HVAC ELECTRICAL COORDINATION SCHEDULE

ABBREVIATIONS	
DC	LOCAL DISCONNECT
MC	MOTOR CONTROL (POWER)
SD	DUCT SMOKE DETECTOR
CN	CONTROLS
TS	TOGGLE SWITCH
C/B	H.A.C.R. CIRCUIT BREAKER AT SOURCE PANELBOARD
FUSE	FUSE AT LOCAL DISCONNECT (VERIFY FIELD RATING)
FLA	OPERATING FULL LOAD AMPS
MCA	MINIMUM CIRCUIT AMPACITY
CP	CORD AND PLUG CONNECTION

CONTRACTOR TYPE	
EC	ELECTRICAL CONTRACTOR
EX	EXISTING
FC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
HC	HVAC CONTRACTOR
MFR	MANUFACTURER
PC	PLUMBING CONTRACTOR
OR	OWNER OR OTHERS

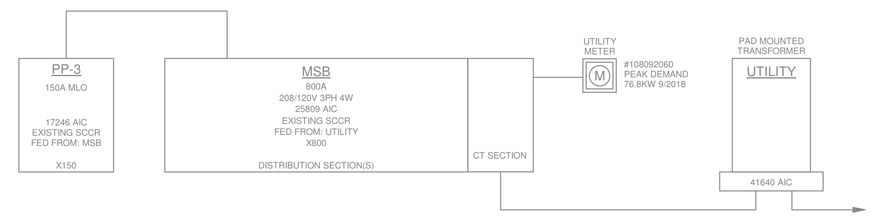
MOTOR CONTROL TYPE	
CS	COMBINATION STARTER
MCC	MOTOR CONTROL STARTER
MG	MAGNETIC STARTER OR CONTACT
MS	MANUAL STARTER
VFD	VARIABLE FREQUENCY DRIVE
MSR	MANUAL STARTER W/ CONTROL RELAY
OV	OVERCURRENT PROTECTION

CONTROL TYPE	
TC	TIMECLOCK
CPT	CONTROL POWER TRANSFORMER
BAS	BUILDING AUTOMATION SYSTEM
LOW	LOW VOLTAGE CONTROLS
LINE	LINE VOLTAGE CONTROLS
RLINE	REVERSE ACTING LINE VOLTAGE THERMOSTAT
MAN	MANUAL
FA	FIRE ALARM
CO	CARBON MONOXIDE SENSOR
INT	INTEGRAL TO EQUIPMENT

EQUIPMENT MARK	DESCRIPTION	VOLTS (V)	PHASE	EMERGENCY	BHP (HP)	HP (HP)	HTG (kW)	WATTS	FLA (A)	MCA (A)	OCP (A)	DC TYPE	DC FURN	DC INST	DC WIRE	MC TYPE	MC FURN	MC INST	MC WIRE	CN TYPE	CN FURN	CN INST	CN WIRE	SD TYPE	AVAILABLE FAULT CURRENT (A)
EF-1	UTILITY SET FAN	208	3			7.5			19.9				EC	EC	EC	MG	MFR	MFR	MFR	LINE	EC	EC	EC		1271
MOD	MOTOR OPERATED DAMPER	120	1										EC	EC	EC	MG	MFR	MFR	MFR	LINE	EC	EC	EC		

GENERAL ELECTRICAL POWER DISTRIBUTION NOTES

A. OVERCURRENT PROTECTION RATINGS: UNLESS INDICATED OTHERWISE, PROVIDE FULLY-RATED OR SERIES-RATED OVERCURRENT PROTECTION (OCP) AS REQUIRED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF NFPA 70. PROVIDE EQUIPMENT AND OCP RATED TO MEET OR EXCEED THE AVAILABLE SERIES-RATED FAULT CURRENT AT THE RESPECTIVE NODE IN THE POWER DISTRIBUTION SYSTEM. SERIES-RATED BREAKERS/SYSTEMS ARE NOT PERMITTED WHERE PROHIBITED BY PREVAILING CODES AND STANDARDS, INCLUDING APPLICATIONS INVOLVING MOTOR CONTRIBUTION AS ADDRESSED IN ARTICLE 240.86(C) OF NFPA 70. FURNISH ELECTRONIC COPIES OF THE ELECTRICAL DOCUMENTS TO THE MANUFACTURER'S REPRESENTATIVE AND/OR EQUIPMENT SUPPLIER SO THAT PROPERLY RATED AND BRACED EQUIPMENT IS PROVIDED UNDER BASE BID. FAULT CURRENT VALUES INDICATED ON PLANS ARE BASED ON MAXIMUM SHORT CIRCUIT CURRENT AVAILABLE FROM UTILITY. VERIFY AVAILABLE SHORT CIRCUIT CURRENT FROM UTILITY; PROVIDE FAULT CURRENT CALCULATIONS AND FURNISH RESULTS WITH EQUIPMENT SUBMITTALS.



ELECTRIC SINGLE-LINE DIAGRAM

SCALE: NONE

PANEL NAME: PP-3

SUPPLY FROM: MSB
LOCATION:
DISTRIBUTION SYSTEM: 208/120V 3PH 4W
MAINS RATING (A): 150
MAINS TYPE: MAIN LUGS ONLY
FEEDER ID: X150
FAULT CURRENT (A): 17246
SHORT CIRCUIT RATING (A): EXISTING
LUGS TYPE:
ENCLOSURE TYPE: NEMA 1
SURGE SUPRESSION:
ULSE:
200% NEUTRAL:
ISOLATED GROUND:
FEEDER: EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERWISE

CKT	CIRCUIT DESCRIPTION	VD%	AWG	GND	TRIP	FRAME	POLE	A		B		C		POLE	FRAME	TRIP	GND	AWG	VD%	CIRCUIT DESCRIPTION	CKT
1								0.00	0.00					1	--	20 A	--	--	--	(EX) FUTURE FAN IN REC ROOM	2
3	(EX) RE-HEAT ZONE 4	--	--	--	40 A	--	3			0.00	0.00			1	--	20 A	--	--	--	(EX) FUTURE FAN IN REC ROOM	4
5												0.00	0.00	1	--	20 A	--	--	--	(EX) EF-6 REC ROOM	6
7								0.00	0.00					1	--	20 A	--	--	--	(EX) ROOFTOP OUTLET	8
9	(EX)	--	--	--	30 A	--	3			0.00	0.00			1	--	20 A	--	--	--	(EX) EF-3, EF-4	10
11												0.00	0.00	1	--	20 A	--	--	--	(EX) REC AT SOUTH CONDENSING UNIT	12
13								0.00	0.00					1	--	20 A	--	--	--	(EX)	14
15	(EX) RTU-1 AND FUTURE KITCHEN	--	--	--	20 A	--	3			0.00	0.00										16
17												0.00	0.00	3	--	20 A	--	--	--	(EX)	18
19	(EX)	--	--	--	20 A	--	1	0.00	0.00												20
21	(EX)	--	--	--	20 A	--	1			0.00	2.39										22
23	SPACE	--	--	--	--	--	--					0.00	2.39	3	30 A	30 A	*#8	*#8	2.074	EF-1 I MOTOR APPARATUS ROOM 27	24
25	SPACE	--	--	--	--	--	--	0.00	2.39												26
27	SPACE	--	--	--	--	--	--			0.00	0.10			1	20 A	20 A	#12	#12	0.415	MOD I MOTOR APPARATUS ROOM 27	28
29	SPACE	--	--	--	--	--	--					0.00	0.00	--	--	--	--	--	--	SPACE	30
31	SPACE	--	--	--	--	--	--	0.00	0.00					--	--	--	--	--	--	SPACE	32
33	SPACE	--	--	--	--	--	--			0.00	0.00			--	--	--	--	--	--	SPACE	34
35	SPACE	--	--	--	--	--	--					0.00	0.00	--	--	--	--	--	--	SPACE	36
37	SPACE	--	--	--	--	--	--	0.00	0.00					--	--	--	--	--	--	SPACE	38
39	SPACE	--	--	--	--	--	--			0.00	0.00			--	--	--	--	--	--	SPACE	40
41	SPACE	--	--	--	--	--	--					0.00	0.00	--	--	--	--	--	--	SPACE	42
							TOTAL CONNECTED LOAD:	2.4 kVA		2.5 kVA		2.4 kVA									

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	PANEL TOTALS	
Continuous	0 VA	0.00%	0 VA	METERED PEAK DEMAND (PER NEC 220.87):	22900.0 VA
Cooling	0 VA	0.00%	0 VA	ADDED CONNECTED LOAD:	7269 VA
Heating	0 VA	0.00%	0 VA	DEMAND CALCULATION NOTES:	125% EXISTING METERED DEMAND
Kitchen Equipment	0 VA	0.00%	0 VA		
Lighting	0 VA	0.00%	0 VA	TOTAL DEMAND:	37686.3 VA
Motor	7269 VA	124.66%	9061 VA		
Non-Continuous	0 VA	0.00%	0 VA	TOTAL DEMAND AMPS:	**105 A**
Receptacle	0 VA	0.00%	0 VA		

NOTES:

BREAKER QUANTITIES (NEW ONLY)
(1) 20A / 1P, (1) 30A / 3P

SWITCHBOARD: MSB

SUPPLY FROM: UTILITY
LOCATION:
DISTRIBUTION SYSTEM: 208/120V 3PH 4W
MAINS RATING (A): 800
MAINS TYPE:
200% NEUTRAL:
FEEDER ID: X800
FEEDER: EXISTING FEEDER, AT RATING INDICATED, TO REMAIN UNLESS NOTED OTHERWISE
NOTES:
FAULT CURRENT (A): 25809
SHORT CIRCUIT RATING (A): EXISTING
ENCLOSURE TYPE: NEMA 1
SURGE SUPRESSION:
ULSE:
ISOLATED GROUND:

CKT	TRIP	FRAME	POLES	VD%	AWG	GND	CIRCUIT DESCRIPTION	LOAD
1	150 A	150 A	3	SL	SL	SL	(EX) PP-3	7.27 kVA
2	200 A	200 A	3	SL	SL	SL	(EX) LP-1 I NON-CONTINUOUS	0.00 kVA
3	50 A	50 A	3	SL	SL	SL	(EX) EP I NON-CONTINUOUS	0.00 kVA
4	150 A	150 A	3	SL	SL	SL	(EX) PP-1 I NON-CONTINUOUS	0.00 kVA
5	150 A	150 A	3	SL	SL	SL	(EX) PP-2 I NON-CONTINUOUS	0.00 kVA
6	60 A	--	1	--	--	--	(EX) AHU-1	0.00 kVA
7	200 A	--	1	--	--	--	(EX) CU-1	0.00 kVA
8	30 A	--	1	--	--	--	(EX) AHU-2, RAF-2	0.00 kVA
9	70 A	--	1	--	--	--	(EX) CU-2	0.00 kVA
10	30 A	--	1	--	--	--	(EX) AC-1	0.00 kVA
11	60 A	--	1	--	--	--	(EX) WH-1	0.00 kVA
12	60 A	--	1	--	--	--	(EX) WH-2	0.00 kVA
13	60 A	--	1	--	--	--	(EX) WH-3	0.00 kVA
14	20 A	--	1	--	--	--	(EX) HWP-1, HWP-2	0.00 kVA
15								
16								
17								
18								
19								
20								

LOAD CLASSIFICATION	CONNECTED LOAD	DEMAND FACTOR	ESTIMATED DEMAND	BREAKER QUANTITIES (NEW ONLY)	
Continuous	0 VA	0.00%	0 VA		
Cooling	0 VA	0.00%	0 VA		
Heating	0 VA	0.00%	0 VA		
Kitchen Equipment	0 VA	0.00%	0 VA		
Lighting	0 VA	0.00%	0 VA		
Motor	7269 VA	124.66%	9061 VA		
Non-Continuous	0 VA	0.00%	0 VA		
Receptacle	0 VA	0.00%	0 VA		
PANEL TOTALS					
METERED PEAK DEMAND (PER NEC 220.87):				76800.0 VA	
ADDED CONNECTED LOAD:				7269 VA	
DEMAND CALCULATION NOTES				125% EXISTING METERED DEMAND	
TOTAL DEMAND:				105061.3 VA	
TOTAL DEMAND AMPS:				**292 A**	

PANEL SCHEDULE LEGEND

(EX)	=	EXISTING CIRCUIT TO REMAIN
(#)	=	NEW CIRCUIT TO EXISTING CIRCUIT BREAKER
*	=	WIRE SIZED TO COMPENSATE FOR VOLTAGE DROP
**	=	REFER TO DRAWINGS FOR SPECIFICATIONS
SL	=	SEE THE SINGLE LINE DIAGRAM / SCHEDULE FOR WIRE SIZE AND VOLTAGE DROP

PANEL SCHEDULE GENERAL NOTES

A. PROVIDE HACR RATED BREAKERS ON ALL MOTOR LOADS.
B. ALL VOLTAGE DROP CALCULATIONS AND COMPENSATED WIRE SIZES ARE BASED ON RIGHT ANGLE CIRCUIT LENGTHS TO THE LAST DEVICE. ACTUAL VOLTAGE DROP VARIES BASED ON INSTALLED WIRE LENGTH.

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DATE: 05/07/2019
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CHECKED BY: SNF
APPROVED BY: MJG
F.B. NO. PG.

City of Springdale Fire Station
Exhaust
City of Springdale Fire Department
12147 Lawnview Avenue
Springdale, OH 45246
ELECTRIC POWER - SCHEDULES AND SINGLE-LINE DIAGRAM

SCALE: 1/8" = 1'-0"
HORZ:
VERT:
CONTRACT NO: 21315.00
SHEET EP601