

EXHAUST FAN

PLAN DESIGNATION		EF-1	EF-2	EF-3
MANUFACTURER		GREENHECK	GREENHECK	GREENHECK
MODEL		SWB-118	BSQ-70	BSQ-140HP
FAN TYPE		UTILITY	INLINE	INLINE
SERVES		SPD	CART WASH	E10
LOCATION		OUTSIDE AREA WELL	TOILET ROOM	PENTHOUSE
FAN	CFM	2,250	150	2,000
	EXTERNAL STATIC PRESSURE (IN.W.C.)	1.0	0.75	3.00
	DRIVE	BELT	BELT	BELT
	MAX RPM	1,725	1,725	1,725
	NOM. FAN MOTOR (HP)	0.75	0.25	2.00
	VOLTAGE/PHASE	208 / 3	120 / 1	208 / 3
	SIZE (LxWxH) IN	31.5x38x48	21x15x15	24x23x23
CABINET	WEIGHT (LBS)	279	75	88
	1ST OCTAVE	81	75	85
SOUND POWER MAX VALUES (INTAKE)	2ND OCTAVE	78	83	76
	3RD OCTAVE	71	72	82
	4TH OCTAVE	70	72	81
	5TH OCTAVE	64	63	79
	6TH OCTAVE	58	59	73
	7TH OCTAVE	58	58	75
	8TH OCTAVE	48	53	74
	SONES	10	12	25
REMARKS		1 THRU 10	2,4,7,11	1,2,4,10

1. MOTOR SHALL BE INVERTER DUTY PREMIUM RATED
2. SCHEDULED UNITS BASED ON SELECTIONS OF GREENHECK FANS
3. PROVIDE 1" STATIC DEFLECTION SPRING VIBRATION ISOLATORS FOR FANS
4. PROVIDE DISCONNECT
5. PROVIDE WEATHERHOOD
6. PROVIDE HINGED ACCESS DOOR
7. PROVIDE STAINLESS STEEL SHIRT
8. PROVIDE WITH HIGH PRO POLYESTER COATING
9. PLACE UNIT ON GALVANIZED STRUCTURAL FRAME
10. PROVIDE WITH VFD
11. PROVIDE WITH STARTER

LOUVER

PLAN DESIGNATION		EAL-1
MANUFACTURER		GREENHECK
MODEL		ESD-435
CONSTRUCTION	TYPE	EXHAUST
MATERIAL		ALUMINUM
CFM		150
SIZE (INCHES)	WIDTH	12
	HEIGHT	12
	DEPTH	4
MAX FREE AREA VELOCITY - FPM		500
MAX PRESSURE DROP - IN WC		0.10
REMARKS		1, 2, 3

1. PROVIDE WITH INSECT SCREEN
2. COORDINATE FINISH AND COLOR WITH ARCHITECT
3. FIELD VERIFY LOUVER SIZES BEFORE INSTALLATION

VENTILATION SCHEDULE

ROOM NUMBER	ROOM NAME	AREA	SUPPLY	ACH REQ'D RETURN	EXHAUST	SUPPLY	CFM REQ'D RETURN	EXHAUST	CFM REQ'D BY LOAD CALCS	ROOM AIR BALANCE	SUPPLY	CFM PROVIDED RETURN	EXHAUST	SERVED BY
NA	CLEAN STORAGE	1400	4	NA	100%	747	NA	NA	574	POSITIVE	2100	NA	1600	CV-01,02,X-EF
B56	MULTIPURPOSE	116	4	NA	100%	62	NA	62	212	NEUTRAL	225	NA	225	CV-01, EF-1
B59A	ANTE ROOM (DRTY)	51	10	NA	100%	66	NA	NA	7	POSITIVE	160	NA	NA	CV-08
B58B	TOILET	39	10	NA	100%	132	NA	172	84	2X NEGATIVE	160	NA	150	CV-01, EF-1
B53B,C	DECONTAMINATION	683	10	NA	100%	911	NA	1,684	1,278	2X NEGATIVE	1300	NA	1700	CV-07,08, EF-1
B53	ANTE ROOM (DRTY)	111	10	NA	100%	146	NA	NA	14	POSITIVE	160	NA	NA	CV-08
B52	GAS STERILIZER	273	10	NA	100%	364	NA	419	802	NEGATIVE	325	NA	1675	CV-01, EF-3
B53A	CART WASH	82	10	NA	100%	103	NA	141	12	NEGATIVE	125	NA	150	CV-01, EF-3
B59A	INCUBATORS	59	10	NA	100%	88	NA	101	170	NEGATIVE	160	NA	125	CV-01, EF-1
B50	STERIL PREP	572	10	NA	100%	763	NA	534	1,161	2X POSITIVE	2400	NA	1645	CV-04, X-EF
B51	ANTE ROOM (CLEAN)	54	10	NA	NA	85	NA	NA	9	POSITIVE	160	NA	NA	CV-03
B49	WORKROOM	142	4	NA	100%	76	NA	76	202	NEUTRAL	175	NA	175	CV-03, X-EF
B49A	MANAGERS OFFICE	58	4	NA	100%	36	NA	36	50	NEUTRAL	75	NA	75	CV-03, X-EF
B50D	EQUIPMENT CHASE	118	NA	NA	NA	NA	NA	NA	NA	NA	275	NA	325	X-AHU, EF-3
B50A,B	EQUIPMENT CHASE	84	NA	NA	NA	NA	NA	NA	NA	NA	1000	NA	1000	X-AHU, X-EF
TOTAL						3602		3208	4101		9150		7120	

NA=NOT APPLICABLE

CV BOXES WITH REHEAT

PLAN DESIGNATION		CV-01	CV-02	CV-03	CV-04	CV-05	CV-06	CV-07	CV-08	CV-09
SERVES ROOM		CLEAN STORAGE	CLEAN STORAGE	B49	B50	B52	B53A	B53C	B58	B59
MANUFACTURER		PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE	PRICE
MODEL		SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5	SDV5
INLET SIZE		10	14	7	14	10	4	10	10	8
AIRFLOW	MAX - CFM	500	1600	350	2400	1025	125	800	650	425
	MIN - CFM	500	1600	350	2400	1025	125	800	650	425
	MAX PRESSURE DROP - IN WC	0.1	0.15	0.1	0.2	0.35	0.05	0.3	0.2	0.2
	MAX INLET PRESSURE - IN WC	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
SOUND POWER (RADIATED @ MIN OPERATING STATIC PRESS)	2ND OCTAVE	53	57	55	58	57	47	56	54	56
	3RD OCTAVE	45	53	49	54	49	42	48	47	47
	4TH OCTAVE	46	51	44	52	47	40	47	47	44
	5TH OCTAVE	39	43	38	45	40	32	40	40	38
	6TH OCTAVE	34	38	34	39	35	29	35	35	32
	7TH OCTAVE	29	30	27	32	29	22	29	29	27
	NC	20	25	--	26	21	--	21	20	--
	NC	61	65	60	65	64	55	63	62	60
SOUND POWER (DISCHARGE @ MIN OPERATING STATIC PRESS)	2ND OCTAVE	61	63	61	64	62	56	62	62	59
	3RD OCTAVE	61	64	59	65	62	564	62	61	57
	4TH OCTAVE	57	61	55	62	58	51	58	57	53
	5TH OCTAVE	52	56	50	57	52	47	53	52	49
	6TH OCTAVE	50	53	48	54	50	44	50	50	46
	7TH OCTAVE	27	29	25	29	25	25	26	27	24
	NC	16.5	44.5	14.0	49.0	44.3	5.8	40.1	36.1	23.3
	NC	55	55	55	55	55	55	55	55	55
COIL OUTPUT @ MIN AIRFLOW	CAPACITY - MBH	16.5	44.5	14.0	49.0	44.3	5.8	40.1	36.1	23.3
	ENTERING AIR TEMP - °F	55	55	55	55	55	55	55	55	55
	LEAVING AIR TEMP - °F	85	80	90	75	99	97	102	106	106
	ENTERING WATER TEMP - °F	180	180	180	180	180	180	180	180	180
	LEAVING WATER TEMP - °F	180	180	180	180	180	180	180	180	180
	ROWS	1	1	1	1	2	1	2	2	2
	FLOW RATE - GPM	1.7	4.5	1.5	5.1	4.6	0.6	4.25	3.75	2.5
	MAX PRESSURE DROP - FT WC	0.35	3.75	1.5	4.6	4.35	0.25	3.7	3.0	1.0

DIFFUSERS & GRILLES

PLAN DESIGNATION		S-1	S-2	S-3	S-4	S-5	S-6	E-1	E-2	E-3	E-4	E-5
MANUFACTURER		TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS	TITUS
MODEL		PAS	PAS	PAS	PAS	301FL	301FL	PAR	PAR	PAR	350FL	350FL
CONSTRUCTION	TYPE	PERFORATED	PERFORATED	PERFORATED	PERFORATED	GRILLE	GRILLE	PERFORATED	PERFORATED	PERFORATED	GRILLE	GRILLE
	MOUNTING	LAY-IN	SURFACE	LAY-IN	LAY-IN	SURFACE	SURFACE	LAY-IN	SURFACE	LAY-IN	SURFACE	SURFACE
MATERIAL		ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM	ALUMINUM
CFM		0-150	0-150	350-400	925	125	1000	0-325	0-300	850	1,500	325
GRILLE SIZE		12" x 12"	12" x 12"	24" x 24"	24" x 24"	6"x6"	24" x 12"	12" x 12"	12" x 12"	24" x 24"	36" x 12"	12"x6"
DUCT CONNECTION SIZE		6" Ø	6" Ø	10"x10"	24" x 24"	6"x6"	24" x 12"	10"x10"	10"x10"	12" x 12"	36" x 12"	12"x6"
NC		20	20	25	15	17	24	24	24	23	20	30
REMARKS		1,3,5	1,2,3	1,3,4	1,3,4	1,2,3	1,2,3	1,3,5	1,2,3	1,3	1,2,3	1,2,3

1. COORDINATE COLOR WITH ARCHITECT
2. PROVIDE SURFACE MOUNTING FRAME
3. PROVIDE DAMPER
4. PROVIDE WITH 4-WAY PATTERN
5. PROVIDE 24x24 LAY-IN

AIR CONTROL VALVES

PLAN DESIGNATION		ACV-1	ACV-2	ACV-3	ACV-4	ACV-5
MANUFACTURER		PRICE	PRICE	PRICE	PRICE	PRICE
MODEL		RDV-5000	RDV-5000	PDV-5000	PDV-5000	PDV-5000
UNIT SIZE		9" Ø	9" Ø	12" Ø	12" Ø	10" Ø
LOCATION		B53B	B53B	B50	CLEAN STORAGE	B52
AIR FLOW	CFM	850	850	1,545	1,500	1,075
	SIZE	20.3/8	20.3/8	23.1/8	23.1/8	20.7/8
SOUND DATA MAX VALUES (RADIATED)	2ND OCTAVE	46	48	48	47	48
	3RD OCTAVE	42	42	48	46	45
	4TH OCTAVE	47	47	49	47	48
	5TH OCTAVE	44	44	45	44	47
	6TH OCTAVE	44	44	45	44	48
	7TH OCTAVE	40	40	42	41	42
REMARKS		1	1	1	1	1

1. STAINLESS STEEL CONSTRUCTION

GENERAL NOTES

1. MECHANICAL CONTRACTOR SHALL COORDINATE WORK WITH EXISTING CONDITIONS AND WITH THE WORK OF OTHER TRADES
2. THESE DRAWINGS ARE A DIAGRAMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH DO NOT SHOW ALL REQUIRED DETAILS OR FINISHES. MECHANICAL CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT AS TO CONFORM TO THE STRUCTURE, EQUIPMENT CONNECTIONS AND MAINTAIN HEADROOM AND PASSAGEWAY.
3. ALL CUTTING AND PATCHING OF EXISTING STRUCTURE TO ACCOMMODATE NEW HVAC IS BY MECHANICAL CONTRACTOR.
4. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF EXISTING CEILING UNLESS WORK PERFORMED BY GENERAL CONTRACTOR AND IDENTIFIED ON ARCHITECTURAL DRAWINGS; REPLACE ALL DAMAGED CEILING WITH NEW.
5. KEYNOTES PERTAIN ONLY TO THE DRAWING THEY ARE LOCATED ON.
6. DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.
7. MECHANICAL CONTRACTOR SHALL CLEAN ALL EXISTING DUCTWORK, COILS AND DIFFUSERS THAT ARE DESIGNATED TO REMAIN WITHIN PROJECT LIMITATIONS PER SPEC.
8. ALL CONTROL WIRING SHALL BE RUN IN CONDUIT.
9. MAINTAIN 25" MINIMUM DISTANCE FROM OUTSIDE AIR INTAKE TO ANY EXHAUST OR TOILET VENT.
10. ALL DUCTWORK AND PIPING FITTINGS SHALL BE INSTALLED IN A MANNER WHICH VA STAFF SHALL HAVE ACCESS.
11. CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE THE CONSTRUCTION BOUNDARY LIMITS UNLESS NOTED ON PLANS. COORDINATE SCHEDULE OF SUCH WORK WITH VA.
12. THE EXISTING OR DEMOLITION PLANS ARE BASED OFF OF EXISTING AS-BUILTS, CONSTRUCTION DRAWINGS & CASUAL SITE WALK-THROUGHS. THE CONTRACTOR SHALL VISIT THE SITE, REVIEW OTHER DISCIPLINE DEMOLITION DRAWINGS & PROVIDE DISSECTION OR RELOCATION OF ALL NECESSARY EQUIPMENT FOR THE COMPLETION OF THIS PROJECT.
13. CONTRACTOR SHALL PROVIDE OFFSETS OR TRANSITIONS OF ALL DUCTWORK AND PIPING AS NECESSARY.
14. EQUIPMENT SELECTIONS ARE BASED OFF NOTED MANUFACTURERS AND MODELS LISTED ON SCHEDULES. ANY ALTERNATE EQUIPMENT SUBMITTED SHALL MEET OR EXCEED ALL PERFORMANCE CAPACITIES AND FALL WITHIN PHYSICAL DIMENSIONS AND WEIGHTS OF SCHEDULED EQUIPMENT. ALTERNATE SUBMITTALS SHALL MEET ALL SYSTEM REQUIREMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MODIFICATIONS (STRUCTURAL, ELECTRICAL, MECHANICAL, ETC.) NECESSARY TO ACCOMMODATE ALTERNATE EQUIPMENT AT NO ADDITIONAL COST TO THE OWNER.
15. TEMPORARY CONNECTIONS TO X-AHU SA DUCTWORK AND X-CWNER PIPING SHALL BE PERFORMED DURING THE WEEKEND. CONTRACTOR SHALL COORDINATE SHUT DOWN OF X-AHU AND X-CWNER PIPING WITH VA FACILITIES. MINIMUM ONE WEEK NOTICE SHALL BE GIVEN TO VA MANAGEMENT PRIOR TO INSTALLATION AND DEMOLITION.
16. AIR SUPPLY AND EXHAUST FOR THE SPD AREA CANNOT BE SHUT DOWN DURING SPD HOURS. ANY WORK THAT REQUIRES AIR SUPPLY AND EXHAUST TO BE TEMPORARILY SUSPENDED SHALL BE PERFORMED ON WEEKENDS AS NOT TO INTERRUPT SPD OPERATIONS. ONE WEEK NOTICE SHALL BE GIVEN TO VA FACILITIES AND MANAGEMENT PRIOR TO INSTALLATION OR DEMOLITION.
17. CONTRACTOR SHALL REBALANCE EXISTING AHU INCLUDING EXISTING CHILLED WATER COIL, STEAM COIL, CHILLED WATER PUMP, ETC. SERVICING THE SPD AREA TO MATCH AIRFLOWS INDICATED. CONTRACTOR SHALL ALSO REBALANCE EXISTING EXHAUST FAN SERVICING THE SPD AREA TO MATCH AIRFLOWS INDICATED.

SPD EQUIPMENT CONTACT INFORMATION

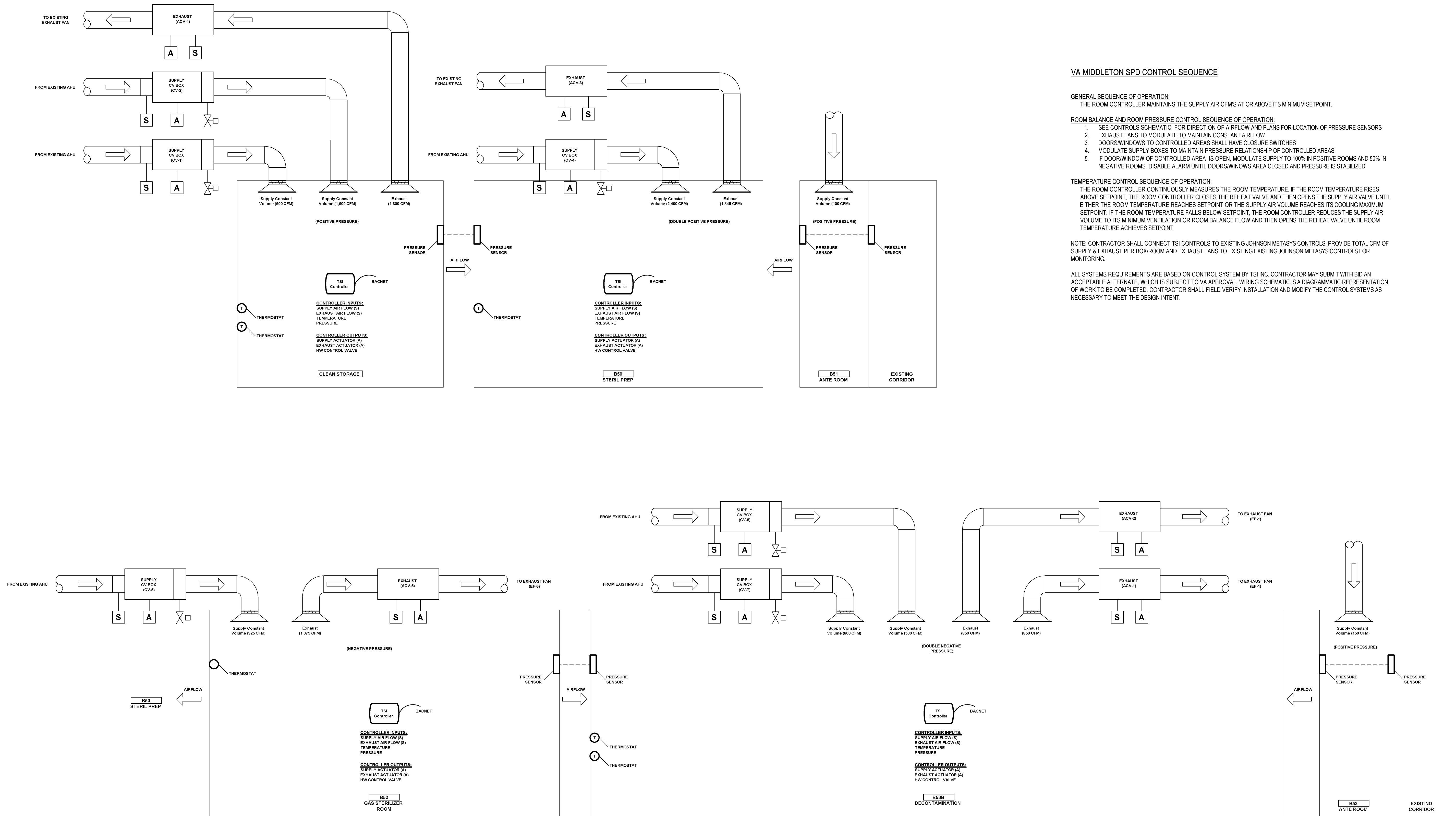
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LEGEND

	NEW HVAC EQUIPMENT
	EXISTING HVAC EQUIPMENT
	NEW DUCTWORK
	EXISTING DUCTWORK
	NEW SUPPLY DIFFUSER
	EXISTING SUPPLY DIFFUSER
	NEW RETURN/EXHAUST GRILLE
	EXISTING RETURN/EXHAUST GRILLE
	NEW TRANSFER GRILLE
	EXISTING TRANSFER GRILLE
	SMOKE DETECTOR
	THERMISTAT
	STATIC PRESSURE CONTROLLER
	NEW CHILLED WATER SUPPLY PIPING
	EXISTING CHILLED WATER SUPPLY PIPING
	NEW CHILLED WATER RETURN PIPING
	EXISTING CHILLED WATER RETURN PIPING
	NEW CONDENSATE DRAIN PIPING (COOLING COIL)
	EXISTING CONDENSATE DRAIN PIPING (COOLING COIL)
	NEW LOW PRESSURE STEAM PIPING
	EXISTING LOW PRESSURE STEAM PIPING
	NEW UP/DOWN PRESSURE CONDENSATE RETURN PIPING
	EXISTING UP/DOWN PRESSURE CONDENSATE RETURN PIPING
	DUCT UP
	DUCT DOWN
	FLEX DUCT
	MOTORIZED DAMPER
	FIRE/SMOKE DAMPER
	BALANCING DAMPER
	TRANSFERROR DOOR GRILLE
	ELBOW WITH TURNING VANES
	AIR FLOW INDICATOR
	DOOR UNDER CUT
	DUCT, PIPING EQUIPMENT TO BE REMOVED
	KEY NOTE
	AIR VENT
	BALL VALVE
	BUTTERFLY VALVE
	GATE VALVE
	CONTROL VALVE
	3-WAY CONTROL VALVE
	PIPE ELBOW DOWN
	PIPE ELBOW UP
	CAPPED PIPE END
	THERMOMETER

ABBREVIATIONS



SEQUENCE OF OPERATIONS AIRFLOW & FIELD WIRING DIAGRAM SPD EXPANSION AREA

1
N.T.S.

INPUT/OUTPUT SUMMARY TABLE

PROJECT: VA MADISON SPD EXPANSION ROOM CONTROLS WITH TSI MONITORING	HARDWARE				SOFTWARE			
	OUTPUT		INPUT		ALARMS		ENERGY MANAGEMENT SYSTEMFUNCTIONS	
	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG		
POINT DESCRIPTION	Control Relay	Control Relay	Pneumatic Transducer	Pressure Switch	Flow Switch	Pressure Switch	Flow Switch	Pressure Switch
TSI CONTROLLERS								
ALL FROM KIT TRUNK								
ROOM AIRFLOW								
ROOM PRESSURE								
CALC. AIR CHANGES/HR								
STATUS INDEX								
LOW ALARM								
HIGH ALARM								
DATA ERROR								
SPACE TEMP								

INPUT/OUTPUT SUMMARY TABLE

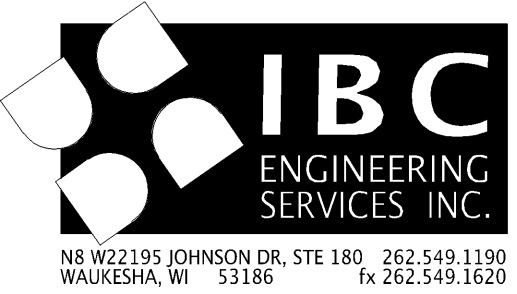
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	OUTPUT		INPUT		ALARMS		ENERGY MANAGEMENT SYSTEMFUNCTIONS	
	DIGITAL	ANALOG	DIGITAL	ANALOG	DIGITAL	ANALOG		
POINT DESCRIPTION	Control Relay	Control Relay	Pneumatic Transducer	Pressure Switch	Flow Switch	Pressure Switch	Flow Switch	Pressure Switch
EXHAUST FAN								
EF-1								
EF-2								
EF-3								
CALC. AIRFLOW								

CALCULATED AIRFLOW
TOTAL AIRFLOW OF CORRESPONDING EXHAUST VALVES



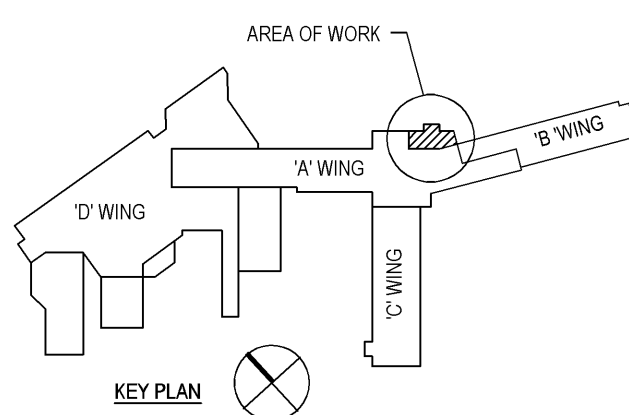
DEPARTMENT OF VETERANS AFFAIRS
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SPD UPGRADE PROJECT



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#	REVISION	DATE
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CONTROL SCHEMATICS POINT CHECKLISTS & AIRFLOW SCHEMATICS

FULLY SPRINKLERED

VA PROJECT NO. 607-10-105

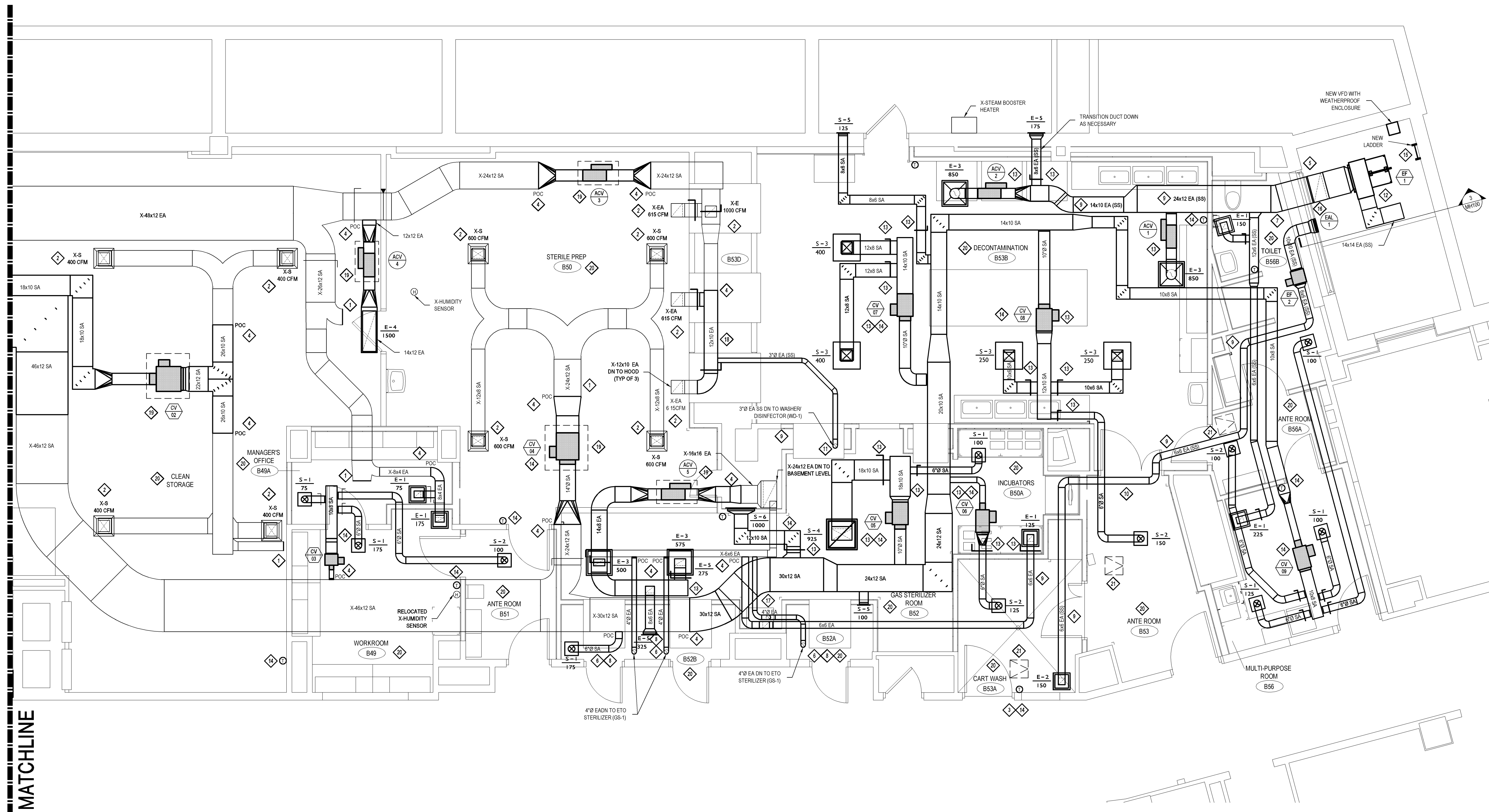
IBC PROJECT NO. 2010059

BLDG. NO. VA HOSPITAL - 'B' WING
SCALE N.T.S.
DATE JUNE 15, 2011
DRAWN CDW

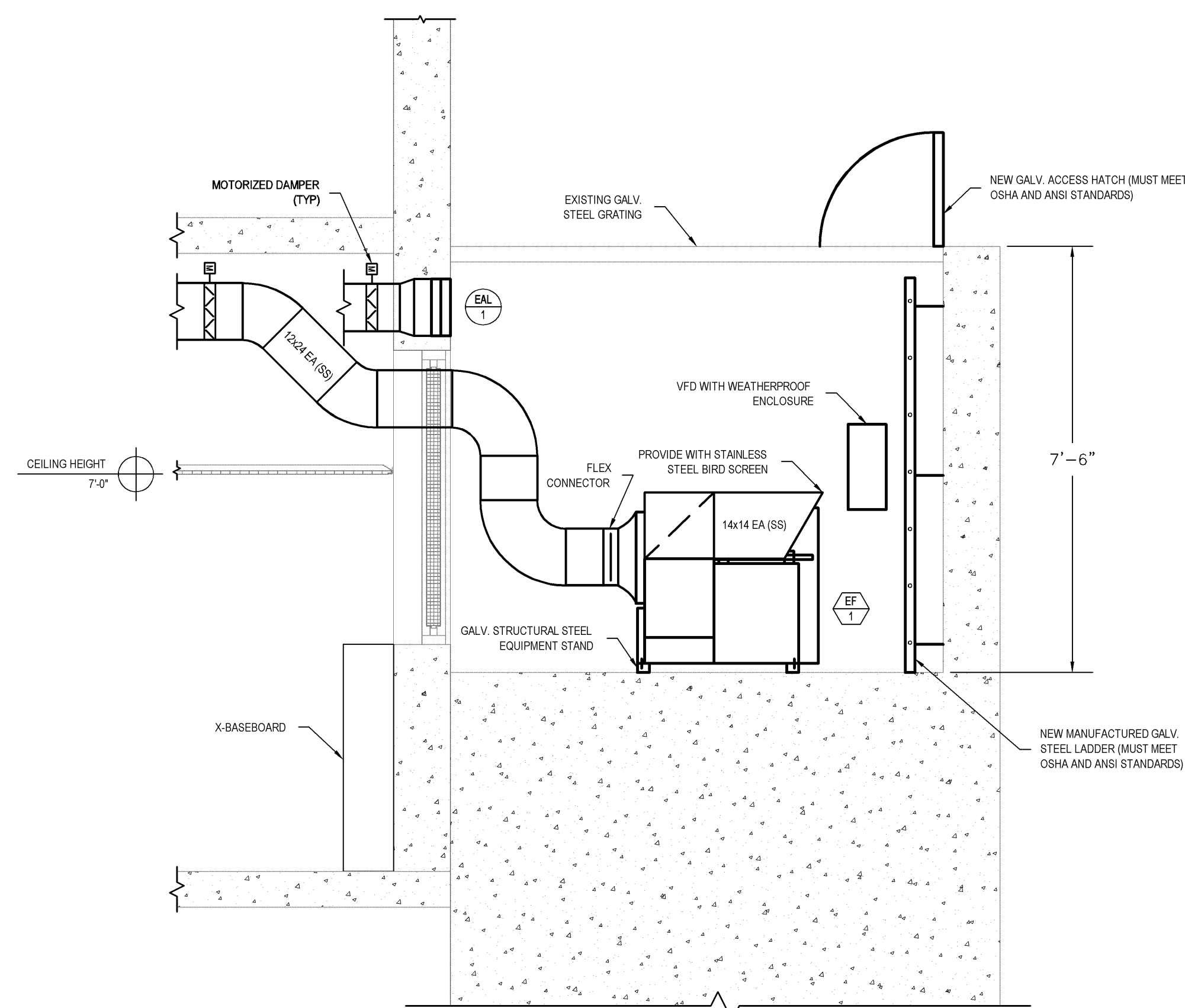
BID DOCUMENTS

MH002

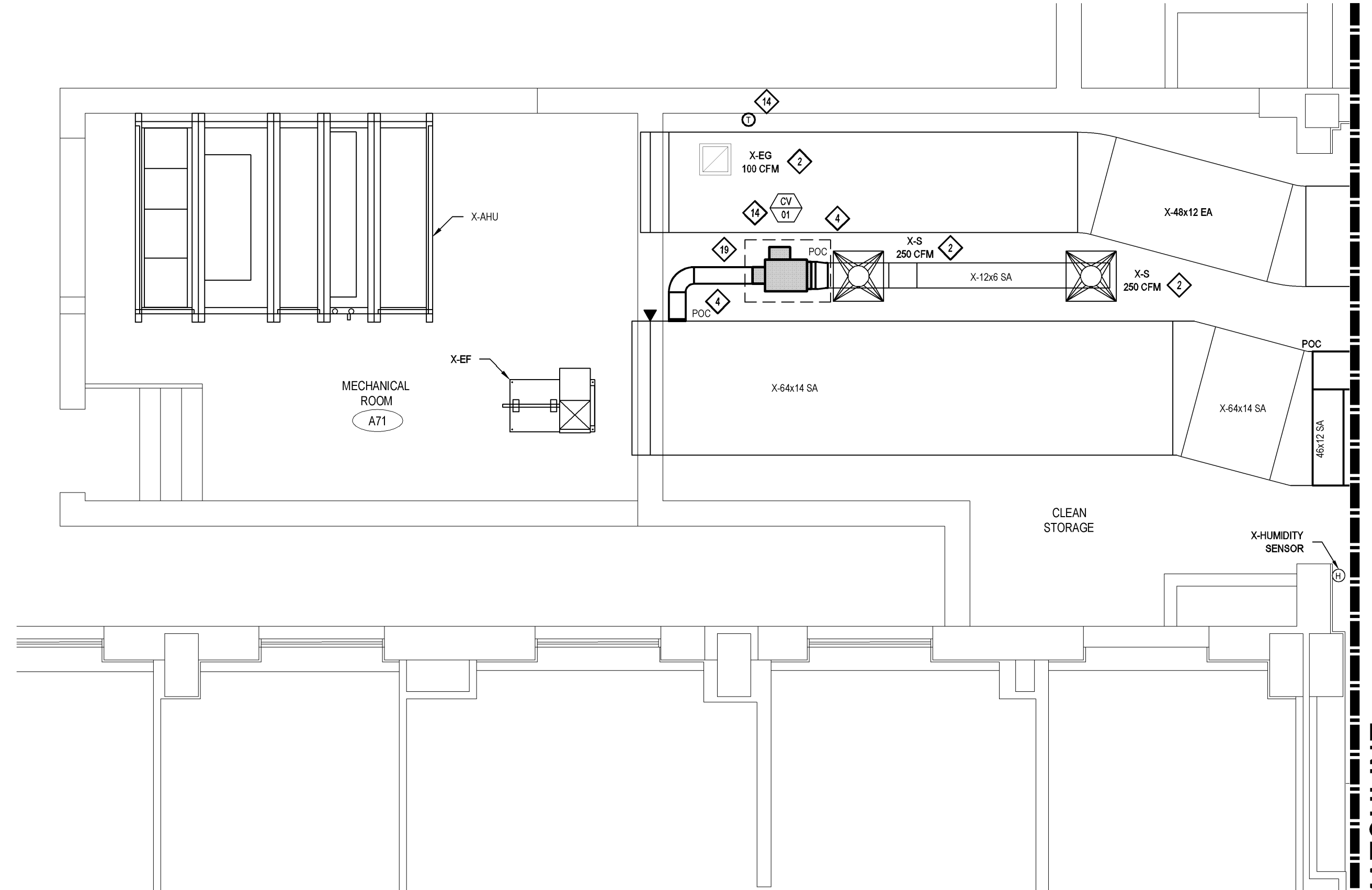
MD100



1 SPD HVAC DUCTWORK PLAN
1/4"=1'-0"



3 AREA WELL SECTION
1/2"=1'-0"



2 SPD HVAC DUCTWORK PLAN
1/4"=1'-0"

KEY NOTES

- CAP OFF EXISTING DUCTWORK AND PROVIDE AIRTIGHT SEAL.
- RE-BALANCE EXISTING GRILLES AS SHOWN ON PLANS. PROVIDE NEW BALANCING DAMPERS AS NECESSARY.
- PROVIDE MOISTURE RESISTANT COVER FOR NEW THERMOSTAT.
- CONNECT NEW DUCTWORK TO EXISTING. FIELD VERIFY SIZE AND LOCATION OF EXISTING DUCTWORK PRIOR TO INSTALLATION.
- TRANSITION 24x12 EA DUCT DN TO INLET CONNECTION SIZE OF EXHAUST FAN EF-1. FIELD VERIFY EXACT ROUTING OF EXHAUST DUCT.
- CONNECT NEW 4\"/>

GENERAL NOTES

- THE EXISTING OR DEMOLITION PLANS ARE BASED OFF OF EXISTING AS-BUILTS. CONSTRUCTION DRAWINGS & CASUAL SITE WALK-THROUGHS. THE CONTRACTOR SHALL VISIT THE SITE REVIEW OTHER DISCIPLINE DEMOLITION DRAWINGS & PROVIDE DISCONNECTION OR RELOCATION OF ALL NECESSARY EQUIPMENT FOR THE COMPLETION OF THIS PROJECT.
- CONTRACTOR SHALL NOTIFY VA IF MAJOR DISCREPANCIES ARE FOUND AND COORDINATE THE RELOCATION OF EXISTING PIPING, CONDUIT AND EQUIPMENT PRIOR TO DEMOLITION OR INSTALLATION OF NEW PIPING, DUCTWORK AND EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR RELOCATING EXISTING SPD EQUIPMENT AND PROVIDING ALL NECESSARY CONNECTIONS TO MAKE EQUIPMENT FUNCTIONAL. CONTRACTOR SHALL READ ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS AND BE FAMILIARIZED WITH ALL EQUIPMENT PRIOR TO DEMOLITION AND INSTALLATION.
- CONTRACTOR SHALL RE-BALANCE EXISTING AHU INCLUDING EXISTING CHILLED WATER COIL, STEAM COIL, CHILLED WATER PUMP, ETC. SERVICING THE SPD AREA TO MATCH AIRFLOWS INDICATED. CONTRACTOR SHALL ALSO RE-BALANCE EXISTING EXHAUST FAN SERVICING THE SPD AREA TO MATCH AIRFLOWS INDICATED.
- CONTRACTOR SHALL RE-BALANCE EXISTING AHU INCLUDING EXISTING CHILLED WATER COIL, STEAM COIL, CHILLED WATER PUMP, ETC. SERVICING THE SPD AREA TO MATCH AIRFLOWS INDICATED. CONTRACTOR SHALL ALSO RE-BALANCE EXISTING EXHAUST FAN SERVICING THE SPD AREA TO MATCH AIRFLOWS INDICATED.
- CONTRACTOR SHALL GIVE ALTERNATE BID PRICING FOR THE VARIOUS PHASES FOR THIS PROJECT. REFER TO ARCHITECTURAL DRAWING C311 FOR PHASING.

SPD EQUIPMENT CONTACT INFORMATION

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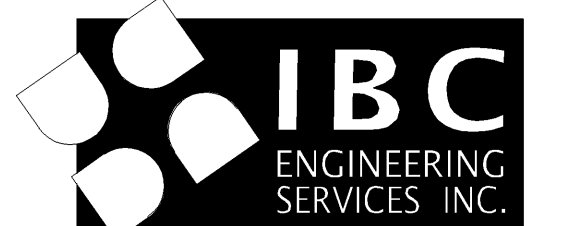
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SPD UPGRADE PROJECT

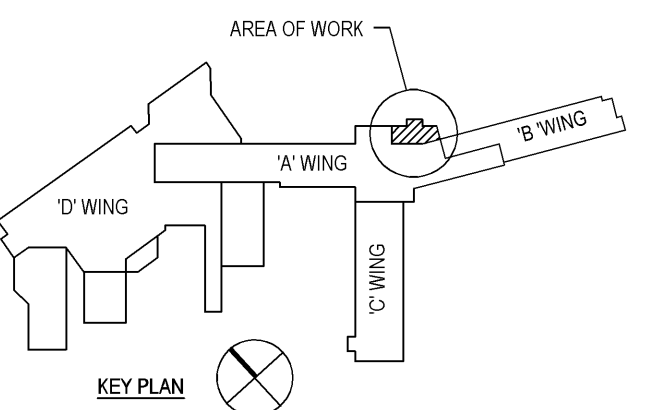


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#	REVISION	DATE
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HVAC DUCTWORK PLANS (NEW WORK)

FULLY SPRINKLERED

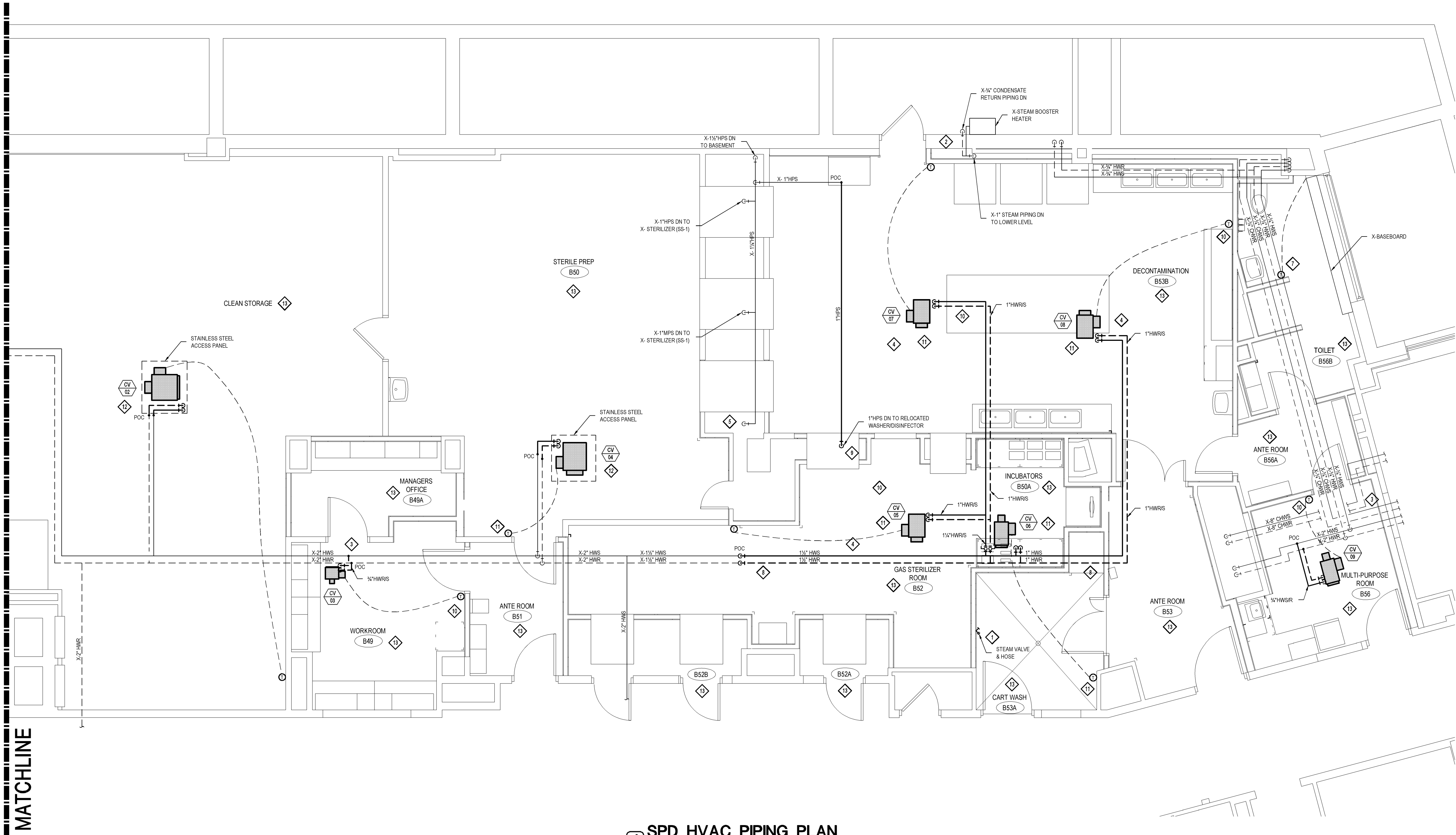
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IBC PROJECT NO. 2010059

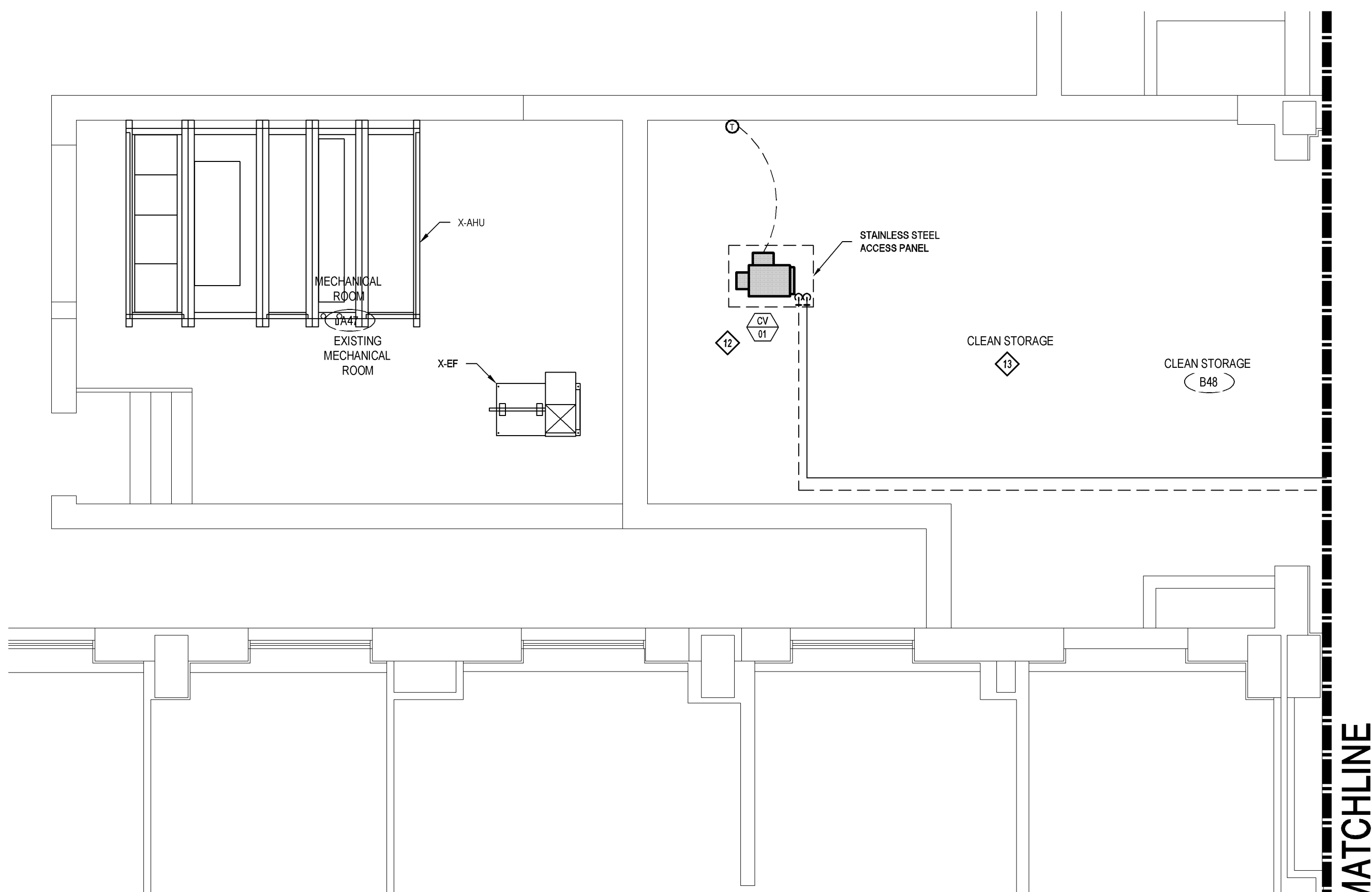
NORTH	BLDG. NO.	VA HOSPITAL - 'B' WING
	SCALE	AS INDICATED
	DATE	JUNE 15, 2011
	DRAWN	CDW

BID DOCUMENTS

MH100



1 SPD HVAC PIPING PLAN
1/4"=1'-0"



2 SPD HVAC PIPING PLAN
1/4"=1'-0"

KEY NOTES

- PROVIDE NEW STEAM HOSE VALVE AND CONNECT NEW PIPING TO X-STEAM PIPING ABOVE CEILING. CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION OF EXISTING STEAM PIPING. COORDINATE EXACT LOCATION OF HOSE VALVE WITH VA. INSTALL PER MANUFACTURER'S RECOMMENDATION AND PER VA GUIDELINES. COORDINATE WATER CONNECTIONS WITH DIVISION 22 CONTRACTOR.
- RELOCATE X-STEAM & CONDENSATE PIPING FOR X-STEAM BOOSTER TO NEW CHASE. CORE DRILL HOLE TO ACCOMMODATE NEW PIPE. FIELD VERIFY EXACT ROUTING AND SIZE OF THE EXISTING PIPING PRIOR TO INSTALLATION. COORDINATE RELOCATION WITH VA.
- CONNECT NEW HWWR PIPING ON SUPPLY AND RETURN. FIELD VERIFY EXACT ROUTING OF HWWR PIPING AND COORDINATE WITH EXISTING CONDITIONS.
- PROVIDE ISOLATION VALVES ON SUPPLY AND RETURN. FIELD VERIFY EXACT ROUTING OF HWWR PIPING AND COORDINATE WITH EXISTING CONDITIONS.
- PROVIDE NEW 1"PS DN TO STEAM STERILIZER (SS-1) AND CONNECT TO NEW STEAM STERILIZER. ROUTE CONDENSATE DRAIN TO HUB DRAIN IN EXISTING EQUIPMENT CHASE. FIELD VERIFY EXACT LOCATION OF STEAM AND COORDINATE HUB DRAIN WITH DIVISION 22 CONTRACTOR. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE A NEW ELECTRONIC THERMOSTAT AND CONTROLS FOR EXISTING BASEBOARD HEATER.
- FIELD VERIFY EXACT FIELD VERIFY EXACT ROUTING OF HWWR PIPING. COORDINATE WITH EXISTING CONDITIONS AND NEW INSTALLATION.
- 1"PS DOWN TO WASHER/DISINFECTOR (WD-1). FIELD VERIFY EXACT ROUTING. ROUTE CONDENSATE TO HUB DRAIN.
- PROVIDE NEW ELECTRONIC THERMOSTAT AND CONTROLS FOR NEW CV BOX.
- PROVIDE AN ACCESS CEILING PANEL IN NEW BASEMENT CEILING GRID FOR NEW HVAC EQUIPMENT. COORDINATE SIZE WITH NEW CEILING.
- PROVIDE NEW STAINLESS STEEL ACCESS PANEL IN CEILING FOR NEW HVAC EQUIPMENT. COORDINATE SIZE WITH NEW EQUIPMENT.
- PROVIDE ALTERNATE BID PRICING PER PHASING PLAN G101.

GENERAL NOTES

- THE EXISTING OR DEMOLITION PLANS ARE BASED OFF OF EXISTING AS-BUILT. CONSTRUCTION DRAWINGS & CASUAL SITE WALK-THROUGHS. THE CONTRACTOR SHALL VISIT THE SITE, REVIEW OTHER DISCIPLINE DEMOLITION DRAWINGS & PROVIDE DISCONNECTION OR RELOCATION OF ALL NECESSARY EQUIPMENT FOR THE COMPLETION OF THIS PROJECT.
- CONTRACTOR SHALL NOTIFY VA IF MAJOR DISCREPANCIES ARE FOUND AND COORDINATE THE RELOCATION OF EXISTING PIPING, CONDUIT AND EQUIPMENT PRIOR TO DEMOLITION OR INSTALLATION OF NEW PIPING, CONDUIT AND EQUIPMENT.
- CONTRACTOR IS RESPONSIBLE FOR RELOCATING EXISTING SPD EQUIPMENT AND PROVIDING ALL NECESSARY CONNECTIONS TO MAKE EQUIPMENT FUNCTIONAL. CONTRACTOR SHALL READ ALL MANUFACTURER'S INSTALLATION INSTRUCTIONS AND BE FAMILIARIZED WITH ALL EQUIPMENT PRIOR TO DEMOLITION AND INSTALLATION.
- CONTRACTOR SHALL REBALANCE EXISTING AHU INCLUDING EXISTING CHILLED WATER COIL, STEAM COIL, CHILLED WATER PUMP, ETC. SERVING THE SPD AREA TO MATCH AIRFLOWS INDICATED. CONTRACTOR SHALL ALSO REBALANCE EXISTING EXHAUST FAN SERVING THE SPD AREA TO MATCH AIRFLOWS INDICATED.
- CONTRACTOR SHALL REBALANCE EXISTING AHU INCLUDING EXISTING CHILLED WATER COIL, STEAM COIL, CHILLED WATER PUMP, ETC. SERVING THE SPD AREA TO MATCH AIRFLOWS INDICATED. CONTRACTOR SHALL ALSO REBALANCE EXISTING EXHAUST FAN SERVING THE SPD AREA TO MATCH AIRFLOWS INDICATED.
- CONTRACTOR SHALL GIVE ALTERNATE BID PRICING FOR THE VARIOUS PHASES FOR THIS PROJECT. REFER TO ARCHITECTURAL DRAWING G101 FOR PHASING.

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VIR 800-889-7375 ext. 23251
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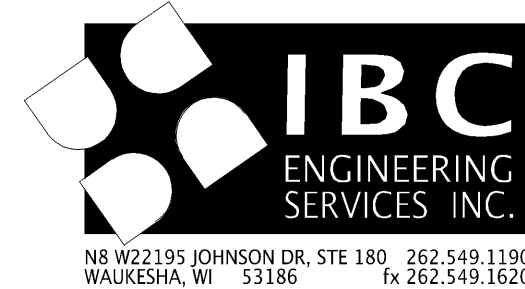
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SERVICES, INC.

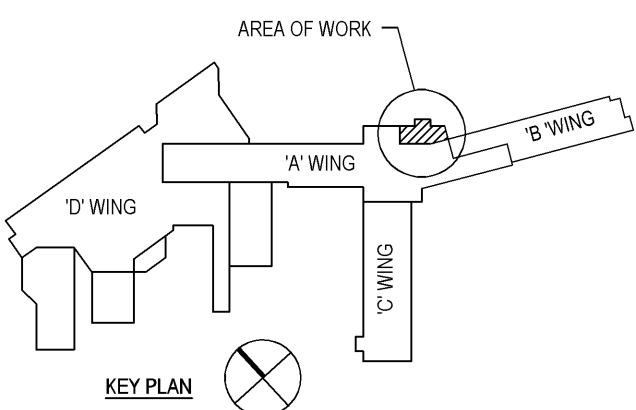
NB 9023101 JOHNSON DR. STE 180, 262.549.1100
WALWISKA, WI 53186

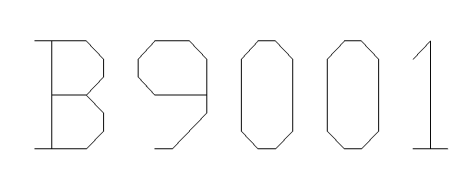


eppstein uhen : architects

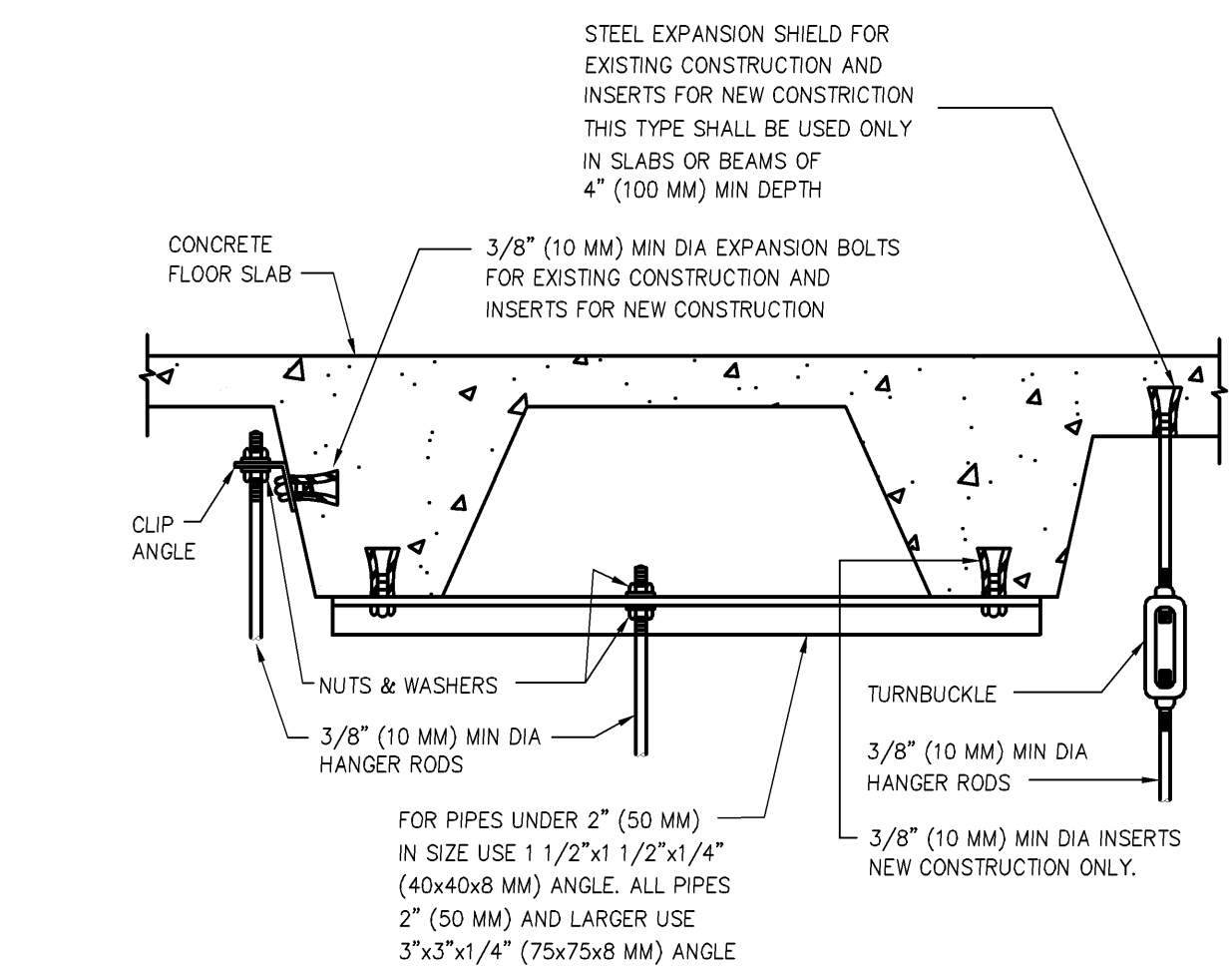
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MILWAUKEE, WISCONSIN 53202
tel 414 271 5350 fax 414 271 7794

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MADISON, WISCONSIN 53703
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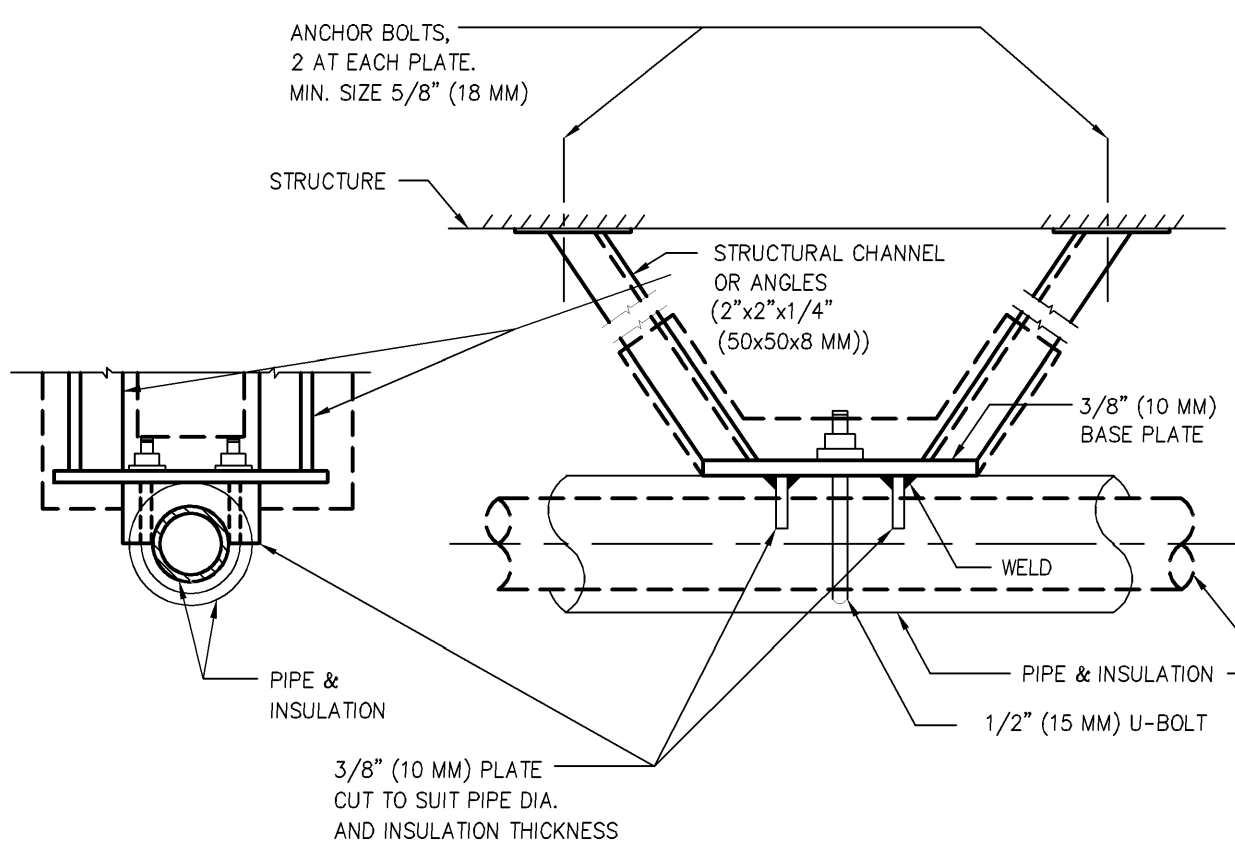




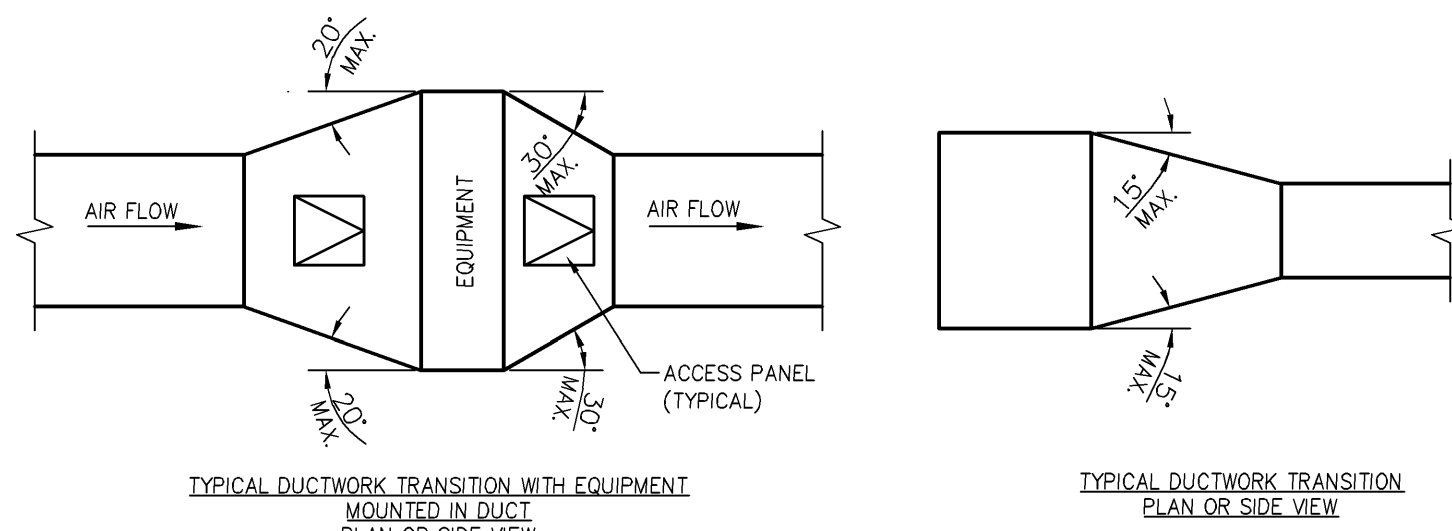
MH102



13 TYPICAL METHOD OF SECURING HANGER RODS IN CONCRETE SLABS AND BEAMS

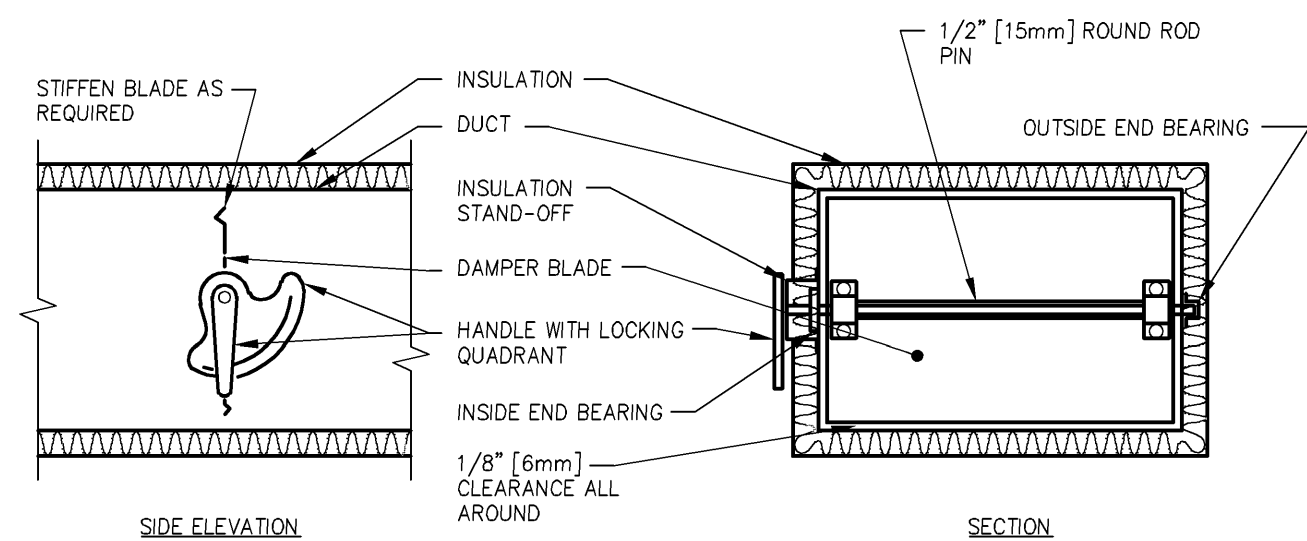


14 HORIZONTAL PIPE ANCHOR DETAIL



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

9 TYPICAL DUCTWORK TRANSITION WITH EQUIPMENT MOUNTED IN DUCT



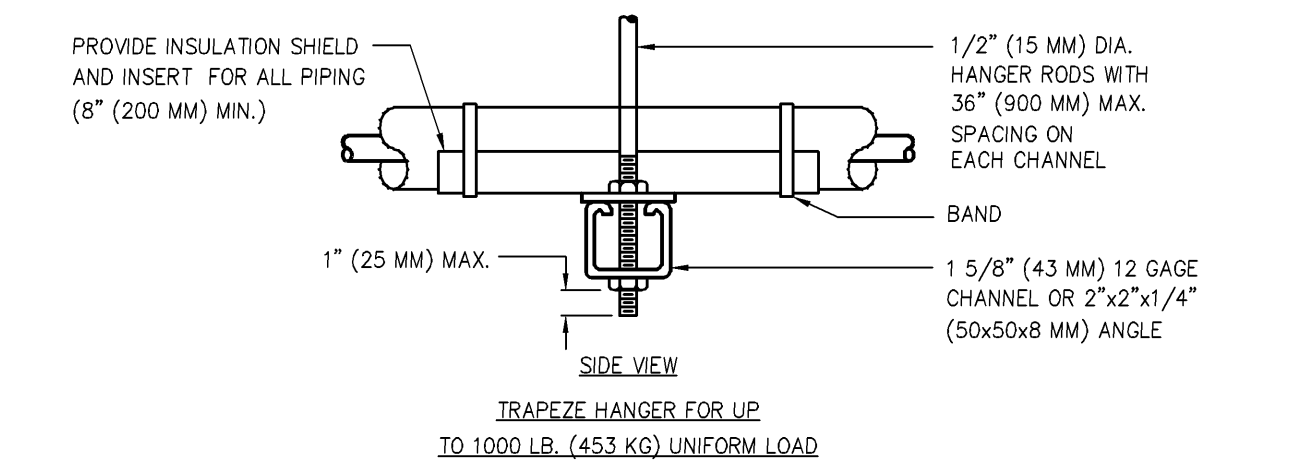
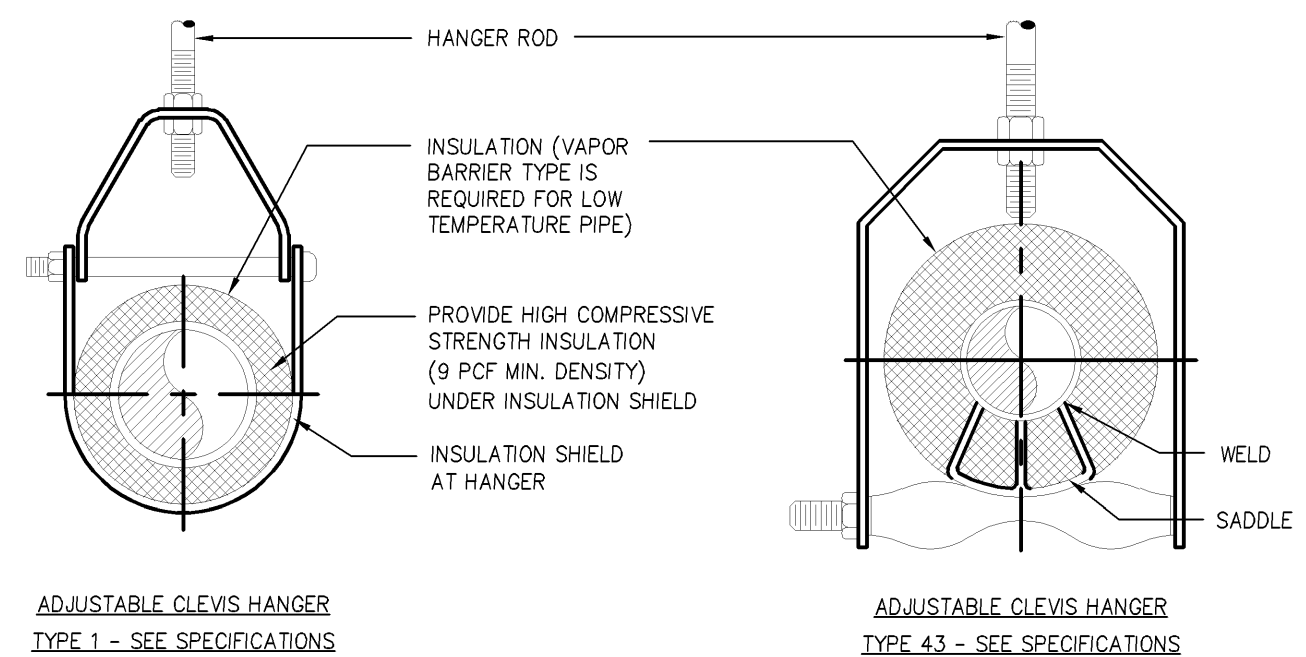
NOTE:
1. DELETE INSULATION STAND-OFF ON DUCTWORK WITHOUT EXTERIOR INSULATION.
2. DETAIL SHOWS SINGLE BLADE DAMPER. DAMPER INSTALLATION SHALL BE SIMILAR FOR MULTI-BLADE DAMPERS & ROUND DAMPERS.

10 VOLUME DAMPER DETAIL

HANGER STRAPS OR RODS				
MAX. DUCT Ø IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [kg]	MAX. SPACING IN. [mm]	
26 [650]	ONE 1 [25] x 22 GA STRAP	260 [119]	144 [3658]	
36 [900]	ONE 1 [25] x 18 GA STRAP	420 [190]	144 [3658]	
50 [1250]	ONE 1 [25] x 16 GA STRAP	700 [317]	144 [3658]	
60 [1500]	TWO 3/8 [10] Ø RODS	1320 [598]	144 [3658]	
84 [2100]	TWO 1/2 [13] Ø RODS	2500 [1133]	144 [3658]	

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

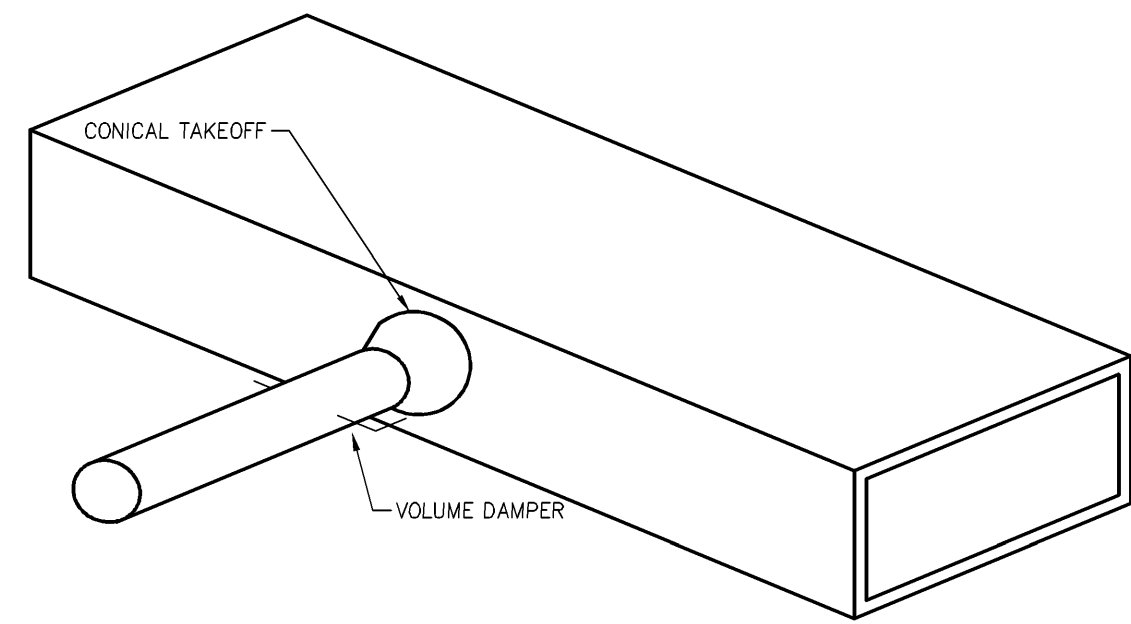
11 ROUND DUCT HANGERS



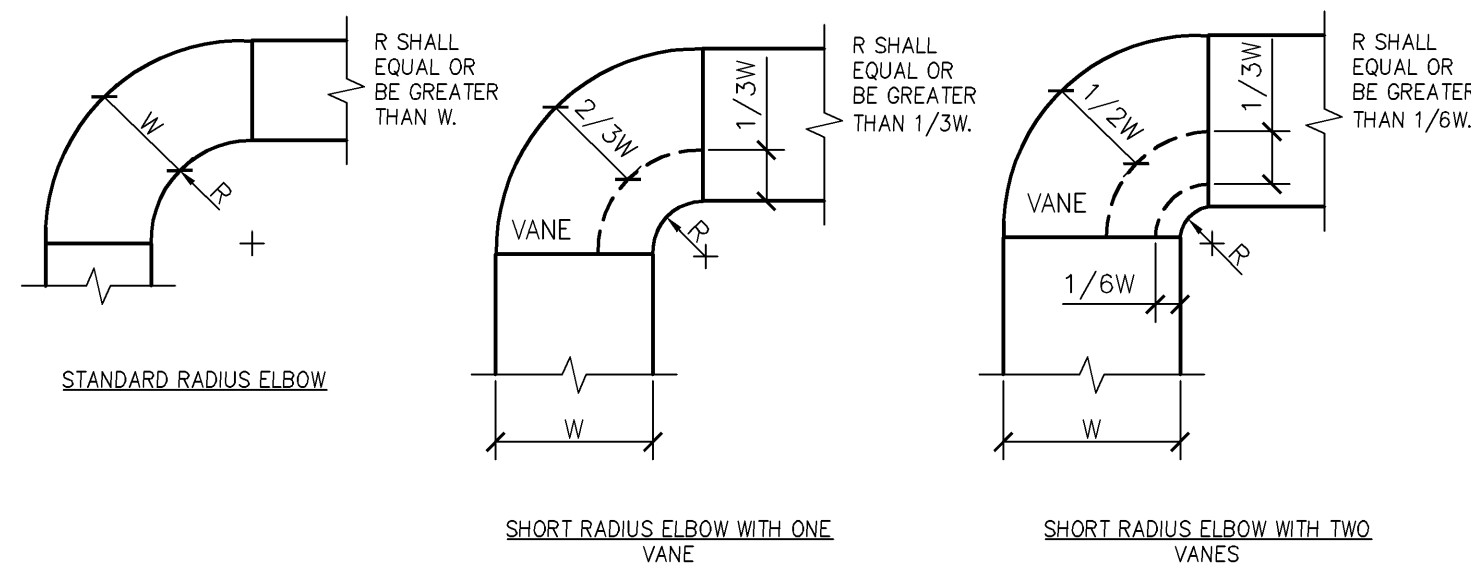
MAXIMUM PIPE/TUBING SUPPORT SPACING																			
NOM. SIZE	IN. (MM)	THRU 3/4 THRU (20)	1 (25)	1 1/4 (32)	1 1/2 (40)	2 (51)	2 1/2 (64)	3 (76)	4 (102)	5 (127)	6 (152)	8 (203)	10 (254)	12 (305)	14 (355)	16 (406)	18 (457)	20 (508)	24 (609)
PIPE	FT. (M)	7 (2.1)	7 (2.1)	7 (2.1)	9 (2.7)	10 (3.0)	11 (3.4)	12 (3.7)	14 (4.3)	16 (4.9)	17 (5.2)	19 (5.8)	22 (6.7)	23 (7.0)	25 (7.6)	27 (8.2)	28 (8.5)	30 (9.1)	32 (9.6)
TUBING	FT. (M)	5 FT. (1.5)	6 (1.8)	7 (2.1)	8 (2.4)	9 (2.7)	10 (3.0)	11 (3.4)	12 (3.7)	13 (4.0)	14 (4.3)	16 (4.9)	-	-	-	-	-	-	-

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

12 TYPICAL PIPE HANGER DETAIL

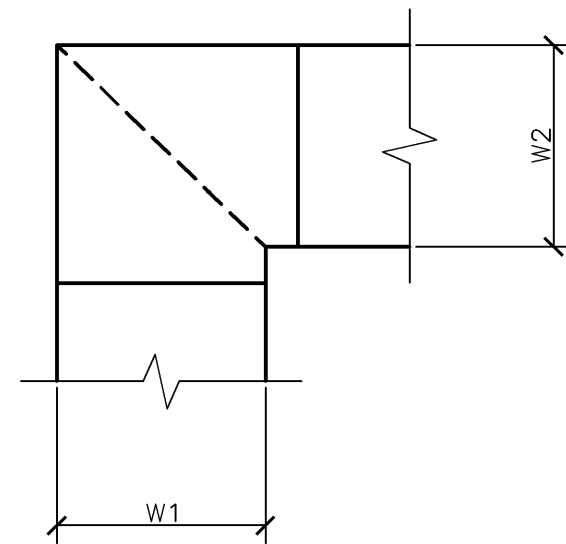


5 ROUND BRANCH DUCT TAKEOFF



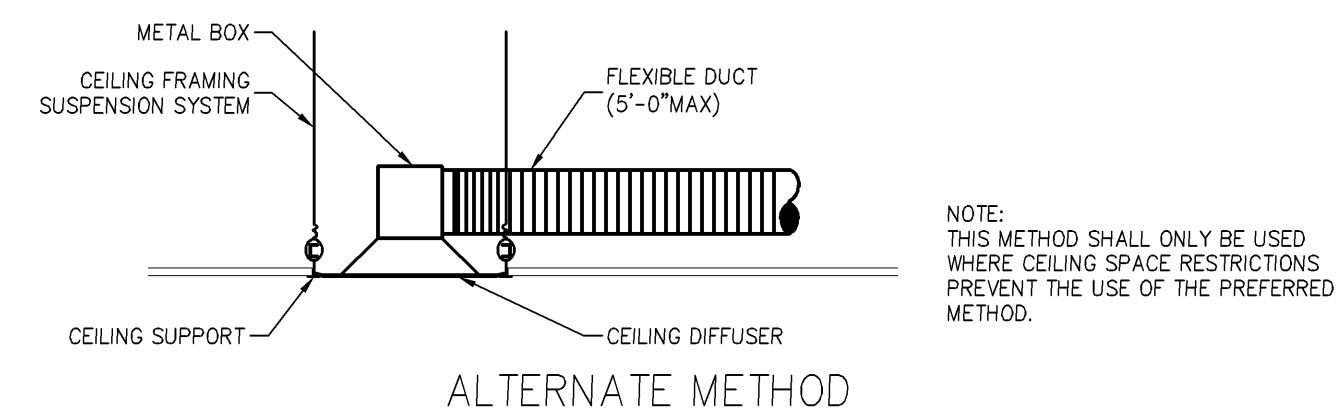
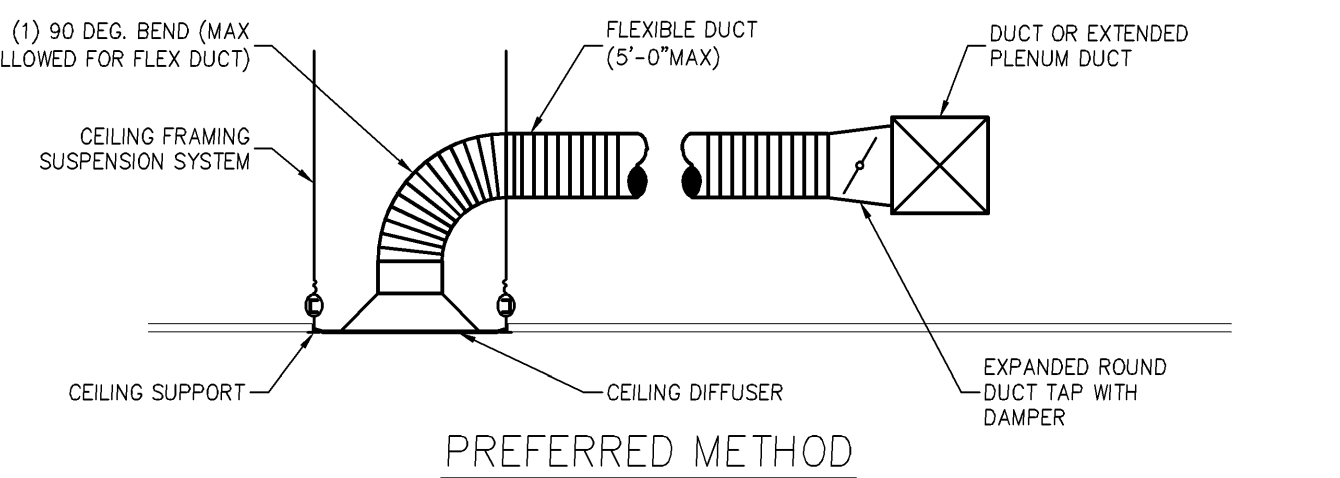
NOTE:
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
2. ALL STANDARD RADIUS ELBOWS SHOWN ON FLOOR PLANS MAY BE MADE SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

6 DUCTWORK RADIUS ELBOWS

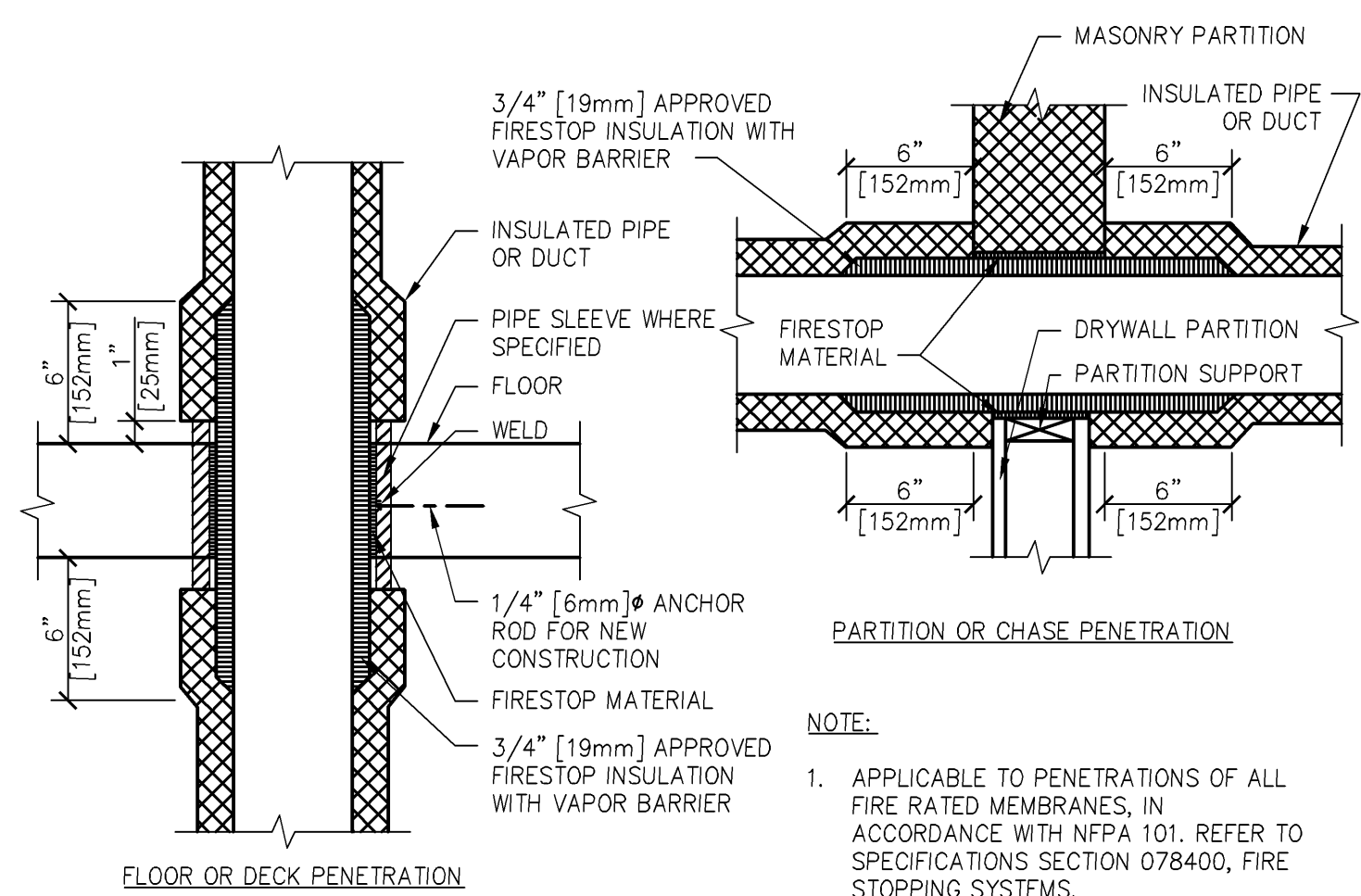


NOTE:
1. ALL VANED ELBOWS SHALL BE CONSTRUCTED AND INSTALLED AS DETAILED BY SMACNA.
2. WHEN W1 DOES NOT EQUAL W2, VANE SHALL BE SINGLE VANE TYPE REGARDLESS OF W DIMENSION.
3. ALL SINGLE VANES SHALL HAVE A 2\"/>

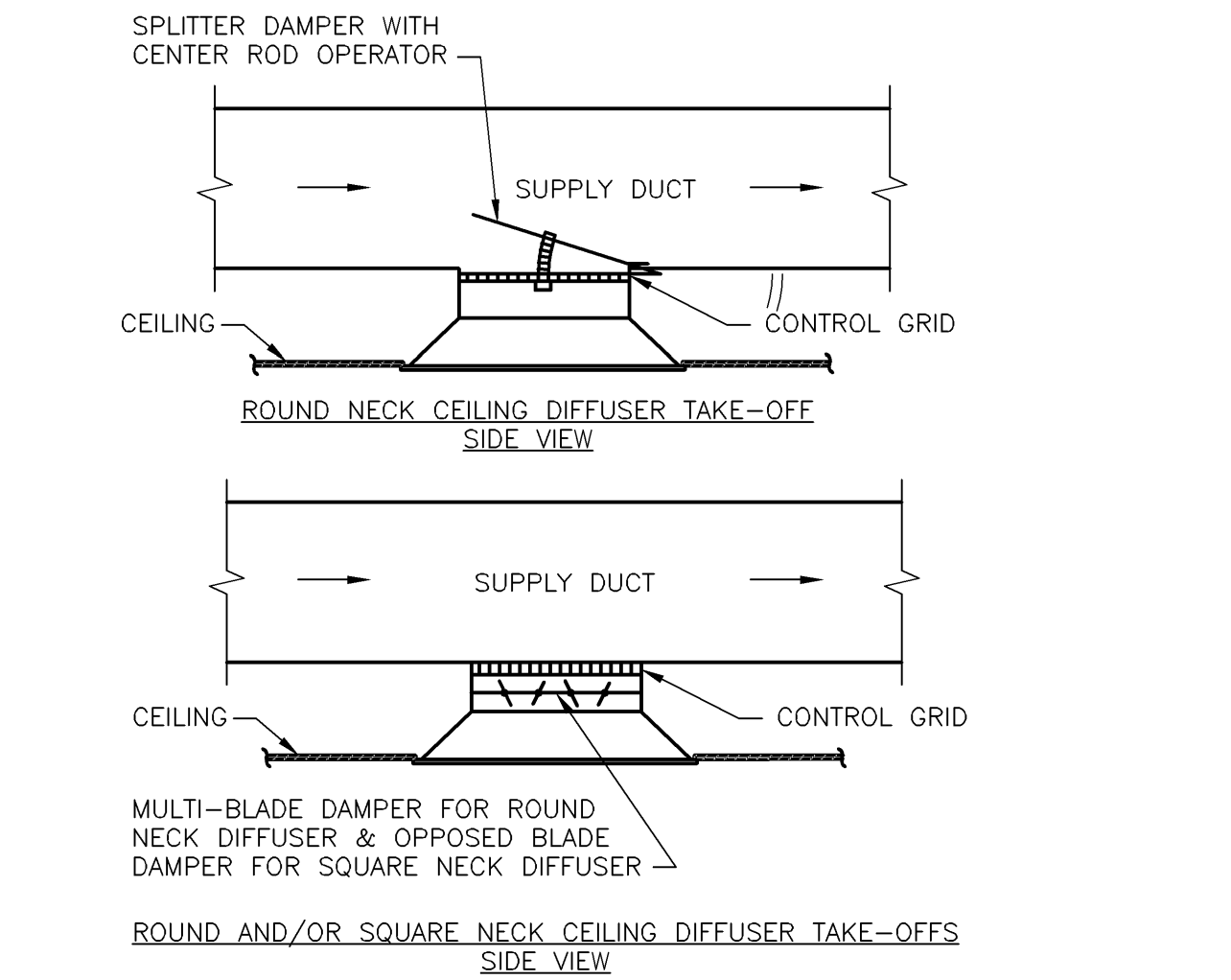
7 DUCTWORK SQUARE VANED ELBOWS



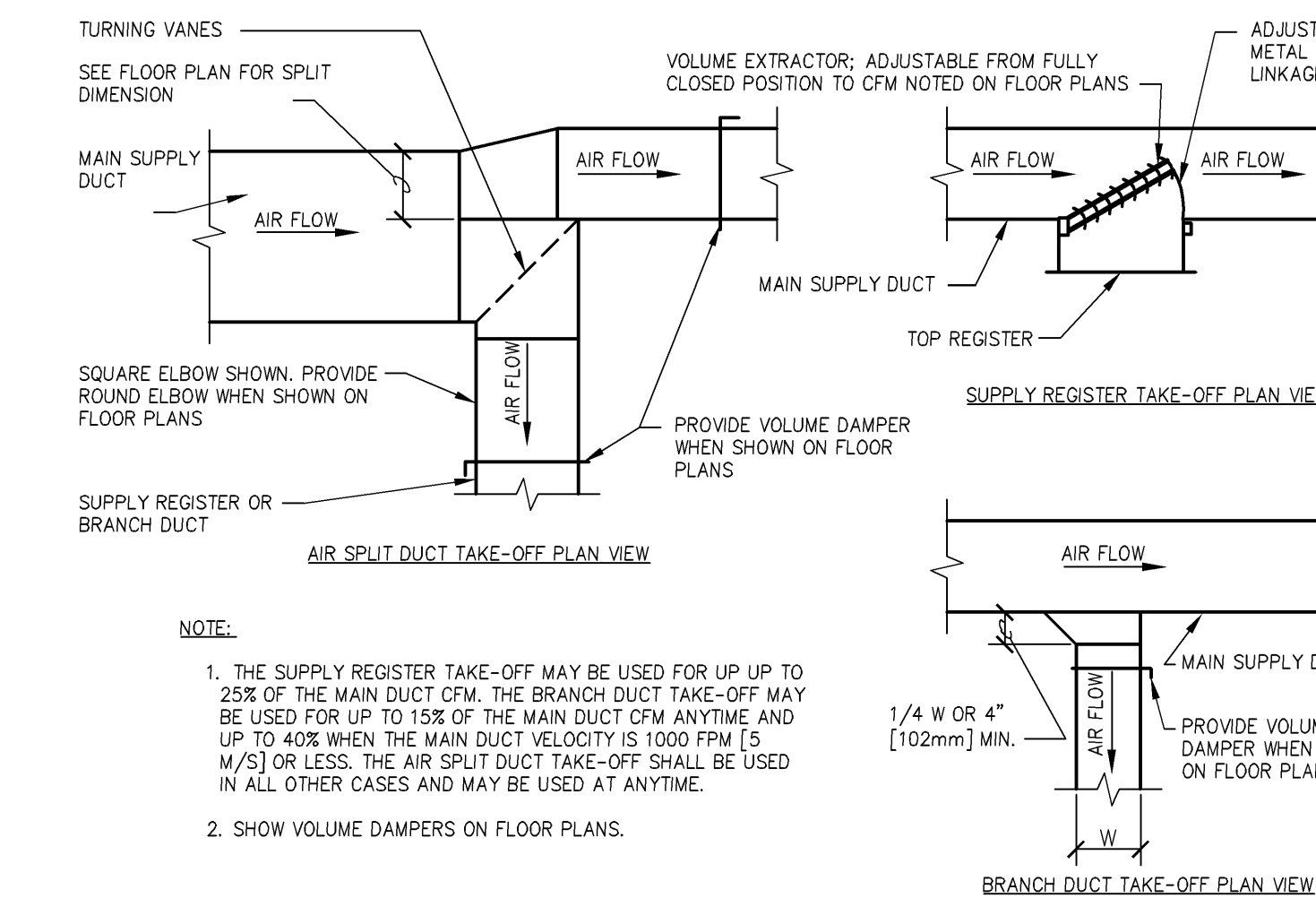
8 CEILING DIFFUSER DETAIL



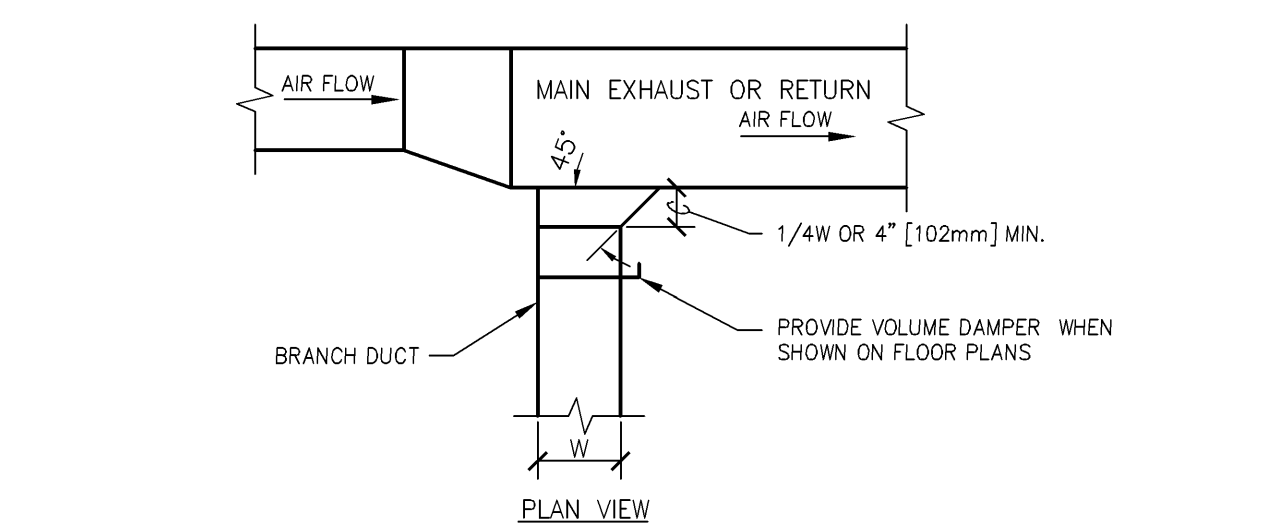
1 PIPE AND DUCT PENETRATION OF SMOKE/FIRE BARRIERS



2 CEILING DIFFUSER DUCTWORK TAKE-OFFS



3 SUPPLY DUCTWORK TAKE-OFFS



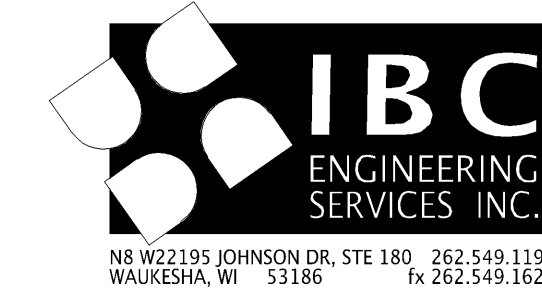
4 EXHAUST OR RETURN BRANCH DUCTWORK



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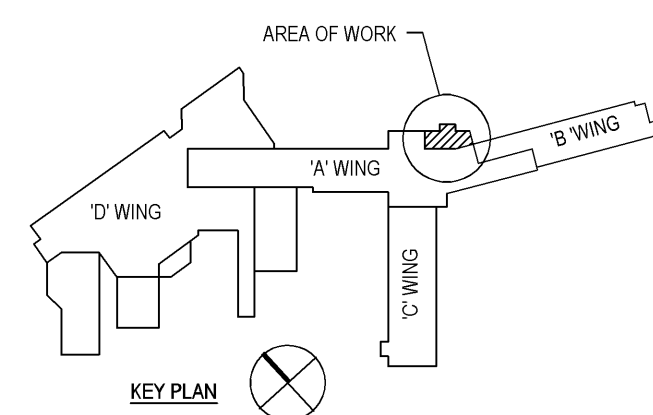
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#	REVISION	DATE
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HVAC DETAILS

FULLY SPRINKLERED

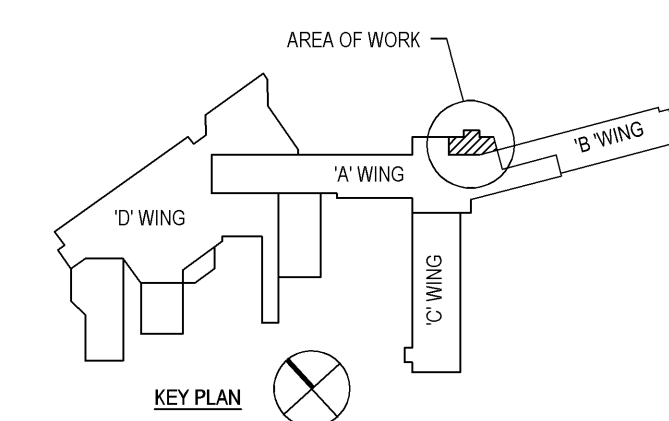
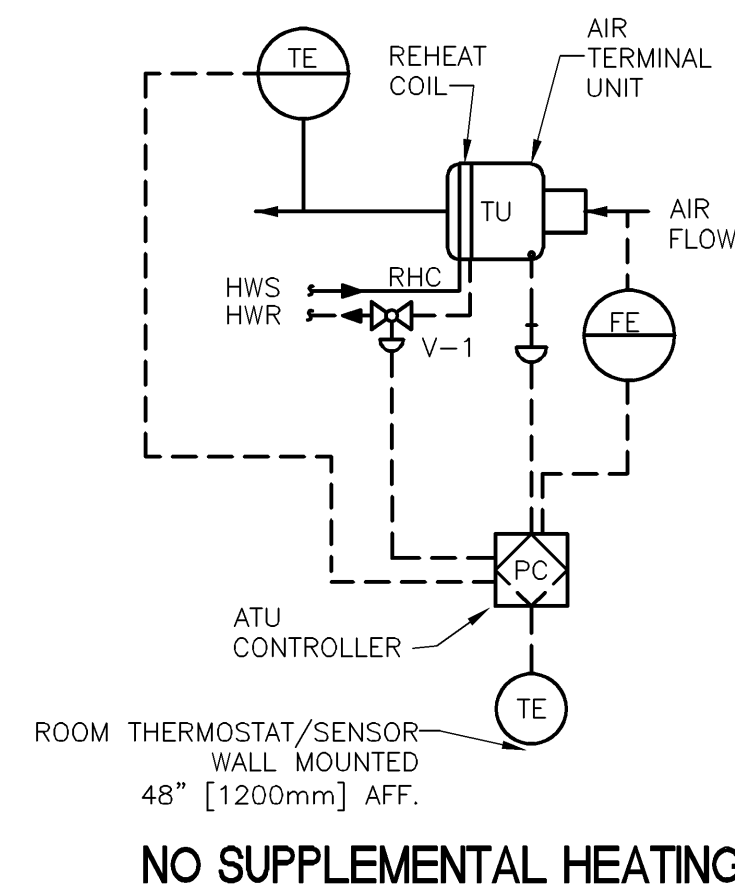
VA PROJECT NO. 607-10-105

IBC PROJECT NO. 2010059

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SCALE N.T.S.
DATE JUNE 15, 2011
DRAWN CDW

BID DOCUMENTS

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