FAN SCHEDULE

MANUFACTURER'S MODEL NUMBER BASED ON GREENHECK UNLESS OTHERWISE NOTED.

KEY: CENT.–CENTRIFUGAL; PROP.–PROPELLER; F.C.–FORWARD CURVED; B.I.–BACKWARD INCLINE; A.F.–AIR FOIL; A.T.L.–ACROSS THE LINE; VFD–VARIABLE FREQUENCY DRIVE

FAN NO.	LOCATION	FUNCTION	MFGR. MODEL NUMBER	FAN TYPE	WHEEL TYPE & SIZE	CFM	TOTAL S.P. W.G.	R.P.M.	TIP SPEED F.P.M.	OUTLET VELOCITY F.P.M	MAX. SONES RATING	MOTOR WATTS	-- --	VOLT / PHASE	TYPE MOTOR STARTING	DAMPER: GRAVITY	DAMPER: MOTOR OPERATED	DRIVE: V-BELT	DRIVE: DIRECT	REMARKS
EF–1	005 CEILING	RESTROOM EXHAUST	GREENHECK SP–080–VG	CENT.	F.C. 7.64"	75	0.28"	935	1870	419	0.6	6	--	120 / 1	A.T.L.	●			●	(1) (2) (3)
EF–2	106A CEILING	RESTROOM EXHAUST	GREENHECK SP–080–VG	CENT.	F.C. 7.64"	75	0.28"	935	1870	419	0.6	6	--	120 / 1	A.T.L.	●			●	(1) (2) (3)
EF–3	202 CEILING	RESTROOM EXHAUST	GREENHECK SP–080–VG	CENT.	F.C. 7.64"	75	0.28"	935	1870	419	0.6	6	--	120 / 1	A.T.L.	●			●	(1) (2) (3)
EF–4	003 CEILING	SEWAGE EJECTOR EXHAUST	GREENHECK CSP–B150	CENT.	F.C. 7.94"	125	0.41"	1050	2183	771	2.5	141	--	120 / 1	A.T.L.	●			●	(2) (3) (4)

(1) FAN TO BE CONTROLLED BY LIGHT SWITCH (2) PROVIDE FACTORY WIRED SPEED CONTROLLER. (3) SUSPEND FAN FROM STRUCTURE WITH VIBRATION ISOLATORS. (4) FAN TO RUN CONTINUOUSLY.

DEDUCT ALTERNATE–1

ALL WORK ASSOCIATED WITH NEW RESTROOM EXHAUST FANS SHALL BE BID AS PART OF DEDUCT ALTERNATE–1

SPLIT SYSTEM FURNACE WITH HEAT PUMP SCHEDULE

ITEM	F–1 / HP–1	F–2 / HP–2
FURNACE MANUFACTURER	TRANE	TRANE
FURNACE MODEL NUMBER	4TXCS9X2D010	4TXCS9X2D010
UNIT CONFIGURATION	UPFLOW	UPFLOW
SUPPLY AIR CFM	2000	2000
EXTERNAL STATIC PRESSURE	0.5"	0.5"
FAN MOTOR HP	1.0	1.0
STAGE 1 & 2 GAS HEATING MBTU – INPUT	78.0/120.0	78.0/120.0
STAGE 1 & 2 GAS HEATING MBTU – OUTPUT	75.6/116.4	75.6/116.4
MIN. CIRCUIT AMPS (MCA)	14.4	14.4
MAX. OVERCURRENT PROTECTION (MOCP)	15.0	15.0
VOLTS/PHASE	120/1	120/1
HEAT PUMP UNIT MANUFACTURER	TRANE	TRANE
MODEL NUMBER	4TWR7060	4TWR7060
NOMINAL TONNAGE	5.0	5.0
TOTAL COOLING CAP. (MBTU)	56.0	56.0
TOTAL HEAT PUMP HEATING CAPACITY (MBTU)	54.3	54.3
SENSIBLE COOLING (MBTU)	42.4	42.4
SYSTEM SEER	16.0	16.0
MINIMUM CIRCUIT AMPACITY	37.0	37.0
MAXIMUM FUSE SIZE	60.0	60.0
VOLTS/PHASE	240/1	240/1

NOTES:

1. COOLING CAPACITIES BASED ON 80°F DB / 67°F WB ENTERING AIR, 95°F AMBIENT AIR TEMPERATURES & 45°F MAX. SUCTION TEMPERATURE.
2. CRANKCASE HEATERS & HARD START KITS, PER MANUFACTURER'S RECOMMENDATIONS, SHALL BE FURNISHED W/ THE EQUIPMENT & FIELD INSTALLED BY THE HVAC CONTRACTOR.
3. INDOOR AND OUTDOOR UNITS SHALL BE TWO SPEED HIGH EFFICIENCY.
4. EACH UNIT SHALL BE FURNISHED W/ A FILTER RACK CAPABLE OF HOUSING 1" THICK FILTERS.
5. ALL INDOOR UNITS SHALL BE FURNISHED W/ A NON–BLEED TYPE TXV.
6. OUTDOOR UNITS SHALL BE INSTALLED AS SHOWN IN THE DETAIL ON THIS SHEET. PROVIDE SLOPED CONCRETE PAD.
7. ALL UNITS SHALL HAVE A SINGLE POINT WIRING CONNECTION.
8. INDOOR UNITS SHALL BE FURNISHED WITH DISCONNECT.
9. ALL INDOOR UNITS SHALL BE FURNISHED WITH 2 STAGE FAN MOTORS.
11. SYSTEM SEER BASED ON AHRI DESIGN CONDITIONS.
12. FURNISH WITH LOW AMBIENT KIT FOR COOLING.
13. FURNISH UNIT WITH 7–DAY PROGRAMMABLE THERMOSTAT
14. PROVIDE CONDENSATE PUMP FOR F–2 & F–1.
15. PROVIDE CONDENSATE NEUTRALIZATION TANK FOR FURNACES.

DEDUCT ALTERNATE–2

ALL WORK ASSOCIATED WITH NEW FURNACES F–1 AND F–2 SHALL BE BID AS PART OF DEDUCT ALTERNATE–2

EQUIPMENT NOTES

ALL WORK ASSOCIATED WITH NEW RESTROOM EXHAUST FANS SHALL BE BID AS PART OF DEDUCT ALTERNATE–1

DEDUCT ALTERNATE–1

RC–1

BROAN MODEL 643 ROOF CAP FOR 6"ø EXHAUST DUCT. ROOF CAP SHALL BE STEEL WITH BLACK ELECTRICALLY BONDED EPOXY FINISH. ROOF CAP SHALL INCLUDED BUILT IN BACKDRAFT DAMPER AND BIRD SCREEN. ROOF CAPS BY DEFLECTO MAY BE FURNISHED AT THE CONTRACTORS OPTION.

BV–1

GREENHECK BRICK VENT MODEL BVE. 12"WIDE x 7 3/4" TALL. PROVIDE WITH KYNAR FINISH COLOR TO BE WHITE.

OMH.AC.03/OMH.HP.03

WALL MOUNTED DUCTLESS SPLIT HEAT PUMP SYSTEM WITH DC INVERTER DRIVEN COMPRESSOR – TRANE–MITSUBISHI MODEL TPKA0A0241KA70A WALL CASSETTE INDOOR UNIT & MODEL TRUZH0241HA1ONA HEAT PUMP OUTDOOR UNIT WITH HYPER–HEAT. 10,000 – 24,000 BTUH COOLING CAPACITY RANGE, 26,000 BTUH HEATING CAPACITY (5°F AMBIENT), 635/705/775 CFM LOW/MED/HIGH AIRFLOW, 19.5 SEER, FURNISH WITH LOW AMBIENT CONTROLS FOR COOLING OPERATION BETWEEN 0°F AND 115°F, ADVANCED WIND BAFFLE, MICROPROCESSOR CONTROLS, WASHABLE AIR FILTER, WIRED REMOTE CONTROLLER, BACNET INTERFACE, INTERNAL CONDENSATE DRAIN PUMP, AND DRAIN PAN LEVEL SENSOR WITH CUTOFF SWITCH. HVAC CONTRACTOR SHALL INSTALL ALL CONTROL WIRING BETWEEN THE INDOOR AND OUTDOOR UNITS, LOW AMBIENT CONTROL KIT & WIND BAFFLE.

INDOOR UNIT: 240V/1Ø/60HZ POWER, 1.0 MCA, 0.36 FAN FLA.

OUTDOOR UNIT: 240V/1Ø/60HZ POWER, 17.0 MCA, 74W FAN POWER OUTPUT, 25A FUSE/BREAKER SIZE, 27A MOCP.

MECHANICAL LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
CW	DOMESTIC COLD WATER LINE		PIPE UNION
D	DRAIN LINE		Y–TYPE STRAINER
G	GAS LINE		COMB. BALANCE & STOP VALVE
HG	HOT GAS LINE		GATE VALVE (SCREWED BODY)
HW	DOMESTIC HOT WATER LINE		BALL VALVE
LIQ	LIQUID LINE		CHECK VALVE
SAN	SANITARY LINE		GAS COCK OR BALANCE VALVE
SUCT	SUCTION LINE		FLOOR OR AREA DRAIN
V	VENT LINE	T	THERMOSTAT
	PENDANT TYPE SPRINKLER HEAD		CONNECT TO EXISTING
	UPRIGHT TYPE SPRINKLER HEAD		THRU FLOOR AS SHOWN
	P–TRAP (PLAN VIEW)		JANITOR OR SHOWER TRIM
	HOSE BIBB	SH.	
	EXISTING WORK TO REMAIN		SUPPLY DUCT UP
	EXISTING WORK TO BE REMOVED		SUPPLY DUCT DOWN
HWR	HEATING WATER RETURN		R.A., O.A., OR EXH. DUCT UP
HWS	HEATING WATER SUPPLY		R.A., O.A., OR EXH. DUCT DOWN
	PIPE FLANGES	ø	ROUND DUCT
MOD	MOTOR OPERATED DAMPER		ELBOW WITH TURNING VANES
	45° BOOT BRANCH TAKEOFF		MAN. DAMPER
	DUCT SMOKE DETECTOR		SPIN–IN FITTING WITH MANUAL BALANCE DAMPER
			PETE'S PLUG

MECHANICAL ABBREVIATIONS

ABV.	ABOVE	INV. ELEV.	INVERT ELEVATION
A.D.	ACCESS DOOR	J.R.	JANITOR RECEPTOR
A.F.F.	ABOVE FINISHED FLOOR	K.E.S	KITCHEN EQUIPMENT SUPPLIER
B.F.C.	BELOW FINISHED CEILING	LAV.	LAVATORY
B.O.D.	BOTTOM OF DUCT	M.A.T.	MIXED AIR TEMPERATURE
BTM.	BOTTOM	MAN. DPR.	MANUAL DAMPER
BLDG.	BUILDING	MECH.	MECHANICAL
CLG.	CEILING	M. A.	MIXED AIR
CONC.	CONCRETE	O.A.	OUTSIDE AIR
C.O.	CLEANOUT	PLBG.	PLUMBING
CONN.	CONNECT	REG.	REGISTER
CONTR.	CONTRACTOR	REQD.	REQUIRED
DTL.	DETAIL	R.A.	RETURN AIR
DIFF.	DIFFUSER	RM.	ROOM
DN.	DOWN	S.A.	SUPPLY AIR
ELEC.	ELECTRICAL	SHT.MTL.	SHEET METAL
EXH.	EXHAUST	S & R	SUPPLY & RETURN
EXIST.	EXISTING	S.S.	SERVICE SINK
E.W.C.	ELECTRIC WATER COOLER	TYP.	TYPICAL
FLEX.	FLEXIBLE	T.C.C.	TEMP. CONTROL CONTRACTOR
FLR.	FLOOR	UR.	URINAL
F.D.	FLOOR DRAIN	V.T.R.	VENT THRU ROOF
FURN.	FURNISH	VIB. ISOL.	VIBRATION ISOLATION
GR.	GRILLE	W/	WITH
H.B.	HOSE BIBB	W.C.	WATER CLOSET
HTR.	HEATER		

HVAC NOTES

A. DUCT LAYOUT IS ONLY SCHEMATIC, EXACT LOCATION OF DUCTWORK TO BE COORD. ON JOB W/BLDG. STRUCTURE, AND WORK OF OTHER CONTRACTORS.

B. ALL DUCTS AB. CLG. UNLESS OTHERWISE NOTED.

C. INSTALL BALANCING DPRS. AS SHOWN AND AS REQ'D FOR PROPER BALANCING OF AIR HANDLING SYSTEMS.

D. REFER TO ARCH. REFLECTED CLG. PLAN AND WALL ELEVATIONS FOR EXACT LOCATION OF DIFFUSERS, GRILLES, ETC.

E. NOTIFY GENERAL CONTRACTOR OF SIZE AND LOCATION OF ALL RECESSES AND OPENINGS REQUIRED FOR HVAC WORK.

F. DUCT DIMENSION GIVEN IS ACTUAL INSIDE OPNG. AND SHALL NOT BE SMALLER.

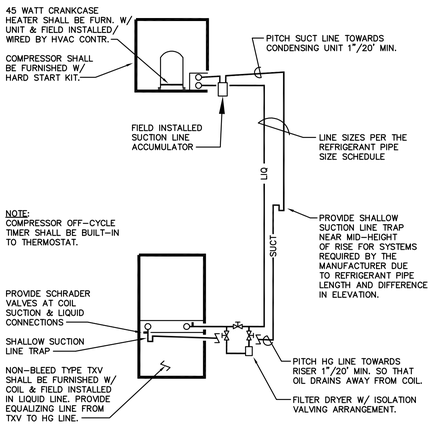
G. MOUNT SENSORS AT 54" ABOVE FINISHED FLOOR.

H. NO DUCTWORK IS TO RUN AB. ELEC. OR TELE. EQUIP.

I. PROVIDE FLEXIBLE CONNECTIONS TO ALL EQUIPMENT AT INLETS AND OUTLETS.

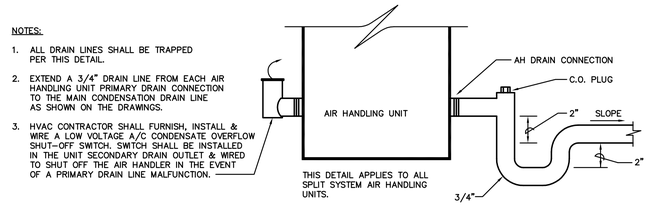
J. USE LONG RADIUS ELBOWS FOR ALL OFFSETS IN COMBUSTION AIR & VENT PIPING FOR GAS FIRED EQUIPMENT.

K. AIR BALANCE REPORTS SHALL BE SUBMITTED TO BOTH THE PROJECT ENGINEER & TO THE LANDLORD FOR REVIEW/APPROVAL.



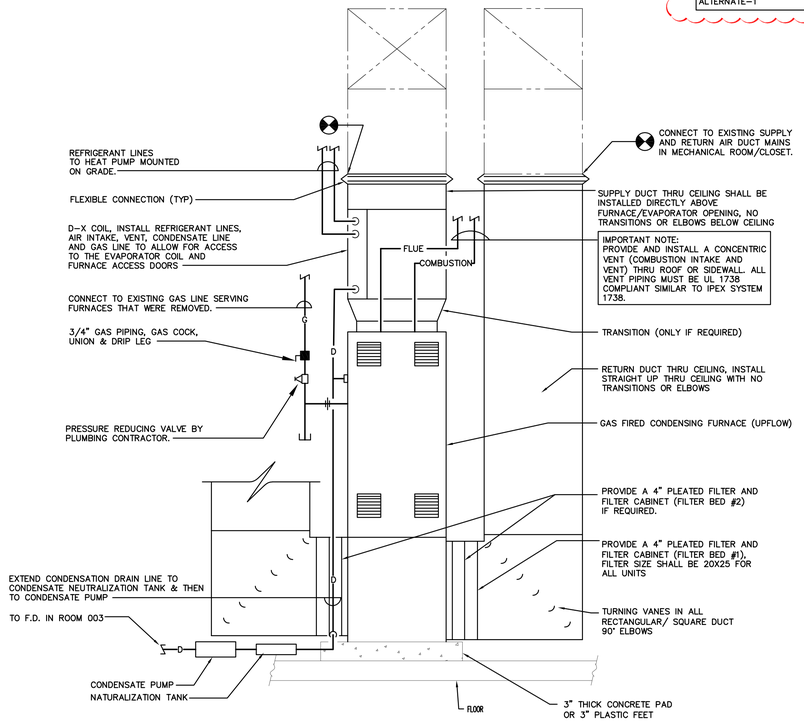
REFRIGERANT PIPING DETAIL

SCALE: N.T.S.



AIR HANDLING UNIT CONDENSATION DRAIN SYSTEMS

SCALE: N.T.S.



FURNACE DETAIL

NOT TO SCALE

DATE	DESCRIPTION
03/07/22	DEDUCT ALTERNATES (1)
03/01/22	CONSTRUCTION DOCUMENTS
02/21/22	FINAL OWNER REVIEW – 99% CD SUBMITTAL
01/27/22	DESIGN DEVELOPMENT SUBMISSION
DATE	DESCRIPTION

H2–22009.DWG

ASSOCIATE ENGINEER
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OLD MANSE HOUSE
WATER INFILTRATION IMPROVEMENTS

SEAL

STATE OF OHIO
TIM PRATER
E–51932
REGISTERED PROFESSIONAL ENGINEER
03/01/22

PREPARED FOR
MIAMI UNIVERSITY
PHYSICAL FACILITIES DEPARTMENT
OXFORD, OH

PREPARED BY
PRATER ENGINEERING ASSOCIATES
6130 WILCOX ROAD; DUBLIN, OHIO 43016

SHEET TITLE	SHEET NO.
HVAC SCHEDULES & DETAILS	H2

SCALE	COMM. NO.	DESIGNED BY	CHECKED BY	DATE
AS NOTED	––	ARP	KJO	03/01/2022