

LIGHTING

- 2x4 FLUORESCENT FIXTURE ASSOCIATED CONTROL DEVICE FIXTURE TYPE (SEE LIGHT FIXTURE SCHEDULE)
- FIXTURE WIRED TO SWITCHED EMERGENCY CIRCUIT
- 1x4 FLUORESCENT FIXTURE
- 2x2 FLUORESCENT FIXTURE
- DOWN LIGHT
- FLUORESCENT STRIP
- 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
- 3-WAY TOGGLE SWITCH
- SINGLE POLE TOGGLE SWITCH INDICATES CONTROLLED FIXTURE
- 4-WAY TOGGLE SWITCH
- OCCUPANCY SENSOR SWITCH

POWER

- NON-FUSED SAFETY SWITCH AMPERE RATING
- NEMA ENCLOSURE RATING
- MANUAL MOTOR STARTER, TOGGLE OPERATED, 1, 2 OR 3 POLE AS REQUIRED, OVERLOAD PROTECTION
- MANUAL MOTOR SWITCH, TOGGLE OPERATED, SINGLE PHASE, 1 OR 2 POLE AS REQUIRED (NO OVERLOAD PROTECTION)
- ELECTRIC MOTOR, NUMBER INDICATES HORSEPOWER RATING
- PUSHBUTTON STATION
- JUNCTION BOX
- TRANSFORMER
- DUPLEX RECEPTACLE, NEMA 5-20R, INSTALLED ON EMERGENCY CIRCUIT (TYPICAL)
- GFI DUPLEX RECEPTACLE, NEMA 5-20R
- SINGLE RECEPTACLE, NEMA 5-20R
- DOUBLE DUPLEX (QUADRUPLEX) RECEPTACLE, NEMA 5-20R
- POWER RECEPTACLE, 240 VOLT NEMA CONFIGURATION AS NOTED.
- PANELBOARD, NORMAL POWER
- MAGNETIC MOTOR STARTER, FVNR UNLESS INDICATED OTHERWISE
- NEMA ENCLOSURE RATING
- 20 AMP, 2-POLE CONTACTOR, ELECTRICALLY OPERATED, MECHANICALLY HELD.

LINE TYPES

- EXISTING
- NEW
- DEMOLITION

FIRE ALARM

- FIRE ALARM MANUAL PULL STATION
- FIRE ALARM AUDIBLE/VISIBLE NOTIFICATION APPLIANCE (GENERAL EVACUATION)
- FIRE ALARM AUDIBLE/VISIBLE NOTIFICATION APPLIANCE CLEAN ROOM NOTIFICATION (LOCAL)
- FIRE ALARM VISIBLE ONLY NOTIFICATION APPLIANCE
- CANDELA INTENSITY-15/75 UNLESS OTHERWISE NOTED CEILING MOUNTED
- FIXED TEMPERATURE HEAT DETECTOR, CEILING MOUNTED.
- CLEAN ROOM SMOKE DETECTOR
- DUCT SMOKE DETECTOR, PHOTOELECTRIC WITH AUXILIARY CONTACT.

ONE LINE DIAGRAM

- DISCONNECT, ISOLATION OR SAFETY SWITCH
- POWER TRANSFORMER
- OA - LIQUID TYPE SELF COOLED
- AA - DRY TYPE SELF COOLED
- FA - FAN COOLED CONNECTION
- MOTOR, NUMBER INDICATES HORSEPOWER

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	NTS	NOT TO SCALE
DB	DISCONNECT	PF	POWER FACTOR
DISC	DIRECT BURIED	PH	PHASE
DN	DOWN	PVC	POLYVINYL CHLORIDE
EMT	ELECTRICAL METALLIC TUBING	RGS	RIGID STEEL CONDUIT
EWC	ELECTRIC WATER COOLER	RSC	RIGID STEEL CONDUIT
FAA	FIRE ALARM ANNUNCIATOR	RTD	RESISTANCE TEMPERATURE DETECTOR
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 SUPPRESSOR
HTR	HEATER	V	VOLT
IG	ISOLATED GROUND	VA	VOLT-AMPERE
IMC	INTERMEDIATE METAL CONDUIT	VAR	VOLT-AMPERE REACTIVE
K	KILO	WM	WATT METER
KCMIL	THOUSAND CIRCULAR MILS	WP	WEATHER PROOF
KV	KILOVOLT	XFMR	TRANSFORMER
KVA	KILOVOLT-AMPERE	XP	EXPLOSION PROOF
KVAR	KILOVOLT-AMPERE REACTIVE		
KW	KILOWATT		
KWH	KILOWATT-HOUR		

GENERAL NOTES:

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA-70, NATIONAL ELECTRICAL CODE (NEC).
- ALL MOTOR SAFETY SWITCHES, DISCONNECTS AND MOTOR STARTERS ARE PROVIDED BY DIVISION 260000 UNLESS NOTED AS FURNISHED WITH EQUIPMENT (FWE).
- 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.
- ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN THE RATING OF SEPARATION.
- ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.
- AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH EVERY FEEDER AND BRANCH CIRCUIT.
- 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.
- FLEXIBLE CONNECTIONS TO MOTORS SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT, UNLESS OTHERWISE NOTED.
- LIGHTING TOGGLE SWITCHES SHALL BE COMMERCIAL SPECIFICATION GRADE 277 VOLT, SIDE WIRED AND PROVIDED WITH GROUNDING SCREW. LEVITON, PASS AND SEYMOUR OR APPROVED EQUAL. COORDINATE COLOR WITH ARCHITECT.
- 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.
- PROVIDE WALL PLATES FOR ALL WIRING DEVICES, NYLON SMOOTH TYPE IN FINISHED AREAS AND GALVANIZED IN UNFINISHED AREAS.
- ALL WIRING SHALL BE 600V, COPPER WITH THHN/THWN INSULATION. SERVICE ENTRANCE CONDUCTORS SHALL HAVE XHHW INSULATION.

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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IMMUCELL CORPORATION
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ISSUED FOR PERMIT
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0	1-9-14	ISSUED FOR PERMIT

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LEGEND AND GENERAL NOTES

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