

three inches = one foot
one and one half inches = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot

1. ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE NEW YORK STATE ENERGY CONSERVATION DESIGN AND CONSTRUCTION CODE, ASHRAE GUIDELINES, ASHRAE WESTCHESTER COUNTY GUIDELINES, NEC, NATIONAL STANDARD PLUMBING CODE, AND ALL OTHER APPLICABLE CODES, ORDINANCES, ETC. FOR NEW YORK STATE AND THE LOCAL AUTHORITY HAVING JURISDICTION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE AND FAMILIARIZING HIMSELF WITH EXISTING CONDITIONS AND SCOPE OF THE WORK PRIOR TO SUBMITTING BID, AND COMMENCING WORK, AND INCLUDE ALL SUCH NECESSARY WORK BASED ON THIS SITE FAMILIARIZATION IN THIS BID.
3. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SAFE WORKING CONDITIONS AND SHALL OBSERVE ALL SAFETY REQUIREMENTS ESTABLISHED BY JURISDICTIONAL AGENCIES AND THE OWNER. IF ANY VIOLATIONS EXIST THE MORE STRINGENT REQUIREMENTS SHALL APPLY. CARE SHALL BE EXERCISED TO AVOID ENDANGERING PERSONNEL OR STRUCTURES.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION METHODS, PROCEDURES AND JOB SITE CONDITIONS INCLUDING SAFETY. CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER TO PROTECT WORKMEN, OCCUPANTS AND THE PUBLIC FROM INJURY AND ADJACENT PROPERTY SHALL BE PROTECTED. NO USE OF SCAFFOLDING, UNDERPINNING OR OTHER APPROVED METHOD. THE CONTRACTOR SHALL REPAIR ANY AND ALL DAMAGE CAUSED DURING OR RESULTING FROM HIS OPERATIONS IN KIND TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
5. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A CLEAN, DEBRIS FREE CONDITION. THE DUST RESULTING FROM REMOVALS SHALL BE CONTROLLED SO AS TO PREVENT ITS SPREAD TO ADJACENT PORTIONS OF THE BUILDING AND TO AVOID CREATION OF A NUISANCE IN THE SURROUNDING AREA.
6. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS, FEES, APPROVALS, ETC. PRIOR TO COMMENCING WORK AND SHALL SECURE CERTIFICATE OF OCCUPANCY UPON COMPLETION OF WORK.
7. CONTRACTOR SHALL BE RESPONSIBLE TO DISPOSE OF ALL DEMOLISHED MATERIAL OFF SITE IN AN APPROVED MANNER. THE OWNER SHALL BE CONSULTED PRIOR TO DISPOSAL OF ANY SALVAGED OR RECYCLED MATERIALS AT THE COMPLETION OF THE PROJECT.
8. UPON COMPLETION OF WORK, ALL EXCESS MATERIAL, DEBRIS, ETC. SHALL BE REMOVED AND THE WORK AREA SHALL BE LEFT CLEAN TO THE OWNER'S SATISFACTION.
9. ALL WORK SHALL BE SCHEDULED IN COMPLIANCE WITH THE OWNER'S REQUIREMENTS FOR THE USE OF THE EXISTING FACILITY.
10. CONTRACTOR SHALL FURNISH ALL EQUIPMENT THAT MAY BE REQUIRED TO PERFORM THE WORK INSTALLED IN A SAFE AND ORDERLY MANNER, AND AS NECESSARY FOR A PROPER OPERATIONAL SYSTEM.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION AND TEMPORARY SUPPORT OF ANY UTILITIES ENCOUNTERED DURING THE COURSE OF HIS WORK AND TO ENSURE THE OWNER'S FACILITY TO BE OPERATIONAL.
12. CONTRACTOR SHALL REVIEW DRAWINGS AND FIELD VERIFY ALL DIMENSIONS, CONDITIONS AND ELEVATIONS PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES AND ADDRESS ALL QUESTIONS TO ARCHITECT PRIOR TO COMMENCING WORK.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING, PATCHING, FILLING AND CLEANING UPON COMPLETION OF WORK.
14. CONTRACTOR SHALL NOT SCALE DRAWINGS FOR DIMENSIONS. ALL WRITTEN OR DIMENSIONED INFORMATION TAKES PRECEDENCE OVER THE DRAWING.
15. CONTRACTOR SHALL SUBMIT, WHERE REQUIRED BY THE ARCH/ENGR. SHOP DRAWINGS AND SUBMITTALS FOR APPROVAL PRIOR TO THE START OF FABRICATION OF SHOP ITEMS. THIS INCLUDES ALL EQUIPMENT, SCHEMATIC DUCTWORK AND PIPING PLANTING, ETC. CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL EQUIPMENT ETC WILL FIT (WITH PROPER MAINTENANCE CLEARANCE) AT ALL INSTALLATIONS. REVIEW ALL DRAWINGS AND SUBMITTALS AS THE ARCH/ENGR DOES NOT RELIEVE THE CONTRACTOR FROM PROVIDING THE CURRENT MODEL NUMBERS, TYPE, & FEATURES OF ALL EQUIPMENT'S & MATERIALS.
16. CONTRACTOR SHALL PROVIDE THE OWNER AND ARCHITECT WITH CERTIFICATES OF INSURANCE PRIOR TO STARTING THE WORK.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR SHORING AND BRACINGS OF EXISTING STRUCTURES AS NEEDED TO COMPLETE THE NEW WORK.
18. ALL MANUFACTURER'S MATERIALS, COMPONENTS, FASTENERS, ASSEMBLIES, ETC. SHALL BE HANDLED AND INSTALLED IN ACCORDANCE TO WITH MANUFACTURERS INSTRUCTIONS AND RECOMMENDATIONS. WHERE BRAND NAMES AND MANUFACTURED PRODUCTS ARE CALLED FOR IN THE DRAWINGS AND ETC WHICH MEET APPLICABLE STANDARDS AND SPECIFICATIONS MAY BE SUBSTITUTED WITH WRITTEN PERMISSION OF THE ARCHITECT AND THE OWNER. WHENEVER BRAND NAMES OR SPECIFIC PRODUCT SYSTEMS ARE INDICATED IT SHALL BE CLEARLY IDENTIFIED WITH THE INTENT OF THE CONTRACT DOCUMENTS. SUCH WORK SHALL BE THE TYPE OF PRODUCT AND DEGREE OF QUALITY DESIRED. SUCH IDENTIFICATION IN NO WAY PRECLUDES THE CONTRACTOR FROM USING PRODUCTS OF OTHER MANUFACTURERS WHICH CAN BE SHOWN IN ADVANCE TO BE OF LIKE AND OF EQUAL OR BETTER QUALITY.
19. ALL CHANGES SHALL BE REQUESTED IN WRITING AND MAY ONLY BE APPROVED IN WRITING BY THE ARCHITECT AND THE OWNER PRIOR TO ANY CHANGES BEING MADE.
20. THE ARCHITECT/ENGINEER HAS THE RIGHT TO REJECT ANY PORTION OF WORK THAT IS POORLY INSTALLED, WHICH DOES NOT MEET INDUSTRY STANDARD, UNAUTHORIZED, OR WORK DONE IN VIOLATION TO THE INTENT OF THE CONTRACT DOCUMENTS. SUCH WORK SHALL BE REPLACED, REPAIRED OR REMOVED AT THE CONTRACTOR'S EXPENSE.
21. CONTRACTOR SHALL GUARANTEE ALL HIS WORK AND THE WORK OF HIS SUBCONTRACTORS FOR A PERIOD TWO (2) YEARS AFTER RECEIVING FINAL ACCEPTANCE AND DO ALL REPAIR WORK AND REPLACEMENT AS NECESSARY DURING THAT PERIOD AT THE CONTRACTOR'S EXPENSE.
22. IN NO EVENT SHALL STRUCTURAL MEMBERS BE CUT OR DRILLED WITHOUT THE WRITTEN APPROVAL OF A LICENSED STRUCTURAL ENGINEER.
23. CONTRACTOR SHALL PROVIDE SAFE AND SANITARY CONDITIONS WHERE DEMOLITION AND WRECKING OPERATIONS ARE BEING CARRIED OUT. WORK SHALL BE EXECUTED IN SUCH A MANNER THAT HAZARD FROM FIRE, POSSIBILITY OF INJURY, DANGER TO HEALTH AND CONDITIONS WHICH MAY CONSTITUTE A PUBLIC NUISANCE SHALL BE MINIMIZED.
24. ENGINEER/OWNER MAY ASK THE CONTRACTOR TO PROVIDE DETAILED SHOP DRAWINGS & SUBMITTALS OF ANY/ALL PARTS OF THIS PROJECT WHICH THE ENGINEER/OWNER DEEMS NECESSARY FOR.

MATERIALS

1. CONTRACTOR IS RESPONSIBLE FOR THE CUTTING OF ALL WALLS, FLOORS, CEILING ETC. FOR ALL PIPE & DUCT PENETRATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING HOLES IN ROOF FOR PENETRATIONS AND REPAIRMENT AND REINFORCEMENT OF ROOFING. ALL STRUCTURAL SUPPORT. GENERAL CONTRACTOR SHALL PROVIDE BLOCKING, ROOFING, DUNNAGE.
2. CONTRACTOR IS REQUIRED TO PATCH (TO MATCH EXISTING), IMMEDIATELY AFTER REMOVAL, ALL WALL, FLOOR & CLG. OPENINGS WHERE EXISTING PIPE, PNEUMATIC LINES, DUCT, RADIATORS, BASEBOARDS, ETC. ARE BEING REMOVED. SEAL OPENING WITH 3 HOUR FIRE BARRIER CAULK. SEE GENERAL REQUIREMENTS FOR LOCATIONS.
3. CONTRACTOR TO REFER TO MECHANICAL DRAWINGS FOR PAINTING OF DUCTWORK, FURNISHING AND INSTALLING ACCESS PANELS, CUTOUT LOCATIONS, ETC.
4. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING & RELOCATING EXISTING ELECTRICAL, FIRE ALARM & COMMUNICATION DEVICES TO ACCOMMODATE THE INSTALLATION OF NEW UNITS, PIPING & DUCTWORK. CHECK IN FIELD.
5. GENERAL CONTRACTOR SHALL REMOVE EXISTING CEILING TILES AND CEILING GRID TO ACCOMMODATE RE-INSTALLATION OF UNITS, PIPING & DUCTWORK. RE-INSTALL ALL CEILING TILES BACK TO MATCH EXISTING WHERE NEW CEILINGS ARE NOT CALLED FOR. REMOVE & REPLACE ALL DAMAGED TILES & CEILING GRID. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES AND LOCATIONS OF REMOVAL.
6. GENERAL CONTRACTOR SHALL PROVIDE ROOFING PATCH WORK AND TIE-IN FOR ALL NEW PLUMBING, MECHANICAL AND ELECTRICAL EQUIPMENT AND CONDUIT THAT PENETRATES THE EXISTING ROOF.
7. GENERAL CONTRACTOR TO PATCH FLOORS & WALLS WHERE EXISTING THERMOSTAT & PNEUMATIC TUBING IS BEING REMOVED W/ NON-SHRINK GROUT. PAINT TO MATCH EXISTING.
8. GENERAL CONTRACTOR IS RESPONSIBLE TO DEMOLISH EXISTING HOUSEKEEPING CONCRETE PADS FOR EXISTING MECHANICAL/PLUMBING EQUIPMENT WHICH ARE TO BE DEMOLISHED AND NOT TO BE USED.


GENERAL MECH.
ABBREVIATIONS:

- | | | |
|----------|---|---|
| A.D. | - | ACCESS DOOR |
| ADL | - | ACOUSTIC DUCT LINING |
| APD | - | AIR PRESSURE DROP |
| ALD | - | AUTOMATIC ELECTRICAL OPERATED DAMPER ABOVE FINISHED FLOOR |
| A.F.F. | - | WINDOW AIR CONDITIONING UNIT |
| AC | - | AIR HANDLING UNIT |
| AHU | - | ALUMINUM |
| AL/ALUM. | - | AIR MEASURING STATION |
| AMS | - | APPROXIMATE |
| APPROX. | - | AMPERE TRIP |
| AT | - | AUTOMATIC TRANSFER SWITCH |
| ATS | - | AVERAGE |
| AVG. | - | BUILDING AUTOMATION CONTROL SYSTEM |
| BAS | - | BARE COPPER |
| BC | - | BRAKE |
| BHP | - | HORSEPOWER |
| BR | - | BOTTOM REGISTER |
| BOT. | - | BOTTOM CONNECTION |
| BRIP | - | BOILER PLANT INSTRUMENTATION PANEL |
| BTU | - | BRITISH THERMAL UNIT |
| BTUH | - | BRITISH THERMAL UNIT PER HOUR |
| CAV | - | CONSTANT AIR VOLUME THERMAL UNIT |
| CC | - | COOLING COIL |
| CD | - | CEILING DIFFUSER |
| CFM | - | CUBIC FEET PER MINUTE |
| CG | - | CEILING GRILLE |
| CR | - | CEILING REGISTER |
| CP | - | CONDENSATE PUMP |
| CO | - | CLEAN OUT |
| CHWS | - | COLD WATER SUPPLY |
| CHWR | - | CHILLED WATER RETURN |
| CUH | - | CABINET UNIT HEATER |
| CWR | - | CONDENSATE WATER RETURN |
| CWS | - | CONDENSATE WATER SUPPLY |
| D | - | DRAIN |
| DA | - | DIRECT ACTING |
| DAC | - | DOOR AIR CURTAIN UNIT |
| DCC | - | DIRECT DIGITAL CONTROL |
| DIA | - | DIAMETER |
| DN | - | DOWN |
| DHWH | - | DOMESTIC HOT WATER HEATER |
| DPG | - | DIFFERENTIAL PRESSURE GAUGE |
| DPT | - | DIFFERENTIAL PRESSURE TRANSMITTER |
| DWG. | - | DRAWING |
| DWTR | - | DUMB WAITER |
| EA | - | EXHAUST AIR |
| E/A E/A | - | EXHAUST ARE DUCT OPENING |
| EAT | - | ENTERING AIR TEMPERATURE |
| EB | - | EXISTING BUILDING |
| EC | - | EMPTY CONDUIT |
| EF | - | EXHAUST FAN |
| EG | - | EQUIPMENT GROUND |
| EXH | - | EXHAUST |
| EJ | - | EXPANSION JOINT |
| EL | - | ELEVATION |
| ELEC. | - | ELECTRIC |
| ELEV. | - | ELEVATOR |
| EMERG | - | EMERGENCY |
| EOPM | - | EQUIPMENT |
| EXP. XP | - | EXPANSION PROOF |
| EXT. | - | EXTERIOR |
| EXTG | - | EXISTING |
| EWC | - | ELECTRIC WATER COOLER |
| FA | - | FIRE ALARM |
| FACP | - | FIRE ALARM CONTROL PANEL |
| FCU | - | FAN COIL UNIT |
| FC | - | FLEXIBLE CONNECTION |
| FD | - | FLOOR DRAIN |
| FDAD | - | FIRE DAMPER ACCESS DOOR |
| FI | - | FILM ILLUSTRATOR |
| FIXT | - | FIXTURE |
| FLUOR | - | FLUORESCENT |

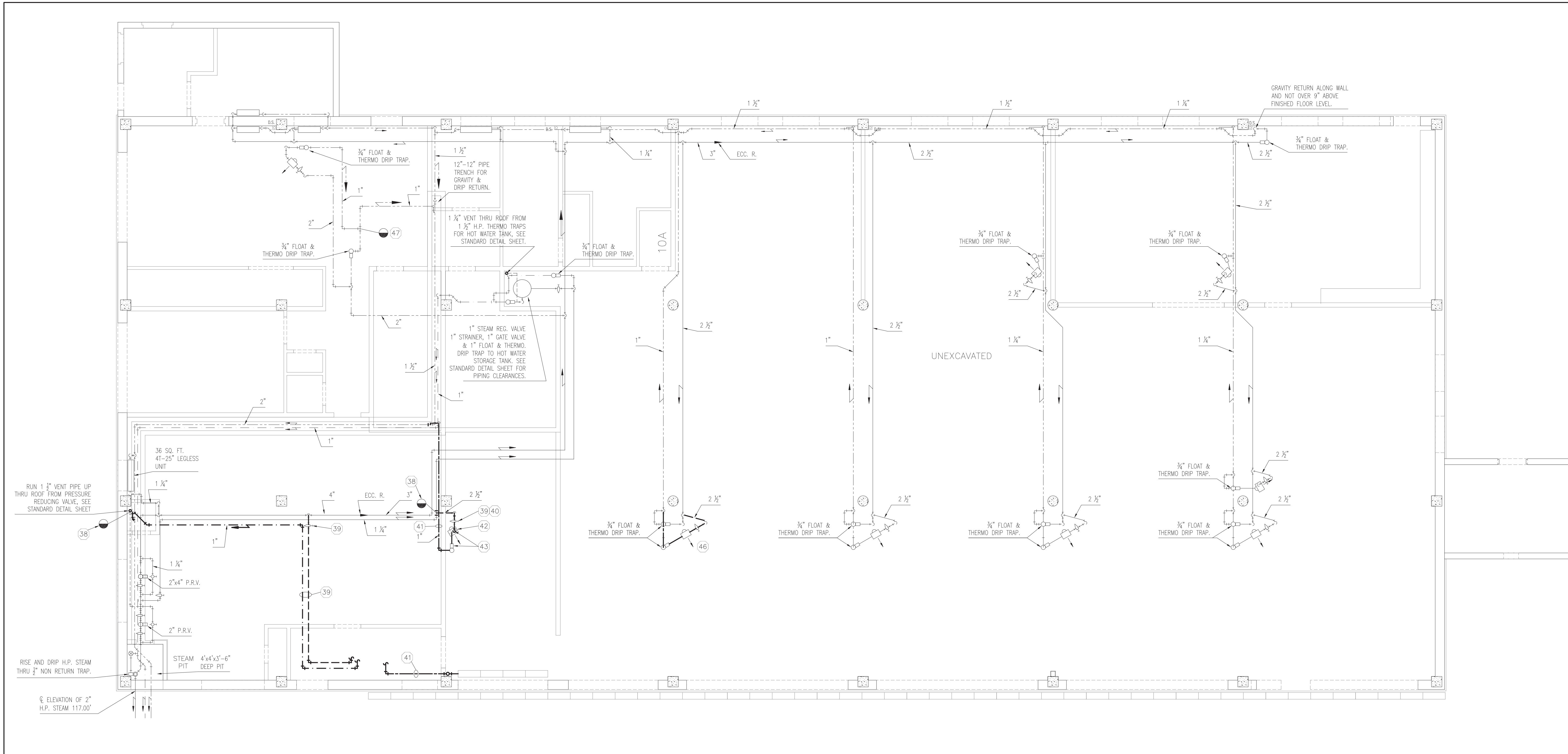
- ## GENERAL MECH. SYMBOLS

- | MECHANICAL SYMBOLS | | ELECTRICAL SYMBOLS | |
|--------------------|--|--------------------|--|
| | M.P. STEAM HEAT PIPING (LABELED) | | SUPPLY DIFFUSER |
| | H.P. STEAM SUPPLY PIPING (LABELED) | | RETURN GRILLE/REGISTER |
| | M.P. STEAM SUPPLY PIPING (LABELED) | | 3-WAY DIFFUSER |
| | VACUUM OR GRAVITY RETURN PIPING | | 3" THICK TWO-HOUR FIRE-RATED INSULATED DUCTWORK (SHOWN IN SINGLE LINE DUCT REPRESENTATION) |
| | DRIP RETURN M.P. OR H.P. STEAM PIPING | | FLEXIBLE CONNECTION |
| | PUMPED RETURN PIPING | | VOLUME DAMPER IN DUCT |
| | VENT PIPING | | INDICATES SUPPLY AIR |
| | CONDENSATE DRAIN PIPE | | INDICATES EXHAUST OR RETURN AIR |
| | REFRIGERANT PIPING | | DOOR UNDERCUT |
| | RETURN RISER | | DOOR LOUVER |
| | STEAM RISER | | ACCESS DOOR IN DUCT |
| | STEAM SUPPLY AND RETURN RISER | | DUCT MOUNTED SOUND ATTENUATOR |
| | SIDE CONNECTION | | FIRE DAMPER IN A DUCT WITH ACCESS DOOR |
| | TOP CONNECTION - 90° OR 45° | | FIRE/SMOKE DAMPER IN A DUCT WITH ACCESS DOOR |
| | BOTTOM CONNECTION - 90° OR 45° | | DIRECTIONAL VANES |
| | UNION CONNECTION | | UNIT HEATER |
| | CAPPED OUTLET | | ELECTRIC CABINET HEATER (ECH), CEILING MOUNTED |
| | ECCENTRIC REDUCER IN STEAM PIPING | | ELECTRIC CABINET HEATER (ECH), RECESSED IN WALL |
| | EXPANSION JOINT | | SQUARE DIFFUSER WITH CYLINDRICAL NECK |
| | ANCHOR | | EXISTING SQUARE CEILING DIFFUSER |
| | RISE OR DROP IN STEAM PIPING | | EXISTING SQUARE CEILING REGISTER |
| | STRAINER, STRAINER WITH BLOW-OFF VALVE | | ROUND DIFFUSER WITH CYLINDRICAL NECK |
| | GATE VALVE | | RETURN OR EXHAUST GRILLE OR REGISTER |
| | GLOBE VALVE | | CALIBRATED BALANCE AND SHUTOFF VALVE WITH MEMORY STOP AND PRESSURE PORTS |
| | CHECK VALVE | | THERMOMETER WITH WELL |
| | PRESSURE REDUCING VALVE AND BYPASS | | PRESSURE GAUGE |
| | AUTOMATIC ZONE CONTROL VALVE AND BYPASS | | TEST PLUG FOR PRESSURE/TEMPERATURE |
| | THERMOSTATIC STEAM TRAP | | PRESSURE SENSOR INPUT SIGNAL TO TEMPERATURE CONTROL |
| | FLOAT AND THERMOSTATIC STEAM TRAP | | NEW CONNECTION POINT |
| | TWO-WAY TEMPERATURE CONTROL (MODULATING) VALVE | | DISCONNECTION POINT |
| | THERMOMETER | | |
| | PRESSURE GAUGE WITH NEEDLE VALVE COCK | | |
| | CARBON MONOXIDE GAS SENSOR | | |
| | CARBON DIOXIDE GAS SENSOR | | |
| | SMOKE DETECTOR | | |
| | AUTOMATIC ELECTRICAL OPERATING DAMPER | | |
| | PRESSURE GAUGE | | |
| | VOLUME DAMPER | | |
| | THERMOSTAT - ELECTRIC (24V) - NON-PROGRAMMABLE | | |
| | THERMOSTAT - 7 DAY PROGRAMMABLE | | |
| | TEMPERATURE SENSOR | | |
| | SPACE HUMIDISTAT | | |
| | SPACE HUMIDITY SENSOR | | |
| | UNIT CONTROL SYSTEM PILOT | | |
| | LOW/HIGH LIMIT DUCT THERMOSTAT | | |
| | PRESSURE SENSOR SWITCH HIGH | | |
| | PRESSURE SENSOR SWITCH LOW | | |
| | DROP IN DUCT | | |
| | RISE IN DUCT | | |
| | PITCH DUCT UP | | |
| | PITCH DUCT DN | | |
| | SUPPLY DUCT SECTION | | |

██████████

		CONSULTANTS:		ARCHITECT/ENGINEERS:	NORTH: 	APPROVED:	APPROVED:	Drawing Title	Project Title			Project Number	Engineering Service Department of Veterans Affairs
Bid Documents	08-17-2021							Mechanical Notes, Abbreviations, & Symbols Steam Distribution & HVAC Systems Drawing Scale: N.T.S.	Firehouse Enhancement at FDR			620-20-206	
100% Working Drawings Submission	08-16-2021											Building(s) Number	
95% Working Drawings Submission	05-21-2021											19	
65% Working Drawings Submission	02-26-2021							Approved: Facility Director , VAHVHCS:	Location			Drawing Number	
35% Working Drawings Submission	08-25-2018								Montrose, NY 10548			MI 000 Dwg. 25 of 61	
100% Preliminary Design Submission	10-05-2017							Approved: John Cliffe, Facility Chief of Engineering	Date	Checked	Drawn		
Revisions:	Date:								08-30-2021	LS	AMI		

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
one quarter inch = one foot
one eighth inch = one foot



BLDG. 19 EXISTING STEAM DISTRIBUTION PLAN

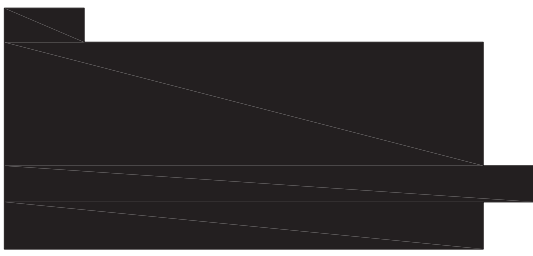
SCALE: 1/4" = 1'-0"

MECHANICAL DEMOLITION NOTES:


38. DISCONNECT LOCATION OF EXISTING STEAM SUPPLY AND CONDENSATE RETURN LINE.
39. REMOVE EXISTING STEAM, CONDENSATE PIPING, CONNECTIONS, SUPPORTS, AND ASSOCIATED EQUIPMENT OR COMPONENTS AS DESIGNATED ON THIS SHEET.
40. REMOVE EXISTING GATE VALVE.
41. REMOVE EXISTING CONDENSATE PIPING, CONNECTIONS, SUPPORTS, AND ASSOCIATED EQUIPMENT OR COMPONENTS.
42. EXISTING UNIT HEATING COIL TO BE REMOVED. REMOVE EXISTING SUPPORTS AND ASSOCIATED COMPONENTS. SEE DETAIL 5 ON SHEET "MD 600"
43. REMOVE EXISTING 3/4" FLOAT & THERMO DRIP TRAP AND ASSOCIATED COMPONENTS.
46. RELOCATE EXISTING HEATER TO GARAGE SIDE, RECONNECT EXISTING STEAM LINES AND CONDENSATE LINES AS REQUIRED. IF DAMAGED, PIPING AND EQUIPMENT SHALL BE REPLACED IN KIND.
47. CONTRACTOR SHALL REMOVE EXISTING HEATING UNIT AND SUPPORT, CUT AND CAP STEAM SUPPLY AND CONDENSATE LINES TO MAIN BRANCH LINE.

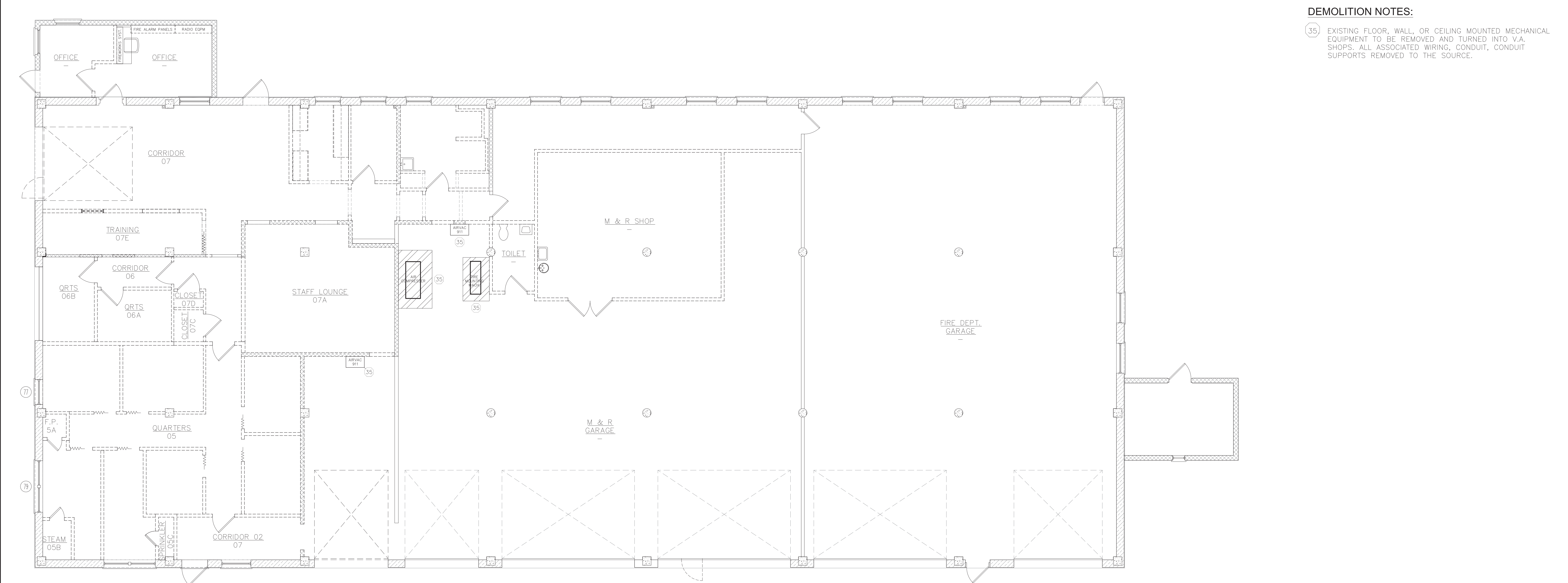
GENERAL MECH. SYMBOLS

- STEAM DISTRIBUTION SUPPLY
- DRIP RETURN M.P. AND H.P. PIPING.
- VACUUM OR GRAVITY RETURN PIPING.
- SUPPLY AND VACUUM, OR GRAVITY RETURN PIPING DEMOLITION.
- VENT PIPE
- RUNNING TRAP
- RETURN RISER
- SUPPLY RISER
- SUPPLY AND RETURN RISER
- CLEAN OUT (IN FLOOR)
- CLEAN OUT (IN PIPE)
- INCREASER OR REDUCER
- PLUGGED INLET
- BACK FLOW VALVE
- NATURAL GAS
- ICE WATER
- ICE WATER RETURN
- COMPRESSED AIR
- ANCHOR
- SIDE CONNECTION
- TOP CONNECTION, 90° OR 45°.
- BOTTOM CONNECTION, 90° OR 45°.
- VACUUM LINE
- RISE OR DROP IN STEAM PIPING
- STRAINER, STRAINER WITH BLOW-OFF VALVE
- GATE VALVE
- GLOBE VALVE
- CHECK VALVE
- ZONE CONTROL VALVE
- FLOAT AND THERMO TRAP
- NEW CONNECTION POINT
- DISCONNECTION POINT. CAP BRANCH AT MAIN.



KEY PLAN

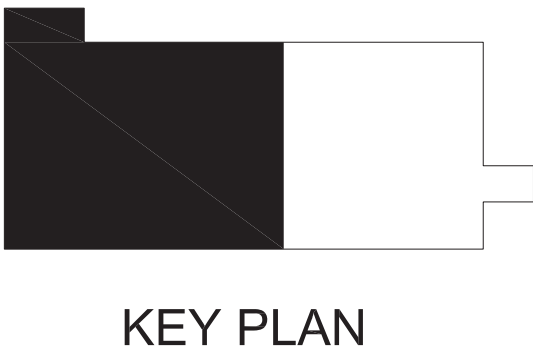
		CONSULTANTS:	ARCHITECT/ENGINEERS:	NORTH: 	APPROVED:	APPROVED:	Drawing Title Existing Mechanical Plans Steam Distribution Drawing Scale: 1/8" - 1'-0"	Project Title Firehouse Enhancement at FDR			Project Number 620-20-206		Engineering Service
Bid Documents	08-17-2021				APPROVED:	APPROVED:		Location Montrose, NY 10548			Building(s) Number 19		
100% Working Drawings Submission	08-16-2021				APPROVED:	APPROVED:		Date 08-30-2021			Checked LS		
95% Working Drawings Submission	05-21-2021				APPROVED:	APPROVED:		Drawn AMI			MD 100		
65% Working Drawings Submission	02-26-2021				APPROVED:	APPROVED:		Approved: John Cliffe, Facility Chief of Engineering					
35% Working Drawings Submission	08-25-2018				APPROVED:	APPROVED:		Dwg. 26 of 61			Department of Veterans Affairs		
100% Preliminary Design Submission	10-05-2017												
Revisions:	Date:												



DEMOLITION NOTES:

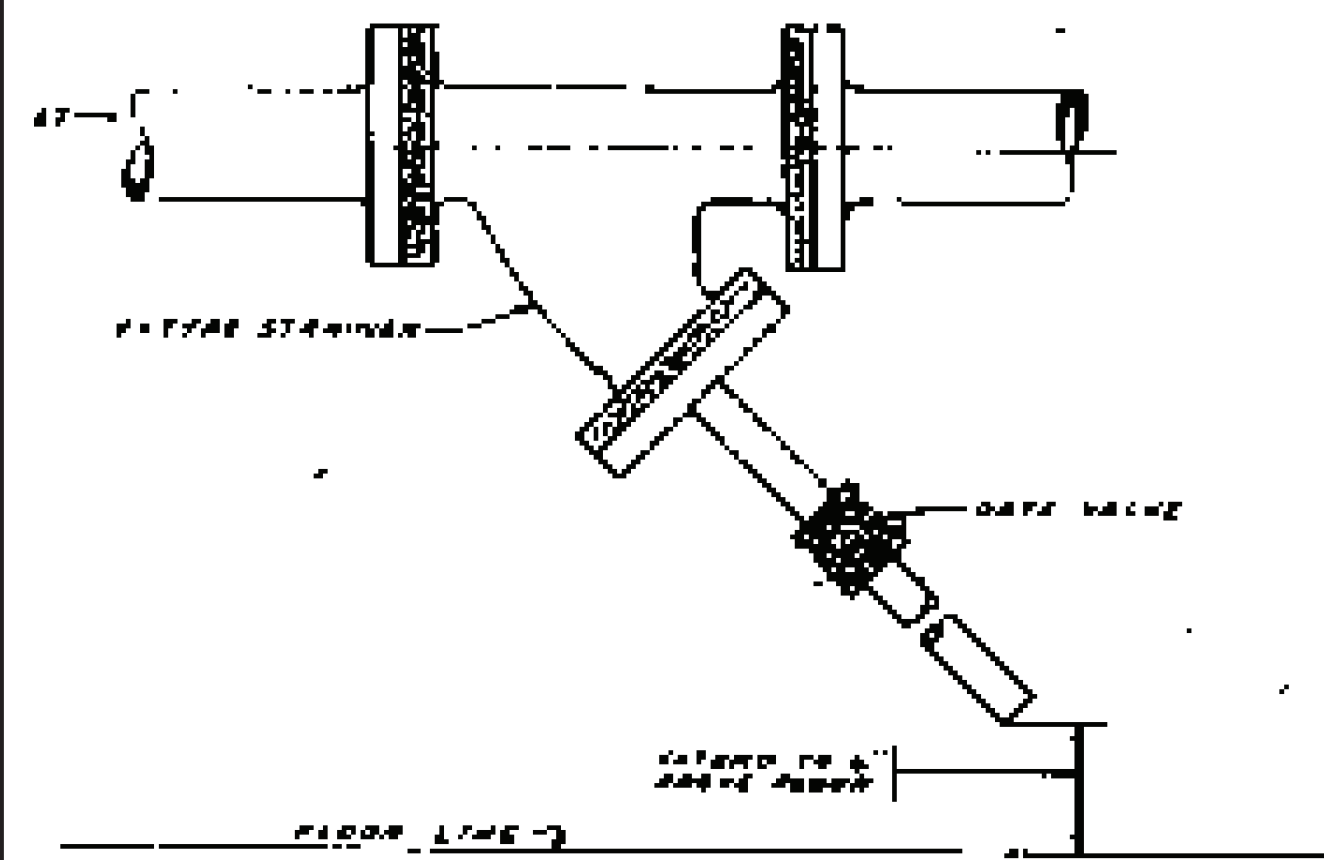
(35) EXISTING FLOOR, WALL, OR CEILING MOUNTED MECHANICAL EQUIPMENT TO BE REMOVED AND TURNED INTO V.A. SHOPS. ALL ASSOCIATED WIRING, CONDUIT, CONDUIT SUPPORTS REMOVED TO THE SOURCE.

MECHANICAL EQUIPMENT DEMOLITION PLAN
SCALE: 3/16" = 1'-0"



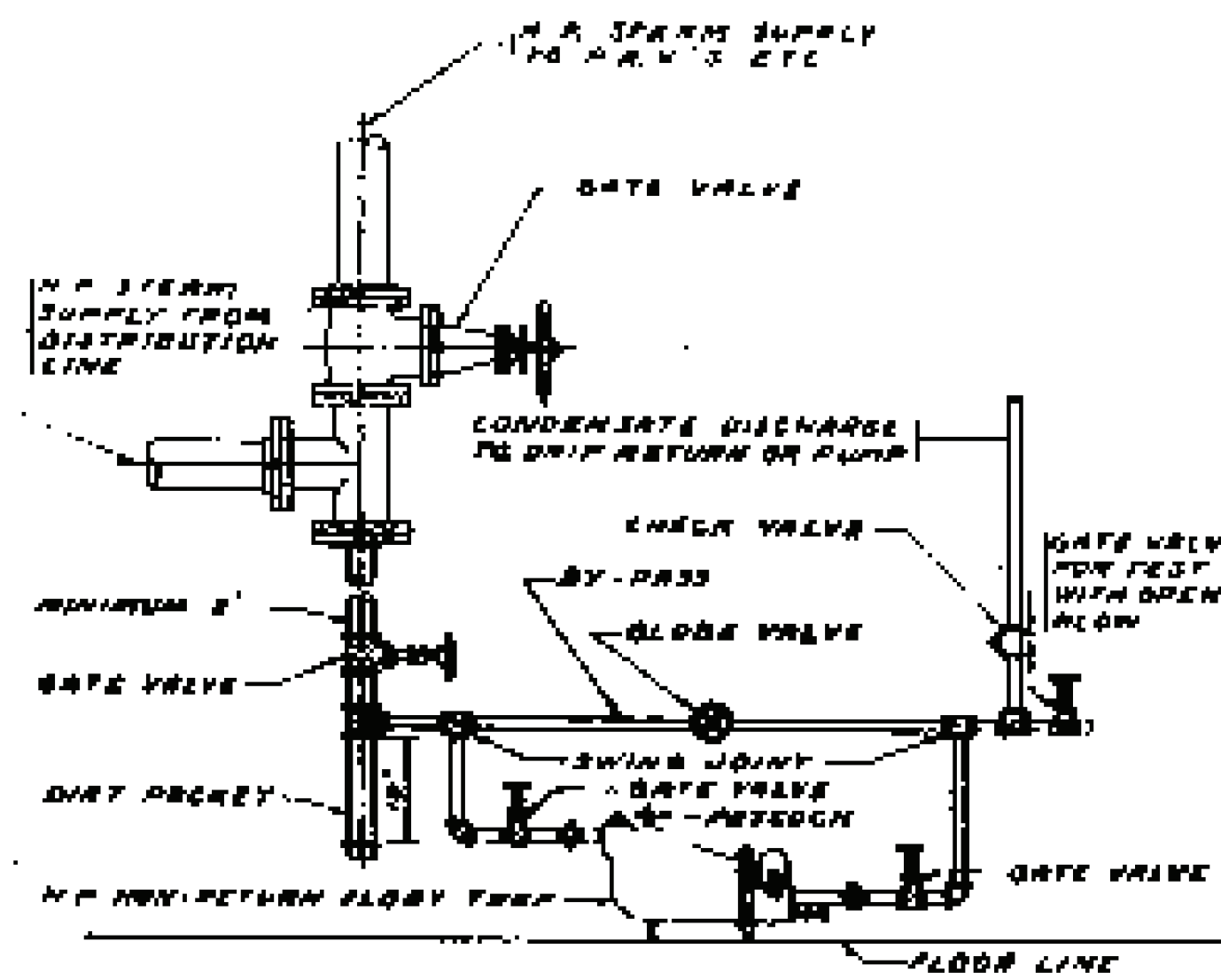
		CONSULTANTS:	ARCHITECT/ENGINEERS:	NORTH: 	APPROVED:	APPROVED:	Drawing Title	Project Title			Project Number		<div>Engineering Service</div> <div>Department of Veterans Affairs</div>				
									Equipment Demolition Plan Ground Floor Scale: As Noted			Firehouse Enhancement			620-20-206		
Bid Documents	08-17-2021							APPROVED:	APPROVED:		Location			Building(s) Number			
100% Working Drawing Submission	08-16-2021									Approved: Facility Director , VAHVHCS:	Montrose, New York			019			
95% Working Drawing Submission	05-21-2021							APPROVED:	APPROVED:					Drawing Number			
65% Working Drawing Submission	02-26-2021									Approved: John Cliffe, Facility Chief of Engineering				MD 102			
35% Working Drawing Submission	06-25-2018							APPROVED:	APPROVED:		Date	Checked		Drawn	Dwg 28 of 61		
100% Preliminary Design	10-05-2017										08-30-2021	AMI		AMI			
Revisions:	Date:																

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



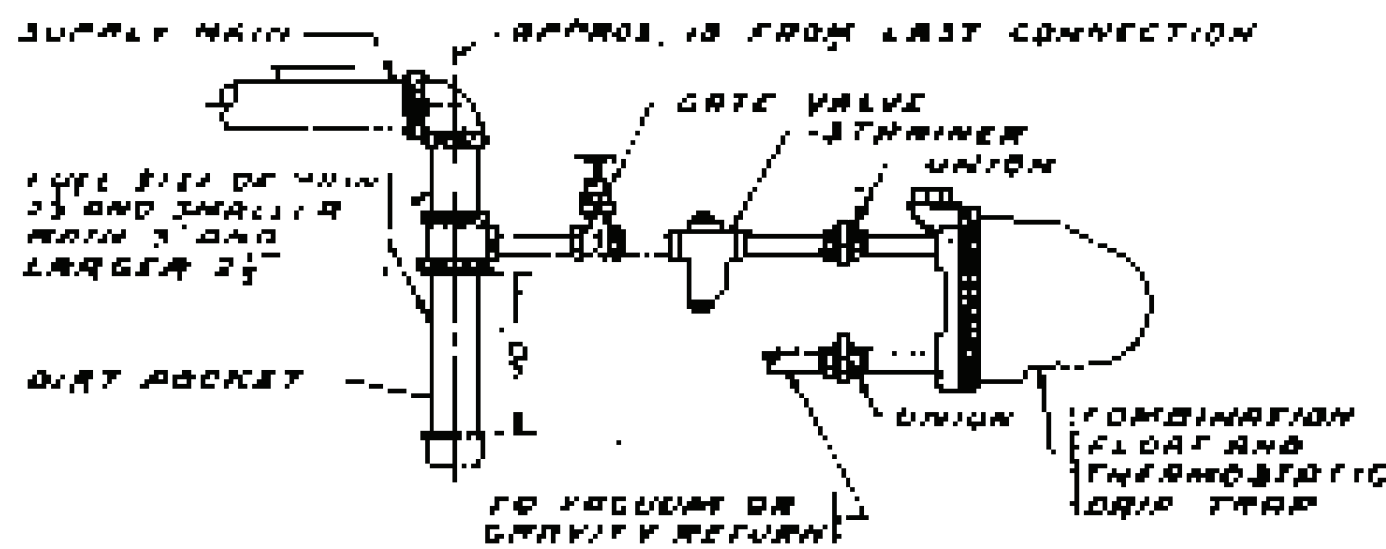
1-TYPICAL DETAIL OF BLOW-DOWN CONNECTION TO Y-TYPE STRAINER
NOT TO SCALE

NOTE
NOT TO BE USED IN FINISHED ROOM OR STORAGE SPACES, SEE SPECIFICATIONS.
TO BE USED WITH FLANGED OR SCREWED FITTINGS.

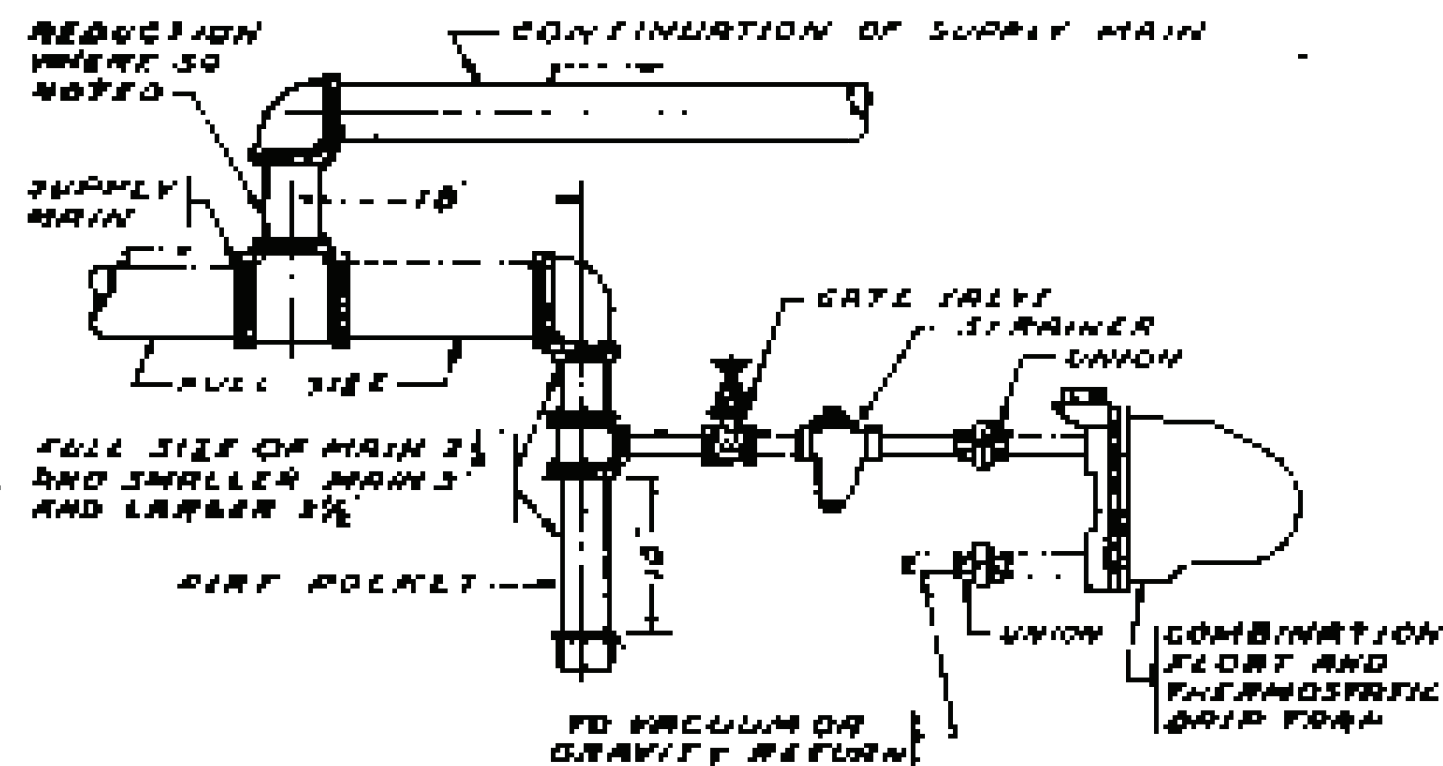


2-TYPICAL DETAIL OF H.P. DRIP THRU NON-RETURN FLOAT TRAP
NOT TO SCALE

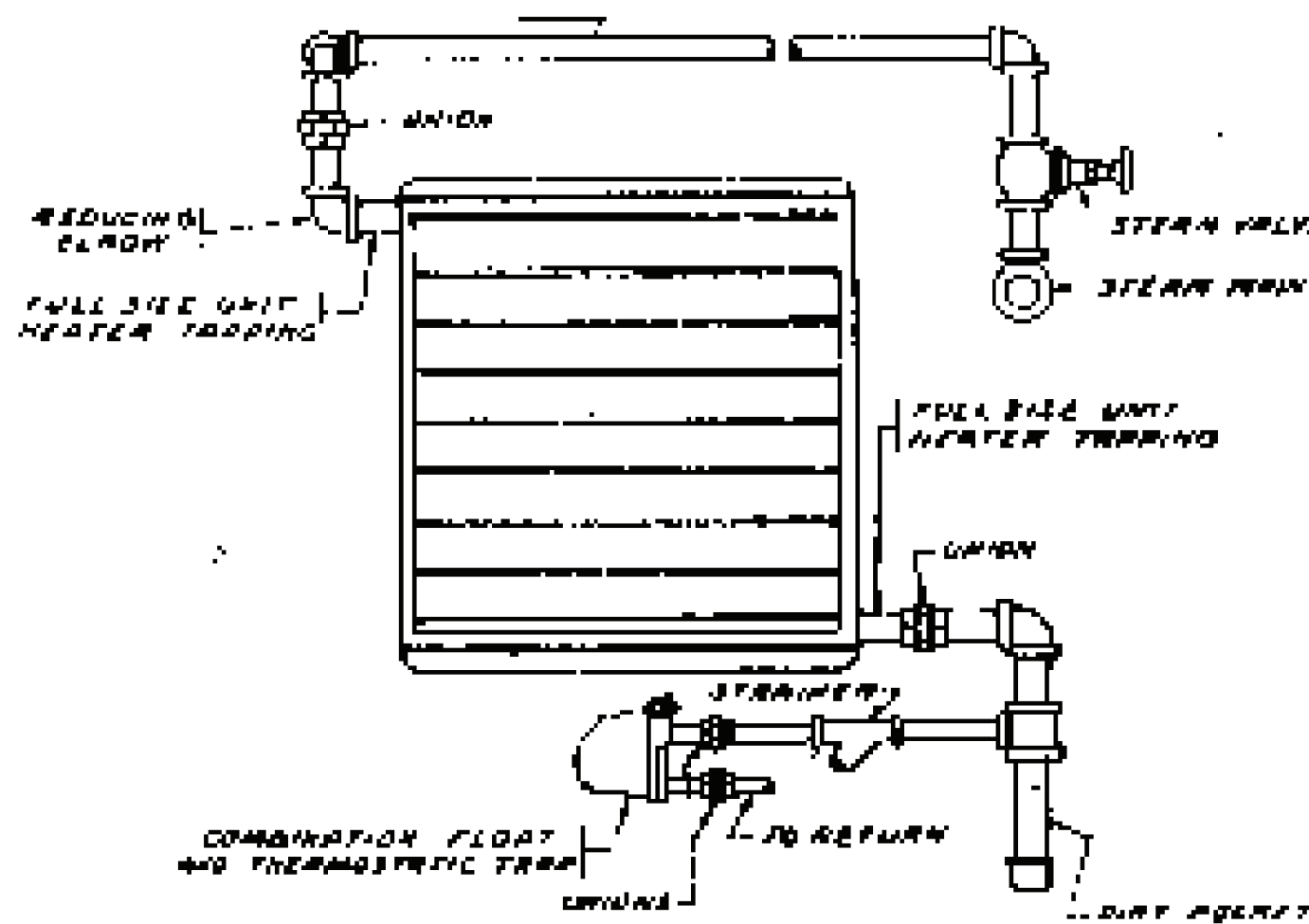
NOTE:
FOR SIZES OF PIPES, FITTINGS, VALVES, TRAP ETC. SEE HEATING DRAWINGS.
TRAP SHALL BE MOUNTED ON BRACKET WHERE SHOWN OR NOTED.



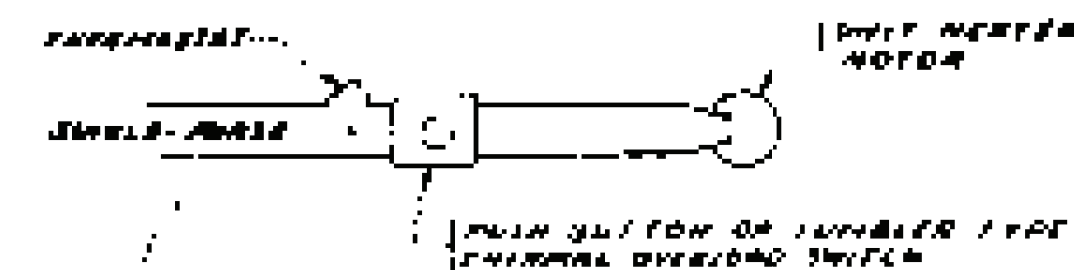
3-TYPICAL DETAIL OF DRIP AT END OF LOW PRESSURE STEAM MAIN
NOT TO SCALE



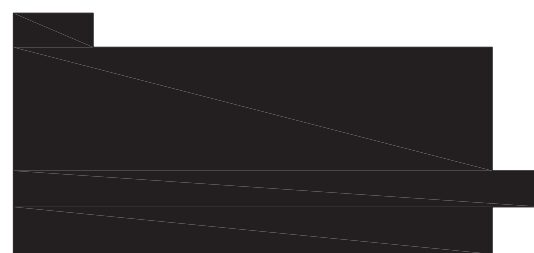
4-TYPICAL DETAIL OF INTERMEDIATE DRIP IN LOW PRESSURE STEAM MAIN
NOT TO SCALE



5-TYPICAL UNIT HEATER CONNECTIONS
NOT TO SCALE



6-CONTROL DIAGRAM FOR UNIT HEATER
NOT TO SCALE



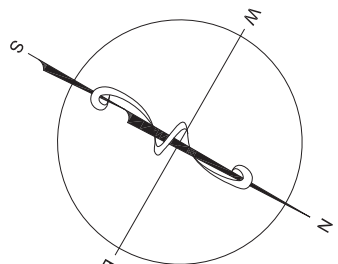
KEY PLAN

Bid Documents	08-17-2021
100% Working Drawings Submission	08-16-2021
95% Working Drawings Submission	05-21-2021
65% Working Drawings Submission	02-26-2021
35% Working Drawings Submission	06-25-2018
100% Preliminary Design Submission	10-05-2017
Revisions:	Date:

CONSULTANTS:

ARCHITECT/ENGINEERS:

NORTH:



APPROVED:
APPROVED:
APPROVED:
APPROVED:

APPROVED:
APPROVED:
APPROVED:
APPROVED:

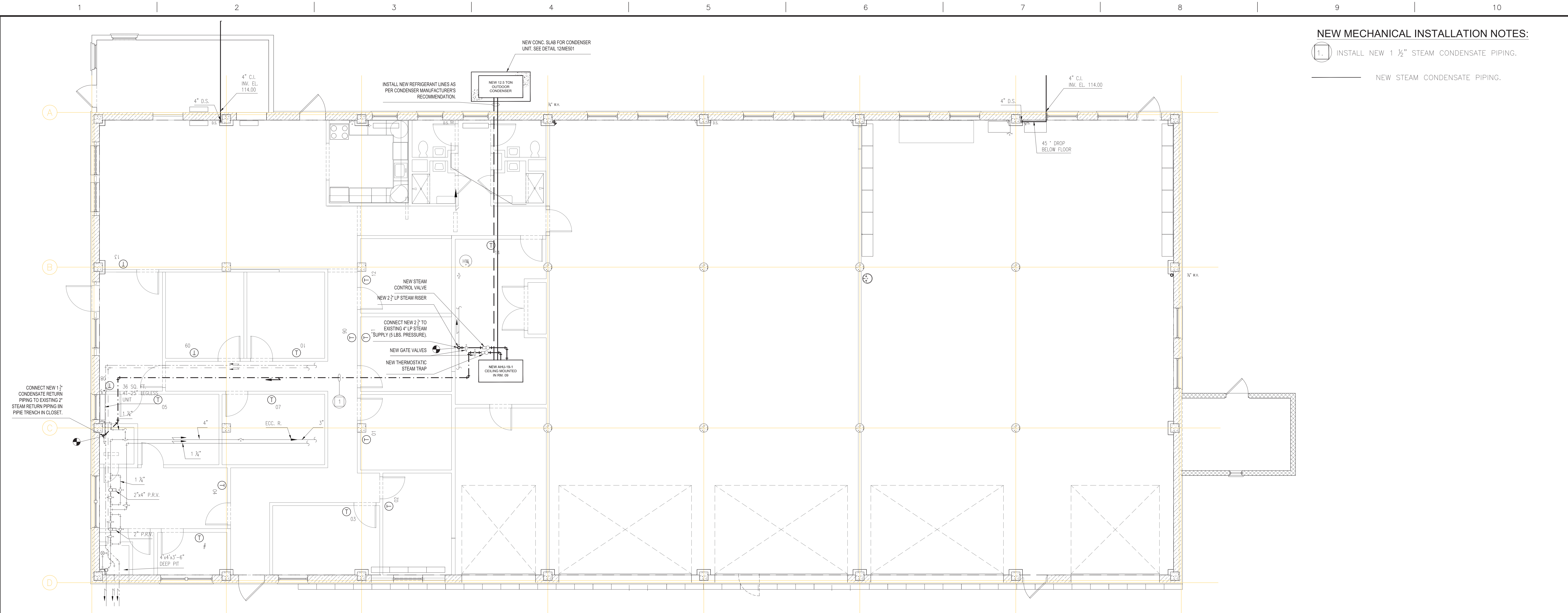
Drawing Title
Existing Standard Mechanical Details Steam Distribution Drawing Scale: N.T.S.
Approved: Facility Director , VAHVHCS:
Approved: John Cliffe, Facility Chief of Engineering

Project Title
Firehouse Enhancement at FDR
Location
Montrose, NY 10548
Date
08-30-2021
Checked
LS
Drawn
AMI

Project Number
620-20-206
Building(s) Number
19
Drawing Number
MD 500
Dwg. 29 of 61

Engineering Service
Department of Veterans Affairs

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot




NEW STEAM DISTRIBUTION PLAN
SCALE: 3/16" = 1'-0"

NEW MECHANICAL INSTALLATION NOTES:

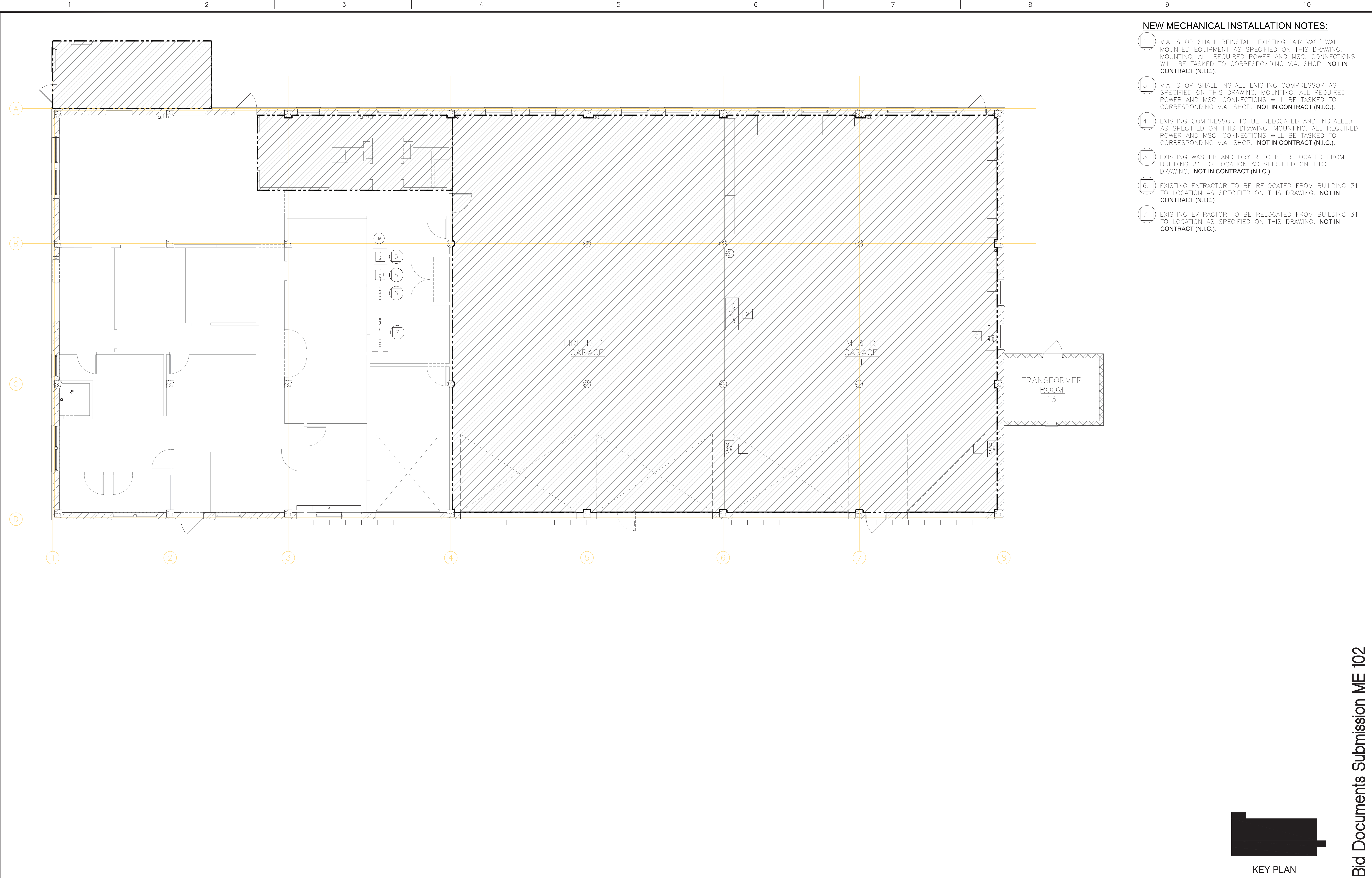
1. INSTALL NEW 1 1/2" STEAM CONDENSATE PIPING.
NEW STEAM CONDENSATE PIPING.



KEY PLAN

		CONSULTANTS:		ARCHITECT/ENGINEERS:		APPROVED:	APPROVED:	Drawing Title New Steam Distribution Plan Ground Floor Scale: 1/8" = 1'-0"	Project Title Firehouse Enhancement at FDR	Project Number 620-20-206		Engineering Service	
						APPROVED:	APPROVED:			Building(s) Number 019			
Bid Documents	08-17-2021					APPROVED:	APPROVED:			Drawing Number			
100% Working Drawing Submission	08-16-2021									Montrose, New York			
95% Working Drawing Submission	05-21-2021									Date	Checked		Drawn
65% Working Drawing Submission	02-26-2021									08-30-2021	LS		AMI
35% Working Drawing Submission	06-25-2018									Dwg 30 of 61			
100% Preliminary Design	10-05-2017												
Revisions:	Date:												

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



NEW MECHANICAL INSTALLATION NOTES:

- 2. V.A. SHOP SHALL REINSTALL EXISTING "AIR VAC" WALL MOUNTED EQUIPMENT AS SPECIFIED ON THIS DRAWING. MOUNTING, ALL REQUIRED POWER AND MSC. CONNECTIONS WILL BE TASKED TO CORRESPONDING V.A. SHOP. **NOT IN CONTRACT (N.I.C.).**
- 3. V.A. SHOP SHALL INSTALL EXISTING COMPRESSOR AS SPECIFIED ON THIS DRAWING. MOUNTING, ALL REQUIRED POWER AND MSC. CONNECTIONS WILL BE TASKED TO CORRESPONDING V.A. SHOP. **NOT IN CONTRACT (N.I.C.).**
- 4. EXISTING COMPRESSOR TO BE RELOCATED AND INSTALLED AS SPECIFIED ON THIS DRAWING. MOUNTING, ALL REQUIRED POWER AND MSC. CONNECTIONS WILL BE TASKED TO CORRESPONDING V.A. SHOP. **NOT IN CONTRACT (N.I.C.).**
- 5. EXISTING WASHER AND DRYER TO BE RELOCATED FROM BUILDING 31 TO LOCATION AS SPECIFIED ON THIS DRAWING. **NOT IN CONTRACT (N.I.C.).**
- 6. EXISTING EXTRACTOR TO BE RELOCATED FROM BUILDING 31 TO LOCATION AS SPECIFIED ON THIS DRAWING. **NOT IN CONTRACT (N.I.C.).**
- 7. EXISTING EXTRACTOR TO BE RELOCATED FROM BUILDING 31 TO LOCATION AS SPECIFIED ON THIS DRAWING. **NOT IN CONTRACT (N.I.C.).**



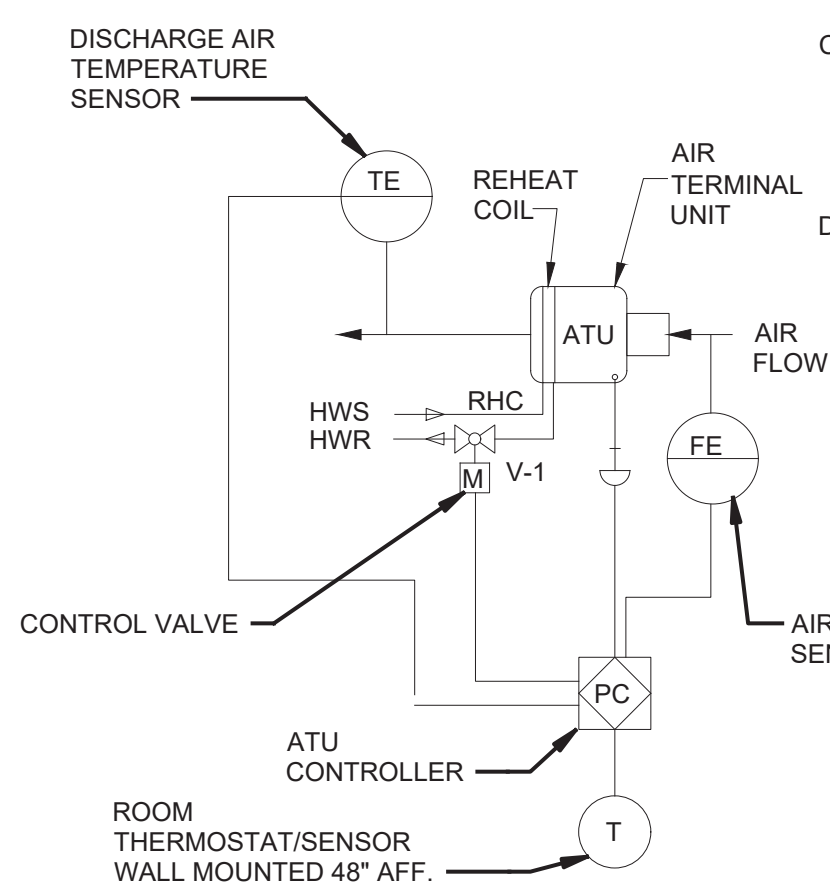
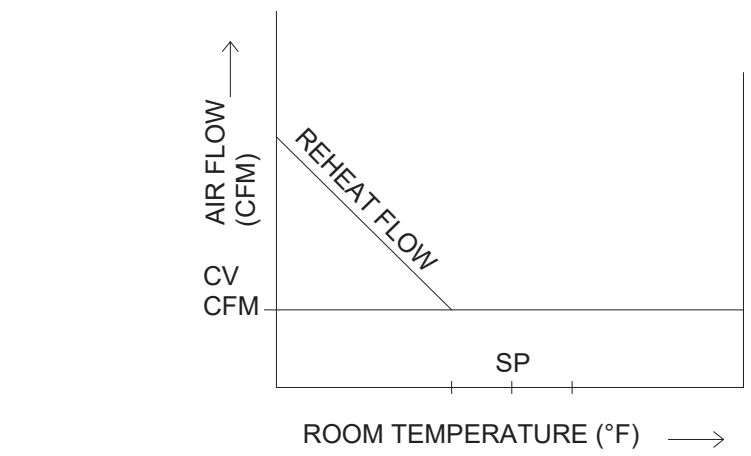
KEY PLAN

CONSULTANTS:		ARCHITECT/ENGINEERS:		NORTH:		APPROVED:		APPROVED:		Drawing Title		Project Title		Project Number	
										New Equipment Location Plan		Firehouse Enhancement at FDR		620-20-206	
										Ground Floor				Building(s) Number	
										Scale: As Noted				019	
										Approved: Facility Director , VAHVHCS:		Location		Drawing Number	
										Approved: John Cliffe, Facility Chief of Engineering		Montrose, New York		ME 102	
										Date		Checked		Drawn	
										08-30-2021		LS		AMI	
														Dwg 32 of 61	

Bid Documents	08-17-2021
100% Working Drawing Submission	08-16-2021
95% Working Drawing Submission	05-21-2021
65% Working Drawing Submission	02-26-2021
35% Working Drawing Submission	06-25-2018
100% Preliminary Design	10-05-2017
Revisions:	Date:

Engineering Service

Department of Veterans Affairs




VARIABLE VOLUME AIR TERMINAL UNIT CONTROL DIAGRAM

POINTS LIST: 19-AHU-01

POINT TAG	POINT DESCRIPTION	UNITS	POINT TYPE					SETPOINTS			ALARM CONDITION	NOTES
			BINARY IN	BINARY OUT	ANALOG IN	ANALOG OUT	VIRTUAL	ADJ.	INITIAL	HIGH		
	OCCUPIED MODE STATUS	ON/OFF										
	UNOCCUPIED MODE STATUS	ON/OFF										
	HUMIDIFICATION MODE STATUS	ON/OFF										
	DEHUMIDIFICATION MODE STATUS	ON/OFF										
	SUPPLY FAN START/STOP	ON/OFF		X								
C-1	SUPPLY FAN STATUS	ON/OFF	X									SUPPLY FAN PROOF FAILED
	SUPPLY FAN SPEED COMMAND	%				X						
	SUPPLY FAN MINIMUM SPEED SETPOINT	%				X	X	50				
	SUPPLY FAN VFD ALARM	ON/OFF	X									
PSH-1	SUPPLY DUCT PRESSURE SWITCH HIGH LIMIT SAFETY	NORMAL/ALARM	X				X	5.0				ALARM
DD-1	SUPPLY AIR DUCT SMOKE DETECTOR	NORMAL/ALARM	X									ALARM
FT-1	SUPPLY AIR FLOW	CFM			X							
	SUPPLY AIR FLOW SETPOINT	CFM					X					
SPS-1	SUPPLY AIR STATIC PRESSURE	IN. W.G.			X							MORE THAN 20% ABOVE OR BELOW SETPOINT
	SUPPLY AIR STATIC PRESSURE SETPOINT	IN. W.G.					X	X	2.0	2.5	1.0	
TT-1	SUPPLY AIR TEMPERATURE	DEG. F			X							MORE THAN 10 DEG F ABOVE OR BELOW SETPOINT
	SUPPLY AIR TEMPERATURE SETPOINT	DEG. F					X	X	55	60	49	
DD-2	SUPPLY AIR DUCT SMOKE DETECTOR	NORMAL/ALARM	X									ALARM
FT-3	RETURN AIR FLOW	CFM			X							
	RETURN AIR FLOW SETPOINT	CFM					X					
TT-4	RETURN AIR TEMPERATURE	DEG. F			X							
D-2	RETURN AIR DAMPER COMMAND	% OPEN				X						
ZC-2	RETURN AIR DAMPER POSITION	% OPEN	X									
FT-2	OUTSIDE AIR FLOW	CFM			X							OA FLOW LESS THAN 80% OF SETPOINT
	OUTSIDE AIR FLOW SETPOINT	CFM					X	X	X			
TT-2	OUTSIDE AIR TEMPERATURE	DEG. F			X							PER SCHEDULE
PDS-1	PRE-FILTER 1 DIFFERENTIAL PRESSURE	IN. W.G.			X							
PDS-2	PRE-FILTER 2 DIFFERENTIAL PRESSURE	IN. W.G.			X							
TT-5	MIXED AIR TEMPERATURE	DEG. F			X							AVERAGING
TT-6	COOLING COIL LEAVING AIR TEMPERATURE	DEG. F			X							MORE THAN 10 DEG F ABOVE OR BELOW SETPOINT
HCV-1	PREHEAT STEAM CONTROL VALVE COMMAND	% OPEN				X						N.O.

19-AHU-01 - SEQUENCE OF OPERATION

- GENERAL**
- a. 19-AHU-01 SHALL BE STANDALONE AND SHALL OPERATE WITH STANDALONE BAGNET CONTROLS. UNIT SHALL BE STARTED AND STOPPED BY THE DIRECT DIGITAL CONTROL PANEL (DCP). DCP SHALL BE CAPABLE OF BEING CONNECTED TO FUTURE ENGINEERING CONTROL CENTER (ECC) AND BE MONITORED AND CONTROLLED VIA BAGNET CONTROLS.
 - b. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF COMPLETE HVAC CONTROLS SYSTEM TO VA CORP FOR APPROVAL.
 - c. INTERLOCK THE AIR HANDLING UNIT SYSTEM WITH THE EXISTING FIRE ALARM SYSTEM.
 - d. ALL DIRECT DIGITAL CONTROL PANELS (DCP) SHALL BE FED FROM AN EMERGENCY POWER CIRCUIT.
- 2. RUN CONDITION**
- a. COOLING MODE: IF SPACE TEMPERATURE IS ABOVE THE COOLING SETPOINT, ENTER COOLING MODE UNTIL TEMPERATURE FALLS BELOW SETPOINT MINUS A 2°F DEADBAND.
 - b. HEATING MODE: IF SPACE TEMPERATURE IS BELOW THE HEATING SETPOINT, ENTER HEATING MODE UNTIL TEMPERATURE RISES ABOVE SETPOINT PLUS A 2°F DEADBAND.
- 3. AIR FLOW CONTROL**
- a. THE SUPPLY AIR FLOW SHALL BE CONTROLLED BY THE DCP AND MODULATE THE SUPPLY FAN VARIABLE FREQUENCY DRIVE (VFD) SPEED TO MAINTAIN A SPACE TEMPERATURE SETPOINT, AS MEASURED BY FREQUENCY DRIVE (VFD) SPEED TO MAINTAIN A SPACE TEMPERATURE SETPOINT, AS MEASURED BY FREQUENCY DRIVE (VFD) SPEED TO MAINTAIN A SPACE TEMPERATURE SETPOINT, AS MEASURED BY TEMPERATURE SENSORS LOCATED IN THE SPACE. WHEN MULTIPLE SENSORS ARE INDICATED, POLL ALL SENSORS AND CONTROL TO THE MOST DEMANDING READING.
- 4. TEMPERATURE CONTROL**
- a. SUPPLY AIR TEMPERATURE, SENSED BY TT-1, SHALL BE MAINTAINED AT SETPOINT (55 DEG F) VIA DIGITAL CONTROL PANEL WHILE MINIMIZING THE FAN SPEED.
 - b. A FIXED VOLUME OF OUTSIDE AIR FLOW SHALL BE MAINTAINED AT 20% (600 CFM) AT ALL TIMES.
- 7. SMOKE CONTROL AUTOMATIC SHUTDOWN/RESTART**
- a. WHEN SMOKE IS DETECTED BY ANY ASSOCIATED DUCT MOUNTED SMOKE DETECTOR, THE SUPPLY FAN AND INTERLOCKED RETURN/EXHAUST FANS SHALL SHUT "OFF", THE ALARM SIGNAL SHALL BE TRANSMITTED TO THE FIRE ALARM SYSTEM.
 - b. SUPPLY FAN(S) SHALL AUTOMATICALLY RESTART WHEN FIRE ALARM CIRCUIT IS RESET.
- 8. EMERGENCY CONSTANT SPEED OPERATION**
- a. UPON FAILURE OF SUPPLY FAN VFD(S), THE SUPPLY FAN(S) SHALL BE STARTED/STOPPED MANUALLY AT THE DCP AND ECC THROUGH A BY-PASS STARTER. ACTIVATION OF CONSTANT SPEED OPERATION SHALL CAUSE THE SUPPLY FAN(S) TO OPERATE AT CONSTANT SPEED.
- 9. SAFETIES**
- a. HIGH PRESSURE LIMIT: THE DCP, USING HIGH PRESSURE LIMIT SWITCH PSH-1 LOCATED AT THE SUPPLY FAN DISCHARGE, SHALL PREVENT THE SUPPLY FAN(S) FROM DEVELOPING OVER 4 IN. W.G. OF POSITIVE STATIC PRESSURE (FIELD ADJUSTABLE). IF STATIC PRESSURE EXCEEDS 4 IN. W.G. FOR 10 SECS, THE SWITCH WILL OVERRIDE ALL CONTROLS AND SHUT DOWN THE SUPPLY FAN(S), AND A "HIGH PRESSURE" ALARM SIGNAL SHALL BE INDICATED AT THE DCP AND ECC. PSH-1 SHALL BE HARDWIRED TO THE SUPPLY FAN VFD(S) AND UNIT SHALL BE SHUTDOWN IN HAND, AUTO, OR BYPASS MODE. PSH-1 WILL REQUIRE MANUAL RESET AT THE DEVICE.
 - b. FILTER STATUS: THE DCP SHALL MONITOR AND INDICATE THE DIFFERENTIAL PRESSURE ACROSS EACH AIR HANDLING UNIT FILTER SECTION. PROGRAM A HIGH LIMIT SETPOINT FOR EACH FILTER SECTION IN ACCORDANCE WITH FILTER MANUFACTURER'S RECOMMENDATION. IF THE DIFFERENTIAL PRESSURE ACROSS A FILTER SECTION IS GREATER THAN THE HIGH LIMIT SETPOINT, THE DCP AND ECC SHALL REPORT A FILTER MAINTENANCE ALARM WITH MESSAGE INDICATING THAT THE FILTER NEEDS TO BE CHANGED.

		CONSULTANTS:	ARCHITECT/ENGINEERS:	NORTH: 	APPROVED:	APPROVED:	Drawing Title New Mechanical HVAC Controls Information Scale: As Noted	Project Title Firehouse Enhancement at FDR			Project Number 620-20-206	Engineering Service
Bid Documents	08-17-2021				APPROVED:	APPROVED:				Building(s) Number 019		
100% Working Drawing Submission	08-16-2021				APPROVED:	APPROVED:	Approved: Facility Director , VAHVHCS:	Location Montrose, New York	Drawing Number			
95% Working Drawing Submission	05-21-2021				APPROVED:	APPROVED:	Approved: John Cliffe, Facility Chief of Engineering	Date 08-30-2021	Checked LS	Drawn AMI	ME 502 Dwg 35 of 61	
65% Working Drawing Submission	02-26-2021											
35% Working Drawing Submission	06-25-2018											
100% Preliminary Design	10-05-2017											
Revisions:	Date:										Department of Veterans Affairs	

