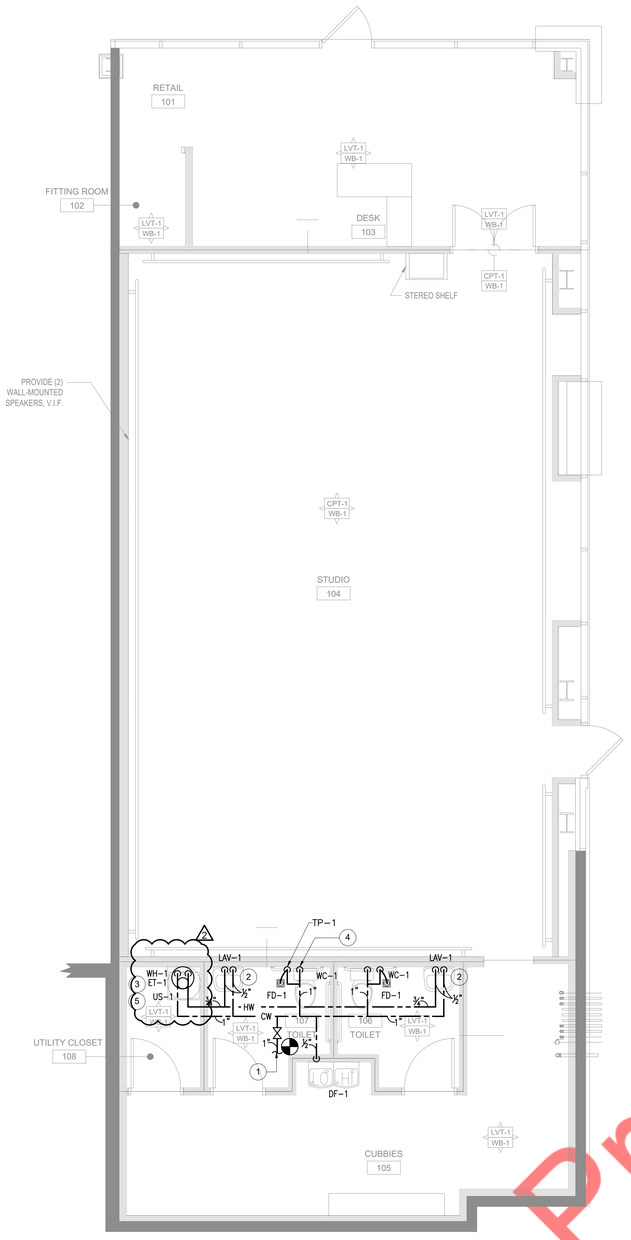
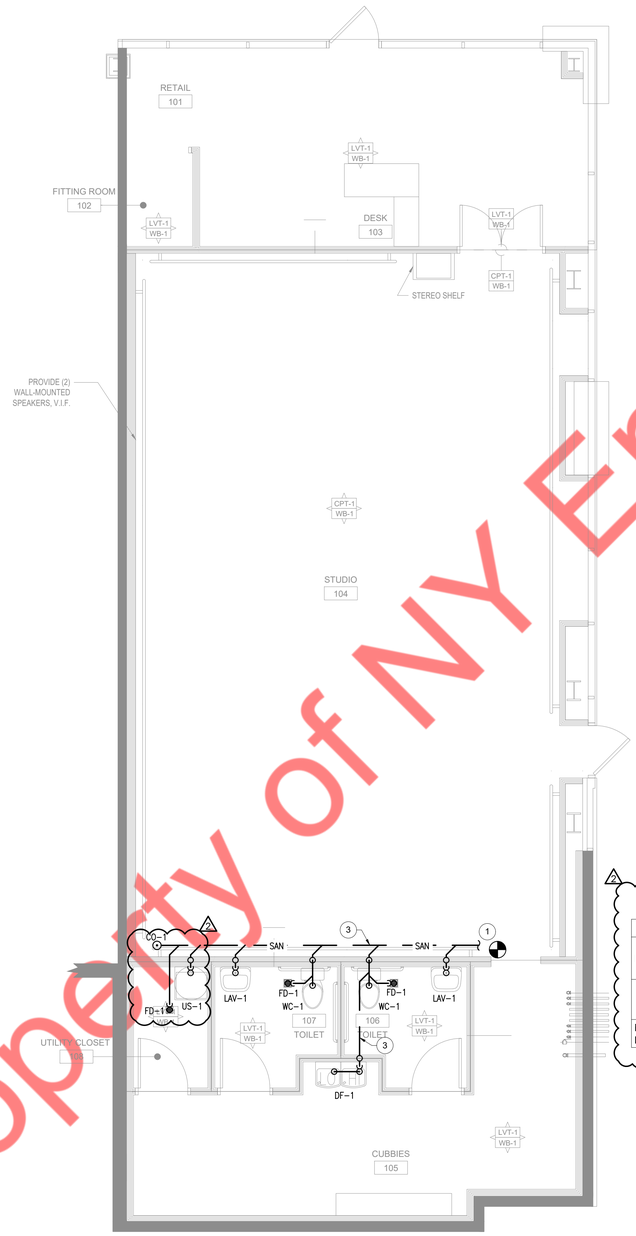


1 DOMESTIC WATER PIPING PLAN

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



2 SANITARY PIPING PLAN

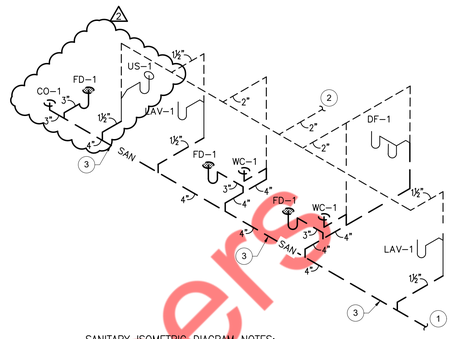
SCALE: 1/4" = 1'-0"

DOMESTIC WATER AND GAS PIPING PLAN NOTES:

1. ROUTE NEW 1" CW PIPING WITH SHUT OFF VALVE AND TIE-INTO THE EXISTING WATER SERVICE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND ANY WATER SUBMETER REQUIREMENTS WITH LANDLORD PRIOR TO BID.
2. PROVIDE A TEMPERING VALVE FOR LAVATORIES. POWER HYFROGUARD SERIES LM495, ASSE 1070 OR EQUAL. SET TEMPERATURE TO A MAXIMUM OF 110° F.
3. ROUTE T&P RELIEF TO DRAIN IN UTILITY SINK.
4. TRAP PRIMER (TP-1) EXTEND AND CONNECT 1/2" TRAP PRIMER PIPING TO FLOOR DRAINS WITH TRAP PRIMER CONNECTIONS. COORDINATE ROUTING.
5. CONTRACTOR TO INSTALL NEW EXPANSION TANK THERM-X-TROL MODEL ST-5, 2 GAL PER LOCAL CODE REQUIREMENTS.

SANITARY PIPING PLAN NOTES:

1. CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY WASTE LINE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT ON SITE.
2. CONTRACTOR TO FILED VERIFY AND CONNECT NEW 2" VENT TO EXISTING VENT IN EXISTING TOILET AREA.
3. SANITARY PIPING RUNNING UNDERGROUND SHOWN FOR REFERANCE. CONTRACTOR TO COORDINATE WITH EXISTING STRUCTURAL AND REROUTE AS REQUIRED TO AVOID ANY CONFLICTS AS PER FILED CONDITIONS.



SANITARY ISOMETRIC DIAGRAM NOTES:

1. CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY WASTE LINE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT ON SITE.
2. CONTRACTOR TO FILED VERIFY AND CONNECT NEW 2" VENT TO EXISTING VENT IN EXISTING TOILET AREA.
3. SANITARY PIPING RUNNING UNDERGROUND SHOWN FOR REFERANCE. CONTRACTOR TO COORDINATE WITH EXISTING STRUCTURAL AND REROUTE AS REQUIRED TO AVOID ANY CONFLICTS AS PER FILED CONDITIONS.

PLUMBING SYMBOLS LIST

- SANITARY PIPING
- SAN — SANITARY UNDERGROUND PIPING
- VENT PIPING
- COLD WATER PIPING
- HOT WATER PIPING
- PIPE UP
- PIPE DROP
- SHUT-OFF VALVE
- POINT OF NEW CONNECTION

FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	HW	CW	SAN	VENT
WC-1	ADA WATER CLOSET	--	3/4	4	2
LAV-1	ADA LAVATORY	1/2	1/2	1-1/2	1-1/2
US-1	UTILITY SINK	1/2	1/2	1-1/2	1-1/2
DF-1	DRINKING FOUNTAIN	--	1/2	1-1/2	1-1/2
WH-1	WATER HEATER	3/4	3/4	--	--
FD-1	FLOOR DRAIN	--	--	3	--
CO-1	CLEANOUT	--	--	3	--
WD-1	WATER DISPENSER	--	1/2	--	--

EXPANSION TANK SCHEDULE

TAG	LOCATION	SERVICE	CAPACITY (GALLONS)	MANUFACTURER & MODEL	DIMENSION (DIA X HEIGHT)	WEIGHT (LBS)	NO. OF EXPANSION TANK
ET-1	REFER FLOOR PLANS	HW	2	THERM-X-TROL ST-5	8" X 13"	5	1

ELECTRIC STORAGE WATER HEATER SCHEDULE

HEATER TAG	NO. OF ELEMENTS	LOCATION	MAX. INPUT (kW)	STORAGE CAPACITY (GAL)	RECOVERY CAPACITY (GPH) @100° F RISE	TYPE	ELECTRICAL CHARACTERISTICS CONTROL	NO. OF HEATERS	EFFICIENCY (%)	MANUFACTURER & MODEL NO.	REMARKS
WH-1	1	UTILITY CLOSET	1.5	10	6	ELECTRIC	120V/1Ø/60Hz	1	90	BRADFORD WHITE ELECTRIFLEX LD	-DIMENSIONS: 16"DIA X 16"HIGH -PROVIDE ET-1 AS PER SCHEDULE -CEILING MOUNTED HEATER

NOTE: NSF RATED. PROVIDE CONDENSATE COLLECTOR, DRAIN TO UTILITY SINK. PROVIDE WITH VACUUM RELIEF VALVE. MOUNT ON CEILING & COORDINATE EXACT LOCATION WITH OWNER IN FIELD.
PIPE INSULATION : PROVIDE HOT WATER PIPING WITH 1" INSULATION HAVING CONDUCTIVITY OF MINIMUM OF 0.27 BTU PER INCH.

ENERGY CONSERVATION NOTES:

1. AS PER IECC (INTERNATIONAL ENERGY CONSERVATION CODE) 2018 WITH AMENDMENTS FOR CHIACGO SECTION C404.3. WATER HEATER EQUIPMENTS NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NONCIRCULATING SYSTEMS SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING ASSOCIATED WITH THE EQUIPMENT.
2. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH INTERNATIONAL ENERGY CONSERVATION CODE 2018 (IECC 2018) SECTION C403.11.3 REFER BELOW TABLE.

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU· IN./ (H· FT2 ·°F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	≥8
141–200	0.25–0.29	125	1.5	1.5	2	2	2
105–140	0.21–0.28	100	1.0	1.0	1.5	1.5	1.5
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0	1.0

3. HW SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER IECC C404.5.1. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	MIXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
½"	2'	43'
¾"	0.5'	21'
1"	0.5'	13'
1¼"	0.5'	8'
1½"	0.5'	6'
2" OR LARGER	0.5'	4'

4. AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2018 C404.6.1 HEATED-WATER CIRCULATION SYSTEMS SHALL BE PROVIDED WITH A CIRCULATION PUMP. THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. CONTROLS FOR CIRCULATING HOT WATER SYSTEM PUMPS SHALL START THE PUMP BASED ON THE IDENTIFICATION OF A DEMAND FOR HOT WATER WITHIN THE OCCUPANCY. THE CONTROLS SHALL AUTOMATICALLY TURN OFF THE PUMP WHEN THE WATER IN THE CIRCULATION LOOP IS AT THE DESIRED TEMPERATURE AND WHEN THERE IS NO DEMAND FOR HOT WATER.
5. WATER DISTRIBUTION SYSTEM AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2018 C404.7, A WATER DISTRIBUTION SYSTEM HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
   a. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
   b. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).

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