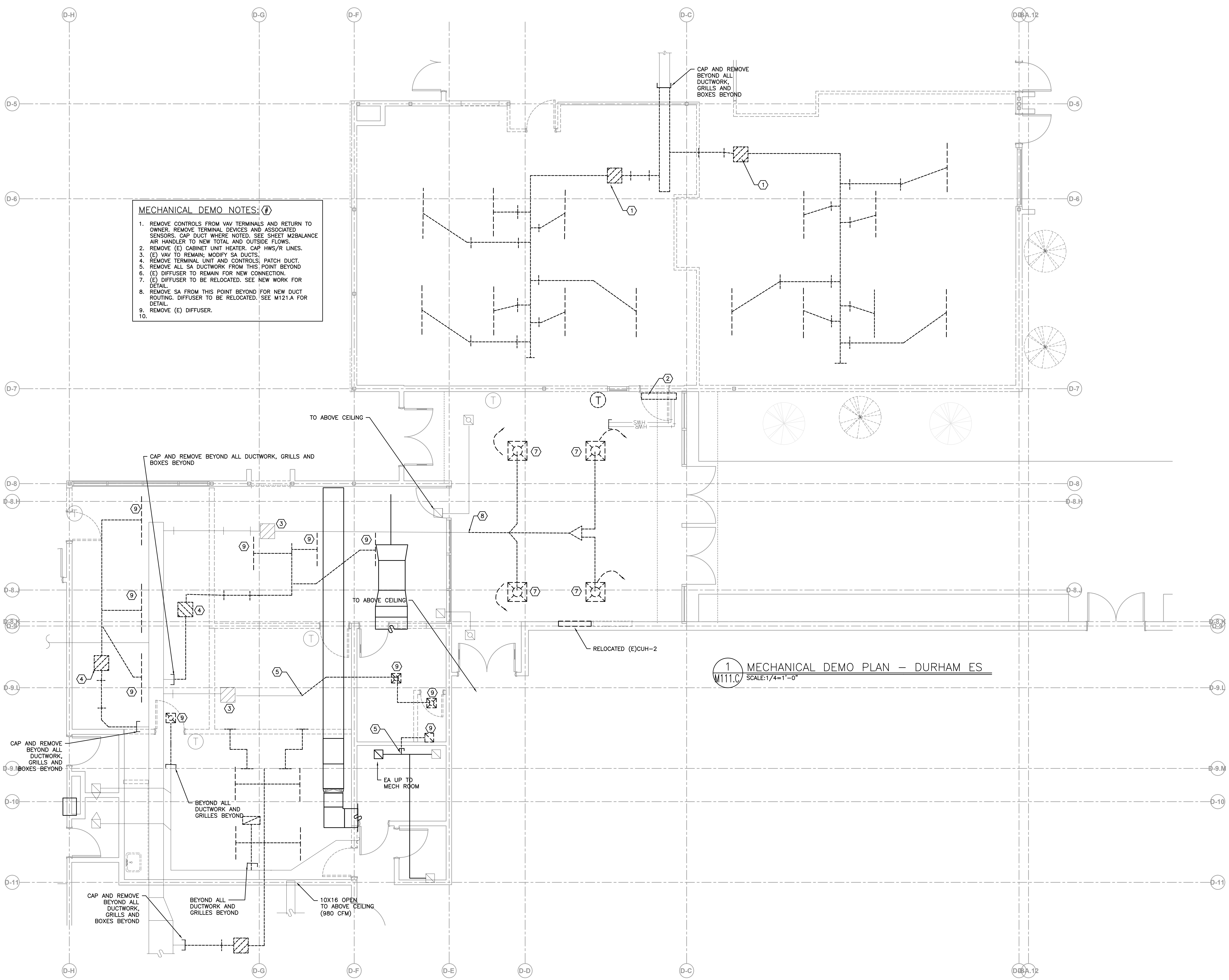


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- MECHANICAL DEMO NOTES:**
1. REMOVE CONTROLS FROM VAV TERMINALS AND RETURN TO OWNER. REMOVE TERMINAL DEVICES AND ASSOCIATED SENSORS. CAP DUCT WHERE NOTED. SEE SHEET M2BALANCE AIR HANDLER TO NEW TOTAL AND OUTSIDE FLOWS.
 2. REMOVE (E) CABINET UNIT HEATER. CAP HWS/R LINES.
 3. (E) VAV TO REMAIN; MODIFY SA DUCTS.
 4. REMOVE TERMINAL UNIT AND CONTROLS. PATCH DUCT.
 5. REMOVE ALL SA DUCTWORK FROM THIS POINT BEYOND
 6. (E) DIFFUSER TO REMAIN FOR NEW CONNECTION.
 7. (E) DIFFUSER TO BE RELOCATED. SEE NEW WORK FOR DETAIL.
 8. REMOVE SA FROM THIS POINT BEYOND FOR NEW DUCT ROUTING. DIFFUSER TO BE RELOCATED. SEE M121.A FOR DETAIL.
 9. REMOVE (E) DIFFUSER.
 - 10.



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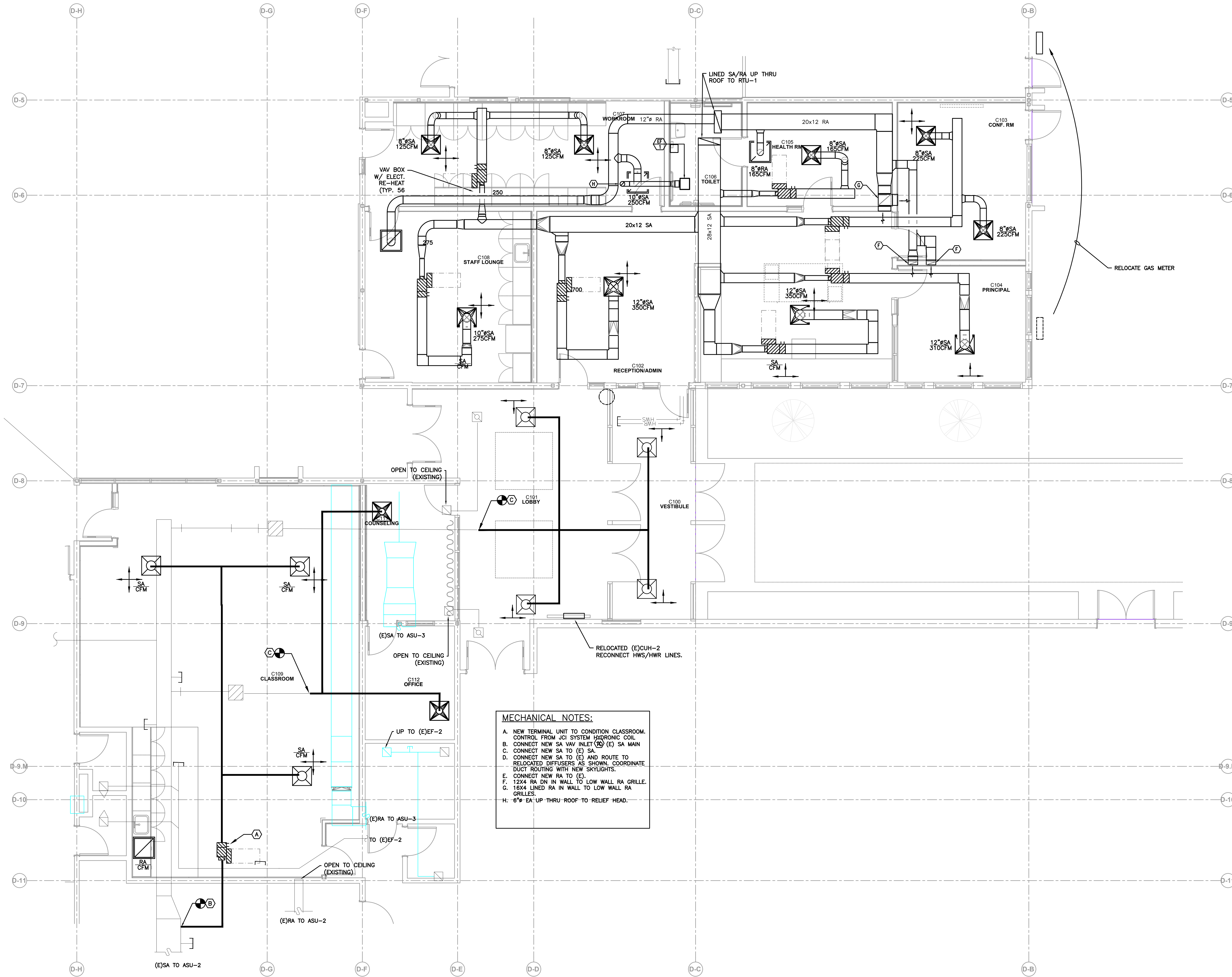
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MECHANICAL NOTES:

- A. NEW TERMINAL UNIT TO CONDITION CLASSROOM. CONTROL FROM JCI SYSTEM HYDRONIC COIL.
- B. CONNECT NEW SA VAV INLET (E) SA MAIN
- C. CONNECT NEW SA TO (E) SA
- D. CONNECT NEW SA TO (E) AND ROUTE TO RELOCATED DIFFUSERS AS SHOWN. COORDINATE DUCT ROUTING WITH NEW SKYLIGHTS.
- E. CONNECT NEW RA TO (E).
- F. 12x4 RA DN IN WALL TO LOW WALL RA GRILLE.
- G. 16x4 LINED RA IN WALL TO LOW WALL RA GRILLES.
- H. 6" EA UP THRU ROOF TO RELIEF HEAD.

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MECHANICAL PLAN -
DURHAM ES

M121.C

1 MECHANICAL PLAN - DURHAM ES
SCALE: 1/4" = 1'-0"

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MECHANICAL ROOF PLAN
DURHAM ES

M131.C

D-H

D-G

D-F

D-E

D-D

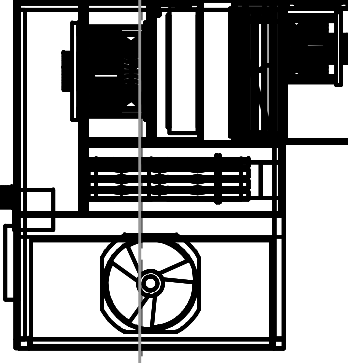
D-C

D-B12

D-A

6" RELIEF HEAD
FROM EF-1 BELOW.

RTU



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MECHANICAL ROOF PLAN - DURHAM ES

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

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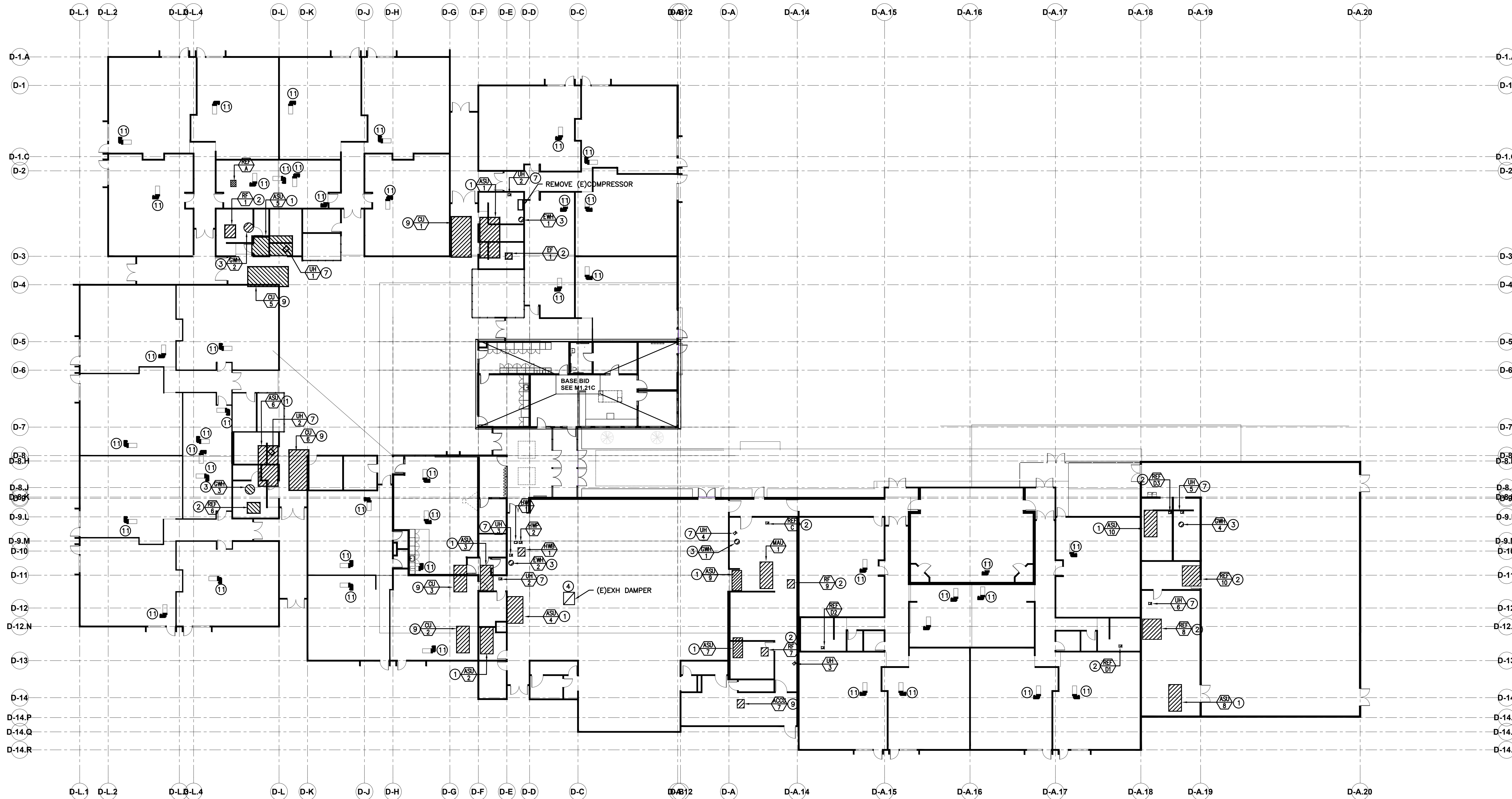
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1 OVERALL MECHANICAL PLAN - ALTERNATES
SCALE: 1/16" = 1'-0"

CONTROL DRAWING KEYED NOTES - ALTERNATES:

1. PROVIDE DIGITAL DAMPER ACTUATOR AT OSA, RELIEF AND MIXING DAMPERS TO REPLACE EXISTING PNEUMATIC ACTUATORS. RETROFIT EXISTING HEATING VALVE WITH DIGITAL ACTUATOR KIT. CONFIRM VALVE CONFIGURATION PRIOR TO SUBMITTAL.
2. REMOVE PE SWITCH AND OPERATE FAN DIRECTLY FROM DIGITAL CONTROLS. PROVIDE RIB OR STARTER FOR 120V UNIT AS REQUIRED. WHERE DAMPER IS NOTED ON THE PLAN, REPLACE EXISTING PNEUMATIC ACTUATOR WITH DIGITAL DAMPER ACTUATOR.
3. REMOVE (E) PE SWITCH AND OPERATE ELECTRIC WATER HEATER AND ASSOCIATED RECIRC PUMP DIRECTLY FROM DDC.
4. PROVIDE DIGITAL DAMPER ACTUATOR. CONNECT NEW ACTUATOR TO EXISTING JCI SYSTEM CONTROL PANEL. ALTER PROGRAMMING AS REQUIRED FOR THE NEW DIGITAL DEVICE.
5. REMOVE PE SWITCH AND OPERATE ELECTRIC HEATERS DIRECTLY FROM DIGITAL CONTROLS. PROVIDE RIB OR RATED CONTACTOR FOR 120 V OPERATION AS REQUIRED.
6. -
7. REMOVE (E) PE SWITCH AND OPERATE FAN DIRECTLY FROM DDC. FOR HW UNIT, RETROFIT HEATING COIL VALVE WITH DIGITAL ACTUATOR KIT.
8. PROVIDE DIGITAL DAMPER ACTUATOR FOR MULTIZONE DAMPERS, # OF ZONES SHOWN ON PLAN.
9. REMOVE PE SWITCH AND OPERATE DIRECTLY FROM DIGITAL CONTROLS.
10. REMOVE (E) PNEUMATIC DAMPER ACTUATOR AT STEAM AND STOVE HOODS (EF-5 & EF-6) AND REPLACE WITH DIGITAL DAMPER ACTUATOR. ALTER PROGRAMMING AS REQUIRED FOR THE NEW DIGITAL DEVICE.
11. REMOVE (E) BY-PASS VAV BOXES AND REPLACE WITH NEW SINGLE DUCT VAV BOX WITH DDC CONTROL.
12. (E) FIRE SMOKE DAMPER - REMOVE (E) PNEUMATIC DAMPER ACTUATOR AND REPLACE WITH NEW DIGITAL ACTUATOR.
13. REMOVE (E) PE SWITCH AND OPERATE PUMP DIRECTLY FROM DIGITAL CONTROLS.
14. PROVIDE DIGITAL OSA DAMPER, FACE/BY-PASS DAMPER TO REPLACE (E) PNEUMATIC ACTUATORS. RETROFIT (E) BOOSTER HEATING COIL VALVE WITH DIGITAL ACTUATOR KIT. CONFIRM VALVE SIZING PRIOR TO SUBMITTAL.

CONTROL DRAWING GENERAL NOTES:

1. WHERE EXISTING PNEUMATIC DEVICES ARE REMOVED, REMOVE ALL ASSOCIATED PNEUMATIC PIPING AND CONTROLS. CONNECT NEW ACTUATOR / DDC DEVICES TO EXISTING JCI SYSTEM CONTROL PANEL. ALTER PROGRAMMING AS REQUIRED FOR THE NEW DIGITAL DEVICE. CONFIRM DAMPER AND VALVE SIZES PRIOR TO SUBMITTAL.

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MECHANICAL VERALL
PLAN - ALTERNATES

M200.C

MECHANICAL LEGEND

	SUPPLY AIR DIFFUSER	AFF	ABOVE FINISH FLOOR
	RETURN AIR GRILLE	AHU	AIR HANDLING UNIT
	EXHAUST AIR GRILLE	B.D.	BOTTOM OF DUCT
	PERFORATED RETURN AIR PANEL	BHP	BRAKE HORSEPOWER
	DIRECTIONAL AIR FLOW	BTU	BRITISH THERMAL UNITS
	MANUAL VOLUME DAMPER	CFM	CUBIC FEET PER MINUTE
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	CONN.	CONNECTION
	RETURN AIR DUCT UP & DOWN	CONT.	CONTINUATION
	EXHAUST AIR DUCT UP & DOWN	CW	DOMESTIC COLD WATER
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	DB	DRY BULB
	RETURN AIR DUCT UP & DOWN	DIA.	DIAMETER
	EXHAUST AIR DUCT UP & DOWN	DIST.	DISTRIBUTION
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	EA	EXHAUST AIR
	RETURN AIR DUCT UP & DOWN	EDB	ENTERING DRY BULB TEMPERATURE
	EXHAUST AIR DUCT UP & DOWN	EWB	ENTERING WET BULB TEMPERATURE
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	EWT	ENTERING WATER TEMPERATURE
	RETURN AIR DUCT UP & DOWN	FF	FINISH FLOOR
	EXHAUST AIR DUCT UP & DOWN	FIXT.	FIXTURE
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	FPM	FEET PER MINUTE
	RETURN AIR DUCT UP & DOWN	FPS	FEET PER SECOND
	EXHAUST AIR DUCT UP & DOWN	FT.	FEET / FOOT
	SUPPLY OR OUTSIDE AIR DUCT UP & DOWN	GA.	GAUGE
	RETURN AIR DUCT UP & DOWN	GPM	GALLONS PER MINUTE
	EXHAUST AIR DUCT UP & DOWN	H	HEIGHT
	VAV TERMINAL UNIT	HP	HORSEPOWER
	VAV TERMINAL UNIT	I.D.	INSIDE DIAMETER
	EXISTING	IN.	INCHES
	CONNECT TO EXISTING	L	LENGTH
	THERMOSTAT OR TEMP. SENSOR	LBS.	POUNDS
	NOTE	LDB	LEAVING DRY BULB
	EQUIPMENT DESIGNATOR	LWB	LEAVING WET BULB
	BALL VALVE	LWT	LEAVING WATER TEMPERATURE
	GATE VALVE	MAX.	MAXIMUM
	CHECK VALVE	MBH	THOUSANDS OF BTUs PER HOUR
	BALANCING VALVE	MIN.	MINIMUM
	THERMOMETER	NC	NOISE CRITERIA
	DIRECTION OF FLOW	N.C.	NORMALLY CLOSED
	PUMP	N.I.M.	NOT IN MECHANICAL
	STRAINER	NO.	NUMBER
	PRESSURE GAUGE	N.O.	NORMALLY OPEN
	PETE'S PLUG	O.A.	OUTSIDE AIR
	DOUBLE CHECK ASSEMBLY	P	PERSON
	PRESSURE REDUCING VALVE	PSI	POUNDS PER SQUARE INCH
	UNION	P/T	PRESSURE / TEMPERATURE
	2-WAY CONTROL VALVE	R.A.	RETURN AIR
	3-WAY CONTROL VALVE	RECT.	RECTANGULAR
	CAP	REQ'D	REQUIRED
	SMOKE DETECTOR	S.A.	SUPPLY AIR
	MOTORIZED DAMPER	S.P.	STATIC PRESSURE
		SO.	SQUARE
		TEMP.	TEMPERATURE
		TYP.	TYPICAL
		VAV	VARIABLE AIR VOLUME
		W	WIDTH
		WB	WET BULB
		WPD	WATER PRESSURE DROP
		Ø	DIAMETER
			(E) EXISTING
			(D) DEMOLISH
			NEW WORK
			HWS (HWS HEATING WATER SUPPLY)
			HWR (HWR HEATING WATER RETURN)
			FIRE DAMPER
			FIRE / SMOKE DAMPER
			SMOKE DAMPER
			SEISMIC BRACING
			LATERAL BRACING
			LONGITUDINAL BRACING
			LONGITUDINAL & LATERAL BRACING

ROOFTOP HVAC UNITS

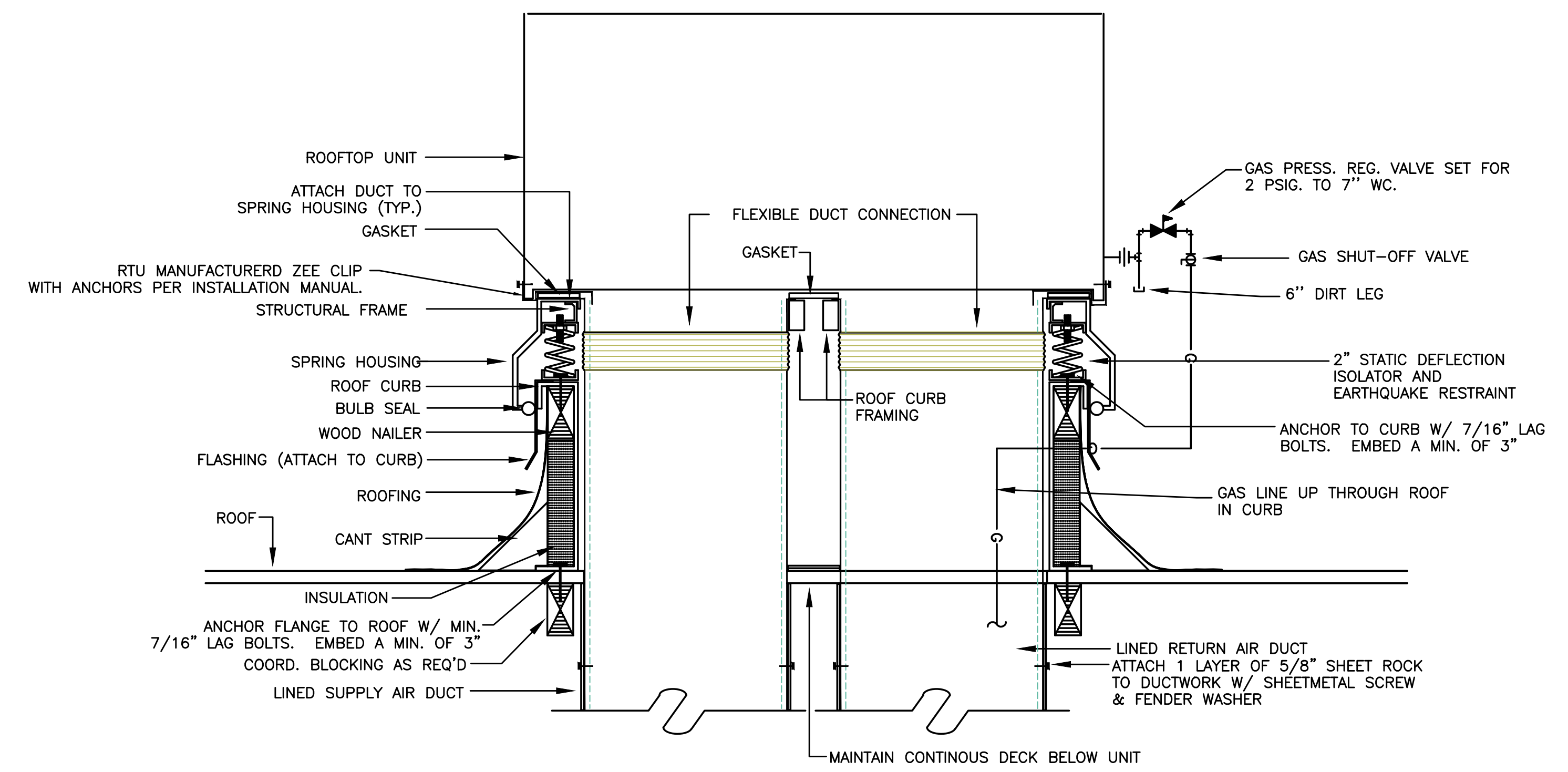
MARK NUMBER	RTU 1
SYSTEM	ADMIN
TYPE	VAV
DISCHARGE	VERTICAL
TOTAL CFM	2000
ECONOMIZER	YES
MIN. OSA	-
MAX OSA (FULL OCCUPANCY)	-
CO2 CONTROL	YES
EXTERNAL SP. ("H2O)	1.25"
MOTOR HP.	4 HP/NOTE 1
TOTAL CFM	2000
EXTERNAL SP ("H2)	0.50"
FAN POWER	1.3 HP/NOTE 1
2" MERV 8	
HEATING	
GAS INPUT(MBH)	120MBH
EFF. (AFUE)	80.0%
MODULATING/TURN DOWN:	5:1
COOLING	
TOTAL CLG. (TONS)	5
SENSIBLE CLC. (MBH)	
ENT. EVAP AIR TEMP (DB/WB.)	
AMBIENT AIR (°F)	
EER/SEER	18 SEER
REFRIGERANT	410A
DESIGN WEIGHT (LBS.)	1500 #
SMOKE DETECTOR (RETURN DUCT)	NO
SPRING ISOLATION ROOF CURB	YES
CONVENIENCE OUTLET - ALWAYS POWERED	YES
BASIS OF DESIGN - DAIKIN	DPS 005A

NOTES:
1. PROVIDE WITH ECM MOTOR

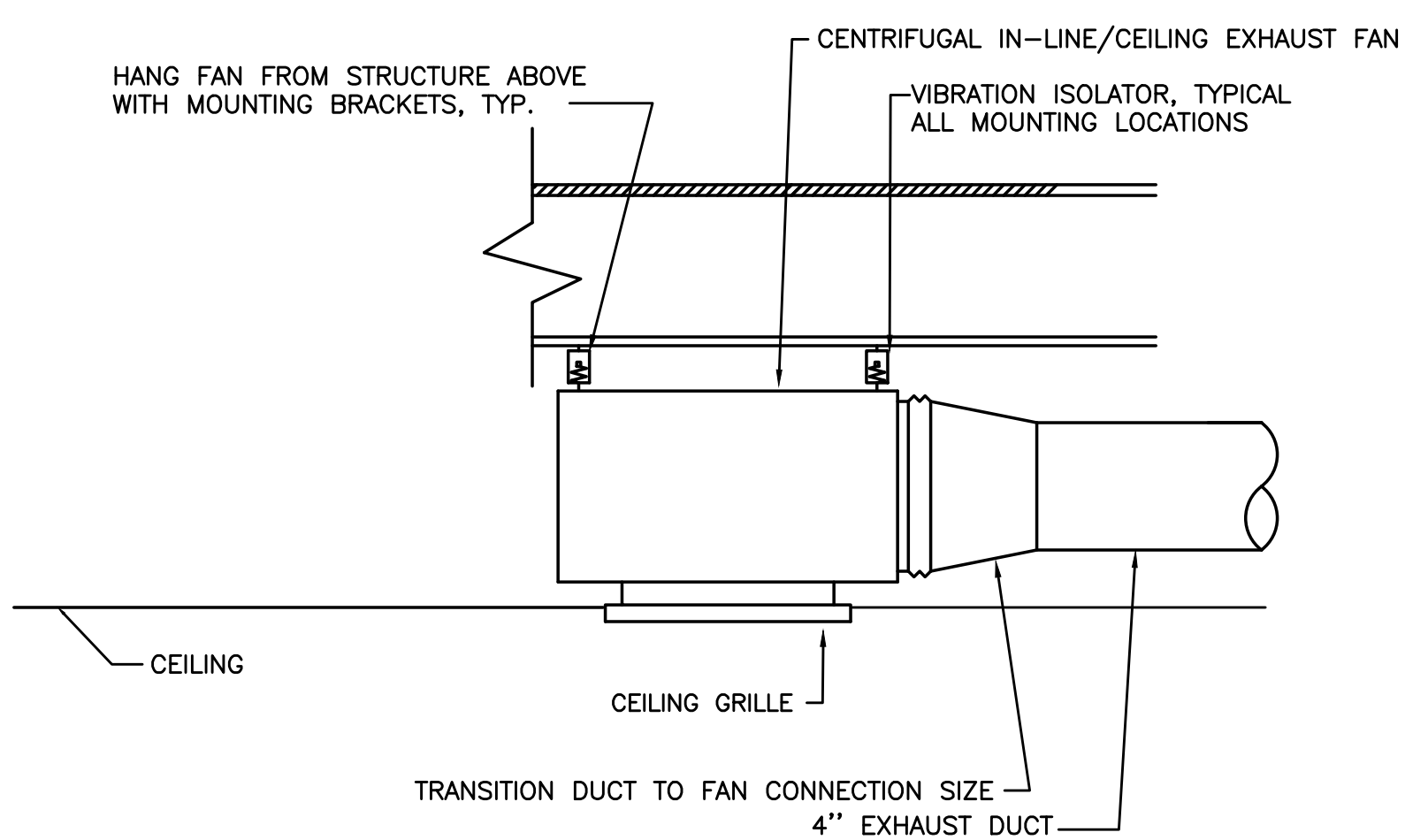
EXHAUST FANS

MARK NUMBER	EF 1
NOTE 1	CEILING
SYSTEM	RESTROOM
CFM	100
TOTAL SP. (IN H2O)	.30"
RPM	720
MOTOR HP	128 W
CONTROLLED BY	SWITCH
INTERLOCKED WITH	-
DAMPER TYPE	BDD
ISOLATION	RIS
DESIGN WEIGHT (LBS)	10
MAX. SONES	1.6
ELECTRICAL (V/Ø) (POWER)	115/1
BASIS OF DESIGN	GREENHECK SF-B150

1. PROVIDE WITH SPEED CONTROL NEAR FAN FOR BALANCING

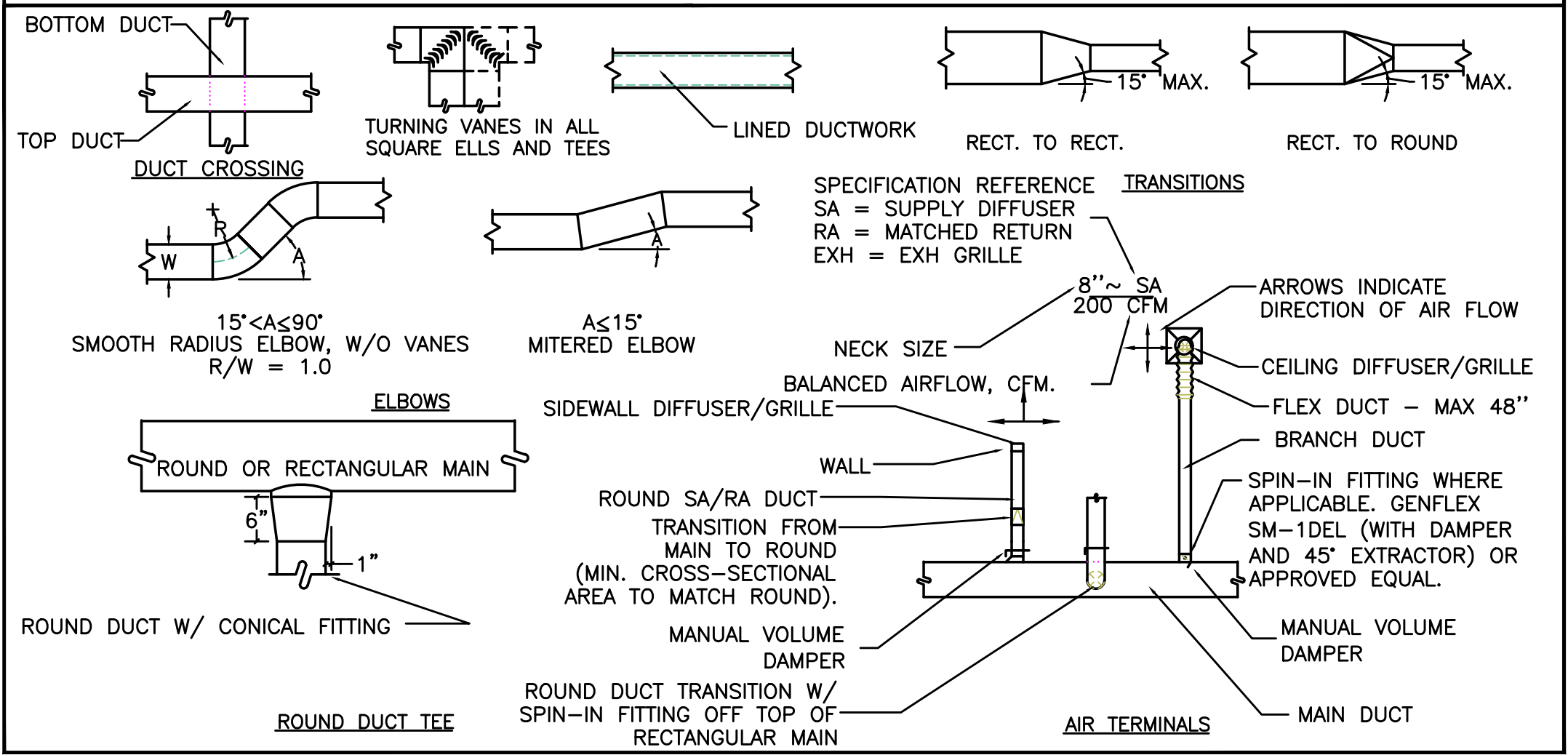


1 RTU INSTALLATION DETAIL
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2 RESTROOM EXHAUST FAN
SCALE:DETAIL

AIR DISTRIBUTION DETAILS



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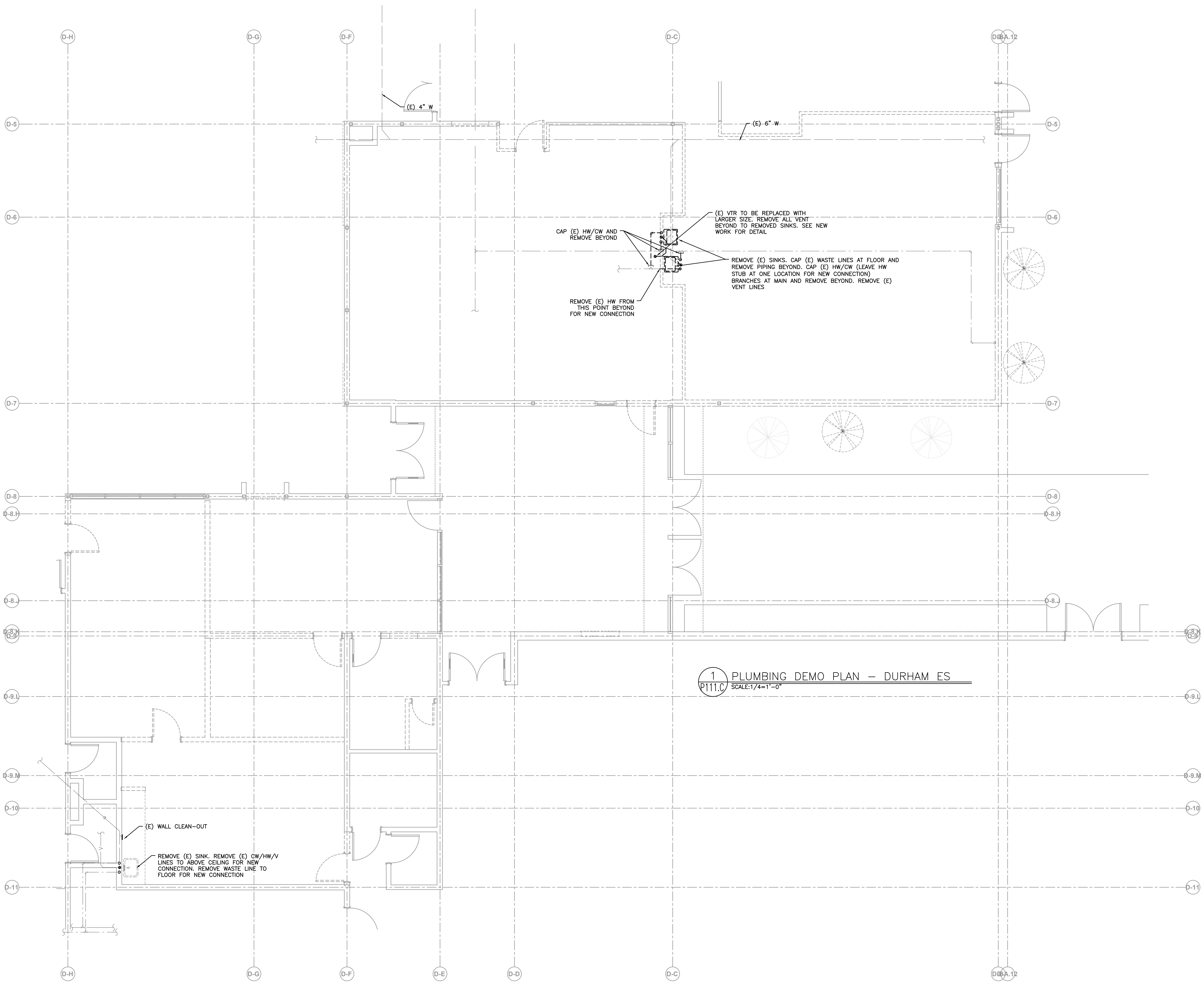
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1 PLUMBING DEMO PLAN – DURHAM ES
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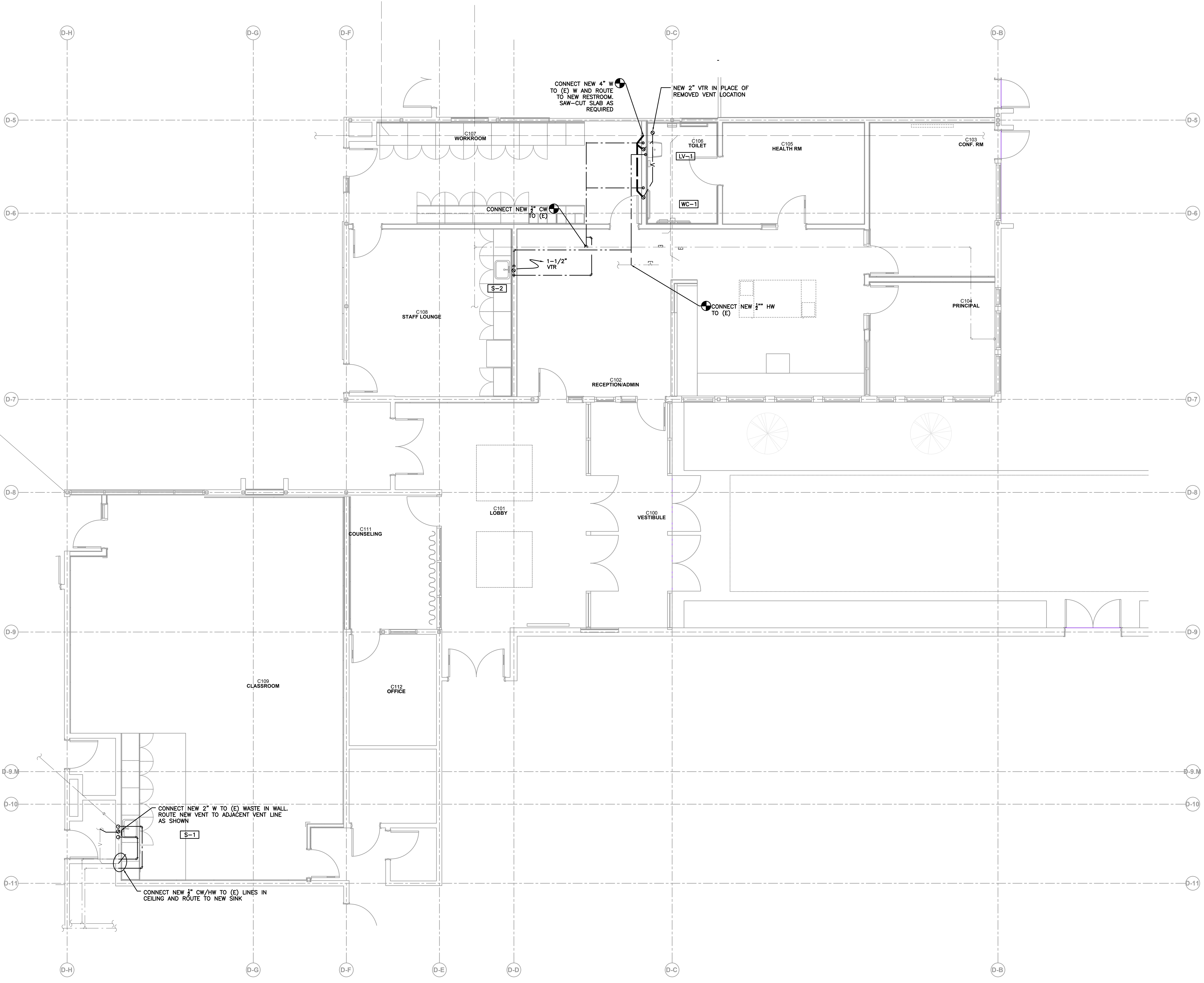
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PLUMBING PLAN
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