

ELECTRICAL SYMBOLS AND ABBREVIATIONS

NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT. REFER TO SPECIFICATIONS MANUAL FOR ADDITIONAL REQUIREMENTS.

POWER SYMBOLS

	MOTOR, HP AS INDICATED
	CONTROLLER TO BE FURNISHED UNDER DIVISION 15
	DISCONNECT SWITCH
	MAGNETIC MOTOR STARTER
	COMBINATION MOTOR STARTER
	CONTACTOR
	JUNCTION BOX
	JUNCTION BOX
	RELAY
	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE GFI-GROUND FAULT INTERRUPTING WP-WEATHERPROOF IG-ISOLATED GROUND
	DOUBLE DUPLEX (QUADRUPLEX) RECEPTACLE
	FLOOR OUTLET DUPLEX RECEPTACLE
	FLOOR OUTLET SIMPLEX RECEPTACLE
	FLOOR OUTLET QUADRUPLEX RECEPTACLE
	DROP CORD RECEPTACLE
	SPECIAL PURPOSE OUTLET AS DESIGNATED
	SINGLE FACE PEDESTAL
	DOUBLE FACE PEDESTAL RECEPTACLE
	EQUIPMENT CONNECTION
	CONNECT TO EXISTING

LIGHTING CONTROL SYMBOLS

	S ₁ SINGLE POLE SWITCH, SUBSCRIPT INDICATES ASSOCIATED CIRCUITRY
	S ₄ DIMMABLE SWITCH
	S ₂ DOUBLE POLE SWITCH
	S ₃ THREE WAY SWITCH
	S ₄ FOUR WAY SWITCH
	S _K KEY OPERATED SWITCH
	S _P SWITCH WITH PILOT LIGHT IN HANDLE (ON-LIGHTED UNLESS OTHERWISE NOTED)
	S _{WP} WEATHERPROOF SWITCH
	S _M S _{MT} MANUAL MOTOR STARTER (T-THERMAL OVERLOAD, SIZED FOR MOTOR)
	S _T TIMER SWITCH
	S _{SC} SPEED CONTROL
	S _{PB} PUSH BUTTON
	◆ OCCUPANCY SENSOR CEILING MOUNTED, DUAL TECHNOLOGY. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED POWER PACKS
	◆ OCCUPANCY SENSOR WALL MOUNTED, DUAL TECHNOLOGY. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED POWER PACKS
	◆ SWITCH, OCCUPANCY SENSOR, WALL MOUNT
	S _{LV} MOMENTARY CONTACT OVERRIDE SWITCH

LIGHTING SYMBOLS

	INCANDESCENT OR HID FIXTURE, CEILING MOUNTED
	INCANDESCENT OR HID FIXTURE, WALL MOUNTED
	FLUORESCENT TROFFER, RECESSED OR SURFACE MOUNTED
	EXIT SIGN - SINGLE FACE
	EXIT SIGN - SINGLE FACE WITH ONE WAY DIRECTIONAL ARROW
	EXIT SIGN - SINGLE FACE WITH TWO WAY DIRECTIONAL ARROWS
	EXIT SIGN - DOUBLE FACE
	EXIT SIGN - DOUBLE FACE WITH 2 ONE WAY DIRECTIONAL ARROWS
	EMERGENCY LIGHT, BATTERY TYPE WITH CHARGER
	EXTERIOR FLOOD LIGHT
	POLE MOUNTED LUMINAIRE (SQUARE)
	POLE MOUNTED LUMINAIRE (ROUND)
	TRACK LIGHT WITH HEADS AS INDICATED
	LIGHTING CONTACTOR

ELECTRICAL RACEWAYS

	CONDUIT CONCEALED IN WALL OR CEILING
	CONDUIT UNDER FLOOR OR UNDERGROUND
	SWITCH LEG
	SURFACE MOUNTED RACEWAY WITH ALL REQUIRED FITTINGS AND HARDWARE. PROVIDE RECEPTACLES AS INDICATED.
	SURFACE MOUNTED RACEWAY RISER SECTION WITH ALL REQUIRED FITTINGS AND HARDWARE
	BUS DUCT WITH TAKE OFF DEVICE
	— UGE — UNDERGROUND ELECTRICAL (APPROXIMATE LOCATION, CONTRACTOR TO VERIFY EXACT LOCATION IN FIELD)
	— UGT — UNDERGROUND TELEPHONE (APPROXIMATE LOCATION, CONTRACTOR TO VERIFY EXACT LOCATION IN FIELD)
	— PA-2.4.6 — BRANCH CIRCUIT HOMERUN SUBSCRIPT 'PA' INDICATES PANEL AND 2.4.6 INDICATES BREAKER POSITION

CABLE TRAY AND RELATED ITEMS

	CABLE TRAY - 24/90 DEGREE FITTING
	CABLE TRAY - 24° TEE FITTING
	CABLE TRAY - 24° X FITTING
	CABLE TRAY - 24/90 DEGREE VERTICAL BENDS: IN & OUT FOR ELEVATION CHANGE
	CABLE TRAY - 24/90 DEGREE VERTICAL BEND: IN OR OUT FOR TRAY UP OR DOWN
	CABLE TRAY - 24" WIDE X 4" SIDE WALL

SPECIAL SYSTEMS SYMBOLS

	[FACP] FIRE ALARM CONTROL PANEL
	[ANN] REMOTE ANNUNCIATOR PANEL
	[FAEX] FIRE ALARM EXPANSION PANEL
	[F] MANUAL PULL STATION (G-VANDAL PROOF GUARD)
	[E] AUDIOVISUAL ANNUNCIATOR (G-VANDAL PROOF GUARD) □ - WALL MOUNT ○ - CEILING MOUNT
	[P] VISUAL ANNUNCIATOR (G-VANDAL PROOF GUARD) □ - WALL MOUNT ○ - CEILING MOUNT
	[A] AUDIBLE ANNUNCIATOR (G-VANDAL PROOF GUARD) □ - WALL MOUNT ○ - CEILING MOUNT
	[SD] SMOKE DETECTOR (G-VANDAL PROOF GUARD)
	[SD _D] SMOKE DETECTOR, DUCT MOUNTED
	[HD] HEAT DETECTOR (G-VANDAL PROOF GUARD)
	— SMOKE FIRE DAMPER
	[TS] TEST SWITCH
	[FS] FLOW SWITCH
	[TS] TAMPERS SWITCH
	[PS] FIRE SPRINKLER PRESSURE SWITCH
	[FS] FIRE ALARM SPEAKER ANNUNCIATOR
	[PJ] FIRE FIGHTERS PHONE JACK
	[FP] FIRE FIGHTERS TELEPHONE
	[DH] MAGNETIC DOOR HOLDER
	[H] WALL MOUNTED AUDIBLE ANNUNCIATOR (HORN) (G-VANDAL PROOF GUARD, WP-WEATHERPROOF)
	☀ CEILING MOUNTED CLOCK
	☀ WALL MOUNTED CLOCK HEIGHT AS DESIGNATED BY ARCHITECT
	☀ WALL MOUNTED DOUBLE FACE HEIGHT AS DESIGNATED BY ARCHITECT
	[SP] INTERCOM SPEAKER, CEILING MOUNTED (G-VANDAL PROOF GUARD)
	[SP] INTERCOM SPEAKER, WALL MOUNTED (G-VANDAL PROOF GUARD)
	[I] INTERCOM SPEAKER, EXTERIOR HORN TYPE (G-VANDAL PROOF GUARD, WP-WEATHERPROOF)
	S ₁ INTERCOM PUSHBUTTON (V-VOLUME CONTROL)
	[DS] DOOR SWITCH

NURSE CALL SYSTEM SYMBOLS

	[MON] MONITOR
	[CB] CODE BLUE
	[PS] PATIENT STATION
	[CI] CODE BLUE INTERFACE
	[CAM] CAMERA (CFC) CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
	[WAP] WIRELESS ACCESS POINT
	☎ ANTENNA

ONE-LINE DIAGRAM SYMBOLS

	H.O.A SELECTOR SWITCH
	STOP/START PUSHBUTTON STATION
	LIGHTING ARRESTER AND SURGE CAPACITOR
	TRANSFORMER
	TRANSFORMER (SHIELDED)
	MOTOR STARTER
	RELAY AND CONTACTOR
	ELAPSED (RUNNING) TIME METER
	CONTROL POWER TRANSFORMER
	CIRCUIT BREAKER (MOTOR CIRCUIT PROTECTOR)
	DISCONNECT SWITCH
	BUS STUB
	CURRENT TRANSFORMER
	MOTOR RESISTANCE TYPE WINDING HEATER
	THERMAL OVERLOAD CIRCUIT
	BREAKER (THERMAL MAGNETIC TYPE)
	FUSE
	CONTACT (NORMALLY OPEN)
	CONTACT (NORMALLY CLOSED)
	PUSHBUTTON (NORMALLY OPEN)
	PUSHBUTTON (NORMALLY CLOSED)
	LIMIT SWITCH (NORMALLY OPEN)
	TIME DELAY CONTACT
	PILOT LIGHT W/COLOR INDICATED (A-AMBER, G-GREEN, R-RED)
	SOLENOID VALVE
	DIFFERENTIAL PRESSURE SWITCH
	AUTOMATIC TRANSFER SWITCH
	DISCONNECT SWITCH 400/3/400F/4NDR INDICATES FRAME SIZE/POLES/FUSE AMPACITY/ENCLOSURE
	▼ TELEPHONE OUTLET IN WALL, ROUGH-IN ONLY, 1" CONDUIT TO ABOVE ACCESSIBLE CEILING WITH BUSHINGS AND PULL-STRING UNLESS INDICATED OTHERWISE.
	2 ▼ DATA OUTLET IN WALL, ROUGH-IN ONLY, 1" CONDUIT TO ABOVE ACCESSIBLE CEILING WITH BUSHINGS AND PULL-STRING UNLESS INDICATED OTHERWISE.
	▼ PHONE AND DATA OUTLET IN WALL, ROUGH-IN ONLY, 1" CONDUIT TO ABOVE ACCESSIBLE CEILING WITH BUSHINGS AND PULL-STRING UNLESS INDICATED OTHERWISE.
	▼ FLOOR TELEPHONE AND DATA OUTLET, POKE-THRU TYPE
	⊕ THERMOSTAT
	⊕ CABLE TELEVISION OUTLET, ROUGH-IN ONLY, 1/2" A.F.F. UNLESS INDICATED OTHERWISE.
	⊕ FLOOR CABLE TELEVISION OUTLET
	⊕ CAMERA (FOI) OWNER FURNISHED, OWNER INSTALLED
	⊕ CAMERA (CFC) CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
	⊕ WIRELESS ACCESS POINT
	☎ ANTENNA

PANELS AND RELATED EQUIPMENT

	PANELBOARD SURFACE MOUNTED (REFER TO PANEL SCHEDULE)
	PANELBOARD FLUSH MOUNTED (REFER TO PANEL SCHEDULE)
	▲ TRANSFORMER, WITH CONCRETE HOUSEKEEPING PAD (REFER TO ONE-LINE DIAGRAM)
	ATS AUTOMATIC TRANSFER SWITCH (REFER TO ONE-LINE DIAGRAM)

ABBREVIATIONS

A	AMPERE	RECP	RECEPTACLE
AC	ABOVE COUNTER	REQD	REQUIRED
AFF	ABOVE FINISHED FLOOR	REQT	REQUIRED
AFG	ABOVE FINISHED GRADE	RGS	RIGID GALVANIZED STEEL
AIC	AMPERE INTERRUPTING CAPACITY	SC	SPLIT CIRCUIT
BLDG	BUILDING	SFD	SMOKE FIRE DAMPER
C	CONDUIT	SW	SWITCH
CAB	CABINET	T/D	TELEPHONE & DATA
CKT	CIRCUIT	TTB	TELEPHONE TERMINAL BOARD
CPSE	CITY PUBLIC SERVICE ENERGY	TYP	TYPICAL
CONN	CONNECT OR CONNECTION	UC	UNDER COUNTER
CONTR	CONTRACTOR	UG	UNDERGROUND
COSA	CITY OF SAN ANTONIO	UGE	UNDERGROUND ELECTRICAL LINES
CT	CURRENT TRANSFORMER	UNO	UNLESS NOTED OTHERWISE
EA	EACH	V	VOLT
EF	EXHAUST FAN	W	WATTS
ELEC	ELECTRIC	W	WITH
EMER	EMERGENCY	WP	WEATHER PROOF
EMT	ELECTRIC METALLIC TUBING	XFMR	TRANSFORMER
EWC	ELECTRIC WATER COOLER		
FACP	FIRE ALARM CONTROL PANEL		
FLA	FULL LOAD AMPS		
FLEX	FLEXIBLE CONDUIT		
GFI	GROUND FAULT INTERRUPTER		
GRD	GROUND		
HQA	HAND-OFF-AUTO		
HP	HORSEPOWER		
HPS	HIGH PRESSURE SODIUM		
HTR	HEATER		
IMC	INTERMEDIATE METAL CONDUIT		
J-BOX	JUNCTION BOX		
KVA	KILOVOLT AMPERE		
KVAR	KILOVOLT AMPERE REACTIVE		
KCM	THOUSAND CIRCULAR MILS		
KV	KILOVATT		
LTG	LIGHT OR LIGHTING		
MANUF	MANUFACTURER		
MCB	MAIN CIRCUIT BREAKER		
MCC	MOTOR CONTROL CENTER		
MCP	MOTOR CIRCUIT PROTECTOR		
MIN	MINIMUM		
MH	METAL HALIDE		
MLO	MAN LUG ONLY		
MSB	MAIN SWITCHBOARD		
MTD	MOUNTED		
NEC	NATIONAL ELECTRICAL CODE		
NTS	NOT TO SCALE		
Ø	PHASE		
OL	OVERLOAD		
OVHD	OVERHEAD		
OHE	OVERHEAD ELECTRICAL LINES		
PA	PUBLIC ADDRESS		
PVC	POLYVINYL CHLORIDE		

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FINAL PLANS FOR BIDDING AND CONSTRUCTION



FORT SAM HOUSTON INDEPENDENT SCHOOL DISTRICT



COLE HIGH SCHOOL BAND HALL SAN ANTONIO, TEXAS

CHECKED: DTA
SCALE: 12" = 1'-0"
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