — FIRE ALARM MANUAL PULL STATION
- F — FIRE ALARM SPEAKER/STROBE UNIT
- F — FIRE ALARM AUDIBLE/VISIBLE NOTIFICATION APPLIANCE (GENERAL EVACUATION)
- FIRE ALARM AUDIBLE/VISIBLE NOTIFICATION APPLIANCE CLEAN ROOM NOTIFICATION (LOCAL)
- F (110) C — FIRE ALARM VISIBLE ONLY NOTIFICATION APPLIANCE; CANDELA INTENSITY–15/75 UNLESS OTHERWISE NOTED; CEILING MOUNTED
- P A — PHOTOELECTRIC SMOKE DETECTOR. CEILING MOUNTED; INDICATES AUXILIARY CONTACT.
- H <TPP-1> — FIXED TEMPERATURE HEAT DETECTOR. CEILING MOUNTED. INDICATES EQUIPMENT INTERLOCKED WITH THE DETECTOR
- P1 <RC-1> — CLEAN ROOM SMOKE DETECTOR; INDICATES EQUIPMENT INTERLOCKED WITH THE SMOKE DETECTOR
- H R — COMBINATION RATE-OF-RISE/FIXED TEMPERATURE HEAT DETECTOR. CEILING MOUNTED
- D — DUCT SMOKE DETECTOR, PHOTOELECTRIC WITH AUXILIARY CONTACT.
- FS — SPRINKLER SYSTEM FLOW SWITCH
- TS — SPRINKLER SYSTEM TAMPER SWITCH
- DH — FIRE ALARM SYSTEM MAGNETIC DOOR HOLDER
- INTERLOCK RELAY
- SD — SMOKE DAMPER
- RTI — DUCT SMOKE DETECTOR REMOTE TEST INDICATOR
- K — KNOX BOX

ONE LINE DIAGRAM

- 52 — MEDIUM VOLTAGE DRAWOUT CIRCUIT BREAKER
- AF AT EO — LOW VOLTAGE DRAWOUT CIRCUIT BREAKER; AF – AMP FRAME; AT – AMP TRIP; EO – ELECTICALLY OPERATED
- MOLDED CASE CIRCUIT BREAKER
- ST — ST – SHUNT TRIP; GF – GROUND FAULT; EO – ELECTRICALLY OPERATED
- DISCONNECT, ISOLATION OR SAFETY SWITCH
- FUSED CUTOUT
- FUSED LOAD BREAK SWITCH
- MEDIUM VOLTAGE MOTOR STARTER
- 1 — MAGNETIC MOTOR STARTER. NUMERAL INDICATES NEMA SIZE; FVNR UNLESS OTHERWISE NOTED; FVR – FULL VOLTAGE REVERSING; RVAT – REDUCING VOLTAGE AUTO TRANSFORMER; 2S – TWO SPEED
- CAPACITOR
- VFD — VARIABLE FREQUENCY DRIVE
- OA — POWER TRANSFORMER; OA – LIQUID TYPE SELF COOLED; AA – DRY TYPE SELF COOLED; FA – FAN COOLED; CONNECTION
- SHIELDED ISOLATION TRANSFORMER
- 2 480/120 — POTENTIAL TRANSFORMER; RATIO; NUMBER REQUIRED
- 3 600/5 — CURRENT TRANSFORMER; RATIO; NUMBER REQUIRED
- GROUND FAULT CURRENT TRANSFORMER
- 5 — MOTOR, NUMBER INDICATES HORSEPOWER
- GENERATOR
- N E L ATS — ATS – AUTOMATIC TRANSFER SWITCH; MTS – MANUAL TRANSFER SWITCH
- A — METER; A – AMMETER; V – VOLTMETER; W – WATTMETER; WH – WATT HOURMETER; KWH – KILOWATT HOUR; KVAR – KILOVAR METER; VAR – VAR METER; HZ – FREQUENCY METER; PF – POWER FACTOR METER
- DPM — DIGITAL POWER METER
- AS — METER TRANSFER SWITCH; AS – AMMETER SWITCH; VS – VOLTMETER SWITCH
- TVSS — TRANSIENT VOLTAGE SURGE SUPPRESSOR
- LA — LIGHTNING ARRESTOR
- K — KEY INTERLOCK
- FUSE
- E F — ELECTRONIC POWER FUSE
- DRAWOUT DEVICE
- GROUND

ABBREVIATIONS

A,AMP	AMPERE	LA	LIGHTNING ARRESTER
AFF	ABOVE FINISHED FLOOR	LTG	LIGHTING
AFG	ABOVE FINISHED GRADE	MC	METAL CLAD
AHJ	AUTHORITY HAVING JURISDICTION	MCB	MAIN CIRCUIT BREAKER
AIC	AMPERE INTERRUPTING CAPACITY	MFR	MANUFACTURER
AWG	AMERICAN WIRE GAUGE	MI	MINERAL INSULATED
BFG	BELOW FINISHED GRADE	MLO	MAIN LUG ONLY
BOS	BOTTOM OF STEEL	MTD	MOUNTED
C	CONDUIT, CONDUCTOR	MV	MEDIUM VOLTAGE
CATV	CABLE TELEVISION	NC	NORMALLY CLOSED
CB	CIRCUIT BREAKER	NEC	NATIONAL ELECTRICAL CODE
CCTV	CLOSED CIRCUIT TELEVISION	NEG	NEGATIVE
CPT	CONTROL POWER TRANSFORMER	NEUT	NEUTRAL
CT	CURRENT TRANSFORMER	NIC	NOT IN CONTRACT
CU	COPPER	NO	NORMALLY OPEN
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER	NTS	NOT TO SCALE
		PF	POWER FACTOR
DB	DIRECT BURIED	PH	PHASE
DISC	DISCONNECT	PVC	POLYVINYL CHLORIDE
DN	DOWN	RGS	RIGID STEEL CONDUIT
EMT	ELECTRICAL METALLIC TUBING	RSC	RIGID STEEL CONDUIT
EWC	ELECTRIC WATER COOLER	RTD	RESISTANCE TEMPERATURE DETECTOR
FAA	FIRE ALARM ANNUNCIATOR		
FACP	FIRE ALARM CONTROL PANEL	SN	SOLID NEUTRAL
FBO	FURNISHED BY OTHERS	STP	SHIELDED TWISTED PAIR
FU	FUSE	STT	SHIELDED TWISTED TRIPLET
FWE	FURNISHED WITH EQUIPMENT	SWBD	SWITCHBOARD
GEN	GENERATOR	SWGR	SWITCHGEAR
GFCI	GROUND FAULT CIRCUIT BREAKER	TOS	TOP OF STEEL
GND	GROUND	TRANSF	TRANSFORMER
HP	HORSEPOWER	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSER
HTR	HEATER		
IG	ISOLATED GROUND	V	VOLT
IMC	INTERMEDIATE METAL CONDUIT	VA	VOLT–AMPERE
K	KILO	VAR	VOLT–AMPERE REACTIVE
KCMIL	THOUSAND CIRCULAR MILS	WM	WATT METER
KV	KILOVOLT	WP	WEATHER PROOF
KVA	KILOVOLT–AMPERE	XFMR	TRANSFORMER
KVAR	KILOVOLT–AMPERE REACTIVE	XP	EXPLOSION PROOF
KW	KILOWATT		
KWH	KILOWATT–HOUR		

GENERAL NOTES:

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA–70, NATIONAL ELECTRICAL CODE (NEC).
2. ALL MOTOR SAFETY SWITCHES, DISCONNECTS AND MOTOR STARTERS ARE PROVIDED BY DIVISION 260000 UNLESS NOTED AS FURNISHED WITH EQUIPMENT (FWE).
3. UNLESS OTHERWISE NOTED CONVENIENCE RECEPTACLES SHALL BE MOUNTED 18–INCHES AFF, LIGHTING TOGGLE SWITCHES 48–INCHES AFF, DATA SYSTEM OUTLETS 18–INCHES AFF, FIRE ALARM NOTIFICATION DEVICES 80–INCHES AFF OR 6–INCHES BELOW CEILING, WHICHEVER IS LOWER, AND FIRE ALARM MANUAL PULL STATIONS 48–INCHES TO TOP OF DEVICE.
4. ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF SEPARATION.
5. ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.
6. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH EVERY FEEDER AND BRANCH CIRCUIT.
7. UNLESS OTHERWISE NOTED WIRING SHALL BE 2#12 AWG CONDUCTORS AND #12 GND. HOME RUNS FED FROM 20A–1P CIRCUITS IN EXCESS OF 100 FEET SHALL BE #10 AWG.
8. FLEXIBLE CONNECTIONS TO MOTORS SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT, UNLESS OTHERWISE NOTED.
9. LIGHTING TOGGLE SWITCHES SHALL BE COMMERCIAL SPECIFICATION GRADE 120/277V VOLT, SIDE WIRED AND PROVIDED WITH GROUNDING SCREW. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL. COORDINATE COLOR WITH ARCHITECT.
10. CONVENIENCE RECEPTACLES SHALL BE COMMERCIAL SPECIFICATION GRADE GROUNDING TYPE NEMA 5–20R, SIDE WIRED. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL. COORDINATE COLOR WITH ARCHITECT.
11. PROVIDE WALL PLATES FOR ALL WIRING DEVICES, NYLON SMOOTH TYPE IN FINISHED AREAS AND GALVANIZED IN UNFINISHED AREAS.
12. ALL WIRING SHALL BE 600V, COPPER WITH THHN/THWN INSULATION. ALL RECEPTACLES, SWITCHES, CONTROL PANELS, DISCONNECTS AND OTHER ELECTRICAL DEVICES TO BE PROVIDED WITH A WITH A CLEAR ADHESIVE LABEL WITH BLACK LETTERING IDENTIFYING THE PANELBOARD AND CIRCUIT NUMBER THAT FEEDS THE DEVICE. UTILIZE 1/2" HIGH BROTHER P–TOUCH LABELS OR EQUAL. JUNCTION BOXES FOR OTHER LOW VOLTAGE SYSTEMS TO BE CLEARLY LABELED TO INDICATE WHAT SYSTEM ARE CONTAINED WITHIN JUNCTION BOX.
13. USE OF MULTI–WIRE BRANCH CIRCUITS SHALL NOT BE PERMITTED. EACH BRANCH CIRCUIT TO BE PROVIDED WITH PHASE, NEUTRAL AND GROUND WIRES INDEPENDENT OF ANY OTHER BRANCH CIRCUITS. BRANCH CIRCUIT NEUTRALS TO BE BROUGHT TO ALL SWITCH LOCATIONS.

COMMUNICATION & DATA SYSTEMS

- TELEPHONE SYSTEM WALL JACK; W–INDICATES WALL MOUNTED AT 48" AFF; P–INDICATES PAYPHONE; (2)–INDICATES 2 OUTLETS, SINGLE BOX
- DATA SYSTEM OUTLET
- COMBINATION VOICE/DATA SYSTEM OUTLET
- UNDERFLOOR TELEPHONE SYSTEM OUTLET
- UNDERFLOOR DATA SYSTEM OUTLET
- UNDERFLOOR VOICE & DATA OUTLET
- CATV — CABLE TELEVISION SYSTEM OUTLET. MOUNT 18"AFF UNLESS OTHERWISE NOTED
- CCTV — CLOSED CIRCUIT TELEVISION OUTLET. MOUNT 18" AFF UNLESS OTHERWISE NOTED
- PA — PAGING SYSTEM CONTROL PANEL AND PAGING AMPLIFIER
- S — PAGING SYSTEM SPEAKER. CEILING MOUNTED
- S — PAGING SYSTEM SPEAKER. WALL MOUNT AT 7'–6" AFF; 1. FLUSH, 2. SURFACE, 3. HORN, 4. DUAL HORN
- VC — VOLUME CONTROL
- HC — INTERCOM SYSTEM HAND KEY
- CS — CLOCK SPEAKER
- HS — INTERCOM SYSTEM HAND SET
- WALL MOUNTED CLOCK
- CEILING MOUNTED DATA SYSTEM OUTLET

GROUNDING

- GROUND ROD
- EXOTHERMIC WELD CONNECTION
- BOLTED CONNECTION
- G — BARE COPPER CONDUCTOR RUN EXPOSED
- G — BARE COPPER CONDUCTOR EMBEDDED IN CONCRETE OR BURIED

NURSE CALL SYSTEM

- CL — NURSE CALL CALL LIGHT
- PATIENT CALL BUTTON
- NURSE CALL PULL CORD
- N M — NURSE CALL MASTER STATION

SECURITY SYSTEMS

- D — DOOR CONTACT
- CR — CARD READER
- KP — KEY PAD
- CCTV — CLOSED CIRCUIT TELEVISION CAMERA
- ES — ELECTRIC STRIKE
- ML — MAG LOCK

LINE TYPES

- EXISTING
- NEW
- DEMOLITION

GENERAL NOTE

1. ALL GENERAL NOTES, SYMBOL LISTS, AND DETAILS ARE TO BE CONSIDERED AS APPLICABLE TO ALL ELECTRICAL DRAWINGS FOR THIS PROJECT. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND DO NOT INDICATE THEIR INCORPORATION IN THE DESIGN.

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CURRENT ISSUE STATUS:

REV	DESCRIPTION	DATE

GRAPHIC SCALE: 0" 1"

SCALE:	NONE
PROJECT MANAGER:	DJV
JC/DRAWN BY:	CDS
A/E OF RECORD:	DJT
CAD FILE:	E-001-14150
PROJECT NO:	14150
DATE:	

SHEET TITLE:
LEGEND AND GENERAL NOTES

SHEET No.
E-001

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