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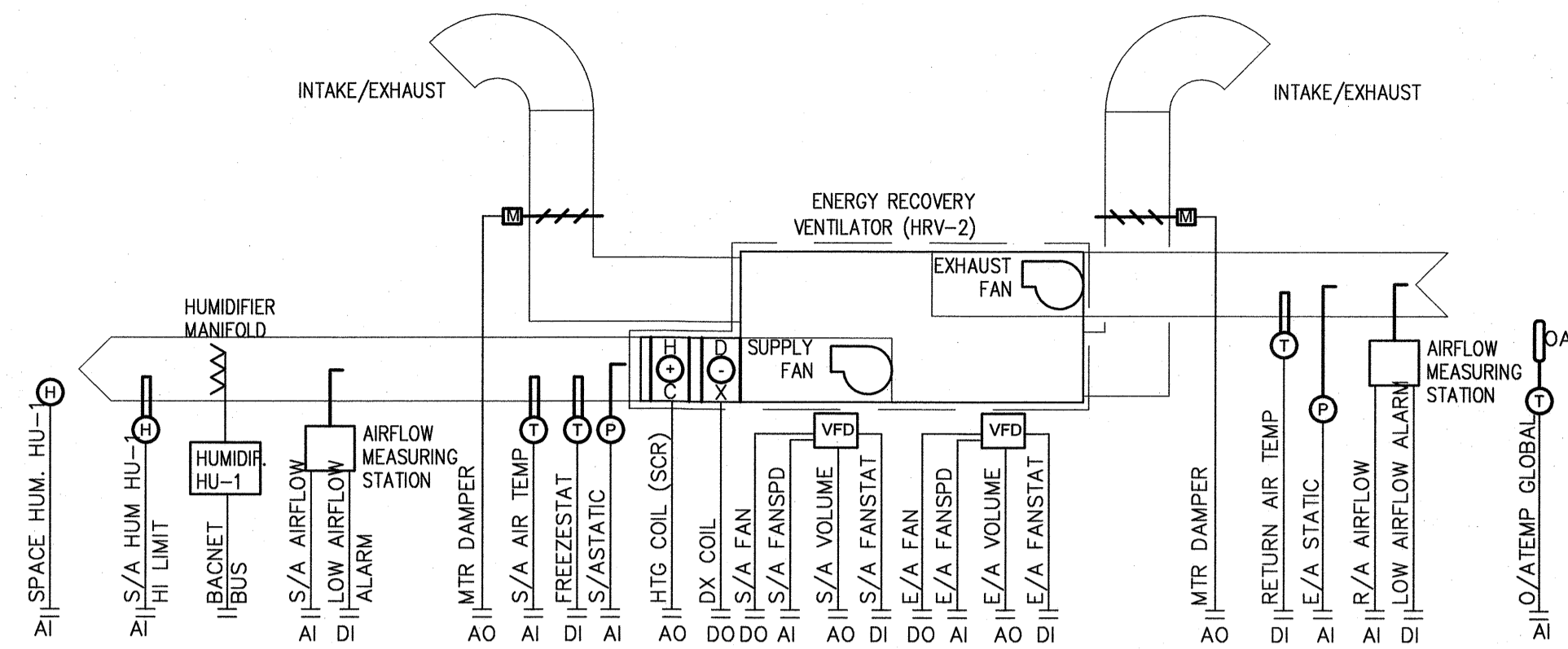
DATE:

SHEET TITLE:

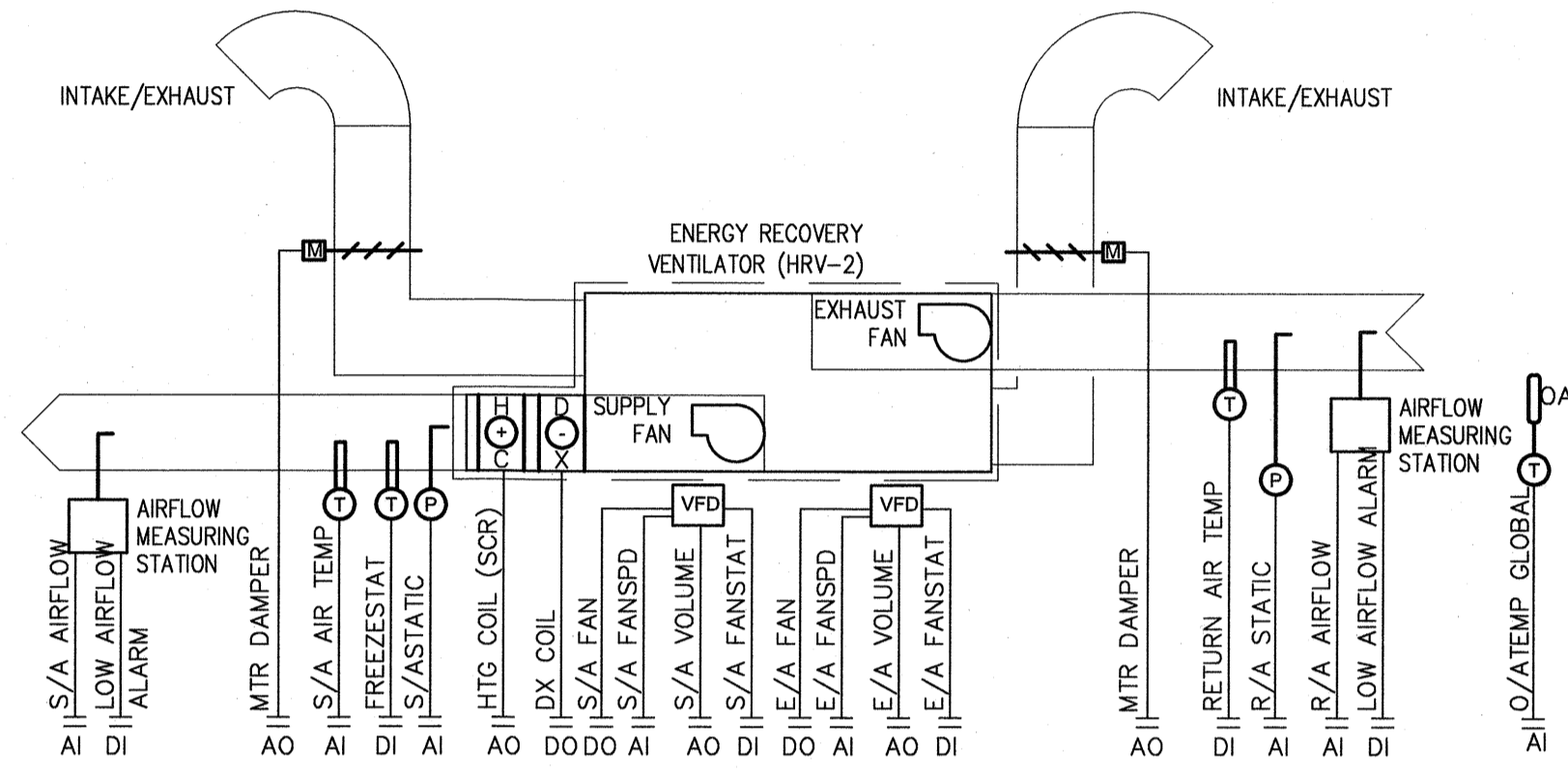
PROJECT No.:

ADDRESS:

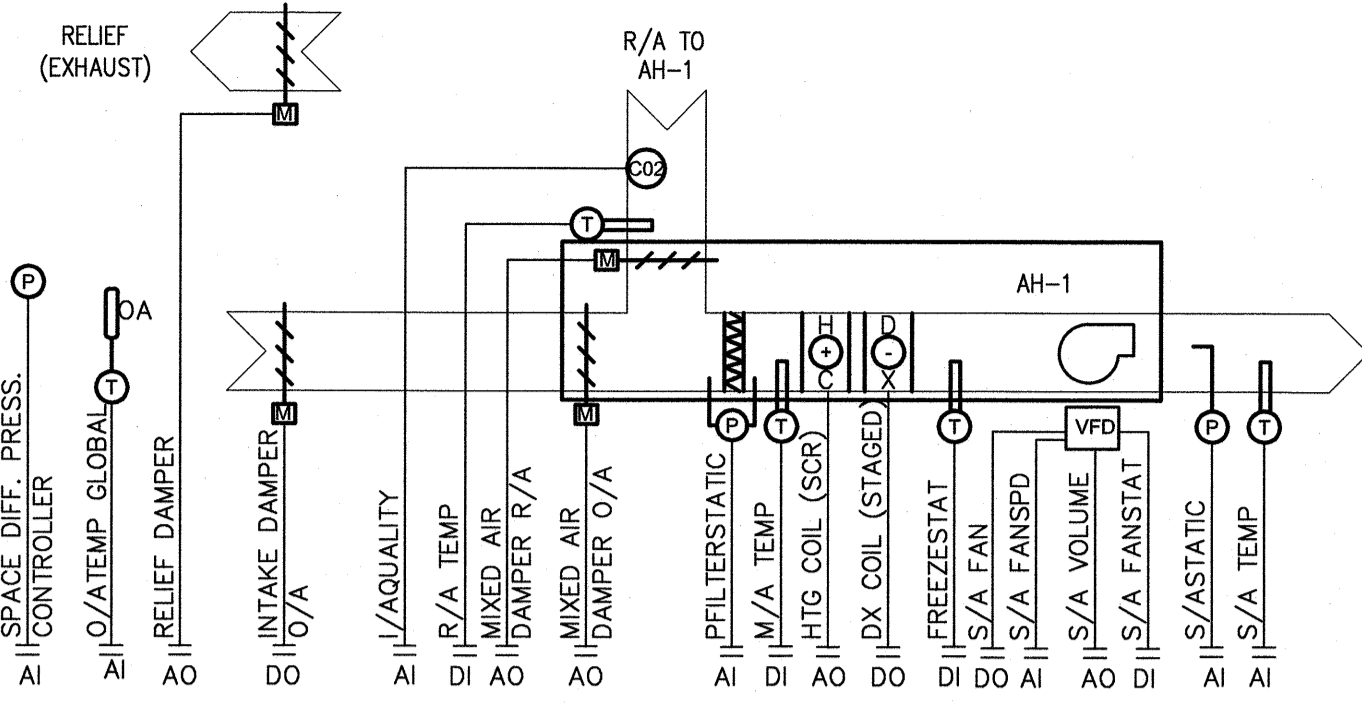
NOTES:



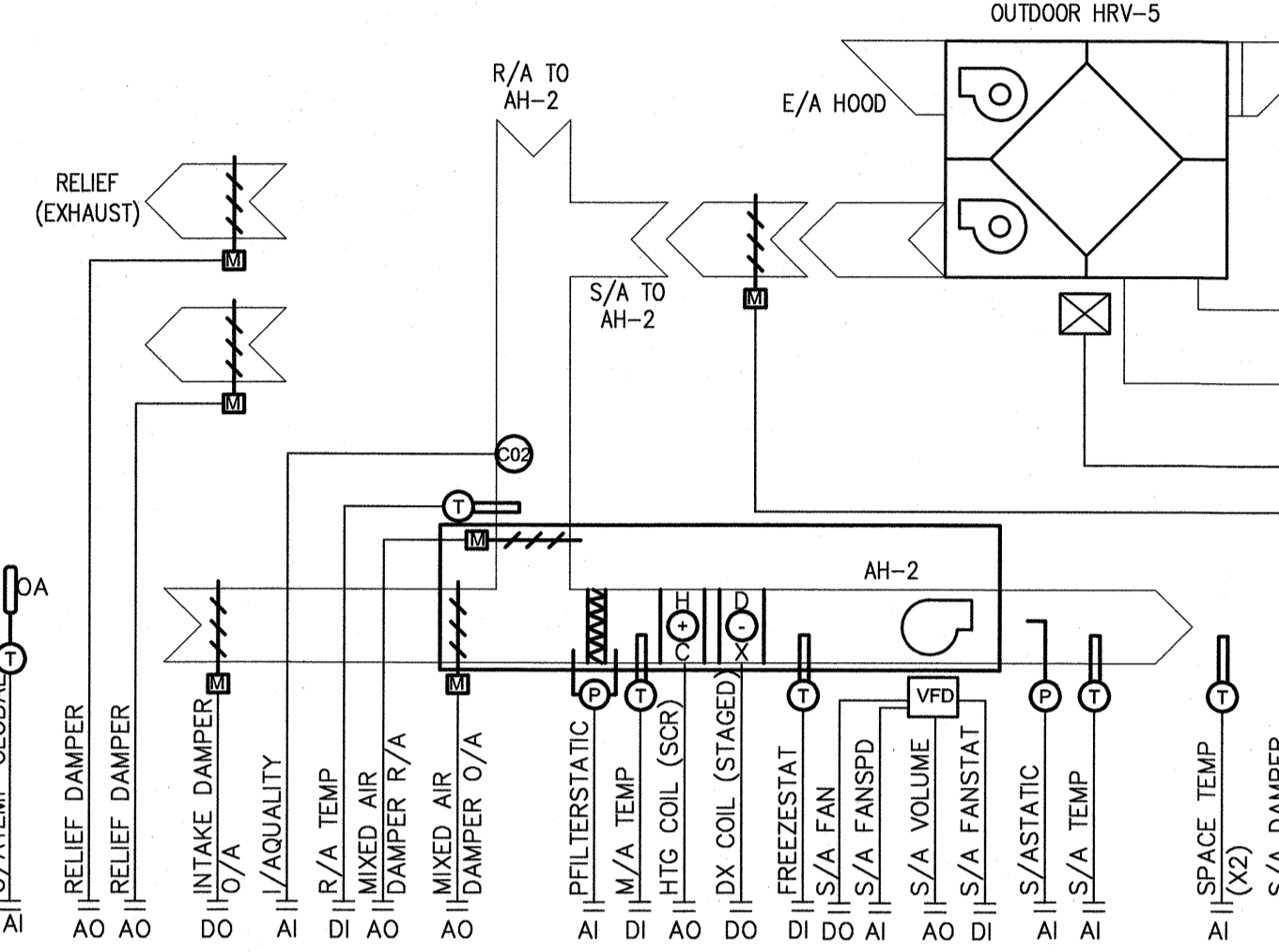
ENERGY RECOVERY VENTILATOR HRV-2
N.T.S.



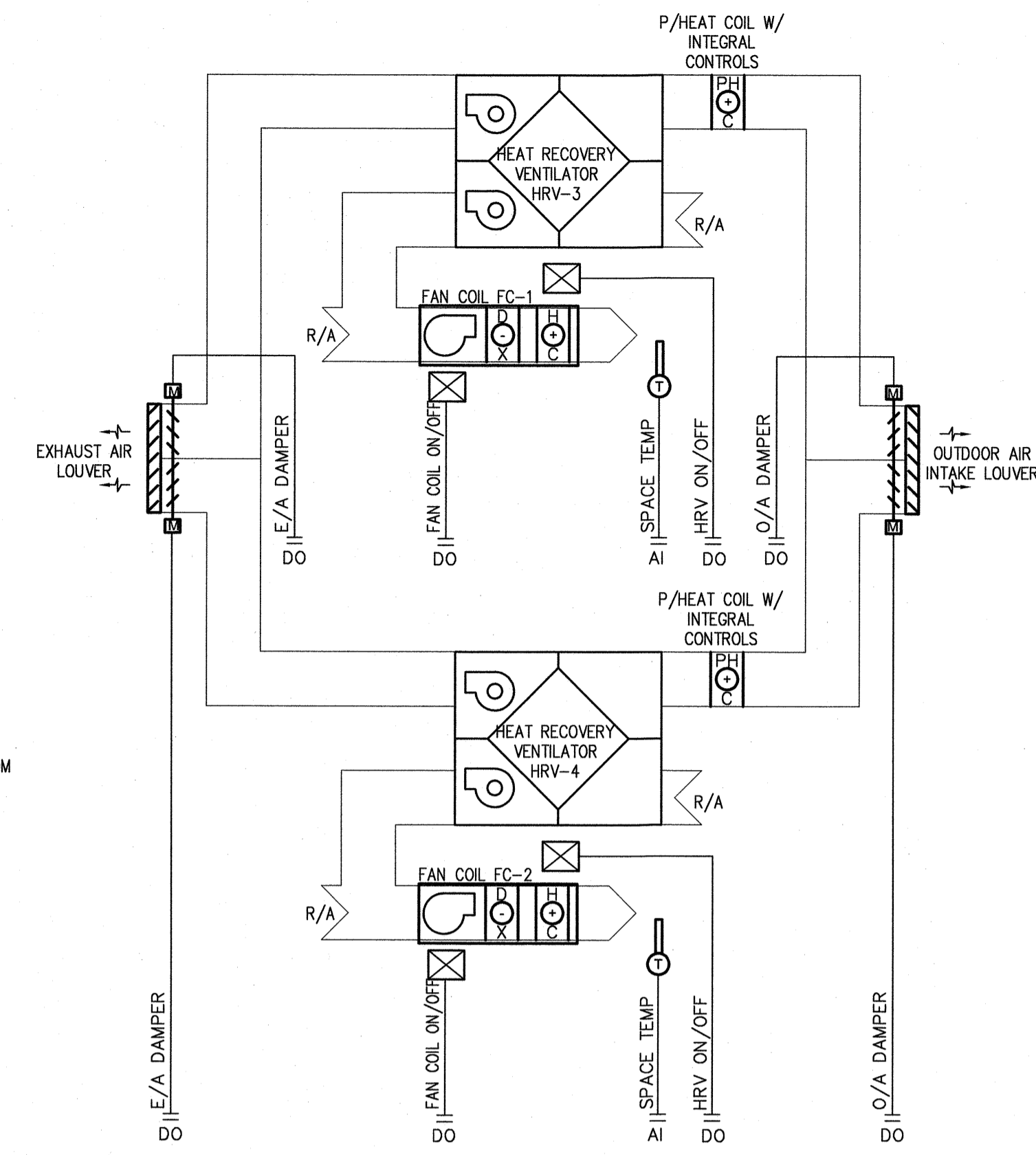
ENERGY RECOVERY VENTILATOR HRV-1
N.T.S.



AIR HANDLING UNIT AH-1
N.T.S.



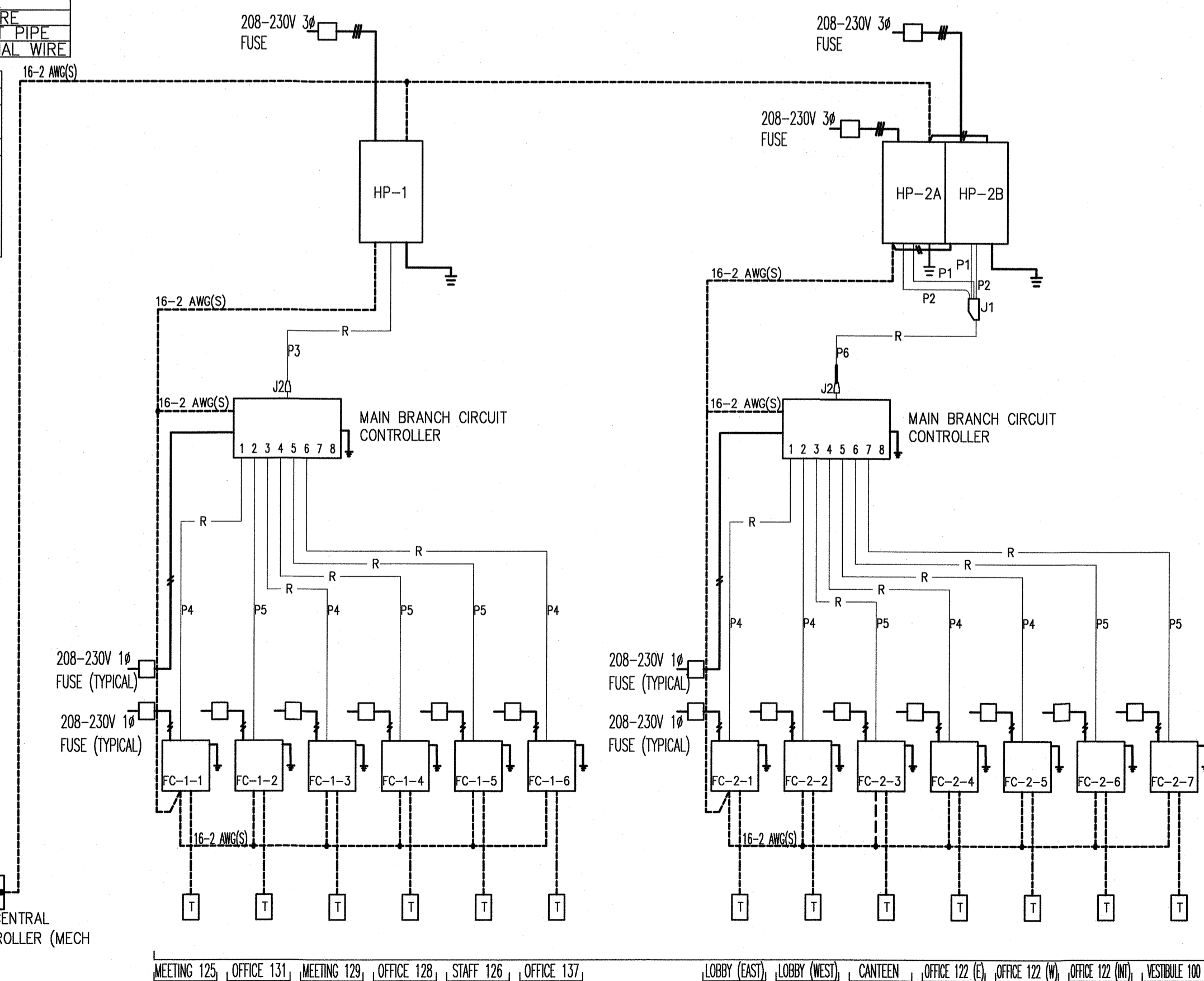
AIR HANDLING UNIT AH-2
N.T.S.



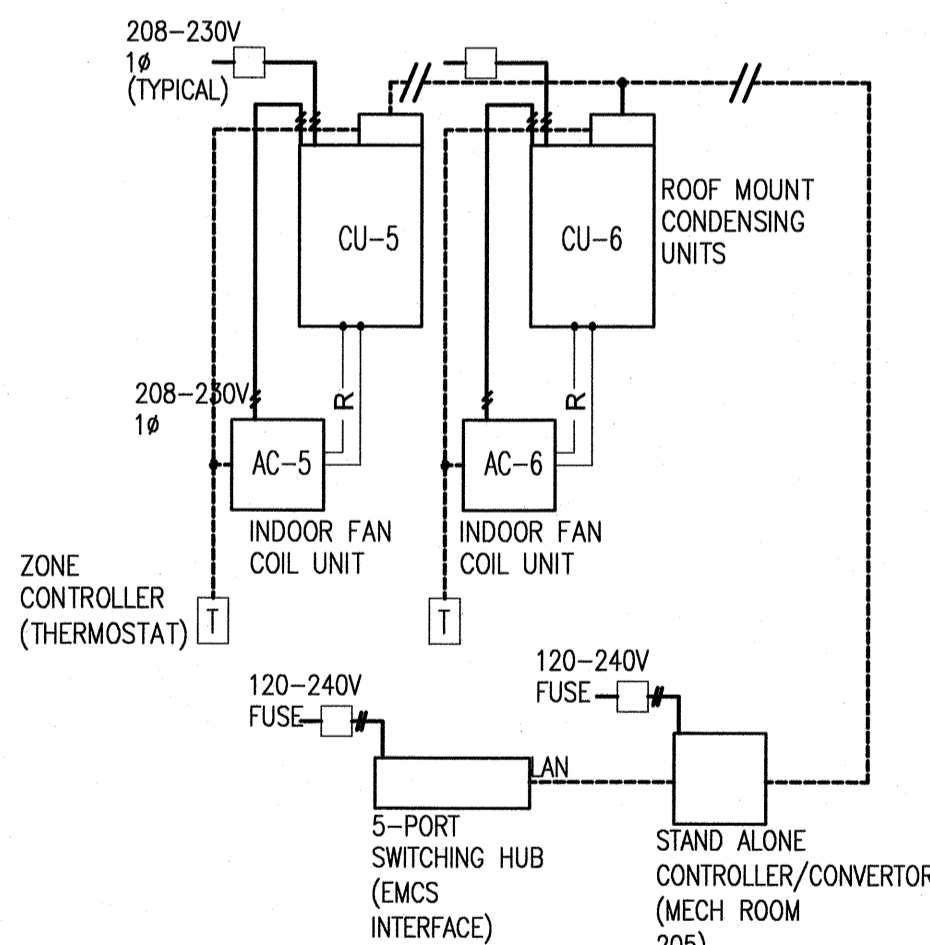
FAN COIL FC-1 (HRV-3), FC-2 (HRV-4)
N.T.S.

DIAGRAM SYMBOL	LEGEND
---	DESCRIPTION
---	POWER WIRE
---	CONTROL WIRE
---	REFRIGERANT PIPE
---	POWER SIGNAL WIRE

PIPING LIST	
SYMBOL	BRANCH PIPE MODEL NAME
J1	CMY-R100NCRK
J2	CMY-R302S-G1
SYMBOL LIQUID PIPE/GAS PIPE SIZE	
P1	3/4
P2	5/8
P3	3/4 / 1 1/8
P4	3/8 / 5/8
P5	1/4 / 1/2
P6	7/8 / 1 1/8



VARIABLE REFRIGERANT SYSTEM SCHEMATIC
N.T.S.



IT ROOM AC UNIT SYSTEM SCHEMATIC
N.T.S.

NOTE: MNET BELDEN 9342 16/2 SHIELDED OR EQUIVALENT WALL CONTROLLER BELDEN 9320 20/2 SHIELDED OR EQUIVALENT

APPROPRIATE CIRCUIT PROTECTION DEVICE IN ACCORDANCE WITH LOCAL GOVERNMENT REGULATIONS ARE MANDATORY REQUIRED SUCH AS GF(INVERTER TYPE) AND WB ETC. PLEASE REFER THE AMOUNT OF PRE-CHARGE AND THE FORMULA OF CALCULATION WHICH IS MENTIONED ON THE DATA BOOK.

HRVF PIPE SIZE IS DEPENDENT ON PIPE LENGTH, CONFIRM BEFORE IMPLEMENTATION.

SUPPLEMENTARY EMCS CONTROLS REQUIREMENTS

- THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ESSENTIAL HARDWARE AND SOFTWARE TO INTERFACE TO THE EXISTING CITY OF WINNIPEG EXTENDED APPLICATION AND DATA SERVER (ADX).
- THE CONTRACTOR SHALL DESIGN THE METASYS USER INTERFACE (MUI) TO MATCH THE EXISTING SYSTEM. MUI GRAPHICS SHALL USE THE CITY OF WINNIPEG TEMPLATES.
- THE CONTRACTOR WILL NOT HAVE ACCESS TO THE CITY OF WINNIPEG SCT SERVER. ALL MUI FILES SHALL BE PROVIDED BY THE EMCS CONTRACTOR IN THE CORRECT FORMAT FOR MERGING INTO THE EXISTING SYSTEM WITH SUPPORT FROM THE CITY OF WINNIPEG.
- THE CONTRACTOR SHALL CREATE OR ADD MUI USER VIEWS TO MATCH EXISTING STRUCTURE.
- THERE IS AN EXISTING CENTRAL MONITORING SYSTEM IN PLACE. ALL DIRECT DIGITAL CONTROLLER (DDC) POINTS ARE IDENTIFIED AS CENTRALLY MONITORED POINTS.
- ALL NEW CONTROLS SHALL BE THE SERIES NETWORK ENGINE (SNE-XX00) SUPERVISORY CONTROLLER WHICH WILL UTILIZE BACNET/IP AND \ OR MS/TP FIELD CONTROLLERS. THE CONTRACTOR IS REQUIRED TO MEET WITH THE CITY OF WINNIPEG FOR ADDITIONAL REQUESTS IF THE SNE-XX00 IS NOT IN THE PROJECTS DESIGN OR ADDITIONAL REQUIREMENTS ARE REQUIRED. SEE NOTE #2 AND 3.
- FIELD CONTROLLERS SHALL COMMUNICATE THROUGH BACNET/IP OR MSTP BUS TO A SNE-XX00 SUPERVISORY CONTROLLER. SEE NOTE #1, AND 2 BELOW.
- NO LONG PROTOCOLS ARE TO BE ACCEPTED.
- THE CONTRACTOR TO PROVIDE COMMISSIONING SHEETS FOR ALL POINTS ON FIELD DEVICES.
- THE CONTRACTOR TO COMMUNICATE WITH EQUIPMENT PROVIDER TO ENSURE PROPER FIELD POINT INTEGRATION AS WELL AS CONTROLLABILITY OF THE EQUIPMENT, IF NOT PACKAGE CONTROLS.
- IF OTHER VENDOR (NON-JCI) CONTROLS ARE TO BE USED THEN A SEAMLESS INTEGRATION MUST BE PROVEN BEFORE APPROVAL WILL BE GIVEN. SEE NOTE #1 AND 4 BELOW.

NOTES:

- THE TERM BACNET REFERS TO AN INDUSTRY STANDARD PROTOCOL WHICH COMPLIES WITH ASHRAE, AND MUST BE LISTED WITH THE BACNET INTERNATIONAL / BACNET TESTING LABORATORIES (BTL). BASICALLY, STATES THAT ALL DEVICES USING THE BACNET TECHNOLOGY WILL BE ABLE TO COMMUNICATE TO EACH OTHER. THE CONTROLS CONTRACTOR PERFORMING THE CONTROLLER INSTALLATION SHOULD CONFIRM THAT ALL DEVICES SPECIFIED ARE ABLE TO COMMUNICATE TO THE PROPOSED DEVICES. THEN SUPPLY DOCUMENTATION SUCH THAT ALL DEVICES SUPPLIED WILL COMMUNICATE TO EACH OTHER AS REQUIRED FOR PROPER OPERATION OF THE SYSTEM (PICS STATEMENT, BI/BTL LISTING, AND ASHRAE LISTINGS).
- IF THE METASYS SERIES NETWORK ENGINE (SNE) ARE TO BE INSTALLED ON THE PROJECT THEN THE VERSION OF THESE DEVICES AND THEIR SOFTWARE MUST BE SUCH THAT THE CITY OF WINNIPEG DOES NOT BE REQUIRED TO UPDATE/UPGRADE THE EXISTING ADX SERVER IN ORDER FOR ALL USER VIEWS, ALARMS, AND POINT MONITORING TO OCCUR. THE CONTRACTOR MUST CO-ORDINATE WITH CITY STAFF TO DETERMINE THE CORRECT VERSION TO BE INSTALLED.
- IF THE METASYS SERIES NETWORK ENGINE (SNE) IS EXISTING, THE CONTRACTOR IS REQUIRED TO MEET WITH THE CITY OF WINNIPEG FOR ADDITIONAL DIRECTIONS.
- ALL POINTS MUST BE INTEGRATED BACK TO THE CITY OF WINNIPEG ADX SERVER. IMPORTANT: THE ONLY WAY TO BRING POINTS INTO THE ADX SERVER IS TO ROUTE THEM THROUGH A JOHNSON CONTROLS SUPERVISORY DEVICE.



0	ISSUED FOR CONSTRUCTION	JSD	2024.12.11
No.	REVISION/DESCRIPTION	BY	DATE

SEAL



CT/JSD	JSD	JSD	JSD
DRAWN	CHECKED	DESIGNED	APPROVED
DATE: 04.20	USER	TC	APPROVAL

THE CITY OF WINNIPEG
ASSETS and PROJECT MANAGEMENT
DEPARTMENT
MUNICIPAL ACCOMMODATIONS
DIVISION

PROJECT 3-65 GARRY STREET, R3C 4K4
**REDEVELOPMENT OF THE
OLD EXHIBITION ARENA
ISSUED FOR CONSTRUCTION**

80 SINCLAIR STREET
SHEET TITLE

**CONTROLS AND VRF
SYSTEM SCHEMATICS**

SCALE	PROJECT No.	SHEET No.
AS SHOWN	2020-136	M5.4

DRAWING SHEET SIZE: A1 (841mm x 594mm) PLOT 1:1