EllisArchitects

New Construction for:
BIBB COUNTY COURTHOUSE ANNEX
8 Court Square West
Centreville, Alabama

DISCONNECT SWITCH SCHEDULE

TYPE	VOLT	SIZE/POLE	FUSIBLE	NEMA	REMARKS
1	208	100A/3P	Y	3R	FUSE PER MANUFACTURER'S REQUIREMENTS.
2	208	60A/3P	Y	3R	FUSE PER MANUFACTURER'S REQUIREMENTS.
3	208	30A/2P	N	1	--
4	208	30A/2P	Y	3R	FUSE PER MANUFACTURER'S REQUIREMENTS.

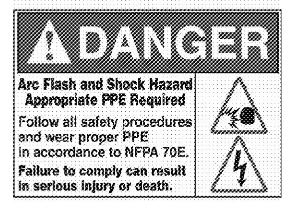
FEEDER SCHEDULE

SYMBOL	COPPER CONDUCTORS (THHN)
2/2G	2#12 & 1#12(G) - 1/2"c.
3/2G	2#10 & 1#10(G) - 3/4"c.
5/3G	3#8 & 1#10(G) - 3/4"c.
6/3G	3#6 & 1#8(G) - 1"c.
10/3G	3#3 & 1#8(G) - 1 1/2"c.
22.5/4G	4#4/0 & 1#4(G) - 2 1/2"c.
60/4	2 PARALLEL RUNS OF 4#350MCM & 1#1(G) - 3 1/2"c.

PANEL WORKING SPACES

NOMINAL VOLTAGE TO GROUND	MINIMUM CLEAR DISTANCE		
	CONDITION 1	CONDITION 2	CONDITION 3
0-150	3'-0"	3'-0"	3'-0"
151-600	3'-0"	3'-6"	4'-0"

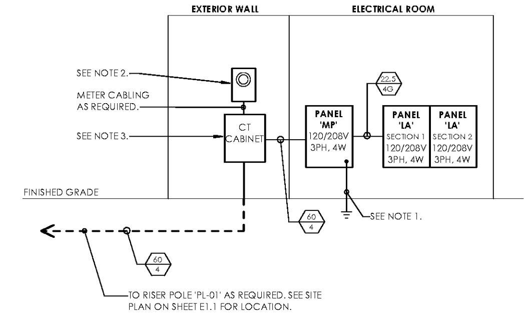
NOTE:
WHERE THE CONDITIONS ARE AS FOLLOWS:
- CONDITION 1 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND NO LIVE OR GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE, OR EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE THAT ARE EFFECTIVELY GUARDED BY INSULATING MATERIALS.
- CONDITION 2 - EXPOSED LIVE PARTS ON ONE SIDE OF THE WORKING SPACE AND GROUNDED PARTS ON THE OTHER SIDE OF THE WORKING SPACE. CONCRETE, BRICK, OR TILE WALLS SHALL BE CONSIDERED AS GROUNDED.
- CONDITION 3 - EXPOSED LIVE PARTS ON BOTH SIDES OF THE WORKING SPACE.



2 (E0.3) TYPICAL ARC FLASH WARNING LABEL DETAIL

NOT TO SCALE

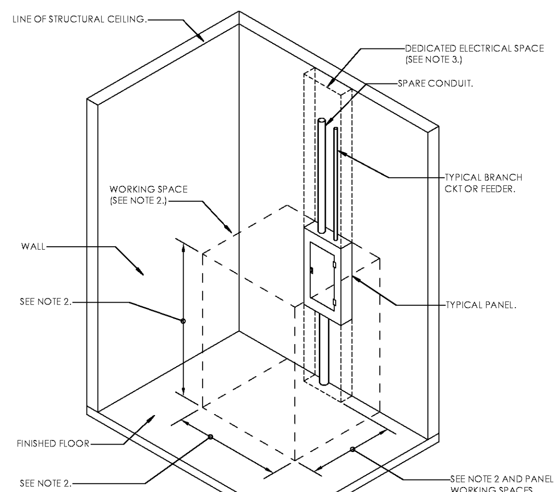
NOTES:
1. PROVIDE SELF-ADHESIVE VINYL LABEL TO AFFIX TO ELECTRICAL EQUIPMENT TO WARN OF ARC FLASH HAZARDS **PER N.E.C. 110.16.**
2. THE LABEL FORMAT AND TEXT SHALL BE IN ACCORDANCE WITH THE FIGURE. ALL OTHER LABELS MUST BE SUBMITTED FOR APPROVAL.
3. THE LABEL SHALL BE LOCATED ON THE EQUIPMENT TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.
4. THE SIZE OF THE LABEL SHALL BE 4" HIGH AND 6" WIDE FOR INDOOR AND OUTDOOR EQUIPMENT.



1 (E0.3) POWER RISER DIAGRAM

NOT TO SCALE

POWER RISER DIAGRAM NOTES:
1. 1#3/0 BARE COPPER EACH GROUND IN 1" CONDUIT. ONE (1) TO COLD WATER PIPE, ONE (1) DRIVEN, ONE (1) TO BUILDING STEEL AND ONE (1) TO REBAR AS PER N.E.C. SEE SERVICE ENTRANCE DETAIL.
2. METER AND METER TROUGH PROVIDED BY ALABAMA POWER CO. CONTRACTOR SHALL INSTALL TO MEET ALABAMA POWER CO. SPECIFICATIONS.
3. CT CABINET AND CT'S PROVIDED BY ALABAMA POWER CO. CONTRACTOR SHALL INSTALL TO MEET ALABAMA POWER CO. SPECIFICATIONS.



3 (E0.3) ELECTRICAL PANEL WORKING CLEARANCE DETAIL

NOT TO SCALE

NOTES:
1. DIMENSIONS SHOWN ARE MINIMUM.
2. WORKING SPACE IS DEFINED AS THE SPACE IN FRONT OF THE PANEL FOR EXAMINATION, ADJUSTMENTS, SERVICING AND/OR MAINTENANCE WHILE ENERGIZED. IN ALL CASES WORK SPACES SHALL PERMIT AT LEAST A 90 DEG. OPENING OF EQUIPMENT DOORS OR HINGED PANELS.
   WIDTH: 30" OR WIDTH OF EQUIPMENT (WHICHEVER IS GREATER)
   HEIGHT: 6'-6" FROM FLOOR OR HEIGHT OF EQUIPMENT. (WHICHEVER IS GREATER)
   DEPTH: DEPENDS ON CONDITIONS OUTLINED IN PANEL WORKING SPACES CHART.
3. DEDICATED ELECTRICAL SPACE IS DEFINED AS THE SPACE EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT, EXTENDING FROM FLOOR TO A HEIGHT OF 6'-0" ABOVE THE EQUIPMENT OR TO THE STRUCTURAL CEILING. (WHICHEVER IS LOWER)
4. SEE NFPA 70, CURRENT NEC.

PANELBOARD SCHEDULE — PANEL LA

CKT	DIRECTORY	TRIP	POLE	A	A	B	B	C	C	POLE	TRIP	DIRECTORY	CKT
1	REC. RESTROOMS 107, 106	20 A	1	800 VA	683 VA					1	20 A	LIGHTING - CORRIDORS	2
3	REC. TAX STORAGE	20 A	1			1200 VA	789 VA			1	20 A	LIGHTING - RECORDS	[illegible]
5	REC. TAX COLLECTOR 104	20 A	1					1000 VA	623 VA	1	20 A	LIGHTING - CLERKS	6
7	PRINTER - TAX COLLECTOR 104	20 A	1	1200 VA	639 VA					1	20 A	LIGHTING - LOBBY	[illegible]
9	COPIER - TAX ASSESSOR 103	20 A	1			1200 VA	1030 VA			1	20 A	LIGHTING	[illegible]
11	REC. TAX ASSESSOR 103	20 A	1					1000 VA	938 VA	1	20 A	[illegible]	[illegible]
13	REC. MAPS 102	20 A	1	1000 VA	827 VA					1	20 A	[illegible]	14
15	REC. MAPS 102	20 A	1			1000 VA	359 VA			1	20 A	LIGHTING [illegible] ATTIC	16
17	REC. MAPS 102	20 A	1					1000 VA	336 VA	1	[illegible]	[illegible] FRONT ENTRY	18
19	REC. ELECTRICAL 109	20 A	1	600 VA	250 VA					[illegible]	[illegible]	[illegible] BUILDING	20
21	REC. JAN 108	20 A	1			400 VA	117 VA			[illegible]	[illegible]	LTS. [illegible]	22
23	**EWC VEST 131 *GF**	20 A	1					1000 VA	[illegible]	[illegible]	20 A	SPARE	24
25	REF. BREAK ROOM 110	20 A	1	1000 VA	1000 VA					[illegible]	20 A	[illegible] LOBBY 101	26
27	MICROWAVE BREAK ROOM 110	20 A	1			1000 VA	600 VA			1	20 A	REC. [illegible] CLERKS 123	28
29	REC. BREAK ROOM 110	20 A	1					[illegible]	[illegible]	[illegible]	20 A	REC. REVENUE CLERKS 123	30
31	DISHWASHER BREAK ROOM 110	20 A	1	1440 VA	1000 VA					[illegible]	20 A	REC. REVENUE CLERKS 123	32
33	GARBAGE DISP. BREAK ROOM 110	20 A	1			[illegible]	[illegible]			1	20 A	REC. REVENUE CLERKS 123	34
35	REC. BREAK ROOM 110	20 A	1					600 VA	[illegible]	1	20 A	REC. REVENUE CLERKS 123	36
37	REC. RESTROOM 111, 112	20 A	1	600 VA	[illegible]					1	20 A	REC. REVENUE CLERKS 123	38
39	REC. RECORDS 118	20 A	1			[illegible]	[illegible]			1	20 A	COPIER - PROBATE	40
41	COPIER - RECORDS 118	20 A	1					1200 VA	400 VA	1	20 A	REC. PROBATE CLERKS 122	42
43	REC. RECORDS 118	20 A	1	1000 VA	600 VA					1	20 A	REC. PROBATE CLERKS 122	44
45	REC. RECORDS 118	[illegible]	[illegible]			[illegible]	200 VA			1	20 A	REC. PROBATE SHREDDER	46
47	REC. VOTING MACH. STOR. 120	20 A	1					800 VA	1200 VA	1	20 A	COPIER - TAX	48
49	REC. STORAGE 119	20 A	[illegible]	[illegible]	1000 VA					1	20 A	REC. PROBATE CLERKS 122	50
51	REC. CHIEF CLERICAL [illegible]	[illegible]	[illegible]			600 VA	800 VA			1	20 A	REC. PROBATE CLERKS 122	52
53	REC. CHIEF CLERICAL [illegible]	[illegible]	[illegible]					1000 VA	1000 VA	1	20 A	REC. PROBATE CLERKS 122	54
55	REC. REGISTRAR'S 125	[illegible]	[illegible]	[illegible]	600 VA					1	20 A	REC. CONFERENCE/HEARING 114	56
57	REC. REGISTRAR'S 125	[illegible]	1			1000 VA	1000 VA			1	20 A	REC. CONFERENCE/HEARING 114	58
59	REC. DR[illegible]ER'S LICENSE 121	20 A	1					1000 VA	1200 VA	1	20 A	REC. STORAGE 115	60
61	RE[illegible] DRIVERS LICENSE 121	[illegible]	1	[illegible]	1200 VA					1	20 A	REC. PROBATE JUDGE OFFICE 116	62
63	[illegible] CLERK 117	20 A	[illegible]			1000 VA	800 VA			1	20 A	REC. PROBATE JUDGE OFFICE 116	64
[illegible]	REC. REGISTRAR'S [illegible]FICE 126	20 A	1					1000 VA	600 VA	1	20 A	FB - PROBATE JUDGE OFFICE 116	66
67	**[illegible]C. REGISTRAR'S OFFICE 126**	20 A	1	600 VA	1200 VA					1	20 A	REC. DATA 113	68
[illegible]	[illegible]ACP ([illegible]D LOCK-ON)	20 A	1			1000 VA	1200 VA			1	20 A	REC. DATA 113	70
[illegible]	[illegible]G MOLD - DATA 113	20 A	1					1000 VA	1200 VA	1	20 A	REC. DATA 113	72
[illegible]	PLUG MOLD - DATA 113	20 A	1	1000 VA	1200 VA					1	20 A	REC. DATA 113	74
[illegible]	PLUG MOLD - DATA 113	20 A	1			1000 VA	1200 VA			1	20 A	REC. DATA 113	76
77	ATTIC FAN - VEF-1	20 A	1					960 VA	0 VA	1	20 A	SPARE	78
79	ATTIC FAN - VEF-2	20 A	1	0 VA	960 VA					1	20 A	SPARE	80
81	SPARE	20 A	1			0 VA	0 VA			1	20 A	SPARE	82
83	SPARE	20 A	1					0 VA	0 VA	1	20 A	SPARE	84
		TOTAL LOADS:		23581 VA		22716 VA		21248 VA					
		TOTAL AMPS:		198 A		191 A		177 A					

VOLTAGE:	120/208, 3P, 4W	**PANEL TYPE:**	AQ	**LOCATION:**	ELECTRICAL 109
MAIN BREAKER:	MLO	**MAIN BUS:**	225 A	**TOTAL CONNECTED LOAD:**	185 A
MOUNTING:	SURFACE	**A.I.C. RATING:**	22K	**FEED FROM:**	MP
NOTES:	2 SECTION PANEL.	**ENCLOSURE:**	NEMA 1	**FEEDER SIZE:**	SEE RISER DIAGRAM.

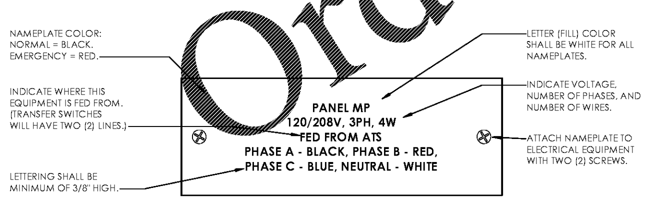
PANELBOARD SCHEDULE — PANEL MP

CKT	DIRECTORY	TRIP	POLE	A	A	B	B	C	C	POLE	TRIP	DIRECTORY	CKT
1	DAC-1	15 A	2	1083 VA	51 VA					2	20 A	SITE LIGHTING	2
3						1083 VA	51 VA						4
5	WATER HEATER	25 A	2					2250 VA	642 VA	2	20 A	SITE LIGHTING	6
7				2250 VA	642 VA								8
9	SPARE	30 A	2			0 VA	0 VA			2	30 A	SPARE	10
11								0 VA	0 VA				12
13													14
15													16
17													18
19	PHP-1 - MECHANICAL	45 A	3	4683 VA	0 VA					3	45 A	SPARE	20
21						4683 VA	0 VA						22
23								4683 VA	0 VA				24
25	PAC-1 - MECHANICAL	60 A	3	7061 VA	0 VA					3	60 A	SPARE	26
27						7061 VA	0 VA						28
29								7061 VA	0 VA				30
31	PHP-2 - MECHANICAL	90 A	3	10459 VA	10592 VA					3	90 A	PHP-3 - MECHANICAL	32
33						10459 VA	10592 VA						34
35								10459 VA	10592 VA				36
37	BUSS SPACE	225 A	3	0 VA	23581 VA					3	225 A	PANEL - LA	38
39						0 VA	22716 VA						40
41								0 VA	21248 VA				42
		TOTAL LOADS:		60345 VA		56645 VA		56878 VA					
		TOTAL AMPS:		503 A		472 A		474 A					

VOLTAGE:	120/208, 3P, 4W	**PANEL TYPE:**	AQ	**LOCATION:**	ELECTRICAL 109
MAIN BREAKER:	MCB	**MAIN BUS:**	600 A	**TOTAL CONNECTED LOAD:**	480 A
MOUNTING:	SURFACE	**A.I.C. RATING:**	22K	**FEED FROM:**	TRANSFORMER
NOTES:		**ENCLOSURE:**	NEMA 1	**FEEDER SIZE:**	SEE RISER DIAGRAM.

PANELBOARD SCHEDULE NOTES: (APPLIES TO ALL PANELBOARDS)

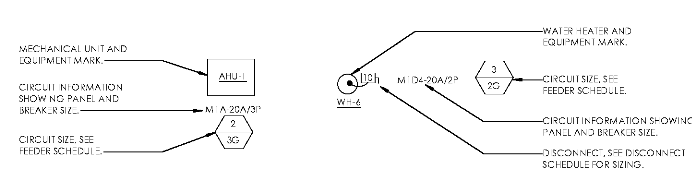
1. PANELBOARD DESIGNATIONS INDICATED IN ABOVE SCHEDULE ARE THOSE OF G.E COMPANY EQUAL EQUIPMENT BY OTHER MANUFACTURERS WILL BE CONSIDERED IF OTHER MANUFACTURER'S PANELS ARE TO BE USED, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL SPACE REQUIREMENTS.
2. EACH PANELBOARD SHALL HAVE AN INTEGRATED EQUIPMENT RATING EQUAL TO THE LOWEST A.I.C. OF ANY CIRCUIT BREAKER IN PANEL.
3. WHERE CURRENT LIMITING CIRCUIT BREAKERS ARE USED. THEY SHALL BE SERIES RATED FOR DOWNSTREAM PROTECTION. SUBMITTAL DATA SHALL INCLUDE A CURRENT U.L. APPROVED TABLE OF SERIES CONNECTED RATINGS OF ALL CIRCUIT BREAKERS TO BE USED. ALL 120/208V, 3PH, 4W PANELS SHALL BE SERIES RATED UNLESS NOTED OTHERWISE.
4. AT EACH FLUSH MOUNTED PANELBOARD PROVIDE THREE (3) EACH 1/2" CONDUITS AND THREE (3) EACH, 3/4" CONDUITS STUBBED UP TO ABOVE ACCESSIBLE CEILING AND TERMINATE FOR FUTURE USE.
5. ALL PANELS 400A AND LARGER SHALL HAVE DOOR IN DOOR CONSTRUCTION. DOOR SHALL BE INSTALLED CORRECTLY PER MANUFACTURERS INSTRUCTIONS. WHEN HINGE DOOR IS OPENED, INTERIOR DEAD FRONT OPENS WITH DOOR.
6. ALL BRANCH CIRCUIT BREAKERS SHALL BE BOLT ON TYPE.
7. ALL CIRCUIT BREAKERS 100A AND ABOVE SHALL BE SOLID STATE BREAKERS TYPE LSI.
8. CONTRACTOR TO PROVIDE ALL BRANCH CIRCUIT NUMBERS USING PERMANENT CIRCUIT MARKERS WITH THE PROPER CIRCUIT NUMBER ATTACHED NEXT TO EACH BREAKER. STICK ON NUMBERS WILL NOT BE APPROVED. ON SPECTRA BRANCH BREAKERS, CONTRACTOR TO PROVIDE FIELD MOUNTED PHENOLIC NAMEPLATE INDICATING EACH LOAD.
9. ALL BLANK SPACES SHALL BE ASSUMED BUSSED SPACE FOR EACH PANELBOARD.
10. PANEL SHALL HAVE SURGE PROTECTION DEVICE. SURGE PROTECTION DEVICE MUST BE INSTALLED INTERNALLY TO THE ELECTRICAL DISTRIBUTION EQUIPMENT AND SHIPPED FROM THE MANUFACTURER'S FACTORY AS A COMPLETE U.L. LISTED ASSEMBLY. PANELBOARD SPDS SHALL BE GENERAL ELECTRIC TMENVNE/100/200. OR EQUAL. VOLTAGES FOR DEVICES SHALL BE INDICATED ON THE PANELBOARD SCHEDULES AND SINGLE LINE DIAGRAM. THIS NOTE ONLY APPLIES TO PANELS NOTED SO.
11. ALL TWO SECTION PANELS SHALL HAVE EQUAL CAN HEIGHTS.
12. PROVIDE U.L.S.E. (U.L. SERVICE ENTRANCE) LABEL. THIS NOTE ONLY APPLIES TO PANELS NOTED SO.
13. A.I.C. RATING, SR STANDS FOR SERIES RATED.
14. THE TERMINATION POINT OF THE FEEDER SERVING EACH ASSEMBLY SHALL BE AT THE NEAREST POINT OF FEEDER ENTRY TO MINIMIZE CONDUCTOR FILL IN THE CAN. COORDINATE TOP/BOTTOM FEED PANELBOARD PROVISIONS WITH EACH FEEDER INSTALLATION.
15. PROVIDE THE PROPERLY SIZED CONDUCTOR TERMINATION POINTS OR LUGS (MULTIPLE LUGS WHEN PARALLEL FEEDERS ARE USED) FOR THE NUMBER AND SIZE CIRCUITS INDICATED.
16. EACH PANELBOARD SHALL HAVE A NAMEPLATE AS SHOWN IN DETAIL. ENGINEER WILL NOT ACCEPT JOB UNTIL THESE NAMEPLATES ARE PROVIDED.
17. PROVIDE TYPED CIRCUIT DIRECTORY THAT INDICATES WHAT EACH CIRCUIT IS SERVING AND FOR LIGHTING AND RECEPTACLE CIRCUITS THE ROOM NUMBERS THAT CIRCUIT IS SERVING SHALL BE INCLUDED IN DIRECTORY.
18. ALL PANELBOARDS SHALL BE CLEARLY MARKED TO COMPLY WITH NEC 110.16 REGARDING POTENTIAL HAZARDS OF ARC FLASH.
19. ELECTRICAL CONTRACTOR SHALL PROVIDE SHORT CIRCUIT RATING, A.I.C. LABEL PER N.E.C. 110.24.



4 (E0.3) ELECTRICAL EQUIPMENT NAMEPLATE DETAIL

NOT TO SCALE

NOTES:
1. THIS DETAIL IS TYPICAL FOR ALL ELECTRICAL EQUIPMENT INCLUDING BUT NOT LIMITED TO PANELS, DISCONNECTS, ETC.
2. NAMEPLATES SHALL BE MOUNTED NEAR THE TOP AND CENTER OF EQUIPMENT.



5 (E0.3) TYPICAL MECHANICAL EQUIPMENT ELECTRICAL DETAIL

NOT TO SCALE

NOTES:
1. THIS DETAIL IS TYPICAL FOR ALL MECHANICAL/PLUMBING EQUIPMENT INCLUDING BUT NOT LIMITED TO AIR HANDLERS, MINI SPLITS, ROOF TOP UNITS, WATER HEATERS, ETC.
2. IF NO DISCONNECT IS SHOWN, UNIT IS FURNISHED WITH INTEGRAL DISCONNECT FROM MANUFACTURER OR IS IN SIGHT OF ELECTRICAL PANEL. MAKE ELECTRICAL CONNECTIONS PER MANUFACTURER'S REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL VERIFY UNITS HAVE INTEGRAL DISCONNECT WITH MECHANICAL CONTRACTOR.

GARNER & ASSOCIATES ENGINEERING

D. MORGAN GARNER
No. 33579
PROFESSIONAL ENGINEER
09/06/19

JOB No.	18004
DOCUMENT	DATE
FINAL CD'S	09/06/2019
DRAWN BY:	JAM/JR

POWER RISER DIAGRAM, SCHEDULES & DETAILS

E0.3

10/1/2019 10:16:19 AM