## **GENERAL NOTES**

- THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL CONDITIONS AND SHALL CALL SAME TO THE ATTENTION OF THE ARCHITECT AND CONSTRUCTION MANAGER IF THEY VARY FROM THE LOCATIONS INDICATED IN THE DRAWINGS. THE DRAWINGS ARE NOT TO BE SCALED.
- ALL PLUMBING WORK SHALL BE IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS GOVERNING PLUMBING AND DRAINAGE WORK; SHALL CONFORM TO ALL OTHER APPLICABLE REGULATIONS AND SHALL MEET REQUIREMENTS OF INSPECTING AUTHORITIES INCLUDING THE NYC BUILDING CODE.
- DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS EXACT LOCATION SHALL BE COORDINATED WITH ALL TRADES, ARCHITECTURAL DRAWINGS, GENERAL CONTRACTOR AND PRIME CONTRACTOR.
- ALL EXPOSED PIPING PENETRATIONS THROUGH WALLS OR CEILINGS SHALL BE PROVIDED WITH APPROPRIATE FIRE RETARDANT SEALANT AND ESCUTCHEONS.
- ALL FIXTURES TO BE SEALED WHERE FIXTURE COMES IN CONTACT WITH WALLS OR FLOOR WITH CLEAR SEALANT.
- COORDINATE ALL WORK WITH ALL OTHER CONTRACTORS PERTAINING TO THE LOCATION OF PLUMBING AND DRAINAGE PIPING HVAC WORK, LIGHTING FIXTURES, AND ELECTRICAL, PROVIDE ALL NECESSARY PIPING OFFSETS AND CHANGES IN DIRECTION TO ACCOMPLISH A COMPLETE INSTALLATION.
- SUBMISSION OF A PROPOSAL SHALL BE EVIDENCE THAT A CAREFUL EXAMINATION OF THE SITE. DRAWINGS & SPECIFICATIONS HAS BEEN MADE AND THE CONTRACTOR IS FAMILIAR WITH THOSE ITEMS AND AREAS THAT WILL PRESENT DIFFICULTY TO THE PERFORMANCE OF THIS CONTRACT. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT, ETC NECESSARY TO COMPLETE ALL WORK AS A RESULT OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN.
- CONTRACTOR TO VERIFY THE EXISTING SITE AND UTILITY CONDITIONS BEFORE CONSTRUCTION.
- ALL DIMENSIONS AND EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED BY THE CONTRACTOR AT THIS SITE BEFORE PROCEEDING WITH ANY WORK.
- 10. PRIOR TO STARTING CONSTRUCTION. DETERMINE EXACT INVERT ELEVATION, SIZE, DEPTH AND LOCATION OF EXISTING CONDITIONS.
- 11. SANITARY DRAINAGE SHALL HAVE A UNIFORM GRADE OF 1/4" PER FOOT, FOR 2 1/2" AND SMALLER AND AN 1/8" PER FOOT FOR 3" OR LARGER, UNLESS OTHERWISE NOTED. 12. PROVIDE CLEANOUTS , CLEANOUTS SHALL BE SAME SIZE AS THE PIPES THEY SERVE UP
- TO 4 INCHES, AND NOT LESS THAN 4 INCHES FOR LARGER PIPING.
- 13. PROVIDE CLEANOUTS FOR CHANGES IN DIRECTION FOR ALL SANITARY PIPING.
- 14. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH RESPECT TO OTHER TRADES, EXISTING STRUCTURE AND CEILING HEIGHTS. CONTRACTOR SHALL COORDINATE ALL WORK WITH ARCHITECTURAL LAYOUTS, INCLUDING CEILING HEIGHTS.

## N.Y.C. BUILDING DEPARTMENT NOTES

THE PLUMBING SYSTEMS (SANITARY, VENT, WATER DISTRIBUTION) AND ALL ASSOCIATED EQUIPMENT WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE FULL REQUIREMENTS OF THE 2014 NEW YORK CITY PLUMBING CODE, "NYCPC".

- THE SANITARY SYSTEM SHALL BE IN FULL ACCORDANCE WITH THE GENERAL PROVISIONS OF SECTION PC 301.
- 2. THE MATERIALS USED IN THE PLUMBING SYSTEM SHALL BE PROVIDED IN FULL ACCORDANCE WITH SECTION PC 303.
- EQUIPMENT HOOK-UP AND THE JOINING OF PIPING SHALL BE IN FULL COMPLIANCE WITH SECTION PC 605.
- 4. THE INSTALLATION OF FIXTURES WILL BE IN FULL ACCORDANCE WITH CHAPTER 4 OF THE NYCPC, "FIXTURES, FAUCETS AND FIXTURE FITTING".
- 5. TRAPS FOR FIXTURES AND DRAIN LINES WILL BE PROVIDED.
- 6. CLEANOUTS INSTALLED IN FULL ACCORDANCE WITH SECTION PC 708.
- VERTICAL AND HORIZONTAL PIPING WILL BE HUNG AND SUPPORTED IN THE FULL COMPLIANCE WITH SECTION PC 308.
- 8. THE WATER SUPPLY SYSTEM OF THE SUBJECT BUILDING SHALL BE INSTALLED IN FULL COMPLIANCE WITH CHAPTER 6 OF THE NYCPC, "WATER SUPPLY AND DISTRIBUTION".
- 9. THE SANITARY DRAINAGE SYSTEM OF THE SUBJECT BUILDING SHALL BE INSTALLED IN FULL COMPLIANCE WITH CHAPTER 7 OF THE NYCPC, "SANITARY DRAINAGE".
- 10. THE VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN FULL COMPLIANCE WITH CHAPTER 9 OF THE NYCPC, "VENTS".
- 11. CHANGES IN DIRECTION IN DRAINAGE PIPING SHALL BE MADE WITH APPROPRIATE USE OF 45 DEGREE WYES, LONG SWEEPS, SHORT SWEEPS, SIXTH, EIGHT OR SIXTEENTH BENDS OR BY A COMBINATION OF THESE OR EQUIVALENT FITTINGS.
- 12. SANITARY TEES AND QUARTER BENDS MAY BE USED IN DRAINAGE LINES ONLY WHERE THE DIRECTION OF FLOW IS FROM THE HORIZONTAL TO THE VERTICAL AS PER PC 706.
- 13. SHORT SWEEPS WILL BE PERMITTED IN DRAINAGE PIPING 3 INCH DIAMETER OR LARGER FOR ANY OFFSETS EITHER HORIZONTAL OR VERTICAL AS PER PC 706.

## POST-INSTALLED ANCHORS

ALL ANCHORS USED TO SUPPORT EQUIPMENT, PIPING, ETC. SHALL BE ICC-ES APPROVED IN ACCORDANCE WITH NYC DOB BULLETIN 2014-018. SUBMIT ALL ANCHORS FOR ENGINEER'S APPROVAL PRIOR TO INSTALLATION.

## FLOOD HAZARD AREA NOTE

THIS PROPERTY IS NOT IN A SPECIAL FLOOD HAZARD AREA (SFHA).

## APPLICABLE CODES

- 2022 NYC BUILDING CODE 2. 2022 NYC PLUMBING CODE
- 3. 2020 ENERGY CODE 4. 2022 FGI FACILITY GUIDELINES INSTITUTE FOR HOSPITALS

## GENERAL NOTES FOR DEMOLITION

- 1. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL CONDITIONS AND SHALL CALL SAME TO THE ATTENTION OF THE ARCHITECT AND CONSTRUCTION MANAGER IF THEY VARY FROM THE LOCATIONS INDICATED IN THE DRAWINGS. THE DRAWINGS ARE NOT TO BE SCALED.
- 2. ALL PLUMBING WORK SHALL BE IN STRICT ACCORDANCE WITH THE RULES AND REGULATIONS GOVERNING PLUMBING AND DRAINAGE WORK; SHALL CONFORM TO ALL OTHER APPLICABLE REGULATIONS AND SHALL MEET REQUIREMENTS OF INSPECTING AUTHORITIES INCLUDING THE BUILDING CODE.
- DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS EXACT LOCATION SHALL BE COORDINATED WITH ALL TRADES, ARCHITECTURAL DRAWINGS, GENERAL CONTRACTOR AND PRIME CONTRACTOR.
- CONTRACTOR TO VERIFY THE EXISTING SITE AND UTILITY CONDITIONS BEFORE CONSTRUCTION.
- CONSTRUCTION WORK WILL BE CONFINED, AS MUCH AS POSSIBLE, TO THE FLOOR INTERIORS AND WILL MINIMIZE THE CREATION OF DUST, DIRT, DEBRIS, PESTS OR OTHER SUCH INCONVENIENCES TO THE OTHER UNITS WITHIN THE BUILDING.
- CONSTRUCTION OPERATIONS WILL NOT BLOCK HALLWAYS OR MEANS OF EGRESS FOR TENANTS OF BUILDING.
- CONSTRUCTION OPERATIONS WILL MINIMIZE INTERRUPTION OF HEATING, WATER OR ELECTRICAL SERVICES TO OTHER TENANTS IN THE BUILDING AND NOISE SHALL BE LIMITED TO ACCEPTABLE LEVELS, WEEKDAYS BETWEEN THE HOURS OF 7 A.M. AND 6 P.M. AS PER THE NYC NOISE CONTROL CODE.
- 8. CONSTRUCTION WORK WILL NOT INVOLVE STRUCTURAL WORK THAT WILL ENDANGER THE TENANTS OF THE BUILDING.
- 9. CONSTRUCTION WILL COMPLY WITH THE LOCAL MAINTENANCE CODE AND THE BUILDING REGULATIONS.
- 10. CONSTRUCTION OPERATIONS WILL STRICTLY ADHERE TO ALL FIRE SAFETY LAWS AND REGULATIONS AND APPLY ADDITIONAL SAFETY MEASURES NECESSITATED BY THE CONSTRUCTION.
- 11. IF LEAD PAINT OR ASBESTOS IS DISCOVERED, ALL CONSTRUCTION IS TO CEASE IMMEDIATELY AND MUST NOT RESUME UNTIL REMOVED BY A QUALIFIED AND LICENSED ABATEMENT COMPANY.
- 12. ALL EQUIPMENT, PIPING, PLUMBING FIXTURES, ETC., ARE TO BE REMOVED AND DISPOSED OF UNLESS OTHERWISE DIRECTED. THEY SHALL NOT BE REMOVED FROM THE PREMISES WITHOUT APPROVAL.
- 13. PIPING FROM FIXTURES TO BE REMOVED SHALL BE PROPERLY PLUGGED OR CAPPED AT RISERS SO THAT UPON COMPLETION OF NEW WORK, NO ABANDONED PIPING IS CONCEALED IN FINISHED AREAS.
- 14. NO DEAD ENDS SHALL BE LEFT ON ANY PIPING UPON COMPLETION OF JOB.
- 15. EXISTING REMOVED EXPOSED PIPING SHALL NOT BE REUSED AND WHERE NOT SPECIFICALLY NOTED OR SHOWN ON DRAWING TO BE ABANDONED PIPING SHALL BE COMPLETELY REMOVED.
- 16. THE EXISTING SYSTEM TO REMAIN SHALL BE LEFT IN PERFECT WORKING ORDER AT COMPLETION OF DEMOLITION WORK.
- 17. LOCATIONS AND SIZES OF EXISTING PIPING ARE APPROXIMATE. EXACT SIZES AND LOCATIONS OF ALL EXISTING PIPING SHALL BE VERIFIED ON THE JOB.
- 18. ALL EXISTING EXPOSED, UNNECESSARY PIPING RELATED TO WORK BEING REMOVED SHALL BE COMPLETELY REMOVED.
- 19. DO NOT INTERRUPT ANY OF THE SERVICES OF THE EXISTING BUILDING, OR INTERFERE WITH THE SERVICES IN ANY WAY WITHOUT EXPRESSED PERMISSION. SUCH INTERRUPTIONS AND INTERFERENCE SHALL BE MADE AS BRIEF AS POSSIBLE AND ONLY AT THE DESIGNATED TIMES.
- 20. WHEN DEMOLITION WORK REQUIRES THE SHUTDOWN OF EXISTING OPERATING SYSTEMS. THE DEMOLITION WORK SHALL BE PERFORMED ONLY AFTER NOTIFYING OWNER AT LEAST 72 HOURS BEFORE START AND OBTAINING WRITTEN AUTHORIZATION.
- 21. REROUTE OR REMOVE ALL EXISTING PIPING EXPOSED TO VIEW WHERE NECESSARY TO AVOID NEW EQUIPMENT, STRUCTURAL OR MASONRY WORK AS REQUIRED BY THE PROPOSED ALTERATIONS.
- 22. CONTRACTOR IS DIRECTED TO RELOCATE ALL PIPING (THAT IS ACTIVE) FROM WALLS OR CHASES THAT IS TO BE REMOVED TO NEW LOCATIONS. CONTRACTOR SHALL COORDINATE THESE LOCATIONS WITH THE GENERAL CONTRACTOR.
- 23. ALL PIPING REMOVAL SHALL INCLUDE REMOVAL OF ALL APPURTENANCES CONTAINED THEREIN SUCH AS VALVES. HANGERS, SUPPORTS, ETC. COMPLETE, CAPS SHALL BE INSTALLED AT ALL OPEN ENDS OF PIPING TO REMAIN AND SHALL BE OF SAME MATERIAL AND PRESSURE RATING AS EXISTING.
- 24. DO NOT REMOVE OR ABANDON ANY EXISTING ACTIVE DOMESTIC WATER PIPING UNTIL THE NEW SERVICES ARE FULLY INSTALLED AND READY FOR USE. REMOVE EXISTING BRANCH PIPING AS INDICATED ON DRAWING OR AS MAY BE REQUIRED.
- 25. REMOVE EXISTING BRANCH PIPING AS INDICATED ON DRAWING OR AS MAY BE REQUIRED.
- 26. REMOVE RUBBISH FROM PREMISES AND SITE AT THE END OF EACH WORK DAY AS DIRECTED.
- 27. PLUMBING DEMOLITION WORK SHALL BE IN STRICT CONFORMITY WITH THE NETWORK CITY BUILDING CODE AND OTHER AUTHORITIES HAVING JURISDICTION.
- 28. REMOVE AND REPLACE ALL EXISTING VALVES WITH NEW, WHEN THE EXISTING VALVES DO NOT HOLD, OR WHEN EXISTING VALVES ARE DEFECTIVE, REFER TO SPECIFICATIONS.
- 29. PLUMBING CONTRACTOR TO PROVIDE CUTTING AND PATCHING EXCEPTS; CONCRETE SLAB CUTTING AND PATCHING BY GENERAL CONTRACTOR. REFER TO ARCHITECTURAL DWGS. FOR LOCATION AND DETAILS.

## NEW YORK CITY BUILDING CODE LIST OF **REQUIRED SPECIAL INSPECTIONS**

RED.	NOT	REF. SECTION	DESCRIPTION
	*	1704.19	HIGH PRESSURE GAS PIPING
	*	1704.21	SITE STORM DRAINAGE DISPOSAL AND DETENTION
*		1704.27	FIRE RESISTANCE PENETRATIONS & JOINTS
	*	1707.7	SPECIAL INSPECTION FOR SEISMIC RESISTANCE – PLUMBING, FUEL GAS AND ELECTRICAL COMPONEN
*		1704.32	POST-INSTALLED ANCHORS

POST-INSTALLED ANCHORS - (TO BE PERFORMED DURING ACTUAL INSTALLATION): THIS INSPECTION SHOULD BE PERFORMED DURING ACTUAL INSTALLATION. IF NOT PERFORMED DURING THE INSTALLATION, THE INSTALLING CONTRACTOR IS RESPONSIBLE (ON HIS OWN EXPENSE) TO ENGAGE THE LICENSED STRUCTURAL ENGINEER WHO WILL ESTABLISH THE TEST LOAD CRITERIA. THE SPECIAL INSPECTOR IS TO ESTABLISH THE AMOUNT OF TEST POINTS. THE SPECIAL INSPECTOR IS TO BE PRESENT ON THE SITE DURING TESTING AND SIGN OFF IF SATISFIED.

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FACILITIES MECHANICAL, NTS

S	YMBOL LIST		Α
	SANITARY	AD	AR
<b></b> GW <b></b>	GREASE WASTE	AFF AFWH	AB AN
ST	STORM PIPING	BLDG	BL
	VENT PIPING	BB	BE
	UNDERGROUND SANITARY PIPING	BD BVR	BE
	UNDERGROUND STORM PIPING	СМ	CC
SD	SUMP PUMP DISCHARGE PIPING	CO CODP	CL CL
ED —	SEWAGE EJECTOR PUMP DISCHARGE PIPING	COWP	CL
CD	CONDENSATE DISCHARGE PIPING	CHV	CH
G	GAS PIPING	CVO CW	CA CC
	IRRIGATION WATER	CWVO	cc
		CLG CM	CE
	HWAT OR HEAT TRACE CABLE	CONN	CC
	DOMESTIC COLD WATER PIPING	DN	DC
	DOMESTIC HOT WATER PIPING	DW DWG	
	DOMESTIC HOT WATER RETURN PIPING	ED	SE
<b>—</b>	ARROW INDICATES DIRECTION OF FLOW	EEW	EN EX
	EXISTING PIPING	F	FIL
*****	EXISTING PIPING TO BE REMOVED	FAI	FR
<b>→</b> -⊳>-	SHUT-OFF VALVE	FFD FD	FU FL
<b>N⊢ →</b>	CHECK VALVE	FS	FL
<b>₹</b>	COCK VALVE	FW GAL	FIL GA
<del></del> _	VALVE IN VERTICAL	GPM	GA
	CURB VALVE	GV	GA
o	PIPE RISE (DOES NOT PENETRATES FLOOR) OR UP (PENETRATES FLOOR)	GW GT	GR GR
	PIPE DROP (DOES NOT PENETRATES FLOOR)	HB	нс
	OR DOWN (PENETRATES FLOOR)	HW	нс
	PIPE CONNECTION, DOWN	HWAT	HC
<del></del>	PIPE CONNECTION, BOTTOM	HT	HE
	'P' TRAP	IM LAV	ICE LA
	CLEANOUT, PLUG	NIC	NC
O	CLEANOUT DECK PLATE	NTS OS&Y	NC OL
	HOUSE TRAP	PS	PA
	STANDPIPE DRAIN (RISER VIEW)	RO	RE
<u> </u>	· · · ·	REF SAN	RE
.1.	CAPPED OUTLET	SK	SI
	VENT THROUGH ROOF	SP0	SA
Ø	FLOOR, ROOF, SHOWER OR AREA DRAIN	STP TP	ST. TR
	ROOF DRAIN (RISER VIEW)	TYP	TY
Ţ	HOSE BIBB	V VB	VE VA
	WALL HYDRANT	VTR	VE
	WATER HAMMER ARRESTOR	W WD	WA
			WA
<u> </u>	FRESH AIR INTAKE (FAI)		
<b>,</b>	PIPE BREAK		
•	POINT OF CONNECTION NEW PIPE TO EXISTING		
	POINT OF DISCONNECTION FOR EXISTING /DEMO WORK		
BVR	BALANCING VALVE RIG		
<u>ज</u> ि	EMERGENCY EYEWASH		
X	EXISTING MOTORIZED/SOLENOID VALVE		
$\aleph$	NEW MIXING VALVE		

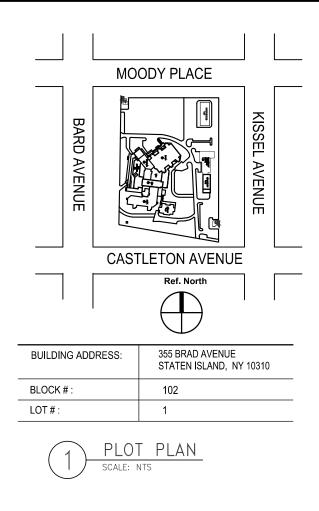
	ABBREVIATIONS
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFWH	ANTI FREEZE WALL HYDRANT
BLDG	BUILDING
BB	BELOW BEAM
BD	BELOW DUCT
BVR	BALANCING VALVE RIG
СМ	COFFEE MAKER
CO	CLEANOUT
CODP	CLEANOUT DECK PLATE
COWP	CLEANOUT WALL PLATE
CHV	CHECK VALVE
CVO	CAPPED VALVED OUTLET
CW	COLD WATER
CWVO	COLD WATER VALVED OUTLET
CLG	CEILING
СМ	COFFEE MACHINE
CONN	CONNECT
DN	DOWN (PENETRATES FLOOR SLAB)
DW	DISHWASHER
DWG	DRAWING
ED	SEWAGE EJECTOR PUMP DISCHARGE
EEW	EMERGENCY EYEWASH
ET	EXPANSION TANK
F	FILTER
FAI	FRESH AIR INLET
FFD	FUNNEL FLOOR DRAIN
FD	FLOOR DRAIN
FS	FLOOR SINK
FW	FILTERED WATER
GAL	GALLONS
GPM	GALLONS PER MINUTE
GV	GATE VALVE
GW	GREASE WASTE
GT	GREASE TRAP
HB	HOSE BIBB
HW	HOT WATER
HWR	HOT WATER RETURN
HWAT	HOT WATER TEMPERATURE MAINTENANCE CABLE SYSTEM
HT	HEAT TRACE
IM	ICE MAKER
LAV	
NIC	NOT IN THIS CONTRACT
NTS	NOT TO SCALE
OS&Y	OUTSIDE SCREW & YOKE GATE VALVE
PS DO	PANTRY SINK
R0 REF	REVERSE OSMOSIS REFRIGERATOR
SAN	SANITARY
SAN	SINK
SK SP0	SINK SANITARY PLUGGED OUTLET
SPU STP	SANTART PLOGGED UUTLET STANDPIPE DRAIN
TP	TRAP PRIMER
TYP	TYPICAL
V	VENT
VB	VACUUM BREAKER
VTR	VECCOM DICLAREN
W	WASTE
WD	WATER DISPENSER

PLUMBING MEDICAL GAS SYMBOL LIST & ABBREVIATIONS	

0	OXYGEN PIPE	0	OXYGEN
——— A ———	MEDICAL AIR PIPE	А	MEDICAL AIR
V	MEDICAL VACUUM PIPE	V	MEDICAL VACUUM
WAGD	WASTE ANESTHETIC GAS DISPOSAL	WAGD	WASTE ANESTHETIC GAS DISPOSAL
PS	MEDICAL GAS PRESSURE SENSOR		
	MEDICAL GAS OUTLETS		
	MEDICAL ZONE VALVE BOX	ZVB	ZONE VALVE BOX
MGAP	MEDICAL GAS ALARM PANEL	MGAP	MEDICAL GAS ALARM PANEL

P	LUMBI	NG DRAWING LIST
	DRAWING #	TITLE
1	P-001.00	PLUMBING NOTES, SYMBOL LIST, AND ABBREVIATIONS
2	P-002.00	PLUMBING SCHEDULES
3	DM-100.00	PLUMBING BASEMENT DEMOLITION PLAN
4	DM-101.00	PLUMBING 1ST FLOOR DEMOLITION PLAN
5	DM-102.00	PLUMBING 1ST FLOOR MEDICAL GAS DEMOLITION PLAN
6	P-200.00	PLUMBING BASEMENT CONSTRUCTION PLAN
7	P-201.00	PLUMBING 1ST FLOOR CONSTRUCTION PLAN
8	P-202.00	PLUMBING 1ST FLOOR MEDICAL GAS CONSTRUCTION PLAN
9	P-203.00	PLUMBING ROOF CONSTRUCTION PLAN
10	P-301.00	PLUMBING RISER DIAGRAMS
11	P-401.00	PLUMBING DETAILS SHEET 1 OF 2
12	P-402.00	PLUMBING DETAILS SHEET 2 OF 2
13	P-501.00	PLUMBING SPECIFICATIONS SHEET 1 OF 2
14	P-502.00	PLUMBING SPECIFICATIONS SHEET 2 OF 2

PHASING NOTE: THIS PROJECT WILL BE CONSTRUCTED IN 3 PHASES. REFER TO THE ARCHITECTURAL PHASING PLAN FOR MORE INFORMATION.



THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON. OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

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SYSTEM										PIPE	E												FIT.	TING	S			
<ul> <li>NOTES:</li> <li>1. ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE LOCAL AUTHORITIES.</li> <li>2. PROVIDE SUPPORTS &amp; RESTRAINTS AT BASE OF STACKS &amp; LEADERS</li> <li>3. PROVIDE W/RIGID COUPLINGS VICTAULIC ZERO FLEX.</li> <li>4. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.</li> </ul>	CAST IRON SOIL PIPE	UN AWWA CIDI	SCHEDULE 10	SCHEDULE 40	80	TYPE "L" COPPER IUBING - ASIM B88 TYPF "K" COPPER THRING - ASTM B88	R DRAINAGE	BLACK	GALVANIZED CEMENT ITNED	CEMENT LINED ASPHALT COATED	MILL WRAPPED	M A270	TYPE L CUPPER MED. IUBING - ASIM B819 TYPF "K" COPPER MED THRING - ASTM B810		CAST IRON NO-HUB	DRAINAGE PATTERN	CAST IRON		TP316L SS – ASTM A270	UASI UUPPER WROUGHT COPPER	CLASS 52	CLASS 56	CEMENT LINED	COMPRESSION GASKET	THREADED	SOLDERED	BRAZED WELDED. BUTT	WELDED, SOCKET
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				MEI	DICAL	GAS	ZONE V	/ALVE	BOX SC	HEDULE		
DESIGNATION	0		۸ (	SIZE OF P		•	WAGD		LOCATION	MANUFATURER MODEL	SERVING	REMARKS
	0	V	A	IN I	N20	CO2	WAGD	IA				
ZVB-2	1⁄2"	3⁄4"							CORRIDOR	BEACON MEDAES ZVB2-AB-ENG	PRE AND POST OP AREA	INSTALL AS PER MANUFACTURER INSTRUCTIO
ZVB-3	1⁄2"	<sup>3</sup> ⁄4"	1⁄2"						CORRIDOR	BEACON MEDAES ZVB3-AAB-ENG	EP LAB	INSTALL AS PER MANUFACTURER INSTRUCTIO

			BOD	Y													VARI	ATIOI	NS							REMARKS
DESIGNATION	SERIES NO.	CAST IRON	GALVANIZED	ALL BRONZE	SECONDARY CLAMP	CLAMPING DEVICE	UNDERDECK CLAMP	BACK WATER VALVE	ROOF SUMP RECEIVER	WIDE FLANGE	ACIU RESISIANI COAIED THREADED OUTLET	GALVANIZED CI BACKET/ GRATE	NICKEL BRONZE TOP	NICKEL BRONZE STRAINER	CHROME PLAIEU SIRAINER SEDIMENT RUCKET(ALLIMINIM) 516"DFFP	SOLID EXTENSION		IRACIOR GRAIE(DUCIILE IRON) BRON7F MFSH SCRFFN	ROUND TOP OVAL FUNNEL	OP	CAST IRON DOME	RAISED LIP/SOLID DAM	VANUAL PRUOF 34" TRAP PRIMER	SIZE (INCH)	GRAVEL STOP	GENERAL LOCATION REFER TO DWG'S FOR DRAIN TYPES
D	J.R. SMITH 2005Y- A02-U-CP	•												•						•			•			ROUND, CHROME PLATED STRAINER SHOWER ROOM
										_												_				

COORDINATE HEIGHT OF PERFORATED STAINLESS STEEL GRAVEL GUARD WITH ARCHITECTURAL DRAWINGS & LANDSCAPE ARCHITECT.
 ALL SEDIMENT BUCKETS SHALL BE PROVIDED W/LIFT BARS.
 PERFORATED STAINLESS STEEL EXTENSIONS SHALL BE HEAVY DUTY & EXTENSION HEIGHTS SHALL BE COORDINATED WITH ARCHITECTURAL ROOF DRAINS.
 PROVIDE FLOOR DRAINS IN CELLAR(S) WITH CAULK OUTLETS

						,	V	A	Ľ	V	E	S	SC	╟	IE	D	U															
						VALVE	S	PEC	٦F	ICA		N													SE	ER۱	/IC	E/	′SYS	STI	EМ	
	MODEL/MA	KE																											പ			
TYPE	FIG. NO.	STOCKHAM	WALWORTH	APOLLO	NIBCO	SIZE	FLANGED	ابا	SOLDER (95/5)	SOCKET	W/ADAPTER	N R S	BRONZE	I.B.B.M.	DUCTILE IRON	ALL IRON	CASI SIEEL	HUSE ENU 150 PST WWP			400 PSI WWP	500 PSI WWP	BURIED SERVICE	4		SUMP DISCH.	EJECTOR DISCH.		COLD WATER SVC.		×	D.W. D.W.C.
	S-113-LF				•	1/2"-2"			•				•							•									1		•	•
	T-113-LF				•	1/2"-2"		•					•							•												
	T-111-LF				•	1/4"-3"		•					•							•												
GATE	F-607-RWS				•	2"-16"	•							•						•				•	•							
VALVES	G-623	•				2"-12"	٠							•												•	•					
	M-609-RWS				•	4"-12"					•			•						•			•	•	•							
	MJ-619-RWS-SON				•	3"–16"					•			•						•			•						•			
BALL	70LF-100			•		1/2"-3"		•														•									•	
VALVES	70LF-200			•		1/2"-3"			•													•							•		•	

						EL	.EC	TRI	C N	ATER	HΕ	<b>ATE</b>	RS	SCH	EDI	JLE
DESIGNATION	NO. REQUIRED	MANUFACTURER AND MODEL NUMBER BASIS OF DESIGN	LOCATION	STORAGE WATER TEMPERATURE (DEG.F)	VOLUME/ HEATER (GALS.)	FLOW RATE (GPH)	TEMPERATURE RISE (DEG. F)	NUMBER ELEMENTS	DIAMETER (INCHES)	LENGTH / HEIGHT (INCHES)	ELECTRIC LOAD (K.W.)	ELECTRIC VOLT	ELECTRIC PHASE	AMPS	ENERGY FACTOR (EF)	REMARKS
	1	EXISTING TO BE RELOCATED	1ST FLOOR													PLUMBING CONTRACTOR RELOCATED ELECTRIC W/ FLOOD MASTER LEAK DE VALVE SYSTEMS, AQUAST WITHIN THE NEW WATER CONTRACTOR TO PROVID VALVE TO MATCH EXISTI DESIGN DOCUMENTS.

ie: F:\R2000 - RUMC-EP CATH BI-PLANE\Design\Plumbing\R2000 - P-002.00 - Schedules.dwg User: Luis Perez Plot Date: 5/22/2023 1:47 PM

	] [													PIPIN	GI	٧S	UL	.A	TIC	ON	S	CHEDUL
JOINTS															INS		SIZE			-		
											INSU	JLATION	CONDUCTIVI	TY		< 1½"		< 8"	ATER THAN EQUAL 8"			
		SYSTEM			FLUID TEMPERAT	OPERA <sup>.</sup> URE RA		[•F]	CC BTU x IN					IPERATURE RA [ <b>'</b> F]	TING	1" TO	1½" T(	4" TO	GREAT OR EQ	PIPE -	INSUL	ATION TYPE
B C	╽┠	DOMESTIC I RETURN	HOT WATER	R & HOT WATER		)5–140				0.22-		/]		100	1	1	1½	1½	1½			TYPE 1 – PREFORME JACKET & SELF-SE
-NO HUB SS -FLANGED		DOMESTIC (	COLD WATE	ER	4	HO-60			(	0.21-	-0.27			75	1/2	<u>}</u>	1	1	1			TYPE 1 – PREFORME JACKET & SELF-SE
PLINGS PLINGS IOINT-I		HORIZONTAI	_ STORM [	DRAINS	2	10-60			(	0.21-	-0.27			75	1/2	<i>y</i> 2	1	1	1			TYPE 1 – PREFORME JACKET & SELF-SE
MECH. JOINT-NO HUB MG COUPLINGS MECH. JOINT-FLANGED		CONDENSAT	e drains		4	10-60			(	0.21-	-0.27			75	1/2	1/2	1	1	1	ALL SE	RVICE	TYPE 1 – PREFORME JACKET & SELF-SE
		SANITARY F	D TRAP IN	MECH. ROOM	4	10-60			(	0.21-	-0.27			75	1/2	1/2	1	1	1			IYPE 1 – PREFORME JACKET & SELF-SE
		2. WHEN	PROVIDING	CKNESS BASED ( G HEAT TRACE ( IFICATIONS FOR	CABLE, COO	RDINATE	E THIC	CKNES						ENERGY CONS	SERVATIO	N COD	E TAB	LE C4	03.11.3	3		
	l I			FILTEF	R SCH	EDU	LE															PLUM
			0551405		FILTER H				CARTRIDGE					FIXTURE TYPE	FIX <sup>_</sup>	TURE			MANU	DE:	SCRIPT R	ION MODEL & NU
	┓╽	DESIGNATION	SERVICE	LOCATION	MANUFAC		QT.		FACTURER DEL	QT.	. RE	EMARKS		P-1	LAVATO					N STANDA		MURRO WHITE VITRI 0954.004EC WITH 005
		F	DOMESTIC COLD	AND OUT PATIE	INT SST1		2		JA-PURE AP117	6	MA	STALL AS	RE		FAUCET					N STANDA	ARD	MONTERREY 0 5502.175 CENTER
	╎└		WATER	WAITING ROOM WATER DISPENS							INS	STRUCTIO	NS		SUPPLIE					GUIRE		629203C 1/2 SWEAT W/ 5 IN LFH171LKSS2
STRUCTIONS	┦┏	BACI		OW PR			2 4								COVERS	6			PLU	MBEREX		MODEL X433
STRUCTIONS	┛┝	NOTATION		FACTURER & MOI				TION(S			<b>k</b> anan	_		P-1A	LAVATO FAUCET					N STANDA		MURRO WHITE VITR 0954.004EC WITH 005 MONTERREY 1
		BFP		WATTS – LFOO7 (DOMESTIC WATER	-	C	ORRID	OR C	EILING						STRAIN					ATTS		7500.170 CENTER 629203C
	-											_			SUPPLIE	ES				GUIRE		1/2 SWEAT W/ 5 IN LFH171LKSS2
	ļ						4110								COVERS					MBEREX		MODEL X433 MADERA FLOWISE
	F	OR EXACT N	IAKE AND	APPROVED CROS MODEL	SS CONNEC	HUN PL	ANS							P-2	WASTER	R CLOS	ET	A	MERICA	N STANDA	ARD	ELONGATED FLUSI 3043
				EDICAL G				ΔΝΙ		- н	וח=				TOILET					N STANDA N STANDA		5901. <sup>-</sup> 604712
	DES	SIGNATION	SERVICE											P-3	SINK				E	LKAY		LUSTERTONE CLASS LRAD171660, S
			OXYGEN												FAUCET	•			E	LKAY		SINGLE HOLE DEC LKD22
		MGAP-1 MGAP-2	VACUUM	PRE AND POST OP AREA	BEACON TOTALAL T3-A10-O	ERT		2		ACTU	RER IN	ISTRUCTIC			STRAINI SUPPLIE					GUIRE GUIRE		152SAN HEAVY RIGID LAVAT
			-						PRESSI					P-4	SINK				E	LKAY	c	LFH21 CELEBRITY STAINLESS S BCR15, 2 HO
		MGAP3	OXYGEN VACUUM	EP-LAB CONTROL ROOM	BEACON TOTALAL T3-A10-O	ERT		1		ACTUI PANE	rer in E to ii	ISTRUCTIC			FAUCET				E	LKAY		4" CENTERSET, 4" GC 2" LEVER HAND LK406G
			AIR												STRAINI					GUIRE GUIRE		152SAN HEAVY RIGID LAVATO LFH21
RIALS, NTS.														P-5						FIAT		MSBID2
															FAUCET					FIAT		830AA
														P-6	SCRUB					YTRON		SS2121-M
														P-7	ICE MAC					OLLETT		SYMPHON 110 CT S
														P-8	QUENC	H MACH	IINE		QL	JENCH		QUENC
														P-9	CLINICA FLUSH \					URN 		Z5410 W/ Z60 ROYAL
															CARRIE	R				SMITH		
														P-10	SHOWE	R STAL	L		AQUA	BATH CO.		ADA TRANSFE C4136BF-F
															SHOWE SHOWE					AKMAN		VS-1001-A SENTINEL I
																						SM-30
														P-11	EMERGEI (EEW)	NCYEY	E WASH		GUA	ARDIAN		G502 G6020 MIXIN
																					N /	
															1 0=-	05		MI	EDICAI	GAS & VA		IEDICAL GA
														DESIGNATION	SERVI		GE	OMETF		DISS	P	

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W

S

OXYGEN

VACUUM

MEDICAL

WASTE

ANESTHETIC

GAS DISPOSAL

AIR

SLIDE

TOR TO INSTALL EXISTING C WATER HEATER, DRIP PAN, 3 K DETECTION AND SOLENOID	
ATER HEATER ROOM. PLUMBING	
XISTING AND INSTALL AS PER	

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	FITTINGS, VALVES & FLANGES - INSULATION TYPE	REMARKS
MED MINERAL FIBER WITH SEALING LAP	ASTM C547 TYPE 1 - PREFORMED MINERAL FIBER WITH PVC COVER	
MED MINERAL FIBER WITH SEALING LAP	ASTM C547 TYPE 1 – PREFORMED MINERAL FIBER WITH PVC COVER	
MED MINERAL FIBER WITH SEALING LAP	ASTM C547 TYPE 1 – PREFORMED MINERAL FIBER WITH PVC COVER	
MED MINERAL FIBER WITH SEALING LAP	ASTM C547 TYPE 1 – PREFORMED MINERAL FIBER WITH PVC COVER	
MED MINERAL FIBER WITH SEALING LAP	ASTM C547 TYPE 1 - PREFORMED MINERAL FIBER WITH PVC COVER	INCLUDE 8 FT. HORIZONTAL RUN

## MBING FIXTURE SCHEDULE

	<u> </u>					
	6	1				REMARKS
NUMBER	S	W	V	CW	HW	
TREOUS CHINA 0059.020EC SHROUD Y 0.5 GPM						WALL HUNG LAVATORY W/ OVERFLOW, EVER CLEAN, SURFACE,
		2"	2"	3/4"	3/4"	ADA COMPLIANT, ALL TOILET ROOMS,
N EXT X 1/2 S20DF						
333 (3 PC. KIT)						
TREOUS CHINA 0059.020EC SHROUD Y 1.5 GPM						
ERSET LAVATORY		2"	2"	3/4"	3/4"	WALL HUNG LAVATORY W/ OVERFLOW, EVER CLEAN, SURFACE, ADA COMPLIANT, STAFF HAND WASHING STATION
BC						
IN EXT X 1/2 S20DF						
333 (3 PC. KIT)						
ISE 16-1/2" HEIGHT JSHOMETER TOILET 43.001		2"	2"	3/4"	3/4"	FLOOR MOUNTED, FLOOR OUTLET, EVER CLEAN, SURFACE, ADA
)1.110T		2	2	5/4	5/4	COMPLIANT, ALL TOILET ROOMS,
7121.002						
SSIC S.S.17" X 16" X 6" ), SINGLE HOLE						
ECK MOUNT FAUCET		2"	2"	3/4"	3/4"	COUNTER TOP, SOIL UTILITY AND STAFF LOUNGE
N						
atory supply ½" IPS 2158LK						
S STEEL 15" X 15" X 6-1/8" HOLE MODEL						
GOOSENECK SPOUT, NDLES CHROME 6GN04L2		2"	2"	3/4"	3/4"	COUNTER TOP, MED DISPENSING AND NOURISHMENT AREA
N						
ATORY SUPPLY ½" IPS 12158LK						
ID2424		3"	2"	3/4"	3/4"	INCLUDE WITH QIC3SN 3" QUICK DRAIN CONNECTOR, 832AA HOSE & HOSE BRACKET, 889CC MOP HANGER, 833AA SILICONE
A						SEALANT, VINYL BUMPER GUARD, MSG2424 STAINLESS STEEL WALL GUARD. IN JANITORS CLOSET
1-MK-SKY		2"	2"	3/4"	3/4"	WITHIN CORRIDOR
ONY PLUS T SERIES		1"		3/4"		STAFF LOUNGE AND OUT PATIENT WAITING ROOM PROVIDE AND INSTALL FILTER
NCH Q5				3/4"		STAFF LOUNGE AND OUT PATIENT WAITING ROOM PROVIDE AND INSTALL FILTER
ITED BLOWOUT 60842AV-BWN	4"		2"	1-1/4"		
AL 117H						
FER SHOWER F-FUS ¾"		2"	2"	3/4"	3/4"	SHOWER ROOM WITHIN STAFF LOCKER
I-ADA-PC						
EL MARK II 3000						
i022 (ING VALVE				3/4"	3/4"	SOIL UTILITY ROOM INSTALL DECK MOUNTED EEW ON P-3. INCLUDE THERMOSTATIC MIXING VALVE. MIXING VALVE TO BE SET TO 80° F.
		1		1		1

AS WALL	OUTLET SCHEDU	E	
LOCATION	MANUFACTURER MODEL	QT.	REMARKS
EP LAB / PRE-POST OP CUBICALS	BEACON MEDAES 6803-8121-100	13	
EP LAB / PRE-POST OP CUBICALS	BEACON MEDAES 6803-8121-102	23	
EP LAB	BEACON MEDAES 6803-8121-103	2	PIN INDEX KEY STYLE COMPLETE ASSEMBLY. COMPLETE ASSEMBLY INCLUDES LATCH VALVE ASSEMBLY WITH STANDARD TRIM PLATE (FINISH ASSEMBLY) AND ROUGH-IN.
EP LAB	BEACON MEDAES 6803-8121-106		INSTALL AS PER MANUFACTURERS RECOMMENDATIONS
EP LAB / PRE-POST OP CUBICALS	BEACON MEDAES 6803-8030-275	11	

# SCHUNKEWITZ ARCHITECTURE

INTERIORS

PROJECT MANAGEMENT

DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASSA NJ, 07712 917-848-2350 DS@DSAHEALTHCARE.COM

Seal & Signature

Consultants:

Lilker Associates Mechanical and Electrical Engineers 1001 Avenue of the Americas New York, NY 10018 tel 212.695.1000 Lilker fax 212.695.1299 www.lilker.com Issued for 100% CD's 05/23/2023 04/28/2023 Issued for 50% CD's 03/31/2023 DD Review Set date no l description Client Name: **RICHMOND UNIVERSITY** MEDICAL CENTER

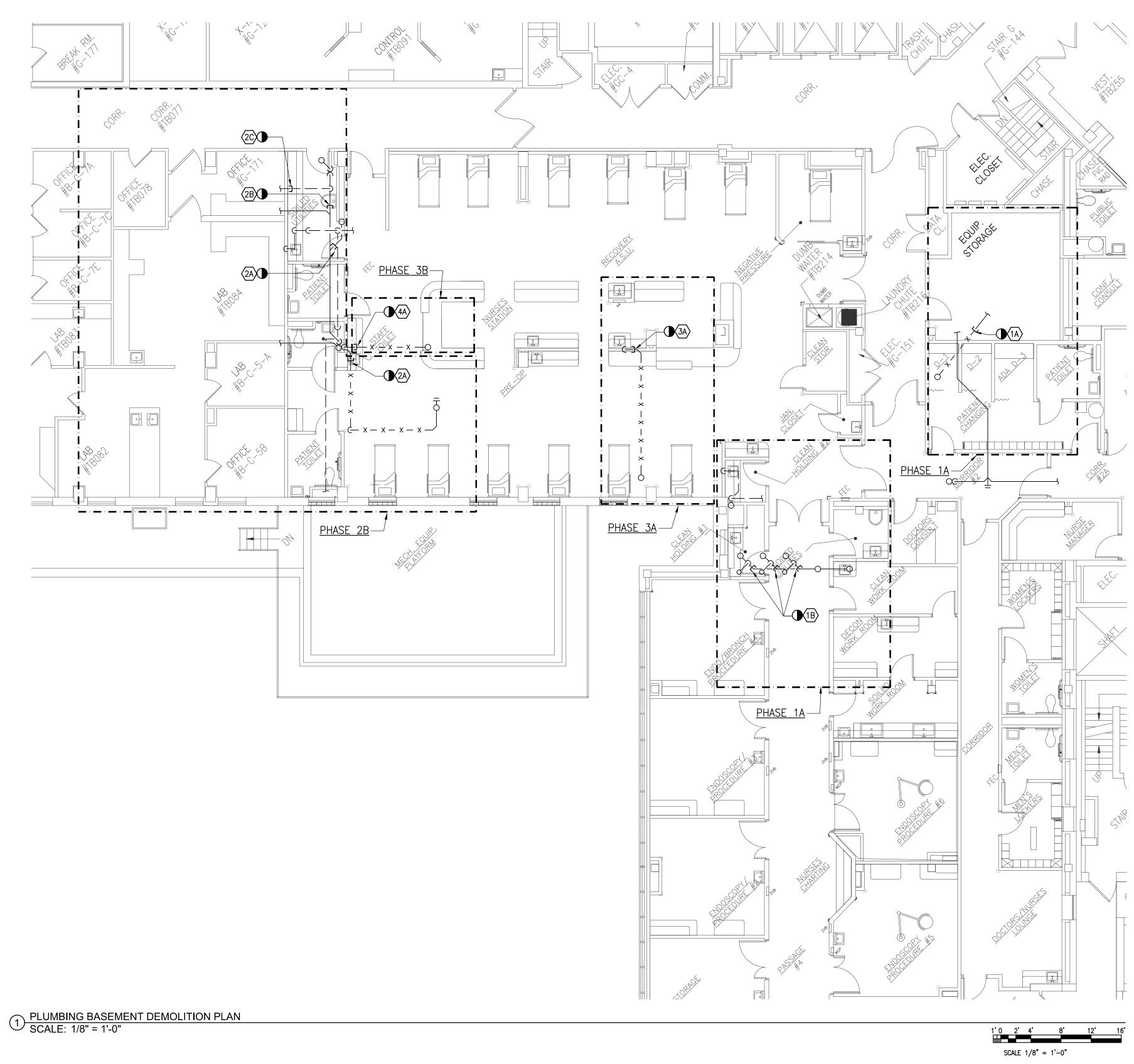
Project Name & Location:

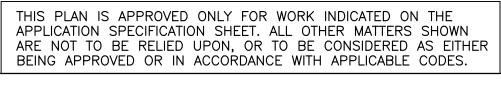
BI-PLANE EP LAB 355 BARD AVENUE STATEN ISLAND NY

Drawing Title: PLUMBING

# SCHEDULES

Drawn By:	Date:				
LP	05/23/2023				
Checked By:	Scale:				
LP	NO SCALE				
ssued To, For:					
CONSTRUCTIO	N DOCUMENTS				
ile No.: R2000					
Drawing No.:					
P-002.00	XX OF XX				





	PLUMBING KEY NOTES:
$\langle 1A \rangle$	REMOVE EXIST. 2" WASTE PIPE AND PLUG AS INDICATED
(1B)	REMOVE EXIST. 4" SOIL, 2" VENT PIPE AND PLUG AS INDICATED
$\langle 2A \rangle$	REMOVE EXIST. 2" WASTE PIPE AND PLUG AS INDICATED
(2B)	REMOVE EXIST. 3" WASTE, 2" VENT PIPE AND PLUG AS INDICATED
<b>(2C)</b>	REMOVE EXIST. 2" VENT PIPE AND PLUG AS INDICATED
$\langle 3A \rangle$	REMOVE EXIST. 2" WASTE PIPE AND PLUG AS INDICATED
$\langle 4A \rangle$	REMOVE EXIST. 2" WASTE PIPE AND PLUG AS INDICATED

## PLUMBING GENERAL NOTES:

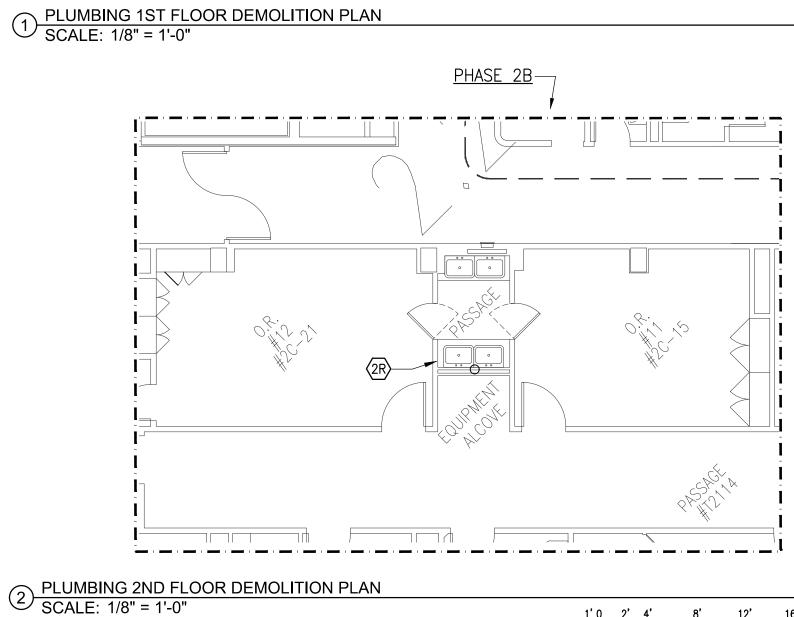
- COORDINATE ALL SHUTDOWNS WITH BUILDING MANAGEMENT PRIOR TO COMMENCEMENT OF WORK.
   COORDINATE WITH PHASING AND OVERTIME REQUIREMENTS FOR
- COORDINATE WITH PHASING AND OVERTIME REQUIREMENTS FOR CONSTRUCTION, AS REQUIRED.
   ALL PLUMBING FIXTURES OUTSIDE OF THIS PROJECT SCOPE OF WORK AREA, SHALL REMAIN ACTIVE. ALL CW, HW, V, AND SAN PIPING WHICH SUPPLIES PLUMBING FIXTURES OUTSIDE THE AREA OF WORK SHALL REMAIN.
   REFER TO RISER DIAGRAM FOR ADDITIONAL PIPE SIZES.

ARCHITECTURE INTERIORS PROJECT MANAGEMENT  DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASSA NJ, 07712 917-842-350 DS@DSAHEALTHCARE.COM  Seal & Signature  Consultants:  Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consultants: Consul	INTERIORS PROJECT MANAGEMENT  DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASSA NJ, 07712 917-348-230 DS@DSAHEALTHCARE.COM  Seal & Signature  Consultants:  LIIKEE ASSOCIATES Newhanical and Electrical Engineers 1001 Avenue of the Americas New York, NY 10018 Tel 212.695.1020 Ta 212.695.1299 www.filker.com  Consultants  LIIKE ASSOCIATES DOT Avenue of the Americas New York, NY 10018 Tel 212.695.1020 Ta 212.695.1299 Www.filker.com  Seal & Signature  Consultants  LIIKE ASSOCIATES DOT Avenue of the Americas New York, NY 10018 Tel 212.695.1020 Ta 212.695.1299 Www.filker.com  Seal & Signature  Consultants  LIIKE ASSOCIATES DOT Avenue of the Americas New York, NY 10018 Tel 212.695.1020 Ta 212.695.1000 Ta 212.695.1020 Ta 212.695.1020 Ta 2			
PROJECT MANAGEMENT  DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASSA NJ, 07712 917-944-2330 DS@DSAHEALTHCARE.COM  Seal & Signature  Consultants:  Lilker Associates Mechanical and Electrical Engineers 1007 Avenue of the Americas New York, NY 10018 1et 212.695.1000 1fax 212.695.1290 1fax 212.695.1290 1fax 212.695.1290 1fax 212.695.129  www.lilker.com	PROJECT MANAGEMENT  DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WWANAMASS NJ, 07712 917-848-2350 DS@DSAHEALTHCARE.COM  Seal & Signature  Consultants:  Lilkeer Associates Newhork, NY 10018 tel 212.095.1020 tax 212.095.100 tax 212.095.1020 tax 212.095.1020 tax 212.095.10	INTE	CHITECTURE	
DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASS NJ, 0712 917-848-2350 DS@DSAHEALTHCARE.COM Seal & Signature Consultants: LIIKEE Associates Mechanical and Electrical Engineers 1001 Avenue of the Americas New York, NY 10018 ref 212,695,1209 www.filker.com Consultants: LIIKEE Associates Mechanical and Electrical Engineers New York, NY 10018 ref 212,695,1209 www.filker.com Seal & Signature Consultants: LIIKEE Associates Mechanical and Electrical Engineers New York, NY 10018 ref 212,695,1209 Www.filker.com Seal & Signature LIIKEE Associates Mechanical and Electrical Engineers New York, NY 10018 ref 212,695,1209 Www.filker.com Seal & Signature Mechanical and Electrical Engineers New York, NY 10018 ref 212,695,1209 Www.filker.com Seal & Signature Mechanical and Electrical Engineers New York, NY 10018 ref 212,695,1209 Www.filker.com Seal & Signature Seal & Signature S	DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASS NJ, 0712 917-848-2350 DS@DSAHEALTHCARE.COM Seal & Signature	PRC		<i>I</i> ENT
1015 BENDERMERE AVENUE WANAMASSA NJ, 07712         917-848-2350         DS@DSAHEALTHCARE.COM         Seal & Signature         Consultants:         Lilker Associates Mechanical and Electrical Engineers 1001 Avenue of the Americas New York, NY 10018 tel 212.695.1000 fax 212.695.1299 www.lilker.com         www.lilker.com         State of the Americas New York, NY 10018 tel 212.695.1299         www.lilker.com	1015 BENDERMERE AVENUE WANAMASSA NJ, 07712         917-849-230         DS@DSAHEALTHCARE.COM         Seal & Signature         Seal & Signature         Consultants:         Lilker Associates Mechanical and Electrical Engineers         1001 Avenue of the Americas New York, NY 10018 tel 212.695.1209         rel 212.695.1209         www.filker.com         Mechanical and Electrical Engineers         1001 Avenue of the Americas New York, NY 10018 tel 212.695.1209         www.filker.com         www.filker.com         Mechanical and Electrical Engineers         1001 Avenue of the Americas         New York, NY 10018 tel 212.695.1209         www.filker.com         Mechanical and Electrical Engineers         1001 Avenue of the Americas         101 Avenue of the Americas         102 Augusta         103/31/2023       Issued for 100% CD's         1       03/31/2023       Ibswel for 50% CD's         1	PRU	JECT MANAGEN	ien i
1015 BENDERMERE AVENUE WANAMASSA NJ, 07712         917-848-2350         DS@DSAHEALTHCARE.COM         Seal & Signature         Consultants:         Lilker Associates Mechanical and Electrical Engineers 1001 Avenue of the Americas New York, NY 10018 tel 212.695.1000 fax 212.695.1299 www.lilker.com         www.lilker.com         State of the Americas New York, NY 10018 tel 212.695.1299         www.lilker.com	1015 BENDERMERE AVENUE WANAMASSA NJ, 07712         917-849-230         DS@DSAHEALTHCARE.COM         Seal & Signature         Seal & Signature         Consultants:         Lilker Associates Mechanical and Electrical Engineers         1001 Avenue of the Americas New York, NY 10018 tel 212.695.1209         rel 212.695.1209         www.filker.com         Mechanical and Electrical Engineers         1001 Avenue of the Americas New York, NY 10018 tel 212.695.1209         www.filker.com         www.filker.com         Mechanical and Electrical Engineers         1001 Avenue of the Americas         New York, NY 10018 tel 212.695.1209         www.filker.com         Mechanical and Electrical Engineers         1001 Avenue of the Americas         101 Avenue of the Americas         102 Augusta         103/31/2023       Issued for 100% CD's         1       03/31/2023       Ibswel for 50% CD's         1	DAN	NEL SCHUNKEW	ITZ ARCHITECT
Seal & Signature         Seal & Signature         Consultants:         Lilker Associates         Mechanical and Electrical Engineers         1001 Avenue of the Americas         New York, NY 10018         1212,695,1020         fax 212,695,1299         www.lilker.com	Seal & Signature         Seal & Signature         Consultants:         Lilker Associates         Mechanical and Electrical Engineers         1001 Avenue of the Americas         New York, NY 10018         tel 212.695.1299         wwww.lilker.com	101: WAI	5 BENDERMERE NAMASSA NJ, 07	AVENUE
Consultants:         Lilker Associates         Nechanical and Electrical Engineers         1001 Avenue of the Americas         New York, NY 10018         tel 212.695.1000         fax 212.695.1200         fax 21.600         fax 21.600         fax 21.61         late         ja         05/23/2023         Issued for 100% CD's         ja         03/31/2023         DD Review Set	Consultants:         Lilker Associates         Mechanical and Electrical Engineers         1001 Avenue of the Americas         New York, NY 10018         tel 212.695.1000         fax 212.695.1299         www.lilker.com         www.lilker.com			RE.COM
Lilker Associates         Mechanical and Electrical Engineers         1001 Avenue of the Americas         New York, NY 10018         tel 212.695.1020         fax 212.695.1229         www.lilker.com	Lilker Associates         Mechanical and Electrical Engineers         Nov York, NY 10018         tel 212.695.1029         www.lilker.com	Seal	& Signature	
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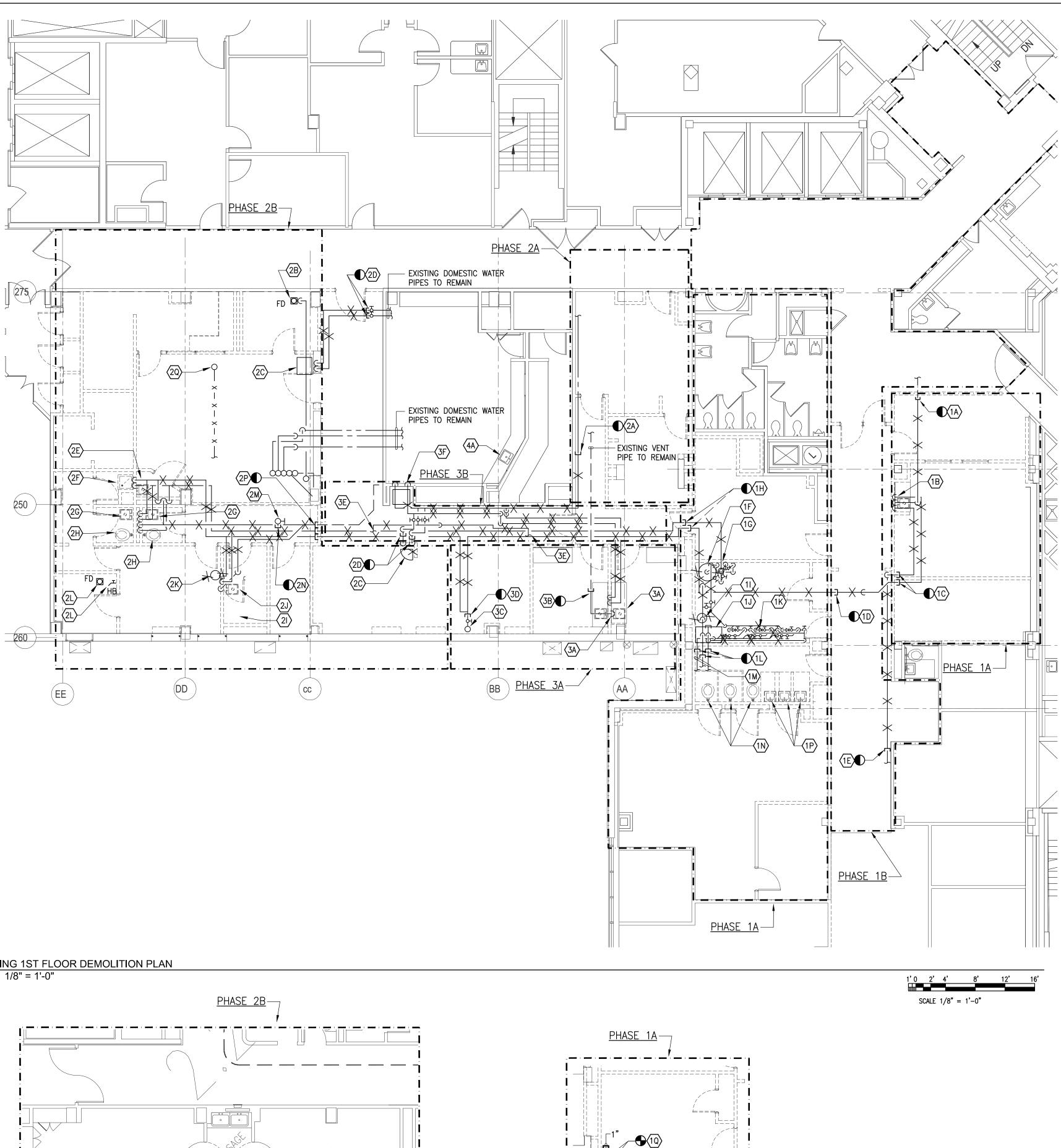
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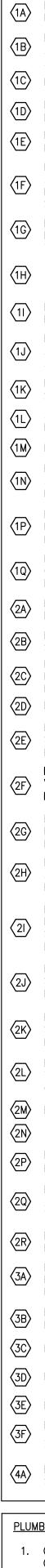
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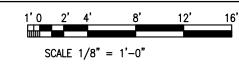




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LUMBING KEY NOTES:
XISTING VENT PIPE TO BE REMOVED BACK TO POINT OF DISCONNECT AS NDICATED AND PLUGGED.
XISTING HAND SINK, FAUCET AND ASSOCIATED APPURTENANCE SHALL BE REMOVED. SSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK S INDICATED.
XISTING DOMESTIC WATER PIPING SHALL BE REMOVED AND CAPPED AS INDICATED.

(1D) EXISTING 1" DOMESTIC COLD WATER PIPING SHALL BE REMOVED BACK AS INDICATED AND CAPPED UNDER PHASE 1B.

(1E) EXISTING 1" DOMESTIC HOT WATER PIPING SHALL BE REMOVED BACK AS INDICATED AND CAPPED UNDER PHASE 1B.

EXISTING ELECTRIC WATER HEATER, DRIP PAN, 3 FLOOD MASTER LEAK DETECTION AND SOLENOID VALVE SYSTEMS AND AQUASTAT SHALL BE REMOVED AND RELOCATED INTO NEW WATER HEATER ROOM. ASSOCIATED DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED.

(1G) EXISTING CIRCULATING PUMP AND ASSOCIATED APPURTENANCES SHALL BE REMOVED AND RELOCATED INTO NEW WATER HEATER ROOM. ASSOCIATED DOMESTIC WATER PIPING SHALL BE REMOVED.

THE EXISTING HWR AND COLD DOMESTIC WATER PIPING SHALL BE REMOVED AND CAPPED AS INDICATED UNDER PHASE 1A

EXISTING WATER DISPENSER AND ASSOCIATED APPURTENANCE AND PIPING SHALL BE REMOVED.

EXISTING HAND SINK, FAUCET AND ASSOCIATED APPURTENANCE SHALL BE REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK AS INDICATED.

(1K) EXISTING (3) THREE MIXING VALVES AND ASSOCIATED PIPING AND APPURTENANCE SHALL BE REMOVED.

(1L) 2ND FLOOR O.R.'S EXISTING 1" TEMPERED WATER PIPE, (2) 1"CW WATER PIPES TO BE REMOVED AND TEMPORARILY CAPPED AS INDICATED. (1M) EXISTING DOMESTIC WATER PIPES TO REMAIN

EXISTING FLOOR MOUNTED WATER CLOSET, FLUSH VALVE AND ASSOCIATED APPURTENANCE SHALL BE REMOVED. ASSOCIATED SOIL, VENT AND DOMESTIC WATER

PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG. EXISTING LAVATORY, CARRIER, FAUCET AND ASSOCIATED APPURTENANCE SHALL BE

(1P) REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

PLUMBING CONTRACTOR TO TEMPORARY LOOP HW PIPING DURING THE RELOCATION (1Q) OF THE EXISTING WATER HEATER AND ASSOCIATED COMPONENTS IN ORDER TO MAINTAIN THE 2ND FLOOR SCRUB SINKS OPERATIONAL.

EXISTING DOMESTIC COLD WATER PIPE TO BE REMOVED BACK TO POINT OF DISCONNECT AS INDICATED AND CAPPED.

2B EXISTING FLOOR DRAIN SHALL BE REMOVED. ASSOCIATED WASTE AND VENT PIPING SHALL BE REMOVED BACK TO ACTIVE LINES AND PLUGGED. EXISTING HAND SINK, FAUCET AND ASSOCIATED APPURTENANCE SHALL BE 2C REMOVED ASSOciATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE

REMOVED BACK AS INDICATED.  $\langle 2D \rangle$  EXISTING DOMESTIC WATER PIPING SHALL BE REMOVED AND CAPPED AS INDICATED.

EXISTING SCRUB SINK, FAUCET, KNEE PEDAL AND ASSOCIATED APPURTENANCE (2E) SHALL BE REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

EXISTING PREFABRICATED SHOWER, SHOWER HEAD, SHOWER DRAIN AND SHOWER 2F VALVE SHALL BE REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINES AND CAPPED/PLUG.

EXISTING LAVATORY, CARRIER, FAUCET AND ASSOCIATED APPURTENANCE SHALL BE (2G) REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

EXISTING WALL MOUNTED WATER CLOSET, FLUSH VALVE AND ASSOCIATED (2H) APPURTENANCE SHALL BE REMOVED. ASSOCIATED SOIL, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

EXISTING WALL MOUNTED CLINICAL SINK, CARRIER, FLUSH VALVE, SPRAY HOSE, (2) FOOT PEDALS AND ASSOCIATED APPURTENANCE SHALL BE REMOVED. ASSOCIATED SOIL, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

EXISTING SINK, FAUCET, EMERGENCY EYEWASH AND ASSOCIATED APPURTENANCE 2J SHALL BE REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

EXISTING FLOOR MOUNTED WATER DISPENSER AND ASSOCIATED APPURTENANCE 2K SHALL BE REMOVED. ASSOCIATED DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

EXISTING FLOOR DRAIN AND HOSE BIBB SHALL BE REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

(2M) EXISTING 1"HWR DROP TO REMAIN

 $\langle 2N \rangle$  EXISTING 1" HWR PIPING SHALL BE REMOVED BACK AS INDICATED AND CAPPED. EXISTING 27VENI, 1 HWK AND I COLD WATER THE TO BE THE POINT OF DISCONNECT AS INDICATED AND PLUGGED/CAPPED. WITHIN PHASE 2B EXISTING 2"VENT, 1"HWR AND 1"COLD WATER PIPE TO BE REMOVED BACK TO EXISTING 2"WASTE PIPE FROM SCRUB SINK ABOVE TO BE REMOVED BACK TO 20 ACTIVE LINE AND CAPPED. CONTRACTOR TO FIELD VERIFY EXACT LENGTHS OF

WASTE PIPE TO REMOVE. 2R EXISTING SCRUB SINKS TO BE REMOVED. EXISTING WASTE AND DOMESTIC WATER ROUGHING TO BE CAPPED BEHIND WALL.

(3A) EXISTING HAND SINK, FAUCET AND ASSOCIATED APPURTENANCE SHALL BE REMOVED. ASSOCIATED WASTE, VENT AND DOMESTIC WATER PIPING SHALL BE REMOVED BACK AS INDICATED.

(3B) EXISTING 2" VENT PIPE TO BE REMOVED BACK TO POINT OF DISCONNECT AS INDICATED AND PLUGGED.

 $\langle 3C \rangle$  EXISTING 1"CW DROP TO REMAIN

 $\langle 3D \rangle$  EXISTING 1"CW PIPING SHALL BE REMOVED BACK AS INDICATED AND CAPPED.

 $\langle \overline{3E} \rangle$  EXISTING CW TO STEAM GENERATOR TO BE REMOVED

EXISTING SCRUB SINK AND ASSOCIATED APPURTENANCE SHALL BE REMOVED. (3F) EXISTING SCRUB SINK AND ASSOCIATED AFFORTENANCE STALL BE REMOVED BACK TO ACTIVE LINE AND CAPPED/PLUG.

(4A) EXISTING SINK TO REMAIN, ASSOCIATED WASTE, VENT AND DOMESTIC WATER SERVICES SHALL REMAIN AND BE ACTIVE THROUGH OUT ALL PHASES OF WORK.

PLUMBING GENERAL NOTES:

1. COORDINATE ALL SHUTDOWNS WITH FACILITY OPERATIONS PERSONNEL PRIOR TO COMMENCEMENT OF WORK. 2. COORDINATE WITH PHASING DRAWINGS AND OVERTIME REQUIREMENTS FOR DEMOLITION, AS REQUIRED. 3. REFER TO RISER DIAGRAM FOR ADDITIONAL PIPE SIZES.

THIS PLAN IS APPROVED ONLY FOR WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

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	ND UNIVERSITY CAL CENTER

Project Name & Location:

BI-PLANE EP LAB 355 BARD AVENUE STATEN ISLAND NY

Drawing Title: PLUMBING 1ST FLOOR DEMOLITION

	PLAN	
awn By:	Date <sup>.</sup>	

05/23/2023 Scale LP AS NOTED

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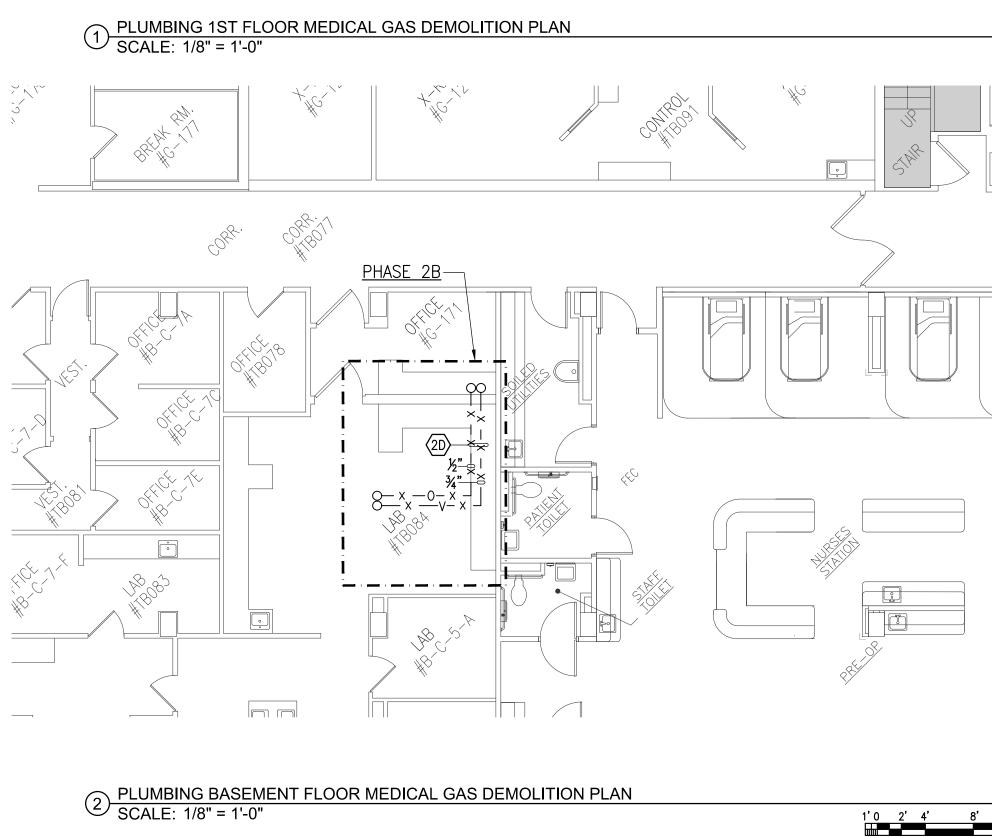
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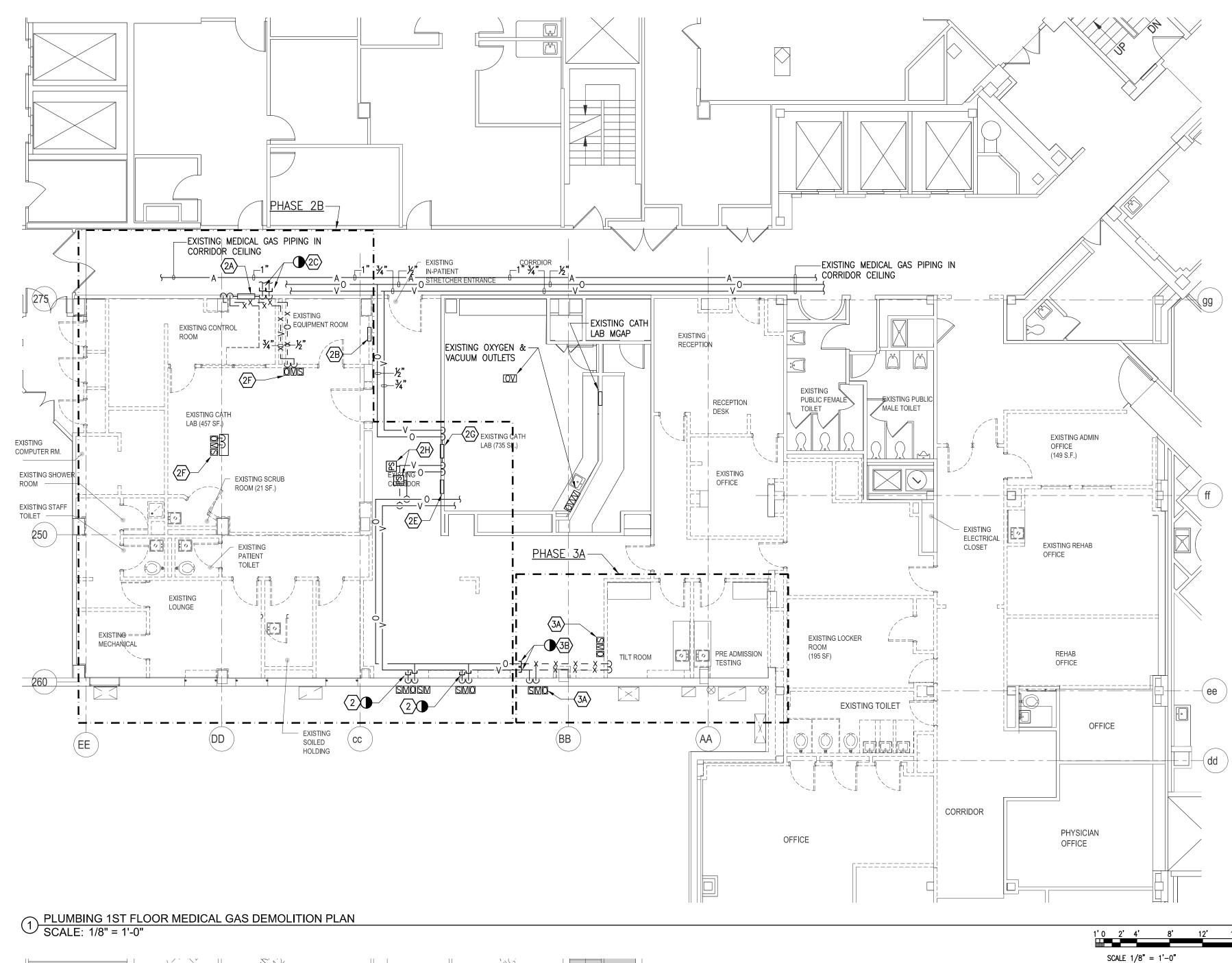
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SCALE 1/8" = 1'-0"

SCHUNKEWITZ

ARCHITECTURE

INTERIORS

PROJECT MANAGEMENT

DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASSA NJ, 07712 917-848-2350 DS@DSAHEALTHCARE.COM

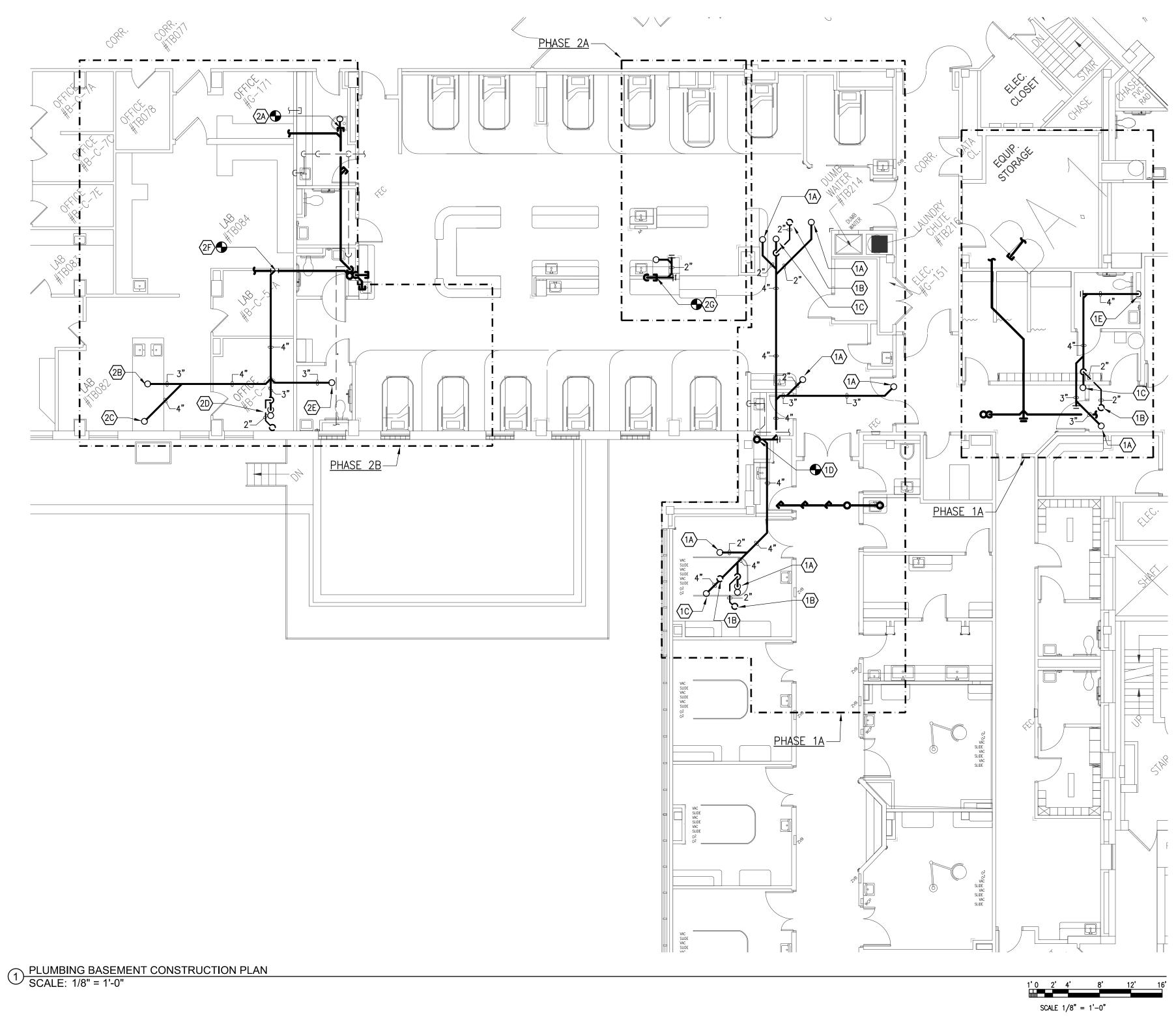
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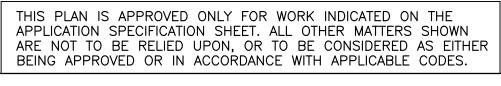
- (2A) EXISTING OXYGEN AND VACUUM ZONE VALVE BOX TO BE REMOVED EXISTING SIGNAGE TO BE REMOVED
- (2B) EXISTING EP LAB MEDICAL GAS ALARM PANEL SHALL BE REMOVED. PANEL WIRING EXISTING SENSORS SHALL BE REMOVED.
- (2C) EXISTING OXYGEN AND VACUUM GAS BRANCH PIPING TO BE REMOVED AND CAPPED AS INDICATED.
- EXISTING OXYGEN AND VACUUM PIPING AT CEILING OF BASEMENT FLOOR SHALL BE REMOVED. CONTRACTOR TO COORDINATE DEMOLITION WITH FACILITY AND PRACTICE OF THIS SPACE.
- EXISTING CATH LAB AND HOLDING MEDICAL GAS ALARM PANEL SHALL BE REMOVED. PANEL WIRING SHALL BE DISCONNECTED FROM EXISTING SENSORS.
- (2F) EXISTING MEDICAL GAS OUTLETS AND ASSOCIATED PIPING TO BE REMOVED AS INDICATED.
- EXISTING CATH LAB AND HOLDING MEDICAL GAS ZONE VALVE BOX TO REMAIN.
- 2H EXISTING OXYGEN AND VACUUM REMOTE PRESSURE SENSORS TO REMAIN. PLUMBING CONTRACTOR TO TAKE CAUTION AS TO NOT TO DAMAGE SENSORS.
- (3A) EXISTING MEDICAL GAS OUTLETS AND ASSOCIATED PIPING TO BE REMOVED AS INDICATED.
- (3B) EXISTING OXYGEN AND VACUUM GAS BRANCH PIPING TO BE REMOVED AND CAPPED AS INDICATED.

## PLUMBING GENERAL NOTES:

- 1. COORDINATE ALL SHUTDOWNS WITH FACILITY OPERATIONS PERSONNEL PRIOR TO COMMENCEMENT OF WORK.
- 2. COORDINATE WITH ARCHITECTURAL PHASING AND OVERTIME
- REQUIREMENTS FOR CONSTRUCTION, AS REQUIRED. 3. REFER TO RISER DIAGRAM FOR ADDITIONAL PIPE SIZES.

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2 1 no. Clien Proje Draw	04/28/2023 03/31/2023 date t Name: RICHMO MEDI ct Name & Locatio Black 355 STA ing Title: PL ST FLOO DEMO	ONT: -PLAN BARE TEN .UM R M	Issued fo DD Re deso UNIV CEN SLAND BING IEDIC ON P Date: 05/2 Scale:	r 50% CD's EVIEW Set Dription ERSITY ITER AB JE NY AL GAS
2 1 no. Clien Proje Draw Draw	04/28/2023 03/31/2023 date t Name: RICHMO MEDI ct Name & Location BI 355 STA ing Title: PL ST FLOO DEMO n By: LP ked By:	CAL -PLAN BARE TEN UM LITI	Issued fo DD Re deso UNIV CEN SEEP L D AVENI SLAND BING IEDIC ON P Date: 05/2 Scale: AS N	r 50% CD's EVIEW Set Dription ERSITY ITER AB JE NY AL GAS LAN 3/2023 IOTED





<u>PLUMBING KEY NOTES:</u> (1A) 2"W. DROP (1B) 2"V. UP (1C) 4"S. DROP (1D) CUT AND CONNECT NEW 4"S. PIPE TO EXITING 4"S. RISER. (1E) NEW 4"S. DROP. CONNECT TO EXISTING 4"S. FROM WATER CLOSET (2A) 2"W. DROP CONNECT TO EXISTING 2"W. PIPE 2B 2"W. DROP 2C 4"S. DROP 2D 2"V. UP, 3"W. DROP 2E 2"W. DROP 2F CUT AND CONNECT NEW 4"S. PIPE TO EXITING 4"S. PIPE 26 2"W. DROP CONNECT TO EXISTING 2"W. PIPE

PLUMBING GENERAL NOTES:

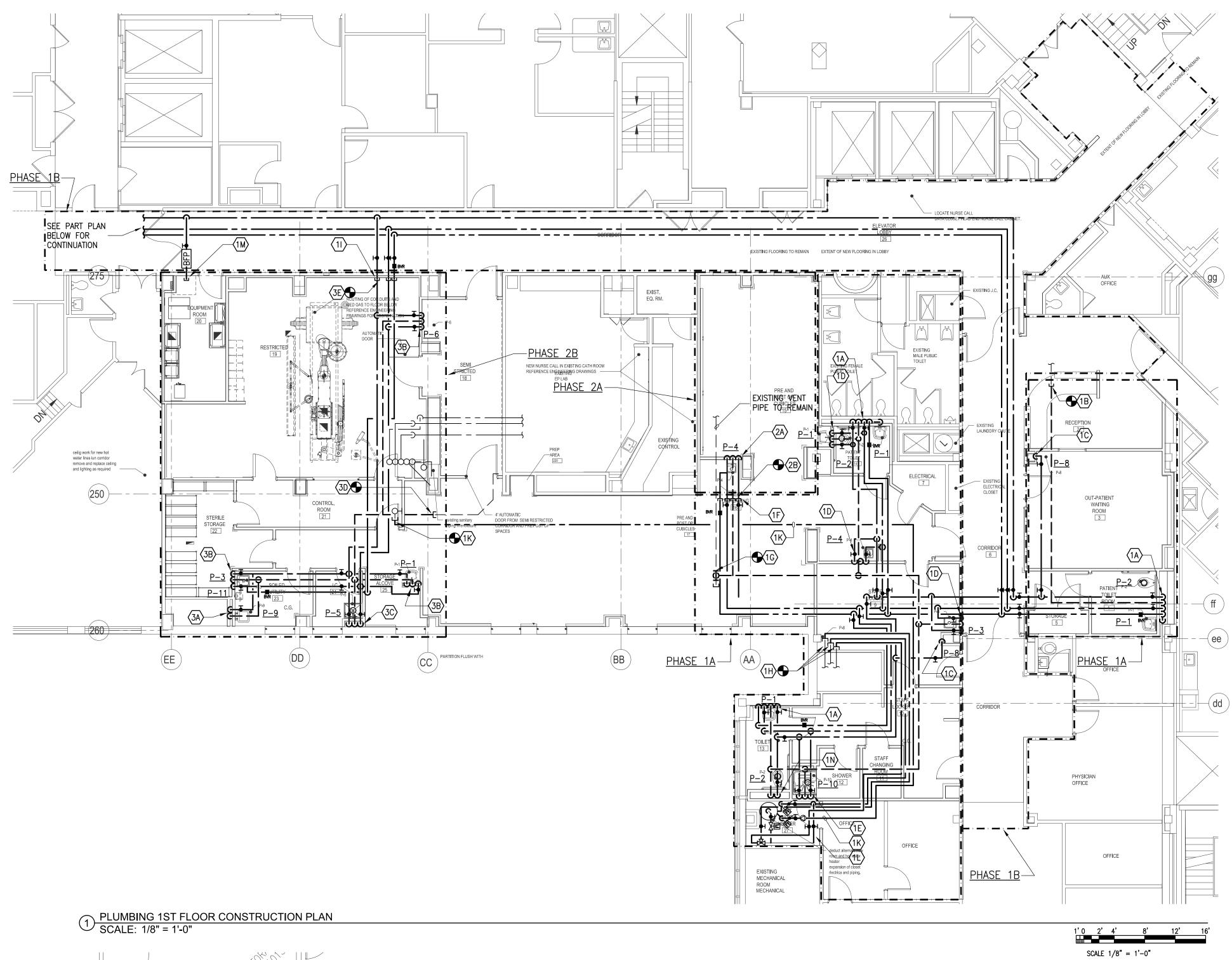
- 1. COORDINATE ALL SHUTDOWNS WITH BUILDING MANAGEMENT PRIOR TO COMMENCEMENT OF WORK.

- COORDINATE WITH ARCHITECTURAL PHASING AND OVERTIME REQUIREMENTS FOR CONSTRUCTION, AS REQUIRED.
   ALL PLUMBING FIXTURES OUTSIDE OF THIS PROJECT SCOPE OF WORK AREA, SHALL REMAIN ACTIVE. ALL CW, HW, V, AND SAN PIPING WHICH SUPPLIES PLUMBING FIXTURES OUTSIDE THE AREA
- OF WORK SHALL REMAIN.
- 4. REFER TO RISER DIAGRAM FOR ADDITIONAL PIPE SIZES.

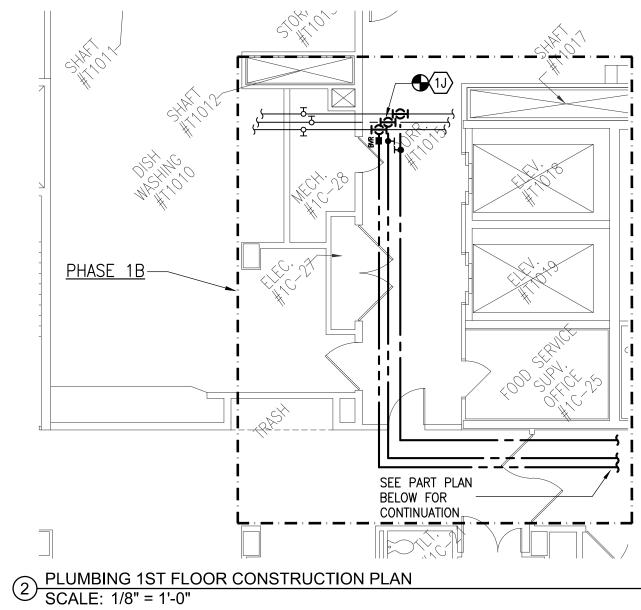
SCHUNKEWITZ
ARCHITECTURE
INTERIORS PROJECT MANAGEMENT
DANIEL SCHUNKEWITZ, ARCHITECT 1015 BENDERMERE AVENUE WANAMASSA NJ, 07712
917-848-2350 DS@DSAHEALTHCARE.COM
Seal & Signature
Consultants:
Lilker Associates Mechanical and Electrical Engineers
1001 Avenue of the Americas New York, NY 10018
tel 212.695.1000 fax 212.695.1299 www.lilker.com
3         05/23/2023         Issued for 100% CD's           2         04/28/2023         Issued for 50% CD's
1 03/31/2023 DD Review Set
no. date description
Client Name:
RICHMOND UNIVERSITY
MEDICAL CENTER
Project Name & Location:
355 BARD AVENUE STATEN ISLAND NY
PLUMBING BASEMENT
CONSTRUCTION PLAN
Drawn By: Date: LP 05/23/2023
Checked By: Scale:
Checked By:     Scale:       LP     AS NOTED       Issued To, For:
Checked By: Scale: LP AS NOTED

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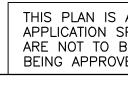
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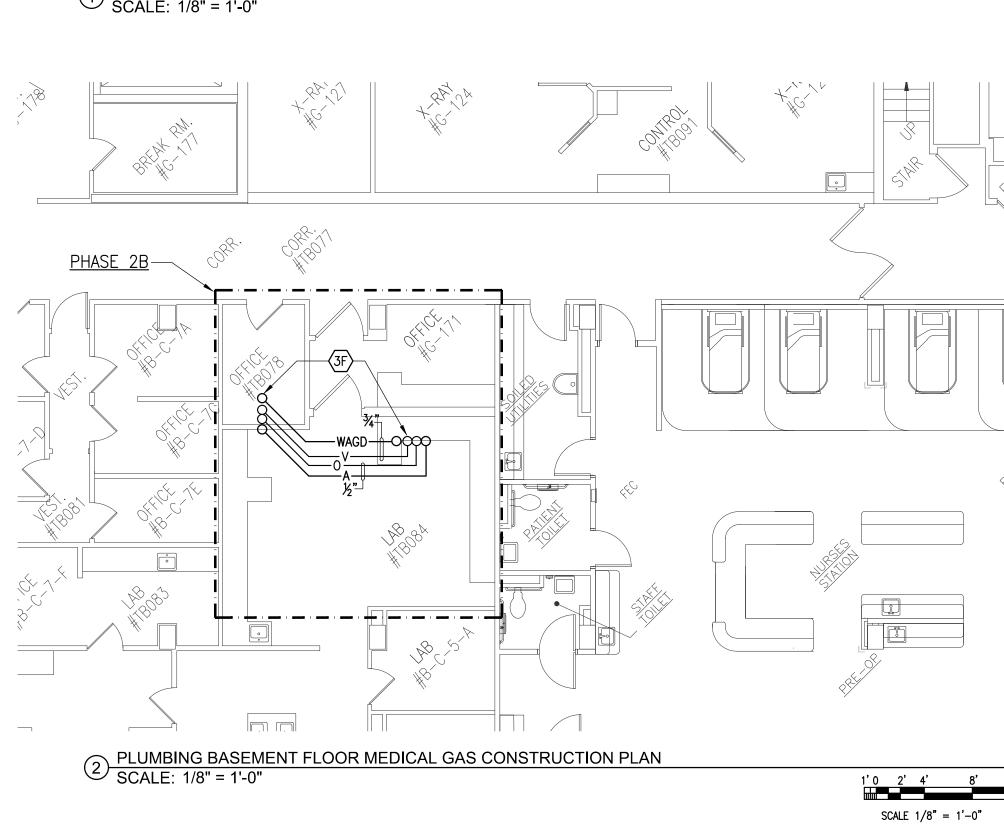
SCALE 1/8" = 1'-0"

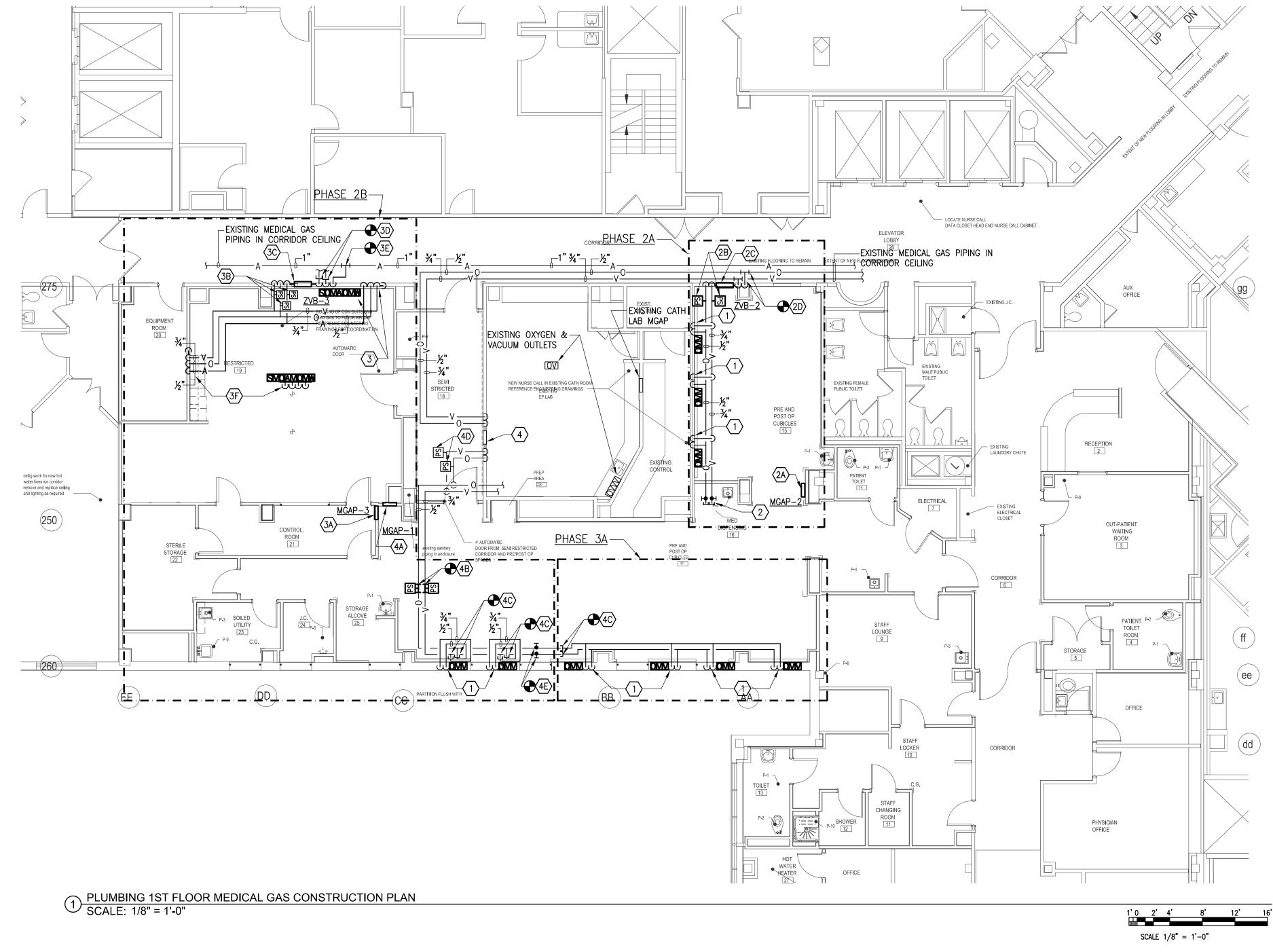


1'0 2' 4' 8' 12' 1

	PLUMBING KEY NOTES:	ARCHITECTU		KEWITZ
	34"CW DROP, 34"HW DROP, 34"HWR RISE, 2"V. RISE, 2"W. DN REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	INTERIORS PROJECT MAN	NAGEMENT	
(1B) (1C)	NEW 2" VENT TO CONNECT TO EXISTING 2" VENT CAPPED OUTLET NEW ¾"CW DROP WITH CHECK VALVE AND VACUUM BREAKER TO WATER DISPENSER. REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.			
<b>(1D)</b>	¾"HW DROP, 2"V. RISE, 2"W. DN., ¾"CW DROP REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	DANIEL SCHU 1015 BENDER WANAMASSA	MERE AVENU	
(1E)	¾"HW DROP, 2"V. RISE, 2"W. DN., ¾"CW DROP REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	917-848-2350 DS@DSAHEA		М
(1F)	¾"HWR CAPPED OUTLET, ¾"HW CAPPED OUTLET, 2"V. PLUGGED OUTLET, ¾"CW CAPPED OUTLET FOR FUTURE PHASE 2A CONNECTION.	Seal & Signatur	e	
(16) (1H)	CUT AND CONNECT NEW 2"V. PIPE TO EXISTING 2"V. PIPE CONNECT NEW 1"HW.,1"HW TEMPERED AND 1"CW PIPE TO EXISTING 1"HW., 1"HW			
$\langle 11 \rangle$	TEMPERED AND 1"CW CAPPED OUTLETS. 34"HWR CAPPED OUTLET, 34"HW CAPPED OUTLET, 1½"CW CAPPED OUTLET FOR FUTURE			
	PHASE 2B CONNECTION. CUT AND CONNECT NEW 2"CW TO EXISTING 2"CW PIPE. CUT AND CONNECT NEW 1¼"HW TO EXISTING 1½"HW PIPE. CUT AND CONNECT NEW ¾"HWR TO EXISTING ¾"HWR PIPE.			
(1K)	CONNECT NEW 1"HWR PIPE TO EXISTING 1"HWR PIPE. THIS WORK MUST BE DONE DURING PHASE 1 SCOPE AND ON AFTER HOURS. PLUMBING CONTRACTOR TO COORDINATE PIPE ROUTING WITH EXISTING AND NEW WORK OF ALL TRADES.			
(11)	PLUMBING CONTRACTOR TO INSTALL EXISTING RELOCATED ELECTRIC WATER HEATER, DRIP PAN, 3 FLOOD MASTER LEAK DETECTION AND SOLENOID VALVE SYSTEMS, AQUASTAT AND CIRCULATING PUMP WITHIN THE NEW WATER HEATER ROOM.	Consultants:	r Ac	rociator
<u>(1M)</u>	PROVIDE A ½"CW VALVED CAPPED OUTLET WITH BACKFLOW PREVENTER FOR PHASE 2B CONNECTION OF HVAC EQUIPMENT. FINAL CONNECTION BY OTHERS.		al and Eleo	<b>SOCIATES</b> ctrical Engineers mericas
	1½"CW DROP, 2"V. RISE, 4"S. DROP REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL	New York, tel 212.69 fax 212.69	NY 10018 5 1000	
2A	INFORMATION. ¾"HW DROP, 2"V. RISE, 2"W. DN., ¾"CW DROP REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.	www.lilker.	.com	<b>~Lilker</b>
2B	CONNECT NEW ¾"HWR TO ¾"HWR CAPPED OUTLET, CONNECT NEW 2"V. TO 2"V. PLUGGED OUTLET, ¾"HW TO ¾"HW CAPPED OUTLET, CONNECT NEW 2"V. TO 2"V. PLUGGED OUTLET, CONNECT NEW ¾"CW TO ¾"CW CAPPED OUTLET.			
(JA)	1¼°CW DROP, 4°S. DN., 2°V. RISE. REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.			
<b>⟨</b> 3₿⟩	¾"HW DROP, 2"V. RISE, 2"W. DN., ¾"CW DROP REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.			
⟨3C⟩	¾"HW DROP, 2"V. RISE, 3"W. DN., ¾"CW DROP REFER TO RISER DIAGRAM AND PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL			
	INFORMATION. CONNECT NEW 2"V. PIPE TO 2"V. PLUGGED OUTLET			
(3D)				
3D (3E)	CONNECT NEW ¾"HWR TO ¾"HWR CAPPED OUTLET, CONNECT NEW ¾"HW TO ¾"HW CAPPED OUTLET, CONNECT NEW 1½"CW TO 1½"CW CAPPED OUTLET.			
(3E) PLUM 1. 2.	CAPPED OUTLET, CONNECT NEW 1½"CW TO 1½"CW CAPPED OUTLET. BING GENERAL NOTES: COORDINATE ALL SHUTDOWNS WITH BUILDING MANAGEMENT PRIOR TO COMMENCEMENT OF WORK. COORDINATE WITH ARCHITECTURAL PHASING AND OVERTIME REQUIREMENTS FOR CONSTRUCTION, AS REQUIRED. ALL PLUMBING FIXTURES OUTSIDE OF THIS PROJECT SCOPE OF WORK AREA, SHALL REMAIN ACTIVE. ALL CW, HW, V, AND SAN			
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(3E) PLUM 1. 2. 3. 4.	CAPPED OUTLET, CONNECT NEW 1½"CW TO 1½"CW CAPPED OUTLET.			Issued for 100% CD's Issued for 50% CD's
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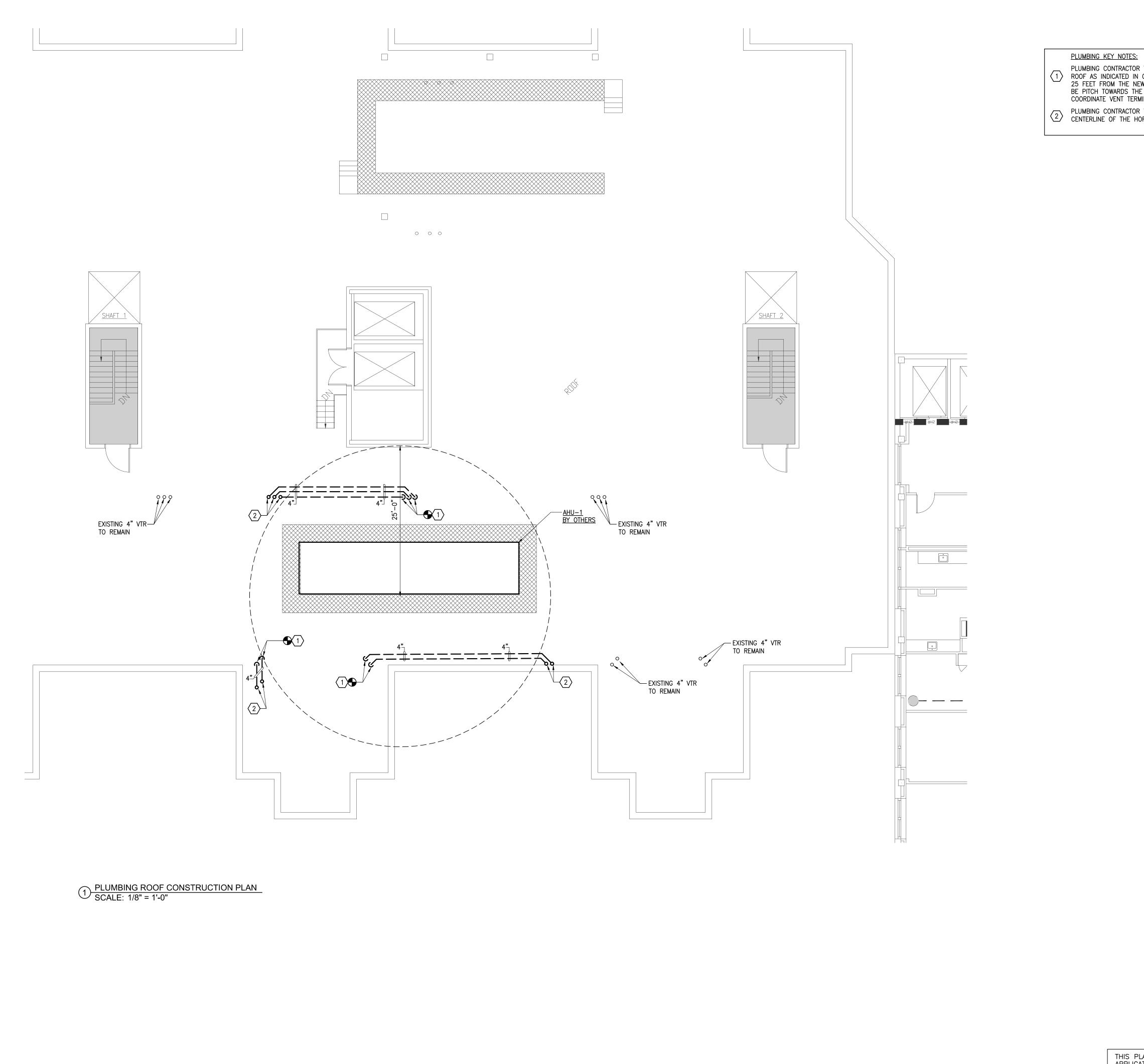


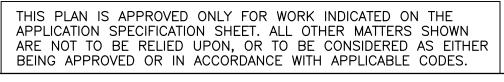
	PLUMBING KEY NOTES:
$\langle 1 \rangle$	NEW ½" OXYGEN, ¾" VACUUM T MEDICAL GAS STUB-UP'S FROM VACUUM OUTLETS.
$\langle 2 \rangle$	NEW ½"OXYGEN AND ¾"VACUUM
2A	NEW PRE AND POST OP MEDICA OXYGEN AND VACUUM MONITORI REMOTE SENSORS. PANEL TO B 7,8,9.
(2B)	NEW OXYGEN AND VACUUM REM TO PRE AND POST OP MEDICAL
(2C)	NEW OXYGEN AND VACUUM ZON LABELED PRE AND POST OP BE
2D	PLUMBING CONTRACTOR TO CUT EXISTING ½" OXYGEN PIPE MAIN VACUUM PIPE MAIN IN CEILING.
3	NEW ½" OXYGEN, ¾" VACUUM, AND CONNECT TO MEDICAL GAS (1) AIR OUTLET, (2) VACUUM O CONTRACTOR TO CONNECT WAGE OF 5FT FROM ANY MEDICAL VAC
(JA)	NEW INTERVENTIONAL RADIOLOGY (MGAP-3) FOR OXYGEN, AIR AN WIRED TO NEW REMOTE SENSOF
(3B)	NEW OXYGEN, AIR AND VACUUM WIRED TO INTERVENTIONAL RADI (MGAP-3).
	NEW OXYGEN, VACUUM AND MEI BOX TO BE LABELED EP-LAB.
	PLUMBING CONTRACTOR TO CON OXYGEN PIPING TO CAPPED VAL
(JE)	PLUMBING CONTRACTOR TO CUT EXISTING 1" AIR PIPE IN CEILIN
(JF)	NEW ½" OXYGEN, ¾" VACUUM, TO CEILING OF BASEMENT FLOO GAS STUB-UP'S FROM (2) OXY VACUUM OUTLETS AND (1)WAGD CONTRACTOR TO CONNECT WAGE MINIMUM OF 5FT FROM ANY ME
4	EXISTING CATH LAB AND HOLDIN ZONE VALVE BOX TO BE RELAB OP BEDS 1,2,3,4,5,6.
<b>(</b> 4 <b>A)</b>	NEW PRE AND POST OP MEDICA OXYGEN AND VACUUM MONITORI REMOTE SENSORS. PANEL TO B 1,2,3,4,5,6.
⟨4B⟩	EXISTING OXYGEN AND VACUUM OXYGEN AND VACUUM REMOTE CONNECTED. REMOTE PRESSURE POST OP MEDICAL GAS ALARM
(4C)	CONNECT NEW ½" OXYGEN AND VACUUM CAPPED OUTLETS.
(4D)	EXISTING OXYGEN AND VACUUM REMAIN. PLUMBING CONTRACTOR DAMAGE SENSORS.
(4E)	PLUMBING CONTRACTOR TO PRO OXYGEN VALVE AND ¾" VACUUN VACUUM PIPING.

1.	COORDINATE ALL SHUTDOWNS
2.	PERSONNEL PRIOR TO COMMEN
۷.	REQUIREMENTS FOR CONSTRUC
3.	ALL PLUMBING FIXTURES OUTS
	WORK AREA, SHALL REMAIN AC
	PIPING WHICH SUPPLIES PLUM
	OF WORK SHALL REMAIN.
4.	REFER TO RISER DIAGRAM FOR
5.	THE NEW ULTRASUITE CLEAN (
	BY CM AND INSTALLED BY OTH
	EQUIPPED WITH LAMINAR FLOW
	LIGHTING, ETC. REFER TO THE
	DETAILS. PLUMBING CONTRACTO
	PIPING AT CEILING WITH THE U



JM TO DROP IN WALL AND CONNECT TO ROM (1) OXYGEN OUTLET AND (2)		Л	SCH RCHITECTURE ITERIORS ROJECT MANAGEM	UNKEWI	ΤΖ
UUM VALVED CAPPED OUTLET FOR FUTURE. EDICAL GAS ALARM PANEL (MGAP-2) FOR TORING. PANEL TO BE WIRED TO NEW TO BE LABELED PRE AND POST OP BEDS					
REMOTE PRESSURE SENSORS TO BE WIRED DICAL GAS ALARM PANEL (MGAP-2).		1( V	ANIEL SCHUNKEW 015 BENDERMERE /ANAMASSA NJ, 07 17-848-2350	AVENUE	
ZONE VALVE BOX (ZVB-2). BOX TO BE P BEDS 7,8,9.		D	S@DSAHEALTHCA	RE.COM	
CUT AN CONNECT NEW ½" OXYGEN TO MAIN AND ¾" VACUUM TO EXISTING ¾" ING.					
JM, ¾"WAGD AND ½" AIR TO DROP IN WALL GAS STUB-UP'S FROM (2) OXYGEN OUTLETS, M OUTLETS AND (1)WAGD OUTLET. PLUMBING WAGD OUTLET TO VACUUM PIPING A MINIMUM VACUUM INLET.					
LOGY MEDICAL GAS ALARM PANEL R AND VACUUM MONITORING. PANEL TO BE NSORS. PANEL TO BE LABELED EP-LAB UUM REMOTE PRESSURE SENSORS TO BE RADIOLOGY MEDICAL GAS ALARM PANEL					
MEDICAL AIR ZONE VALVE BOX (ZVB–3). AB.		Co	onsultants:		
AD. CONNECT NEW ¾" VACUUM AND ½" VALVE OUTLETS. CUT AN CONNECT NEW ½" AIR PIPE TO EILING.		N T T	Lilker <u>Iechanical and</u> 001 Avenue of Jew York, NY 10 el 212.695.100	d Electrical 1 the Americas 0018 0	Engineers
JM, ¾"WAGD AND ½" AIR TO DROP DOWN FLOOR AND RISE TO CONNECT TO MEDICAL OXYGEN OUTLETS, (1) AIR OUTLET, (3) /AGD OUTLET IN BOX. PLUMBING WAGD OUTLET TO VACUUM PIPING A / MEDICAL VACUUM INLET.			ax 212.695.129 vww.lilker.com		ilker
DLDING MEDICAL GAS ZONE VALVE BOX. ELABELED CATH LAB AND PRE AND POST					
EDICAL GAS ALARM PANEL (MGAP-1) FOR TORING. PANEL TO BE WIRED TO NEW TO BE LABELED PRE AND POST OP BEDS					
JUM BRANCH PIPES TO BE CUT AND NEW DTE PRESSURE SENSORS TO BE SURE SENSORS TO BE WIRED TO PRE AND RM PANEL (MGAP-1). AND ¾" VACUUM TO EXISTING OXYGEN AND					
JUM REMOTE PRESSURE SENSORS TO CTOR TO TAKE CAUTION AS TO NOT TO					
PROVIDE, INSTALL AND CONNECT NEW ½" CUUM VALVE TO EXISTING OXYGEN AND					
INS WITH FACILITY OPERATIONS MMENCEMENT OF WORK. CTURAL PHASING AND OVERTIME TRUCTION, AS REQUIRED. OUTSIDE OF THIS PROJECT SCOPE OF N ACTIVE. ALL CW, HW, V, AND SAN PLUMBING FIXTURES OUTSIDE THE AREA					
FOR ADDITIONAL PIPE SIZES. AN CEILING SYSTEM SHALL BE PROVIDED					
OTHERS. THE SYSTEM SHALL BE FLOW DIFFUSERS, HEPA FILTERS, THE ARCHITECTURAL DRAWINGS FOR			05/23/2023	Issued fo	r 100% CD's
ACTOR TO COORDINATE ALL PLUMBING HE ULTRASUITE CLEAN CEILING SYSTEM.		2 1 nc	03/31/2023	DD Re	or 50% CD's eview Set cription
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917-848-2350 DS@DSAHEALTHCAR	E.COM
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Consultants:	
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Mechanical and	Electrical Engineers
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tel 212.695.1000 fax 212.695.1299	Lilker
www.lilker.com	LIIKEF
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PLUMBING CONTRACTOR TO OFF-SET AND EXTEND EXISTING 4" VENT PIPES THRU ROOF AS INDICATED IN ORDER TO BE BEYOND THE MINIMUM REQUIRED DISTANCE OF 25 FEET FROM THE NEW AIR HANDLING UNIT FRESH ARE INTAKE. VENT PIPE SHALL BE PITCH TOWARDS THE DRAINAGE SYSTEM. PLUMBING CONTRACTOR SHALL COORDINATE VENT TERMINATION WITH MECHANICAL CONTRACTOR.

2 PLUMBING CONTRACTOR TO EXTEND 4" VERTICAL VENT PIPE 24" ABOVE THE CENTERLINE OF THE HORIZONTAL VENT PIPE.

05/23/2023

AS NOTED

Scale:

CONSTRUCTION DOCUMENTS

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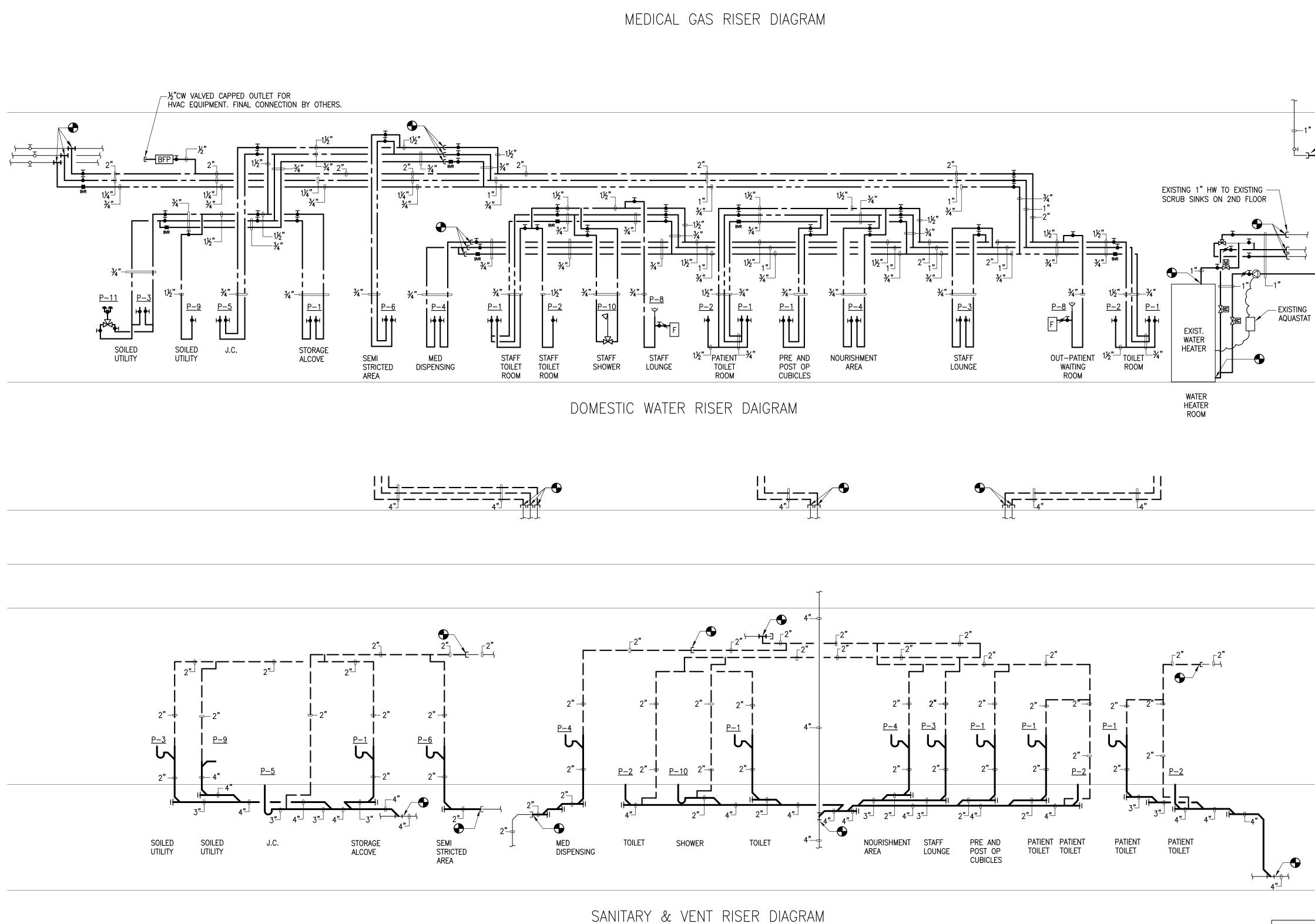
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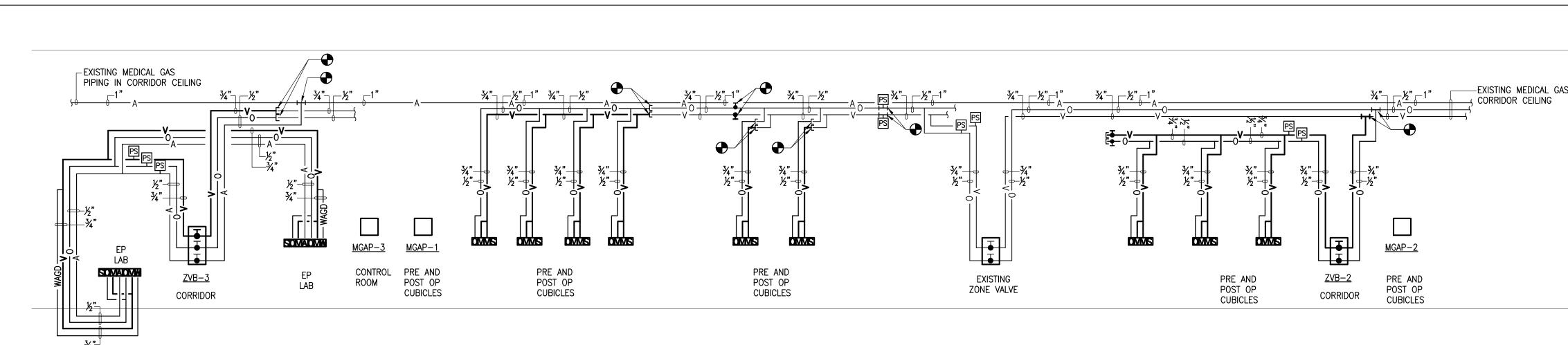
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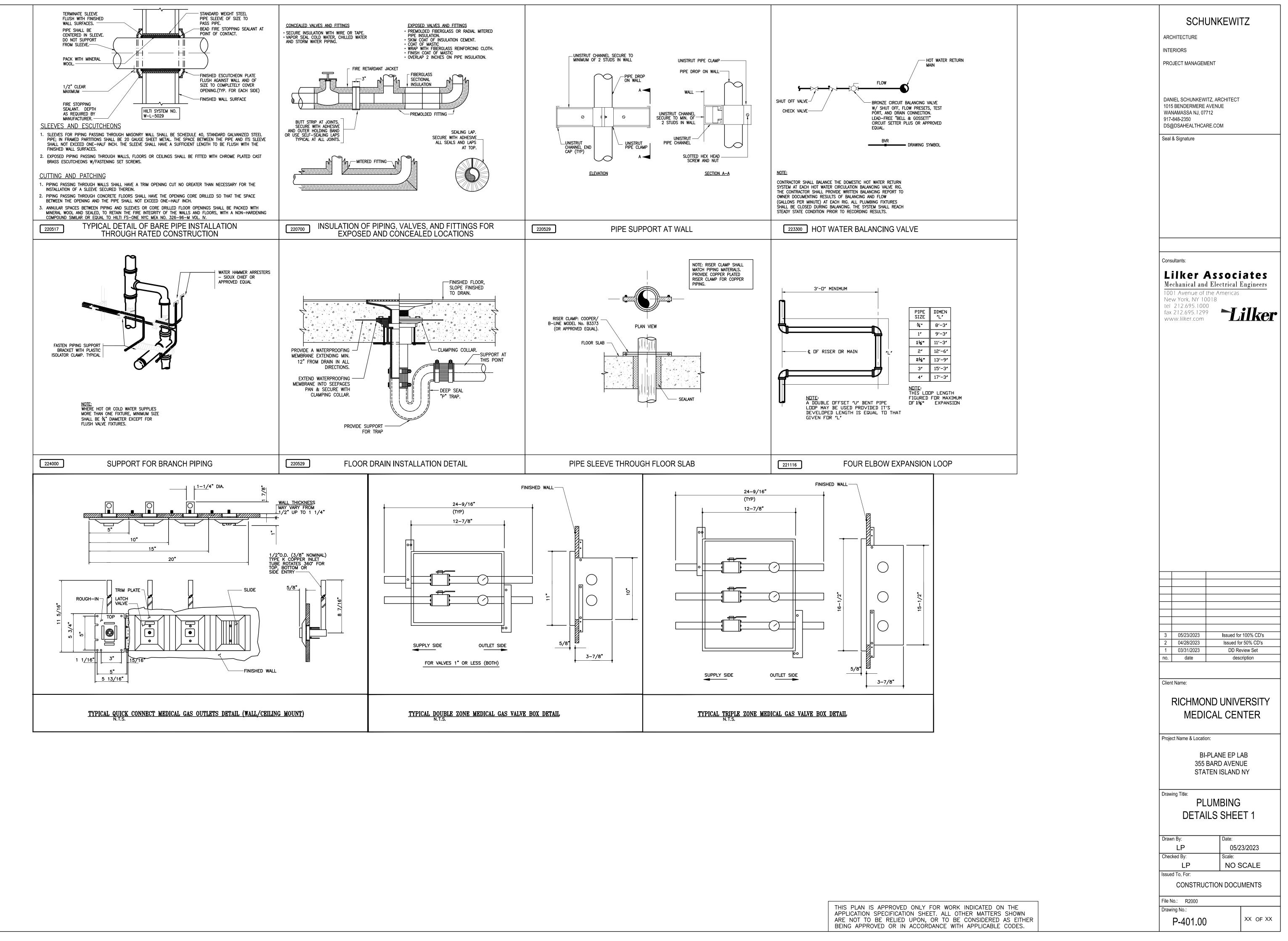
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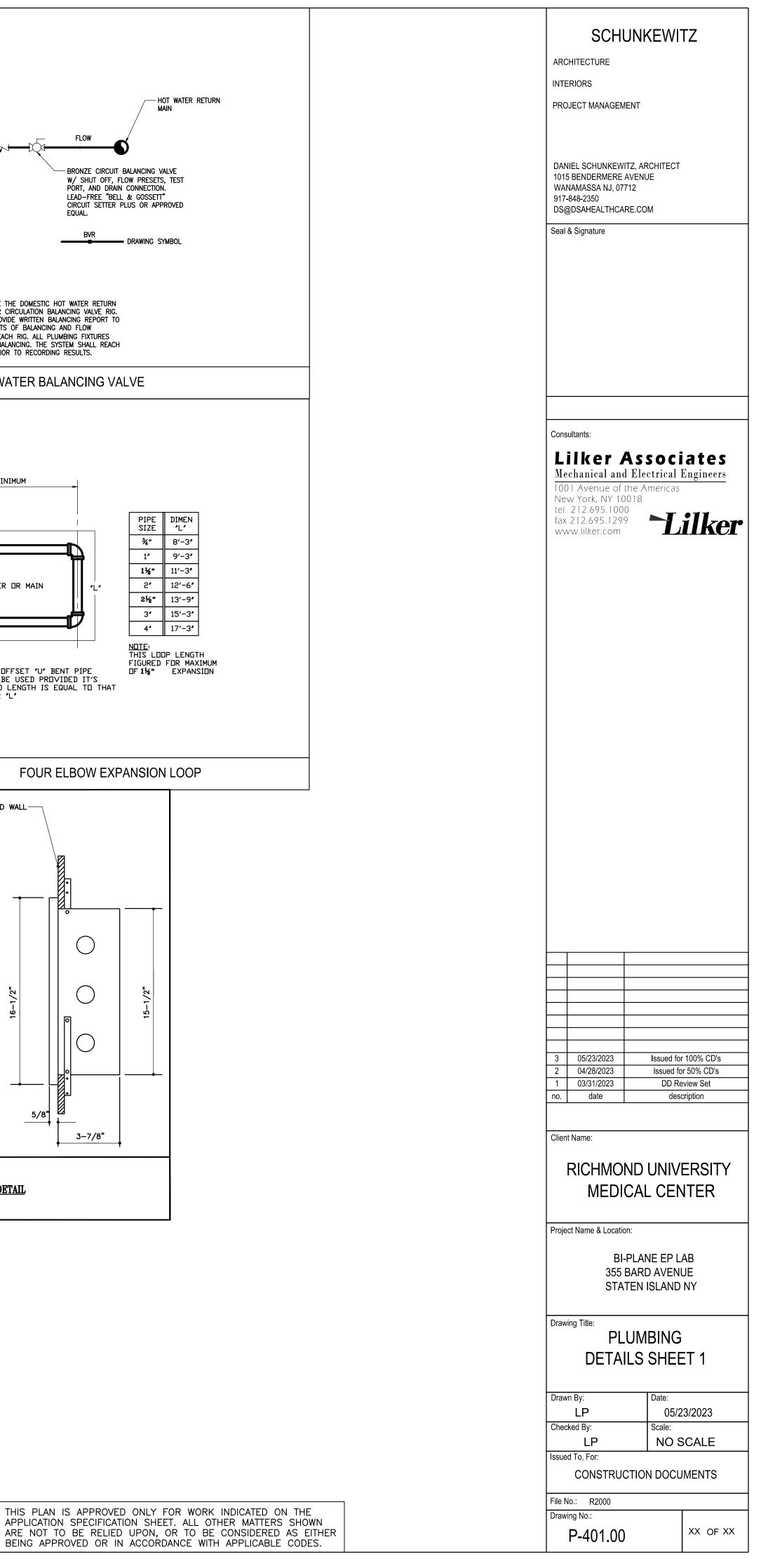
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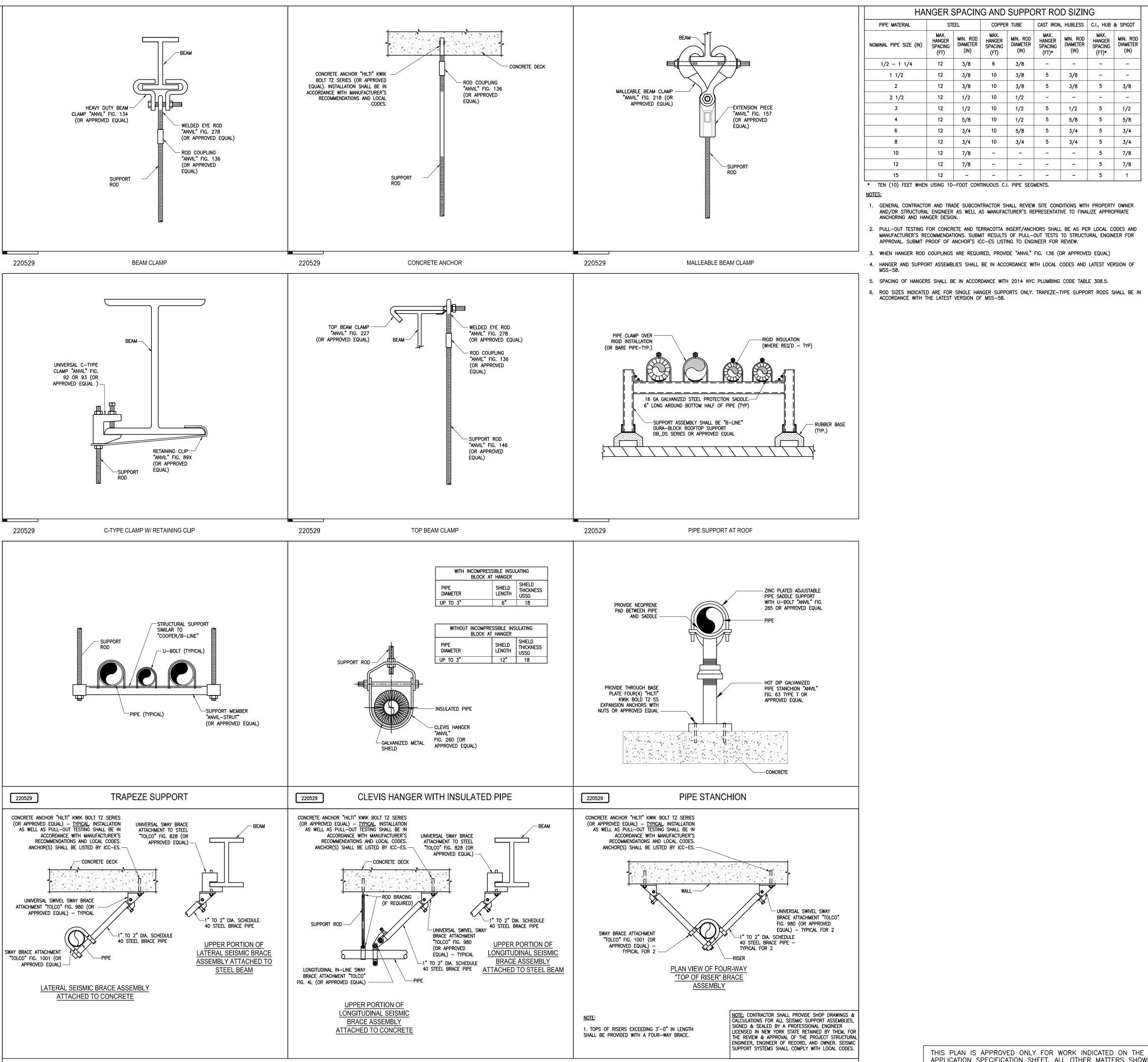


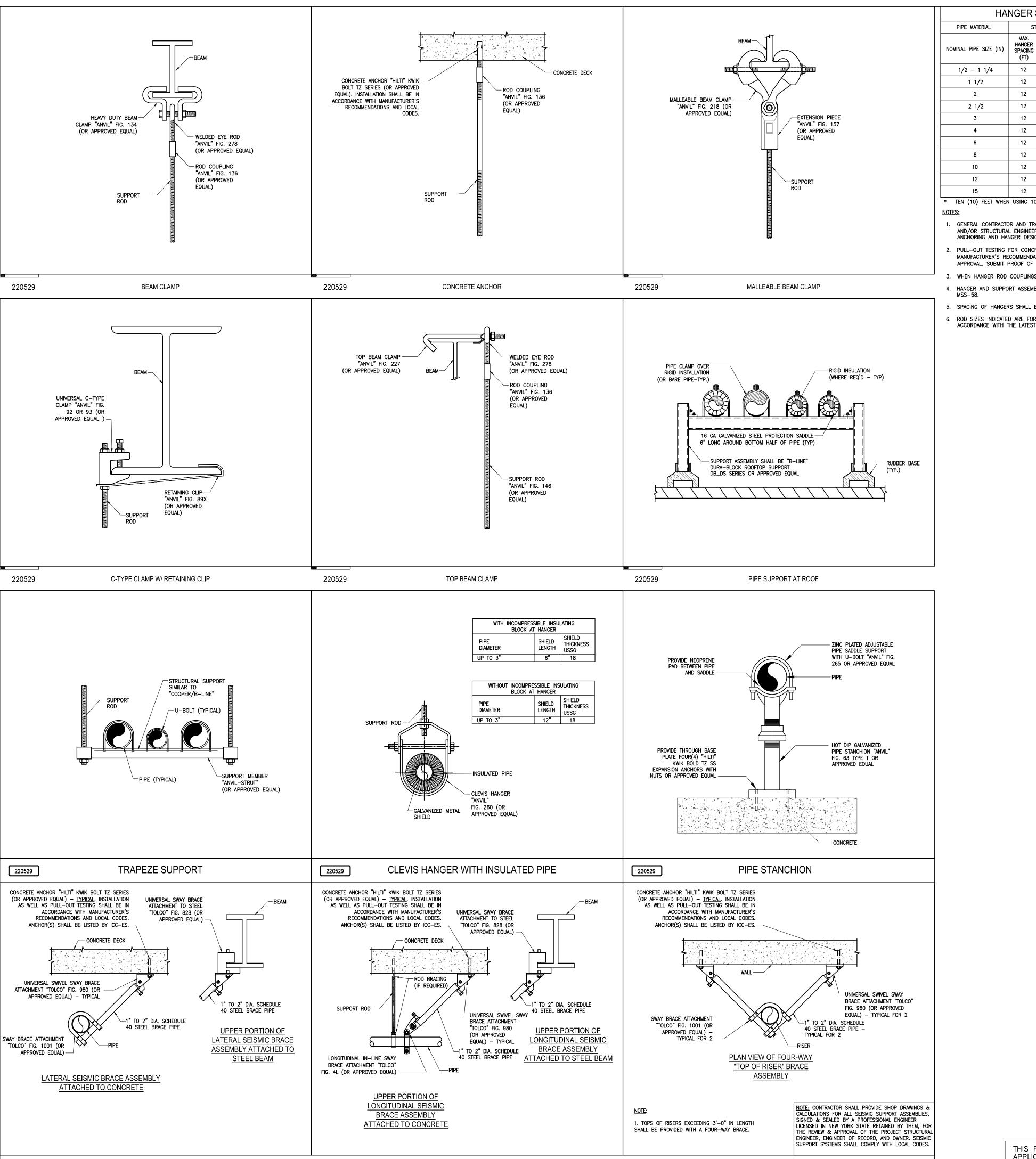


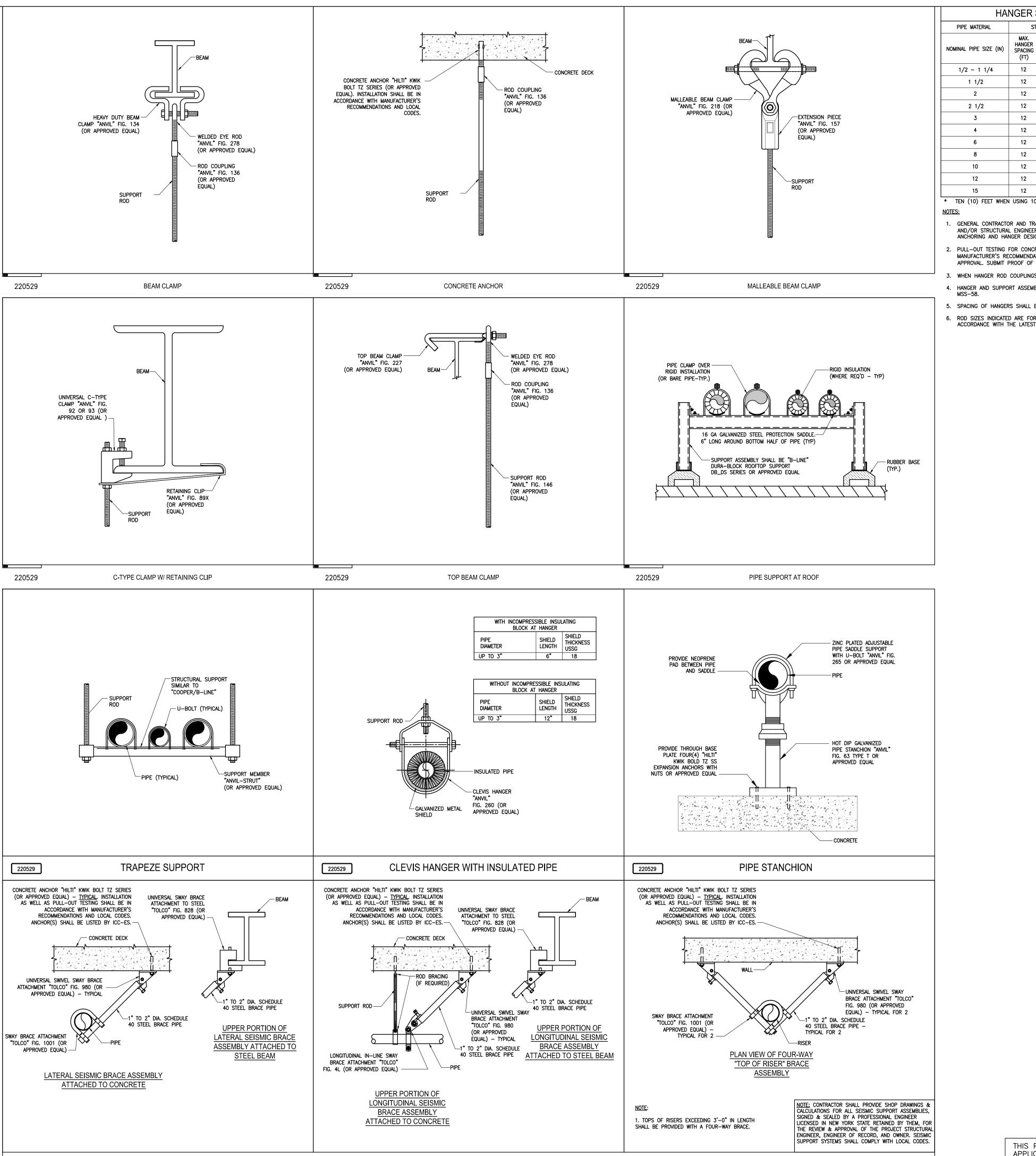
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## HANGER SPACING AND SUPPORT ROD SIZING

EL	COPPEF	R TUBE	CAST IRON	, HUBLESS	C.I., HUB	& SPIGOT
MIN. ROD DIAMETER (IN)	MAX. HANGER SPACING (FT)	MIN. ROD DIAMETER (IN)	MAX. HANGER SPACING (FT)*	MIN. ROD DIAMETER (IN)	MAX. HANGER SPACING (FT)*	MIN. ROD DIAMETER (IN)
3/8	6	3/8	_	_	_	-
3/8	10	3/8	5	3/8	-	-
3/8	10	3/8	5	3/8	5	3/8
1/2	10	1/2	-	_	_	-
1/2	10	1/2	5	1/2	5	1/2
5/8	10	1/2	5	5/8	5	5/8
3/4	10	5/8	5	3/4	5	3/4
3/4	10	3/4	5	3/4	5	3/4
7/8	-	-	-	-	5	7/8
7/8	_	-	-	-	5	7/8
-	_	-	-	_	5	1
-FOOT CON	TINUOUS C.I	. PIPE SEG	MENTS.			

### 1. GENERAL CONTRACTOR AND TRADE SUBCONTRACTOR SHALL REVIEW SITE CONDITIONS WITH PROPERTY OWNER AND/OR STRUCTURAL ENGINEER AS WELL AS MANUFACTURER'S REPRESENTATIVE TO FINALIZE APPROPRIATE

2. PULL-OUT TESTING FOR CONCRETE AND TERRACOTTA INSERT/ANCHORS SHALL BE AS PER LOCAL CODES AND MANUFACTURER'S RECOMMENDATIONS. SUBMIT RESULTS OF PULL-OUT TESTS TO STRUCTURAL ENGINEER FOR APPROVAL. SUBMIT PROOF OF ANCHOR'S ICC-ES LISTING TO ENGINEER FOR REVIEW.

3. WHEN HANGER ROD COUPLINGS ARE REQUIRED, PROVIDE "ANVIL" FIG. 136 (OR APPROVED EQUAL)

4. HANGER AND SUPPORT ASSEMBLIES SHALL BE IN ACCORDANCE WITH LOCAL CODES AND LATEST VERSION OF

5. SPACING OF HANGERS SHALL BE IN ACCORDANCE WITH 2014 NYC PLUMBING CODE TABLE 308.5.

6. ROD SIZES INDICATED ARE FOR SINGLE HANGER SUPPORTS ONLY. TRAPEZE-TYPE SUPPORT RODS SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF MSS-58.

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			I Z

ARCHITECTURE

INTERIORS

PROJECT MANAGEMENT

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Seal & Signature

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Lilker Associates

Mechanical and Electrical Engineers

Lilker

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### <u>SECTION 011000 – GENERAL REQUIREMENTS</u>

- A. THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION", AIA DOCUMENT A201-2007, AND THIS SPECIFICATION AS APPLICABLE ARE PART OF THIS CONTRACT. B. MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS, LOCAL CODES AND/OR AS SPECIFIED, WHICH EVER IS MOST STRINGENT. OBTAIN BUILDING STANDARDS, RULES AND
- REGULATIONS FROM THE BUILDING MANAGEMENT. C. ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE
- D. INVESTIGATE EACH SPACE THROUGH WHICH EQUIPMENT MUST BE MOVED. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH AVAILABLE RESTRICTIVE SPACES. ASCERTAIN FROM BUILDING OWNER AND TENANT AT WHAT TIMES OF DAY EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.
- E. SUPPORT ALL PIPING AND EQUIPMENT FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OF SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL STEEL FRAMING AS NECESSARY. DO NOT SUPPORT PIPING AND EQUIPMENT FROM COMBUSTIBLE MATERIALS.
- F. INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL
- G. REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK WILL BE NECESSARY FOR THE PERFORMANCE OF GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE COST FOR ALL REQUIRED CHANGES THE WORK PROPOSAL.
- H. SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT A CAREFUL EXAMINATION OF THE PORTION OF THE EXISTING BUILDING, EQUIPMENT, ETC., WHICH AFFECT THIS WORK AND THE ACCESS TO THESE SPACES HAS BEEN MADE, AND THAT THE CONTRACTOR IS FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES ENCOUNTERED THAT COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. LATER CLAIMS SHALL NOT BE MADE FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED THAT COULD HAVE BEEN FORESEEN DURING SUCH AN EXAMINATION. THESE DRAWINGS ARE ISSUED TO GIVE CONTRACTOR GENERAL SCOPE OF WORK.
- I. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING WORK THAT HAS BEEN DISTURBED WHILE INSTALLING NEW WORK TO AN ACCEPTABLE CONDITION AS DETERMINED BY THE ARCHITECT AND/OR OWNER. J. DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND
- OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM K. SEAL OPENINGS AROUND PIPING THROUGH PARTITIONS, WALLS AND FLOORS (NOT IN
- SHAFTS) WITH LINK-SEALS, MINERAL WOOL OR OTHER NON-COMBUSTIBLE MATERIAL L. ACCESS TILE IDENTIFICATION: PROVIDE BUTTONS, TABS AND MARKERS TO IDENTIFY LOCATION OF CONCEALED VALVES WHICH MUST BE ACCESSIBLE FOR MAINTENANCE AND REQUIRE REMOVABLE CEILING TILES, ACCESS DOORS, OR ACCESS PANELS.
- FURNISH REQUIREMENTS TO GENERAL CONTRACTOR. M. PROVIDE ALL NECESSARY FLASHING AND COUNTER-FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED FOR THE INSTALLATION OF PIPES, CONDUIT, AND EQUIPMENT.
- N. ALL MATERIALS AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED. O. PRIOR TO SUBMITTING A BID, CONTRACTOR SHALL OBTAIN A COPY OF THE BUILDING RULES AND REGULATIONS AND SHALL INCLUDE IN THE BID PRICE ALL ITEMS, MATERIAL, CHARGES AND/OR LABOR REQUIRED TO FULLY COMPLY WITH BUILDING STANDARDS. ALL DRAIN-DOWNS OR SYSTEM OUTAGES SHALL BE COORDINATED WITH BUILDING MANAGEMENT IN ADVANCE AND ALL APPLICABLE CHARGES SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR.
- P. THE CONTRACTOR SHALL BE RESPONSIBLE TO ARRANGE AND PAY FOR ALL SPECIAL INSPECTIONS AS REQUIRED BY AUTHORITIES HAVING JURISDICTION. THE TRANSFER OF RESPONSIBILITY FROM THE ORIGINAL FILING ENGINEER TO THE SPECIAL INSPECTION ENGINEER MUST BE COORDINATED WITH AND APPROVED BY THE ORIGINAL FILING ENGINEER. SPECIAL INSPECTIONS MUST BE APPROVED BY ORIGINAL FILING ENGINEER.
- Q. VERIFY THAT ELECTRICAL CHARACTERISTICS OF EQUIPMENT ARE COMPATIBLE TO EXISTING AND/OR PROPOSED BUILDING SYSTEM ELECTRIC PRIOR TO ORDERING EQUIPMENT.
- R. PRIOR TO ORDERING EQUIPMENT, VERIFY THAT ELECTRICAL CHARACTERISTICS OF EQUIPMENT ARE THE SAME AS THE EQUIPMENT USED AS THE BASIS OF DESIGN. INCLUDING LOAD, REQUIRED WIRE SIZE, BREAKER SIZE AND CONTROL. S. CONTRACT DOCUMENTS:
- 1. ALL PIPING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS. DROPS AND RISES OF RUNS. CONTRACTOR SHALL ALLOW IN HIS PRICE FOR ROUTING OF PIPING IN ORDER TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO ARCHITECT'S APPROVAL 2. CONTRACT DOCUMENTS SHALL INCLUDE BUT NOT LIMITED TO DRAWINGS.
- SPECIFICATIONS AND ADDENDA. 3. PLANS ARE NOT SHOP DRAWINGS AND DO NOT DISMISS THE REQUIREMENTS TO
- PREPARE FABRICATION AND INSTALLATION SHOP DRAWINGS, NOR DO THEY RELIEVE THE RESPONSIBILITY TO COORDINATE WORK WITH OTHER TRADES AND THE BUILDING STRUCTURE. 4. IF A DISCREPANCY OR CONFLICT OCCURS IN THE SPECIFICATIONS AND/OR ON
- THE DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY. 5. THERE MAY BE EXISTING SERVICES NOT INDICATED ON THESE DRAWINGS THAT ARE LOCATED IN THE CONTRACT DEMOLITION AREA THAT SHALL BE REMOVED UNDER THIS CONTRACT. PROMPTLY NOTIFY ENGINEER OF DISCREPANCIES IN FIELD CONDITIONS FROM CONSTRUCTION DOCUMENTS.
- T. SCOPE OF WORK: 1. THE WORK UNDER THIS CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.
- 2. PRIOR TO THE PROCUREMENT AND INSTALLATION OF ANY WORK PROVIDE COMPLETE SET OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING
- PIPING AND ALL NEW EQUIPMENT FOR REVIEW BY THE ARCHITECT AND ENGINEER. 3. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DEPARTMENT OF BUILDING AND/OR FIRE DEPARTMENT SIGN-OFFS, INCLUDING CERTIFICATES OF COMPLIANCE.
- U. CODES, PERMITS AND INSPECTIONS: 1. PERMITS
  - a. OBTAIN PERMITS, PAY FEES AND ISSUE NOTICES, REQUIRED BY STATE AND LOCAL CODES, MUNICIPALITIES AND AUTHORITIES HAVING JURISDICTION.
- b. PROVIDE REQUIRED DRAWINGS, CALCULATIONS, AND TESTING ALL PERFORMED BY A LICENSED ENGINEER IN THE STATE WHERE THE WORK SHALL TAKE PLACE. INCLUDE COSTS IN BID PRICE.
- c. PROVIDE COPIES OF PERMITS, CERTIFICATES, AND TEST REPORTS TO THE FNGINFFR
- 2. THIS CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS AS REQUIRED AND OBTAIN ALL PERMITS AS REQUIRED BY STATE AND LOCAL AUTHORITIES. PERMITS SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION. V. BUILDING RULES, REGULATIONS AND WORK RESTRICTIONS
- 1. PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE NO INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING OWNER.
- 2. THE WORK IN THE BUILDING SHALL BE DONE WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.
- 3. THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK ON OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.

### <u>SECTION 011000 – GENERAL REQUIREMENTS (CONT.)</u>

- 4. THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES, ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- 5. ASSUME THAT BASE BUILDING INTERRUPTIONS ARE TO BE PERFORMED OUTSIDE NORMAL BUSINESS HOURS. EXISTING UTILITY INTERRUPTIONS: DO NOT INTERRUPT UTILITIES SERVING FACILITIES OCCUPIED BY OWNER OR OTHERS UNLESS PERMITTED IN WRITING BY THE OWNER AND THEN ONLY AFTER PROVIDING TEMPORARY UTILITY SERVICES ACCORDING TO THE BUILDINGS REQUIREMENTS.
- 6. NOTIFY ENGINEER AND OWNER NOT LESS THAN (7) DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS. OBTAIN OWNER'S WRITTEN PERMISSION BEFORE PROCEEDING WITH UTILITY INTERRUPTIONS. MINIMUM OF 48 HOURS NOTICE IS REQUIRED TO THE BUILDING OFFICE PRIOR TO SHUT DOWN. ALL WORK TO BE DONE DURING THE HOURS DESIGNATED BY OWNER.
- 7. COORDINATE OPERATIONS THAT MAY RESULT IN HIGH LEVELS OF NOISE AND VIBRATION (INCLUDING BUT NOT LIMITED TO: CHOPPING, CORE DRILLING, ETC.), ODORS, OR OTHER DISRUPTION TO BUILDING OCCUPANTS WITH OWNER. ASSUME ALL SUCH WORK SHALL BE PERFORMED OUTSIDE NORMAL BUSINESS HOURS. W. DEFINITIONS
- 1. "EXPERIENCED" SHALL MEAN HAVING SUCCESSFULLY COMPLETED A MINIMUM OF SEVEN YEARS OF EXPERIENCE WITH PREVIOUS PROJECTS SIMILAR IN NATURE, SIZE, AND EXTENT TO THIS PROJECT; BEING FAMILIAR WITH SPECIAL REQUIREMENTS INDICATED; AND HAVING COMPLIED WITH REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- X. CUTTING AND PATCHING: 1. INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. CONTRACTOR SHALL RESTORE DAMAGED AREAS TO ORIGINAL CONDITION. FINISH SHALL MATCH EXISTING. 2. ALL HOLES CUT THROUGH CONCRETE SLAB OR WALLS SHALL BE "DIAMOND CORE" DRILLED WITH MINIMUM OPENING REQUIRED FOR PIPE, SLEEVE AND
- INSULATION.
- Y. GUARANTEE / WARRANTY 1. CONTRACTOR SHALL GUARANTEE THE INSTALLATION OF HIS WORK FOR A PERIOD OF ONE (1) YEAR FOLLOWING ACCEPTANCE OF ENTIRE PROJECT BY THE OWNER.
- Z. RIGGING 1. CONTRACTOR SHALL PROVIDE ALL RIGGING, HOISTING, LADDERS, AND SERVICES NECESSARY FOR ACCESS TO WORK SPACES, FOR DELIVERY INTO THE BUILDING, AND FOR THE SETTING IN PLACE OF ANY MATERIAL, EQUIPMENT OR APPARATUS
- TO BE FURNISHED AND/OR INSTALLED. 2. WHERE NECESSARY TO USE THE BUILDING ELEVATOR TO MOVE EQUIPMENT, FIELD VERIFY EXISTING ELEVATOR CAB SIZE AND WEIGHT RESTRICTIONS PRIOR TO BID AND AGAIN PRIOR TO BRINGING EQUIPMENT TO THE SITE. COORDINATE ELEVATOR USE WITH BUILDING MANAGEMENT.
- SECTION 018113 SUSTAINABLE DESIGN REQUIREMENTS
- A. INSULATION 1. ALL FIBERGLASS INSULATION PRODUCTS SHALL BE MANUFACTURED FROM RECYCLED GLASS WITH A MINIMUM OF 30% POST CONSUMER RECYCLED CONTENT BY WEIGHT. CONTRACTOR SHALL SUBMIT MANUFACTURER'S CERTIFICATION OF RECYCLED CONTENT FOR APPROVAL.
- 2. ALL FIBERGLASS INSULATION PRODUCTS USED FOR PIPING OR EQUIPMENT INSULATION SHALL BE FORMALDEHYDE FREE.
- B. ADHESIVES 1. ALL ADHESIVES USED ON THIS PROJECT MUST NOT EXCEED THE VOC CONTENT LIMITS OF:
- a. ADHESIVES, SEALANTS AND SEALANT PRIMERS: SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE # 1168 REQUIREMENTS IN EFFECT ON JANUARY 1, 2003 AND RULE AMENDMENT DATED OCTOBER 3, 2003. b. AEROSOL ADHESIVES: GREEN STANDARD GC-36 REQUIREMENTS IN EFFECT ON
- OCTOBER 19, 2000. 2. ALL ADHESIVES USED ON THIS PROJECT SHALL BE OF THE TYPE HAVING LIMITED CAPABILITY TO EMIT VOLATILE ORGANIC COMPOUNDS. EACH ADHESIVE SHALL MEET THE FOLLOWING EMISSION FACTOR LIMITS: TOTAL VOC'S 10.0/mg/m<sup>3</sup>/hr. а.
- FORMALDEHYDE 0.05mg/m<sup>3</sup>/hr. 2-ETHYL-1-HEXANOL 3.0 mg/m<sup>3</sup>/hr. 3. THE CONTRACTOR SHALL SUBMIT A CUT SHEET AND MSDS SHEET FOR EACH ADHESIVE TO BE USED IN THIS WORK, HIGHLIGHTING VOC LIMITS.
- C. SEALANTS 1. ALL SEALANTS USED ON THIS PROJECT MUST NOT EXCEED THE VOC CONTENT LIMITS OF:
- a. ADHESIVES, SEALANTS AND SEALANT PRIMERS: SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE # 1168 REQUIREMENTS IN EFFECT ON JANUARY 1, 2003 AND RULE AMENDMENT DATED OCTOBER 3, 2003. b. AEROSOL ADHESIVES: GREEN STANDARD GC-36 REQUIREMENTS IN EFFECT ON OCTOBER 19, 2000.
- 2. ALL SEALANTS USED IN MECHANICAL SYSTEMS SHALL BE OF THE LOW VOLATILE ORGANIC COMPOUND EMITTING TYPE. ALL SEALANTS SHALL HAVE EMISSION CHARACTERISTICS THAT DO NOT EXCEED A VOC LIMIT OF 250 G/L. THE CONTRACTOR SHALL PROVIDE A CUT SHEET AND MSDS SHEET FOR EACH SEALANT TO BE USED IN THIS PART OF THE WORK HIGHLIGHTING VOC LIMITS.
- D. PAINTS 1. ALL PAINTS USED FOR EQUIPMENT AND SYSTEMS TO BE INSTALLED ON THIS PROJECT SHALL COMPLY WITH GREEN SEAL PRODUCT REQUIREMENTS. THE VOC EMISSION CHARACTERISTIC FOR EACH PAINT MUST COMPLY WITH VOC LIMIT OF 150 G/L FOR NON-FLAT PAINTS AND 50 G/L FOR FLAT PAINTS.
- E. METALLIC PIPING (COPPER, STEEL, & CAST IRON) 1. ALL METALLIC PIPING SHALL BE FABRICATED FROM MATERIALS MANUFACTURED WITH A MINIMUM RECYCLED CONTENT OF 20% POST-CONSUMER RECYCLED CONTENT MATERIAL BY WEIGHT OF 40% POST-INDUSTRIAL RECYCLED CONTENT MATERIAL. CONTRACTOR SHALL SUBMIT CERTIFICATION OF RECYCLED CONTENT FOR RECORD.

## SECTION 078413 - PENETRATION FIRESTOPPING

- A. PROVIDE UL-LISTED FIRE STOPPING ASSEMBLIES FOR PENETRATIONS IN ALL FIRE OR SMOKE RESISTANCE RATED WALLS, FLOORS, ROOFS, AND OTHER ASSEMBLIES.
- B. USE FIRE STOPPING MATERIALS AND ASSEMBLIES THAT ARE UL LISTED AND HAVE A RATING EQUAL TO THE BARRIER OR ASSEMBLY WHICH IS PENETRATED.
- PRODUCTS BY ONE OF THE FOLLOWING: a) HILTI, INC. b) RECTORSEAL CORPORATION.
- c) 3M FIRE PROTECTION PRODUCTS.
- D. PENETRATION FIRESTOPPING: RESIST PASSAGE OF SMOKE AND OTHER GASES, AND MAINTAIN ORIGINAL FIRE-RESISTANCE RATING OF CONSTRUCTION PENETRATED. 1. PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: RATINGS DETERMINED PER ASTM E 814 OR UL 1479, BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH WC. F-RATING: NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED. 2. PENETRATIONS IN HORIZONTAL ASSEMBLIES: RATINGS DETERMINED PER ASTM E 814 OR UL 1479. BASED ON TESTING AT A POSITIVE PRESSURE DIFFERENTIAL OF 0.01-INCH WC. F-RATING: AT LEAST 1 HOUR, BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED. T-RATING: AT LEAST 1 HOUR. BUT NOT LESS THAN THE FIRE-RESISTANCE RATING OF CONSTRUCTIONS PENETRATED EXCEPT FOR FLOOR PENETRATIONS WITHIN THE
- CAVITY OF A WALL.

C. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE

### SECTION 078413 - PENETRATION FIRESTOPPING (CONT.)

- 3. PENETRATIONS IN SMOKE BARRIERS: PROVIDE PENETRATION FIRESTOPPING WITH RATINGS DETERMINED PER UL 1479. L-RATING: NOT EXCEEDING 5.0 CFM/SQ. FT. OF PENETRATION OPENING AT 0.30-INCH WC AT BOTH AMBIENT AND ELEVATED TEMPERATURES.
- 4. ACCESSORIES: PROVIDE COMPONENTS M M FOR EACH PENETRATION FIRESTOPPING SYSTEM THAT ARE NEEDED TO INSTALL FILL MATERIALS AND TO MAINTAIN RATINGS REQUIRED. USE ONLY THOSE COMPONENTS SPECIFIED BY PENETRATION FIRESTOPPING MANUFACTURER AND APPROVED BY QUALIFIED TESTING AND INSPECTING AGENCY FOR FIRESTOPPING INDICATED.
- E. INSTALLATION
- 1. INSTALL PENETRATION FIRESTOPPING TO COMPLY WITH MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS AND PUBLISHED DRAWINGS FOR PRODUCTS AND APPLICATIONS INDICATED.
- 2. INSTALL FILL MATERIALS FOR FIRESTOPPING BY PROVEN TECHNIQUES TO FILL VOIDS AND CAVITIES FORMED BY OPENINGS, FORMING MATERIALS, ACCESSORIES, AND PENETRATING ITEMS AS REQUIRED TO ACHIEVE FIRE-RESISTANCE RATINGS INDICATED.
- 3. IDENTIFY PENETRATION FIRESTOPPING WITH PREPRINTED METAL OR PLASTIC LABELS. ATTACH LABELS PERMANENTLY TO SURFACES ADJACENT TO AND WITHIN 6 INCHES OF FIRESTOPPING EDGE SO LABELS WILL BE VISIBLE TO ANYONE SEEKING TO REMOVE PENETRATING ITEMS OR FIRESTOPPING. INCLUDE THE FOLLOWING INFORMATION ON LABELS:
- a) THE WORDS "WARNING PENETRATION FIRESTOPPING DO NOT DISTURB. NOTIFY BUILDING MANAGEMENT OF ANY DAMAGE." b) CONTRACTOR'S NAME, ADDRESS, AND PHONE NUMBER.
- c) DESIGNATION OF APPLICABLE TESTING AND INSPECTING AGENCY.
- d) DATE OF INSTALLATION.
- e) MANUFACTURER'S NAME.
- f) INSTALLER'S NAME. 4. REFER TO DETAIL ON DRAWINGS FOR ADDITIONAL INFORMATION.
- F. FIELD QUALITY CONTROL
- 1. OWNER WILL ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM TESTS AND INSPECTIONS. WHERE DEFICIENCIES ARE FOUND OR PENETRATION FIRESTOPPING IS DAMAGED OR REMOVED BECAUSE OF TESTING, REPAIR OR REPLACE PENETRATION FIRESTOPPING TO COMPLY WITH REQUIREMENTS. PROCEED WITH ENCLOSING PENETRATION FIRESTOPPING WITH OTHER CONSTRUCTION ONLY AFTER INSPECTION REPORTS ARE ISSUED AND INSTALLATIONS COMPLY WITH REQUIREMENTS.

### SECTION 220000 - COMMON WORK REQUIREMENTS

- A. ESCUTCHEONS: FOR PIPING PASSING FLOORS, CEILINGS, WALL OR PARTITIONS: PROVIDE CHROME PLATED CAST BRASS OR CAST IRON ESCUTCHEONS.
- B. SLEEVES: FOR PIPING PASSING FLOORS, CEILINGS, WALL OR PARTITIONS: PROVIDE NO. 22 USSG GALVANIZED IRON SLEEVES EXTENDED THROUGH CONSTRUCTION. 1. FOR INSULATED PIPING, SIZE TO ALLOW INSULATION TO PASS THROUGH SLEEVE. 2. PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE COMPLETELY FIRE STOPPED IN ACCORDANCE WITH SECTION 078413.
- C. DRIP PAN
- 1. PROVIDE UNDER PIPING WHEN INSTALLED OVER OR WITHIN 5 FEET OF ELECTRICAL APPARATUS OR IN ROOMS CONTAINING ELECTRICAL EQUIPMENT OR UNDER DRAINAGE FOR PIPING AT CEILINGS OF FOOD PREPARATION AREAS.
- 2. PAN SHALL BE 18 GAUGE, NON-FERROUS, SHEET METAL, REINFORCED, PROPERLY SUPPORTED AND MADE WATERTIGHT. PROVIDE ENCLOSED TYPE FOR
- PRESSURE PIPING. 3. EXTEND 1-1/4 INCH DRAIN FROM PAN TO SPILL OVER NEAREST FUNNEL DRAIN.

## SECTION 220508 - TESTING, ADJUSTING, AND BALANCING

- A. DEFECTS DISCLOSED BY THE TESTS SHALL BE REPAIRED OR REPLACED. TESTS
- SHALL BE REPEATED AS DIRECTED UNTIL ALL WORK IS PROVEN SATISFACTORY.
- B. TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO THE BUILDING AND ITS CONTENTS AS A RESULT OF SUCH TESTS. REPAIR ANY DAMAGE CAUSED. C. HOT WATER CIRCULATION: CONTRACTOR SHALL BALANCE THE DOMESTIC HOT WATER RETURN SYSTEM AT EACH HOT WATER CIRCULATION BALANCING VALVE RIG. THE CONTRACTOR SHALL PROVIDE WRITTEN BALANCING REPORT TO OWNER DOCUMENTING RESULTS OF BALANCING AND GPM FLOW AT EACH RIG. ALL PLUMBING FIXTURES SHALL BE CLOSED DURING BALANCING. THE SYSTEM SHALL REACH STEADY STATE

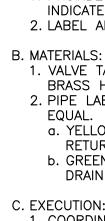
## SECTION 220533 - ELECTRIC TEMPERATURE MAINTENANCE CABLE

CONDITION PRIOR TO RECORDING RESULTS.

- A. GENERAL:
- 1. FURNISH AND INSTALL A UL LISTED, CSA CERTIFIED AND FM APPROVED SYSTEM OF ELECTRIC. SELF REGULATING HEATING CABLE. CONNECTION KITS AND ELECTRONIC CONTROLLER FOR MAINTAINING THE WATER TEMPERATURE AS INDICATED IN THIS SPECIFICATION AND ON THE DRAWINGS. REFER TO DETAIL ON DRAWINGS FOR ADDITIONAL INFORMATION.
- B. MATERIAL:
- 1. TEMPERATURE MAINTENANCE CABLE: THE CABLE SHALL UTILIZE A RADIATION-CROSSLINKED CONDUCTIVE POLYMER AS THE HEATING ELEMENT. AND
- THE CABLE SHALL BE SPECIFICALLY DESIGNED, MANUFACTURED AND UL LISTED, CSA CERTIFIED AND FM APPROVED FOR HOT WATER TEMPERATURE MAINTENANCE, VOLTAGE TO SUIT PROJECT.
- CONTROLLER: INSTALLED SYSTEM SHALL INCLUDE AT LEAST ONE ELECTRONIC CONTROLLER. THE CONTROLLER SHALL NOT BE OF LINE SENSING OVER-LIMIT DESIGN. THE CONTROLLER SHALL BE CAPABLE OF SETTING DIFFERENT PIPE TEMPERATURES BASED ON AMBIENT AND VOLTAGE WITH 24 HOUR, 7 DAY/WEEK PROGRAMMABLE OPTIONS. THE CONTROLLER SHALL HAVE THE ENERGY SAVINGS FEATURE OF LOWERING PIPE TEMPERATURE DURING LOW USE PERIODS AND THE ABILITY TO RAISE THE TEMPERATURE OF THE PIPES FOR A PROGRAMMED INTERVAL. THE CONTROLLER SHALL HAVE BMS INTERFACE CAPABILITIES TO SET PIPE TEMPERATURES AND PROVIDE ALARM RELAYS IN LOSS OF POWER. INCORRECT WATER HEATER TEMPERATURE AND COMMUNICATION FAILURE. THE CONTROLLER SHALL HAVE FLEXIBLE WIRING CONFIGURATIONS TO OPERATE
- INDIVIDUALLY OR CONTROL UP TO EIGHT ADDITIONAL CONTROLLERS.
- C. EXECUTION: 1. INSTALL TEMPERATURE MAINTENANCE SYSTEM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. INSTALL CABLING IN FIRM CONTACT WITH PIPING AND WITH INSULATION INSTALLED SNUGLY WITHOUT GAPS.

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### <u>SECTION 220543 – HANGERS, SUPPORTS, ANCHORS, AND GUIDES</u>

1. EQUIPMENT AND PIPING: SECURE TO BUILDING STRUCTURE IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS AND ALL APPLICABLE LOADS, SUCH AS DEAD WEIGHT, DYNAMIC AND/OR THRUST LOADS.

2. FOR HAZARDOUS OR LIFE SAFETY RELATED SYSTEMS: BRACE FOR SEISMIC, WIND, AND/OR FLOOD LOADS IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. 3. PROVIDE BRACING TO PREVENT SWAY FOR ALL PIPING LOWER THAN 18" BELOW SLAB OR STRUCTURAL ATTACHMENT, OR WHERE PIPING IS SUBJECT TO THRUST LOADING (BASE OF STACK, PUMP DISCHARGE, ETC.).

1. REFER TO DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION. 2. PIPING, VERTICAL: RISER CLAMP; ABOVE AND BELOW SLAB; STEEL, CONFORM TO CFR WW-H171 TYPE 8, COOPER B-LINE B3373 (B3373CTC FOR COPPER PIPE). 3. PIPING, INSULATED: PROVIDE METAL PROTECTION SHIELDS ON HANGER. HANGERS TO BE INSTALLED OVER INSULATION AND SHIELDS. 4. CHASES: SUPPORT PIPING INSIDE CHASES WITH METAL STRAPS ATTACHED TO STUDS, UNIVERSAL BRACKETS AND CLIPS, SIMILAR TO B-LINE RUFFIN. 5. SUPPORT MATERIALS: TO MATCH PIPING MATERIALS. PROVIDE COPPER PLATED CLIPS FOR COPPER PIPING.

1. THE CONTRACTOR SHALL PROVIDE SUPPORTS AND SEISMIC RESTRAINING SYSTEMS FOR EQUIPMENT AND PIPING INSTALLED AS PART OF THIS CONTRACT AS REQUIRED BY LOCAL CODE AND THE BUILDING STANDARDS. SEISMIC RESTRAINING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE LOCAL BUILDING CODE AND ALL SECTIONS OF THE SPECIFICATION.

2. INSTALL ALL HANGERS, SUPPORTS IN ACCORDANCE WITH THE BUILDING STANDARDS. INSTALLATION OF NEW HANGERS SHALL BE DRILLED, NOT CHOPPED. EXPANSION ANCHORS SHALL NOT BE USED. 3. IN TERRA COTTA SLAB, REUSE APPROVED EXISTING HANGERS WHERE POSSIBLE.

WHERE ADDITIONAL HANGERS ARE REQUIRED. BUILDING APPROVED TOGGLE BOLTS WITH FLAT WINGS (AS MANUFACTURED BY POWER FASTENERS OR APPROVED EQUAL) SHALL BE INSTALLED.

4. WATER HEATER DUAL ADDITIONAL SUPPORT STEEL SHALL BE WELDED TO THE STEEL STRUCTURE IN ACCORDANCE WITH THE BLDG. STANDARDS. 5. PROVIDE CONCRETE INERTIA BASE FOR PUMPS 5 HP AND LARGER AND NEOPRENE ISOLATORS FOR SMALLER PUMPS. 6. SUPPORT PIPING AT DISTANCES AS REQUIRED BY CODE.

7. SEISMICALLY RESTRAIN THE FOLLOWING PIPING:

a. GAS PIPING AND COMPRESSED AIR PIPING THAT IS 1" OR LARGER b. ALL PIPING LOCATED IN MECHANICAL ROOMS THAT IS 1-1/4" AND LARGER c. ALL OTHER PIPING 2-1/2" AND LARGER. 8. TRANSVERSE PIPING RESTRAINTS SHALL BE AT 40 FT MAXIMUM SPACING FOR ALL

PIPE SIZES. BRANCH PIPING SHALL BE END TIED. 9. LONGITUDINAL RESTRAINTS SHALL BE AT 80 FT MAXIMUM SPACING FOR ALL PIPE

10. GAS PIPING TRANSVERSE RESTRAINTS SHALL BE AT 20 FT MAXIMUM SPACING, LONGITUDINAL RESTRAINTS SHALL BE AT 40 FT MAXIMUM SPACING. 11. SEISMIC RESTRAINT SYSTEMS SHALL BE INSTALLED IN COMPLIANCE WITH ALL APPLICABLE CODES.

<u>SECTION 220553 – IDENTIFICATION</u>

1. PROVIDE TAGS ON VALVES AT THE BASE BUILDING MAIN AND RISER CONNECTION; INDICATE THE TENANTS NAME, SYSTEM TYPE, AND FLOOR SERVED. 2. LABEL ALL PIPING IN THE PROJECT AREA.

1. VALVE TAGS: METAL; GREEN BACKGROUND; BLACK LETTERING. FASTEN WITH BRASS HOOK OR CHAIN, COORDINATE WITH EXISTING BUILDING VALVE CHART. 2. PIPE LABELS: VINYL; SELF-ADHESIVE; COLOR PER ANSI STANDARDS; SETON OR a. YELLOW BACKGROUND; BLACK LETTERING: DOMESTIC HOT WATER SUPPLY AND RETURN. b. GREEN BACKGROUND; WHITE LETTERING: DOMESTIC WATER SUPPLY. STORM DRAIN, SANITARY DRAIN, AND SANITARY VENT.

1. COORDINATE ALL VALVE TAGS AND LABELS WITH THE EXISTING BUILDING STANDARDS. 2. PROVIDE VALVE CHART TO OWNER; LIST VALVE TAGS & SERVICE; INDICATE LOCATIONS ON PLAN. 3. LABELING: ON ALL PIPING, IN OR AT CEILING, 10 FT. ON CENTERS, INDICATING SYSTEM, SIZE AND DIRECTION OF FLOW.

<u>SECTION 220719 – INSULATION</u>

ATE ALL PIPE, VALVES, AND EQUIPMENT IN ACCORDANCE THE REQUIREMENTS OF THE LOCAL ENERGY CODE. REFER TO LS AND SCHEDULES ON THE DRAWINGS.

RATING: FLAME SPREAD: 25 OR LESS, SMOKE DEVELOPED: R LESS. G: REFER TO SCHEDULE ON DRAWINGS FOR ADDITIONAL

MATION. ES AND FITTINGS: PREMOLDED FIBERGLASS FITTINGS OR MITERED SEGMENTS OF PIPE INSULATION, INSULATING NT, FIBERGLASS REINFORCING CLOTH, AND MASTIC. VAPOR INSULATION ON CW PIPING. MANVILLE ZESTON 2000, PVC IG COVERS WITH FIBER GLASS INSULATION INSERT. R BARRIER (SWEATPROOFING): AS SPECIFIED FOR CW PIPING; TAPLES PERMITTED.

C. EXECUTION: 1. AT ALL HANGERS: PROVIDE SECTION OF NON COMPRESSIBLE INSULATION FULL LENGTH OF SHIELD. 2. FOR OUTDOOR INSTALLATION: PROVIDE METAL OR OTHER WEATHER-RESISTANT JACKETING. 3. TEMPERATURE MAINTENANCE ELECTRIC HEAT STRIP: PROVIDE

INSULATION OVERSIZED  $\frac{1}{4}$ " LARGER DIAMETER TO ACCOMMODATE HEAT STRIP.

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### SECTION 221116 - DOMESTIC WATER DISTRIBUTION (COLD AND HOT WATER):

## A. GENERAL

- 1. TO ALL FIXTURES, EQUIPMENT, AND ROUGHING AS INDICATED OR REQUIRED FOR THE WORK INDICATED IN THE PROJECT AREA.
- **B. MATERIALS:** 1. PIPE: PIPING, VALVES & FITTINGS: REFER TO DETAILS ON DRAWINGS FOR
- ADDITIONAL INFORMATION. 2. FOR SOLDER JOINTS USE: 95-5 TIN-ANTIMONY, ASTM B32, GRADE 95TA FOR
- PRESSURE PIPING. 3. BALANCING VALVES: CALIBRATED, PRESSURE BALANCED, GLOBE TYPE, TEST PORTS, LOCKABLE HANDLE, REFER TO DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION.

C. EXECUTION:

- 1. INSTALL PIPING STRAIGHT, LEVEL WITHOUT SAGS OR KINKS, EXCEPT EXPANSION LOOPS IN HW AND HWR EACH 75FT. 2. PROVIDE TEMPERATURE MAINTENANCE CIRCULATION OR CABLE TO NOT MORE
- THAN 3 FEET FROM THE FIXTURE, EXCEPT FIXTURES WITH POINT OF USE HEATERS.
- 3. PROVIDE SHUT-OFF VALVES: AT DROPS TO FIXTURE BATTERY, EQUIPMENT FEED, OR SILLCOCK; AT BRANCHES FROM MAIN LINES OR RISERS; WHERE INDICATED. ARRANGE VALVES NEATLY; IN ACCESSIBLE LOCATION. PROVIDE VALVE ID TAGS.
- 4. PROVIDE DIELECTRIC ISOLATORS, INSULATION, AND WATER HAMMER ARRESTORS AS SPECIFIED. 5. PROVIDE PRESSURE REGULATING VALVES FOR PRESSURE GREATER THAN 80
- PSI. SET TO 50 PSI. 6. PROVIDE VACUUM BREAKER, OR BACKFLOW PREVENTION DEVICE AT FIXTURES AND EQUIPMENT FEEDS AS REQUIRED BY LOCAL CODE.
- 7. DO NOT INSTALL VALVES WITH STEMS INVERTED (FACING DOWN).
- D. TEST WATER PIPING WITH WATER (NOT AIR) AS REQUIRED BY LOCAL CODE, BUT NOT LESS THAN AT TWICE OPERATING PRESSURE FOR TWO (2) HOURS WITHOUT PRESSURE DROP.
- E. DISINFECT POTABLE WATER DISTRIBUTION SYSTEM AS REQUIRED BY LOCAL CODE, AWWA C651, OR C652, BUT NOT LESS THAN: FLUSH WITH POTABLE WATER; DOSE 200 mG/L CHLORINE FOR 3-HOURS; RE-FLUSH WITH POTABLE WATER.

### SECTION 221119 - DOMESTIC WATER SPECIALTIES:

- A. DIELECTRIC FITTINGS: CONNECTIONS BETWEEN FERROUS AND NON FERROUS METAL PIPE OR EQUIPMENT CONNECTIONS SHALL BE MADE USING ISOLATING UNION AS OR FLANGE JOINTS MANUFACTURING BY ESPSO SALES INC. OR APPROVED EQUAL.
- B. TRAP PRIMER VALVE:
- 1. ASSE # 1018. WATTS REGULATOR CO. MODEL A200S, OR ZURN Z1022 SANI-GUARD AUTOMATIC TRAP PRIMER, ALL BRONZE BODY WITH INTEGRAL VACUUM BREAKER, NON-LIMING INTERNAL OPERATING ASSEMBLY WITH GASKETED BRONZE COVER.
- C. VACUUM BREAKER:
- 1. FOR COFFEE MAKER: CHROME FINISH BRONZE BODY AND INTERNAL TRIM WITH SILICONE SEAT DISC. NON-TOXIC AND NON-CORROSIVE, WITH QUARTER-TURN, FULL PORT, RESILIENT SEATED BRONZE BALL VALVE SHUT-OFFS, SIZE 1/2 IN. WATTS NO.800MC-QT.
- 2. FOR REFRIGERATOR WITH ICE MAKER: DUAL CHECK BACKFLOW PREVENTER WITH ATMOSPHERIC VENT FOR INLINE INSTALLATION WATTS MODEL N9C.
- D. WATER HAMMER ARRESTER: PDI CERTIFIED, CONFORMING TO ASSE 1010-2004, ANSI A112-26-1. PROVIDE AT QUICK CLOSING VALVES AND FIXTURES IN ACCORDANCE WITH PDI STANDARD WH-201. SIOUX CHIEF "HYDRARESTER" OR AMTROL MINI-TROL MODEL NO. 500. PROVIDE SIZE "B" OR LARGER.
- SECTION 221316 SANITARY, STORM DRAINAGE, AND VENT:

## A. GENERAL:

- 1. TO ALL FIXTURES, EQUIPMENT, AND ROUGHING AS INDICATED OR REQUIRED FOR THE WORK INDICATED IN THE PROJECT AREA.
- B. MATERIALS:
- 1. VENT, GRAVITY DRAIN ABOVE GRADE: CAST IRON, HUBLESS, SOIL PIPE, FITTINGS, CISPI 301, SERVICE WEIGHT. JOINTS: ASTM C1540, HEAVY DUTY COUPLINGS, 24 GAUGE, 304 STAINLESS STEEL WITH NEOPRENE GASKETS, RATED FOR 15 PSI AND REQUIRING A MINIMUM OF 100 INCH/LBS OF TORQUE, HUSKY OR EQUAL
- 2. VENT, GRAVITY DRAIN BELOW GRADE: CAST IRON, HUB AND SPIGOT, SOIL PIPE, FITTINGS, ASTM A74, SERVICE WEIGHT. JOINTS: COMPRESSION GASKET, NEOPRENE, ASTM C564.
- 3. GRAVITY DRAIN AT BASE OF STACK / SURCHARGE AREA: CAST IRON, HUBLESS SOIL PIPE, FITTINGS, CISPI 301, SERVICE WEIGHT. JOINTS: MECHANICAL COUPLING, RESTRAINED, NEOPRENE GASKET.
- 4. ALL CAST IRON SOIL PIPE AND FITTING SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE (CISPI) AND BE LISTED BY NSF INTERNATIONAL.

C. EXECUTION:

- 1. CAREFULLY NOTE MANUFACTURER'S RECOMMENDATIONS REGARDING ADDITIONAL SUPPORTS REQUIRED FOR NO HUB PIPING INSTALLATIONS, AND INSTALL PIPING IN ACCORDANCE WITH THOSE STANDARDS.
- SPACING FIVE (5) FOOT INTERVALS.
- BELOW STRUCTURE; AT CHANGE OF DIRECTION GREATER THAN 45°.
- 4. SUDS PRESSURE ZONE: DO NOT CONNECT TO SANITARY STACK WITHIN 40 DIAMETERS UPSTREAM, OR 10 DIAMETERS DOWNSTREAM OF BASE OF STACK OR DIRECTIONAL CHANGE WHICH RESULTS IN A SUDS PRESSURE ZONE.
- THAN 10 FT WATER/ 15 MINUTE/ NO LEAK FOR DRAIN, VENT, AND PUMP DISCHARGE AT 5PSI MORE THAN PUMP PRESSURE/ 15 MINUTE/ NO LEAKAGE.

SECTION 221319 - SANITARY, STORM DRAINAGE SPECIALTIES

### A. CLEANOUTS

- 1. PROVIDE AT EACH PIPE SECTION, NOT MORE THAN 100-FEET APART; AT EACH 90 DEGREE CHANGE OF DIRECTION; BASE OF STACKS: CAST BRONZE CLEANOUTS IN ACCORDANCE WITH ANSI A112.36.2 FULL SIZE UP TO 4 INCH.
- 2. IN OR BEHIND WALLS AND PARTITIONS, PROVIDE CAST BRONZE PLUGS WITH SATIN FINISH CHROME PLATED BRASS WALL PLATE ZURN Z1446 SERIES. 3. FOR PIPING BURIED UNDER FLOOR: EXTEND PIPING AND TERMINATE WITH SQUARE NICKEL BRONZE TOP, ZURN Z1474 SERIES.
- B. FLOOR DRAIN
- 1. DURA-COATED CAST IRON BODY AND FLASHING COLLAR WITH NICKEL BRONZE ADJUSTABLE STRAINER, 6" ROUND TOP, ZURN Z415S SERIES.
- C. FUNNEL DRAIN
- 1. ABOVE FLOOR RECEPTOR: COMBINATION FUNNEL AND TRAP DRAIN, 3" PIPE SIZE & 6"Ø FUNNEL, DURA-COATED CAST IRON, COMPLETE WITH BRONZE BOTTOM CLEANOUT PLUG. SIMILAR TO ZURN Z1019.
- 2. FLOOR DRAIN RECEPTOR: DURA-COATED CAST IRON BODY AND FLASHING COLLAR WITH NICKEL BRONZE ADJUSTABLE STRAINER, ZURN Z415S SERIES & 6"¢ FUNNEL, ROUND TOP, ZURN Z328 SERIES.

## SECTION 221600 - FUEL GAS

- A. GENERAL THE WORK INDICATED IN THE PROJECT AREA.
- **B. MATERIALS:**
- 1. PIPE: BLACK STEEL, SCH 40, ASTM A53. 2. FITTINGS: STEEL OR WROUGHT IRON, ASTM A53; 3. JOINTS: AS PER LOCAL CODES.
- AND MCDONALD.
- C. EXECUTION:
- 2. PROVIDE DRIP LEG AT BASE OF RISER AND AT EQUIPMENT FEED.
- ACCESSIBLE LOCATION. PROVIDE VALVE ID TAGS.
- THE BUILDING. PROVIDE VENT CAPS AS REQUIRED BY CODE.
- BEFORE AND AFTER THE PRV.
- DROP.

SECTION 224200 - PLUMBING FIXTURES

- B. MATERIALS: PLANS.
- PREVENTERS, WATER HAMMER ARRESTORS.
- SYSTEM MODEL CFS6112-5.
- HANDLE; BRAIDED STAINLESS STEEL RISER; MCGUIRE OR EQUAL
- GUARD OR BASIN GUARD KIT.
- C. EXECUTION:
- RECOMMENDATIONS.

SECTION 226313 - MEDICAL GAS SYSTEM

- A. GENERAL
- COMPLETE INSTALLATION.
- FURNISH AND INSTALL SUCH OUTLETS AND SLIDES.
- B. MATERIALS AND EQUIPMENT
- 2. BEFORE INSTALLATION, ALL PIPING, VALVES, FITTING AND OTHER COMPONENTS PRIOR TO FINAL ASSEMBLY. SUCH MATERIAL SHALL BE EXAMINED INTERNALLY
- FOR CONTAMINATION AND SHALL BE RECLEANED IF NECESSARY. PREPARED IN A FACILITY EQUIPPED TO CLEAN, RINSE AND PURGE THE MATERIAL IN ACCORDANCE WITH THE REQUIREMENTS OF 4-4.1.4(A) (2).
- OPFRATION
- 4.1.4.1(A) (2)
- BRAZING ALLOY (BCUP SERIES) WITHOUT FLUX.
- MANNER TO AVOID LEAVING ANY EXCESS INSIDE OF COMPLETED JOINTS. USE OF FUMES.)
- OF SCALE WITHIN THE TUBING.

- 5. PUMP DISCHARGE: GALVANIZED STEEL, ASTM A53; JOINTS: THREADED.
- 2. ALL HUBLESS PIPES SHALL BE SUPPORTED AT EACH SIDE OF JOINT; MAX.
- 3. RESTRAIN DRAINAGE PIPING AT THE BASE OF STACK: OR LOWER THAN 18"
- D. TEST DRAINAGE AND VENT PIPING AS REQUIRED BY LOCAL CODE, BUT NOT LESS

1. TO ALL FIXTURES, EQUIPMENT, AND ROUGHING AS INDICATED OR REQUIRED FOR

### 4. VALVES: PLUG TYPE, 200 PSIG WOG, LUBRICATED, STANDARD PORT OPENING CAST IRON OR SEMI-STEEL BODY, SEALED LUBRICATION SYSTEM, CYLINDRICAL PLUG OR TEFLON TAPERED PLUG, THREADED OR FLANGED ENDS BY SIZE, LOCKABLE TAB. ACCEPTABLE VALVES: REFER TO VALVE SCHEDULE ON DRAWINGS.

a. GAS COCKS: TYPE AB: 100 PSIG WOG, GAS COCK TYPE WITH CAST IRON OR BRONZE BODY, BRONZE PLUG, SQUARE HEAD, WRENCH OPERATOR, AND THREADED ENDS. ACCEPTABLE MANUFACTURERS: CRANE, ECLIPSE COMBUSTION,

## 1. INSTALL PIPING STRAIGHT, LEVEL WITHOUT SAGS OR KINKS.

3. PROVIDE SHUT-OFF VALVES: AT EQUIPMENT FEED; AT BRANCHES FROM MAIN LINES OR RISERS; AND WHERE INDICATED. ARRANGE VALVES NEATLY; IN

4. PROVIDE PRESSURE REGULATING VALVES FOR PRESSURE GREATER THAN EQUIPMENT OPERATING PRESSURE. VENT ALL REGULATORS TO THE EXTERIOR OF

5. PROVIDE PRESSURE GAUGES DOWNSTREAM OF THE METER, AT EQUIPMENT, AND

D. TEST GAS PIPING WITH AIR AS REQUIRED BY LOCAL CODE, BUT NOT LESS THAN AT TWICE OPERATING PRESSURE, AND 5 PSI FOR TWO (2) HOURS WITHOUT PRESSURE

A. GENERAL: ALL FIXTURES SHALL COMPLY WITH ACCESSIBILITY, AIR GAP, TRAP, AND WATER FLOW RESTRICTIONS OF THE LOCAL PLUMBING AND HEALTH CODES.

1. FIXTURES AND TRIM: SEE ARCHITECTURAL SPECIFICATIONS AND SCHEDULES ON

2. SEE DOMESTIC WATER SPECIALTIES FOR VACUUM BREAKERS, BACKFLOW

3. WATER FILTER: UNDER SINK WATER FILTER, CUNO EVERPURE WATER FILTER

4. STOP VALVES: CHROME PLATED; HEAVY DUTY BRASS BODY, STEM AND COMPRESSION NUT; REPLACEABLE CHLORINE RESISTANT WASHER; CONVERTIBLE 5. TRAP WRAP: FOR ADA ENCAPSULATION. PAINTABLE WHITE MOLDED VINYL, UV PROTECTED AGAINST FADE / DISCOLORATION, INTERNAL FASTENERS, SELF EXTINGUISHING (ASTMD-635), FUNGAL RESISTANT (ASTM G21&22), TRUEBRO LAV

1. INSTALL ALL FIXTURES IN ACCORDANCE WITH THE MANUFACTURERS

2. PROVIDE FIXTURE SUPPORTS AND CARRIERS AS REQUIRED FOR THE FIXTURES SPECIFIED. COORDINATE SPACE REQUIREMENTS WITH ALL TRADES. 3. AIR GAPS: FAUCETS, SPIGOTS INSTALLED WITH 2XDIA. AIR GAP PER LOCAL CODE. 4. BACKFLOW PREVENTERS: INSTALL, TEST, AND PERMIT IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. SEE DOMESTIC WATER SPECIALTIES.

1. THIS CONTRACT SHALL FURNISH AND INSTALL COMPLETE SYSTEM OF OXYGEN AND MEDICAL VACUUM AS SPECIFIED AND AS INDICATED ON DRAWINGS FOR A

2. THIS CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE CONTRACTORS FOR LOCATION AND NUMBER OF OUTLET STATIONS AND SLIDES REQUIRED AND

1. INSTALLATION OF CONTROLS, REQUIRED CLEARANCES, PIPING, TESTING, VALVING HANGING AND SUPPORTING AND CONNECTIONS SHALL BE MADE IN AN APPROVED MANNER ACCORDING TO THE STANDARDS SET FORTH IN THE LATEST (CURRENT) EDITION OF NFPA 99 AND OTHER AUTHORITIES HAVING JURISDICTION.

FOR ALL NONFLAMMABLE MEDICAL GAS SYSTEMS SHALL BE THOROUGHLY CLEANED OF OIL, GREASE, AND OTHER READILY OXIDIZABLE MATERIALS. AFTER CLEANING, PARTICULAR CARE SHALL BE EXERCISED IN THE STORAGE AND HANDLING OF SUCH MATERIAL. SUCH MATERIAL SHALL BE TEMPORARILY CAPPED OR PLUGGED TO PREVENT RECONTAMINATION BEFORE FINAL ASSEMBLY. JUST

3. PIPING VALVES, FITTINGS AND OTHER COMPONENTS MAY BE ESPECIALLY

TRICHLOROETHYLENE SHALL NOT BE USED IN ANY CLEÀŃING OPERATION AT THE JOB SITE. CARBON TETRACHLORIDE SHALL NOT BE EMPLOYED IN ANY CLEANING

4. PIPING, VALVES, FITTINGS FOR OXYGEN, VACUUM AND OTHER COMPONENTS THAT HAVE BEEN ESPECIALLY PREPARED SHALL HAVE BEEN CLEANED IN ACCORDANCE WITH THE PROVISIONS OF CGS PAMPHLET G-4.1, "CLEANING EQUIPMENT FOR OXYGEN SERVICE". SUCH MATERIAL SHALL BE DELIVERED CAPPED OR PLUGGED AND SHALL BE INSPECTED PRIOR TO FINAL ASSEMBLY AS REQUIRED IN 4-4.1.4.1. IF NECESSARY, RECLEANING SHALL BE DONE IN ACCORDANCE WITH

5. PIPING, VALVES, FITTINGS AND OTHER COMPONENTS PREPARED AT THE JOB SITE SHALL BE CLEANED BY WASHING IN HOT ALKALINE CLEANER-WATER SOLUTION, SUCH AS SODIUM CARBONATE OR TRISODIUM PHOSPHATE (PROPORTION OF ONE POUND TO THREE GALLONS OF WATER). SCRUBBING SHALL BE EMPLOYED WHERE NECESSARY TO ENSURE COMPLETE CLÉANING. AFTER WASHING, THE MATERIALS SHALL BE THOROUGHLY RINSED IN CLEAN, HOT WATER.

6. ALL BRAZED JOINTS IN THE PIPING SHALL BE MADE UP USING BRAZING FILLER ALLOYS THAT BOND WITH THE BASE METALS BEING BRAZED AND THAT COMPLY WITH "SPECIFICATIONS FOR BRAZING FILLER METAL", ANSI/AWS A5.8. 7. COPPER-TO-COPPER JOINTS SHALL BE MADE USING A COPPER-PHOSPHORUS

8. DISSIMILAR METALS SUCH AS COPPER AND BRASS SHALL BE JOINED USING AN APPROPRIATE FLUX WITH EITHER A COPPER-PHOSPHORUS (BCUP SERIES) OR A SILVER (BAG SERIES) BRAZING FILLER ALLOY. APPLY FLUX SPARINGLY AND IN A

PREFLUXED ROD IS ACCEPTABLE. (NOTE: SOME BAG SERIES FILLER METALS CONTAIN CADMIUM, WHICH WHEN HEATED DURING BRAZING, CAN PRODUCE TOXIC

9. WHILE BEING BRAZED, JOINTS SHALL BE CONTINUOUSLY PURGED WITH AND INERT GAS SUCH AS DRY NITROGEN OR CARBON DIOXIDE TO PREVENT THE FORMATION

10. A VISUAL INSPECTION OF EACH BRAZED JOINT SHALL BE MADE TO ASSURE THAT THE ALLOY HAS FLOWED COMPLETELY IN AND AROUND THE JOINT AND, WHERE FLUX HAS BEEN USED, THAT HARDENED FLUX HAS NOT FORMED A TEMPORARY SEAL THAT HOLDS TEST PRESSURE. THE OUTSIDE OF ALL FLUXED JOINTS SHALL BE WASHED WITH HOT WATER AFTER ASSEMBLY TO REMOVE EXCESS FLUX FOR CLEAR VISUAL INSPECTION OF BRAZED CONNECTIONS.

- 11. THE OUTSIDE OF ALL TUBES, JOINTS AND FITTING SHALL BE CLEANED BY WASHING WITH HOT WATER AFTER ASSEMBLY.
- C. PIPE AND FITTINGS 1. TYPE "L" SEAMLESS "HARD TEMPER", COPPER TUBING ASTM DESIGNATION B-88 FOR ASSEMBLY WITH SILVER BRAZED JOINT FITTINGS FOR OXYGEN AND VACUUM SYSTEMS.
- 2. ALL FITTINGS USED FOR CONNECTION COPPER TUBING SHALL BE WROUGHT OR CAST COPPER, BRASS, OR BRONZE FITTINGS MADE ESPECIALLY FOR OR BRAZED CONNECTION. NO MITERING OR CRIMPING WILL BE PERMITTED. ADAPTERS SHALL BE PROVIDED FOR CHANGING FROM ANY TREADED CONNECTION TO TURING
- 3. BRAZED JOINTS SHALL BE MADE WITH HANDY HARMON AIRCOIL 45, OR OTHER SILVER BRAZING ALLOY OF EQUIVALENT POINT AND PHYSICAL PROPERTIES. 4. AIRCOIL FLUX OR EQUAL SHALL BE EMPLOYED. BORAX AND ALCOHOL MIXTURES
- OR RESIN AND SIMILAR PASTE FLUX SHALL NOT BE USED, BORAX AND WATER MAY BE USED. D. GAS SYSTEM PERFORMANCE CRITERIA AND TESTING
- 1. REFER TO NFPA 99 GAS SYSTEM PERFORMANCE CRITERIA AND TESTING FOR PRESSURE TESTING, PURGING, CROSS-CONNECTION, SYSTEM VERIFICATION, FLOW TEST, ALARM TESTING, PIPING PURGE TEST, PURITY TESTING, CONCENTRATION TESTS, ETC. REQUIREMENTS.
- 2. TESTING, INSPECTION AND CERTIFICATION OF THE MEDICAL GASES AND DISTRIBUTION SYSTEMS SHALL BE CONDUCTED BY AN INDEPENDENT TESTING COMPANY
- 3. MEDICAL GAS INSTALLER MUST BE CERTIFIED.
- E. HANGING AND SUPPORTING

1. HANGING AND SUPPORTING - PIPING SHALL NOT BE SUPPORTED BY OTHER PIPING BUT SHALL BE SUPPORTED WITH COPPER PIPE HANGERS SUITABLE FOR THE SIZE OF PIPE AND PROPER STRENGTH AND QUALITY AT PROPER INTERVALS SO THAT PIPING CANNOT BE MOVED ACCIDENTALLY FROM THE INSTALLED POSITION AS FOLLOWS:

PROVIDE COPPER CLEVIS HANGERS 1/2" PIPE OR TUBING 6'-3/4" OR 1" PIPE OR TUBING 8'-1-1/2" OR LARGER (HORIZONTAL) 10 FEET 1-1/4" OR LARGER (VERTICAL) EVERY FLOOR LEVEL.

- F. ZONE VALVE BOX
- 1. ZONE VALVE BOX SHALL BE BEACON MEDAES #6-150208-00. 2. THE RECESSED VALVE BOX SHALL BE AVAILABLE IN SIZE TO ACCOMMODATE UP TO TWO VALVES OF VARIOUS SIZES. VALVES SHALL BE AVAILABLE FOR OXYGEN AND VACUUM SERVICES.
- 3. THE VALVE BOX SHALL BE CONSTRUCTED OF EXTRUDED ALUMINUM WITH A 1/2 INCH PLASTER FLANGE ON ALL FOUR SIDES. A TEMPORARY PLASTER GUARD SHALL PREVENT DEBRIS FROM ENTERING THE BOX DURING THE INSTALLATION.
- 4. A LABEL HOLDING AND LABEL FOR IDENTIFYING THE GAS AND AREA THE VALVE CONTROLS SHALL BE PROVIDED FOR CONTRACTOR TO INSTALL 5. VALVE BOXES SHALL BE MANUFACTURED BY BEACON MEDAES OR APPROVED
- EQUAL 6. THE FINISHED FRAME SHALL BE CONSTRUCTED OF EXTRUDED ETCHED AND ANODIZED ALUMINUM. CONCEALED MOUNTING SCREWS SHALL SECURE THE FINISH FRAME TO THE VALVE BOX. THE TINTED, TRANSPARENT WINDOWS SHALL BE EASILY REMOVED OR REPLACE WITHOUT THE AID OF TOOLS.
- 7. THE BALL TYPE (DOUBLE SEAL) VALVE SHALL HAVE A CAST BRONZE BODY WITH A BRASS TO BRONZE BALL. THE BOLTED UNION SHALL ALLOW THE VALVE TO SWING OUT FOR EASY SERVICE OR INSTALLATION. THE VALVE IS DESIGNED FOR A WORKING PRESSURE OF 400 PSI.
- 8. THE VINYL COATED HANDLE SHALL ONLY REQUIRE ONE QUARTER OF A TURN TO COMPLETELY OPEN OR CLOSE THE VALVE. THE VALVE WITH TUBE EXTENSION SHALL BE FACTORY BRAZED,
- 9. PRESSURE TESTED CLEANED FOR OXYGEN SERVICE AND CAPPED. A LABEL SHALL BE AFFIXED TO IDENTIFYING THE GAS BY NAME. A 1-1/2 INCH DIAMETER LINE PRESSURE MONITORING GAUGE SHALL BE SUPPLIED FOR INSTALLATION DOWNSTREAM OF THE SHUT-OFF VALVE.
- G. OUTLETS MEDICAL GASES
- 1. OUTLETS: MEDICAL GAS OUTLETS SHALL BE BEACON MEDAES/PURITAN BENNETT QUICK CONNECT 6-121020-00 FOR OXYGEN, 6-121023-00 FOR VACUUM AND 6-120978-00 FOR SLIDES OR TO MATCH EXISTING.
- H. AREA ALARM PANEL 1. AREA ALARM PANEL TO BE BEACON MEDEAS MODEL 6-M2-R-OVB OR APPROVED EQUAL.
- I. GENERAL INSTALLATION
- 1. INSTALLATION OF PIPING, TESTING, VALVING, HANGING AND SUPPORTING AND CONNECTIONS, SHALL BE MADE IN AN APPROVED MANNER ACCORDING TO THE STANDARDS SET FORTH IN THE LATEST (CURRENT) EDITION OF NFPA 99, AND LOCAL AUTHORITIES HAVING JURISDICTION.

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