AUGUSTA/RICHMOND COUNTY DETENTION CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

PRECISION PLANNING, INC.
Planners, Engineers, Architects & Surveyors
400 PIKE BOULEVARD
P.O. BOX 2210
LAWRENCEVILLE, GEORGIA 30246
(404) 962-8000 (FAX) (404) 822-5990

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SHEET TITLE
Building A First Floor Plan Hvac

DESIGNED BY	DRAWN BY	CHECKED BY
gwr	adm	gwr

NO	DESCRIPTION	DATE
3	RELEASED FOR BID REVISIONS	01/08/96 02/16/96
	FIRE MARSHALL REVIEW	10/09/95

DATE	12-08-95
JOB NUMBER	95052
CAD FILE NUMBER	50468M1
FILE NUMBER	95-052-1

SHEET **M2.1**

KEYPLAN

JOB NORTH

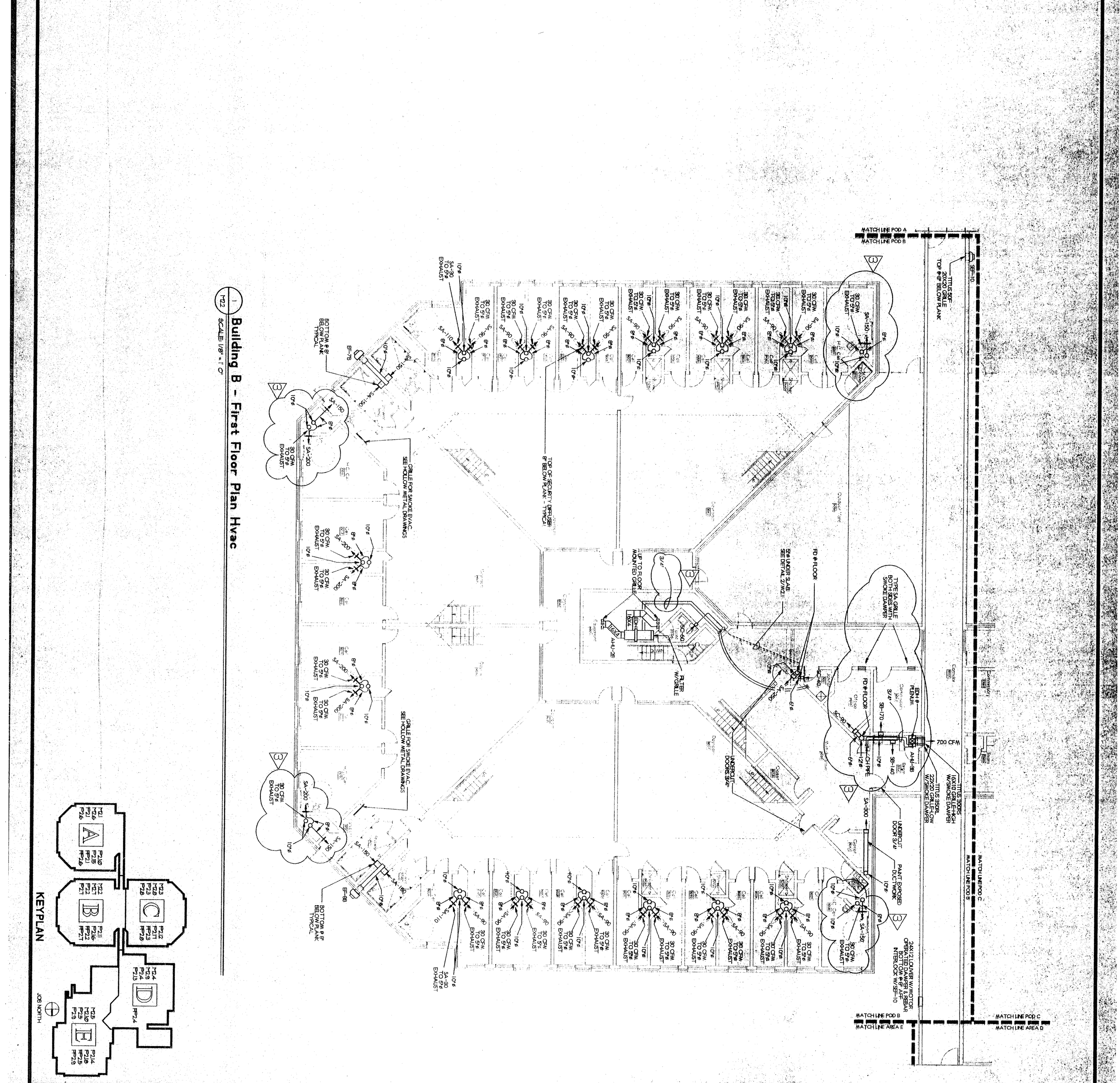
NOTE
PROVIDE REBAR @ 4" OC AT ANY ROOF PENETRATION LARGER THAN 8"ø

1 / M2.1 Building A - First Floor Plan HVAC

SCALE 1/8" = 1'-0"

2 / M2 Section @ Duct in Slab

SCALE-ARCH ONLY



M2.2

SHEET

12-08-95	DATE
95052	JOB NUMBER
50468M2	CAD FILE NUMBER
95-052-1	FILE NUMBER

DATE	NO	DESCRIPTION
12/08/95		FIRE MARSHALL REVIEW
01/08/96		RELEASED FOR BID
02/16/96	3	REVISIONS

Building B
First Floor Plan
HvacSHEET TITLE

DESIGN BY	DRAWN BY	CHECKED BY
gwr	sdm	gwr

RICHMOND COUNTY DETENTION CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

PRECISION PLANNING, INC.
Planners, Engineers, Architects & Surveyors
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LAWRENCEVILLE, GEORGIA 30246
(404) 962-8000 (FAX) (404) 822-5990

GEORGIA REGISTERED No. 19879 PROFESSIONAL ENGINEER GARY W. RICHARDSON

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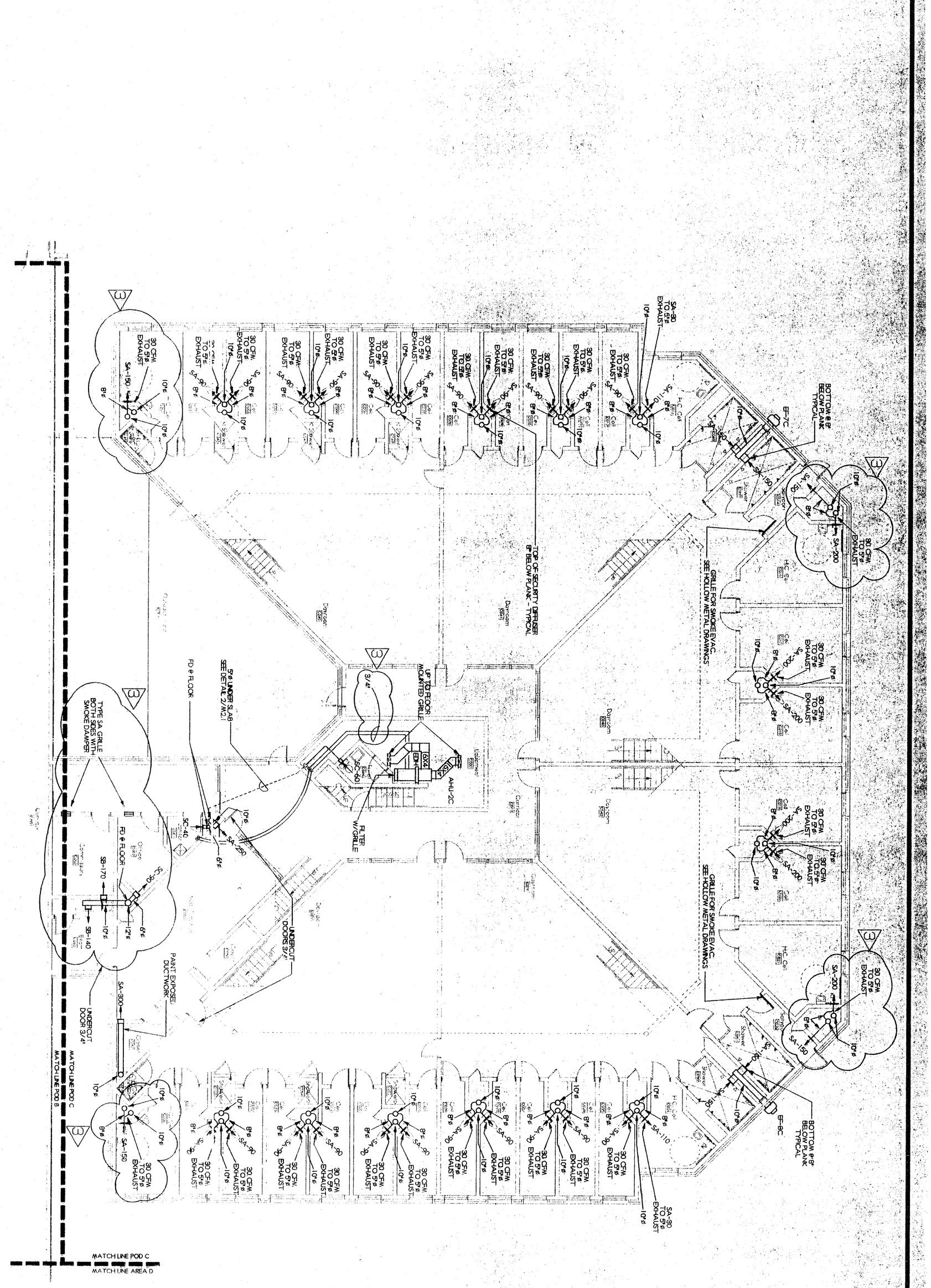

M2.3 SHEET	12-08-95 DATE	95052 JOB NUMBER	50468M3 CAD FILE NUMBER	95-052-1 FILE NUMBER

DATE	NO	DESCRIPTION
12/08/95		FIRE MARSHALL REVIEW
01/08/96		RELEASED FOR BID
02/16/96	3	REVISIONS

SHEET TITLE

Building C
First Floor Plan - Hvac

DESIGN BY	DRAWN BY	CHECKED BY
gwr	sdm	gwr

PROJECT

AUGUSTA/
RICHMOND COUNTY
DETENTION CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PRECISION PLANNING, INC.
Planners, Engineers, Architects & Surveyors
400 PIKE BOULEVARD
P.O. BOX 2210
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GEORGIA REGISTERED NO. 13679 PROFESSIONAL ENGINEER GARY W. RICHARDSON

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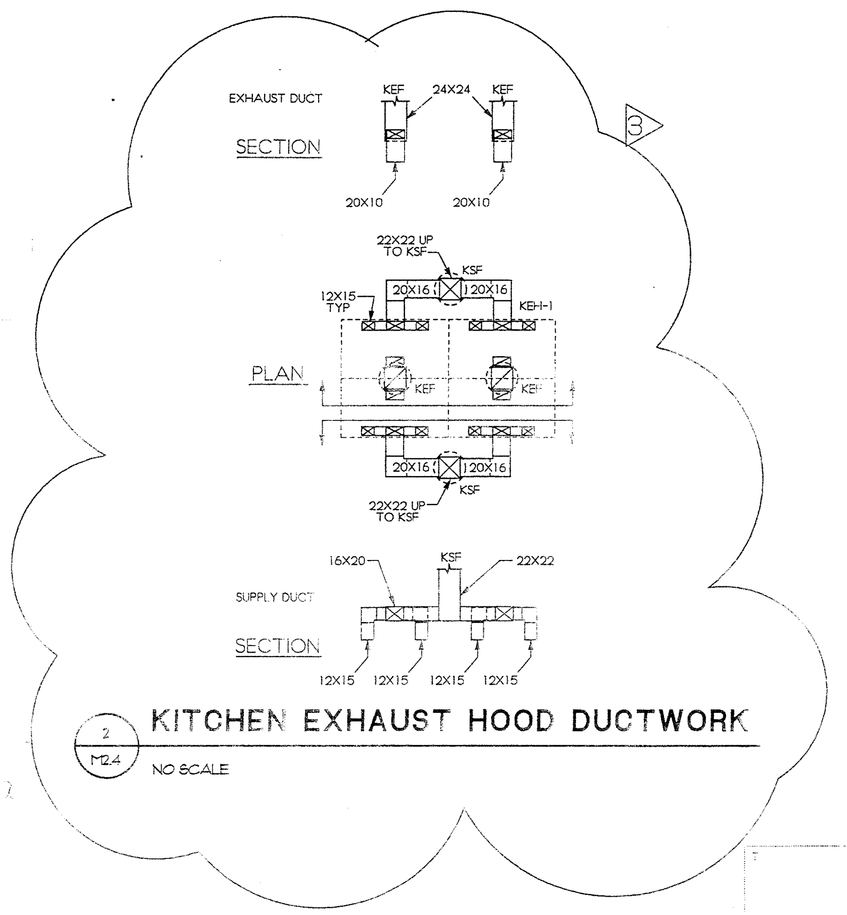
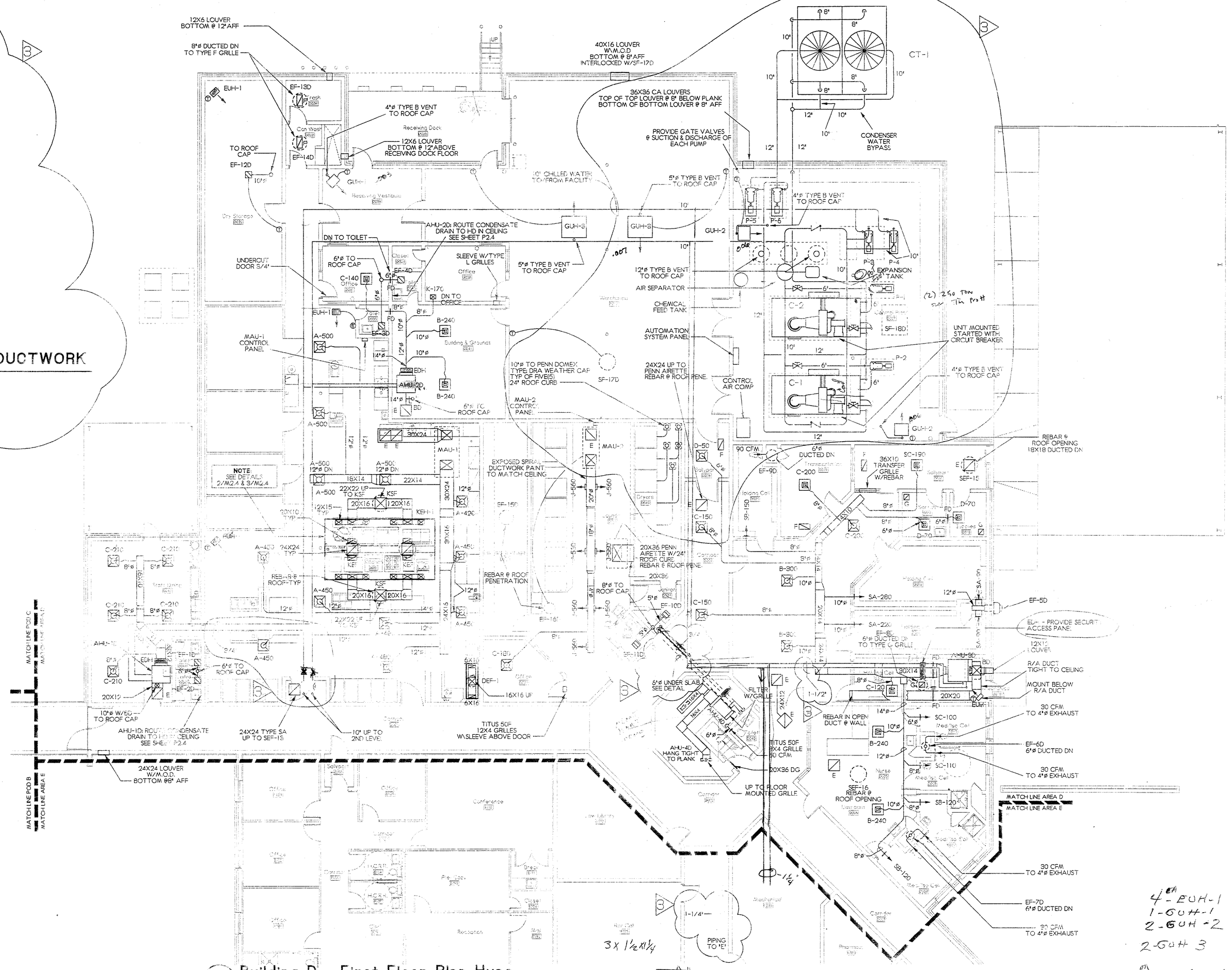


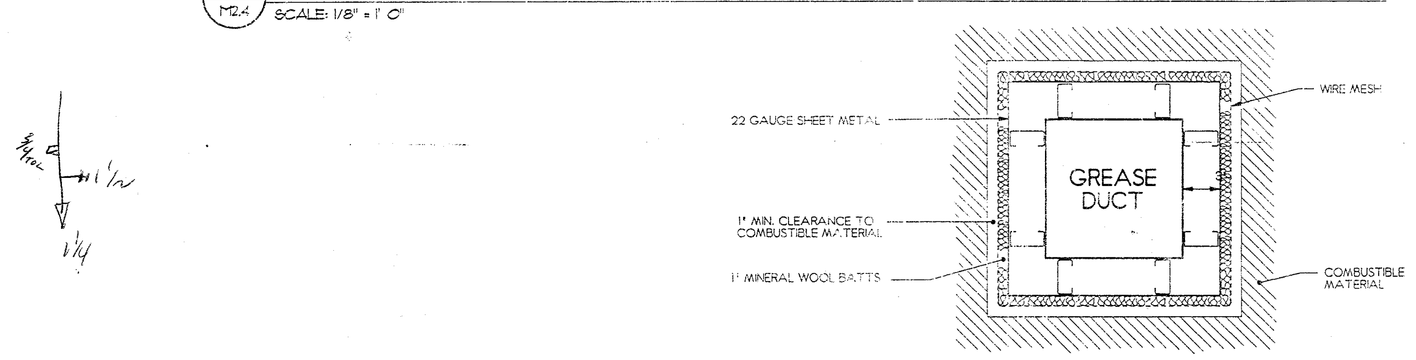
2 / M2.4 KITCHEN EXHAUST HOOD DUCTWORK

NO SCALE



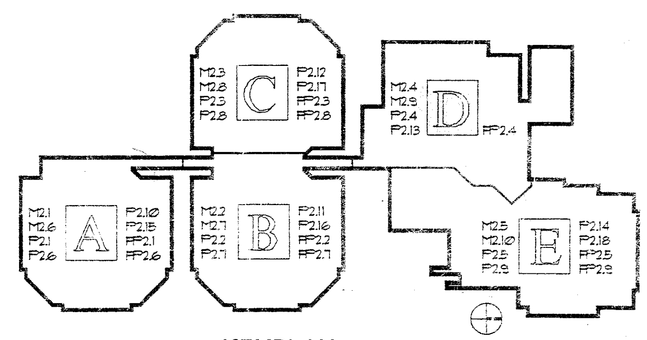
1 / M2.4 Building D - First Floor Plan Hvac

SCALE: 1/8" = 1'-0"



3 / M2.4 GREASE DUCT ENCLOSURE DETAIL

NO SCALE



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GEORGIA REGISTERED PROFESSIONAL ENGINEER GARY W. RICHARDSON

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PROJECT

AUGUSTA/
RICHMOND COUNTY
DETENTION CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

SHEET TITLE

Building D
First Floor Plan - Hvac

DRAWN BY	CHECKED BY
sdm	gwr

DESIGN BY
gwr

NO	DATE	DESCRIPTION
	12/08/95	FIRE MARSHALL REVIEW
	01/09/96	RELEASED FOR BID
3	02/16/96	REVISION

12-08-95 DATE

95052 JOB NUMBER

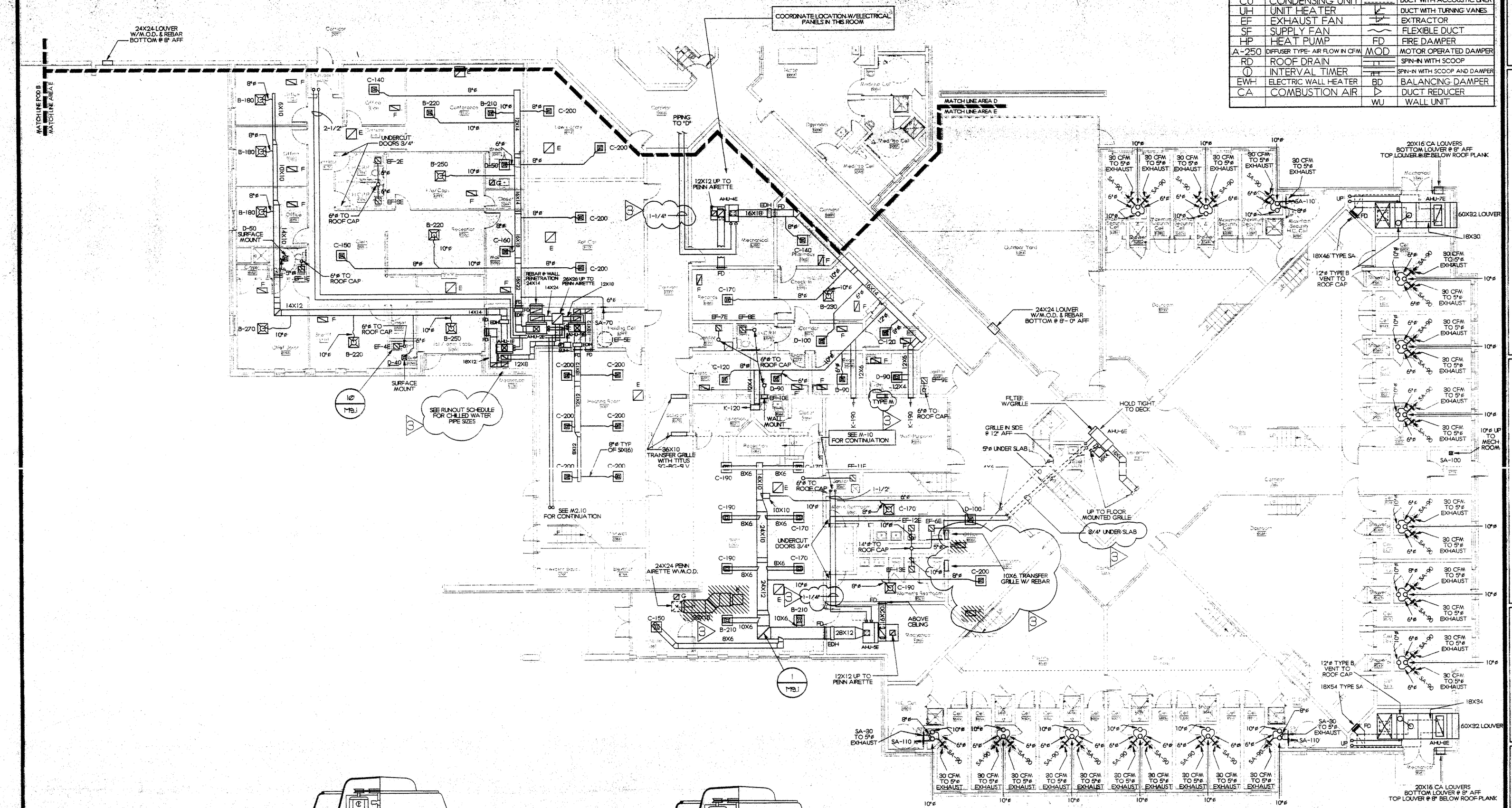
5043GM4 CAD FILE NUMBER

SEF-0512-1 FIRE NUMBER

M2.4 SHEET

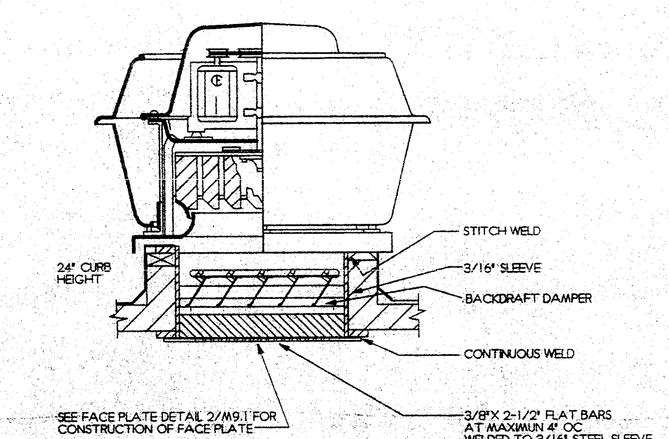
MECHANICAL LEGEND

SYM	DESCRIPTION	SYM	DESCRIPTION
OA	OUTSIDE AIR	AFF	ABOVE FINISHED FLOOR
SA	SUPPLY AIR	CFM	CUBIC FEET PER MINUTE
RA	RETURN AIR	CD	CONDENSATE DRAIN
T	THERMOSTAT	DN	DOWN
N	NIGHT SETBACK	PRV	POWER ROOF VENTILATOR
DG	DOOR GRILLE	VTR	VENT THROUGH ROOF
TG	TRANSFER GRILLE		SUPPLY DUCT
AD	DUCT ACCESS DOOR		RETURN DUCT
CU	CONDENSING UNIT		DUCT WITH ACCOUSTIC LINER
UH	UNIT HEATER		DUCT WITH TURNING VANES
EF	EXHAUST FAN		EXTRACTOR
SF	SUPPLY FAN		FLEXIBLE DUCT
HP	HEAT PUMP	FD	FIRE DAMPER
A-250	DIFFUSER TYPE- AIR FLOW IN CFM	MOD	MOTOR OPERATED DAMPER
RD	ROOF DRAIN		SPIN-IN WITH SCOOP
I	INTERVAL TIMER		SPIN-IN WITH SCOOP AND DAMPER
EWH	ELECTRIC WALL HEATER	BD	BALANCING DAMPER
CA	COMBUSTION AIR		DUCT REDUCER
		WU	WALL UNIT



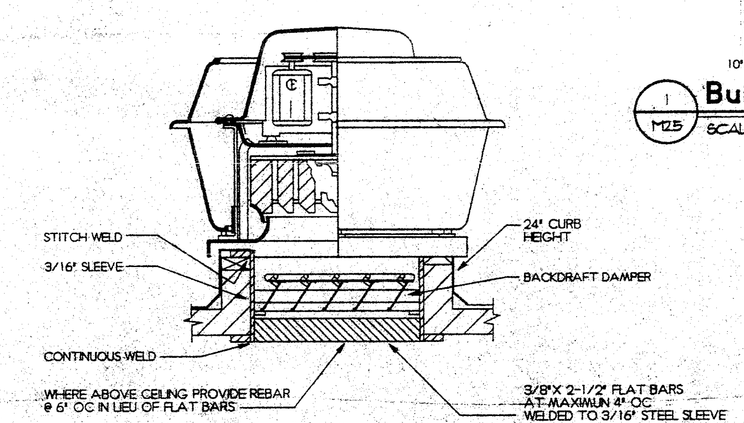
Building E - First Floor Plan Hvac

1 / M2.5 — SCALE 1/8" = 1'-0"



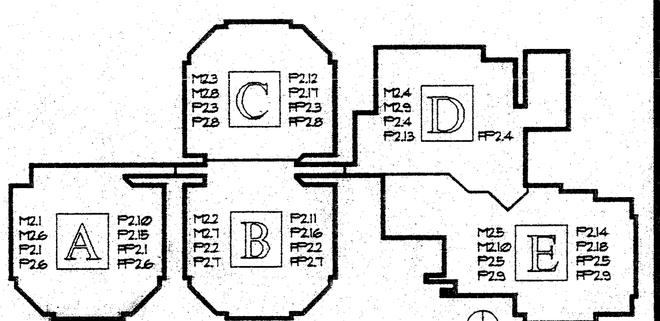
Security Exhaust Fan Detail

2 / M2.5 — NO SCALE



Smoke Exhaust Fan Detail

3 / M2.5 — NO SCALE



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(404) 962-8000 (FAX) (404) 822-5990

AUGUSTA/ RICHMOND COUNTY DETENTION CENTER

FACILITY
PHINIZY ROAD
AUGUSTA, GEORGIA

PROJECT

Building E
First Floor Plan - Hvac

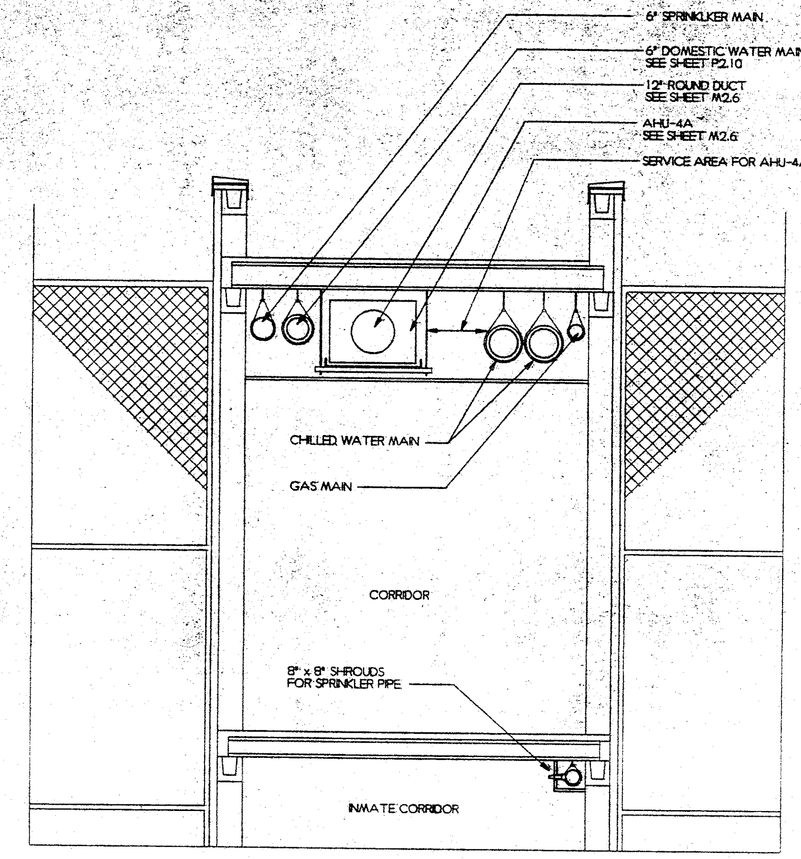
SHEET TITLE

DESIGN BY	DRAWN BY	CHECKED BY
gwr	sdm	gwr

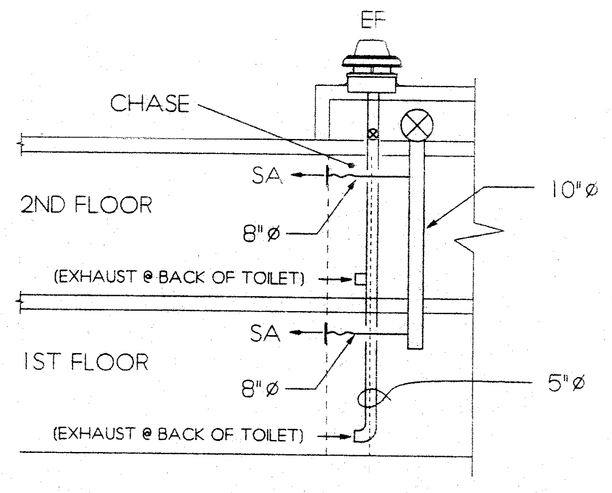
NO	DESCRIPTION	DATE
	FIRE MARSHALL REVIEW	12/08/95
	RELEASED FOR BID	01/08/96
3	REVISED	02/16/96

12-08-95	95052	50468M5	95-052-1
DATE	JOB NUMBER	CAD FILE NUMBER	FILE NUMBER

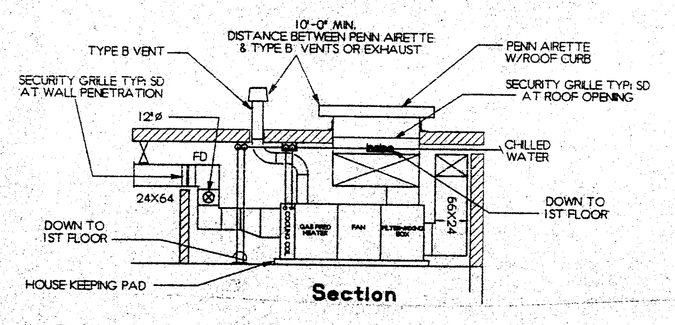
M2.5 — SHEET



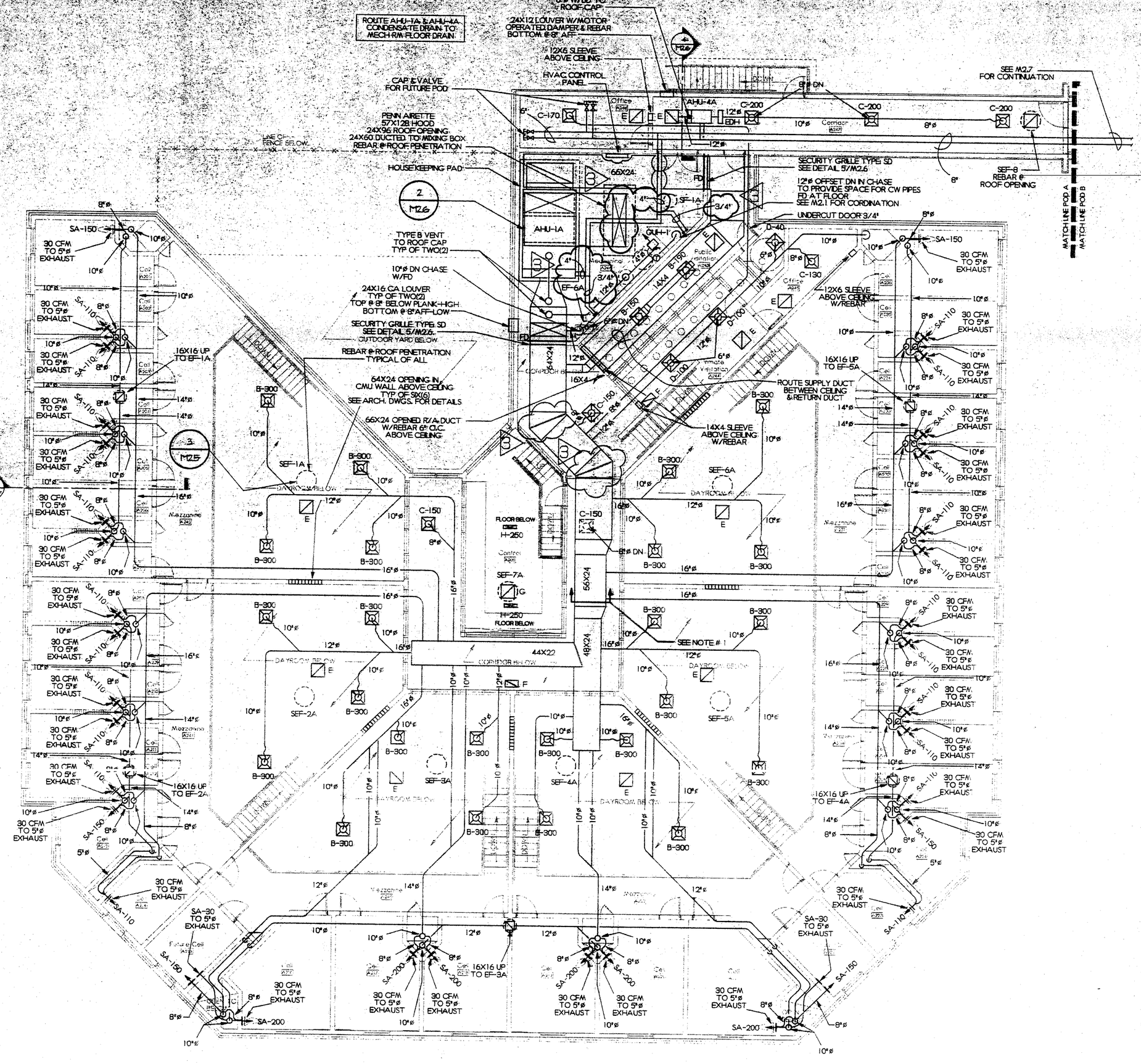
4 / M2.6 **Hvac/Pipe Section Above Corridor**
NO SCALE



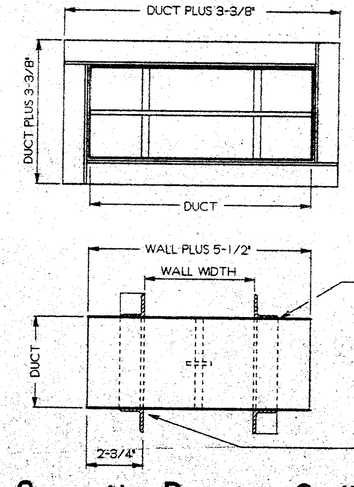
3 / M2.6 **Section Detail**
NO SCALE



2 / M2.6 **Air Handling Unit**
SCALE 1/8" = 1'-0"

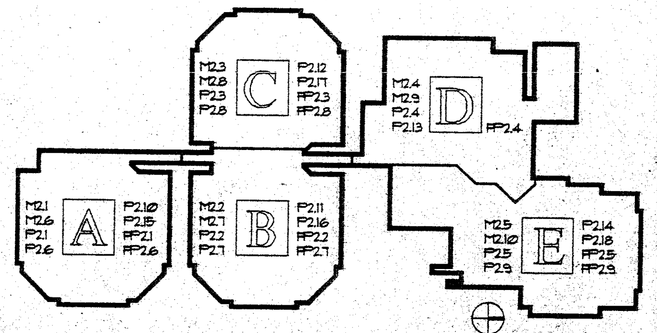


1 / M2.6 **Building A - Second Floor Plan Hvac**
SCALE 1/8" = 1'-0"



5 / M2.6 **Security Barrier Grille w/Frame**
SCALE 1/8" = 1'-0"

NOTE:
1. PROVIDE 16 GA DUCTWORK AS INDICATED.



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REGISTERED PROFESSIONAL ENGINEER GARY W. RIDENHOUR

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AUGUSTA/
RICHMOND COUNTY
DETENTION CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

Building A
Second Floor Plan -
Hvac

SHEET TITLE

DESIGN BY: gwr
DRAWN BY: adm
CHECKED BY: gwr

NO	DESCRIPTION	DATE
	FIRE MARSHALL REVIEW	12/08/95
	RELEASED FOR BID	09/06/96
3	REVISIONS	02/16/96

12-08-95
DATE

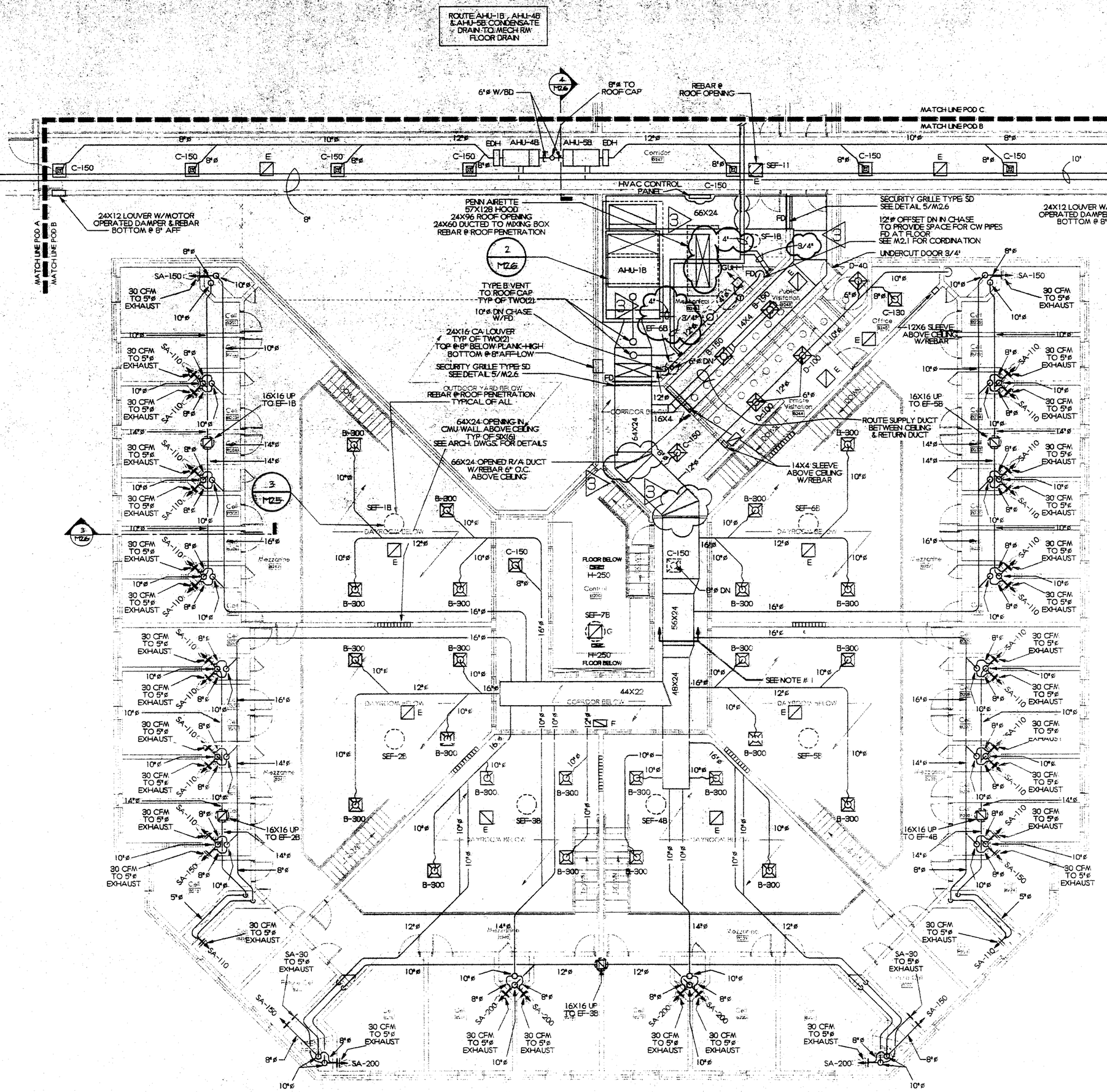
95052
JOB NUMBER

50468M6
CAD FILE NUMBER

95-052-1
FILE NUMBER

SHEET

M2.6

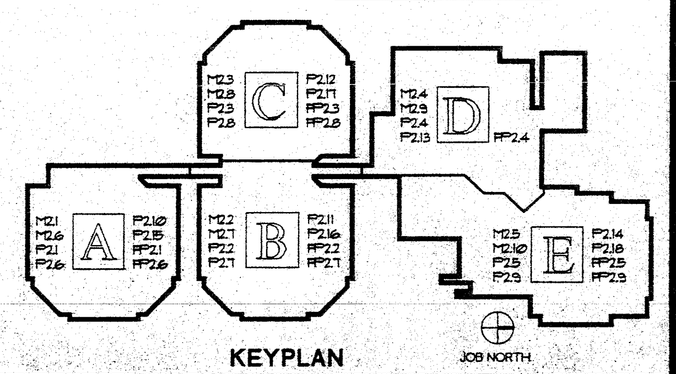


1 / M2.7 Building B - Second Floor Plan Hvac

SCALE: 1/8" = 1' 0"

NOTE:

1. PROVIDE 16 GA DUCTWORK AS INDICATED.



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AUGUSTA/
RICHMOND COUNTY
DETENTION CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

Building B
Second Floor Plan -
Hvac

SHEET TITLE

DESIGN BY	DRAWN BY	CHECKED BY
gwr	sdm	gwr

NO	DESCRIPTION	DATE
	FIRE MARSHALL REVIEW	12/08/95
	RELEASED FOR BID	01/08/96
3	REVISIONS	02/16/96

DATE	JOB NUMBER	CAD FILE NUMBER	FILE NUMBER
12-08-95	96052	50468M7	95.052-1

SHEET M2.7

AUGUSTA/RICHMOND COUNTY DETENTION CENTER

PHINIZY ROAD LANDFILL
AUGUSTA, GEORGIA

PROJECT

PRECISION PLANNING, INC.
Planners, Engineers, Architects & Surveyors
400 PIKE BOULEVARD
P.O. BOX 2210
LAWRENCEVILLE, GEORGIA 30246
(404) 962-8000 (FAX) (404) 822-5990

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SHEET	M2.8
DATE	12-08-95
JOB NUMBER	95062
CAD FILE NUMBER	50468MB
FILE NUMBER	95-062-1

NO	DESCRIPTION	DATE
	FIRE MARSHALL REVIEW	12/08/95
	RELEASED FOR BID	01/08/96
3	REVISIONS	02/16/96

DESIGN BY: gwr
DRAWN BY: sdm
CHECKED BY: gwr

SHEET TITLE

Building C
Second Floor Plan - Hvac

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KEYPLAN

JOB NORTH

NOTE:
1. PROVIDE 16 GA DUCTWORK AS INDICATED.

1 / T-28 Building C - Second Floor Plan Hvac
SCALE 1/8" = 1'-0"

ROUTE AHU-1C CONDENSATE DRAIN TO MECH'NM FLOOR DRAIN

SEE M2.7 FOR CONTINUATION

HVAC CONTROL PANEL

PENN ABELTTE 24X60 DUCTED TO MIXING BOX 24X96 ROOF OPENING 57X138 HOOD NEMAH # ROOF PENETRATION

SECURITY GRILLE TYPE SD SEE DETAIL 5/M2.6

MATCH LINE POD B

MATCH LINE POD C

MATCH LINE POD C
MATCH LINE AREA D

12"ø OFFSET ON N CHASE TO PROVIDE SPACE FOR CW PIPES SEE M2.1 FOR COORDINATION

UNDERCUT DOOR 3/4"

TYPE B VENT TO ROOF CAP TYP OF TWO(2)

10"ø DN CHASE W/FD

24X16 CA LOUVER TYP OF TWO(2) TOP @ 8'-8" BELOW PLANK-HGH BOTTOM @ 8'AFF-LOW

SECURITY GRILLE TYPE SD SEE DETAIL 5/M2.6

REBAR @ ROOF PENETRATION TYP OF SKYLG SEE ARCH'L DWGS FOR DETAILS

64X24 OPENING IN OWU WALL ABOVE CEILING TYPICAL OF ALL

66X24 OPENING W/REBAR @ DUCT ABOVE CEILING

14X4 SLEEVE ABOVE CEILING W/REBAR

12X6 SLEEVE ABOVE CEILING W/REBAR

ROUTE SPRKLR DUCT BETWEEN CEILING & RETURN DUCT

FLOOR BELOW

DN ROOM BELOW

CONFROOM BELOW

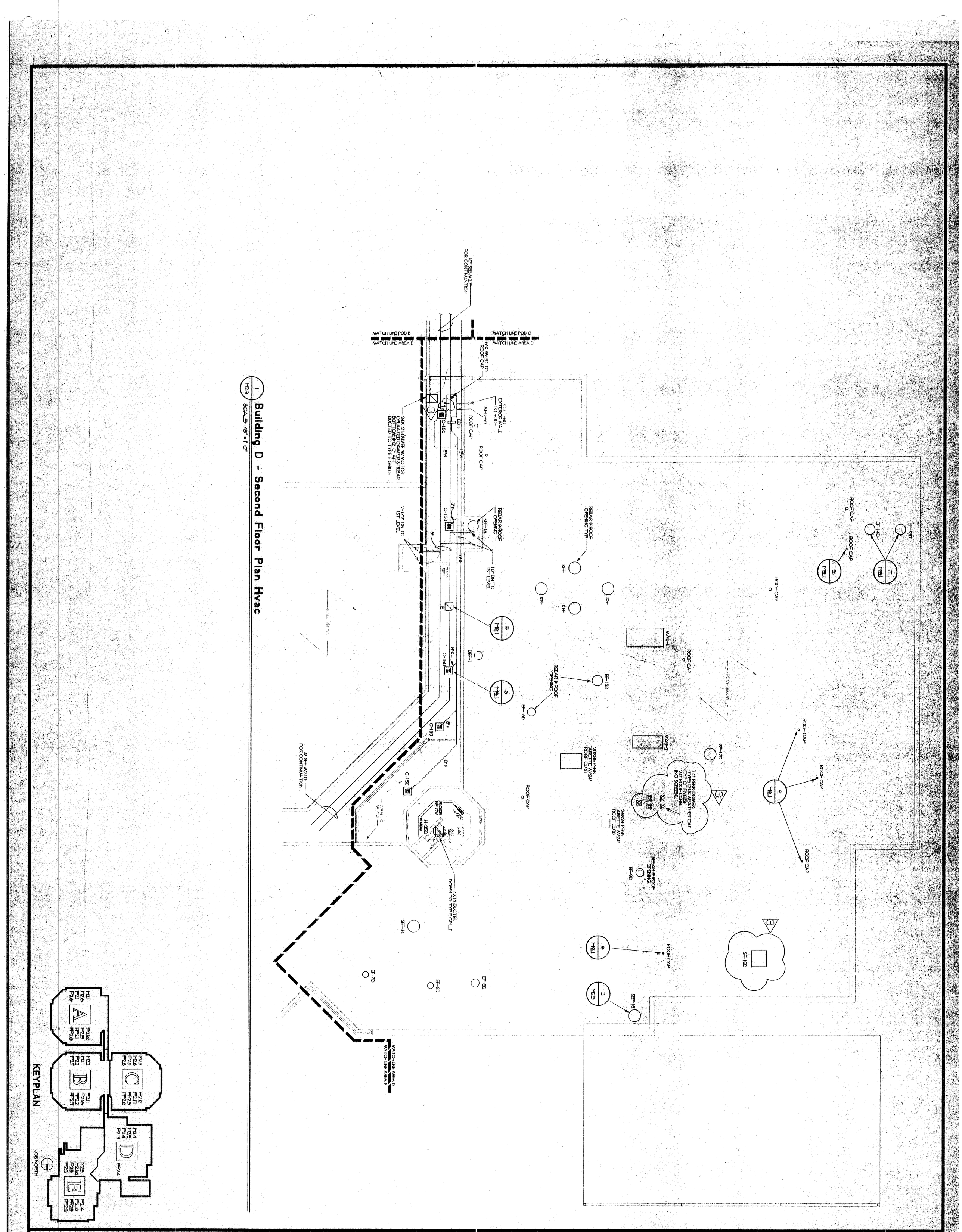
SEE NOTE # 1

SEE M2.7 FOR CONTINUATION

2 / T-28

3 / T-28

4 / T-28



1 / M2.9 Building D - Second Floor Plan Hvac

SCALE: 1/8" = 1'-0"

SHEET	M2.9
DATE	12-08-95
JOB NUMBER	95052
CAD FILE NUMBER	50468M9
FILE NUMBER	95-052-1

DATE	NO	DESCRIPTION
12/08/95		FIRE MARSHALL REVIEW
01/08/96		RELEASED FOR BID
02/16/96	3	REVISIONS

Building D
Second Floor Plan - Hvac

SHEET TITLE

DESIGN BY	DRAWN BY	CHECKED BY
gwr	sdm	gwr

AUGUSTA/ RICHMOND COUNTY DETENTION CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

PRECISION PLANNING, INC.
Planners, Engineers, Architects & Surveyors
400 PIKE BOULEVARD
P.O. BOX 2210
LAWRENCEVILLE, GEORGIA 30246
(404) 962-8000 (FAX) (404) 822-5990

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GEORGIA REGISTERED No. 19619 PROFESSIONAL ENGINEER GARY W. RICHARDSON

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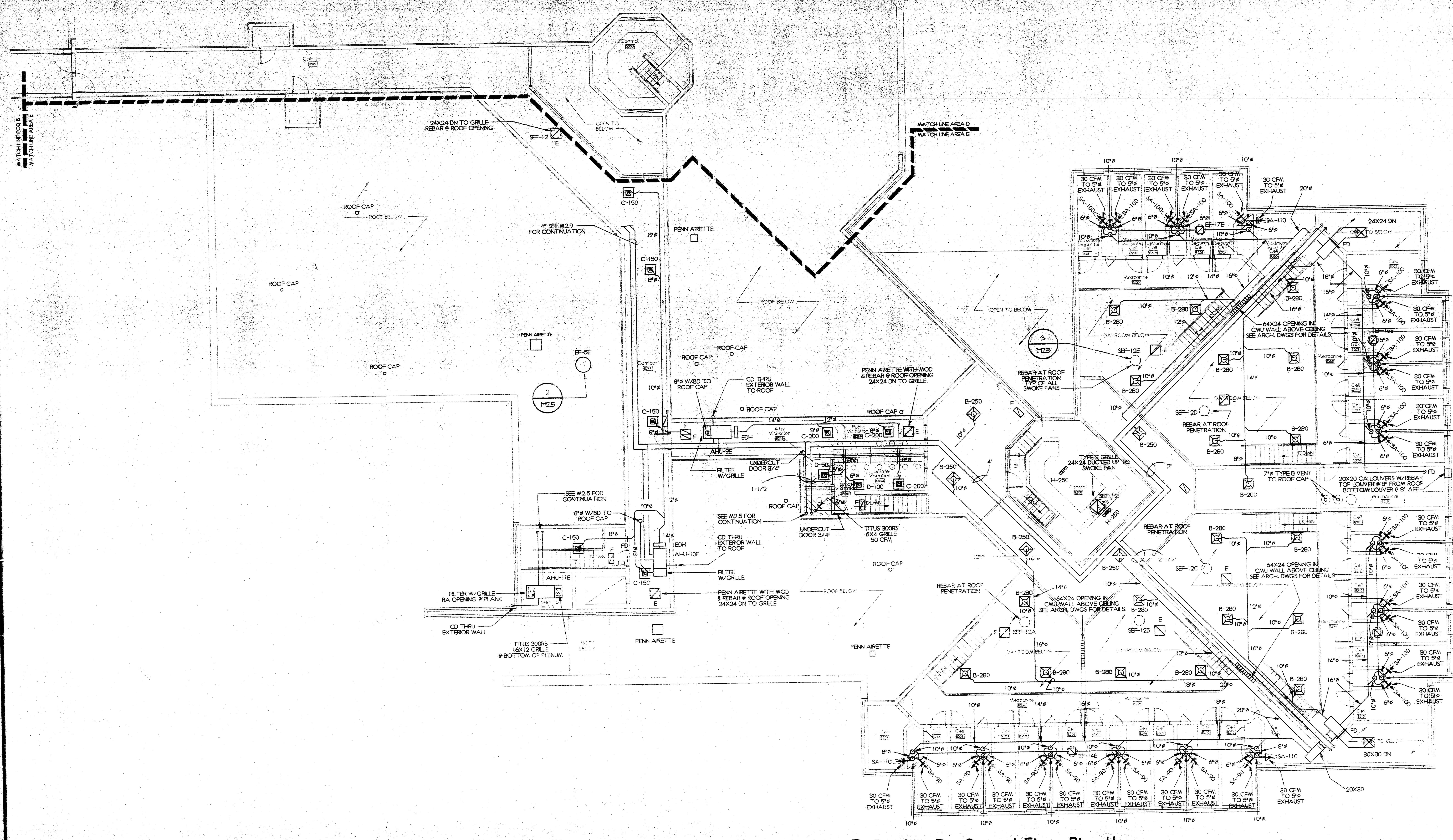
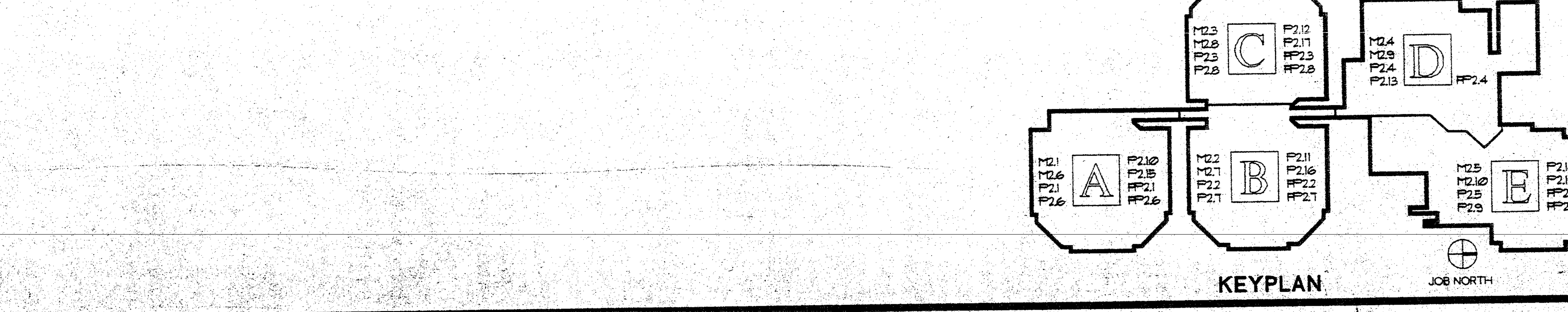


1 Building E - Second Floor Plan Hvac
M2.10 SCALE: 1/8" = 1' 0"



KEYPLAN

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GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. 13278 GARY W. RICHARDSON

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AUGUSTA/
RICHMOND COUNTY
DETENTION CENTER
PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

DATE	NO	DESCRIPTION
12/08/95		FIRE MARSHALL REVIEW
01/08/96		RELEASED FOR BID

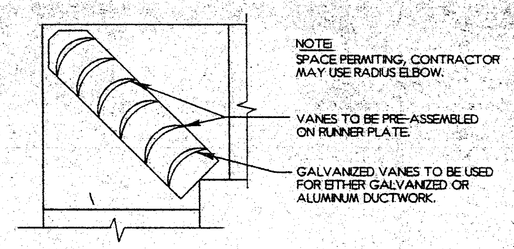
Building E
Second Floor Plan - Hvac

SHEET TITLE

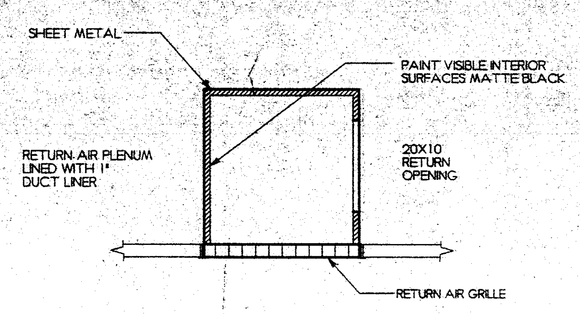
DESIGN BY	DRAWN BY	CHECKED BY
gwr	sdm	gwr

DATE: 12-08-95
JOB NUMBER: 95052
CAD FILE NUMBER: 50468M10
FILE NUMBER: 95-052-1

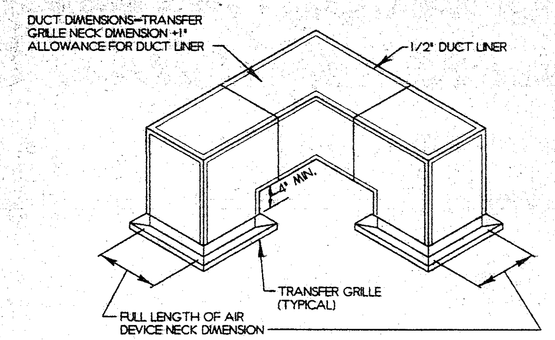
SHEET
M2.10



1 / M9.1 **Turning Vane Detail**
NO SCALE



5 / M9.1 **Return Air Grille Detail**
NO SCALE



8 / M9.1 **Transfer Duct Detail**
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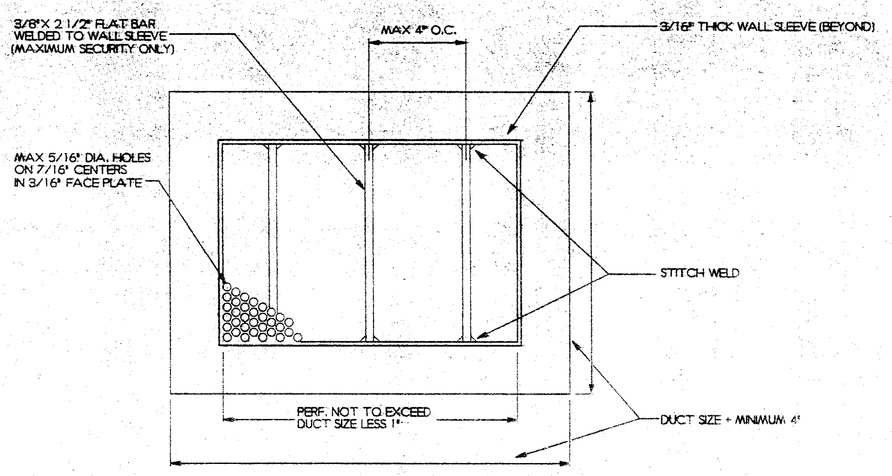
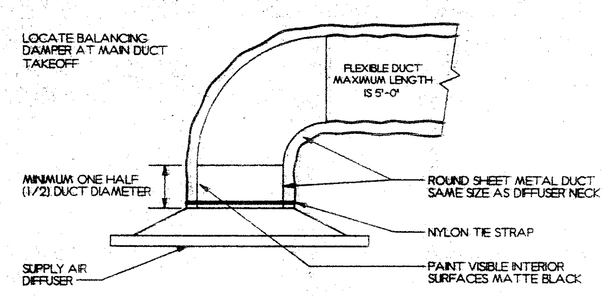
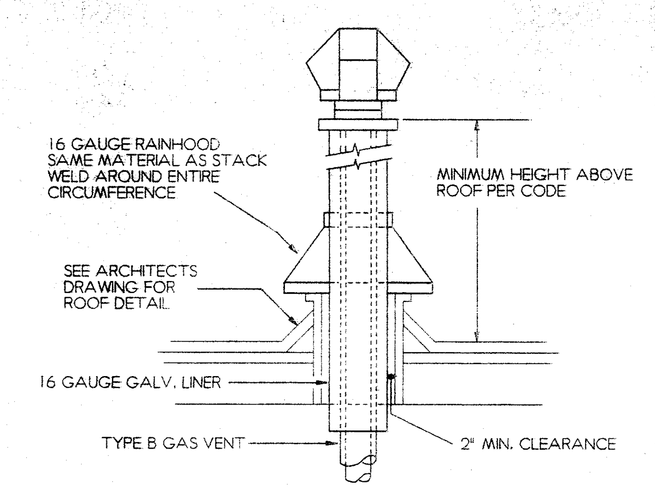


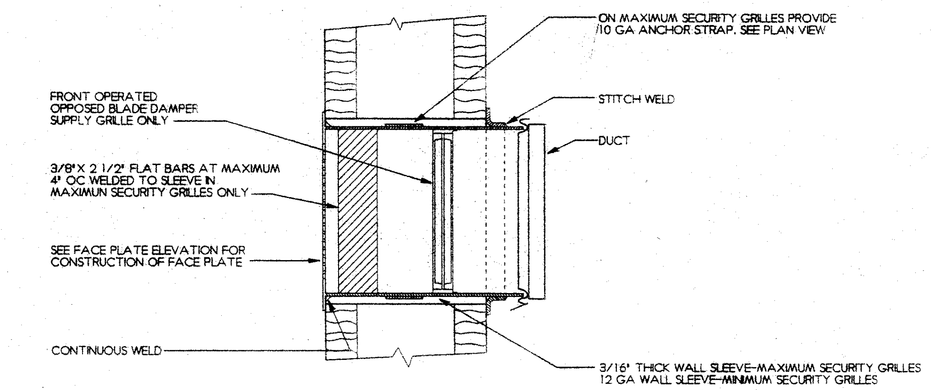
2 / M9.1 **Security Supply/Return Grille Elevation**
NO SCALE



6 / M9.1 **Diffuser Connection**
NO SCALE



9 / M9.1 **Gas Vent Detail**
NO SCALE



3 / M9.1 **Security Supply/Return Grille Section**
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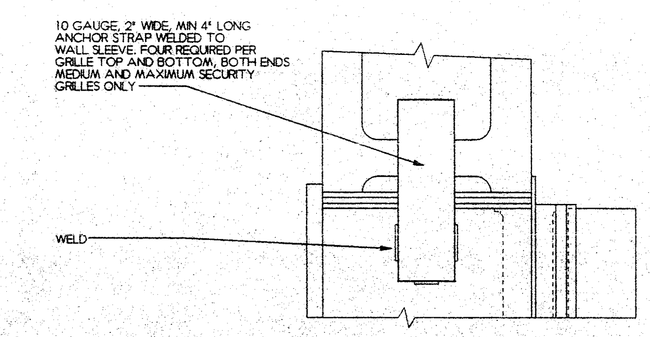
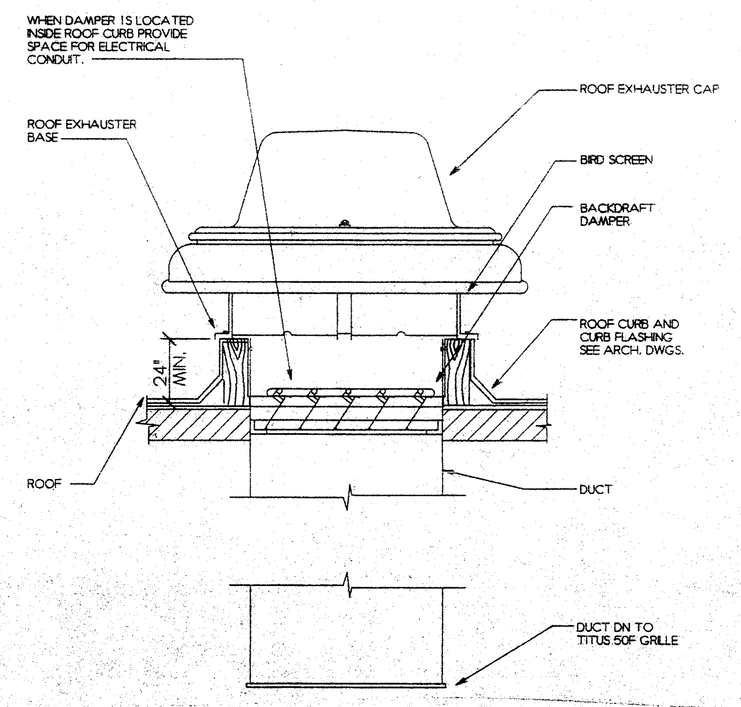
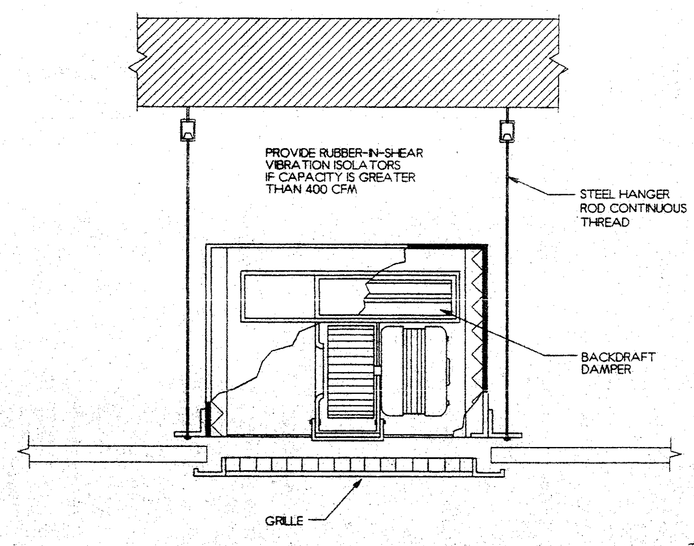


4 / M9.1 **Security Supply/Return Grille Plan View**
NO SCALE



7 / M9.1 **Roof Mounted Exhaust Fan**
NO SCALE



10 / M9.1 **Typical Cabinet Fan**
NO SCALE

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AUGUSTA/
RICHMOND COUNTY
DETENTION CENTER
PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

SHEET TITLE
Hvac Details

DESIGN BY gwr
DRAWN BY sdm
CHECKED BY gwr

NO	DESCRIPTION	DATE
	FIRE MARSHALL REVIEW	12/18/95
	RELEASED FOR BID	01/01/96

12-08-95 DATE
95052 JOB NUMBER
5046M11 CAD FILE NUMBER
95-052-1 FILE NUMBER

M9.1 SHEET

AIR CONDITIONING UNIT SCHEDULE

AIR HANDLER UNIT (AHU)					COOLING		HEATING		TRANE MODEL #		
TAG	AIR FLOW (CFM)	MINIMUM OUTSIDE AIR (CFM)	STATIC PRESS (in wg)	FAN MOTOR HP	COOLING COIL (GPM)	TOTAL COOLING (1,000 BTUH)	ELECTRIC DUCT HEAT (KW/STAGES)	NATURAL GAS HEAT (1,000 BTUH)	AIR HANDLING UNIT	LOCATION	ACCESSORIES
AHU-1A	17,050	2,400	3.7	10.0	110.0	660.0		750	35CLCH	POD A - MECH AZ46	1,2,3,4
AHU-2A	500	60	0.5	1/4	3.2	24.0	3.0/1		BCHA024	POD A - CONTROL	1,2,4
AHU-3A	700	0	0.5	1/4	3.5	24.0	3.0/1		BCHA024	POD A - CLOSET	2,4,5
AHU-4A	600	60	0.5	1/4	3.0	24.0	3.0/1		BCHA024	POD A - CORRIDOR	1,2,4
AHU-1B	17,050	2,400	3.7	10.0	110.0	660.0		750	35CLCH	POD A - MECH BZ46	1,2,3,4
AHU-2B	500	60	0.5	1/4	3.2	24.0	3.0/1		BCHA024	POD B - CONTROL	1,2,4
AHU-3B	1,050	0	0.5	1/4	5.2	36.0	3.0/1		BCHA036	POD B - CLOSET	2,4,5
AHU-4B	600	60	0.5	1/4	3.0	24.0	3.0/1		BCHA024	POD B - CORRIDOR	1,2,4
AHU-5B	600	60	0.5	1/4	3.0	24.0	3.0/1		BCHA024	POD B - CORRIDOR	1,2,4
AHU-1C	17,050	2,400	3.7	10.0	110.0	660.0		750	35CLCH	POD C - MECH C246	1,2,3,4
AHU-2C	500	60	0.5	1/4	3.2	24.0	3.0/1		BCHA024	POD C - CONTROL	1,2,4
AHU-1D	1,050	300	0.5	1/4	8.2	36.0	20.0/2		BCHA036	POD D - STAFF DINING	1,2,3,4
AHU-2D	790	90	0.5	1/4	5.0	24.0	12.0/2		BCHA024	POD D - BLDG\GROS	2,3,4
AHU-3D	3,210	300	0.5	2.0	19.0	90.0	47.0/5		BCHA090	POD D - MECH 0013	1,2,3,4
AHU-4D	500	60	0.5	1/4	3.2	24.0	3.0/1		BCHA024	POD D - CONTROL	2,3,4
AHU-5D	750	60	0.5	1/4	3.0	24.0	3.0/1		BCHA024	POD D - CORRIDOR	2,4
AHU-1E	1,360	200	0.5	3/4	8.8	36.0	22.0/3		BCHA036	POD E - MECH E088	1,2,3,4,5
AHU-2E	2,470	300	0.5	1-1/2	15.0	72.0	37.0/4		BCHA072	POD E - MECH E088	2,3,4,5
AHU-3E	1,200	300	0.5	3/4	9.0	36.0	22.0/3		BCHA036	POD E - MECH E088	1,2,3,4,5
AHU-4E	1,720	300	0.5	1.0	11.0	72.0	30.0/3		BCHA072	POD E - MECH E085	1,2,3,4,5
AHU-5E	2,240	400	0.5	3/4	15.2	90.0	30.0/3		BCHA090	POD E - MECH E056	1,2,3,4,5
AHU-6E	500	60	0.5	1/4	3.2	24.0	3.0/1		BCHA024	POD E - CONTROL	2,4
AHU-7E	5,230	760	0.5	2.0	33.6	201.6		400	10CLCH	POD E - MECH E041	1,2,3,4
AHU-8E	7,420	1,200	0.5	3.0	49.2	295.2		400	14CLCH	POD E - MECH E048	1,2,3,4
AHU-9E	800	240	0.5	1/4	5.9	24.0	16.0/2		BCHA024	POD E - VISITATION	2,4
AHU-10E	750	60	0.5	1/4	3.0	24.0	3.0/1		BCHA024	POD E - CORRIDOR	2,4
AHU-11E	1,000	0	0.5	1/4	5.2	36.0	NONE	NONE	BCHA036	POD E - ELEV EQP	2,4

ACCESSORIES:
1. SMOKE DETECTOR, TWO DETECTORS WHEN AIR FLOW IS GREATER THAN 15,000 CFM.
2. SIX ROW COIL.
3. ECONOMIZER, FILTER RACK & MIXING BOX.
4. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.
5. VERTICAL CONVERSION KIT.

NOTE: COIL ENTERING AIR TEMPERATURE - 80 F DB, 67 F WB.
COIL LEAVING AIR TEMPERATURE - 55 F DB, 54 F WB.

SMOKE FAN SCHEDULE

TAG	CAPACITY (CFM)	SP (in WG)	H P	SONES	FAN TYPE	LOCATION	VENDOR	MODEL	NOTES
SEF-1A	3,600	0.375	3/4	9.4	ROOF AXIAL	POD A	PENN	HF-24	1,2,3,4
SEF-1B	3,600	0.375	3/4	9.4	ROOF AXIAL	POD B	PENN	HF-24	1,2,3,4
SEF-1C	3,600	0.375	3/4	9.4	ROOF AXIAL	POD C	PENN	HF-24	1,2,3,4
SEF-2A	3,600	0.375	3/4	9.4	ROOF AXIAL	POD A	PENN	HF-24	1,2,3,4
SEF-2B	3,600	0.375	3/4	9.4	ROOF AXIAL	POD B	PENN	HF-24	1,2,3,4
SEF-2C	3,600	0.375	3/4	9.4	ROOF AXIAL	POD C	PENN	HF-24	1,2,3,4
SEF-3A	3,600	0.375	3/4	9.4	ROOF AXIAL	POD A	PENN	HF-24	1,2,3,4
SEF-3B	3,600	0.375	3/4	9.4	ROOF AXIAL	POD B	PENN	HF-24	1,2,3,4
SEF-3C	3,600	0.375	3/4	9.4	ROOF AXIAL	POD C	PENN	HF-24	1,2,3,4
SEF-4A	3,600	0.375	3/4	9.4	ROOF AXIAL	POD A	PENN	HF-24	1,2,3,4
SEF-4B	3,600	0.375	3/4	9.4	ROOF AXIAL	POD B	PENN	HF-24	1,2,3,4
SEF-4C	3,600	0.375	3/4	9.4	ROOF AXIAL	POD C	PENN	HF-24	1,2,3,4
SEF-5A	3,600	0.375	3/4	9.4	ROOF AXIAL	POD A	PENN	HF-24	1,2,3,4
SEF-5B	3,600	0.375	3/4	9.4	ROOF AXIAL	POD B	PENN	HF-24	1,2,3,4
SEF-5C	3,600	0.375	3/4	9.4	ROOF AXIAL	POD C	PENN	HF-24	1,2,3,4
SEF-6A	3,600	0.375	3/4	9.4	ROOF AXIAL	POD A	PENN	HF-24	1,2,3,4
SEF-6B	3,600	0.375	3/4	9.4	ROOF AXIAL	POD B	PENN	HF-24	1,2,3,4
SEF-6C	3,600	0.375	3/4	9.4	ROOF AXIAL	POD C	PENN	HF-24	1,2,3,4
SEF-7A	2,900	0.375	3/4	9.0	ROOF AXIAL	POD A	PENN	HF-24	1,2,3,4
SEF-7B	2,900	0.375	3/4	9.0	ROOF AXIAL	POD B	PENN	HF-24	1,2,3,4
SEF-7C	2,900	0.375	3/4	9.0	ROOF AXIAL	POD C	PENN	HF-24	1,2,3,4
SEF-8	1,000	0.375	1/2	8.5	ROOF CENT	POD A	PENN	FX10B	1,2,3,4
SEF-9	1,000	0.375	3/4	8.5	WALL CENT	COR A065	PENN	WFX10B	2,3,4
SEF-10	2,000	0.375	3/4	8.4	WALL CENT	COR B065	PENN	WFX16B	2,3,4
SEF-11	2,000	0.375	1/2	7.0	ROOF AXIAL	COR B247	PENN	HF24	1,2,3,4
SEF-12	3,000	0.375	3/4	8.5	ROOF AXIAL	COR E241	PENN	HF24	1,2,3,4
SEF-12A	2,400	0.375	3/4	7.6	ROOF AXIAL	POD E	PENN	HF24	1,2,3,4
SEF-12B	2,400	0.375	3/4	7.6	ROOF AXIAL	POD E	PENN	HF24	1,2,3,4
SEF-12C	3,600	0.375	3/4	9.4	ROOF AXIAL	POD E	PENN	HF24	1,2,3,4
SEF-12D	3,600	0.375	3/4	9.4	ROOF AXIAL	POD E	PENN	HF24	1,2,3,4
SEF-12E	2,400	0.375	3/4	7.6	ROOF AXIAL	POD E	PENN	HF24	1,2,3,4
SEF-12F	5,100	0.375	1.0	11.5	ROOF AXIAL	POD E	PENN	HF24	1,2,3,4
SEF-13	4,000	0.375	3/4	10.0	ROOF AXIAL	COR D001	PENN	HF24	1,2,3,4
SEF-14	1,000	0.375	3/4	8.5	ROOF CENT	CON D200	PENN	FX10B	1,2,3,4
SEF-15	2,000	0.375	1/2	7.0	ROOF AXIAL	SP D016	PENN	HF24	1,2,3,4
SEF-16	2,000	0.375	1/2	7.0	ROOF AXIAL	POD D006	PENN	HF24	1,2,3,4

NOTES:
1. 24" HIGH UNIBEAM CURB WITH CANT STRIP.
2. BIRD SCREEN.
3. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.
4. PROVIDE REBAR AT ROOF/WALL PENETRATION SEE ARCHITECTURAL DRAWINGS FOR DETAILS.

FAN SCHEDULE

TAG	CAPACITY (CFM)	SP (in WG)	H P	SONES	FAN TYPE	LOCATION	VENDOR	MODEL	NOTES
EF-1A	960	0.5	1/4	7.8	ROOF	POD A	PENN	AQ20L	1,2,7
EF-1B	960	0.5	1/4	7.8	ROOF	POD B	PENN	AQ20L	1,2,7
EF-1C	960	0.5	1/4	7.8	ROOF	POD C	PENN	AQ20L	1,2,7
EF-2A	960	0.5	1/4	7.8	ROOF	POD A	PENN	AQ20L	1,2,7
EF-2B	960	0.5	1/4	7.8	ROOF	POD B	PENN	AQ20L	1,2,7
EF-2C	960	0.5	1/4	7.8	ROOF	POD C	PENN	AQ20L	1,2,7
EF-3A	960	0.5	1/4	7.8	ROOF	POD A	PENN	AQ20L	1,2,7
EF-3B	960	0.5	1/4	7.8	ROOF	POD B	PENN	AQ20L	1,2,7
EF-3C	960	0.5	1/4	7.8	ROOF	POD C	PENN	AQ20L	1,2,7
EF-4A	960	0.5	1/4	7.8	ROOF	POD A	PENN	AQ20L	1,2,7
EF-4B	960	0.5	1/4	7.8	ROOF	POD B	PENN	AQ20L	1,2,7
EF-4C	960	0.5	1/4	7.8	ROOF	POD C	PENN	AQ20L	1,2,7
EF-5A	960	0.5	1/4	7.8	ROOF	POD A	PENN	AQ20L	1,2,7
EF-5B	960	0.5	1/4	7.8	ROOF	POD B	PENN	AQ20L	1,2,7
EF-5C	960	0.5	1/4	7.8	ROOF	POD C	PENN	AQ20L	1,2,7
EF-6A	100	0.125	1/25	2.2	ROOF	POD A	PENN	XR60L	1,2,3,7
EF-6B	100	0.125	1/25	2.2	ROOF	POD B	PENN	XR60L	1,2,3,7
EF-6C	100	0.125	1/25	2.2	ROOF	POD C	PENN	XR60L	1,2,3,7
EF-7A	300	0.125	1/25	3.2	WALL	POD A	PENN	WR82L	1,3,7
EF-7B	300	0.125	1/25	3.2	WALL	POD B	PENN	WR82L	1,3,7
EF-7C	300	0.125	1/25	3.2	WALL	POD C	PENN	WR82L	1,3,7
EF-8A	300	0.125	1/25	3.2	WALL	POD A	PENN	WR82L	1,3,7
EF-8B	300	0.125	1/25	3.2	WALL	POD B	PENN	WR82L	1,3,7
EF-8C	300	0.125	1/25	3.2	WALL	POD C	PENN	WR82L	1,3,7
SF-1A	400	0.125	1/25	3.1	ROOF	POD A	PENN	XR82L	1,2,3,7
SF-1B	400	0.125	1/25	3.1	ROOF	POD B	PENN	XR82L	1,2,3,7
SF-1C	400	0.125	1/25	3.1	ROOF	POD C	PENN	XR82L	1,2,3,7
EF-1D	50	0.125	1/250	1.0	CABINET	POD D	PENN	Z5L	1,3,5,7
EF-2D	50	0.125	1/250	1.0	CABINET	POD D	PENN	Z5L	1,3,5,7
EF-3D	50	0.125	1/250	1.0	CABINET	POD D	PENN	Z5L	1,3,5,7
EF-4D	50	0.125	1/250	1.0	CABINET	POD D	PENN	Z5L	1,3,5,7
EF-5D	180	0.125	1/25	3.0	WALL	POD D	PENN	WXR60L	1,3,7
EF-6D	60	0.125	1/25	1.1	ROOF	POD D	PENN	XR60L	1,3,7
EF-7D	60	0.125	1/25	1.1	ROOF	POD D	PENN	XR60L	1,3,7
EF-8D	90	0.125	1/25	1.5	ROOF	POD D	PENN	XR60L	1,3,7
EF-9D	90	0.125	1/25	1.5	ROOF	POD D	PENN	XR60L	1,3,7
EF-10D	120	0.125	1/25	2.2	CABINET	POD D	PENN	Z7L	1,3,7
EF-11D	60	0.125	1/25	1.1	CABINET	POD D	PENN	Z5L	1,3,7
EF-12D	200	0.125	1/20	2.3	CABINET	POD D	PENN	Z8L	1,3,4,7
EF-13D	180	0.125	1/25	2.3	ROOF	POD D	PENN	XR60L	1,3,6,7
EF-14D	180	0.125	1/25	2.3	ROOF	POD D	PENN	XR60L	1,3,6,7
EF-15D	200	0.125	1/25	2.5	ROOF	POD D	PENN	XR60L	1,3,6,7
EF-16D	2,000	0.375	1/4	7.1	ROOF	POD D	PENN	DX7B	1,2,3,7
SF-17D	2,000	0.375	1/4	7.1	ROOF	POD D	PENN	DX7B	1,2,3,4
EF-1E	100	0.125	1/250	1.7	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-2E	100	0.125	1/250	1.7	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-3E	100	0.125	1/250	1.7	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-4E	60	0.125	1/250	1.1	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-5E	30	0.125	1/25	2.6	ROOF	POD E	PENN	XR60L	1,2,7
EF-6E	60	0.125	1/250	1.1	CABINET	POD E	PENN	Z5L	1,3,7
EF-7E	60	0.125	1/250	1.1	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-8E	80	0.125	1/250	1.1	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-9E	70	0.125	1/250	1.2	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-10E	60	0.125	1/250	1.1	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-11E	60	0.125	1/250	1.1	CABINET	POD E	PENN	Z5L	1,3,5,7
EF-12E	340	0.125	1/12	3.2	CABINET	POD E	PENN	Z10L	1,3,5,7
EF-13E	360	0.125	1/12	3.5	CABINET	POD E	PENN	Z10L	1,3,5,7
EF-14E	1,440	0.5	3/4	8.4	ROOF	POD E	PENN	AQ35L	1,2,7
EF-15E	720	0.5	1/4	6.6	ROOF	POD E	PENN	AQ10L	1,2,7
EF-16E	720	0.5	1/4	6.6	ROOF	POD E	PENN	AQ10L	1,2,7
EF-17E	400	0.5	1/4	5.2	ROOF	POD E	PENN	AQ10L	1,2,3,4
SF-18D	2,000	0.375	1/4	7.1	ROOF	POD D	PENN	DX7B	1,2,3,4

1. BACKDRAFT DAMPER.
2. 24" HIGH FACTORY FABRICATED ROOF CURB.
3. SPEED CONTROL.
4. CONTROL FROM THERMOSTAT.
5. CONTROL FROM LIGHT SWITCH.
6. CONTROL FROM SEPARATE WALL SWITCH.
7. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.

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RICHMOND COUNTY
JOINT LAW
ENFORCEMENT CENTER

PHINIZY ROAD FACILITY
AUGUSTA, GEORGIA

PROJECT

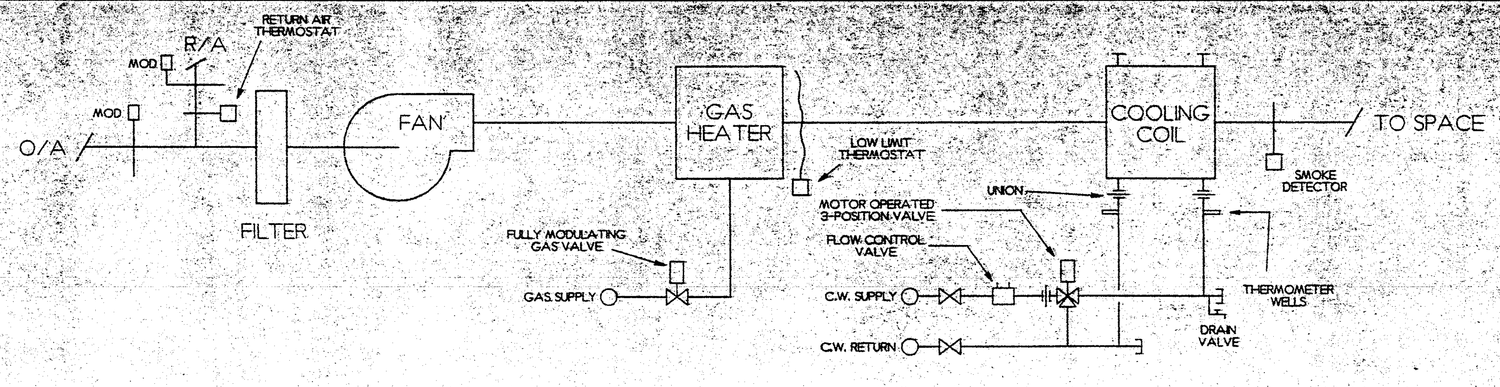
SHEET TITLE: Hvac Schedules

DESIGN BY: gwf
DRAWN BY: sdm
CHECKED BY: gwf

DATE	NO	DESCRIPTION
12/08/95		FIRE MARSHALL REVIEW
09/06/95		RELEASED FOR BID
08/15/95	3	REVISION

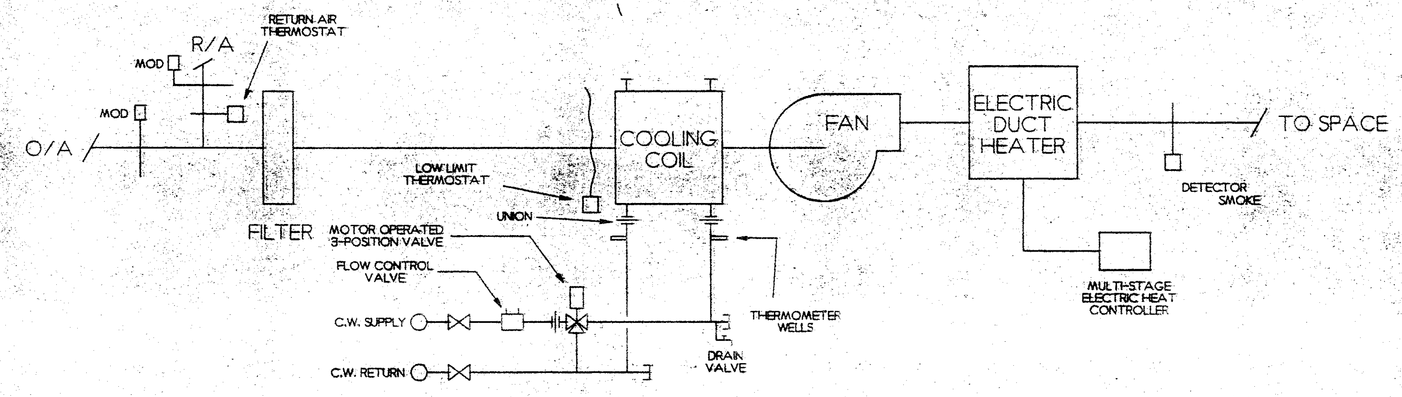
12-8-95 DATE
95052 JOB NUMBER
50465M12 CAD FILE NUMBER
95-052-1 FILE NUMBER

SHEET M9.2



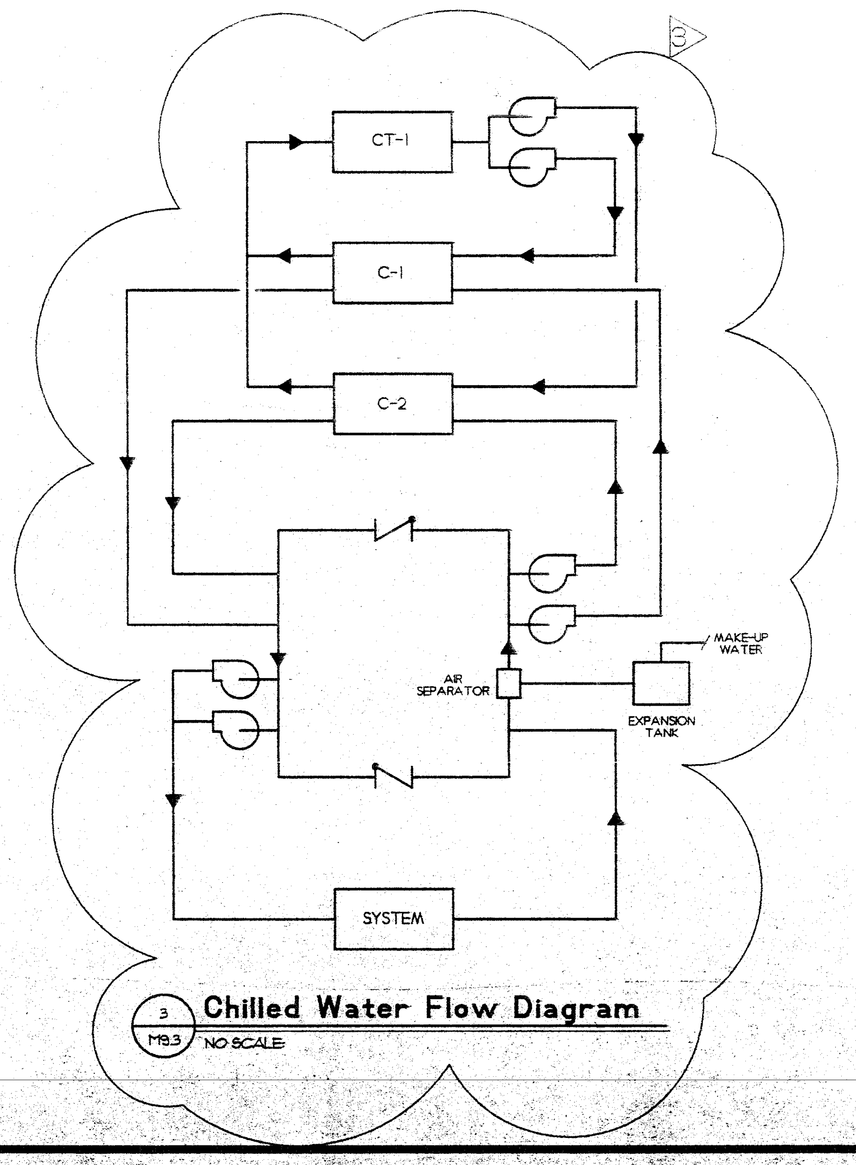
1 / M9.3 **AHU-1A,1B,1C,7E,8E Flow/Control Diagram**

NO SCALE



2 / M9.3 **AHU-2A,3A,4A,2B,3B,4B,5B,2C,1D,2D,3D,4D,5D, 1E,2E,3E,4E,5E,6E,9E,10E,11E Flow/Control Diagram**

NO SCALE



3 / M9.3 **Chilled Water Flow Diagram**

NO SCALE

AHU RUNOUT SIZES SCHEDULE	
TAG	RUNOUT SIZES
AHU-1A,1B,1C,	4"
AHU-1D,2D,2A,2B,2C,	3/4"
AHU-3A,3B	3/4"
AHU-4A,4B,4D	3/4"
AHU-5B,5D	3/4"
AHU-6E,10E,11E	3/4"
AHU-3D	1-1/2"
AHU-2E,4E,5E	1-1/4"
AHU-1E,8E,9E	1"
AHU-7E	2"
AHU-8E	2-1/2"

CHILLER		C-1	C-2
CAPACITY (TONS)		200	200
MAXIMUM POWER INPUT (KW)		115	115
WATER CONDENSER	FLOW (GPM)	600	600
	ENTERING TEMP. (°F)	85	85
	LEAVING TEMP. (°F)	95	95
	MAX PRESSURE DROP (FT)	17.4	17.4
WATER CHILLED	FLOW (GPM)	480	480
	ENTERING TEMP. (°F)	54	54
	LEAVING TEMP. (°F)	44	44
	MAX PRESSURE DROP (FT)	13.0	13.0

250 TON EA. PER T/M PKAGE W/ CAPACITY FOR (2) ADDL PODS

NOTE:
1. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/ VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.

COOLING TOWER	CT-1
WATER FLOW (GPM)	1,200
WATER INLET (°F)	95
WATER OUTLET (°F)	85
DESIGN WET BULB (°F)	78
NUMBER OF CELLS	2
MOTOR SPEED (RPM)	1800
FAN POWER PER CELL (HP)	10
BASIN HEATER PER CELL (KW)	15
NOTES	1,2

NOTE:
1. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/ VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.
2. COOLING TOWER SHALL BE MARLEY NC 2112, TWO CELL TOWER OR APPROVED EQUAL.

EXPANSION TANK SCHEDULE	T-1
MINIMUM TANK VOLUME (GAL)	50
MINIMUM ACCEPTANCE VOLUME (GAL)	30
TANK CHARGE PRESSURE (PSIG)	30

NOTES:
T-1 – CHILLED WATER EXPANSION TANK.

UNIT HEATER SCHEDULE	EUH-1
MANUFACTURER	QMARK
MODEL	MUH03-B1
CAPACITY (CFM)	350
MOTOR HP	1/100
INPUT CAPACITY KW	3.0

COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.

WALL HEATER SCHEDULE	EWH
MANUFACTURER	QMARK
MODEL	AWH-4204
INPUT CAPACITY KW	1.5

NOTE: EWH COLOR BY ARCHITECT
COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.

DIFFUSER SCHEDULE							
TAG	DESCRIPTION	NECK SIZE	COLOR	MOUNTING	VENDOR	MODEL	ACCESSORIES
A	24X24	12"	WHITE	LAY-IN	TITUS	TMS	2
B	24X24	10"	WHITE	LAY-IN	TITUS	TMS	2
C	12X12	8"	WHITE	LAY-IN	TITUS	TMS	1,2
D	12X12	6"	WHITE	LAY-IN	TITUS	TMS	1,2
E	24X24	–	WHITE	LAY-IN	TITUS	50F	–
F	24X12	–	WHITE	LAY-IN	TITUS	50F	–
G	12X12	–	WHITE	LAY-IN	TITUS	50F	–
H	24X6	–	WHITE	SURFACE	TITUS	CT-540	3
J	16X8	–	WHITE	SURFACE	TITUS	300RS	4
K	12X4	–	WHITE	SURFACE	TITUS	300RS	4
L	12X4	–	WHITE	SURFACE	TITUS	350RL	–
M	24X4	–	WHITE	SURFACE	TITUS	350RL	–

ACCESSORIES:
1. MOUNT IN 24X24 PANEL.
2. AG-75 BALANCING DAMPER.
3. AG-35 BALANCING DAMPER.
4. AG-15 BALANCING DAMPER.

SECURITY DIFFUSER SCHEDULE							
TAG	DESCRIPTION	NECK SIZE	COLOR	MOUNTING	VENDOR	MODEL	ACCESSORIES
SA	12X12	–	WHITE	SURFACE	TITUS	SG-PR	1,2,3
SB	9X9	–	WHITE	SURFACE	TITUS	SG-PR	1,2,3
SC	6X6	–	WHITE	SURFACE	TITUS	SG-PR	1,2,3
SD	24X24	–	WHITE	SURFACE	TITUS	SG-BG-SLV	3

ACCESSORIES:
1. ROUND NECK ADAPTOR.
2. STEEL OPPOSED BLADE DAMPER.
3. SEE DETAILS ON M9.1.

GAS UNIT HEATER SCHEDULE	GUH-1	GUH-2	GUH-3
MANUFACTURER	REZNOR	REZNOR	REZNOR
MODEL	F25	F50	F75
HEATING CAPACITY (1,000)			
INPUT	25	50	75
OUTPUT	20	40	60
MOTOR (HP)	1/70	1/40	1/35
VENT (OUTLET)	4" RD.	4" RD.	5" OVAL

EXHAUST HOODS	KEH-1	DEH-1
MANUFACTURER	PENN	PENN
MODEL		GC-1
SUPPLY FAN MODEL	FX24B (SEE NOTE:1,2)	
SUPPLY FAN CFM	4,000	
SP (in wg)	.15	
SUPPLY FAN MOTOR HP	1/3	
EXHAUST FAN MODEL(KEF)	FX-24B (SEE NOTE:1,2)	FX-16B
EXHAUST FAN CFM	5,000	1800
SP (in wg)	1.33	0.25
EXHAUST FAN MOTOR HP	2.0	1/4

NOTE:
1. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.
2. TWO(2) EXHAUST & TWO(2) SUPPLY FANS FOR KEH-1, SEE M2.4.

MAKE-UP AIR UNIT SCHEDULE	MAU-1	MAU-2
MANUFACTURER	REZNOR	REZNOR
MODEL	HCRGB-350	HCRGB-400
CAPACITY (CFM)	5,600	4,000
MOTOR HP	1-1/2	1-1/2
INPUT CAPACITY (1000 BTUH)	350	360
OUTPUT CAPACITY (1000 BTUH)	252	288
EVAPORATIVE COOLER MODEL	REC70	REC70
ACCESSORIES	1,2,3,4,5,6,7	1,2,3,4,5,6,7

ACCESSORIES
1. 12" GLASdek MEDIA & AUTOMATIC FILL & DRAIN VALVE.
2. FULL ROOF 24" CURB, 100% O/A HOOD WITH AR-11 DAMPER.
3. TWO STAGE THERMOSTAT & REMOTE CONTROL SWITCH RC-7.
4. STAINLESS STEEL HEAT EXCHANGER (TYPE 409).
5. TWO-STAGE GAS CONTROL & FREEZESTAT.
6. DOWNTURN PLENUM CABINET.
7. 2" FILTER RACK.
8. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.

WATER PUMP SCHEDULE						
TAG	FLOW (GPM)	HEAD (FT)	MAXIMUM RPM	MAXIMUM HP	LOCATION	USAGE
P-1	480	30	1750	5.0	CENT PLANT	PRIMARY CHILLED WATER
P-2	480	30	1750	5.0	CENT PLANT	PRIMARY CHILLED WATER
P-3	960	80	1750	50	CENT PLANT	SECONDARY CHILLED WATER
P-4	960	80	1750	50	CENT PLANT	SECONDARY CHILLED WATER
P-5	1,200	50	1750	20	CENT PLANT	CONDENSER WATER
P-6	1,200	50	1750	20	CENT PLANT	CONDENSER WATER

NOTE:
1. COORDINATE ELECTRICAL CHARACTERISTICS OF EACH EQUIP. W/ VOLTAGE & PHASE AS SHOWN ON ELECTRICAL DRAWINGS.

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RICHMOND COUNTY JOINT LAW ENFORCEMENT CENTER

FACILITY
PHINIZY ROAD
AUGUSTA, GEORGIA

PROJECT

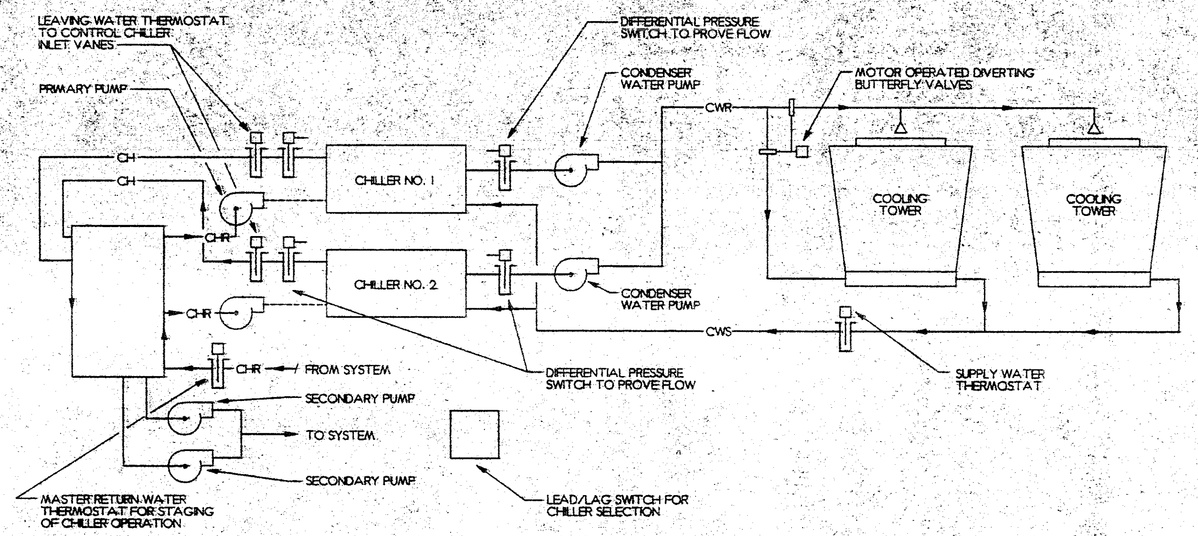
SHEET TITLE: Hvac Schedules

DRAWN BY: sdm
CHECKED BY: gwf
DESIGN BY: gwf

NO	DESCRIPTION	DATE
	FIRE MARSHALL REVIEW	12/08/95
	RELEASED FOR BID	01/08/96
3	REVISED	02/16/96

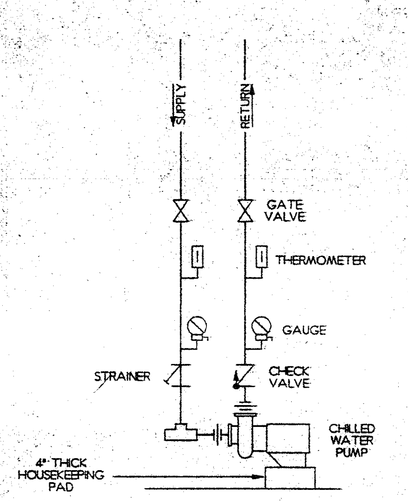
12-08-95 DATE
95052 JOB NUMBER
50468M13 CAD FILE NUMBER
95-052-1 FILE NUMBER

M9.3 SHEET



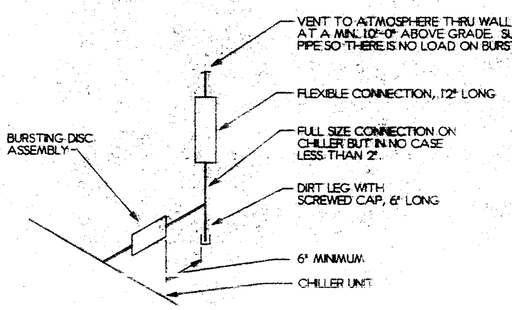
4 M9.4 **Chiller Control Diagram**

SCHEMATIC ONLY



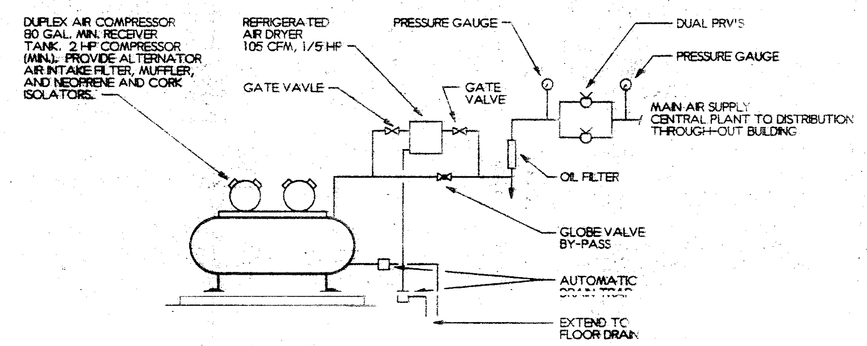
1 M9.4 **Chilled/Condenser Water Pump Diagram**

SCHEMATIC ONLY



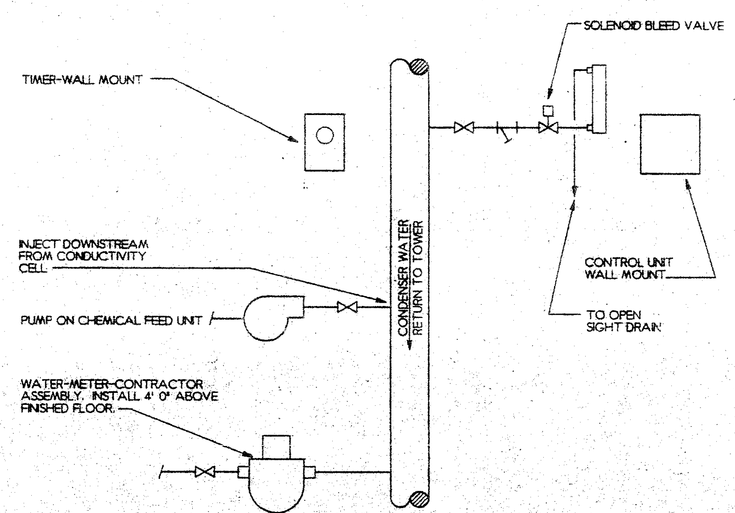
5 M9.4 **Refrigerant Relief Piping**

SCHEMATIC ONLY



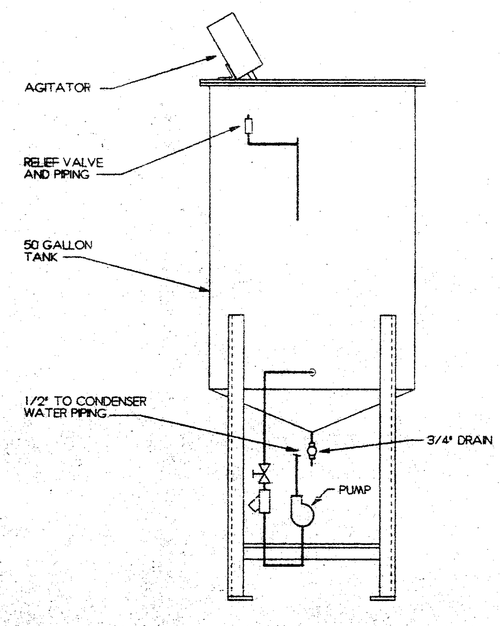
2 M9.4 **Air Compressor Control Diagram**

SCHEMATIC ONLY



6 M9.4 **Schematic-Proportional Feed and Auto. Bleed System For Condenser Water System**

NO SCALE



3 M9.4 **Condenser Water Chemical Feed Unit**

NO SCALE

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AUGUSTA, GEORGIA

PROJECT

Hvac Details

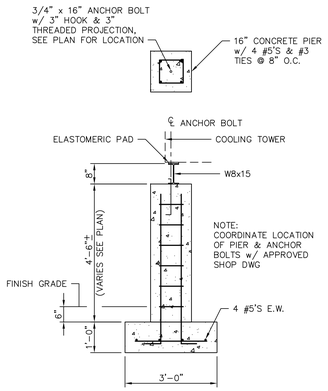
SHEET TITLE

DESIGN BY gwr
DRAWN BY edm
CHECKED BY gwr

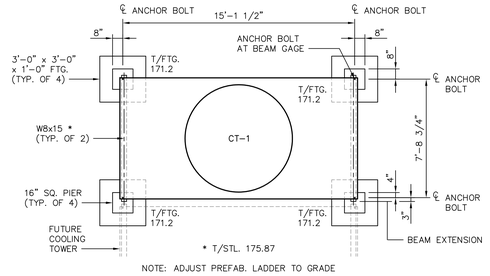
DATE	NO	DESCRIPTION
2/16/96	3	REVISION

12-08-95 DATE
95052 JOB NUMBER
50468M94 CAD FILE NUMBER
95-052-1 FILE NUMBER

SHEET M9.4

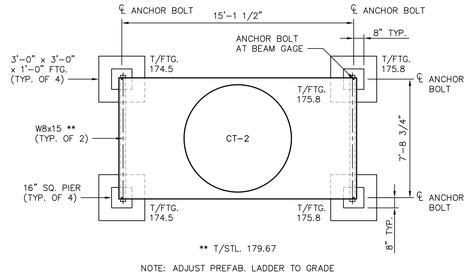


1 M-001 COOLING TOWER PIER DETAIL
NO SCALE



NOTE: ADJUST PREFAB. LADDER TO GRADE

COOLING TOWER CT-1

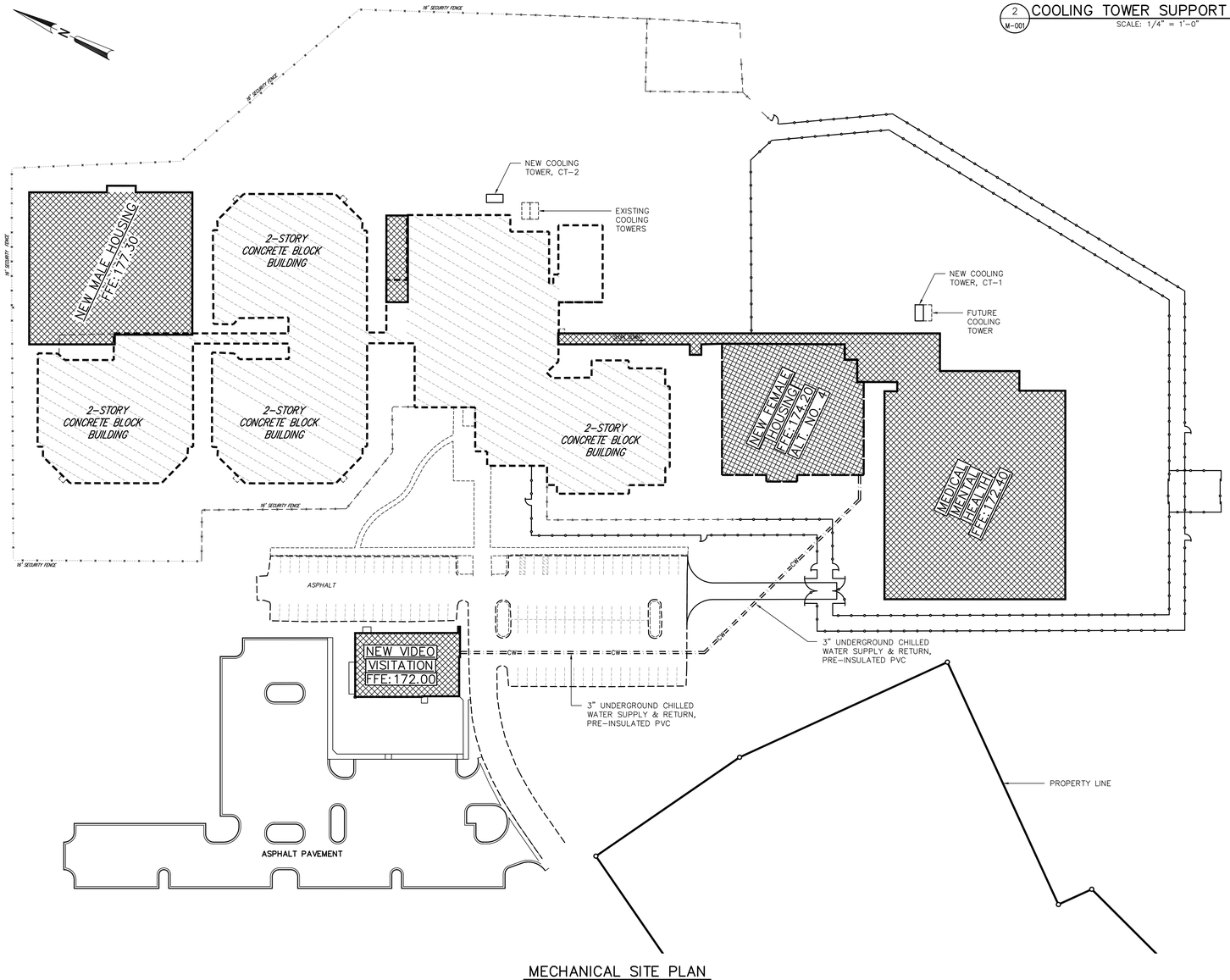


NOTE: ADJUST PREFAB. LADDER TO GRADE

COOLING TOWER CT-2

NOTE:
COOLING TOWER ANCHOR BOLT LOCATIONS BASED ON SPX COOLING TECHNOLOGIES DRAWING NO. BA330258M FROM COOLING TOWER SHOP DRAWING SUBMITTED BY THE MENK COMPANY ON FEBRUARY 6, 2009. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND GENERAL ARRANGEMENT OF ACTUAL EQUPMENT.

2 M-001 COOLING TOWER SUPPORT DETAIL
SCALE: 1/4" = 1'-0"



MECHANICAL SITE PLAN
0 25 50 100 150 FT.
SCALE: 1"=50'-0"

RECORD DRAWING

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SHEET TITLE
MECHANICAL
SITE PLAN

DATE: September 11, 2008

SHEET NUMBER
M-001

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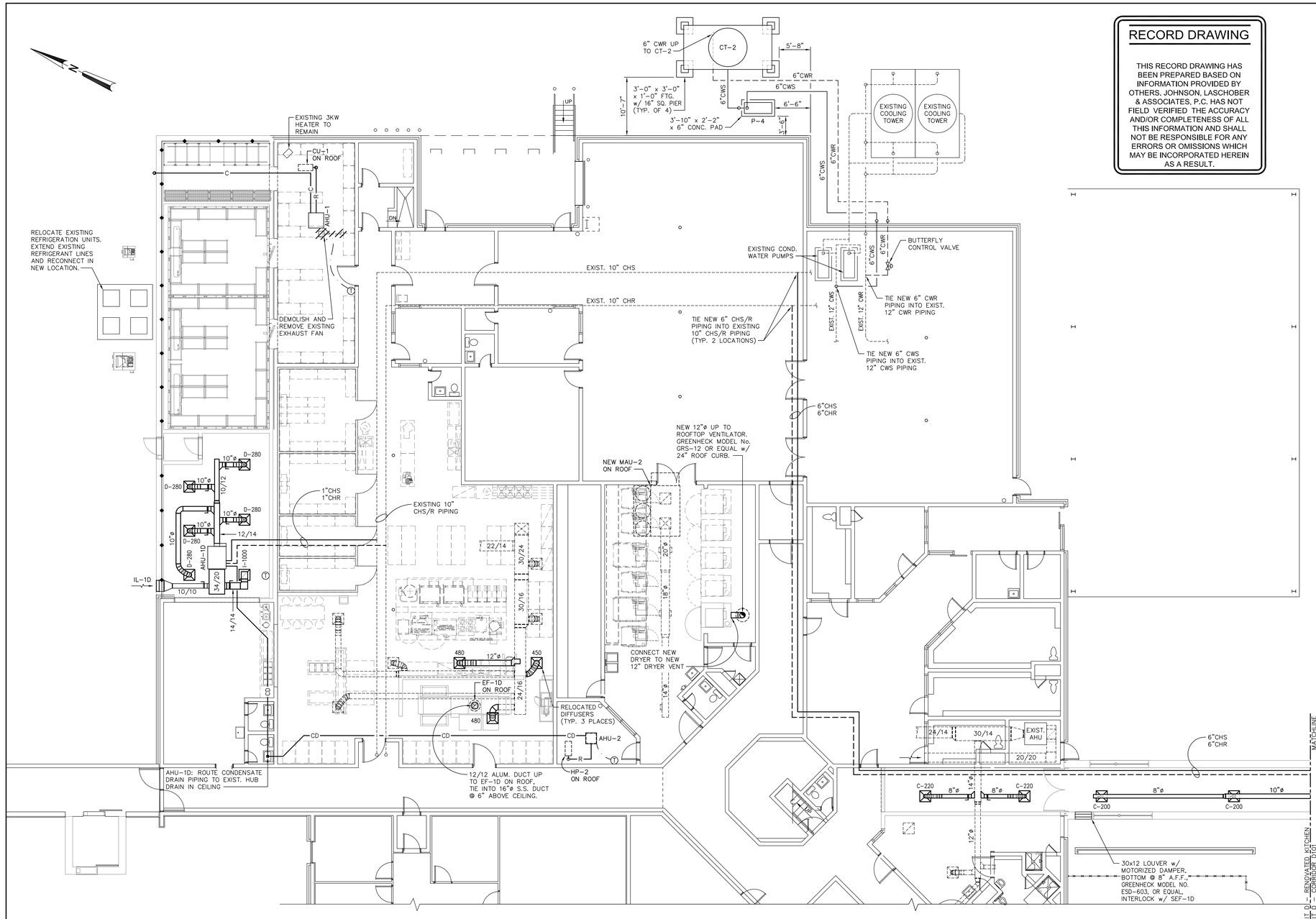
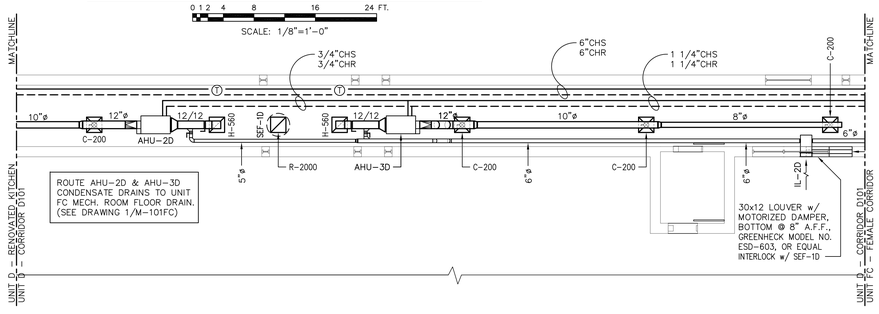


UNIT D – RENOVATED KITCHEN HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"



UNIT D – CORRIDOR HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

AIR HANDLING UNIT SCHEDULE

MARK	BASIS OF DESIGN (MITSUBISHI P/N)	NOM. CFM	ELECTRICAL (SINGLE POINT CONN.) MCA	MCOP	V/ø/Hz	NOTES
AHU-1	PLA-A12BA	460	1.0	15	208/1/60	①②
AHU-2	SLZ-KA09NA	350	1.0	15	208/1/60	①②

① DUCTLESS SPLIT SYSTEM ② CONTROLLED BY WIRED CONTROLLER

OUTDOOR HEAT PUMP/CONDENSING UNIT SCHEDULE

MARK	BASIS OF DESIGN (MITSUBISHI P/N)	COOLING MBH	HEATING MBH HI TEMP.	REFRIG. O.D. LIQUID	SUCTION	MIN. SEER	ELECTRICAL MCA	MCOP	V/ø/Hz
CU-1	PUY-A12NHA3	12.0	–	1/4	1/2	13.5	13	15	208/1/60
HP-2	SUZ-KA09ONA	8.4	10,900	1/4	3/8	15.0	12	15	208/1/60

RECORD DRAWING

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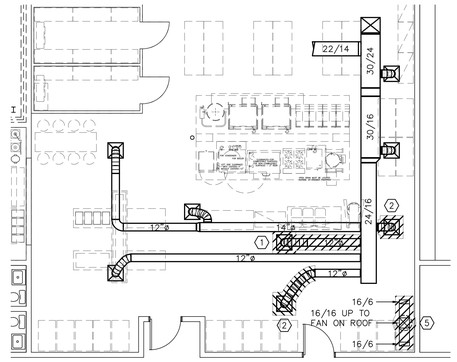
DEMOLITION NOTES:

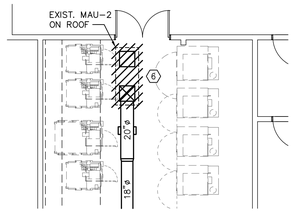
1. – DEMOLISH AND REMOVE EXISTING DUCTWORK TO MAIN TRUNK DUCT. PATCH TRUNK DUCT. EXISTING DIFFUSER SHALL BE REUSED AND RELOCATED.
2. – DEMOLISH AND REMOVE EXISTING FLEX DUCT. PREP END OF EXISTING DUCT FOR NEW DUCTWORK CONNECTION. EXISTING DIFFUSER SHALL BE REUSED AND RELOCATED.
3. – DEMOLISH AND REMOVE EXISTING DIFFUSER AND DUCTWORK TO MAIN TRUNK DUCT. PATCH TRUNK DUCT.
4. – DEMOLISH AND REMOVE EXISTING DUCTWORK, ROOF MOUNTED FAN, AND ROOF CURB. REPAIR ROOF TO MATCH EXISTING.
5. – DEMOLISH AND REMOVE EXISTING DUCTWORK SERVING EXIST. DISHWASHER. CAP EXISTING DUCTWORK BELOW ROOF DECK. ABANDON EXISTING ROOF MOUNTED EXHAUST FAN AND ROOF CURB IN PLACE.
6. – DEMOLISH AND REMOVE EXISTING MAKE-UP AIR UNIT, MAU-2. PREP EXISTING ROOF CURB FOR INSTALLATION OF NEW MAKE-UP AIR UNIT WITH CURB ADAPTER. CONTRACTOR SHALL FIELD VERIFY EXISTING EXISTING MAKE-UP AIR UNIT CURB SIZE AND ORIENTATION PRIOR TO PURCHASING CURB ADAPTER. GAS PIPING SHALL BE TEMPORARILY DISCONNECTED FROM EXISTING MAKE-UP AIR UNIT AND RECONNECT TO NEW UNIT.



UNIT D – KITCHEN HVAC DEMOLITION PLAN

0 1 2 4 8 16 24 FT.

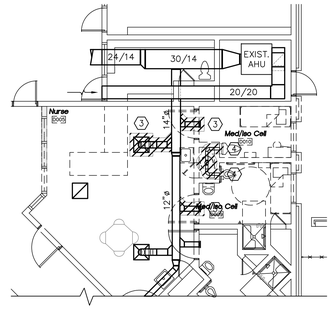
SCALE: 1/8"=1'-0"



UNIT D – LAUNDRY HVAC DEMOLITION PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

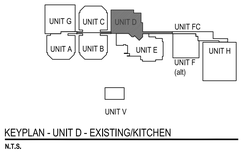


UNIT D – CORRIDOR HVAC DEMOLITION PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

NOTE:
PROVIDE REBAR @ 5 1/2" O.C. AT ANY ROOF AND/OR EXTERIOR WALL PENETRATION LARGER THAN 5 1/2" SQUARE.



NORTH

KEYPLAN - UNIT D - EXISTING/KITCHEN

N.T.S.

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REVISIONS

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Additions And Renovations
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Richmond County Sheriff's Office,
Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
UNIT D - RENOVATED KITCHEN HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-101D

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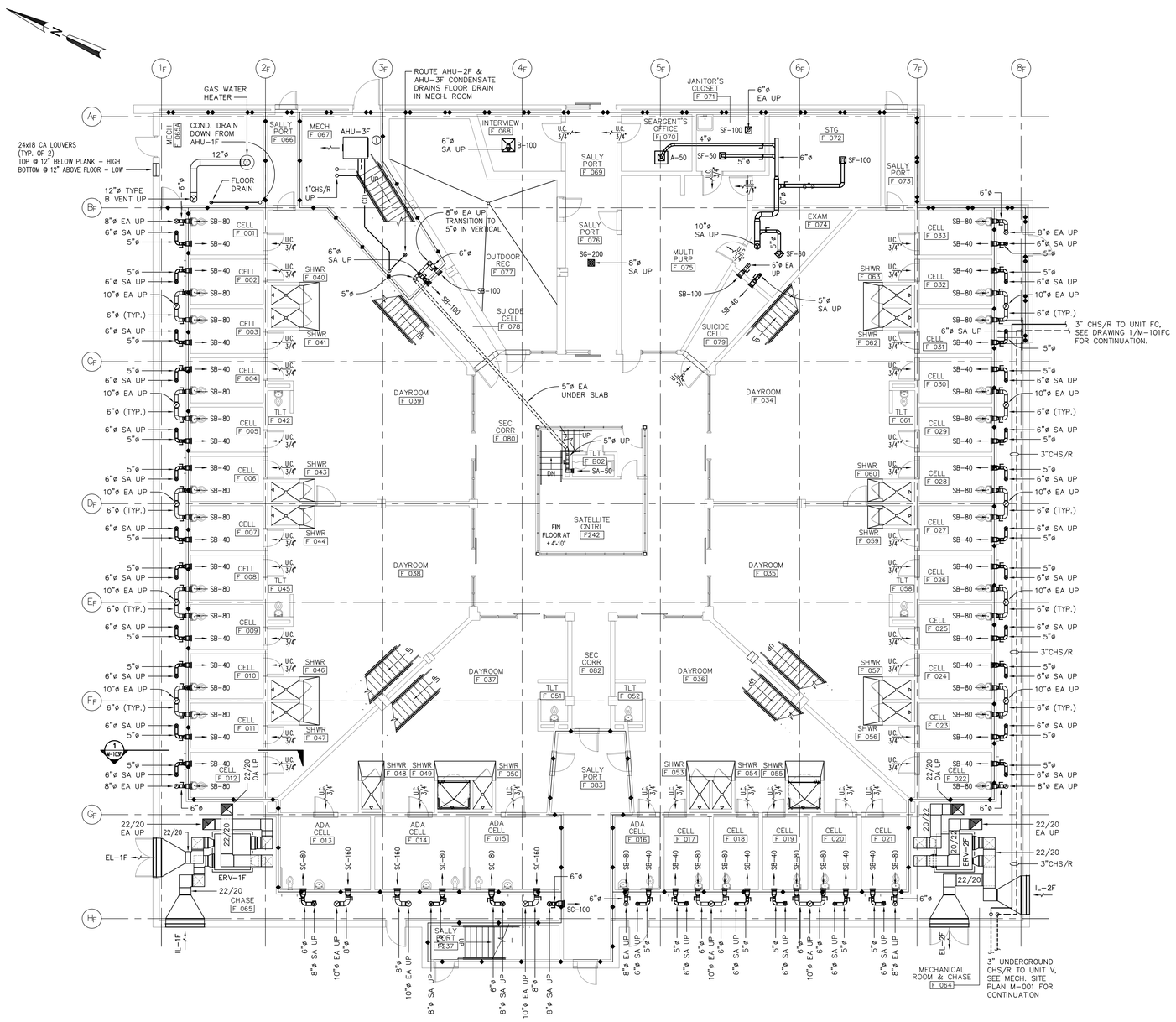

UNIT F – FEMALE HOUSING FIRST LEVEL HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

RECORD DRAWING

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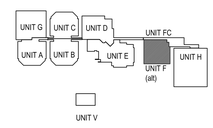

KEYPLAN - UNIT F FEMALE HOUSING UNIT

N.T.S.

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Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
UNIT F - FEMALE HOUSING FIRST LEVEL HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-101F

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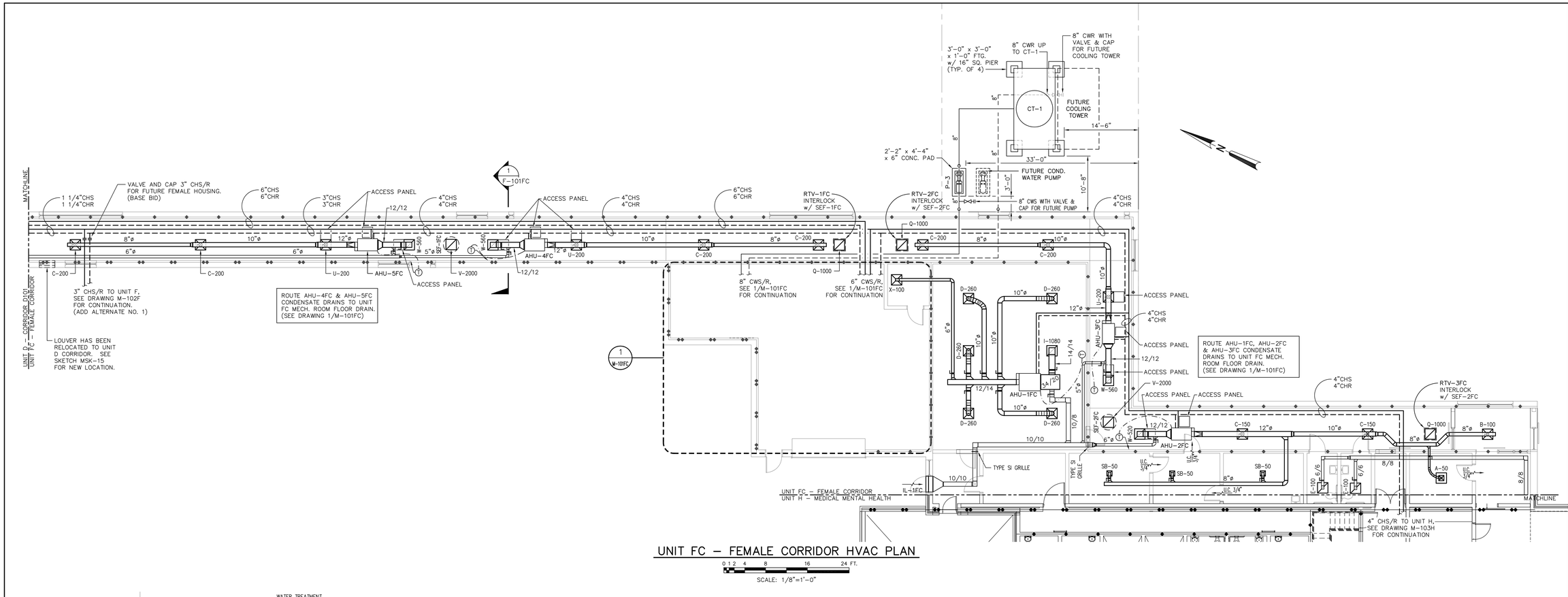
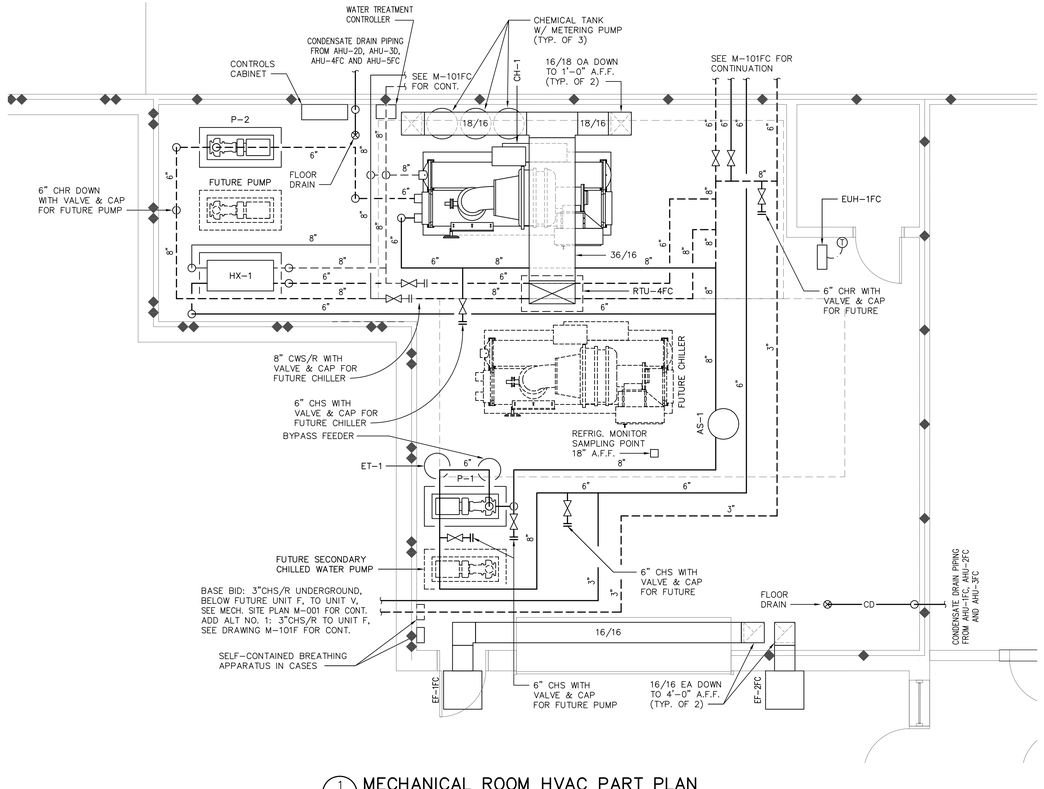


UNIT FC – FEMALE CORRIDOR HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

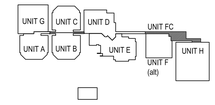


1 M-101FC MECHANICAL ROOM HVAC PART PLAN

0.5 1 2 4 8 12 FT.

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

NOTE:
PROVIDE REBAR @ 5 1/2" O.C.
AT ANY ROOF AND/OR EXTERIOR
WALL PENETRATION LARGER
THAN 5 1/2" SQUARE.



KEYPLAN - UNIT FC FEMALE CORRIDOR
N.T.S.

NORTH

RECORD DRAWING

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SHEET TITLE
UNIT FC - FEMALE CORRIDOR HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-101FC

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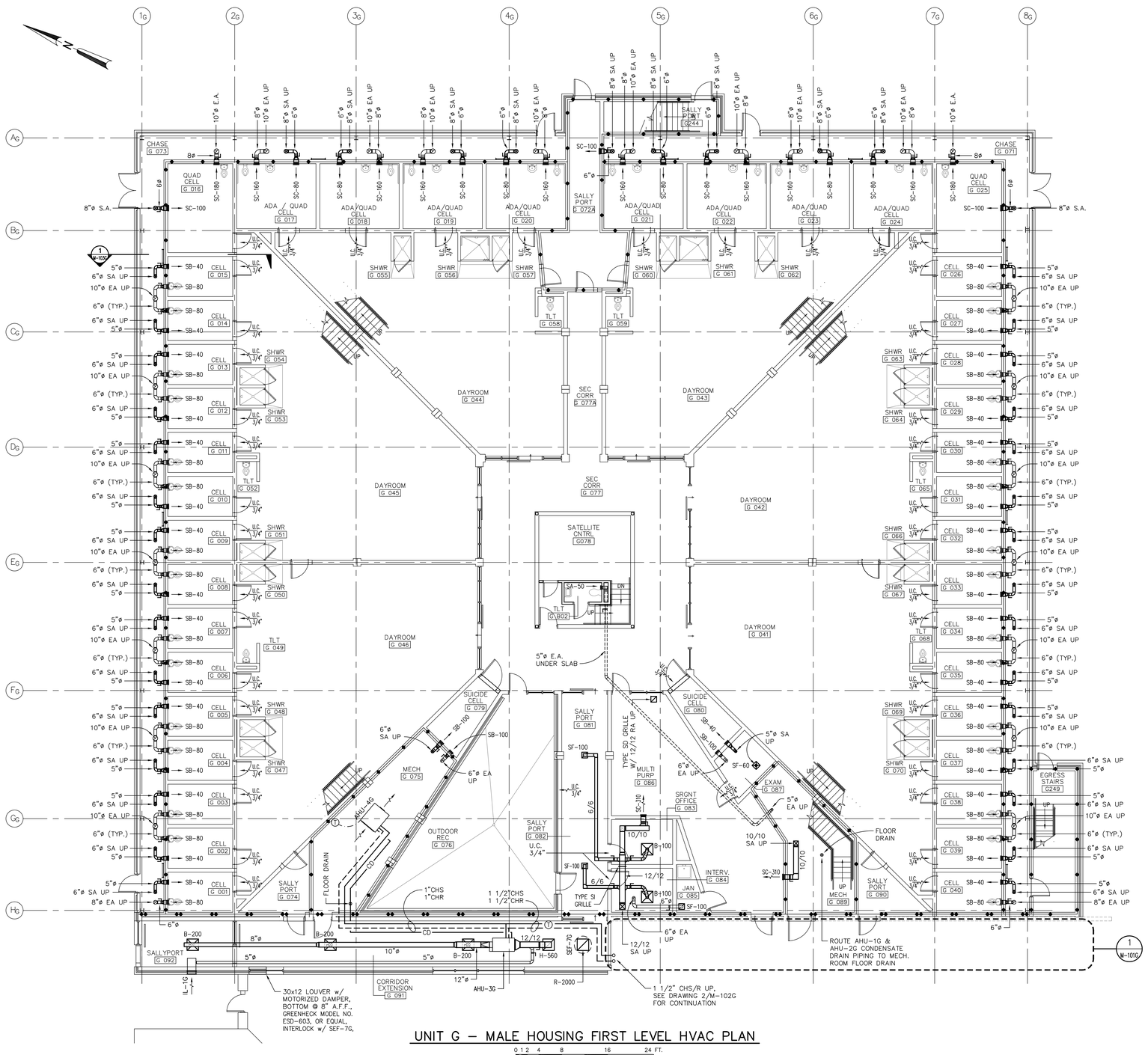
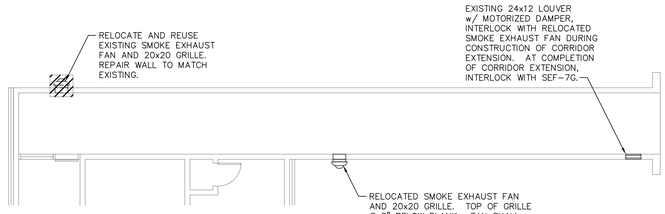


UNIT G – MALE HOUSING FIRST LEVEL HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"



1 M-101G EXISTING CORRIDOR – FIRST LEVEL HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

RECORD DRAWING

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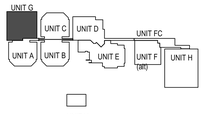

KEYPLAN - UNIT G - MALE HOUSING UNIT
N.T.S.

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SHEET TITLE
UNIT G - MALE HOUSING FIRST LEVEL HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-101G

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UNIT FC – FEMALE CORRIDOR
UNIT H – MEDICAL MENTAL HEALTH

AHU–4H: ROUTE CONDENSATE DRAIN PIPING TO FLOOR DRAIN IN MECH. ROOM H104.

ROUTE FCU–1H, FCU–2H & FCU–3H CONDENSATE DRAIN PIPING TO HUB DRAIN ABOVE CEILING IN MEN H063. ELIMINATE EMERGENCY DRAIN PANS AND INSTALL FLOAT SWITCH

RECORD DRAWING

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UNIT H – MEDICAL MENTAL HEALTH FIRST LEVEL HVAC PLAN

0 1 2 4 8 16 24 FT.
SCALE: 1/8"=1'–0"

UNIT G | UNIT C | UNIT D | UNIT FC
UNIT A | UNIT B | UNIT E | UNIT F (alt) | UNIT H
UNIT V

KEYPLAN - UNIT H - MEDICAL/MENTAL HEALTH UNIT
N.T.S.

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f 770.619.5969

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Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
UNIT H - MEDICAL MENTAL HEALTH FIRST LEVEL HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-101H

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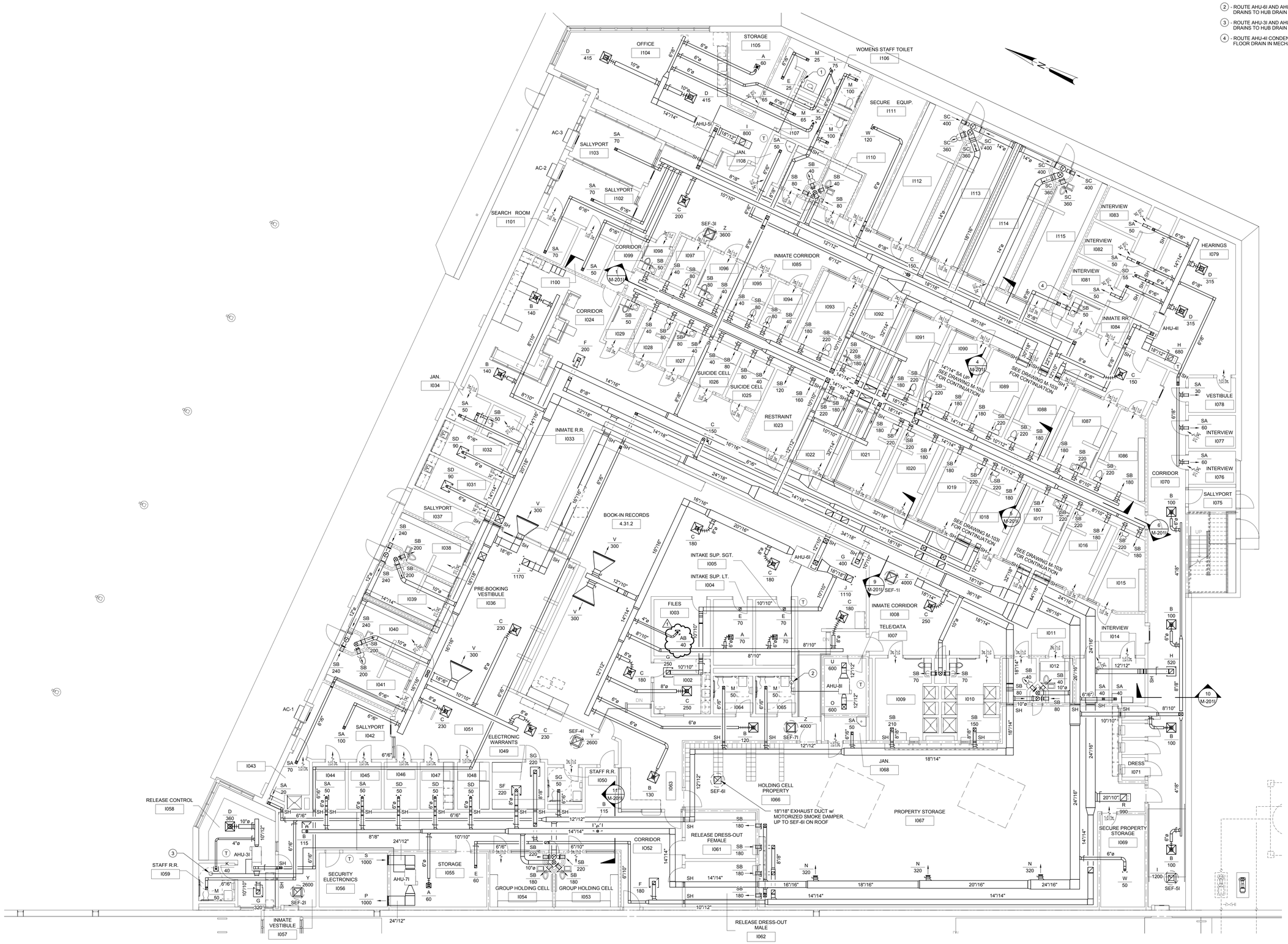
HVAC NOTES:

1. ROUTE AHU-5I CONDENSATE DRAIN TO HUB DRAIN ABOVE CEILING
2. ROUTE AHU-6I AND AHU-8I CONDENSATE DRAINS TO HUB DRAIN ABOVE CEILING
3. ROUTE AHU-3I AND AHU-7I CONDENSATE DRAINS TO HUB DRAIN ABOVE CEILING
4. ROUTE AHU-4I CONDENSATE DRAIN TO FLOOR DRAIN IN MECHANICAL CHASE



UNIT I - HVAC PLAN

SCALE: 1/8" = 1'-0"

NOTE:
PROVIDE REBAR @ 5 1/2" O.C. AT ANY ROOF AND/OR EXTERIOR WALL PENETRATION LARGER THAN 5 1/2" SQUARE FOR SECURITY.

REV	DATE	BY	DESCRIPTION
1	8/23/2012	CVW	REVISED PER FIRE MARSHALL COMMENTS
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

REVISIONS

JOHNSON, LASCHOBER & ASSOCIATES, P.C.
ARCHITECTS + ENGINEERS + LANDSCAPE ARCHITECTS
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HELLMUTH, OBATA & KASSABAUM, INC.
ARCHITECTS
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ATLANTA, GEORGIA 30303
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www.hok.com

WEBSTER DETENTION CENTER PHASE II

Richmond County Sheriff's Office
1941 Phinizy Road
Augusta, Georgia 30906

UNIT G | UNIT C | UNIT D | UNIT I | UNIT FC
UNIT A | UNIT B | UNIT E | UNIT F | UNIT H
NORTH | UNIT V

GEORGIA PE032509 PROFESSIONAL ENGINEER CURTIS V. WILLIAMSON
SEAL 8/23/12

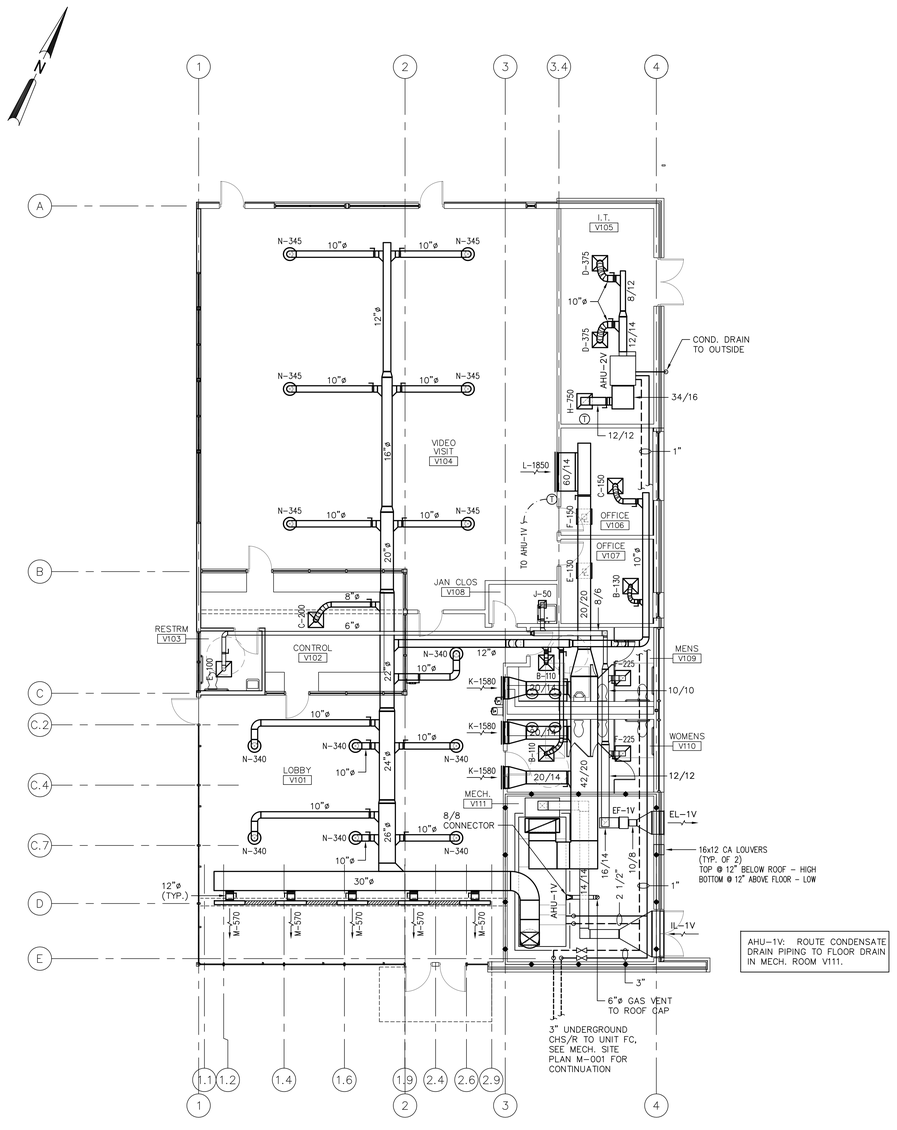
Principal In Charge: CJJ
Project Engineer: CVW
Drawn By: WBR

SHEET TITLE:
UNIT I - HVAC PLAN

SHEET NUMBER: M-101I

PROJECT ID # 11-104

Date: 3/6/12



VIDEO VISITATION HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

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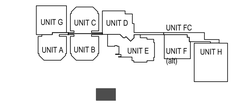

KEYPLAN - UNIT V - VIDEO VISITATION
N.T.S.

SHEET TITLE
VIDEO VISITATION
HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-101V

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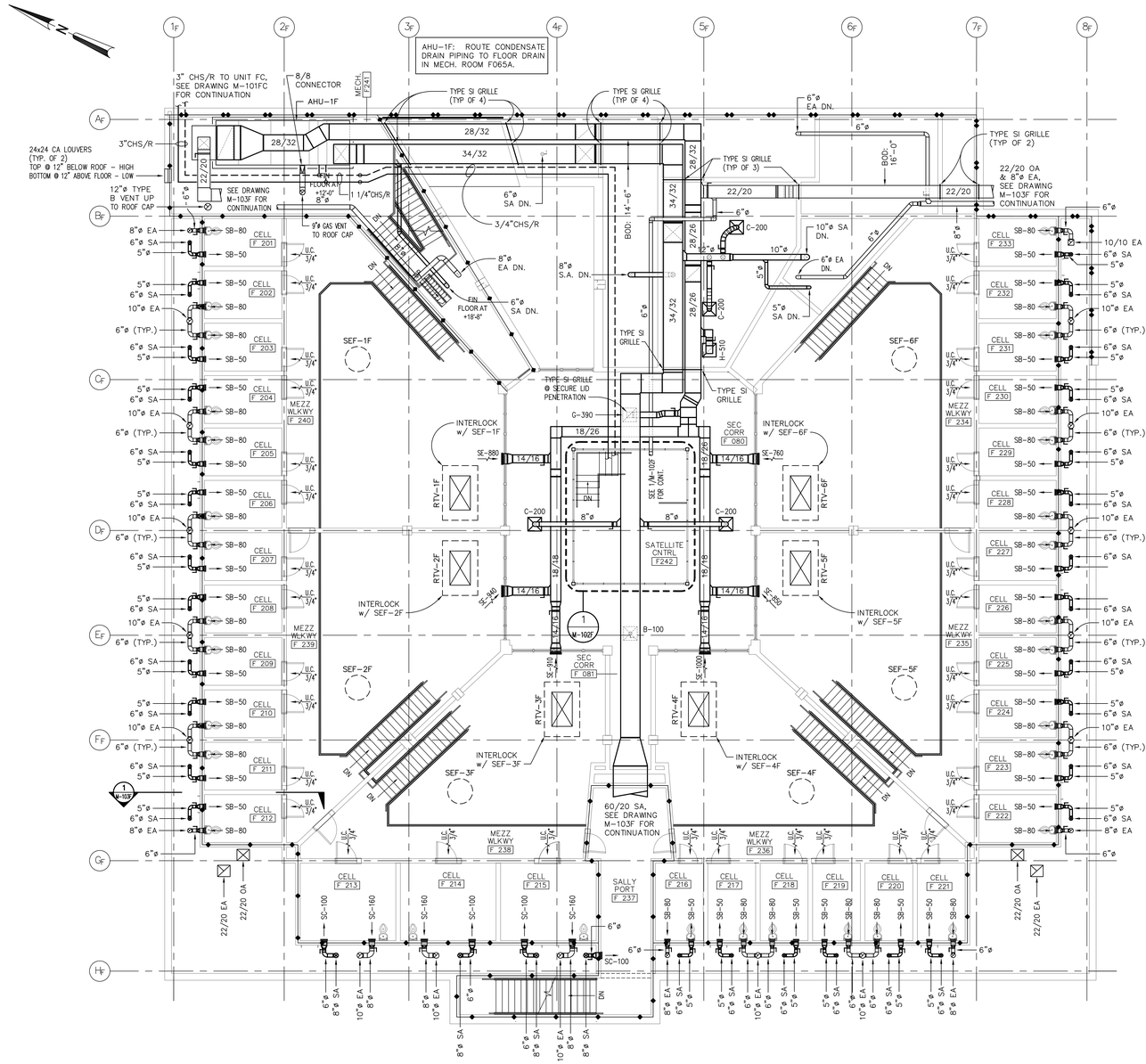
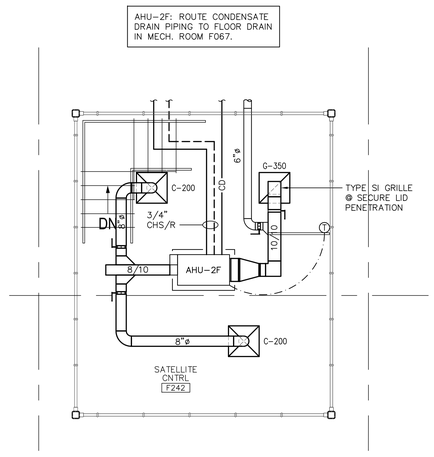


UNIT F – FEMALE HOUSING SECOND LEVEL HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"



1 M-102F UNIT F – SATELLITE CONTROL HVAC PART PLAN

0 .5 1 2 4 8 12 FT.

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

RECORD DRAWING

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ALL WORK ON THIS SHEET IS ADDITIVE ALTERNATE NO. 1

NOTE:
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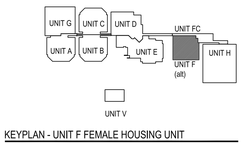

KEYPLAN - UNIT F FEMALE HOUSING UNIT
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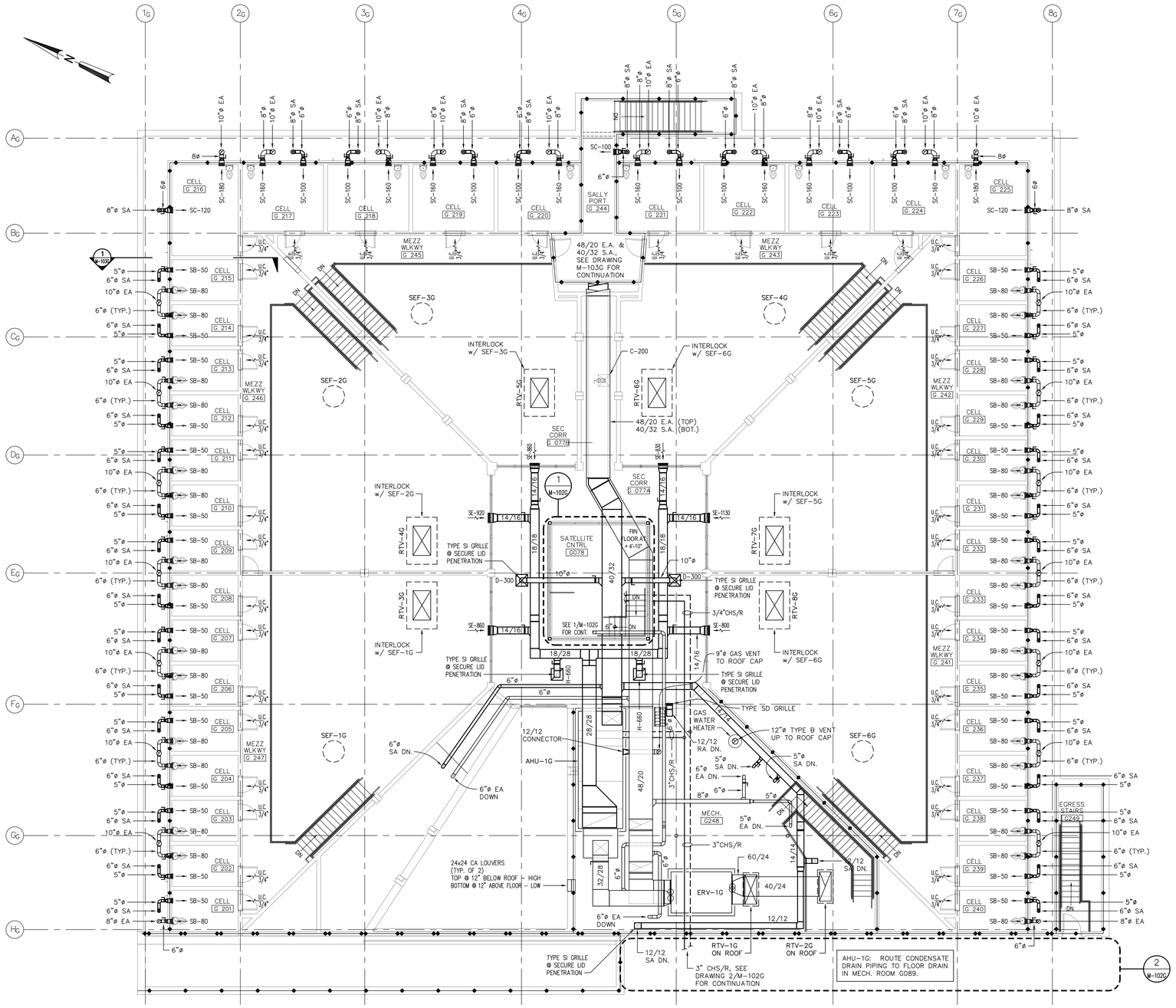
SHEET TITLE
UNIT F - FEMALE HOUSING SECOND LEVEL HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-102F

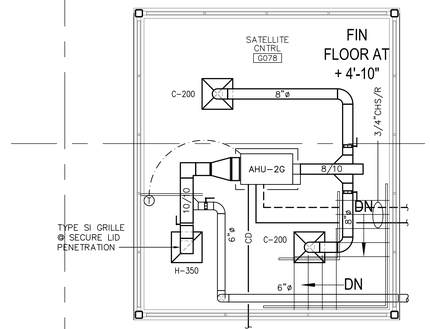


UNIT G – MALE HOUSING SECOND LEVEL HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

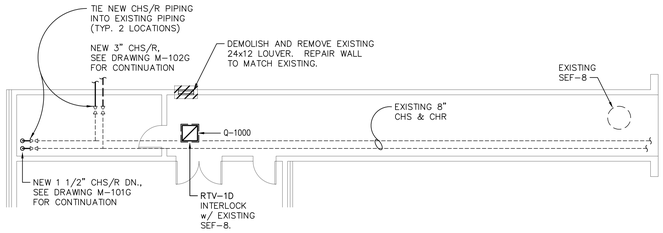
AHU-2G: ROUTE CONDENSATE DRAIN PIPING TO FLOOR DRAIN IN MECH. ROOM G089.



1 / M-102G UNIT G – SATELLITE CONTROL HVAC PART PLAN

0 1 2 4 8 12 FT.

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



2 / M-102G EXISTING CORRIDOR – SECOND LEVEL HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"

RECORD DRAWING

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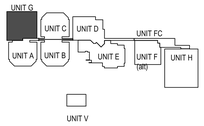
NOTE:
PROVIDE REBAR @ 5 1/2" O.C. AT ANY ROOF AND/OR EXTERIOR WALL PENETRATION LARGER THAN 5 1/2" SQUARE.



KEYPLAN - UNIT G - MALE HOUSING UNIT
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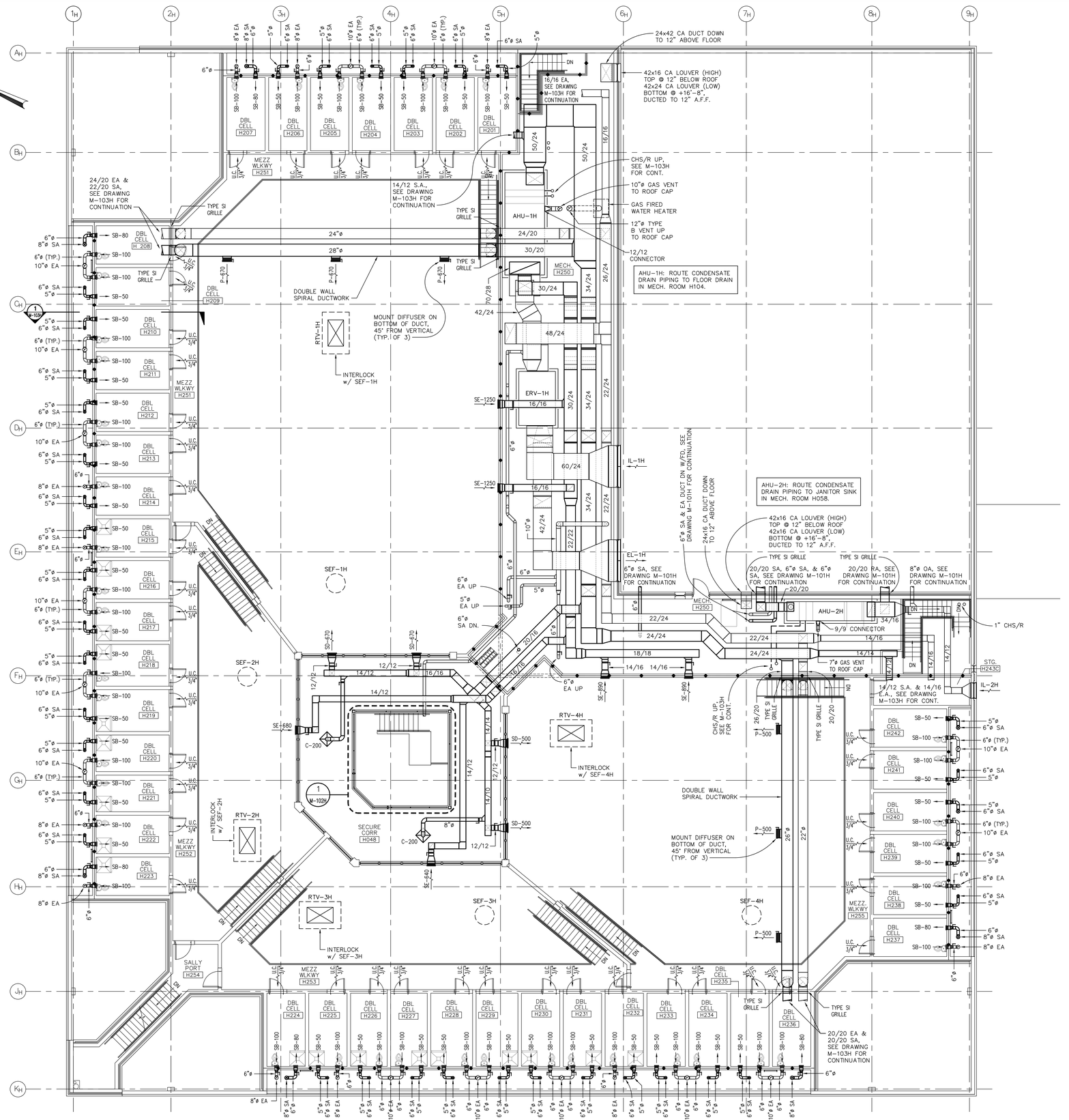
REVISIONS

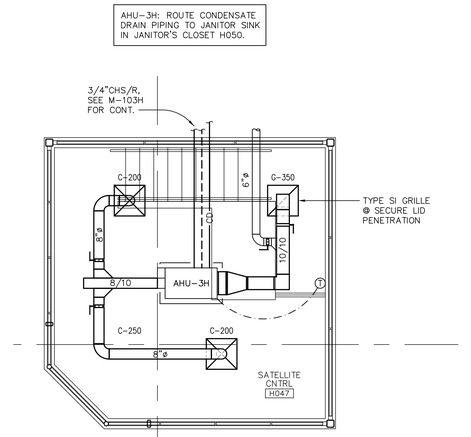
Webster Detention Center
Additions And Renovations
1941 Phinizy Road Augusta, Augusta, Georgia 30906
Richmond County Sheriff's Office,
Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
UNIT G - MALE HOUSING SECOND LEVEL HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-102G





NOTE:
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RECORD DRAWING

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KEYPLAN - UNIT H - MEDICAL/MENTAL HEALTH UNIT
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REVISIONS

Webster Detention Center
Additions And Renovations
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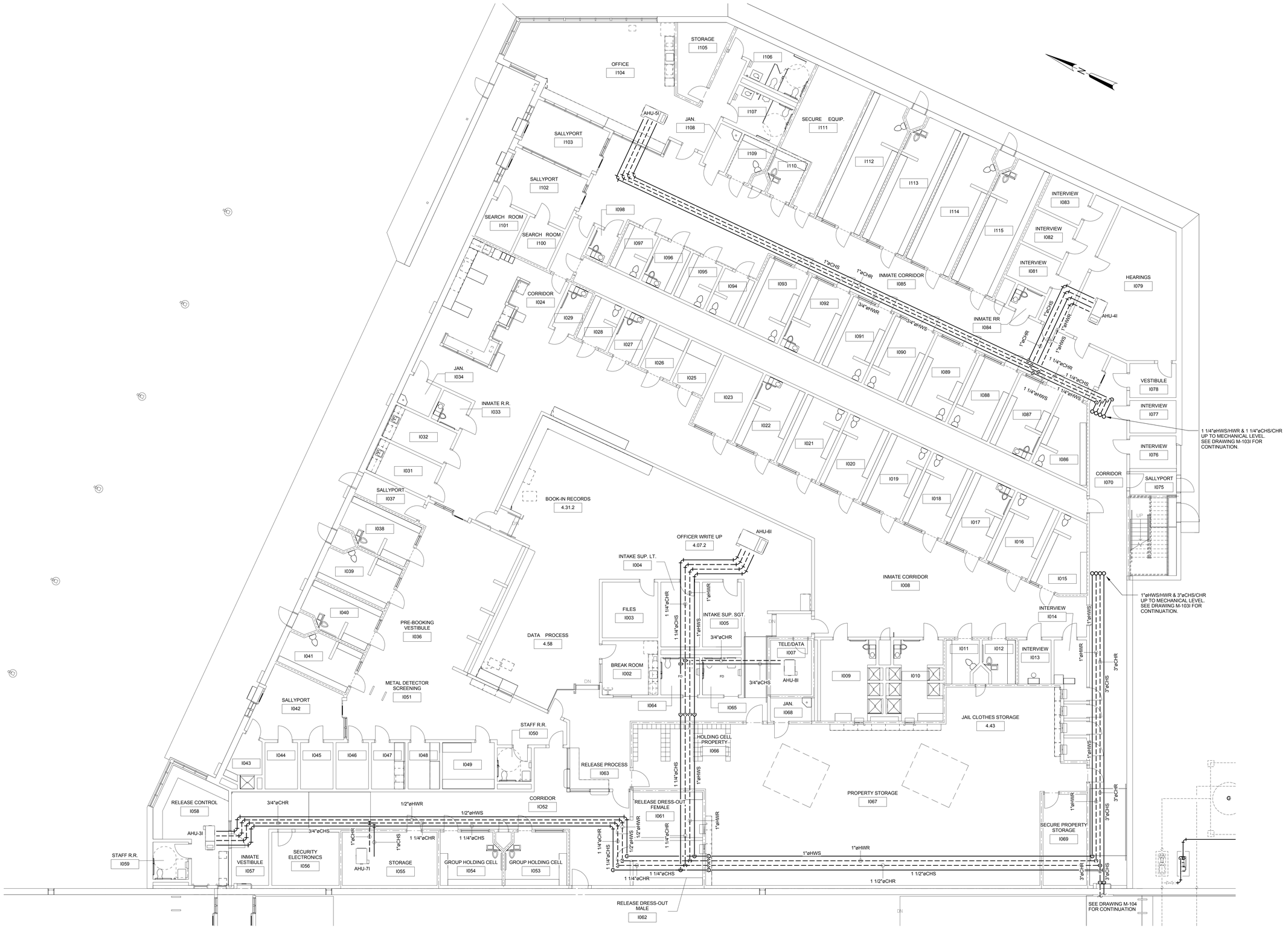
Richmond County Sheriff's Office,
Law Enforcement Center, Augustia, Georgia 30911

SHEET TITLE
UNIT H - MEDICAL MENTAL HEALTH SECOND LEVEL HVAC PLAN

DATE: September 11, 2008

SHEET NUMBER
M-102H



UNIT I - HVAC PIPING PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8" = 1'-0"

NOTE:
PROVIDE REBAR @ 5 1/2" O.C. AT ANY ROOF AND/OR EXTERIOR WALL PENETRATION LARGER THAN 5 1/2" SQUARE FOR SECURITY.

REVISIONS			
REV	DATE	BY	DESCRIPTION
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WEBSTER DETENTION CENTER PHASE II

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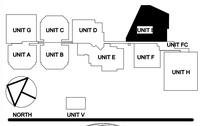


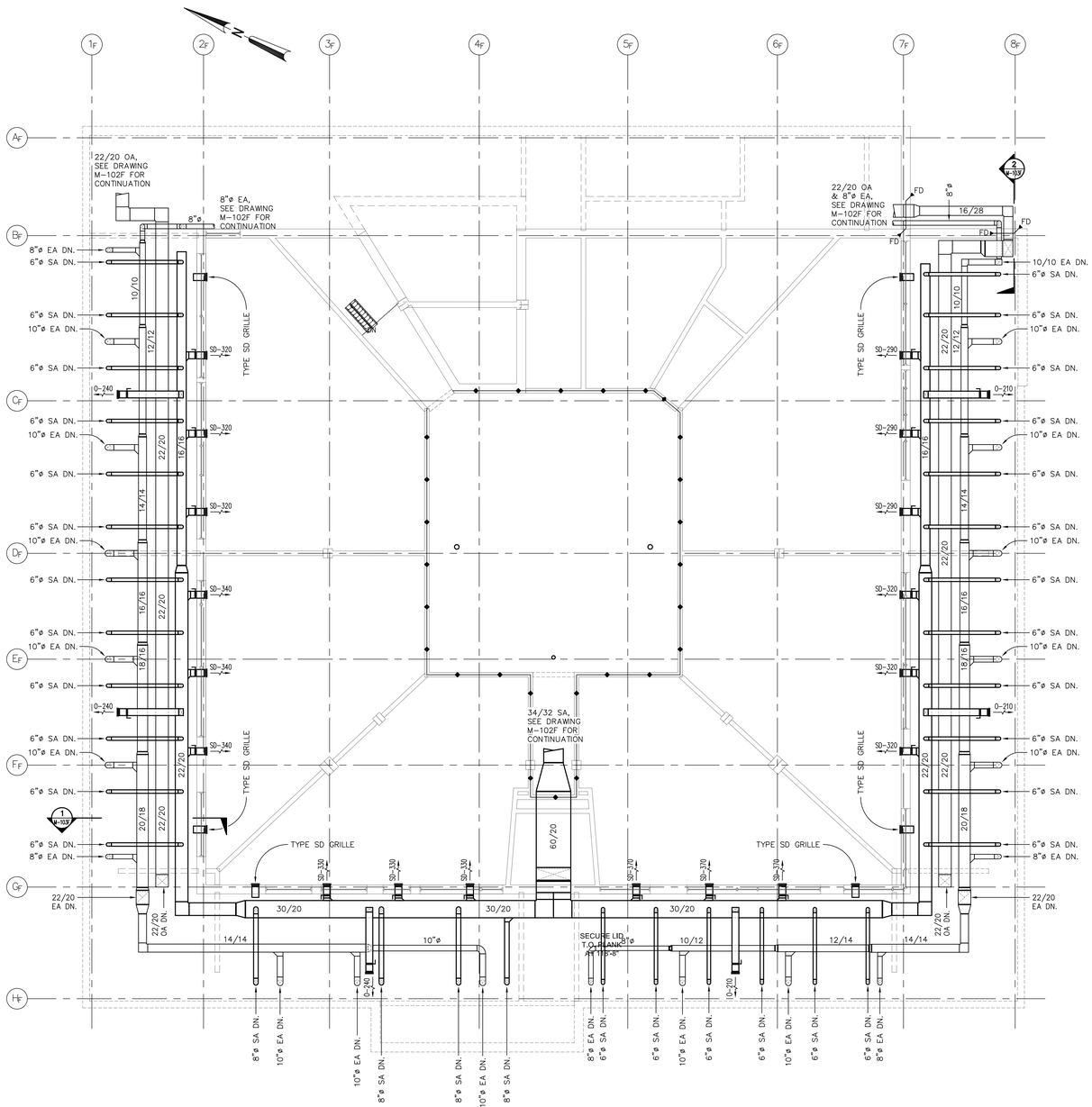
Principal In Charge:	CJJ
Project Engineer:	CVW
Drawn By:	WBR

SHEET TITLE:
UNIT I - HVAC PIPING PLAN

SHEET NUMBER: M-102I

PROJECT ID # 11-104

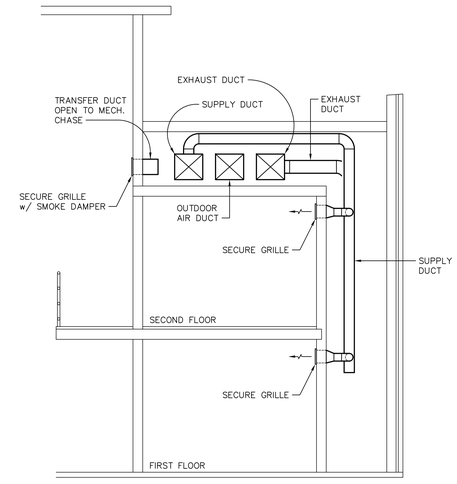
Date: 3/6/12



UNIT F – FEMALE HOUSING MEZZANINE HVAC PLAN

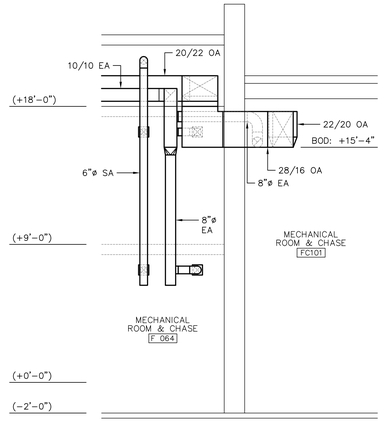
0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"



1 / M-103F UNIT F – SECTION DETAIL

NO SCALE



2 / M-103F UNIT F – SECTION DETAIL

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

RECORD DRAWING

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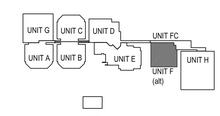
ALL WORK ON THIS SHEET IS ADDITIVE ALTERNATE NO. 1



KEYPLAN - UNIT F FEMALE HOUSING UNIT

N.T.S.

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REVISIONS

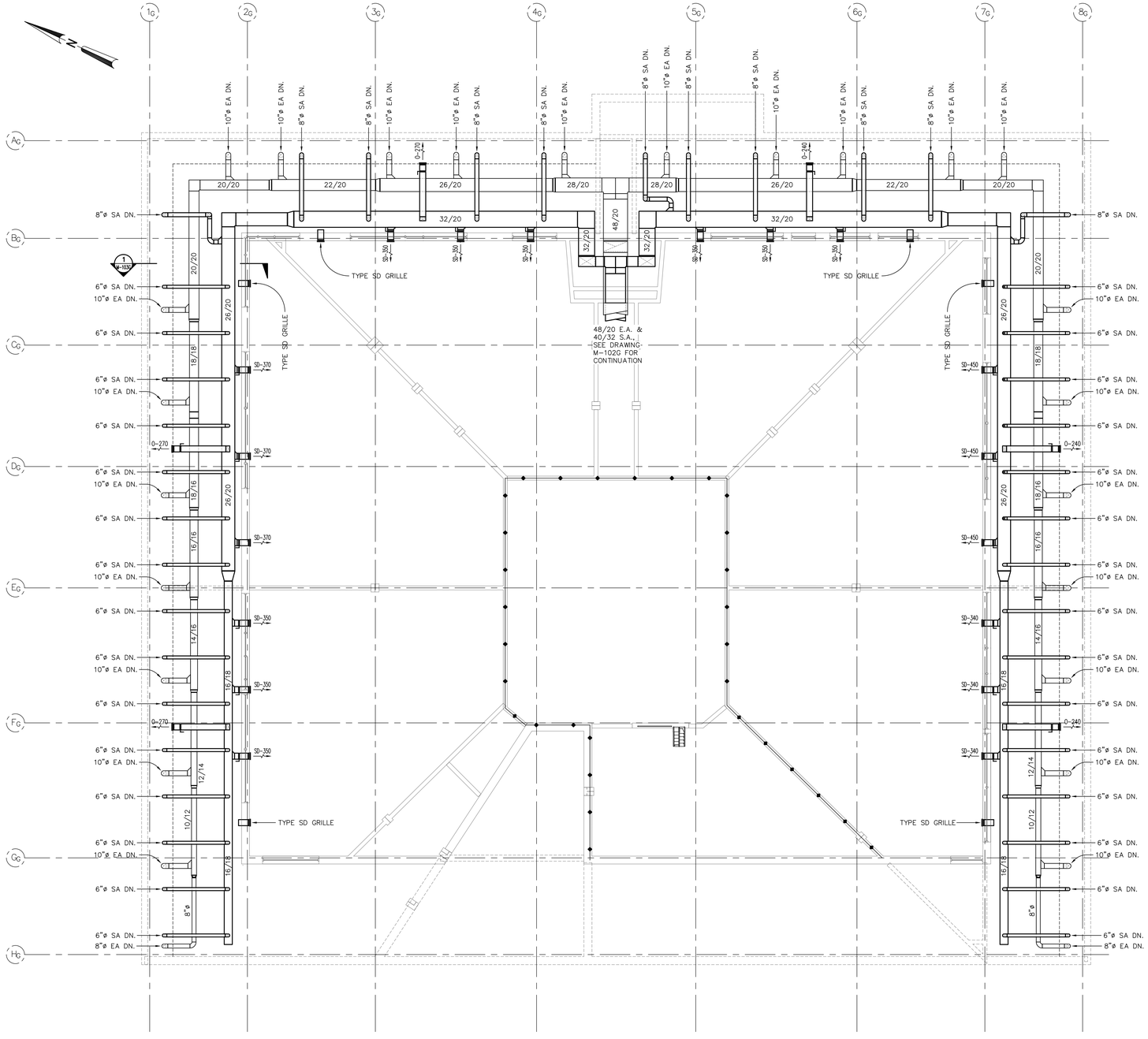
1 08/07/10 WEBSTER LIFE SAFETY SMOKE DETECTOR REVIEW

Webster Detention Center
Additions And Renovations
1941 Phinizy Road Augusta, Augusta, Georgia 30906
Richmond County Sheriff's Office,
Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
UNIT F - FEMALE HOUSING MEZZANINE HVAC PLAN

DATE: September 11, 2008

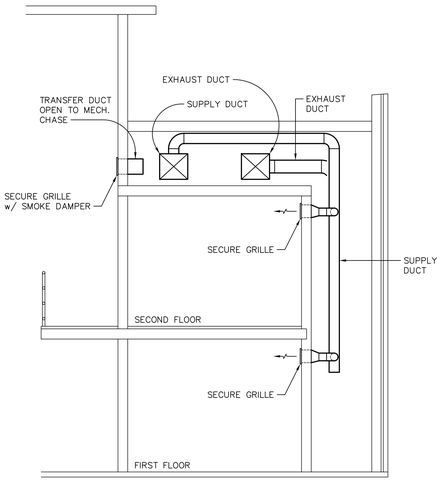
SHEET NUMBER
M-103F



UNIT G – MALE HOUSING MEZZANINE HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"



1 M-103G UNIT G – SECTION DETAIL

NO SCALE

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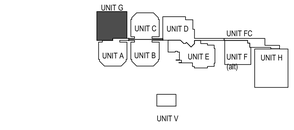

KEYPLAN - UNIT G - MALE HOUSING UNIT

N.T.S.

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REVISIONS

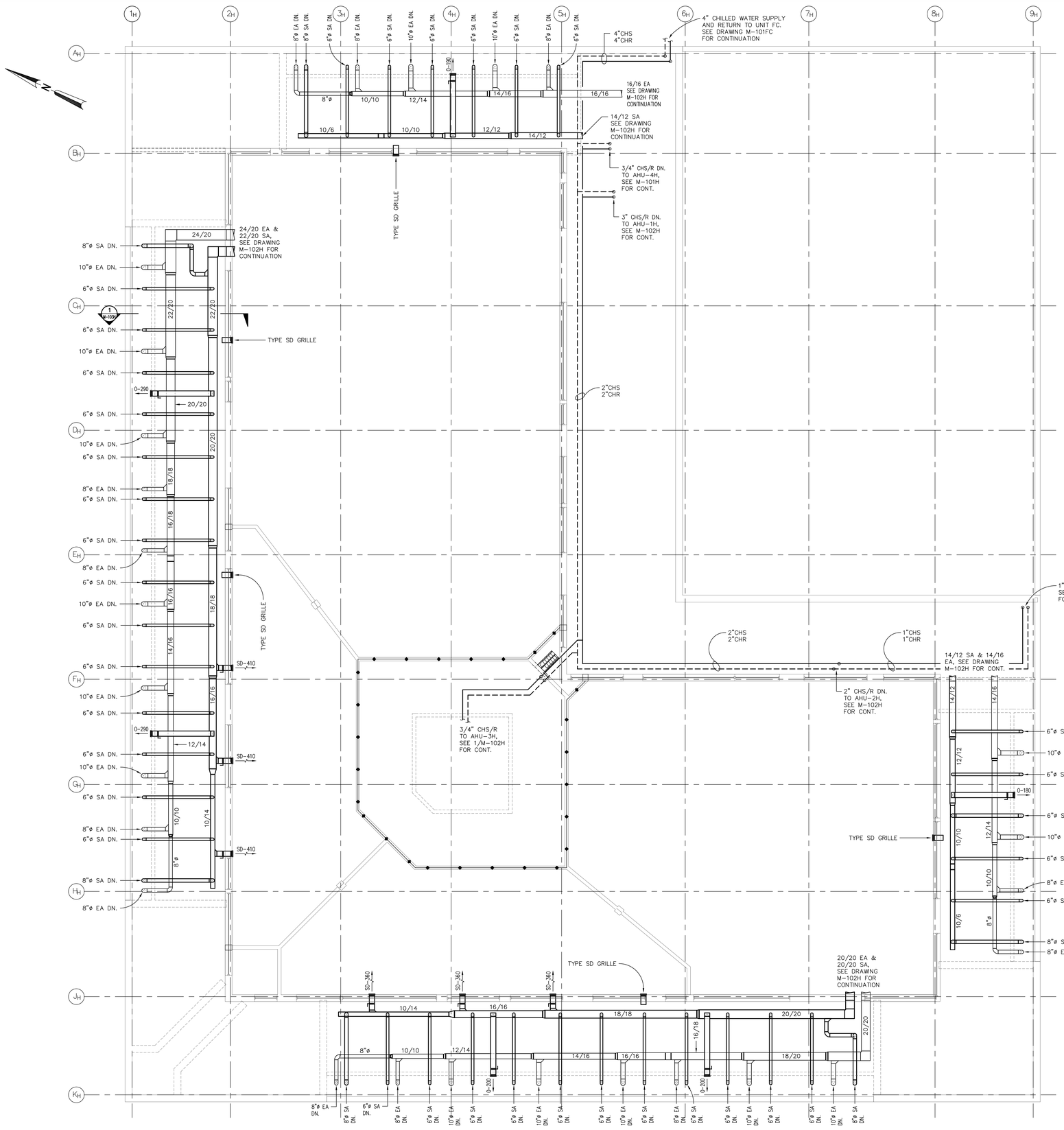
1 08/07/10 WEBSTER LIFE SAFETY SMOKE DETECTOR REVIEW

Webster Detention Center
Additions And Renovations
1941 Phinizy Road Augusta, Augusta, Georgia 30906
Richmond County Sheriff's Office,
Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
UNIT G - MALE HOUSING MEZZANINE HVAC PLAN

DATE: September 11, 2008

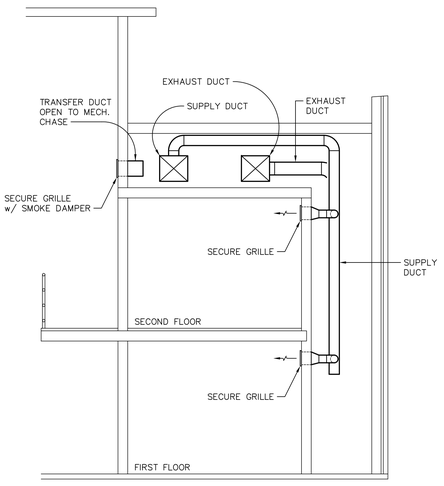
SHEET NUMBER
M-103G



UNIT H – MEDICAL MENTAL HEALTH MEZZANINE HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8"=1'-0"



1 M-103H UNIT H – SECTION DETAIL

NO SCALE

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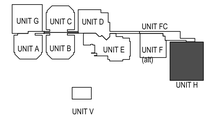

KEYPLAN - UNIT H - MEDICAL/MENTAL HEALTH UNIT

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REVISIONS

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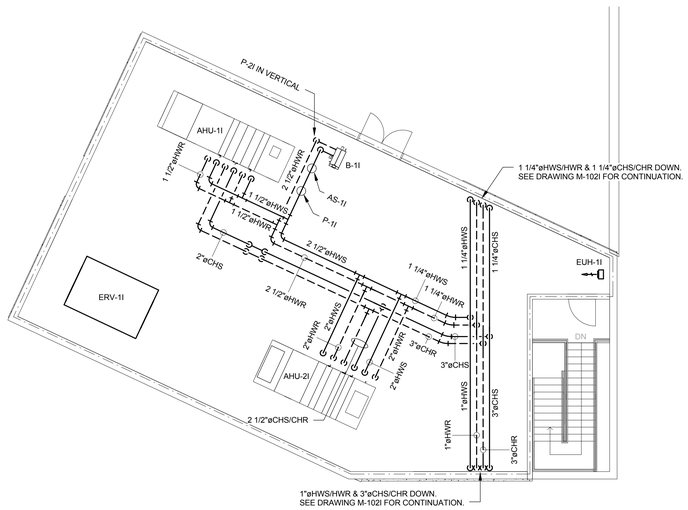
Richmond County Sheriff's Office,
Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
UNIT H - MEDICAL MENTAL HEALTH MEZZANINE HVAC PLAN

DATE: September 11, 2008

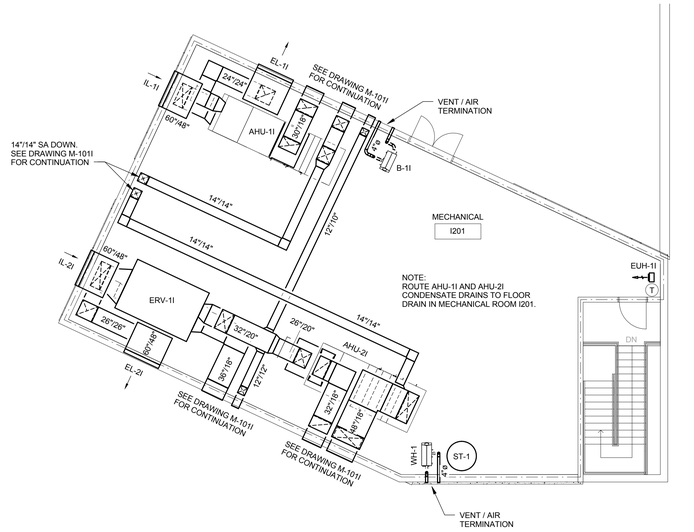
SHEET NUMBER
M-103H



UNIT I - HVAC MECHANICAL LEVEL PIPING PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8" = 1'-0"



UNIT I - HVAC MECHANICAL LEVEL PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8" = 1'-0"

NOTE:
PROVIDE REBAR @ 5 1/2" O.C. AT ANY ROOF AND/OR EXTERIOR WALL PENETRATION LARGER THAN 5 1/2" SQUARE FOR SECURITY.

REV	DATE	BY	DESCRIPTION
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

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ARCHITECTS
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WEBSTER DETENTION CENTER PHASE II

Richmond County Sheriff's Office
1941 Phinizy Road
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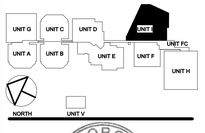
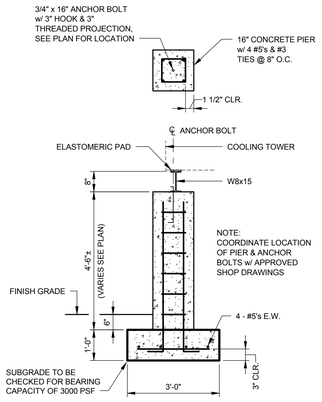


GEORGIA
CERTIFICATE OF AUTHORIZATION
PE032509
PROFESSIONAL
ENGINEER
CURTIS V. WILLIAMSON
SEAL
7/3/12

Principal In Charge:	CJJ
Project Engineer:	CVW
Drawn By:	WBR

SHEET TITLE:
UNIT I - HVAC MECHANICAL LEVEL PLANS

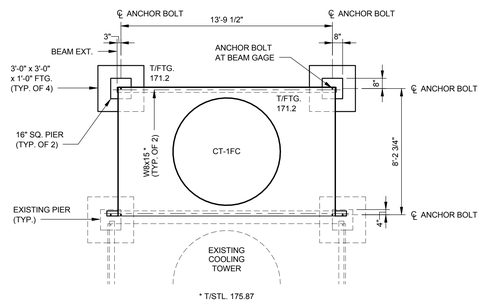
SHEET NUMBER:	PROJECT ID #
M-103I	11-104
	Date: 3/6/12



1 / M-104

COOLING TOWER PIER DETAIL

SCALE: 1/2" = 1'-0"

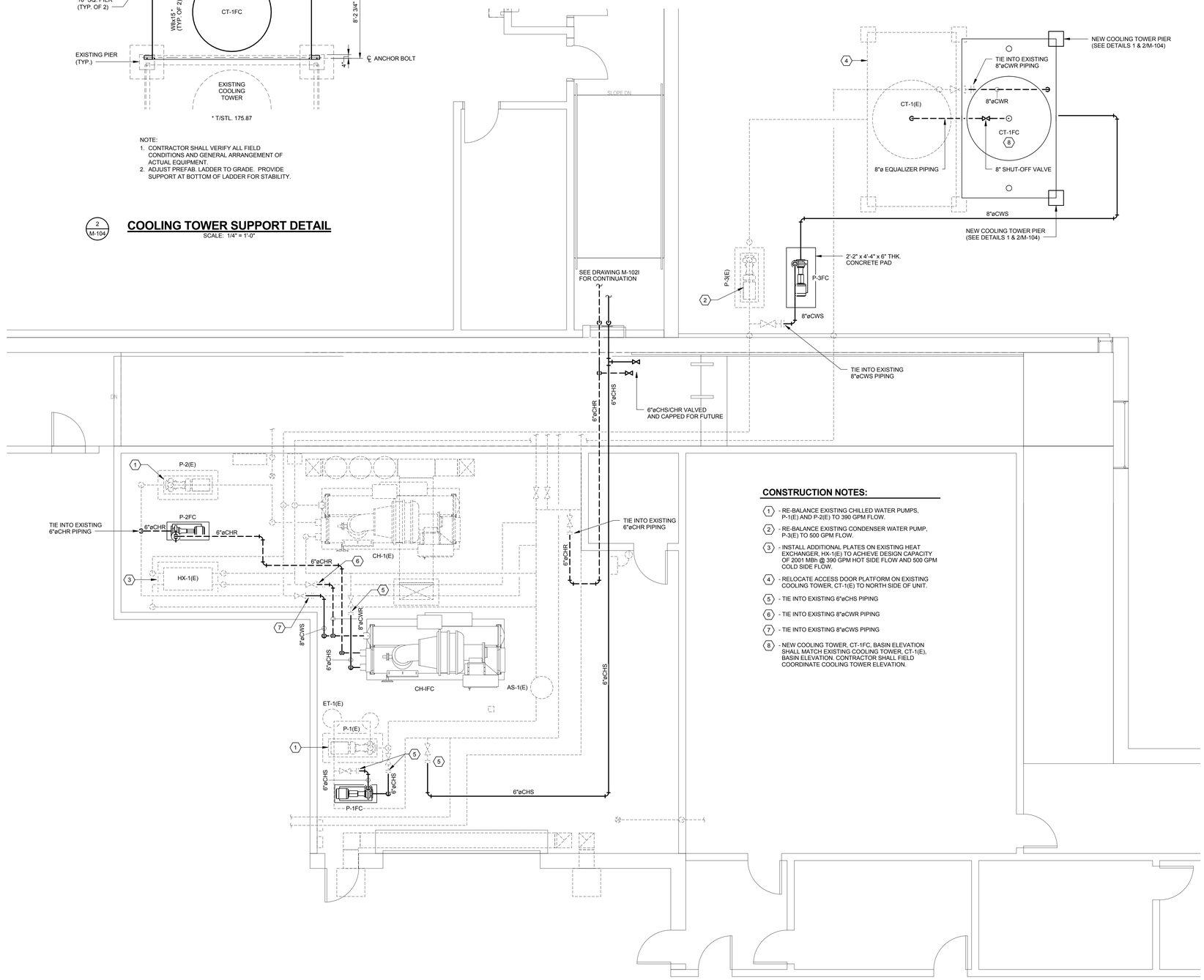


NOTE:
1. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND GENERAL ARRANGEMENT OF ACTUAL EQUIPMENT.
2. ADJUST PREFAB. LADDER TO GRADE. PROVIDE SUPPORT AT BOTTOM OF LADDER FOR STABILITY.

2 / M-104

COOLING TOWER SUPPORT DETAIL

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



CONSTRUCTION NOTES:

1. - RE-BALANCE EXISTING CHILLED WATER PUMPS, P-1(E) AND P-2(E) TO 390 GPM FLOW.
2. - RE-BALANCE EXISTING CONDENSER WATER PUMP, P-3(E) TO 500 GPM FLOW.
3. - INSTALL ADDITIONAL PLATES ON EXISTING HEAT EXCHANGER, HX-1(E) TO ACHIEVE DESIGN CAPACITY OF 2001 MBh @ 390 GPM HOT SIDE FLOW AND 500 GPM COLD SIDE FLOW.
4. - RELOCATE ACCESS DOOR PLATFORM ON EXISTING COOLING TOWER, CT-1(E) TO NORTH SIDE OF UNIT.
5. - TIE INTO EXISTING 6"øCHS PIPING
6. - TIE INTO EXISTING 8"øCWR PIPING
7. - TIE INTO EXISTING 8"øCWS PIPING
8. - NEW COOLING TOWER, CT-1FC, BASIN ELEVATION SHALL MATCH EXISTING COOLING TOWER, CT-1(E), BASIN ELEVATION. CONTRACTOR SHALL FIELD COORDINATE COOLING TOWER ELEVATION.

(E) - INDICATES EXISTING

UNIT FC - MECHANICAL ROOM PLAN

0 .5 1 2 4 8 12 FT.

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

NOTE:
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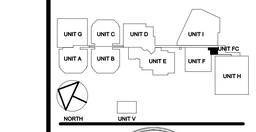
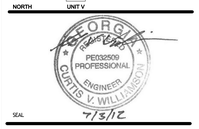
Augusta, Georgia 30906





SEAL

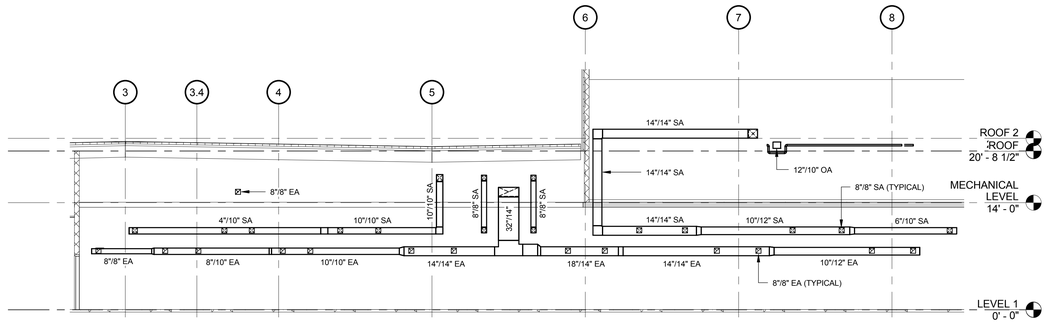
Principal In Charge: CJJ
Project Engineer: CVW
Drawn By: WBR

SHEET TITLE:
UNIT FC - MECHANICAL ROOM PLAN

SHEET NUMBER: M-104

PROJECT ID # 11-104

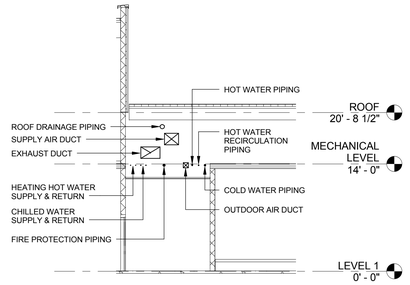
Date: 3/6/12



1 M-201

HVAC SECTION 1

SCALE: 1/8" = 1'-0"



4 M-201

HVAC SECTION 2

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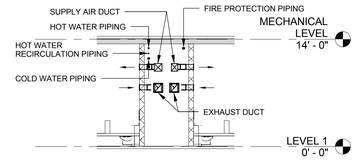
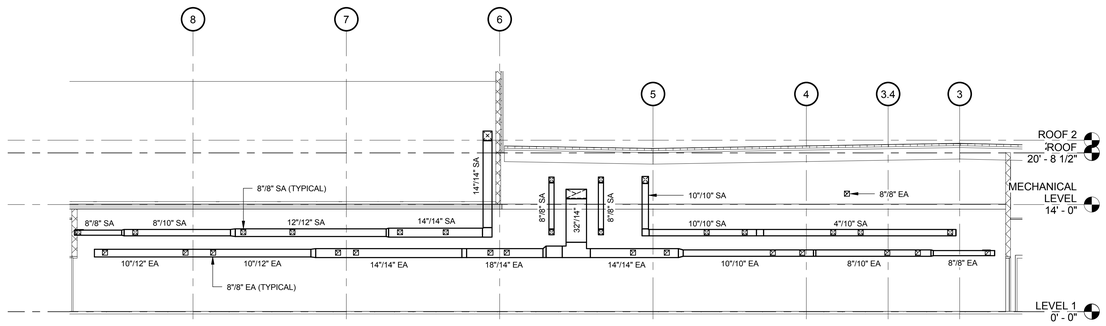


5 M-201

HVAC SECTION 3

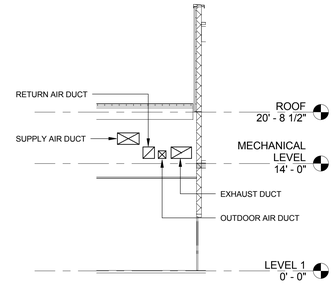
SCALE: 1/8" = 1'-0"



6 M-201

HVAC SECTION 4

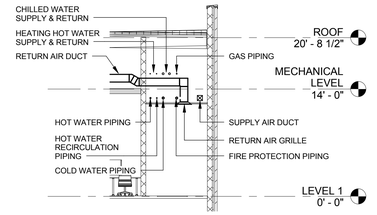
SCALE: 1/8" = 1'-0"



9 M-201

HVAC SECTION 5

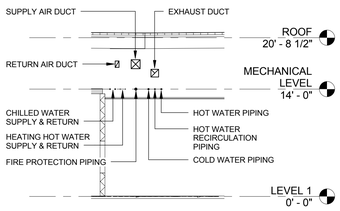
SCALE: 1/8" = 1'-0"



10 M-201

HVAC SECTION 6

SCALE: 1/8" = 1'-0"



11 M-201

HVAC SECTION 7

SCALE: 1/8" = 1'-0"

REV	DATE	BY	DESCRIPTION
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

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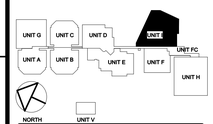

GEORGIA
PE032509
PROFESSIONAL ENGINEER
CURTIS V. WILLIAMSON
SEAL
7/3/12

Principal in Charge:	C.J.J
Project Engineer:	CVW
Drawn By:	WBR

SHEET TITLE:
UNIT I - HVAC SECTIONS

SHEET NUMBER: M-2011

PROJECT ID # 11-104

Date: 3/6/12

MODULAR AIR HANDLING UNIT SCHEDULE

MARK	LOCATION	BASIS OF DESIGN (TRANE P/N)	SUPPLY FAN: SUPPLY CFM	SUPPLY FAN: O.A. CFM	SUPPLY FAN: E.S.P. IN. WG	SUPPLY FAN: MOTOR HP	EXHAUST FAN: RETURN CFM	EXHAUST FAN: EXHAUST CFM	EXHAUST FAN: E.S.P. IN. WG	EXHAUST FAN: MOTOR HP	ENERGY WHEEL: % EFFECTIVENESS SENSIBLE	ENERGY WHEEL: % EFFECTIVENESS LATENT	HOT WATER HEATING COIL: CFM	HOT WATER HEATING COIL: CAPACITY BTUH	HOT WATER HEATING COIL: EAT °Fdb	HOT WATER HEATING COIL: LAT °Fdb	HOT WATER HEATING COIL: EWT °F	HOT WATER HEATING COIL: LWT °F	HOT WATER HEATING COIL: GPM	MAX PD FT. H20
AHU-1I	UNIT I - MECH. RM.	CSAA10	4,000	4,000	2.0	7.5	4,000	4,000	1.0	5	70.2	68.0	4,000	156000	54.0	90.0	180	160	15.6	10

MARK	CHILLED WATER COOLING COIL: CFM	CAPACITY BTUH	EAT °F DB	EAT °F WB	LAT °F DB	LAT °F WB	EWT °F	LWT °F	GPM	MAX PD FT. H20	HOT WATER REHEAT COIL: CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM	MAX PD FT. H20	ELECTRICAL V/Ø/Hz	NOTES
AHU-1I	4,000	215000	81.0	69.0	53.3	51.1	44	58	30.7	10	4,000	90600	53.3	75.0	180	160	9.1	10	480/3/60	①②③④⑤⑥

① SUPPLY SIDE: OUTDOOR AIR MIXING MODULE w/ FILTER, ACCESS MODULE, ENERGY WHEEL, HEATING COIL MODULE, ACCESS MODULE, COOLING COIL MODULE, ACCESS MODULE, REHEAT COIL MODULE, SUPPLY FAN MODULE.

② RETURN SIDE: ENERGY WHEEL w/ FILTER, EXHAUST FAN MODULE.

③ VARIABLE-SPEED DRIVE.

④ SIX ROW COOLING COIL.

⑤ PROVIDE SMOKE DETERCTOR IN SUPPLY AIR FOR UNIT SHUTDOWN.

⑥ CONTROLLED BY TEMPERATURE SENSOR, DUCT MOUNTED IN RETURN DUCT UPSTREAM OF AHU CONNECTION.

MODULAR AIR HANDLING UNIT SCHEDULE

MARK	LOCATION	BASIS OF DESIGN (TRANE P/N)	SUPPLY FAN: SUPPLY CFM	SUPPLY FAN: O.A. CFM	SUPPLY FAN: E.S.P. IN. WG	SUPPLY FAN: MOTOR HP	EXHAUST FAN: RETURN CFM	EXHAUST FAN: EXHAUST CFM	EXHAUST FAN: E.S.P. IN. WG	EXHAUST FAN: MOTOR HP	ENERGY WHEEL: % EFFECTIVENESS SENSIBLE	ENERGY WHEEL: % EFFECTIVENESS LATENT	HOT WATER HEATING COIL: CFM	HOT WATER HEATING COIL: CAPACITY BTUH	HOT WATER HEATING COIL: EAT °Fdb	HOT WATER HEATING COIL: LAT °Fdb	HOT WATER HEATING COIL: EWT °F	HOT WATER HEATING COIL: LWT °F	HOT WATER HEATING COIL: GPM	MAX PD FT. H20
AHU-2I	UNIT I - MECH. RM.	CSAA17	8,000	3,900	2.0	10	-	-	-	-	-	-	8,000	311000	54.0	90.0	180	160	31.1	10

MARK	CHILLED WATER COOLING COIL: CFM	CAPACITY BTUH	EAT °F DB	EAT °F WB	LAT °F DB	LAT °F WB	EWT °F	LWT °F	GPM	MAX PD FT. H20	HOT WATER REHEAT COIL: CFM	CAPACITY BTUH	EAT °Fdb	LAT °Fdb	EWT °F	LWT °F	GPM	MAX PD FT. H20	ELECTRICAL V/Ø/Hz	NOTES
AHU-2I	8,000	320000	78.0	65.5	53.4	52.5	44	58	45.7	10	8,000	190000	53.4	75.0	180	160	19.0	10	480/3/60	①②③④⑤

① OUTDOOR AIR MIXING MODULE w/ FILTER, SUPPLY FAN MODULE, ACCESS MODULE, HEATING COIL MODULE, ACCESS MODULE, COOLING COIL MODULE, ACCESS MODULE, REHEAT COIL MODULE, DISCHARGE PLENUM.

② PROVIDE SMOKE DETERCTOR IN SUPPLY AIR FOR UNIT SHUTDOWN.

③ VARIABLE-SPEED DRIVE.

④ SIX ROW COOLING COIL.

⑤ CONTROLLED BY AVERAGING TEMPERATURE SENSORS, DUCT MOUNTED (1) IN RETURN DUCT UPSTREAM OF OUTDOOR AIR CONNECTION AND (1) IN EXHAUST DUCT UPSTREAM OF ERV CONNECTION.

BLOWER COIL AIR HANDLING UNIT SCHEDULE

MARK	BASIS OF DESIGN (TRANE P/N)	LOCATION	FAN: SUPPLY CFM	FAN: OUTDOOR CFM	FAN: E.S.P. (IN. WG)	FAN: MOTOR HP	COOLING: CAPACITY (MBH) TOTAL	COOLING: CAPACITY (MBH) SENSIBLE	COOLING: EWT (°F)	COOLING: LWT (°F)	COOLING: GPM	COOLING: COIL PD (FT. H20)	HEATING: CAPACITY (MBH)	HEATING: EWT (°F)	HEATING: LWT (°F)	HEATING: GPM	HEATING: COIL PD (FT. H20)	HEATING: ELEC. HEAT (KW/STAGES)	ELECTRICAL: MCA	ELECTRICAL: MCOP	ELECTRICAL: V/Ø/Hz	NOTES
AHU-3I	BCHC012	UNIT I - RELEASE CONTROL	400	80	0.5	1/2	12.8	9.6	44	58	1.8	2.0	14.0	180	160	1.4	2.0	-	1.5	15	460/3/60	①②④
AHU-4I	BCHC024	UNIT I - HEARINGS	1,000	320	0.5	3/4	33.8	24.6	44	58	5.1	5.0	46.0	180	160	4.6	13.0	-	1.9	15	460/3/60	①②④
AHU-5I	BCHC024	UNIT I - TRANSPORT OFFICE	1,000	200	0.5	3/4	33.8	24.6	44	58	5.1	5.0	36.0	180	160	3.6	12.0	-	1.9	15	460/3/60	①②④
AHU-6I	BCHC054	UNIT I - INTAKE OFFICE	2,000	500	0.5	1	73.1	52.5	44	58	10.9	5.0	45.0	180	160	4.5	2.0	-	2.25	15	460/3/60	①②③④
AHU-7I	BCHC024	UNIT I - SECURITY ELECTRONICS	1,000	-	0.5	3/4	34.0	24.8	44	58	5.1	5.0	-	-	-	-	-	-	1.9	15	460/3/60	①②④
AHU-8I	BCHC018	UNIT I - TELE/DATA	600	-	0.5	1/2	20.7	14.9	44	58	3.2	4.0	-	-	-	-	-	-	1.5	15	460/3/60	①②④
AHU-3D	BCHC072	UNIT D - MECHANICAL ROOM	2,600	360	0.5	1.5	82.3	61.4	44	54	17.1	5.0	-	-	-	-	-	⑤	3.0	15	460/3/60	①②③⑥
AHU-1E	BCVC036	UNIT E - MECHANICAL ROOM	1,200	110	0.5	1/2	45.9	31.7	44	54	9.5	14.0	-	-	-	-	-	-	7.5/2	13.3	15	460/3/60	①②④
AHU-2E	BCVC072	UNIT E - MECHANICAL ROOM	2,200	270	0.5	1	73.0	53.8	44	54	15.1	4.0	-	-	-	-	-	-	20/2	33.7	35	460/3/60	①②③④
AHU-3E	BCVC024	UNIT E - MECHANICAL ROOM	1,000	160	0.5	3/4	29.9	22.4	44	54	6.3	5.5	-	-	-	-	-	-	7.5/2	13.7	15	460/3/60	①②④
AHU-4E	BCVC072	UNIT E - MECHANICAL ROOM	2,000	360	0.5	3/4	68.2	49.9	44	54	14.1	3.5	-	-	-	-	-	-	20/2	33.3	35	460/3/60	①②③④
AHU-5E	BCVC072	UNIT E - MECHANICAL ROOM	2,300	320	0.5	1	75.4	55.6	44	54	15.7	4.0	-	-	-	-	-	-	20/2	33.7	35	460/3/60	①②③④

① COIL ENTERING AIR TEMPERATURE - 80°F DB, 67°F WB. COIL LEAVING AIR TEMPERATURE - 55°F DB, 54°F WB.

② SIX ROW COOLING COIL.

③ PROVIDE DUCT SMOKE DETECTOR IN SUPPLY AIR SYSTEM TO SHUT DOWN FAN.

④ CONTROLLED BY TEMPERATURE SENSOR, WALL MOUNTED

⑤ DUCT MOUNTED ELECTRIC HEATER (EDH-1D), 20KW, 2 STAGES, 480/3/60, 30 MCA, 40 MCOP, DELL HEATRIX # M1-14x30-20-480-3-2, OR EQUAL

⑥ CONTROLLED BY TEMPERATURE SENSOR, DUCT MOUNTED IN RETURN DUCT UPSTREAM OF AHU CONNECTION.

ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	LOCATION	OUTDOOR AIR: OUTDOOR CFM	OUTDOOR AIR: E.S.P. (IN. WG)	OUTDOOR AIR: MOTOR HP	OUTDOOR AIR: OA WHEEL EFFICIENCY	EXHAUST AIR: EXHAUST CFM	EXHAUST AIR: E.S.P. (IN. WG)	EXHAUST AIR: MOTOR HP	EXHAUST AIR: EA WHEEL EFFICIENCY	ELECTRICAL: MCA	ELECTRICAL: MCOP	ELECTRICAL: V/Ø/Hz	NOTES
ERV-1I	ERV-522H-15-A	UNIT I - MECHANICAL ROOM	5,000	1.0	3	73.7	4,800	1.0	3	76.8	12.2	15	460/3/60	①

① INTERLOCK WITH AHU-2I

WATER COOLED LIQUID CHILLER SCHEDULE

MARK	BASIS OF DESIGN (TRANE P/N)	SERVICE	TYPE	CAPACITY TONS	KW/TON	EVAPORATOR: E.W.T. °F	EVAPORATOR: L.W.T. °F	EVAPORATOR: DESIGN GPM	EVAPORATOR: P.D. FT	CONDENSER: E.W.T. °F	CONDENSER: L.W.T. °F	CONDENSER: DESIGN GPM	CONDENSER: P.D. FT	ELECTRICAL: KW	ELECTRICAL: MCA	ELECTRICAL: MCOP	ELECTRICAL: V/Ø/Hz	MAX. LENGTH	NOTES
CH-1FC	CVHE0250	CHILLED WATER	CENTRIFUGAL	200	0.594	56	44	390	10	85	97	500	10	118.8	223	350	460/3/60	13'-0"	

GAS FIRED BOILER SCHEDULE

MARK	BASIS OF DESIGN (LOCHINVAR P/N)	AIR INLET SIZE	VENT SIZE	BTU/HR INPUT	BTU/HR OUTPUT	THERM. EFF. (%)	ELECTRICAL V/Ø/Hz	NOTES
B-1I	KBN701	4"	6"	700,000	660,000	94.3	115/1/60	

AIR CURTAIN SCHEDULE

MARK	BASIS OF DESIGN (MARS P/N)	LENGTH	HP	CFM	AMPS	ELECTRICAL V/Ø/Hz	NOTES
AC-1	STD36-1UA-OB	3'-0"	1/2	2550	0.8	115/1/60	①②
AC-2	STD36-1UA-OB	3'-0"	1/2	2550	0.8	115/1/60	①②
AC-3	STD36-1UA-OB	3'-0"	1/2	2550	0.8	115/1/60	①②

① PROVIDE DOOR LIMIT SWITCH ② PROVIDE NON-FUSED DISCONNECT

EXHAUST FAN SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	TYPE	ESP (IN WC)	NOM. CFM	FRPM	HP	WATTS	SONES	ELECTRICAL V/Ø/Hz	NOTES
EF-1D	CW-060-G	SIDEWALL	0.2	100	1,300	1/100	-	2.5	115/1/60	①
EF-2D	G-080-E	ROOF	0.2	200	1,050	1/40	-	3.9	115/1/60	①
EF-1E	SP-B70	CEILING	0.2	50	675	-	45	1.5	115/1/60	②

① CONTROLLED BY BMS ② INTERLOCK WITH LIGHTS

LOUVER SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	TYPE	CFM	LOUVER SIZE	MIN. FREE AREA (FT^2)	BOT. OF LOUVER ELEV. (FT. A.F.F.)	NOTES
IL-1I	ESD-603	INTAKE	4,000	60"W x 48"H	10.3	23'-0"	①②③
IL-2I	ESD-603	INTAKE	5,000	60"W x 48"H	10.3	23'-0"	①②③
EL-1I	ESD-603	EXHAUST	4,000	60"W x 48"H	10.3	23'-0"	①②③
EL-2I	ESD-603	EXHAUST	4,800	60"W x 48"H	10.3	23'-0"	①②③

① BIRDSCREEN ② WELDED CONSTRUCTION ③ FLANGED FRAME

ELECTRIC UNIT HEATER SCHEDULE

MARK	BASIS OF DESIGN (QMARK P/N)	KW	CFM	AMPS	ELECTRICAL V/Ø/Hz	NOTES
EUH-1I	MUH-05-41	5.0	350	6.0	480/3/60	①

① CONTROLLED BY THERMOSTAT, WALL MOUNTED

AIR SEPARATOR SCHEDULE

MARK	BASIS OF DESIGN (BELL & GOSSETT P/N)	SERVICE	SIZE OF TANGENTIAL OPENINGS	CAPACITY (GPM)	NOTES
AS-1I	R-2N	HEATING HOT WATER	2"	140	

DIFFUSER/GRILLE SCHEDULE

MARK	BASIS OF DESIGN (TITUS P/N)	TYPE	NECK SIZE	PANEL SIZE	AIR PATTERN	MOUNTING FRAME	CFM RANGE	NOTES
A	TMS	SUPPLY	4"Ø	12" x 12"	4-WAY	LAY-IN	30-70	①
B	TMS	SUPPLY	6"Ø	24" x 24"	4-WAY	LAY-IN	75-150	
C	TMS	SUPPLY	8"Ø	24" x 24"	4-WAY	LAY-IN	150-280	
D	TMS	SUPPLY	10"Ø	24" x 24"	4-WAY	LAY-IN	280-420	
E	50F	RET./EXH.	6" x 6"	-	-	LAY-IN	50-140	①
F	50F	RET./EXH.	8" x 8"	-	-	LAY-IN	140-300	①
G	50F	RETURN	10" x 10"	-	-	LAY-IN	300-480	①
H	50F	RETURN	12" x 12"	-	-	LAY-IN	480-700	①
I	50F	RET./EXH.	14" x 14"	-	-	LAY-IN	700-1,200	①
J	50F	RETURN	16" x 16"	-	-	LAY-IN	950-1,200	①
K	TMS	SUPPLY	4"Ø	12" x 12"	4-WAY	SURFACE	30-70	
L	TMS	SUPPLY	6"Ø	12" x 12"	4-WAY	SURFACE	75-150	
M	50F	RET./EXH.	6" x 6"	-	-	SURFACE	50-140	
N	300RS	SUPPLY	10" x 10"	-	DD	DUCT MOUNT	300-320	
O	300RS	SUPPLY	12" x 12"	-	DD	DUCT MOUNT	600	
P	300RS	SUPPLY	24" x 12"	-	DD	SURFACE	1000	
Q	350RL	RETURN	12" x 12"	-	-	DUCT MOUNT	600	
R	350RL	RETURN	16" x 16"	-	-	DUCT MOUNT	990	
S	350RL	RETURN	24" x 12"	-	-	SURFACE	1,000	
T	300RS	SUPPLY	12" x 12"	-	DD	SURFACE	450-560	
U	350RL	EXHAUST	6" x 6"	-	-	SURFACE	50	
V	CT-580	SUPPLY	60" x 4"	-	-	SURFACE	300	
W	TMS	SUPPLY	6"Ø	12" x 24"	4-WAY	DUCT MOUNT	50-120	
X	TMS	SUPPLY	10"Ø	24" x 24"	4-WAY	SURFACE	280-420	
Y	50F	EXHAUST	18" x 18"	-	-	LAY-IN	2,000-2,600	①
Z	50F	EXHAUST	20" x 20"	-	-	LAY-IN	3,600-4,000	①
AA	50F	RETURN	22" x 22"	-	-	LAY-IN	FREE	①④
AB	TMS-FR	SUPPLY	6"Ø	12" x 12"	4-WAY	SURFACE	40	
XS	-	SUPPLY	VARIES	-	-	-	-	②
XR	-	RETURN	VARIES	-	-	-	-	③

① MOUNT IN 24x24 PANEL
② EXISTING SUPPLY DIFFUSER
③ EXISTING RETURN GRILLE
④ INSTALL PLENUM RETURN GRILLES WITH SOUND ATTENUATION BOOTS. SEE DETAIL 21/M-303

SECURITY DIFFUSER/GRILLE SCHEDULE

MARK	BASIS OF DESIGN (TITUS P/N)	TYPE	NECK SIZE	PANEL SIZE	AIR PATTERN	MOUNTING FRAME	CFM RANGE	NOTES
SA	SG-PR	-	6" x 6"	-	-	SURFACE	25-100	②
SB	SG-PR	-	8" x 8"	-	-	SURFACE	40-240	②
SC	SG-PR	-	12" x 12"	-	-	SURFACE	200-500	②
SD	SG-TDC	SUPPLY	6" x 6"	-	4-WAY	SURFACE	35-100	①
SE	SG-TDC	SUPPLY	9" x 9"	-	4-WAY	SURFACE	100-200	①
SF	SG-TDC	SUPPLY	12" x 12"	-	4-WAY	SURFACE	200-300	①
SG	SG-LFO	RET./EXH.	12" x 12"	-	-	SURFACE	35-300	
SH	SG-BG-FM	-	VARIES	-	-	SURFACE	-	③④

① REAR ANGLE FRAME WITH WELDNUTS & TAMPER-PROOF BOLTS
② SEE DETAILS 17 & 18 ON M-302
③ SEE DETAIL 23 ON M-302
④ SEE PLANS FOR DUCT SIZE

DESIGN CONDITIONS

	SUMMER	WINTER	COMMENTS
INDOORS	75°Fdb 55%RH	70°Fdb	①
OUTDOORS	94°Fdb / 76°Fwb	21°Fdb	①②

① OUTDOOR AIR QUANTITIES BASED ON ASHRAE 62.1-2007
② BASED ON GEORGIA ENERGY CODE

PUMP SCHEDULE

MARK	BASIS OF DESIGN (BELL & GOSSETT P/N)	SERVICE	CAPACITY GPM	HEAD FT.	SIZE	IMPELLER DIA. IN.	RPM	MOTOR HP	ELECTRICAL V/Ø/Hz	NOTES
P-1FC	1510 3BC	SECONDARY CHILLED WATER	390	62	4 x 3	8.5	1750	10	460/3/60	
P-2FC	1510 4AC	PRIMARY CHILLED WATER	390	30	5 x 4	6.0	1750	5	460/3/60	
P-3FC	1510 4AC	CONDENSER WATER	500	38	5 x 4	6.75	1750	7.5	460/3/60	
P-1I	90 2A	SECONDARY HEATING HOT WATER	68	40	2 x 2	6.5	1750	2	460/3/60	
P-2I	90 2AA	PRIMARY HEATING HOT WATER	68	20	2 x 2	5.0	1750	0.75	460/3/60	

COOLING TOWER SCHEDULE

MARK	BASIS OF DESIGN (MARLEY P/N)	SERVICE	TYPE	DESIGN GPM	E.W.T. °F	L.W.T. °F	AMBIENT AIR °F WB	FAN HP	MAX. WPD FT. H20	ELECTRICAL V/Ø/Hz	NOTES
CT-1FC	NC8402NAN	CHILLED WATER	OPEN CIRCUIT	500	97	85	78	7.5	10	460/3/60	①②

① 4.5 KW BASIN HEATER PER CELL @ 460V ② PROVIDE VFD FOR FAN MOTOR

SMOKE EXHAUST FAN SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	LOCATION	TYPE	ESP (IN WC)	NOM. CFM	FRPM	HP	SONES	ELECTRICAL V/Ø/Hz	NOTES
SEF-1I	S-CUBE-200	UNIT I	ROOF	0.375	4000	846	3/4	13.7	460/3/60	①②③④⑤⑥
SEF-2I	S-CUBE-161	UNIT I	ROOF	0.375	2600	1052	1/2	12.7	460/3/60	①②③④⑤⑥
SEF-3I	S-CUBE-200	UNIT I	ROOF	0.375	3600	786	3/4	11.1	460/3/60	①②③④⑤⑥
SEF-4I	S-CUBE-161	UNIT I	ROOF	0.375	2600	1052	1/2	12.7	460/3/60	①②③④⑤⑥
SEF-5I	S-CUBE-121	UNIT I	ROOF	0.375	1200	1213	1/4	9.3	460/3/60	①②③④⑤⑥
SEF-6I	S-CUBE-141	UNIT I	ROOF	0.375	2000	1259	1/2	12.2	460/3/60	①②③④⑤⑥
SEF-7I	S-CUBE-200	UNIT I	ROOF	0.375	4000	846	3/4	13.7	460/3/60	①②③④⑤⑥

① BIRDSCREEN
② ROOF CURB
③ UL LISTED FOR SMOKE CONTROL
④ DISCONNECT SWITCH
⑤ MOTORIZED SMOKE DAMPER
⑥ PROVIDE STEP-DOWN TRANSFORMER OPTION, 460V TO 110V, TO POWER SMOKE DAMPER MOTOR.

EXPANSION TANK SCHEDULE

MARK	BASIS OF DESIGN (BELL & GOSSETT P/N)	SERVICE	TANK VOLUME (GALLONS)	ACCEPTANCE VOLUME (GALLONS)	NOTES
ET-1I	B-130LA	HEATING HOT WATER	34	27	

REVISIONS

REV	DATE	BY	DESCRIPTION
1	8/23/2012	CVW	REVISED PER FIRE MARSHALL COMMENTS
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

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WEBSTER DETENTION CENTER PHASE II

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SEAL

Project Status

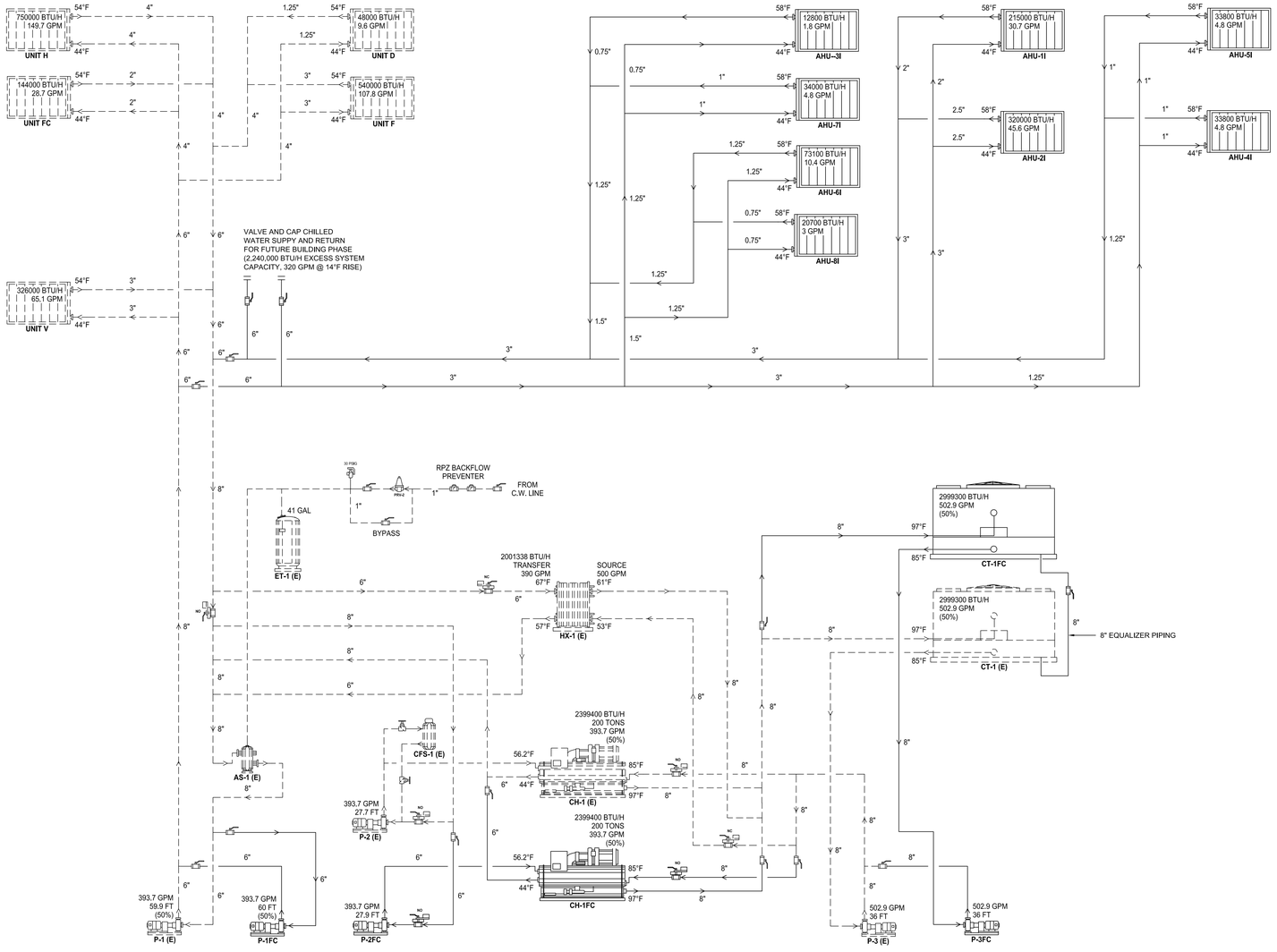
Principal In Charge:	CJJ
Project Engineer:	CVW
Drawn By:	LPW

SHEET TITLE:
HVAC SCHEDULES

SHEET NUMBER: M-301

PROJECT ID # 11-104

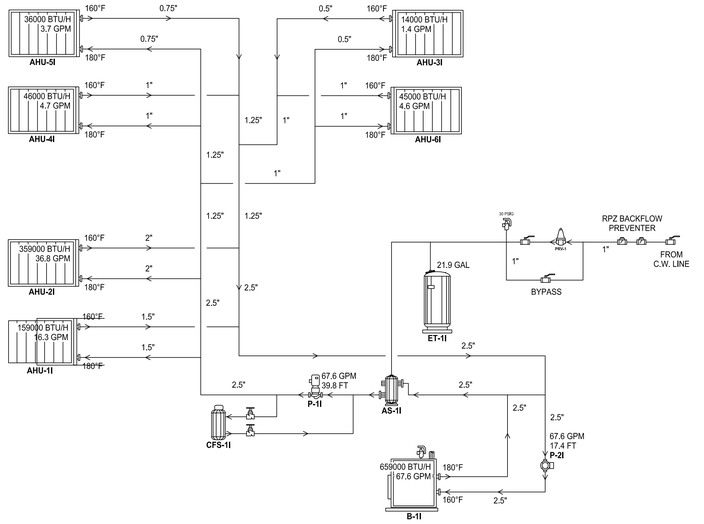
Date: 3/6/2012



13
M-302

CHILLED WATER LOOP SCHEMATIC

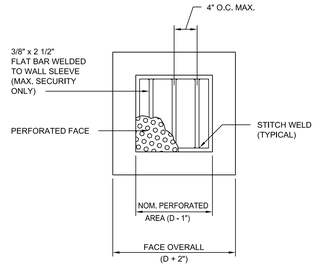
NO SCALE



11
M-302

HEATING HOT WATER LOOP SCHEMATIC

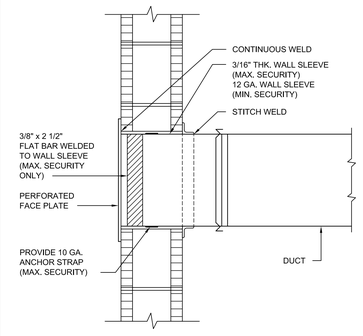
NO SCALE



17
M-302

ELEVATION - SECURITY GRILLE

NO SCALE



18
M-302

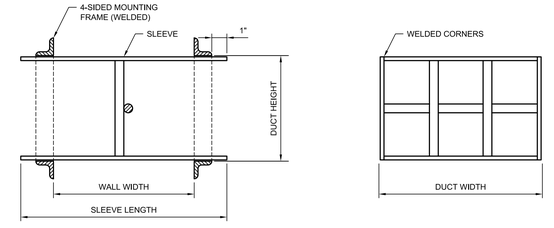
SECTION - SECURITY GRILLE

NO SCALE

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CEILING SUPPLY DIFFUSER	FD	FIRE DAMPER	EA	EXHAUST AIR	UC 3/4"	3/4" DOOR UNDERCUT
	CEILING RETURN GRILLE	SD	SMOKE DAMPER	OA	OUTDOOR AIR		DUCTWORK/EQUIPMENT
	CEILING EXHAUST GRILLE	ø	ROUND (DIAMETER)	CHS	CHILLED WATER SUPPLY		DUCTWORK/EQUIPMENT TO BE DEMOLISHED
	AIRFLOW DIRECTION		CHILLED/CONDENSER/HEATING WATER SUPPLY PIPING	CHR	CHILLED WATER RETURN		EXISTING DUCTWORK/EQUIPMENT TO REMAIN
A/100	MARK/CFM (SEE DIFFUSER/GRILLE SCHEDULES)		CHILLED/CONDENSER/HEATING WATER RETURN PIPING	CWS	CONDENSER WATER SUPPLY		ACOUSTICALLY LINED DUCTWORK
30/14	DUCT SIZE (WIDTH/HEIGHT)		EXISTING PIPING TO REMAIN	CWR	CONDENSER WATER RETURN		
	MANUAL VOLUME DAMPER	SA	SUPPLY AIR	HWS	HEATING HOT WATER SUPPLY		
T	TEMPERATURE SENSOR, WALL MOUNTED	RA	RETURN AIR	HWR	HEATING HOT WATER RETURN		

19
M-302



23
M-302

SECURITY DUCT/BARRIER GRILLE DETAIL

NO SCALE

REV	DATE	BY	DESCRIPTION
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

REVISIONS

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SEAL

GEORGIA
PE032509
PROFESSIONAL
ENGINEER
CURTIS V. WILLIAMSON
7/3/12

Project Status

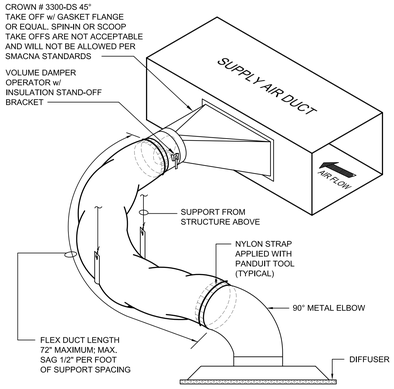
Principal In Charge:	CJJ
Project Engineer:	CVW
Drawn By:	LPM

SHEET TITLE:
HVAC SCHEMATICS, LEGEND AND DETAILS

SHEET NUMBER: M-302

PROJECT ID # 11-104

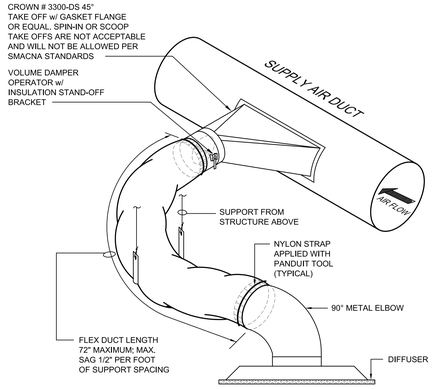
Date: 3/6/2012



7 M-303

FLEX DUCT TAKE-OFF DETAIL

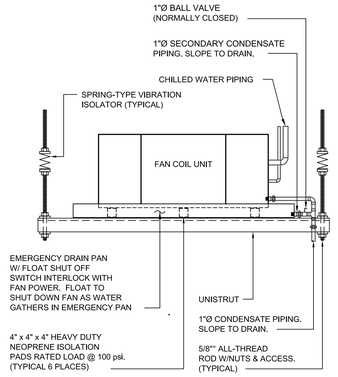
NO SCALE



9 M-303

FLEX DUCT TAKE-OFF DETAIL

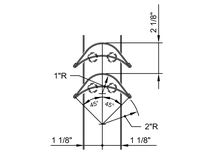
NO SCALE



11 M-303

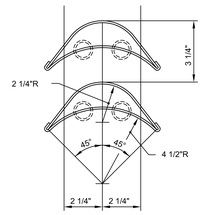
DETAIL - AIR HANDLING UNIT MOUNTING

NO SCALE



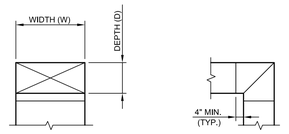
SMALL DOUBLE VANE ELBOW

USE FOR ELBOWS UP TO 36" IN
WIDTH AND/OR DEPTH



LARGE DOUBLE VANE ELBOW

USE FOR ELBOWS 36" OR WIDER
AND ANY DEPTH



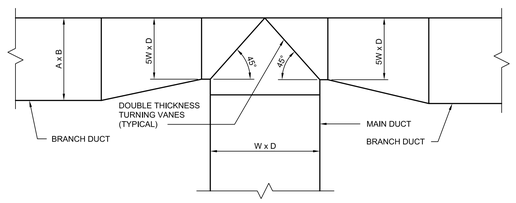
FRONT VIEW SIDE VIEW

NOTES:
1. ALL SQUARE OR RECTANGLE ELBOWS SHALL HAVE ONE OF THE TWO TYPES OF TURNING VANES SHOWN ABOVE. SINGLE VANE ELBOWS WILL NOT BE PERMITTED, UNLESS SPECIFICALLY INDICATED.
2. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.
3. ALL SQUARE OR RECTANGLE ELBOWS SHOWN ON PLANS FOR EXHAUST OR RETURN DUCT MAY BE MADE RADIUS ELBOWS PROVIDED SPACE PERMITS RADIUS INSTALLATION.
4. ALL SQUARE OR RECTANGULAR ELBOWS SHOWN ON PLANS FOR SUPPLY DUCT MAY BE MADE RADIUS ELBOWS PROVIDED SPACE PERMITS RADIUS INSTALLATION AND/OR THERE ISN'T AN OUTLET OR TAKE-OFF WITHIN 5D ON THE DOWNSTREAM SIDE OF THE ELBOW.

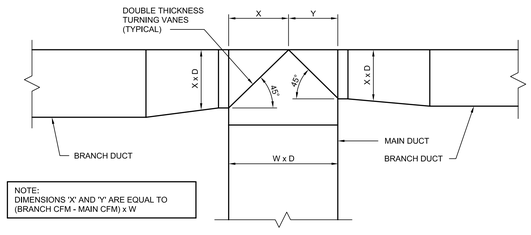
18 M-303

DETAIL - TYPICAL ELBOW

NO SCALE



EQUAL SPLIT

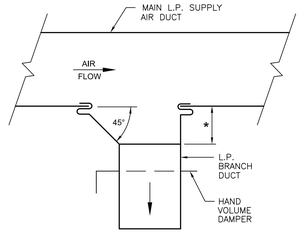


UNEQUAL SPLIT

19 M-303

DETAIL - DUCT TEE CONNECTION

NO SCALE

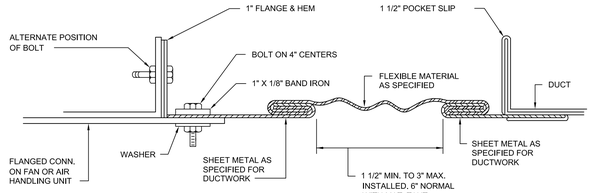


* – EQUALS WIDTH OF BRANCH DUCT UP TO 12".
12" FOR ALL BRANCH DUCTS LARGER THAN 12".

15 M-303

DETAIL - TYPICAL LOW PRESSURE BRANCH DUCT TAKE OFF

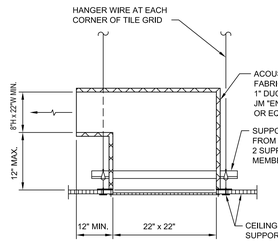
NO SCALE



16 M-303

RECTANGULAR FLEXIBLE CONNECTION DETAIL

NO SCALE

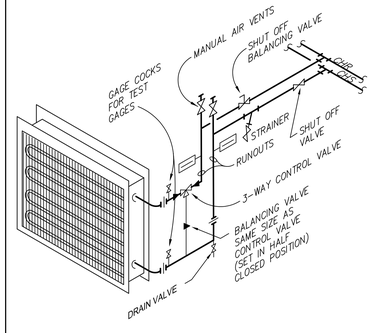


PLENUM RETURN

21 M-303

DETAIL - RETURN AIR DUCT

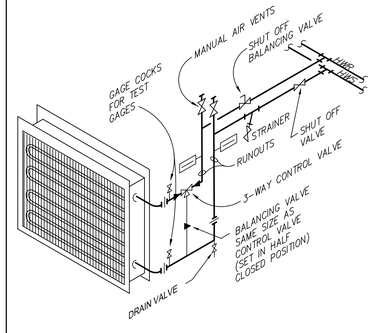
NO SCALE



22 M-303

CHILLED WATER COIL PIPING

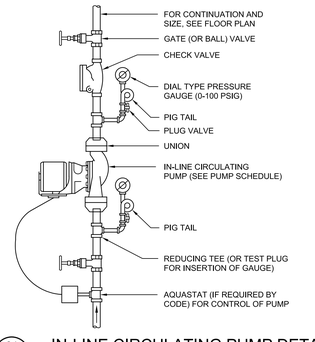
NO SCALE



23 M-303

HEATING WATER COIL PIPING

NO SCALE



24 M-303

IN-LINE CIRCULATING PUMP DETAIL

NO SCALE

REVISIONS			
REV	DATE	BY	DESCRIPTION
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

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SEAL

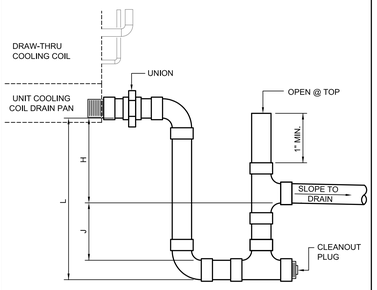
PE032509
PROFESSIONAL
ENGINEER
CURTIS V. WILLIAMS, JR.
7/3/12

Project Status

Principal In Charge:	CJJ
Project Engineer:	CVW
Drawn By:	LPN

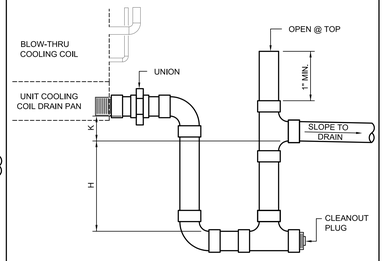
SHEET TITLE:
HVAC DETAILS

SHEET NUMBER:	PROJECT ID #
M-303	11-104
	Date: 3/6/2012



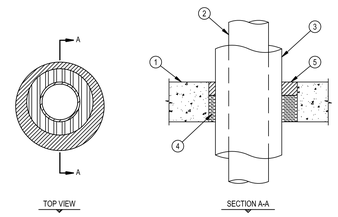
NOTES:
1. DRAIN LINE CONNECTION SIZE SAME AS UNIT DRAIN SIZE.
2. EXTEND DRAIN PIPING TO SPECIFIED LOCATION ON HVAC PLAN.
3. DRAIN LINE TO BE SUPPORTED EVERY 4' WITH 3/8" ROD AND LIGHT-DUTY CLEVIS HANGER
4. H = (1" FOR EACH 1" OF MAXIMUM NEGATIVE STATIC PRESSURE) + 1"
5. J = 1/2 OF H
6. L = H + J + PIPE DIA.

7 M-304 — DETAIL - CONDENSATE DRAIN TRAP
NO SCALE — NEGATIVE PRESSURE TRAP



NOTES:
1. DRAIN LINE CONNECTION SIZE SAME AS UNIT DRAIN SIZE.
2. EXTEND DRAIN PIPING TO SPECIFIED LOCATION ON HVAC PLAN.
3. DRAIN LINE TO BE SUPPORTED EVERY 4' WITH 3/8" ROD AND LIGHT-DUTY CLEVIS HANGER
4. K = MIN. 1/2"
5. H = 1/2" + MAXIMUM TOTAL STATIC PRESSURE

8 M-304 — DETAIL - CONDENSATE DRAIN TRAP
NO SCALE — POSITIVE PRESSURE TRAP



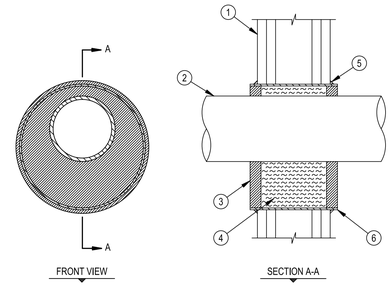
1. CONCRETE FLOOR OR WALL ASSEMBLY :
   A. MIN. 4-1/2" THICKNESS LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE.
   B. MIN. 8" CONCRETE BLOCK.
2. 6" DIA. (OR SMALLER) STEEL PIPE (SCHEDULE 10 OR HEAVIER), OR 4" DIA. (OR SMALLER) COPPER PIPE, EMT OR STEEL CONDUIT.
3. MAX. 1-1/2" THICK FIBERGLASS INSULATION WITH AN ALL SERVICE JACKET.
4. MIN. 3" THICKNESS MINERAL WOOL BACKING (MIN. 4 PCF DENSITY).
5. MIN. 1-1/2" DEPTH HILTI FS-ONE FIRESTOP SEALANT.

NOTES : 1. MAXIMUM DIAMETER OF OPENING = 12".
2. ANNULAR SPACE REQUIRED = MIN. 1/2", TO MAX. 2-3/8".
3. WHEN STEEL PIPE OR CONDUIT IS USED, T RATING = 1-HR.
4. WHEN COPPER TUBE OR PIPE IS USED, T RATING = 3/4-HR.

U.L. SYSTEM NO. CAJ5045

F RATING = 2-HR.
T RATING = 3/4 AND 1-HR.

9 M-304 — INSULATED METAL PIPE THROUGH 1-HR & 2-HR CONCRETE FLOOR OR WALL



1. 2-HR. FIRE-RATED GYPSUM WALL ASSEMBLY.
2. 12" DIA. (OR SMALLER) STEEL PIPE, 4" DIA. (OR SMALLER) COPPER PIPE.
3. MIN. 3/4" DEPTH HILTI FS-ONE FIRESTOP SEALANT.
4. MIN. 4-1/2" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
5. A GENEROUS BEAD OF HILTI FS-ONE AROUND PERIMETER OF STEEL SLEEVE.
6. MIN. 24 GA. STEEL SLEEVE EXTENDING 1/2" PAST SURFACE OF WALL.

NOTES : 1. ANNULAR SPACE = MIN, 3/4", MAX. 3".
2. MAXIMUM DIAMETER OF OPENING = 18".
3. OPENING SHALL BE 1-1/2" TO 6" LARGER THAN THE PIPE.

U.L. SYSTEM NO. WL1056

F RATING = 2-HR.
T RATING = 0-HR.

10 M-304 — STEEL/COPPER PIPE THROUGH A SLEEVE IN 1-HR AND 2-HR. GYPSUM WALL

HVAC GENERAL NOTES

ALL WORK SHALL BE PERFORMED PER NFPA 90A & 90B, 96; 2002 NATIONAL ELECTRICAL CODE, 2006 INTERNATIONAL MECHANICAL CODE, & ALL APPLICABLE STATE & LOCAL CODES.

DUCT SIZES MAY BE ALTERED AS LONG AS SAME DUCT CROSS SECTIONAL AREA IS MET IN ORDER TO AVOID INTERFERENCES AS NEEDED.

INSTALL ALL MECHANICAL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.

EQUIPMENT MODEL NUMBERS ARE MINIMUM ACCEPTABLE SPECIFICATIONS. DIFFERENT MANUFACTURES WITH EQUAL OF BETTER PERFORMANCE ARE ACCEPTABLE.

ALL 90 DEGREE ELBOWS TO HAVE TURNING VANES (SUPPLY & RETURN DUCT).

MOUNT THERMOSTATS 4'-0" A.F.F.

ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS. ON RECTANGULAR DUCTS, DIMENSIONS GIVEN FIRST IS DIMENSION SEEN.

ARRANGEMENTS OF MECHANICAL WORK SHALL BE AS SHOWN. DRAWINGS ARE NOT INTENDED TO INDICATE ALL OFFSETS AND FITTINGS. EXAMINE ALL DRAWINGS, INVESTIGATE CONDITIONS TO BE ENCOUNTERED AND ARRANGE WORK ACCORDINGLY; FURNISH AND INSTALL ALL FITTINGS AND OFFSETS.

DRAWINGS ARE NOT INTENDED TO SHOW IN DETAIL EXACT LOCATIONS AND CONNECTIONS FOR EQUIPMENT AND ACCESSORIES. FINAL CONNECTIONS SHALL BE AS SHOWN ON APPROVED SHOP DRAWINGS.

MEASUREMENT OF DRAWINGS BY SCALE SHALL NOT BE USED AS DIMENSIONS FOR FABRICATION. MEASUREMENTS FOR LOCATING EQUIPMENT, DUCTWORK, PIPING AND ACCESSORIES SHALL BE MADE ON THE JOB SITE AND SHALL BE BASED ON ACTUAL JOB CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEASUREMENTS, WHERE THE CONTRACTOR PREFABRICATES ANY WORK BASED ON THE DRAWINGS WITHOUT VERIFYING ACTUAL JOB CONDITIONS, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INVOLVED IN MAKING CHANGES TO PREFABRICATED WORK WHERE CONFLICTS OCCUR.

THE CONTRACTOR SHALL CHECK CEILING HEIGHTS IN EACH SPACE ON ARCHITECTURAL DRAWINGS AND SHALL ARRANGE ALL MECHANICAL WORK TO FIT IN THE SPACE ABOVE THE CEILING ALLOWING FOR ACCESS TO REMOVE TILE. PARTICULAR ATTENTION SHALL BE DIRECTED TOWARD DUCT SIZES AS SHOWN ON DRAWINGS, TO VERIFY THAT DUCTWORK ALONG WITH ALL OTHER WORK WILL FIT IN THE SPACE ABOVE THE CEILINGS. AFTER VERIFYING DIMENSIONS, IF THE CONTRACTOR DETERMINES THAT THE WORK WILL NOT FIT IN THE SPACE INDICATED, THEN THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF THE CONFLICT AND SHALL NOT INSTALL ANY WORK UNTIL INSTRUCTIONS ARE RECEIVED FROM THE ARCHITECT/ENGINEER. IF THE CONTRACTOR INSTALLS WORK AS SHOWN ON DRAWINGS WITHOUT VERIFYING ADEQUACY OF SPACES, AND THE WORK DOES NOT FIT THE SPACE SHOWN, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR REARRANGING WORK AND CHANGING DUCT SIZES AS REQUIRED TO FIT THE SPACE AND THE CONTRACTOR SHALL PAY ALL COSTS CONNECTED WITH THE CHANGES.

CONTRACTOR SHALL INSTALL DUCTS, PIPING AND EQUIPMENT IN A NEAT AND WORKMANLIKE MANNER AND SHALL AVOID CONFLICT WITH OTHER WORK. EQUIPMENT SHALL BE SO ARRANGED AND FITTED INTO AVAILABLE SPACE SO THAT WORKING PARTS INCLUDING FILTERS AND LUBRICATION POINTS, AND COIL REMOVAL ARE ACCESSIBLE FOR SERVICE WITHOUT DAMAGE TO BUILDING STRUCTURE OR FINISHES OR WITHOUT MOVING OTHER EQUIPMENT. THE CONTRACTOR SHALL NOT INSTALL ANY EQUIPMENT WHERE PARTS ARE INACCESSIBLE FOR SERVICE.

WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO PROVIDE MAXIMUM HEADROOM POSSIBLE.

EXACT LOCATION OF GRILLES & CEILING OUTLETS SHALL BE DETERMINED ON THE JOB. COORDINATE WITH LIGHTS AND ARCHITECTURAL REQUIREMENTS TO PROVIDE A UNIFORM & SYMMETRICAL APPEARANCE. REFER TO ARCHITECTURAL & ELECTRICAL DRAWINGS & DETAILS.

PROVIDE UNION OR FLANGE CONNECTIONS IN PIPING AT ALL EQUIPMENT & AS REQUIRED FOR SERVICE.

CUTTING AND REPAIRING: THE HVAC CONTRACTOR SHALL DO ALL CUTTING AND REPAIRING OF WALLS, FLOORS, CEILINGS, ETC. NECESSARY FOR THE INSTALLATION OF THE WORK BUT HE SHALL NOT CUT INTO ANY STRUCTURAL MEMBER WITHOUT THE PERMISSION OF THE ARCHITECT.

ALL DUCTWORK SHALL BE INSTALLED IN STRICT COMPLIANCE WITH SMACNA, NFPA BULLETIN 90A, AND ASHRAE GUIDES. UNLESS OTHERWISE NOTED, DUCTS SHALL BE MADE OF GALVANIZED SHEET STEEL. ALL DUCT CONNECTIONS TO AIR HANDLING UNITS AND EQUIPMENT SHALL BE MADE WITH UL LISTED FLAMEPROOF FLEXIBLE CONNECTORS.

ALL CONCEALED SUPPLY AND RETURN DUCTS SHALL BE INSULATED PER SPECIFICATION SECTION 230713. ALL EXPOSED SUPPLY, RETURN AND EXHAUST DUCTWORK SHALL BE RECTANGULAR GALVANIZED LINED DUCT WITH PAINT GRIP FINISH OR DOUBLE WALL INSULATED SPIRAL DUCT WITH PAINT GRIP PRIMER. SEE SPECIFICATION SECTION 099100 "PAINTING" FOR PAINTING OF EXPOSED DUCTWORK.

FLEXIBLE DUCT RUNOUTS FOR CONNECTION BETWEEN TRUNK DUCTS AND DIFFUSERS SHALL BE A FACTORY FABRICATED ASSEMBLY, UL-181, CLASS 1 LISTED, HAVING A MINIMUM R-FACTOR OF 4.3, EQUAL TO THERMAFLEX II TYPE MKE OR MANVILLE "MICROAIRE" J/FLEX SL.

FLEXIBLE DUCT: MAXIMUM LENGTH OF FLEXIBLE DUCT ALLOWED PER TAKE-OFF SHALL BE 6 FEET.

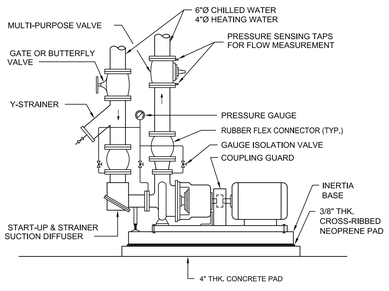
PROVIDE MANUAL VOLUME DAMPERS (ONE PER SUPPLY OUTLET).

SEISMIC BRACING OF DUCTWORK AND EQUIPMENT: REFER TO SPECIFICATION 233113.

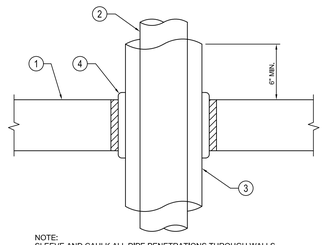
ANY OPENINGS IN SECURE WALLS (OTHER THAN SECURITY DOORS, WINDOWS, ETC, WHICH ARE OTHERWISE PROTECTED) LARGER THAT 5 1/2" SQUARE, IN AREAS INHABITED BY INMATES, SHALL BE PROTECTED WITH SECURITY BARS AND/OR GRILLES, BARS WITH-IN SAID OPENINGS SHALL BE #5 BARS SPACED AT 5 1/2" O.C. BOTH WAYS. INTERSECTIONS OF BARS SHALL BE TACK-WELDED. BARS OR STEEL CHANNEL ANCHORS SHALL HAVE A MINIMUM EMBEDMENT OF 8" INTO THE ADJACENT CONSTRUCTION. SECURITY BARS AND/OR GRILLES PROTECTING AN EXTERIOR OPENING SHALL BE GALVANIZED WITH A G90 GALVANIZED COATING.

CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL INACCESSIBLE, ABOVE CEILING DAMPERS, VALVES, AND EQUIPMENT. COORDINATE LOCATIONS WITH ARCHITECT.

18 M-304



13 M-304 — END SUCTION WATER PUMP DETAIL
NO SCALE



NOTE:
SLEEVE AND CAULK ALL PIPE PENETRATIONS THROUGH WALLS.

1. CORRIDOR WALL
2. STEEL/COPPER PIPE
3. INSULATION TO EXTEND 6" EACH SIDE OF WALL
4. CAULK

15 M-304 — PIPE THRU NON-RATED WALL DETAIL
NO SCALE

FIRE BARRIER LEGEND:

- SMOKE TIGHT CONSTRUCTION
- SMOKE PARTITION
- SMOKE BARRIER
- ONE HOUR FIRE BARRIER
- TWO HOUR FIRE BARRIER
- TWO HOUR FIRE WALL

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20 M-304

21 M-304

22 M-304

23 M-304

24 M-304

REV	DATE	BY	DESCRIPTION
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

REVISIONS

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WEBSTER DETENTION CENTER PHASE II

Richmond County Sheriff's Office
1941 Phinizy Road
Augusta, Georgia 30906

SEAL

Project Status

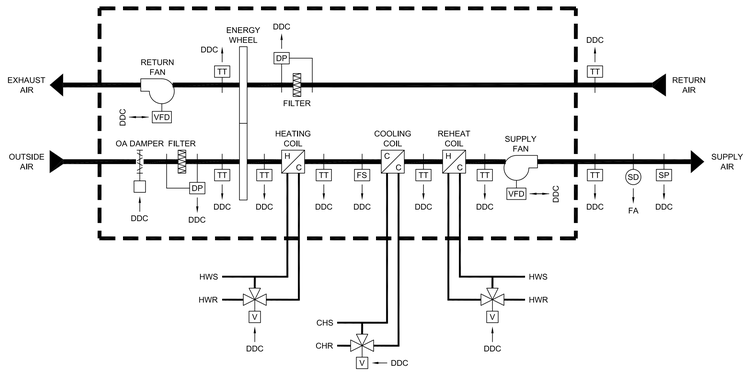
Principal In Charge:	C.J.J
Project Engineer:	CVW
Drawn By:	LPM

SHEET TITLE:
HVAC NOTES AND DETAILS

SHEET NUMBER: M-304

PROJECT ID # 11-104

Date: 3/6/2012

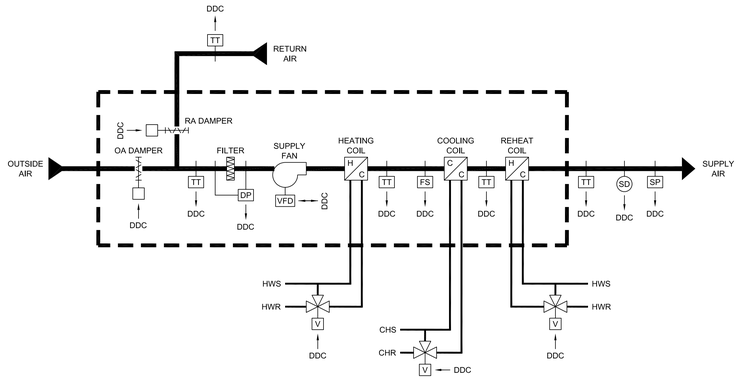


AHU-1I

AIR HANDLING UNIT CONTROL SCHEMATIC

NO SCALE

7
M-305

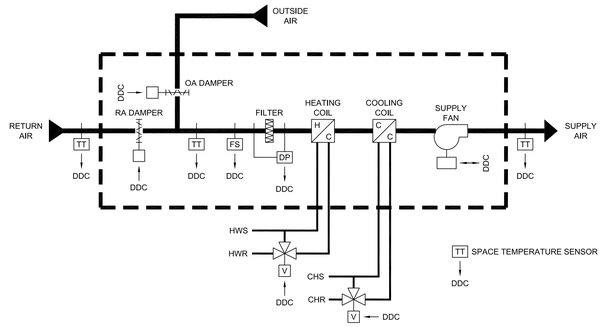


AHU-2I

AIR HANDLING UNIT CONTROL SCHEMATIC

NO SCALE

10
M-305

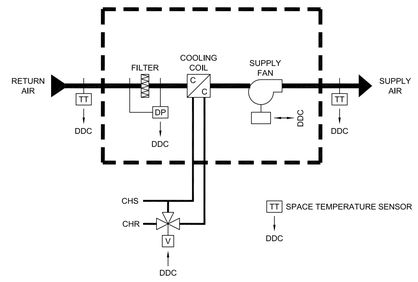


AHU-3I, AHU-4I, AHU-5I, AHU-6I

BLOWER COIL UNIT CONTROL SCHEMATIC

NO SCALE

13
M-305

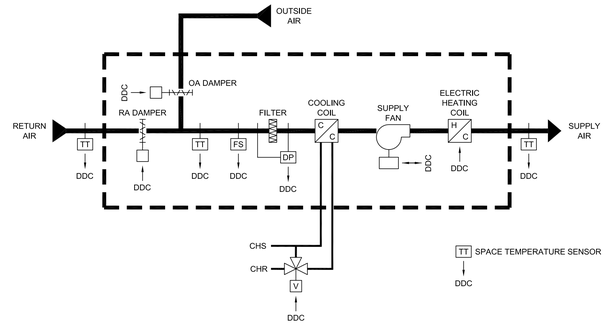


AHU-7I, AHU-8I

BLOWER COIL UNIT CONTROL SCHEMATIC

NO SCALE

15
M-305

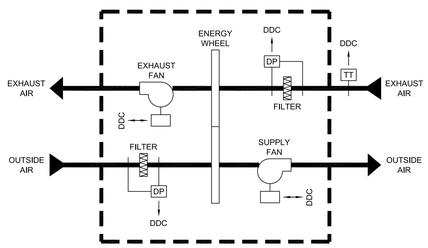


AHU-3D, AHU-1E, AHU-2E, AHU-3E, AHU-4E, AHU-5E

BLOWER COIL UNIT CONTROL SCHEMATIC

NO SCALE

17
M-305



ERV-1I

ENERGY RECOVERY VENTILATOR CONTROL SCHEMATIC

NO SCALE

19
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CONTROLS LEGEND	
SYMBOL	DESCRIPTION
TT	TEMPERATURE SENSOR
DP	DIFFERENTIAL PRESSURE SENSOR
SP	STATIC PRESSURE SENSOR
FS	FREEZE STAT
VFD	VARIABLE FREQUENCY DRIVE
V	CONTROL VALVE
SD	DUCT SMOKE DETECTOR

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M-305

23
M-305

24
M-305

REVISIONS			
REV.	DATE	BY	DESCRIPTION
0	7/3/2012	CVW	ISSUED FOR CONSTRUCTION AND PERMIT

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WEBSTER DETENTION CENTER PHASE II

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SEAL

Project Status

Principal In Charge:	C.J.J
Project Engineer:	CVW
Drawn By:	LPM

SHEET TITLE:
CONTROLS SCHEMATICS

SHEET NUMBER: M-305

PROJECT ID # 11-104

Date: 3/6/2012

AIR HANDLING UNIT SCHEDULE

MARK	BASIS OF DESIGN (TRANE P/N)	LOCATION	FAN SUPPLY CFM	FAN OUTDOOR CFM	FAN E.S.P. (IN. WG)	FAN MOTOR HP	COOLING CAPACITY (MBH) TOTAL	COOLING CAPACITY (MBH) SENSIBLE	COOLING EWT (°F)	COOLING LWT (°F)	COOLING GPM	COOLING COIL PD (FT. H20)	COOLING RUNOUT SIZE (IN.)	HEATING ELEC. HEAT (KW/STAGES)	HEATING GAS HEAT OUTPUT (MBH)	ELECTRICAL MCA	ELECTRICAL MCOP	ELECTRICAL V/ø/Hz	NOTES
AHU-1D	BCHC054	UNIT D – STAFF DINING	1,400	400	0.5	1/2	48.0	35.8	44	54	9.6	0.6	1	10.0/2	–	17.2	20	460/3/60	①③⑦
AHU-2D	BCHC024	UNIT D – CORRIDOR	600	40	0.5	1/2	24.0	16.2	44	54	4.8	5.2	3/4	4.0/2	–	7.8	15	460/3/60	①③⑦⑩
AHU-3D	BCHC024	UNIT D – CORRIDOR	600	40	0.5	1/2	24.0	16.2	44	54	4.8	5.2	3/4	4.0/2	–	7.8	15	460/3/60	①③⑦⑩
AHU-1FC	BCHC054	UNIT FC – MUSTER ROOM	1,400	320	0.5	1/2	48.0	35.8	44	54	9.6	0.6	1	8.0/2	–	14.1	15	460/3/60	①③⑦
AHU-2FC	BCHC024	UNIT FC – CORRIDOR	600	80	0.5	1/2	24.0	16.2	44	54	4.8	5.2	3/4	4.0/2	–	7.8	15	460/3/60	①③⑦⑩
AHU-3FC	BCHC024	UNIT FC – CORRIDOR	600	40	0.5	1/2	24.0	16.2	44	54	4.8	5.2	3/4	4.0/2	–	7.8	15	460/3/60	①③⑦⑩
AHU-4FC	BCHC024	UNIT FC – CORRIDOR	600	40	0.5	1/2	24.0	16.2	44	54	4.8	5.2	3/4	4.0/2	–	7.8	15	460/3/60	①③⑦⑩
AHU-5FC	BCHC024	UNIT FC – CORRIDOR	600	40	0.5	1/2	24.0	16.2	44	54	4.8	5.2	3/4	4.0/2	–	7.8	15	460/3/60	①③⑦⑩
AHU-1F	MCCB025	UNIT F – MECH. ROOM	12,300	6,060	3.5	20	480	341	44	54	96.0	10.6	3	–	560	–	–	460/3/60	①②③④⑤⑥⑧⑨
AHU-2F	BCHC012	UNIT F – CONTROL	400	50	0.5	1/2	12.0	8.4	44	54	2.4	2.0	3/4	3.0/1	–	6.2	15	460/3/60	①③⑦⑨
AHU-3F	BCHC036	UNIT F – MECH. ROOM	1,200	–	0.5	1/2	48.0	31.8	44	54	9.6	10.0	1	3.0/1	–	1.5	15	460/3/60	①③⑦⑨
AHU-1G	MCCB030	UNIT G – MECH. ROOM	14,960	8,380	3.5	20	570	404	44	54	114.0	16.2	3	–	700	–	–	460/3/60	①②③④⑤⑥⑧
AHU-2G	BCHC012	UNIT G – CONTROL	400	50	0.5	1/2	12.0	8.4	44	54	2.4	2.0	3/4	3.0/1	–	6.2	15	460/3/60	①③⑦
AHU-3G	BCHC024	UNIT G – CORRIDOR	600	40	0.5	1/2	24.0	16.2	44	54	4.8	5.2	3/4	4.0/2	–	7.8	15	460/3/60	①③⑦
AHU-4G	BCHC036	UNIT F – MECH. ROOM	1,200	–	0.5	1/2	48.0	31.8	44	54	9.6	10.0	1	3.0/1	–	1.5	15	460/3/60	①③⑦
AHU-1H	MCCB030	UNIT H – MECH. ROOM	14,200	8,600	3.5	20	550	390	44	54	110.0	15.2	3	–	700	–	–	460/3/60	①②③④⑤⑥⑧
AHU-2H	MCCB006	UNIT H – MECH. ROOM	2,800	600	1.0	3	110	78.9	44	54	22.0	2.2	2	–	300	–	–	460/3/60	①②③④⑤⑥⑧
AHU-3H	BCHC012	UNIT H – CONTROL	400	50	0.5	1/2	12.0	8.4	44	54	2.4	2.0	3/4	3.0/1	–	6.2	15	460/3/60	①③⑦
AHU-4H	BCHC024	UNIT F – STOR. ROOM	900	–	0.5	1/2	36.0	24.0	44	54	7.2	3.8	1	–	–	1.5	15	460/3/60	①③⑦⑩
AHU-1V	MCCB017	UNIT V – MECH. ROOM	8,000	1,130	3.5	15	290	210	44	54	58.0	7.5	2.5	–	200	–	–	460/3/60	①②③④⑤⑥⑦
AHU-2V	BCHC036	UNIT V – IT	750	–	0.5	1/2	36.0	24.0	44	54	7.2	3.7	1	3.0/1	–	6.2	15	460/3/60	①③⑩

① COIL ENTERING AIR TEMPERATURE – 80°F DB, 67°F WB. COIL LEAVING AIR TEMPERATURE – 55°F DB, 54°F WB.
② PROVIDE FILTER MIXING BOX, FAN MODULE, GAS HEAT MODULE, ACCESS MODULE, COIL MODULE, AND DISCHARGE PLENUM.
③ SIX ROW COIL.
④ VARIABLE–SPEED DRIVE.
⑤ PROVIDE DUCT SMOKE DETECTOR IN SUPPLY AIR SYSTEM TO SHUT DOWN FAN.
⑥ PROVIDE DOUBLE–WALL METAL VENT TESTED ACCORDING TO UL 103 AND RATED FOR 1000°F CONTINUOUSLY, OR 1700°F FOR 10 MINUTES; WITH NEUTRAL OR NEGATIVE FLUE PRESSURE COMPLYING WITH NFPA 211. INNER SHELL AND OUTER JACKET SHALL BE SEPARATED BY AT LEAST A 1–INCH ANNULAR SPACE FILLED WITH HIGH–TEMPERATURE, CERAMIC–FIBER INSULATION. INNER SHELL SHALL BE ASTM A 666, TYPE 304 STAINLESS STEEL.
⑦ CONTROLLED BY THERMOSTAT, WALL MOUNTED
⑧ CONTROLLED BY THERMOSTAT, DUCT MOUNTED IN RETURN DUCT UPSTREAM OF OUTDOOR AIR DUCTWORK CONNECTION.
⑨ ADD ALTERNATE NO. 1
⑩ PROVIDE CONDENSATE PUMP

FAN COIL UNIT SCHEDULE

MARK	BASIS OF DESIGN (TRANE P/N)	LOCATION	FAN SUPPLY CFM	FAN OUTDOOR CFM	FAN E.S.P. (IN. WG)	COOLING CAPACITY (MBH) TOTAL	COOLING CAPACITY (MBH) SENSIBLE	COOLING EWT (°F)	COOLING LWT (°F)	COOLING GPM	COOLING COIL PD (FT. H20)	COOLING RUNOUT SIZE (IN.)	HEATING ELEC. HEAT (KW/STAGES)	ELECTRICAL MCA	ELECTRICAL MCOP	ELECTRICAL V/ø/Hz	NOTES
FCU-1H	FCCB040	UNIT H – CONFERENCE ROOM	350	40	0.4	12.0	8.4	44	54	2.4	10	3/4	2.2/1	14.7	15	208/1/60	①②③
FCU-2H	FCCB040	UNIT H – OFFICES	350	20	0.4	12.0	8.4	44	54	2.4	10	3/4	2.2/1	7.8	15	208/1/60	①②③
FCU-3H	FCCB100	UNIT H – OFFICES	525	30	0.4	18.0	12.6	4	54	3.6	10	3/4	3.0/1	7.8	15	208/1/60	①②③

① COIL ENTERING AIR TEMPERATURE – 80°F DB, 67°F WB. COIL LEAVING AIR TEMPERATURE – 55°F DB, 54°F WB.
② SIX ROW COIL.
③ CONTROLLED BY THERMOSTAT, WALL MOUNTED

ENERGY RECOVERY VENTILATOR SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	LOCATION	OUTDOOR AIR OUTDOOR CFM	OUTDOOR AIR E.S.P. (IN. WG)	OUTDOOR AIR MOTOR HP	OUTDOOR AIR OA WHEEL EFFICIENCY	EXHAUST AIR EXHAUST CFM	EXHAUST AIR E.S.P. (IN. WG)	EXHAUST AIR MOTOR HP	EXHAUST AIR EA WHEEL EFFICIENCY	ELECTRICAL MCA	ELECTRICAL MCOP	ELECTRICAL V/ø/Hz	NOTES
ERV–1F	ERV–521H–15–A	UNIT F – MECH. ROOM	3,060	0.5	2	72.1	3,060	0.5	2	72.1	8.5	15.0	460/3/60	①④
ERV–2F	ERV–521H–15–A	UNIT F – MECH. ROOM	3,060	0.5	2	72.1	3,060	0.5	2	72.1	8.5	15.0	460/3/60	①④
ERV–1G	ERV–522H–30–A	UNIT G – MECH. ROOM	8,430	0.5	7.5	73.4	8,430	0.5	7.5	73.4	26.2	35.0	460/3/60	②
ERV–1H	ERV–522H–30–A	UNIT H – MECH. ROOM	8,650	0.5	7.5	72.9	8,650	0.5	7.5	72.9	26.2	35.0	460/3/60	③

① INTERLOCK WITH AHU–1F
② INTERLOCK WITH AHU–1G
③ INTERLOCK WITH AHU–1H
④ ADD ALTERNATE NO. 1

SMOKE EXHAUST FAN SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	LOCATION	TYPE	ESP (IN WG)	NOM. CFM	FRPM	HP	SONES	ELECTRICAL V/ø/Hz	NOTES
SEF–1D	S–CUBE–141	UNIT FC	ROOF	0.375	2000	1258	1/2	12.4	460/3/60	①②③④⑥⑦
SEF–1FC	S–CUBE–141	UNIT FC	ROOF	0.375	2000	1258	1/2	12.4	460/3/60	①②③④⑥⑦
SEF–2FC	S–CUBE–141	UNIT FC	ROOF	0.375	2000	1258	1/2	12.4	460/3/60	①②③④⑥⑦
SEF–1F	TAUB–36L	UNIT F	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑤⑥⑦
SEF–2F	TAUB–36L	UNIT F	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑤⑥⑦
SEF–3F	TAUB–36L	UNIT F	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑤⑥⑦
SEF–4F	TAUB–36L	UNIT F	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑤⑥⑦
SEF–5F	TAUB–36L	UNIT F	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑤⑥⑦
SEF–6F	TAUB–36L	UNIT F	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑤⑥⑦
SEF–1G	TAUB–36L	UNIT G	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–2G	TAUB–36L	UNIT G	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–3G	TAUB–36L	UNIT G	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–4G	TAUB–36L	UNIT G	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–5G	TAUB–36L	UNIT G	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–6G	TAUB–36L	UNIT G	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–7G	S–CUBE–141	UNIT G	ROOF	0.375	2000	1258	1/2	12.4	460/3/60	①②③④⑥⑦
SEF–1H	TAUB–36L	UNIT H	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–2H	TAUB–36L	UNIT H	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–3H	TAUB–36L	UNIT H	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦
SEF–4H	TAUB–36L	UNIT H	ROOF	0.25	14200	736	3	23	460/3/60	①②③④⑥⑦

① BIRDSCREEN
② ROOF CURB
③ UL LISTED FOR SMOKE CONTROL
④ DISCONNECT SWITCH
⑤ ADD ALTERNATE NO. 1
⑥ MOTORIZED SMOKE DAMPER
⑦ PROVIDE STEP–DOWN TRANSFORMER OPTION, 460V TO 110V, TO POWER SMOKE DAMPER MOTOR.

EXHAUST FAN SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	TYPE	ESP (IN WC)	NOM. CFM	FRPM	HP	WATTS	SONES	ELECTRICAL V/ø/Hz	NOTES
EF–1FC	CWB–141–4	SIDEWALL	0.25	1500	965	1/4	–	8.6	115/1/60	②
EF–2FC	CWB–141–4	SIDEWALL	0.25	1500	965	1/4	–	8.6	115/1/60	②
EF–1H	CSP–A900	CABINET	0.25	800	950	–	328	2.3	115/1/60	①
EF–1V	CSP–A710	CABINET	0.25	600	1080	–	325	3.3	115/1/60	①
EF–1D	CUBE–101–4	ROOF	0.5	750	1264	1/4	–	6.7	115/1/60	③④
EF–2H	SP–A710	CEILING	0.125	650	1080	–	285	7.2	115/1/60	⑤

① CONTROLLED BY BUILDING AUTOMATION SYSTEM
② SEE SPEC. SECTION 236426 FOR CONTROLS
③ CONTROLLED BY DISHWASHER
④ PROVIDE ROOF CURB
⑤ CONTROLLED BY THERMOSTAT

DESIGN CONDITIONS

	SUMMER	WINTER	COMMENTS
INDOORS	72°Fdb 50%RH	72°Fdb	①
OUTDOORS	94°Fdb / 76°Fwb	21°Fdb	①②

① OUTDOOR AIR QUANTITIES BASED ON ASHRAE 62.1–2007
② BASED ON GEORGIA ENERGY CODE

DIFFUSER/GRILLE SCHEDULE

MARK	BASIS OF DESIGN (PRICE P/N)	TYPE	NECK SIZE	PANEL SIZE	SLOTS	SLOT WIDTH	LENGTH	AIR PATTERN	MOUNTING FRAME	CFM RANGE	NOTES
A	SCD	SUPPLY	4"ø	12" x 12"	–	–	–	4–WAY	LAY–IN	30–70	①
B	SCD	SUPPLY	6"ø	24" x 24"	–	–	–	4–WAY	LAY–IN	75–150	
C	SCD	SUPPLY	8"ø	24" x 24"	–	–	–	4–WAY	LAY–IN	150–280	
D	SCD	SUPPLY	10"ø	24" x 24"	–	–	–	4–WAY	LAY–IN	280–420	
E	80	RET./EXH.	6" x 6"	–	–	–	–	–	LAY–IN	50–140	①
F	80	RET./EXH.	8" x 8"	–	–	–	–	–	LAY–IN	140–300	①
G	80	RETURN	10" x 10"	–	–	–	–	–	LAY–IN	300–480	①
H	80	RETURN	12" x 12"	–	–	–	–	–	LAY–IN	480–750	①
I	80	RETURN	14" x 14"	–	–	–	–	–	LAY–IN	750–1100	①
J	80	RETURN	6" x 6"	–	–	–	–	–	SURFACE	50–140	
K	530	RETURN	34" x 14"	–	–	–	–	–	SURFACE	1580	
L	530	RETURN	60" x 14"	–	–	–	–	–	SURFACE	1850	
M	ASPI215	SUPPLY	12"ø	–	2	1.5"	48	1–WAY	SURFACE	240–600	②
N	RCD	SUPPLY	10"ø	22"ø	–	–	–	–	DUCT MOUNT	220–350	
O	520	SUPPLY	12" x 6"	–	–	–	–	DD	DUCT MOUNT	120–300	
P	520	SUPPLY	20" x 10"	–	–	–	–	DD	DUCT MOUNT	350–700	
Q	80	EXHAUST	14" x 14"	–	–	–	–	–	LAY–IN	1000	①
R	80	EXHAUST	18" x 18"	–	–	–	–	–	LAY–IN	2000	①
S	520	SUPPLY	24" x 12"	–	–	–	–	DD	SURFACE	900	
T	530	RETURN	24" x 12"	–	–	–	–	–	SURFACE	900	
U	SCD	SUPPLY	8"ø	24" x 24"	–	–	–	4–WAY	SURFACE	150–280	
V	80	RETURN	12" x 12"	–	–	–	–	–	SURFACE	480–750	①
W	80	EXHAUST	18" x 18"	–	–	–	–	–	SURFACE	2000	①
X	SCD	SUPPLY	6"ø	24" x 24"	–	–	–	4–WAY	DUCT MOUNT	75–150	

① MOUNT IN 24x24 PANEL
② HORIZONTAL AIR PATTERN

SECURITY DIFFUSER/GRILLE SCHEDULE

MARK	BASIS OF DESIGN (PRICE P/N)	TYPE	NECK SIZE	PANEL SIZE	AIR PATTERN	MOUNTING FRAME	CFM RANGE	NOTES
SA	MSPG	–	6" x 6"	–	–	SURFACE	25–50	②
SB	MSPG	–	8" x 8"	–	–	SURFACE	40–100	②
SC	MSPG	–	10" x 10"	–	–	SURFACE	100–200	②
SD	MSPG	–	12" x 12"	–	–	SURFACE	200–700	②
SE	MSPG	–	18" x 18"	–	–	SURFACE	250–1250	②
SF	MSD	–	6" x 6"	–	4–WAY	SURFACE	30–120	①
SG	MSD	–	9" x 9"	–	4–WAY	SURFACE	120–240	①
SH	MSD	–	12" x 12"	–	4–WAY	SURFACE	240–380	①
SI	MSBG	–	VARIES	–	–	SURFACE	–	③④

① REAR ANGLE FRAME WITH WELDNUTS & TAMPER–PROOF BOLTS
② SEE DETAILS 11 & 17 ON M–404
③ SEE DETAIL 23 ON M–402
④ SEE PLANS FOR DUCT SIZE

LOUVER SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	TYPE	CFM	LOUVER SIZE	MIN. FREE AREA (FT^2)	BOT. OF LOUVER ELEV. (FT. A.F.F.)	NOTES
IL–1D	ESD–603	INTAKE	400	24"W x 16"H	0.98	11'–4"	①②③
IL–2D	ESD–603	INTAKE	160	18"W x 16"H	0.71	12'–8"	①②③
IL–1FC	ESD–603	INTAKE	440	36"W x 16"H	1.54	11'–4"	①②③
IL–1F	ESD–603	INTAKE	3,060	72"W x 24"H	5.22	13'–4"	①②③④
IL–2F	ESD–603	INTAKE	3,060	72"W x 24"H	5.22	13'–4"	①②③④
EL–1F	ESD–603	EXHAUST	3,060	72"W x 24"H	5.22	8'–0"	①②③④
EL–2F	ESD–603	EXHAUST	3,060	72"W x 24"H	5.22	8'–0"	①②③④
IL–1G	ESD–603	INTAKE	40	18"W x 16"H	0.71	12'–8"	①②③
IL–1H	ESD–603	INTAKE	8,700	96"W x 48"H	16.93	16'–8"	①②③
IL–2H	ESD–603	INTAKE	690	36"W x 16"H	1.54	16'–0"	①②③
EL–1H	ESD–603	EXHAUST	8,700	96"W x 48"H	16.93	16'–8"	①②③
EL–2H	ESD–603	EXHAUST	800	36"W x 16"H	1.54	8'–0"	①②③
IL–1V	ESD–603	INTAKE	1,130	72"W x 16"H	3.13	8'–0"	①②③
EL–1V	ESD–603	EXHAUST	600	36"W x 16"H	1.54	8'–0"	①②③
IL–3H	ESD–603	INTAKE	650	30"W x 16"H	1.28	8'–0"	①②③⑤
EL–3H	ESD–603	EXHAUST	650	24"W x 16"H	1.00	8'–0"	①②⑤

① BIRDSCREEN
② WELDED CONSTRUCTION
③ FLANGED FRAME
④ ADD ALTERNATE NO. 1
⑤ GRAVITY DAMPER

ROOFTOP VENTILATOR SCHEDULE

MARK	BASIS OF DESIGN (GREENHECK P/N)	TYPE	CFM	THROAT SIZE	THROAT AREA (FT^2)	NOTES
RTV–1FC	FHI	INTAKE	1,000	14" x 14"	1.36	①②③④
RTV–2FC	FHI	INTAKE	1,000	14" x 14"	1.36	①②③④
RTV–3FC	FHI	INTAKE	1,000	14" x 14"	1.36	①②③④
RTV–4FC	FHI	INTAKE	3,000	16" x 36"	4.0	①②
RTV–1F	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④⑤
RTV–2F	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④⑤
RTV–3F	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④⑤
RTV–4F	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④⑤
RTV–5F	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④⑤
RTV–6F	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④⑤
RTV–1G	FHI	INTAKE	8,030	24" x 60"	10.0	①②
RTV–2G	FHR	EXHAUST	8,030	24" x 60"	10.0	①②
RTV–3G	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–4G	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–5G	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–6G	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–7G	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–8G	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–1H	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–2H	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–3H	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–4H	FHI	INTAKE	14,200	36" x 60"	15.0	①②③④
RTV–1D	FHI	INTAKE	1,000	14" x 14"	1.36	①②③④

① BIRDSCREEN
② ROOF CURB
③ MOTORIZED DAMPER
④ INTERLOCK MOTORIZED DAMPER WITH FIRE ALARM SYSTEM
⑤ ADD. ALTERNATE NO. 1

ELECTRIC UNIT HEATER SCHEDULE

MARK	BASIS OF DESIGN (QMARK P/N)	KW	CFM	AMPS	ELECTRICAL V/ø/Hz	NOTES
EUH–1FC	MUH–10–4	10.0	650	12.0	480/3/60	①
EWH–1H	CWH3307	1.5	100	5.4	277/1/60	②③

① CONTROLLED BY THERMOSTAT, WALL MOUNTED
② INTEGRAL THERMOSTAT
③ SURFACE MOUNTED INSTALLATION

RECORD DRAWING

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SHEET TITLE
HVAC SCHEDULES - NOTES AND DETAILS

DATE: September 11, 2008

SHEET NUMBER
M-401

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WATER COOLED LIQUID CHILLER SCHEDULE (BASE BID)

MARK	BASIS OF DESIGN (TRANE P/N)	SERVICE	TYPE	CAPACITY TONS	KW/TON	EVAPORATOR E.W.T. °F	EVAPORATOR L.W.T. °F	EVAPORATOR DESIGN GPM	EVAPORATOR P.D. FT	CONDENSER E.W.T. °F	CONDENSER L.W.T. °F	CONDENSER DESIGN GPM	CONDENSER P.D. FT	ELECTRICAL KW	ELECTRICAL MCA	ELECTRICAL MCOP	ELECTRICAL V/ø/Hz	NOTES
CH-1	CVHE0320	CHILLED WATER	CENTRIFUGAL	200	0.605	54	44	260	15.5	85	95	330	9.7	121.1	214	350	460/3/60	

WATER COOLED LIQUID CHILLER SCHEDULE (ADD ALTERNATE NO. 1)

MARK	BASIS OF DESIGN (TRANE P/N)	SERVICE	TYPE	CAPACITY TONS	KW/TON	EVAPORATOR E.W.T. °F	EVAPORATOR L.W.T. °F	EVAPORATOR DESIGN GPM	EVAPORATOR P.D. FT	CONDENSER E.W.T. °F	CONDENSER L.W.T. °F	CONDENSER DESIGN GPM	CONDENSER P.D. FT	ELECTRICAL KW	ELECTRICAL MCA	ELECTRICAL MCOP	ELECTRICAL V/ø/Hz	NOTES
CH-1	CVHE0320	CHILLED WATER	CENTRIFUGAL	200	0.605	54	44	370	15.5	85	95	470	9.7	121.1	214	350	460/3/60	

COOLING TOWER SCHEDULE (BASE BID)

MARK	BASIS OF DESIGN (MARLEY P/N)	SERVICE	TYPE	DESIGN GPM	E.W.T. °F	L.W.T. °F	AMBIENT AIR °F WB	FAN HP	MAX. WPD FT. H2O	ELECTRICAL V/ø/Hz	NOTES
CT-1	NC8302EL1	CHILLED WATER	OPEN CIRCUIT	330	95	85	78	10	10	460/3/60	①
CT-2	NC8302AL1	CHILLED WATER	OPEN CIRCUIT	300	95	85	78	2	10	460/3/60	①

① 4.5 KW BASIN HEATER PER CELL @ 460V
② PROVIDE VFD FOR FAN MOTOR

COOLING TOWER SCHEDULE (ADD ALTERNATE NO. 1)

MARK	BASIS OF DESIGN (MARLEY P/N)	SERVICE	TYPE	DESIGN GPM	E.W.T. °F	L.W.T. °F	AMBIENT AIR °F WB	FAN HP	MAX. WPD FT. H2O	ELECTRICAL V/ø/Hz	NOTES
CT-1	NC8302EL1	CHILLED WATER	OPEN CIRCUIT	470	95	85	78	10	10	460/3/60	①②
CT-2	NC8302AL1	CHILLED WATER	OPEN CIRCUIT	300	95	85	78	2	10	460/3/60	①

① 4.5 KW BASIN HEATER PER CELL @ 460V
② PROVIDE VFD FOR FAN MOTOR

PUMP SCHEDULE (BASE BID)

MARK	BASIS OF DESIGN (TACO P/N)	SERVICE	CAPACITY GPM	HEAD FT.	SIZE	IMPELLER DIA. IN.	RPM	MOTOR HP	ELECTRICAL V/ø/Hz	NOTES
P-1	FI4013	SECONDARY CHILLED WATER	260	61	5 x 4	7.6	1760	10	460/3/60	
P-2	FI3007	PRIMARY CHILLED WATER	260	30	4 x 3	5.8	1760	7.5	460/3/60	
P-3	FI4007	CONDENSER WATER	330	40	5 x 4	6.5	1760	7.5	460/3/60	
P-4	FI3007	CONDENSER WATER	300	50	4 x 3	7.3	1760	5	460/3/60	

PUMP SCHEDULE (ADD ALTERNATE NO. 1)

MARK	BASIS OF DESIGN (TACO P/N)	SERVICE	CAPACITY GPM	HEAD FT.	SIZE	IMPELLER DIA. IN.	RPM	MOTOR HP	ELECTRICAL V/ø/Hz	NOTES
P-1	FI3011	SECONDARY CHILLED WATER	370	62	4 x 3	8.6	1760	15	460/3/60	
P-2	FI3009	PRIMARY CHILLED WATER	370	30	4 x 3	6.9	1760	7.5	460/3/60	
P-3	FI4007	CONDENSER WATER	470	40	5 x 4	6.8	1760	10	460/3/60	
P-4	FI3007	CONDENSER WATER	300	50	4 x 3	7.3	1760	5	460/3/60	

HEAT EXCHANGER SCHEDULE (BASE BID)

MARK	BASIS OF DESIGN (MUELLER P/N)	SERVICE	CAPACITY (MBH)	COLD SIDE GPM	COLD SIDE EWT	COLD SIDE LWT	COLD SIDE WPD FT. H2O	HOT SIDE GPM	HOT SIDE EWT	HOT SIDE LWT	HOT SIDE WPD FT. H2O	NOTES
HX-1	AT40	CHILLED WATER	1,426	330	53	61	6	260	67	57	4	①

① PLATE AND FRAME TYPE

HEAT EXCHANGER SCHEDULE (ADD ALTERNATE NO. 1)

MARK	BASIS OF DESIGN (MUELLER P/N)	SERVICE	CAPACITY (MBH)	COLD SIDE GPM	COLD SIDE EWT	COLD SIDE LWT	COLD SIDE WPD FT. H2O	HOT SIDE GPM	HOT SIDE EWT	HOT SIDE LWT	HOT SIDE WPD FT. H2O	NOTES
HX-1	AT40	CHILLED WATER	2,013	470	53	61	7	370	67	57	5	①

① PLATE AND FRAME TYPE

AIR SEPARATOR SCHEDULE

MARK	BASIS OF DESIGN (TACO P/N)	SERVICE	SIZE OF TANGENTIAL OPENINGS	CAPACITY (GPM)	NOTES
AS-1	ACT5F	CHILLED WATER	5"	550	

EXPANSION TANK SCHEDULE

MARK	BASIS OF DESIGN (TACO P/N)	SERVICE	CAPACITY (GALLONS)	NOTES
ET-1	CA-215	CHILLED WATER	57	

MAKEUP AIR UNIT SCHEDULE

MARK	BASIS OF DESIGN (AAON P/N)	OUTDOOR VOLUME (CFM)	SUPPLY E.S.P. (IN. WG)	COOLING CAPACITY (MBH)	COOLING L.A.T.	HEATING INPUT (MBH)	HEATING L.A.T.	SUPPLY FAN SIZE (HP)	ELECTRICAL MCA	ELECTRICAL MCOP	ELECTRICAL V/ø/Hz	WEIGHT (LB)	NOTES
MAU-2	RN-025-3-0-EB09-389	4,000	1.0	300	52.7/51.9	405	96.9/57.7	3	54	70	460/60/3	2,887	①②③④⑤⑥⑦⑧⑨

① PROVIDE CURB ADAPTER
② R-410A REFRIGERANT
③ 6 ROW EVAP. COIL
④ STAINLESS STEEL HEAT EXCHANGER
⑤ MODULATING GAS TEMPERATURE CONTROL
⑥ MODULATING HOT GAS REHEAT
⑦ DISCONNECT SWITCH
⑧ POWERED CONVENIENCE OUTLET
⑨ ECONOMIZER WITH 0-100% MODULATING DAMPER

HVAC LEGEND

SYMBOL	DESCRIPTION
	CEILING SUPPLY DIFFUSER
	CEILING RETURN GRILLE
	CEILING EXHAUST GRILLE
	ROUND CEILING DIFFUSER
	LINEAR SLOT DIFFUSER w/ ENGINEERED PLENUM
	INACTIVE SECTION OF SLOT DIFFUSER, PROVIDE ACCESSORY BLANK OFF
	SIDEWALL GRILLE
	AIRFLOW DIRECTION
A-100	MARK-CFM (SEE DIFFUSER/GRILLE SCHEDULES)
30/14	DUCT SIZE (WIDTH/HEIGHT)
	MANUAL VOLUME DAMPER
FD	FIRE DAMPER
SD	SMOKE DAMPER
T	THERMOSTAT, WALL MOUNTED
ø	ROUND (DIAMETER)
	CHILLED WATER SUPPLY PIPING
	CHILLED WATER RETURN PIPING
	CONDENSER WATER SUPPLY PIPING
	CONDENSER WATER RETURN PIPING
	UNDERGROUND SUPPLY/RETURN PIPING
SA	SUPPLY AIR
RA	RETURN AIR
EA	EXHAUST AIR
OA	OUTDOOR AIR
CA	COMBUSTION AIR
CHS	CHILLED WATER SUPPLY
CHR	CHILLED WATER RETURN
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
	1 HOUR FIRE RATING
	2 HOUR FIRE RATING
S	SMOKE PARTITION

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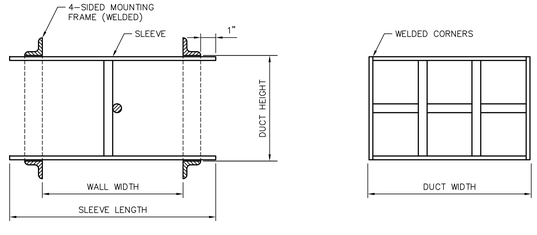

SECURITY DUCT/BARRIER GRILLE DETAIL
NO SCALE

KSGW Architects
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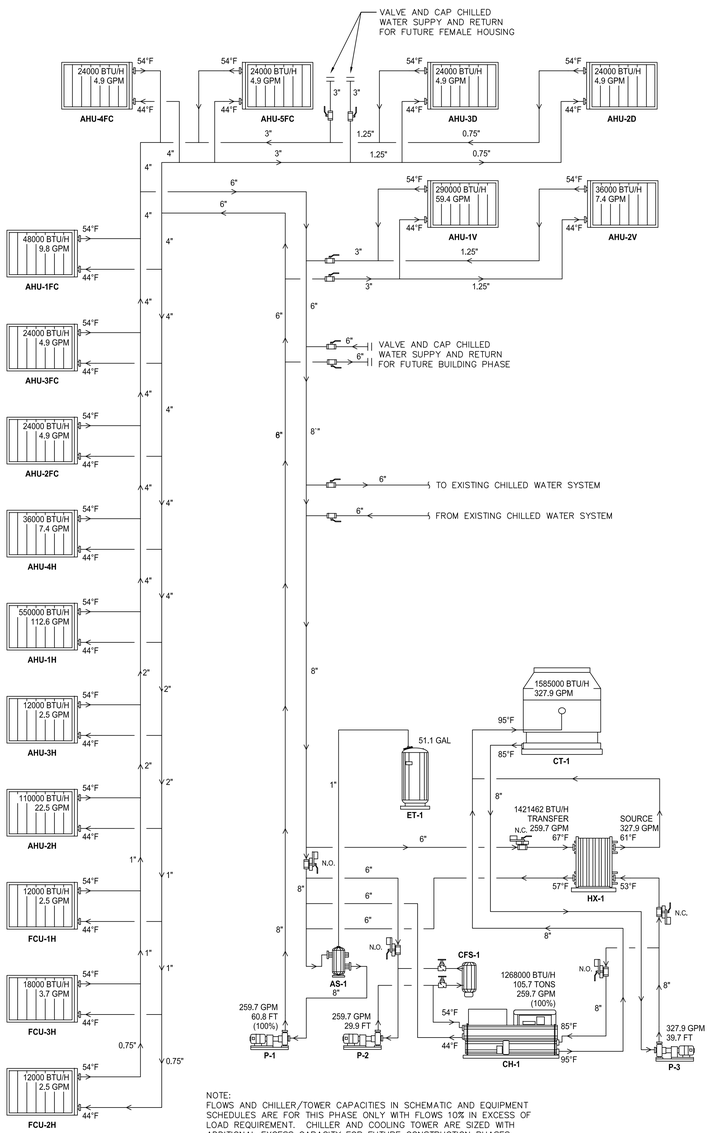
REVISIONS
ADDENDUM # 1 - 9/23/08

Webster Detention Center
Additions And Renovations
1941 Phinizy Road Augusta, Augusta, Georgia 30906
Richmond County Sheriff's Office,
Law Enforcement Center, Augusta, Georgia 30911

SHEET TITLE
HVAC SCHEDULES - NOTES AND DETAILS

DATE: September 11, 2008

SHEET NUMBER
M-402

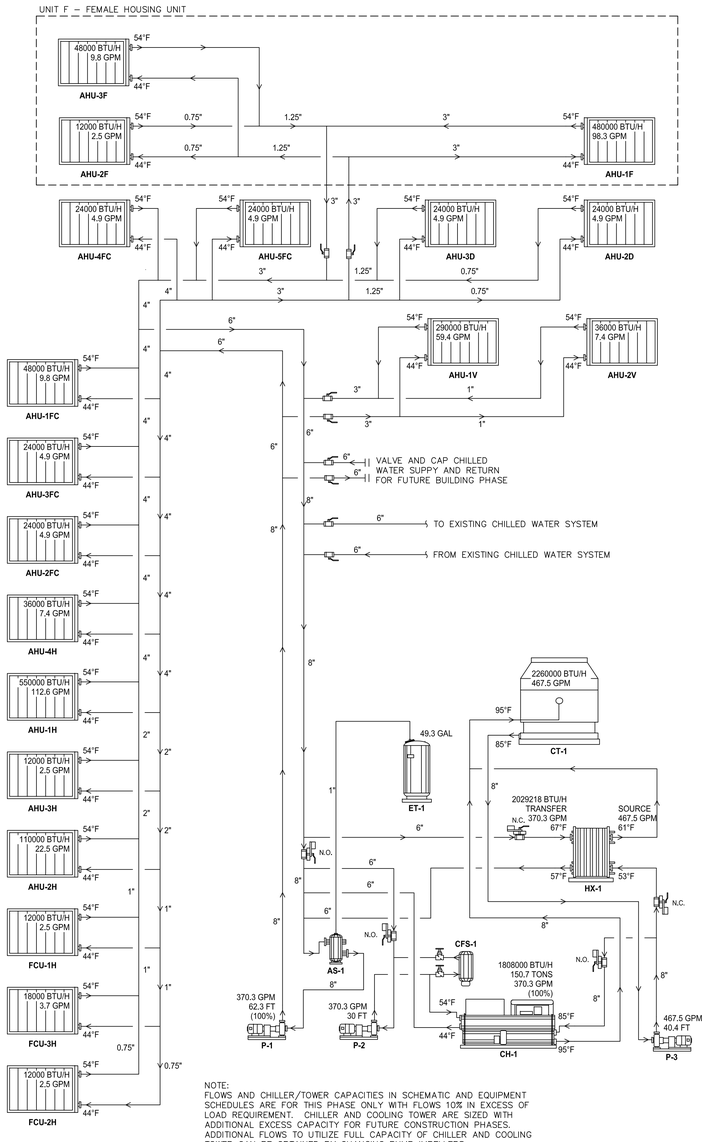


NOTE:
FLOWS AND CHILLER/TOWER CAPACITIES IN SCHEMATIC AND EQUIPMENT SCHEDULES ARE FOR THIS PHASE ONLY WITH FLOWS 10% IN EXCESS OF LOAD REQUIREMENT. CHILLER AND COOLING TOWER ARE SIZED WITH ADDITIONAL EXCESS CAPACITY FOR FUTURE CONSTRUCTION PHASES. ADDITIONAL FLOWS TO UTILIZE FULL CAPACITY OF CHILLER AND COOLING TOWER CAN BE OBTAINED BY CHANGING PUMP IMPELLERS.

13 / M-403

CHILLED WATER LOOP SCHEMATIC (BASE BID)

NO SCALE

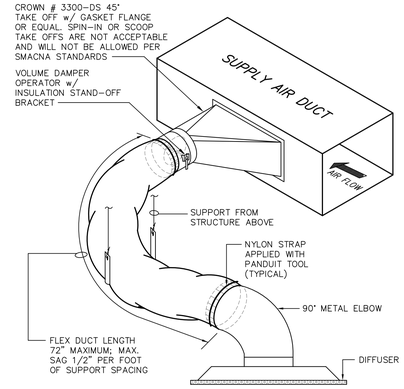


NOTE:
FLOWS AND CHILLER/TOWER CAPACITIES IN SCHEMATIC AND EQUIPMENT SCHEDULES ARE FOR THIS PHASE ONLY WITH FLOWS 10% IN EXCESS OF LOAD REQUIREMENT. CHILLER AND COOLING TOWER ARE SIZED WITH ADDITIONAL EXCESS CAPACITY FOR FUTURE CONSTRUCTION PHASES. ADDITIONAL FLOWS TO UTILIZE FULL CAPACITY OF CHILLER AND COOLING TOWER CAN BE OBTAINED BY CHANGING PUMP IMPELLERS.

15 / M-403

CHILLED WATER LOOP SCHEMATIC (ADD ALTERNATE NO. 1)

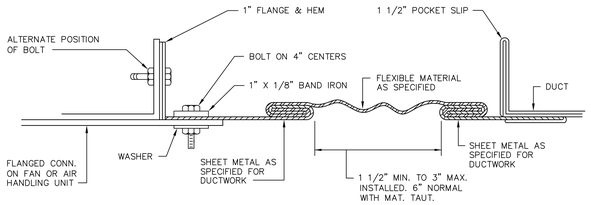
NO SCALE



11 / M-403

FLEX DUCT TAKE–OFF DETAIL

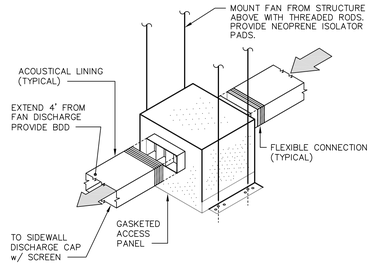
NO SCALE



19 / M-403

RECTANGULAR FLEXIBLE CONNECTION DETAIL

NO SCALE

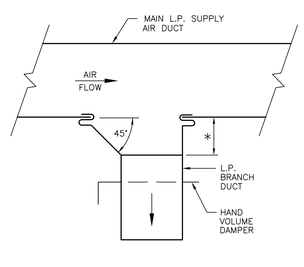


IN–LINE INSTALLATION

21 / M-403

IN–LINE EXHAUST FAN DETAIL

NO SCALE

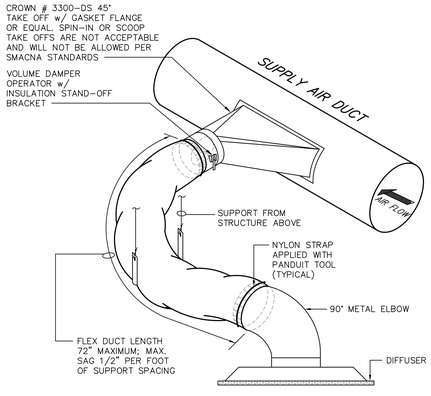


* – EQUALS WIDTH OF BRANCH DUCT UP TO 12". 12" FOR ALL BRANCH DUCTS LARGER THAN 12".

22 / M-403

DETAIL – TYPICAL LOW PRESSURE BRANCH DUCT TAKE OFF

NO SCALE



23 / M-403

FLEX DUCT TAKE–OFF DETAIL

NO SCALE

RECORD DRAWING

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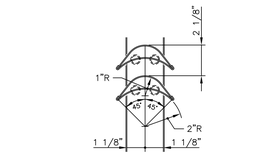
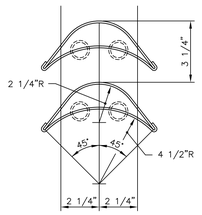


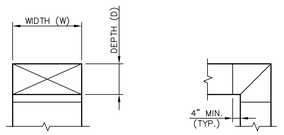
SMALL DOUBLE VANE ELBOW

USE FOR ELBOWS UP TO 36" IN WIDTH AND/OR DEPTH



LARGE DOUBLE VANE ELBOW

USE FOR ELBOWS 36" OR WIDER AND ANY DEPTH

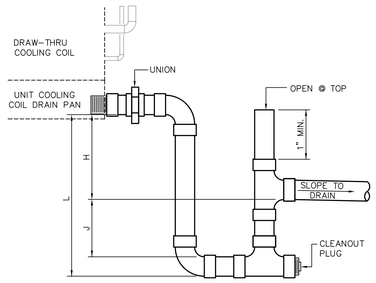


FRONT VIEW SIDE VIEW

NOTES:
1. ALL SQUARE OR RECTANGLE ELBOWS SHALL HAVE ONE OF THE TWO TYPES OF TURNING VANES SHOWN ABOVE. SINGLE VANE ELBOWS WILL NOT BE PERMITTED, UNLESS SPECIFICALLY INDICATED.
2. VANES SHALL BE CONSTRUCTED, SUPPORTED AND FASTENED AS RECOMMENDED BY SMACNA.
3. ALL SQUARE OR RECTANGLE ELBOWS SHOWN ON PLANS FOR EXHAUST OR RETURN DUCT MAY BE MADE RADIUS ELBOWS PROVIDED SPACE PERMITS RADIUS INSTALLATION.
4. ALL SQUARE OR RECTANGULAR ELBOWS SHOWN ON PLANS FOR SUPPLY DUCT MAY BE MADE RADIUS ELBOWS PROVIDED SPACE PERMITS RADIUS INSTALLATION AND/OR THERE ISN'T AN OUTLET OR TAKE-OFF WITHIN 5D ON THE DOWNSTREAM SIDE OF THE ELBOW.

13 M-404 DETAIL – TYPICAL ELBOW

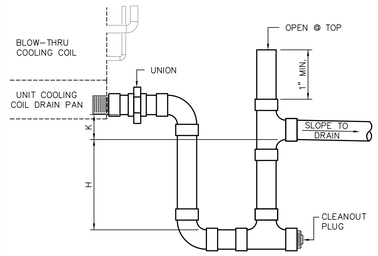
NO SCALE



NOTES:
1. DRAIN LINE CONNECTION SIZE SAME AS UNIT DRAIN SIZE.
2. EXTEND DRAIN PIPING TO SPECIFIED LOCATION ON HVAC PLAN.
3. DRAIN LINE TO BE SUPPORTED EVERY 4' WITH 3/8" ROD AND LIGHT-DUTY CLEVIS HANGER
4. H = (1" FOR EACH 1" OF MAXIMUM NEGATIVE STATIC PRESSURE) + 1"
5. J = 1/2 OF H
6. L = H + J + PIPE DIA.

8 M-404 DETAIL – CONDENSATE DRAIN TRAP

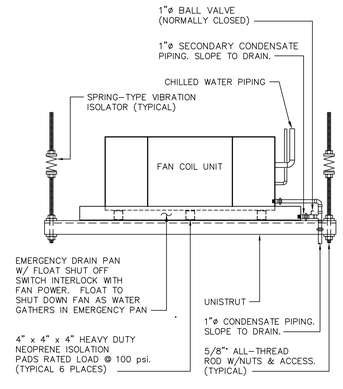
NO SCALE NEGATIVE PRESSURE TRAP



NOTES:
1. DRAIN LINE CONNECTION SIZE SAME AS UNIT DRAIN SIZE.
2. EXTEND DRAIN PIPING TO SPECIFIED LOCATION ON HVAC PLAN.
3. DRAIN LINE TO BE SUPPORTED EVERY 4' WITH 3/8" ROD AND LIGHT-DUTY CLEVIS HANGER
4. K = MIN. 1/2"
5. H = 1/2" + MAXIMUM TOTAL STATIC PRESSURE

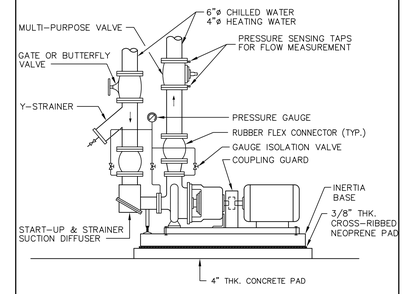
9 M-404 DETAIL – CONDENSATE DRAIN TRAP

NO SCALE POSITIVE PRESSURE TRAP



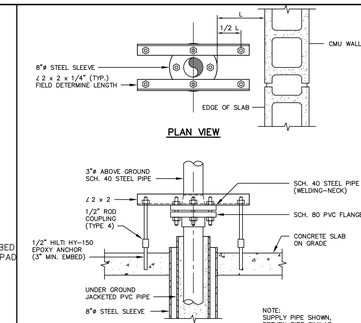
10 M-404 DETAIL – AIR HANDLING UNIT MOUNTING

NO SCALE



5 M-404 END SUCTION WATER PUMP DETAIL

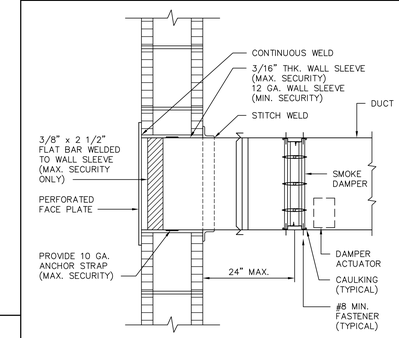
NO SCALE



ELEVATION

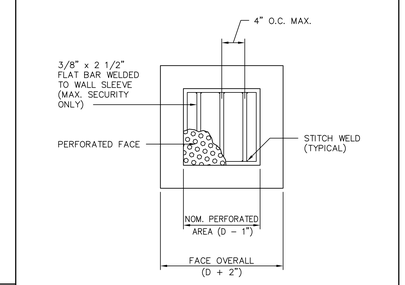
6 M-404 TRANSITION ANCHOR AT V BUILDING

NO SCALE



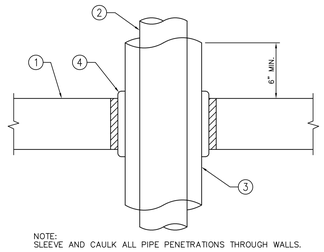
11 M-404 SECTION – SUPPLY/RETURN GRILLE

NO SCALE



17 M-404 ELEVATION – SUPPLY/RETURN GRILLE

NO SCALE



NOTE:
SLEEVE AND CAULK ALL PIPE PENETRATIONS THROUGH WALLS.

1. CORRIDOR WALL
2. STEEL/COPPER PIPE
3. INSULATION TO EXTEND 6" EACH SIDE OF WALL
4. CAULK

PIPE THRU NON-RATED WALL DETAIL

NO SCALE

23 M-404

HVAC SPECIFICATIONS

ALL WORK SHALL BE PERFORMED PER NFPA 90A & 90B, 96; 2002 NATIONAL ELECTRICAL CODE, 2006 INTERNATIONAL MECHANICAL CODE, & ALL APPLICABLE STATE & LOCAL CODES.

DUCT SIZES MAY BE ALTERED AS LONG AS SAME DUCT CROSS SECTIONAL AREA IS MET IN ORDER TO AVOID INTERFERENCES AS NEEDED.

INSTALL ALL MECHANICAL EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.

EQUIPMENT MODEL NUMBERS ARE MINIMUM ACCEPTABLE SPECIFICATIONS. DIFFERENT MANUFACTURES WITH EQUAL OF BETTER PERFORMANCE ARE ACCEPTABLE.

ALL 90 DEGREE ELBOWS TO HAVE TURNING VANES (SUPPLY & RETURN DUCT).

MOUNT THERMOSTATS 4'-0" A.F.F.

ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS. ON RECTANGULAR DUCTS, DIMENSIONS GIVEN FIRST IS DIMENSION SEEN.

ARRANGEMENTS OF MECHANICAL WORK SHALL BE AS SHOWN. DRAWINGS ARE NOT INTENDED TO INDICATE ALL OFFSETS AND FITTINGS. EXAMINE ALL DRAWINGS, INVESTIGATE CONDITIONS TO BE ENCOUNTERED AND ARRANGE WORK ACCORDINGLY; FURNISH AND INSTALL ALL FITTINGS AND OFFSETS.

DRAWINGS ARE NOT INTENDED TO SHOW IN DETAIL EXACT LOCATIONS AND CONNECTIONS FOR EQUIPMENT AND ACCESSORIES. FINAL CONNECTIONS SHALL BE AS SHOWN ON APPROVED SHOP DRAWINGS.

MEASUREMENT OF DRAWINGS BY SCALE SHALL NOT BE USED AS DIMENSIONS FOR FABRICATION. MEASUREMENTS FOR LOCATING EQUIPMENT, DUCTWORK, PIPING AND ACCESSORIES SHALL BE MADE ON THE JOB SITE AND SHALL BE BASED ON ACTUAL JOB CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MEASUREMENTS. WHERE THE CONTRACTOR PREFABRICATES ANY WORK BASED ON THE DRAWINGS WITHOUT VERIFYING ACTUAL JOB CONDITIONS, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INVOLVED IN MAKING CHANGES TO PREFABRICATED WORK WHERE CONFLICTS OCCUR.

THE CONTRACTOR SHALL CHECK CEILING HEIGHTS IN EACH SPACE ON ARCHITECTURAL DRAWINGS AND SHALL ARRANGE ALL MECHANICAL WORK TO FIT IN THE SPACE ABOVE THE CEILING ALLOWING FOR ACCESS TO REMOVE TILE. PARTICULAR ATTENTION SHALL BE DIRECTED TOWARD DUCT SIZES AS SHOWN ON DRAWINGS, TO VERIFY THAT DUCTWORK ALONG WITH ALL OTHER WORK WILL FIT IN THE SPACE ABOVE THE CEILINGS. AFTER VERIFYING DIMENSIONS, IF THE CONTRACTOR DETERMINES THAT THE WORK WILL NOT FIT IN THE SPACE INDICATED, THEN THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF THE CONFLICT AND SHALL NOT INSTALL ANY WORK UNTIL INSTRUCTIONS ARE RECEIVED FROM THE ARCHITECT/ENGINEER. IF THE CONTRACTOR INSTALLS WORK AS SHOWN ON DRAWINGS WITHOUT VERIFYING ADEQUACY OF SPACES, AND THE WORK DOES NOT FIT THE SPACE SHOWN, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR REARRANGING WORK AND CHANGING DUCT SIZES AS REQUIRED TO FIT THE SPACE AND THE CONTRACTOR SHALL PAY ALL COSTS CONNECTED WITH THE CHANGES.

CONTRACTOR SHALL INSTALL DUCTS, PIPING AND EQUIPMENT IN A NEAT AND WORKMANLIKE MANNER AND SHALL AVOID CONFLICT WITH OTHER WORK. EQUIPMENT SHALL BE SO ARRANGED AND FITTED INTO AVAILABLE SPACE SO THAT WORKING PARTS INCLUDING FILTERS AND LUBRICATION POINTS, AND COIL REMOVAL ARE ACCESSIBLE FOR SERVICE WITHOUT DAMAGE TO BUILDING STRUCTURE OR FINISHES OR WITHOUT MOVING OTHER EQUIPMENT. THE CONTRACTOR SHALL NOT INSTALL ANY EQUIPMENT WHERE PARTS ARE INACCESSIBLE FOR SERVICE.

WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO PROVIDE MAXIMUM HEADROOM POSSIBLE.

EXACT LOCATION OF GRILLES & CEILING OUTLETS SHALL BE DETERMINED ON THE JOB. COORDINATE WITH LIGHTS AND ARCHITECTURAL REQUIREMENTS TO PROVIDE A UNIFORM & SYMMETRICAL APPEARANCE. REFER TO ARCHITECTURAL & ELECTRICAL DRAWINGS & DETAILS.

PROVIDE UNION OR FLANGE CONNECTIONS IN PIPING AT ALL EQUIPMENT & AS REQUIRED FOR SERVICE.

CUTTING AND REPAIRING: THE HVAC CONTRACTOR SHALL DO ALL CUTTING AND REPAIRING OF WALLS, FLOORS, CEILINGS, ETC. NECESSARY FOR THE INSTALLATION OF THE WORK BUT HE SHALL NOT CUT INTO ANY STRUCTURAL MEMBER WITHOUT THE PERMISSION OF THE ARCHITECT.

ALL DUCTWORK SHALL BE INSTALLED IN STRICT COMPLIANCE WITH SMACNA, NFPA BULLETIN 90A, AND ASHRAE GUIDES. UNLESS OTHERWISE NOTED, DUCTS SHALL BE MADE OF GALVANIZED SHEET STEEL. ALL DUCT CONNECTIONS TO AIR HANDLING UNITS AND EQUIPMENT SHALL BE MADE WITH UL LISTED FLAMEPROOF FLEXIBLE CONNECTORS.

FLEXIBLE DUCT RUNOUTS FOR CONNECTION BETWEEN TRUNK DUCTS AND DIFFUSERS SHALL BE A FACTORY FABRICATED ASSEMBLY, UL-181, CLASS 1 LISTED, HAVING A MINIMUM R-FACTOR OF 4.3, EQUAL TO THERMAFLEX II TYPE MKE OR MANVILLE "MICROAIRE" J/FLEX SL.

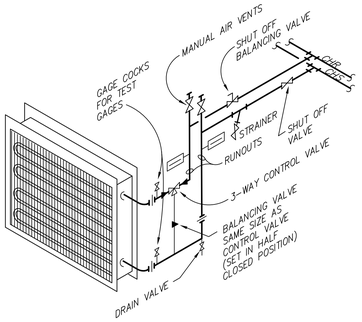
FLEXIBLE DUCT: MAXIMUM LENGTH OF FLEXIBLE DUCT ALLOWED PER TAKE-OFF SHALL BE 6 FEET.

PROVIDE MANUAL VOLUME DAMPERS (ONE PER SUPPLY OUTLET).

SEISMIC BRACING OF DUCTWORK AND EQUIPMENT: REFER TO SPECIFICATION 23311.3

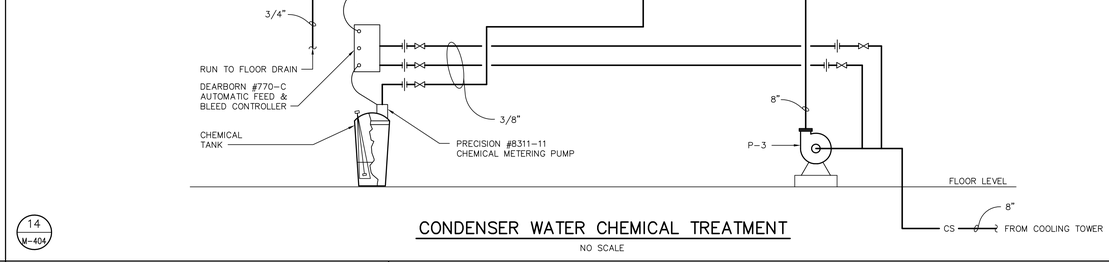
ANY OPENINGS IN SECURE WALLS (OTHER THAN SECURITY DOORS, WINDOWS, ETC. WHICH ARE OTHERWISE PROTECTED) LARGER THAT 5 1/2" SQUARE, IN AREAS INHABITED BY INMATES, SHALL BE PROTECTED WITH SECURITY BARS AND/OR GRILLES. BARS WITH-IN SAID OPENINGS SHALL BE #5 BARS SPACED AT 5 1/2" O.C. BOTH WAYS. INTERSECTIONS OF BARS SHALL BE TACK-WELDED. BARS OR STEEL CHANNEL ANCHORS SHALL HAVE A MINIMUM EMBEDMENT OF 8" INTO THE ADJACENT CONSTRUCTION. SECURITY BARS AND/OR GRILLES PROTECTING AN EXTERIOR OPENING SHALL BE GALVANIZED WITH A 090 GALVANIZED COATING.

24 M-404



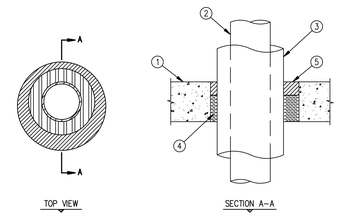
19 M-404 CHILLED WATER COIL PIPING

NO SCALE



14 M-404 CONDENSER WATER CHEMICAL TREATMENT

NO SCALE



TOP VIEW SECTION A-A

1. CONCRETE FLOOR OR WALL ASSEMBLY :
   A. MIN. 4-1/2" THICKNESS LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE.
   B. MIN. 8" CONCRETE BLOCK.
2. 6" DIA. (OR SMALLER) STEEL PIPE (SCHEDULE 10 OR HEAVIER), OR 4" DIA. (OR SMALLER) COPPER PIPE, EMT OR STEEL CONDUIT.
3. MAX. 1-1/2" THICK FIBERGLASS INSULATION WITH AN ALL SERVICE JACKET.
4. MIN. 3" THICKNESS MINERAL WOOL BACKING (MIN. 4 PCF DENSITY).
5. MIN. 1-1/2" DEPTH HILTI FS-ONE FIRESTOP SEALANT.

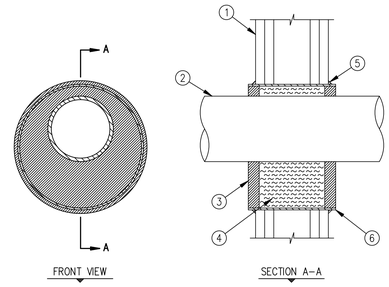
NOTES : 1. MAXIMUM DIAMETER OF OPENING = 12".
2. ANNULAR SPACE REQUIRED = MIN. 1/2", TO MAX. 2-3/8".
3. WHEN STEEL PIPE OR CONDUIT IS USED, T RATING = 1-HR.
4. WHEN COPPER TUBE OR PIPE IS USED, T RATING = 3/4-HR.

U.L. SYSTEM NO. CAJ5045

INSULATED METAL PIPE THROUGH 1-HR & 2-HR CONCRETE FLOOR OR WALL

F RATING = 2-HR.
T RATING = 3/4 AND 1-HR.

20 M-404



FRONT VIEW SECTION A-A

1. 2-HR. FIRE-RATED GYPSUM WALL ASSEMBLY.
2. 12" DIA. (OR SMALLER) STEEL PIPE, 4" DIA. (OR SMALLER) COPPER PIPE.
3. MIN. 3/4" DEPTH HILTI FS-ONE FIRESTOP SEALANT.
4. MIN. 4-1/2" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
5. A GENEROUS BEAD OF HILTI FS-ONE AROUND PERIMETER OF STEEL SLEEVE.
6. MIN. 24 GA. STEEL SLEEVE EXTENDING 1/2" PAST SURFACE OF WALL.

NOTES : 1. ANNULAR SPACE = MIN. 3/4", MAX. 3".
2. MAXIMUM DIAMETER OF OPENING = 18".
3. OPENING SHALL BE 1-1/2" TO 6" LARGER THAN THE PIPE.

U.L. SYSTEM NO. WL1056

STEEL/COPPER PIPE THROUGH A SLEEVE IN 1-HR AND 2-HR. GYPSUM WALL

F RATING = 2-HR.
T RATING = 0-HR.

21 M-404

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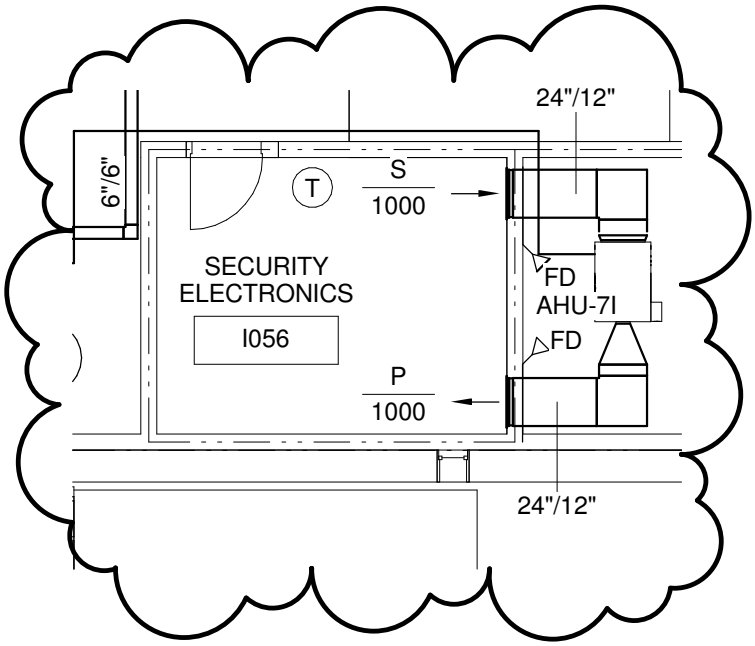

UNIT I - HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8" = 1'-0"

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WEBSTER DETENTION CENTER PHASE II

HVAC PLAN

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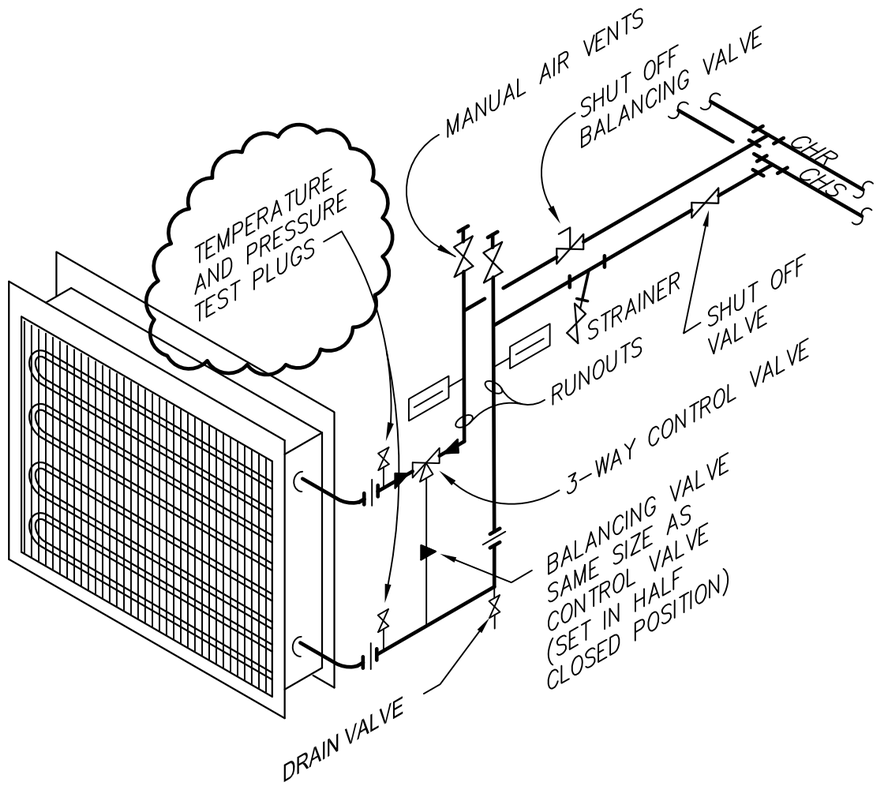
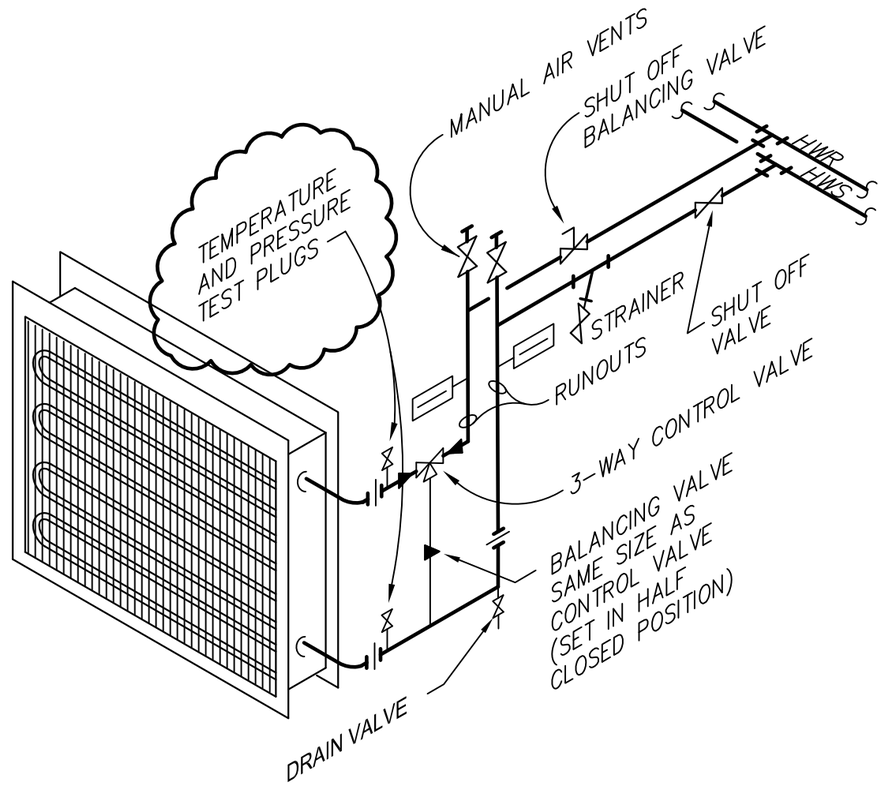


22
M-303

CHILLED WATER COIL PIPING

NO SCALE



23
M-303

HEATING WATER COIL PIPING

NO SCALE

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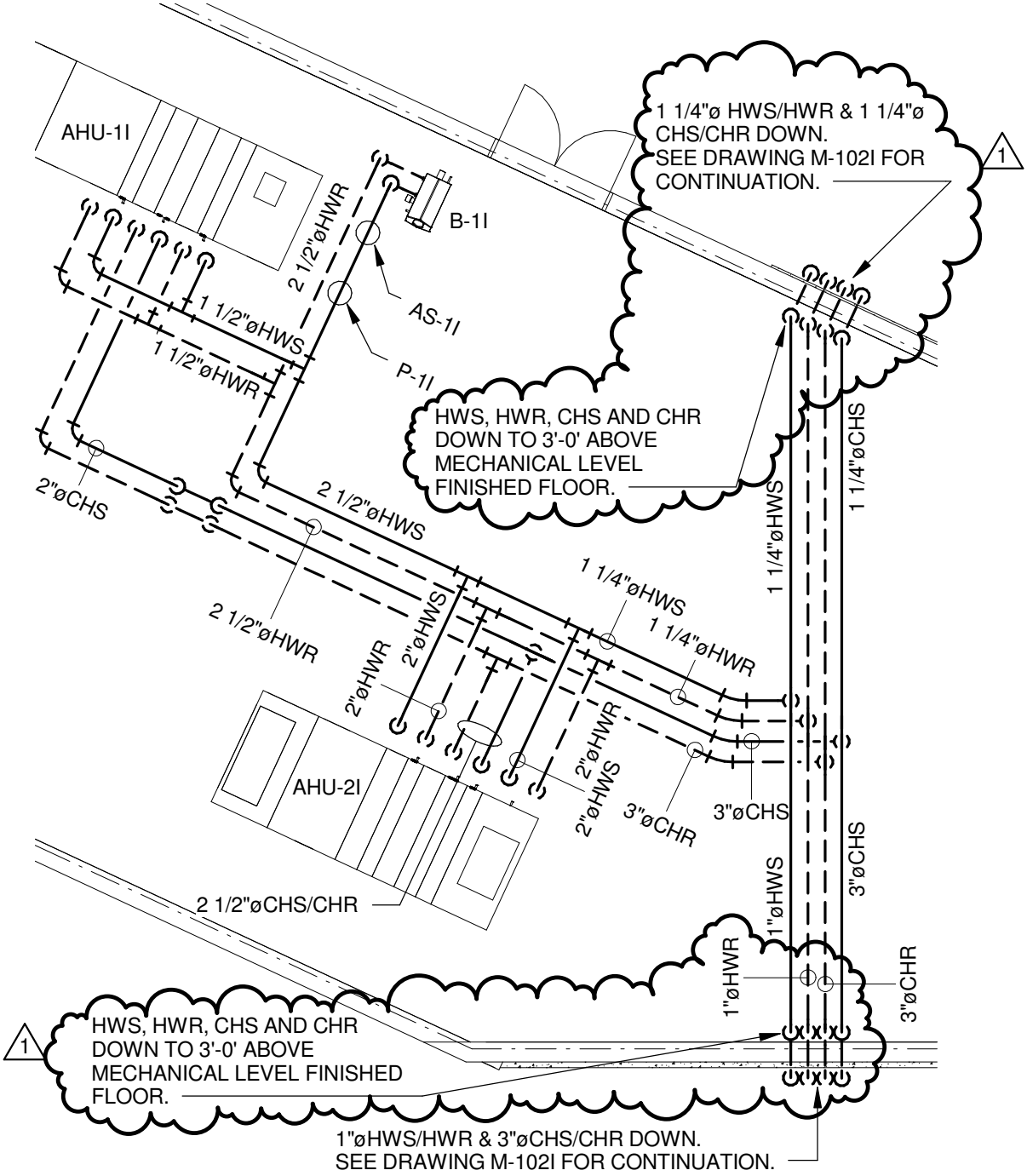

UNIT I - HVAC MECHANICAL LEVEL PIPING PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8" = 1'-0"

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UNIT I - HVAC MECHANICAL LEVEL PLAN

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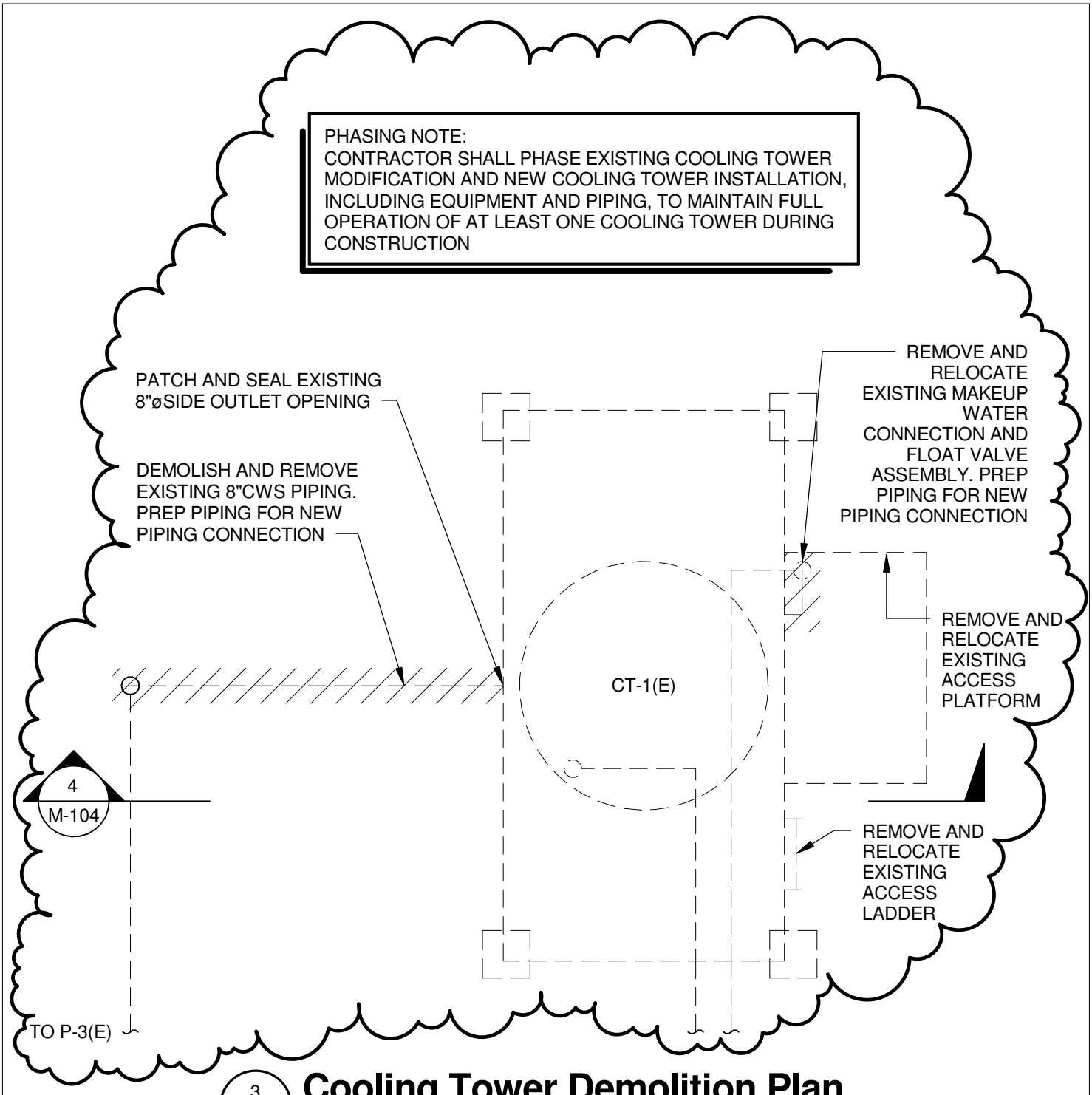
PHASING NOTE:
CONTRACTOR SHALL PHASE EXISTING COOLING TOWER MODIFICATION AND NEW COOLING TOWER INSTALLATION, INCLUDING EQUIPMENT AND PIPING, TO MAINTAIN FULL OPERATION OF AT LEAST ONE COOLING TOWER DURING CONSTRUCTION



3
M-104

Cooling Tower Demolition Plan

0 1 2 4 8 16 24 FT.

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

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WEBSTER DETENTION CENTER PHASE II

COOLING TOWER DEMOLITION PLAN

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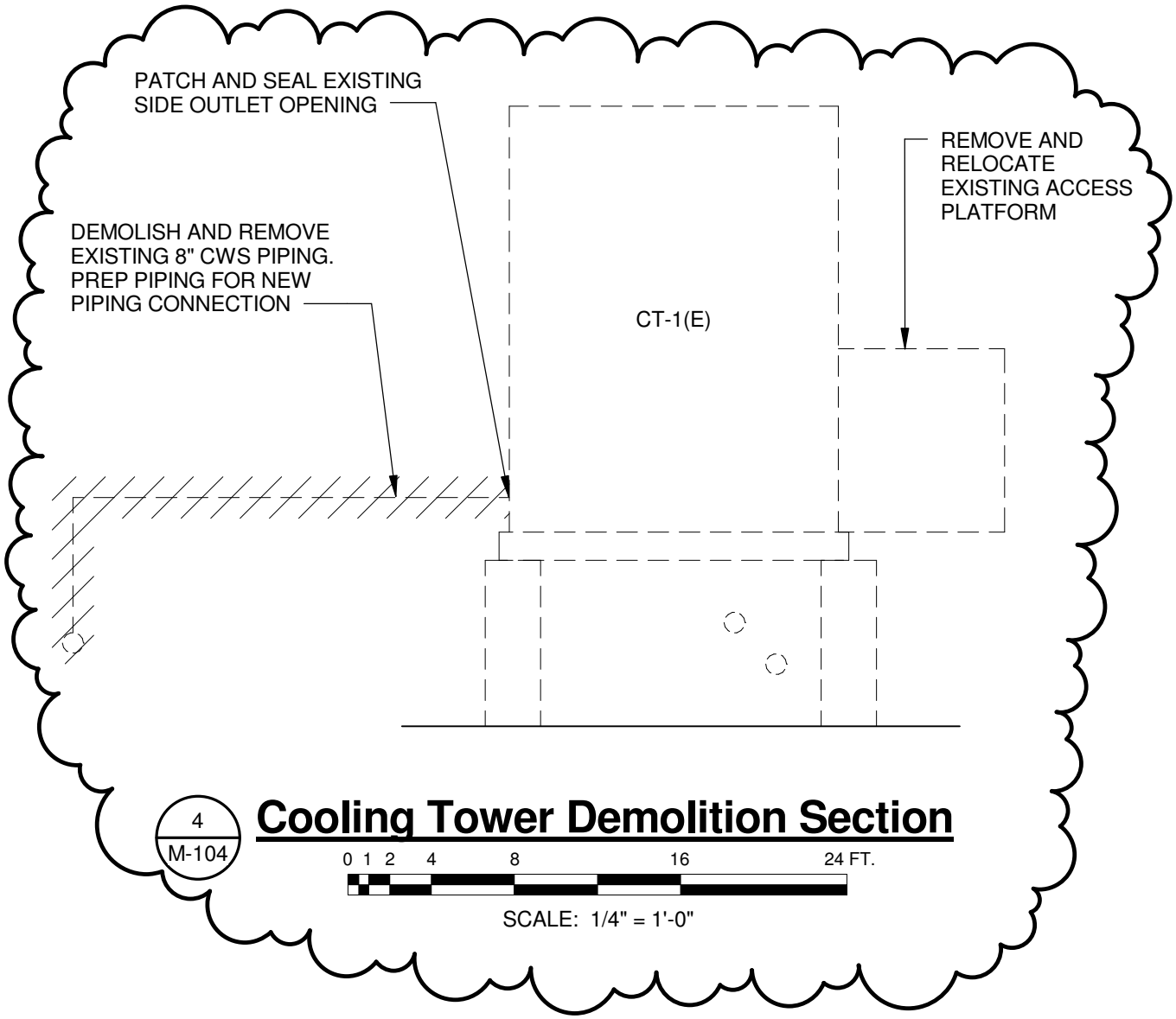

4
M-104

Cooling Tower Demolition Section

0 1 2 4 8 16 24 FT.

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

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COOLING TOWER DEMOLITION SECTION

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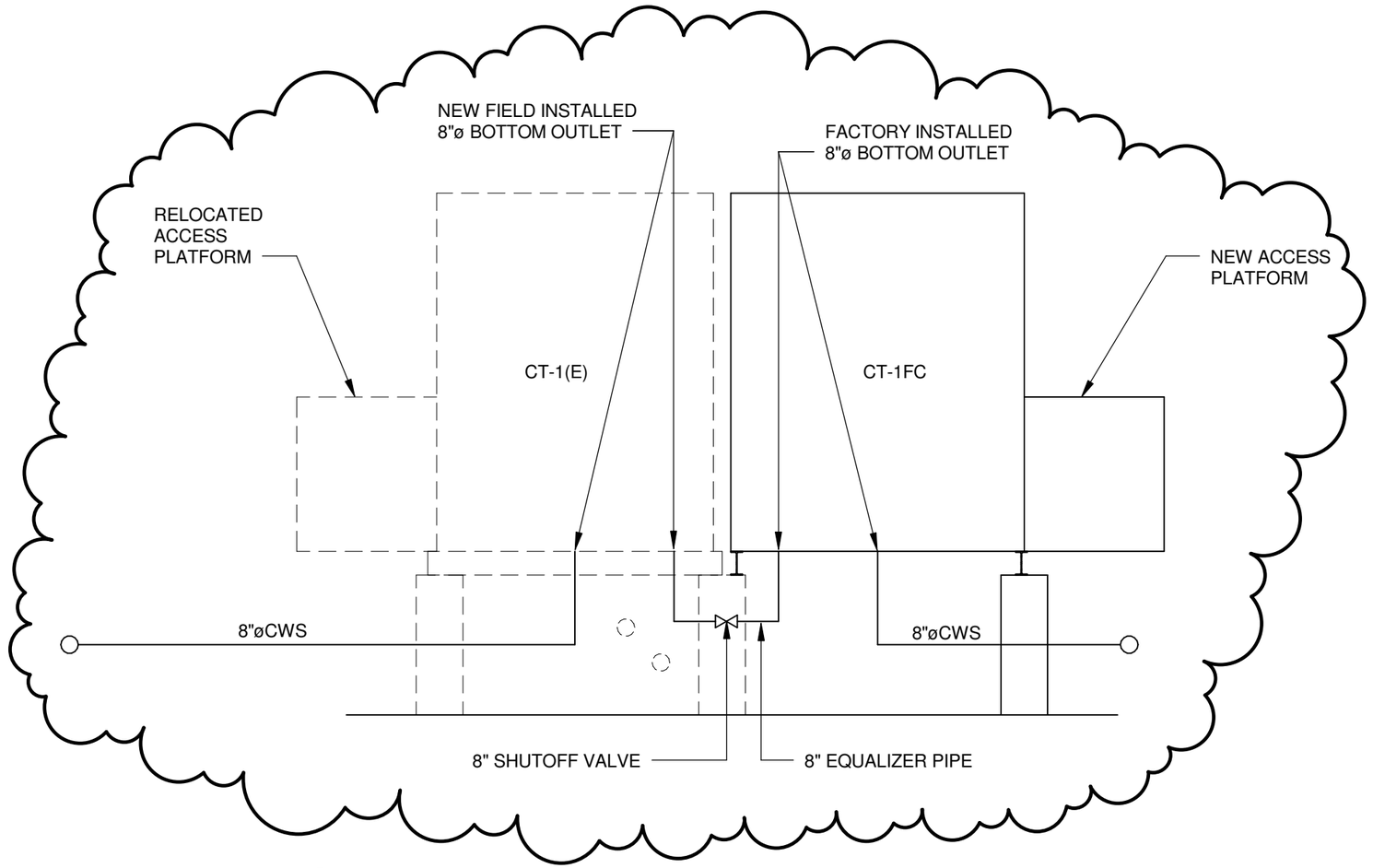

5
M-104

Cooling Tower New Work Section

0 .5 1 2 4 8 12 FT.

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

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Cooling Tower New Work Section				MSK-10
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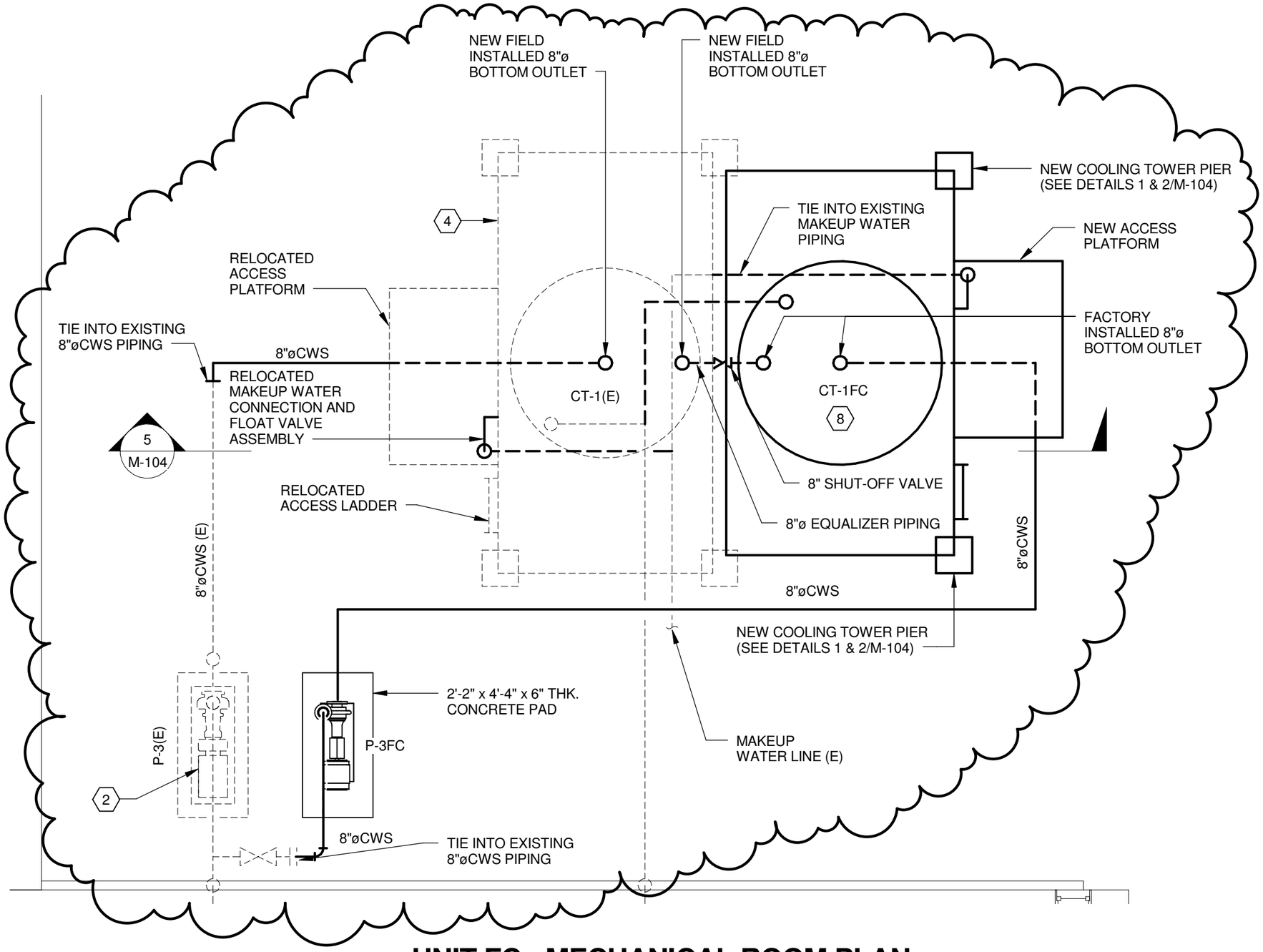

UNIT FC - MECHANICAL ROOM PLAN

0 1 2 4 8 16 24 FT.

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

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UNIT FC - MECHANICAL ROOM PLAN

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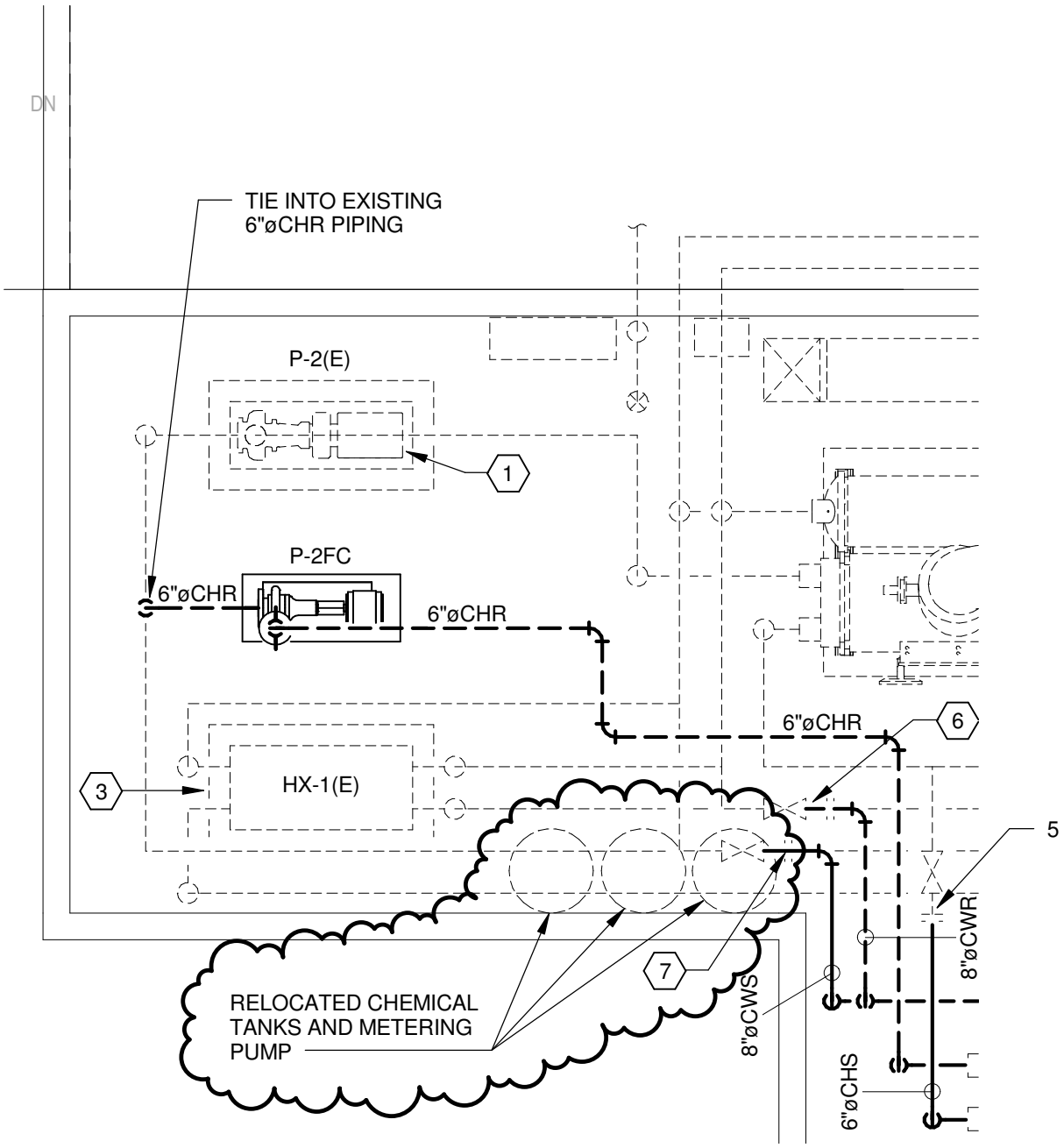

UNIT FC - MECHANICAL ROOM PLAN

0 1 2 4 8 16 24 FT.

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

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UNIT FC - MECHANICAL ROOM PLAN

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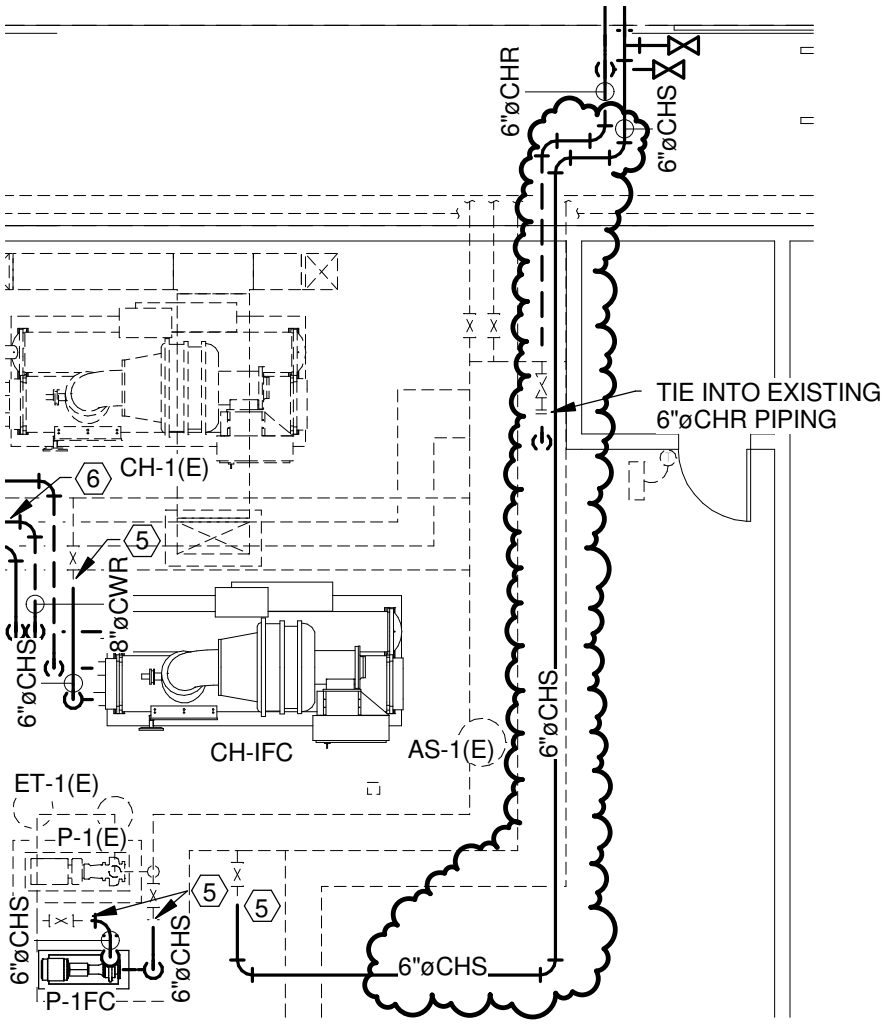

UNIT FC - MECHANICAL ROOM PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8" = 1'-0"

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UNIT FC - MECHANICAL ROOM PLAN

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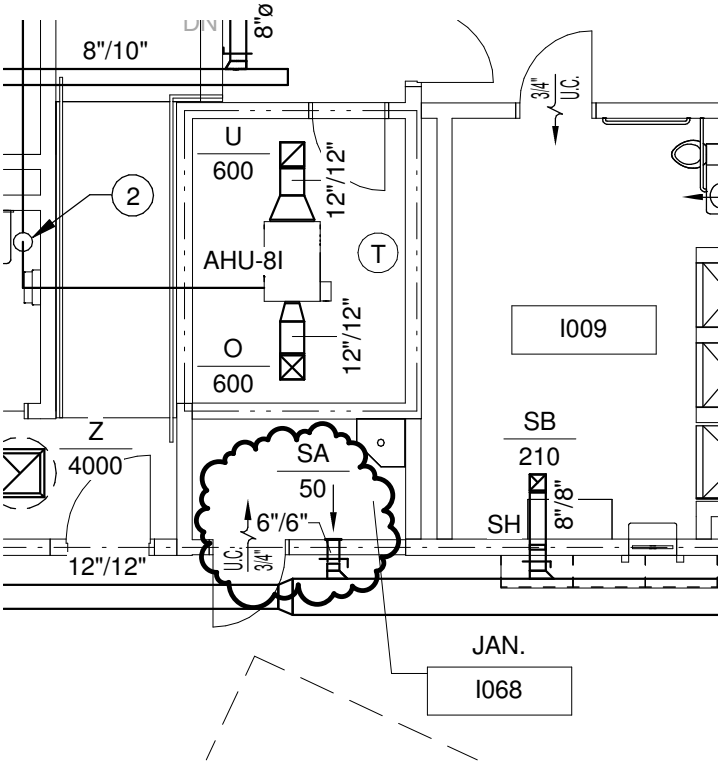

UNIT I - HVAC PLAN

0 1 2 4 8 16 24 FT.

SCALE: 1/8" = 1'-0"

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UNIT I HVAC PLAN

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