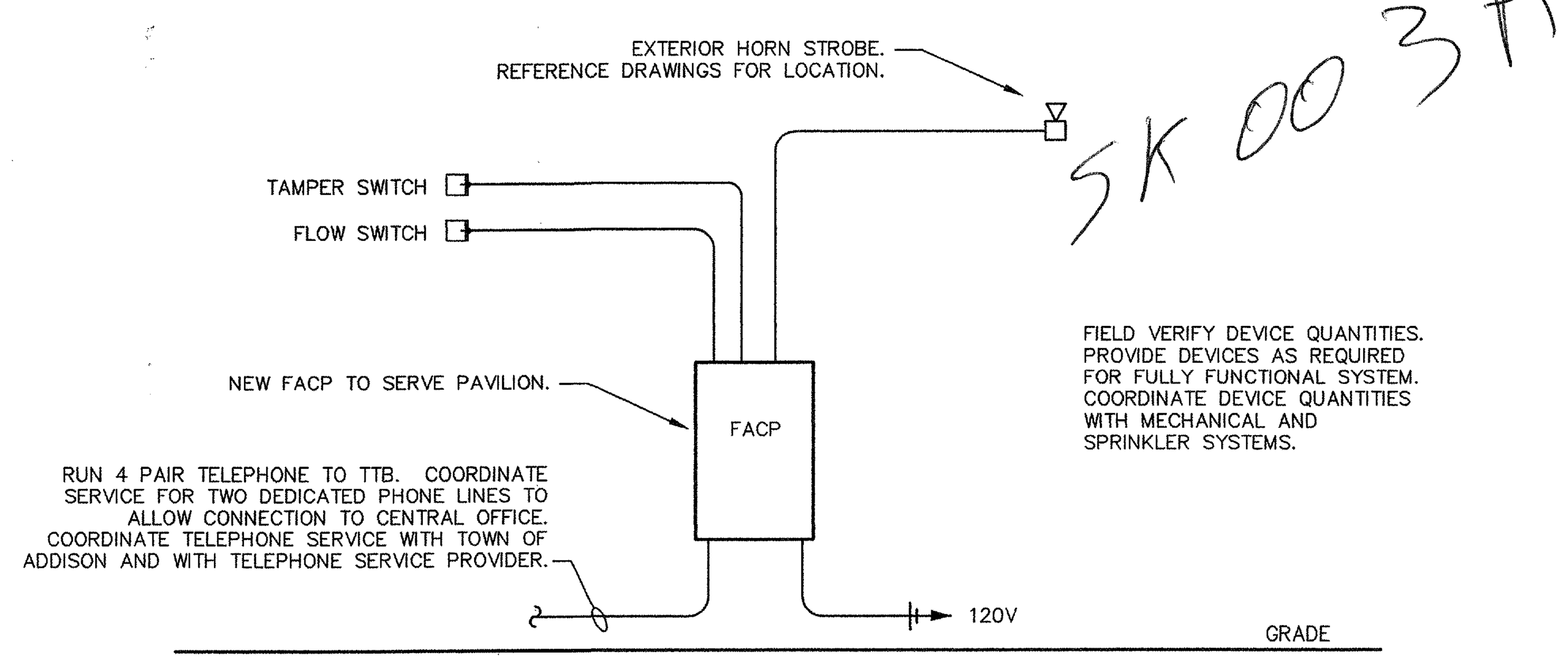

FIRE ALARM RISER DIAGRAM

ELECTRICAL POWER NOTES

P1. GENERAL: VERIFY EXACT LOCATION OF OUTLETS AND DEVICES WITH ARCHITECT PRIOR TO INSTALLATION. PROVIDE OUTLET BOXES, DEVICES, COVERPLATES, AND FLANGES AS REQUIRED.

P2. COORDINATION: MOUNT ALL OUTLETS AT 18" AFF UNLESS NOTED OTHERWISE. REFERENCE ARCHITECT'S DRAWINGS, PLANS, AND ELEVATIONS FOR ALL HEIGHTS, DIMENSIONS AND CONFIGURATIONS OF DEVICES NOT INDICATED ON THESE DRAWINGS. REFERENCE SAME DRAWINGS FOR EQUIPMENT NOT IDENTIFIED.

P3. TELECOMM & TECHNOLOGY: FURNISH AND INSTALL MIN. 3/4" CONDUIT AND PULL STRINGS FROM EACH TELEPHONE/DATA OUTLET TO TELEPHONE BACKBOARD OR TO 6" ABOVE CEILING WHEN USING PLENUM RATED CABLE. VERIFY ALL TELEPHONE AND DATA LINE QUANTITIES, LOCATIONS, AND CABLE REQUIREMENTS WITH ARCHITECT. VERIFY EXACT REQUIREMENTS WITH TELEPHONE AND TECHNOLOGY EQUIPMENT SUPPLIERS AND INSTALLERS. FURNISH AND INSTALL MATERIALS NOT PROVIDED BY TELEPHONE OR TECHNOLOGY CONTRACTORS.

P4. RECEPTACLES: ALL DUPLEX RECEPTACLES ARE TO BE NEMA 5-20R SPECIFICATION GRADE, LEVITON DECORA (OR APPROVED EQUAL) WITH THE FOLLOWING CHARACTERISTICS:

GENERAL PURPOSE: GREY NYLON FACE WITH STAINLESS STEEL FACEPLATE

ISOLATED GROUND: ORANGE NYLON FACE WITH STAINLESS STEEL FACEPLATE

GROUND FAULT: GREY NYLON FACE WITH RED TEST AND BLACK REST BUTTONS WITH STAINLESS STEEL FACEPLATE

DATA/TELECOMM: GREY NYLON LEVITON DECORA STATION JACKS ON SEPARATE YOKE, PORTS AS INDICATED, WITH STAINLESS STEEL FACEPLATE

COORDINATE RECEPTACLE, DATA, AND SWITCH DEVICES BY MANUFACTURER, TYPE, STYLE, AND COLOR, TO THE EXTENT POSSIBLE WITH THE INDICATED MANUFACTURER'S LINES.

VERIFY ALL DEVICE TYPES, COLORS, AND CONFIGURATIONS WITH ARCHITECT. SUBMIT SAMPLES OF FINAL SELECTION TO ARCHITECT FOR FINAL APPROVAL PRIOR TO PURCHASE AND INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY REQUIRE REMOVAL AND REPLACEMENT OF DEVICES, WHICH, IF REQUESTED BY ARCHITECT, WILL BE AT CONTRACTOR'S EXPENSE.

ALL ISOLATED GROUND DEVICES (IG), GROUND FAULT INTERRUPT (GFI) DEVICES, AND TRANSIENT VOLTAGE SURGE SUPPRESSION (TVSS) DEVICES SHALL BE RATED 20 AMPERES AND SHALL HAVE AN INSULATED GREEN GROUND WIRE. THE GROUND WIRE SHALL BE RUN CONTINUOUS AND UNSPLICED BETWEEN DEVICE AND PANEL GROUND BUS.

P5. GROUNDS: RUN ALL CIRCUITS WITH A #12 AWG GREEN INSULATED COPPER GROUND WIRE UNLESS OTHER WIRE SIZE IS NOTED. USE OF CONDUIT AS A GROUND IS UNACCEPTABLE. PROVIDE BONDING JUMPER BETWEEN GROUND BUS AND NEUTRAL BUS AT SERVICE EQUIPMENT. PROVIDE GROUNDING ELECTRODE CONDUCTORS AND GROUNDING ELECTRODES PER NEC ARTICLE 250. PROVIDE GROUND TO BUILDING STEEL PER NEC. PROVIDE GROUNDING ELECTRODE CONDUCTORS FROM ALL TRANSFORMERS AND OTHER SEPARATELY DERIVED SYSTEMS. PROVIDE GROUND LUG WITH A #6 AWG COPPER GROUND WIRE TO BUILDING STEEL, OR AS DIRECTED BY TELEPHONE EQUIPMENT SUPPLIER AND TELEPHONE UTILITY COMPANY FOR ALL TELEPHONE/TECHNOLOGY EQUIPMENT BOARDS. REFERENCE DATA REQUIREMENTS AND COORDINATE ELECTRICAL, TELECOMM, AND TECHNOLOGY CONTRACTORS FOR LOCATIONS AND INSTALLATION OF EQUIPMENT AND OTHER GROUNDING REQUIREMENTS.

P6. LANDLORD REQUIREMENTS: BECOME FAMILIAR WITH ALL OF LANDLORD'S SPECIFICATIONS, DESIGN CRITERIA, BUILDING STANDARDS, AND EQUIPMENT REQUIREMENTS PRIOR TO ANY EQUIPMENT PURCHASE OR INSTALLATION. ALL OF LANDLORD'S CRITERIA AND SPECIFICATIONS ARE TO BE FOLLOWED.

P7. ELECTRICAL EQUIPMENT EXPOSED TO THE WEATHER SHALL BE WEATHERPROOF (NEMA 3R).

P8. TEMPORARY POWER: FURNISH TEMPORARY ELECTRICAL SERVICE AS REQUIRED. ALL TEMPORARY WIRING IS TO BE REMOVED BY CONTRACTOR WHEN PERMANENT SERVICE IS AVAILABLE. COORDINATE SERVICE WITH ELECTRICAL UTILITY COMPANY.

P9. WHEN NOT FURNISHED BY OTHER TRADES, PROVIDE APPROPRIATE STARTERS, DISCONNECTS, MANUAL MOTOR SWITCHES, AND OVERCURRENT PROTECTION DEVICES FOR ALL MOTORS AND HVAC EQUIP. COORDINATE WITH MECHANICAL CONTRACTOR DURING BIDDING PROCESS.

P10. VERIFY HVAC EQUIPMENT CIRCUITING REQUIREMENTS AND COORDINATED WITH MANUFACTURER'S RECOMMENDATIONS FOR ACTUAL EQUIPMENT INSTALLED. INFORM ARCHITECT AND ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

P11. CIRCUIT BREAKERS SHALL BE OF THE SAME MANUFACTURER AS PANELBOARDS. PROVIDE NEW BREAKERS IN EXISTING PANEL(S) AS REQUIRED.

P12. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR BALANCING FINAL CONNECTIONS OF ALL PANELBOARDS AND SWITCHBOARDS TO WITHIN 10% BETWEEN PHASES.

P13. EXTEND OR SHORTEN EXISTING ELECTRICAL AND TELEPHONE CONDUITS AS REQUIRED TO SERVE EQUIPMENT AS INDICATED ON THE PLANS OR DIRECTED BY OWNER. COORDINATE LOCATION OF EQUIPMENT WITH ASSOCIATED TRADES. PROVIDE LABOR AND MATERIALS AS REQUIRED TO PROVIDE COMPLETE AND OPERABLE SYSTEMS. VERIFY THAT ANY CONDUIT AND WIRING TO BE EXTENDED OR EXISTING TO REMAIN IS OF PROPER CODE REQUIRED SIZES. IF SIZES DO NOT COMPLY WITH NEC, REPLACE THE MATERIALS AND NOTIFY THE ENGINEER IMMEDIATELY.

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SK 003B

PANELBOARD 'A' SCHEDULE

Ckt	BRANCH CIRCUIT DESCRIPTION	POLES/ /AMPS	VOLT AMPS LD	VOLT AMPS LD	VOLT AMPS LD	PHASE CIRCUIT	VOLT AMPS LD	VOLT AMPS LD	VOLT AMPS LD	POLES/ /AMPS	BRANCH CIRCUIT DESCRIPTION	Ckt
1	WARMER	1 / 20	1920 K			1 A 2			1272 K	1 / 20	WALK IN REFER	2
3	WARMER	1 / 20	1920 K			3 B 4			960 K	1 / 20	ROLL IN REFER	4
5	WARMER	1 / 20	1920 K			5 C 6			3016 K	2 /	COFFEE	6
7	WARMER	1 / 20	1920 K			7 A 8			3016 K	/ 40		8
9	KITCHEN CO	1 / 20	1000 K			9 B 10			1144 K	2 /	ICE MAKER	10
11	KITCHEN CO	1 / 20	1000 K			11 C 12			1144 K	/ 20		12
13	STEAMER	2 /	1498 K			13 A 14			1000 K	1 / 20	KITCHEN DUPLEX	14
15		/ 20	1498 K			15 B 16				1 / 20		16
17	KITCHEN CO	1 / 20	1000 K			17 C 18				1 / 20		18
19	KITCHEN CO	1 / 20	1000 K			19 A 20				1 / 20		20
21	KITCHEN CO	1 / 20	1000 K			21 B 22				1 / 20		22
23	KITCHEN CO	1 / 20	900 K			23 C 24				1 / 20		24
25	KITCHEN CO	1 / 20	600 K			25 A 26				1 / 20		26
27	KITCHEN CO	1 / 20	1000 K			27 B 28			200 O	1 / 20	MOTORIZED DAMPERS	28
29	KITCHEN CO	1 / 20	1000 K			29 C 30			1200 O	1 / 20	AUTOMATIC VALVES	30
31	KITCHEN CO	1 / 20	600 K			31 A 32			1200 O	1 / 20	AUTOMATIC VALVES	32
33	KITCHEN CO	1 / 20	900 K			33 B 34			1200 O	1 / 20	AUTOMATIC VALVES	34
35	KITCHEN CO	1 / 20	1000 K			35 C 36			1900 O	1 / 20	HAND DRYER	36
37	KITCHEN CO	1 / 20	1000 K			37 A 38			1900 O	1 / 20	HAND DRYER	38
39	KITCHEN CO	1 / 20	1000 K			39 B 40			1900 O	1 / 20	HAND DRYER	40
41	KITCHEN CO	1 / 20	1000 K			41 C 42			1900 O	1 / 20	HAND DRYER	42
43	CO IG TTB	1 / 20		400 R		43 A 44		200 R		1 / 20 +	EXTERIOR CO	44
45	CO IG ATM	1 / 20 +		400 R		45 B 46		200 R		1 / 20 +	EXTERIOR CO	46
47	CO IG ATM	1 / 20 +		400 R		47 C 48		200 R		1 / 20 +	EXTERIOR CO	48
49	CO TOILET GFI	1 / 20		400 R		49 A 50		200 R		1 / 20 +	EXTERIOR CO	50
51	CO TOILET GFI	1 / 20		400 R		51 B 52		200 R		1 / 20 +	EXTERIOR CO	52
53	SEC. CO IG	1 / 20			400 O	53 C 54		200 R		1 / 20 +	EXTERIOR CO	54
55		1 / 20				55 A 56		200 R		1 / 20 +	EXTERIOR CO	56
57		1 / 20				57 B 58		200 R		1 / 20 +	EXTERIOR CO	58
59		1 / 20				59 C 60		200 R		1 / 20 +	EXTERIOR CO	60
61		1 / 20				61 A 62		1000 R		1 / 20 +	EXTERIOR CO	62
63		1 / 20				63 B 64		400 R		1 / 20 +	EXTERIOR CO	64
65		1 / 20				65 C 66				-		66
67	EXH FAN	1 / 20			1587 M	67 A 68				-		68
69		1 / 20				69 B 70				-		70
71		1 / 20				71 C 72				-		72
73	18A	1 / 20	990 E			73 A 74				-		74
75	5C1 5C 10L1	1 / 20		1430 L		75 B 76				-		76
77	8L1 6K	1 / 20		800 L		77 C 78				-		78
79	8L1 6K	1 / 20		800 L		79 A 80				-		80
81	1A-1 8L 4L1	1 / 20	1006 E	260 L		81 B 82				-		82
83	20L	1 / 20	2000 E			83 C 84				-		84

(X) SUBFEED LOADS
(X) SUBFEED LOADS

LD	LOAD SUMMARY	NON-SIM. LOAD	CON_KVA	CON_AMP	C_WPSF	DIV_FAC	DES_KVA	DES_AMP	D_WPSF
(L)	LIGHTING		3.3	9.1	1.3	1.25	5.0	13.9	2.0
(T)	TASK LIGHTING		0.0	0.0	0.0	1.25	0.0	0.0	0.0
(E)	EXTERIOR LTG & SIGNS		4.0	11.1	1.6	1.25	5.0	13.9	2.0
(R)	RECEPTACLES		5.2	14.4	2.1	1.00	5.2	14.4	2.1
(G)	Grouped Motors		0.0	0.0	0.0	1.00	0.0	0.0	0.0
(M)	MOTORS: 1.6 kVA	1.0	1.6	4.4	0.6	1.00	1.6	4.4	0.6
(M)	25% LARGEST MOTOR						1.2	3.3	0.5
(K)	KITCHEN EQUIPMENT		36.2	100.6	14.5	0.65	23.5	65.4	9.4
(H)	HEAT: 0.0 kVA	1.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0
(A)	A/C EQUIP: 0.0 kVA	1.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0
(C)	COMPUTER EQUIPMENT		0.0	0.0	0.0	1.00	0.0	0.0	0.0
(W)	WATER HEATERS		0.0	0.0	0.0	1.00	0.0	0.0	0.0
(O)	OTHER		11.8	32.8	4.7	1.00	11.8	32.8	4.7
(S)	SPARE: 14 kVA		*******			0.65	9.4	26.1	3.8
(P)	SPACE: 10 kVA		*******			0.50	5.2	14.4	2.1
	TOTAL:		62.1	172.4	24.8		67.9	188.5	27.2

PANEL 'A' FILE INFORMATION
JOB NUMBER: 2098
JOB NAME: PAVILION
LOCATION: ADDISON
SQUARE FT: 2500
LIGHT W/SF: 2 (PER NEC 220)
DESIGN BY: WMS
INPUT BY: WMS
FILE NO: 2098PA

PRINT HISTORY
DATE: 28-Jan-2003
TIME: 03:37:05 PM

FORM NUMBER: 2000pa08
LAST REVISION: 29-Jun-91
ORIGINAL FORM: 27-Jun-87

REMARKS:
1. PROVIDE BREAKERS RATED FOR SWITCHING DUTY.
2. PROVIDE BOLT-IN REAKERS
3. PROVIDE FULL GROUND BUS
4. PROVIDE DBL. NEUTRAL BUS
5. + NEXT TO BREAKER AMP INDICATES GFI UNIT

BREAKER SUMMARY — TOTAL POLES: 84

ACTIVE	SPARE	SPACE	POLES	AMPS
-	-	10	1	-
54	14		1	20
2			2	20
1			2	40

PER PHASE TOTALS
% DIFFERENCE
AB: 21.9 %
BC: 15.0 %
CA: 6.9 %
KILO VOLT-AMPERE
A: 22.7 kVA
B: 18.2 kVA
C: 21.2 kVA
AMPERES
A: 189.1 A
B: 151.7 A
C: 176.4 A

PANEL 'A' SUMMARY
3PH. 4W. W/ GROUND BUS
VOLTAGE: 208Y/120
BRACING: 50 K AIC
MAINS: MLO
AMPS: 225
POLES: 84
STATUS: NEW
TYPE: NQOD
MOUNTED: SURFACE
LOCATED: STORGAE
SERVED FROM: MSB
UPST. DEVICE: SWITCH
DOWNSTREAM: -

PANELBOARD 'M' SCHEDULE

Ckt	BRANCH CIRCUIT DESCRIPTION	POLES/ /AMPS	VOLT AMPS LD	VOLT AMPS LD	VOLT AMPS LD	PHASE CIRCUIT	VOLT AMPS LD	VOLT AMPS LD	VOLT AMPS LD	POLES/ /AMPS	BRANCH CIRCUIT DESCRIPTION	Ckt
1	AHU-1	3 /		264 M	4333 H	1 A 2		228 M	1920 M	3 /	CU-1	2
3		/		264 M	4333 H	3 B 4		228 M	1920 M	/		4
5		/ 50		264 M	4333 H	5 C 6		228 M	1920 M	/ 35		6
7	AHU-2	3 /		264 M	2900 H	7 A 8		192 M	1320 M	3 /	CU-2	8
9		/		264 M	2900 H	9 B 10		192 M	1320 M	/		10
11		/ 35		264 M	2900 H	11 C 12		192 M	1320 M	/ 25		12
13	AHU-3	3 /		264 M	2900 H	13 A 14		192 M	1320 M	3 /	CU-3	14
15		/		264 M	2900 H	15 B 16		192 M	1320 M	/		16
17		/ 35		264 M	2900 H	17 C 18		192 M	1320 M	/ 25		18
19	AHU-4	3 /		372 M	6233 H	19 A 20		228 M	2280 M	3 /	CU-4	20
21		/		372 M	6233 H	21 B 22		228 M	2280 M	/		22
23		/ 70		372 M	6233 H	23 C 24		228 M	2280 M	/ 40		24
25	WH	3 /	6000 W			25 A 26				-		26
27		/	6000 W			27 B 28				-		28
29		/ 70	6000 W			29 C 30				-		30
31		-				31 A 32				-		32
33		-				33 B 34				-		34
35		-				35 C 36				-		36
37		-				37 A 38			22400 X	3 /	PANEL A	38
39		-				39 B 40			19600 X	/	SUBFEED BREAKER	40
41		-				41 C 42			21200 X	/ 225		42

(X) SUBFEED LOADS: 3300 L 7600 E 2000 R 1600 M 24400 K 11200 O
(X) SUBFEED LOADS: 15000 S 2600 P

LD	LOAD SUMMARY	NON-SIM. LOAD	CON_KVA	CON_AMP	C_WPSF	DIV_FAC	DES_KVA	DES_AMP	D_WPSF
(L)	LIGHTING		3.3	9.2	1.3	1.25	4.1	11.5	1.7
(T)	TASK LIGHTING		0.0	0.0	0.0	1.25	0.0	0.0	0.0
(E)	EXTERIOR LTG & SIGNS		7.6	21.1	3.0	1.25	9.5	26.4	3.8
(R)	RECEPTACLES		2.0	5.6	0.8	1.00	2.0	5.6	0.8
(G)	Grouped Motors		0.0	0.0	0.0	1.00	0.0	0.0	0.0
(M)	MOTORS: 28.1 kVA	1.0	28.1	78.1	11.3	1.00	28.1	78.1	11.3
(M)	25% LARGEST MOTOR						1.9	5.2	0.8
(K)	KITCHEN EQUIPMENT		24.4	67.7	9.8	1.00	24.4	67.7	9.8
(H)	HEAT: 49.1 kVA	1.0	49.1	136.3	19.6	1.00	49.1	136.3	19.6
(A)	A/C EQUIP: 0.0 kVA	1.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0
(C)	COMPUTER EQUIPMENT		0.0	0.0	0.0	1.00	0.0	0.0	0.0
(W)	WATER HEATERS		18.0	50.0	7.2	1.00	18.0	50.0	7.2
(O)	OTHER		11.2	31.1	4.5	1.00	11.2	31.1	4.5
(S)	SPARE: 15 kVA		*******			0.65	9.8	27.1	3.9
(P)	SPACE: 60 kVA		*******			0.50	30.0	83.4	12.0
	TOTAL:		143.7	399.0	57.5		188.1	522.2	75.3

PANEL 'M' FILE INFORMATION
JOB NUMBER: 02098
JOB NAME: PAVILION
LOCATION: ADDISON
SQUARE FT: 2500
LIGHT W/SF: 1 (PER NEC 220)
DESIGN BY: WMS
INPUT BY: WMS
FILE NO: 2098PM

PRINT HISTORY
DATE: 23-Dec-2002
TIME: 02:14:19 AM

FORM NUMBER: 2000pa08
LAST REVISION: 29-Jun-91
ORIGINAL FORM: 27-Jun-87

REMARKS:
1. PROVIDE BREAKERS RATED FOR SWITCHING DUTY.
2. PROVIDE BOLT-IN REAKERS
3. PROVIDE FULL GROUND BUS
4. PROVIDE DBL. NEUTRAL BUS
5. + NEXT TO BREAKER AMP INDICATES GFI UNIT

BREAKER SUMMARY — TOTAL POLES: 42

ACTIVE	SPARE	SPACE	POLES	AMPS
-	-	12	1	-
2			3	25
3			3	35
1			3	40
1			3	50
2			3	70
1			3	225

PER PHASE TOTALS
% DIFFERENCE
AB: 5.4 %
BC: 3.1 %
CA: 2.3 %
KILO VOLT-AMPERE
A: 53.6 kVA
B: 50.8 kVA
C: 52.4 kVA
AMPERES
A: 446.4 A
B: 423.1 A
C: 436.4 A

PANEL 'M' SUMMARY
3PH. 4W. W/ GROUND BUS
VOLTAGE: 208Y/120
BRACING: 50 K AIC
MAINS: MLO
AMPS: 600
POLES: 42
STATUS: NEW
TYPE: QMR
MOUNTED: SURFACE
LOCATED: STORAG
SERVED FROM: MSB
UPST. DEVICE: SWITCH
DOWNSTREAM: -

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M E P
MEP SYSTEMS DESIGN AND ENGINEERING, INC.

Addison Arts and Events Pavilion
Addison, Texas

issue	date
DD	08/26/02
50% CD	10/31/02
95% CD	01/23/03
ADDENDUM 1	01/31/03

E3.1
NOTES
SCHEDULES