



POWER

NEW INTERIOR WIRING - ABOVE GRADE - CONCEALED OR EXPOSED

HOMERUN - ARROWS INDICATE NUMBER OF CIRCUITS (GND NOT SHOWN) CONDUCTORS ARE #12 UNLESS NOTED OTHERWISE.

NP3A-23 - CIRCUIT NUMBER DESIGNATION PANELBOARD DESIGNATION

JUNCTION BOX - SIZE AS INDICATED OR REQUIRED.

PANELBOARD, RECESSED OR SURFACE MOUNT AS SPECIFIED. DESIGNATION PER CLIENT STANDARD

DRY-TYPE TRANSFORMER - KVA AS INDICATED, 'T1' INDICATES DESIGNATION

SAFETY DISCONNECT SWITCH
A INDICATES AMPS
P INDICATES POLES
V INDICATES LINE TO LINE VOLTS
N INDICATES NEMA ENCLOSURE DESIGNATION
(SLASH) INDICATES FUSIBLE

MAGNETIC MOTOR STARTER - 'PR' INDICATES PROVIDE PHASE PROTECTION RELAY. NUMBER INDICATES NEMA SIZE

COMBINATION TYPE MAGNETIC MOTOR STARTER/DISCONNECT NUMBER INDICATES NEMA SIZE

MANUAL MOTOR STARTER SWITCH WITH THERMAL OVERLOAD PROTECTION

MOTOR - NUMBER INDICATES HORSEPOWER. WIRE COMPLETE WITH DISCONNECT SWITCH AS INDICATED OR REQUIRED, 'M' INDICATES FRACTIONAL HORSEPOWER

INDICATES THREE-PHASE MOTOR

DUPLEX RECEPTACLE - 125V, 20A, GROUND TYPE MOUNT 18" AFF UNLESS NOTED OTHERWISE
'S' INDICATES TOP HALF SWITCHED
'IG' INDICATES ISOLATED GROUND
'WP' INDICATES WEATHER-PROOF. PROVIDE WEATHER-RESISTANT PER NEC 406.8.
'SS' INDICATES SURGE SUPPRESSION TYPE
'TR' INDICATES TAMPER RESISTANT TYPE

DUPLEX RECEPTACLE - GROUND FAULT CIRCUIT INTERRUPTER MOUNT 48" AFF UNLESS NOTED OTHERWISE.

DUPLEX RECEPTACLE - ON EMERGENCY POWER

QUADRAPLEX RECEPTACLE - 125V, 20A, GROUND TYPE - MOUNT 18" AFF UNLESS NOTED OTHERWISE

QUADRAPLEX RECEPTACLE - ON EMERGENCY POWER

SINGLE RECEPTACLE - 125V, 20A, GROUND TYPE - MOUNT 18" AFF UNLESS NOTED OTHERWISE

SINGLE POWER RECEPTACLE - SPECIAL PURPOSE - NEMA CONFIGURATION AS INDICATED

FLOOR BOX WITH POWER AND DATA

ELECTRICAL STRIP MOLD RECEPTACLES ON 2'-0" CENTERS UNLESS OTHERWISE NOTED MOUNT 42" AFF UNLESS OTHERWISE NOTED

EMERGENCY POWER OFF (ABORT) BUTTON MUSHROOM HEAD STYLE

PUSH PLATE (FOR AUTOMATIC DOOR ACTUATION)

VARIABLE FREQUENCY DRIVE

BUS DUCT SEE PLANS FOR FURTHER INFORMATION.

LEGEND

LIGHTING

LED TROFFER LUMINAIRE (LIGHTING FIXTURE) 2X4, 1X4 OR 2X2, SEE LUMINAIRE SCHEDULE FOR DETAILS
UPPERCASE LETTER INDICATES TYPE (TYPICAL)
LOWERCASE LETTER INDICATES SWITCH CONTROL (TYPICAL)
SLASH INDICATES RECESSED MOUNTING

HATCH INDICATES EMERGENCY CIRCUIT
'EM/NL' INDICATES NIGHT LIGHT

LED STRIP / INDUSTRIAL LUMINAIRE (LIGHT FIXTURE) SEE LUMINAIRE SCHEDULE FOR DETAILS

RECESSED DOWNLIGHT LUMINAIRE SEE LUMINAIRE SCHEDULE FOR DETAILS

WALL WASH LUMINAIRE
ARROW INDICATES DIRECTION
SEE LUMINAIRE SCHEDULE FOR DETAILS

WALL MOUNTED LUMINAIRE
SEE LUMINAIRE SCHEDULE FOR DETAILS

EXIT SIGN - DIRECTIONAL ARROWS AS INDICATED.
CEILING OR WALL MOUNT AT 7'-6" AFF TO CENTER OR ABOVE DOOR
SEE LUMINAIRE SCHEDULE FOR DETAILS

PHOTOELECTRIC CELL

SWITCH MOUNTED 48" AFF UNLESS NOTED OTHERWISE
LOWERCASE LETTER INDICATES SWITCH CONTROL
'3' INDICATES THREE-WAY
'4' INDICATES FOUR-WAY
'D' INDICATES DIMMER SWITCH
'T' INDICATES TIMER SWITCH
'WP' INDICATES WEATHERPROOF COVER

CEILING MOUNTED OCCUPANCY SENSOR WITH POWER PACK - BASIS OF DESIGN: HUBBELL #OMNIDT200ORP WITH #UVVP OR APPROVED EQUIVALENT

CEILING MOUNTED DAYLIGHT SENSOR

WALL MOUNTED OCCUPANCY SENSOR. REFER TO SPECIFICATIONS FOR DETAILS.

WALL MOUNTED EMERGENCY BATTERY-PACK LUMINAIRE WITH DUAL ADJUSTABLE HEADS.
LETTER INDICATES LUMINAIRE TYPE. REFER TO LUMINAIRE SCHEDULE FOR FURTHER INFORMATION.

COMMUNICATIONS

DATA/VOIP OUTLET MOUNTED AS NOTED. INDICATES FOUR DATA PORTS. PIPE TO CABLE TRAY.
'W' INDICATES WALL MOUNTED VOIP DATA OUTLET AT 54" ABOVE FINISHED FLOOR.

CATV OUTLET MOUNTED AS NOTED. HOMERUN COAX CABLE TO VA SELECTED SOURCE. SYSTEM SHALL BE IN EMT.

WIRELESS ACCESS POINT. PROVIDE (1) DATA OUTLET FOR ANTENNA AT ACCESSIBLE LOCATION ABOVE CEILING.
PROVIDE (1) LEVEL 6 CABLE BACK TO RACK MOUNTED PATCH PANEL. PROVIDE DUPLEX RECEPTACLE AND CONNECT TO BRANCH CIRCUIT AS INDICATED ON FLOOR PLANS. ALL IN CABLE TRAY.

CEILING MOUNTED PA SPEAKER

NURSE CALL

NURSE CALL STATION
'HW' INDICATES PATIENT HEADWALL NURSE CALL
'D' INDICATES DUTY STATION
'R' INDICATES RESTROOM PULL STATION:
MOUNT 72" AFF FOR SHOWER LOCATION
MOUNT 54" AFF FOR TUB LOCATION
MOUNT 36" AFF FOR TOILET LOCATION

CEILING MOUNTED NURSE CALL LIGHT
'2' INDICATES 2-LAMP DOME LIGHT
'C' INDICATES CORRIDOR DOME LIGHT
'I' INDICATES AUXILIARY INTERSECTIONAL DOME LIGHT

NURSE'S CALL MASTER STATION MOUNTED ON NURSE'S COUNTER TOP UNLESS OTHERWISE NOTED.

NOTE: WIRING SHALL BE IN EMT WITH TAMPER RESISTANT SCREWS.

SECURITY

CARD ACCESS READER; LETTER INDICATES AS FOLLOWS:
M=MOUNT
C=CEILING D=DESK F=FLUSH H=HIDDEN
M=MULLION P=PEDESTAL R=RACK
S=SURFACE W=WALL
T=TECHNOLOGY/TYPE
B=BARCODE F=ELEVATOR FLOOR CALL
H=ELEVATOR HALL CALL M=MAG STRIP
P=PROXIMITY S=SMART CARD T=TOKEN

ELECTRONIC LOCK; LETTER INDICATES AS FOLLOWS:
M=MOUNT
C=CEILING D=DESK F=FLUSH H=HIDDEN M=MULLION
P=PEDESTAL R=RACK S=SURFACE W=WALL
T=TECHNOLOGY/TYPE
D=DEADBOLT H=HYBRID L=LATCH SET
M=MAGNETIC S=STRIKE

SECURITY ACCESS, VIDEO CAMERA WITH LENS
M = MOTION DETECTOR
PZ = MOTION DETECTOR WITH PAN AND ZOOM
PTZ= MOTION DETECTOR WITH PAN, TILT, AND ZOOM

KEYPAD; LETTER INDICATES AS FOLLOWS:
M=MOUNT
C=CEILING D=DESK F=FLUSH H=HIDDEN
M=MULLION P=PEDESTAL R=RACK
S=SURFACE W=WALL

NOTE: WIRING SHALL BE IN EMT WITH TAMPER RESISTANT SCREWS.

FIRE ALARM

FIRE ALARM PULL STATION. MOUNTED 48" AFF TO CENTERLINE OF STATION.

AUDIO/VISUAL ALARM. COMBINATION SPEAKER WITH ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. 'WP' INDICATES WEATHERPROOF UNIT.

VISUAL ALARM. ADJUSTABLE CANDELA STROBE LIGHT. WALL MOUNTED 90" AFF TO TOP. CEILING MOUNT WHERE INDICATED. NUMBER INDICATES CANDELA RATING OF STROBE. REFER TO SPECIAL REQUIREMENTS IN SLEEPING AREAS. 'NS' INDICATES NON-SUPERVISED 120 VOLT REMOTE VISUAL SIGNAL, 177 CANDELA, CONNECTED TO NON-SUPERVISED SMOKE DETECTOR.

DETECTOR; LETTER INDICATES AS FOLLOWS:
BLANK = PHOTOELECTRIC SMOKE DETECTOR
H = HEAT SMOKE
I = IONIZATION SMOKE
IH = IONIZATION AND HEAT SMOKE
IP = IONIZATION AND PHOTOELECTRIC SMOKE
PH = PHOTOELECTRIC AND HEAT SMOKE
IPH = IONIZATION, PHOTOELECTRIC, AND HEAT

DUCT MOUNTED SMOKE DETECTOR WITH REMOTE TEST AND RESET STATION. FURNISHED AND WIRED BY ELECTRICAL CONTRACTOR, INSTALLED BY MECHANICAL CONTRACTOR.
'S' INDICATES LOCATED IN SUPPLY AIR DUCT
'R' INDICATES LOCATED IN RETURN AIR DUCT

REMOTE TEST STATION WITH RESET FOR DUCT SMOKE DETECTOR

ELECTROMAGNETIC TYPE DOOR HOLDER OUTLET

ABBREVIATIONS

A AMP
AC ALTERNATING CURRENT
ADA AMERICANS WITH DISABILITIES ACT
AF AMP FRAME
AFCI ARC FAULT CIRCUIT INTERRUPTER
AFF ABOVE FINISHED FLOOR
AFG ABOVE FINISHED GRADE
AIC AMPERES INTERRUPTING CAPACITY
AL ALUMINUM
AT AMP TRIP
ATC AUTOMATIC TEMPERATURE CONTROL
AWG AMERICAN WIRE GAUGE
BLDG BUILDING
C CONDUIT
CB CIRCUIT BREAKER
CKT CIRCUIT
CEIL CEILING
CL CENTERLINE
CMU CONCRETE MASONRY UNIT
CONC CONCRETE
CONT'D CONTINUED
CR CRITICAL
CU COPPER
CUH CABINET UNIT HEATER
DC DIRECT CURRENT
DW DISH WASHER
EC ELECTRICAL CONTRACTOR
EF EXHAUST FAN
EGC EQUIPMENT GROUNDING CONDUCTOR
EM EMERGENCY
EUH ELECTRIC UNIT HEATER
EWC ELECTRIC WATER COOLER
FACP FIRE ALARM CONTROL PANEL
GD GARBAGE DISPOSAL
GEC GROUNDING ELECTRODE CONDUCTOR
GFI GROUND FAULT INTERRUPTER
GND GROUND
HID HIGH INTENSITY DISCHARGE
HOA HAND-OFF-AUTOMATIC
HP HORSEPOWER
HPS HIGH PRESSURE SODIUM
HZ HERTZ
JB JUNCTION BOX
KAIC THOUSAND AMP INTERRUPTING CAPACITY
KCMIL THOUSAND CIRCULAR MIL
KV THOUSAND VOLTS (KILOVOLT)
KVA THOUSAND VOLT-AMPS
KW THOUSAND WATTS (KILOWATT)
LC LIGHTING CONTACTORS
LCP LATERAL CONTROL PIT
LED LIGHT EMITTING DIODE
LP LIGHTING PANELBOARD
LTG LIGHTING
MCC MOTOR CONTROL CENTER
MCCB MOLDED CASE CIRCUIT BREAKER
MCB MAIN CIRCUIT BREAKER
MH MANHOLE OR METAL HALIDE
MIC MICROWAVE OR MICROPHONE
MLO MAIN LUGS ONLY
MTS MANUAL TRANSFER SWITCH

NC NORMALLY CLOSED OR NURSE CALL
NEC NATIONAL ELECTRICAL CODE
NFA NATIONAL FIRE PROTECTION ASSOCIATION
NO NORMALLY OPEN
NO. NUMBER
OL OVERLOAD

P POLE
PA PUBLIC ADDRESS
PB PUSH BUTTON
PF POWER FACTOR
PH PHASE
PNL PANEL
PT POTENTIAL TRANSFORMER
PVC POLYVINYL CHLORIDE
REF REFRIGERATOR
RSC RIGID STEEL CONDUIT
RTU ROOF TOP UNIT
SCCR SHORT CIRCUIT CURRENT RATING
SF SUPPLY FAN
SLD SINGLE LINE DIAGRAM
SS SOLID STATE
SWBD1 SWITCHBOARD, NUMBER AS INDICATED
TC TIME CLOCK
TELCOM TELECOMMUNICATIONS
TS TRANSFER SWITCH
T&B TOP AND BOTTOM
TYP TYPICAL
TV TELEVISION
UC UNDER COUNTER
UG UNDERGROUND
V VOLT
VA DEPARTMENT OF VETERAN AFFAIRS
VA VOLT-AMPERE
VAMC VA MEDICAL CENTER
VFD VARIABLE FREQUENCY DRIVE
VOIP VOICE OVER INTERNET PROTOCOL (PHONE)
W WATT
W/ WITH
WP WEATHERPROOF
WRG WRING
XFMR TRANSFORMER
XP EXPLOSION-PROOF
3PH THREE PHASE (Ø)
3W THREE WIRE
4W FOUR WIRE
(R) LOCATION OF RELOCATED DEVICE OR EQUIPMENT
(RR) REMOVE AND RELOCATE EXISTING DEVICE OR EQUIPMENT
(RX) REMOVE EXISTING DEVICE OR EQUIPMENT
(X) EXISTING DEVICE OR EQUIPMENT TO REMAIN
(XR) EXISTING DEVICE OR EQUIPMENT TO BE REMOVED AND REPLACED AT SAME LOCATION

O. PROVIDE WIRE MARKERS TO IDENTIFY CABLES FOR ALL SYSTEMS AT THE ORIGIN, PULL BOXES, AND TERMINATION POINTS. LABELS SHALL BE SELF ADHESIVE OR HEAT SHRINK TYPE.

P. NO LIVE WORK SHALL BE PERMITTED. EVERY CIRCUIT SHALL BE LOCKED-OUT AND TAGGED-OUT BEFORE COMMENCING WORK.

Q. ALL WIRING SHALL BE IN RACEWAY.
-CONTROL SYSTEMS SHALL BE IN BLUE EMT.
-FIRE ALARM SYSTEMS SHALL BE IN RED EMT.
-NO "J" HOOKS

GENERAL NOTES

A. NOT ALL SYMBOLS INDICATED IN THE LEGEND, OR LISTED ABBREVIATIONS, APPEAR ON THE DRAWINGS. COORDINATE WORK ACCORDINGLY. COMPLY WITH SPECIFICATIONS AND NOTES BELOW AS APPLICABLE.

B. ALL RECEPTACLES SHALL BE INSTALLED 18" AFF UNLESS NOTED OTHERWISE.

C. ALL WIRING SHALL BE COPPER. ALUMINUM WIRING IS NOT ALLOWED. UNLESS OTHERWISE NOTED, ALL WIRING SHALL BE 2#12 AWG AND 1#12 AWG EQUIPMENT GROUNDING CONDUCTOR IN EMT. HOMERUNS FED FROM A 20A-1P, 120V CIRCUIT IN EXCESS OF 70' SHALL BE #10 AWG SOLID. THERE SHALL BE NO SHARED NEUTRALS.

D. CONDUCTORS SHALL BE SOLID AND #8 OR SMALLER.

E. SEE MECHANICAL PLANS FOR HVAC UNITS, PUMPS AND FANS CONTROLLED BY THERMOSTATS AND OVERRIDE SWITCHES (PROVIDED BY ATC CONTRACTOR).

F. FUSES AND OVERLOAD UNITS FOR MOTORS SHALL BE SIZED BASED ON ACTUAL MOTOR NAMEPLATE DATA AND IN ACCORDANCE WITH NEC.

G. ALL WORK SHALL COMPLY WITH LATEST EDITION OF NFPA70, NFPA72, NFPA99, NFPA101, NEC & ALL FEDERAL, STATE & LOCAL REGULATIONS.

H. ALL PENETRATIONS THROUGH FLOORS, RATED WALLS AND PARTITIONS SHALL BE SEALED WITH UL APPROVED FIRE SEALANT MATERIAL TO MAINTAIN FIRE RATING FOR THE SEPARATION.

I. ALL ENCLOSURES, CONDUIT BODIES AND THEIR COVERS CONTAINING FIRE ALARM SYSTEM CONDUCTORS SHALL BE PAINTED RED.

J. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED WITH ALL FEEDER AND BRANCH CIRCUITS. SIZE IN ACCORDANCE WITH NFPA 70 ARTICLE 250.

K. FLEXIBLE CONNECTIONS TO MOTORS SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT IN A 360° LOOP EXCEPT AS NOTED OTHERWISE.

L. COORDINATE INSTALLATION OF COMMUNICATION OUTLETS WITH THE VA.

M. LOCATE DISCONNECTS AT EQUIPMENT AS REQUIRED BY MANUFACTURER. LOCATIONS ON DRAWINGS ARE APPROXIMATE.

N. IDENTIFICATION: RECEPTACLES CONNECTED TO THE ESSENTIAL ELECTRICAL SYSTEM SHALL BE RED WITH A WHITE LABEL CONTAINING THE WORD "EMERGENCY" IN BLACK ON THE TOP OF THE PLATE AND A WHITE LABEL WITH THE CIRCUIT NUMBER IN BLACK ON THE BOTTOM. "NORMAL" RECEPTACLES SHALL HAVE A WHITE LABEL WITH THE CIRCUIT NUMBER IN BLACK AT THE BOTTOM OF THE PLATE.

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MANAGER	DATE	ENGINEERING MANAGER	DATE
INFECTION CONTROL	DATE	MANAGER	DATE
SAFETY OFFICER	DATE	CHIEF OF STAFF	DATE

Drawing Title		Project Title	
ELECTRICAL LEGEND, GENERAL NOTES, AND ABBREVIATIONS		BUFFALO GU AHU	
Medical Center Director	DATE	Building Number	Checked WLM
Associate Medical Center Director	DATE	1	Drawn MMF

Date	09-07-2017
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Location	V.A.M.C. BUFFALO, NEW YORK

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FULLY SPRINKLERED BID DOCUMENTS FOR CONSTRUCTION