PANEL "A" SCHEDULE

BUS 200/3 MAIN   C.B.I.C. 42 K.A.I.C. MAIN / 10 K.A.I.C. BRANCH   LOC. REAR EXIT HALL

☐ 120/240V, ☒ 120/208V, ☐ 277/480V, ☒ HINGED FRONT.
☒ 3 PH., ☐ 1 PH., ☐ 3W., ☒ 4W.
☒ PANELBOARD, ☐ LOADCENTER, ☐ SURFACE, ☒ RECESSED.
☐ NEMA-3R, ☒ NEMA-1, ☒ BOLT-IN, ☐ PLUG-IN.
☒ GROUND BUS, (100%) ☐ ISOLATED GROUND BUS, ☐ SERVICE EQPT RATED

CIRCUIT DESCRIPTION	CB	NO.	Aφ	Bφ	Cφ	NO.	CB	CIRCUIT DESCRIPTION
SWITCH a, LTG.	20/1	1	1620 / 554			2	20/1	LIGHTING (EXTERIOR)
b,		3		1330 / 1110		4		(INTERIOR)
c,		5			1155 / 840	6		
d,		7	805 / 630			8		
e,		9		1080 / 560		10		
RECEPTACLE		11			1200 / 1200	12		(BLDG. SIGN)
		13	400 / 1200			14		RECEPTACLES
FIRE ALARM (LOCK-ON)		15		100 / 1200		16		
RECEPTACLES		17			800 / 830	18		
DRINKING FOUNTAIN	15/1	19	720 / 720			20	15/1	DRINKING FOUNTAIN
RECEPTACLES	20/1	21		1200 / 720		22	15/1	DISP'L.
		23			400 / 1400	24	20/1	RECEPTACLES
CCTV (LOCK-ON)		25	100 / -			26		SPARE
RECEPTACLES		27		1200 / 1850		28		
		29			400 / 1650	30		
		31	1200 / 1200			32	20/2	COPY MACHINE
		33		600 / 1200		34		
SPARE		35			1000 / 1200	36	20/2	COPY MACHINE
RECEPTACLES		37	800 / 1200			38		
		39		1200 / 400		40	20/1	SPARE
		41			1200 / 600	42		

	Aφ	Bφ	Cφ	
TOTAL LOAD PER PHASE CONTINUOUS	3,609	4,080	3,195	
TOTAL LOAD PER PHASE NON-CONT.	7,540	9,670	10,680	
TOTAL LOAD PER PHASE CONNECTED	11,149	13,750	13,875	
TOTAL LOAD PER PHASE 25% CONT.	902	1,020	799	
TOTAL LOAD PER PHASE @ CODE	12,051	14,770	14,674	14,770 VA / 120V = 123.1 AMPS

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PANEL "B" SCHEDULE

BUS 200/3 MAIN   C.B.I.C. 42 K.A.I.C. MAIN / 10 K.A.I.C. BRANCH   LOC. REAR EXIT HALL

☐ 120/240V, ☒ 120/208V, ☐ 277/480V, ☒ HINGED FRONT.
☒ 3 PH., ☐ 1 PH., ☐ 3W., ☒ 4W.
☒ PANELBOARD, ☐ LOADCENTER, ☐ SURFACE, ☒ RECESSED.
☐ NEMA-3R, ☒ NEMA-1, ☒ BOLT-IN, ☐ PLUG-IN.
☒ GROUND BUS, (100%) ☐ ISOLATED GROUND BUS, ☐ SERVICE EQPT RATED

CIRCUIT DESCRIPTION	CB	NO.	Aφ	Bφ	Cφ	NO.	CB	CIRCUIT DESCRIPTION
IU1	15/2	1	300 / 936			2	15/2	OU1
		3		300 / 936		4		
IU2	15/2	5			410 / 1645	6	30/2	OU2
		7	410 / 1643			8		
IU3	15/2	9		410 / 1643		10	30/2	OU3
		11			410 / 1643	12		
IU3 (HEATER)	30/2	13	2000 / 1668			14	30/3	OU4
		15		2000 / 1668		16		
IU4	15/2	17			410 / 1668	18		
		19	410 / 1668			20	30/3	OU5
IU5	15/2	21		410 / 1668		22		
		23			410 / 1668	24		
IU6	15/2	25	410 / 1848			26	30/3	OU6
		27		410 / 1848		28		
IU7	15/2	29			410 / 1848	30		
		31	410 / 1165			32	20/2	OU7
SPARE	20/1	33		- / 1165		34		
		35			- / -	36	20/1	SPARE
		37	- / 300			38	15/1	CIRC. PUMP
ATTIC LIGHTING		39		500 / 1250		40	15/2	WATER HEATER
ATTIC RECEPTACLES		41			600 / 1250	42		

	Aφ	Bφ	Cφ	
TOTAL LOAD PER PHASE CONTINUOUS	2,148	2,348	1,848	
TOTAL LOAD PER PHASE NON-CONT.	11,020	11,860	7,186	
TOTAL LOAD PER PHASE CONNECTED	13,168	14,208	9,034	
TOTAL LOAD PER PHASE 25% CONT.	537	587	462	
TOTAL LOAD PER PHASE @ CODE	13,705	14,795	9,496	14,795 VA / 120V = 123.3 AMPS

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PANEL "C" SCHEDULE

BUS 200/3 MAIN   C.B.I.C. 42 K.A.I.C. MAIN / 10 K.A.I.C. BRANCH   LOC. DATA/COMM RM.

☐ 120/240V, ☒ 120/208V, ☐ 277/480V, ☒ HINGED FRONT.
☒ 3 PH., ☐ 1 PH., ☐ 3W., ☒ 4W.
☒ PANELBOARD, ☐ LOADCENTER, ☒ SURFACE, ☐ RECESSED.
☐ NEMA-3R, ☒ NEMA-1, ☒ BOLT-IN, ☐ PLUG-IN.
☒ GROUND BUS, (100%) ☐ ISOLATED GROUND BUS, ☐ SERVICE EQPT RATED

CIRCUIT DESCRIPTION	CB	NO.	Aφ	Bφ	Cφ	NO.	CB	CIRCUIT DESCRIPTION
(3) WORK STATIONS	20/1	1	1200 / 800			2	20/1	(2) WORK STATIONS
		3		1200 / 800		4		
(3) WORK STATIONS		5			1200 / 800	6		(2) WORK STATIONS
		7	1200 / 800			8		
(3) WORK STATIONS		9		1200 / 1200		10		(3) WORK STATIONS
		11			1200 / 1200	12		
TRAINING OUTLETS		13	400 / 200			14		DATA/COMM RECPT.
		15		600 / 200		16		
SPARE		17			- / 200	18		
		19	- / -			20	-	SPACE
SPACE	-	21		- / -		22		
		23			- / -	24		
		25	- / -			26		
		27		- / -		28		
		29			- / -	30		
		31	- / -			32		
		33		- / -		34		
		35			- / -	36		
		37	- / 7000			38	100/3	PANEL-C2
		39		- / 5500		40		
		41			- / 6000	42		

	Aφ	Bφ	Cφ	
TOTAL LOAD PER PHASE CONTINUOUS	0	0	0	
TOTAL LOAD PER PHASE NON-CONT.	11,600	10,700	10,600	
TOTAL LOAD PER PHASE CONNECTED	11,600	10,700	10,600	
TOTAL LOAD PER PHASE 25% CONT.	0	0	0	
TOTAL LOAD PER PHASE @ CODE	11,600	10,700	10,600	11,600 VA / 120V = 96.7 AMPS

NOTES
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PANEL "C2" SCHEDULE

(SERIES RATED WITH PANEL-C MAIN BKR.)

BUS 100/3 MAIN   C.B.I.C. 10 K.A.I.C. (ALL BKRS.)   LOC. DATA/COMM RM.

☐ 120/240V, ☒ 120/208V, ☐ 277/480V, ☒ HINGED FRONT.
☒ 3 PH., ☐ 1 PH., ☐ 3W., ☒ 4W.
☒ PANELBOARD, ☐ LOADCENTER, ☒ SURFACE, ☐ RECESSED.
☐ NEMA-3R, ☒ NEMA-1, ☒ BOLT-IN, ☐ PLUG-IN.
☒ GROUND BUS, (100%) ☒ ISOLATED GROUND BUS, (100%) ☐ SERVICE EQPT RATED

CIRCUIT DESCRIPTION	CB	NO.	Aφ	Bφ	Cφ	NO.	CB	CIRCUIT DESCRIPTION
(3) WORK STATIONS	20/1	1	1200 / 800			2	20/1	(2) WORK STATIONS
(3)		3		1200 / 800		4		(2)
PRINTER		5			400 / 1200	6		(3)
(3) WORK STATIONS		7	1200 / 600			8		VIDEO TRAINING RECPT.
DATA/COMM RECPT.		9		400 / 400		10		
		11			400 / 400	12		DATA/COMM RECPT. (LAN) *
		13	400 / 400			14		
		15		400 / 400		16		
		17			400 / 400	18		(LAN) *
		19	400 / 400			20		
		21		400 / -		22		SPARE
PRINTER		23			800 / -	24		
SPARE		25	- / -			26		
		27		- / -		28		
		29			- / -	30		
		31	- / -			32		
SPACE	-	33		- / -		34	-	SPACE
		35			- / -	36		
		37	- / -			38		
		39		- / -		40		
		41			- / -	42		

	Aφ	Bφ	Cφ	
TOTAL LOAD PER PHASE CONTINUOUS	5,600	4,400	4,000	
TOTAL LOAD PER PHASE NON-CONT.	0	0	0	
TOTAL LOAD PER PHASE CONNECTED	5,600	4,400	4,000	
TOTAL LOAD PER PHASE 25% CONT.	1,400	1,100	1,000	
TOTAL LOAD PER PHASE @ CODE	7,000	5,500	6,000	7,000 VA / 120V = 58.3 AMPS

NOTES
*LAN OUTLETS TO BE ON SAME PHASE.
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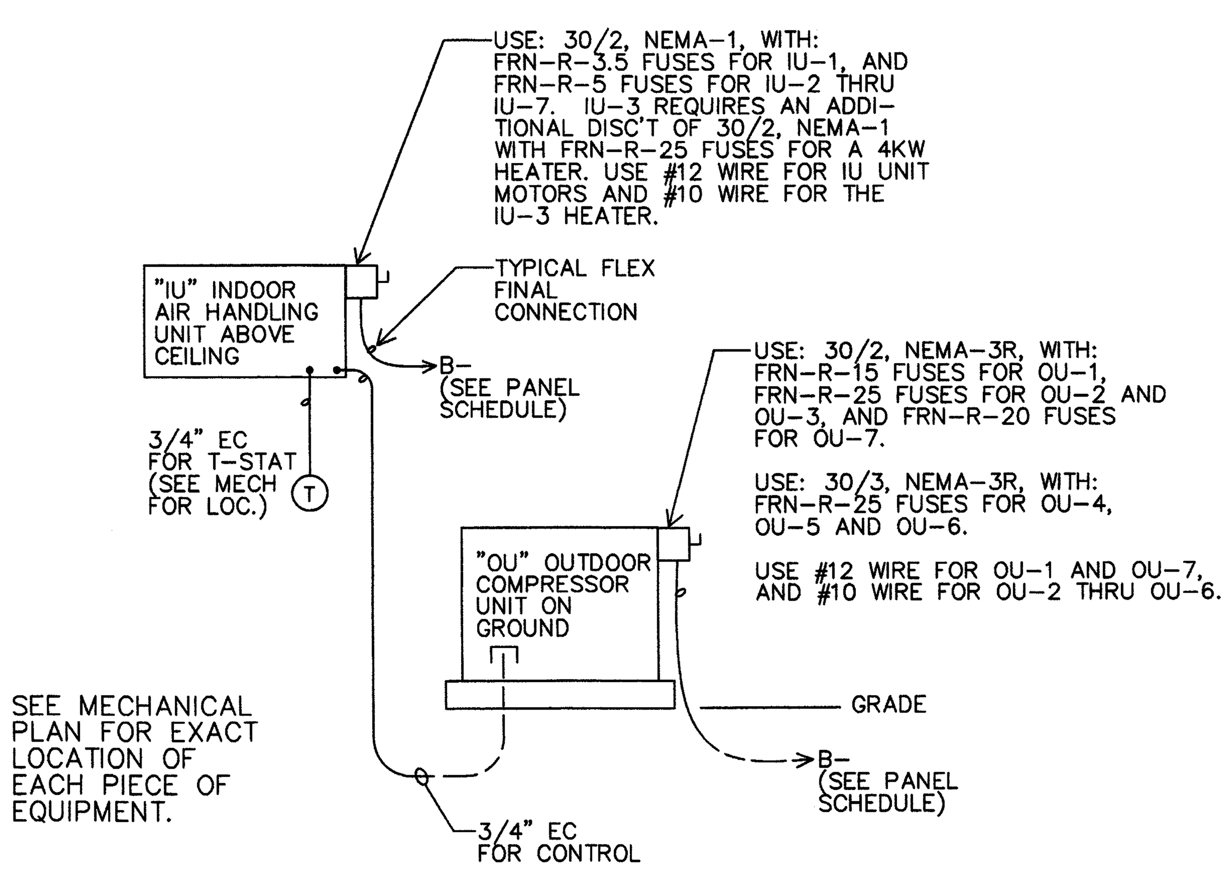
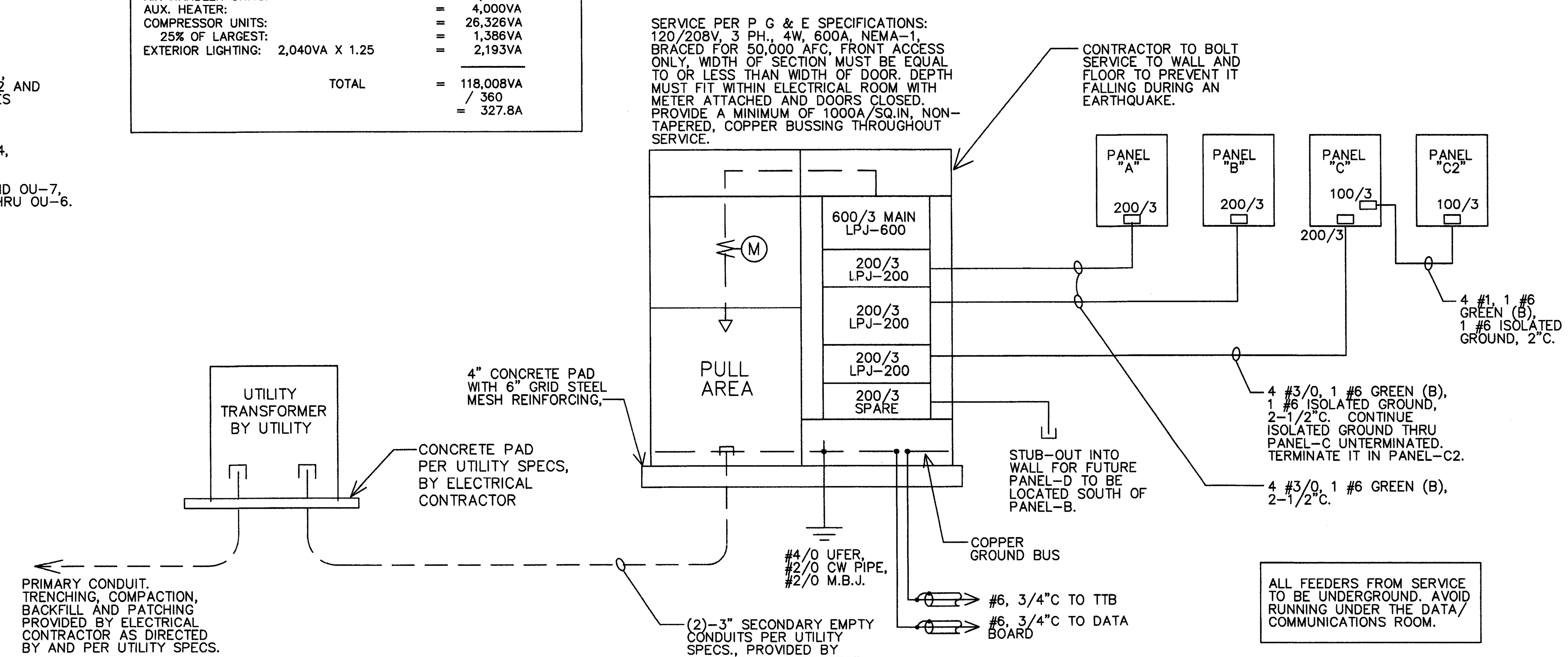
SERVICE CALCULATIONS

CODE LIGHTING: 4,300 SQ.FT. X 3.5VA/SQ.FT. X 1.25	=	18,813VA
CONN. LIGHTING: 6,970VA X 1.25	=	~~8,713VA~~ (CODE IS LARGER)
RECEPTACLES & WORK STATIONS:	=	56,190VA
WATER HEATER:	=	2,500VA
EXHAUST FANS:	=	1,080VA
AIR HANDLER UNITS:	=	5,520VA
AUX. HEATER:	=	4,000VA
COMPRESSOR UNITS:	=	26,326VA
25% OF LARGEST:	=	1,386VA
EXTERIOR LIGHTING: 2,040VA X 1.25	=	2,193VA
TOTAL	=	118,008VA / 360 = 327.8A



TYPICAL MECHANICAL SYSTEM WIRING DIAGRAM

(TOTAL OF 7 COMPLETE SYSTEMS)



ALL FEEDERS FROM SERVICE TO BE UNDERGROUND. AVOID RUNNING UNDER THE DATA/ COMMUNICATIONS ROOM.

ONELINE DIAGRAM

FAULT CURRENT CALCULATION AT PANEL-A

I_{SCA} = 42,000A PER UTILITY TABLES

L = 21 FT.

$f_{LL} = \frac{1.732 \times 21 \text{ FT.} \times 42{,}000A}{13{,}923 \times 208V} = 0.5267$

$M_{LL} = \frac{1}{1+0.5267} = 0.655$

I_{SCLL} = 42,000 X 0.655 = **27,510A**

FAULT CURRENT CALCULATION AT PANEL-B

I_{SCA} = 42,000A PER UTILITY TABLES

L = 19 FT.

$f_{LL} = \frac{1.732 \times 19 \text{ FT.} \times 42{,}000A}{13{,}923 \times 208V} = 0.4766$

$M_{LL} = \frac{1}{1+0.4766} = 0.677$

I_{SCLL} = 42,000 X 0.677 = 28,443A + 87.0A MOTORS = **28,530A**

FAULT CURRENT CALCULATION AT PANEL-C

I_{SCA} = 42,000A PER UTILITY TABLES

L = 27 FT.

$f_{LL} = \frac{1.732 \times 27 \text{ FT.} \times 42{,}000A}{13{,}923 \times 208V} = 0.6773$

$M_{LL} = \frac{1}{1+0.6773} = 0.596$

I_{SCLL} = 42,000 X 0.596 = **25,040A**

CONTRACTOR MUST VERIFY FAULT CURRENT PRIOR TO ORDERING SWITCHGEAR. IF ACTUAL FAULT CURRENT AT THE SERVICE IS MORE THAN 42,000 AMPS OR FEEDER LENGTHS CHANGE, CONSULT THE ENGINEER.

PLAN REVIEW ACCEPTANCE BY THE PHILLIPS GROUP APPLIES ONLY TO PLAN SHEETS WHICH HAVE THIS STAMP
JUN 05 2001

1/4 = 1

R.J. CARLI ENGINEERING CORP.
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IMPERIAL INDUSTRIAL GROUP - NEW BUILDING FOR SSA/GSA   LAKEPORT, CALIFORNIA

D D AND A INCORPORATED
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4117 N. 17TH STREET PHOENIX, ARIZONA 85016 TELE. (602) 212-0422

REVISION

JOB	8956
DATE	JAN 2001
DRAWN	GJK
CHECKED	
SHEET	

DETAIL SYMBOL — DETAIL NUMBER / LOCATION SHEET / DETAIL SHEET

E-5