ELECTRICAL LOAD CALCULATIONS

125 AMP — PANEL A

ID NO.	AMPS/ POLES	DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR LOAD	FACTOR	TOTAL LOAD
A1	15/1	LIGHTS	1P120=1,300	3,900		
A2	15/1	LIGHTS/EXT	1P120=1,300 2P240=1,300=2,600	3,900	1.25	4,875
A3	15/1	EXT/RECP/VEND	1P180=180=1,080		1.00	1,080
A4	15/1	RECEPTS	1P180=180		1.00	180
A5	15/1	EXT/RECEPTS	1P180=1,080		1.00	1,080
A6	60/2	HVAC	15,000		1.00	15,000

TOTAL LOAD OF UNIT 23,672

WATTS / VOLTS = AMPS
VOLTS X AMPS = WATTS

F.L.A = 23,672 / 240V = 99 AMPS

FOR 3 PHASE V 208/240

125 AMP — PANEL B

ID NO.	AMPS/ POLES	DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR LOAD	FACTOR	TOTAL LOAD
B1	30/1	LIGHTS/RECP	1P120=1,300=1,600	3,900		
B2	15/1	RECEPTS/VEND	1P180=180=1,080		1.00	4,875
B3	15/1	RECEPTS	1P180=180		1.00	1,080
B4	15/1	RESERVED	1,800		1.00	180
B5	15/1	RESERVED	1,800		1.00	1,800
B6	15/1	RESERVED	1,800		1.00	1,800
B7	15/1	RESERVED	1,800		1.00	1,800
B8	60/2	HVAC	15,000		1.00	15,000

TOTAL LOAD OF UNIT 25,732

WATTS / VOLTS = AMPS
VOLTS X AMPS = WATTS

F.L.A = 25,732 / 240V = 124 AMPS

FOR 3 PHASE V 208/240

200 AMP — PANEL C

ID NO.	AMPS/ POLES	DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR LOAD	FACTOR	TOTAL LOAD
C1	15/1	LIGHTS	2P120=360	3,900		
C2	15/1	RECEPTS/VEND	2P180=180=360		1.25	4,875
C3	15/1	RECEPTS	2P180=1,080		1.00	450
C4	15/1	RESERVED	1,800		1.00	1,080
C5	15/1	RESERVED	1,800		1.00	1,800
C6	15/1	RESERVED	1,800		1.00	1,800
C7	15/1	RESERVED	1,800		1.00	1,800
C8	15/1	HEAT TAPE/ICE	600=180=780		1.00	1,800
C9	20/2	WELL/PUMP	4,800		1.25	780
C10	60/2	HVAC	15,000		1.00	6,000
C11	15/1	RESERVED	1,800		1.00	15,000
C12	15/1	RESERVED	1,800		1.00	1,800

TOTAL LOAD OF UNIT 39,922

WATTS / VOLTS = AMPS
VOLTS X AMPS = WATTS

F.L.A = 39,922 / 240V = 166 AMPS

FOR 3 PHASE V 208/240

150 AMP — PANEL D

ID NO.	AMPS/ POLES	DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR LOAD	FACTOR	TOTAL LOAD
D1	15/1	LIGHTS/RECP	1P120=1,300=1,600	3,900		
D2	15/1	RECEPTS/VEND	1P180=180=1,080		1.00	4,875
D3	15/1	RECEPTS	1P180=180		1.00	1,080
D4	15/1	RESERVED	1,800		1.00	180
D5	15/1	RESERVED	1,800		1.00	1,800
D6	15/1	RESERVED	1,800		1.00	1,800
D7	15/1	RESERVED	1,800		1.00	1,800
D8	60/2	HVAC	15,000		1.00	15,000
D9	20/1	RESERVED	1,800		1.25	1,800
D10	20/1	RESERVED	1,800		1.25	1,800

TOTAL LOAD OF UNIT 33,312

WATTS / VOLTS = AMPS
VOLTS X AMPS = WATTS

F.L.A = 33,312 / 240V = 140 AMPS

FOR 3 PHASE V 208/240

125 AMP — PANEL E

ID NO.	AMPS/ POLES	DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR LOAD	FACTOR	TOTAL LOAD
E1	15/1	LIGHTS/EXT	1P120=1,300	3,900		
E2	15/1	LIGHTS	1P120=1,300 2P240=1,300 600=180=1,080	3,900	1.25	4,875
E3	15/1	EXT/RECEPTS/VEND	1P180=180=1,080		1.00	1,080
E4	15/1	RECEPTS	180		1.00	180
E5	15/1	RESERVED	1,800		1.00	1,800
E6	15/1	RESERVED	1,800		1.00	1,800
E7	15/1	RESERVED	1,800		1.00	1,800
E8	15/1	RESERVED	1,800		1.00	1,800
E9	60/2	HVAC	15,000		1.00	15,000
E10	15/1	RECEPT	180		1.00	180
E11	15/1	RECEPT	180		1.00	180

TOTAL LOAD OF UNIT 25,732

WATTS / VOLTS = AMPS
VOLTS X AMPS = WATTS

F.L.A = 25,732 / 240V = 124 AMPS

FOR 3 PHASE V 208/240

150 AMP — PANEL F

ID NO.	AMPS/ POLES	DESCRIPTION	CONNECTED LOAD	DEMAND FACTOR LOAD	FACTOR	TOTAL LOAD
F1	15/1	LIGHTS	1P120=1,300	3,900		
F2	15/1	RECEPTS/VEND	1P180=180=1,080		1.00	4,875
F3	15/1	RECEPTS/EXT	1P180=1,080		1.00	1,080
F4	20/1	RESERVED	1,800		1.00	1,800
F5	20/1	RESERVED	1,800		1.00	1,800
F6	20/1	RESERVED	1,800		1.00	1,800
F7	20/1	RESERVED	1,800		1.00	1,800
F8	60/2	HVAC	15,000		1.00	15,000
F9	20/1	RESERVED	1,800		1.00	1,800
F10	20/1	RESERVED	1,800		1.00	1,800

TOTAL LOAD OF UNIT 35,472

WATTS / VOLTS = AMPS
VOLTS X AMPS = WATTS

F.L.A = 35,472 / 240V = 147 AMPS

FOR 3 PHASE V 208/240

SYMBOL	DESCRIPTION
OFD	FLOOR DRAIN LOCATION
	CEILING EXHAUST FAN (CFM AS NOTED)
	PLUMBING VENT THRU ROOF
	MAIN DRAIN LOCATION
WTR HTR	WATER HEATER
	WATER INLET LOCATION
T	THERMOSTAT, 48" AFF
	GABLE ATTIC POWER VENT
	8 X 8 GABLE ATTIC VENT
	10 X 12 FLOOR RETURN AIR GRILLE
	12 X 12 CEILING RETURN AIR DIFFUSER
	12 X 12 CEILING SUPPLY AIR DIFFUSER
J	J BOX FOR TROFFER LIGHT CONNECTION
J	J BOX FOR MATE LINE CROSSOVER (ABOVE SUSPENDED CEILING)
	(4) 20 AMP/120 VOLT CIRCUITS IN CEILING MOUNTED #1900 J-BOX
	SINGLE GANG J-BOX W/1/2" CONDUIT THRU FLOOR FOR COMPUTER & TELEPHONE,18"AFF
3-WAY	120 V., 15 AMP,TOGGLE TYPE SWITCH 3-WAY, 48" AFF
$	120 V., 15 AMP, TOGGLE TYPE SWITCH 48" AFF
20AMP GFI WP	120 V., 20 AMP, DUPLEX GFI RECEPT WEATHERPROOF 6" AFF
GFI WP	120 V., 15 AMP, DUPLEX GFI RECEPT WEATHERPROOF 6" AFF
	120 V. 30 A, SINGLE RECEPT 18" AFF
20A	120 V. 20 A, DUPLEX RECEPT 18" AFF
GFI	120 V., 15 AMP, DUPLEX GFI RECEPT 42" AFF
GFI FHT	120 V., 15 AMP, GFI HEAT TAPE REC. (BELOW FLOOR) 36" MIN. FROM EDGE OF BUILDING
	120 V., 15 A, DUPLEX RECEPT 18" AFF (UNLESS NOTED)
VP	VANDAL RESISTANT EXT. INCANDESCENT LIGHT, WEATHERPROOF 80"AFF
EXIT	DUAL HEAD EMERGENCY LIGHT w/LIGHTED EXIT SIGN & BATTERY PACK 84" AFF
EMER	DUAL HEAD EMERGENCY LIGHT W/BATTERY PACK 84" AFF
VP	SINGLE HEAD REMOTE EMERGENCY LIGHT WEATHERPROOF 84"AFF
	2' X 4' (4) TUBE UNLESS NOTED ON E1 LAY-IN TROFFER LIGHT
	LOAD CENTER

DRAWING LEGEND

LOAD CENTER 200 AMP — 120/240 SINGLE PHASE 3-WIRE TO BE MARKED AS APPROVED FOR USE AS SERVICE EQUIPMENT

2" ELECTRICAL PVC w/SEPARATE GROUND OR 2" ENT CONDUIT STUBBED THRU-FLOOR FOR 3- #3/0 THW w/ 1-#6 GROUND.

SERVICE AT SITE BY SITE CONTRACTOR

LOAD CENTER 125 AMP — 120/240 SINGLE PHASE 3-WIRE TO BE MARKED AS APPROVED FOR USE AS SERVICE EQUIPMENT

1 1/2" ELECTRICAL PVC w/SEPARATE GROUND OR 1 1/2" ENT CONDUIT STUBBED THRU-FLOOR FOR 3- #1 THW w/ 1-#6 GROUND.

SERVICE AT SITE BY SITE CONTRACTOR

LOAD CENTER 150 AMP — 120/240 SINGLE PHASE 3-WIRE TO BE MARKED AS APPROVED FOR USE AS SERVICE EQUIPMENT

2" ELECTRICAL PVC w/SEPARATE GROUND OR 2" ENT CONDUIT STUBBED THRU-FLOOR FOR 3- #1/0 THW w/ 1-#6 GROUND.

SERVICE AT SITE BY SITE CONTRACTOR

NOTE:

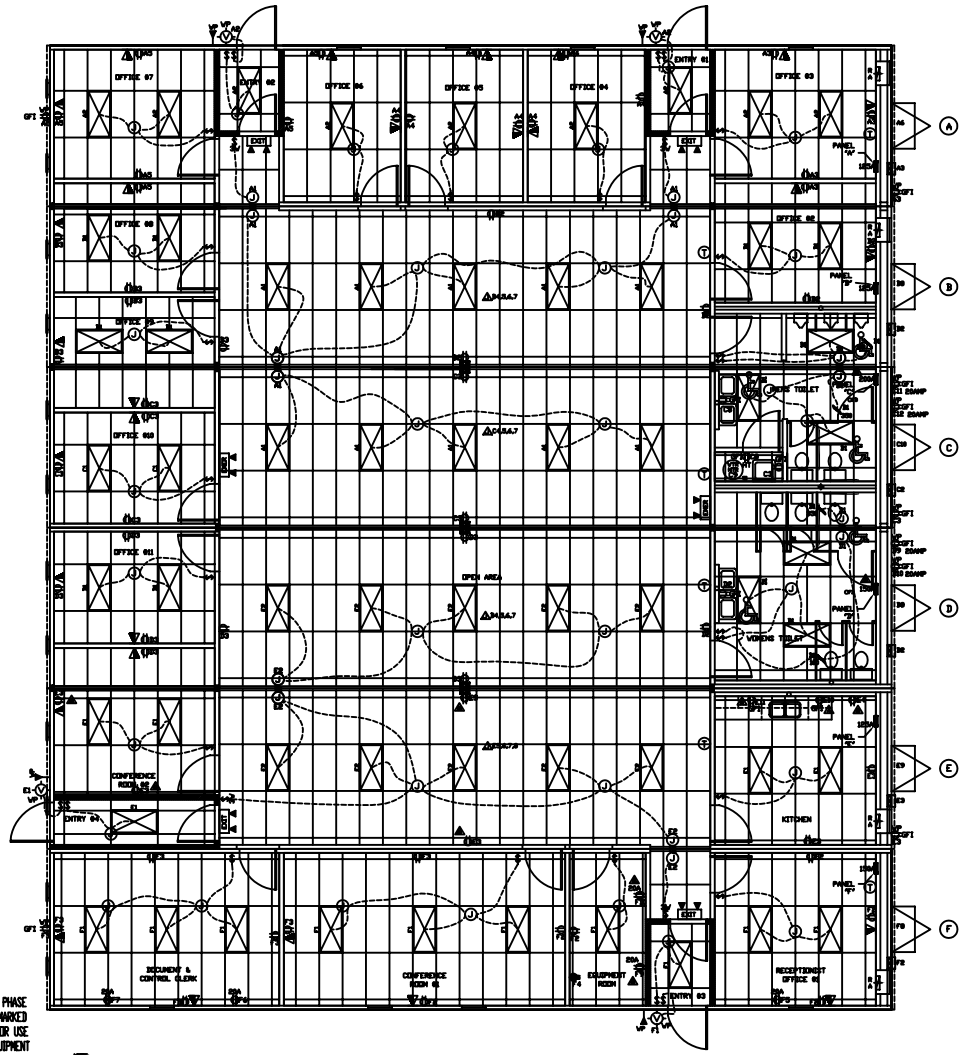
The ID number is not intended to identify a specific circuit breaker or location inside the load center but to identify the circuits only.
Circuits shall be balanced between phases as near as possible in accordance with NEC Section 220.

WIRING SIZES

15 amp circuits #14 copper — 45 amp circuits #8 copper
20 amp circuits #12 copper — 50 amp circuits #6 copper
25 amp circuits #10 copper — 60 amp circuits #6 copper
30 amp circuits #10 copper — 70 amp circuits #4 copper
40 amp circuits #8 copper or AL — 100 amp circuits #2 copper

* 75°C ch. temperature rating with ampacity correction listed and identified for 75°C.
Type THW or THWN.

** Type NM cable (from 60° column table 310-16).



ELECTRICAL PLAN

NOTE:

1) EXIT AND EMERGENCY LIGHTS WIRED TO LOCAL LIGHT CIRCUIT UNSWITCHED.
2) BATTERY PACKS TO BE CONNECTED BY SITE CONTRACTOR.
3) WIRE BETWEEN SUSPENDED CEILING AND GYPSUM SUB-CEILING TO BE IN EMT, MC, AC CABLE OR FLEXIBLE CONDUIT (GREENFIELD, 4'-0" MAX).

PE SEALS:

ALL ITEMS THAT ARE CLOUDED ARE FIELD INSTALLED

REV	DESCRIPTION	DATE	BY

Mark Line Industries

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SATELLITE SHELTERS

PROJECT NAME: BP OFFICE

PLANT: BRISTOL
ADDRESS: 51687 C.R. 133, BRISTOL, IN. 46507

MODEL: 8476
DATE: 1/24/06
DRAWN BY: JR
DRAWING SCALE: 3/16"=1'-0"
QUOTE NO.: TP6028
SERIAL NO.: 34317-22
DRAWING NUMBER: E1