

REVISIONS

DATE

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STAMP

REGISTERED PROFESSIONAL ENGINEER

102

STATE OF IDAHO

SYSTEM 6

12.1.11

PROJECT TITLE

BOISE VAMC
NEW EXTENDED CARE UNIT
BUILDING 'B' CLC

DRAWING TITLE

HVAC DETAILS

CAD FILE NAME:

531-319_BM3.1.DWG

XREF FILE NAME:

531-319_XB_30X42TLBK.DWG

DATE

12/01/2011

PROJECT NO.

531-319

DRAWING NO.

BM3.1

LOCATION

VAMC BOISE, IDAHO

DWG

45 of 78

APPROVED: CHIEF OF FACILITY MANAGEMENT SERVICE

APPROVED: MEDICAL CENTER DIRECTOR

CHECKED

BUILT

RME

BUILDING NUMBER

122

SCH

DEPARTMENT OF VETERANS AFFAIRS

9 AIR COOLED CHILLER – PIPING CONNECTIONS

SCALE

5 PIPE THRU SLAB ON GRADE DETAIL

SCALE

1 WATER COILS – PIPING CONNECTIONS

SCALE NTS

- WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS, THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE "H" FOR LARGER, (4") & PIPE & SMALLER, TYPE "H-4" FOR 1/2" NM (5/8") PIPE & LARGER.
- PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS, NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALES, OR EQUIPMENT.

6 WATER TREATMENT – CLOSED SYSTEMS

SCALE

7 ROOFTOP EQUIPMENT MOUNTING DETAIL

SCALE

8 FAN COIL UNIT – HORIZONTAL CONCEALED

SCALE

NOTES:

- SIX INCH [150mm] PLENUM AS SHOWN SHALL BE SUPPLIED BY MANUFACTURER OF FAN COIL UNIT.
- SEE DETAIL FOR SUPPLY & RETURN PIPING CONNECTIONS.
- PROVIDE ACCESS FOR FILTER REMOVAL.
- SEE FAN COIL UNIT SCHEDULE FOR PIPE SIZES.

3 THRUST BLOCK DETAIL

SCALE

4 VERTICAL INLINE PUMP DETAIL

SCALE

NOTE:

HORIZONTAL BEARING STRENGTH OF SOIL IS APPROXIMATELY 1500 LBS/FT².

RESULTANT FORCE AGAINST THRUST BLOCK GENERATED BY WATER (62.4 LBS/FT³) FLOWING AT A RATE OF 500 GPM AT 55 PSI IN 6" PIPE IS AS LISTED FOR THE FOLLOWING BENDS:

PIPE DIA	TEV / DEAD END	90°	45°	22.1/2°	11.1/4°
4"	1.4	2.0	1.1	0.6	0.4
6"	2.8	4.0	2.2	1.6	1.0
8"	5.0	7.0	3.7	2.0	1.0
10"	8.0	10.3	5.6	2.9	1.0
12"	10.3	14.6	8.9	4.0	1.5

90 DEGREE=6000 LBS
 22.5 DEGREE=3211 LBS
 11.25 DEGREE=1655 LBS

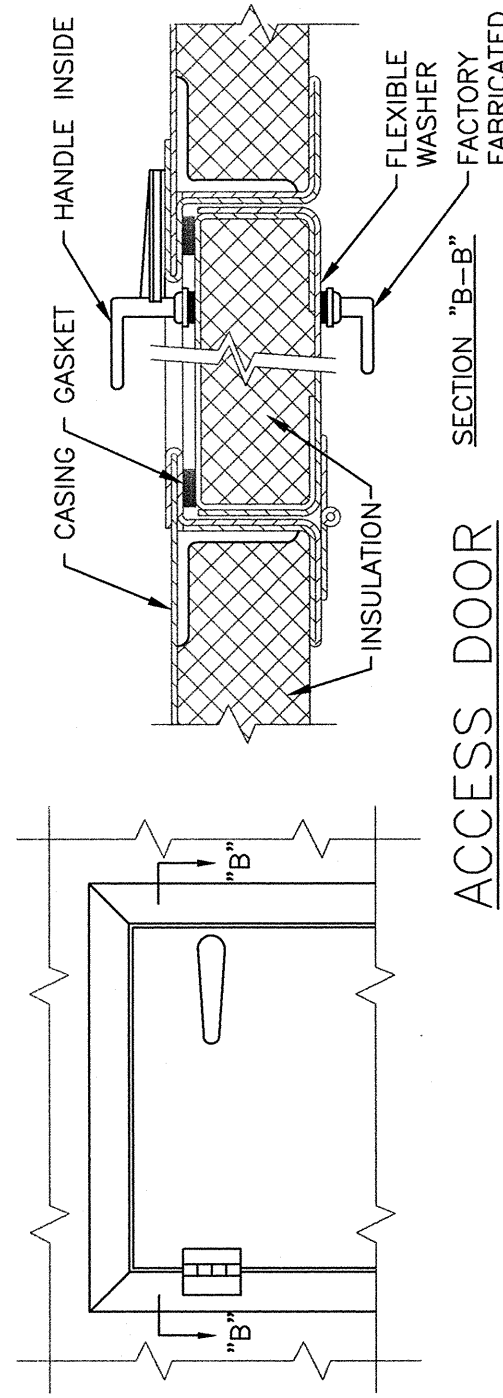
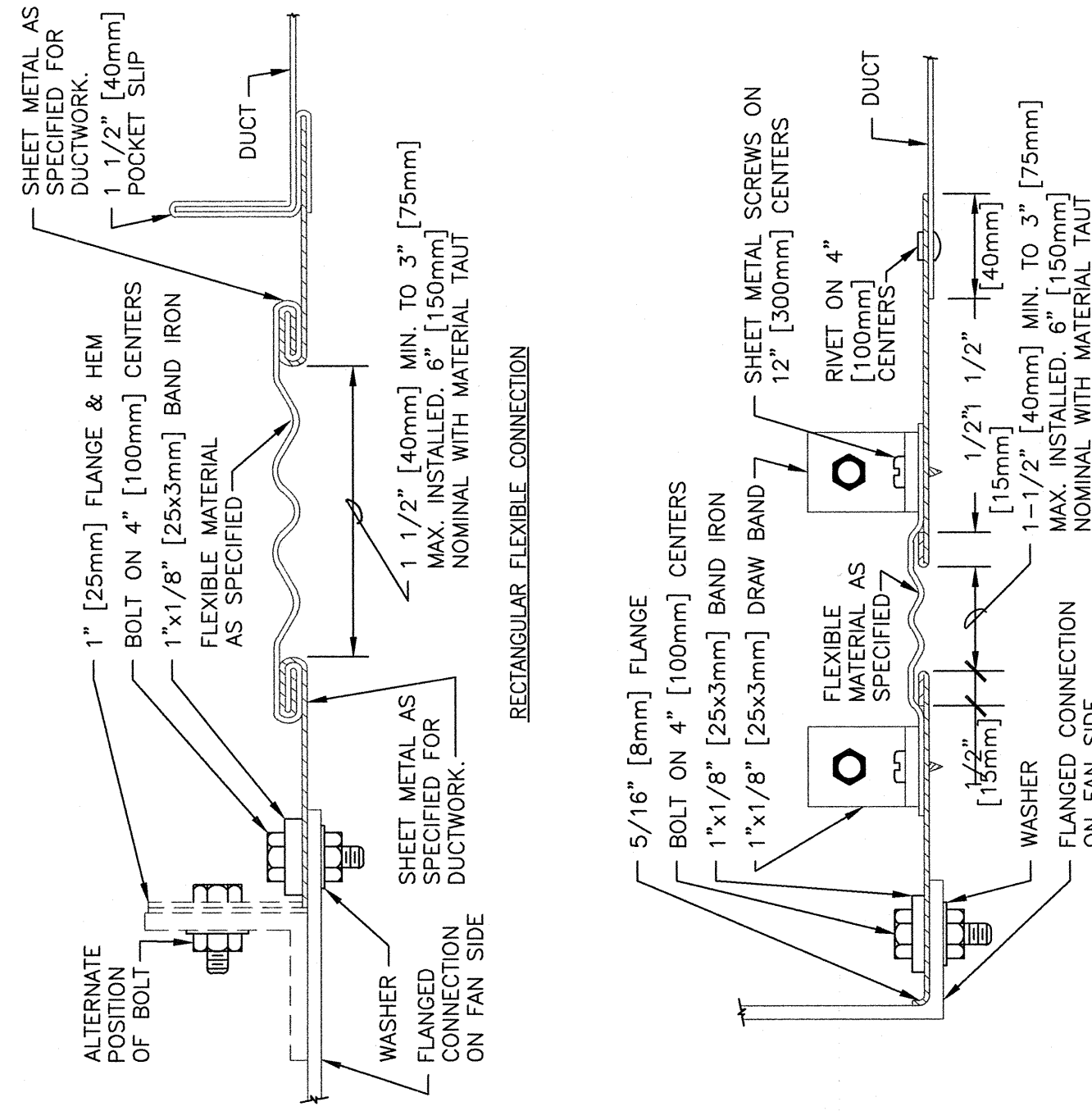
RESULTANT FORCE = 2(PSP)*(N/2)*SIN(ANGLE/2)*SAFETY FACTOR OF 1.5)

RESULTANT FORCE FOR PRESSURE OF 55 PSI PER AREA OF PIPING, ALLOWING FOR 45 DEGREE BENDS, IS AS LISTED FOR THE FOLLOWING BENDS:

RESULTANT FORCE = 6000 LBS , 50 SINCE BEARING STRENGTH OF SOIL = 1500 LBS/ FT²

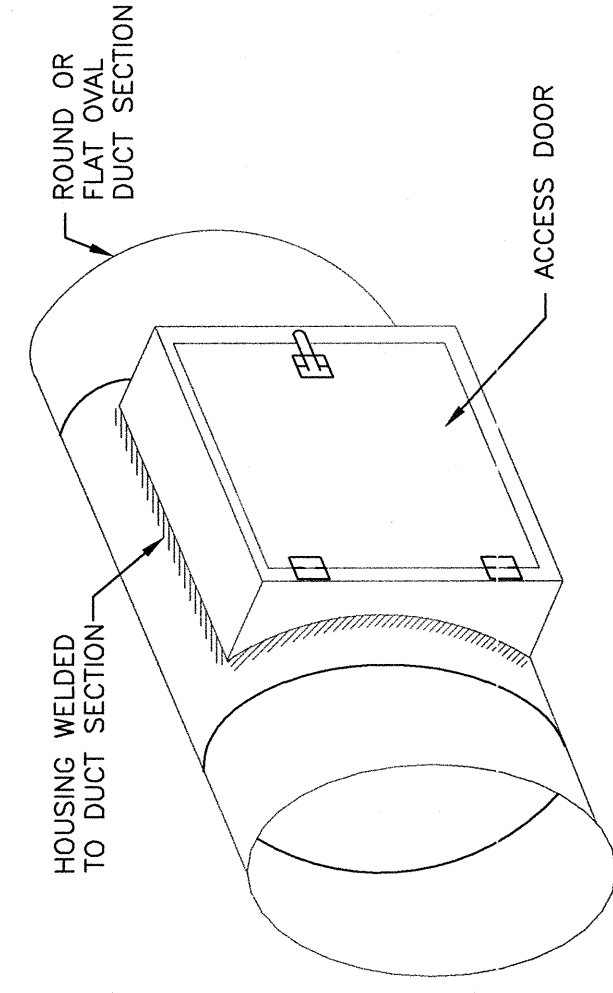
6000 LBS/(1500 LBS/FT²) = 4 FT² . A THRUST BLOCK AREA AGAINST SOIL OF 4 FT² IS NEEDED.

MIN. THRUST BLOCK BEARING AREA FT²

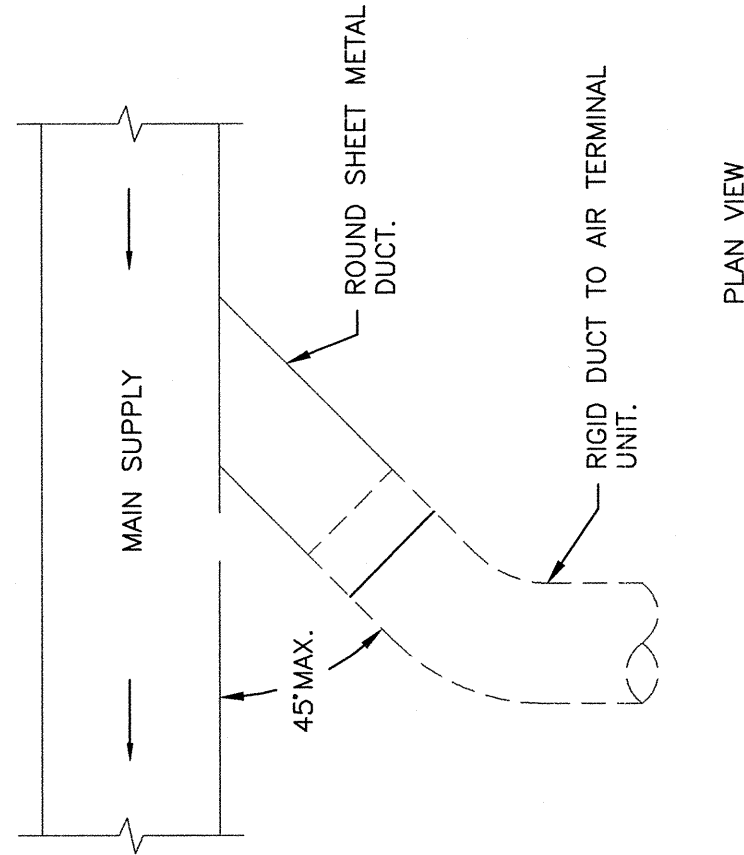
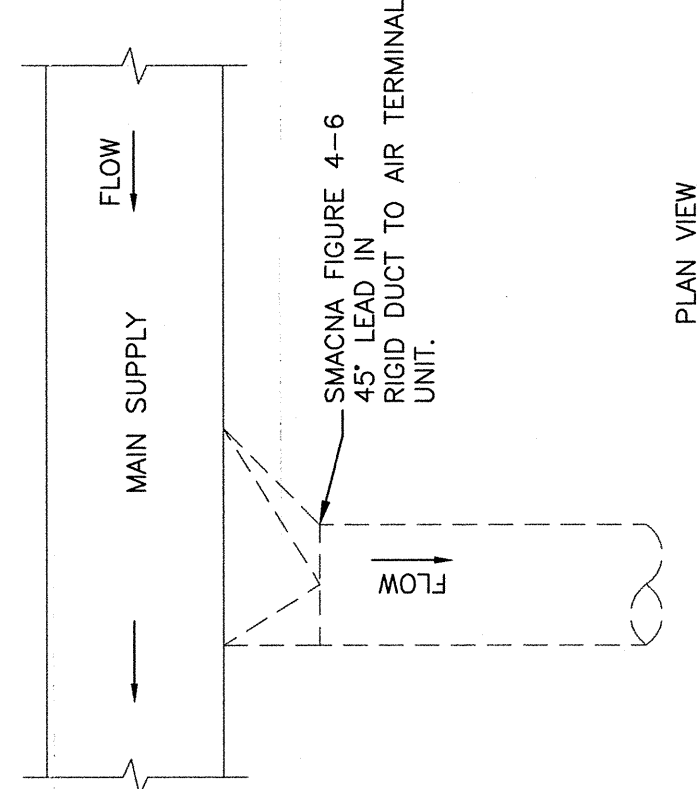


- NOTES:**
1. LATCHES SHALL BE OF THE WEDGE TYPE TO CLOSE DOORS TIGHTLY.
 2. HINGES ON THE ACCESS DOORS SHALL HAVE NON-CORROSIVE PINS.
 3. SEE SMACNA 2005, FIGURE 9-15

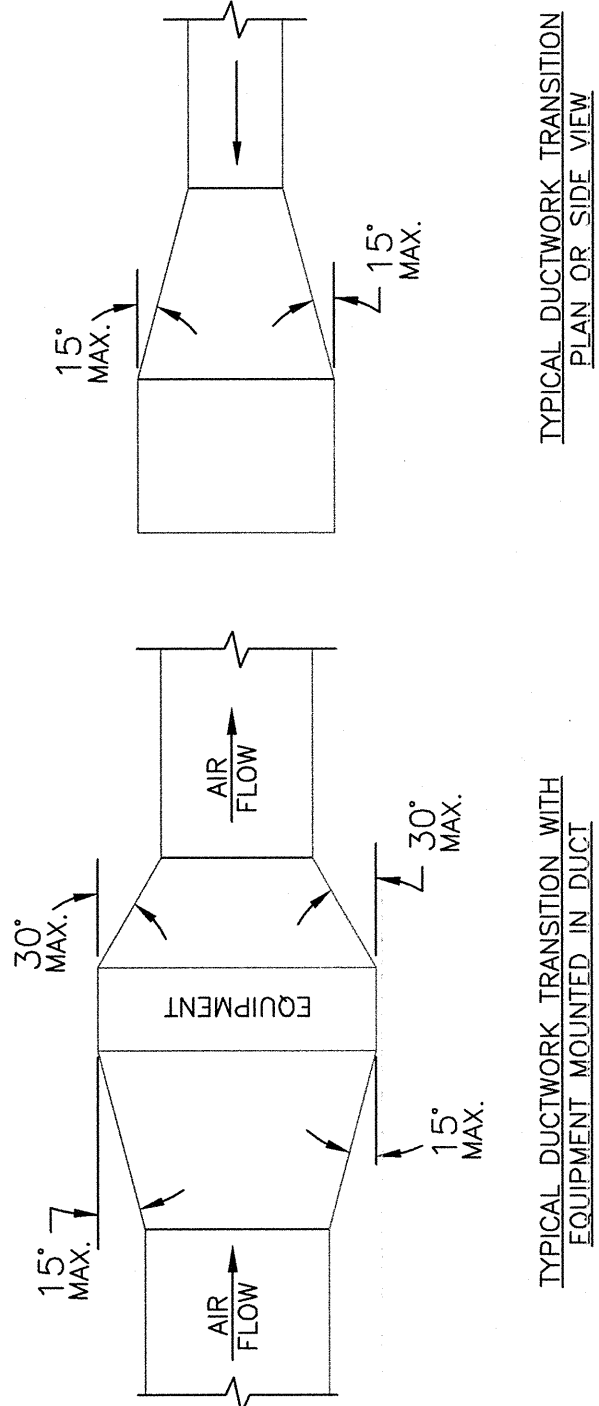
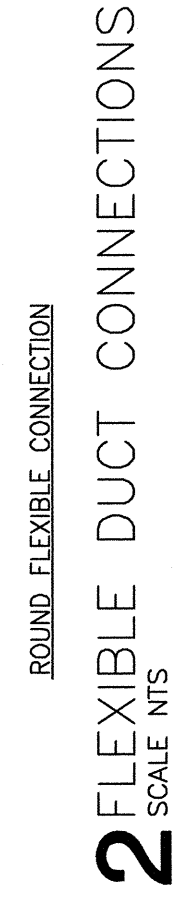
1 ACCESS DOOR DETAIL
SCALE NTS



6 ACCESS SECTION FOR ROUND/OVAL DUCT SCALE NTS

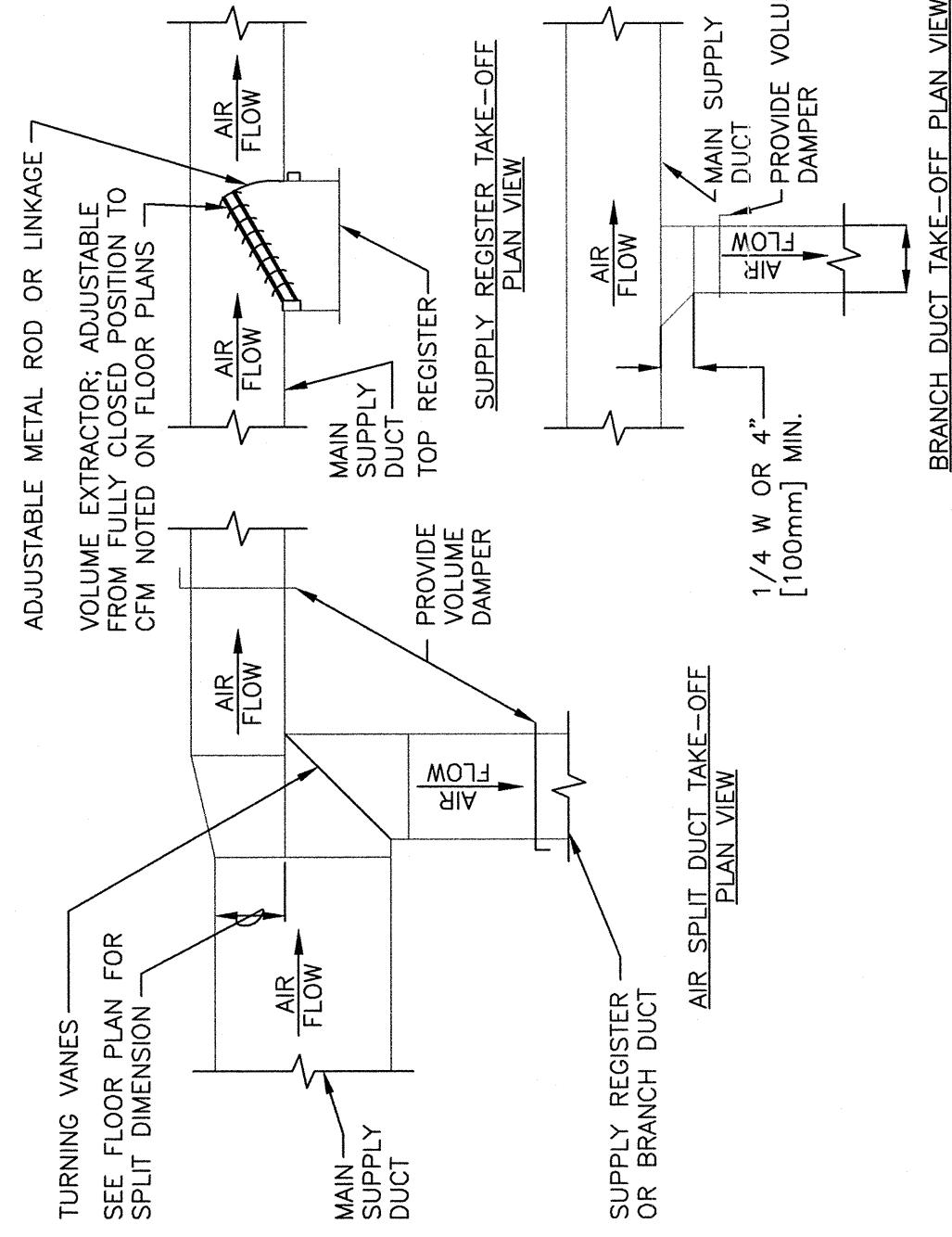
11 SUPPLY DUCT TAKEOFF - AIR TERMINAL UNIT
SCALE NTS

12 ALTERNATE SUPPLY AIR TERMINAL UNITS
SCALE NTS



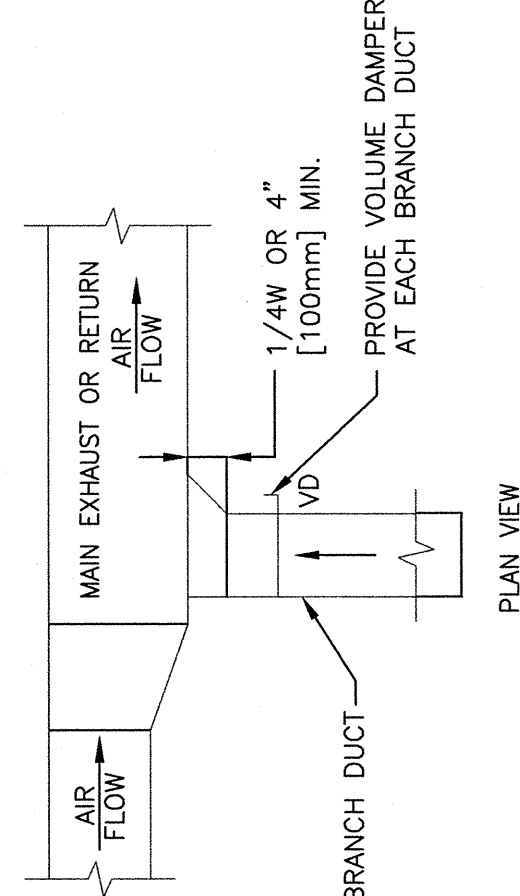
NOTE: UNLESS OTHERWISE INDICATED ON PLANS, MAXIMUM ANGLES SHOWN SHALL APPLY.

7 DUCTWORK TRANSITIONS (WITH EQUIPMENT MOUNTED ON SCALE NTS)

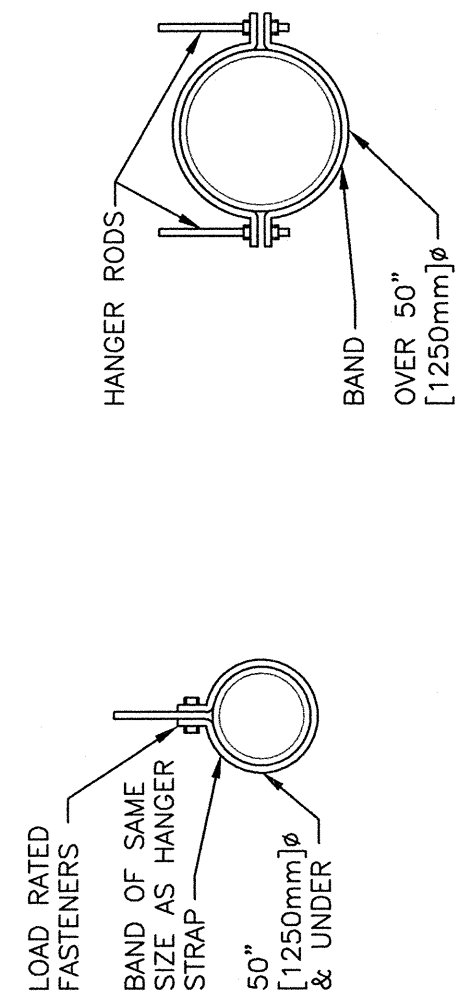


- NOTES:**
1. THE SUPPLY REGISTER TAKE-OFF MAY BE USED FOR UP TO 25% OF THE MAIN DUCT CFM. THE BRANCH DUCT TAKE-OFF MAY BE USED FOR UP TO 15% OF THE MAIN DUCT CFM ANYTIME AND UP TO 40% WHEN THE MAIN DUCT VELOCITY IS 1000 FPM [5.1 M/S] OR LESS. THE AIR SPLIT DUCT TAKE-OFF SHALL BE USED IN ALL OTHER CASES AND MAY BE USED AT ANYTIME.

8 SUPPLY DUCTWORK TAKE-OFFS



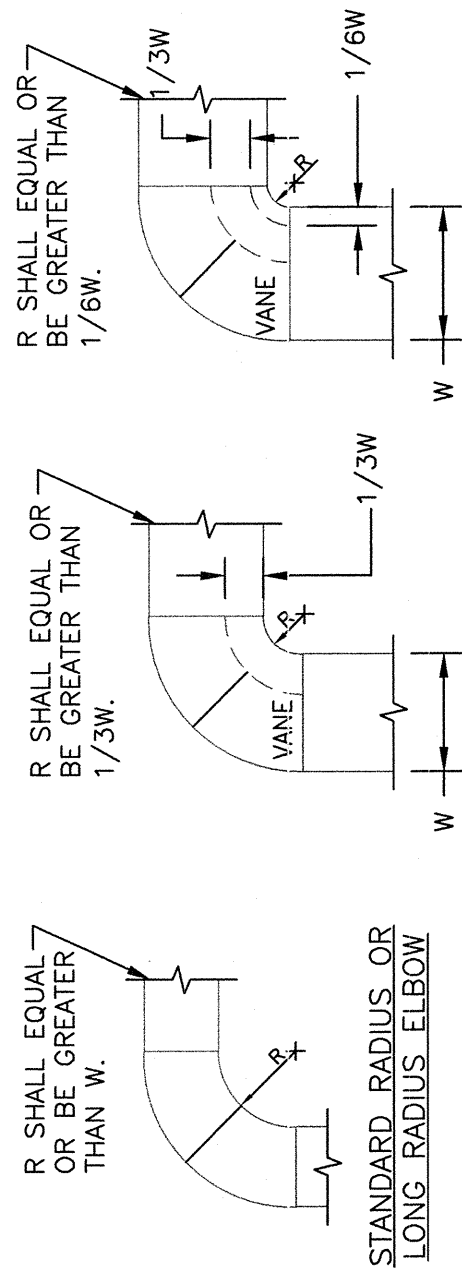
13 EXHAUST OR RETURN BRANCH DUCTWORK



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

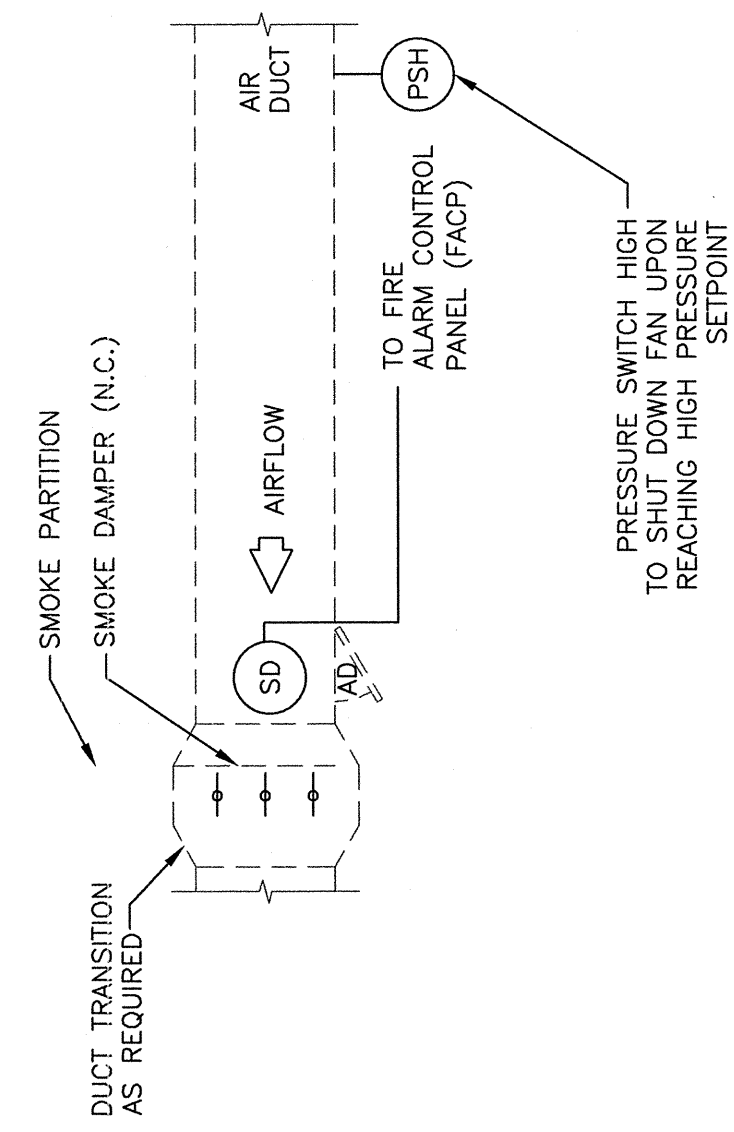
HANGER STRAPS OR RODS				
MAX. DUCT IN. [mm]	QUANTITY/SIZE IN. [mm]	MAX. LOAD LBS. [N]	MAX. SPACING IN. [mm]	MAX. SPACING IN. [mm]
26 [650]	ONE 1/25 x 22 GA STRAP	280 [119]	144 [3600]	144 [3600]
36 [900]	ONE 1/25 x 18 GA STRAP	420 [191]	144 [3600]	144 [3600]
50 [1250]	ONE 1/25 x 16 GA STRAP	920 [317]	144 [3600]	144 [3600]
60 [1500]	TWO 3/8 1"10 RODS	1320 [588]	144 [3600]	144 [3600]
84 [2100]	TWO 1/2 1"13 RODS	2500 [1133]	144 [3600]	144 [3600]

4 ROUND DUCT HANGERS



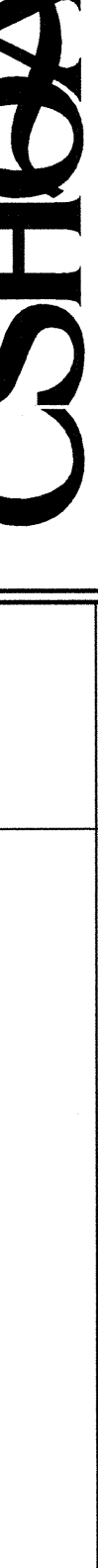


- NOTES:**
1. THE INTERIOR SURFACE OF ALL RADIUS ELBOWS SHALL BE MADE ROUND.
 2. ALL STANDARD RADIUS ELBOWS CAN BE SUBSTITUTED WITH SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS SHALL HAVE VANES. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.

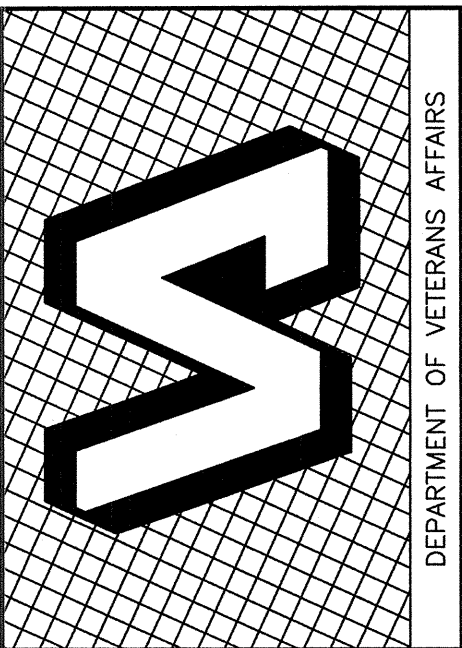
9 DUCTWORK RADIUS ELBOWS
SCALE NTS



- NOTE:
UPON DETECTION OF SMOKE BY THE SMOKE DETECTOR, THE SMOKE DAMPER SHALL CLOSE.

14 SMOKE DAMPER CONTROL DIAGRAM

	<p>STEVEN RADY, P.E. C.W. MOORE PLAZA 250 S. 5TH ST. BOISE, IDAHO PHONE: 208-343-4635 FAX: 208-343-1658 http://www.cshqa.com</p>		<p>CAD FILE NAME: 531-319_BM3.2.DWG XREF FILE NAME: 531-319_XB_30X42TLBK.DWG</p>	<p>DRAWING TITLE HVAC DETAILS</p>	<p>PROJECT TITLE BOISE VAMC NEW EXTENDED CARE UNIT BUILDING 'B' CLC</p>	<p>DATE 12/01/2011</p>	
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<p>REVISIONS</p>	<p>DATE</p>						

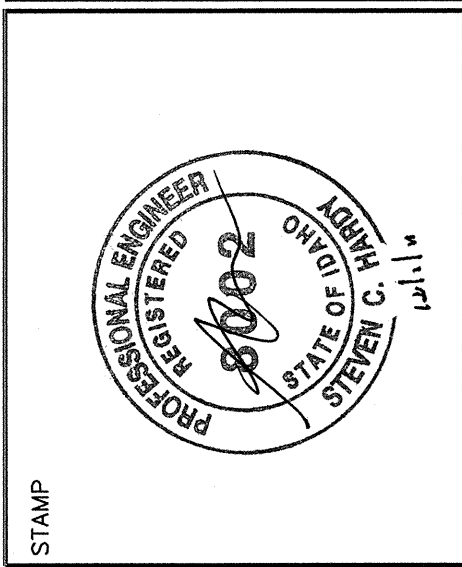


DATE	12/01/2011
PROJECT NO.	531-319
DRAWING NO.	BM3.3
DWG	47 OF 78

PROJECT TITLE	BOISE VAMC NEW EXTENDED CARE UNIT BUILDING 'B' CLC
BUILDING NUMBER	122
CHECKED	SCH
DRAWN	RME
LOCATION	VAMC BOISE, IDAHO

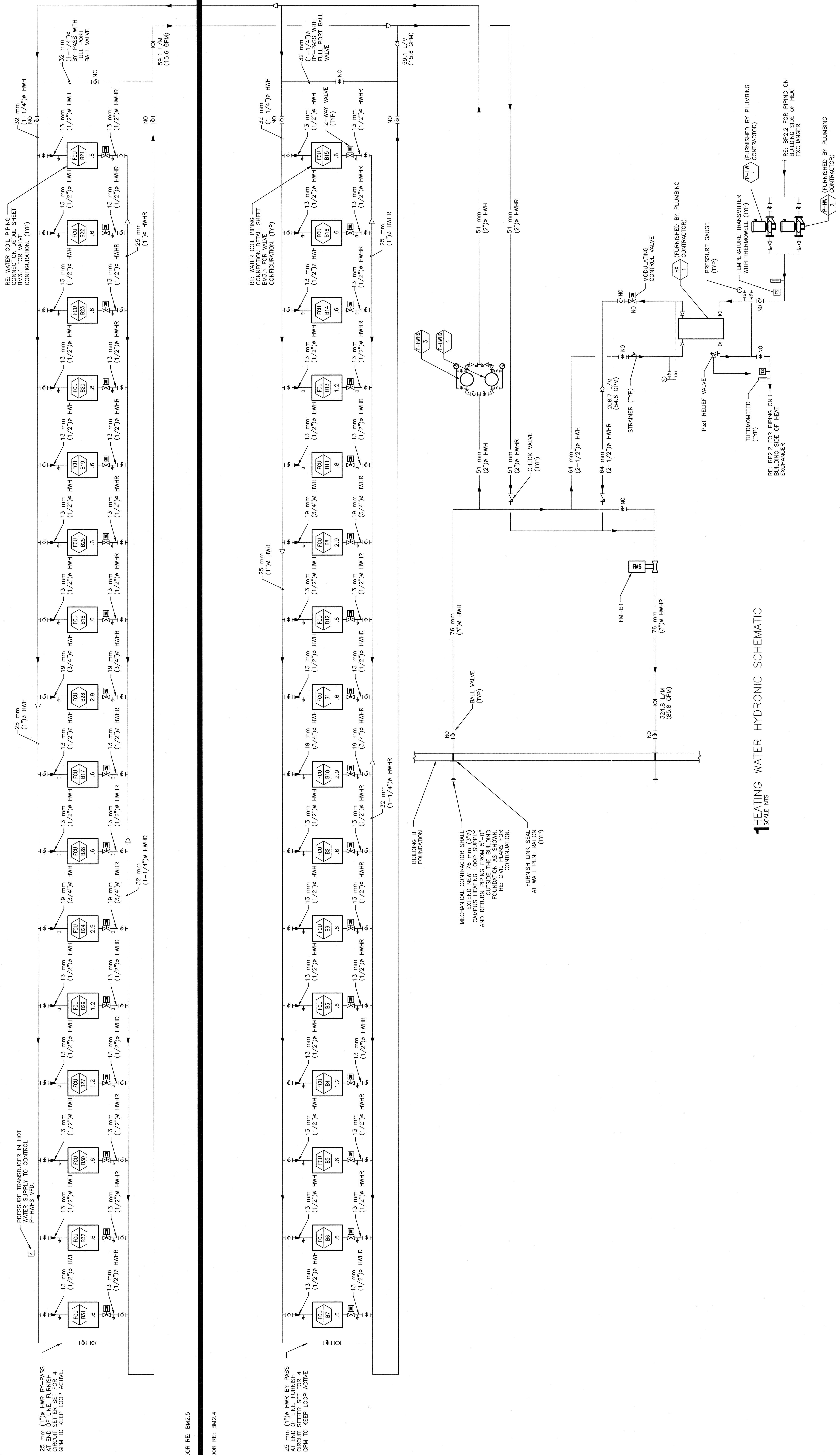
DRAWING TITLE	HEATING WATER HYDRONIC SCHEMATIC
APPROVED: CHIEF OF FACILITY MANAGEMENT SERVICE	
APPROVED: MEDICAL CENTER DIRECTOR	

CAD FILE NAME:	531-319-BM3.3.DWG
XREF FILE NAME:	531-319-XB_30X42TLBK.DWG



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SECOND FLOOR RE: BM2.5

FIRST FLOOR RE: BM2.4

REVISIONS

REVISIONS	
	DATE

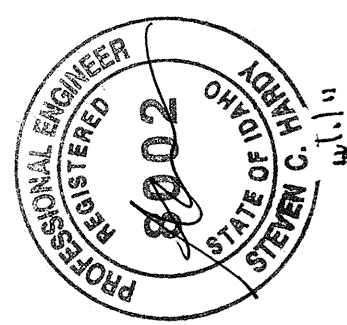
CSHQ&A

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CAD FILE NAME:
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XREF FILE NAME:
531-319-XB_30X42TLBK.DWG

DRAWING TITLE
CHILLED WATER
HYDRONIC
SCHEMATIC

APPROVED: CHIEF OF FACILITY MANAGEMENT SERVICE
APPROVED: MEDICAL CENTER DIRECTOR

PROJECT TITLE
BOISE VAMC
NEW EXTENDED CARE UNIT
BUILDING 'B' CLC

BUILDING NUMBER
122

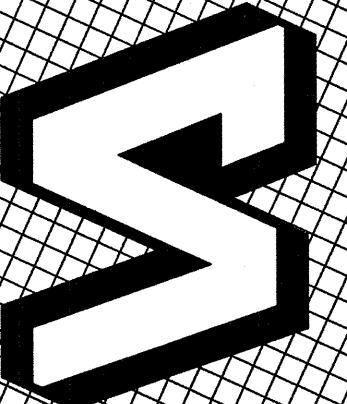
CHECKED
SCH

DRAWN
RME

DATE
12/01/2011

PROJECT NO.
531-319

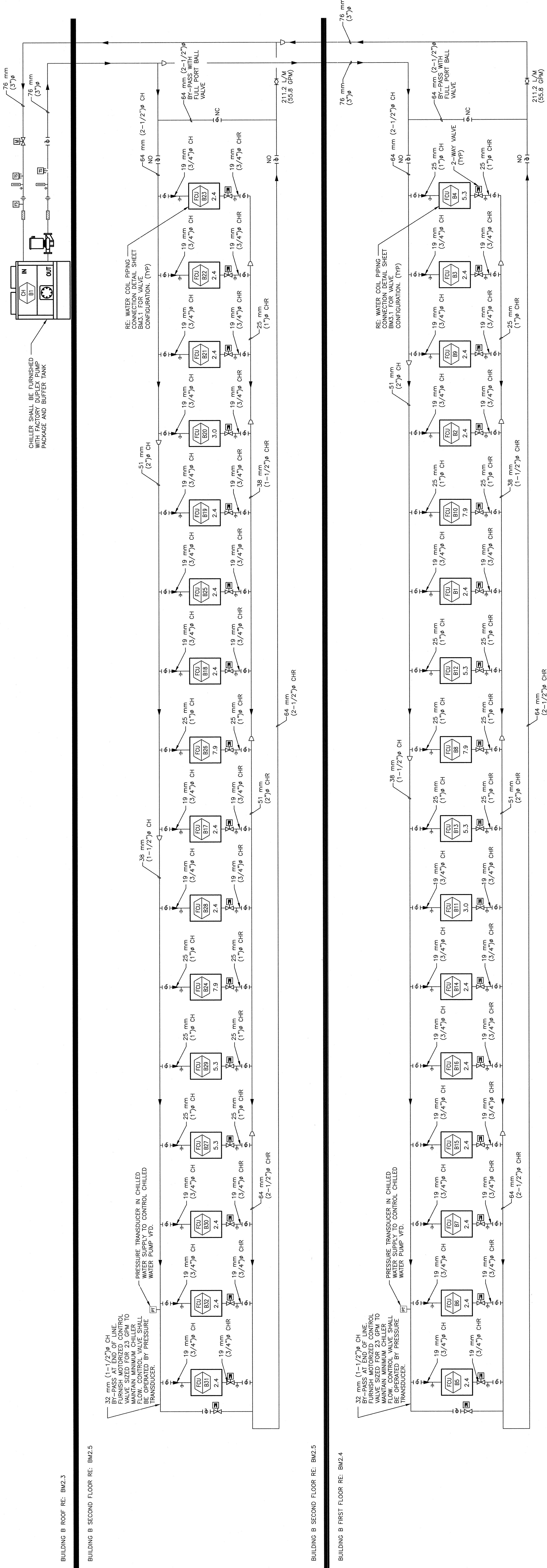
DRAWING NO.
BM3.4



DEPARTMENT OF VETERANS AFFAIRS

1CHILLED WATER HYDRONIC SCHEMATIC

SCALE: NTS



BUILDING B ROOF RE: BM2.3

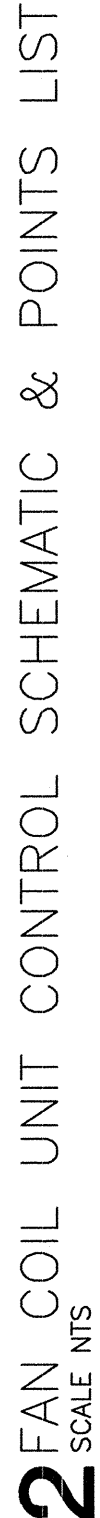
BUILDING B SECOND FLOOR RE: BM2.5

BUILDING B SECOND FLOOR RE: BM2.5

BUILDING B FIRST FLOOR RE: BM2.4



- # 1 BUILDING AUTOMATIC SYSTEM ARCHITECTURE DIAGRAM

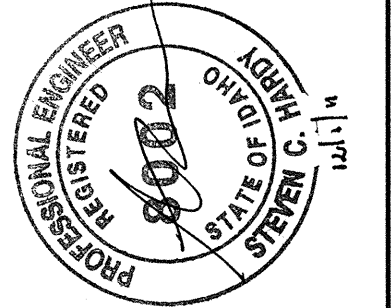
PAIN
SCALE NTS

3 ENERGY RECOVERY UNIT CONTROL SCHEMATIC & POINTS LIST

CSHOA

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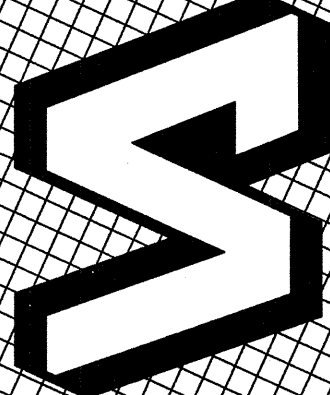


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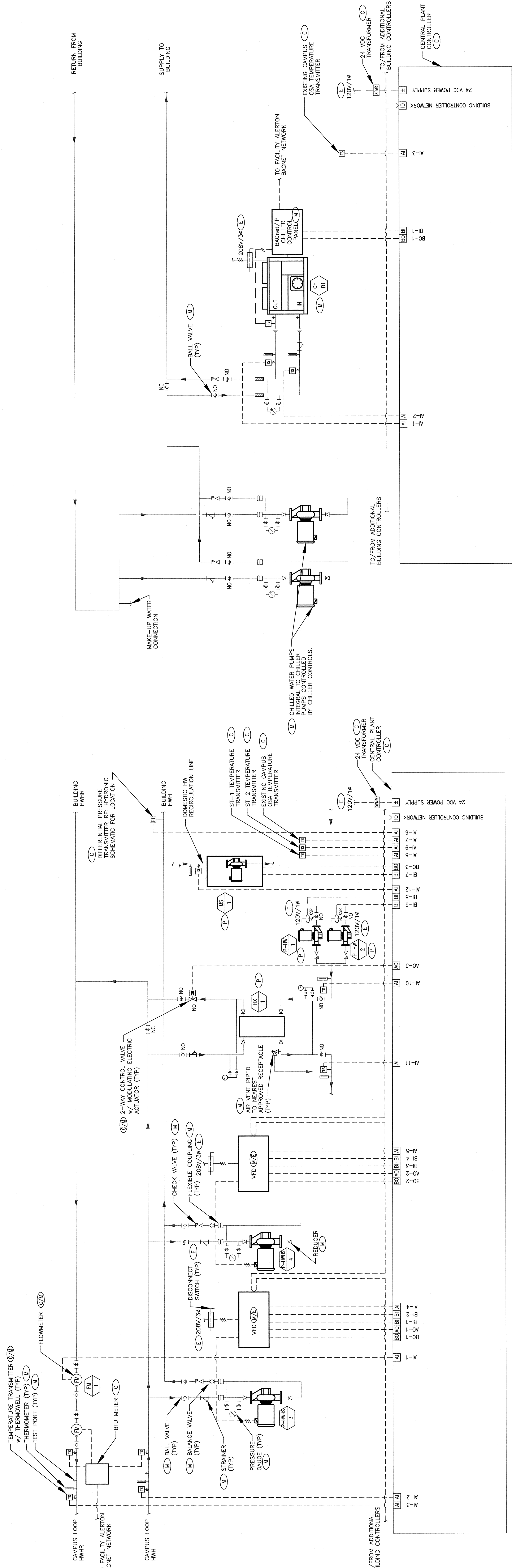
DRAWING TITLE
CONTROLS SCHEMATIC
APPROVED: CHIEF OF FACILITY MANAGEMENT SERVICE
APPROVED: MEDICAL CENTER DIRECTOR

PROJECT TITLE	BOISE VAMC NEW EXTENDED CARE UNIT BUILDING 'B' CLC		
BUILDING NUMBER	122	CHECKED SCH	DRAWN RME
LOCATION	VAMC BOISE, IDAHO		

DATE	12/01/2011
PROJECT NO.	531-319
DRAWING NO.	BM3.5
DWG	49 OF 78



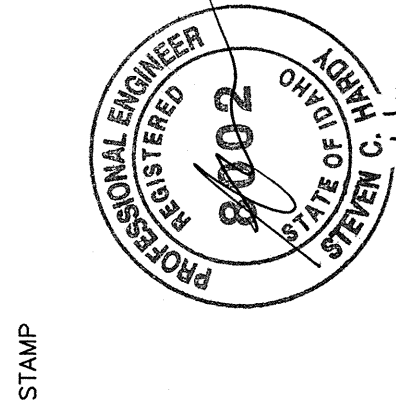
DEPARTMENT OF VETERANS AFFAIRS

[illegible]

1 BREATHING WATER LOOP SYSTEM CONTROL SCHEMATIC & POINTS LIST

JOB: 531-319 BUILDING: 122	POINT LEGEND	SYSTEM OUTPUTS BINARY TDS	SYSTEM INPUTS ANALOG	ALARM PROCESSING	SYSTEM SOFTWARE/CONTROL	PAGE:
SYSTEM: CHILLED WATER SYSTEM	POINT ID	ABSTRACTION				
		PUMP/VALVE/CONTROL/NO				
		CHW-1	CHW-2	CHW-3	CHW-4	CHW-5
		CHW-6	CHW-7	CHW-8	CHW-9	CHW-10
		CHW-11	CHW-12	CHW-13	CHW-14	CHW-15
		CHW-16	CHW-17	CHW-18	CHW-19	CHW-20
		CHW-21	CHW-22	CHW-23	CHW-24	CHW-25
		CHW-26	CHW-27	CHW-28	CHW-29	CHW-30
		CHW-31	CHW-32	CHW-33	CHW-34	CHW-35
		CHW-36	CHW-37	CHW-38	CHW-39	CHW-40
SYSTEM COMPONENT:	POINT ID	CHW-41				
		CHW-42				
		CHW-43				
		CHW-44				
		CHW-45				
		CHW-46				
		CHW-47				
		CHW-48				
		CHW-49				
		CHW-50				
CH-BT STATUS	POINT ID	CH-BT-1				
		CH-BT-2				
		CH-BT-3				
		CH-BT-4				
		CH-BT-5				
		CH-BT-6				
		CH-BT-7				
		CH-BT-8				
		CH-BT-9				
		CH-BT-10				
CH-BT ENABLE	POINT ID	CH-BT-11				
		CH-BT-12				
		CH-BT-13				
		CH-BT-14				
		CH-BT-15				
		CH-BT-16				
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		CH-BT-20				

2 CHILLED WATER LOOP SYSTEM CONTROL SCHEMATIC & POINTS LIST




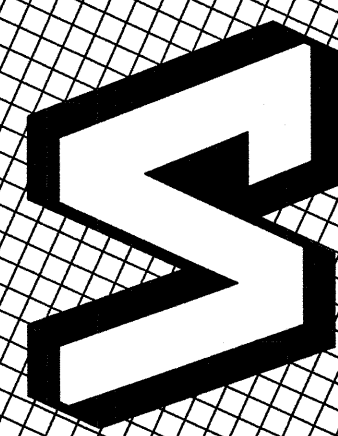
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PROJECT TITLE BOISE, VAMC NEW EXTENDED CARE UNIT BUILDING 'B' CLC		DATE 12/01/2011		DEPARTMENT OF VETERANS AFFAIRS
PROJECT NO. 531-319				
DRAWING NO.		BM3.6		
LOCATION VAMC BOISE, IDAHO	BUILDING NUMBER 122	CHECKED SCH	RME	DWS 50 OF 78



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