


GENERAL ELECTRICAL NOTES

1. ALL WORK SHALL BE IN CONFORMANCE WITH NATIONAL, STATE, AND LOCAL CODES AND/OR ORDINANCES.
2. SEE ARCHITECTURAL, MECHANICAL, & PLUMBING DRAWINGS FOR ADDITIONAL REQUIREMENTS.
3. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC ONLY. THEY ARE INTENDED TO GIVE APPROXIMATE LOCATIONS AND OVERALL DESIGN INTENT. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PRODUCTS, MATERIALS, AND ELECTRICAL METHODS WHICH HAVE NOT BEEN SHOWN OR INDICATED BUT ARE REQUIRED FOR A COMPLETE SYSTEM TO THE STANDARDS OF THE INDUSTRY.
4. INSTALL LIGHTING FIXTURES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. PROVIDE SUPPORTING DEVICES FOR ADEQUATE SUPPORT OF FIXTURES FROM STRUCTURE.
5. UPON COMPLETION OF THE ELECTRICAL WORK, THE INSTALLATION SHALL BE TESTED FOR CONTINUITY, GROUNDS, AND SHORT CIRCUITS. THE ELECTRICAL CONTRACTOR SHALL DEMONSTRATE PROPER PERFORMANCE OF ALL SYSTEMS. ALL DEFECTIVE WORK OR MATERIALS SHALL BE REPLACED OR REPAIRED AS NECESSARY AND RETESTED.
6. ELECTRICAL RACEWAYS THAT PENETRATE FIRE RATED ASSEMBLIES SHALL BE SLEEVED AND SEALED AS PER THE LOCAL BUILDING CODE.
7. ELECTRICAL DEVICES/EQUIPMENT SHOWN AS DASHED AND BOLD ARE EXISTING TO BE REMOVED. ELECTRICAL DEVICES/EQUIPMENT SHOWN AS LIGHT AND SOLID ARE EXISTING TO REMAIN, AND ELECTRICAL DEVICES/EQUIPMENT SHOWN AS BOLD AND SOLID SHALL BE NEW.
8. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ASSOCIATED COSTS AND SCHEDULING OF REQUIRED ELECTRICAL INSPECTIONS.
9. ELECTRICAL CONTRACTOR SHALL REMOVE EXISTING LIGHTING PROTECTION FROM EQUIPMENT BEING REMOVED FROM THE ROOF. EC SHALL INSTALL NEW LIGHTNING PROTECTION ON NEW EQUIPMENT. EC SHALL CONTRACT CERTIFIED LIGHTNING PROTECTION CONTRACTOR TO PERFORM THE WORK.



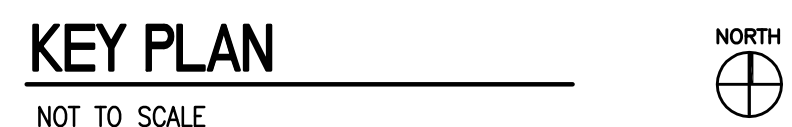
LIGHT FIXTURE SCHEDULE						
TYPE	DESCRIPTION	MANUFACTURER	REFERENCE CATALOG #	LAMPS	VOLTS	NOTES
A	2X4 LED RECESSED VOLUmetric LIGHT FIXTURE, 4500 LMS MINIMUM, 50 WATT DRIVER, 4000K COLOR.DRIVER MUST BE ACCESSABLE FROM BELOW; 0-10V DIMMING CONTROL	COOPER COLUMBIA	2AC-LD2-47-UNV-LP840-CD LEPC24-4044G-LL-EDU	LED	UNV	
B	2X4 LED RECESSED PRISMATIC LIGHT FIXTURE, 5700 LUMENS, 4000K COLOR. 0-10V DIMMING	METALUX LITHONIA	2GC-LD1-57-A-UNV-L840-CD1 2TL4 46L FW A12 D50 LP840	LED	UNV	
C	RECESSED LED DOWNLIGHT 8" 35K, NO LENS, DIMMING	LITHONIA OR APPROVED EQUAL	DOM8 1500L 35K 120 DO8	LED	UNV	
D	1X4 LED RECESSED VOLUmetric LIGHT FIXTURE, 4500 LMS MINIMUM, 50 WATT DRIVER, 4000K COLOR.DRIVER MUST BE ACCESSABLE FROM BELOW; 0-10V DIMMING CONTROL	COOPER COLUMBIA	14AC-LD4-47-UNV-LP840-CD LEPC12-4044G-LL-EDU	LED	UNV	
<input checked="" type="checkbox"/>	EXIT LIGHT, CAST ALUMINUM, AC ONLY POWERED WITH LED LAMPS; MATCH EXISTING BUILDING FIXTURES. FOR USE WITH GENERATOR.	SURE-LITES LITHONIA APPROVED EQUAL	CX61RW LES-W-1-R-120/277	LED	DUAL	

NOTES:
 1. CONNECT BATTERY TO UN-SWITCHED POWER FROM THE SAME CIRCUIT FEEDING THE LIGHT.
 2. FIXTURE SHALL BE ON FOCUS ON ENERGIES LIST OF HIGH EFFICIENCY LOW GLARE LINEAR FLUORESCENT FIXTURES.
 3. PROVIDE WITH DRYWALL FRAMED KIT.
 4. MUST BE ENERGY STAR RATING.

GENERAL NOTES:
 NO SUBSTITUTIONS WITHOUT TEN DAYS PRIOR APPROVAL. PROVIDE SINGLE OR DUAL BALLASTED FIXTURES PER LAYOUT. MULTI-TAP BALLASTS ACCEPTABLE.

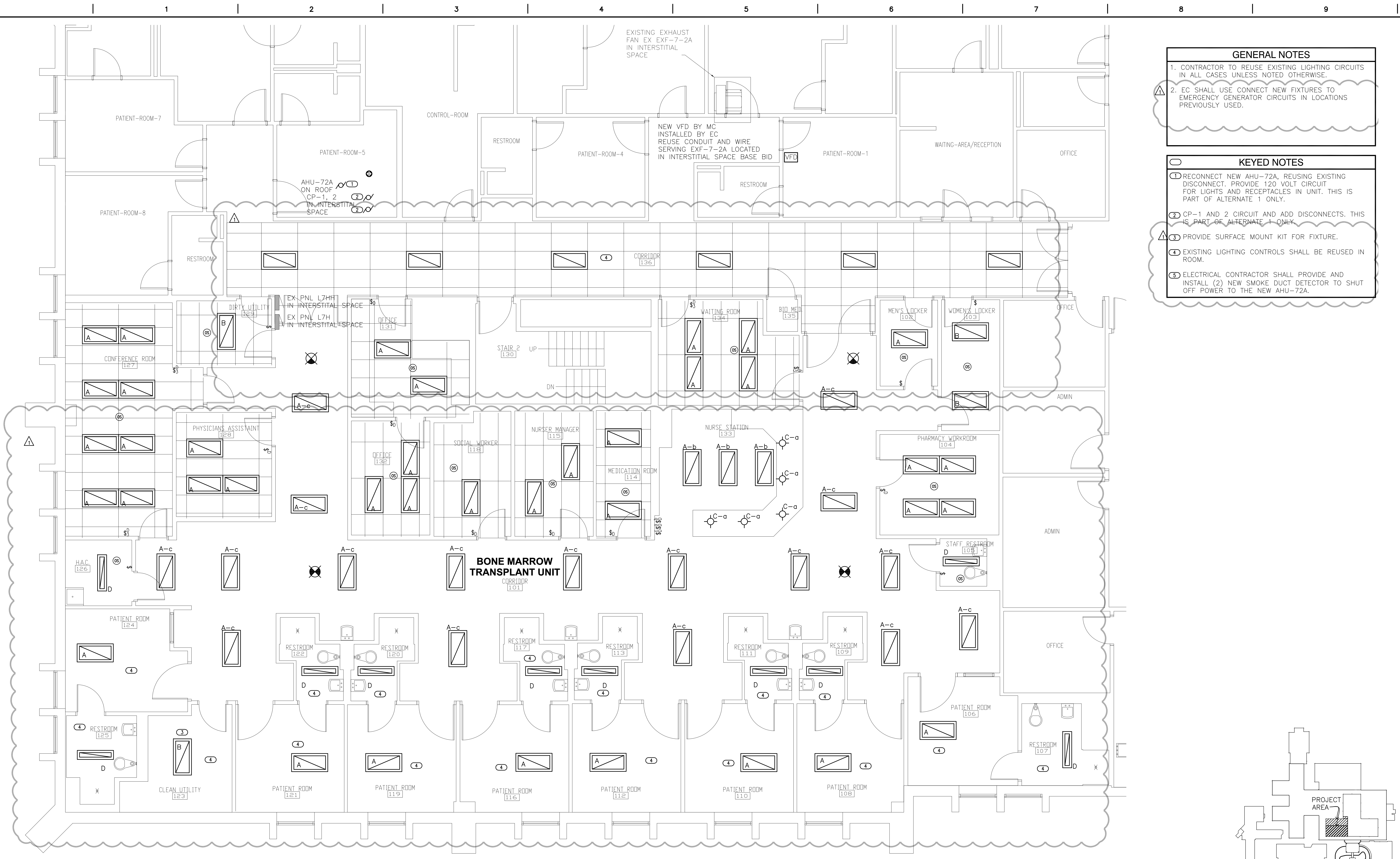
ELECTRICAL ABBREVIATIONS			
AC	ABOVE COUNTERTOP	MC	MECHANICAL CONTRACTOR
AFF	ABOVE FINISH FLOOR	MCA	MINIMUM CIRCUIT AMPS
AFG	ABOVE FINISH GRADE	MDP	MAIN DISTRIBUTION PANEL
ANNC	ANNUNCIATOR	MTD	MOUNTED
CC	CONTROLS CONTRACTOR	OCC	OCCUPANCY
EC	ELECTRICAL CONTRACTOR	PC	PLUMBING CONTRACTOR
EX	EXISTING	PNL	PANEL
EXR	EXISTING RELOCATED	SPST	SINGLE POLE SINGLE THROW
GC	GENERAL CONTRACTOR	WP	WEATHER PROOF
GFCI	GROUND FAULT CIRCUIT INTERRUPT	20A	20 AMP
IBC	INTERNATIONAL BUILDING CODE	PHASE	ø
IG	ISOLATED GROUND	3W	3 WIRE
HP	HORSEPOWER	20/1	20 AMP., SINGLE PHASE
LV	LOW VOLTAGE		

ELECTRICAL SHEET INDEX	
E-000	ELECTRICAL SYMBOLS AND SPECIFICATIONS
ED-100	ELECTRICAL DEMOLITION PLAN
E-100	ELECTRICAL PLAN



VA FORM 08-6231

three inches = one foot
one and one half inches = one foot
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three quarters inch = one foot
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GENERAL NOTES

1. CONTRACTOR TO REUSE EXISTING LIGHTING CIRCUITS IN ALL CASES UNLESS NOTED OTHERWISE.

2. EC SHALL USE CONNECT NEW FIXTURES TO EMERGENCY GENERATOR CIRCUITS IN LOCATIONS PREVIOUSLY USED.

KEYED NOTES

① RECONNECT NEW AHU-72A, REUSING EXISTING DISCONNECT. PROVIDE 120 VOLT CIRCUIT FOR LIGHTS AND RECEPTACLES IN UNIT. THIS IS PART OF ALTERNATE 1 ONLY.

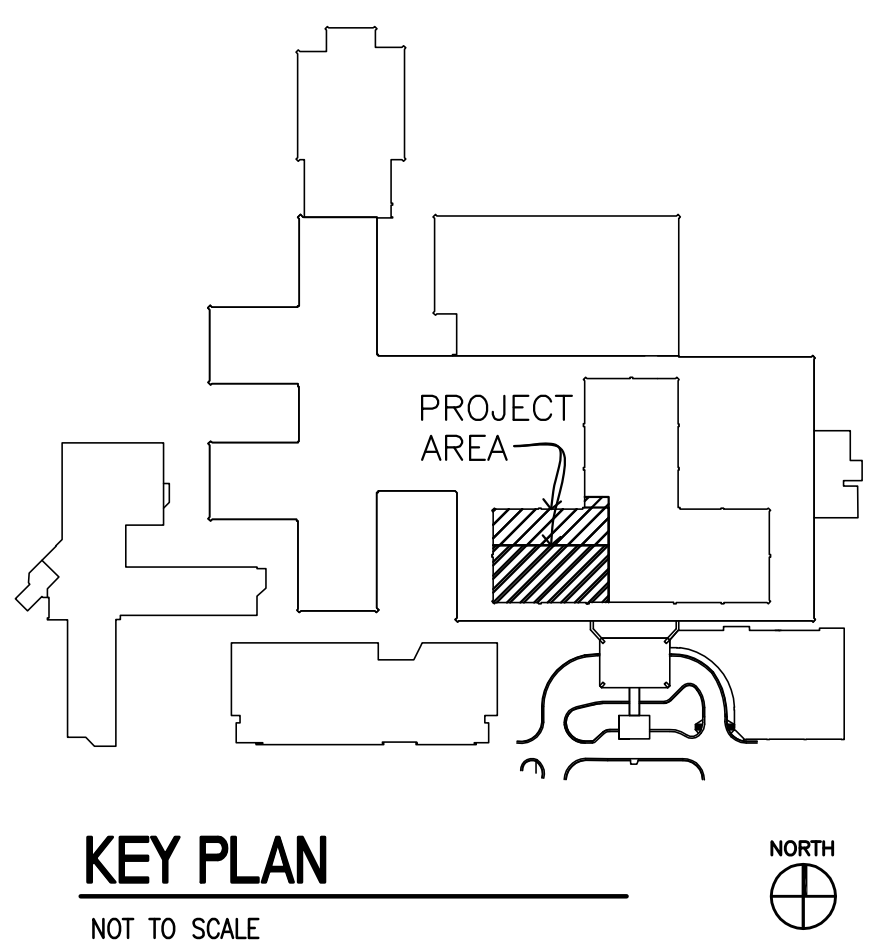
② CP-1 AND 2 CIRCUIT AND ADD DISCONNECTS. THIS IS PART OF ALTERNATE 1 ONLY.

③ PROVIDE SURFACE MOUNT KIT FOR FIXTURE.

④ EXISTING LIGHTING CONTROLS SHALL BE REUSED IN ROOM.

⑤ ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL (2) NEW SMOKE DUCT DETECTOR TO SHUT OFF POWER TO THE NEW AHU-72A.

1 ELECTRICAL PLAN
1/4" = 1'-0"



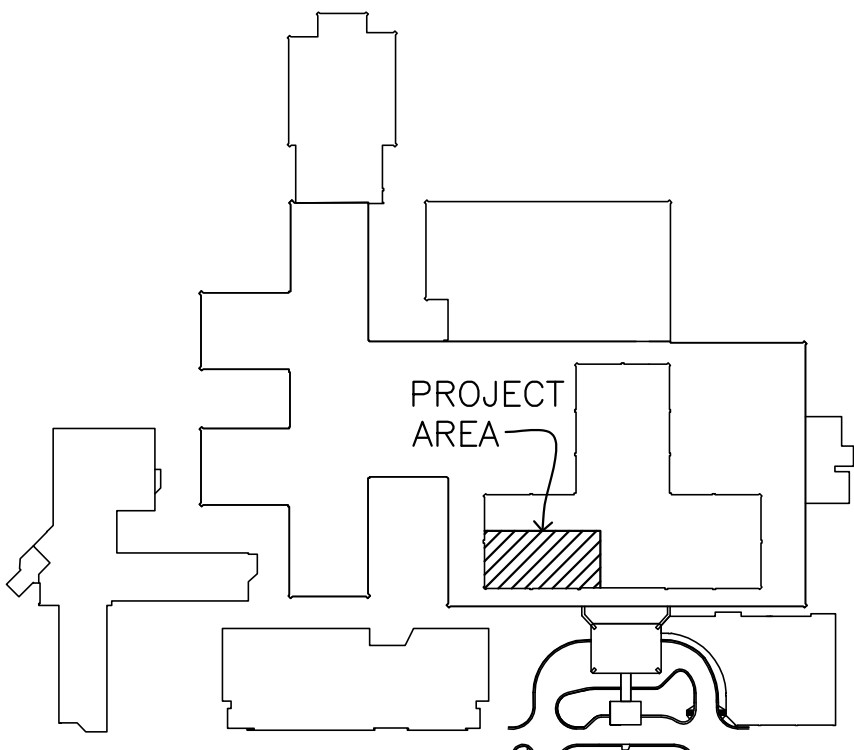
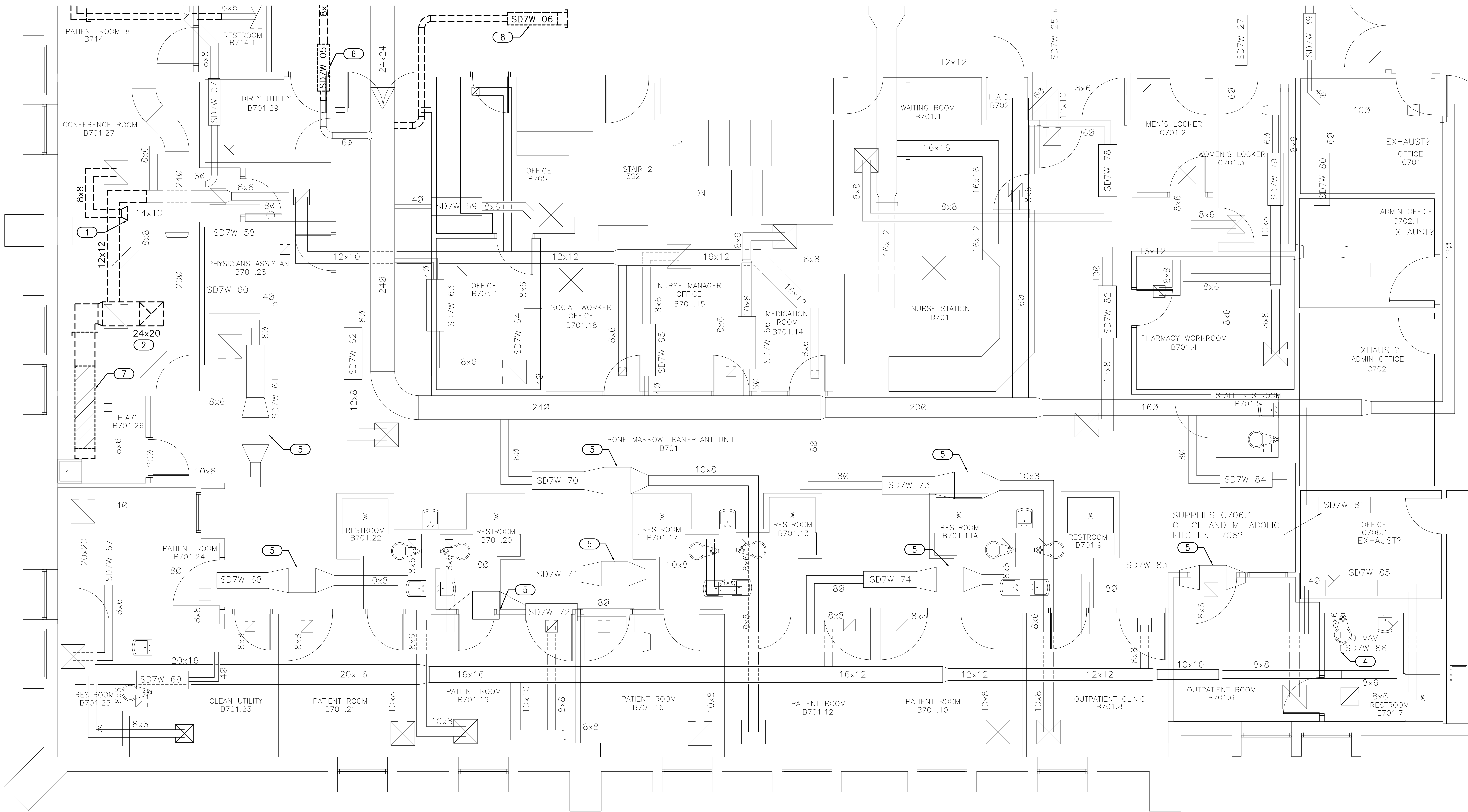
		CONSULTANTS:	 engineers consultants commissioning 2805 Van Buren Street, Suite 2004 Norman, OK 73072 P: 405.264.2028 F: 405.264.2029 www.mep-engineers.com CAR: 5121 Expiration Date: 06.30.2017 MEP PROJECT NO.: P14.15.01	 <i>Randall A. Jacobst</i> 11/13/2015	ARCHITECT/ENGINEERS:	 1144 AIRPORT BLVD. SUITE 260 AUSTIN, TX. 78702 (866) 226-8071 TELE. (866) 226-9969 FAX WWW.PRIME-ARCH.COM	Drawing Title	Project Title	Project Number	Office of Construction and Facilities Management  Department of Veterans Affairs
							ELECTRICAL PLAN	REFURBISH BONE MARROW TRANSPLANT UNIT	67-15-100	
							Approved: Project Director	Location	Building Number	
							-----	VAMC SAN ANTONIO TX	1	

Addendum 02	04/06/17							Drawing Number		
Revisions	Date						Date	Checked	Drawn	
							NOVEMBER 12, 2015	SJW	SJW	

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- ### GENERAL NOTES
1. REMOVE ALL DUCTWORK AND EQUIPMENT SHOWN DASHED. REMOVE DUCTWORK BACK TO MAIN AND CAP.
 2. PATCH AND REPAIR ALL INSULATION DAMAGED DURING DEMOLITION AND DUCT CLEANING. REPAIR AND SEAL INSULATION PER SPECIFICATIONS.
 3. ELEVATION OF ALL EXHAUST DUCTWORK IS BELOW ELEVATION OF CATWALK.
 4. PROVIDE A COMPLETE CLEANING OF THE EXISTING SUPPLY AND EXHAUST DUCTWORK SYSTEMS FOR AHU-72A. SEE SPECIFICATION SECTION 23.01.30.51 DUCT CLEANING FOR REQUIREMENTS.

- ### KEYED NOTES
- 1 REMOVE EXISTING 8x8 SUPPLY DUCT AND TRANSITION. CAP AT 14x10 SUPPLY.
 - 2 REMOVE EXISTING 24x20 EXHAUST DUCT UP TO 1-EF1 ON THE ROOF. SEE SHEET MD-109 FOR CONTINUATION.
 - 3 REMOVE VAV-SD7W-06 AND ASSOCIATED DUCT RUNOUT. CAP AT MAIN.
 - 4 PRIOR TO CONSTRUCTION MEASURE EXISTING VAV-SD7W-86 AIRFLOW AND STATIC PRESSURE SERVING EXISTING FAN COILS. PROVIDE DOCUMENTATION TO COR AND ENGINEER FOR REVIEW.
 - 5 REMOVE FILTER FROM EXISTING FILTER HOUSING AFTER ASSOCIATED VAV HAS BEEN TURNED OFF FOR AHU-72A REMOVAL. NEW FILTER IS NOT NEEDED IN FILTER HOUSING AFTER NEW AHU-72A IS INSTALLED.
 - 6 REMOVE AND RELOCATE EXISTING VAV AND ASSOCIATED DUCTWORK AS REQUIRED FOR NEW EQUIPMENT INSTALLATION.
 - 7 REMOVE EXISTING SOUND ATTENUATOR. PROVIDE TEMPORARY CAP FOR FUTURE CONNECTION.
 - 8 REMOVE VAV-SD7W-06 AND ASSOCIATED DUCT RUNOUT. CAP AT MAIN.



KEY PLAN
NOT TO SCALE

1 MECHANICAL - DUCTWORK PLAN 7TH FLOOR WEST BMT - DEMOLITION

1/4" = 1'-0"

Addendum 02	04/06/17
Revisions	Date

CONSULTANTS:



engineers | consultants | commissioning
2805 Van Buren Street, Suite 2004 | Houston, TX 77027
P: 281.594.2028 | F: 281.594.2029
CA# 15221 | Expiration Date: 08/30/2017
MEP PROJECT NO.: P14.15.01



ARCHITECT/ENGINEERS:



1144 AIRPORT BLVD.
SUITE 260
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Drawing Title
MECHANICAL - DUCTWORK PLAN 7TH
FLOOR WEST BMT - DEMOLITION

Approved Project Director

Project Title
REFURBISH BONE MARROW TRANSPLANT
UNIT

Location
VAMC SAN ANTONIO

TX

Date
NOVEMBER 12, 2015

Checked
JAU

Drawn
JRM

Project Number
671-15-100

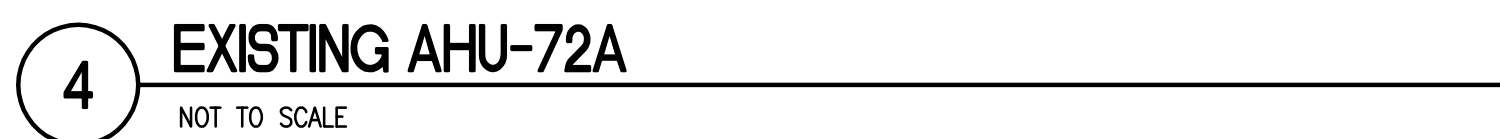
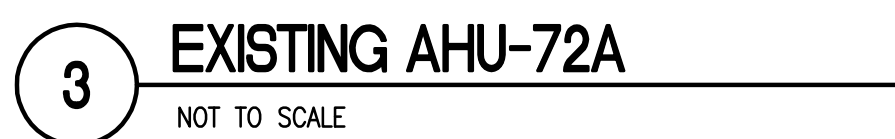
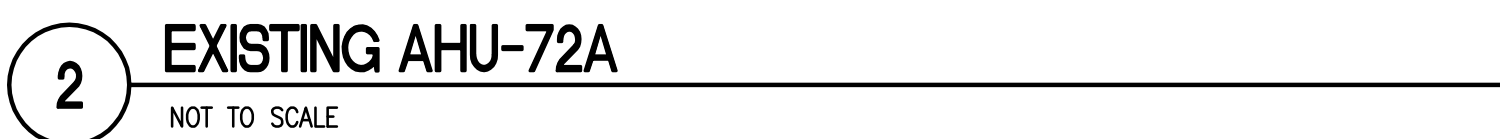
Building Number
1

Drawing Number

MD-103
Dwg. 23 of 45

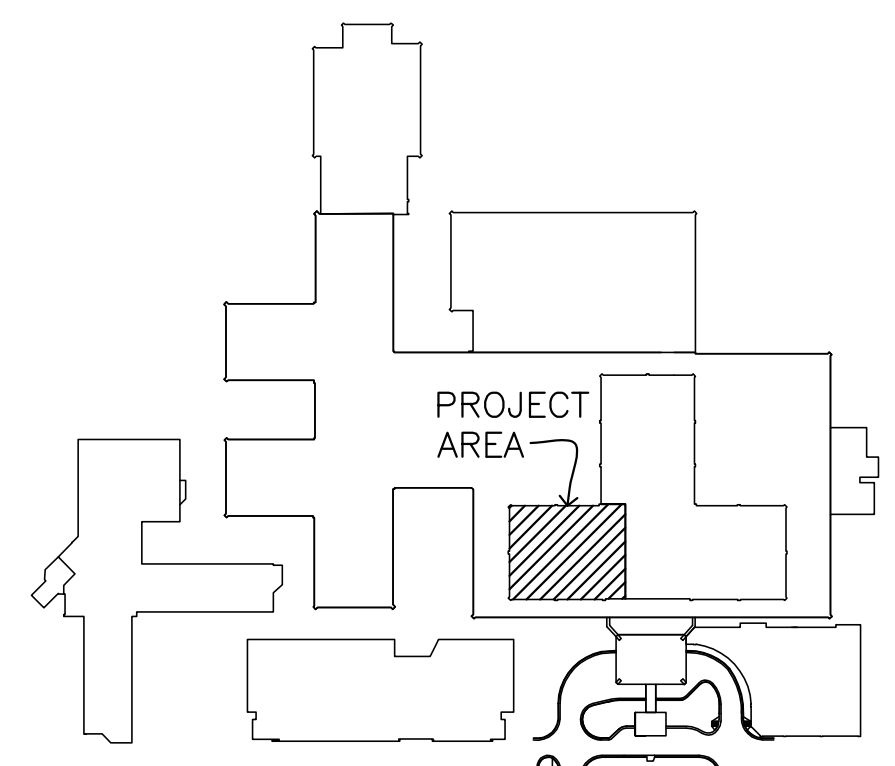
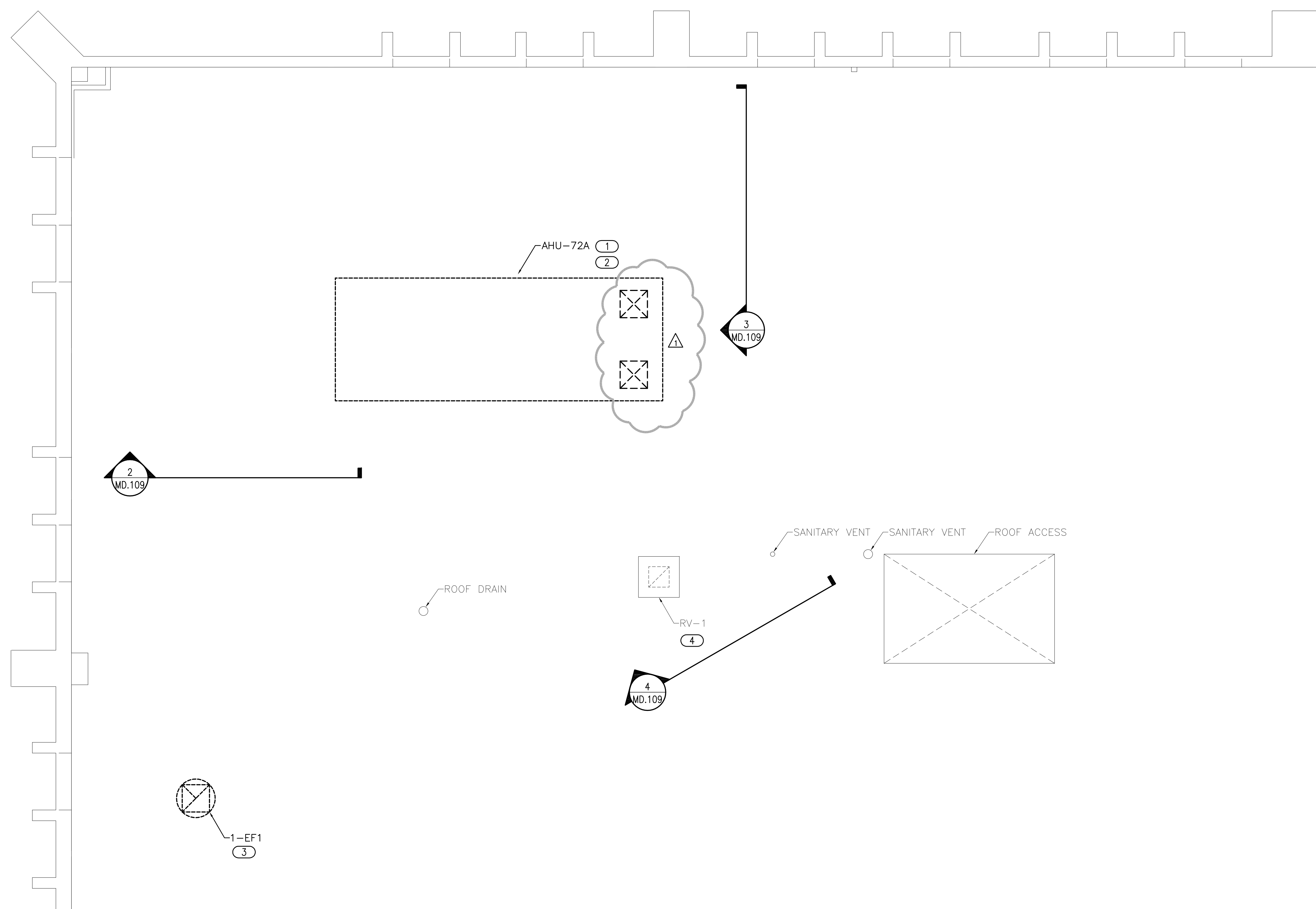
Office of
Construction
and Facilities
Management






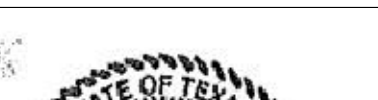


1. REPAIR ROOF PER EQUIPMENT DEMOLITION. COORDINATE MATERIAL AND REPAIR REQUIREMENTS WITH ARCHITECT.

- ① EXISTING AIR HANDLING UNIT AHU-72A AND ROOF CURB TO BE REMOVED. PATCH, REPAIR AND PREP ROOF FOR INSTALLATION OF NEW AHU AND ROOF CURB.
- ② REMOVE EXISTING STEAM PIPING COMPLETELY. CAP EXISTING CHILLED WATER PIPING FOR CONNECTION TO NEW AHU-72A.
- ③ EXISTING EXHAUST FAN 1-EF1 TO BE REMOVED COMPLETELY. PATCH AND REPAIR ROOF PENETRATION PER ARCHITECTURAL DRAWINGS.
- ④ EXISTING 36x36 RELIEF TO REMAIN.



KEY PLAN
NOT TO SCALE

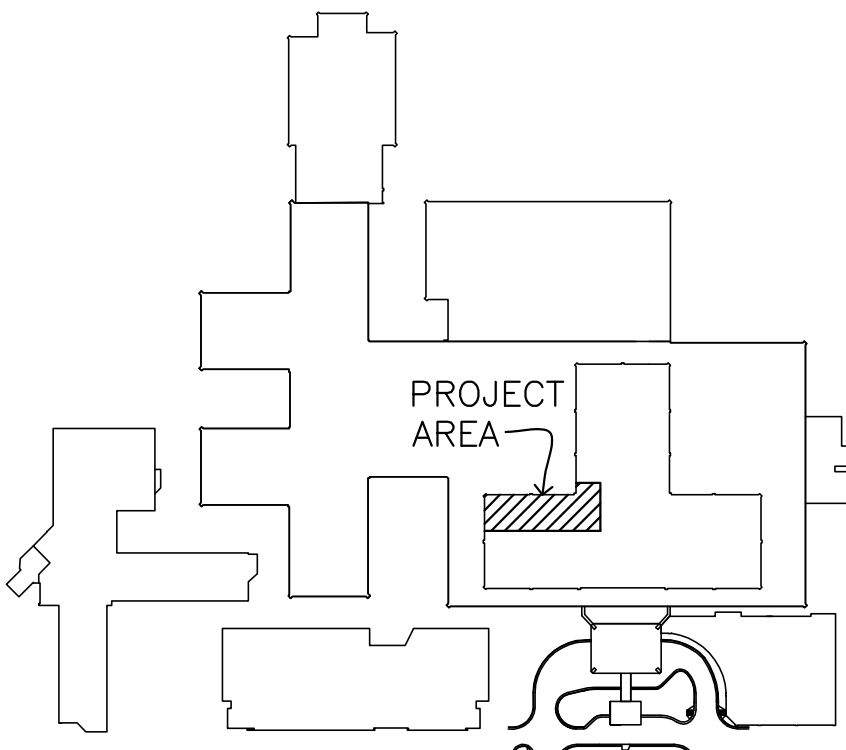
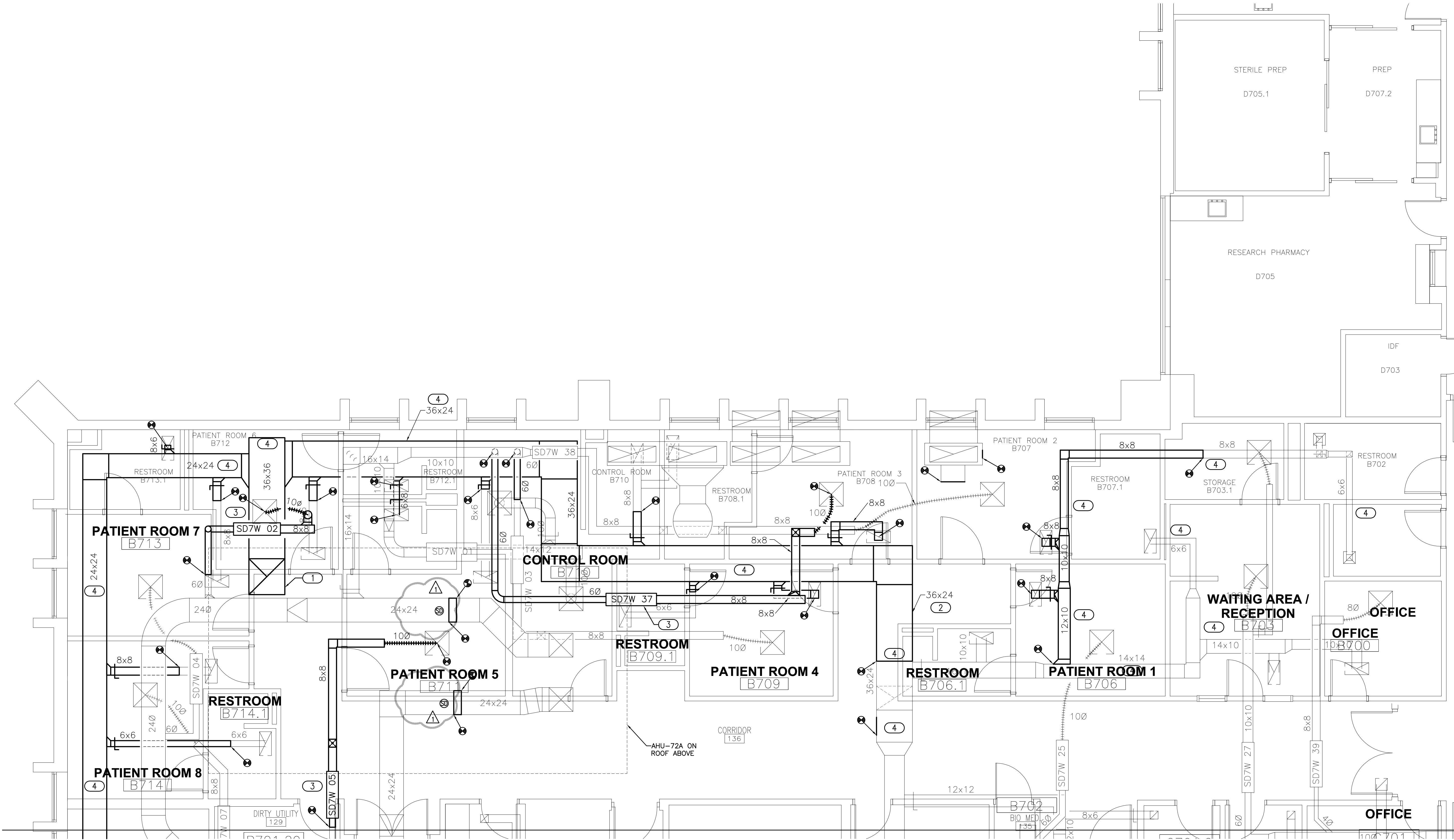
1 MECHANICAL - ROOF PLAN - DEMOLITION
1/4" = 1'-0"

		CONSULTANTS:		 <p>engineers consultants commissioning 200 Van Buren Street, Suite 2004 Norman, OK 73772 P: 405.394.8021 mep@mepllc.com CAP: 5121 Expiration Date: 06/30/2017 MEP PROJECT NO.: P14.15.01</p>				ARCHITECT/ENGINEERS:  <p>1144 AIRPORT BLVD. SUITE 260 AUSTIN, TX. 78702 (866) 226-8071 TELE. (866) 226-9969 FAX WWW.PRIME-ARCH.COM</p>		Drawing Title MECHANICAL - ROOF PLAN - DEMOLITION Approved: Project Director _____ _____ _____		Project Title REFURBISH BONE MARROW TRANSPLANT UNIT Location WAMC SAN ANTONIO TX Date NOVEMBER 12, 2015 Checked JAU Drawn JRM		Project Number 671-15-100 Building Number 1 Drawing Number MD-109 Dwg. 29 of 45		Office of Construction and Facilities Management  Department of Veterans Affairs	
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- ### GENERAL NOTES
1. CUT, PATCH AND REPAIR ALL DUCTWORK AS REQUIRED FOR CONSTRUCTION COMPLETION.
 2. COORDINATE NEW DUCTWORK INSTALLATION WITH EXISTING UTILITIES. PROVIDE DUCTWORK OFFSETS AS REQUIRED TO COMPLETE INSTALLATION.
 3. PROVIDE TRANSITIONS AND OFFSETS AS REQUIRED FOR CONNECTION TO EXISTING DUCTWORK, GRILLES, REGISTERS AND DIFFUSERS.
 4. PROVIDE VOLUME DAMPERS IN EXISTING DUCTWORK AS REQUIRED FOR SYSTEM BALANCING.
 5. SEAL COMPLETED AHU-72A DUCTWORK SYSTEM FROM THE INSIDE USING AUTOMATED AEROSOLIZED SEALANT INJECTION. SEE SPECIFICATION 23 33 53 FOR ADDITIONAL INFORMATION.
 6. INSTALL ACCESS DOORS AT 20 FOOT INTERVALS AND AT EACH CHANGE IN DIRECT FOR ALL NEW SUPPLY AND RETURN/EXHAUST DUCTWORK. SEE SPECIFICATION FOR ACCESS DOOR SIZE.




- ### KEYED NOTES
- 1 36x36 EXHAUST DUCT UP TO AHU-72A PLENUM CURB. ROUTE DUCTWORK BELOW NEW 36X36 EXHAUST RISER. PROVIDE DUCT OFFSETS AND HANGER RELOCATION AS REQUIRED FOR INSTALLATION.
 - 2 NEW 36X24 EXHAUST DUCT. ROUTE NEW 36X24 EXHAUST DUCT THROUGH THE SAME SPACE VACATED BY DEMOLITION EXHAUST DUCT 18X14.
 - 3 RELOCATED VAV. PROVIDE DUCTWORK EXTENSIONS BASED ON NEW VAV LOCATION. COORDINATE VAV LOCATION WITH BOTH EXISTING AND NEW UTILITIES.
 - 4 INSULATE ALL EXISTING AND NEW EXHAUST/RETURN DUCT MAINS AND DUCTWORK RUNOUTS.
 - 5 NEW DUCT SMOKE DETECTOR BY E.C.



KEY PLAN
NOT TO SCALE

1 MECHANICAL - DUCTWORK PLAN 7TH FLOOR WEST SLEEP LAB

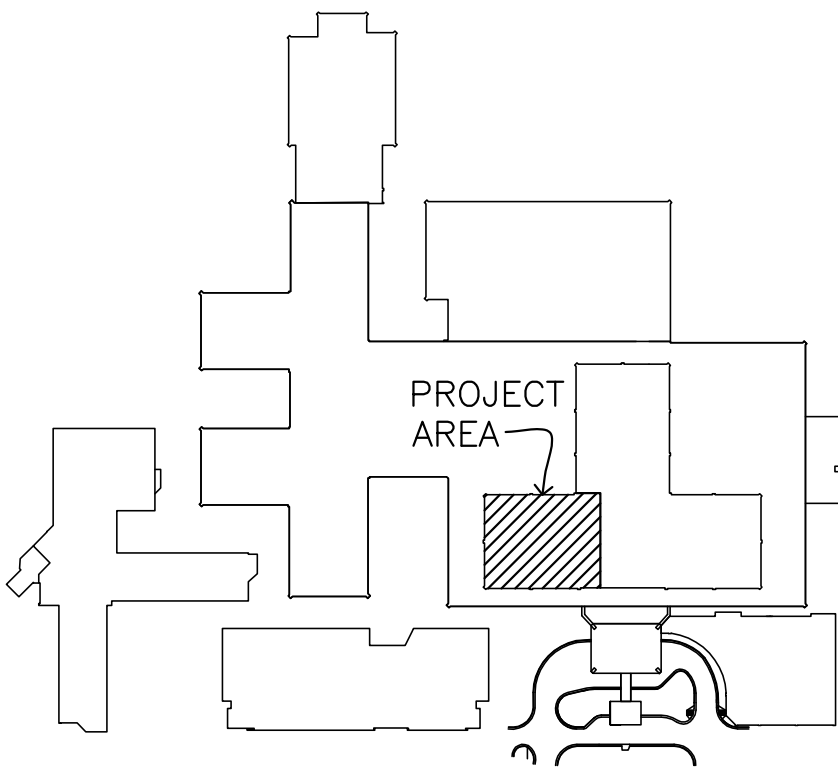
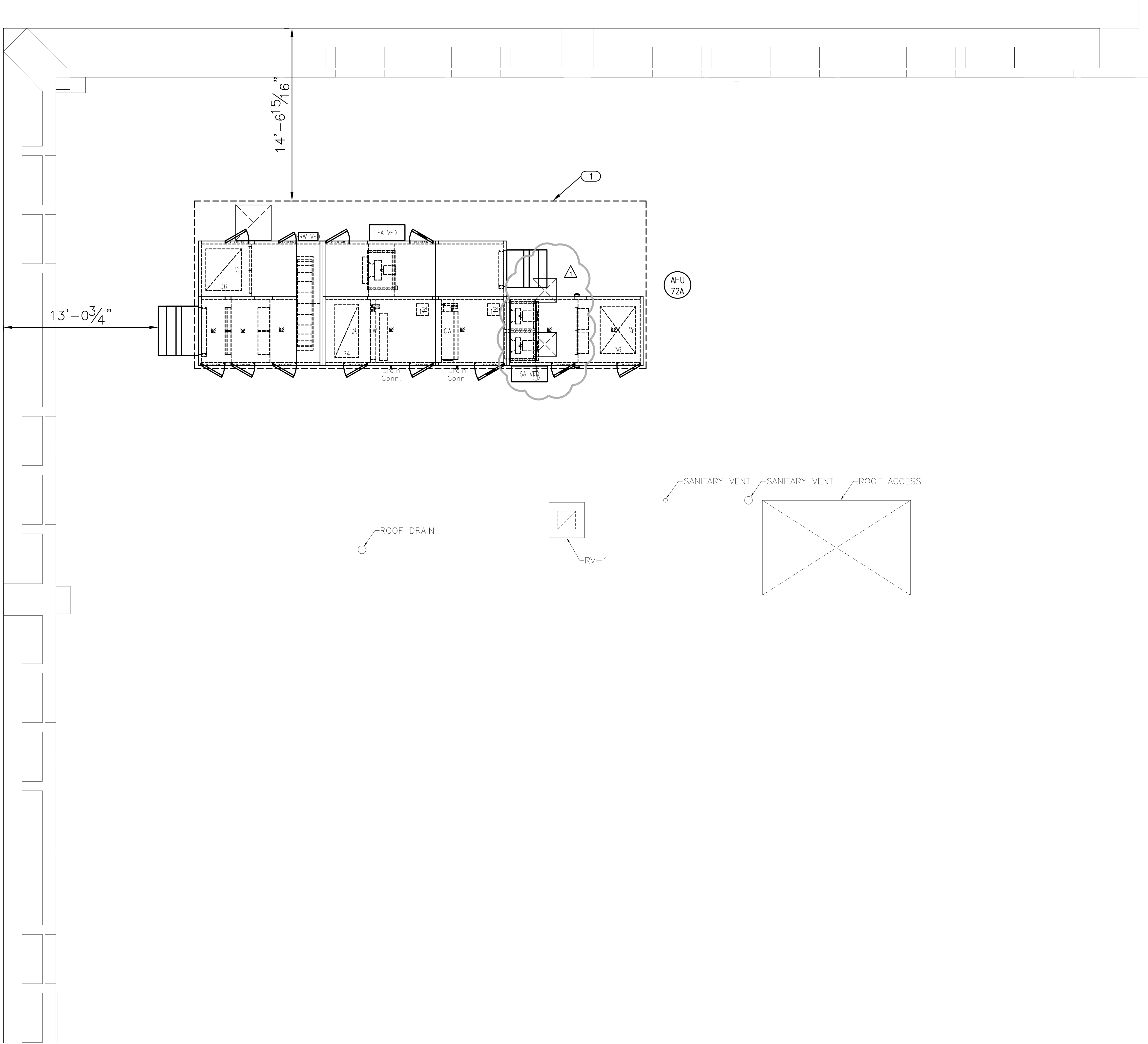
1/4" = 1'-0"

		CONSULTANTS:			ARCHITECT/ENGINEERS:		Drawing Title MECHANICAL - DUCTWORK PLAN 7TH FLOOR WEST SLEEP LAB		Project Title REFURBISH BONE MARROW TRANSPLANT UNIT		Project Number 671-15-100		Office of Construction and Facilities Management	
		 engineers consultants commissioning 2805 Van Buren Street, Suite 200 Houston, TX 77027 P: 405-364-9028 mep@meconsultants.com CA# 5121 Expiration Date: 06/30/2017 MEP PROJECT NO.: P14.15.01			 1144 AIRPORT BLVD. SUITE 260 AUSTIN, TX. 78702 (866) 226-8071 TELE. (866) 226-9969 FAX WWW.PRIME-ARCH.COM		Approved: Project Director _____ _____ _____		Location VAMC SAN ANTONIO TX		Building Number 1			Drawing Number MH-104 Dwg. 31 of 45
Addendum 02		04/06/17								Date NOVEMBER 12, 2015		Checked JAU	Drawn JRM	 Department of Veterans Affairs
Revisions		Date												

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- GENERAL NOTES**
1. FIELD VERIFY EXACT LOCATION OF THE EXISTING ROOF OPENINGS, NEW ROOF OPENING AND PIPE PENETRATIONS PRIOR TO FINAL INSTALLATION. COORDINATE AHU PLENUM SIZE BASED ON ROOF PENETRATION COVERAGE.
 2. INSTALL NEW AHU-72A A MINIMUM OF 10'-0" FROM ROOF EDGE.
 3. FIELD VERIFY ALL EXHAUST AND RELIEF AIR OPENINGS ON THE ROOF IN RELATION TO AHU-72A OUTSIDE AIR (O.A.) INTAKE. MAINTAIN A MINIMUM OF 20'-0" FROM O.A. OPENING TO EXHAUST/RELIEF AIR OPENING.

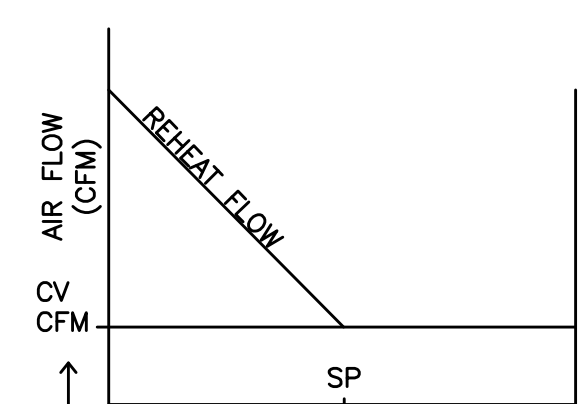
- KEYED NOTES**
- 1 NEW AHU-72A INSTALLED WITH PLENUM CURB FOR SUPPLY AND RETURN DUCT OFFSETS. THE CURB WILL ALSO CONTAIN THE HWS/R, CHWS/R AND STEAM PIPING PENETRATIONS THROUGH THE ROOF. SEE DETAIL 5/M.503 FOR ADDITIONAL PLENUM INFORMATION.



KEY PLAN
NOT TO SCALE

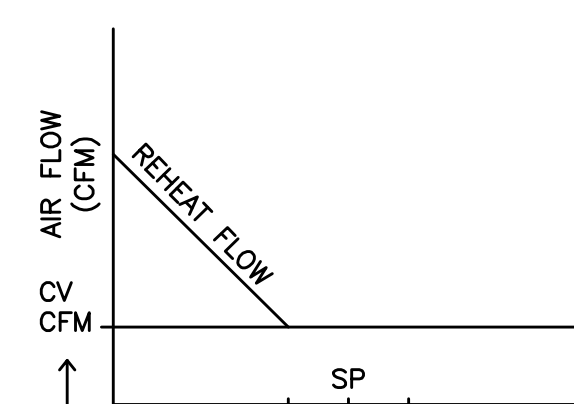
1 MECHANICAL - ROOF PLAN
1/4" = 1'-0"

		CONSULTANTS:				ARCHITECT/ENGINEERS:		Drawing Title MECHANICAL - ROOF PLAN		Project Title REFURBISH BONE MARROW TRANSPLANT UNIT		Project Number 671-15-100		<div>Office of Construction and Facilities Management</div> <div> Department of Veterans Affairs</div>			
		 engineers consultants commissioning 2805 Van Buren Street, Suite 2004 Houston, TX 77027 P: 409.564.2028 mep@meponline.com CA# 15121 Expiration Date: 06/30/2017 MEP PROJECT NO: P14.15.01				 1144 AIRPORT BLVD. SUITE 260 AUSTIN, TX. 78702 (866) 226-8071 TELE. (866) 226-9969 FAX WWW.PRIME-ARCH.COM				Building Number 1		Drawing Number MH-107 Dwg. 34 of 45					
Addendum 02 Revisions:		04/06/17 Date						Approved Project Director ----- ----- -----		Location VAMC SAN ANTONIO TX		Date NOVEMBER 12, 2015				Checked JAU	



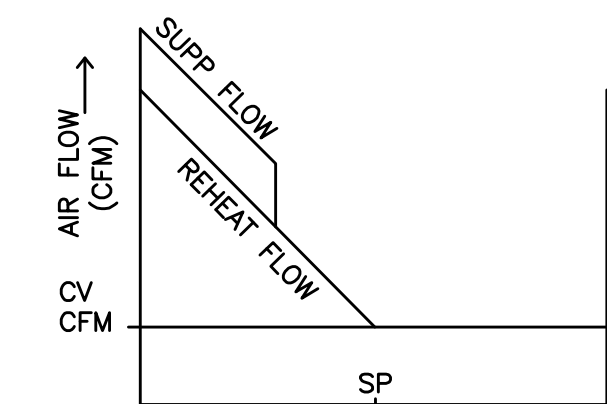
ROOM TEMPERATURE (°F) →
CV BOX CONTROL SEQUENCE
NO. DEADBAND

- A. UPON FALL IN SPACE TEMPERATURE BELOW SET POINT VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT $\pm .5'$, THE ADJUSTABLE TOLERANCE OF $\pm .5'$ HAS BEEN SELECTED TO PREVENT VALVE HUNTING
- B. THE REVERSE SHALL OCCUR ON RISE IN SPACE TEMPERATURE.



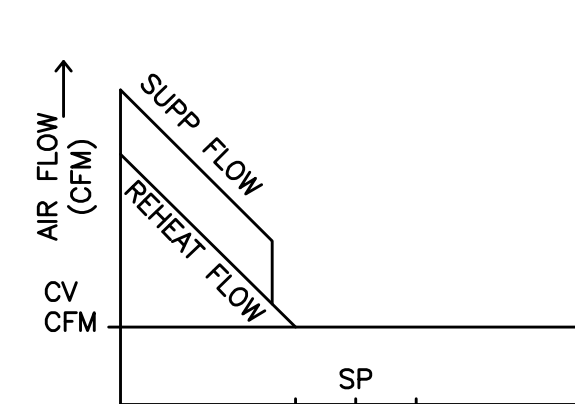
ROOM TEMPERATURE (°F) →
CV BOX CONTROL SEQUENCE
W/DEADBAND

- W/ DEADBAND
- A. SET POINTS SHALL SET AS FOLLOWS:
COOLING 75° F (ADJ)
HEATING 70° F (ADJ)
DEADBAND OF 5° F BETWEEN HEATING
AND COOLING SET POINT WILL BE
MAINTAINED
- B. UPON FALL IN SPACE TEMPERATURE
BELOW SET POINT VALVE V-1 WILL
MODULATE TO MAINTAIN SET POINT \pm
.5°; THE ADJUSTABLE TOLERANCE OF \pm
.5° HAS BEEN SELECTED TO PREVENT
VALVE HUNTING
- C. THE REVERSE SHALL OCCUR ON RISE
IN SPACE TEMPERATURE.



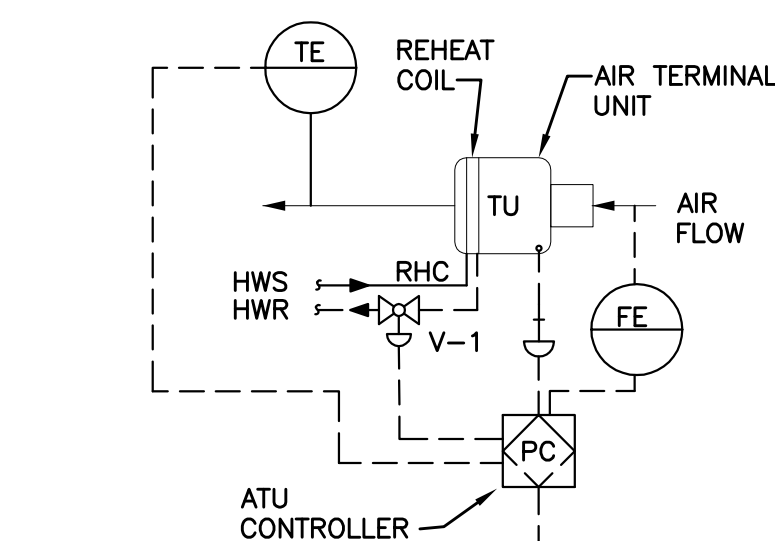
ROOM TEMPERATURE (°F) →
CV BOX CONTROL SEQUENCE
NO DEADBAND

- A. UPON FALL IN SPACE TEMPERATURE BELOW SET POINT VALVE V-1 WILL MODULATE TO MAINTAIN SET POINT $\pm .5^{\circ}$ F. THE ADJUSTABLE TOLERANCE OF $\pm .5^{\circ}$ HAS BEEN SELECTED TO PREVENT VALVE HUNTING.
- B. VALVE V-2 SHALL BE ENABLED WHEN OUTSIDE AIR FALLS BELOW 40° F (ADJ) AND VALVE V-1 HAS BEEN MODULATED OPEN ABOVE 30% (ADJ) V-2 SHALL THEN BE MODULATED TO MAINTAIN SET POINT $\pm .5^{\circ}$ F. THE ADJUSTABLE TOLERANCE OF $\pm .5^{\circ}$ F HAS BEEN SELECTED TO PREVENT VALVE HUNTING.
- C. THE REVERSE SHALL OCCUR ON RISE IN SPACE TEMPERATURE.

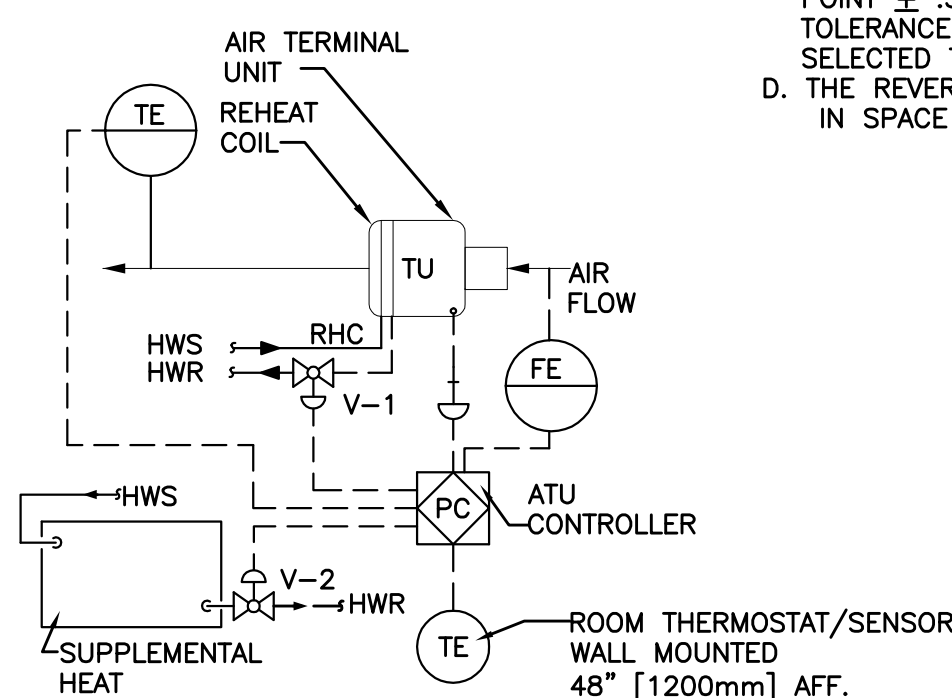


ROOM TEMPERATURE (°F) →
CV BOX CONTROL SEQUENCE
W/DEADBAND

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HEATING 70° F (ADJ)
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5°
THE ADJUSTABLE TOLERANCE OF \pm 5°
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VALVE HUNTING
- C. VALVE HUNTING SHALL BE ENABLED WHEN
OUTSIDE AIR FALLS BELOW 40° F (ADJ)
AND VALVE V-1 HAS BEEN MODULATED
OPEN ABOVE 30% (ADJ) V-2 SHALL
MODULATE TO MAINTAIN SET
POINT \pm 5° F. THE ADJUSTABLE
TOLERANCE OF 5° F HAS BEEN
SELECTED TO PREVENT VALVE HUNTING
- D. THE PURPOSE SHALL BE TO COLOR IN
IN SPACE TEMPERATURE.



NO SUPPLEMENTAL HEATING



WITH SUPPLEMENTAL HEATING

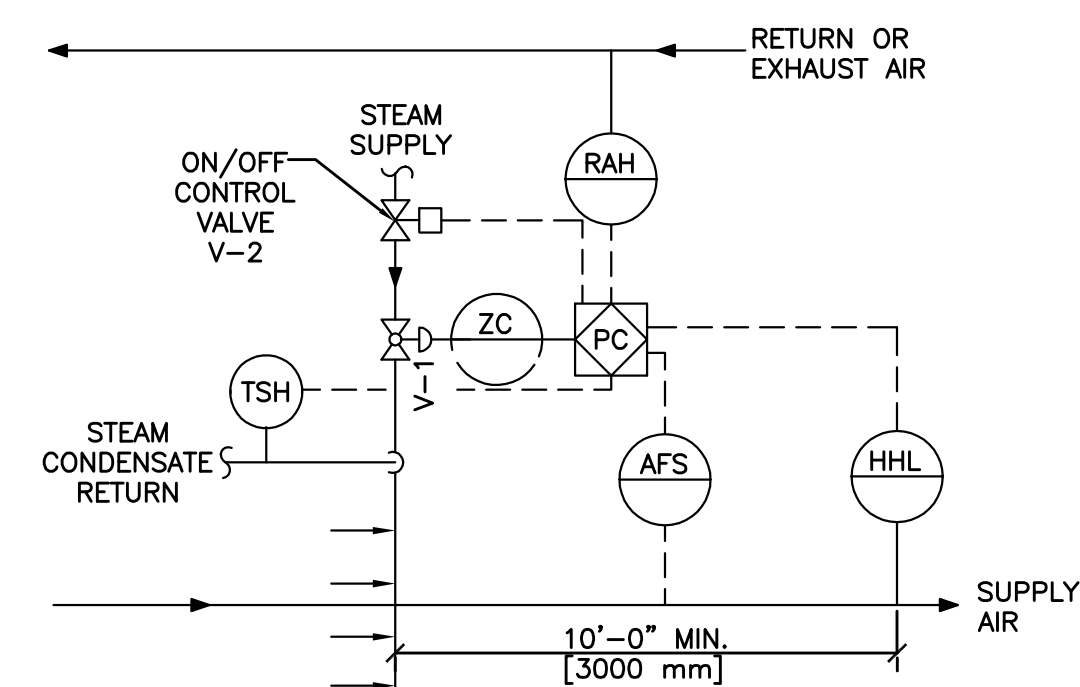
4 CONSTANT VOLUME AIR TERMINAL UNIT CONTROL DIAGRAM

NTS

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POINTS LIST FOR CAV AIR TERMINAL UNITS AND SUPPLEMENTAL HEAT

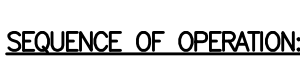
NTS



STEAM HUMIDIFIER
RETURN (OR EXHAUST) AIR HUMIDITY SHALL BE MONITORED. ON A CALL FOR HUMIDIFICATION HUMIDIFIER VALVE V-1 SHALL MODULATE TO MAINTAIN THE RETURN (OR EXHAUST) AIR HUMIDITY SETPOINT TO 30% (ADJUSTABLE). PRIOR TO ACTIVATION OF V-1, THE ON/OFF HUMIDITY SETPOINT V-2 SHALL BE ENABLED THROUGH ECC AND JACKET TEMPERATURE SENSORS. V-1 SHALL BE ENABLED THROUGH THE HUMIDITY SENSORS. HUMIDITY SENSORS SHALL BE LOCATED IN THE SUPPLY AIR DUCT 10 FEET AWAY FROM THE HUMIDIFIER SHALL MEASURE THE HUMIDIFIER AND GIVE AN ALARM SIGNAL TO THE ECC, IF THE SUPPLY AIR HUMIDITY DECREASES SH (ADJUSTABLE). WHEN THE AIRFLOW SWITCH SHALL PROVE AIRFLOW BEFORE HUMIDITY CONTROLS ARE ACTIVATED.

STEAM HUMIDIFIER CONTROLS

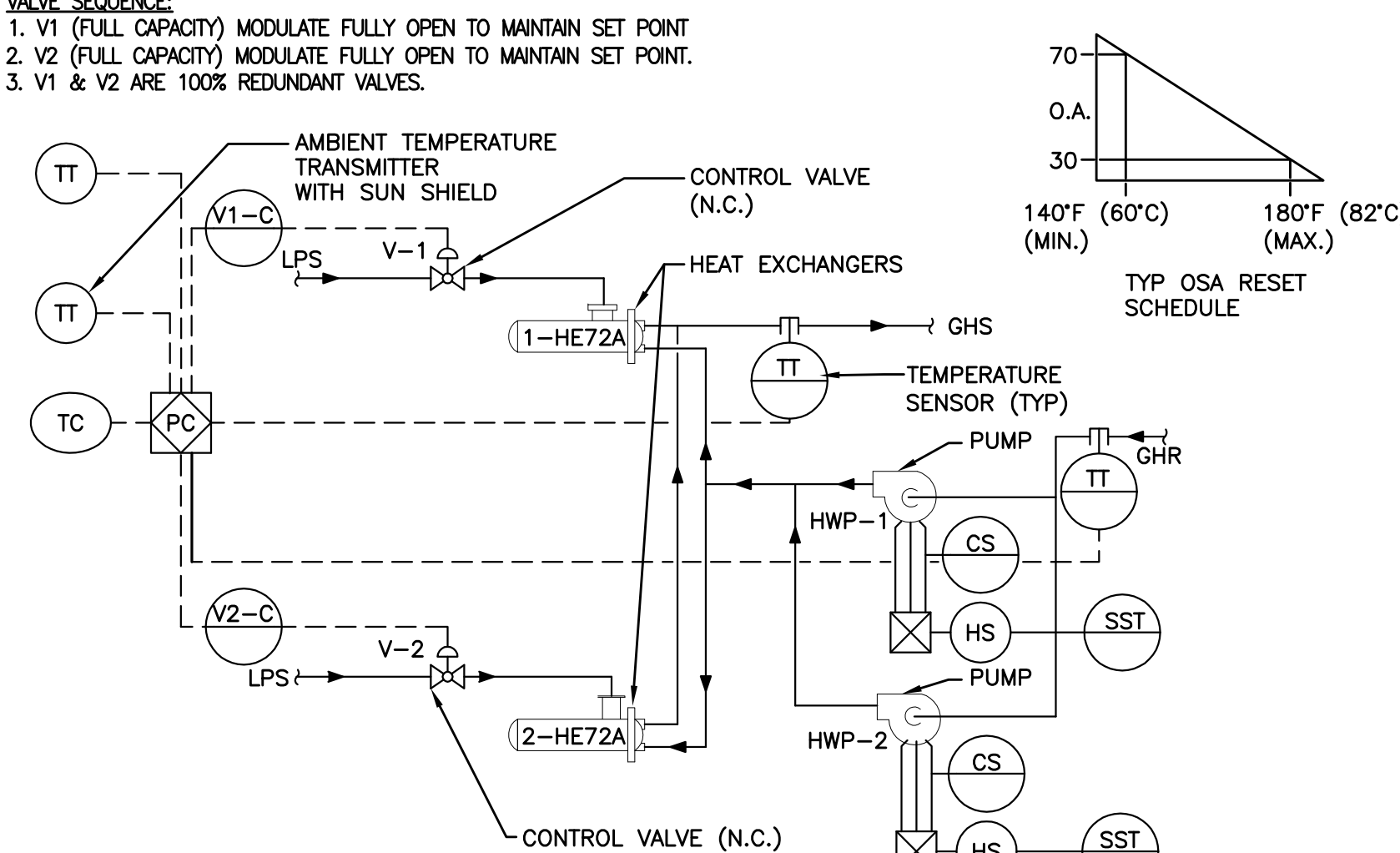
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- SEQUENCE OF OPERATION:
1. STEAM CONTROL VALVE SHALL MODULATE TO MAINTAIN THE LEAVING HOT WATER TEMPERATURE AT SET POINT.
 2. THE LEAVING HOT WATER TEMPERATURE SHALL BE RESET INVERSELY WITH THE OUTDOOR TEMPERATURE AS SCHEDULED.
 3. THE LEAD AND LAG PUMPS AND HEAT EXCHANGERS SHALL BE SEQUENTIAL BY THE OPERATOR CONTROLS AT THE PRE-DETERMINED INTERVAL (USUALLY 7 DAYS). IN THE EVENT THE PUMP FAILS TO START WITHIN 30 SECONDS, AN ALARM SHALL BE INITIATED AND THE SECOND PUMP SHALL START AUTOMATICALLY.

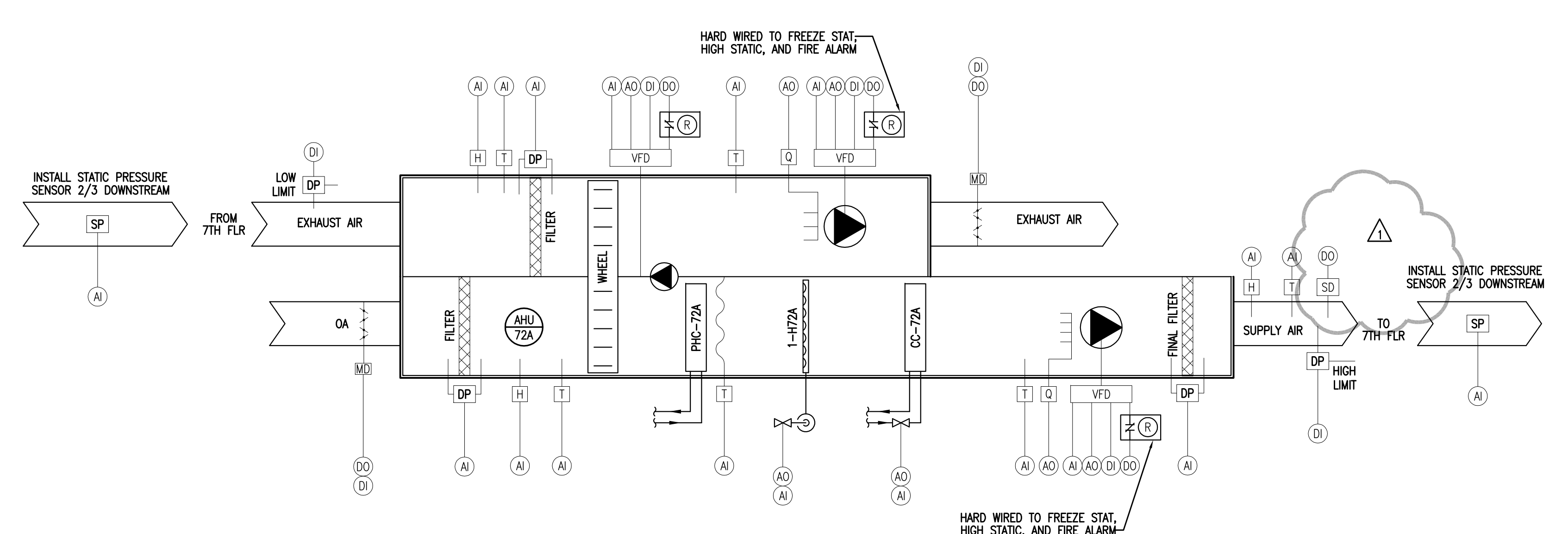
VALVE SEQUENCE:

- VALVE SEQUENCE:**
1. V1 (FULL CAPACITY) MODULATE FULLY OPEN TO MAINTAIN SET POINT
2. V2 (FULL CAPACITY) MODULATE FULLY OPEN TO MAINTAIN SET POINT
3. V1 & V2 ARE 100% REDUNDANT VALVES.



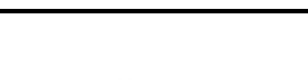
DUAL HEAT EXCHANGER CONTROLS (HEATING SYSTEM)

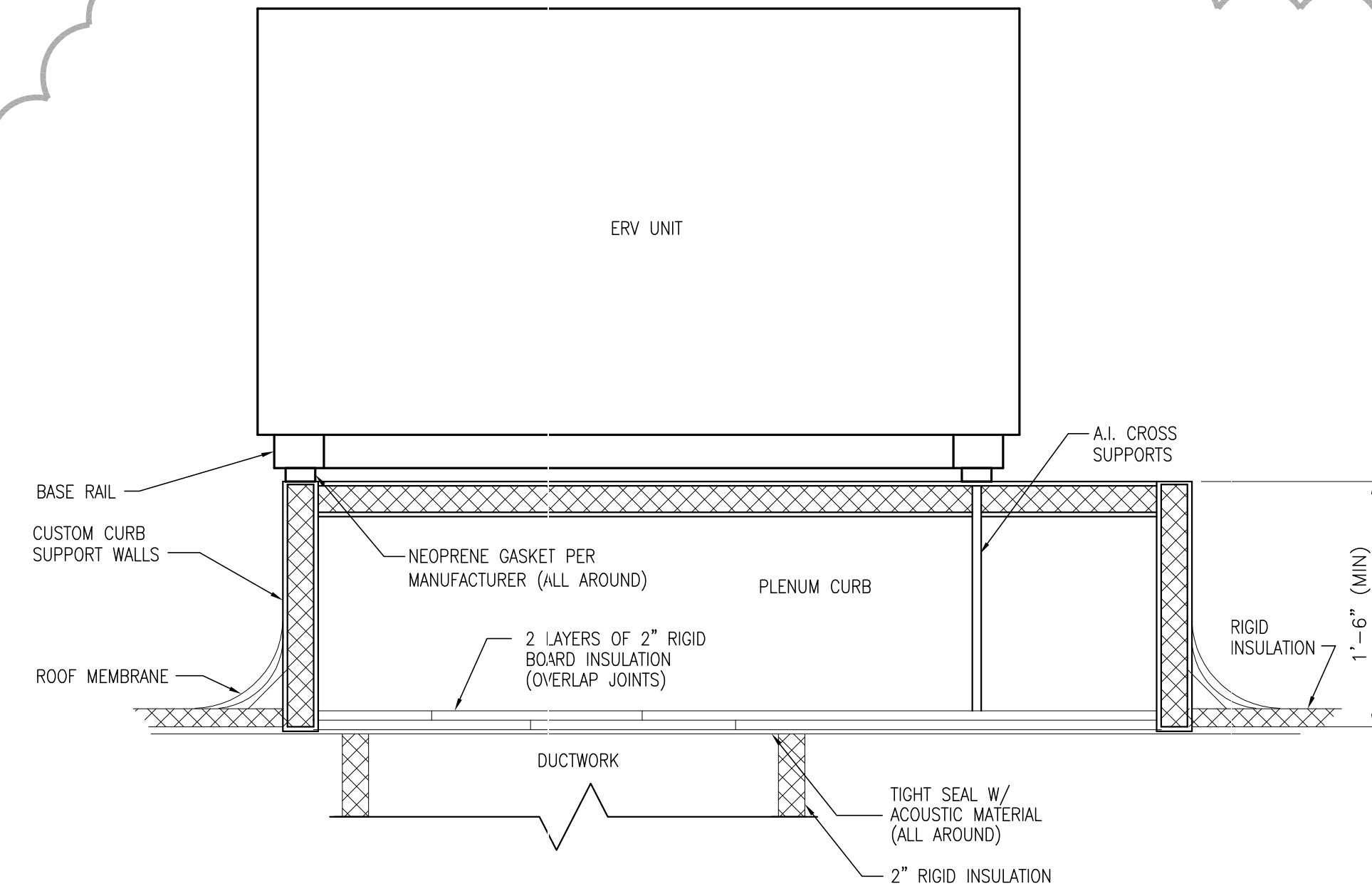
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AHU 72A CONTROL DIAGRAM

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		CONSULTANTS:		 engineers consultants commissioning 2000 Van Buren Street, Suite 2004 Norman, OK 73072 P: 405.394.8020 mepassociates.com CAP: 5121 Expiration Date: 06/30/2017 MEP PROJECT NO.: P14-15-01				ARCHITECT/ENGINEERS:		1144 AIRPORT BLVD. SUITE 260 AUSTIN, TX. 78702 (866) 226-8071 TELE. (866) 226-9969 FAX WWW.PRIME-ARCH.COM		Drawing Title MECHANICAL - CONTROL DIAGRAMS		Project Title REFURBISH BONE MARROW TRANSPLANT UNIT		Project Number 671-15-100		Building Number 1		Office of Construction and Facilities Management	
Addendum 02		04/06/17										Approved Project Director _____ _____ _____		Location VAMC SAN ANTONIO TX		Drawing Number M-401 Dwg. 37 of 45		Department of Veterans Affairs			
Revisions:		Date												Date NOVEMBER 12, 2015		Checked JAU		Drawn JRM			

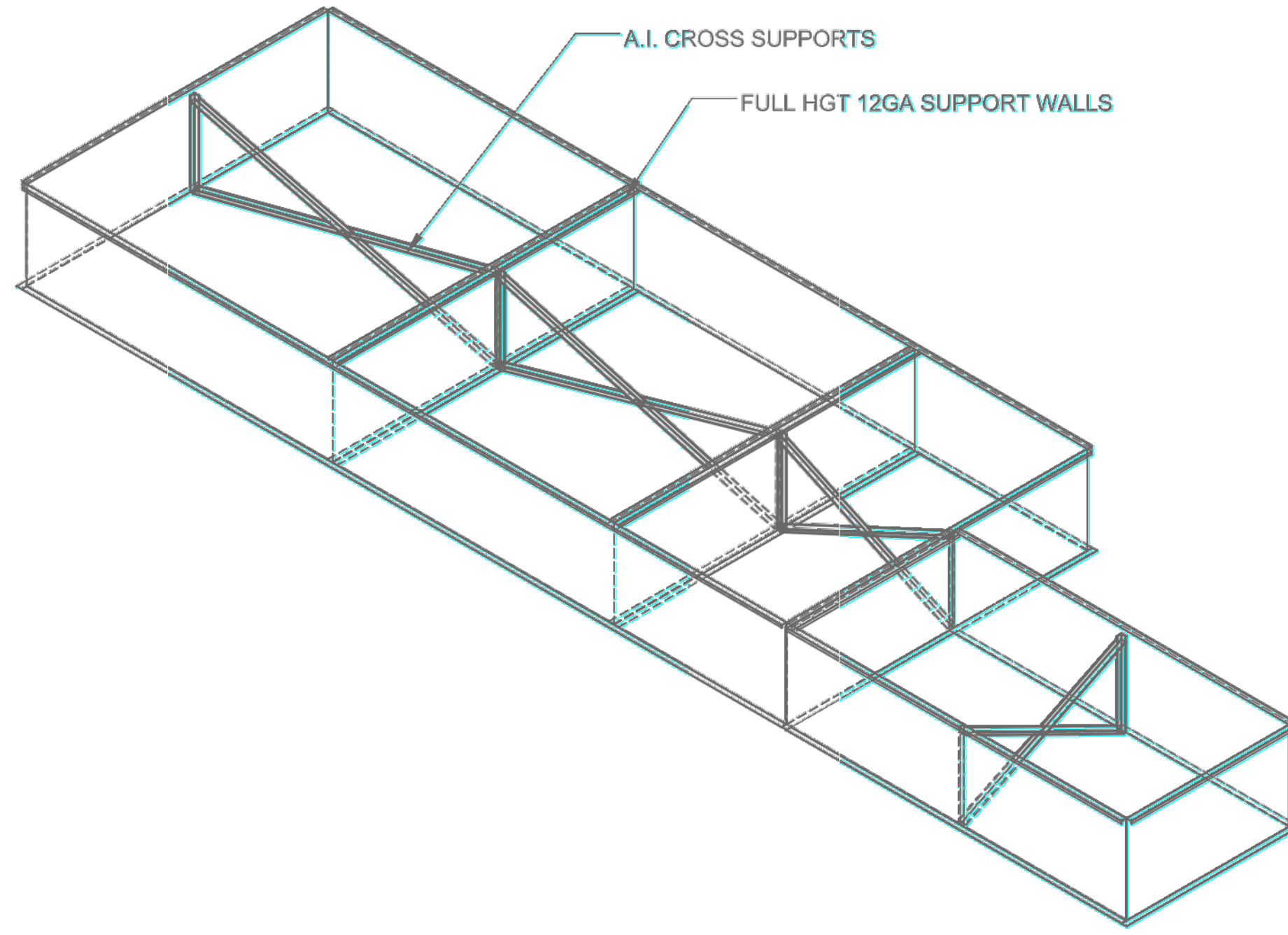


NOTE:
CAULK ALL AROUND
BETWEEN CURB AND CURB
TO PREVENT AIR LEAKAGE.

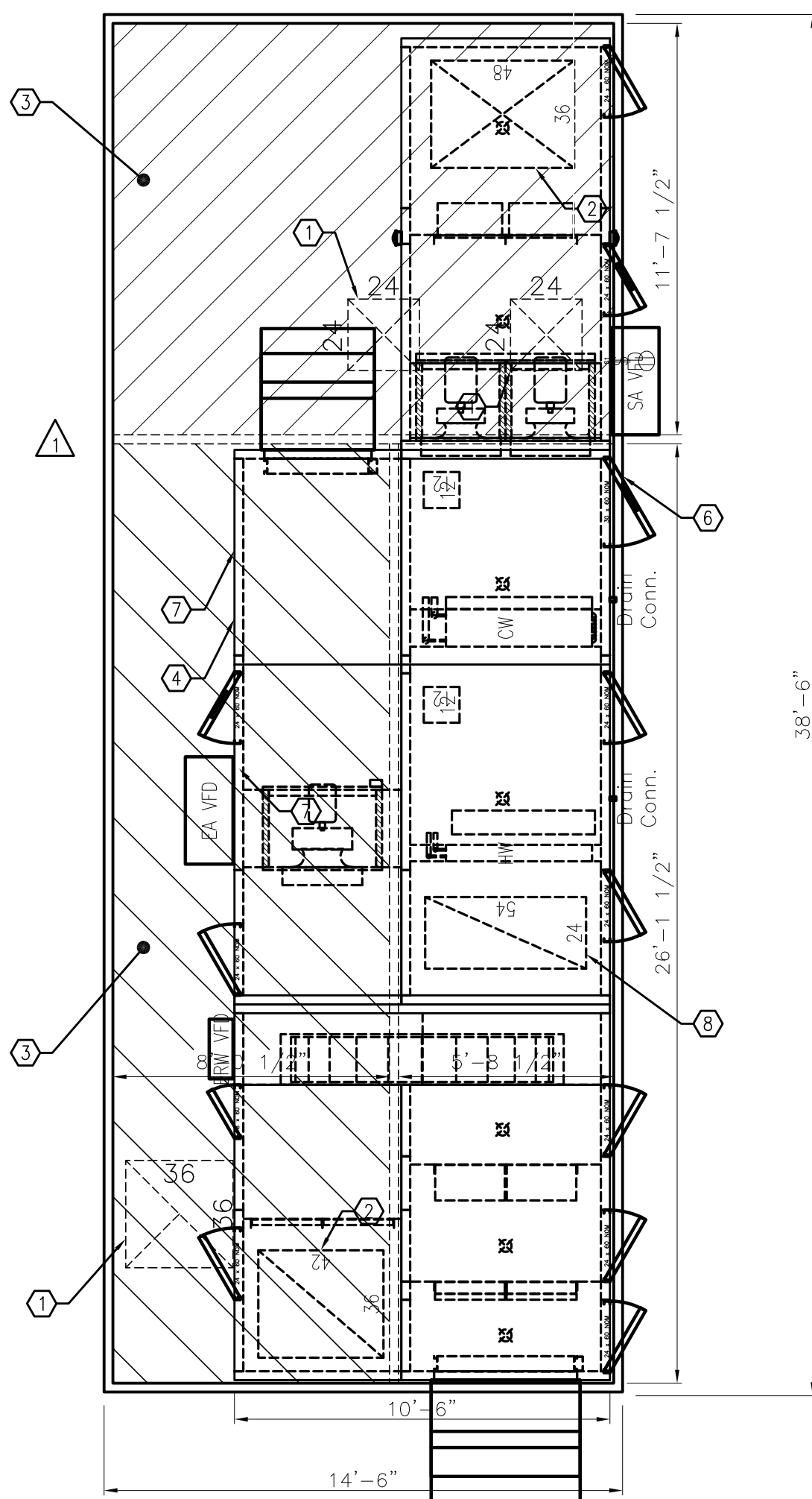
NOTE:
ROOF OPENING AND PATCH BY MC. ROOF PATCH
MUST BE ARRANGED WITH OWNER'S ROOFING
CONTRACTOR TO MAINTAIN WARRANTY.

NOTE:
PROVIDE METAL TETHERS FROM
THE CURB TO THE AHU BASE.

6 AHU MOUNTING DETAIL W/PLENUM CURB
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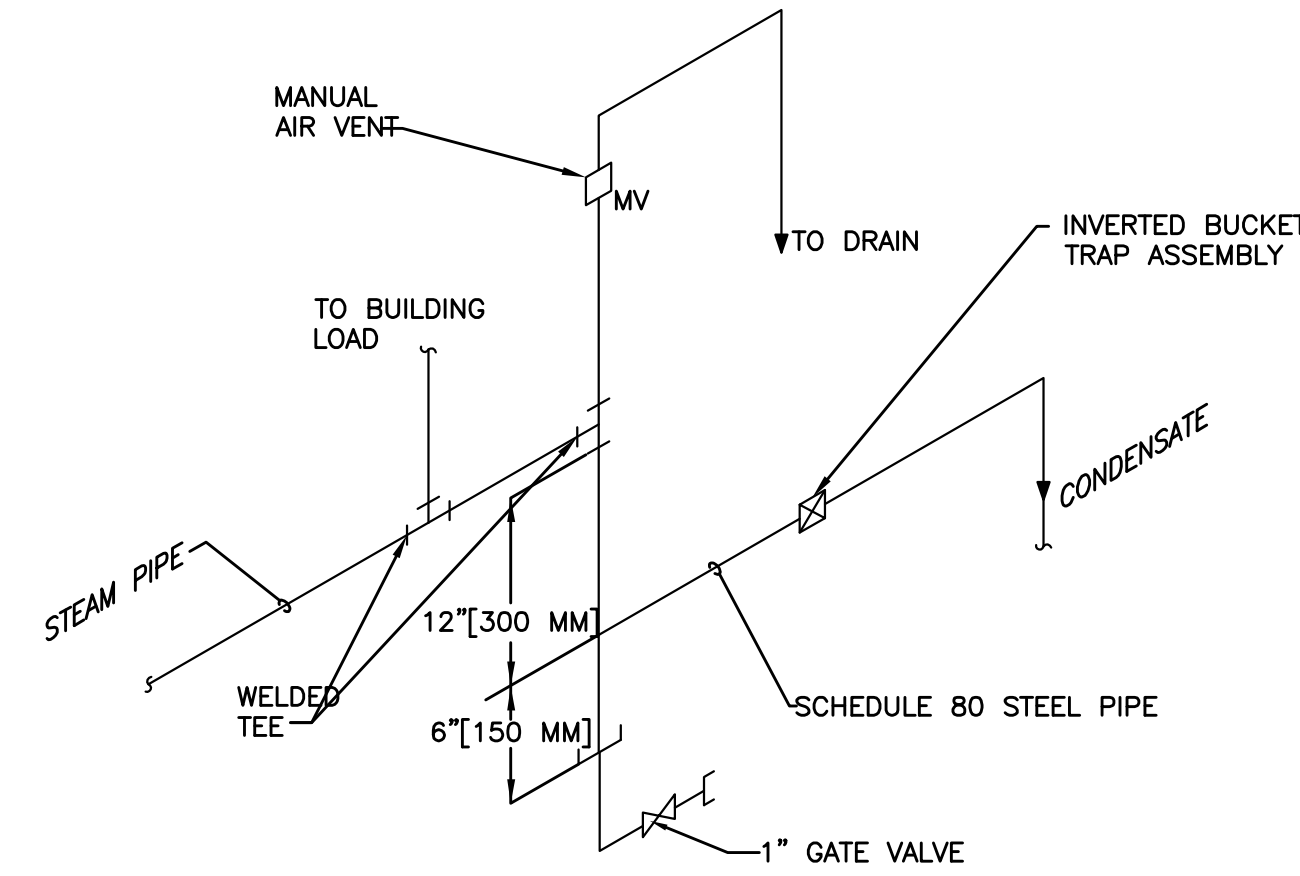
7 PLENUM CURB LAYOUT
NTS



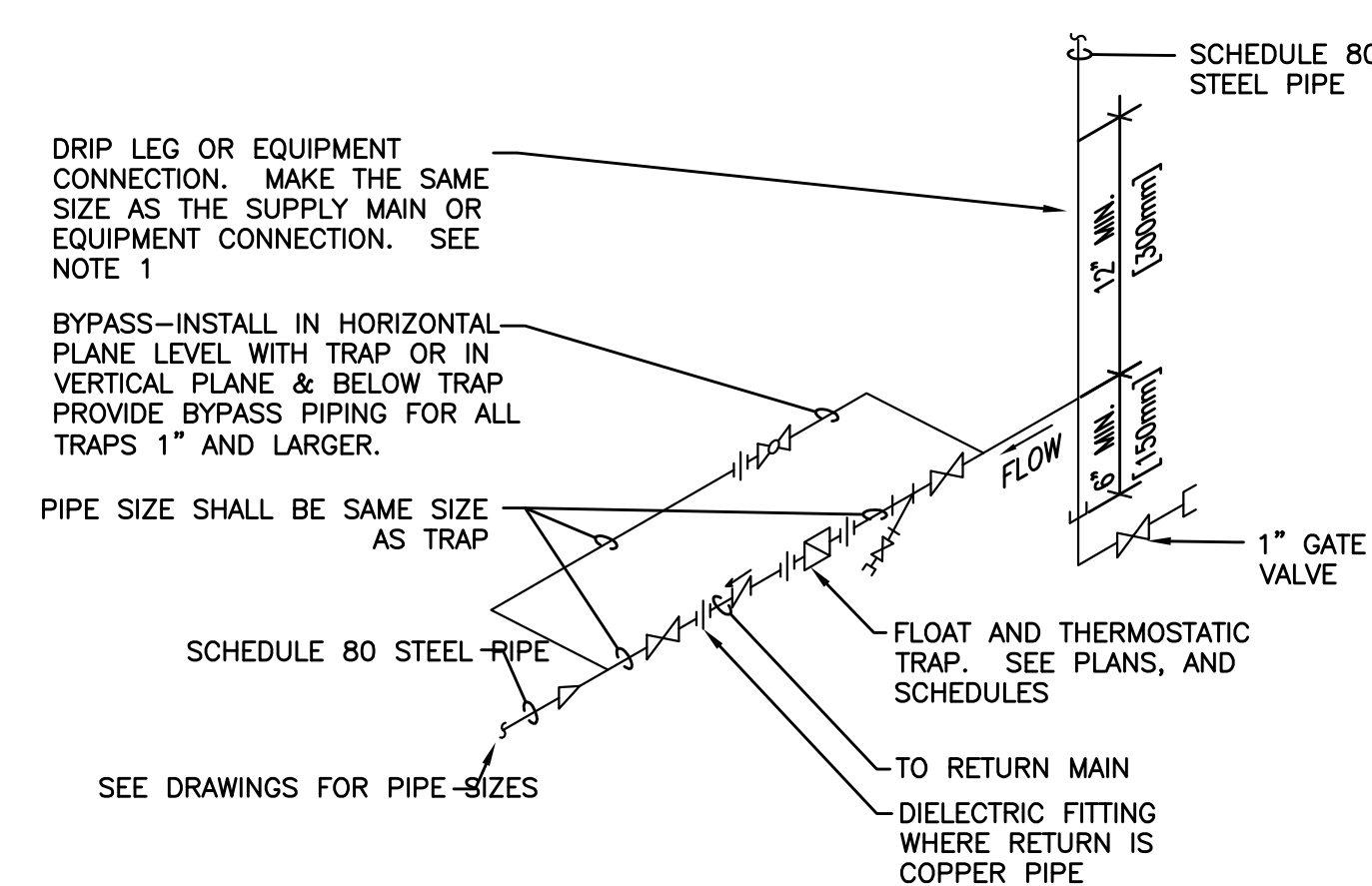
- 1 OPENING THROUGH ROOF FOR DUCTWORK. SEAL DUCTWORK PENETRATION.
- 2 AHU OPENING.
- 3 AIR PLENUM SPACE WITHIN CURB. SEAL LEAK TIGHT. TEST FOR LEAKAGE. RESEAL UNTIL LEAK TIGHT FROM AHU TO DUCTWORK BELOW.
- 4 PROVIDE STRUCTURE WITHIN CURB TO SUPPORT SIDE OF AIR HANDLER NOT SITTING DIRECTLY ON CURB. SEE DETAIL 7/M.503 FOR REFERENCE.
- 5 EXTENDED CURB AREA.
- 6 CURB OUTLINE.
- 7 AHU OUTLINE.
- 8 FUTURE RETURN KNOCKOUT.

NOTE:
1. CURB HEIGHT IS 36".
2. DOUBLE WALL INSULATED. 1 1/2" THICK. 3 LB/FT³.
3. PROVIDE SEALS BETWEEN PLENUM CURB/CONCRETE PAD AND BETWEEN AIR HANDLER/PLENUM CURB CONNECTIONS.
4. SEAL AND PRESSURE TEST CURB IN ACCORDANCE WITH DUCT SEALING REQUIREMENTS.

5 AHU W/PLENUM CURB
NTS

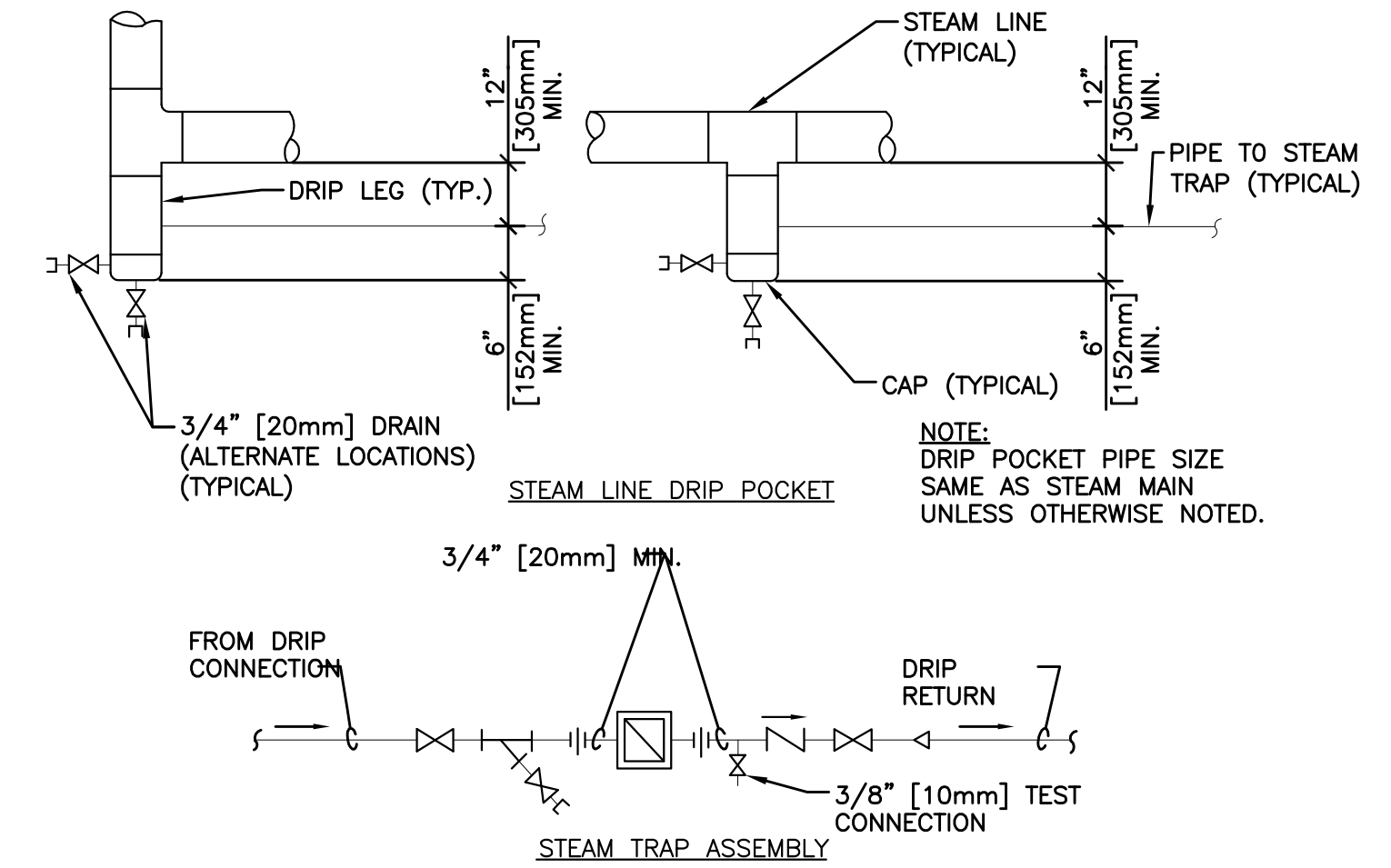


2 END OF STEAM LINE DRIP TRAP
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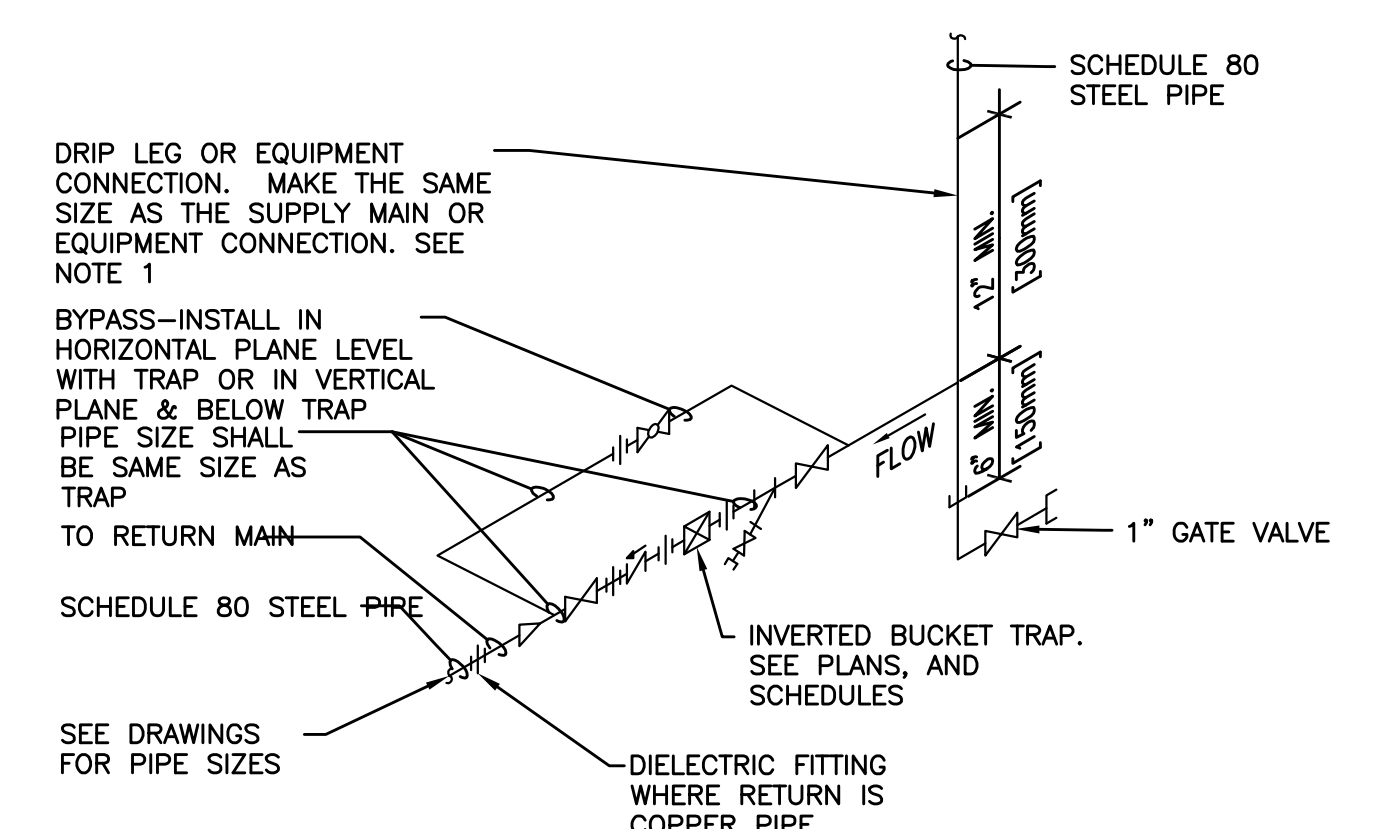


NOTES:
1. ALL DRIP POINTS ON STEAM MAINS SHALL BE PROVIDED WITH A 12" MINIMUM HIGH DRIP LEG FROM BOTTOM OF STEAM MAIN TO TRAP INLET. DRIP LEG SHALL HAVE 6" SCALE POCKET BELOW TRAP INLET.

4 FLOAT AND THERMOSTATIC STEAM TRAP ASSEMBLY
NTS



1 STEAM LINE DRIP POCKET STEAM TRAP ASSEMBLY
NTS



NOTES:
1. ALL DRIP POINTS ON STEAM MAINS SHALL BE PROVIDED WITH A 12" MINIMUM HIGH DRIP LEG FROM BOTTOM OF STEAM MAIN TO TRAP INLET. DRIP LEG SHALL HAVE 6" SCALE POCKET BELOW TRAP INLET.
2. PROVIDE BYPASS PIPING.

3 INVERTED BUCKET STEAM TRAP ASSEMBLY
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CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title	Project Title	Project Number	Office of Construction and Facilities Management	
MEP CONSULTANTS, LLC		PRIME ARCHITECTS		MECHANICAL - DETAILS - STEAM SIDE	REFURBISH BONE MARROW TRANSPLANT UNIT	671-15-100		
Addendum 02		11/13/15		Approved Project Director	Location	Building Number	Department of Veterans Affairs	
Revisions		04/06/17			VAMC SAN ANTONIO TX	1		
					Date	Dwg. 40 of 45		
					NOVEMBER 12, 2015			
					Checked			
					JAU			
					Drawn			
					JRM			