MECHANICAL EQUIPMENT CONNECTION SCHEDULE

NO.	DESCRIPTION	ROOM	LOAD HP	LOAD A	LOAD W	VOLT	PH	CIRCUIT	CIRCUIT BREAKER	CONDUIT & WIRE SIZE	STARTER COMPONENT	STARTER FURN. INST. WIRED	CONTROL DEVICE COMPONENT	CONTROL DEVICE FURN. INST. WIRED	DISCONNECT COMPONENT	DISCONNECT FURN. INST. WIRED	NOTES
AG-1	DUST COLLECTOR ABORT GATE	1:100D		1 A		120 V	1	M2C-1	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DC SPARK CP	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	1
AHU-7SA	AIR HANDLING UNIT SUPPLY AIR	1M:02	7.5			600 V	3	M202-17,19,21	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND VFD RATED	VFD	DIV. 23 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	2,3,4,5,8
AHU-8SA	AIR HANDLING UNIT SUPPLY AIR	1M:02	7.5			600 V	3	M202-2,4,6	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND VFD RATED	VFD	DIV. 23 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	2,3,4,5,8
AHU-9RA	AIR HANDLING UNIT RETURN AIR	1M:02	5			600 V	3	M202-8,10,12	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND VFD RATED	VFD	DIV. 23 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	2,3,4,5,8
AHU-9SA	AIR HANDLING UNIT SUPPLY AIR	1M:02	10			600 V	3	M202-5,7,9	20A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND VFD RATED	VFD	DIV. 23 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	2,3,4,5,8
AHU-10RA	AIR HANDLING UNIT RETURN AIR	1M:02	2			600 V	3	M202-11,13,15	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND VFD RATED	VFD	DIV. 23 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	2,3,4,5,8
AHU-10SA	AIR HANDLING UNIT SUPPLY AIR	1M:02	3			600 V	3	M202-14,16,18	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND VFD RATED	VFD	DIV. 23 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	2,3,4,5,8
AIR-1	AIR COMPRESSOR	1M:02	15			600 V	3	M202-23,25,27	40A/3P	1 SET 21(3/4")C 3-#10R90 #12 BOND	PKG	---	PKG	---	NFS	DIV 26 DIV 26 DIV 26	
CAV-15	CONSTANT AIR VOLUME TERMINAL UNIT	1:106		1 A		120 V	1	M2C-5	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DDC	DIV 23 DIV 23 DIV 23	---	---	1
CAV-16	CONSTANT AIR VOLUME TERMINAL UNIT	1:106		1 A		120 V	1	M2C-5	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DDC	DIV 23 DIV 23 DIV 23	---	---	1
CAV-17	CONSTANT AIR VOLUME TERMINAL UNIT	1:106		1 A		120 V	1	M2C-5	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DDC	DIV 23 DIV 23 DIV 23	---	---	1
CAV-18	CONSTANT AIR VOLUME TERMINAL UNIT	1:103		1 A		120 V	1	M2C-2	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DDC	DIV 23 DIV 23 DIV 23	---	---	1
CAV-19	CONSTANT AIR VOLUME TERMINAL UNIT	1:103A		1 A		120 V	1	M2C-2	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DDC	DIV 23 DIV 23 DIV 23	---	---	1
CAV-20	CONSTANT AIR VOLUME TERMINAL UNIT	1:103A		1 A		120 V	1	M2C-2	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DDC	DIV 23 DIV 23 DIV 23	---	---	1
CAV-21	CONSTANT AIR VOLUME TERMINAL UNIT	1M:02		1 A		120 V	1	M2C-3	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DDC	DIV 23 DIV 23 DIV 23	---	---	1
CF-19	CEILING FAN	1:100		2 A		120 V	1	M2C-10	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
CF-20	CEILING FAN	1:100		2 A		120 V	1	M2C-10	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
CF-21	CEILING FAN	1:100		2 A		120 V	1	M2C-10	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
CF-22	CEILING FAN	1:100		2 A		120 V	1	M2C-10	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
CF-23	CEILING FAN	1:103		2 A		120 V	1	M2C-12	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
CF-24	CEILING FAN	1:103		2 A		120 V	1	M2C-12	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
CF-25	CEILING FAN	1:103		2 A		120 V	1	M2C-12	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
CF-26	CEILING FAN	1:103		2 A		120 V	1	M2C-12	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	SC	DIV 23 DIV 26 DIV 26	5-15R RCPT	DIV 26 DIV 26 DIV 26	9
DC-1	DUST COLLECTOR	1:100D	40			600 V	3	5	80A/3P	1 SET 27(1")C 3-#6R90 #8 BOND VFD RATED	VFD	DIV. 23 DIV. 26 DIV. 26	DC-CP	DIV 23 DIV 26 DIV 26	NFS	DIV 26 DIV 26 DIV 26	2, 3, 8, 9
DC-CP	DUST COLLECTOR CONTROL PANEL	1:100		5 A		600 V	3	5	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND	---	---	---	---	NFS	DIV 26 DIV 26 DIV 26	
DC-SPARK	DUST COLLECTOR SPARK PANEL	1:100		5 A		120 V	1	M2D-2	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	DC-CP	DIV 23 DIV 26 DIV 26	NFS	DIV 26 DIV 26 DIV 26	9
DRY-1	AIR DRYER	1M:02		10 A		120 V	1	M2C-13	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	PKG	---	5-15R RCPT	DIV 26 DIV 26 DIV 26	
EF-1A	EXHAUST FAN		1			208 V	1	M2C-71,73	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-1B	EXHAUST FAN		1			208 V	1	M2C-74,76	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-2A	EXHAUST FAN		2			208 V	1	M2D-7,9	25A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-2B	EXHAUST FAN		2			208 V	1	M2D-18,20	25A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-3A	EXHAUST FAN		2			208 V	1	M2D-15,17	25A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-3B	EXHAUST FAN		2			120 V	1	M2D-16	45A/1P	1 SET 21(3/4")C 2-#10R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-5	EXHAUST FAN		1			208 V	1	M2D-11,13	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-6	EXHAUST FAN		2			208 V	1	M2D-8,10	25A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-7	EXHAUST FAN		1			208 V	1	M2D-12,14	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-8	EXHAUST FAN		3			208 V	1	M2D-19,21	35A/1P	1 SET 21(3/4")C 2-#10R90 #12 BOND	PKG	---	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-9	EXHAUST FAN		3			600 V	3	M204-2,4,6	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND	MAG FVNR HOA	DIV. 26 DIV. 26 DIV. 26	O/O	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-12	EXHAUST FAN			5.8 A		120 V	1	M2C-11	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	MAG FVNR HOA	DIV. 26 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-14	EXHAUST FAN			5.8 A		120 V	1	M2C-8	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	MAG FVNR HOA	DIV. 26 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-15	EXHAUST FAN			4.4 A		120 V	1	M2C-7	15A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	---	---	O/O	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-21	EXHAUST FAN			13.8 A		120 V	1	M2C-18	30A/1P	1 SET 21(3/4")C 2-#12R90 #12 BOND	MAG FVNR HOA	DIV. 26 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	
EF-22	EXHAUST FAN			0.9 A		600 V	3	M202-29,31,33	15A/3P	1 SET 21(3/4")C 3-#12R90 #12 BOND	MAG FVNR HOA	DIV. 26 DIV. 26 DIV. 26	DDC	DIV 23 DIV 23 DIV 23	NFS	DIV 26 DIV 26 DIV 26	

STARTER TYPE:
- MAG MAGNETIC
- MAN MANUAL
- PKG PACKAGED UNIT
- VFD VARIABLE FREQUENCY DRIVE

STARTER VARIETY:
- 2-SPD TWO SPEED
- FVNR FULL VOLTAGE NON-REVERSING
- FVR FULL VOLTAGE REVERSING
- MS MULTI-SPEED
- RVS REDUCED VOLTAGE

STARTER OPTIONS:
- GP GREEN (POWER) PILOT LIGHT
- HOA HAND-OFF-AUTO SWITCH
- O/O ON-OFF SELECTOR SWITCH
- RP RED (RUN) PILOT LIGHT
- S/S STOP-START PUSHBUTTONS

COMBINATION DISCONNECT TYPES:
- FS FUSED SWITCH
- NFS NON-FUSED SWITCH
- MCP MOTOR CIRCUIT PROTECTOR
- CB CIRCUIT BREAKER

ABBREVIATIONS:
- ABB DESC
- AS AQUASTAT
- CP CONTROL PANEL
- DC DUST COLLECTOR
- DCP DUPLEX CONTROL PANEL
- EC ELECTRICAL CONTRACTOR
- GC GENERAL CONTRACTOR
- HS HUMIDSTAT
- INT INTERLOCKED (WITH)
- MC MECHANICAL CONTRACTOR
- OWN OWNER
- SC SPEED CONTROL
- SD SMOKE DETECTOR
- TC TIME CLOCK
- TS THERMOSTAT

GENERAL NOTES:

A. WIRING BETWEEN VFDS AND MOTORS SHALL BE RATED FOR VFD USE.
B. INPUT AND OUTPUT CONDUCTORS TO AND FROM VFD'S SHALL BE INSTALLED IN SEPARATE RACEWAYS, INDEPENDENT FROM ANY OTHER CONDUCTORS, AND SHALL NOT PASS THRU ANY COMMON WIREWAY OR RACEWAY
C. ALL MAGNETIC STARTERS SHALL BE EQUIPPED WITH RED (RUN), GREEN (POWER) AND YELLOW (TRIP) INDICATOR LIGHTS.

SCHEDULE NOTES:

1. WIRE AND CONNECT LOW VOLTAGE TRANSFORMER AS SUPPLIED BY MC. COORDINATE QUANTITIES AND LOCATIONS WITH MC. WIRE AND CONNECT UP-TO SIX (6) VAV/CAV UNITS TO A SINGLE 120V/15A CIRCUIT.
2. CONFIRM LOCATION OF VFD WITH MECHANICAL DRAWINGS.
3. WIRE AND CONNECT LINE-SIDE AND LOAD-SIDE OF LOOSE VFD AS SUPPLIED BY MECHANICAL. CONFIRM TERMINATION POINTS TO MECHANICAL UNIT WITH EQUIPMENT SHOP DRAWINGS. ALLOW FOR LOADSIDE CONNECTION DIRECTLY TO EQUIPMENT MOTOR. CONFIRM FIELD WIRING VS. FACTORY WIRING WITH EQUIPMENT SHOP DRAWINGS.
4. WIRE AND CONNECT FACTORY SUPPLIED RECEPTACLES, LIGHTING AND LIGHTING CONTROLS. CONFIRM FIELD WIRING VS. FACTORY WIRING WITH EQUIPMENT SHOP DRAWINGS.
5. PROVIDE A DUCT MOUNTED SMOKE DETECTOR WITHIN THE MAIN SUPPLY AIR DUCT OF THE UNIT. DETECTORS SHALL BE WIRED TO CAN/ULC S524 STANDARDS AND TO MANUFACTURER'S RECOMMENDATIONS. COORDINATE INSTALLATION WITH MECHANICAL. PROVIDE ADDITIONAL DETECTORS WITHIN BRANCH DUCTS AS REQUIRED TO SUIT INSTALLATION STANDARDS. CONNECT SMOKE DETECTOR(S) TO THE FIRE ALARM SYSTEM AS A SEPARATE ZONE.
6. WIRE & CONNECT SUMP PUMPS TO SUMP PUMP CONTROL PANEL C/W ALL ASSOCIATED CONTROLS AND REMOTE ALARM PANEL. REFER TO TYPICAL SUMP PUMP WIRING DETAIL.
7. WIRE AND CONNECT LOW VOLTAGE TRANSFORMER AS SUPPLIED BY MC.
8. SHUT DOWN ON FIRE ALARM.
9. INSTALL, WIRE, AND CONNECT CEILING FAN AS SUPPLIED BY MC C/W ASSOCIATED WIRE-GUARD. INSTALL TO MANUFACTURERS WRITTEN INSTRUCTIONS. REFER TO ARCHITECTURAL AND MECHANICAL DETAILS.
10. WIRE AND CONNECT TO DUST COLLECTOR CONTROL PANEL.
11. PROVIDE AN ADDRESSABLE RELAY MODUEL FOR SMOKE DAMPER AUTOMATIC/MANUAL CONTROL AT FACP.
    A. PROVIDE A DUCT MOUNTED POST TPYE SMOKE DETECTOR SUITEABLE FOR DUCT APPLICATION DOWN TO 0 AIR FLOW ON THE DOWNSTREAM SIDE OF THE SMOKE DAMPER WITHIN 1.5M. PROVIDE PEDNANT MOUNT TO CENTRLA MOUNTING IN THE DUCT. SMOKE DETECTOR TO INDICATEAS SEPARATE ZONE TO FACILITATE LOCATION OF SPECIFIC SMOKE DAMPERS. PROVIDE RELAY OUTPUT AT SMOKE DETECTOR ON.Y WHERE SMOKE DAMPER IS NOT INSTALLED WITH DUCTWORK DOWNSTREAM, PROVIDE A SMOKE DETECTOR ON BOTH SIDES OF OPENING WITHIN 1.5M.
    B. WIRE AND CONECT DAMPER STATUS OUTPUTS TO FA MONITORING MODULE AND PROVIDE LED INDICATED LIGHTS AT FACP INDICATING DAMPER STATUS.
    C. ALLOW FOR 5 EXTRA DAMPER CONNECTIONS.

ENGINEERS GEOSCIENTISTS MANITOBA
Certificate of Authorization
Epp Siepman Engineering Inc.
No. 4035

This is a print of a document that has been electronically authenticated with technology authorized by the Engineers Geoscientists Manitoba. The original is in electronic form.

epp siepman engineering
400 - 136 Market Avenue
Winnipeg, MB R3B 0P4
T 204 453 1080

LM esp
LM Architectural Group | Environmental Space Planning
500-136 Market Avenue Winnipeg, Manitoba Canada R3B 0P4
t: 204.942.0681 lm-esp.ca

No.	REVISION/DESCRIPTION	BY	DATE
0	ISSUED FOR TENDER	JS/MP	24-04-01

SEAL

PROVINCE OF MANITOBA
M. G. PENNER
Member
23792
2024-04-01
PROFESSIONAL ENGINEER

DRAWN	CHECKED	DESIGNED	APPROVED
EW	MP/KG	KG	MP/KG

DATE 2024-04-01 USER APPROVAL

Winnipeg
THE CITY OF WINNIPEG
ASSETS & PROJECT MANAGEMENT DEPARTMENT
MUNICIPAL ACCOMMODATIONS DIVISION
3-65 GARRY STREET, R3C 4K4

PROJECT
PEMBINA TRAILS COLLEGIATE
VOCATIONAL WING
TENDER NO. 954-2023B
50 FRONTIER TRAIL, WINNIPEG, MANITOBA, R3Y 2H1

SHEET TITLE
Mechanical Equipment Connection Schedule - Part 1

SCALE	PROJECT No:	SHEET No:
1 : 96	2020-127	E6.2

DRAWING SHEET SIZE: A1 (594x841) PLOT 1:1
ESE 24049