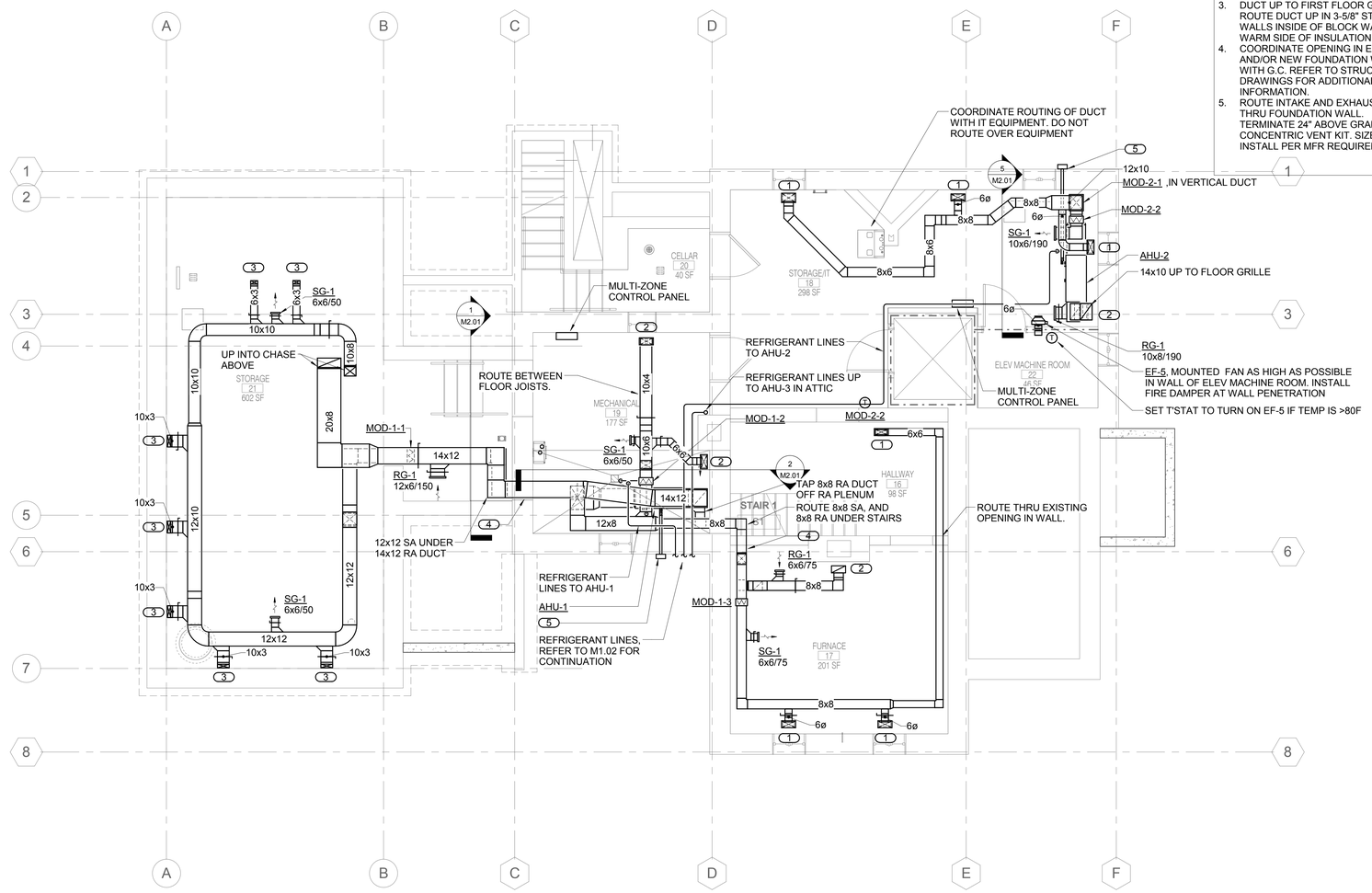
GENERAL NOTES:

1. THE BASEMENT STRUCTURE HIEGHT IS EXTREMELY LOW. ROUTE ALL UTILITES IN SUCH A MANNER AS TO MAXIMIZE HEAD ROOM. ROUTE UTILITIES BETWEEN JOIST WHERE POSSIBLE.

KEYNOTES:

1. UP TO NEW FLOOR GRILLE IN EXISTING FLOOR OPENING. FIELD VERIFY EXACT SIZE. DUCT SIZE TO MATCH GRILLE SIZE.
2. UP TO NEW FLOOR GRILLE, CUT OPENING IN FLOOR FOR INSTALLATION OF NEW GRILLE. DUCT SIZE TO MATCH GRILLE SIZE.
3. DUCT UP TO FIRST FLOOR GRILLES. ROUTE DUCT UP IN 3-5/8" STUD WALLS INSIDE OF BLOCK WALL ON WARM SIDE OF INSULATION.
4. COORDINATE OPENING IN EXISTING AND/OR NEW FOUNDATION WALL WITH G.C. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
5. ROUTE INTAKE AND EXHAUST (PVC) THRU FOUNDATION WALL. TERMINATE 24" ABOVE GRADE WITH CONCENTRIC VENT KIT. SIZE AND INSTALL PER MFR REQUIREMENTS.



1 BASEMENT FLOOR PLAN - HVAC

1/4" = 1'-0"

NORTH

HVAC SYMBOLS LIST

SYMBOL:	DESCRIPTION:
	EXISTING DUCT TO REMAIN
	EXISTING DUCT TO BE REMOVED
	NEW DUCT
	DIRECTION OF AIR FLOW
	FLEXIBLE DUCT
	FABRIC DUCT CONNECTION
	MANUAL VOLUME DAMPER
R	RISE IN DIRECTION OF AIR FLOW
D	DROP IN DIRECTION OF AIR FLOW
	DUCT CAP
	DUCT DOWN
	DUCT UP
	SUPPLY/OUTSIDE AIR DUCT SECTION
	RETURN AIR DUCT SECTION
	EXHAUST/RELIEF AIR DUCT SECTION
	4-WAY DIFFUSER WITH BLANKOFF IN ONE DIRECTION
SD-1 6/115	AIR TERMINAL PROPERTIES SYMBOL NECK SIZE/CFM
	OPPOSED BLADE DAMPER (REFER TO SCHEDULE)
	PARALLEL BLADE DAMPER (REFER TO SCHEDULE)
H	HUMIDISTAT SENSOR
H	HUMIDISTAT/SENSOR (DUCT MOUNTED)
O	OCCUPANCY SENSOR
P	PRESSURE SENSOR (DUCT MOUNTED)
T	THERMOSTAT/SENSOR
T	TEMPERATURE SENSOR (DUCT MOUNTED)
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
EA	EXHAUST/RELIEF AIR
E.C.	ELECTRICAL CONTRACTOR
FD	FIRE DAMPER
G.C.	GENERAL CONTRACTOR
H.C.	HEATING CONTRACTOR
MA	MIXED AIR
M.C.	MECHANICAL CONTRACTOR
NC	NEW CONNECTION
N.I.C.	NOT IN CONTRACT
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SD	SMOKE DAMPER

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No.	Revisions	Date

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LICENSE #: 062.062024

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Drawing Title: BASEMENT FLOOR PLAN - HVAC

Approved: Project Director

Project Title: LODGE REHABILITATION

Project Number: 887CM3005

Building Number:

Location: FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS

Date: 02-25-2016 | Checked: BMH | Drawn: JPT

Drawing Number: M1.01

Dwg. 42 of 67

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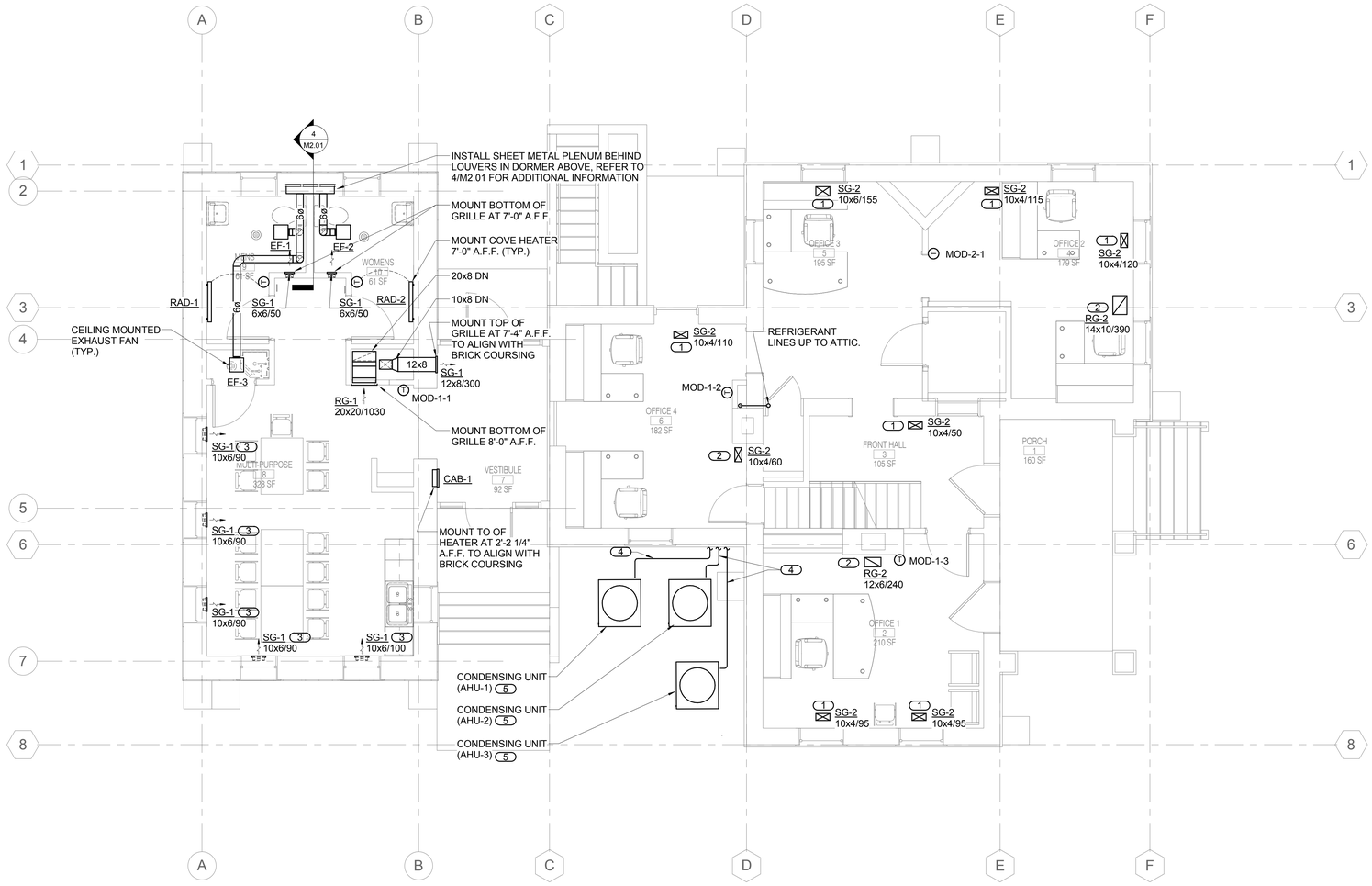
KEYNOTES: (#)

1. INSTALL NEW FLOOR GRILLE IN EXISTING FLOOR OPENING. FIELD VERIFY EXACT SIZE
2. CUT OPENING IN EXISTING FLOOR FOR INSTALLATION OF NEW GRILLE(S).
3. CENTER GRILLE UNDER WINDOW COORDINATE FRAMING WITH GC. INSTALL BOTTOM OF GRILLE 8" ABOVE FINISHED FLOOR.
4. ROUTE REFRIGERANT PIPING FROM CONDENSING UNITS INTO BASEMENT, REFER TO M1.01 FOR CONTINUATION. SIZE AND INSTALL PIPING PER MFR REQUIREMENTS. SEAL PENETRATION WATER TIGHT. (TYP.)
5. INSTALL CONDENSING UNITS LEVEL ON EQUIPMENT PAD. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.



NORTH

1 FIRST FLOOR PLAN - HVAC

1/4" = 1'-0"

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Drawing Title	FIRST FLOOR PLAN - HVAC
Approved: Project Director	
Project Title	LODGE REHABILITATION
Project Number	887CM3005
Building Number	
Location	FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS
Date	02-25-2016
Checked	BMH
Drawn	JPT
Drawing Number	M1.02
Dwg. 43 of 67	

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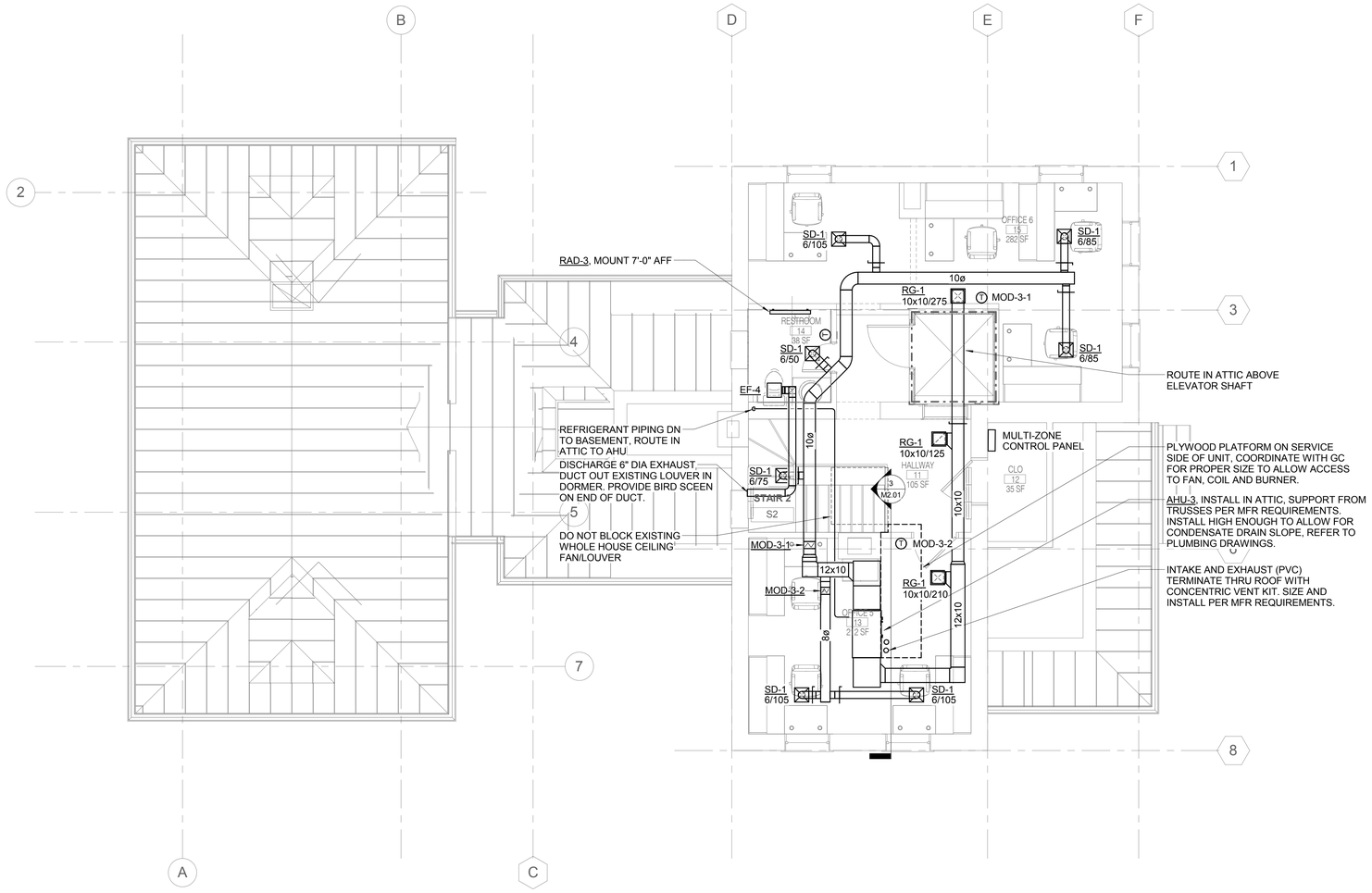
GENERAL NOTES :

1. THE SIZE OF BRANCH DUCTS TO AIR OUTLETS SHALL MATCH THEIR INLET SIZE UNLESS NOTED OTHERWISE.
2. ROUTE ALL DUCTWORK IN ATTIC SPACE. SEAL ALL CEILING PENETRATIONS FROM ATTIC AIR TIGHT.



NORTH

1 SECOND FLOOR PLAN - HVAC

1/4" = 1'-0"

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Drawing Title: SECOND FLOOR PLAN - HVAC
Approved: Project Director
Project Title: LODGE REHABILITATION
Project Number: 887CM3005
Building Number:
Location: FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS
Date: 02-25-2016
Checked: BMH
Drawn: JPT
Drawing Number: M1.03
Dwg. 44 of 67

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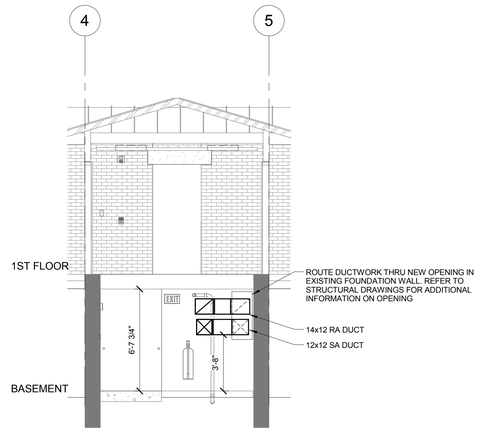
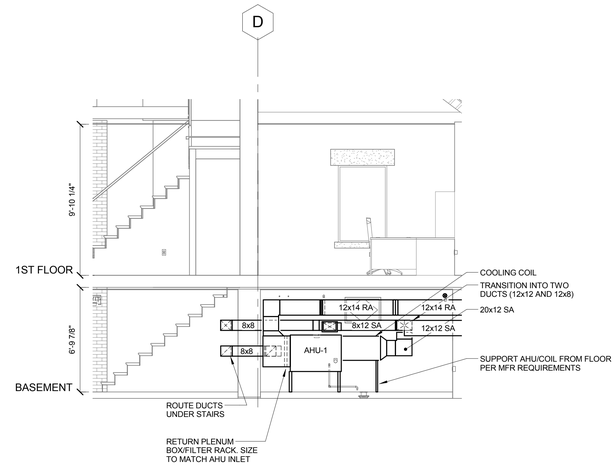
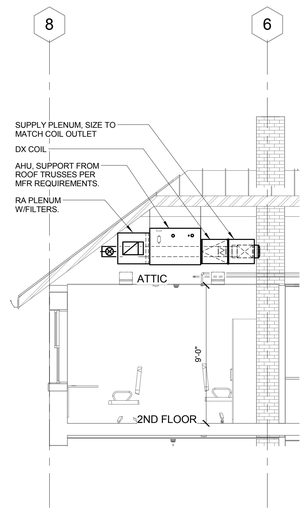


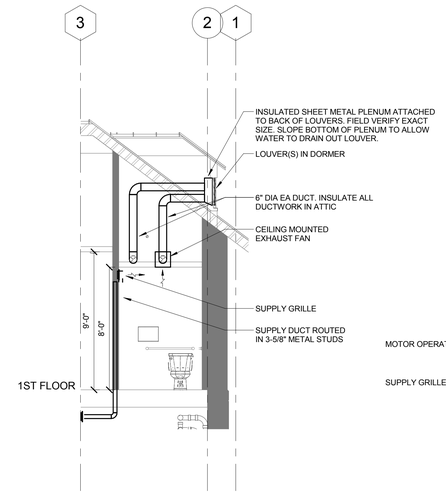
1 DUCTWORK SECTION
1/4" = 1'-0"



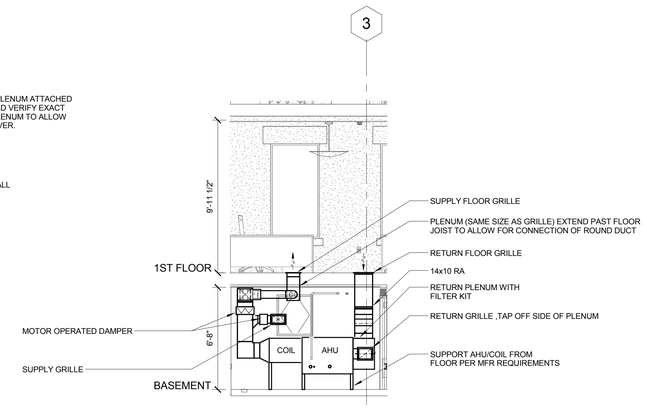
2 AHU-1 SECTION
1/4" = 1'-0"



3 AHU-3 SECTION
1/4" = 1'-0"



4 DORMER SECTION
1/4" = 1'-0"



5 AHU-2 SECTION
1/4" = 1'-0"

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Drawing Title: HVAC DETAILS

Approved: Project Director

Project Title: LODGE REHABILITATION

Location: FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS

Date	Checked	Drawn
02-25-2016	BMH	JPT

Project Number: 887CM3005

Building Number:

Drawing Number: M2.01

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SPLIT SYSTEM AIR CONDITIONER GAS/ELECTRIC SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	TYPE	TOTAL SUPPLY AIR FLOW		EXT STATIC PRESSURE		COOLING CAPACITY						HEATING CAPACITY				AIR FILTER	ELECTRICAL DATA						REMARKS
								MIN TOTAL CAPACITY		MIN SEER	EAT					GAS MIN. INPUT		MIN. NET OUTPUT			INDOOR UNIT			OUTDOOR UNIT			
											Db		Wb												
				CFM	[L/s]	IN	[Pa]	MBH	[kW]		°F	[°C]	°F	[°C]	MBH	[kW]	MBH	[kW]		VOLT	HP	FLA	VOLT	FAN HP	MCA	SEE NOTES 1,2,3,4
AHU-1	BASEMENT	BASEMENT FIRST FLR	HORIZONTAL	1495	[705]	1.0	[260]	59.5	[200]	19	80	[27]	67	[19]	88	[26]	87	[25]	MERV 13	120-1	3/4	10.1	230-1	1/3	32.9	SEE NOTES 1,2,3,4
AHU-2	BASEMENT	BASEMENT FIRST FLR	HORIZONTAL	580	[270]	0.5	[130]	23	[78]	22	80	[27]	67	[19]	66	[19]	64	[18]	MERV 13	120-1	1/2	7.7	230-1	1/3	14.9	SEE NOTES 1,2,3,4
AHU-3	ATTIC	SECOND FLR	HORIZONTAL	610	[290]	0.6	[130]	23	[78]	22	80	[27]	67	[19]	66	[19]	52	[15]	MERV 13	120-1	1/2	7.7	230-1	1/3	14.9	SEE NOTES 1,2,3,4 & 5

NOTES

1. PROVIDE WITH FILTER KIT, CONCENTRIC DIRECT VENT TERMINATION KIT, HORIZONTAL SUSPENSION KIT AND CONDENSATE NEUTRALIZATION KIT.
2. MANUFACTURER SHALL PROVIDE THEMOSTAT. THERMOSTAT SHALL BE COMPATIBLE WITH VARIABLE AIR VOLUME SYSTEM.
3. PROVIDE MULTI-ZONE SYSTEM, COMPLETE WITH DAMPERS, THERMOSTATS AND CONTROL. MULTI-ZONE SYSTEM SHALL BE COMPATIBLE WITH THE AHU.
4. REFER TO CONTROL DIAGRAMS FOR ADDITONAL INFORMATION.
5. AHU SHALL HAVE A NON-CONDENSING GAS BURNER FOR INSTALLATION IN NON-CONDITIONED ATTIC SPACE. CONDENSATE NEUTRALIZATION KIT FROM NOTE 1 NOT REQUIRED

FAN SCHEDULE

MARK	LOCATION	AIR FLOW		TSP		FAN						MOTOR/ELECTRICAL			REMARKS
						TYPE	GRILLE DIMENSION	OUTLET DIAMETER		DRIVE	SONES	POWER (WATTS)	VOLT	PHASE	
		CFM	[L/s]	IN	[Pa]			IN	[mm]						
EF-1	MENS	80	[38]	0.35	[88]	CEILING MOUNTED	13x14	6	[150]	DIRECT	0.5	7.6	1	120	NOTE 1
EF-2	WOMENS	80	[38]	0.35	[88]	CEILING MOUNTED	13x14	6	[150]	DIRECT	0.5	7.6	1	120	NOTE 1
EF-3	HOUSEKEEPING	50	[24]	0.35	[88]	CEILING MOUNTED	13x14	6	[150]	DIRECT	0.5	5.1	1	120	NOTE 2
EF-4	RESTROOM	50	[24]	0.35	[88]	CEILING MOUNTED	13x14	6	[150]	DIRECT	0.5	5.1	1	120	NOTE 1
EF-5	ELEV MACHINE	200	[100]	0.25	[66]	INLINE	N/A	6	[150]	DIRECT	0.5	70	1	120	NOTE 3

NOTE

1. FAN SHALL BE INTERLOCKED WITH OCCUPANCY/LIGHT SWITCH. OCCUPANCY SENSOR/LIGHT SWITCH BY E.C.
2. FAN SHALL BE INTERLOCKED WITH TIMER SWITCH. TIMER SWITCH BY E.C
3. FAN SHALL BE CONTROLLED FROM A WALL MOUNTED THERMOSTAT. THERMOSTAT BY MC

AIR DEVICE SCHEDULE

MARK	MATERIAL	TYPE	MOUNTING	PANEL/FRAME SIZE	INLET SIZE	DAMPER	FINISH	REMARKS
				IN x IN	IN			
RG-1	STEEL	35 DEGREE DEFLECTION	CEILING/WALL	INLET +2	SEE DWGS	NONE	WHITE	----
RG-2	STEEL	FLOOR GRILLE	FLOOR	INLET +2	SEE DWGS	NONE	NOTE 1	----
SD-1	STEEL	PANEL FACE	CEILING	12 x 12	SEE DWGS	NONE	WHITE	----
SG-1	STEEL	35 DEGREE DEFLECTION	CEILING/WALL	INLET +2	SEE DWGS	NONE	WHITE	----
SG-2	STEEL	FLOOR GRILLE	FLOOR	INLET +2	SEE DWGS	NONE	NOTE 1	----

NOTES

1. FINISH TO BE OIL RUB BRONZE, SELECTION BY ARCHITECT.

CABINET HEATER SCHEDULE (ELECTRIC)

MARK	AREA SERVED	TYPE	CABINET		CAPACITY		POWER SUPPLY			REMARKS
			H x W x D (in)	H x W X D [mm]	BTUH	[W]	AMPS	PHASE	VOLT	
CAB-1	VESTIBULE	WALL RECESSED	20 x 16 x 3	[500x400x75]	6825	[2000]	8.3	1	240	NOTE 1

NOTES

1. THERMOSTAT AND DISCONNECT SHALL BE FACTORY PROVIDED CONCEALED BEHIND FRONT COVER.

RADIANT COVE HEATER SCHEDULE (ELECTRIC)

MARK	AREA SERVED	LENGTH		CAPACITY		POWER SUPPLY			REMARKS
		IN	[mm]	BTUH	[W]	AMPS	PHASE	VOLT	
RAD-1	MENS	34	[850]	1536	[450]	3.7	1	120	NOTE 1
RAD-2	WOMENS	34	[850]	1536	[450]	3.7	1	120	NOTE 1
RAD-3	WOMENS	34	[850]	1536	[450]	3.7	1	120	NOTE 1

NOTE

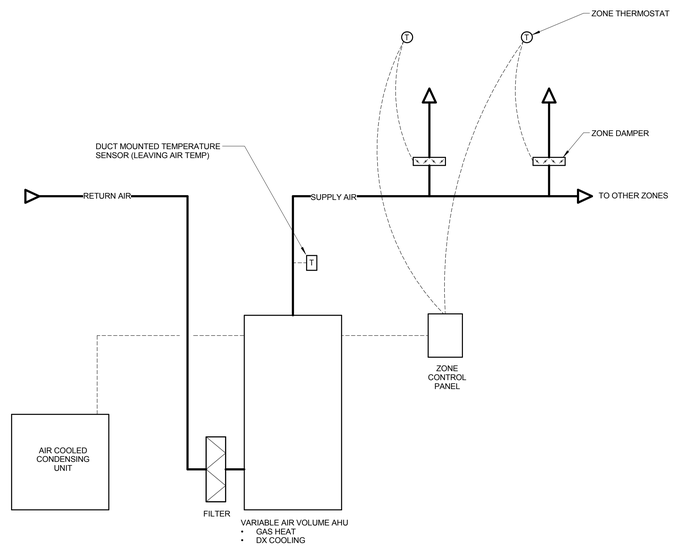
1. PROVIDE WITH WALL MOUNTED LINE VOLTAGE THERMOSTAT.

MOTOR OPERATED DAMPERS (MULTI-ZONE SYSTEM)

MARK	AREA SERVED	AHU	SIZE		AIRFLOW				POWER	REMARKS
			IN	[mm]	MIN	[L/s]	MAX	[L/s]		
MOD-1-1	MULTI-PURPOSE	AHU-1	12x12	[300x300]	480	[225]	960	[460]	24V	
MOD-1-2	OFFICE 4	AHU-1	10x6	[250x150]	0	[ ]	220	[110]	24V	---
MOD-1-3	OFFICE 1	AHU-1	8x8	[200x200]	0	[ ]	315	[165]	24V	---
MOD-2-1	OFFICE 3	AHU-2	12x10	[300x250]	190	[100]	390	[185]	24V	---
MOD-2-2	STORAGE/IT	AHU-2	10x6	[250x150]	0	[ ]	190	[90]	24V	---
MOD-3-1	OFFICE 6	AHU-3	10" DIA	[250 DIA]	200	[76]	400	[200]	24V	---
MOD-3-2	OFFICE 5	AHU-3	8" DIA	[200 DIA]	105	[66]	210	[135]	24V	---

NOTE

1. PROVIDE MULTI-ZONE CONTROL SYSTEM COMPLETE WITH DAMPERS, THERMOSTATS AND CONTROL PANEL.



AIR HANDLING UNITS CONTROL SEQUENCE :

GENERAL: THE GAS FURNACE IS EQUIPPED WITH A VARIABLE-CAPACITY, VARIABLE-SPEED INTEGRATED FAN/CONTROLS. THE CONTROLS SHALL BE COMPATIBILITY WITH THE ZONE CONTROL SYSTEM.

ZONE CONTROL: THE CONTROLLER SHALL MODULATE THE AIR VOLUME VIA THE MOTOR OPERATED DAMPER TO MAINTAIN SPACE TEMPERATURE. THE CONTROLLER SHALL SEND A SIGNAL TO THE AHU TO ADJUST THE FANS SPEED TO MATCH THE REQUIRED AIRFLOW.

HEATING: THE BURNER FIRING RATE IS BASED ON CURRENT OPERATING CFM, THE FIRE RATE WILL MODULATE TO MAINTAIN LEAVING AIR TEMPERATURE OF 100F. IF RESULTING FIRING RATE IS BELOW MINIMUM FIRING RATE, THE BURNER SHALL OPERATE AT MINIMUM FIRE RATE. ACCORDINGLY,IF RESULTING FIRING RATE IS ABOVE MAXIMUM FIRING RATE, IT WILL OPERATE AT MAXIMUM FIRING RATE.

COOLING: THE CONDENSING UNIT SHALL MODULATE TO MAINTAIN THE LEAVING AIR TEMPERATURE OF 55F (ADJ.).

OCCUPIED: 7:00AM - 3:30PM (ADJ.)
FAN SHALL RUN CONTINUOUSLY WHILE UNIT CYCLES HEATING OR COOLING TO MAINTAIN A SPACE SET POINT OF 75°F (ADJ.) IN THE COOLING AND 70°F (ADJ.) IN HEATING MODE

UNOCCUPIED: 3:30PM - 7:00AM (ADJ.)
CONTROLS SHALL CYCLE THE FAN AND HEATING OR COOLING COIL TO MAINTAIN A SPACE SET POINT OF 80°F (ADJ.) IN COOLING MODE AND 65°F IN HEATING MODE.

1 AHU CONTROL DIAGRAM

NO SCALE

TYPICAL FOR AHU-1, AHU-2, AHU-3

BID SET DOCUMENTS

No.	Revisions	Date

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www.ae-mn.com

AE PROJECT NO.: 13802

Drawing Title: HVAC SCHEDULES

Approved: Project Director

Project Title: LODGE REHABILITATION

Location: FT LEAVENWORTH NATIONAL CEMETERY, LEAVENWORTH, KS

Date: 02-25-2016 | Checked: BMH | Drawn: JPT

Project Number: 887CM3005

Building Number:

Drawing Number: M3.01

Dwg. 46 of 67

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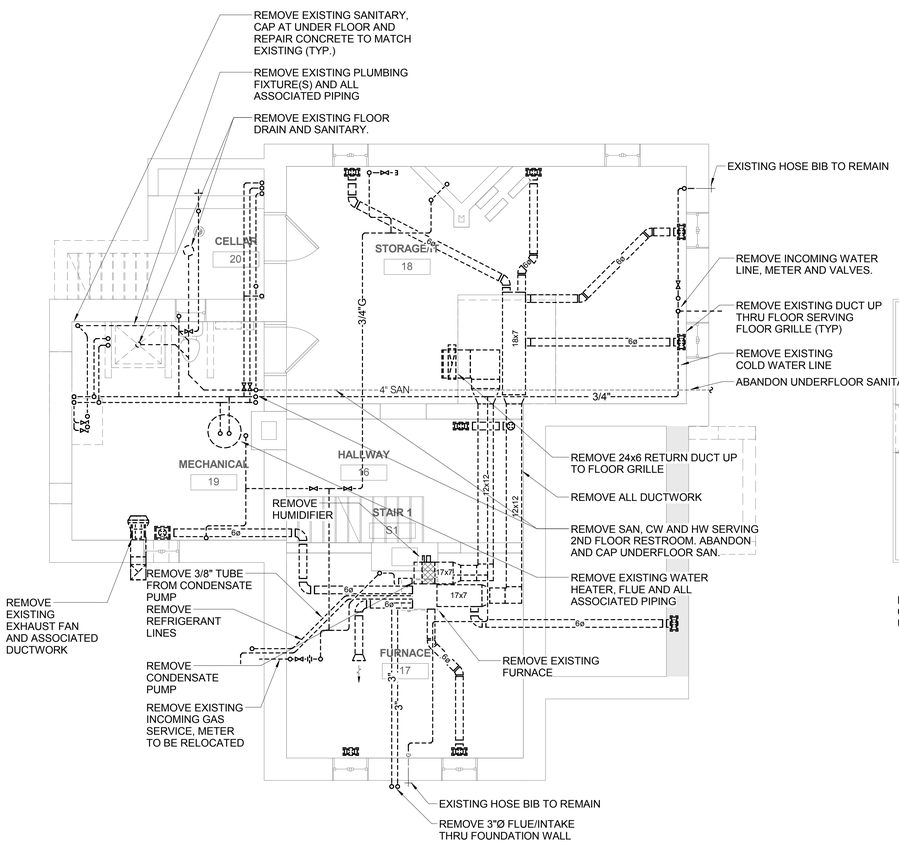
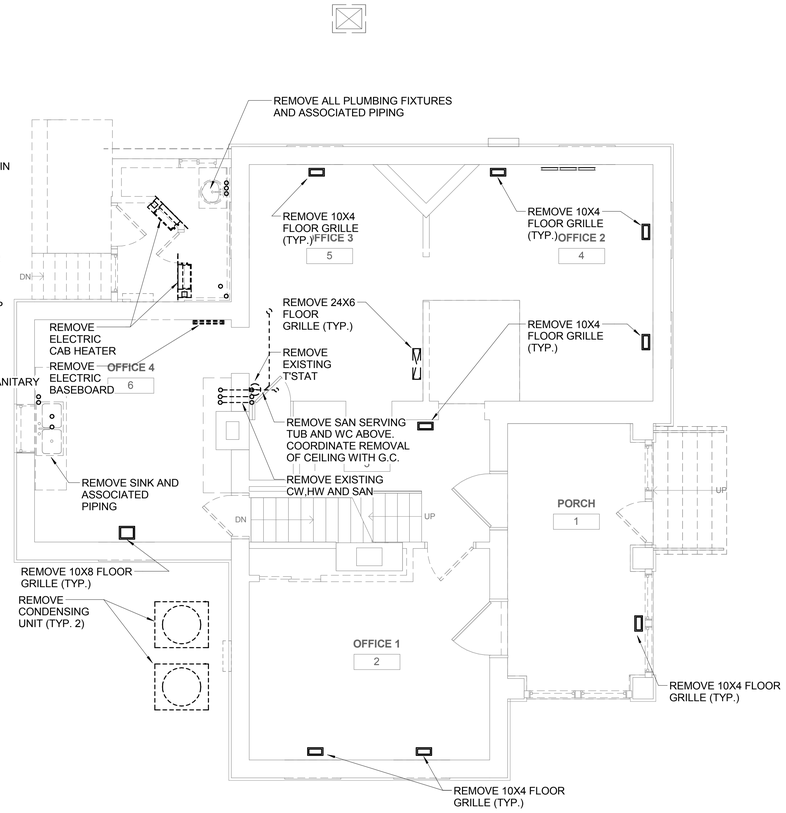
GENERAL DEMOLITION NOTES:

1. THE DRAWINGS ARE INTENDED TO INDICATE THE SCOPE OF DEMOLITION WORK REQUIRED AND DO NOT INDICATE EVERY PIPE, DUCT, OR PIECE OF EQUIPMENT THAT MUST BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID AND VERIFY EXISTING CONDITIONS.
2. REMOVE ALL PIPING AND DUCTS, INCLUDING ABANDONED PIPING AND DUCTS ABOVE ACCESSIBLE CEILING FINISHES. CUT DUCTS FLUSH WITH WALLS AND FLOORS, CAP DUCT THAT REMAINS, AND PATCH SURFACES. CUT PIPING ABOVE CEILINGS, BELOW FLOORS AND BEHIND WALLS. REMOVE ALL ASSOCIATED CLAMPS, HANGERS, SUPPORTS, ETC., ASSOCIATED WITH PIPING AND DUCT REMOVAL. SEAL ALL WALL/FLOOR PENETRATIONS TO MATCH EXISTING.



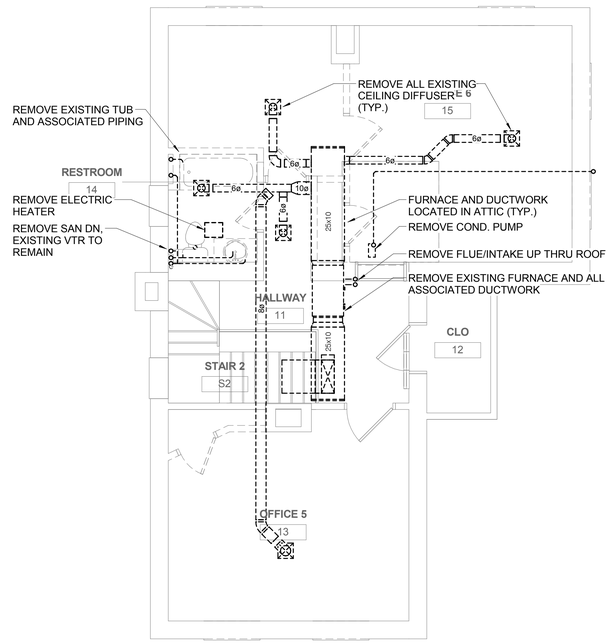
1 BASEMENT DEMOLITION PLAN - MECHANICAL

1/4" = 1'-0"



2 FIRST FLOOR DEMOLITION PLAN - MECHANICAL

1/4" = 1'-0"



3 SECOND FLOOR DEMOLITION PLAN - MECHANICAL

1/4" = 1'-0"

BID SET DOCUMENTS

No.	Revisions	Date

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PRINT NAME: WADE C. ROSS
SIGNATURE:
DATE: 02-25-16
LICENSE #: 062.062024

ARCHITECT/ENGINEERS:

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AE PROJECT NO.: 13802

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Drawing Title	MECHANICAL DEMOLITION PLAN
Approved: Project Director	
Project Title	LODGE REHABILITATION
Location	FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS
Date	02-25-2016
Checked	BMH
Drawn	JPT
Project Number	887CM3005
Building Number	
Drawing Number	MD1.01
Dwg.	47 of 67

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GENERAL PLUMBING NOTES :

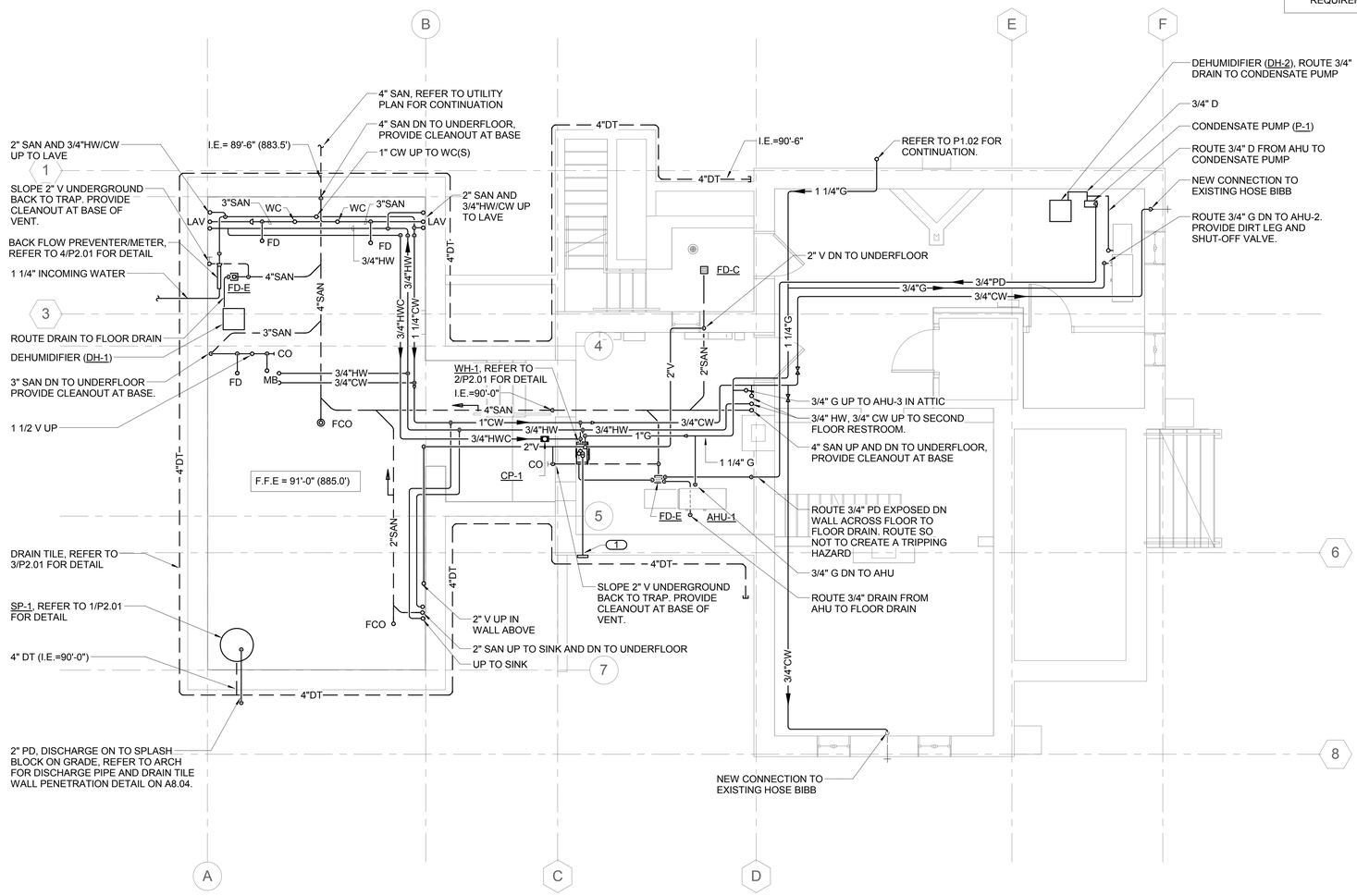
1. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZE OF BRANCH PIPES TO PLUMBING FIXTURES.
2. REFER TO RISER DIAGRAMS FOR ADDITIONAL INFORMATION

KEYNOTES :

1. ROUTE INTAKE AND EXHAUST (PVC) THRU FOUNDATION WALL. TERMINATE 18" ABOVE GRADE WITH CONCENTRIC VENT KIT. SIZE AND INSTALL PER MFR REQUIREMENTS.

PLUMBING SYMBOLS LIST

SYMBOL:	DESCRIPTION:
	EXISTING TO REMAIN
	EXISTING TO BE REMOVED
	NEW
—CW—	COLD WATER - POTABLE
—DT—	DRAIN TILE
—HW—	HOT WATER - POTABLE
—HWC—	HOT WATER CIRCULATING - POTABLE
—PD—	PUMPED DISCHARGE
—SAN—	SANITARY DRAINAGE
—V—	VENT
—W—	SERVICE WATER - POTABLE
	PIPE CAP
	PIPE DOWN
	PIPE UP OR UP/DOWN
FD	PIPE SERVING FIXTURE ON FLOOR ABOVE (EXAMPLE: FD = FLOOR DRAIN)
	UNDERFLOOR PIPING (LONG DASHES)
	PITCH PIPE IN DIRECTION
	DIRECTION OF FLOW IN PIPE
	UNION/FLANGE
	SHUTOFF VALVE NORMALLY OPEN
	SHUTOFF VALVE NORMALLY CLOSED
0.5	BALANCING VALVE (NO. INDICATES GPM)
	CHECK VALVE
	REDUCER - REFERENCE SPECIFICATION FOR CONCENTRIC/ECCENTRIC AND FOT/FOB
M	METER
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
G.C.	GENERAL CONTRACTOR
HB	HOSE BIBB
I.E.	INVERT ELEVATION (FOR REFERENCE ONLY)
LAV	LAVATORY
MB	MOP BASIN
MH	MANHOLE
MV	MIXING VALVE
NC	NEW CONNECTION
SK	SINK
VTR	VENT THROUGH ROOF
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WATER HEATER



1 BASEMENT FLOOR PLAN - PLUMBING

1/4" = 1'-0"

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AE PROJECT NO.: 13802

Drawing Title: BASEMENT FLOOR PLAN - PLUMBING

Approved: Project Director

Project Title: LODGE REHABILITATION

Location: FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS

Date	Checked	Drawn
02-25-2016	BMH	JPT

Project Number: 887CM3005

Building Number:

Drawing Number: P1.01

Dwg. 48 of 67

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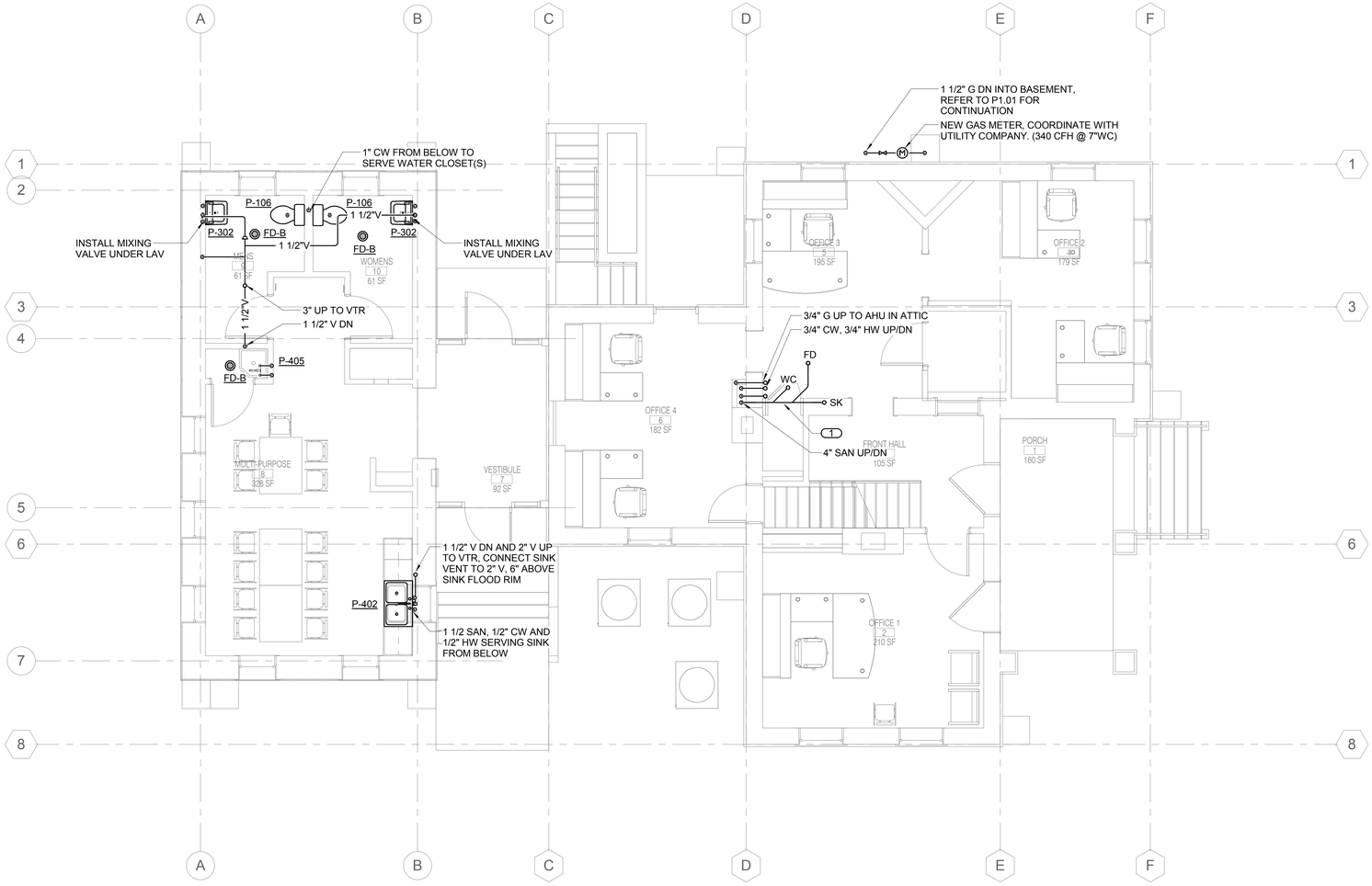
GENERAL PLUMBING NOTES :

1. REFER TO THE PLUMBING ROUGH-IN SCHEDULE FOR THE SIZE OF BRANCH PIPES TO PLUMBING FIXTURES.

KEYNOTES :

1. ROUTE PIPING IN FLOOR JOIST POCKET. REUSE EXISTING PENETRATION THRU FLOOR JOIST (S) WHERE POSSIBLE. IF NEW PENETRATIONS ARE REQUIRED COORDINATE WITH A/E FOR REINFORCEMENT REQUIREMENTS FOR FLOOR JOIST.



NORTH

1 FIRST FLOOR PLAN - PLUMBING

1/4" = 1'-0"

BID SET DOCUMENTS

No.	Revisions	Date

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AE PROJECT NO.: 13802

Drawing Title
FIRST FLOOR PLAN - PLUMBING

Approved: Project Director

Project Title
LODGE REHABILITATION

Location
FT LEAVENWORTH NATIONAL CEMETERY
LEAVENWORTH, KS

Date	Checked	Drawn
02-25-2016	BMH	JPT

Project Number 887CM3005

Building Number

Drawing Number P1.02

Dwg. 49 **of** 67

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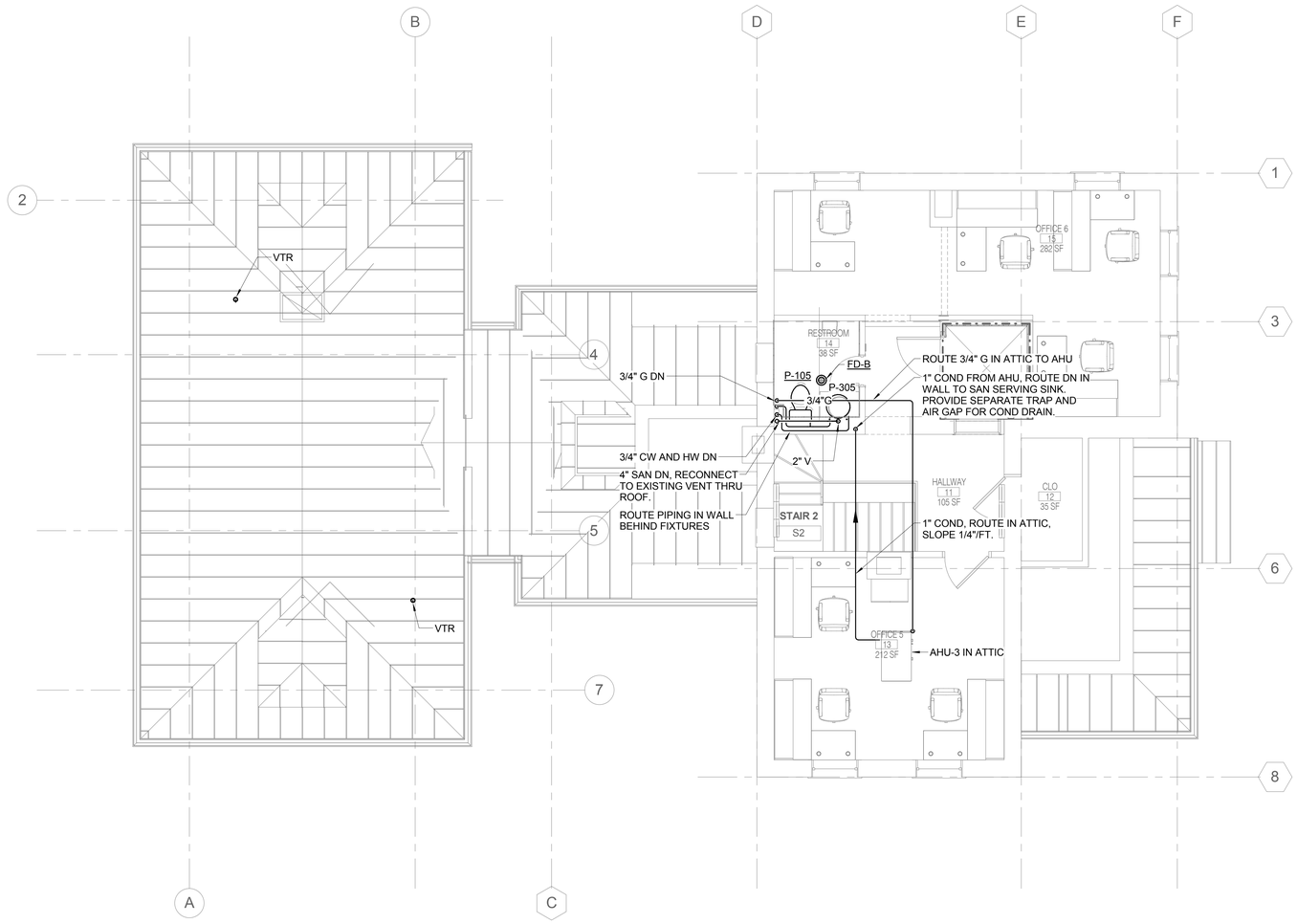

NORTH

1 SECOND FLOOR PLAN - PLUMBING

1/4" = 1'-0"

BID SET DOCUMENTS

No.	Revisions	Date

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Drawing Title: SECOND FLOOR PLAN - PLUMBING

Approved: Project Director

Project Title: LODGE REHABILITATION

Project Number: 887CM3005

Building Number:

Location: FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS

Date: 02-25-2016 | Checked: BMH | Drawn: JPT

Drawing Number: P1.03

Dwg. 50 of 67

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GAS FIRED WATER HEATER SCHEDULE

MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	TYPE	GAS CONSUMPTION INPUT (BTU/HR)		RECOVERY @ 70 °F [21°C] RISE		PRESSURE LOSS		ENERGY FACTOR	RELIEF VALVE SETTING		FUEL		ELECTRICAL MOTOR				REMARKS
														TYPE	INLET PRESSURE		FLOW		PHASE	VOLT	
					MIN.	MAX.	GPM	[L/S]	PSIG	[kPa]		PSIG	[kPa]		IN WG	[Pa]	CFH	[L/H]			
WH-1	BASEMENT	RESTROOMS	DOMESTIC HOT WATER	INSTANTANEOUS	15,000	120,000	3.2	[0.2]	5	[35]	0.93	100	[690]	NATURAL GAS	7	[2800]	120	[3400]	1	120	NOTE 1

NOTES

1. PROVIDE WITH NEUTRALIZER KIT AND CONCENTRIC VENT TERMINATION.

DOMESTIC WATER THERMAL EXPANSION TANK SCHEDULE

MARK	LOCATION	TYPE	SYSTEM TEMPERATURE RANGE				INITIAL PRESSURE IN TANK		MAX OPERATING PRESSURE		RELIEF VALVE PSIG [kPA]		MIN TANK VOLUME		MIN ACCEPT VOLUME		PIPE SIZE TO TANK		REMARKS
			MIN		MAX														
			°F	[°C]	°F	[°C]	PSIG	[kPa]	PSIG	[kPa]	PSIG	[kPa]	GAL	[L]	GAL	[L]	IN	[mm]	
ET-1	BASEMENT	POTABLE THERMAL EXPANSION TANK	60	[16]	140	[60]	55	[380]	80	[550]	100	[690]	2.0	[8]	0.45	[2]	.75	[19]	----

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	WASTE PIPE		VENT PIPE		COLD WATER		HOT WATER		WASTE FIXTURE UNITS	WATER FIXTURE UNITS	ELECTRIC SENSOR	REMARKS
		IN	[mm]	IN	[mm]	IN	[mm]	IN	[mm]				
P-105, P-106	WATER CLOSET, WALL FLOOR MTD, TANK TYPE	4	[100]	2	[50]	0.5	[13]			5	5	NO	---
P-302, P305	LAVATORY	2	[50]	1.5	[38]	0.5	[13]	0.5	[13]	1	2	YES	
P-402	SINK	2	[50]	1.5	[38]	0.5	[13]	0.5	[13]	2	1.4	NO	
P-405	SINK SERVICE FLOOR MOUNTED	3	[75]	2	[50]	0.5	[13]	0.5	[13]	2	3	NO	
P-801	WALL HYDRANT					0.75	[19]						

PLUMBING PUMP SCHEDULE

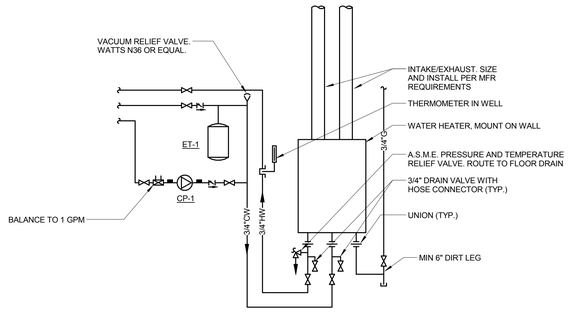
MARK	LOCATION	AREA AND/OR BLDG SERVED	SYSTEM AND/OR SERVICE	TYPE	CIRCULATING FLUID							ELECTRICAL MOTOR						REMARKS
					FLUID	FLOW		HEAD		TEMPERATURE		NOMINAL POWER		PHASE	VOLT	RPM	SPEED CONTROL	
						GPM	[L/s]	FT	[kPa]	°F	[°C]	HP	[W]					
CP-1	BASEMENT	BLDG	HOT WATER RECIR	INLINE	DOMESTIC WATER	1	[ ]	10	[160]	140	[60]	0.16	125	1	120	2950	CONSTANT	---

SUMP PUMP SCHEDULE

MARK	LOCATION	SERVICE	TYPE	# OF PUMPS	PUMP				BASIN				ELECTRICAL MOTOR					
					FLOW		HEAD		DIAMETER		DEPTH		NOMINAL POWER		PHASE	VOLT	RPM	REMARKS
					GPM	[L/s]	FT	[kPa]	IN	[mm]	IN	[mm]	HP	[W]				
SP-1	BASEMENT	DRAIN TILE	SUBMERSIBLE	1	60	[28]	17	[45]	24	[600]	36	[900]	1/2	[370]	1	120	2950	----

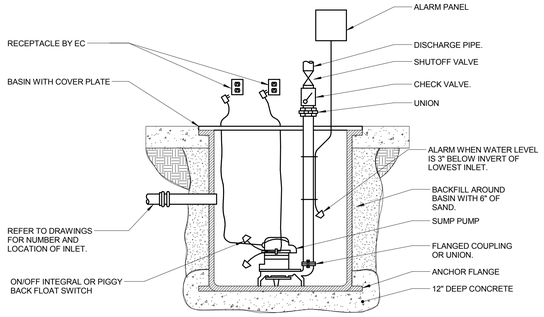
CONDENSATE PUMP SCHEDULE

MARK	LOCATION	SERVICE	TYPE	# OF PUMPS	PUMP				TANK CAPACITY		ELECTRICAL MOTOR					
					FLOW		HEAD				NOMINAL POWER		PHASE	VOLT	RPM	REMARKS
					GPM	[L/s]	FT	[kPa]	GALLON	[L]	HP	[W]				
P-1	BASEMENT	AHU CONDENSATE	VERTICAL PUMP WITH TANK	1	3.5	[1.6]	9	[26]	1	[3.7]	1/18	[370]	1	120	2950	----



2 WATER HEATER (GAS) DETAIL

NO SCALE

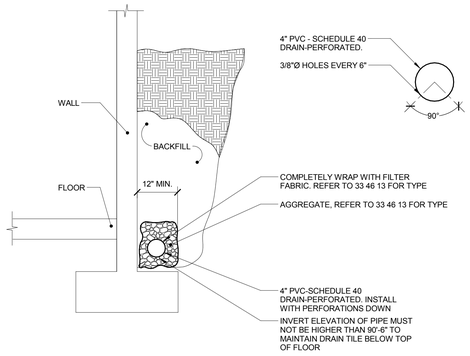


1 SUMP PUMP DETAIL

NO SCALE

NOTES:

1. ALARM PANEL AND SUMP PUMP SHALL BE POWERED FROM SEPARATE CIRCUITS, REFER TO ELEC DRAWINGS.

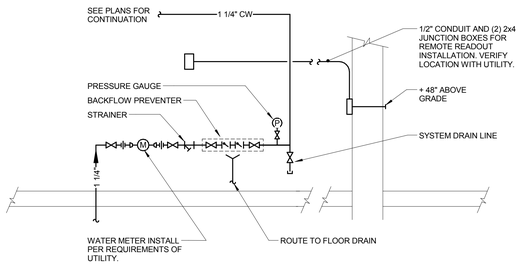


3 DRAIN TILE DETAIL

NO SCALE

NOTES:

1. REFER TO SPEC SECTION 33 46 13 FOR ADDITIONAL INFORMATION



4 DOMESTIC WATER ENTRANCE

NO SCALE

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AE PROJECT NO.: 13802

Drawing Title PLUMBING DETAILS	**Project Title** LODGE REHABILITATION		**Project Number** 887CM3005
			Building Number
Approved: Project Director	**Location** FT LEAVENWORTH NATIONAL CEMETERY LEAVENWORTH, KS		**Drawing Number** P2.01
	Date 02-25-2016	**Checked** BMH / **Drawn** JPT	**Dwg.** 51 **of** 67

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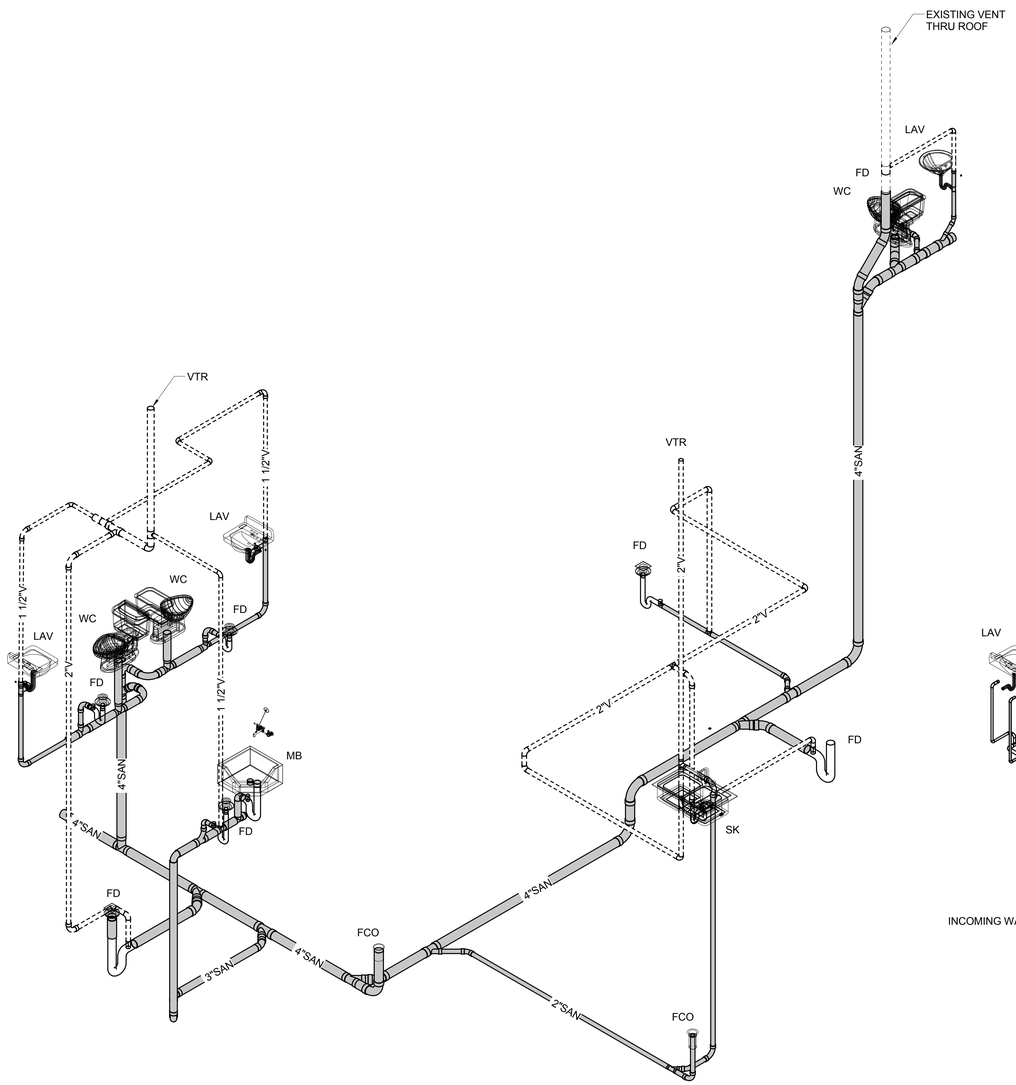
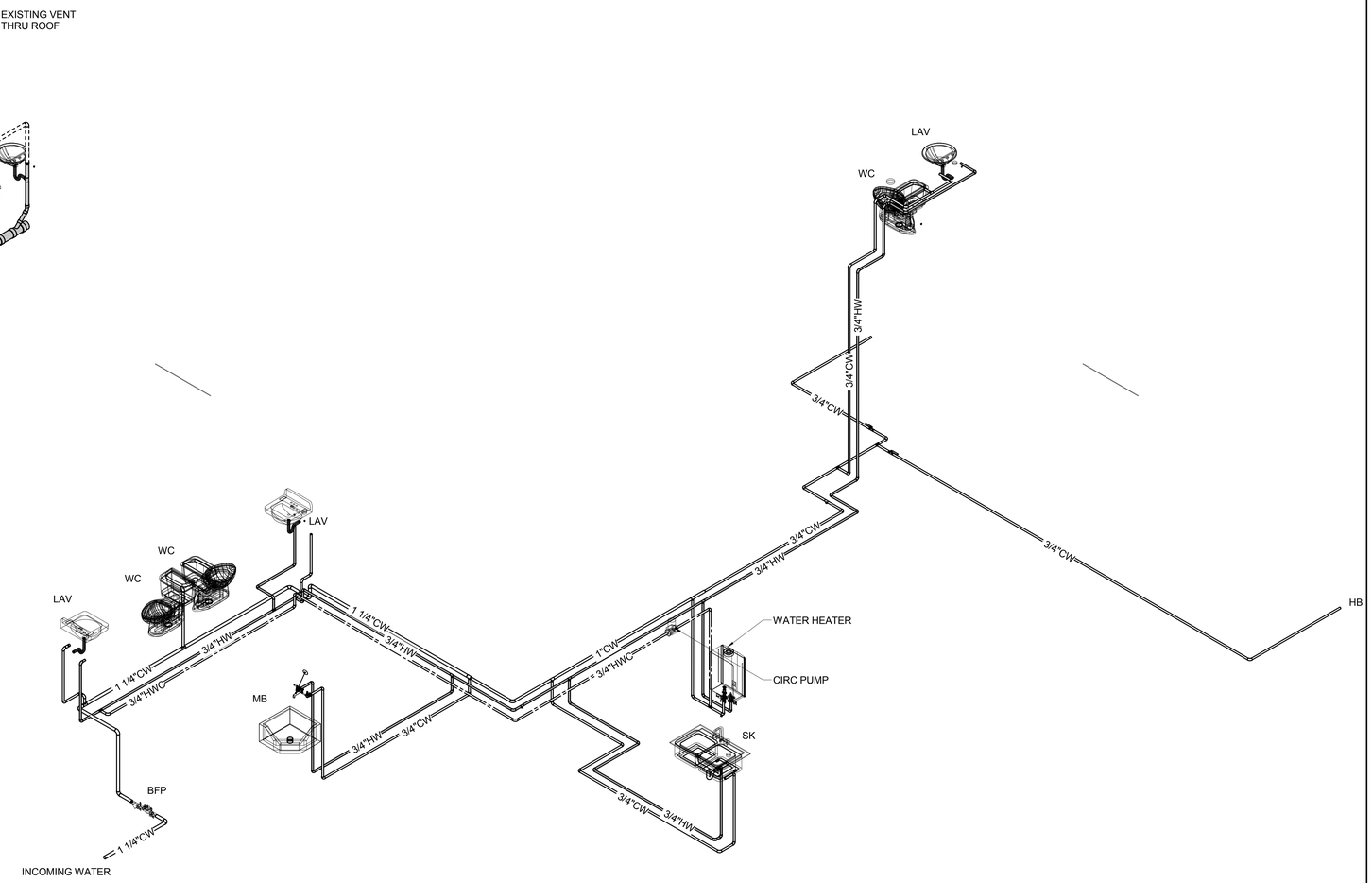


1 **WASTE RISER DIAGRAM**



2 **WATER RISER DIAGRAM**

BID SET DOCUMENTS

No.	Revisions	Date

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Drawing Title
PLUMBING RISER DIAGRAMS

Approved: Project Director

Project Title
LODGE REHABILITATION

Location
FT LEAVENWORTH NATIONAL CEMETERY
LEAVENWORTH, KS

Date	Checked	Drawn
02-25-2016	BMH	JPT

Project Number 887CM3005
Building Number
Drawing Number P3.01
Dwg. 52 **of** 67

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