

GENERAL NOTES:

- THE HVAC SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL CONFORM TO THE MECHANICAL CODE AND AUTHORITIES HAVING JURISDICTION. IN CASE OF CONFLICTS WITH CODES, DRAWINGS, OR SPECIFICATIONS, THE MOST STRINGENT SHALL PREVAIL.
- BEFORE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS, ELEVATIONS AND CHARACTERISTICS OF ALL EQUIPMENT, UTILITIES AND PIPING, AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT OF ANY DISCREPANCIES.
- THE DRAWINGS WERE PREPARED WITH THE BEST STRUCTURAL AND ARCHITECTURAL INFORMATION AVAILABLE. IT IS UNDERSTOOD THAT EQUIPMENT LOCATIONS AND ROUTING OF PIPING MAY VARY FROM THAT SHOWN ON THE PLANS AS CONSTRUCTION PROCEEDS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO:
 - NOTIFY THE ENGINEER OF CONSTRUCTION RESTRAINTS WHICH MAKE VARIATIONS FROM THE PLANS NECESSARY.
 - COMPLETE ALL WORK INCLUDING THE VARIATIONS WITHOUT CHARGING EXTRAS TO THE BID CONTRACT. COMPLETION OF WORK MEANS THE JOB IS WORKING AND MEETS ALL CITY, COUNTY AND MECHANICAL, PLUMBING AND BUILDING CODE REQUIREMENTS.
- THESE DRAWINGS DO NOT INCLUDE ALL NECESSARY SAFETY REQUIREMENTS. CONTRACTOR TO COMPLY TO THE SAFETY REQUIREMENTS SET FORTH BY THE LOCAL AUTHORITIES HAVING JURISDICTION.
- THESE DRAWINGS ARE FOR BIDDING PURPOSES ONLY. THEY ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS, SPECIFIC FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED.
- IF REQUIRED, PROVIDE SHUT DOWNS AND TIE-INS ON OFF-HOURS TO AVOID DISRUPTION OF BUILDING SYSTEMS. COORDINATE ALL SHUT DOWN REQUIREMENTS PRIOR TO SUBMITTING BID (INCLUDE ALL WORK REQUIRED DURING OFF HOURS IN BID).
- BEFORE FABRICATION OR INSTALLATION, THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL MECHANICAL EQUIPMENT AND EQUIPMENT PROVIDED UNDER ANOTHER SECTION OF SPECIFICATIONS. EXACT ROUGH-IN LOCATIONS AND REQUIREMENTS SHALL BE COORDINATED IN FIELD.
- ALL PIPING TO BE SUPPORTED WITH HANGERS AND BRACKETS WHICH PROVIDE ISOLATION FROM FRAMING. CONTACT BETWEEN PIPE AND SUPPORT TO BE LINED WITH PLASTIC OR FELT.
- ALL ROOF, FLOOR AND WALL PENETRATIONS MUST BE SEALED WATERTIGHT AND FIRE STOPPED.
- THE HVAC CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING BID. THE CONTRACTORS SHALL FAMILIARIZE THEMSELVES WITH ALL EXISTING CONDITIONS AND FUTURE WORK TO BE DONE. THEY SHALL INCLUDE ALL SITE INFORMATION AND CONDITIONS WITHIN THE BASE BID. THEY SHALL BE RESPONSIBLE FOR COMPLETE AND FULLY FUNCTIONING HVAC SYSTEMS.
- THE HVAC CONTRACTOR SHALL COORDINATE COMPLETE HVAC INSTALLATION AND REQUIREMENTS PRIOR TO SUBMITTING BID WITH ALL LOCAL DISTRICTS AND GOVERNING AUTHORITIES. INCLUDE ALL FINDINGS WITHIN THE BASE BID.
- DO NOT SHUT DOWN ANY HVAC OR RELATED SYSTEM WITHOUT BUILDING OWNER'S PRIOR WRITTEN APPROVAL. FOLLOW ALL OWNER REQUIREMENTS AND SHUT DOWN PROCEDURES AS WELL AS ALL REQUIREMENTS OF THIS PROJECT'S CONTRACT DOCUMENTS (PLANS AND SPECIFICATIONS).
- FIELD VERIFY EXACT LOCATION, COMPOSITION AND CONDITION OF ALL PIPING, VALVES AND SYSTEMS AS REQUIRED FOR WORK OF THE CONTRACT.
- REFER TO ARCHITECTURAL DRAWINGS AND THE PROJECT SPECIFICATIONS FOR PROJECT PHASING REQUIREMENTS.
- PATCH AND /OR REPAIR EXISTING DUCTWORK AND PIPING INSULATION DAMAGED OR DISTURBED DUE TO CONSTRUCTION WORK.
- REMOVE AND REPLACE EXISTING CEILINGS AS REQUIRED FOR WORK SHOWN. REPLACE ALL DAMAGED CEILINGS; PROVIDE NEW CEILINGS. FIELD VERIFY CEILING TYPES AND EXTENT OF THIS WORK PRIOR TO BID DATE AND INCLUDE IT IN THE BID.
- COORDINATE LOCATIONS OF ALL EXHAUST TERMINATIONS ABOVE ROOF. ALL EXHAUST TERMINATIONS ABOVE ROOF SHALL BE A MINIMUM 25"-0" AWAY FROM ANY HVAC OUTSIDE AIR INTAKES (ROOFTOP UNIT, LOUVER, ETC).
- SUBMITTALS AND SHOP DRAWINGS, AS SOON AS POSSIBLE AND WITHIN 21 DAYS AFTER AWARD OF THE CONTRACT, AND BEFORE THEIR PURCHASE. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT 6 BOUND BOOKLETS FOR APPROVAL AND CONTAINING A COMPLETE LIST OF MATERIALS, SPECIALTIES AND EQUIPMENT THAT IS TO BE FURNISH FOR THE INSTALLATION. ALL SUBMITTALS SHALL BE MADE AT ONE TIME.
- COORDINATE HVAC SYSTEMS WITH WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE ALL FITTINGS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
- MAINTENANCE LABEL SHALL BE AFFIXED TO ALL HVAC EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED TO OWNER'S REPRESENTATIVE.
- COORDINATE WITH ELECTRICAL TRADE PRIOR TO ORDERING ELECTRICALLY OPERATED EQUIPMENT FOR AVAILABLE VOLTAGES AT EQUIPMENT LOCATIONS.
- PIPE SIZE DISCREPANCIES BETWEEN FLOOR PLANS AND RISER DIAGRAMS LARGER PIPE SIZE INDICATED WILL TAKE PRECEDENCE.
- THESE PLANS INDICATE APPROXIMATE ROUGH-INS ONLY FOR EQUIPMENT NOT IN THIS SECTION (N.T.I.S.). EXACT ROUGH-IN DIMENSIONS MUST BE OBTAINED FROM THE EQUIPMENT MANUFACTURER.
- ALL VALVES, UNIONS, ETC. TO BE SAME SIZE AS PIPE UNLESS OTHERWISE INDICATED ON DRAWINGS.
- THE HVAC CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO BID.
- ALL PIPING IS OVERHEAD, TIGHT TO UNDERSIDE OF SLAB, UNLESS OTHERWISE NOTED.
- INSTALL PIPING SO THAT ALL VALVES, STRAINERS, UNIONS, TRAPS, FLANGES AND OTHER APPURTENANCES REQUIRING ACCESS ARE ACCESSIBLE.
- OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.

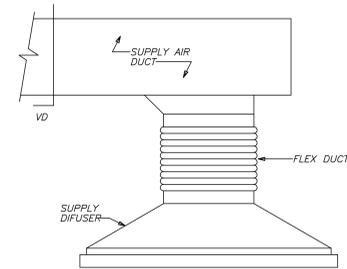
SYMBOLS AND ABBREVIATIONS

(E)	EXISTING	→	AIR FLOW DESIGNATION
RTU	ROOFTOP UNIT	--- FD	FIRE DAMPER
SD	SUPPLY DIFFUSER	---	FLEXIBLE DUCT
EG	EXHAUST GRILLE	↓	DROP IN DUCT
LPS	LOW PRESSURE STEAM	↑	RISE IN DUCT
LPR	LOW PRESSURE RETURN	⊙	SPACE SENSOR
HPR	HIGH PRESSURE RETURN	⊙	THERMOSTAT
HPS	HIGH PRESSURE STEAM	⊙	VOLUME DAMPER
RG	REFRIGERANT GAS	⊙	CONTROL VALVE
RL	REFRIGERANT LIQUID	⊙	BALL VALVE
IW	INDIRECT WASTE	⊙	GATE VALVE
⊙	POINT OF CONNECTION	⊙	ANCHOR
⊙	POINT OF REMOVAL	---	PIPE GUIDE
⊙	RETURN/EXHAUST REGISTER/GRILLE	---	EXPANSION BELLOWS
⊙	SUPPLY DIFFUSER	---	TEMPERATURE INDICATOR
⊙	RETURN/EXHAUST AIR DUCT UP	---	HUMIDITY INDICATOR
⊙	SUPPLY AIR DUCT UP	---	FREEZE STAT
⊙	PRESSURE DIFFERENTIAL SENSOR	---	SHUT-OFF VALVE
⊙	MAGNETIC GAUGE	---	TCV
⊙	FCV	---	TEMPERATURE CONTROL VALVE
		---	PRESSURE INDICATOR

AIR HANDLING UNIT SCHEDULE - DX/STEAM

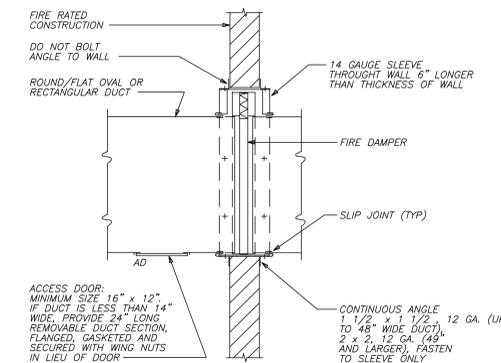
TAG	BID	LOCATION	SUPPLY FAN										COOLING COIL - DX										STEAM COIL #1 - 10 PSI						STEAM COIL #2 - 10 PSI						
			CFM	MIN GA	EXT S.P.	TOTAL S.P.	FAN TYPE	HP	RPM	VOLT	PHASE	STARTER	TOTAL MBH	SENS MBH	ROWS	FACE VEL.	APD	EAT db	EAT wb	LAT db	LAT wb	MBH	LB/HR	ROWS	FACE VEL.	APD	EAT	LAT	MBH	LB/HR	ROWS	FACE VEL.	APD	EAT	LAT
6-RTU-R-1	BASE BID	ROOF	1300	1300	1.0	1.64	FC	2	1800	208	3	BY EC	85.88	57.1	6	446	.59	95	74	55	54	91.6	95.4	1	780	0.35	-10	55	58.4	61.9	1	520	.103	55	95
6-RTU-R-2	ALTERNATE	ROOF	1900	1900	1.0	3.4	FC	3	1800	208	3	BY EC	128.5	83.4	4	421	.37	95	74	55	54	134	139	1	713	.285	-10	55	82.4	85.8	1	475	.082	55	95

PROVIDE WITH FULL PERIMETER BASE RAIL, 24" HIGH ROOF CURB



2 SUPPLY AIR DIFFUSER DETAIL

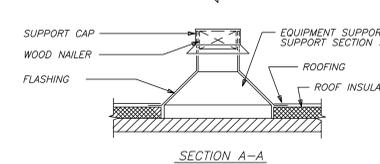
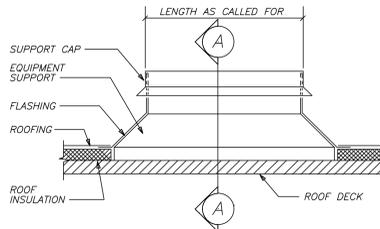
SCALE: NONE
NOTE: DUCT AND DIFFUSER SIZE AND TYPE AS SHOWN ON DRAWINGS.



1 FIRE DAMPER INSTALLATION DETAIL

SCALE: NONE

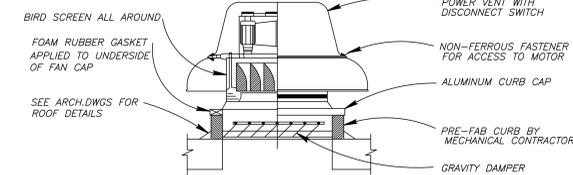
- HORIZONTAL AND 80% FREE AREA DAMPER INSTALLATION SIMILAR.
- FOR DOUBLE WALL DUCT, USE INSULATION END CAP AND INSULATE SLEEVE.



4 EQUIPMENT SUPPORT DETAIL

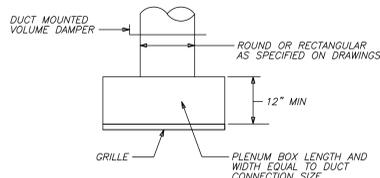
SCALE: NONE (BUILT UP ROOF)

- G.C. TO CUT BACK INSULATION AND PROVIDE FLASHING. LOCATION, SETTINGS AND SECURING OF CURB BY HVAC.
- PROVIDE SHIMS WHERE REQUIRED TO LEVEL SUPPORT
- LENGTH OF SUPPORTS AS CALLED FOR. PROVIDE BLOCKING BENEATH SUPPORTS IN FLUTES OF METAL DECKS.



3 ROOF MOUNTED EXHAUST FAN DETAIL

SCALE: NONE

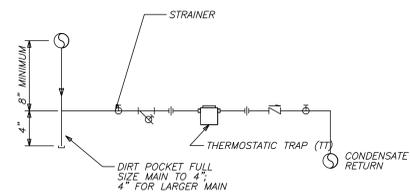


5 TYPICAL CEILING GRILLE INSTALLATION DETAIL

SCALE: NONE

6 THERMOSTATIC TRAP (TT) ASSEMBLY DETAIL

SCALE: NONE



SYMBOL INDICATED ON DRAWINGS: TT

AIR COOLED CONDENSING UNIT

TAG	BID	LOCATION	SERVICE	COOLING CAPACITY TONS	COMPRESSOR MOTOR NO.	FLA EA	CONDENSER FAN MOTOR NO.	FLA EA	STARTER
6-ACCU-R-1	BASE BID	ROOF	6-RTU-R-1 COOLING	7.5	1	25	208	3	1
6-ACCU-R-2	ALTERNATE	ROOF	6-RTU-R-2 COOLING	12.5	2	22.4	208	3	1

FAN SCHEDULE

TAG	LOCATION	SERVICE	CFM AIR	SP IN WC	BLADE TYPE	FAN RPM	DRIVE TYPE	MOTOR RPM	BHP	HP	VOLT	PH	STARTER	COMMENTS
6-EF-R-1	ROOF	EXHAUST	1500	1.0	BI	1665	DIR	1665	---	3	208	3	BY EC	BASE BID
6-EF-R-2	ROOF	EXHAUST	2100	1.0	BI	1999	DIR	1999	---	3	208	3	BY EC	ALTERNATE

PROVIDE WITH MANUFACTURERS DISCONNECT, ROOF CURB AND BACK DRAFT DAMPER.

SYSTEM CONTROL POINTS SCHEDULE

Description	Starter	DIGITAL OUTPUTS				DIGITAL INPUTS				ANALOG OUTPUTS				ANALOG INPUTS														
		Start/Stop	Enable/Disable	Damper	SoftwareOcc./Unoccupied	Status	Fan Sys. Safety Alarm	Boiler Alarm	User Input	Freeze Cooling	Heating Coil Valve*	Face & Bypass Damper	Moving Valve*	Space Temperature	Return Air Temp.	Supply Air Temp.	Mixed Air Temp.	Outside Air Temp.	Water Supply Temp.	Water Return Temp.	HK Cold Side Supply Temp.	HK Cold Side Return Temp.	HK Hot Side Supply Temp.	HK Hot Side Return Temp.	Enthalpy Wheel Temp.*	Duct Pressure	Pipe Pressure	
6-RTU-R-1 - BASE BID	PKGD	1	1	1	2	1	3	1	1	1	2	1	1	1	1													
6-RTU-R-2 - ALTERNATE	PKGD	1	1	1	2	1	3	1	1	1	2	1	1	1	1													
6-EF-R-1 - BASE BID	BY EC	1				1	1																					
6-EF-R-2 - ALTERNATE	BY EC	1				1	1																					

* - Where Applicable

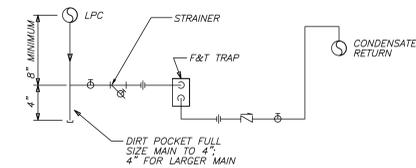
HEAT PUMP UNIT SCHEDULE

TAG	LOCATION	CFM AIR	HEATING AT 5°F MAX CAP MBH	UNIT POWER MAX INPUT WATT	COOLING MBH TOTAL	VOLT	PH	FLA	OUTDOOR CONDENSER TAG	LOCATION	FLA	VOLT	PH
HP-BC-1	TEMP. TRAILER	600	32	5,420	18	208	1	2.18	ACCU-RC-1	ROOF	0.8	208	1

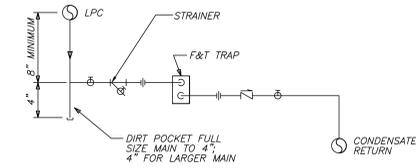
OUTDOOR UNIT SHALL BE PROVIDED WITH HYPER HEATING INVERTER TECHNOLOGY. PROVIDE WITH WIND BAFFLE OPTION. PROVIDE WITH LOW AMBIENT CONTROL OPTION. PROVIDE WITH MANUFACTURERS WALL MOUNTED THERMOSTAT. MOUNT ACCU-RC-1 ON EQUIPMENT RAILS.

REGISTER, GRILLE, DIFFUSER SCHEDULE

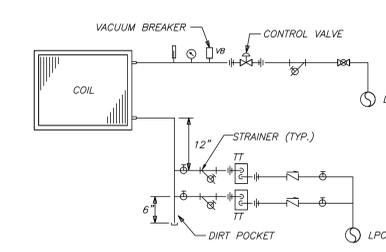
TAG	TYPE	MATERIAL	FINISH/COLOR	DESIGN EQUIPMENT
SD-1	SUPPLY	STEEL	WHITE	PRICE MODEL RCD
SD-2	SUPPLY	STEEL	WHITE	PRICE MODEL 920
EG-1	EXHAUST	STEEL	WHITE	PRICE MODEL 90



A. CONDENSATE MAIN AT OR ABOVE STEAM MAIN.



B. CONDENSATE MAIN BELOW STEAM MAIN.



7 STEAM COIL PIPING DETAIL

SCALE: NONE

- ARRANGE PIPING TO ALLOW REMOVAL OF COIL WITHOUT REMOVAL OF PIPING AHEAD OF UNIONS AND TO ALLOW ACCESS TO FILTERS AND ACCESS PANEL.

F & T TRAP ASSEMBLY DETAIL

SCALE: NONE

SYMBOL INDICATED ON DRAWINGS: TT

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CARDIOLOGY MANAGER	DATE	ENGINEERING MANAGER	DATE
INFECTON CONTROL	DATE	CARELINE MANAGER	DATE
SAFETY OFFICER	DATE	CHIEF OF STAFF	DATE

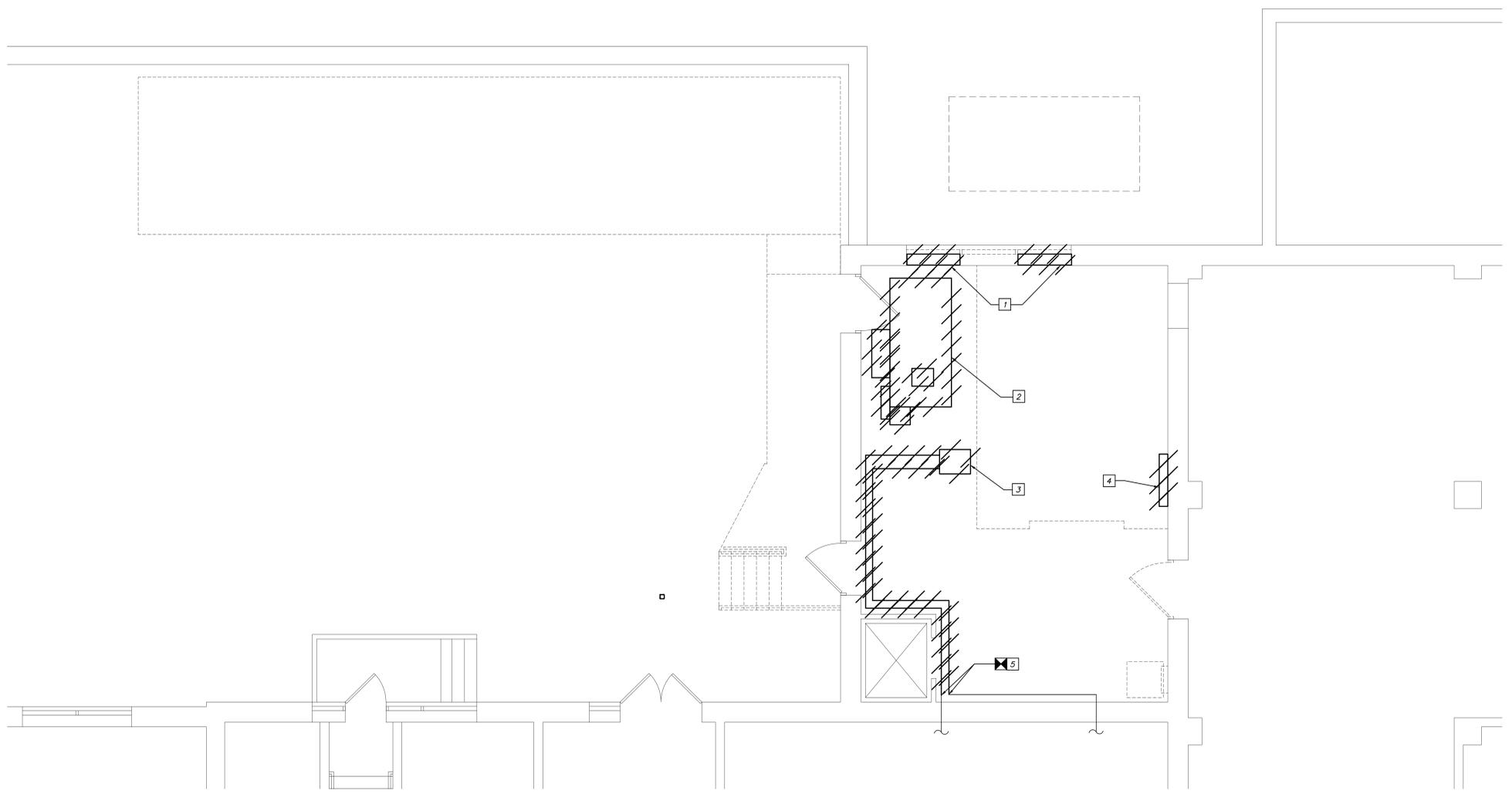
Drawing Title	Project Title	Date
SYMBOLS, SCHEDULES, DETAILS AND GENERAL NOTES - HVAC	MEDICAL WASTE TRAILER	February 15, 2013
ASSOCIATE MEDICAL CENTER DIRECTOR	Building Number	Checked
DATE	6	TLP
DATE	Location	Drawn
DATE	V.A.M.C. BUFFALO, NEW YORK	TLP

09-372-M000



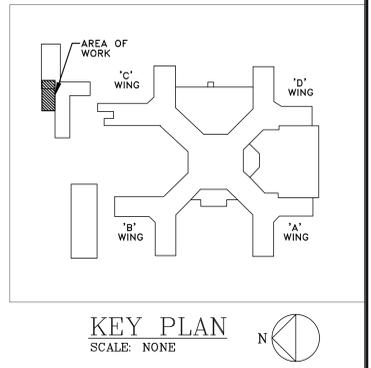
ISSUED FOR BID	02-15-13
Revisions	Date

A three inches = one foot
 B one and one-half inch = one foot
 C one inch = one foot
 D three-quarters inch = one foot
 E one-half inch = one foot
 F three-eighths inch = one foot
 one-quarter inch = one foot
 one-eighth inch = one foot



- DRAWING NOTES:**
- 1 DISCONNECT AND REMOVE PROPELLER FAN AND ALL ASSOCIATED CONTROLS.
 - 2 DISCONNECT AND REMOVE EXISTING ROOFTOP UNIT AND ALL ASSOCIATED PIPING, CONTROLS, DUCTWORK AND ACCESSORIES.
 - 3 DISCONNECT AND REMOVE EXISTING UNIT HEATER AND ALL ASSOCIATED PIPING AND CONTROLS.
 - 4 DISCONNECT AND REMOVE EXISTING FAN COIL UNIT AND ALL ASSOCIATED PIPING AND CONTROLS.
 - 5 DISCONNECT EXISTING STEAM AND CONDENSATE PIPING TO POINT INDICATED AND PREPARE FOR NEW CONNECTION.

1
 M101
BASEMENT PLAN - HVAC REMOVALS
 SCALE: 1/4"=1'-0"



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Architect / Engineer stamp

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SAFETY OFFICER	DATE	CHIEF OF STAFF	DATE

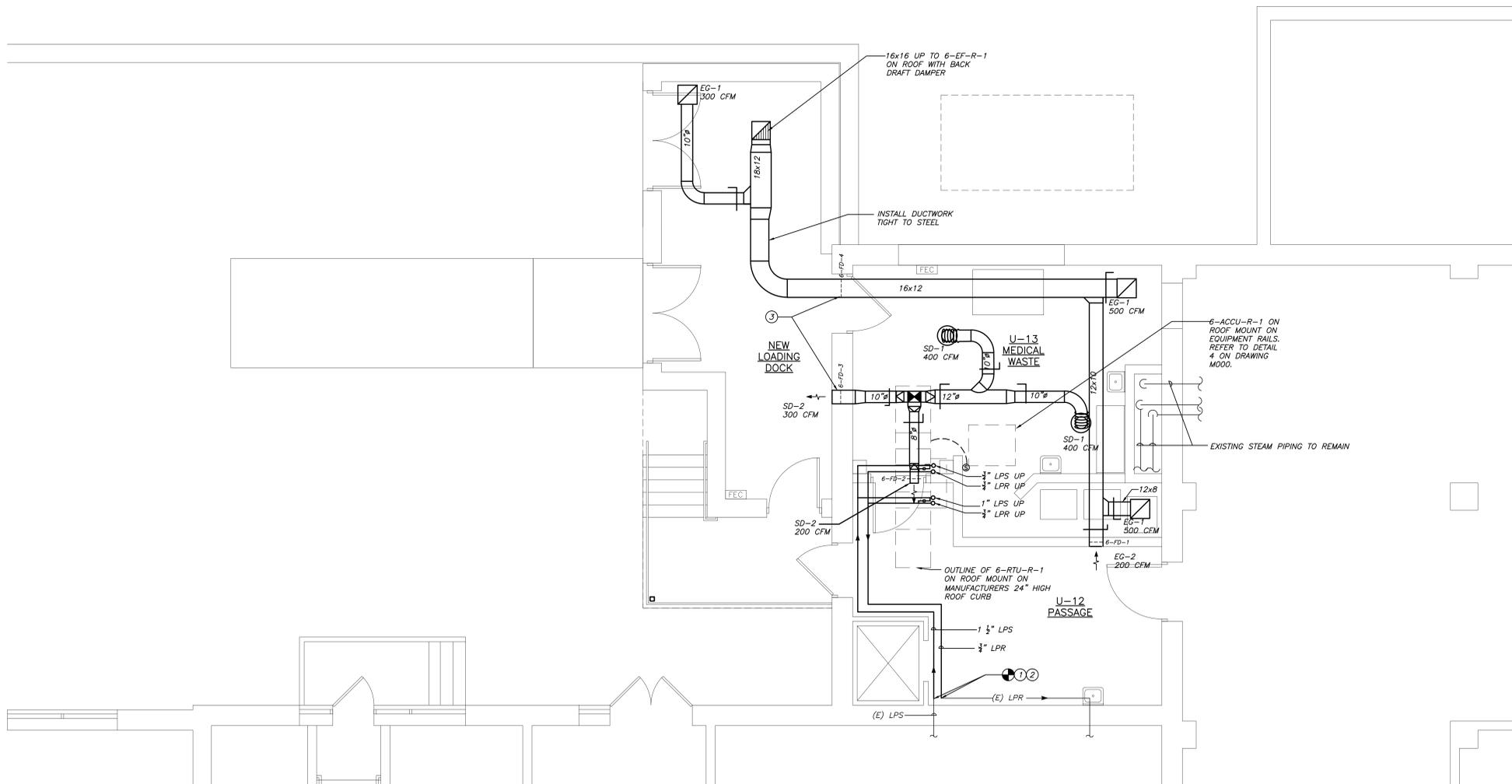
Drawing Title	
BASEMENT FLOOR PLAN HVAC - REMOVALS	
MEDICAL CENTER DIRECTOR	DATE
ASSOCIATE MEDICAL CENTER DIRECTOR	DATE

Project Title		
MEDICAL WASTE TRAILER		
Building Number	Checked	Drawn
6	TLP	TLP
Location		
V.A.M.C. BUFFALO, NEW YORK		

Date
 February 15, 2013
 Station No.
 52B-12-102
09-372-M101

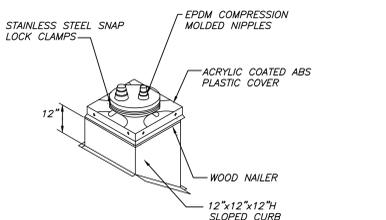
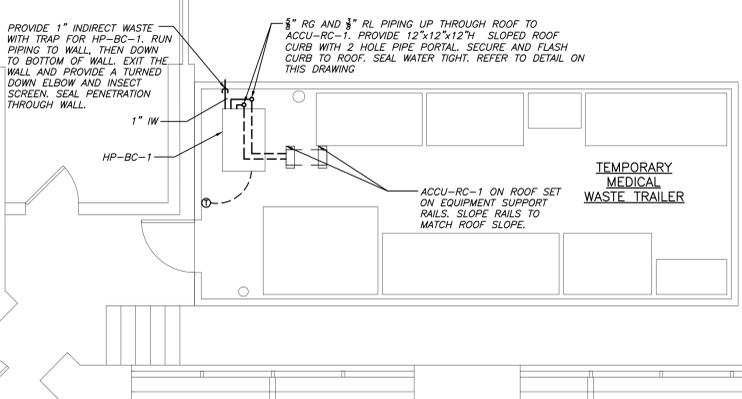


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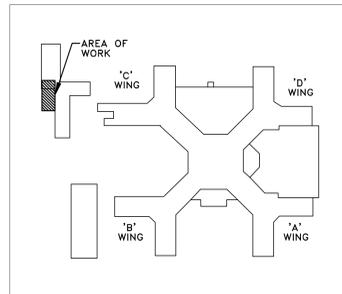
- BASEMENT DRAWING NOTES:**
- CONNECT NEW 1 1/2" LPS TO EXISTING AT POINT INDICATED
 - CONNECT NEW 3/4" LPR TO EXISTING AT POINT INDICATED.
 - CUT OPENING IN EXISTING WALL TO ALLOW FOR DUCTWORK. SEAL AIR AND WATER TIGHT AS PER SPECIFICATIONS.

1
 M201
BASEMENT PLAN - HVAC NEW WORK - BASE BID
 SCALE: 1/4"=1'-0"



1
 M201
ROOF CURB WITH PIPE PORTALS
 SCALE: NONE

- G.C. TO CUT BACK INSULATION AND PROVIDE FLASHING, LOCATION, SETTINGS AND SECURING OF CURB BY HVAC.
- PROVIDE SHIMS WHERE REQUIRED TO LEVEL SUPPORT
- LENGTH OF SUPPORTS AS CALLED FOR. PROVIDE BLOCKING BENEATH SUPPORTS IN FLUTES OF METAL DECK.



KEY PLAN
 SCALE: NONE

2
 M201
BASEMENT PLAN - HVAC NEW WORK - BASE BID
 SCALE: 1/4"=1'-0"

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Architect / Engineer

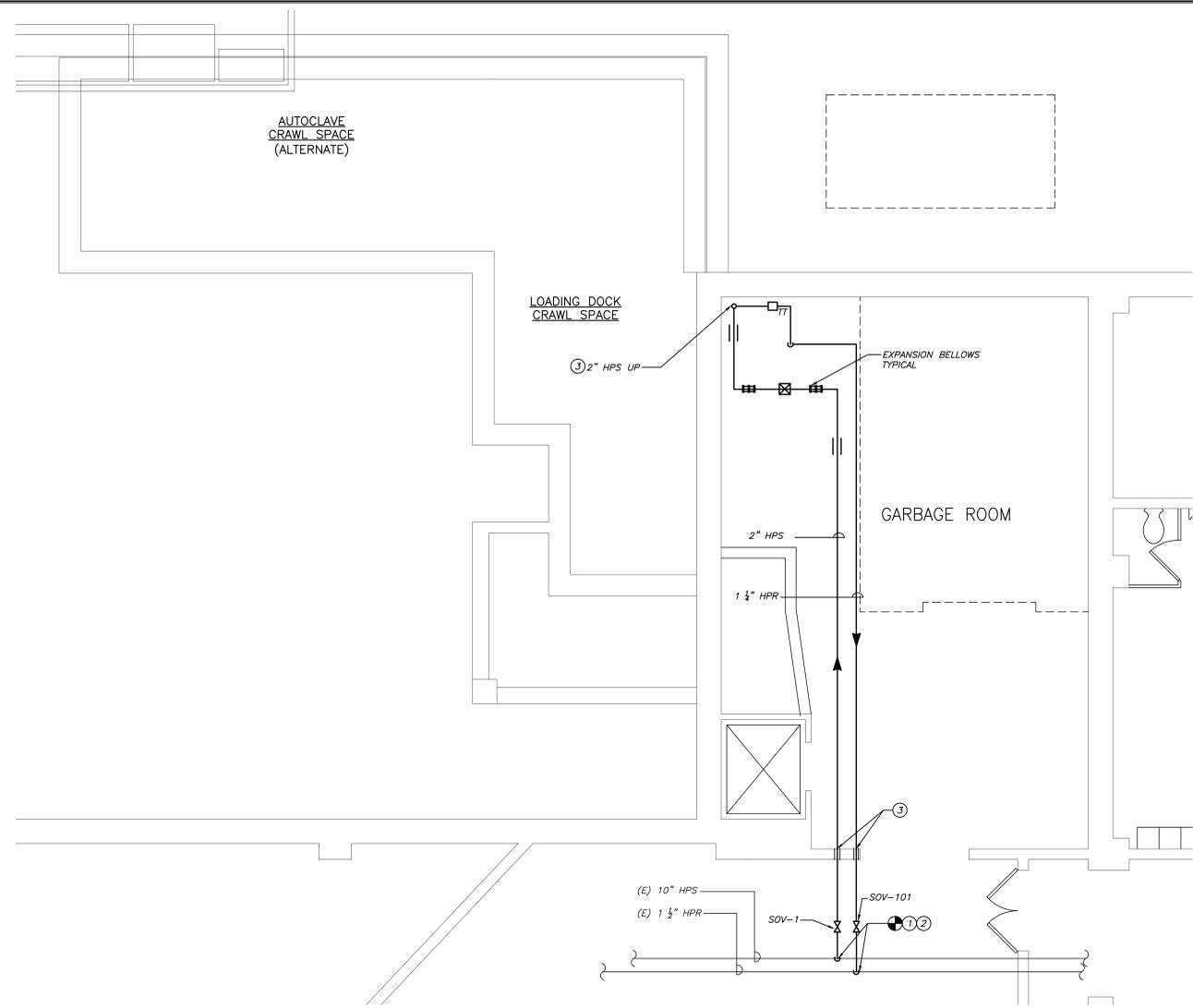
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Drawing Title	
BASEMENT FLOOR PLANS HVAC - NEW WORK BASE BID	
Project Title	
MEDICAL WASTE TRAILER	
Building Number	Checked TLP
6	TLP
Drawn	TLP
Location	
V.A.M.C. BUFFALO, NEW YORK	

Date	February 15, 2013
Station No.	52B-12-102

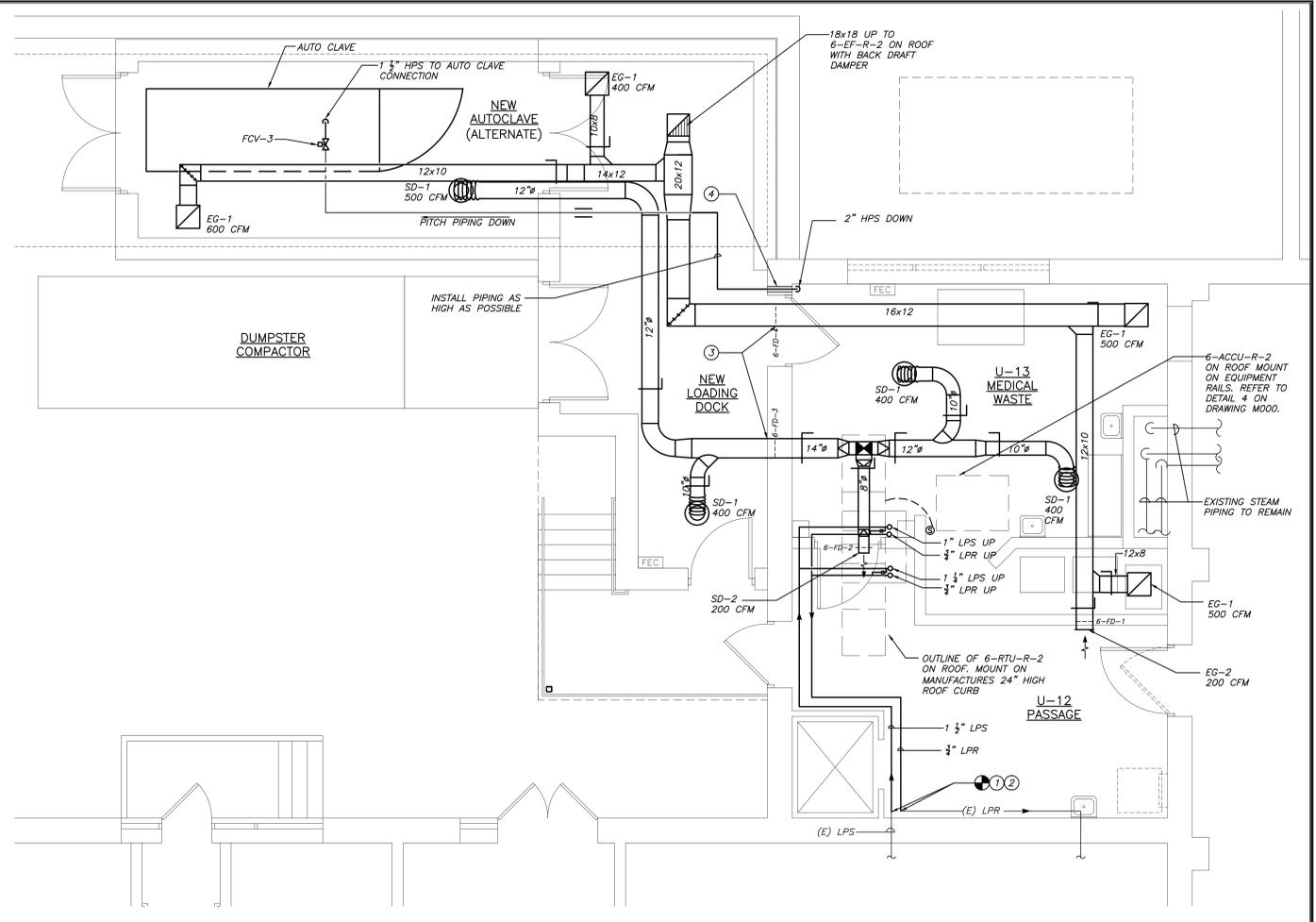
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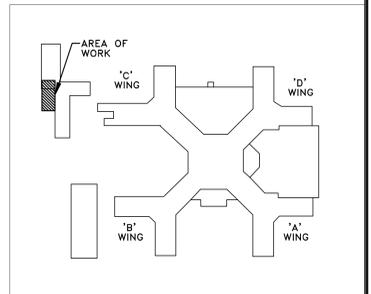
1 SUB-BASEMENT PLAN - HVAC NEW WORK - ALTERNATE
 SCALE: 1/4"=1'-0"

- SUB-BASEMENT DRAWING NOTES:**
- CONNECT NEW 2" HPS TO EXISTING 10" HPS AT POINT INDICATED.
 - CONNECT NEW 1 1/4" HPR TO EXISTING 1 1/2" HPR AT POINT INDICATED.
 - CORE DRILL WALL/FLOOR TO ALLOW FOR PIPING. PROVIDE SLEEVE AND SEAL AIR AND WATER TIGHT AS PER SPECIFICATIONS. PATCH TO MATCH EXISTING.



2 BASEMENT PLAN - HVAC NEW WORK - ALTERNATE
 SCALE: 1/4"=1'-0"

- BASEMENT DRAWING NOTES:**
- CONNECT NEW 1 1/2" LPS TO EXISTING AT POINT INDICATED.
 - CONNECT NEW 3/4" LPR TO EXISTING AT POINT INDICATED.
 - CUT OPENING IN EXISTING WALL. SEAL AIR TIGHT AS PER SPECIFICATIONS. PATCH WALL TO MATCH EXISTING.
 - CORE DRILL OPENING IN WALL TO ALLOW FOR PIPING. PROVIDE SLEEVE AND SEAL AIR AND WATER TIGHT AS PER SPECIFICATIONS. PATCH TO MATCH EXISTING.
 - INSTALL DUCTWORK TIGHT TO STEEL AND PITCH DOWN TO MATCH SLOPE OF ROOF.



KEY PLAN
 SCALE: NONE

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Architect / Engineer

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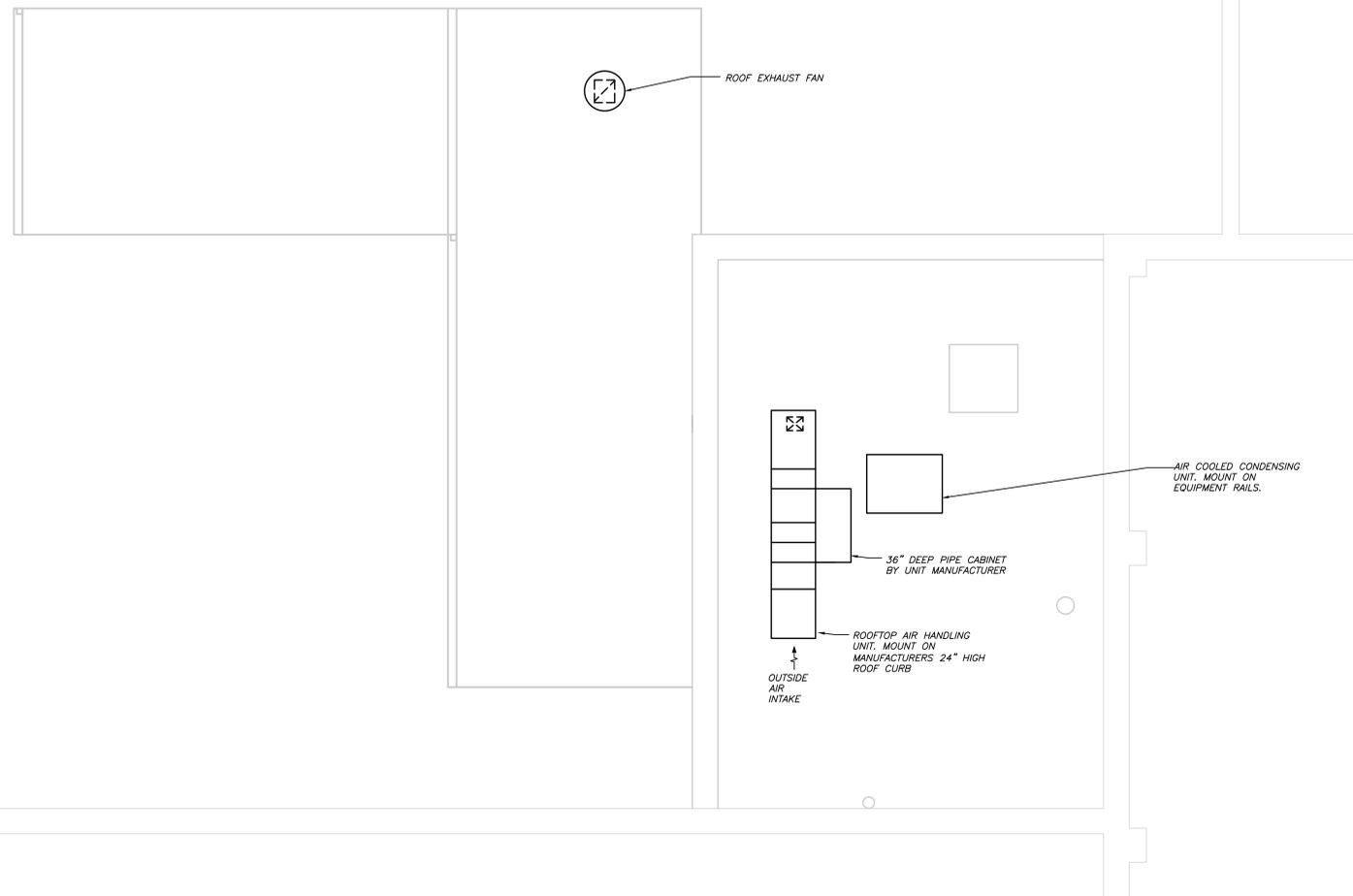
Drawing Title		Project Title	
FLOOR PLANS HVAC NEW WORK - ALTERNATE		MEDICAL WASTE TRAILER	
MEDICAL CENTER DIRECTOR		Building Number	Checked
DATE	DATE	6	TLP
ASSOCIATE MEDICAL CENTER DIRECTOR		Drawn	TLP
DATE	DATE	Location	
DATE	DATE	V.A.M.C. BUFFALO, NEW YORK	

Date	February 15, 2013
Station No.	52B-12-102
09-372-M202	

Office of Facilities
 Department of Veterans Affairs

three inches = one foot
 one and one-half inch = 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

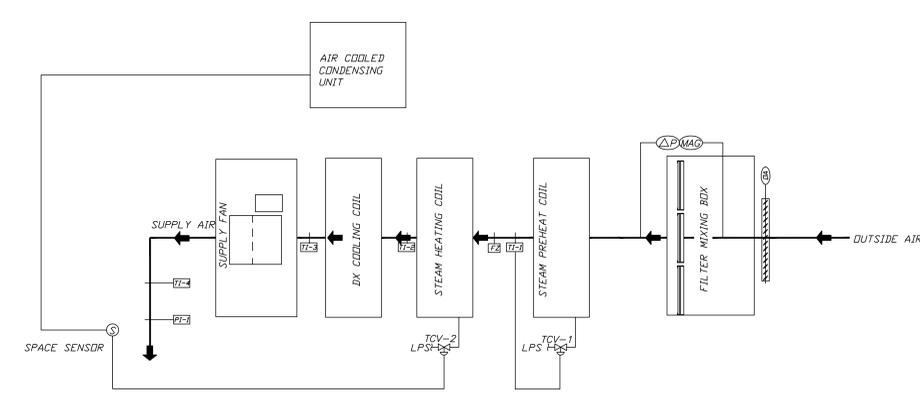
A
 B
 C
 D
 E
 F



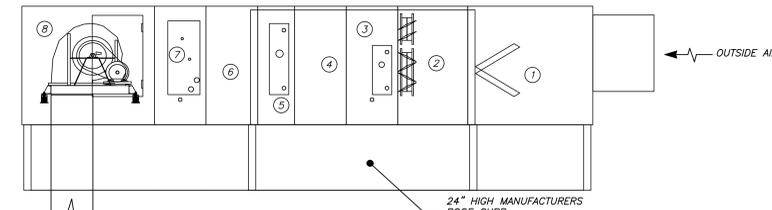
SEQUENCE OF OPERATION

- 1. - ROOF TOP UNIT CONTROL SEQUENCE**
- The roof top air handling unit shall be enabled/disabled through the DDC system.
 - The remote wall mounted temperature sensor shall sense space temperature.
 - When the space temperature rises above 72 deg. F, on a call for cooling the compressor, evaporator fan and condenser fan shall be energized and the outside air damper shall be open.
 - When the space temperature falls below 65 deg. F (adj.) and the outside air temperature is above 40 deg. F, on a call for heating the steam preheat coil control valve shall modulate open to maintain space temperature set point.
 - When the space temperature falls below 65 deg. F (adj.) and the outside air temperature is below 40 deg. F, on a call for heating the steam preheat coil shall modulate to maintain 40 deg. F leaving air temperature off the coil and steam heating coil control valves shall modulate open to maintain space temperature set point.
- F. Low Temperature Detection**
- Whenever the unit discharge air temperature (TI-4) senses a temperature below 40F, the unit shall be indexed to the "OFF" position, the preheat coil control valve shall open, and an alarm shall annunciate.
- G. Discharge Air Temperature**
- The controller shall monitor the discharge air temperature (TI-4).
 - Alarms shall be provided as follows:
 - High Discharge Air Temp: If the discharge air temperature is greater than 120°F (adj.).
 - Low Discharge Air Temp: If the discharge air temperature is less than 40°F (adj.).
- H. Filter High Limit**
- Whenever the Final filters differential pressure rises above 1.50" w.g. an alarm shall annunciate.
- A. Fan Failure**
- Upon fan fail in service, indicated by the pressure sensor, the outside air dampers shall close and an alarm shall annunciate.
- 2. EXHAUST FAN CONTROL SEQUENCE OF OPERATION**
- The exhaust fan 6-EF-R-1 shall be interlocked with 6-RTU-R-1 operation.
 - When 6-RTU-R-1 is disabled, exhaust fan 6-EF-R-1 shall be disabled, when 6-RTU-R-1 is enabled, exhaust fan 6-EF-R-1 shall be enabled. If the exhaust fan fails, an alarm shall be annunciated through the DDC control system.
- 3. AUTO-CLAVE CONTROL SEQUENCE OF OPERATION**
- The Auto-clave shall be controlled via the manufacturer's controller.
 - When the auto-clave is enabled, the steam flow control valve (FCV-1) shall modulate open to maintain flow as required by the auto-clave.
 - When the auto-clave is disabled, the steam flow control valve (FCV-1) shall close.
 - All alarms shall be annunciated at the controller and also at the Central DDC System.

1 ROOF PLAN - HVAC NEW WORK
 SCALE: 1/4"=1'-0"

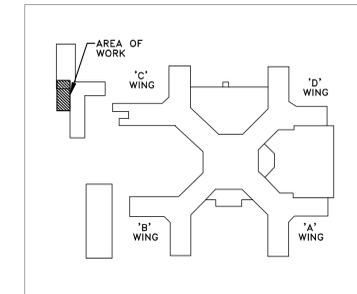


AIR FLOW DIAGRAM - ROOFTOP UNIT
 SCALE: NONE



2 ELEVATION OF ROOFTOP UNIT
 SCALE: N.T.S.

- UNIT COMPONENTS:**
- MIXING SECTION
 - FACE AND BYPASS DAMPER
 - PREHEAT COIL SECTION
 - ACCESS SECTION
 - HEATING COIL SECTION
 - ACCESS SECTION
 - COOLING COIL SECTION
 - FAN SECTION



KEY PLAN
 SCALE: NONE

ISSUED FOR BID	02-15-13
Revisions	Date

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CARDIOLOGY MANAGER	DATE	ENGINEERING MANAGER	DATE
INFECTION CONTROL	DATE	CARELINE MANAGER	DATE
SAFETY OFFICER	DATE	CHIEF OF STAFF	DATE

Drawing Title		Project Title	
ROOF PLAN AND SCHEMATIC HVAC - NEW WORK		MEDICAL WASTE TRAILER	
MEDICAL CENTER DIRECTOR	DATE	Building Number	Checked TLP
ASSOCIATE MEDICAL CENTER DIRECTOR	DATE	6	Drawn TLP
		Location	V.A.M.C. BUFFALO, NEW YORK

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