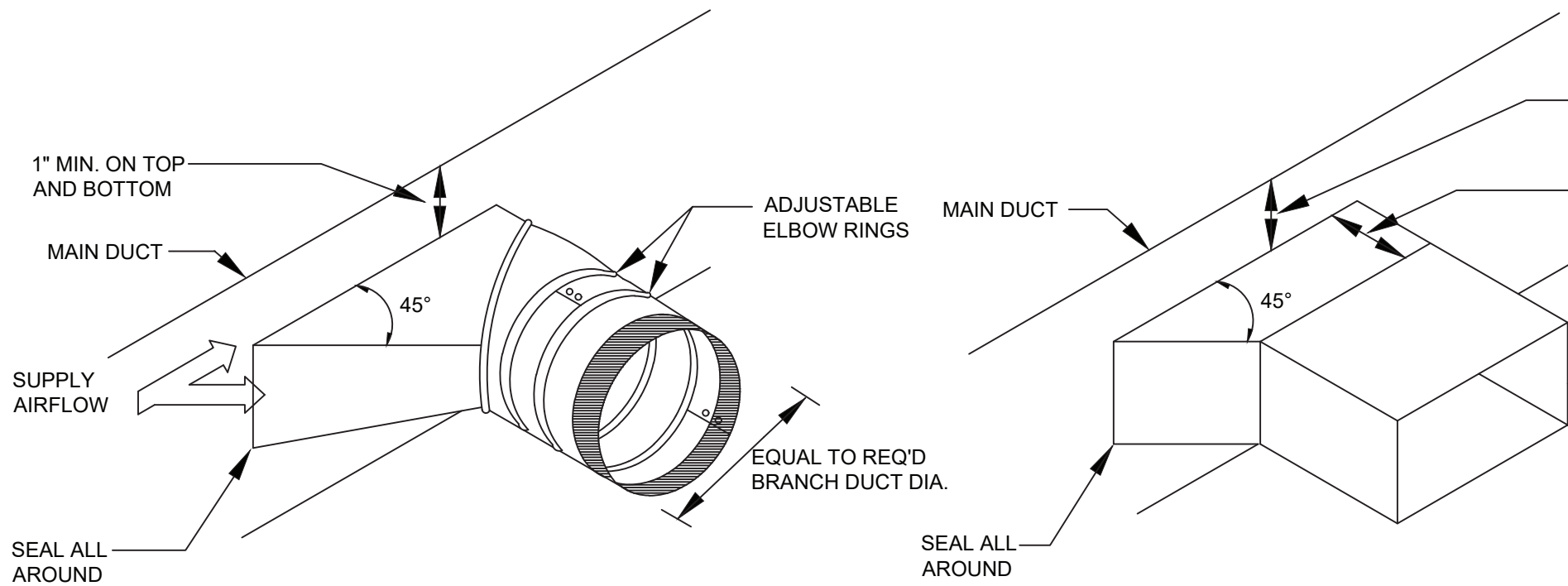


THICKNESS & REINFORCING SCHEDULE - * LOW PRESSURE DUCTWORK						
* NOTE: LOW PRESSURE DUCTWORK SHALL BE DUCTWORK IN WHICH THE PRESSURE DOES NOT EXCEED 2" WATER GAUGE.						
GREATEST DUCT DIMENSION	STEEL DUCTS U.S. STANDARD GAUGE	ALUMINUM DUCTS B & S GAUGE	LONGITUDINAL SEAM	TRANSVERSE JOINT SMALLEST DIMENSION	TRANSVERSE JOINT GREATEST DIMENSION	REINFORCING (ALL DUCTS 18" THRU 54" SHALL BE CROSSBROKEN)
12" OR LESS	26	24(0.020")	PITTSBURGH OR ACME LOCK	DRIVE SLIP OR POCKET LOCK OR BAR SLIP	PLAIN "S" SLIP OR POCKET LOCK OR BAR SLIP	NONE REQUIRED
13" THRU 18"	24	22(0.025")	PITTSBURGH OR ACME LOCK	DRIVE SLIP OR POCKET LOCK OR BAR SLIP	PLAIN "S" SLIP OR POCKET LOCK OR BAR SLIP	NONE REQUIRED
19" THRU 30"	24	22(0.025")	PITTSBURGH OR ACME LOCK	HEMMED "S" SLIP OR BAR SLIP OR DRIVE SLIP OR 1" POCKET LOCK	HEMMED "S" SLIP OR BAR SLIP OR 1" POCKET LOCK	IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"X1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS
31" THRU 42"	22	20(0.032")	PITTSBURGH OR ACME LOCK	DRIVE SLIP 18" OR LESS BAR SLIP REINFORCED BAR SLIP OR POCKET LOCK	BAR SLIP OR REINFORCED BAR SLIP OR POCKET LOCK	IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"X1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS
43" THRU 54"	22	20(0.032")	PITTSBURGH LOCK	1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK	1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK	IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"X1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS
55" THRU 60"	20	18(0.040")	PITTSBURGH LOCK	1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK	1 1/4" BAR SLIP, OR REINFORCED BAR SLIP, OR 1 1/2" POCKET LOCK	IF TRANSVERSE JOINTS ARE LOCATED 4'-0" OR LESS ON CENTER NO REINFORCING IF ON 8'-0" CENTERS REINFORCE WITH 1"X1/8" ANGLES AT 4 FT. O.C. FASTENED ON 8" CENTERS
61" THRU 84"	20	18(0.040")	PITTSBURGH LOCK	REINFORCED BAR SLIP, OR ANGLE SLIP, ALTERNATE BAR SLIP, OR ANGLE REINFORCED POCKET LOCK	REINFORCED BAR SLIP, OR ANGLE SLIP, ALTERNATE BAR SLIP, OR ANGLE REINFORCED POCKET LOCK	REINFORCE ALL SIDES OVER 60" WITH 1 1/2"X1 1/2"X1/8" ANGLES ON 2'-0" CENTERS. SIDES UNDER 60" NEED NO REINFORCING IF JOINTS ARE ON 4'-0" CENTERS. IF JOINTS ARE ON 8'-0" CENTERS REINFORCE WITH 1 1/2"X 1 1/2"X1/8" ANGLES ON 4'-0" CENTERS.
85" THRU 96"	18	16(0.051") (LONGITUDINAL SEAM MAY BE STANDING SEAM)	PITTSBURGH LOCK	1 1/2" COMPANION ANGLES, OR ANGLE REINFORCED POCKET LOCK, OR 1 1/2" ANGLE SLIP OR REINFORCED BAR SLIP	1 1/2" COMPANION ANGLES, OR ANGLE REINFORCED POCKET LOCK, OR 1 1/2" ANGLE SLIP OR REINFORCED BAR SLIP	REINFORCE ALL SIDES OVER 84" WITH 1 1/2"X1 1/2"X3/16" ANGLES ON 2'-0" CENTERS. SIDES 81" THRU 84" REINFORCE WITH 1 1/2"X1 1/2"X1/8" ANGLES ON 2'-0" CENTERS. SIDES 60" OR LESS NEED NO REINFORCING IF JOINTS ARE ON 4'-0" CENTERS. IF JOINTS ARE ON 8'-0" CENTERS REINFORCE WITH 1 1/2"X 1 1/2"X1/8" ANGLES ON 4'-0" CENTERS.
OVER 96"	18	16(0.051") (LONGITUDINAL SEAM MAY BE STANDING SEAM)	PITTSBURGH LOCK	2" COMPANION ANGLE, OR 2"X2"X1/4" ANGLE SLIP, OR 2"X2"X1/4" ANGLE REINFORCED POCKET LOCK OR REINFORCED BAR SLIP	2" COMPANION ANGLE, OR 2"X2"X1/4" ANGLE SLIP, OR 2"X2"X1/4" ANGLE REINFORCED POCKET LOCK OR REINFORCED BAR SLIP	REINFORCE ALL SIDES OVER 96" WITH 2"X2"X1/4" ANGLES ON 2'-0" CENTERS. REINFORCE ALL SIDES 81" THRU 84" WITH 1 1/2"X1 1/2"X1/8" ANGLES ON 2'-0" CENTERS. REINFORCE ALL SIDES UNDER 60" WITH 1 1/2"X1 1/2"X1/8" ANGLES IF JOINTS ARE 8'-0" ON CENTER. NO REINFORCING IF JOINTS ARE 4'-0" ON CENTER.
<div><div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div><div></div><div></div></div><div>ANGLES TO BE THE SAME SIZE AS REQUIRED REINFORCING ANGLES</div><div>ANGLES TO BE THE SAME SIZE AS REQUIRED REINFORCING ANGLES</div><div>CAULK OR GASKET</div><div>ANGLES TO BE THE SAME SIZE AS REQUIRED REINFORCING ANGLES</div><div>ANGLES TO BE THE SAME SIZE AS REQUIRED REINFORCING ANGLES</div></div>						

- NOTE:
- ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
  - WHEN W1 IS NOT EQUAL TO W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
  - ALL SINGLE VANES SHALL HAVE A 2" RADIUS, 1-1/2" MAXIMUM SPACE BETWEEN VANES AND A 3/4" TRAILING EDGE.
  - WHEN W EQUALS W2 AND W1 IS GREATER THAN 20" VANES SHALL BE DOUBLE VANE TYPE.

## 2 Ductwork Squared Elbow Detail

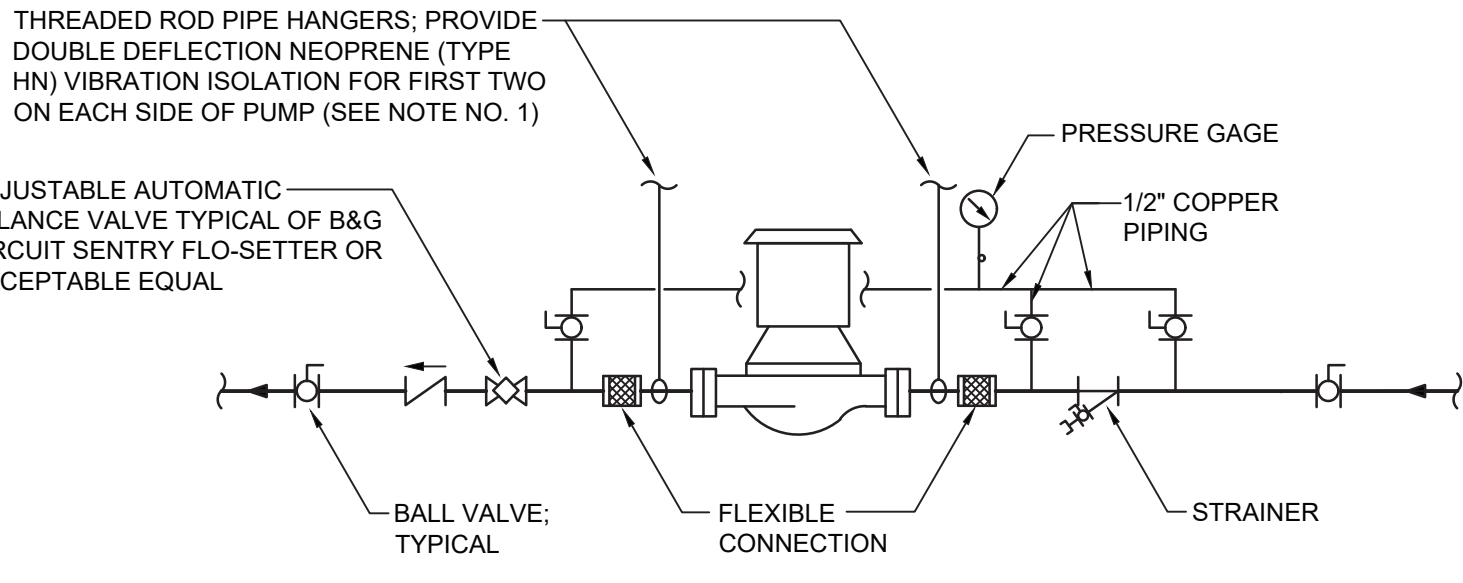
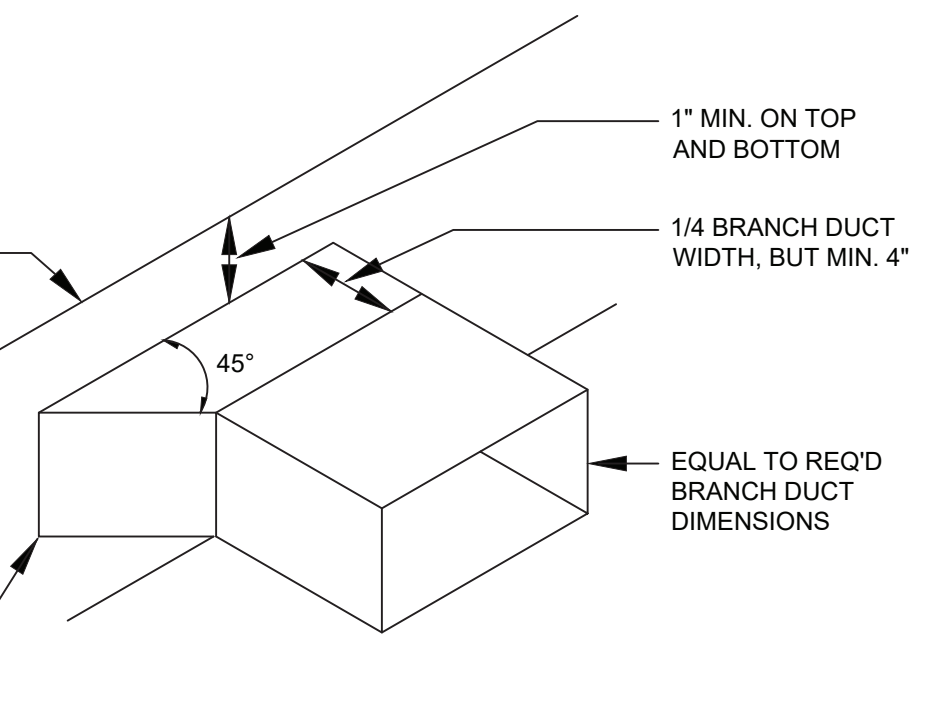
MG001 N.T.S.



- NOTES:
- AT FIRE RATED PARTITIONS, ADD ADDITIONAL LAYER OF FIRE SAFING INSULATION AROUND PENETRATION SO AS TO FILL CAVITY.
  - DUCT AND PIPE PENETRATIONS THRU CORRIDOR WALLS ABOVE THE CEILING ARE TO BE FIRE STOPPED AROUND THE PENETRATION.

## 3 Pipe Penetrations Detail

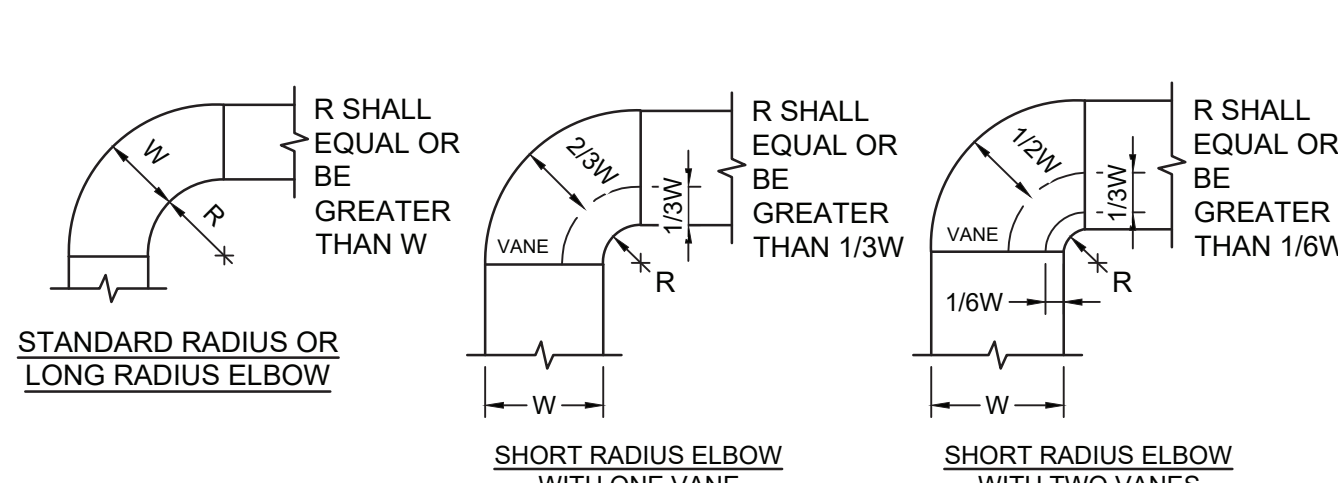
MG001 N.T.S.



- NOTES:
- SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR.

## 4 In-Line Pump Detail

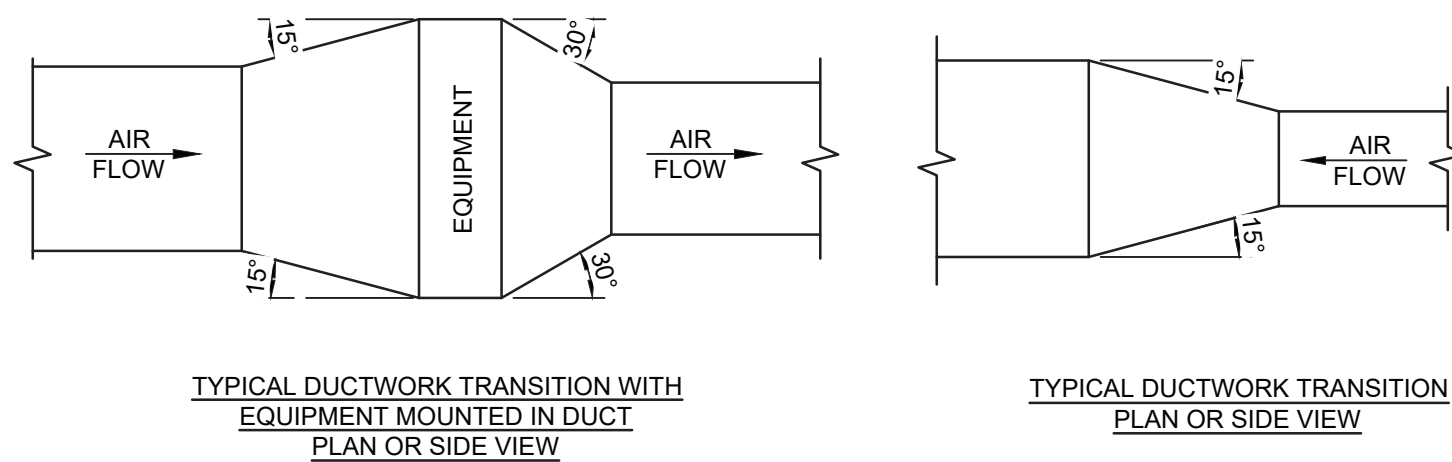
MG001 Scale: None



- NOTE:
- THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
  - 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.

## 6 Ductwork Radius Elbow Detail

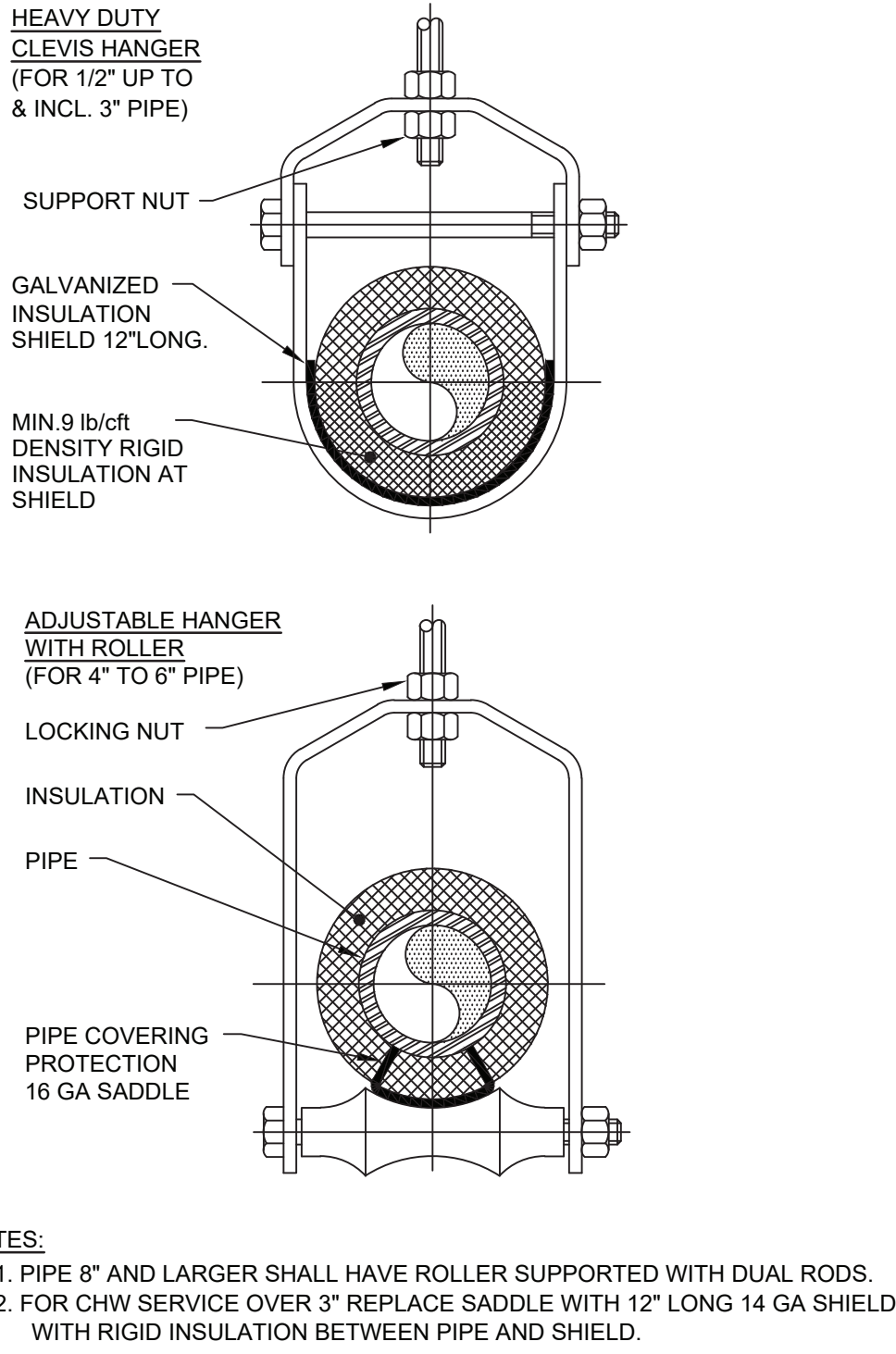
MG001 N.T.S.



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

## 8 Ductwork Transition Detail

MG001 N.T.S.



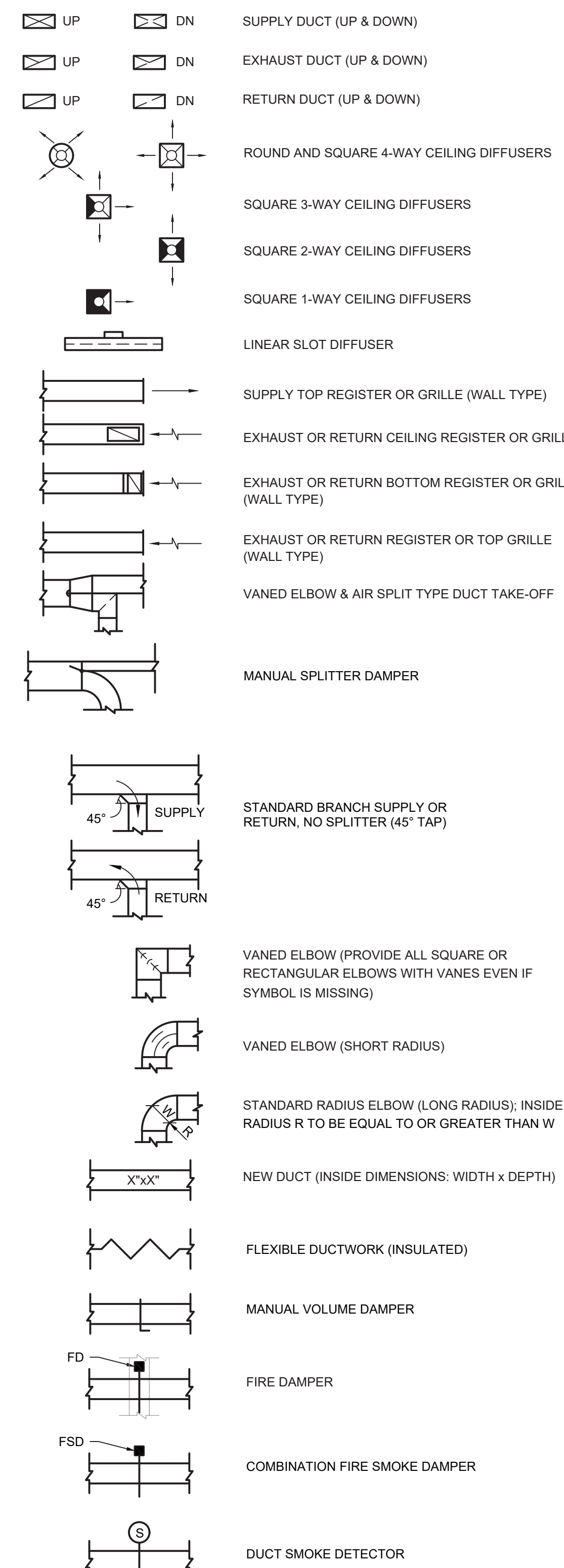
- NOTES:
- PIPE 8" AND LARGER SHALL HAVE ROLLER SUPPORTED WITH DUAL RODS.
  - FOR CHW SERVICE OVER 3" REPLACE SADDLE WITH 12" LONG 14 GA SHIELD WITH RIGID INSULATION BETWEEN PIPE AND SHIELD.

PIPE Ø (IN.)	MAX. SPACING BETWEEN HANGERS (FT.)			MIN. ROD SIZE (IN.)
	STEEL PIPE	COPPER PIPE	CPVC	
1/2 THRU 1	7	5	5	3/8
1-1/2 THRU 2	9	8	6	3/8
2-1/2	11	9	7.5	1/2
3	12	10	7.5	1/2
4	14	12	8.5	5/8
6	17	14	9	3/4
8	19	16	10	7/8
10	22	18	10.5	7/8

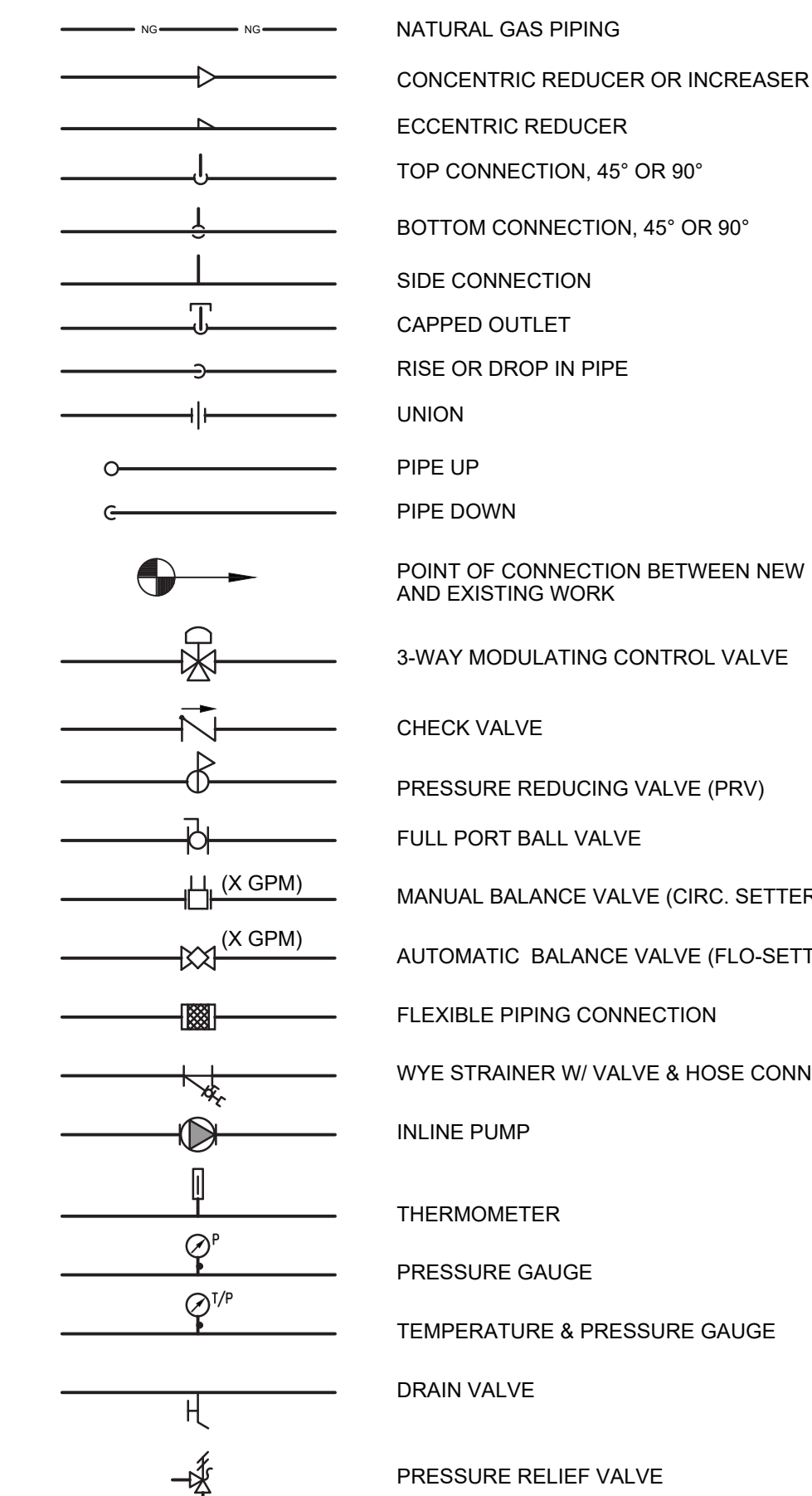
## 1 Pipe Hanger Support

MG001 N.T.S.

## Mechanical Legend :



TERMINAL UNIT TAG  
AIRFLOW (CUBIC FEET PER MINUTE)

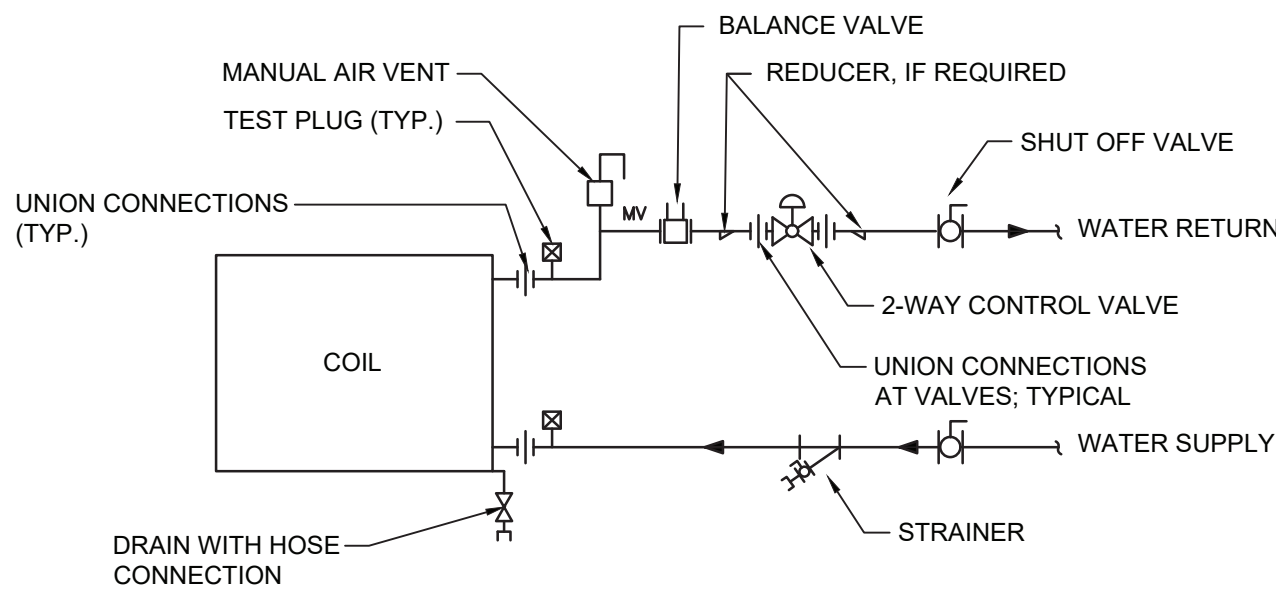


## Mechanical Notes:

- ALL MATERIALS AND EQUIPMENT ARE TO BE NEW, UNUSED, AND FREE FROM DEFECTS OF ANY KIND. THE BASIS OF QUALITY SHALL BE THE LATEST REVISION OF ASTM, ANSI, OR OTHER ACCEPTABLE STANDARDS.
- THESE DRAWINGS ARE DIAGRAMMATIC, AND INDICATE GENERAL ARRANGEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO HAVE REVIEWED THE SITE FOR HIS WORK PRIOR TO HAVING SUBMITTED HIS PROPOSAL. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR CONDITIONS FOUND DURING THE COURSE OF THE CONTRACT.
- THE CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES.
- ALL WORK INCLUDING LABOR AND MATERIALS SHALL BE FULLY GUARANTEED FOR ONE (1) YEAR FROM THE DATE OF PAYMENT AND FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.
- ALL CUTTING, PATCHING, FIRE-STOPPING, AND SURFACE RESTORATION IN CONNECTION WITH THIS TRADE SHALL BE COMPLETED BY THIS CONTRACTOR.
- A MINIMUM OF FOUR (4) COPIES OF SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING AND INSTALLATION OF THE EQUIPMENT AND/OR MATERIALS. BY SUBMITTING SHOP DRAWINGS, THE CONTRACTOR REPRESENTS THAT ACTUAL FIELD CONDITIONS ARE VERIFIED BY HIM AND ARE REFLECTED ON HIS SUBMITTALS.
- THIS CONTRACTOR SHALL PAY ALL FEES, GIVE ALL NOTICES, FILE ALL NECESSARY DRAWINGS AND OBTAIN ALL PERMITS, INSPECTIONS AND CERTIFICATES OF APPROVAL REQUIRED IN CONNECTION WITH WORK UNDER THIS CONTRACT.
- ALL WORK REQUIRED IN ASSOCIATION WITH THIS CONTRACT SHALL BE COMPLETED IN STRICT COMPLIANCE WITH THE 2020 BUILDING CODE OF NEW YORK STATE, 2020 MECHANICAL CODE OF NEW YORK STATE & 2020 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.
- ALL HYDRONIC HOT WATER PIPING AND FITTINGS ARE TO BE INSULATED WITH A MINIMUM OF R-3 INSULATION. ALL JOINTS ARE TO BE COMPLETELY SEALED A MINIMUM OF 8" BEYOND JOINT ENDS.
- ALL PIPING SHALL BE PROPERLY SUPPORTED AND ROUTED PARALLEL OR PERPENDICULAR TO BUILDING WALLS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUPPORT HANGERS AND MISCELLANEOUS METALS REQUIRED FOR PROPER INSTALLATION OF WORK.
- ALL PIPING SHALL BE PITCHED SUCH THAT AIR IN THE SYSTEM CAN BE VENTED THROUGH MANUAL AIR VENTS.
- TEST PIPING AND PROVE TIGHT FOR AT LEAST TWO HOURS TO TWICE THE SYSTEM WORKING PRESSURE. TEST SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER AND LOCAL INSPECTOR. TEST SHALL BE REPEATED IF NECESSARY UNTIL FINAL APPROVAL OF SYSTEM IS OBTAINED.
- SUPPORT HORIZONTAL PIPING UTILIZING A SPACING PER PIPING MANUFACTURER'S REQUIREMENTS.
- INSTALL VALVES ON THE ENTIRE DISTRIBUTION SYSTEM, SO LOCATED AS TO GIVE COMPLETE CONTROL TO ALL FIXTURES AND EQUIPMENT.
- INSTALL DRAIN VALVES AT BASE OF ALL RISERS AND AT LOW POINTS OF PIPING SYSTEM. INSTALL MANUAL AIR VENT FACILITIES AT THE TOP OF ALL RISERS AND AT HIGH POINTS OF THE PIPING SYSTEM.
- INSTALL ALL HYDRONIC PIPING AS HIGH AS POSSIBLE PROVIDING RISERS, DROPS AND OFFSETS TO CLEAR STRUCTURAL MEMBERS, LIGHT FIXTURES, OTHER PIPING, AND OTHER OBSTRUCTIONS. WHERE CONFLICTS ARISE, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO PROCEEDING.
- THE ENTIRE HYDRONIC SYSTEM IS TO BE BALANCED TO WITHIN 10% OF THE SPECIFIED WATER FLOWRATE REQUIREMENTS. A CERTIFIED BALANCING REPORT AND VERIFICATION IS TO BE SUBMITTED TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.
- ALL DUCTWORK IS TO BE CONSTRUCTED OF GALVANIZED SHEET STEEL (EXCEPT WHERE OTHERWISE SPECIFIED) WITH GAUGES, BRACING AND CONSTRUCTION IN ACCORDANCE WITH THE LATEST SMACNA DUCT MANUAL STANDARDS AND ALL OTHER AUTHORITIES HAVING JURISDICTION.
- PROVIDE MANUAL DAMPERS AT EACH SPLIT OR TAP CONNECTION TO TRUNK DUCTS FOR BALANCING PURPOSES WHETHER OR NOT SPECIFICALLY SHOWN ON DRAWINGS. EACH DAMPER SHALL BE OF THE OPPOSED BLADE DAMPER TYPE INSTALLED WITH AN OPERATOR AND LOCKING DEVICE. ALL DAMPERS LOCATED ABOVE HARD OR INACCESSIBLE CEILINGS SHALL BE INSTALLED WITH REMOTE GEAR OPERATORS.
- FURNISH & INSTALL FUSIBLE LINK FIRE DAMPERS AT ALL LOCATIONS WHERE DUCT PENETRATES FIRE-RATED FLOOR OR CEILING ASSEMBLY WHETHER OR NOT SPECIFICALLY SHOWN. INSTALL DUCTWORK CASING ACCESS DOORS AND FRAMES AHEAD OF EACH FIRE DAMPER FOR INSPECTION AND MAINTENANCE. DOORS SHALL BE A MINIMUM OF 20 GA. DOUBLE PANEL INSULATED TYPE.
- INSTALL TURNING VANES ON ALL RECTANGULAR TURNS. TURNING VANES SHALL BE DOUBLE THICKNESS TYPE CONSTRUCTED IN ACCORDANCE WITH SMACNA MANUAL.
- ROUND SHEET STEEL ELBOWS ARE TO BE INSTALLED AT THE DUCT CONNECTION TO ALL SUPPLY AIR DIFFUSERS. SHEET STEEL PLENUM BOXES ARE TO BE INSTALLED AT THE DUCT CONNECTION TO ALL RETURN AND EXHAUST AIR GRILLES. THE CONTRACTOR IS TO PAINT THE INSIDE OF THE SHEET STEEL PLENUM BOXES FLAT BLACK.
- ALL SUPPLY AND RETURN DUCTWORK LOCATED IN UNCONDITIONED SPACES OR ABOVE CEILINGS SHALL BE INSULATED WITH A MINIMUM OF R-5 INSULATION. ALL DUCTWORK LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE INSULATED WITH A MINIMUM OF R-8 INSULATION. INSULATION SHALL BE FIBERGLASS DUCT WRAP WITH VAPOR SEAL SECURELY TAPED AROUND DUCT. IF DUCT LINING IS TO BE USED, ALL DUCT SIZES SHOWN SHALL BE CONSIDERED TO BE INSIDE CLEAR DIMENSIONS.
- INSTALL ALL DUCTWORK AS HIGH AS POSSIBLE PROVIDING RISERS, DROPS AND OFFSETS TO CLEAR STRUCTURAL MEMBERS, LIGHT FIXTURES, OTHER PIPING, AND OTHER OBSTRUCTIONS. WHERE CONFLICTS ARISE, IT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO PROCEEDING.
- THE ENTIRE AIR DISTRIBUTION SYSTEM IS TO BE BALANCED TO WITHIN 10% OF THE SPECIFIED AIRFLOW REQUIREMENTS.
- THE CONTRACTOR IS RESPONSIBLE TO TEST ALL EQUIPMENT, PIPING, FIXTURES, AND SYSTEMS INSTALLED UNDER THIS CONTRACT TO ENSURE PROPER OPERATION PRIOR TO FINAL ACCEPTANCE BY THE OWNER AND ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO DETERMINE WHETHER SPECIAL LICENSING IS REQUIRED IN ORDER TO PERFORM THE REQUIRED WORK IN THE MUNICIPALITY WHERE THE PROJECT IS LOCATED. IF THE CONTRACTOR CANNOT OBTAIN THE REQUIRED LICENSING TO COMPLETE THE WORK WITHIN THE PROJECT SCHEDULE, THEN THE CONTRACTOR SHALL NOT BE PERMITTED TO BID ON THIS PROJECT.
- CONTRACTOR IS RESPONSIBLE TO CREATE AND SUBMIT RED-LINE "AS-BUILT" PLANS TO THE ENGINEER AT THE END OF THE PROJECT. AS-BUILT PLANS SHALL ACCURATELY REPRESENT THE SYSTEMS AS THEY WERE INSTALLED.

## Mechanical Equipment:

- WIRED ZONE CONTROLLER TYPICAL OF HITACHI MODEL CIW01; LARGE BACKLIT LCD WITH CONTROL OF TEMPERATURE, MODE AND FAN SPEED; MTD. @ 5'-0" A.F.F.
- CENTRAL CONTROLLER TYPICAL OF HITACHI MODEL CCL01; CONTROLS UP TO 64 GROUPS OF INDOOR UNITS W/ TOUCH SCREEN INTERFACE; MTD. @ 5'-0" A.F.F.
- PROGRAMMABLE THERMOSTAT TYPICAL OF HONEYWELL MODEL THS321R1001; 3-HEAT/2-COOL STAGES; MTD. @ 5'-0" A.F.F.



## 9 Coil Piping Connection Detail

MG001 Scale: None

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845-561-3179 www.csarch.com

Consultant

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100 WEST 14TH STREET, SUITE 200  
NEW YORK, NY 10011

NEW HAMPTON FIRE DEPARTMENT  
NEW FIRE STATION  
5024 STATE ROUTE 17M, NEW HAMPTON, NY 10958

Project Title

STATE OF NEW YORK  
OFFICE OF THE ENGINEER  
LICENSED PROFESSIONAL ENGINEER  
000000

DATE DESCRIPTION

Sheet Title

MECHANICAL  
NOTES, LEGEND,  
SCHEDULE &  
DETAILS

Sheet No.

MG001

CONSTRUCTION DOCUMENTS



INDOOR MINI-SPLIT UNIT SCHEDULE																			
EQUIPMENT TAG	MANUFACTURER (OR ACCEPT. EQUAL)	MODEL	MINI-SPLIT UNIT TYPE	AREA OF BUILDING SERVED	AIRFLOW (CFM)	COOLING			HEATING			PAIRED OUTDOOR UNIT	EXTERNAL STATIC PRESSURE (IN. W.C.)	ELECTRICAL POWER REQUIREMENTS				WEIGHT (LB)	NOTES
						CAPACITY (MBH)	EDB (°F)	EWB (°F)	CAPACITY (MBH)	EDB (°F)	EWB (°F)			VOLT.	PHASE	HZ.	W		
FCU-1	HITACHI	HIDM018B23S	DUCTED MEDIUM STATIC	RADIO ROOM	653	18.0	80.0	67.0	20.0	70.0	60.0	HP-1	-	208	1	60	57	190	PROVIDE W/ BUILT IN CONDENSATE PUMP
FCU-2	HITACHI	HICM012B21S	CEILING RECESSED UNIT	CHIEF'S OFFICE	459	10.8	80.0	67.0	12.0	70.0	60.0		-	208	1	60	57	35	PROVIDE W/ BUILT IN CONDENSATE PUMP
FCU-3	HITACHI	HICM012B21S	CEILING RECESSED UNIT	ARCHIVE STORAGE	459	7.2	80.0	67.0	12.0	70.0	60.0		-	208	1	60	57	35	PROVIDE W/ BUILT IN CONDENSATE PUMP
FCU-4	HITACHI	HICM012B21S	CEILING RECESSED UNIT	COMM. OFFICE	459	10.8	80.0	67.0	12.0	70.0	60.0		-	208	1	60	57	35	PROVIDE W/ BUILT IN CONDENSATE PUMP

AIR-COOLED HEAT PUMP SCHEDULE																				
EQUIPMENT TAG	MANUFACTURER (OR ACCEPT. EQUAL)	MODEL	INDOOR UNITS SERVED	COMPRESSOR TYPE	NOM. COOL CAPACITY (MBH)	NOM. HEAT CAPACITY (MBH)	OUTDOOR OPERATING TEMP. RANGE (°F)		AHRI EFFICIENCY RATINGS			REFRIGERANT	SOUND PRESSURE LEVEL COOLING/HEATING (dBA)	ELECTRICAL POWER REQUIREMENTS					WEIGHT (LB)	NOTES
							COOLING	HEATING	EER	SEER	COP			VOLT.	PHASE	HZ	MCA	MOCP		
HP-1	HITACHI	HVAHP060B21S	FCU-1 THRU FCU-4	INVERTER SCROLL HERMETIC	60.0	66.0	23 TO 118	-4 TO 59	12.2	16.8	3.9	R410A	53	208	1	60	31	40	267	FURNISH W/ REQUIRED PIPING ACCESSORIES AS SHOWN ON RISER DIAGRAM

ENERGY RECOVERY VENTILATOR SCHEDULE																													
EQUIPMENT TAG	MANUFACTURER (OR ACCEPT. EQUAL)	MODEL	FRESH AIR FLOW RATE (CFM)	EXHAUST AIR FLOW RATE (CFM)	ROOM EXH. AIR (°F)				OUTSIDE AIR (°F)				SUPPLY AIR (°F)				RECOVERY EFFECTIVENESS				ELECTRICAL DATA						WEIGHT (LB)	NOTES	
					WINTER		SUMMER		WINTER		SUMMER		WINTER		SUMMER		SENSIBLE		TOTAL		MOTOR		QTY.	PWR.	VOLT	PHASE			Hz.
ERV-1	RENEWAIRE	HE1.5XINV	550	550	70.0	58.0	75.0	63.0	0.0	0.0	95.0	75.0	55.7	43.5	79.1	67.3	80.0%	80.0%	79.9%	64.7%	2	1 HP EA	208	1	60	7.7	15	-	PROVIDE W/ HIGH EFFICIENCY FILTERS, ECM MOTORS, DISCONNECT SWITCH, MOTORIZED DAMPERS & TIMER FOR OCCUPIED OPERATION
ERV-2	RENEWAIRE	HE1XINV	300	300	70.0	58.0	75.0	63.0	0.0	0.0	95.0	75.0	56.5	44.0	78.9	67.1	81.1%	81.1%	81.1%	66.5%	2	0.75 HP EA	208	1	60	10.1	15	-	PROVIDE W/ 3KW DUCT HEATER, HIGH EFF. FILTERS, ECM MOTORS, DISCONNECT SWITCH, MOTORIZED DAMPERS & TIMER FOR OCCUPIED OPERATION

AIR GRILLE/DIFFUSER SCHEDULE														
EQUIPMENT TAG	MANUFACTURER (OR ACCEPT. EQUAL)	MODEL	AIR DEVICE TYPE	AIRFLOW (CFM)		MAX AIR PRESS. DROP (IN. W.C.)	MOUNTING	PANEL/FRAME SIZE (IN.)	NECK SIZE (IN.)	MAX NC	DAMPER	FINISH	NOTES	
				MIN.	MAX.									
D-1	KRUEGER	PLQ-10-F23-24x24-06-IB-44	LOUVERED FACE SUPPLY DIFFUSER	241	400	0.10	LAY-IN	24"x24"	10"Ø	20	OBD	WHITE	PROVIDE W/ INSULATED BLANKET ON BACKPAN	
D-2	KRUEGER	880-H-6-F22-NONE-02-01-00-44	DOUBLE DEFLECTION SUPPLY GRILLE	0	175	0.10	DUCT MTD.	8"x8"	6"x6"	20	OBD	WHITE	-	
D-3	KRUEGER	5DMGDR-H-10-6-10-01-81	DUCT MOUNTED SUPPLY GRILLE	0	200	0.10	DUCT MTD.	12"x8"	10"x6"	20	OBD	CLEAR ANOD.	-	
R-1 / EG-1	KRUEGER	S80P-20x20-F23-24x24-00-00-00-44	PERFORATED FACE RETURN GRILLE	0	1,300	0.10	LAY-IN	24"x24"	20"x20"	20	-	WHITE	FURNISH & INSTALL FULL-SIZE SHEET METAL PLENUM BOX ON REAR OF GRILLE; PAINT INSIDE FLAT BLACK	
EG-2	KRUEGER	S80H-6x6-F22-NONE-00-00-00-44	35° DEFLECTION RETURN GRILLE	0	150	0.08	DUCT MTD.	8"x8"	6"x6"	20	-	WHITE	FURNISH & INSTALL FULL-SIZE INSULATED SHEET METAL BOX ON REAR OF GRILLE; PAINT INSIDE OF BOX FLAT BLACK	
EG-3	KRUEGER	S80H-36x24-F22-NONE-00-00-00-44	35° DEFLECTION RETURN GRILLE	0	2500	0.08	DUCT MTD.	36"x26"	36"x24"	20	-	WHITE	FURNISH & INSTALL FULL-SIZE INSULATED SHEET METAL BOX ON REAR OF GRILLE; PAINT INSIDE OF BOX FLAT BLACK	
EG-4	KRUEGER	S80H-8x8-F22-NONE-00-00-00-44	35° DEFLECTION RETURN GRILLE	0	275	0.08	DUCT MTD.	10"x10"	8"x8"	20	-	WHITE	FURNISH & INSTALL FULL-SIZE INSULATED SHEET METAL BOX ON REAR OF GRILLE; PAINT INSIDE OF BOX FLAT BLACK	

HOT WATER UNIT HEATER SCHEDULE																	
EQUIPMENT TAG	MANUFACTURER (OR ACCEPT. EQUAL)	MODEL	AIRFLOW (CFM)	EFT (°F)	LFT (°F)	CAPACITY (MBH)	E.A.T. DB (°F)	L.A.T. DB (°F)	FPD (FT)	FLOW RATE (GPM)	MOTOR					NOTES	
											NOM. H.P.	VOLT.	PHASE	HZ	RPM		FLA
UH-1	STERLING	HS-144	2200	160	140	74.4	60	104	0.43	10.4	1/3	120	1	60	-	4.5	PROPERLY SUPPORT FROM STRUCTURE ABOVE
UH-2	STERLING	HS-136A	850	160	140	25.6	60	99	3.0	3.6	1/20	120	1	60	-	1.4	PROPERLY SUPPORT FROM STRUCTURE ABOVE

HOT WATER PUMP SCHEDULE																
EQUIPMENT TAG	MANUFACTURER (OR ACCEPT. EQUAL)	MODEL	LOCATION	AREA SERVED	PUMP TYPE	CIRCULATING FLUID				MOTOR						NOTES
						FLUID	G.P.M.	HEAD (FT.)	TEMP. (°F)	NOM. H.P.	VOLT.	PHASE	HZ.	RPM	FLA	
CP-1	GRUNDFOS	UPMXL	UTILITY ROOM	BOILER PUMP	IN-LINE	HOT WATER	30.4	15.0	160	-	120	1	60	1160	1.7	FURNISHED W/ BOILER
CP-2	GRUNDFOS	UPMXL	UTILITY ROOM	BOILER PUMP	IN-LINE	HOT WATER	30.4	15.0	160	-	120	1	60	1160	1.7	FURNISHED W/ BOILER
CP-3	GRUNDFOS	MAGNA3 32-100F	UTILITY ROOM	UNIT HEATERS	IN-LINE	HOT WATER	34.2	14.0	160	-	120	1	60	VARI.	1.61	VARIABLE SPEED ECM
CP-4	GRUNDFOS	ALPHA2 15-55F	UTILITY ROOM	INJECTION PUMP	IN-LINE	HOT WATER	8.8	10.0	160	-	120	1	60	VARI.	0.65	VARIABLE SPEED ECM
CP-5	GRUNDFOS	ALPHA2 15-55F	UTILITY ROOM	RADIANT ZONE RM-1	IN-LINE	HOT WATER	8.6	10.0	125	-	120	1	60	VARI.	0.65	VARIABLE SPEED ECM
CP-6	GRUNDFOS	ALPHA2 15-55F	UTILITY ROOM	RADIANT ZONE RM-2	IN-LINE	HOT WATER	1.8	2.1	125	-	120	1	60	VARI.	0.65	VARIABLE SPEED ECM
CP-7	GRUNDFOS	ALPHA2 15-55F	UTILITY ROOM	RADIANT ZONE RM-3	IN-LINE	HOT WATER	3.1	10.4	125	-	120	1	60	VARI.	0.65	VARIABLE SPEED ECM
CP-8	GRUNDFOS	ALPHA2 15-55F	UTILITY ROOM	RADIANT ZONE RM-4	IN-LINE	HOT WATER	2.0	5.4	125	-	120	1	60	VARI.	0.65	VARIABLE SPEED ECM
CP-9	GRUNDFOS	MAGNA3 40-80F	UTILITY ROOM	RADIANT ZONE RM-5	IN-LINE	HOT WATER	8.6	14.6	125	-	120	1	60	VARI.	2.57	VARIABLE SPEED ECM
CP-10	GRUNDFOS	ALPHA2 15-55F	UTILITY ROOM	HEAT EXCHANGER HX-1	IN-LINE	HOT WATER	10.6	6.8	160	-	120	1	60	VARI.	0.65	VARIABLE SPEED ECM
CP-11	GRUNDFOS	MAGNA3 40-80F	UTILITY ROOM	SNOW MELT	IN-LINE	40% PROPYLENE GLYCOL	13.5	38.7	135	-	120	1	60	VARI.	2.57	VARIABLE SPEED ECM

LOUVER SCHEDULE														
EQUIPMENT TAG	QTY.	MANUFACTURER (OR ACCEPT. EQUAL)	MODEL	AIR DEVICE TYPE	LOUVER SIZE			FREE AREA (SQ. FT.)	AIRFLOW (CFM)	VELOCITY (FT./MIN.)	MOUNTING	SCREEN	FINISH	NOTES
					WIDE	HIGH	DEPTH							
L-1	2	RUSKIN	ELF6375DX	STATIONARY LOUVER	72"	36"	6"	10.38	5000	415.6	EXTERIOR WALL	YES	TBD	1, 2 & 3
L-2	1	RUSKIN	ELF6375DX	STATIONARY LOUVER	24"	12"	6"	0.90	500	426.1	EXTERIOR WALL	YES	TBD	1, 2 & 3
1. COLOR TO BE COORDINATED WITH OWNER/ARCHITECT BEFORE ORDERING 2. FURNISH WITH INSECT-SCREEN OPTION 3. FURNISH W/ PROPER MOUNTING HARDWARE.														

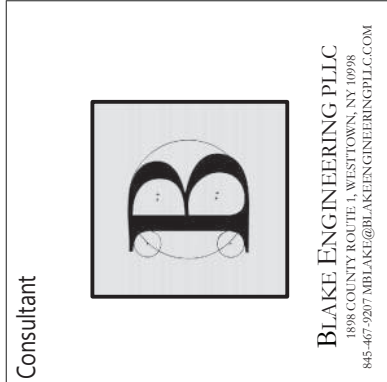
EXHAUST FAN SCHEDULE											
EQUIPMENT TAG	MANUFACTURER	MODEL	SERVICE	FAN C.F.M.	R.P.M.	EXTERNAL STATIC PRESSURE INCH H <sub>2</sub> O	MOTOR				REMARKS
							POWER	VOLT.	PHASE	HZ.	
EF-1	GREENHECK	BSQ-200	APPARATUS BAY EXHAUST	4,200	868	0.25	1 HP	208	1	60	FURNISH W/ BACKDRAFT DAMPER & DISCONNECT SWITCH
EF-2	GREENHECK	SQ-90-VG	ELECTRIC ROOM	250	1144	0.25	1/10 HP	120	1	60	FURNISH W/ BACKDRAFT DAMPER & DISCONNECT SWITCH
EF-VEX	PLYMOVENT	TEV-559	VEHICLE EXHAUST SYSTEM	3,000	940	0.30	5 HP	208	3	60	FURNISH W/ SYSTEM CONTROLLER & DISCONNECT SWITCH

CONDENSING BOILER SCHEDULE									
EQUIPMENT TAG	MANUFACTURER	MODEL	INPUT (MBH)		THERMAL EFFICIENCY	OUTPUT (MBH)	NET AHRI RATING (MBH)	TURNDOWN RATIO	REMARKS
			MIN.	MAX.					
CB-1	LOCHINVAR	WHB399N	39.9	399	94.4%	377	328	10:1	FURNISH W/ ADD'L HIGH LIMIT & LOW WATER CUTOFF
CB-2	LOCHINVAR	WHB399N	39.9	399	94.4%	377	328	10:1	FURNISH W/ ADD'L HIGH LIMIT & LOW WATER CUTOFF

#### VRF System Notes:

- VRF PROGRAMMABLE WIRED CONTROLLERS SHALL BE FURNISHED BY MECHANICAL CONTRACTOR FOR EACH INDOOR UNIT. CONTROLLERS SHIP LOOSE FOR FIELD INSTALLATION AND WIRING BY THE MECHANICAL CONTRACTOR.
- MECHANICAL CONTRACTOR TO PROVIDE CENTRAL CONTROLLER FOR LOCAL SET POINT CONTROL AND SYSTEM VIEWING. CONTROLLER TO BE INSTALLED AND WIRING BY MECHANICAL CONTRACTOR. 24V POWER BY ELECTRICAL CONTRACTOR.
- DISCONNECT SWITCH FOR HEAT PUMP UNITS AND INDOOR UNITS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
- EXTERNAL SUPPORTS FOR INDOOR AND HEAT PUMP UNITS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- FILTER RACK AND 2" PLEATED MERV-8 FILTERS FOR DUCTED UNITS SHALL FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- CONDENSATE PUMPS SHIP FOR FIELD INSTALLATION BY MECHANICAL CONTRACTOR FOR WALL MOUNTED UNITS. DUCTED UNITS FURNISHED WITH FACTORY MOUNTED CONDENSATE PUMP. MECHANICAL CONTRACTOR TO PROVIDE CONDENSATE PIPING FROM ALL UNITS TO SANITARY DRAIN. FIELD VERIFY EXACT ROUTING AND TERMINATION POINT IN BUILDING.
- PROVIDE REFRIGERANT ISOLATION VALVES ON LIQUID AND GAS LINES AT EVERY FAN COIL UNIT.

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NEW HAMPTON FIRE DEPARTMENT  
NEW FIRE STATION  
5024 STATE ROUTE 17M, NEW HAMPTON, NY 10958

Project Title



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Issued for Bid: 12/19/2022

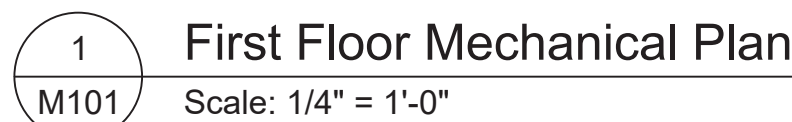
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MECHANICAL  
SCHEDULES &  
DETAILS

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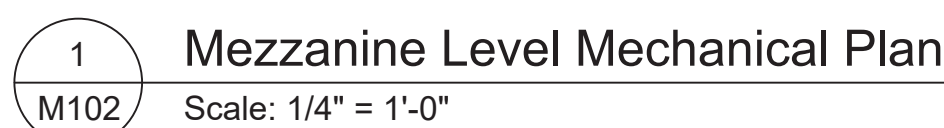
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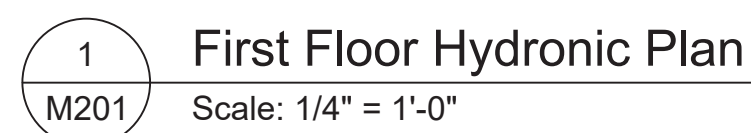




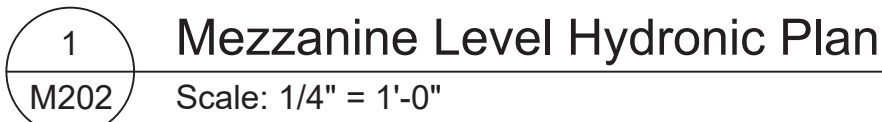
## CONSTRUCTION DOCUMENTS









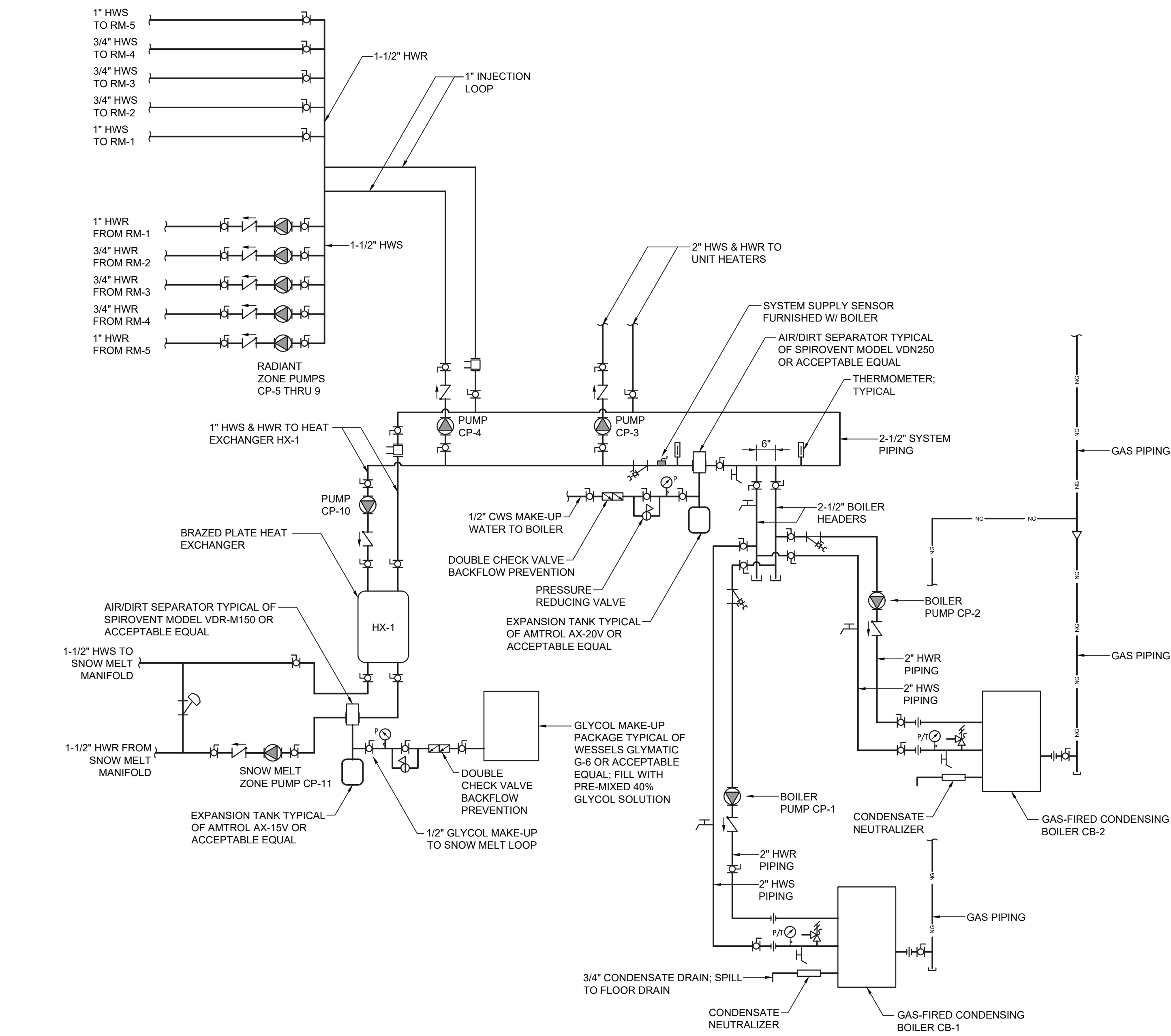




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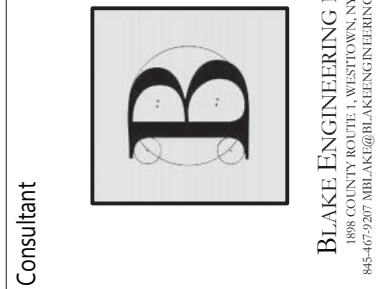






1 Heating Hot Water System Piping Diagram  
M302 N.T.S.

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HEATING HOT WATER SYSTEM  
PIPING  
DIAGRAM

Sheet No.  
M302