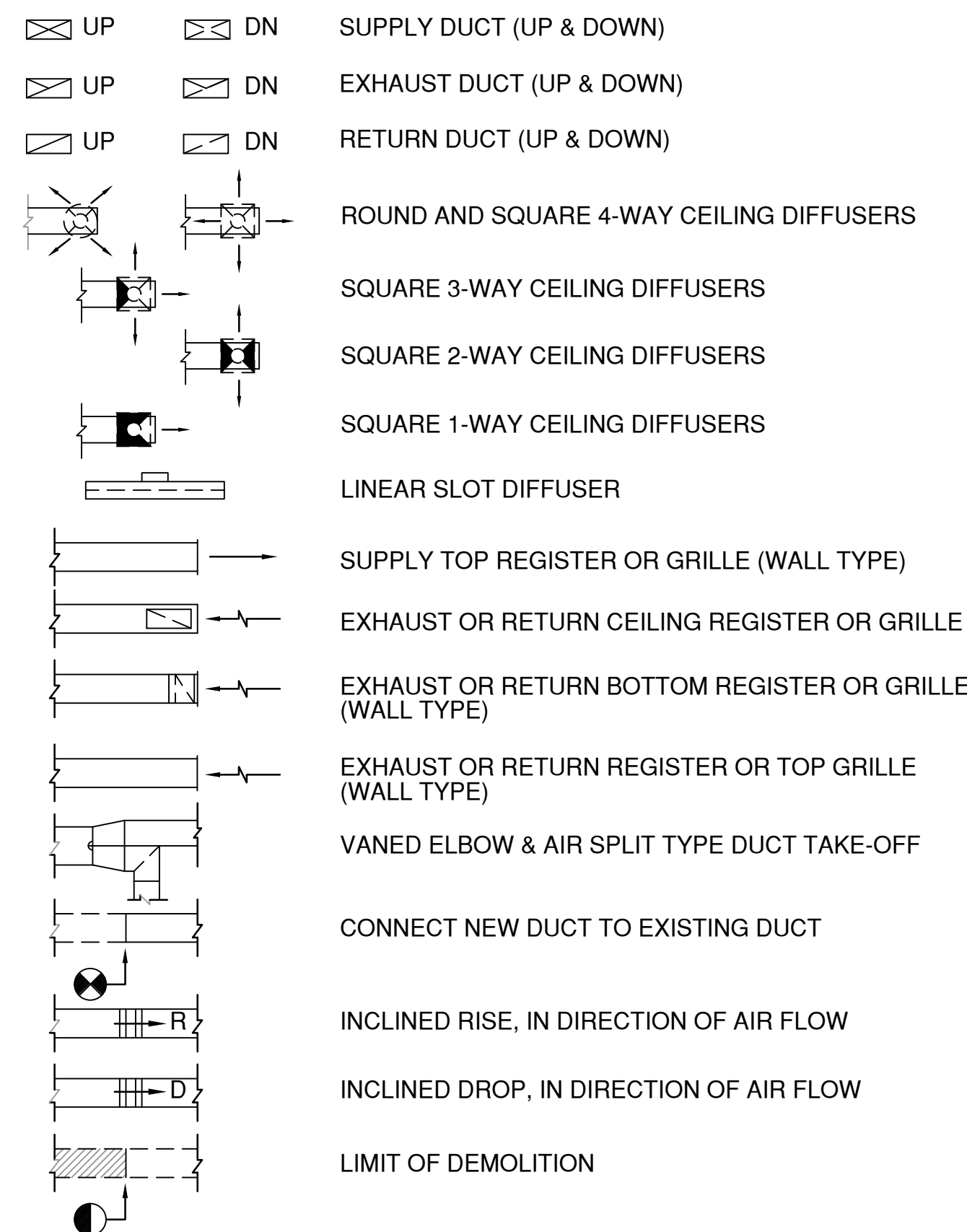
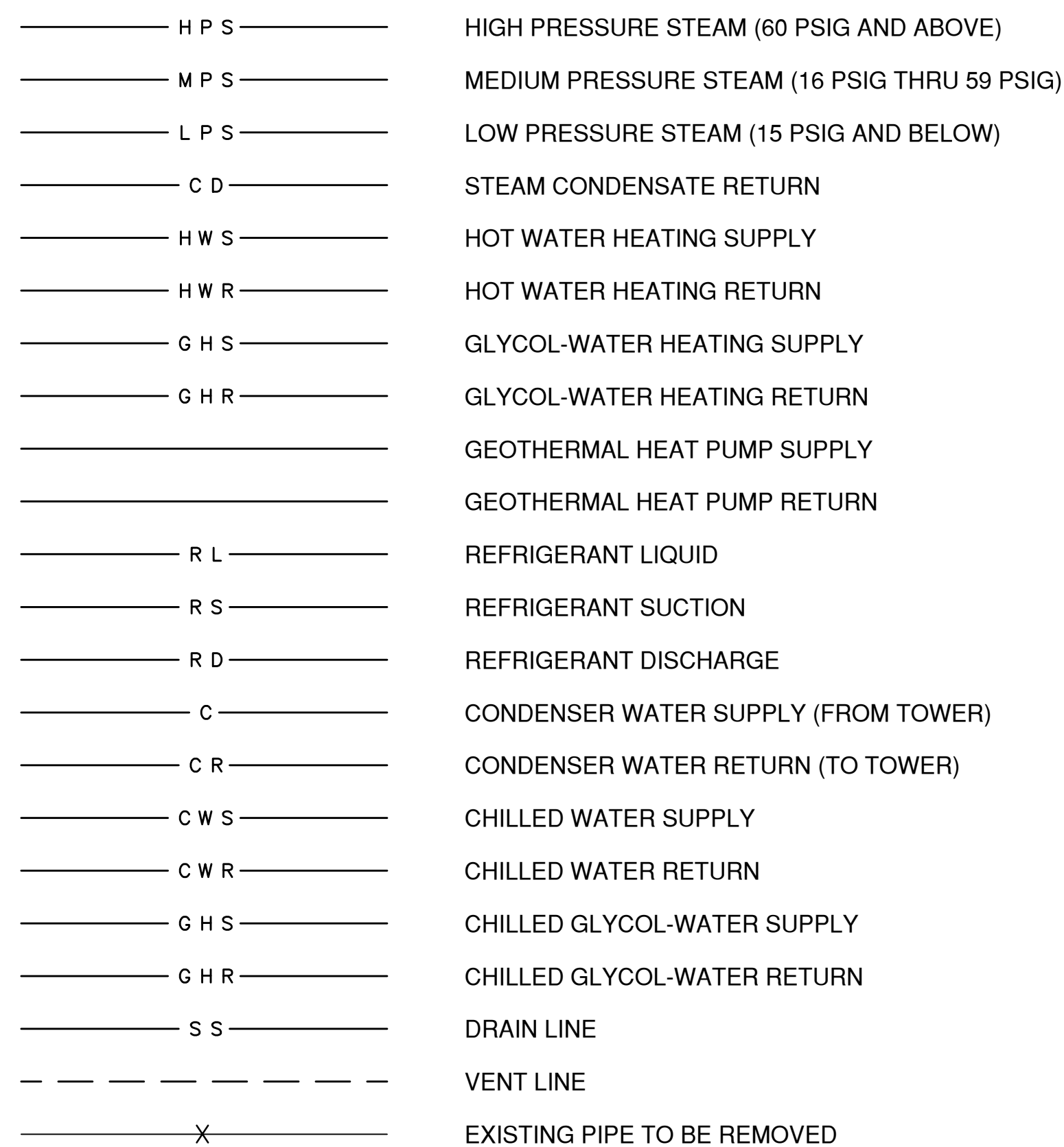


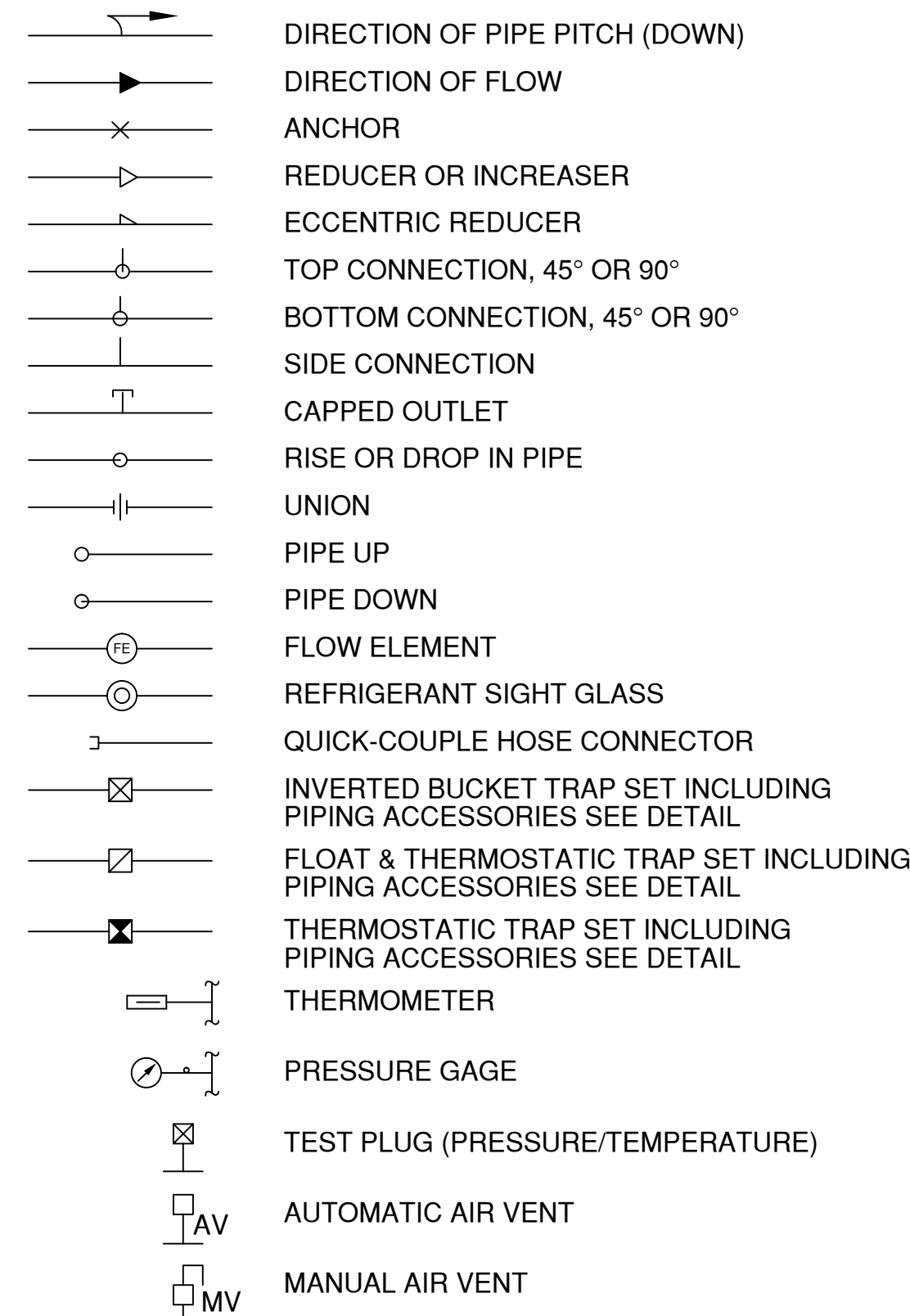
DUCTWORK SYMBOLS



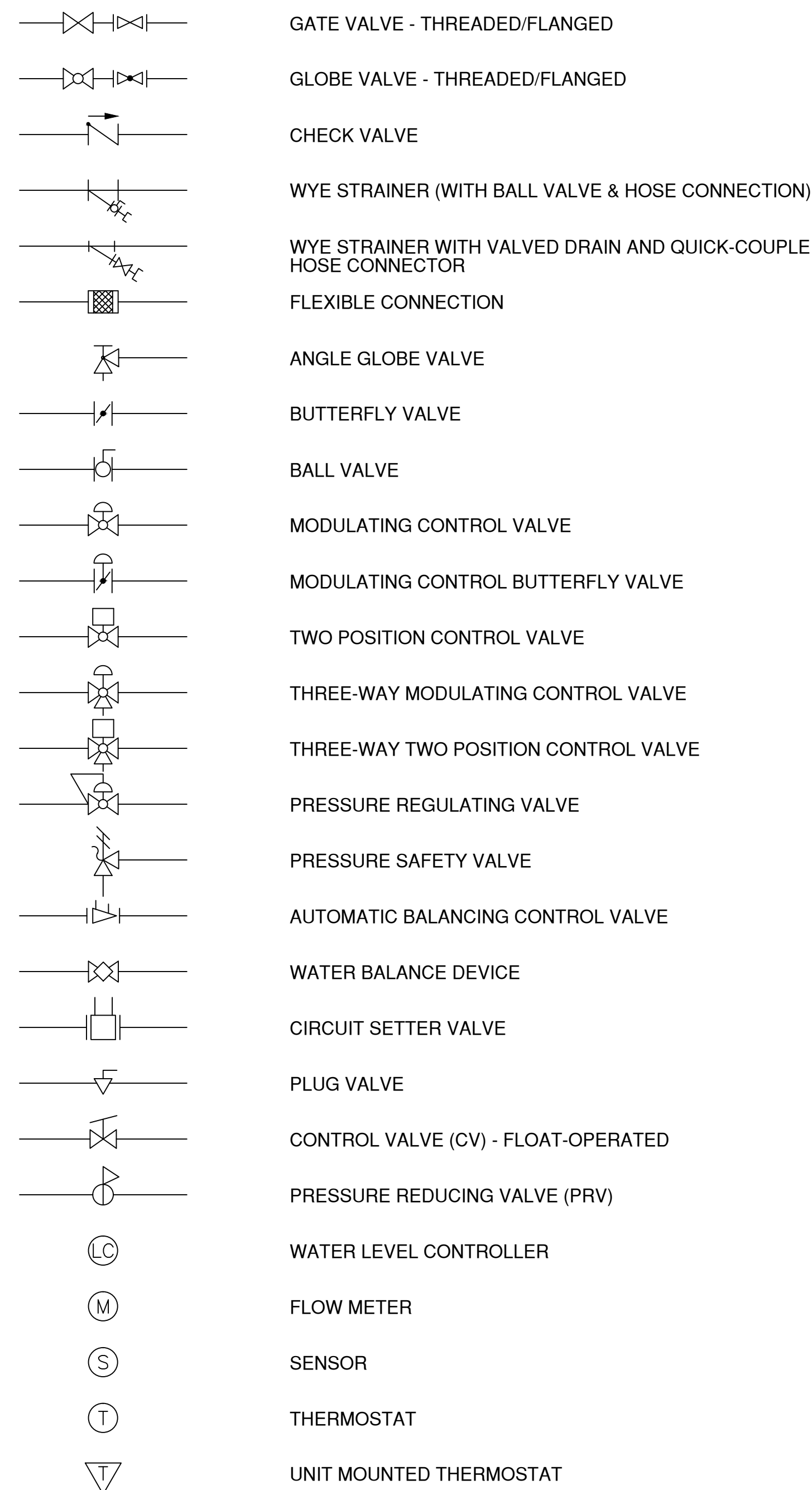
PIPING SYMBOLS



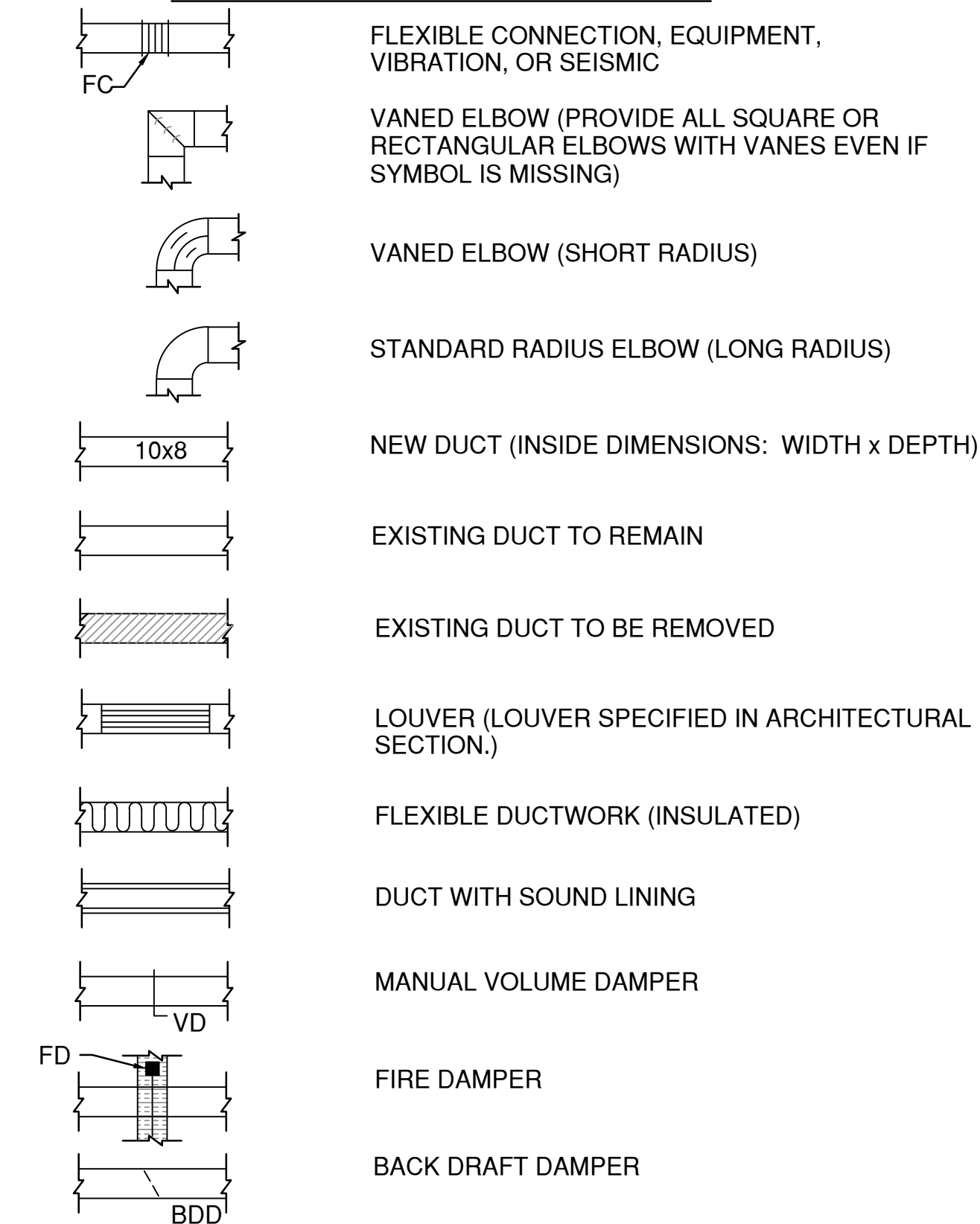
GENERAL PIPING SYMBOLS



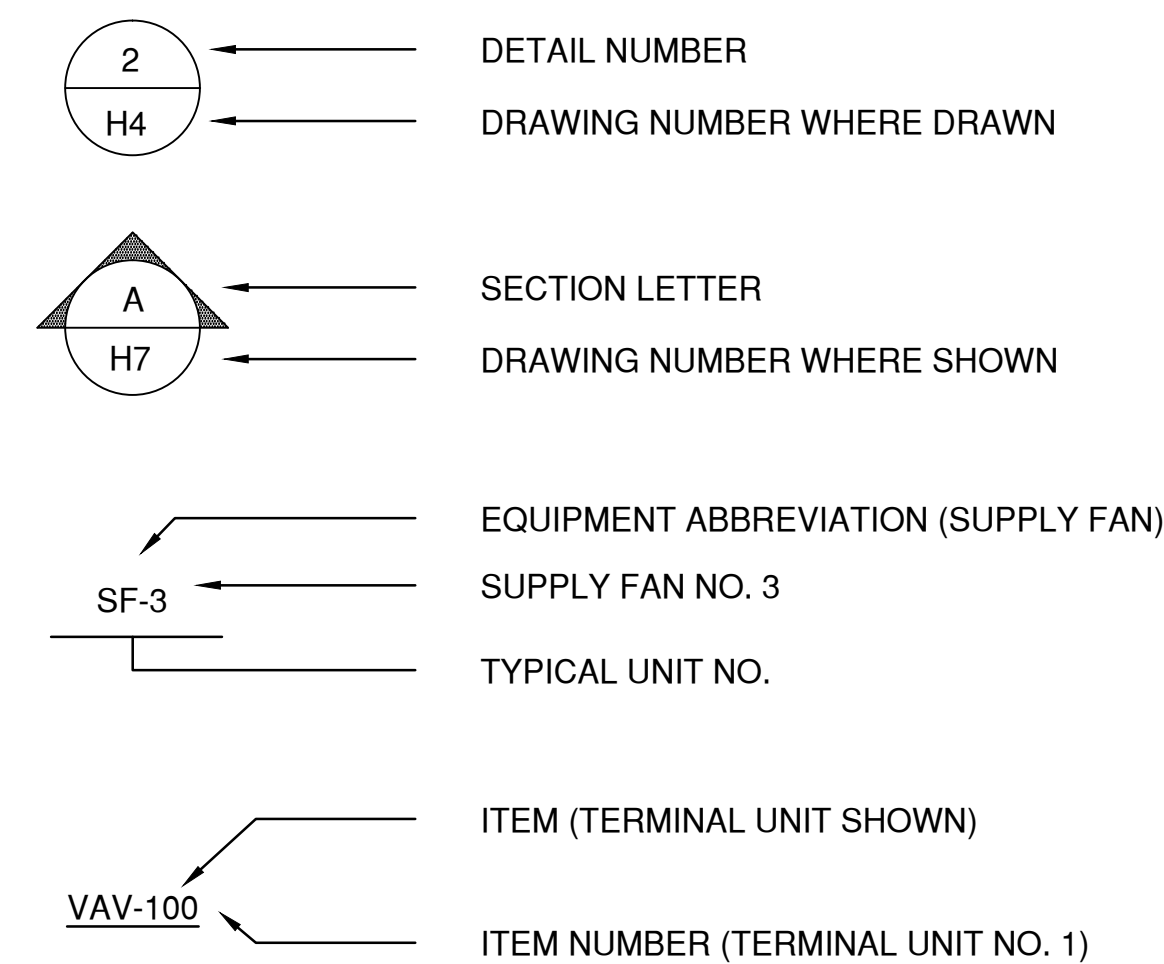
VALVE SYMBOLS



DUCTWORK SYMBOLS

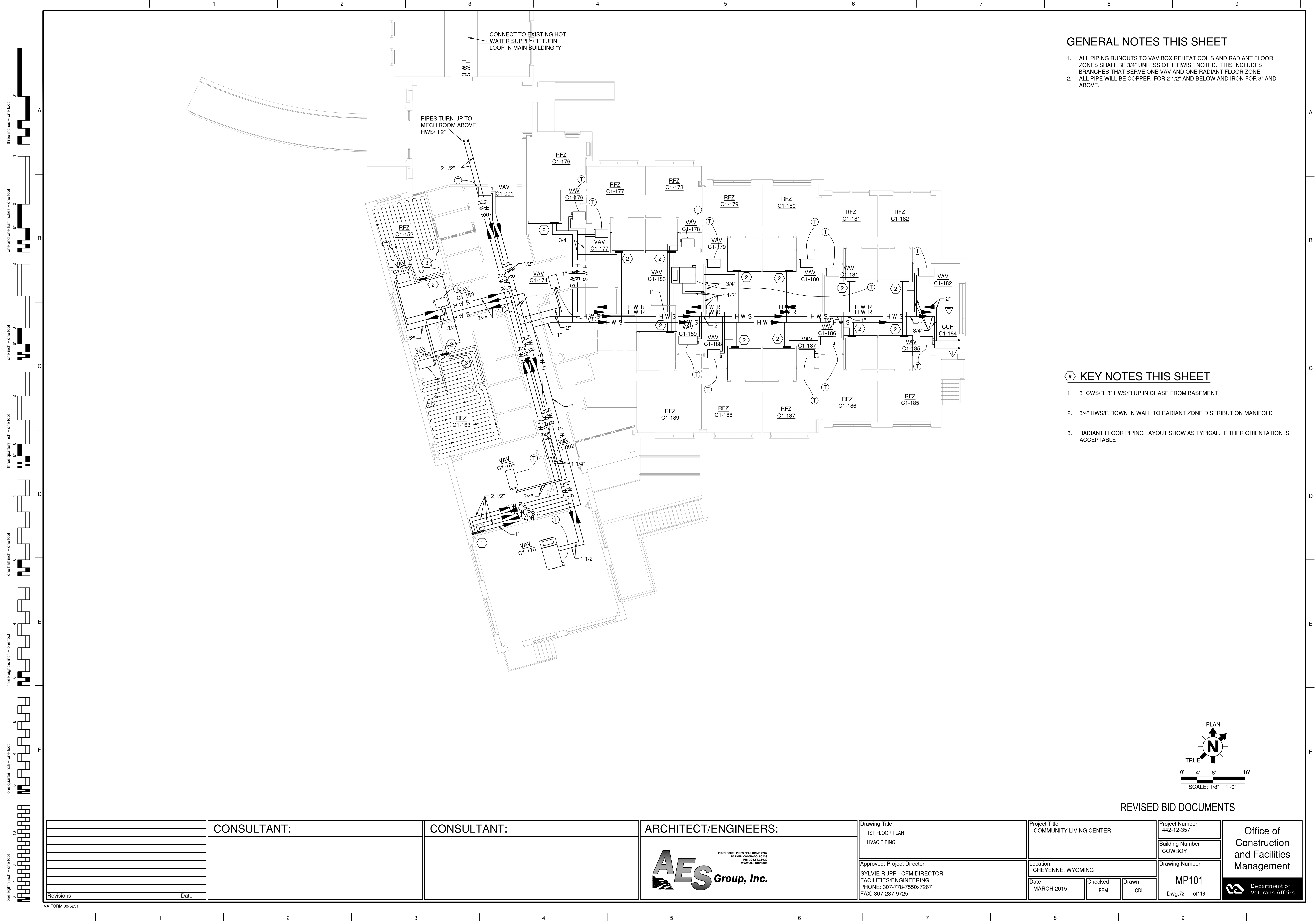


DRAWING SYMBOLS



REVISÉD BID DOCUMENTS

[illegible]

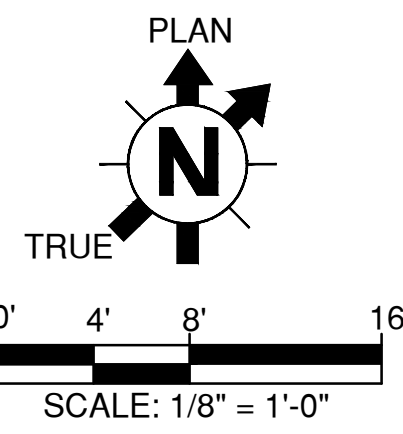


GENERAL NOTES THIS SHEET


1. ALL PIPING RUNOUTS TO VAV BOX REHEAT COILS AND RADIANT FLOOR ZONES SHALL BE 3/4" UNLESS OTHERWISE NOTED. THIS INCLUDES BRANCHES THAT SERVE ONE VAV AND ONE RADIANT FLOOR ZONE.
2. ALL PIPE WILL BE COPPER FOR 2 1/2" AND BELOW AND IRON FOR 3" AND ABOVE.


KEY NOTES THIS SHEET

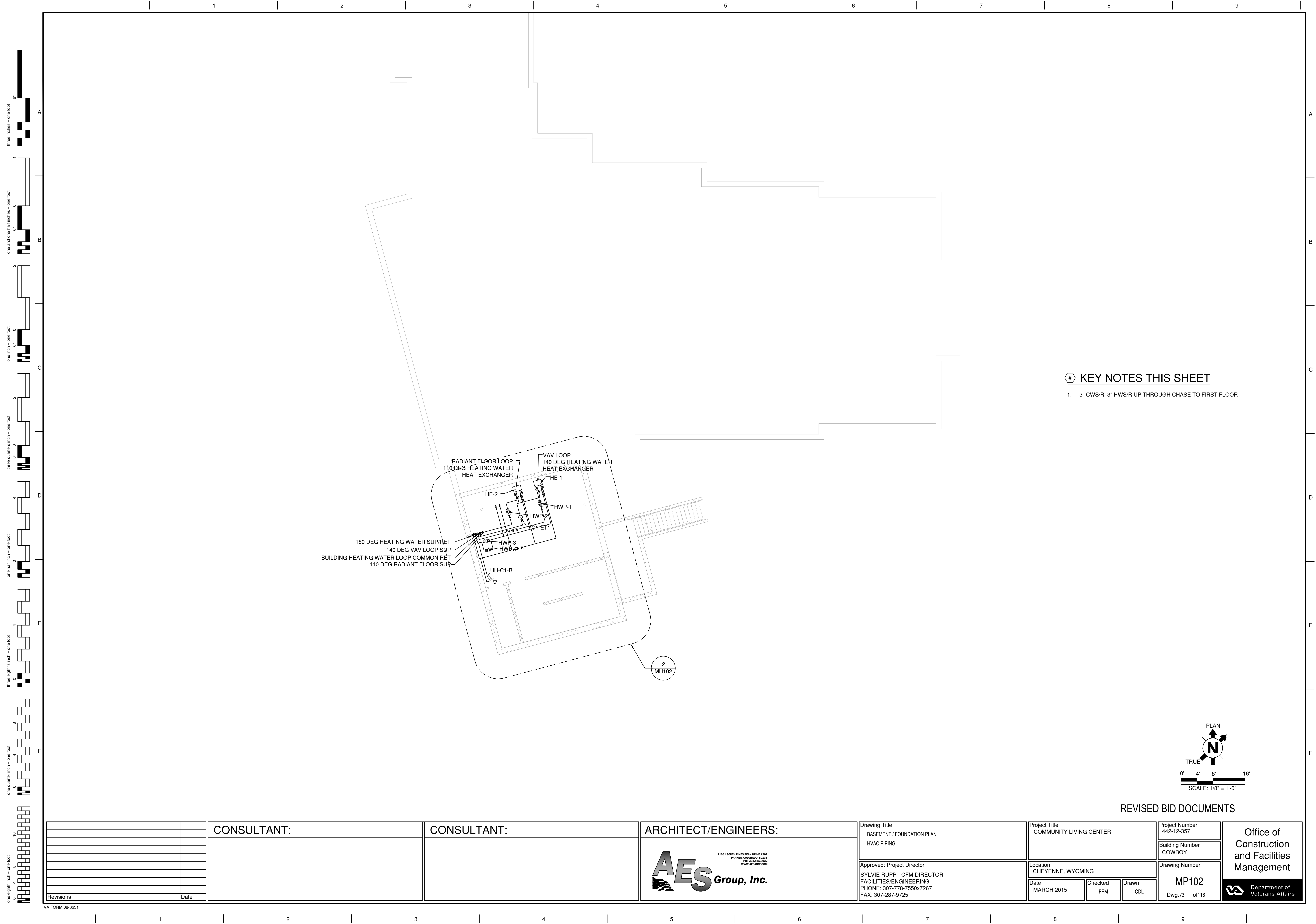
1. 3" CWS/R, 3" HWS/R UP IN CHASE FROM BASEMENT
2. 3/4" HWS/R DOWN IN WALL TO RADIANT ZONE DISTRIBUTION MANIFOLD
3. RADIANT FLOOR PIPING LAYOUT SHOW AS TYPICAL. EITHER ORIENTATION IS ACCEPTABLE

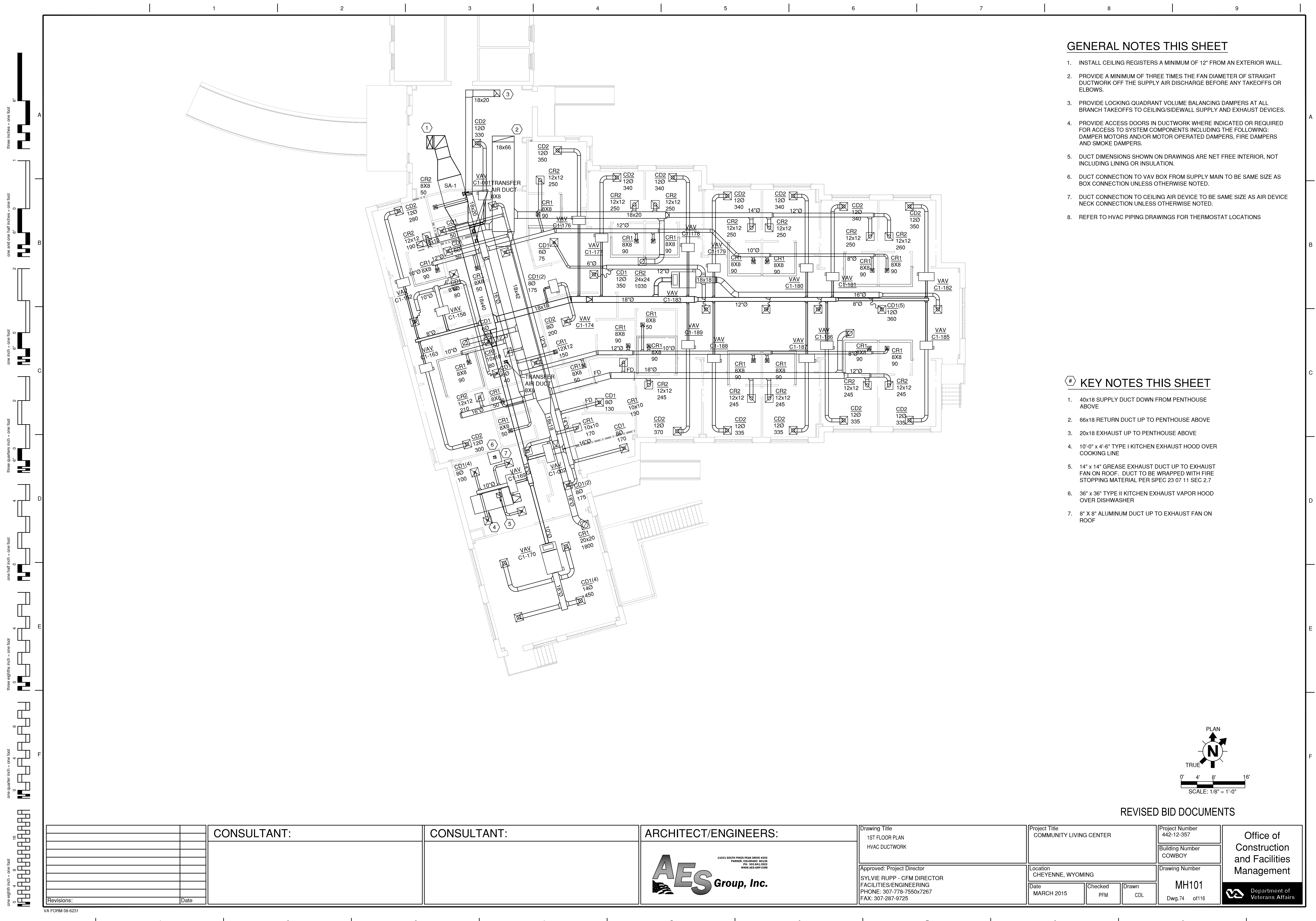


REVISED BID DOCUMENTS

		CONSULTANT:	CONSULTANT:	ARCHITECT/ENGINEERS:	Drawing Title 1ST FLOOR PLAN HVAC PIPING	Project Title COMMUNITY LIVING CENTER	Project Number 442-12-357	Office of Construction and Facilities Management	
				 <div>1001 SOUTH PINES PEAK DRIVE #202 PARKER, COLORADO 80138 PH: 303.443.3522 WWW.AES-GRP.COM</div>			Building Number COWBOY		
					Approved: Project Director SYLVIE RUPP - CFM DIRECTOR FACILITIES/ENGINEERING PHONE: 307-778-7550x7267 FAX: 307-287-9725	Location CHEYENNE, WYOMING	Drawing Number MP101		
					Date MARCH 2015	Checked PFM	Drawn CDL		Dwg.72 of116
Revisions:	Date								

	Department of Veterans Affairs
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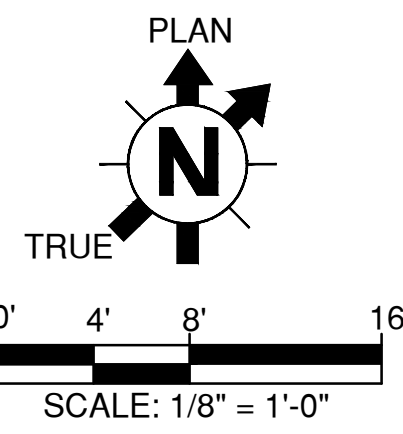


GENERAL NOTES THIS SHEET

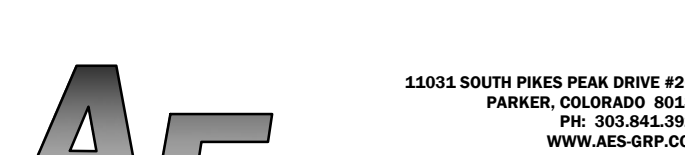

1. INSTALL CEILING REGISTERS A MINIMUM OF 12" FROM AN EXTERIOR WALL.
2. PROVIDE A MINIMUM OF THREE TIMES THE FAN DIAMETER OF STRAIGHT DUCTWORK OFF THE SUPPLY AIR DISCHARGE BEFORE ANY TAKEOFFS OR ELBOWS.
3. PROVIDE LOCKING QUADRANT VOLUME BALANCING DAMPERS AT ALL BRANCH TAKEOFFS TO CEILING/SIDEWALL SUPPLY AND EXHAUST DEVICES.
4. PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING THE FOLLOWING:
DAMPER MOTORS AND/OR MOTOR OPERATED DAMPERS, FIRE DAMPERS AND SMOKE DAMPERS.
5. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE NET FREE INTERIOR, NOT INCLUDING LINING OR INSULATION.
6. DUCT CONNECTION TO VAV BOX FROM SUPPLY MAIN TO BE SAME SIZE AS BOX CONNECTION UNLESS OTHERWISE NOTED.
7. DUCT CONNECTION TO CEILING AIR DEVICE TO BE SAME SIZE AS AIR DEVICE NECK CONNECTION UNLESS OTHERWISE NOTED.
8. REFER TO HVAC PIPING DRAWINGS FOR THERMOSTAT LOCATIONS

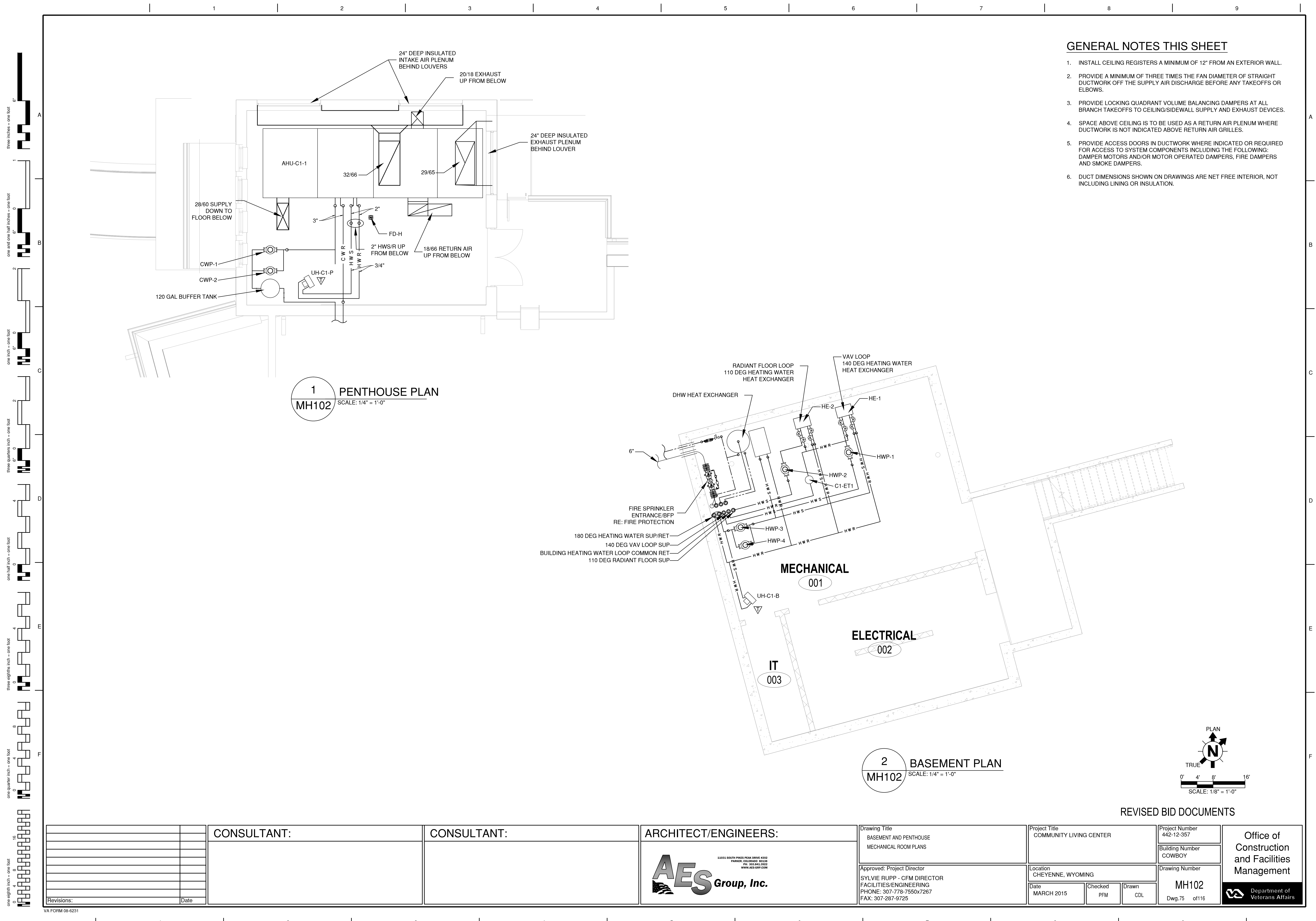
KEY NOTES THIS SHEET

1. 40x18 SUPPLY DUCT DOWN FROM PENTHOUSE ABOVE
2. 66x18 RETURN DUCT UP TO PENTHOUSE ABOVE
3. 20x18 EXHAUST UP TO PENTHOUSE ABOVE
4. 10'-0" x 4'-6" TYPE I KITCHEN EXHAUST HOOD OVER COOKING LINE
5. 14" x 14" GREASE EXHAUST DUCT UP TO EXHAUST FAN ON ROOF. DUCT TO BE WRAPPED WITH FIRE STOPPING MATERIAL PER SPEC 23 07 11 SEC 2.7
6. 36" x 36" TYPE II KITCHEN EXHAUST VAPOR HOOD OVER DISHWASHER
7. 8" X 8" ALUMINUM DUCT UP TO EXHAUST FAN ON ROOF



REVISED BID DOCUMENTS

		CONSULTANT:	CONSULTANT:	ARCHITECT/ENGINEERS: <div><div><div>15051 SOUTH PINES PEAK DRIVE #202 PARSONS, COLORADO 80131 PH: 303.844.3022 WWW.AES-GRP.COM</div></div></div>	Drawing Title 1ST FLOOR PLAN HVAC DUCTWORK		Project Title COMMUNITY LIVING CENTER		Project Number 442-12-357		Office of Construction and Facilities Management			
									Building Number COWBOY			Drawing Number MH101		
									Location CHEYENNE, WYOMING					
									Date MARCH 2015				Checked PFM	Drawn CDL
									Approved: Project Director SYLVIE RUPP - CFM DIRECTOR FACILITIES/ENGINEERING PHONE: 307-778-7550x7267 FAX: 307-287-9725				Dwg.74 of116	
Revisions:	Date												 Department of Veterans Affairs	

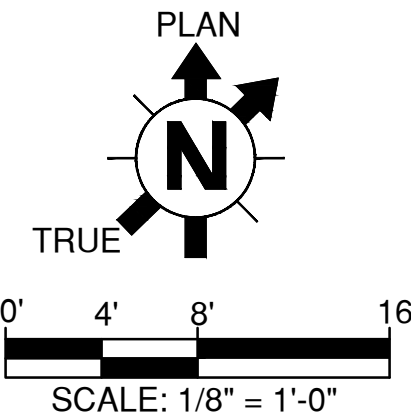


GENERAL NOTES THIS SHEET


- 1. INSTALL CEILING REGISTERS A MINIMUM OF 12" FROM AN EXTERIOR WALL.
- 2. PROVIDE A MINIMUM OF THREE TIMES THE FAN DIAMETER OF STRAIGHT DUCTWORK OFF THE SUPPLY AIR DISCHARGE BEFORE ANY TAKEOFFS OR ELBOWS.
- 3. PROVIDE LOCKING QUADRANT VOLUME BALANCING DAMPERS AT ALL BRANCH TAKEOFFS TO CEILING/SIDEWALL SUPPLY AND EXHAUST DEVICES.
- 4. SPACE ABOVE CEILING IS TO BE USED AS A RETURN AIR PLENUM WHERE DUCTWORK IS NOT INDICATED ABOVE RETURN AIR GRILLES.
- 5. PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING THE FOLLOWING: DAMPER MOTORS AND/OR MOTOR OPERATED DAMPERS, FIRE DAMPERS AND SMOKE DAMPERS.
- 6. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE NET FREE INTERIOR, NOT INCLUDING LINING OR INSULATION.

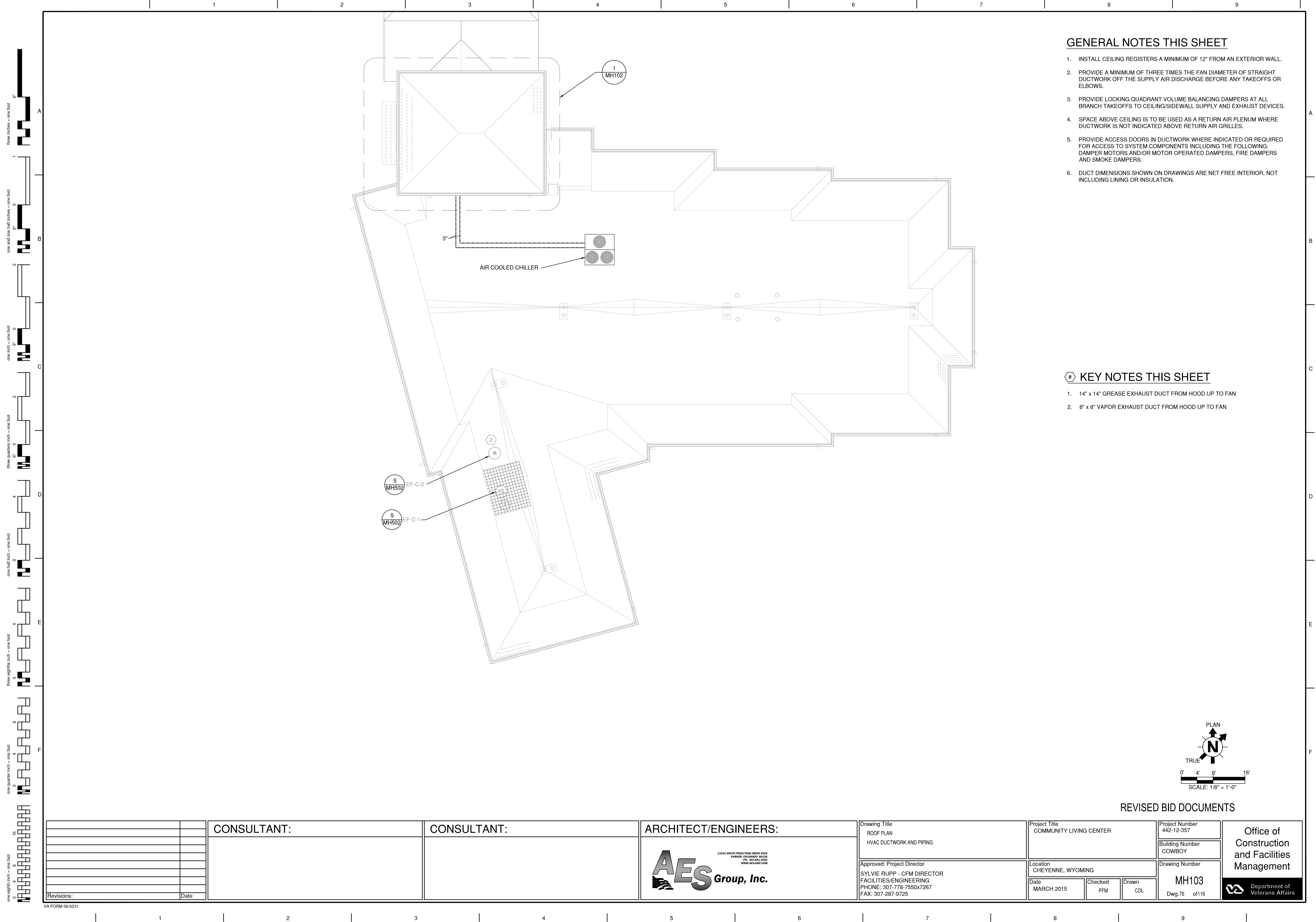
1 PENTHOUSE PLAN
MH102 SCALE: 1/4" = 1'-0"

2 BASEMENT PLAN
MH102 SCALE: 1/4" = 1'-0"



REVISED BID DOCUMENTS

		CONSULTANT:	CONSULTANT:	ARCHITECT/ENGINEERS:	<div><div><div>22851 SOUTH PINES PEAK DRIVE #202 PARADE, COLORADO 80138 PH: 303.844.3022 WWW.AES-GRP.COM</div></div></div>	Drawing Title		Project Title		Project Number		Office of Construction and Facilities Management	
						BASEMENT AND PENTHOUSE MECHANICAL ROOM PLANS		COMMUNITY LIVING CENTER		442-12-357			
										Building Number			
										COWBOY			
								Approved: Project Director		Location		Drawing Number	
								SYLVIE RUPP - CFM DIRECTOR		CHEYENNE, WYOMING		MH102	
								FACILITIES/ENGINEERING		Date		Dwg.75 of116	
								PHONE: 307-778-7550x7267		MARCH 2015		Checked	
								FAX: 307-287-9725				PFM	
												Drawn	
								CDL					
Revisions:	Date									Department of Veterans Affairs			





GENERAL NOTES THIS SHEET

1. INSTALL CEILING REGISTERS A MINIMUM OF 12" FROM AN EXTERIOR WALL.
2. PROVIDE A MINIMUM OF THREE TIMES THE FAN DIAMETER OF STRAIGHT DUCTWORK OFF THE SUPPLY AIR DISCHARGE BEFORE ANY TAKEOFFS OR ELBOWS.
3. PROVIDE LOCKING QUADRANT VOLUME BALANCING DAMPERS AT ALL BRANCH TAKEOFFS TO CEILING/SIDEWALL SUPPLY AND EXHAUST DEVICES.
4. SPACE ABOVE CEILING IS TO BE USED AS A RETURN AIR PLENUM WHERE DUCTWORK IS NOT INDICATED ABOVE RETURN AIR GRILLES.
5. PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING THE FOLLOWING: DAMPER MOTORS AND/OR MOTOR OPERATED DAMPERS, FIRE DAMPERS AND SMOKE DAMPERS.
6. DUCT DIMENSIONS SHOWN ON DRAWINGS ARE NET FREE INTERIOR, NOT INCLUDING LINING OR INSULATION.

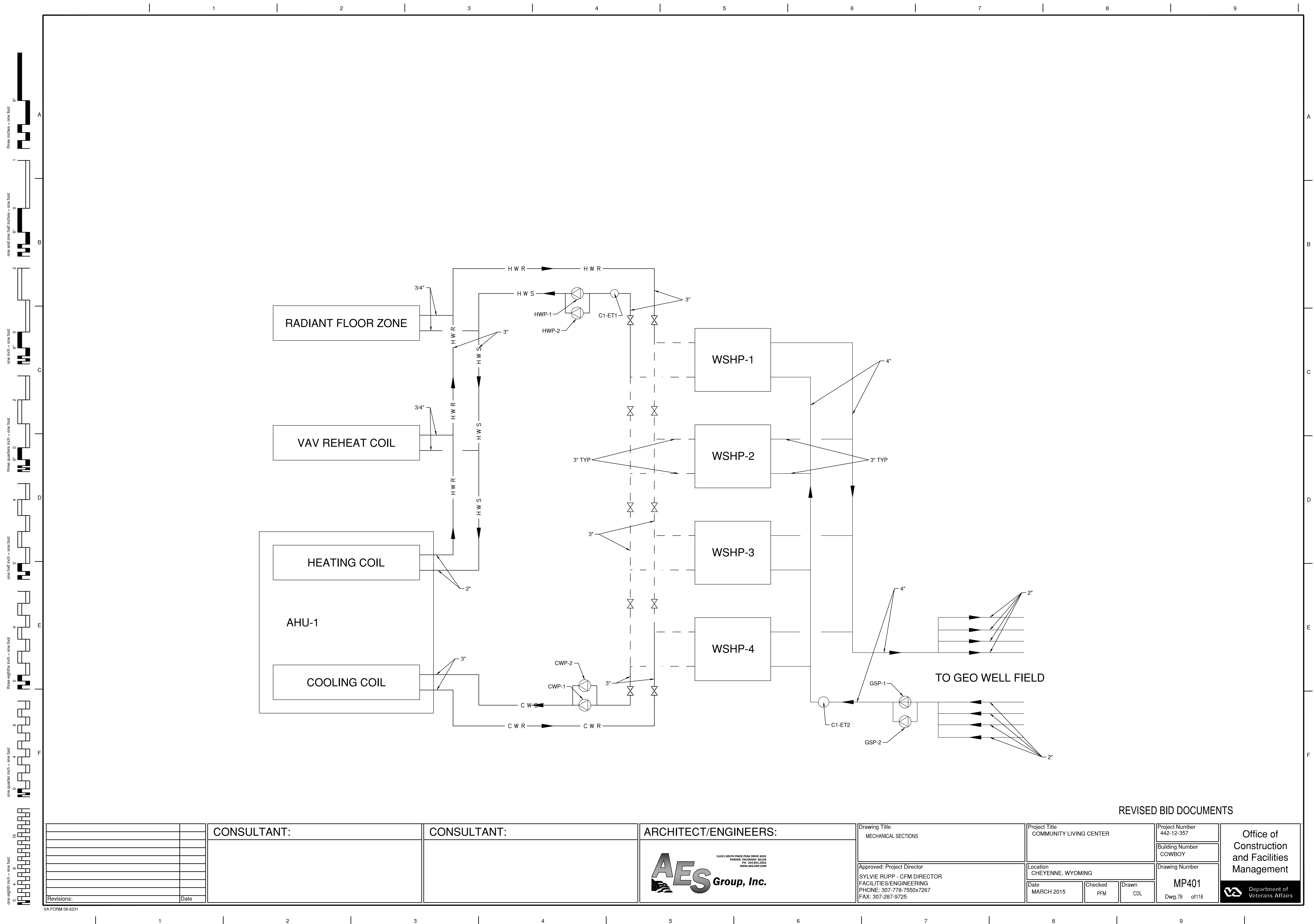
KEY NOTES THIS SHEET

1. 14" x 14" GREASE EXHAUST DUCT FROM HOOD UP TO FAN
2. 8" x 8" VAPOR EXHAUST DUCT FROM HOOD UP TO FAN


REVISED BID DOCUMENTS

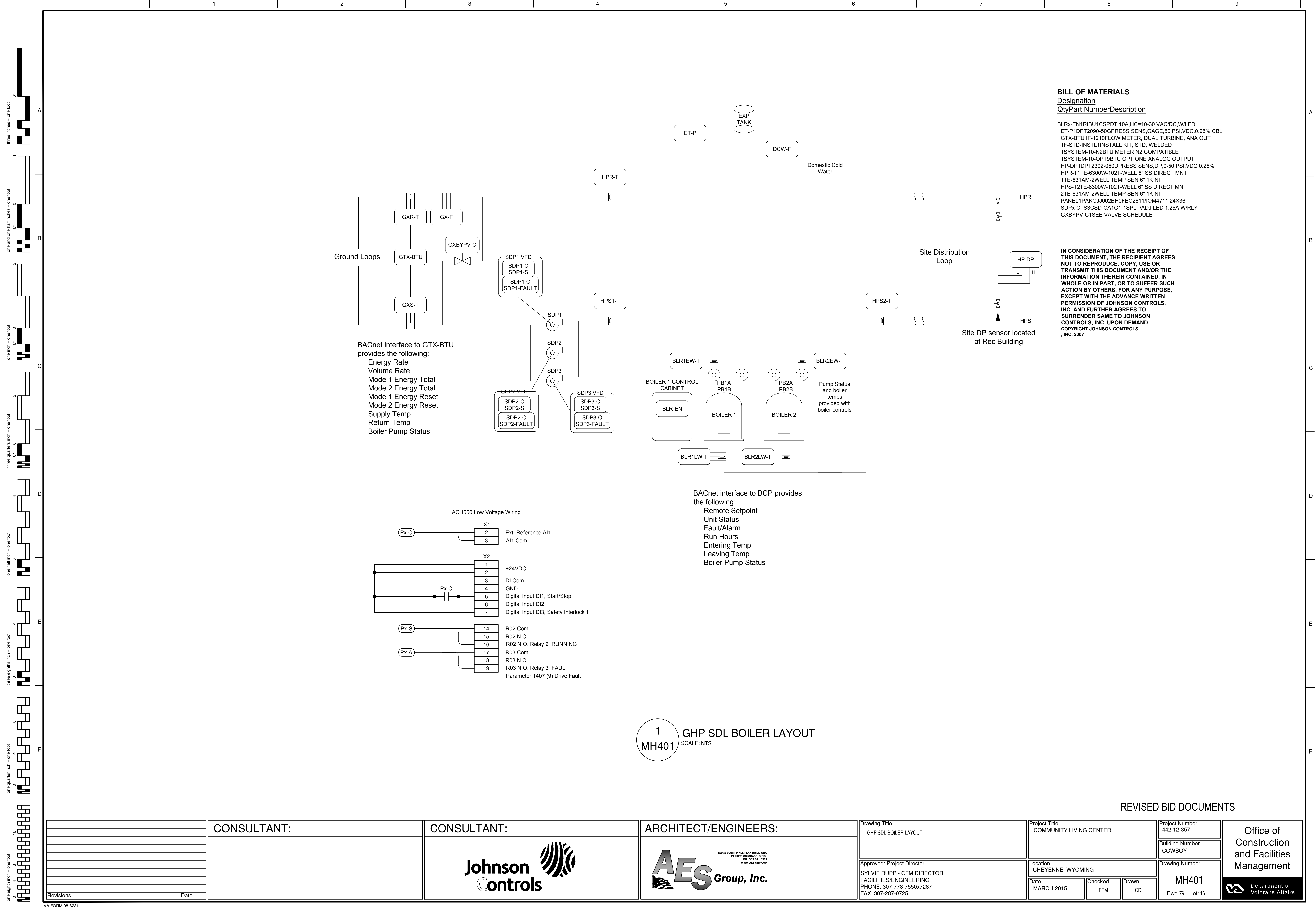
		CONSULTANT:	CONSULTANT:	ARCHITECT/ENGINEERS:	Drawing Title ROOF PLAN HVAC DUCTWORK AND PIPING	Project Title COMMUNITY LIVING CENTER	Project Number 442-12-357	Office of Construction and Facilities Management	
				 <div>11011 SOUTH PINES PEAK DRIVE #202 PARKER, COLORADO 80138 PH: 303.844.3922 WWW.AES-GRP.COM</div>			Building Number COWBOY		
					Approved: Project Director SYLVIE RUPP - CFM DIRECTOR FACILITIES/ENGINEERING PHONE: 307-778-7550x7267 FAX: 307-287-9725	Location CHEYENNE, WYOMING	Drawing Number MH103		
						Date MARCH 2015	Checked PFM		Drawn CDL
Revisions:	Date						Dwg.76 of116	 Department of Veterans Affairs	

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REVISED BID DOCUMENTS

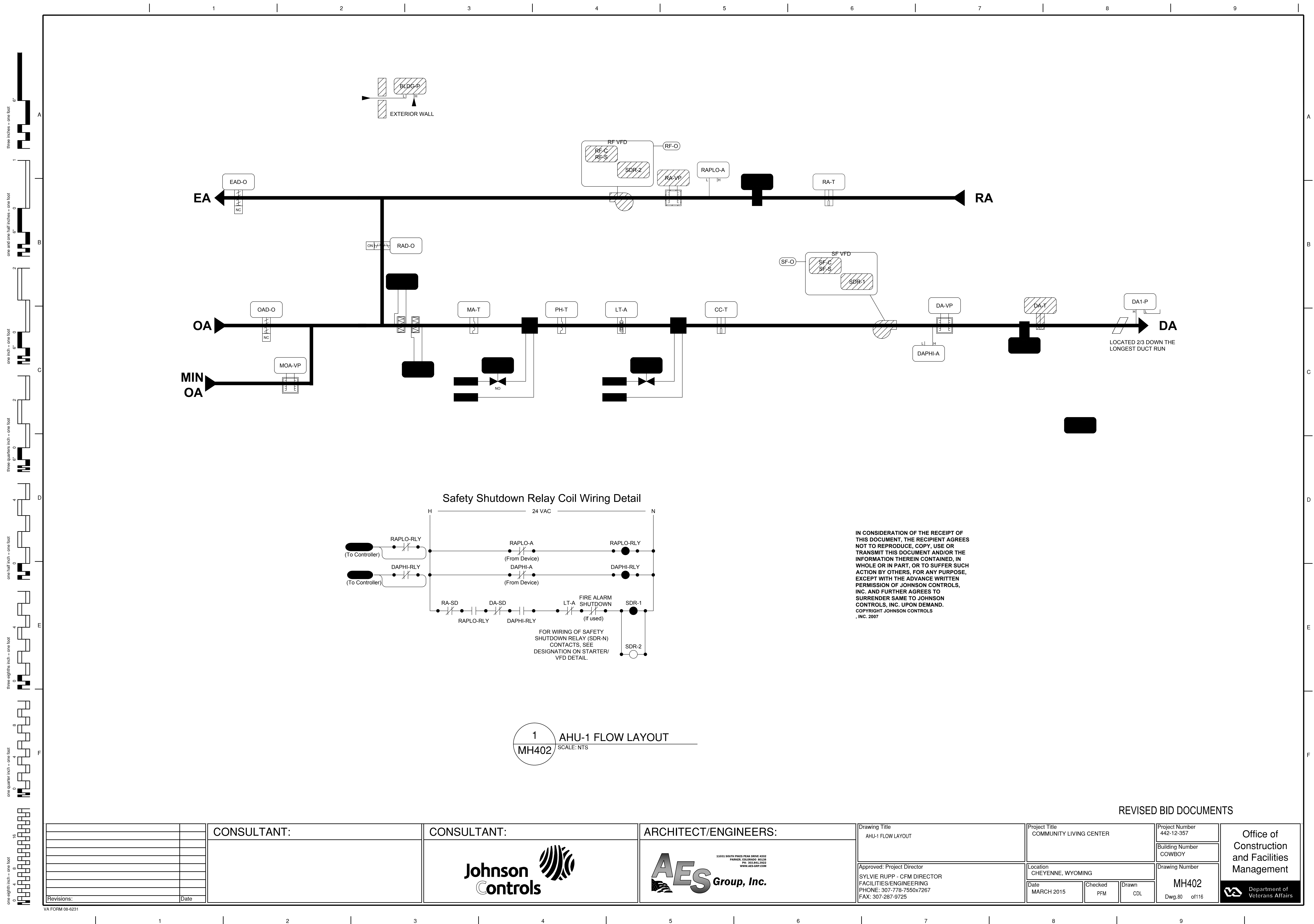
		CONSULTANT:	CONSULTANT:	ARCHITECT/ENGINEERS: <div><div></div><div>11011 SOUTH PINES PEAK DRIVE #202 PARKER, COLORADO 80138 PH: 303.844.3922 WWW.AES-GRP.COM</div></div>	Drawing Title MECHANICAL SECTIONS	Project Title COMMUNITY LIVING CENTER	Project Number 442-12-357	Office of Construction and Facilities Management	
					Building Number COWBOY				
						Location CHEYENNE, WYOMING	Drawing Number MP401	Department of Veterans Affairs	
						Date MARCH 2015	Checked PFM		Dwg.78 of116
							Drawn CDL		
Revisions:	Date								



1
MH401
GHP SDL BOILER LAYOUT
SCALE: NTS

REVISED BID DOCUMENTS

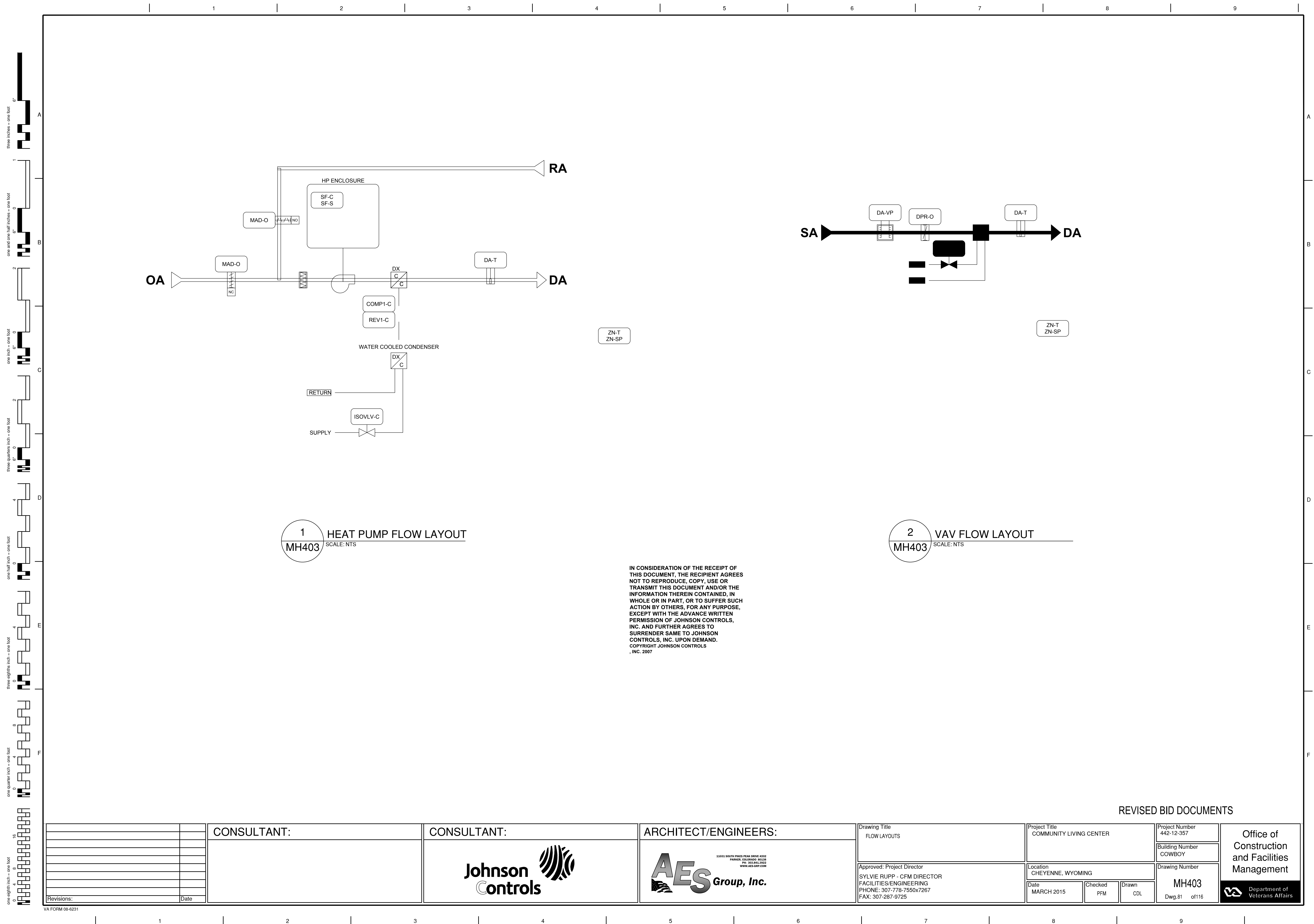
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							Building Number COWBOY	
							Drawing Number MH401	
							Dwg.79 of116	
								Department of Veterans Affairs



1 AHU-1 FLOW LAYOUT
MH402 SCALE: NTS

REVISED BID DOCUMENTS

		CONSULTANT:	CONSULTANT:	ARCHITECT/ENGINEERS:	Drawing Title AHU-1 FLOW LAYOUT	Project Title COMMUNITY LIVING CENTER	Project Number 442-12-357	Office of Construction and Facilities Management
							Building Number COWBOY	
	</							



1 HEAT PUMP FLOW LAYOUT
MH403 SCALE: NTS

2 VAV FLOW LAYOUT
MH403 SCALE: NTS

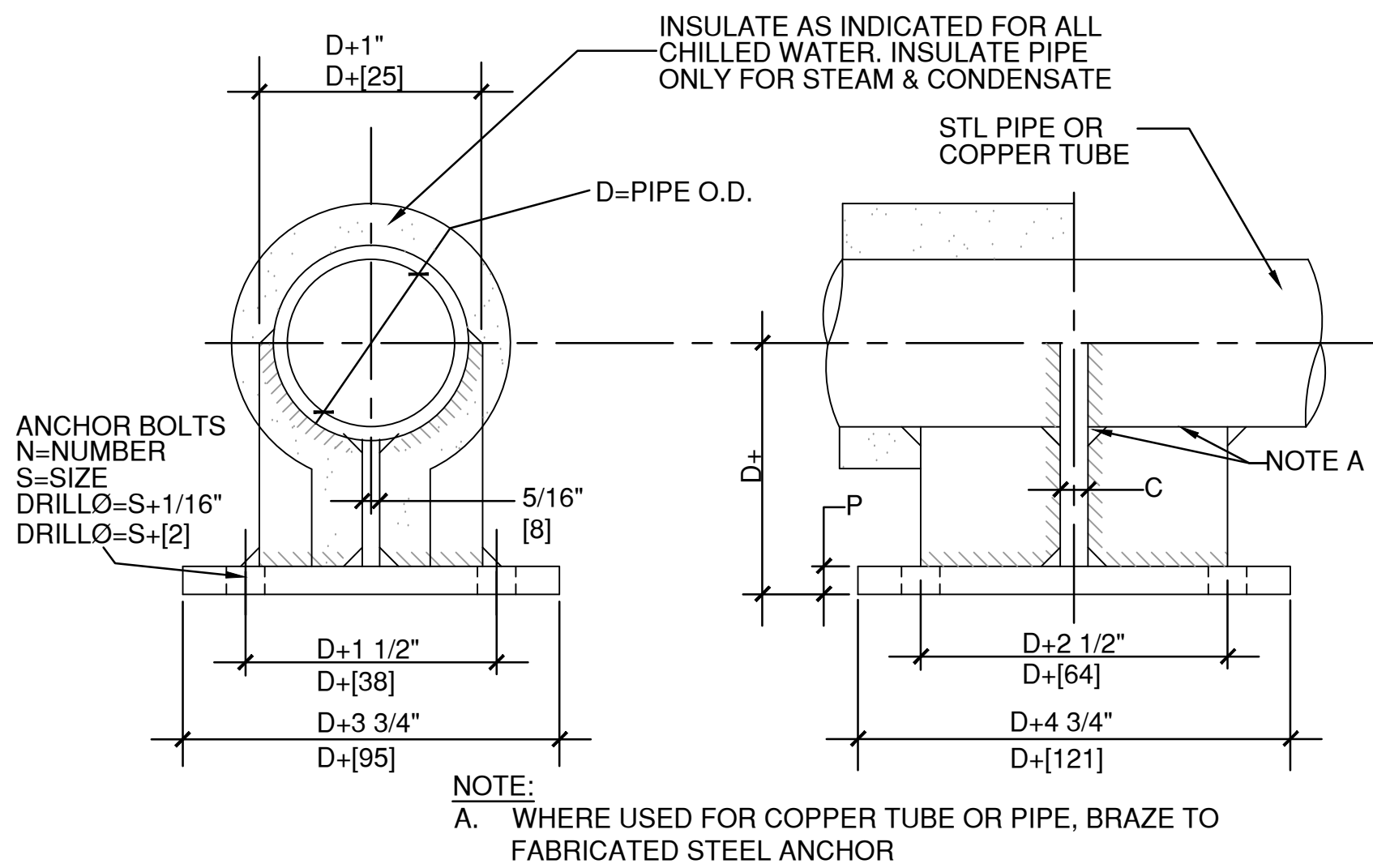
IN CONSIDERATION OF THE RECEIPT OF THIS DOCUMENT, THE RECIPIENT AGREES NOT TO REPRODUCE, COPY, USE OR TRANSMIT THIS DOCUMENT AND/OR THE INFORMATION THEREIN CONTAINED, IN WHOLE OR IN PART, OR TO SUFFER SUCH ACTION BY OTHERS, FOR ANY PURPOSE, EXCEPT WITH THE ADVANCE WRITTEN PERMISSION OF JOHNSON CONTROLS, INC. AND FURTHER AGREES TO SURRENDER SAME TO JOHNSON CONTROLS, INC. UPON DEMAND. COPYRIGHT JOHNSON CONTROLS, INC. 2007

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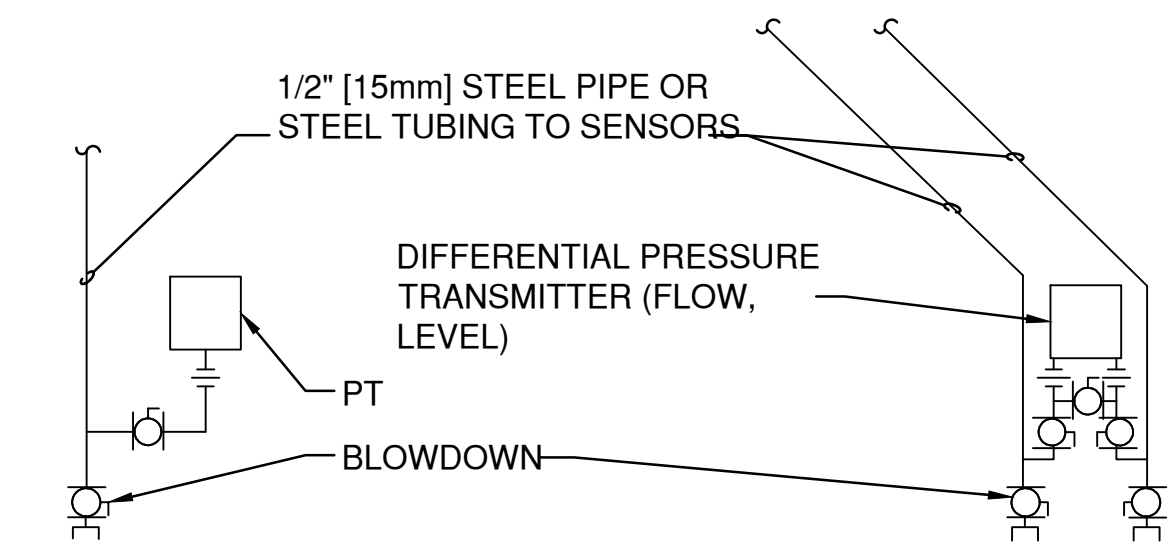
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Revisions:	Date				Approved: Project Director SYLVIE RUPP - CFM DIRECTOR FACILITIES/ENGINEERING PHONE: 307-778-7550x7267 FAX: 307-287-9725	Location CHEYENNE, WYOMING	Drawing Number MH403 Dwg.81 of116	Department of Veterans Affairs



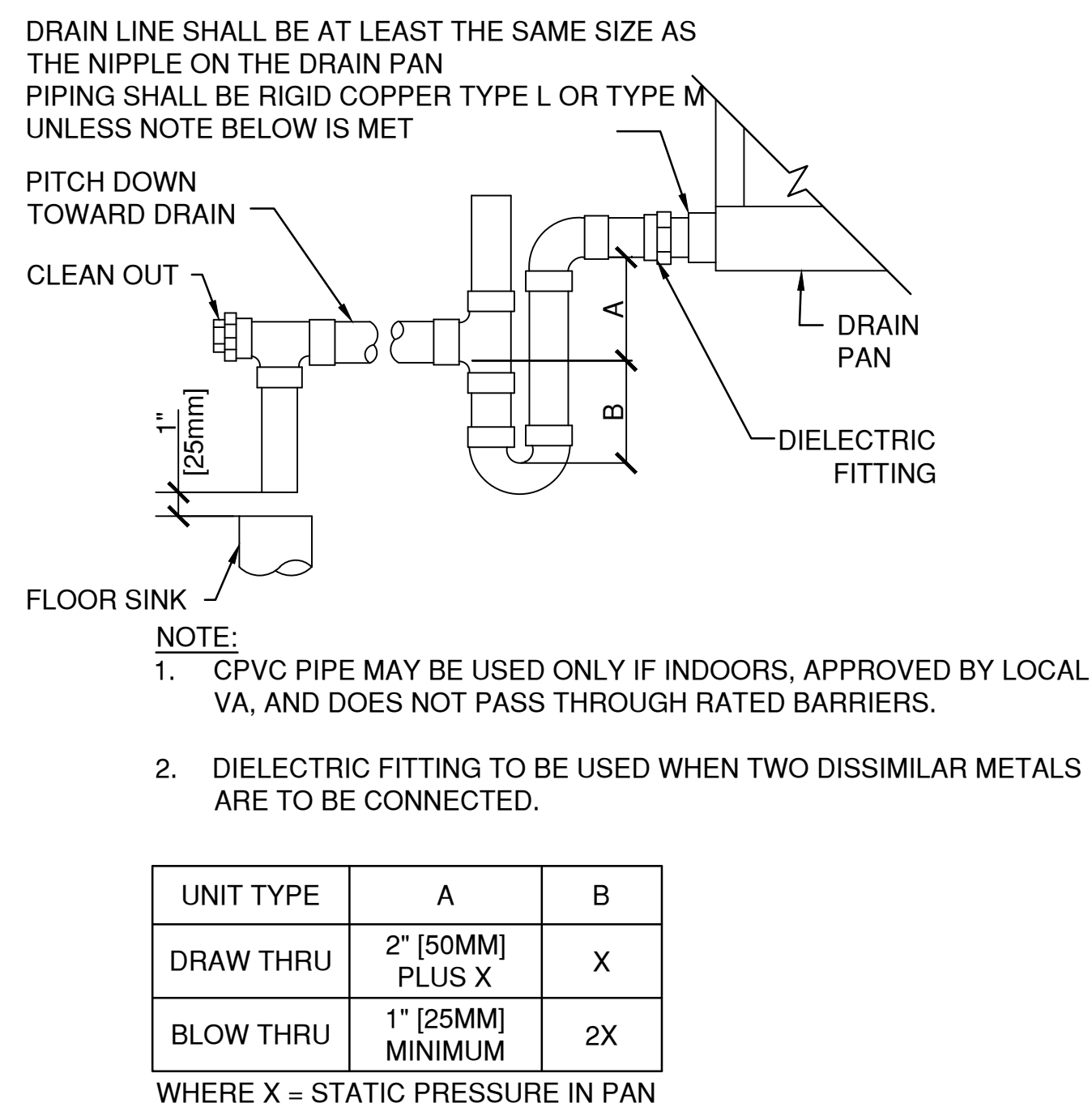
PIPE ANCHOR SCHEDULE											
D		P		C		N		S		BOLT PATTERN	
IN	MM	IN	MM	IN	MM	IN	MM	IN	MM		
4	102	5/8	16	3/4	19	4	102	3/4	19		
3	76	1/2	13	1/2	13	4	102	5/8	16		
2 1/2	64	3/8	10	3/8	10	4	102	5/8	16		
2	51	3/8	10	3/8	10	4	102	5/8	16		
1 1/2	38	3/8	10	1/4	6	4	102	1/2	13		



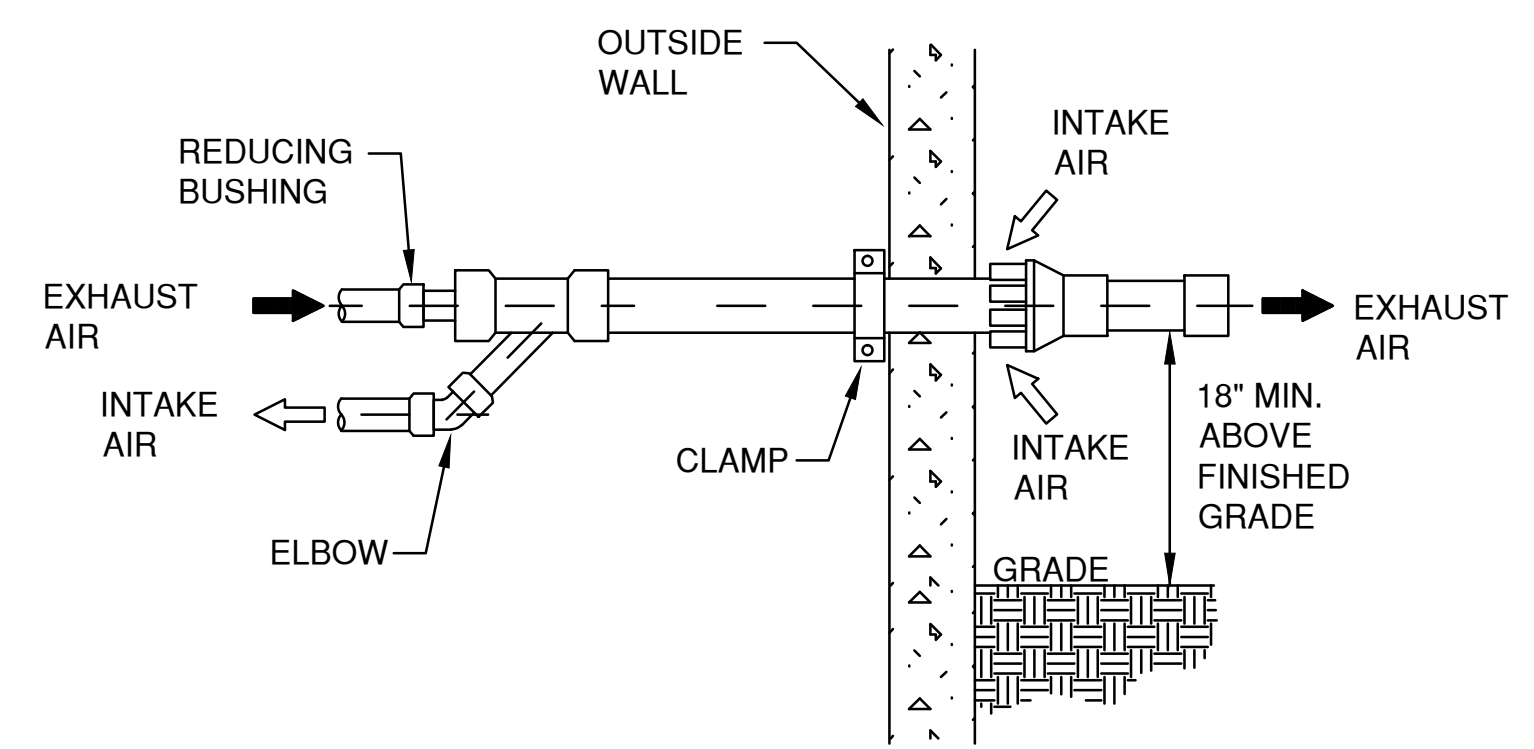
1 SMALL PIPE ANCHOR 1 1/2" - 4"
MH502 SCALE: NTS



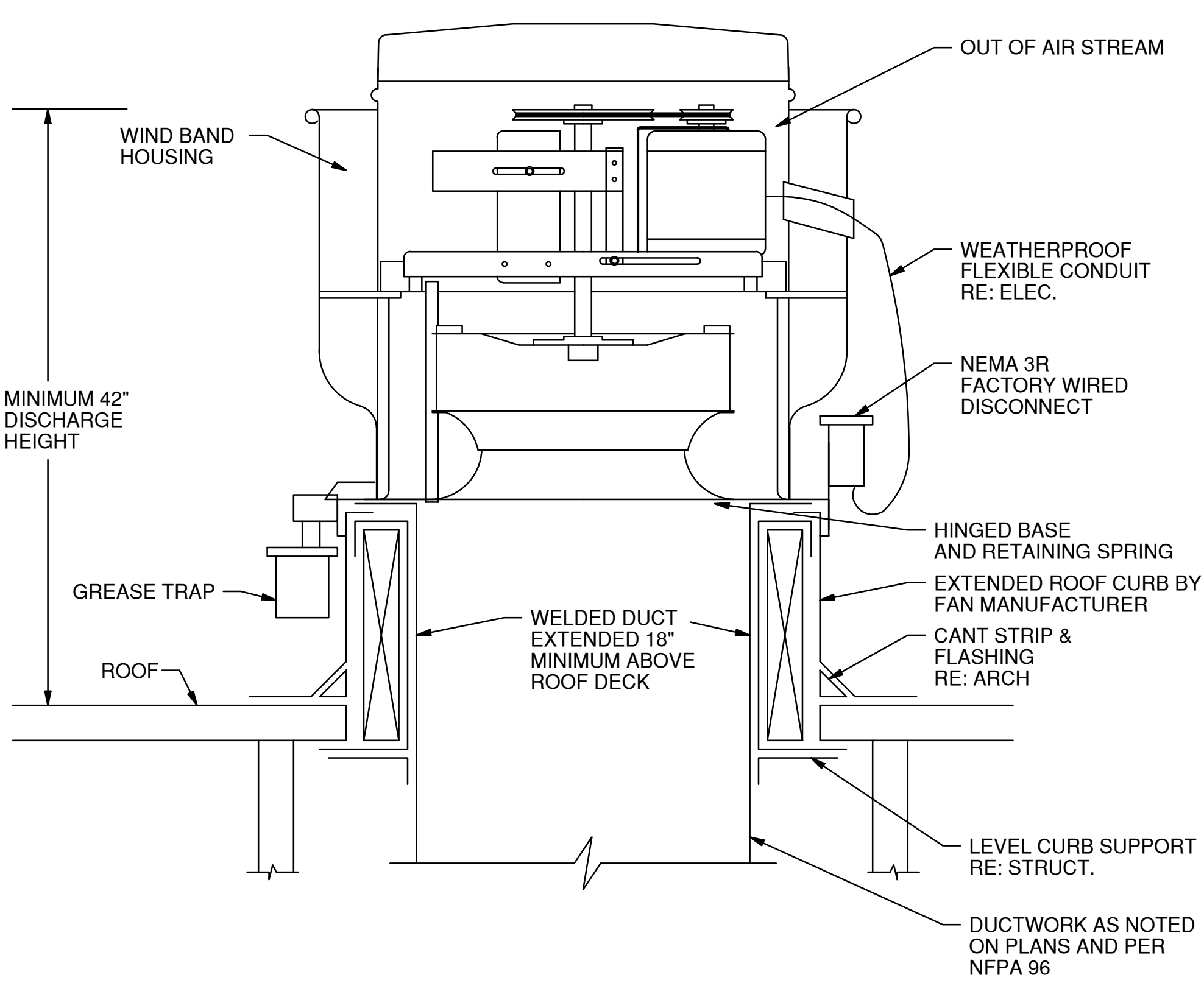
2 PRESSURE TRANSMITTER INSTALLATION
MH502 SCALE: NTS



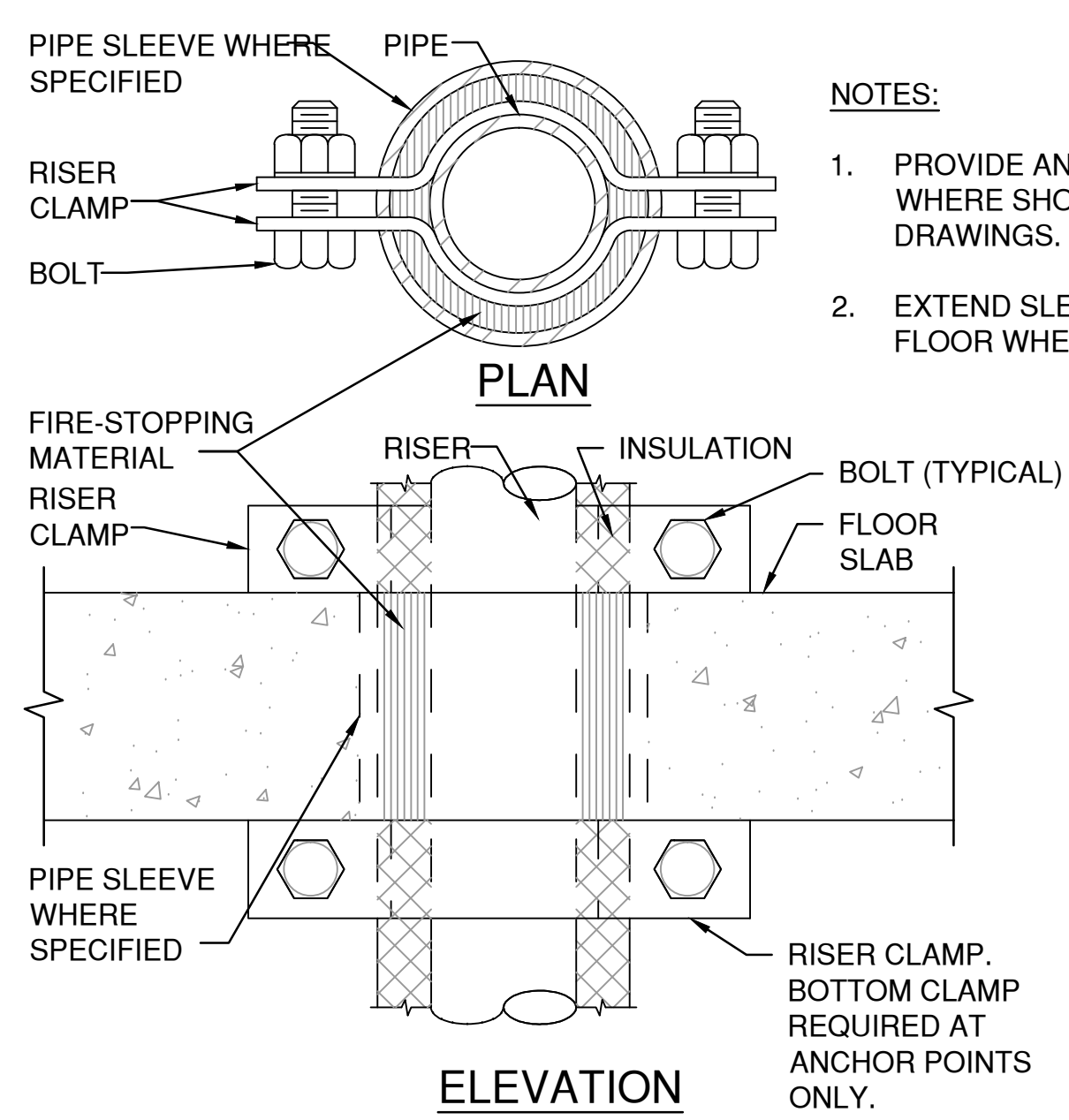
3 AIR HANDLING UNIT DRAIN TRAP
MH502 SCALE: NTS



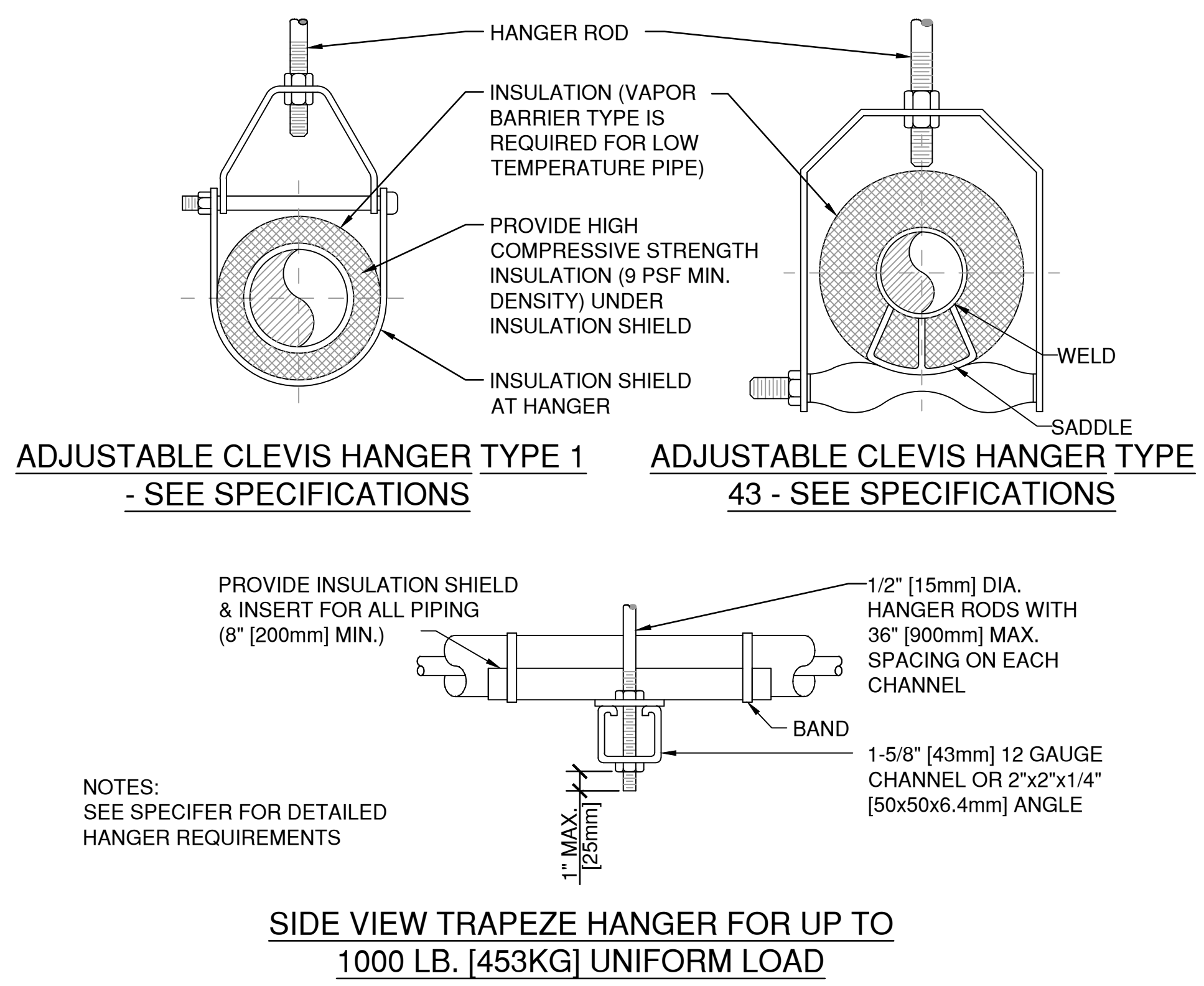
4 CONCENTRIC WALL TERMINATION
MH502 SCALE: NTS



5 UPBLAST EXHAUST FAN
MH502 SCALE: NTS



6 SUPPORT/ANCHOR FOR PIPE RISERS
MH502 SCALE: NTS

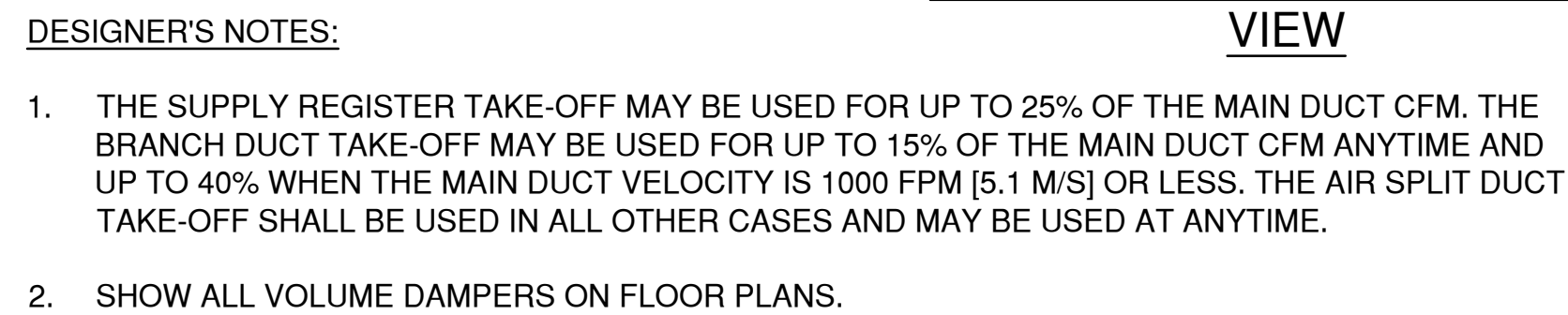
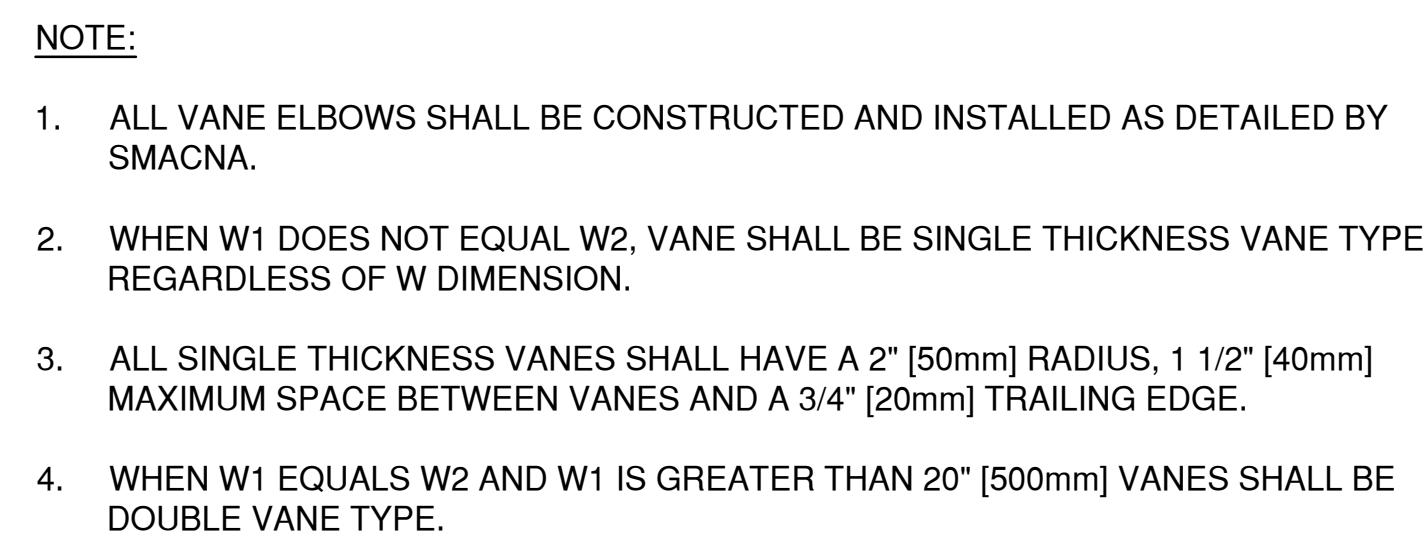


MAXIMUM PIPE/TUBING SUPPORT SPACING																	
NOM. SIZE IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20
mm	THRU 20	25	32	40	50	65	75	100	125	150	200	250	300	350	400	450	500
PIPE IN.	7	7	7	9	10	11	12	14	16	17	19	22	23	25	27	28	30
mm	2100	2100	2100	2700	3000	3400	3700	4100	4900	5200	5800	6700	7000	7600	8200	8500	9100
TUBING IN.	5 FT	6	7	8	8	9	10	12	13	14	16	-	-	-	-	-	-
mm	1500	1800	2100	2400	2400	2700	3000	3700	4000	4100	4900						

NOTE: FOR TRAPEZE HANGER, TAKE SPACING OF SMALLEST SIZE ON TRAPEZE

7 PIPE HANGERS
MH502 SCALE: NTS

Revisions:	Date	CONSULTANT:	CONSULTANT:	ARCHITECT/ENGINEERS:	Drawing Title MECHANICAL DETAILS	Project Title COMMUNITY LIVING CENTER	Project Number 442-12-357	Office of Construction and Facilities Management Department of Veterans Affairs
					Approved: Project Director SYLVIE RUPP - CFM DIRECTOR FACILITIES/ENGINEERING PHONE: 307-778-7550x7267 FAX: 307-287-9725	Location CHEYENNE, WYOMING	Building Number COWBOY	
					Date MARCH 2015	Checked PFM	Drawn CDL	



HANGER RODS

BAND

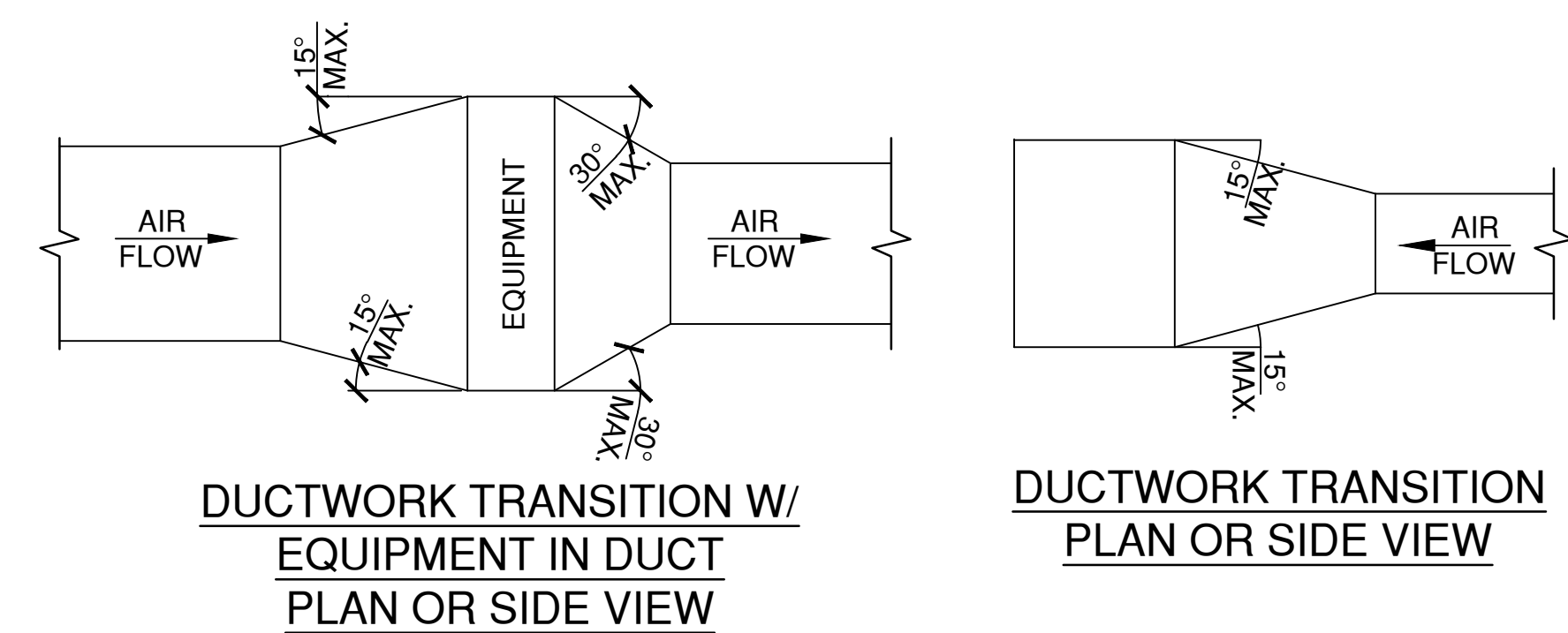
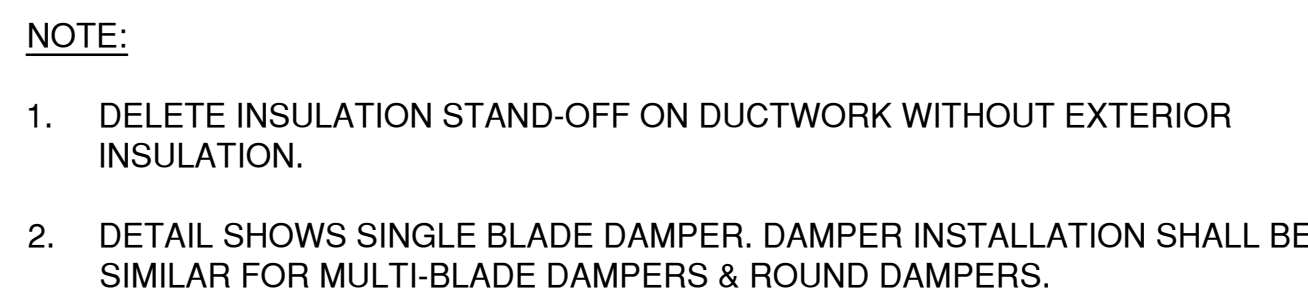
OVER 50" [1250mm] Ø

LOAD RATED FASTENERS

BAND SAME SIZE AS HANGER STRAP

50" [1250mm] Ø & UNDER

NOTE:
TABULATED DATA FROM SMACNA ALLOWS FOR DUCT
REINFORCING AND INSULATION, BUT NO EXTERNAL LOAD.

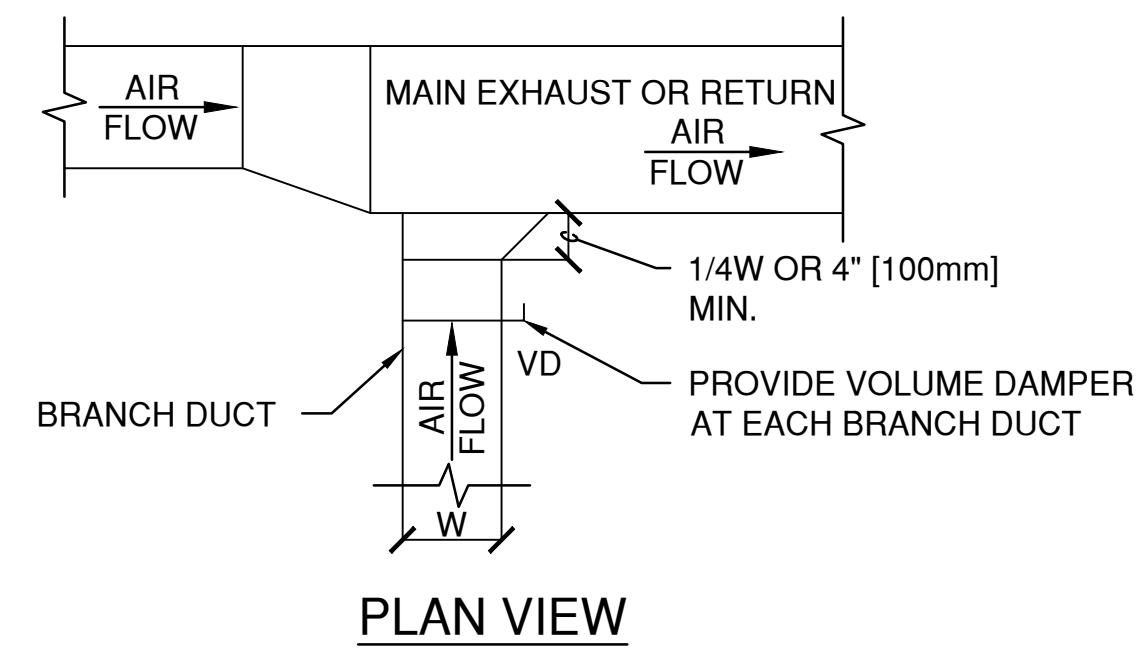


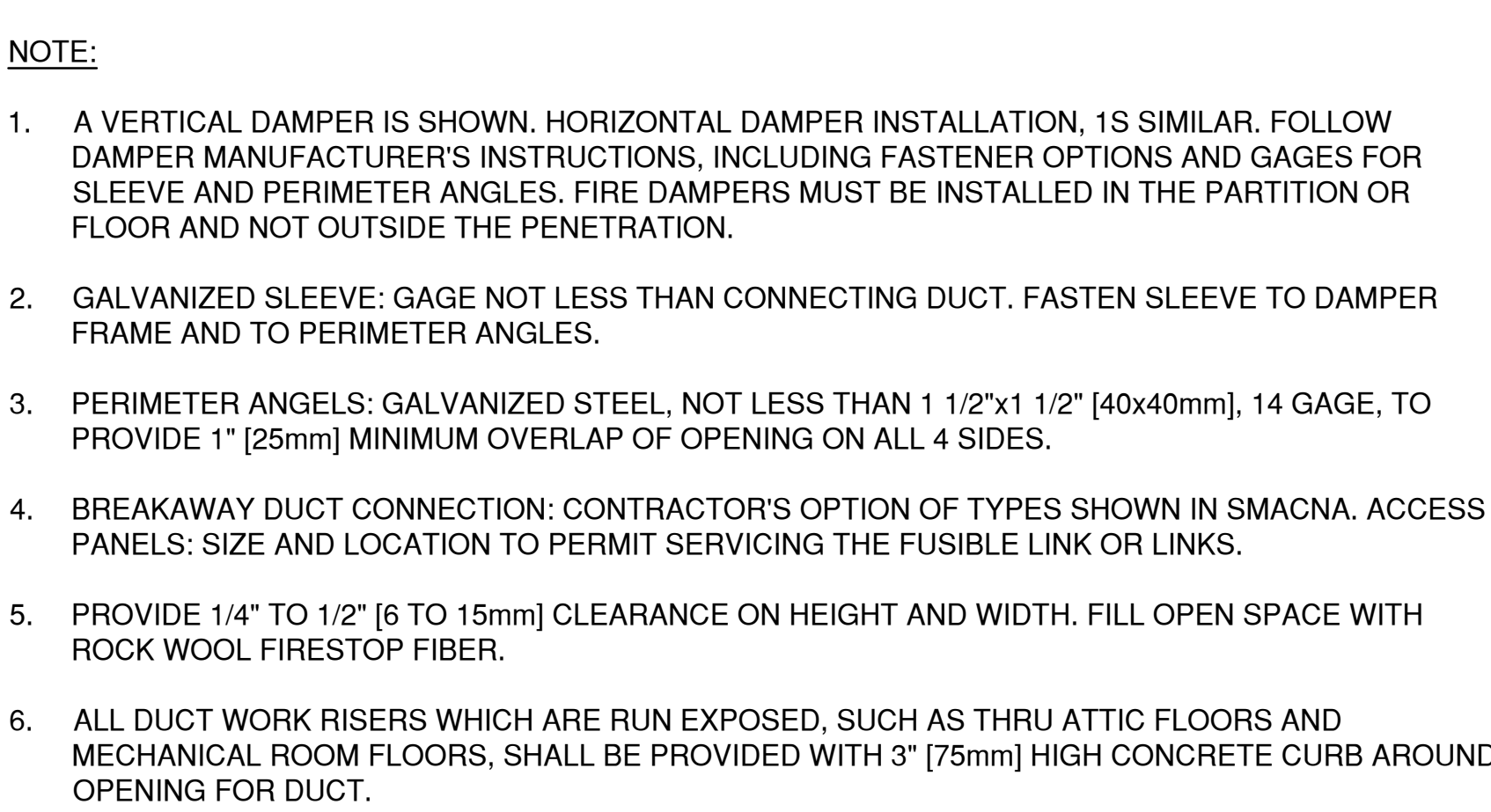
NOTE:
UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.



NOTE:

1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

VA FORM 08-6231



2
MH504

FIRE DAMPER INSTALLATION SECTION

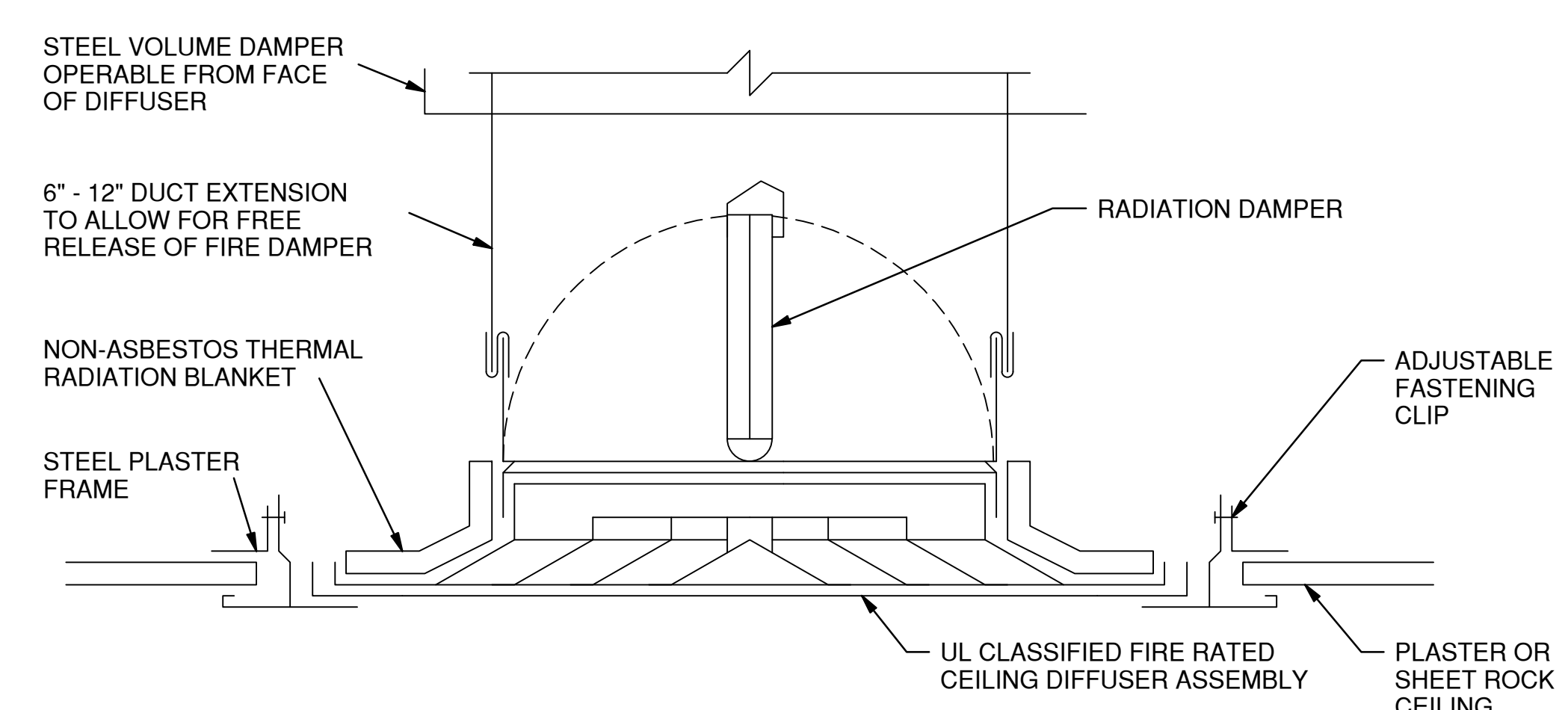
SCALE: NTS



THE DIAMETER OF INLET

2. A FLEXIBLE AIR DUCT CONNECTOR IS NOT MANDATORY FOR INLET TO THIS BOX, BUT ALLOWED TO ACCOMMODATE MINOR OFFSETS. MAXIMUM LENGTH 3'-0" [900mm].
3. A BRANCH DUCT SERVING AN INDIVIDUAL BOX MAY BE THE SAME SIZE AS THE BOX INLET, PROVIDED THE EQUIVALENT LENGTH OF THE BRANCH DUCT, AS SHOWN, DOES NOT EXCEED 10 FEET (3 METERS). FOR LONGER LENGTHS, INCREASE THE DUCT SIZE AND PROVIDE A DUCT TRANSITION TO MAINTAIN THE DUCT STATIC PRESSURE DROP AT OR BELOW 0.2"/100' [1.64Pa/m].
4. FLEXIBLE AIR DUCT CONNECTORS, WHEN USED FROM TERMINAL UNIT SUPPLY AIR DUCT TO DIFFUSER, SHALL NOT EXCEED 5'-0" [1500mm]. USE RIGID ELBOWS FOR CHANGE OF DIRECTION GREATER THAN 45°.
5. COMPONENT ARRANGEMENT MAY VARY BY MANUFACTURER. PROVIDE INSULATION W/VAPOR BARRIER FOR CONNECTING DUCT SECTIONS.
6. USE OF THE FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

4 DUCT CONNECTIONS - AIR TERMINAL UNITS
1504 SCALE: NTS



5 FIRE RATED AIR DEVICE
MH504 / SCAL F: NTS

VA FORM 08-6231									
1	2	3	4	5	6	7	8	9	



LOWEST POINT OF FINISH GRADE

6'-0"

BACKFILL AND COMPACT ACCORDING TO CIVIL REQUIREMENTS FOR PARKING LOT

PIPE TURNS SHALL BE TAPERED NO LESS THAN MANUFACTURER'S MINIMUM BEND RADIUS OR SDR-11 ELBOW BUTT OR SOCKET FUSION PIPE FITTINGS AND CONNECTED TO HEADERS

BOREHOLE DEPTH - 4.5" MIN./ 6" MAX.

10'-0" NEAT CEMENT CAP (14ft.-4in.) WHERE REQUIRED BY CODE (SEE SPECIFICATIONS)

BOREHOLE DEPTH SEE BOREHOLE SCHEDULE

HDPE SDR-11 PIPE - SIZE PER BOREHOLE SCHEDULE

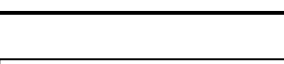
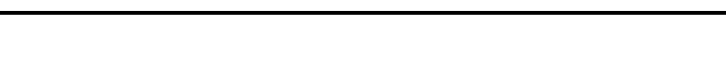

GROUTING PRACTICES
PRESSURE GROUTED FROM THE BOTTOM TO TOP

HDPE SDR-11 PIPE U BEND FITTING. FUSED AT FACTORY BOREHOLE PIPE SIZE UP TO MAX OF 1 1/4".

CONTRACTORS DISCRETION AS TO LENGTH OF OVERDRILL

NOTES:
FILL LOOP WITH POTABLE WATER, PRESSURE TEST PRIOR TO INSERTION INTO BOREHOLE

4 BOREHOLE DETAIL
MS501 SCALE: NTS

		CONSULTANT:		CONSULTANT:		ARCHITECT/ENGINEERS:		Drawing Title SITE GEO-THERMAL DETAILS		Project Title COMMUNITY LIVING CENTER		Project Number 442-12-357		Office of Construction and Facilities Management			
				 <p>GEO-ENERGY SERVICES, LLC 7345 SOUTH PIERCE STREET SUITE 203 LITTLETON, CO 80128 303-531-5292 www.geoenergyservices.com</p>		 <p>15032 SOUTH PINES PEAK DRIVE #202 PARKER, COLORADO 80138 PH: 303.844.3922 WWW.AES-GRP.COM</p>		Approved: Project Director SYLVIE RUPP - CFM DIRECTOR FACILITIES/ENGINEERING PHONE: 307-778-7550x7267 FAX: 307-287-9725		Location CHEYENNE, WYOMING		Building Number COWBOY				Drawing Number MS501	
Revisions:		Date								Date MARCH 2015		Checked PFM		Drawn CDL		 <p>Department of Veterans Affairs</p>	
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MARK	LOCATION	MODEL	INLET	DESIGN COOLING AIRFLOW	MIN COOLING AIRFLOW	APD @ COOLING AIRFLOW	COOLING INLET VELOCITY	VALVE HEATING AIRFLOW	UNIT EAT Db	UNIT LAT	EWT	HEATING FLUID FLOW RATE	WPD	COIL HEATING CAPACITY	REMARKS
				cfm	cfm	in H2O	ft/min	cfm	F	F	F	gpm	FT H2O	MBh	
VAV-C1-001	001	VCWF05	5" (127mm)	295	89	0.126	2163	89	50	110	140	0.72	0.39	4.55	
VAV-C1-002	002	VCWF12	12" (305mm)	1483	463	0.384	1888	463	50	110	140	7.84	3.21	23.69	
VAV-C1-152	152	VCWF05	5" (127mm)	232	76	0.085	1701	95	50	110	140	0.80	0.46	4.86	
VAV-C1-158	158	VCWF06	6" (152mm)	600	100	0.259	3000	107	50	110	140	0.98	0.66	5.48	
VAV-C1-163	163	VCWF05	5" (127mm)	255	85	0.099	1870	85	50	110	140	0.67	0.34	4.35	
VAV-C1-169	169	VCWF06	6" (152mm)	358	107	0.259	1823	107	50	110	140	0.98	0.66	5.48	
VAV-C1-170	170	VCWF12	12" (305mm)	1610	483	0.437	2050	483	50	110	140	9.06	4.20	24.72	
VAV-C1-174	174	VCWF04	4" (102mm)	95	60	0.011	1089	95	50	110	140	0.80	0.46	4.86	
VAV-C1-176	176	VCWF05	5" (127mm)	298	95	0.129	2185	95	50	110	140	0.80	0.46	4.86	
VAV-C1-177	177	VCWF05	5" (127mm)	282	91	0.117	2068	91	50	110	140	0.75	0.41	4.66	
VAV-C1-178	178	VCWF05	5" (127mm)	283	91	0.118	2075	91	50	110	140	0.75	0.41	4.66	
VAV-C1-179	179	VCWF05	5" (127mm)	295	94	0.126	2163	94	50	110	140	0.79	0.45	4.81	
VAV-C1-180	180	VCWF05	5" (127mm)	295	95	0.126	2163	95	50	110	140	0.80	0.46	4.86	
VAV-C1-181	181	VCWF05	5" (127mm)	295	94	0.126	2163	94	50	110	140	0.79	0.45	4.81	
VAV-C1-182	182	VCWF05	5" (127mm)	299	96	0.129	2193	96	50	110	140	0.81	0.48	4.91	
VAV-C1-183	183	VCWF14	14" (356mm)	2036	611	0.287	1905	611	50	110	140	8.03	2.64	31.27	
VAV-C1-185	185	VCWF05	5" (127mm)	302	98	0.132	2215	98	50	110	140	0.84	0.51	5.01	
VAV-C1-186	186	VCWF05	5" (127mm)	301	98	0.131	2207	98	50	110	140	0.84	0.51	5.01	
VAV-C1-187	187	VCWF05	5" (127mm)	301	98	0.131	2207	98	50	110	140	0.84	0.51	5.01	
VAV-C1-188	188	VCWF05	5" (127mm)	301	98	0.131	2207	98	50	110	140	0.84	0.51	5.01	
VAV-C1-189	189	VCWF05	5" (127mm)	332	111	0.154	2435	111	50	110	140	1.05	0.75	5.68	

AIR COOLED CHILLER SCHEDULE																				
MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	CAPACITY		MAX KW/TON	MIN COP	EER	EVAPORATOR								REMARKS			
				TONS	[kW]				FLOW		EWT		LWT		MAX WPD	POWER		PHASE	VOLT	SPEED CONTROL
									GPM	[L/s]	°F	[°C]	°F	[°C]	FT					
C1-ACC-1	ROOF	CLC	ROTARY SCROLL	35	[10.]	0.75	3.9	13.2	74	[4.7]	55	[13]	45	[7]	15.4	[46]	60	3	460	CONSTANT

HEAT EXCHANGER SCHEDULE																				
MARK	LOCATION	AREA SERVED	TYPE	SOURCE SIDE								LOAD SIDE								REMARKS
				EWT		LWT		FLOW		WPD		EWT		LWT		FLOW		WPD		
				F	C	F	C	GPM	L/S	FT WC	kPa	F	C	F	C	GPM	L/S	FT WC	kPa	
HE-1	BASEMENT	VAV REHEAT LOOP	PLATE AND FRAME	180	82	160	71	25	2	12	12	100	38	140	60	45	3	12	12	
HE-2	BASEMENT	RADIANT FLOOR LOOP	PLATE AND FRAME	180	82	160	71	12	1	12	12	90	32	110	43	10	1	12	12	

AIR HANDLING UNIT SCHEDULE																																	
MARK	LOCATION	MODEL	SUPPLY FAN DATA									RETURN FAN DATA									COIL DATA												
			CFM TOTAL @ 6150'	MIN CFM OA @6150'	ESP IN WC @ SL	TSP IN WC @ SL	NO FAN WHEELS	FAN WHEEL DIA/TYPE	APPROX RPM	MIN HP	ELEC	CFM TOTAL @ 6150'	ESP IN WA @ SL	TSP IN WC @ SL	NO FAN WHEELS	FAN WHEEL DIA/TYPE	APPROX RPM	MIN HP	ELEC	SERVICE	FACE AREA SQ FT	COIL CFM @ 6150'	AIR PD IN WC @ 6150'	ENTERING AIR TEMP		LEAVING AIR TEMP		EWT	LWT	HEAT MBH @ 6150'	MBH TOTAL @ 6150'	GPM	WATER PD IN WC
																								F DB	F WB	F DB	F WB						
AHU-1	PENTHOUSE	ERV-1	13800		3	5.2	1	28" BELT DRIVE PLENUM	1645	25	460/3/60	13800	1	1.6	1	28" BELT DRIVE PLENUM	1225	10	460/3/60	COOLING	29.9	13800	.3	82	60	50	49	45	55	315	371	74	16.4

AIR HANDLING UNIT SCHEDULE CONT.																										
COIL DATA											ENERGY RECOVER UNIT DATA											PRIMARY FILTER DATA			REMARKS	
SERVICE	FACE AREA SQ FT	COIL CFM @ 6150'	AIR PD IN WC @ 6150'	ENTERING AIR TEMP	LEAVING AIR TEMP	EWT	LWT	HEAT MBH @ 6150'	GPM	WATER PD FT WC	SERVICE	CFM TOTAL @ 6150'	SP IN WC @ SL	SERVICE	OUTSIDE AIR TEMP		EXHAUST AIR TEMP		SUPPLY AIR TEMP		RECOVERED LOAD MBH	TOTAL EFF %	TYPE	SIZE	% EFF	
				F DB	F DB		F								F	F DB	F WB	F DB	F WB	F DB						
HEATING	29.9	13800	0.1	50	90	180	160	479	48	0.69	SUPPLY	4548	0.87	SUMMER	89.4	58.3	75	55	78	55.5	36.51	84	ANGLED	2 IN	13 MERV	
											EXHAUST	4506	.81	WINTER	-10	-11	70	52	35	32	283.98	55.8				

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							Building Number COWBOY							
							Location CHEYENNE, WYOMING		Drawing Number MH601					
							Approved: Project Director SYLVIE RUPP - CFM DIRECTOR FACILITIES/ENGINEERING PHONE: 307-778-7550x7267 FAX: 307-287-9725		Date MARCH 2015			Checked PFM	Drawn CDL	Dwg.87 of116
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