

DRAWN BY: M. HAMLIN

CHK'D BY: D. BAARS

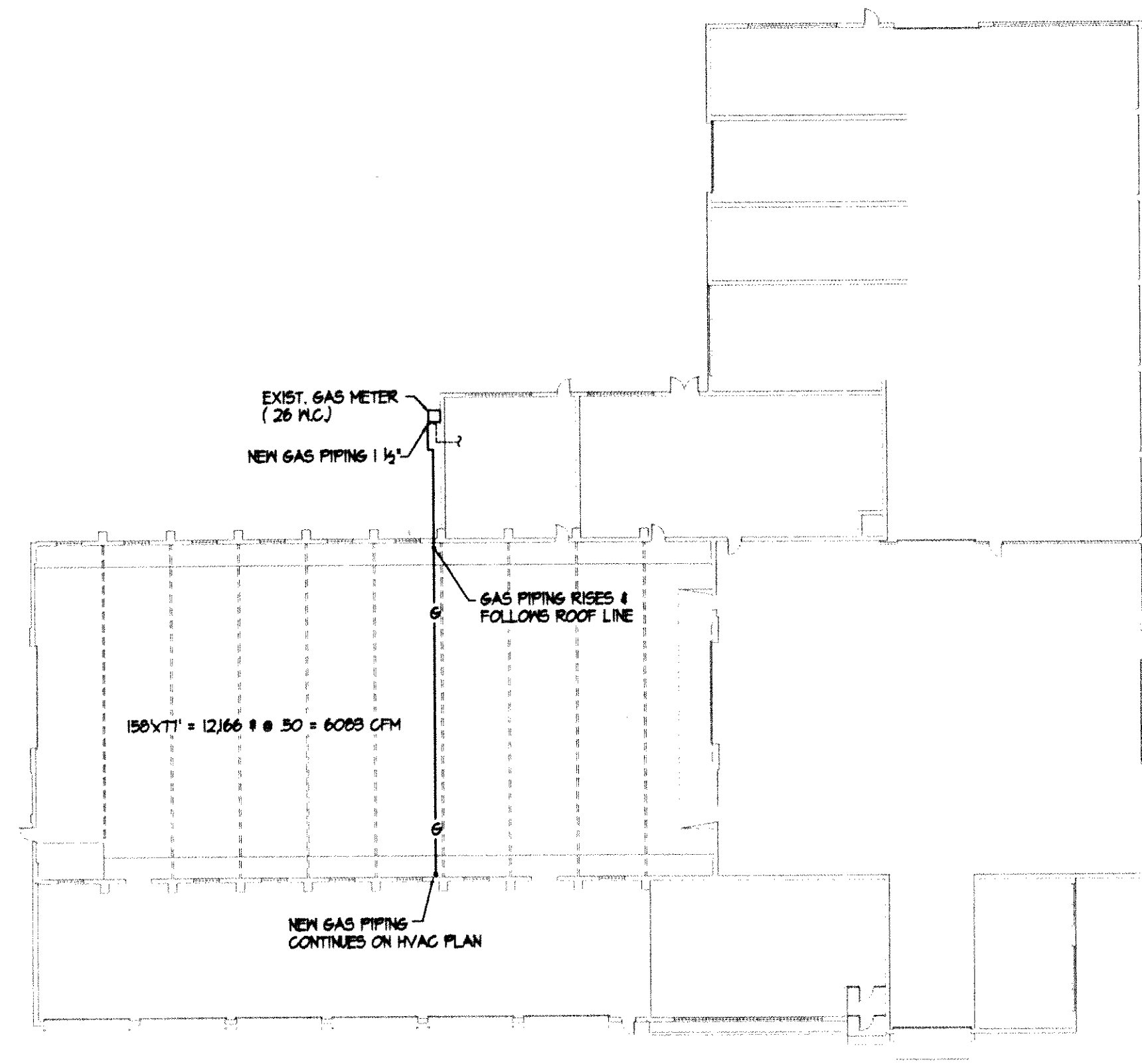
DATE: 28 JUNE 2000

SCALE: AS SHOWN

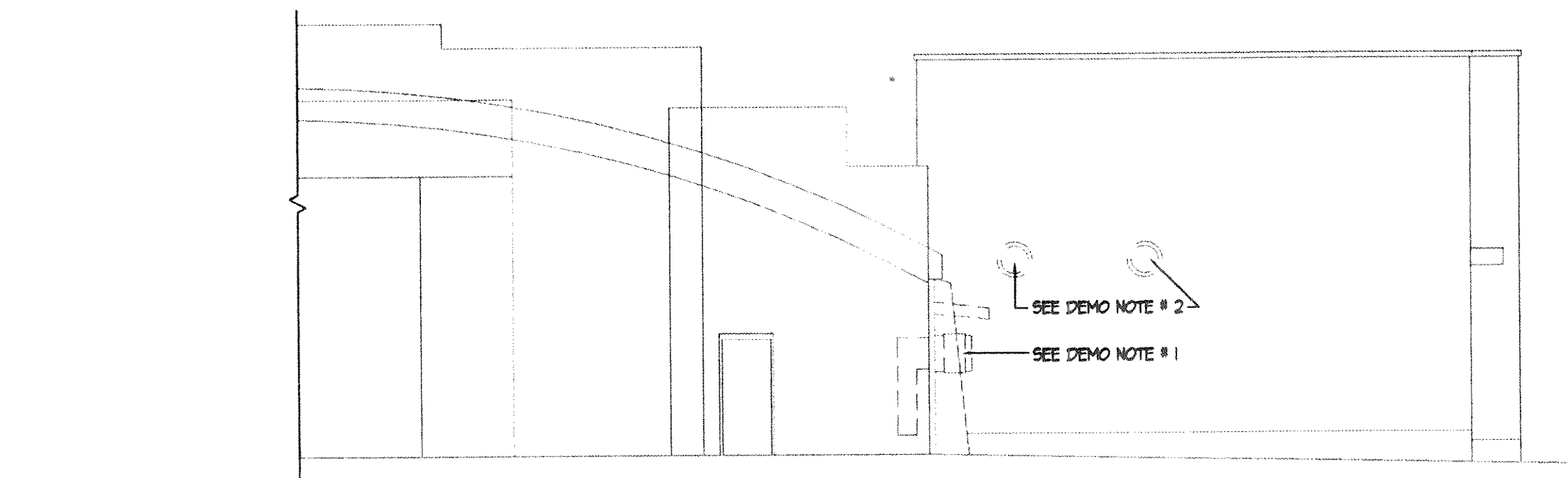
REVISIONS:

NO.	DESCRIPTION	DATE

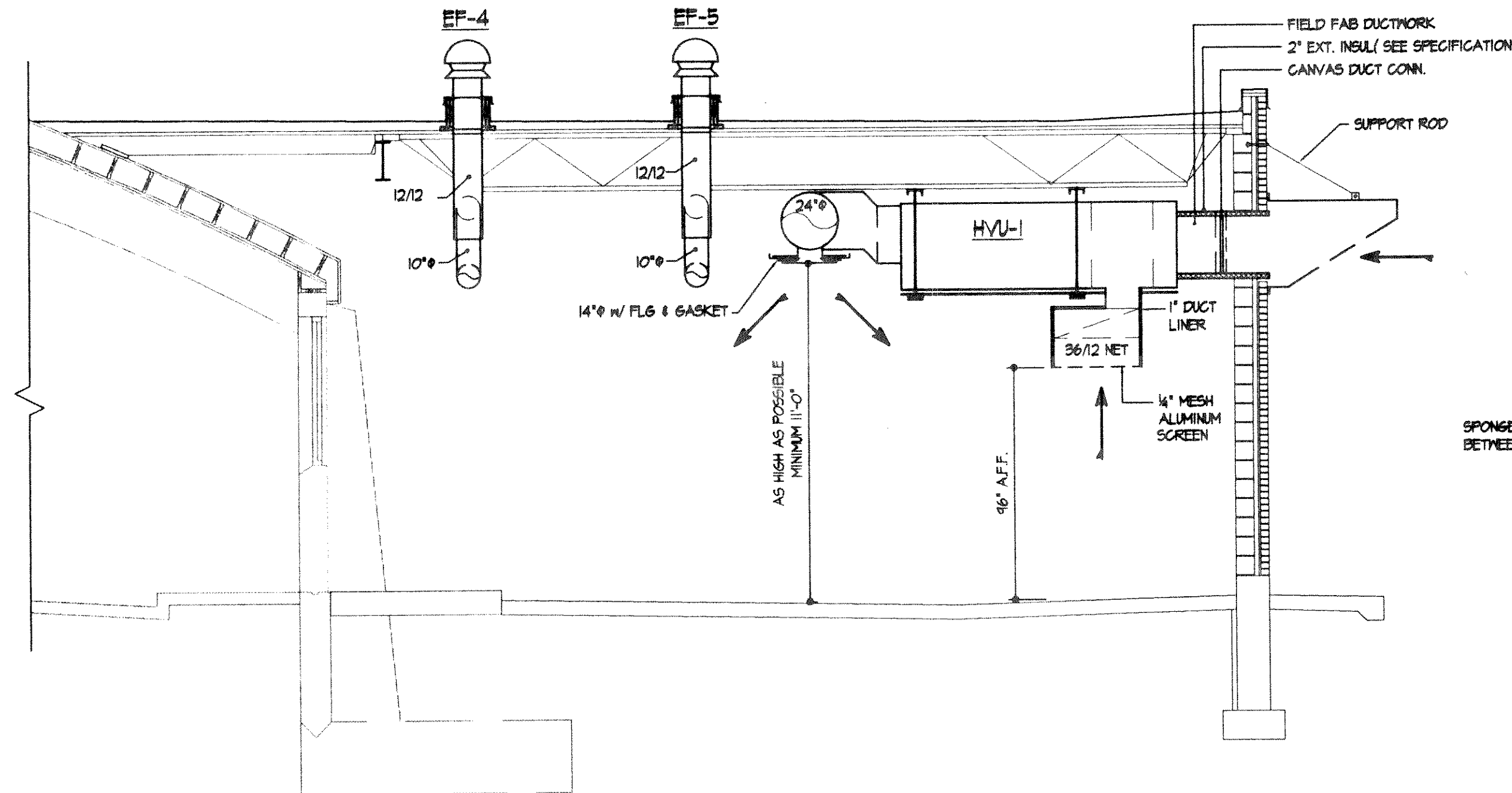
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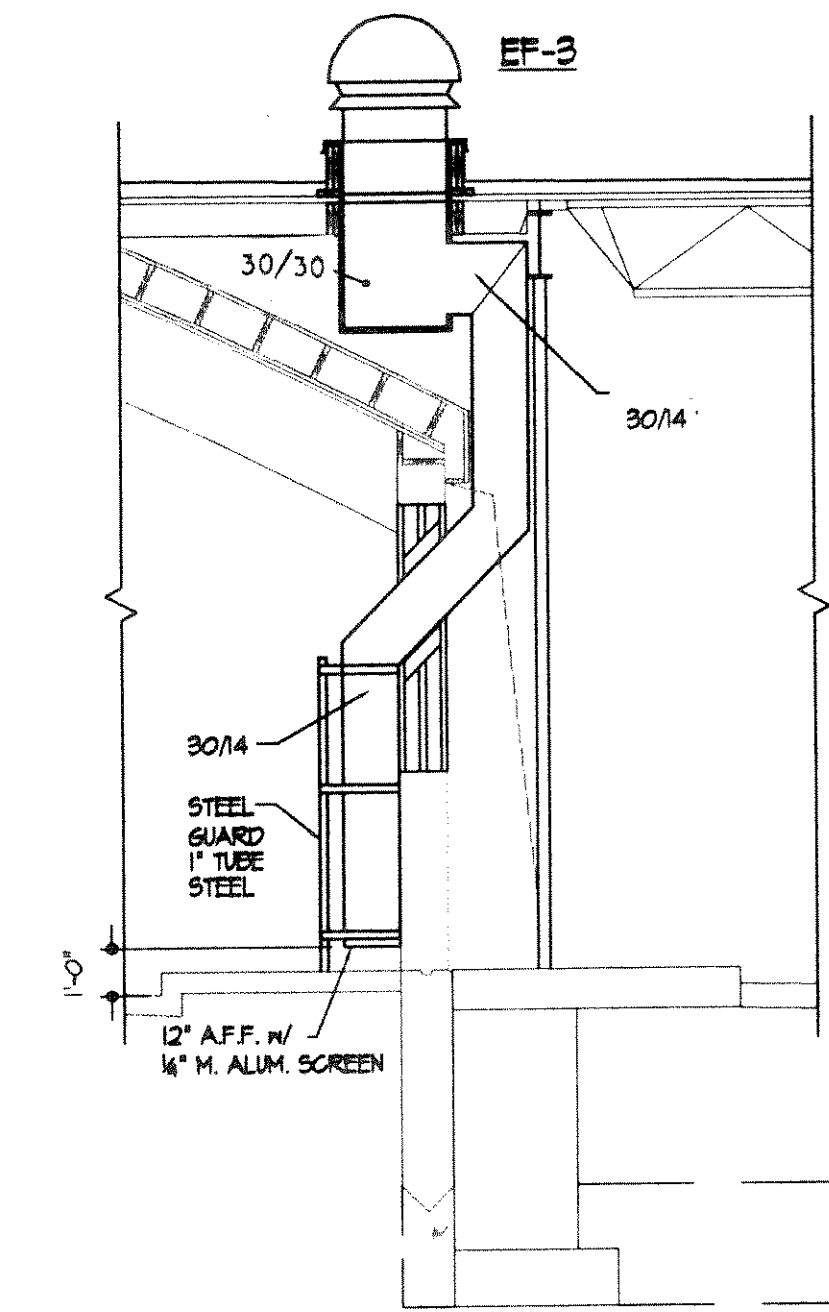
1 OVERALL FLOOR PLAN  
SCALE: 1" = 30'-0"



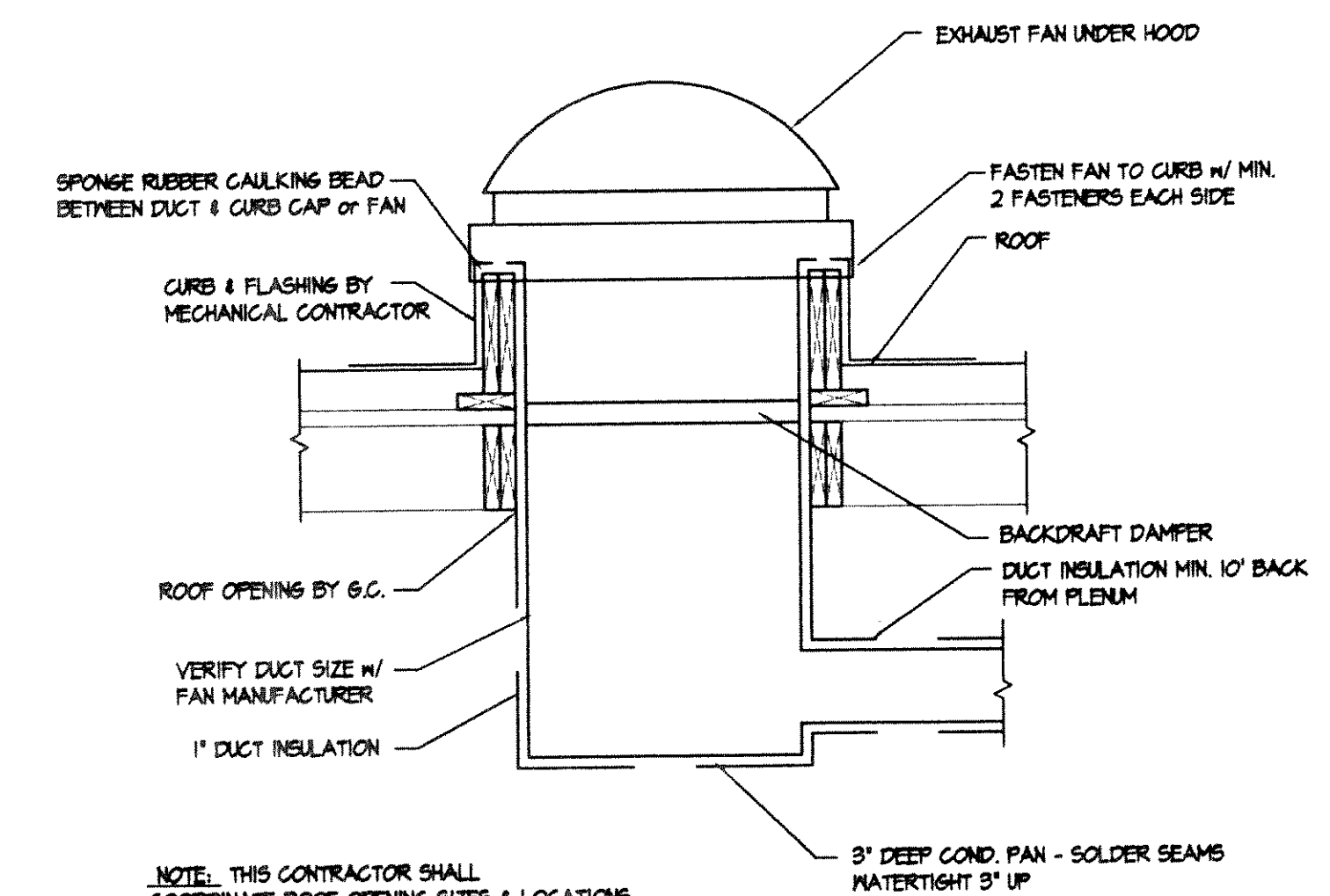
3 HVAC DEMOLITION ELEVATION  
SCALE: 1/8" = 1'-0"



4 HVAC SECTION  
SCALE: 1/4" = 1'-0"

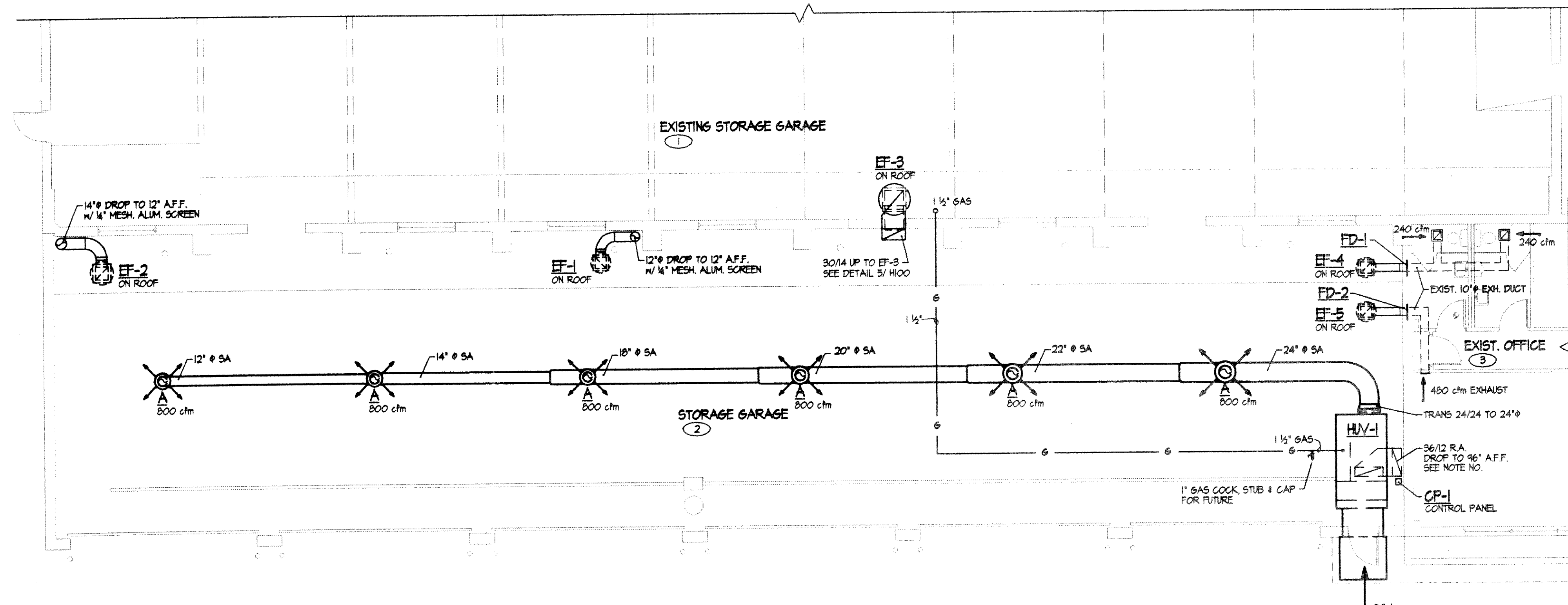


5 HVAC SECTION  
SCALE: 1/4" = 1'-0"



NOTE: THIS CONTRACTOR SHALL COORDINATE ROOF OPENING SIZES & LOCATIONS w/ GENERAL CONTRACTOR.

6 EXHAUST FAN DETAIL  
SCALE: NONE



2 PARTIAL HVAC FLOOR PLAN  
SCALE: 1/8" = 1'-0"

SEQUENCE OF SYSTEMS OPERATION, AND CONTROL

**HVU-1 HEATING AND VENTILATING UNIT** IS A NATURAL GAS DIRECT FIRED, 80/20 TYPE HEATING AND VENTILATING MAKE-UP AIR TYPE UNIT. TOTAL UNIT CAPACITY IS 4800 TOTAL CFM, WITH A 596,000 BTU/H INPUT 25,1 MODULATING BURNER. SEE EQUIPMENT SCHEDULE FOR LISTED CONTROLS.

THE UNIT IS PROVIDED WITH A TIME CLOCK TO AUTOMATICALLY SET BACK TEMPERATURES, OR AND TIME THE "OCCUPIED" - "UNOCCUPIED" MODES OF VENTILATION. THE CONTRACTOR AT START-UP IS TO CONSULT WITH THE OWNER TO DETERMINE THE OCCUPIED, AND UN-OCCUPIED PERIODS AND PROGRAM THE SYSTEM TO THE OWNERS SCHEDULE.

THE FOLLOWING SEQUENCE OF CONTROL IS TO BE ESTABLISHED AT UNIT START-UP, AND THE CONTRACTOR CO-ORDINATE THE SCHEDULE, AND INSTRUCT THE OWNER VERBALLY, AND IN WRITING AS TO THE INTENDED SYSTEM OPERATION.

**"UNOCCUPIED MODE"** - IN THIS MODE, THE UNIT WILL PROVIDE SPACE HEATING ONLY. DAMPER SETTINGS ARE TO PROVIDE 960 CFM OUTSIDE AIR (20%) - EF-1 EXHAUST FAN IS INTERLOCKED TO EXHAUST AN EQUAL QUANTITY OF AIR FROM THE SPACE, AND 3840 CFM (80%) RECIRCULATED AIR ENTERS THE UNIT. TOTAL CFM IS 4800 CFM. THE UNIT BLOWER IS TO CYCLE ON DEMAND FOR HEATING, OPEN THE O.S.A. DAMPER TO PROVIDE 960 CFM OF O.S.A. AND START EF-1 TO EXHAUST AND EQUAL AMOUNT OF AIR FROM THE SPACE.

**"OCCUPIED MODE"** IN THE MODE, THE BLOWER OF THE HVU-1 UNIT IS TO OPERATE CONTINUOUSLY TO PROVIDE 4800 CFM OF AIR TO THE SPACE. THE O.S.A. DAMPER IS TO OPEN TO PROVIDE, AN ADDITIONAL, 1450 CFM OUTSIDE AIR, OR A TOTAL 3400 CFM O.S.A. 3400 CFM OF RECIRCULATED AIR ENTERS THE UNIT. IN THIS MODE, (OCCUPIED) THE SECOND FAN INTERLOCK IS TO START EF-2 EXHAUST FAN. IN THE MODE BOTH EF-1, AND EF-2 EXHAUST FANS ARE TO BE OPERATING TO EXHAUST A TOTAL OF 2400 CFM FROM A POINT NEAR THE FLOOR. THE TOTAL "OCCUPIED" VENTILATION EXHAUST RATE IS 3400 CFM.

THE DISCHARGE AIR CONTROL, AND THE OVER RIDING SET POINT OF THE SPACE TEMPERATURE SENSOR IS TO MAINTAIN SPACE TEMPERATURE TO SET POINT.

**EF-3 EXHAUST FAN CONTROL**  
EF-3 EXHAUST FAN REPLACES AN EXISTING EXHAUST FAN OF EQUAL CAPACITY THAT IS PRESENTLY LOCATED ON THE EXISTING WALL AS SHOWN ON THE DEMOLITION DRAWING. IT SERVES THE ADJOINING VEHICLE SERVICE AREA TO PROVIDE VENTILATION AT A RATE OF 1/2 CFM PER SQ. FT. OF FLOOR AREA FOR A VEHICLE STORAGE OCCUPANCY.

PRESENT CONTROL OF THIS FAN IS MANUAL, "ON" "OFF" ELECTRICAL WORK IS TO PROVIDE THE SAME CONTROL AS IS PRESENTLY EXISTING.

**EF-4 EXHAUST FAN CONTROL**  
EF-4 EXHAUST FAN REPLACES AN EXISTING EXHAUST FAN OF EQUAL CAPACITY THAT IS PRESENTLY LOCATED ON THE EXISTING WALL AS SHOWN ON THE DEMOLITION DRAWING. IT SERVES THE ADJOINING TOILET AREAS TO PROVIDE VENTILATION AT A RATE OF 2 CFM PER SQ. FT. OF FLOOR AREA.

THE ELECTRICAL WORK IS TO PROVIDE A NEW MANUAL LIGHTED STARTER WITH A TIMED OFF FEATURE TO OPERATE THIS FAN. GREENHECK AGTD, OR EQUAL. SET TIME TO OPERATE 20 MINUTES, OR AS DIRECTED BY THE OWNER.

**EF-5 EXHAUST FAN CONTROL**  
EF-5 EXHAUST FAN REPLACES AN EXISTING EXHAUST FAN OF EQUAL CAPACITY THAT IS PRESENTLY LOCATED ON THE EXISTING WALL AS SHOWN ON THE DEMOLITION DRAWING. IT SERVES THE ADJOINING TOILET AREAS TO PROVIDE VENTILATION AT A RATE OF 2 CFM PER SQ. FT. OF FLOOR AREA.

THE ELECTRICAL WORK IS TO PROVIDE FOR WIRING TO THE EXISTING "ON" "OFF" SWITCH PRESENTLY OPERATING THE FAN SERVING THE OFFICE BOARD ROOM. THIS FAN SHOULD OPERATE DURING PERIODS OF OCCUPANCY TO EFFECT OFFICE VENTILATION.

**BHA**  
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SUBCONSULTANT(S)

PROJECT:  
**LINCOLN COUNTY  
VEHICLE STORAGE  
GARAGE ADDITION**

OWNER:  
**LINCOLN COUNTY HIGHWAY DEPARTMENT**

SHEET TITLE:  
**HVAC PLANS,  
DEMOLITION &  
SECTIONS**

PROJECT NUMBER: 99029

DWG. FILE NAME: HVAC

**H100**

SHEET NUMBER 9 OF 12