ELECTRICAL SYMBOLS:

Symbol	Description
* USB / WP / GFCI / TV / COPIER / C-I / C-G / SUR	DUPLEX RECEPTACLE, 125V, 20A. INSTALL DEVICE WITH BOTTOM AT +16" AFF., UON. ASTERISK '*' = VANDALPROOF STYLE RECEPTACLE FACEPLATE. USB = 125V, 20A, USB CHARGING DUPLEX RECEPTACLE, 5.0 AMPERES CHARGING WITH ONE (1) TYPE A AND ONE (1) TYPE C USB PORTS. WP = WEATHERPROOF "WHILE-IN-USE" COVER. GFCI = GROUND FAULT CIRCUIT INTERRUPTING TYPE DEVICE. COPIER = COPIER OUTLET, FIELD VERIFY NEMA CONFIGURATION WITH OWNER PRIOR TO CONSTRUCTION, INSTALL DEVICE WITH BOTTOM AT +16" AFF. C-I = RECEPTACLE INDIVIDUALLY CONTROLLED BY SECURITY ELECTRONICS RELAY CABINET. C-G = RECEPTACLE GROUP CONTROLLED BY SECURITY ELECTRONICS RELAY CABINET. SUR = DEVICE TO BE SURFACE MOUNTED UON. COORDINATE EXACT LOCATION BEFORE ROUGH-IN.
VV	VV = DUPLEX RECEPTACLE, 125VAC, 20 A FOR FUTURE VIDEO VISITATION STATION. INSTALL SINGLE GANG BOX, PROVIDE WITH SECURITY FASTENERS ON FACEPLATE COVER U.O.N. MOUNT BOX AT +48" AFF U.O.N.
USB	USB CHARINGING DUPLEX RECEPTACLE, 125V, 20A. INSTALL DEVICE WITH BOTTOM AT +36" AFF., U.O.N.
WP	GROUND FAULT CIRCUIT INTERRUPTING TYPE RECEPTACLE, 125V, 20A. INSTALL DEVICE WITH BOTTOM AT +16" A.F.F. WP = WEATHERPROOF "WHILE-IN-USE" ENCLOSURE.
	DUPLEX RECEPTACLE, 125V, 20A. INSTALL DEVICE ABOVE COUNTER OR BACKSPLASH U.O.N. COORDINATE EXACT LOCATION AND HEIGHT WITH CABINET/CASEWORK SHOP DRAWING SUBMITTALS BEFORE ROUGH-IN.
	DUPLEX RECEPTACLE ON UNITERRUPTIBLE POWER SUPPLY CIRCUIT, 125V, 20A. INSTALL DEVICE WITH BOTTOM AT +16", A.F.F., U.O.N. RECEPTACLE TO BE COLOR "ORANGE". COORDINATE EXACT LOCATION BEFORE ROUGH-IN.
	DUPLEX RECEPTACLE ON UNITERRUPTIBLE POWER SUPPLY CIRCUIT, 125V, 20A. INSTALL DEVICE ABOVE COUNTER OR BACKSPLASH U.O.N. COORDINATE EXACT LOCATION AND HEIGHT WITH CABINET/CASEWORK SHOP DRAWING SUBMITTALS BEFORE ROUGH-IN. RECEPTACLE TO BE COLOR "ORANGE".
	DUPLEX RECEPTACLE CEILING MOUNTED 125V, 20A. REFER TO SPECIFICATIONS AND DRAWINGS FOR FURTHER DETAILS.
	DUPLEX RECEPTACLE CEILING MOUNTED ON UNITERRUPTIBLE POWER SUPPLY CIRCUIT 125V, 20A. REFER TO SPECIFICATIONS AND DRAWINGS FOR FURTHER DETAILS. RECEPTACLE TO BE COLOR "ORANGE".
	DUPLEX RECEPTACLE FLOOR BOX 125V, 20A. REFER TO SPECIFICATIONS AND DRAWINGS FOR DETAILED ELECTRICAL REQUIREMENTS. ALSO FOR COMBINATION POWER/DATA FLUSH FLOOR BOX DETIAL, REFER TO DETAIL #7 ON DRAWING E8.5.
	QUAD RECEPTACLE, 125V, 20A. INSTALL DEVICE WITH BOTTOM AT +16" A.F.F., U.O.N. COORDINATE EXACT LOCATION BEFORE ROUGH-IN
	QUAD RECEPTACLE, 125V, 20A. INSTALL DEVICE ABOVE COUNTER OR BACKSPLASH U.O.N. COORDINATE EXACT LOCATION AND HEIGHT WITH CABINET/CASEWORK SHOP DRAWING SUBMITTALS BEFORE ROUGH-IN.
	QUAD RECEPTACLE ON UNITERRUPTIBLE POWER SUPPLY CIRCUIT, 125V, 20A. INSTALL DEVICE WITH BOTTOM AT +16" A.F.F., U.O.N. RECEPTACLE TO BE COLOR "ORANGE". COORDINATE EXACT LOCATION BEFORE ROUGH-IN.
	QUAD RECEPTACLE ON UNITERRUPTIBLE POWER SUPPLY CIRCUIT, 125V, 20A. INSTALL DEVICE ABOVE COUNTER OR BACKSPLASH U.O.N. COORDINATE EXACT LOCATION AND HEIGHT WITH CABINET/CASEWORK SHOP DRAWING SUBMITTALS BEFORE ROUGH-IN. RECEPTACLE TO BE COLOR "ORANGE".
	GROUND FAULT CIRCUIT INTERRUPTING TYPE QUAD RECEPTACLE, 125V, 20A. INSTALL DEVICE WITH BOTTOM AT +16" A.F.F. COORDINATE EXACT LOCATION BEFORE ROUGH-IN.
	SPECIAL RECEPTACLE, REFER TO MANUFACTURER OF CORD AND PLUG EQUIPMENT FOR MATCHING NEMA-CONFIGURED RECEPTACLE REQUIREMENT. INSTALL DEVICE WITH BOTTOM AT +16" A.F.F., U.O.N. COORDINATE EXACT LOCATION BEFORE ROUGH-IN.
	SPECIAL RECEPTACLE ON UNITERRUPTIBLE POWER SUPPLY CIRCUIT, REFER TO MANUFACTURER OF CORD AND PLUG EQUIPMENT FOR MATCHING NEMA-CONFIGURED RECEPTACLE REQUIREMENT. INSTALL DEVICE WITH BOTTOM AT +16" A.F.F., U.O.N. COORDINATE EXACT LOCATION BEFORE ROUGH-IN. RECEPTACLE TO BE COLOR "ORANGE".
J J J	JUNCTION BOX
R	RELAY
a $* WP	TOGGLE SWITCH, 120/277V, 1-POLE, 20A. INSTALL DEVICE WITH CENTER AT +48" A.F.F. U.O.N. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE. WP=WEATHERPROOF ENCLOSURE, "a" INDICATES SWITCH LEG.
$3a	TOGGLE SWITCH, THREE WAY TYPE, 120/277V, 20A, "a" INDICATES SWITCH LEG.
$4a	TOGGLE SWITCH, FOUR WAY TYPE, 120/277V, 20A, "a" INDICATES SWITCH LEG.
$Da	DIMMABLE SWITCH, 120/277V, 20A, "a" INDICATES SWITCH LEG.
a OC WG	DUAL TECHNOLOGY OCCUPANCY SENSOR, CEILING MOUNT, COVERAGE OF SENSOR DEPENDENT ON ROOM SIZE, "a" INDICATES SWITCH LEG, "WG" INDICATES WIRE GUARD INCLUDED. POWER PACKS NOT SHOWN - FIELD LOCATE AND RECORD LOCATIONS ON RECORD DRAWINGS.
OC a WG	DUAL TECHNOLOGY OCCUPANCY SENSOR, WALL MOUNT, COVERAGE OF SENSOR DEPENDENT ON ROOM SIZE, "a" INDICATES SWITCH LEG, "WG" INDICATES WIRE GUARD INCLUDED. POWER PACKS NOT SHOWN - FIELD LOCATE AND RECORD LOCATIONS ON RECORD DRAWINGS.
a OC	PIR HIGH BAY OCCUPANCY SENSOR. PROVIDE POWER PACK(S) AS REQUIRED PER MANUFACTURER'S RECOMMENDATION, "a" INDICATES SWITCH LEG.
J C W	4" SQUARE BOX WITH SINGLE GANG ADAPTER FOR MOUNTING EMERGENCY LIGHTING POWER CONTROL MODULE. MOUNT WHERE INDICATED ON PLANS. PROVIDE PERMANENT LABEL ON MODULE FACEPLATE INDICATING ROOM/AREA(S) WHERE CONTROLLED LIGHTS ARE LOCATED. "C" INDICATES DEVICE FLUSH MOUNTED IN CEILING, "W" INDICATES DEVICE FLUSH MOUNTED IN WALL. FIELD COORDINATE EXACT LOCATION BEFORE ROUGH-IN.
* F 135°	ADDRESSABLE FIRE ALARM HEAT DETECTOR. CEILING MOUNT COMBINATION RATE-OF-RISE (15 DEGREES F PER MINUTE) AND/OR FIXED TEMPERATURE (135 DEGREES F) AS NOTED IN SPECIFICATION 284621.11. ASTERISK '*' = VANDALPROOF STYLE DEVICE GUARD.
S * P	ADDRESSABLE FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR. CEILING MOUNT. ASTERISK '*' = VANDALPROOF (PERFORATED) STYLE DEVICE COVER, REFER TO DETAIL #3, DRAWING E8.4.
S * P	ADDRESSABLE FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR. WALL MOUNT ON RECESSED DEVICE BOX. ASTERISK '*' = VANDALPROOF (PERFORATED) STYLE DEVICE COVER, REFER TO DETAIL #3, DRAWING E8.4.
S D	ADDRESSABLE FIRE ALARM DUCT MOUNTED SMOKE DETECTOR, HOUSING, AND SAMPLING TUBE ON RETURN SIDE. INTERLOCK WITH DAMPER/FAN MOTOR CONTROL TO SHUTDOWN AIR HANDLING UNIT UPON DETECTION. PROVIDE AND WIRE AN ILLUMINATED REMOTE TEST SWITCH INTERLOCKED TO THE EQUIPMENT; CENTRALLY LOCATE IN WORK C2003, LOCATION SHALL BE READILY ACCESSIBLE TO FIREMEN FOR SMOKE MANAGEMENT CONTROL.
RTS	ILLUMINATED REMOTE TEST SWITCH INTERLOCKED TO SHUTDOWN AIR HANDLING EQUIPMENT AS "SIMULATED TEST" OF DUCT SMOKE DETECTOR ACTIVATION AND AHU SHUTDOWN BY IAM INTERLOCK. CENTRALLY LOCATE IN WORK C2003, LOCATION SHALL BE READILY ACCESSIBLE TO FIREMEN FOR SMOKE MANAGEMENT CONTROL
F * WP	NON-ADDRESSABLE FIRE ALARM HORN. REFER TO DETAIL #1, DRAWING E8.4 FOR DEVICE MOUNTING HEIGHT. WP = WEATHERPROOF STYLE DEVICE. ASTERISK '*' = VANDALPROOF STYLE DEVICE GUARD.
F * WP	NON-ADDRESSABLE FIRE ALARM HORN WITH VISUAL/SYNCHRONIZED STROBE. REFER TO DETAIL #1, DRAWING E8.4 FOR DEVICE MOUNTING HEIGHT. WP = WEATHERPROOF STYLE DEVICE. ASTERISK '*' = VANDALPROOF STYLE DEVICE GUARD.
F S *	NON-ADDRESSABLE FIRE ALARM VISUAL/SYNCHRONIZED STROBE. REFER TO DETAIL #1, DRAWING E8.4 FOR DEVICE MOUNTING HEIGHT. ASTERISK '*' = VANDALPROOF STYLE DEVICE GUARD.
F *	ADDRESSABLE FIRE ALARM MANUAL PULL STATION. REFER TO DETAIL #1, DRAWING E8.4 FOR DEVICE MOUNTING HEIGHT. ASTERISK '*' = VANDALPROOF STYLE DEVICE COVER.
FAAP	REMOTE FIRE ALARM ANNUNCIATOR PANEL. REFER TO DETAIL #1, DRAWING E8.4 FOR DEVICE MOUNTING HEIGHT.
FACP	FIRE ALARM CONTROL PANEL. REFER TO DETAIL #1, DRAWING E8.4 FOR DEVICE MOUNTING HEIGHT.
FA-GAP	FIRE ALARM/DETECTION GRAPHIC ANNUNCIATOR WORKSTATION AND PRINTER.
FA-NAC	FIRE ALARM/DETECTION REMOTE NOTIFICATION APPLIANCE CABINET.
BF	FIRE ALARM MONITOR POINT, BACKFLOW PREVENTER/PRESSURE INDICATING SWITCH.
TS WP	FIRE ALARM MONITOR POINT, TAMPER SWITCH. WP = WEATHERPROOF STYLE DEVICE.
FS	FIRE ALARM MONITOR POINT, FLOW SWITCH.
IAM WP	FIRE ALARM INTERMEDIATE ADDRESSABLE MODULE. IAM LOOP POWERED BY FACP (SEPARATE POWER SUPPLY NOT REQUIRED UNLESS OTHERWISE INDICATED BY MFR). WP = WEATHERPROOF STYLE DEVICE.
ZAM WP	FIRE ALARM ZONE ADDRESSABLE MODULE. WP = WEATHERPROOF STYLE DEVICE.
VESDA	VERY EARLY SMOKE DETECTION APPARATUS ALARM/MONITORING PANEL (SUITABLE UP TO 40 PORTS).
—SD—SD—	"VESDA" SMOKE DETECTION, REFER TO SPECIFICATION 284621.11 FOR DETAILED REQUIREMENTS. DEDICATED TUBE FOR EACH SAMPLING PORT/DETECTOR.
S * H	FIRE ALARM PHOTOELECTRIC SMOKE DETECTOR WITH OUTPUT CONTACTOR FOR CONNECTION TO FIRE ALARM DOOR HOLD OPEN, CEILING MOUNT. ASTERISK '*' = VANDALPROOF STYLE DEVICE COVER.
F/SD	FIRE AND SMOKE DAMPER. REFER TO DETAIL #6 ON DRAWING M5.2 FOR SMOKE DAMPER CONTROL DIAGRAM AND DETAILS #1 AND #2 ON DRAWING M7.2 FOR SMOKE EXHAUST MANAGMENET CONTROL SCHEMATICS.
CO	CARBON MONOXIDE GAS DETECTION SENSOR (FURNISHED AND INSTALLED BY DIVISION 23).
NO2	NITROGEN DIOXIDE GAS DETECTION SENSOR (FURNISHED AND INSTALLED BY DIVISION 23).
HLI	HIGH-LEVEL INTERFACE BOX FOR VESDA COMMUNICATION NETWORK. LOCATED ADJACENT TO EACH AIR SAMPLING SMOKE DETECTOR ALARM/MONITORING PANEL. (OR ALTERNATIVELY WHERE FACP COMMUNICATIONS PROTOCOL(S) DO NOT SUPPORT THE VESDA COMMUNICATIONS PROTOCOL NETWORK, PROVIDE ZAM(S) AT EACH VESDA AIR SAMPLING SMOKE DETECTOR ALARM/MONITORING PANEL FOR ALARMING/MONITORING AS NOTED IN SPECIFICATION SECTION 284621.11 AND/OR AS OTHERWISE NOTED).
PWR	POWER SUPPLY CABINET WITH BATTERY CHARGER/BATTERIES (120VAC INPUT POWER, 24VDC OUTPUT POWER). LOCATED ADJACENT TO EACH VESDA AIR SAMPLING SMOKE DETECTOR ALARM/MONITORING PANEL.
ANSUL	KITCHEN HOOD FIRE SUPPRESSION MONITOR POINT. REFER TO 'FS' FOOD SERVICES DRAWINGS FOR ANSUL CABINET LOCATION AND DETAILED WIRING REQUIREMENTS.
PIV	POST INDICATOR VALVE MONITOR POINT, VALVE POSITION.
DH	FIRE ALARM DOOR HOLD OPEN DEVICE.
FD	SMOKE DAMPER. CONNECT TO LEGALLY REQUIRED 120VAC BRANCH CIRCUIT. DAMPER SHALL OPEN UPON ENERGIZATION (OR FAIL CLOSED UPON DE-ENERGIZATION). POWER TO SMOKE DAMPER(S) ASSOCIATED WITH AHU SHALL BE CONTROLLED BY THE FIRE ALARM CONTROL PANEL - I.E. THE 120VAC CIRCUIT SHALL BE WIRED VIA DRY, FORM C ISOLATION CONTACT (IN THE IAM). UPON DUCT DETECTOR SMOKE DETECTION AT AHU, ASSOCIATED DAMPER(S) SHALL CLOSE (BE DE-ENERGIZED). REFER TO DETAIL #5 ON DRAWING E8.4 FOR SMOKE DAMPER WIRING DETAIL. REFER TO DRAWINGS E2.3 AND E4.X SERIES FOR LOCATIONS OF AHU(S) REQUIRING DUCT SMOKE DETECTOR(S).

Symbol	Description
P	4"x4" EXTRA DEEP WIRING DEVICE BOX WITH A BLANK FACEPLATE IN THE WALL FOR USE AS A PULL BOX FOR DATA CABLES. INSTALL WIRING DEVICE BOX (PULL BOX) AT +16" AFF, UON.
	4-GANG FLUSH FLOOR BOX WITH TWO (2) OF FOUR (4) GANGS FOR DATA AND TWO (2) OF FOUR (4) GANGS FOR POWER. BOX TO BE PROVIDED WITH DIVIDER TO SEPARATE POWER AND DATA CABLING. PROVIDE SIX (6) CAT 6 OUTLETS AND SIX (6) CAT 6 CABLES UON. ROUTE 1-1/4"C (EMT) [FOR DATA OUTLETS] IN WALL AND STUBBED OUT AT CEILING WITH A BUSHING; PROVIDE A 4"x4" EXTRA DEEP WIRING DEVICE BOX WITH A BLANK FACEPLATE IN THE WALL FOR USE AS A PULL BOX (INSTALL PULLBOX [WIRING DEVICE BACKBOX] AT +16" AFF, UON). FOR FLUSH FLOOR BOX DETAIL, REFER TO DETAIL 7 ON DRAWING E8.5.
*	COMBINATION CAT 6 TELEPHONE (VOIP)/DATA 2-PORT SINGLE GANG OUTLET. FOR EACH DEVICE 1-DATA/1-TELEPHONE (VOIP) JACK WITHIN THAT MUTOA. INSTALL WITHIN A 4" x 4" EXTRA DEEP BOX WITH ADAPTER FOR SINGLE GANG PLATE. PROVIDE TWO (2) CAT 6 CABLES. INSTALL DEVICE WITH BOTTOM AT +16" AFF., UON. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
* T IP	CAT. 6 TELEPHONE (VOIP) 1-PORT SINGLE GANG OUTLET. PROVIDE A WALL TELEPHONE FACEPLATE WITH MOUNTING STUDS FOR MOUNTING PHONE HANDSET ON FACEPLATE. PROVIDE ONE (1) CAT 6 CABLE INSTALL DEVICE AT +48" AFF., UON. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE. IP = INMATE PHONE, T = TELEPHONE
* TCS	TABLET CHARGING STATION, SINGLE GANG 2-PORT DATA OUTLET. FOR EACH DEVICE 2-DATA/TELEPHONE (VOIP) JACKS WITHIN THAT MUTOA. INSTALL WITHIN A 4" x 4" EXTRA DEEP BOX. PROVIDE TWO (2) CAT 6 CABLES. COORDINATE EXACT LOCATION WITH OWNER PROVIDED EQUIPMENT. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE
* PROJ	ONE (1) HDMI 2.1 INTERFACE OUTLET AND ONE (1) USB 3.1 INTERFACE OUTLET FOR USE AS INPUTS TO OVERHEAD CEILING PROJECTOR. PROVIDE 4" x 4" EXTRA DEEP BOX WITH ADAPTER RING FOR SINGLE GANG FACEPLATE; ROUTE 1-1/4"C (EMT) UP ABOVE CEILING AND STUBBED OUT AT CEILING WITH A BUSHING. FURNISH AND INSTALL PRE-TERMINATED HDMI 2.1 CABLE BETWEEN HDMI INTERFACES WITHIN ROOM AS INDICATED ON PLANS. FURNISH AND INSTALL PRE-TERMINATED USB 3.1 CABLE BETWEEN USB 3.1 INTERFACES WITHIN ROOM AS INDICATED ON PLANS. INSTALL WIRING DEVICE BOX WITH BOTTOM AT +16" AFF, U.O.N. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
PROJ	OVERHEAD CEILING PROJECTOR (BY OWNER). PROVIDE ONE (1) HDMI 2.1 INTERFACE OUTLET, ONE (1) USB 3.1 INTERFACE OUTLET, ONE (1) COAXIAL TV OUTLET, AND ONE (1) CAT 6 OUTLET. PROVIDE 4" x 4" EXTRA DEEP BOX WITH ADAPTER RING FOR SINGLE GANG FACEPLATE; INSTALL WIRING DEVICE BOX FLUSH WITH CEILING AND LOCATED ADJACENT TO PROJECTOR. FURNISH AND INSTALL PRE-TERMINATED HDMI 2.1 CABLE BETWEEN HDMI INTERFACES WITHIN SAME ROOM AS INDICATED ON PLANS. UON. FUNISH AND INSTALL PRE-TERMINATED USB3.1 CABLE BETWEEN USB INTERFACES WITHIN SAME ROOM AS INDICATED ON PLAN UON. USE ONE (1) 1-1/4"C (EMT) FOR HDMI2.1 CABLE/USB 3.1 CABLE. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
* USB	COMBINATION TELEPHONE (VOIP)/DATA 2-PORT OUTLET SINGLE GANG. FOR EACH DEVICE 1-DATA/TELEPHONE (VOIP) JACK AND 1-USB 3.1 JACK WITHIN THAT MUTOA. INSTALL WITHIN A 4" x 4" EXTRA DEEP BOX WITH ADAPTER FOR SINGLE GANG PLATE. PROVIDE ONE (1) CAT 6 CABLE AND ONE (1) USB 3.1 CABLE UON. INSTALL DEVICE WITH BOTTOM AT +16" AFF., UON. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE
* TV	COMBINATION TELEVISION/DATA 2-PORT OUTLET SINGLE GANG. FOR EACH DEVICE 1-DATA/1-TELEVISION JACK WITHIN THAT MUTOA. INSTALL WITHIN A 4" x 4" EXTRA DEEP BOX WITH ADAPTER FOR SINGLE GANG PLATE. PROVIDE ONE (1) CAT.6 CABLE AND ONE (1) COAX CABLE. INSTALL DEVICE AT +84" AFF., UON ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
* HD/TV	ONE (1) HDMI 2.1 INTERFACE OUTLET, ONE (1) (COAXIAL TV OUTLET), AND ONE (1) CAT 6 OUTLET. PROVIDE 4" x 4" EXTRA DEEP BOX WITH ADAPTER RING FOR SINGLE GANG PLATE AND ROUTE ONE (1) 1-1/4"C (EMT) CONDUIT SLEEVE FROM BOX TO UP ABOVE CEILING AND STUBBED OUT AT CEILING WITH BUSHING. FURNISH AND INSTALL PRE-TERMINATED HDMI 2.1 CABLE BETWEEN INTERFACES WITHIN ROOM AS INDICATED ON PLANS. COORDINATE LOCATION WITH EQUIPMENT ON SITE. INSTALL DEVICE WITH BOTTOM AT +16" AFF., U.O.N ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
*	ONE (1) HDMI 2.1 INTERFACE OUTLET AND TWO (2) CAT 6 OUTLETS. PROVIDE 4" x 4" EXTRA DEEP BOX WITH ADAPTER RING FOR SINGLE GANG FACEPLATE; ROUTE ONE (1) 1-1/4"C (EMT) CONDUIT SLEEVE FROM BOX TO UP ABOVE CEILING AND STUBBED OUT AT CEILING WITH A BUSHING. FURNISH AND INSTALL PRE-TERMINATED HDMI 2.1 CABLE BETWEEN HDMI INTERFACES WITHIN ROOM AS INDICATED ON PLANS. INSTALL WIRING DEVICE BOX WITH BOTTOM AT +16" AFF, U.O.N. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
* VV	VIDEO VISITATION DATA OUTLET, SINGLE GANG. INSTALL A 4" x 4" EXTRA DEEP BOX WITH ADAPTER FOR SINGLE GANG PLATE AND BLANK COVER, PROVIDE WITH SECURITY FASTENERS ON COVER. PROVIDE ONE (1) 3/4" CONDUIT WITH PULLSTRING FROM BOX UP WALL AND STUBBED OUT INTO CHASE AREA BEHIND DAYROOM/CELLS FOR FUTURE CABLING. MOUNT BOX AT +48" AFF., UON ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
POTS	PLAIN OLD TELEPHONE SYSTEM OUTLET. PROVIDE (1) CAT 6 CABLE WITH (1) RJ11 JACK AND SINGLE GANG BOX. INSTALL DEVICE WITH BOTTOM AT +16" AFF., U.O.N
WAP *	POE WIRELESS ACCESS POINT (WAP). PROVIDE TWO (2) CAT 6A CABLES PER IEEE 802.11ac. CEILING MOUNT AND/OR SURFACE/FLUSH MOUNT AS INDICATED ON DRAWINGS. ASTERISK '*' = CUSTOM VANDALPROOF, NON METALLIC COVER.
	CONDUIT CONCEALED IN GROUND OR FLOOR U.O.N.
	CONDUIT TURN UP AND TURN DOWN RESPECTIVELY.
A L1# a N.L.	LIGHT FIXTURE. "A" INDICATES FIXTURE TYPE. "a" INDICATES SWITCH LEG. "L1#" INDICATES CIRCUIT NUMBER FIXTURE IS CONNECTED TO. REFER TO LIGHTING FIXTURE SCHEDULE ON DRAWING E6.1. N.L. = FIXTURE WITH BUILT-IN NIGHT LIGHT.
A L1# a N.L. EM	LIGHT FIXTURES WITH HALF SOLID SHADING INDICATES FIXTURE IS USED FOR EMERGENCY EGRESS LIGHTING. "A" INDICATES FIXTURE TYPE. "a" INDICATES SWITCH LEG. "L1#" INDICATES CIRCUIT NUMBER FIXTURE IS CONNECTED TO. N.L. = NIGHT LIGHT, CONTINUOUS OPERATION, NON-CONTROLLED. EM = FIXTURE SUPPLIED WITH EMERGENCY LIGHTING POWER CONTROL MODULE, CONTROLLED. REFER TO LIGHTING FIXTURE SCHEDULE ON DRAWING E6.1.
PC	PHOTOCELL
	DISTRIBUTION PANELBOARD, SEE PANELBOARD SCHEDULES FOR DETAILED REQUIREMENTS.
	PANELBOARD, SEE PANELBOARD SCHEDULES FOR DETAILED REQUIREMENTS.
	NON-FUSED DISCONNECT SWITCH, SEE DRAWINGS AND ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED REQUIREMENTS.
	FUSED DISCONNECT SWITCH, SEE DRAWINGS AND ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED REQUIREMENTS.
	NON-COMBINATION STARTER, SEE DRAWINGS AND ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED REQUIREMENTS.
3	COMBINATION FULL VOLTAGE NON-REVERSING (FVNR) MAGNETIC MOTOR STARTER WITH DISCONNECT, NUMBER INDICATES NEMA RATING, SIZE 1 UON. SEE DRAWINGS AND ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED REQUIREMENTS.
	VARIABLE FREQUENCY DRIVE, SEE DRAWINGS AND ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED REQUIREMENTS.
	VARIABLE FREQUENCY DRIVE AND DISCONNECT COMBINATION, SEE DRAWINGS AND ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED REQUIREMENTS.
3	NON-COMBINATION FULL VOLTAGE NON-REVERSING (FVNR) MAGNETIC MOTOR STARTER NUMBER INDICATES NEMA RATING, SIZE 1 U.O.N. SEE DRAWINGS AND ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED REQUIREMENTS.
$* M	125VAC, 20A, 1P MOTOR RATED TOGGLE SAFETY DISCONNECT WITH RED (ENERGIZED) LED PILOT LIGHT AND THERMAL OVERLOAD UON. ASTERISK '*' = VANDALPROOF STYLE DEVICE FACEPLATE.
	MOTOR.
PB	PULLBOX
*	ASTERISK '*' = VANDALPROOF STYLE DEVICE
	BUILDING OR TELECOM GROUND BUS BAR. REFER TO DETAILS #1, #2 , #3 AND #5 ON DRAWING E8.3.
GAA	REMOTE GENERATOR ALARM ANNUNCIATOR PANEL.
	OVERHEAD DOOR SAFETY INTERLOCKS. REFER TO SPECIFICATION SECTIONS 083323 AND 083613 FOR MORE INFORMATION. DEVICES PROVIDED BY DOOR VENDOR AND INSTALLED AND WIRED BY CONTRACTOR.
	LOCAL KEYED OPEN-STOP-CLOSE OVERHEAD DOOR PUSHBUTTON CONTROL STATION. REFER TO SPECIFICATION SECTIONS 083323 AND083613 FOR MORE INFORMATION. INSTALL DEVICE AT +48" AFF UON. DEVICES PROVIDED BY DOOR VENDOR AND INSTALLED AND WIRED BY CONTRACTOR.
	CONTROL STATION (TYPE AS INDICATED ON DRAWINGS; I.E. OPEN-STOP-CLOSE OVERHEAD DOOR, ADA DOOR OPENER, ETC.). MOUNTING HEIGHT AS INDICATED ON DRAWINGS. CONTROL STATION PROVIDED BY CONTROLLED DEVICE VENDOR AND INSTALLED AND WIRED BY CONTRACTOR.
E	LOW VOLTAGE ELECTRICAL CONNECTION TO AUTOMATIC FLUSH VALVE AND/OR AUTOMATIC WATER FAUCET VALVE. REFER TO POWER PLANS AND DETAIL #1 ON DRAWING E8.1.
T	LOW VOLTAGE TRANSFORMER (I.E. FOR POWERING AUTOMATIC FLUSH VALVE AND/OR AUTOMATIC WATER FAUCET VALVE). REFER TO POWER PLANS AND DETAIL #1 ON DRAWING E8.1.
FFSCP	FIREFIGHTER SMOKE CONTROL PANEL.
	BRANCH CIRCUIT HOME-RUN SYMBOLOGY: SOLID CIRCLE INDICATES GROUND CONDUCTOR LONG LINE INDICATES NEUTRAL CONDUCTOR(S) SHORT LINE INDICATES PHASE CONDUCTOR(S)

ONE-LINE DIAGRAM SYMBOLS:

Symbol	Description
PANEL 200 AMP 120/208V 3∅, 4W MLO	MAIN LUG ONLY PANELBOARD. "PANEL" INDICATES PANEL DESIGNATION. "120/208" INDICATES PANEL OPERATING VOLTAGE. "3∅, 4W" INDICATES PHASE AND WIRE. "200A 3P" INDICATES 3 POLE MAIN LUGS AND BUS RATED FOR 200A.
PANEL 200 AMP 120/208V 3∅, 4W MCB	MAIN CIRCUIT BREAKER PANELBOARD. "PANEL" INDICATES PANEL DESIGNATION. "120/208" INDICATES PANEL OPERATING VOLTAGE. "3∅, 4W" INDICATES PHASE AND WIRE. "200A 3P" INDICATES 3 POLE MAIN LUGS AND BUS RATED FOR 200A.
200 AT / 200 AF	FUSED SWITCH. TOP NUMBER INDICATES SWITCH RATING IN AMPERES. BOTTOM NUMBER INDICATES FUSE RATING IN AMPERES.
200AT 200AF 80% RATED LSIG SS	MOLDED CASE THERMAL MAGNETIC CIRCUIT BREAKER. TOP NUMBER INDICATES TRIP RATING IN AMPERES. BOTTOM NUMBER INDICATES FRAME RATING IN AMPERES. "80% RATED" INDICATES BREAKER RATING. "LSIG" INDICATES BREAKER WITH ADJUSTABLE LONG TIME, SHORT TIME, INSTANTANEOUS, AND GROUND FAULT TRIP SETTINGS. "SS" INDICATES SOLID STATE, 3-POLE, U.O.N.
	BUS BAR.
	FEEDER CIRCUIT.
20	MOTOR WITH HORSEPOWER INDICATED.
208V 30KVA 208/120 K13	TRANSFORMER. PRIMARY VOLTAGE, SECONDARY VOLTAGE, RATING IN KVA AS INDICATED. K FACTOR AS INDICATED. REFER TO TRANSFORMER SCHEDULE ON DRAWING E6.3 FOR DETAILED REQUIREMENTS.
	GROUND.
100A	NON-FUSED DISCONNECT SWITCH. NUMBER INDICATES RATING IN AMPERES.
	ENCLOSURE OUTLINE.
100	CABLE/CONDUIT NUMBER. REFER TO CABLE AND CONDUIT SCHEDULES ON DRAWING E7.2.
N E L	AUTOMATIC TRANSFER SWITCH
SB	SWITCHBOARD

ABBREVIATIONS:

A	AMPERES	MCC	MOTOR CONTROL CENTER
AF	AMPERE FUSE	MDF	MAIN DISTRIBUTION FRAME
AFC	ABOVE FINISHED COUNTER	MFR.	MANUFACTURER
AFF	ABOVE FINISHED FLOOR	MLO	MAIN LUG ONLY
AFG	ABOVE FINISHED GRADE	MOCP	MAXIMUM OVERCURRENT PROTECTION
AHU	AIR HANDLING UNIT	MTS	MANUAL TRANSFER SWITCH
AIC	AMPERES INTERRUPTING CAPACITY	MUTOA	MULTI-USER TELECOMMUNICATIONS OUTLET ASSEMBLY
AT	AMPERE TRIP	NAC	NOTIFICATION APPLIANCE CABINET
ATS	AUTOMATIC TRANSFER SWITCH	NEC	NATIONAL ELECTRICAL CODE
AWG	AMERICAN WIRE GAUGE	NL	NON-SWITCHED NIGHT LIGHT
BACnet	BUILDING AUTOMATION AND CONTROL NETWORKING PROTOCOL	NO2	NITROGEN DIOXIDE
BCT	BONDING CONDUCTOR FOR TELECOMMUNICATIONS	NO/NC	NORMALLY OPEN/NORMALLY CLOSED
		NTRL	NEUTRAL
BE	BURIED ELECTRIC	NTS	NOT TO SCALE
BFG	BELOW FINISH GRADE	OCP	OVERCURRENT PROTECTIVE DEVICE
BFO	BURIED FIBER OPTIC	OCPD	OVERCURRENT PROTECTIVE DEVICE
BICSI	BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL (NOW BICSI: A TELECOMMUNICATIONS ASSOCIATION)	OL	OVERLOADS
		P	POLE
		PC	PERSONAL COMPUTER
BMS	BUILDING MANAGEMENT SYSTEM	PCM	(EMERGENCY) POWER CONTROL MODULE
BSMT.	BASEMENT	PH	PHASE
BT	BURIED TELEPHONE	PIR	PASSIVE INFRARED
C.	CONDUIT	PIV	POST INDICATE VALVE
CAT	CATEGORY	POE	POWER OVER ETHERNET
CATV	CABLE TELEVISION/COMMUNITY ANTENNA TELEVISION	POTS	PLAIN OLD TELEPHONE SYSTEM
		∅	PHASE
CB	CIRCUIT BREAKER	RCDD	BICSI REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
CU	COPPER		
CVC	CELL VALVE CONTROLLER	RCPT	RECEPTACLE
DED	DEDICATED	RECEPT	RECEPTACLE
DFA	DROP FROM ABOVE	RFID	RADIO FREQUENCY INDENTIFICATION
DIV.	DIVISION	RLA	RUNNING LOAD AMPERES
D.S	DISCONNECT SWITCH	RM	ROOM
E.T.R.	EXISTING TO REMAIN	RTU	ROOF TOP UNIT
EX	EXISTING TO REMAIN	SE	SERVICE ENTRANCE
EC	ELECTRICAL CONTRACTOR	SP	SPARE
ES	ELECTRONICS SECURITY	SPEC	SPECIFICATIONS
(F)	FUTURE	SS	SOLID STATE (ELECTRONIC) BREAKER
FAAP	FIRE ALARM ANNUNCIATOR PANEL	SSOL	SOLID STATE OVERLOADS
FACP	FIRE ALARM CONTROL PANEL	ST	SAFETY TYPE
FFSCP	FIREFIGHTER SMOKE CONTROL PANEL	SW	SWITCH
FLA	FULL LOAD AMPERES	TBI	TO BE INSTALLED
F/SD	FIRE/SMOKE DAMPER	TBR	TO BE REMOVED
G	GROUND	TCC	TEMPERATURE CONTROL CONTRACTOR
GFI	GROUND FAULT INTERRUPT	TGB	TELECOMMUNICATIONS GROUNDING BUS BAR
GFCI	GROUND FAULT CIRCUIT INTERRUPT	TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUS BAR
GRND	GROUND		
HDMI	HIGH-DEFINITION MULTI-MEDIA INTERFACE	TTB	TELEPHONE TERMINAL BOARD
		TV	TELEVISION
HOA	HAND OFF AUTOMATIC	TWSHPR	TWISTED SHIELDED PAIR
HLOA	HIGH LOW OFF AUTOMATIC	TWPR	TWISTED PAIR
HNDLR	HANDLER	TYP.	TYPICAL
IAM	INTERMEDIATE ADDRESSABLE MODULE	U.O.N.	UNLESS OTHERWISE NOTED
IDF	INTERMEDIATE DISTRIBUTION FRAME	UPS	UNINTERRUPTIBLE POWER SOURCE
IP	INTERNET PROTOCOL	USB	UNIVERSAL SERIAL BUS
IR	INFRARED	V	VOLTS
KAIC	KILO-AMPERES INTERRUPTING CAPACITY	VESDA	VERY EARLY SMOKE DETECTION APPARATUS
KVA	KILO-VOLT-AMPS		
KW	KILOWATTS	VFD	VARIABLE FREQUENCY DRIVE
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND	VOIP	VOICE OVER INTERNET PROTOCOL
		W	WIRE
LTG	LIGHTING	WAP	WIRELESS ACCESS POINT
MATV	MASTER ANTENNA TELEVISION	WP	WEATHERPROOF
MC	MECHANICAL CONTRACTOR	ZAM	ZONE ADDRESSABLE MODULE
MCA	MINIMUM CIRCUIT AMPACITY		
MCB	MAIN CIRCUIT BREAKER		

GENERAL NOTES (CONTINUED):

MM. CONTRACTOR SHALL FURNISH AND INSTALL POE WIRELESS ROUTERS THROUGHOUT THE BUILDING INTERIOR. FURNISH AND INSTALL TWO (2) CAT 6A CONNECTIONS AT EACH WIRELESS RTER IN ACCORDANCE WITH IEEE 802.11ac. WIRELESS ACCEES POINT LOCATIONS INDICATED ON DRAWINGS E4.1A, E4.1B, E4.1C AND E4.2C ARE DIAGRAMMTIC; CONTRACTOR SHALL FURNISH AND INSTALL WIRELESS ROUTERS AT ALL LOCATIONS NECESSARY FOR FULL COVERAGE THROUGHOUT THE BUILDING.

SUBMIT "MESHED WI-FI NETWORK SYSTEM" SHOP DRAWING FOR ENGINEER APPROVAL PRIOR TO CONSTRUCTION OR PROCUREMENT: SHOP DRAWING SHALL INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:

a. QUALIFICATIONS FOR SPECIALIST TRAINED AND CERTIFIED BY WIRELESS ROUTER MANUFACTURER AND IS UNDER THE SUPERVISION OF AN RCDD

b. WIRELESS PATHWAY STUDY INDICATING WIRELESS AREA COVERAGE, AVERAGE (EXPECTED) USER BANDWIDTH AVAILABLE AT EACH ROUTER LOCATION/ZONE, AND SIGNAL STRENGTH AT EACH ROUTER LOCATION/ZONE. AVERAGE SIGNAL STRENGTH AT EACH ROUTER LOCATION/ZONE SHALL BE NO LESS THAN -50 DBM (DECIBEL MILLIWATTS). MINIMUM SIGNAL STRENGTH AT EACH ROUTER LOCATION/ZONE SHALL NO LESS THAN -60 DBM.

c. WIRELESS PATHWAY STUDY MODELING SHALL ACCOUNT FOR BARRIERS IN BUILDING (WALL DEPTHS/HEIGHTS/MATERIALS, CEILING HEIGHTS/MATERIALS) AND ACCOUNTING FOR AVERAGE (AND PEAK) NUMBER OF USERS FOR EACH ZONE (AREA OF ROUTER'S COVERAGE).

d. SUBMIT SCALED PLANS INDICATING WIRELESS ROUTER LOCATIONS /HEIGHTS/ANTENNA AIMING. INDICATE WIRELESS ACCESS POINT COVERAGE FOR EACH ROUTER/ZONE. INDICATE WIRELESS ROUTER TYPE. INDICATE AVERAGE (EXPECTED) USER BANDWIDTH AVAILABLE AT EACH ROUTER/ZONE.

e. SUBMIT PRODUCT DATA SHEETS/PERFORMANCE SPECIFICATIONS FOR ROUTERS.

f. SUBMIT MOUNTING HARDWARE, ACCESSORIES, AND PROTECTIVE ENCLOSURES.

g. WIRELESS ROUTER MANUFACTURERS SHALL BE ONE OF THE FOLLOWING: RUCKUS, CISCO, NETGEAR

h. WIRELESS ROUTER MODEL(S) SELECTED BY THE SPECIALIST SHALL HAVE PERFORMANCE SUITABLE FOR PROVIDING COVERAGE, BANDWIDTH, AND SIGNAL STRENGTH TO ACCOMMODATE OWNER USAGE INCLUDING STREAMING. SELECTION OF ROUTERS FOR THIS PERFORMANCE SHALL INCLUDE, BUT IS NOT LIMITED TO: QUANTITY OF ANTENNAS, MIMO, FREQUENCY CHANNELS, IEEE 802.11ac AND 802.11n STANDARDS, SPEED, WPA2 SECURITY PROTOCOL.

i. FURNISH AND INSTALL CUSTOM COVER OVER WIRELESS ACCESS POINT (WAP) ROUTERS LOCATED IN INMATE AREAS LIKE TERRAWAVE SOLUTIONS #V10102-C-1131 OR APPROVED EQUAL. COVER SHALL BE SIZED TO MATCH ROUTER AND UTILIZE TORX-HEAD CENTER PIN SCREWS.

NN. RADIOS, RADIO ANTENNAS, RADIO SIGNAL BOOSTERS, RADIO PATH STUDIES, AND/OR OTHER ITEMS RELATED TO OWNER'S RADIO SYSTEM SHALL BE BY OTHERS UNDER SEPARATE OWNER CONTRACT.

OO. STRUCTURED CABLING HEAD-END EQUIPMENT (I.E. RACK MOUNTED UPSs, SWITCHES, POWER CONITIONERS, PATCH CABLES, ETC.) FURNISHED AND INSTALLED BY OWNER UNLESS OTHERWISE NOTED. FIELD COORDINATE WITH OWNER'S IT PERSONNEL AND/OR OWNER'S PREFERRED VENDOR FOR DETAILED REQUIREMENTS PRIOR TO CONSTRUCTION. OWNER'S IT EQUIPMENT VENDOR/INTEGRATOR IS:

A3

PP. CONTRACTOR TO COORDINATE COLD-FORMED STEEL TRUSSES WITH THE ROUTING AND HANGER/SUPPORTS OF ALL MECHANICAL, ELECTRICAL, PLUMBING, SECURITY ELECTRONICS AND FIRE PROTECTION THROUGH BIM COORDINATION MODELING PRIOR TO ANY FABRICATION. ROUTING OF TRADES ELEMENTS SHOWN ON PLANS AND ANY TRUSS WEBS SHOWN IN BUILDING SECTIONS ARE DIAGRAMMATIC AND MUST BE COORDINATED WITH COLD-FORMED STEEL TRUSS SUPPLIER AND THEIR STRUCTURAL TRUSS ELEMENT REQUIREMENTS. TRADES TO PROVIDE HANGING LOADS TO TRUSS DELEGATED DESIGNER, MODIFICATION OF HANGER/SUPPORTS FOR TRADES INCLUDE BUT IS NOT LIMITED TO ADJUSTING SPACING OF HANGERS/SUPPORTS AND/OR ADJUSTING SUPPORTS TO EXTEND TO ADJACENT WALL SURFACES. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.

QQ. THE DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DIVISION 28 FIELD DEVICE INSTALLATION AND TERMINATIONS. THE SECURITY SYSTEM INTEGRATOR (SSI) SHALL BE RESPONSIBLE FOR ALL HEAD-END EQUIPMENT AND TERMINATIONS. THE SSI SHALL BE RESPONSIBLE FOR THE INSTALLATION AND TERMINATIONS OF ALL CONTROL STATION EQUIPMENT, INDLUDING GUI PCs, MONITORS, NETWORK CLIENT PCs AND MONITORS.

SITE ELECTRICAL:

Symbol	Description
— — — BHV — — —	UNDERGROUND HIGH VOLTAGE
— — — BE — — —	UNDERGROUND ELECTRICAL
— — — BC — — —	UNDERGROUND COMMUNICATION
— — — BFO — — —	UNDERGROUND FIBER OPTIC
— — — BTV — — —	UNDERGROUND CABLE TV/HIGH SPEED DATA
— — — BT — — —	UNDERGROUND TELEPHONE (POTS)
— — —BCAT— — —	UNDERGROUND CAT 6A
— — — BCAT6 — — —	UNDERGROUND CAT6
— — — — BG — — — —	DIRECT BURIED GROUNDING ELECTRODE CABLE
— — — — G — — — —	DIRECT BURIED GROUNDING ELECTRODE CABLE FOR BUILDING GROUND RING
■	GROUND TEST WELL
HH-X	HANDHOLE E - ELECTRICAL C - COMMUNICATION
	LIGHTING POLE
HH-E	ELECTRICAL HANDHOLE (IN-GRADE POLYMER CONCRETE PULL BOX); REFER TO DETAIL 4/E8.1. MINIMIZE SPLICES INSIDE HANDHOLE. HANDHOLE COVER SHALL BE LABELED "ELECTRIC".
HH-C	COMMUNICATIONS HANDHOLE (IN-GRADE POLYMER CONCRETE PULL BOX); REFER TO DETAIL 4/E8.1. MINIMIZE SPLICES INSIDE HANDHOLE. HANDHOLE COVER SHALL BE LABELED "COMMUNICATIONS".

CONTRACTOR RESPONSIBILITY FOR SECURITY ELECTRONICS SYSTEMS

A. CONTRACTOR SHALL PROVIDE AND INSTALL ALL 120/208VAC, CONDUITS/RACEWAYS, PULLSTRINGS, J-HOOKS, BOXES (BACK BOXES AND JUNCTION BOXES) AND FIBER OR COPPER CONDUCTORS REQUIRED FOR SECURITY SYSTEMS.

B. CONTRACTOR SHALL MOUNT AND INSTALL ALL SECURITY SYSTEMS DEVICES AND EQUIPMENT SUPPLIED BACK BOXES, INCLUDING CAMERA HOUSINGS AND INTERCOM ENCLOSURES.

C. CONTRACTOR SHALL INSTALL ALL SECURITY SYSTEMS FIELD DEVICES AND HEAD-END DEVICES INCLUDING TERMINATING CABLING AT FIELD DEVICES AND HEAD-END LOCATIONS.

D. CONTRACTOR SHALL LABEL ALL RACEWAYS AND CABLE SYSTEMS FOR SECURITY SYSTEMS PER SPECIFICATIONS.

E. CONTRACTOR SHALL PERFORM AN ACCEPTANCE TEST OF ALL INSTALLED CABLING FOR SECURITY SYSTEMS AS REQUIRED BY SECURITY ELECTRONICS SPECIFICAITONS, DRAWINGS, AND/OR SECURITY ELECTRONICS VENDOR REQUIREMENTS.

F. REFER TO SECURITY ELECTRONICS "SE" SERIES DRAWINGS FOR ADDITIONAL INFORMATION AND INSTALLATION REQUIREMENTS.

GENERAL NOTES:

A. DRAWINGS ARE DIAGRAMMATIC. ALL DIMENSIONS SHOWN ARE APPROXIMATE. ALL LOCATIONS SHALL BE FIELD VERIFIED.

B. ALL WORK SHALL BE IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE LATEST EDITION ADOPTED BY INDIANA, THE INDIANA ELECTRICAL CODE AMENDMENTS, LOCAL/MUNICIPAL CODES, AND THE AUTHORITY HAVING JURISDICTION.

C. ALL CONNECTIONS TO EQUIPMENT SUBJECT TO MOVEMENT OR VIBRATION SHALL BE LIQUID TIGHT FLEXIBLE METAL CONDUIT, NOT LESS THAN 12" IN LENGTH, NOR GREATER THAN 36" IN LENGTH.

D. ALL PENETRATIONS THROUGH FIRE RATED WALLS SHALL BE SEALED WITH THE APPROPRIATE FIRE STOPPING MATERIAL TO MAINTAIN WALL FIRE RATING. SEE ARCHITECTURAL DRAWINGS G1.4, G1.5 AND G1.6 FOR FIRE RATED WALL, CEILING, AND FLOOR LOCATIONS.

E. SEE MECHANICAL AND PLUMBING SCHEDULES FOR MECHANICAL EQUIPMENT RATINGS AND SIZES. ALSO REFER TO ELECTRICAL CONNECTION SCHEDULE ON DRAWING E6.2 FOR DETAILED CONNECTION REQUIREMENTS.

F. ALL POWER AND LIGHTING CIRCUITS SHALL BE MINIMUM (2)#12, AND (1) #12 G, IN 3/4" CONDUIT UNLESS OTHERWISE NOTED. ALL 120V, 1-PHASE BRANCH CIRCUITS WITH 20A AND BELOW BREAKER(S) SHALL USE THE FOLLOWING MINIMUM CABLE SIZE TO ACCOMMODATE VOLTAGE DROP UNLESS OTHER WISE NOTED: LESS THAN 125'-0": #12 AWG; 125'-0" TO 200'-0": #10 AWG; 200'-0" TO 300'-0": #8 AWG.

G. ALL CONTROL WIRING SHALL BE NOT LESS THAN (2) #14, (1) #14G, 3/4"C, UON.

H. ALL CABLES INSTALLED IN AIR HANDLING PLENUMS SHALL BE PLENUM RATED CABLE.

I. HOME RUNS SHALL NOT BE COMBINED IN A RACEWAY UNLESS SHOWN ON THE CONTRACT DRAWINGS. SINGLE PHASE BRANCH CIRCUIT HOME RUNS MAY BE COMBINED AT THE CONTRACTOR'S DISCRETION NOT GREATER THAN (3) PHASE CONDUCTORS, (3) NEUTRAL CONDUCTORS, AND REQUIRED GROUNDING CONDUCTOR(S). CONTRACTOR MUST INCREASE WIRE SIZE AND DERATE CONDUCTOR CAPACITY ACCORDING TO NEC.

J. EACH SINGLE PHASE BRANCH CIRCUIT CONDUCTOR SHALL HAVE A DEDICATED NEUTRAL BACK TO THE PANELBOARD.

K. SUPPORTING WIRE FOR THE SUSPENDED CEILING GRID SHALL NOT BE USED AS RACEWAY SUPPORT.

L. DISCONNECT SWITCH RATINGS SHALL BE AS INDICATED ON THE DRAWINGS.

M. MAJOR FEEDERS FROM THE SWITCHBOARD TO PANELBOARDS, TRANSFORMERS, MOTORS AND OTHER LARGE EQUIPMENT ARE NOT SHOWN ON THE FLOOR PLAN DRAWINGS. THESE FEEDERS ARE INCLUDED WITHIN THE SCOPE OF THE ELECTRICAL WORK AND ARE SHOWN ON THE ONE-LINE DIAGRAM ON DRAWING E7.1.

N. ALL FIRE ALARM CABLING SHALL BE RED, PLENUM RATED, AND INSTALLED IN RED CONDUIT. ALL ASSOCIATED JUNCTION/PULL BOXES SHALL BE "RED".

O. HVAC CONTROL WIRING FURNISHED AND INSTALLED BY OTHERS IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS. PROVIDE POWER TO EACH TEMPERATURE CONTROL PANEL AS SHOWN.

P. INDOOR CONTROL EQUIPMENT ENCLOSURES SHALL BE NEMA 1 RATED U.O.N. ALL EXTERIOR ENCLOSURES SHALL BE NEMA 3R UNLESS OTHERWISE NOTED. ALL ENCLOSURES LOCATED IN KITCHEN SHALL BE NEMA 4X STAINLESS STEEL UNLESS OTHERWISE NOTED.

Q. ALL CONDUITS CROSSING EXPANSION JOINTS SHALL BE INSTALLED WITH EXPANSION FITTINGS, UNLESS THE CONDUIT IS BELOW SLAB IN THE COMPACTED GRANULAR FILL. EXPANSION FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE NEC AND MANUFACTURER'S WRITTEN RECOMMENDATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR EXPANSION JOINT LOCATIONS.

R. THE CONTRACTOR SHALL COORDINATE RECEPTACLE HEIGHTS AND LOCATIONS WITH THE CASEWORK SHOP DRAWINGS AND OWNER APPROVED FURNITURE PLANS TO DETERMINE EXACT LOCATIONS AND HEIGHTS FOR WIRING DEVICES INSTALLATION.

S. TO REDUCE NOISE BETWEEN WALLS, CONTRACTOR SHALL:

a. AVOID INSTALLING POWER RECEPTACLES OR DATA OUTLETS LOCATED BACK TO BACK.

b. WHERE OUTLETS ARE REQUIRED TO BE LOCATED BACK TO BACK CONTRACTOR SHALL PROVIDE SOUNDPROOFING MATERIAL BETWEEN JUNCTION BOXES.

T. THE WORD "PROVIDE" IS TO BE DEFINED AS "FURNISH AND INSTALL."

U. ALL ELECTRICAL DEVICES IN RECREATION ROOMS TO BE PROVIDED WITH WIREGUARD UNLESS INSTALLED IN CUSTOM BOX.

V. COORDINATE VIDEO VISITATION POWER REQUIREMENTS WITH OWNER'S VIDEO VISITATION VENDOR BEFORE ROUGH-IN. FURNISH AND INSTALL POWER AS REQUIRED. PROVIDE DEVICES, BOXES, RACEWAYS, CABLING, SUPPORTS, DISCONNECTS, STARTERS, ETC AS REQUIRED.

W. THE TRADE CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL PENETRATIONS WITH STRUCTURAL DRAWING REQUIREMENTS. ADDITIONALLY, THE TRADE CONTRACTOR SHALL COORDINATE ALL PENETRATIONS REQUIRED THROUGH PRECAST CONCRETE UNITS WITH THE PRECAST CONCRETE MANUFACTURER TO PRODUCE A SHOP DRAWING SUBMITTAL NOTING ALL PENETRATIONS AND THEIR SIZES. TRADE CONTRACTOR AND PRECAST MANUFACTURER SHALL PROVIDE DOCUMENTATION WITH SHOP DRAWING SUBMITTAL INDICATING THAT ALL TRADES HAVE SIGNED OFF ON ALL AFOREMENTIONED COORDINATION. SURFACE MOUNTED DEVICES AND CONDUIT ARE NOT ACCEPTABLE.

X. ADJUST WIRING DEVICE BOX MOUNTING HEIGHT TO TOP OR BOTTOM OF BLOCK COURSING AS NEEDED SO BOXES DO NOT CROSS A MORTAR JOINT.

Y. SECURITY CAULKING/SEALANT SHALL BE INSTALLED IN CREVICES IN ALL DETENTION SPACES (I.E. AROUND WIRING DEVICE PLATES, LIGHTING FIXTURES, ETC.). REFER TO SPECIFICATION 079200 FOR DETAILED REQUIREMENTS.

Z. TORX HEAD SCREWS WITH A CENTER PIN SHALL BE INSTALLED IN ALL DETENTION SPACES (I.E. WIRING DEVICE FACEPLATES, LIGHTING FIXTURE ACCESS PLATES, ETC.). REFER TO SPECIFICATION 050553 FOR DETAILED REQUIREMENTS.

AA. CONDUITS SHALL NOT BE ROUTED IN OR THROUGH THE PRECAST HOLLOWCORE CEILING. COORDINATE WITH PRECAST VENDOR TO DETERMINE DROP-IN ANCHOR LOCATIONS FOR MOUNTING OF RACEWAYS OR OTHER ELECTRICAL ITEMS UNDERNEATH THE PRECAST HOLLOWCORE CEILING. REFER TO DRAWING S5.1, DETAILS #6, #7 AND #8.

BB. PER NEC ARTICLE 700, "LEGALLY REQUIRED", "EMERGENCY", "OPTIONAL" AND "UPS" POWERED CIRCUITS SHALL BE ROUTED IN SEPARATE CONDUITS FROM ONE ANOTHER. PAINT COVER OF JUNCTION BOXES FOR "OPTIONAL" CIRCUITS SILVER. PAINT COVER OF JUNCTION BOXES FOR "EMERGENCY" CIRCUITS PURPLE. PAINT COVER OF "LEGALLY REQUIRED" CIRCUITS ORANGE. PAINT COVER OF JUNCTION BOXES FOR "UPS" CIRCUITS YELLOW.

CC. ALL WIRING DEVICES IN FINISHED AREAS SHALL BE FLUSH MOUNTED UNLESS OTHERWISE NOTED ON ELECTRICAL DRAWINGS.

DD. SMOKE CONTROL SYSTEM SHALL BE CONTROLLED BY THE BUILDING MANAGEMENT SYSTEM (BMS) AND/OR FIREFIGHTER SMOKE CONTROL PANEL (FFSCP). REFER TO DETAIL #6 ON DRAWING M5.2 FOR SMOKE DAMPER CONTROL DIAGRAM AND DETAILS #1 AND #2 ON DRAWING M7.2 FOR SMOKE EXHAUST MANAGMENT CONTROL SCHEMATICS. FIRE ALARM CONTROL PANEL SHALL COMMUNICATE SMOKE DETECTION AND ALARMING WITH BMS USING BACnet COMMUNICATION PROTOCOL VIA UL 864 COMPLIANT COMMUNICATION DEVICES AND ACCESSORIES.

EE. FURNISH AND INSTALL ELECTRICAL CONNECTIONS AS REQUIRED FOR ALL EQUIPMENT IN KITCHEN, LAUNDRY AND MEDICAL AREA THAT REQUIRES POWER. CONFRIM POWER REQUIREMENTS WITH EQUIPMENT PROVIDERS. FURNISH AND INSTALL BOXES, RACEWAYS, CABLING, SUPPORTS, DISCONNECTS, STARTERS, ETC. AS REQUIRED.

FF. FURNISH AND INSTALL ELECTRICAL CONNECTION AS REQUIRED FOR ALL SECURITY ELECTRONICS, MECHANICAL, COMMUNICATIONS, KITCHEN, AND ALL OTHER MISCELLANEOUS EQUIPMENT THAT REQUIRE POWER. CONFIRM POWER REQUIREMENTS WITH EQUIPMENT PROVIDERS. PROVIDE CONNECTION TO POWER PANEL LOCATED IN NEARST AVAILABLE ROOM/AREA AS NEEDED. FURNISH AND INSTALL BOXES, RACEWAYS, CABLING, SUPPORTS, DISCONNECTS, STARTERS, ETC. AS REQUIRED.

GG. ALL CONDUIT SHALL BE CONCEALED UNLESS OTHERWISE APPROVED BY ENGINEER ON A CASE-BY-BASE BASIS.

HH. SEISMIC REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS: SITE CLASS: C; BUILDING RISK CATEGORY: III; SEISMIC DESIGN CATEGORY: B; COMPONENT IMPORTANCE FACTOR: 1.0.; AMPLIFICATION FACTORS AND COMPONENT RESPONSE MODIFICATION FACTORS: AS REQUIRED IN ASCE 7-10 TABLE 12.6-1 (MECHANICAL AND ELECTRICAL) FOR COMPONENTS AND RACEWAYS AND SUPPORTS. REFER TO ELECTRICAL SPECIFICATION SECTIONS 26001 AND 260548.16 SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS FOR DETAILED REQUIREMENTS. ALSO REFER TO DRAWING S0.1 FOR SEISMIC REQUIREMENTS FOR SHERIFFS OFFICE AND CORRECTIONAL FACILITY AND SEISMIC REQUIREMENTS FOR DISPATCH.

II. OWNER SHALL FURNISH AND INSTALL TELEVISIONS AND TELEVISION MOUNTING BRACKETS. CONTRACTOR SHALL FURNISH SUPPORTS BEHIND WALL FOR ANCHORING THE TV MOUNTING BRACKET; COORDINATE TV ANCHORING BRACKET REQUIREMENTS WITH OWNER PRIOR TO CONSTRUCTION. ALSO FIELD COORDINATE WITH OWNER, PRIOR TO CONSTRUCTION TO DETERMINE/VERIFY LOCATIONS/HEIGHTS FOR WIRING DEVICES ASSOCAITED WITH TELEVISIONS.

JJ. FIELD COORDINATE WITH CABINETRY VENDOR AND FURNITURE VENDOR AND DETERMINE EXACT LOCATIONS FOR GROMMETS FOR WIRE MANAGEMENT AT COUNTERTOPS AND DESKTOPS AT LOCATIONS AS NECESSARY. GROMMETS SHALL BE FURNISHED BY VENDORS AS NECESSARY.

KK. ALL EXPOSED CONDUITS AND BOXES IN FINISHED AREAS SHALL BE PAINTED TO MATCH ADJACENT FINISH.

LL. FURNISH AND INSTALL STRUCTURED CABLING SYSTEM AND ASSOCAITED APPURTENANCES (I.E. CABLING, WIRING DEVICES, FACEPLATES, WIRING DEVICE BOXES, J-HOOKS, SLEEVES, PATCH PANELS/ENCLOSURES, ETC.). FIELD COORDIANTE WITH OWNER'S IT PERSONNEL AS NECESSARY PRIOR TO CONSTRUCTION.

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ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES
DLZ INDIANA, LLC

02-16-2022
TIMOTHY K. FOUGHT REGISTERED No. PE19700119 STATE OF INDIANA PROFESSIONAL ENGINEER
Timothy K. Fought

NO.	REVISION	DATE
A2	ADDENDUM 2	02/02/22
A3	ADDENDUM 3	02/16/22

DRAWN: RDW CHK'D: TKF
DESIGNED: RDW
APPRV'D: TKF
DATE: DECEMBER 20, 2021
PROJECT NUMBER 2063-1048-90

SULLIVAN COUNTY SHERIFF'S OFFICE AND CORRECTIONAL FACILITY
2357 NORTH SECTION STREET SULLIVAN, INDIANA 47882

GENERAL NOTES, SYMBOLS AND ABBREVIATIONS

DRAWING NUMBER
E0.1
ELECTRICAL

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