

GENERAL HVAC NOTES

1. SCOPE OF WORK
- A. THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK, MATERIALS, AND LABOR TO SATISFY A COMPLETE WORKING SYSTEM WHETHER SPECIFIED OR IMPLIED.

B. ALL WORK IS TO BE PERFORMED IN STRICT COMPLIANCE WITH THE 2009 INTERNATIONAL MECHANICAL CODE, ALL STATE AND LOCAL CODES AND ALL OTHER REGULATIONS GOVERNING WORK OF THIS NATURE.

C. THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE PROPOSED SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY EFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.

D. ALL EQUIPMENT AND MATERIALS SHALL BE AS SPECIFIED OR "APPROVED EQUAL" BY THE ENGINEER OR ARCHITECT.
2. PERMITS
- A. THE CONTRACTOR SHALL SECURE ALL PERMITS OR APPLICATIONS AND PAY ANY AND ALL FEES.
3. SHOP DRAWINGS
- A. SUBMIT MATERIAL LIST AND SHOP DRAWINGS FOR MAJOR EQUIPMENT TO THE ACHITECT/ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT FIVE SETS OF SHOP DRAWINGS AND THEY SHALL BE CLEARLY LABELED.
4. FLEXIBLE TYPE DUCT
- A. SHALL BE OF TWO ELEMENT SPIRAL CONSTRUCTION COMPOSED OF A CORROSION RESISTANT METAL SUPPORTING SPIRAL AND COATED FABRIC WITH A MINERIAL BASE. FLEXIBLE DUCT CONNECTORS SHALL BE LISTED BY U.L., CLASS 1 DUCTS, AND SHALL HAVE A FLAME SPREAD RATING NOT EXCEEDING 25 AND A SMOKE DEVELOPED RATING NOT EXCEEDING 50.

B. USE OF FLEXIBLE DUCTWORK SHALL BE LIMITED TO NO MORE THAN 14 LINEAR FEET PER RUN.

C. CONTRACTOR SHALL BE CAREFUL SO AS NOT TO KINK OR COLLAPSE FLEXIBLE DUCT.
5. REFRIGERANT PIPING
- A. CONTRACTOR SHALL PROVIDE AND INSTALL REFRIGERANT PIPING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND IN SUCH A WAY AS TO BE INCONSPICIOUS AND FREE FROM ANY POSSIBLE CONDENSATION. INSULATE REFRIGERANT LINES WITH ARMOURFLEX TYPE INSULATION.

B. SHALL BE TYPE "K" COPPER TUBING, WITH WROUGHT COPPER SOLDER TYPE FITTINGS SUITABLE FOR CONNECTION WITH SILVER SOLDER.
6. DUCTWORK
- A. THE DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "SMACNA" APPLICABLE MANUALS. ALL DUCTWORK SHALL BE THE LOW VELOCITY TYPE, UNLESS SPECIFIED OTHERWISE.

B. CONTRACTOR SHALL PROVIDE AND INSTALL APPROVED FIRE DAMPERS AND ACCESS PANELS IN ANY AND ALL DUCTWORK WHICH PENETRATES A HORIZONTAL OR VERTICAL FIRE PARTITION, OR AS OTHERWISE SHOWN ON DRAWINGS.

C. ALL BRANCH DUCTS TO HAVE VOLUME DAMPERS.

D. SMOOTH TURN RADIUS DUCTWORK OR TURNING VANES SHALL BE USED THROUGHOUT WHERE FLOW EXCEEDS 150 CFM.

E. ALL DUCT JOINTS TO BE SEALED IN ACCORDANCE WITH "SMACNA" STANDARDS AND ACCEPTED GOOD PRACTICE.

F. ALL DUCT DIMENSIONS SHOWN ARE NET INSIDE VALUES. DIMENSIONS MAY BE CHANGED SO LONG AS THE NET FREE FACE AREA IS MAINTAINED.

G. ALL CONCEALED DUCTWORK SHALL BE INSULATED WITH 1-1/2" FIBERGLASS INSULATING BLANKET WITH ALUMINUM FOIL FACING.

H. ALL SUPPLY AND RETURN DUCTWORK 15 FEET DOWNSTREAM OF THE HVAC UNIT SHALL BE INTERNALLY LINED WITH A 1/2" ACOUSTICAL DUCT LINER.

7. DRAINAGE PIPING (CONDENSATE)
- A. SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT JOINTS. PITCH HORIZONTAL LINES 1" IN 10'-0". CONDENSATE DRAINS SHALL BE ROUTED TO FLOOR DRAIN OR INDIRECT WASTE DRAIN.
8. HVAC CONTROLS
- A. CONTRACTOR TO SUPPLY AND INSTALL ALL CONTROL WIRING AND THERMOSTATS AS REQUIRED.
9. ELECTRICAL
- A. CONTRACTOR TO COORDINATE WITH ELECTRICAL CONTRACTOR FOR LOCATION OF WIRING FOR EACH HVAC UNIT.
10. HANGERS & SUPPORTS
- A. ALL DUCTWORK SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. SPACING OF DUCT SUPPORTS SHALL NOT EXCEED 10 FEET.

B. ALL PIPE SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN A NEAT AND WORKMANLIKE MANNER. THE USE OF WIRE OR METAL STRAP TO SUPPORT PIPES WILL NOT BE PERMITTED. SPACING OF PIPE SUPPORTS SHALL NOT EXCEED 8 FEET FOR ALL PIPING. PLASTIC PIPING TO BE SUPPORTED EVERY 4 FEET.
11. MISCELLANEOUS
- A. ALL EXTERIOR OPENINGS TO BE PROPERLY CAULKED AND SEALED WITH A SEALANT OF HIGH QUALITY AND LONG LIFE, TO PREVENT INFILTRATION OF OUTSIDE AIR INTO CONDITIONED SPACE.

B. COORDINATE INSTALLATION OF ALL ROOF FLASHING AT ROOF PENETRATION.

C. DO NOT SCALE THIS DRAWING FOR EXACT DIMENSIONS. VERIFY ALL FIGURES, CONDITIONS, AND DIMENSIONS AT THE JOB SITE.

D. THE MECHANICAL PLANS ARE INTENDED TO BE DIAGRAMMATIC AND ARE BASED ON ONE MANUFACTURE'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. THE CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO ENSURE THAT THE EQUIPMENT WILL FIT IN THE AVAILABLE SPACE.
12. TESTING AND BALANCING
- A. THE HVAC SYSTEM SHALL BE TESTED AND AND BALANCED BY AN INDEPENDENT AGENCY, UNDER THE SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER. A SEALED TYPE WRITTEN REPORT SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL.
13. GUARANTEE
- A. MATERIALS, EQUIPMENT AND INSTALLATION SHALL BE GUARANTEED FOR A PERIOD OF ONE(1) YEAR FROM DATE OF ACCEPTANCE. DEFECTS WHICH APPEAR DURING THAT PERIOD SHALL BE CORRECTED AT THIS CONTRACTOR'S EXPENSE.

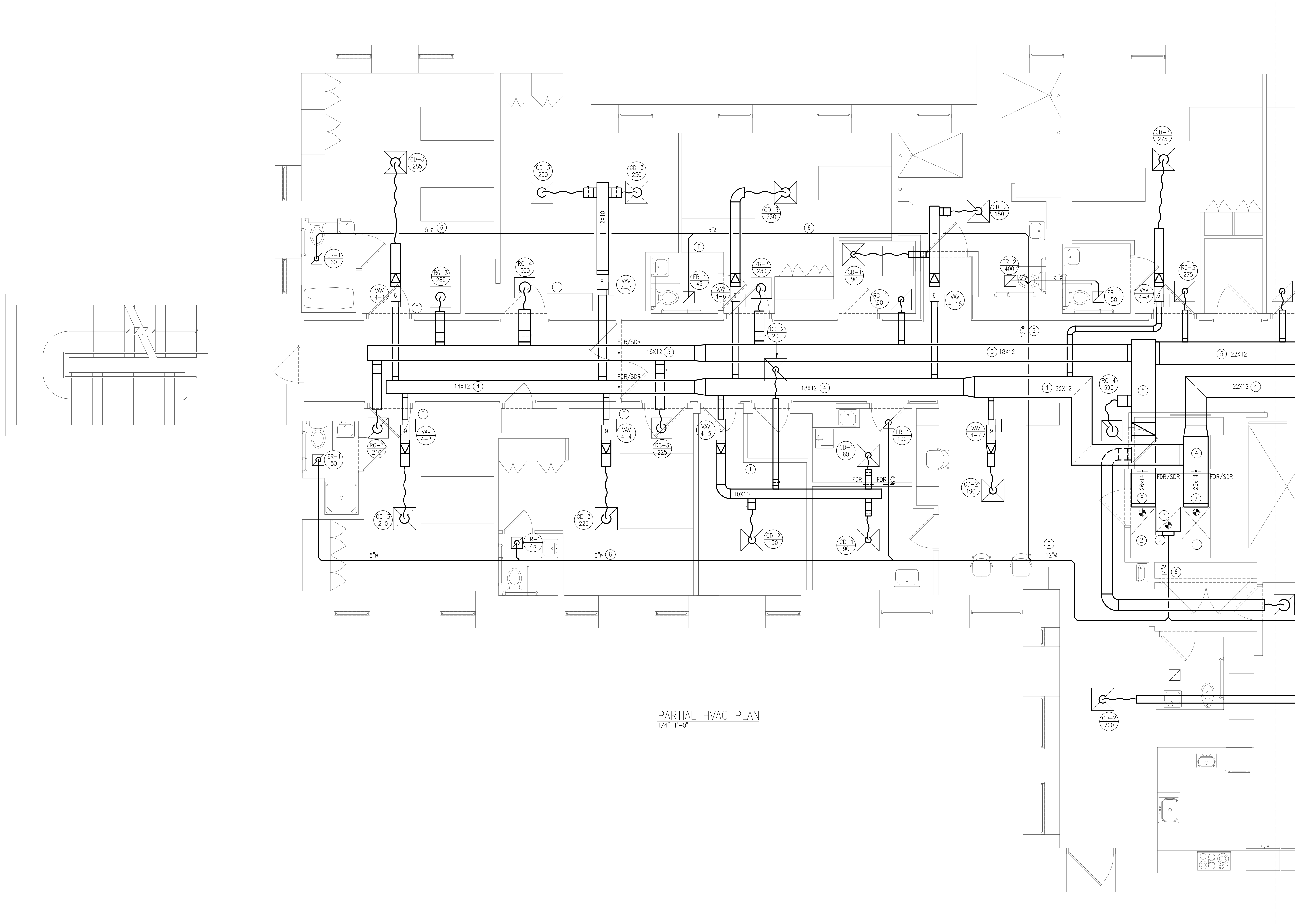
B. FOR THE SAME PERIOD, THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PREMISES CAUSED BY DEFECTS IN WORKMANSHIP OR IN THE WORK OR EQUIPMENT FURNISHED AND/OR INSTALLED BY HIM.

MECHANICAL LEGEND

AP	ACCESS PANEL	— S —	STEAM SUPPLY
ACD	ACCESS DOOR	— CDS —	CONDENSER WATER SUPPLY
ADR	AUTOMATIC DAMPER	— CDR —	CONDENSER WATER RETURN
BDD	BACK DRAFT DAMPER	— HS —	HOT WATER HEATING SUPPLY
CS	CHILLED WATER SUPPLY	— HR —	HOT WATER HEATING RETURN
CR	CHILLED WATER RETURN	— CS —	CHILLED WATER SUPPLY
CD	CEILING DIFFUSER	— CR —	CHILLED WATER RETURN
DBR	DOWN BLOW REGISTER		GATE VALVE
DN	DOWN		CHECK VALVE
DL	DOOR LOUVER		RELIEF VALVE
EG	EXHAUST GRILLE		AUTOMATIC THREE-WAY VALVE
ER	EXHAUST REGISTER		GLOBE VALVE
EF	EXHAUST FAN		PRESSURE REDUCING VALVE
FDR	FIRE DAMPER		AUTOMATIC TWO-WAY VALVE
HS	HOT WATER HEATING SUPPLY		PLUG OR BALL VALVE
HR	HOT WATER HEATING RETURN		BALANCING VALVE
LID	LINEAR DIFFUSER		STRAINER
LAD	LOUVER/AUTO DAMPER		UNION
LMD	LOUVER/MANUAL DAMPER		THERMOSTAT
MVD	MANUAL VOLUME DAMPER		HUMIDISTAT
OAI	OUTSIDE AIR INTAKE		THERMOMETER
RG	RETURN GRILLE		PRESSURE GAUGE W/GAUGE COCK
RR	RETURN REGISTER		AUTOMATIC AIR VENT
SG	SUPPLY GRILLE		FLEXIBLE CONNECTION
SF	SUPPLY FAN		STEAM COIL
SR	SUPPLY REGISTER		NEW CONNECTION TO EXISTING
SD	SPLITTER DAMPER		DUCT REDUCER
SC	STEAM COIL		
UNO	UNLESS NOTED OTHERWISE		
WMS	WIRE MESH SCREEN		

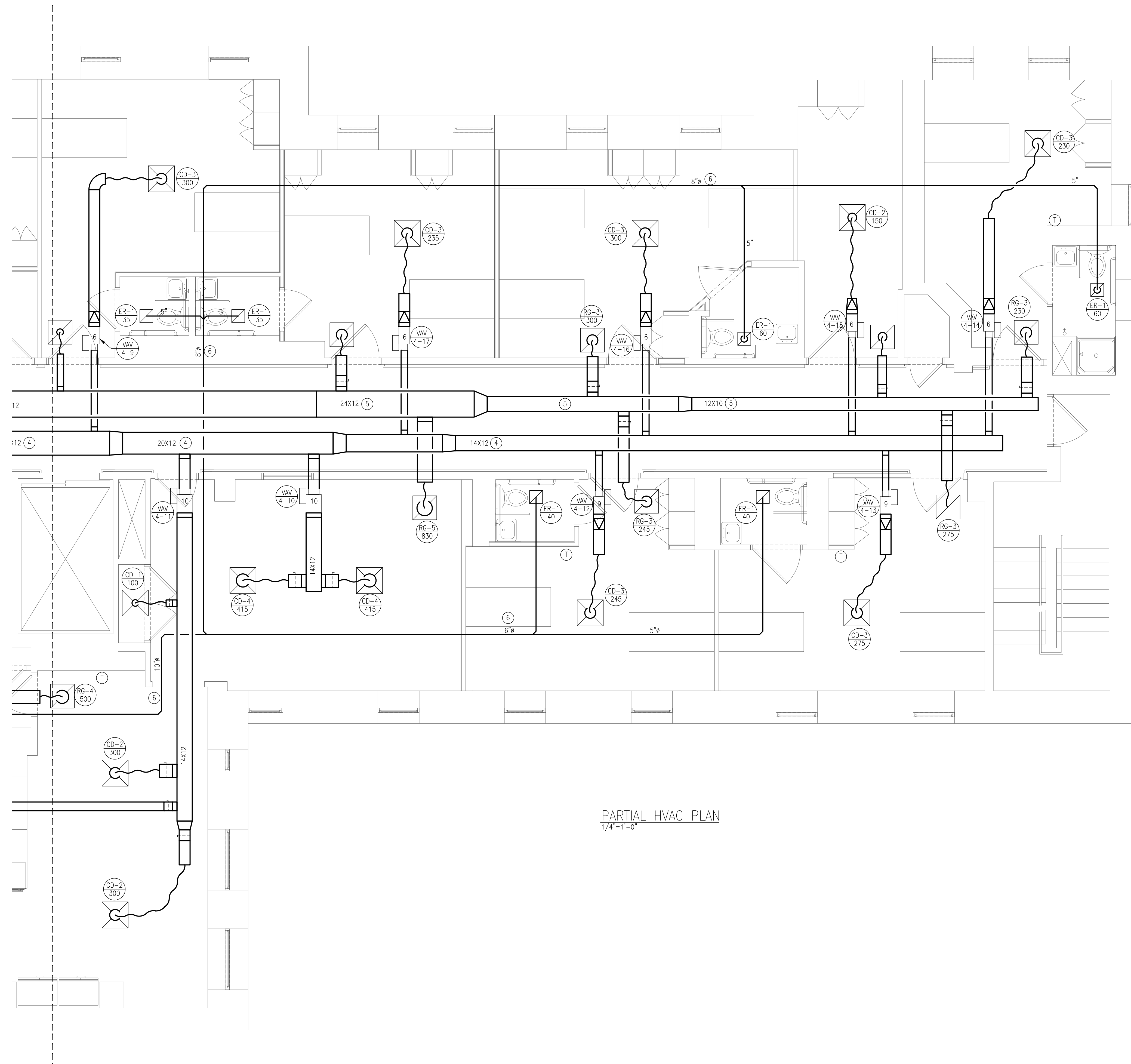
- ① EXISTING SUPPLY DUCT TO REMAIN
- ② EXISTING RETURN DUCT TO REMAIN
- ③ EXISTING EXHAUST DUCT TO REMAIN
- ④ NEW PRIMARY (MED PRESSURE) AIR DUCT
- ⑤ NEW RETURN DUCT ABOVE NEW CEILING
- ⑥ NEW EXHAUST DUCT ABOVE NEW CEILING
- ⑦ CONNECT NEW PRIMARY AIR DUCT TO EXISTING PRIMARY AIR DUCT
- ⑧ CONNECT NEW RETURN DUCT TO EXISTING EXHAUST DUCT
- ⑨ CONNECT NEW EXHAUST DUCT TO EXISTING EXHAUST DUCT
- ⑩ EXISTING HOT WATER HEATING SUPPLY AND RETURN PIPING TO REMAIN
- ⑪ CONNECT NEW HOT WATER HEATING PIPING TO EXISTING PIPING
- ⑫ EXISTING VAV TO REMAIN
ALL PRIPARY AIR SIDE AIR DUCTS TO REMAIN

HVAC SPECIFICATIONS



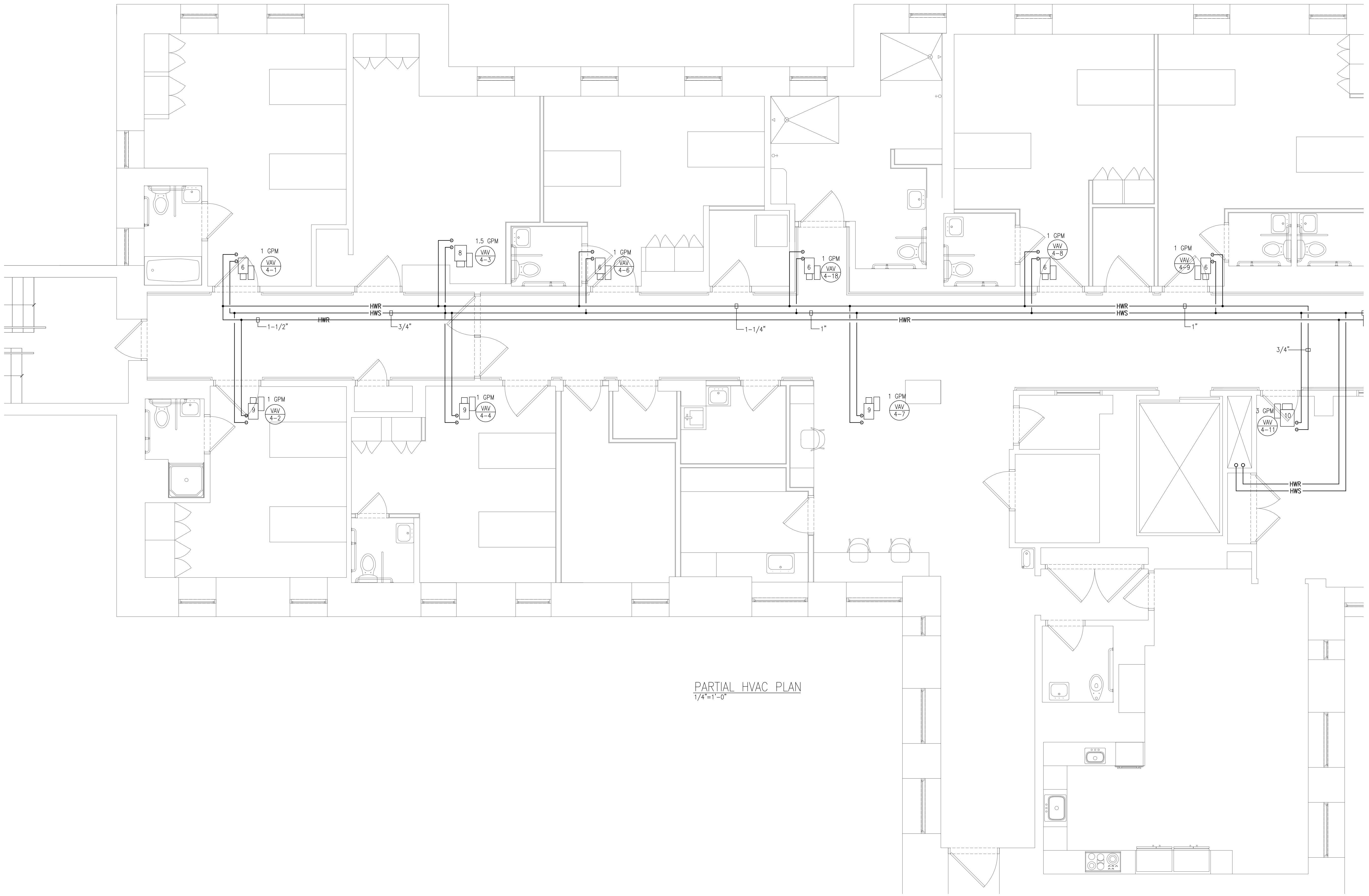
PARTIAL HVAC PLAN
WEST

4' 8'

PARTIAL HVAC PLAN
EAST

4' 8'

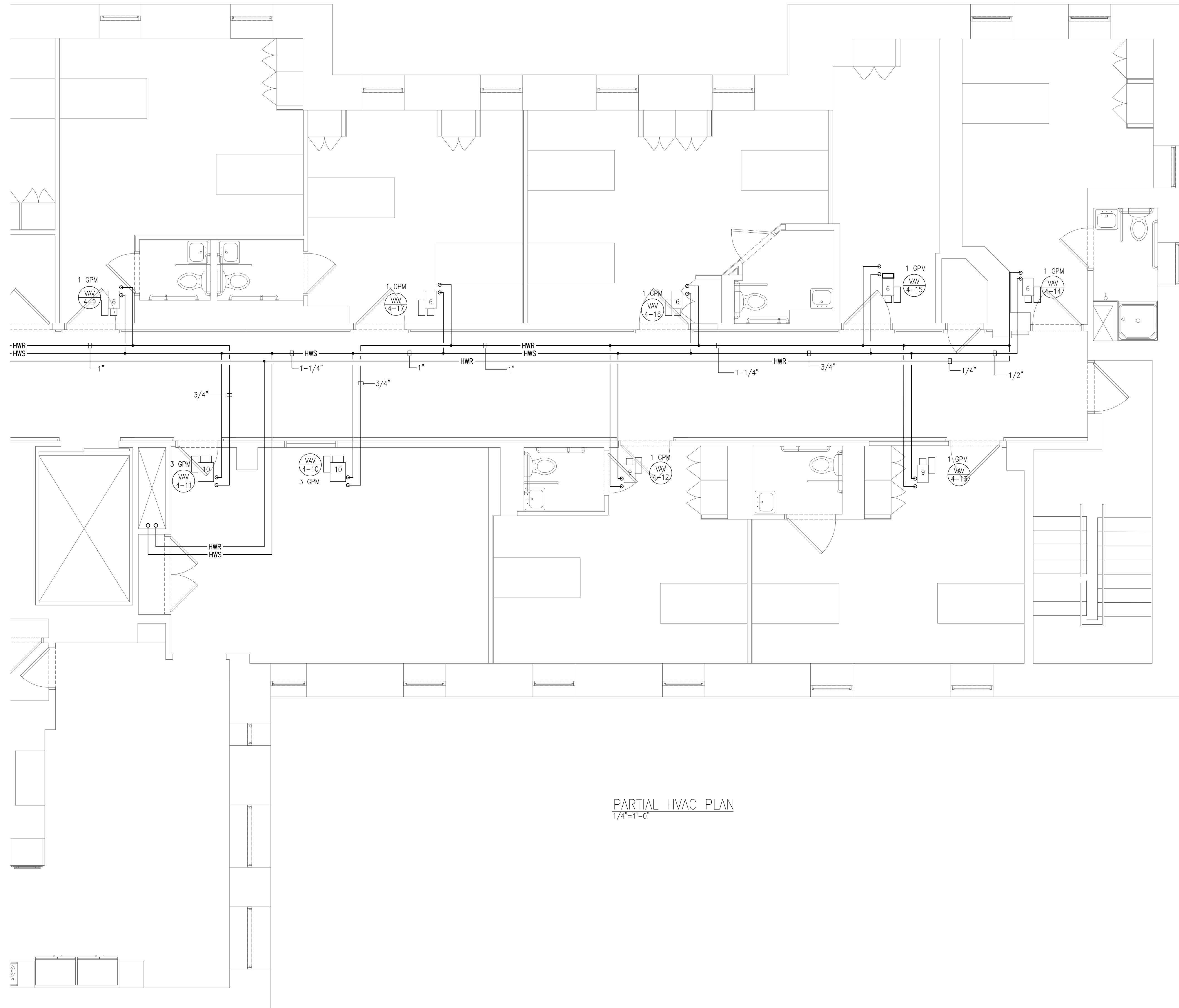
M2



PARTIAL HVAC PLAN
1/4"=1'-0"

PARTIAL HVAC PLAN
WEST

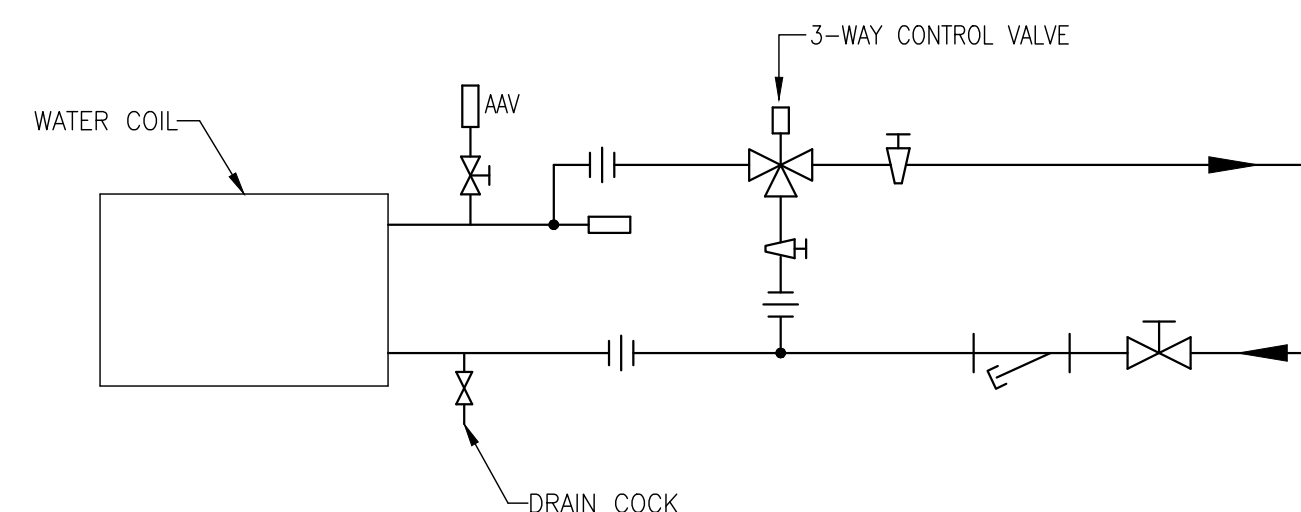
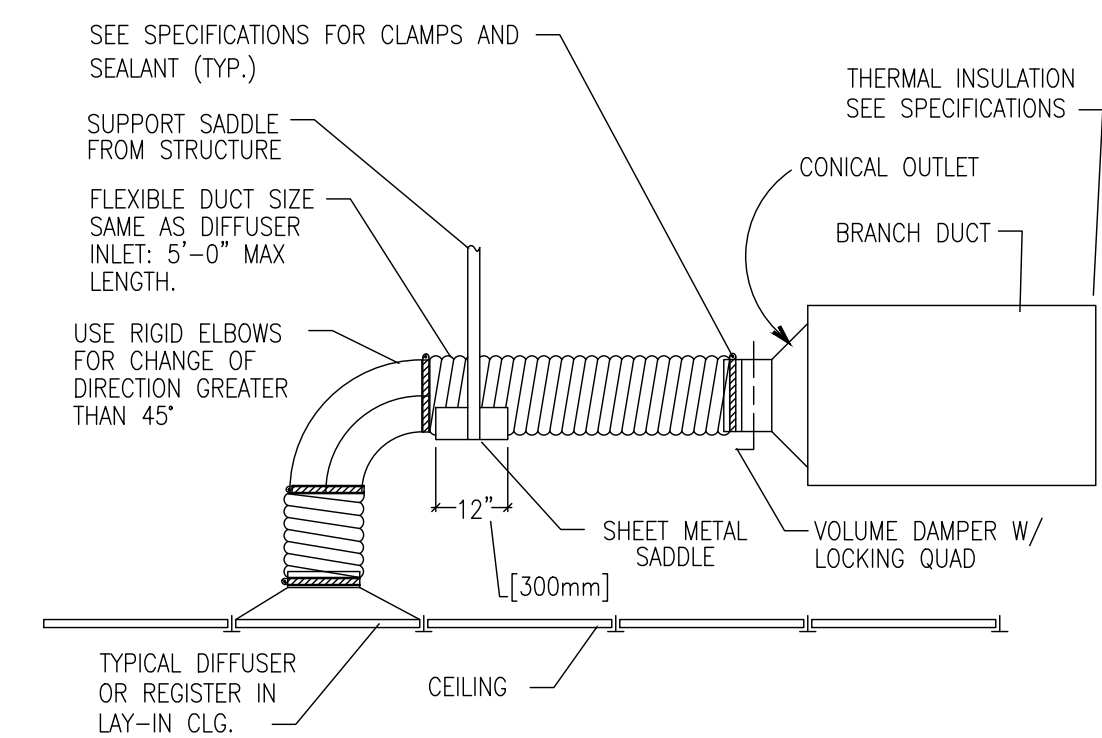
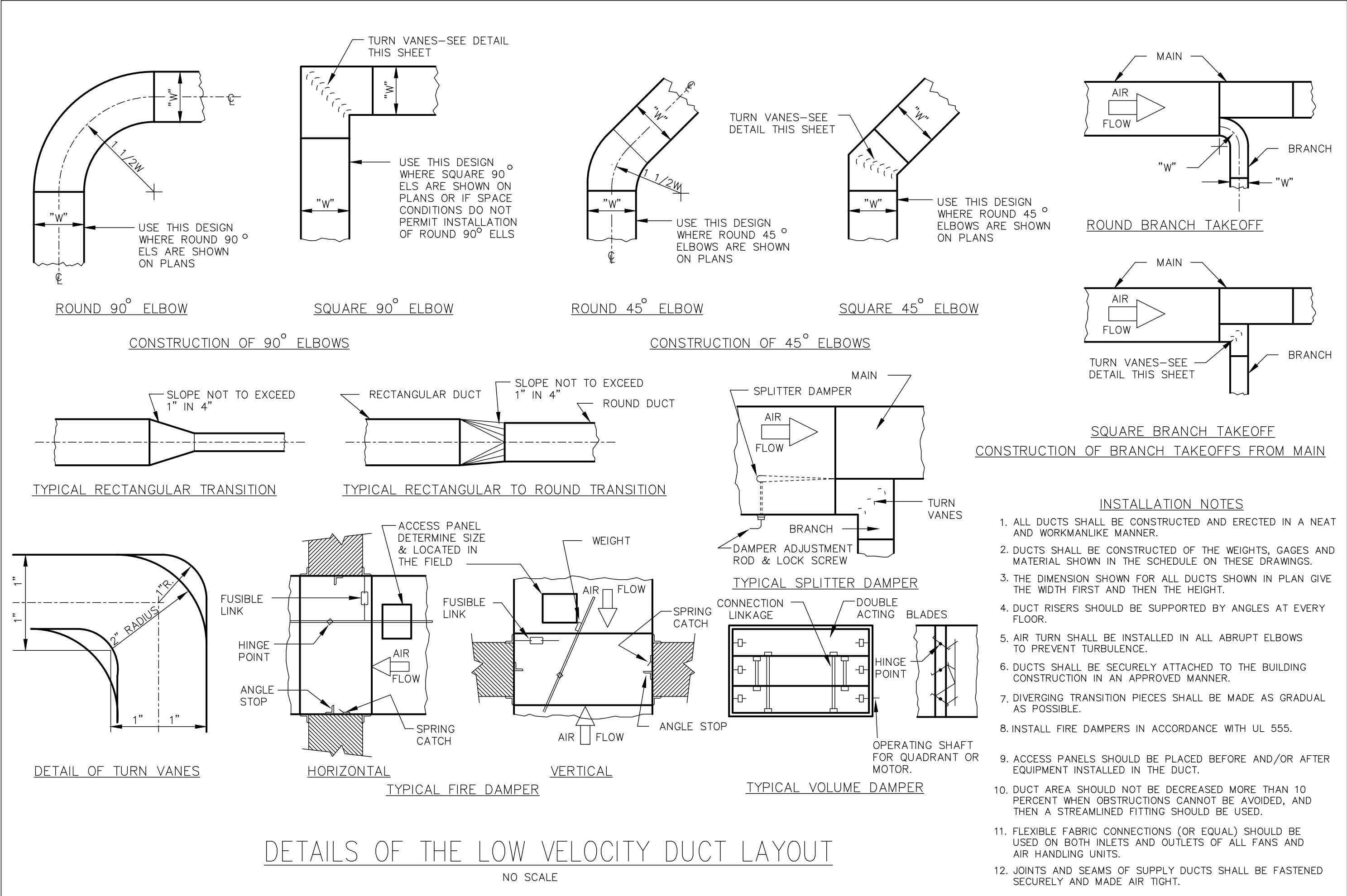
4' 8'



PARTIAL HVAC PLAN
1/4"=1'-0"

PARTIAL HVAC PLAN
EAST

4' 8'

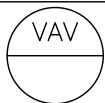


3
M2.1
HOT OR CHILLED WATER COIL PIPING DETAIL
NTS

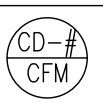
NOTE:
THE USE OF FLEXIBLE AIR DUCT CONNECTORS ARE NOT PERMITTED FOR THE DEDICATED AHU SERVING THE SURGICAL SUITE.

1
M2.1
DIFFUSER CONNECTION DETAIL
NTS

HVAC DETAILS

VARIABLE VOLUME DAMPER SCHEDULE							SYMBOL	
NO.	MAX. CFM	MAX NC	SP.	INLET DIA	HW REHEAT GPM	REMARKS		
1	285	20	XX	6"ø	1.0	NAILOR P30RW		
2	210	20	XX	6"ø	1.0	NAILOR P30RW		
3	500	20	XX	8"ø	1.5	NAILOR P30RW		
4	225	20	XX	6"ø	1.0	NAILOR P30RW		
5	300	20	XX	6"ø	1.0	NAILOR P30RW		
6	230	20	XX	6"ø	1.0	NAILOR P30RW		
7	190	20	XX	6"ø	1.0	NAILOR P30RW		
8	275	20	XX	6"ø	1.0	NAILOR P30RW		
9	300	20	XX	6"ø	1.0	NAILOR P30RW		
10	830	20	XX	10"ø	3.0	NAILOR P30RW		
11	800	20	XX	6"ø	3.0	NAILOR P30RW		
12	245	20	XX	6"ø	1.0	NAILOR P30RW		
13	275	20	XX	6"ø	1.0	NAILOR P30RW		
14	230	20	XX	6"ø	1.0	NAILOR P30RW		
15	150	20	XX	6"ø	1.0	NAILOR P30RW		
16	300	20	XX	6"ø	1.0	NAILOR P30RW		
17	235	20	XX	6"ø	1.0	NAILOR P30RW		
18	240	20	XX	6"ø	1.0	NAILOR P30RW		

EXISTING AIR HANDLER AHU-2 TO BE SET TO 30% MIN. OUTDOOR AIR. COIL SIZES BASED ON 30 DEG AIR TEMP RISE
BOXES TO HAVE PNEUMATIC CONTROLS. PROVIDE THERMOSTATS PER BUILDING STANDARDS

DIFFUSER SCHEDULE									SYMBOL	
MARK	CFM RANGE	SUPPLY RETURN EXHAUST	TYPE	SIZE		MAX. S.P. IN W.G.	MAX. N.C.	MANUFACTURER MODEL NUMBER		
				FACE	NECK					
1	0 – 120	S	LAY-IN	24X24	6"ø	0.08	20	TITUS OMNI		
2	120–300	S	LAY-IN	24X24	8"ø	0.08	20	TITUS OMNI		
3	200–300	S	LAY-IN	24X24	10"ø	0.08	20	TITUS OMNI		
4	300–500	S	LAY-IN	24X24	12"ø	0.08	20	TITUS OMNI		
RETURN GRILLE SCHEDULE									SYMBOL	
MARK	CFM RANGE	SUPPLY RETURN EXHAUST	TYPE	SIZE		MAX. S.P. IN W.G.	MAX. N.C.	MANUFACTURER MODEL NUMBER		
				FACE	NECK					
1	0 – 120	R	LAY-IN	24X24	6"ø	0.08	20	TITUS OMNI		
2	120–300	R	LAY-IN	24X24	8"ø	0.08	20	TITUS OMNI		
3	200–300	R	LAY-IN	24X24	10"ø	0.08	20	TITUS OMNI		
3	300–500	R	LAY-IN	24X24	12"ø	0.08	20	TITUS OMNI		
EXHAUST REGISTER									SYMBOL	
MARK	CFM RANGE	SUPPLY RETURN EXHAUST	TYPE	SIZE		MAX. S.P. IN W.G.	MAX. N.C.	MANUFACTURER MODEL NUMBER		
				FACE	NECK					
1	0 – 120	E	LAY-IN	12X12	6"ø	0.08	20	TITUS SERIES 500		
2	0 – 250	E	LAY-IN	12X12	8"ø	0.08	20	TITUS SERIES 500		

DUCT CONSTRUCTION SCHEDULE					
DUCT SYSTEM	SMACNA PRESSURE CLASS	SMACNA SEALING CLASS	DUCT MATERIAL	JOINING METHOD	INSUL. TYPE & THICKNESS
SUPPLY	+ 1 INCH	C	GALV. STL.	DUCTMATE	1.5" BATT
RETURN	– 1 INCH	C	GALV. STL.	DUCTMATE	1.5" BATT
GENERAL EXHAUST	– 1 INCH	C	GALV. STL.	DUCTMATE	
NOTE: EXISTING DUCTWORK REQUIRING DEMOLITION SHALL BE TERMINATED PROPERLY IN ACCORDANCE WITH SMACNA STDS. FOR +2 OR -2 PRESSURE RATING.					

MEDICAL VENTILATION RATE SCHEDULE								
ROOM	SQ FT	CU FT	HCFG OA AC/HP	OA CFM	HCFG SA AC/HR	SA CFM	ALL AIR DIRECT EXHAUST	PRESSURE TO ADJACENT AREA
Bed Room 401	281	2529	2	84	2	84	NO	N/R
Activity Lounge 402	249	2241	4	149	4	149	NO	N/R
Bed Room403	227	2043	2	68	2	68	NO	N/R
Bathing Room 404	274	2466	2	82	6	247	NO	N/R
Bed Room 405	222	1998	2	67	6	200	NO	N/R
Bed Room 406	293	2637	2	88	6	264	NO	N/R
Bed Room 407	233	2097	2	70	6	210	NO	N/R
Bed Room 408	290	2610	2	87	6	261	NO	N/R
Bed Room 410	222	1998	2	67	6	200	NO	N/R
Bed Room 411	271	2439	2	81	6	244	NO	N/R
Bed Room 412	243	2187	2	73	6	219	NO	N/R
Activities Lounge 413	413	3717	2	124	6	372	NO	N/R
Kitchen 414a	90	810	2	27	6	81	NO	N/R
Nurse Station 416	190	1710	2	57	6	171	NO	N/R
Clean Utility/Med Prep 418	90	810	2	27	6	81	NO	N/R
Soiled Utility 419	60	540	2	18	10	90	YES	NEG
NOTE: ALL TOILET ROOM EXHAUST BASED ON 10 ACH ALL AIR EXHAUSTED DIRECTLY TO OUTDOORS								

HVAC SCHEDULES

4'

8'

PLUMBING ABBREVIATIONS

A	AIR	INV	INVERT
ACL	ABOVE CEILING LEVEL	IWH	INSTANTANEOUS WATER HEATER
AD	AREA DRAIN (EXPOSED TO RAIN)	JP	JOCKEY PUMP
AFF	ABOVE FINISHED FLOOR	2KS	KITCHEN SINK (2 COMPARTMENT)
AFR	ABOVE FIXTURE RIM	KS OR K	KITCHEN SINK
ARL	ABOVE ROOF LEVEL	LAV OR L	LAVATORY
BCL	BELOW CEILING LEVEL	LP	LOW PRESSURE
BCT	BELOW COUNTER TOP	LS	LEVEL SENSOR
BFL	BELOW FLOOR LEVEL	LWM	LAUNDRY WASHER MACHINE
BFP	BACKFLOW PREVENTER	M	METER
BLJ	BELOW JOISTS	MECH	MECHANICAL
BP	BOOSTER PUMP	MH	MANHOLE
BJW	BETWEEN JOISTS	MP	MEDIUM PRESSURE
BLR	BOILER (STEAM ONLY)	MR	MOP RECEPTOR
BWV	BACKWATER VALVE	MV	MIXING VALVE
C OR COND	CONDENSATE	N	NORTH
CD	CONDENSATE DRAIN	NG	NATURAL GAS
CF	CHEMICAL FEED	O	OXYGEN
CHWS/R	CHILLED WATER SUPPLY/RETURN	O/H	OVERHEAD
CP	CIRCULATOR PUMP	OVF	OVERFLOW
CS	CLINIC SINK	PI	PRESSURE INDICATOR
DCW/HW	DOMESTIC COLD WATER/HOT WATER (POTABLE)	PRV	PRESSURE REDUCING VALVE
DHWS/R	DOMESTIC HOT WATER SUPPLY/RETURN	PW	PURE WATER
DD	DECK DRAIN	RD	ROOF DRAIN
DF	DRINKING FOUNTAIN	RH	RADIANT HEATER
DFU	DRAIN FIXTURE UNIT	RM	ROOM
DP	DUPLEX PUMP	RO	REVERSE OSMOSIS
DR	DOOR	RTC	RUNNING TRAP WITH CLEANOUT
DSTP	DRY STANDPIPE	RV	RELIEF VALVE
DV	DRY VENT	RWC	RAIN WATER CONDUCTOR
DVC	DRY VENT CONNECTION (ABOVE FIXTURE RIM LEVEL)	S	SOUTH OR STEAM
DWH	DOMESTIC WATER HEATER (POTABLE)	SAN	SANITARY/WASTE
DWM	DISH WASHER MACHINE	SF	SQUARE FOOT
E	EAST	SFU	SUPPLY FIXTURE UNIT
(E)	EXISTING	SH OR S	SHOWER
EL	ELEVATION (STRUCTURAL HEIGHT)	SLV	SOLENOID VALVE
EW	EYE WASH	SP	SUMP PUMP OR SEWAGE PUMP
EXC	ELECTRIC WATER COOLER	SS	SERVICE SINK OR LAUNDRY SINK OR STAINLESS STEEL
EXP	EXPANSION TANK	ST	STORM WATER
FAI	FRESH AIR INTAKE	STK	STACK
FCO	FLOOR CLEANOUT	STM	STEAM
FCW	FILTERED COLD WATER	SV	SAFETY VALVE
FD	FLOOR DRAIN (NOT EXPOSED TO RAIN)	TD	TRENCH DRAIN OR THERMO DYNAMIC
FHC	FIRE HOSE CONNECTION	TEA	THERMAL EXPANSION ABSORBER
FND	FUNNEL DRAIN	TI	TEMPERATURE INDICATOR
FP	FIRE PUMP	TP	TRAP PRIMER
FS	FLOOR SINK	TS	TEMPERATURE SENSOR
FW	FIRE WATER	T	TUB OR TRAP
FWG	FOOD WASTE GRINDER	U/G	UNDERGROUND
FT	FLOAT & THERMOSTATIC	UR	URINAL
FU	FIXTURE UNIT	V	VACUUM
GHC	GARDEN HOSE CONNECTION	VB	VACUUM BREAKER
GI	GREASE INTERCEPTOR	VBD	VALVE BOX AND DRAIN
GD	GUTTER DRAIN	VR	VENT RISER (DRY VENT)
GWM	GLASS WASHER MACHINE	VST	VENT STACK
HCO	HORIZONTAL CLEANOUT	VT	VENT
HI	HAIR INTERCEPTOR	VTR	VENT THROUGH ROOF
HP	HIGH PRESSURE	W	WEST
HS	HAND SINK	WBP	WATER BOOSTER PUMP
HWG	HOT WATER GENERATOR (HYDRONIC SYSTEM)	WC OR W	WATER CLOSET
HWS/R	HOT WATER SUPPLY/RETURN (HYDRONIC SYSTEM)	WCO	WALL CLEANOUT
IB	INVERTED BUCKET	WHA	WATER HAMMER ARRESTOR
IPS	IRON PIPE SIZE	WP	WHIRLPOOL
IKS	ISLAND KITCHEN SINK	WTSP	WET STANDPIPE
IW	INDIRECT WASTE	YV	YOKE VENT
IL	INTERMEDIATE LANDING	YVR	YOKE VENT RISER
		ZV	ZONE VALVE

PLUMBING LEGEND

	BUTTERFLY VALVE
	ANGLE GLOBE VALVE
	SAFETY OR RELIEF VALVE
	GATE VALVE OR VALVE IN GENERAL
	BALL VALVE
	GLOBE VALVE
	BALANCING VALVE
	PRESSURE REDUCING VALVE (SPRING LOADED)
	PRESSURE REDUCING VALVE (PILOT TYPE)
	FLOOR/DECK OR AREA DRAIN
	FUNNEL DRAIN
	ROOF DRAIN
	90 DEG. ELBOW FAR FLOW
	90 DEG. ELBOW NEAR FLOW
	TEE NEAR FLOW
	TEE FAR FLOW
	PLUG VALVE
	BACKFLOW PREVENTER
	GARDEN HOSE/WASHDOWN OR FIRE DEP. HOSE CONNECTION
	COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	SANITARY SEWER – UNDER GROUND/SLAB/FLOOR
	STORM WATER
	VENT PIPING
	FIRE PROTECTION PIPE
	GAS PIPE
	PIPE CLEANOUT (HORIZONTAL OR WALL)
	PIPE CLEANOUT (GRADE OR FLOOR)
	FUNNEL DRAIN
	REDUCER
	FLOOR DRAIN, AREA DRAIN OR FLOOR SINK
	TEMPERATURE INDICATOR
	PRESSURE INDICATOR
	VALVE BOX AND DRAIN
	KITCHEN SINK WITH DISHWASHER MACHINE
	TARGET POINTING TO CONNECTION BETWEEN EXISTING AND NEW OR TO THE EXTENT OF DEMOLITION

PLUMBING NOTES

1. THE PRIORITY OF ILLUSTRATED PIPING ON PLANS IS TO SHOW CLEARLY THE SERVICE FROM ONE POINT TO ANOTHER WITH MINIMUM OR NO OBSTRUCTION BY THE BACKGROUND. PHYSICALLY THE PIPE RUNS ARE INSTALLED INSIDE WALLS, ABOVE CEILING OR WITHIN PIPE CHASES. ARCHITECT SHALL REVIEW AND APPROVE THE FINAL LOCATION OF PLUMBING COMPONENTS WHERE THEY AFFECT ARCHITECTURAL FINISHES.
2. UNLESS THE INSTALLATION IS DIMENSIONED, DRAWINGS ARE DIAGRAMMATIC AND INDICATING THE GENERAL ARRANGEMENT OF PIPING NETWORK TO BE PERFORMED. ALL MINOR DETAILS ARE NOT SHOWN ON PLANS OR SPECIFIED, BUT NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF ALL SYSTEMS, SHALL BE PROVIDED BY THE CONTRACTOR WITH NO ADDITIONAL CHARGES TO THE OWNER.
3. DOMESTIC WATER SERVICE TO FAUCETS (COLD OR COLD AND HOT) SHALL BE 1/2” PIPE SIZE UNLESS NOTED OTHERWISE. ALL FIXTURES AND EQUIPMENT SHALL HAVE ONE FULL PORT AND PIPE SIZE SHUTOFF VALVE PER PIPE CONNECTION FOR MAINTENANCE PURPOSE. ALL DOMESTIC SERVICES SHALL BE INSULATED.
4. PLUMBING CONTRACTOR SHALL CHECK AND VERIFY ALL MEASUREMENTS, ILLUSTRATED PIPING LOCATIONS AND AREAS AFFECTED BY STRUCTURAL, MECHANICAL AND ELECTRICAL CONDITIONS PRIOR TO PRECEDING WITH DEMOLITION AND/OR NEW WORK. ANY CONFLICT OR DISCREPANCY BETWEEN SUBMITTED DRAWINGS AND FIELD CONDITION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEERS WITHOUT DELAY.
5. AVOID INSTALLING WATER SERVICE PIPE IN EXTERNAL WALL DUE TO FREEZING CONDITION. (ELECTRICAL HEAT TRACE FOR PIPING IS EXPENSIVE AND NOT RELIABLE, SHALL BE CONSIDERED ONLY AS A LAST RESOURCE.) INSULATION ON WATER PIPE DOES NOT PREVENT FREEZING, IT ONLY EXTENDS THE SOLIDIFICATION TIME. WHERE WATER SERVICE IS NEAR EXTERIOR WALL, PROVIDE STUDDED PARTITION FLUSH TO THE EXTERIOR WALL FOR PIPE INSTALLATION. APPLY INSULATION ON THE EXTERIOR WALL SIDE OF THE PARTITION WITH NO INSULATION ON THE ROOM SIDE. ALL SANITARY PIPING LAID BELOW SURFACE OF FREEZING TEMPERATURE SHALL HAVE MINIMUM 3”-0” COVER.

PLUMBING DRAWING LIST

PC	PLUMBING COVER SHEET
P1	PLUMBING PARTIAL FOURTH FLOOR PLAN, SANITARY PIPING
P2	PLUMBING PARTIAL FOURTH FLOOR PLAN, SANITARY PIPING
P3	PLUMBING PARTIAL FOURTH FLOOR PLAN, DOMESTIC WATER
P4	PLUMBING PARTIAL FOURTH FLOOR PLAN, DOMESTIC WATER
P5	PLUMBING PARTIAL FOURTH FLOOR PLAN, MEDICAL GAS PIPING
P6	PLUMBING PARTIAL FOURTH FLOOR PLAN, MEDICAL GAS PIPING
P7	PLUMBING RISER DIAGRAMS AND PIPING DIAGRAMS

PLUMBING KEYED SHEET NOTES

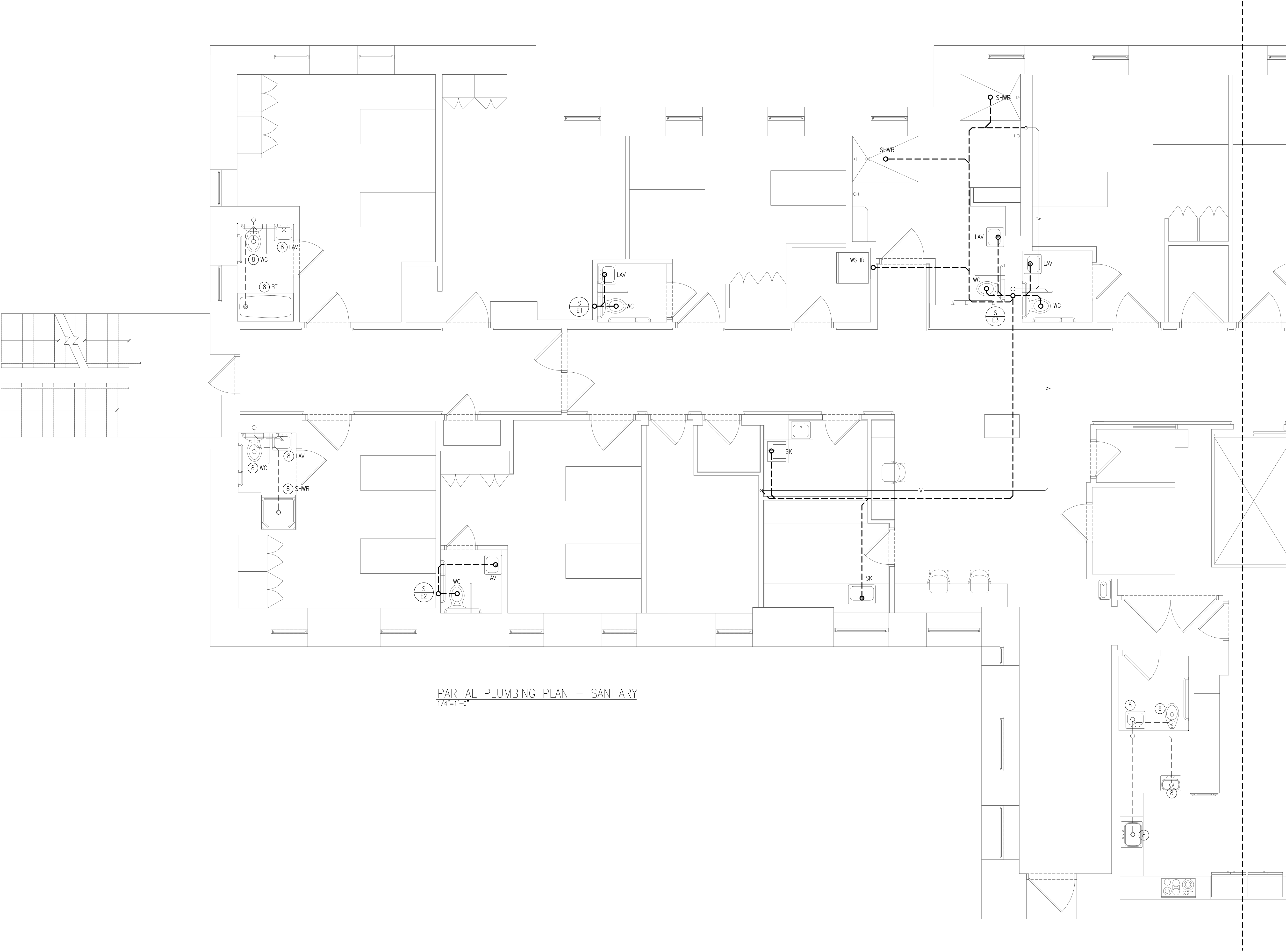
- ① EXISTING SANITARY STACK IN EXISTING PLUMBING CHASE.
- ② EXISTING DOMESTIC WATER PIPES IN EXISTING CHASE
- ③ CONNECT NEW SANITARY LINE TO EXISTING STACK IN EXISTING CHASE
- ④ CONNECT NEW DOESTIC WATER LINES TO EXISTING LINES NEW VALID CONNECTION.
- ⑤ NEW SANITARY LINE ABOVE 3RD FLOOR CEILING. VERIFY EXACT ROUTE IN FIELD WITH ALL EXISTING CONDITIONS. COORDINATE INSTALATION WITH HOSPITAL AND CURRENT 3RD FLOOR OCCUPANTS 3RD FLOOR CEILING TO BE REMOVED, REPLACED AND OR REPAIRED AS REQUIRED.
- ⑥ NEW DOMESTIC WATER LINES ABOVE NEW CEILING.
- ⑦ CONNECT NEW VENT LINE TO EXISTING VENT STACK
- ⑧ EXISTING PLUMBING FIXTURE ALL APPURTENANCES AND PIPING TO REMAIN
- ⑨ EXISTING PLUMBING FIXTURE AND ALL APPURTENANCES TO BE REPLACED WITH NEW FIXTURE RECONNECT AND OR MODIFY EXISTING SANITARY AND DOMESTIC WATER LINES AS REQUIRED
- ⑩ EXISTING MEDICAL GAS O2, AIR AND VACUUM FROM MAIN HOSPITAL BUILDING SERVICES TO REMAIN
- ⑪ CONNECT NEW MEDICAL GAS LINES TO EXISTING LINES. VERIFY EXACT LOCATION IN FIELD. PROVIDE NEW LABELED AND ALARMED ZONE VALVE BOX FOR FLOOR WITH ALL NFPA REQUIRED APPURTENANCES
- ⑫ NEW MED GAS LINES ABOVE NEW CEILING. DOWN TO MED GAS OUTLETS PER NFPA 99

PLUMBING FIXTURE CONNECTION SCHEDULE							
FIXTURE TYPE	ABBREV	FIX. UNIT VALUE	CONNECTION SIZES				REMARKS
			(TRAP) SAN	VENT	HW	CW	
WATER CLOSET	WC	6	3	PER PPC	N/A	1”	FLUSH VALVE
LAVATORY	LAV	1	1-1/4	PER PPC	1/2	1/2	
SINK	SK	2	1-1/2	PER PPC	1/2	1/2	
MOP RECEPTOR	MR	3	3”	PER PPC	3/4	3/4	
FLOOR DRAIN	FD	3	3”	PER PPC	N/A	N/A	PROVIDE TRAP PRIMER

PLUMBING FIXTURE AND COMPONENT SCHEDULE									
DESIGNATION	EQUIPMENT MODEL	MFR	OTHER	PIPE INLET	PIPE OUTLET	CAPACITY	VOLT	PHASE	REMARKS
LAV-1	LT-307	TOTO			-	-	-	-	WALL HUNG
LAV-1 FAUCET	TELSGS10#CP	TOTO		TWO ¾”	-	.17 GAL CYCLE			ECOPOWER FAUCET WITH THERMAL MIXING VALVE ADA
WC-1	CT705EN(G)	TOTO	TOP SPUD BOWL	1”	4”	1.28 GPF	-	-	WALL MID ELONGATED BOWL WITH BED PAN LUG 10” ROUGH IN, 1½” TOP SPUD, OPEN FRONT SEAT
FLUSHOMETER	TET1LN32#CP	TOTO		1”	1”	1.28 GPF	-		ECOPOWER FLUSH VALVE ADA
SK-1	ELU 1316	ELKAY	UNDERMOUNT		-	-	-	-	
SK-1 FAUCET	B-2741	T&S	GOOSENECK	TWO ¾”		2.2 GPM			ADA
BPR	ELU 1316	ELKAY	WALL MTD		-	-	-	-	
SHWR									MIXING VALVE LOCATION PER ARCH PLANS – NURSE ACCESSIBLE

PIPE SPECIFICATION						
SYSTEM	MATERIAL	JOINTS	NOTES	INSULATION TYPE	INSULATION THICKNESS	NOTES
DOMESTIC WATER ABOVE GRADE	TYPE L COPPER	SOLDERED OR THREADED		RIGID FIBERGLASS	1”	EXPOSED PIPING 24 GAGE SS JACKETED INCLUDING FITTINGS.
WASTE, DRAIN & VENT BELOW GRADE	CAST IRON	HUB & SPIGOT PACKED WITH LEAD & OAKUM				
WASTE & DRAIN ABOVE GRADE 2” AND SMALLER	TYPE DWV COPPER	SOLDERED				
WASTE & DRAIN ABOVE GRADE 2½” AND LARGER	CAST IRON	HUBLESS	HUSKEY 4000-SD COUPLING REQUIRED			
DRY VENT PIPE 2 AND SMALLER ABOVE GRADE	TYPE DWV COPPER	SOLDERED				
DRY VENT PIPE 2½” AND LARGER ABOVE GRADE	CAST IRON	HUBLESS	HUSKEY 4000-SD COUPLING REQUIRED			

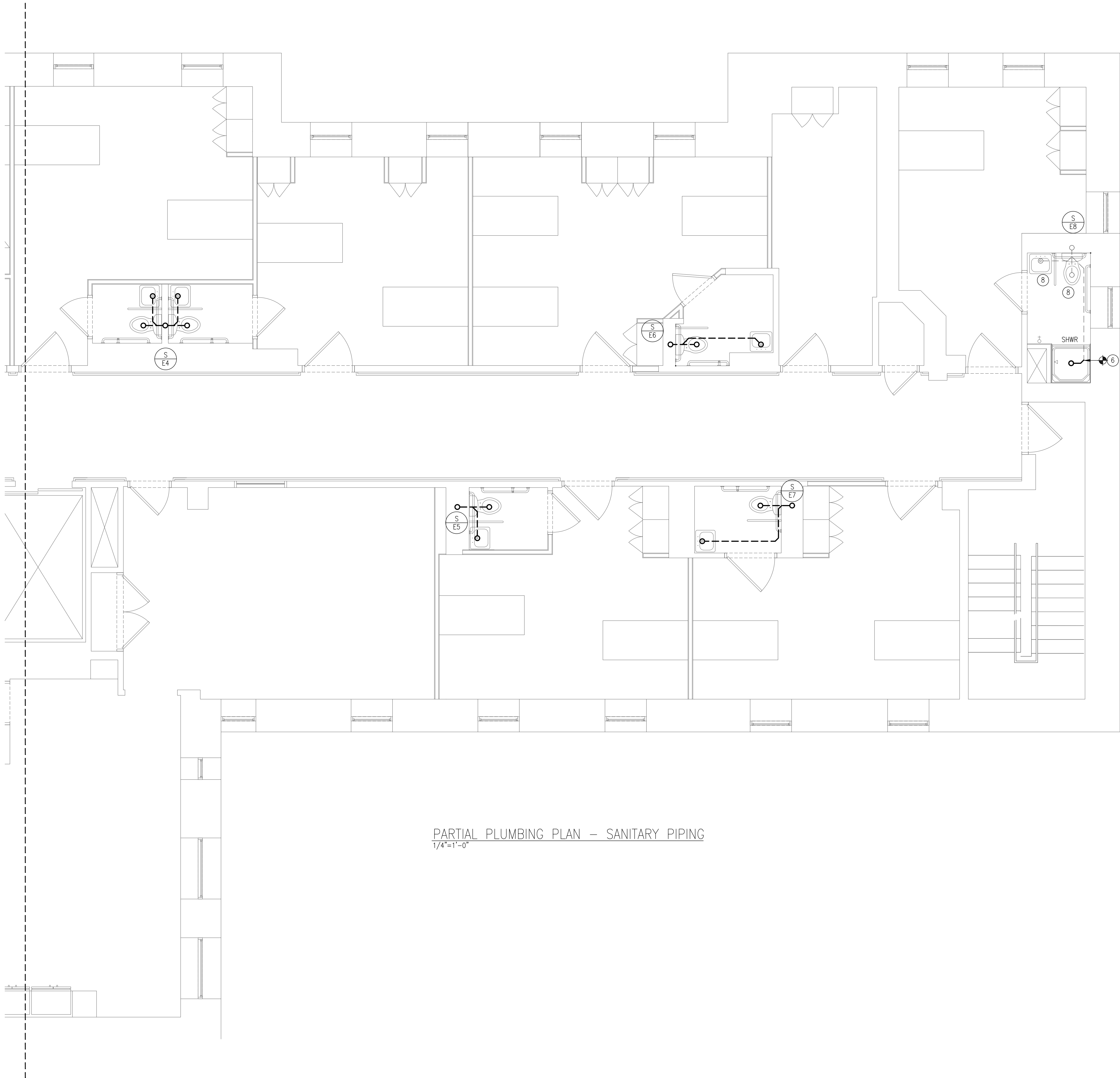
PLUMBING COVER SHEET



PARTIAL PLUMBING PLAN - SANITARY
1/4"=1'-0"

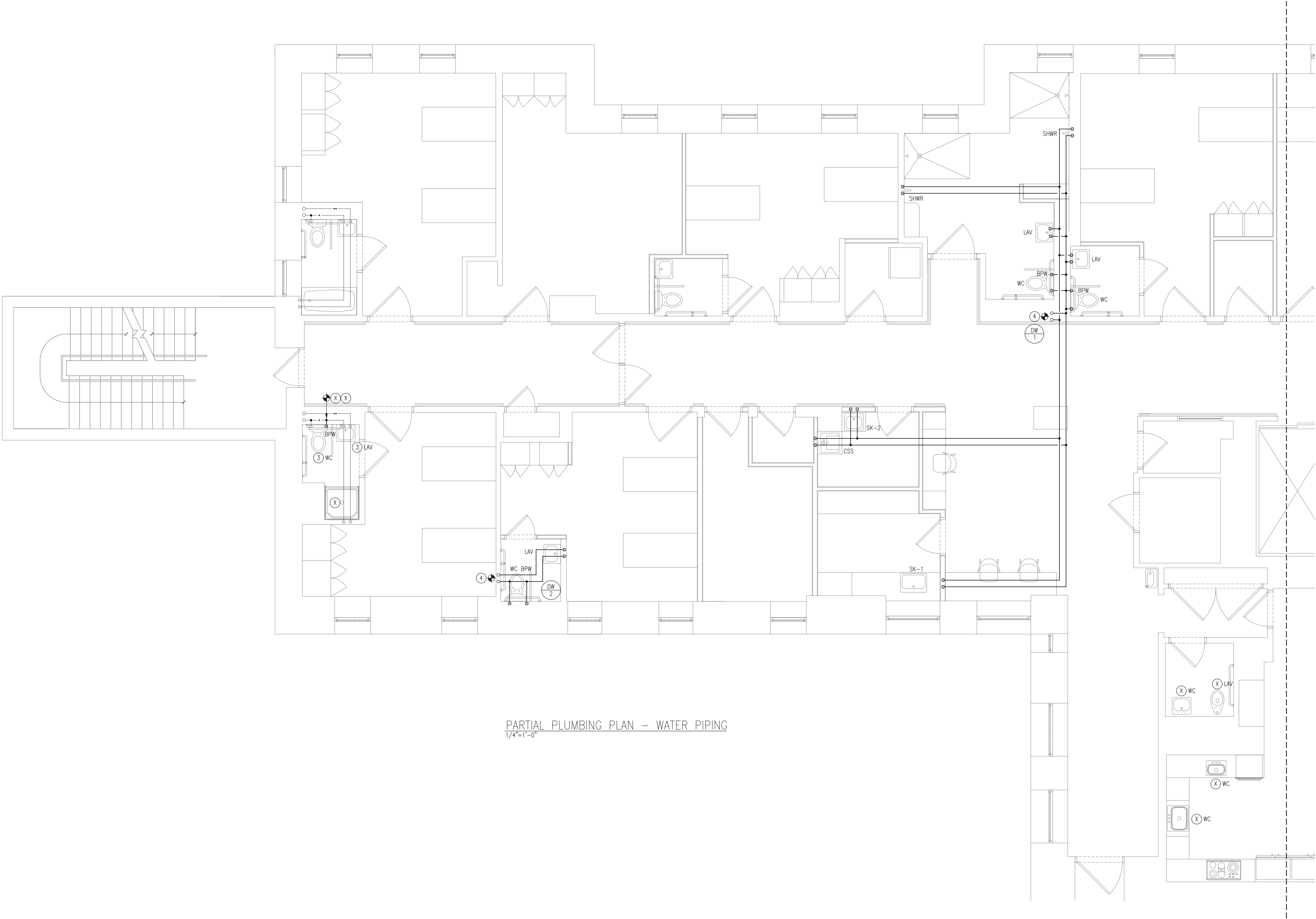
PARTIAL PLAN
SANITARY PIPING

4' 8'



PARTIAL PLAN
SANITARY PIPING

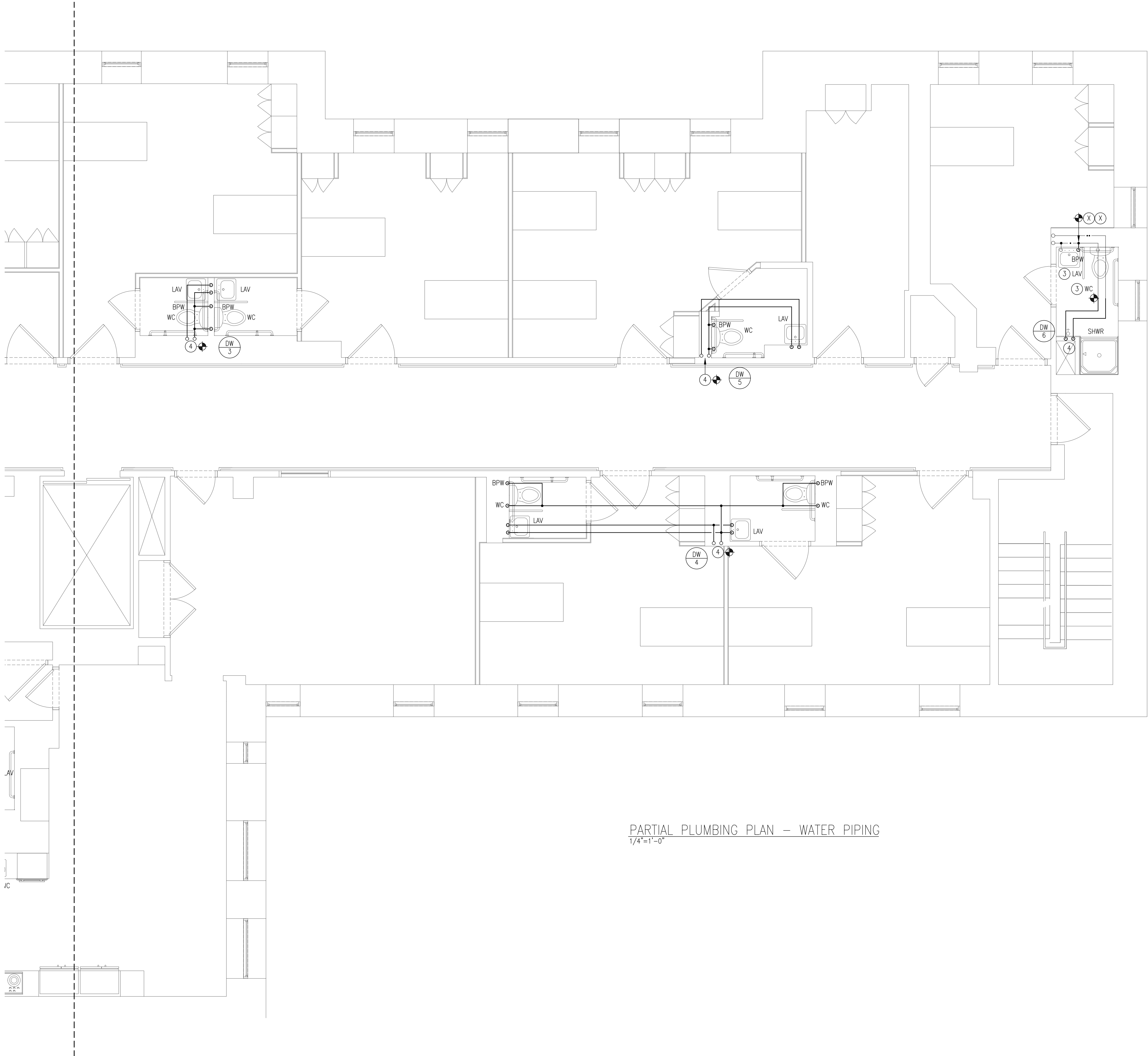
4' 8'



PARTIAL PLUMBING PLAN - WATER PIPING
1/4"=1'-0"

PARTIAL PLAN
WATER PIPING

4' 8'

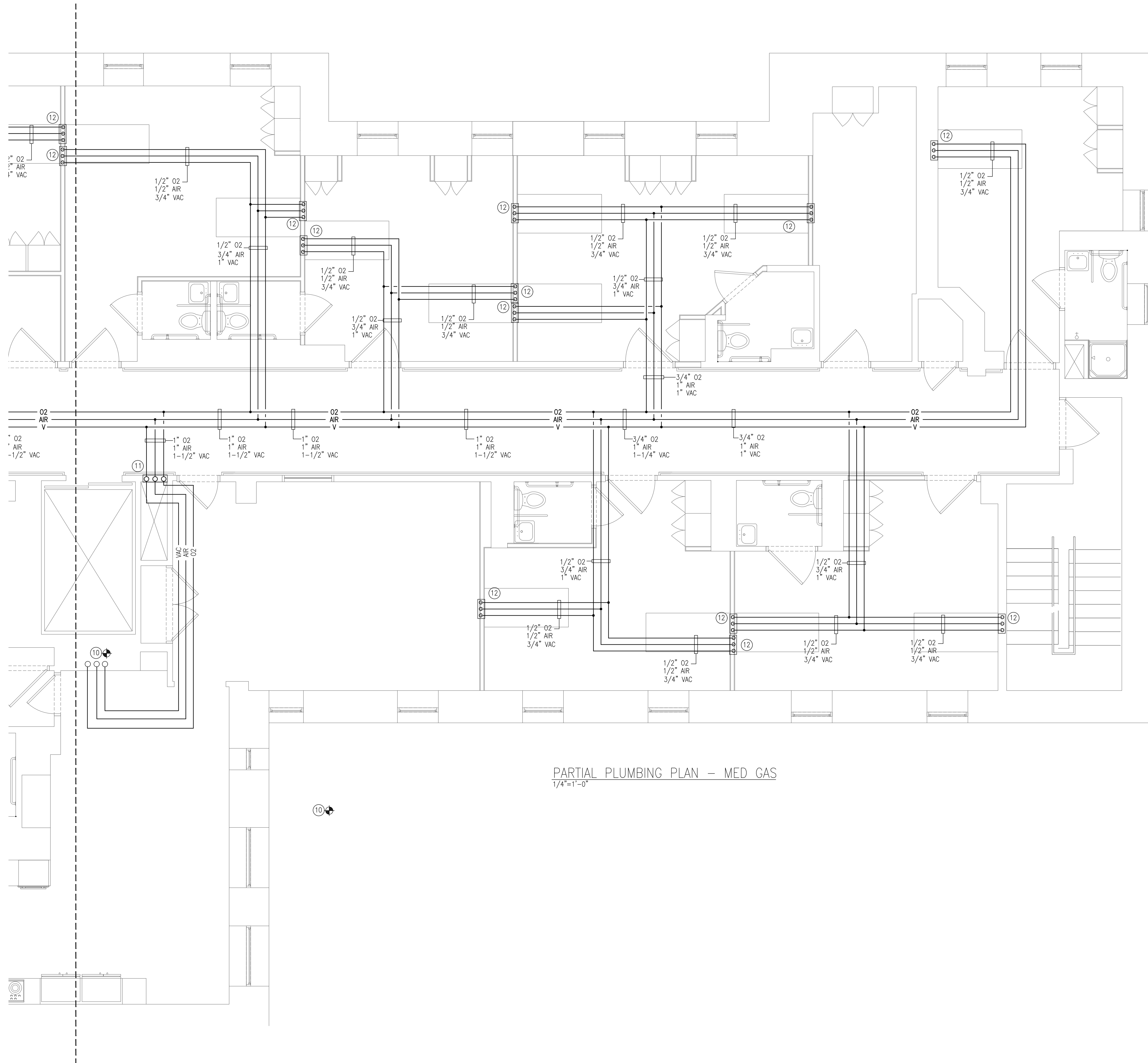


PARTIAL PLAN
WATER PIPING

4' 8'

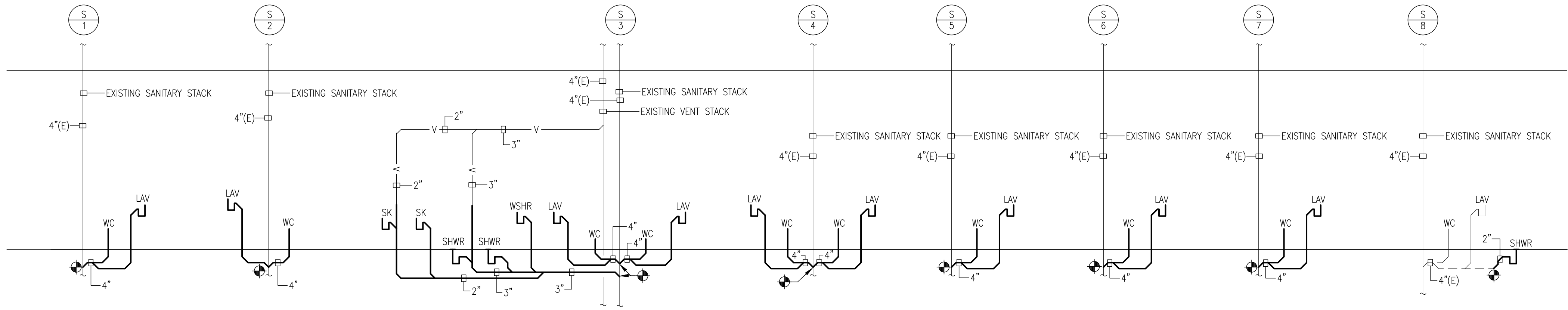


3'

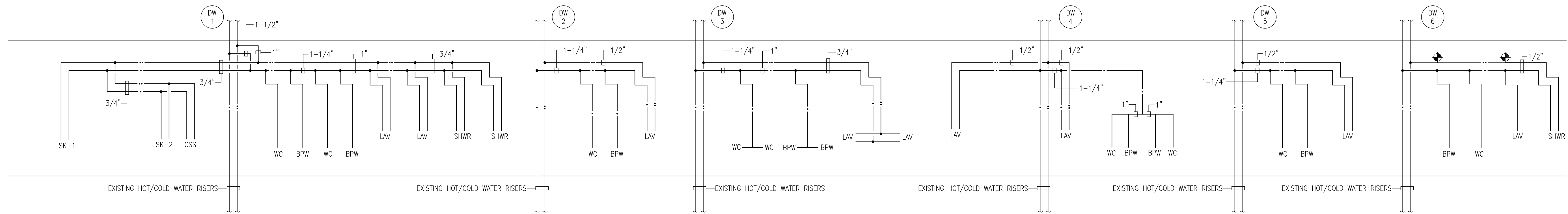


PARTIAL PLAN
MEDICAL GAS PIPING

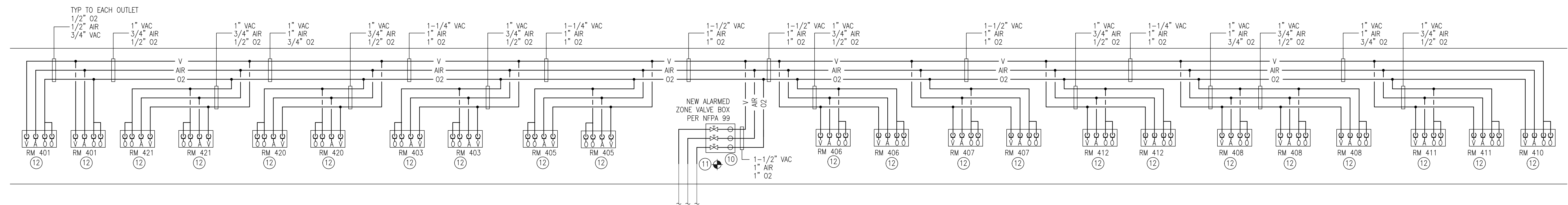
4' 8'



SANITARY RISER DIGRAMS
NTS



DOMESTIC RISER DIAGRAMS
NTS

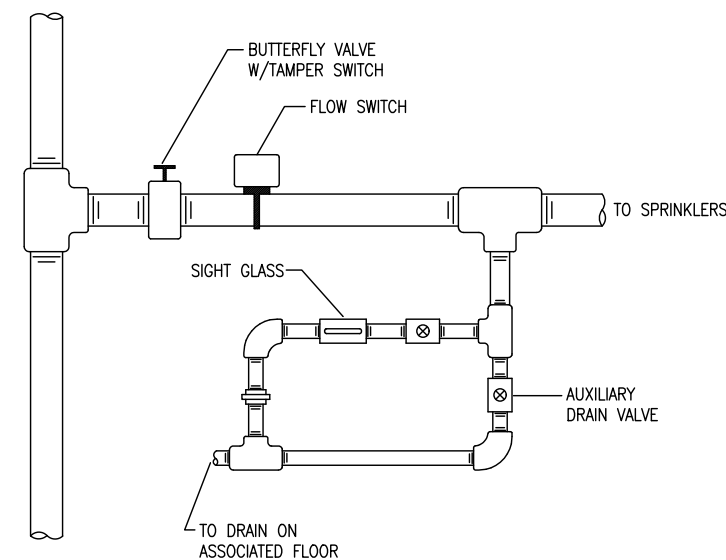


MEDICAL GAS PIPING DIAGRAM
NTS

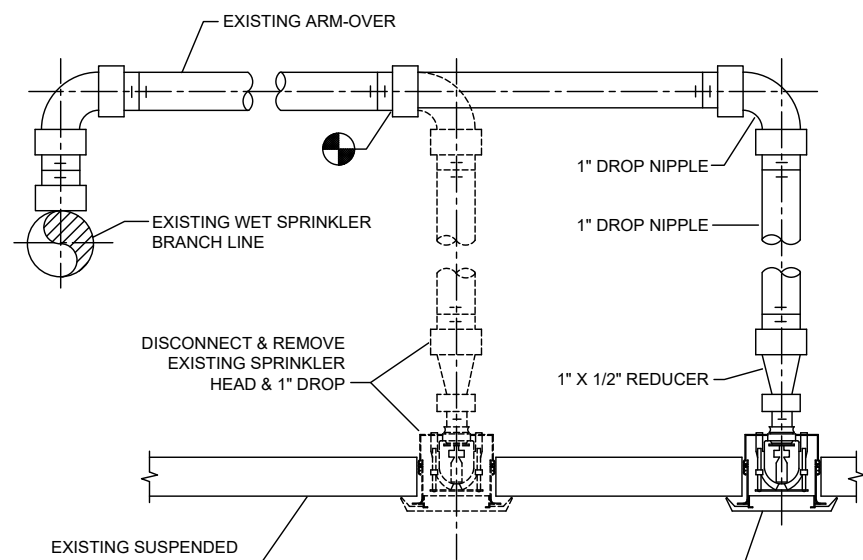
RISER DIAGRAMS

4'

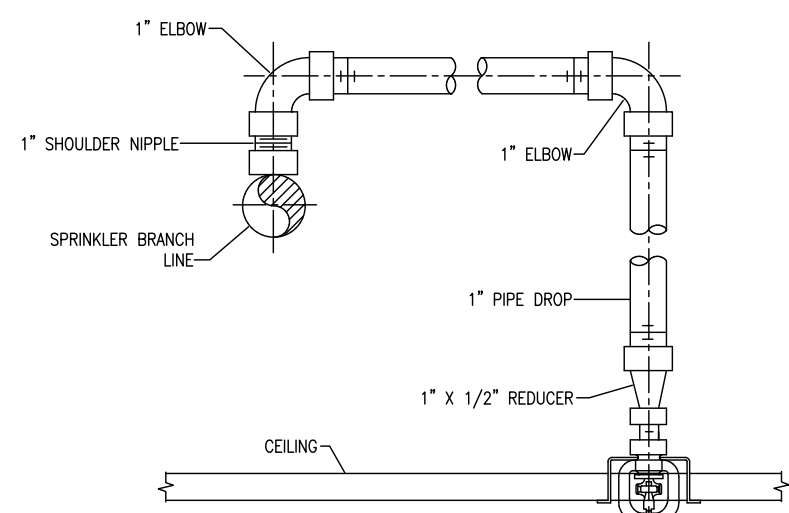
8'



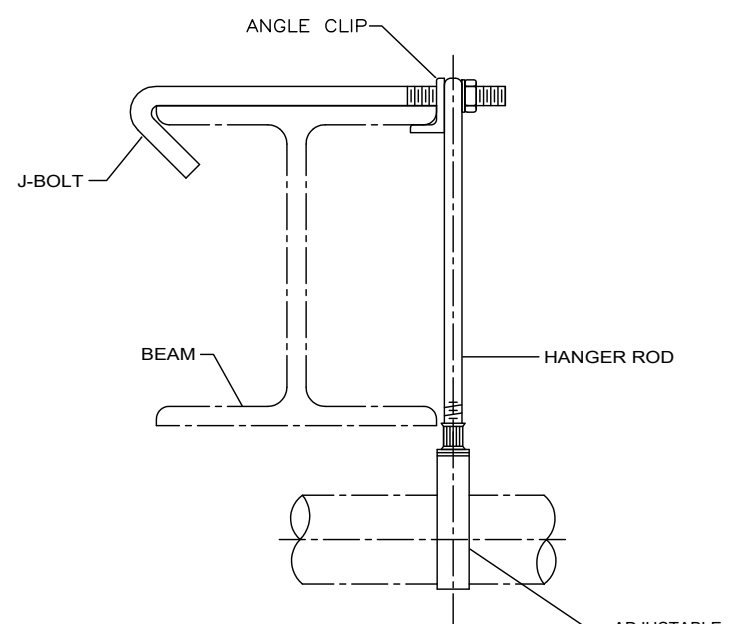
1 TEST HEADER ASSEMBLY
NOT TO SCALE



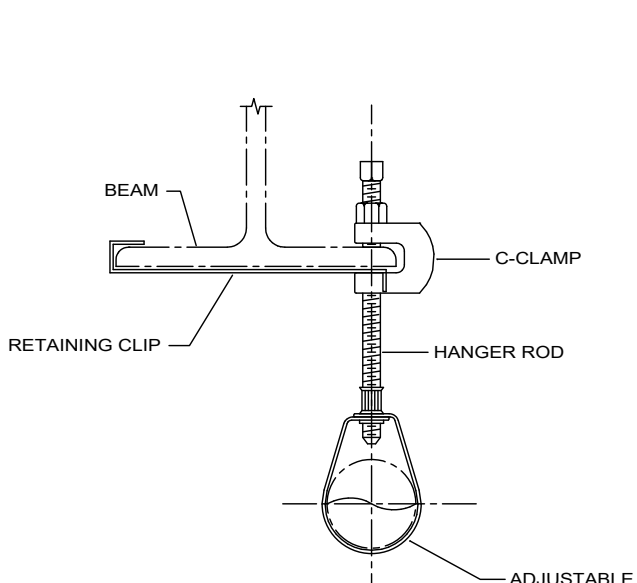
2 PENDENT SPRINKLER RELOCATION
NOT TO SCALE



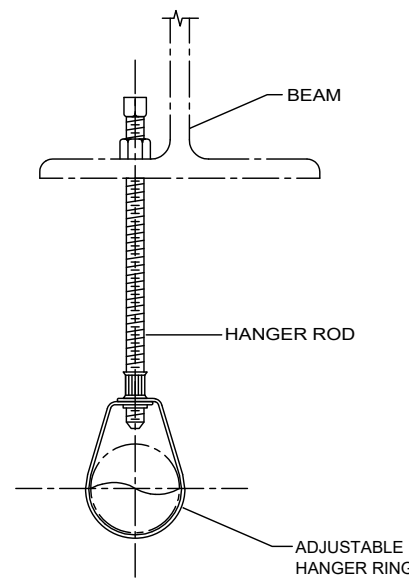
3 DETAIL-TYPICAL RECESSED SPRINKLER HEAD-PIPE DROP
NOT TO SCALE



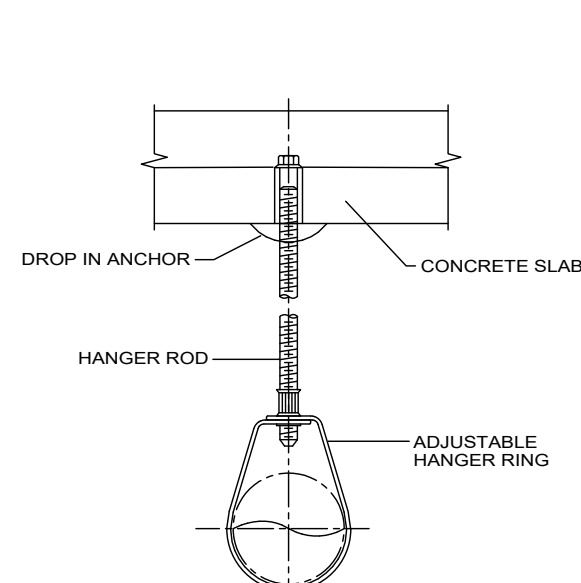
4 TOP BEAM ROD HANGER
NOT TO SCALE



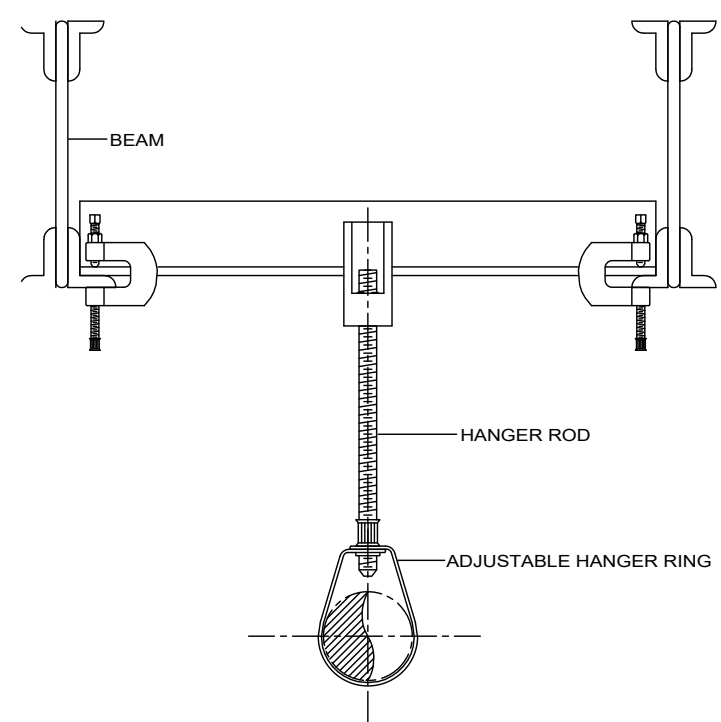
5 C-CLAMP HANGER AND RETAINING CLIP
NOT TO SCALE



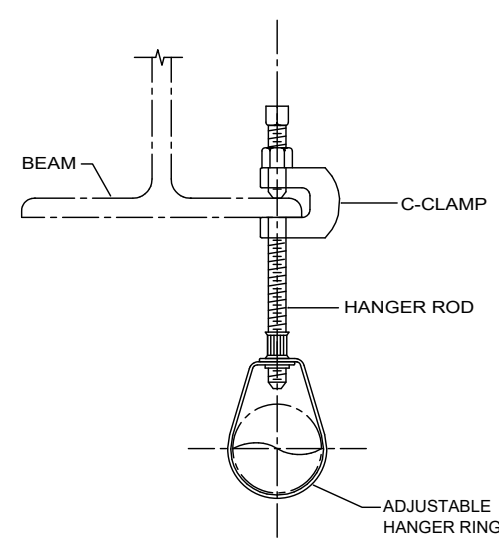
6 BEAM HANGER
NOT TO SCALE



7 CONCRETE HANGER
NOT TO SCALE



8 TRAPEZE HANGER
NOT TO SCALE



9 C-CLAMP HANGER
NOT TO SCALE

FIRE PROTECTION SYMBOLS	
	GATE VALVE
	VALVE IN PIT
	POST INDICATOR VALVE
	KEY-OPERATED VALVE
	OS&Y VALVE
	BUTTERFLY VALVE
	NON-INDICATING VALVE (NONRISING-STEM VALVE)
	CHECK VALVE
	BACKFLOW PREVENTER (DOUBLE CHECK VALVE ASSEMBLY)
	BACKFLOW PREVENTER (REDUCED PRESSURE ZONE-RPZ)
	ALARM CHECK VALVE
	DRY PIPE VALVE
	DELUGE VALVE
	PREACTION VALVE
	INSPECTORS TEST STATION
	FIRE DEPT. HOSE VALVE
	FLOW SWITCH
	TAMPER SWITCH
	WATER MOTOR GONG
	DELUGE RISER
	PREACTION RISER
	SPRINKLER RISER
	UPRIGHT
	PENDENT-SEMI-RECESSED
	PENDENT-SEALED/CONCEALED
	PENDENT-RECESSED
	PENDENT-DRY
	PENDENT-CONCEALED
	UPRIGHT W/GUARD
	SIDEWALL-HORIZONTAL
	SIDEWALL-EXTENDED COVERAGE
	SIDEWALL-DRY
	PRIVATE HYDRANT ONE HOSE OUTLET
	PUBLIC HYDRANT TWO HOSE OUTLET
	PUBLIC HYDRANT TWO HOSE OUTLET AND PUMPER CONNECTION
	WALL HYDRANT
	SIAMESE FIRE DEPT. CONN.
	FREESTANDING SIAMESE TWO HOSE OUTLET
	SIAMESE FIRE DEPT. CONN.
	CONNECT TO EXISTING
	POINT OF DEMOLITION
	EXISTING FIRE PROTECTION PIPING
	NEW FIRE PROTECTION PIPING

GENERAL NOTES:

- SCOPE OF WORK SHALL INCLUDE BUT BE NOT LIMITED TO THE FOLLOWING: INSTALLATION OF NEW SPRINKLER PIPING, HEADS & ACCESSORIES.
- MATERIALS, INSTALLATION, AND PERFORMANCE SHALL COMPLY WITH NFPA 13, 231C, LOCAL REQUIREMENTS, AND OWNERS UNDERWRITER.
- DESIGN SYSTEM ON A HYDRAULICALLY CALCULATED BASIS. REFER TO SPRINKLER DESIGN CRITERIA, SPRINKLER HEAD COVERAGE, AND SPRINKLER TEMPERATURES IN DIVISION 13 MECHANICAL SPECIFICATIONS SECTION 13900.
- CONTRACTOR SHALL OBTAIN A FLOW TEST BEFORE STARTING WORK ON WATER SUPPLY INDICATING STATIC PRESSURE, INSTANTANEOUS GALLONS PER MINUTE (GPM) WITH RESULTANT RESIDUAL PRESSURE PRIOR TO DESIGN.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ALL BUILDING CONDITIONS AND NECESSARY INFORMATION AT THE JOB SITE TO PERFORM AND EXECUTE THE REQUIRED WORK. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ENTIRE SYSTEM WITH PIPING, DUCTWORK, DIFFUSERS, LIGHTING FIXTURES AND ALL OTHER TRADES.
- PROVIDE SPRINKLER HEADS OVER AND UNDER ALL EXPOSED DUCTWORK OR OBSTRUCTIONS LARGER THEN 48" IN WIDTH PER NFPA GUIDELINES.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT ROOM LAYOUTS, ROOM DIMENSIONS, CEILING HEIGHTS, BUILDING CONSTRUCTION AND ALL OTHER ARCHITECTURAL AND STRUCTURAL DETAILS IMPACTING DESIGN.
- CONTRACTOR SHALL TEST SYSTEM WITH PRESSURIZED AIR PRIOR TO FINAL TESTING. FINAL TESTING SHALL BE IN ACCORDANCE WITH NFPA 13, & LOCAL AUTHORITY HAVING JURISDICTION.
- CONTRACTOR SHALL PROVIDE SHOP DRAWINGS (PER NFPA 13) WHICH INCLUDES HYDRAULIC CALCULATIONS AND EQUIPMENT CUT SHEETS FOR SUBMITTAL TO LOCAL BUILDING PERMIT OFFICE AND ENGINEER FOR APPROVAL.
- CONTRACTOR SHALL PROVIDE PIPE MARKERS EVERY (TEN) 10'-0" INDICATING DIRECTION OF FLOW.
- SPRINKLER PIPING SHALL BE BLACK STEEL PIPE SCHEDULE 40 (1"-2") AND SCHEDULE 40 FOR (2-1/2" AND LARGER).
- ALL PENETRATIONS THROUGH RATED WALLS AND FLOORS SHALL BE PROTECTED WITH THE APPROPRIATE UL RATED PENETRATION SEALING SYSTEM.

AREA CLASSIFICATION

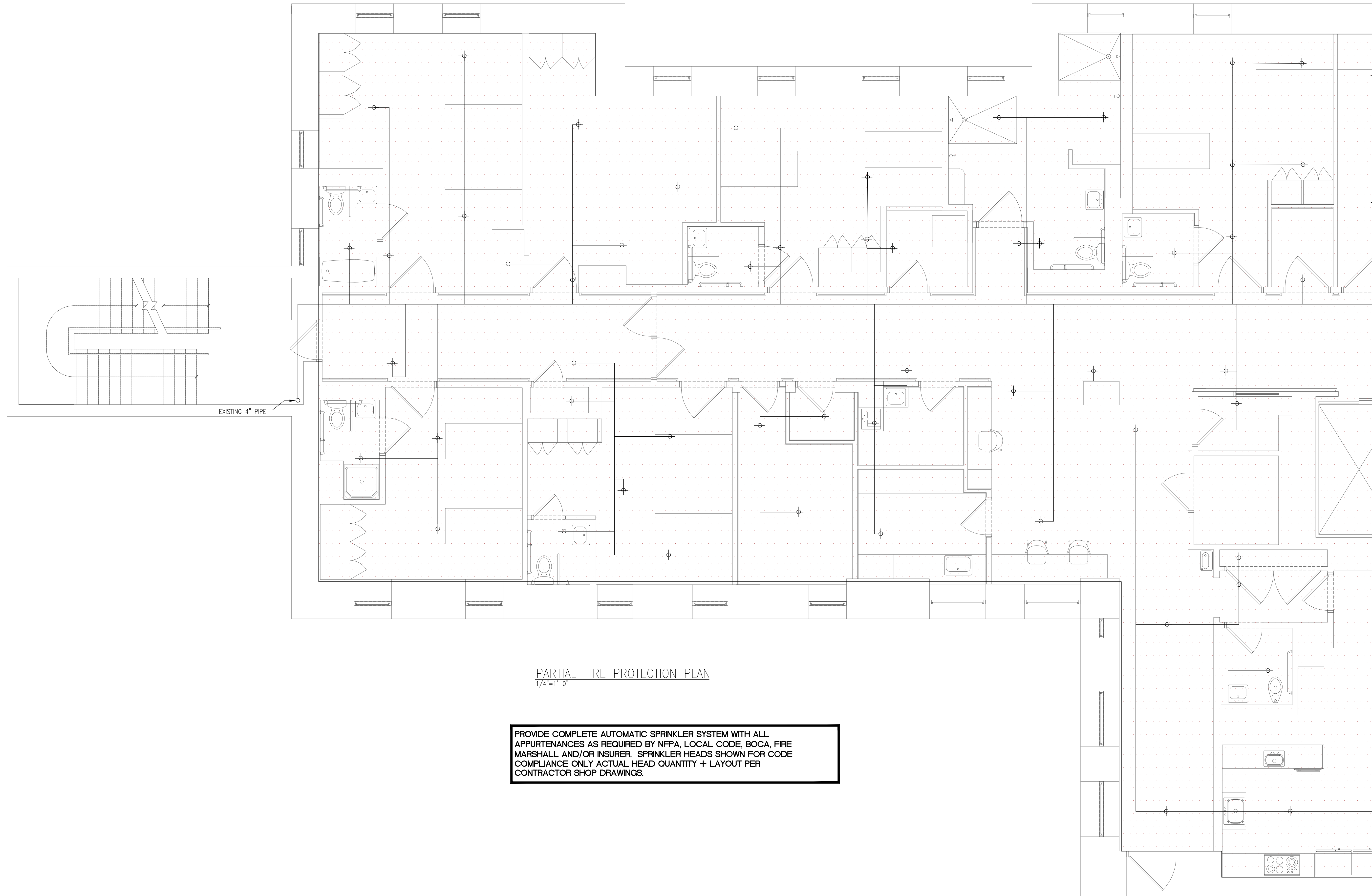
LIGHT HAZARD - WET TYPE SPRINKLER SYSTEM
0.10 GPM PER SQ.FT. OVER MOST REMOTE 1500 SQ.FT.
225 SQ.FT. MAX. HEAD SPACING
100 GPM HOSE ALLOWANCE

HARD CEILINGS:
WHITE CONCEALED SPRINKLER HEAD
165°F TEMPERATURE RATING UL & FM APPROVED
LAY-IN CEILINGS:
WHITE CONCEALED SPRINKLER HEAD
165°F TEMPERATURE RATING UL & FM APPROVED
EXPOSED CEILING AREAS:
BRASS FINISH UPRIGHT SPRINKLER HEAD
212°F TEMPERATURE RATING UL & FM APPROVED
WITH WIRE GUARDS IN UTILITY AREAS

NOTE TO ALL OCCUPANCIES - SPRINKLER LOCATIONS AND STYLES ARE INDICATED FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR MUST DESIGN AND INSTALL THE SPRINKLER SYSTEM IN ACCORDANCE WITH ALL PERTINENT CODES AND STANDARDS. THE ENTIRE BUILDING IS TO BE FULLY SPRINKLERED. ALL SPRINKLERS, EXCEPT EXPOSED AND UPRIGHT, SHALL BE INSTALLED WITH RETURN BENDS AND POSITIONED TO CENTER OF TILE (OR QUADRANT IN SECOND LOOK TILE) AND ALIGNED.

PIPING SPECIFICATION			
SYSTEM	MATERIAL	JOINTS	NOTES
SPRINKLER & STANDPIPE	ALL MATERIAL TO BE UL-LISTED & FM-APPROVED	THREADED TO 2-1/2" WELDED OR WCTAULIC FOR LARGER	

FIRE PROTECTION COVER SHEET FIRE



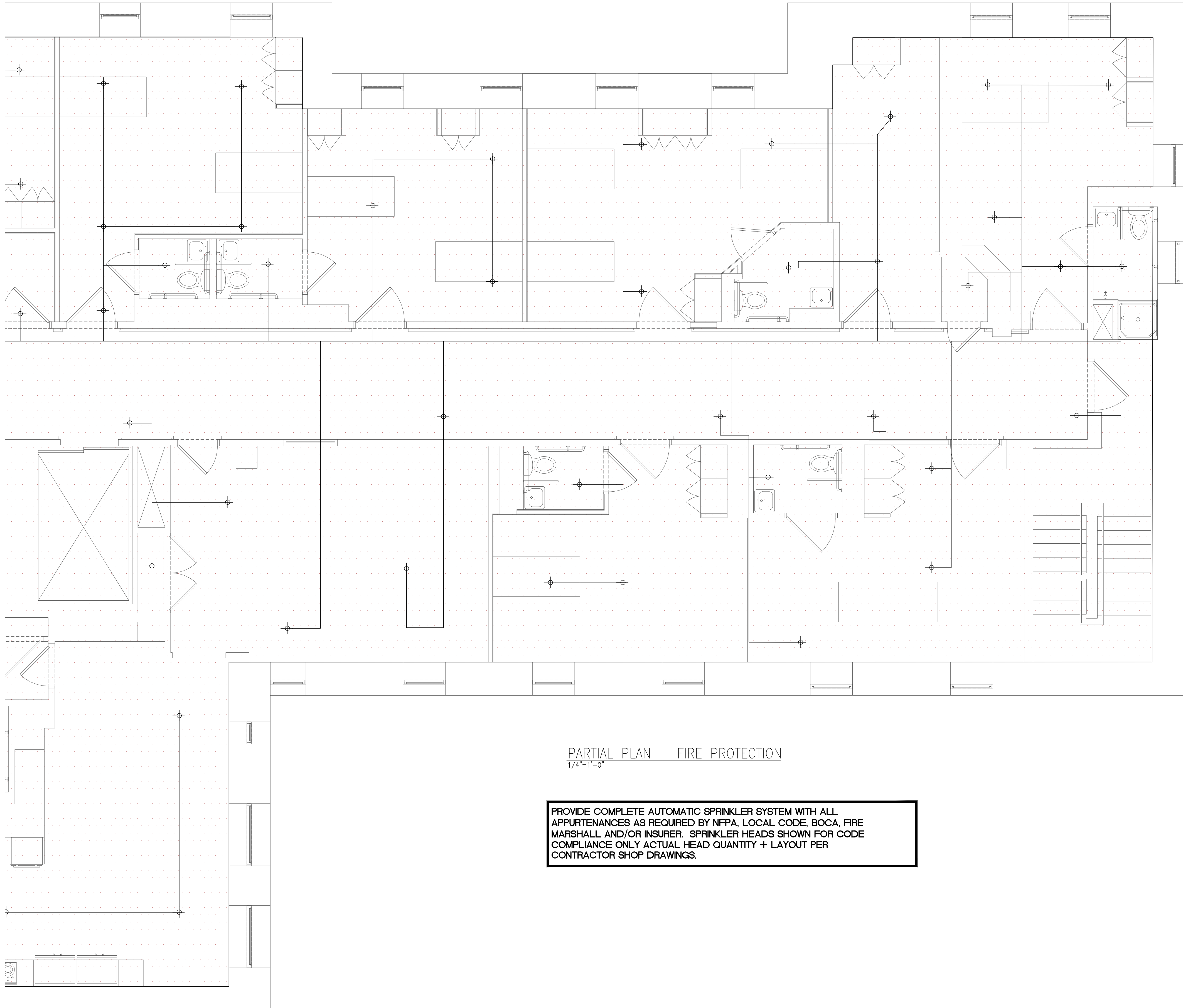
PARTIAL FIRE PROTECTION PLAN
1/4"=1'-0"

PROVIDE COMPLETE AUTOMATIC SPRINKLER SYSTEM WITH ALL APPURTENANCES AS REQUIRED BY NFPA, LOCAL CODE, BOCA, FIRE MARSHALL AND/OR INSURER. SPRINKLER HEADS SHOWN FOR CODE COMPLIANCE ONLY ACTUAL HEAD QUANTITY + LAYOUT PER CONTRACTOR SHOP DRAWINGS.

PARTIAL PLAN
FIRE

4' 8'

FPI



PARTIAL PLAN - FIRE PROTECTION
1/4"=1'-0"

PROVIDE COMPLETE AUTOMATIC SPRINKLER SYSTEM WITH ALL APPURTENANCES AS REQUIRED BY NFPA, LOCAL CODE, BOCA, FIRE MARSHALL, AND/OR INSURER. SPRINKLER HEADS SHOWN FOR CODE COMPLIANCE ONLY ACTUAL HEAD QUANTITY + LAYOUT PER CONTRACTOR SHOP DRAWINGS.

PARTIAL PLAN
FIRE

4' 8'

FP2