

ELECTRICAL SYMBOLS LEGEND

note: all symbols do not necessarily appear on drawings

LA-2 RACEWAY CONCEALED IN CEILING, WALL, OR BELOW FLOOR. HASH MARKS INDICATE QUANTITY OF CABLES OR CURRENT CARRYING CONDUCTORS. NO MARKS INDICATES 2 #12 AWG COPPER CONDUCTORS. USE #10 AWG FOR 120V CIRCUITS EXCEEDING 100 FT IN LENGTH AND 277V CIRCUITS EXCEEDING 230 FT. ALL RACEWAYS SHALL CONTAIN ONE EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC. ISOLATED GROUND RECEPTACLE RACEWAYS SHALL CONTAIN AN ADDITIONAL ISOLATED GROUNDING CONDUCTOR. REFER TO PANEL SCHEDULES FOR CONDUIT AND CONDUCTOR SIZES. ARROW INDICATES HOMERUN TO PANEL-CIRCUIT.

RACEWAY EXPOSED ON STRUCTURE, WITH MARKS AS ABOVE. PAINT TO MATCH STRUCTURE.

20A, 125V DUPLEX RECEPTACLE MOUNTED 18" AFF. OR AS NOTED. WP DENOTES WATER RESISTANT DEVICE WITH GASKETTED WEATHERPROOF CAST METAL WHILE-IN-USE COVER. GFI DENOTES GROUND FAULT CIRCUIT INTERRUPTING TYPE.

20A, 125V DUPLEX RECEPTACLE MOUNTED ABOVE COUNTERTOP BACKSPLASH. COORDINATE EXACT LOCATION WITH MILLWORK INSTALLER. 46" AFF. OR AS NOTED. MARKS AS ABOVE.

20A, 125V QUADRUPLX RECEPTACLE INSTALLED IN SINGLE SERVICE FLOOR BOX WITH HINGED COVER.

WALL MOUNTED (LEFT), CEILING MOUNTED (RIGHT) JUNCTION BOX.

CEILING MOUNTED (LEFT) AND WALL MOUNTED (RIGHT) EXIT SIGNS. SHADING INDICATES LIT FACES. SIDE TRIANGLES INDICATE EMERGENCY LAMP HEADS. ARROWS INDICATE CHEVRONS TO BE ILLUMINATED.

LIGHTING FIXTURE, TYPE AS INDICATED BY CAPITAL LETTER. REFER TO LIGHTING FIXTURE SCHEDULE. LOWER CASE LETTER DESIGNATION INDICATES SWITCHING OR CONTROL ZONE. NUMERIC DESIGNATION INDICATES CIRCUIT.

EMERGENCY LIGHTING FIXTURE WITH NOTATION AS ABOVE.

SUSPENDED (TOP) OR SURFACE MOUNTED (BOTTOM) STRIP LIGHTING FIXTURE WITH NOTATION AS ABOVE.

SUSPENDED (TOP) OR SURFACE MOUNTED (BOTTOM) STRIP EMERGENCY LIGHTING FIXTURE WITH NOTATION AS ABOVE.

RECESSED DOWNLIGHT LIGHTING FIXTURE WITH NOTATION AS ABOVE.

EMERGENCY RECESSED DOWNLIGHT LIGHTING FIXTURE WITH NOTATION AS ABOVE.

20A, 120/277V SPST LIGHTING TOGGLE SWITCH. '2' DENOTES DPST, '3' DENOTES 3-WAY, '4' DENOTES 4-WAY. 'K' DENOTES KEY OPERATED SWITCH. 'MC' DENOTES MOMENTARY CONTACT. 'D' DENOTES DIMMER WITH 0-10V OUTPUT.

MOTOR RATED SWITCH (MANUAL MOTOR STARTER WITHOUT OVERLOADS) IN A NEMA 250 TYPE 1 ENCLOSURE. SINGLE POLE, 16A RATED, UNLESS OTHERWISE NOTED.

DISCONNECT SWITCH, NON-FUSED UNLESS OTHERWISE NOTED. NEMA TYPE PER ENVIRONMENT. AMPERE RATING PER CONNECTION SCHEDULE.

DISCONNECT SWITCH, FUSED UNLESS OTHERWISE NOTED. NEMA TYPE PER ENVIRONMENT. AMPERE RATING PER CONNECTION SCHEDULE.

DRY TYPE VENTILATED TRANSFORMER.

480Y/277 VAC PANELBOARD (LEFT) AND 208Y/120 VAC PANELBOARD (RIGHT).

CONTACTOR IN SURFACE WALL MOUNTED ENCLOSURE.

J-HOOK SYSTEM FOR SUPPORT OF COMMUNICATIONS & PROTECTION CONDUCTORS. SEE SPECIFICATIONS.

MECHANICAL CONTROL DEVICES (SENSOR, THERMOSTAT, WALL SWITCH, INTERVAL TIMER, NIGHT SETBACK, HUMIDISTAT) TO BE INSTALLED BY DIVISION 23. ELECTRICAL CONTRACTOR SHALL PROVIDE A FLUSH WALL MOUNTED OUTLET BOX WITH CONDUIT STUBBED OUT 6" ABOVE TYPE 2 CEILING WITH BUSHED OPENING AT LOCATION SHOWN. WALL SWITCH SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR. VERIFY REQUIREMENTS WITH DIVISION 23 PRIOR TO INSTALLATION.

LIGHTING CONTROL SYMBOLS LEGEND

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CEILING MOUNTED OCCUPANCY SENSOR, DUAL TECHNOLOGY TYPE. 'L' DENOTES LARGE AREA. 'S' DENOTES SMALL AREA COVERAGE. SUBSCRIPT 'D' DENOTES DIGITAL SENSOR FOR OPERATION WITH DIGITAL ROOM CONTROLLER.

CEILING MOUNTED OCCUPANCY SENSOR, PASSIVE INFRARED TYPE. 'L' DENOTES LARGE AREA. 'S' DENOTES SMALL AREA. 'H' DENOTES HIGH BAY COVERAGE. SUBSCRIPT 'D' DENOTES DIGITAL SENSOR FOR OPERATION WITH DIGITAL ROOM CONTROLLER.

CEILING MOUNTED OCCUPANCY SENSOR, ULTRASONIC TYPE. 'L' DENOTES LARGE AREA. 'S' DENOTES SMALL AREA. 'H' DENOTES HALLWAY COVERAGE. SUBSCRIPT 'D' DENOTES DIGITAL SENSOR FOR OPERATION WITH DIGITAL ROOM CONTROLLER.

LIGHTING CONTROL POWER PACK OR SLAVE PACK, WITH 24V CABLE TO SENSOR DEVICES IN SAME ZONE/SPACE. POWER PACKS INSTALLED IN CORRIDORS, HALLWAYS, PASSAGES, LOBBIES, STAIRS AND COMMONS AREAS SHALL INCLUDE AN INPUT CONTACT FOR FIRE ALARM SYSTEM OVERRIDE OF MOTION SENSORS.

PHOTOCELL CONTROL, WITH CABLE TO TIME SWITCH OR CONTACTOR WHEN USED TO INDIRECTLY CONTROL LIGHTING CIRCUIT(S).

LIGHTING CONTACTOR INSTALLED IN SURFACE WALL MOUNTED ENCLOSURE 12" BELOW CEILING, OR AS NOTED.

WALL SWITCH OCCUPANCY SENSOR, 120V/277V, MOUNTED AT 48" AFF. TEXT DENOTES TYPE: P=INFRARED, T=DUAL TECHNOLOGY, D=DIMMING, 2=DUAL RELAY.

DAYLIGHT SENSOR FOR AUTOMATIC DIMMING CONTROL.

EMERGENCY LIGHTING RELAY, FOR OVERRIDE OF LOCAL LIGHTING CONTROLS ON LOSS OF NORMAL POWER. UNIT SHALL BE UL 924 LISTED.

FIRE ALARM SYMBOLS LEGEND

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FIRE ALARM SYSTEM CONTROL PANEL OR NETWORK NODE. SURFACE OR FLUSH MOUNTED AS INDICATED ON DRAWINGS.

FIRE ALARM MANUAL PULL STATION, LOCATED 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED.

FIRE ALARM SYSTEM CEILING MOUNTED NOTIFICATION APPLIANCE: HORN/STROBE (LEFT); SPEAKER/STROBE (CENTER); STROBE ONLY (RIGHT). INSTALL ON RECESSED OUTLET BOX AND T-GRID HANGER SUPPORTED FROM STRUCTURE.

FIRE ALARM SYSTEM WALL MOUNTED NOTIFICATION APPLIANCE: HORN/STROBE (LEFT); SPEAKER/STROBE (CENTER); STROBE ONLY (RIGHT). LOCATE 84" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. WP DENOTES WEATHERPROOF.

FIRE ALARM SYSTEM CEILING MOUNTED DETECTOR - SMOKE (LEFT); HEAT (RIGHT). INSTALL ON RECESSED OUTLET BOX AND T-GRID HANGER SUPPORTED FROM STRUCTURE.

FIRE ALARM SYSTEM WALL MOUNTED DETECTOR - SMOKE (LEFT); HEAT (RIGHT).

FIRE ALARM SYSTEM INTELLIGENT ADDRESSABLE MODULE INSTALLED IN 4x4 SQUARE OUTLET BOX. 'C' DENOTES CONTROL MODULE, 'R' DENOTES RELAY MODULE, 'ISO' DENOTES ISOLATION MODULE, 'M' DENOTES MONITOR MODULE.

FIRE ALARM SYSTEM JUNCTION BOX WITH FLEXIBLE CONNECTION TO DUCT DETECTOR, TAMPER SWITCH, FLOW SWITCH AND SMOKE DAMPER. DEVICE PROVIDED BY FIRE ALARM CONTRACTOR AND INSTALLED BY DIVISION 23. POWER CONNECTIONS BY DIVISION 26.

MAGNETIC DOOR HOLDER OR AUTOMATIC CLOSER CONNECTION AT SMOKE RATED OPENING. WALL MOUNT UNLESS OTHERWISE NOTED.

COMMUNICATIONS SYMBOLS LEGEND

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FLUSH WALL MOUNTED INTERCOM CALL STATION.

FLUSH CEILING MOUNTED INTERCOM SPEAKER.

SURFACE MOUNTED INTERCOM SPEAKER. WP DENOTES WEATHERPROOF VANDAL RESISTANT ENCLOSURE.

WALL MOUNTED AUDIO/VISUAL INPUT OUTLET BOX. PROVIDE (1) 1/4" 1/16" BOX WITH (2) 1" CONDUITS @ 18" AFF. U.O.N. STUB CONDUITS OUT 6" ABOVE FINISHED CEILING AND TERMINATE CONDUIT WITH BUSHED OPENINGS. REFER TO CLASSROOM A/V OUTLET DETAIL.

WALL MOUNTED AUDIO/VISUAL OUTPUT OUTLET BOX. PROVIDE (1) RECESSED MULTIMEDIA WALL BOX WITH (2) 1" CONDUITS @ 60" AFF. U.O.N. STUB CONDUITS OUT 6" ABOVE FINISHED CEILING AND TERMINATE CONDUIT WITH BUSHED OPENINGS. REFER TO CLASSROOM A/V OUTLET DETAIL.

DATA/TELECOM SYMBOLS LEGEND

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FLUSH WALL MOUNTED DATA OUTLET. PROVIDE 4-11/16" BOX WITH SINGLE OR TWO GANG MUD RING TO ACCOMMODATE FACEPLATE. ROUTE (1) 1" CONDUIT TO 6" ABOVE ACCESSIBLE CEILING AND TERMINATE WITH BUSHED OPENING. NUMBER INDICATES QUANTITY OF HORIZONTAL CABLES AND JACKS TO BE INSTALLED AT OUTLET LOCATION. TEXT AP INDICATES OUTLET FOR WIRELESS ACCESS POINT TO BE INSTALLED 6" ABOVE CEILING. TEXT C INDICATES OUTLET FOR CCTV CAMERA, TEXT AC INDICATES OUTLET FOR ACCESS CONTROL EQUIPMENT.

CEILING MOUNTED DATA NETWORK OUTLET. PROVIDE T-GRID BOX HANGER FOR SUPPORT. NUMBER/TEXT INDICATOR AND CABLEING REQUIREMENTS AS ABOVE.

DATA OUTLET INSTALLED IN MULTISERVICE FLOOR BOX. PROVIDE (1) 1-1/4" CONDUIT FROM FLOOR BOX TO LOCAL DATA CLOSET. NUMBER/TEXT INDICATOR AND CABLEING REQUIREMENTS AS ABOVE.

SECURITY SYMBOLS LEGEND NOTES:
 1. PROVIDE ALL CONDUIT AND WIRING FROM SECURITY MOTION SENSORS TO EXISTING CONTROL PANEL.
 2. FOR ALL WALL MOUNTED DETECTORS, PROVIDE A FLUSH MOUNTED OUTLET BOX 96" AFF WITH A 1/2" CONDUIT CONCEALED IN WALL AND STUBBED OUT 6" ABOVE CEILING FOR DETECTOR CABLEING.

SECURITY SYMBOLS LEGEND

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INTERIOR CCTV CAMERA LENS IN DOME HOUSING.

WALL MOUNTED CCTV CAMERA LENS IN TAMPER PROOF HOUSING. ADJACENT TEXT DENOTES THE FOLLOWING:
 WP - EXTERIOR WEATHERPROOF ENVIRONMENTAL HOUSING. LOCATE 12" AFF UNLESS OTHERWISE NOTED.
 HD - HEAVY DUTY HOUSING.
 PTZ - PAN/TILT/ZOOM.
 FLUSH - FLUSH MOUNTED HOUSING.
 OCM - OUTSIDE CORNER MOUNT BRACKET.

LARGE AREA MOTION DETECTOR FLUSH MOUNTED IN CEILING WITH DETECTOR CABLEING TO CONTROL PANEL.

CORRIDOR MOTION DETECTOR SURFACE MOUNTED ON WALL DETECTOR CABLEING TO CONTROL PANEL.

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

MECHANICAL EQUIPMENT CONNECTION SCHEDULE NOTES:
 1. PROVIDE CONDUIT FOR CONTROL WIRING AS SHOWN ON DETAIL SHEET.
 2. COORDINATE HEIGHT OF CONNECTION BOX WITH MECHANICAL CONTRACTOR. PROVIDE POWER CONNECTION TO CONDENSATE PUMP (WHERE INSTALLED). REFER TO DETAIL SHEET.
 3. FOR ALL HVAC EQUIPMENT, PROVIDE MINIMUM OF 1/2" FROM ACCESSIBLE CEILING, CONTROL DEVICE AND/OR CONTROL PANEL TO UNIT CONNECTION POINT FOR CONTROL WIRING. LINE VOLTAGE CONTROL WIRING SHALL BE BY DIVISION 26. LOW-VOLTAGE CONTROL WIRING SHALL BE BY OTHERS.
 4. REFER TO MECHANICAL DRAWINGS FOR EXHAUST FAN INTERLOCK WITH LIGHTS. PROVIDE RELAY AS REQUIRED. COORDINATE WITH MECHANICAL CONTRACTOR.

Mark	Voltage	Number of Poles	Disconnect Type	Enclosure Rating	Comments
ELECTRIC HEATER					
EH-F04	277 V	1	Provided With Unit		
EH-F05	277 V	1	Provided With Unit		
EH-F07	277 V	1	Provided With Unit		
EH-F08	277 V	1	Provided With Unit		
Electric Water Heater					
EWH-1	208 V	2	Motor Rated Switch		
EXHAUST FAN					
EF-F12	120 V	1	Motor Rated Switch		
EF-F10	120 V	1	Motor Rated Switch		
EF-F11	120 V	1	Motor Rated Switch		
MINI-SPLIT AIR HANDLING UNIT					
MAHU-1	120 V	3	Motor Rated Switch		NOTE 2
MINI-SPLIT HEAT PUMP					
MHP-1	208 V	2	30A FUSED SAFETY SWITCH	NEMA 3R	
THRU-WALL HEAT PUMP					
TWHP-1	208 V	2	Receptacle per Manuf. Info		
WALL HUNG HEAT PUMP					
WHP-F12	480 V	3	60A FUSED SAFETY SWITCH	NEMA 3R	
WHP-F13	480 V	3	60A FUSED SAFETY SWITCH	NEMA 3R	
WHP-F14	480 V	3	60A FUSED SAFETY SWITCH	NEMA 3R	
WHP-F15	480 V	3	60A FUSED SAFETY SWITCH	NEMA 3R	
WHP-F16	480 V	3	60A FUSED SAFETY SWITCH	NEMA 3R	
WHP-F17	480 V	3	60A FUSED SAFETY SWITCH	NEMA 3R	

LIGHTING FIXTURE SCHEDULE

Type	Lamp (Lumens)	Initial CCT	Voltage	Input Power	Mounting Height	Approved Manufacturers and Catalog Numbers			Type Comments			
						Manufacturer 1	Model 1	Manufacturer 2		Model 2	Manufacturer 3	Model 3
A4	4000	3500 K	120/277	33 VA	RECESSED 2x4 LIGHT FIXTURE	METALUX	24CZ-LD4-40-UNV-L835-CD	LITHONIA	2BLT4-40L-ADP-LP835	COLUMBIA	LCAT-24-35-LW-G-EDU	
A4E	4000	3500 K	120/277	33 VA	RECESSED 2x4 LIGHT FIXTURE	METALUX	24CZ-LD4-40-UNV-L835-CD	LITHONIA	2BLT4-40L-ADP-LP835	COLUMBIA	LCAT-24-35-LW-G-EDU	SAME AS TYPE 'A4' LIGHTING FIXTURE BUT PROVIDED W/ EMERGENCY BATTERY PACK PER SECTION 265100.
A5	5000	3500 K	120/277	44 VA	RECESSED 2x4 LIGHT FIXTURE	METALUX	24CZ-LD4-50-UNV-L835-CD	LITHONIA	2BLT4-48L-ADP-LP835	COLUMBIA	LCAT-24-35-ML-G-EDU	
A5E	5000	3500 K	120/277	44 VA	RECESSED 2x4 LIGHT FIXTURE	METALUX	24CZ-LD4-50-UNV-L835-CD	LITHONIA	2BLT4-48L-ADP-LP835	COLUMBIA	LCAT-24-35-ML-G-EDU	SAME AS TYPE 'A5' LIGHTING FIXTURE BUT PROVIDED W/ EMERGENCY BATTERY PACK PER SECTION 265100.
C4	4500	3500 K	120/277	44 VA	RECESSED 2x4 LIGHT FIXTURE	METALUX	24GR-LD4-48-A19/156-UNV-L835	LITHONIA	2GTL-4-48L-A19-LP835	COLUMBIA	LJT24-35MLG-FS-A19-E-U	STATIC A19/156" LENS.
C4E	4500	3500 K	120/277	44 VA	RECESSED 2x4 LIGHT FIXTURE	METALUX	24GR-LD4-48-A19/156-UNV-L835	LITHONIA	2GTL-4-48L-A19-LP835	COLUMBIA	LJT24-35MLG-FS-A19-E-U	SAME AS TYPE 'C1' LIGHTING FIXTURE BUT PROVIDED WITH EMERGENCY BATTERY PACK PER SECTION 265100.
E2E	3000	3000 K	120/277	48 VA	RECESSED	RLE	12SQLED-48-UNV-WL-DPG	OR APPROVED EQUAL				
FE	5000	3000 K	120/277	42 VA	SURFACE OR SUSPENDED VIA Y-TOGGLE & AIRCRAFT CABLE. HEIGHT: 10'-0" AFF. U.O.N.	METALUX	4SNLED-LD5-50SL-LW-UNV-EL14W-L835-CD1	LITHONIA	ZL1D-L48-SMR-5000LM-FST-277-40K-80CRI-E15WLCP-WH	COLUMBIA	LCL4-40ML-E-U-ELL14	COLOR: WHITE PROVIDED W/ EMERGENCY BATTERY PACK, REFER TO SECTION 26 51 00 FOR REQUIREMENTS.
JC	4000	4000 K	120/277	46 VA	EXTERIOR SURFACE MOUNTED @ 8'-0" AFF	LITHONIA	WST LED-2-10A700/40K-SR4	WIDELITE	ASW-32G1-NW-3L-UNV-SM-EBB	LSI	XGBWM3-FT-LED-48-450-NW-UE	INTEGRATED PHOTOCELL
JCE	4000	4000 K	120/277	46 VA	EXTERIOR SURFACE MOUNTED @ 8'-0" AFF	LITHONIA	WST LED-2-10A700/40K-SR4	WIDELITE	ASW-32G1-NW-3L-UNV-SM-EBB	LSI	XGBWM3-FT-LED-48-450-NW-UE	SAME AS TYPE 'JC' LIGHTING FIXTURE BUT PROVIDED W/ COLD WEATHER EMERGENCY BATTERY PACK PER SECTION 265100.
L2	2000	3500 K	120/277	20 VA	RECESSED 1x4 LIGHT FIXTURE	METALUX	14CZ-LD4-20-UNV-L835	LITHONIA	BLT4-20L-ADP-LP835	COLUMBIA	LCAT-14-35-XW-G-ED-U	
L2E	2000	3500 K	120/277	20 VA	RECESSED 1x4 LIGHT FIXTURE	METALUX	14CZ-LD4-20-UNV-L835	LITHONIA	BLT4-20L-ADP-LP835	COLUMBIA	LCAT-14-35-XW-G-ED-U	SAME AS TYPE 'L2' LIGHTING FIXTURE BUT PROVIDED WITH EMERGENCY BATTERY PACK PER SECTION 265100.
P1	1000	3500 K	120/277	10 VA	RECESSED 4" DOWNLIGHT	GOTHAM	ICO-35/10-4AR-65D	OR APPROVED EQUAL				WHERE INSTALLED IN GYPSUM BOARD CEILINGS, REMOTE MOUNT DRIVER. SEMI-SPECULAR ALUMINUM REFLECTOR.
X1	LED	3500 K	120/277	6 VA		LITHONIA	LE-S-W-1-R-ELN	MULE LIGHTING	MD-B-1-R-WW	DUAL-LITE	SE-S-R-W-E	COORDINATE MOUNTING WITH ARCHITECTURAL DRAWINGS. PROVIDE NICAD BATTERY PACK

SA&E PROJECT NUMBER: 01-632-056
 BID PACKAGE: BP-1
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REVISIONS
 R # Doc # Date

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FACILITY CODE NUMBER: 672-0109
 (6) CLASSROOM ADDITION TO:
CREEKSIDE MIDDLE SCHOOL
 CATAULA, GEORGIA

HARRIS COUNTY BOARD OF EDUCATION
 HAMILTON, GEORGIA

ELECTRICAL LEGENDS, SCHEDULES

DRAWING NUMBER: **E001**