

APPLICABLE CODES

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE STATE CODES WHETHER INDICATED HEREIN OR NOT.

- 2018 INTERNATIONAL BUILDING CODE (IBC)
- 2018 INTERNATIONAL MECHANICAL CODE (IMC)
- 2018 INTERNATIONAL PLUMBING CODE (IPC)
- 2018 UNIFORM PLUMBING CODE (UPC)
- 2018 INTERNATIONAL FUEL GAS CODE (IFGC)
- 2018 UNIFORM ENERGY CONSERVATION CODE (IECC)
- 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
- 2012 INTERNATIONAL GREEN CONSTRUCTION CODE (IGCC) - OPTIONAL
- 2017 NATIONAL ELECTRICAL CODE (NEC)

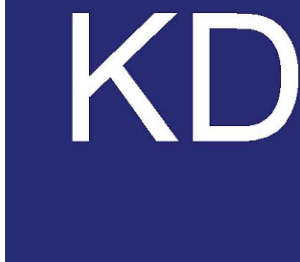
ACCESSIBILITY 2010 ADA GUIDELINES & 2017 ICC/ANSI A117.1 FAIR HOUSING ACT

SHEET INDEX

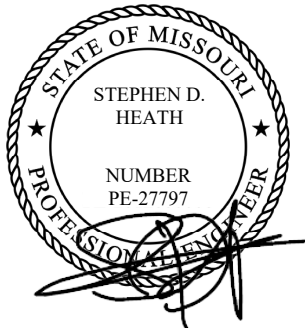
No.	SHEET NAME
PLUMBING	
P001	PLUMBING GENERAL NOTES
P002	PLUMBING SYMBOLS AND ABBREVIATIONS
P003	PLUMBING SPECIFICATIONS
P004	PLUMBING SCHEDULES
P200	PLUMBING FLOOR PLAN
P300	PLUMBING DETAILS

PLUMBING GENERAL NOTES

1. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCING WORK.
2. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT PLUMBING FIXTURE LOCATIONS, MOUNTING HEIGHTS AND PLUMBING ROUGH-IN LOCATIONS. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO ALL HANDICAPPED FIXTURES. OBTAIN EXACT FLOOR DRAIN AND FLOOR SINK LOCATIONS FROM FOOD SERVICE DRAWINGS. ROUGH-IN LOCATIONS FOR KITCHENS, BARS, ETC. TO BE TAKEN FROM APPROVED FOOD SERVICE SHOP DRAWINGS.
3. ITEM DESIGNATIONS INDICATED ARE FOR PURPOSES OF THESE DOCUMENTS ONLY. CONTRACTOR SHALL VERIFY WITH THE OWNER ACTUAL DESIGNATION INFORMATION TO BE PROVIDED FOR EACH ITEM OF PLUMBING EQUIPMENT PRIOR TO NAMEPLATE ORDER RELEASE.
4. THE PLUMBING DETAILS SHALL BE INCORPORATED INTO THE ASSOCIATED WORK AND PROVIDE GENERAL GUIDANCE AS TO THE INSTALLATION INTENT WHETHER REFERENCED TO OR NOT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE INSTALLATION AND ENSURE THAT ALL INSTALLATIONS ARE IN ACCORDANCE WITH THE EQUIPMENT'S LISTING AND MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTION.
5. REFER TO APPROVED FOOD SERVICE DRAWINGS AND SCHEDULES FOR KITCHEN AND BAR LAYOUTS, PLUMBING REQUIREMENTS AND DETAILS. PROVIDE PIPING, VALVES, FIXTURES, INDIRECT WASTE, PRESSURE REDUCING VALVES, ETC. (NOT PROVIDE BY KITCHEN EQUIPMENT CONTRACTOR) AS REQUIRED TO MAKE A COMPLETE AND OPERABLE SYSTEM (INCLUDING HOOD DRAIN PIPING, VENTILATOR CONTROL PANEL PIPING, REFRIGERANT PIPING, BEER AND SYRUP LINE RACEWAYS, DRAIN PIPING FROM REFRIGERATION FAN COILS, ETC.). EXPOSED PIPING ABOVE COUNTER HEIGHT SHALL BE CHROME PLATED. PROVIDE REDUCED PRESSURE TYPE BACKFLOW AT CARBONATORS. VACUUM BREAKER AND PRESSURE REDUCING VALVES FOR HOOD HOT AND COLD WATER ARE FURNISHED BY KITCHEN EQUIPMENT CONTRACTOR AND INSTALLED BY DIVISION 22 (PLUMBING). COORDINATE WITH KITCHEN EQUIPMENT CONTRACTOR ACCORDINGLY. PROVIDE SHUT-OFF VALVES AND CHECK VALVES ON EACH BRANCH LINE TO HOSE REELS, SOAP DISPENSERS AND EACH HOT AND COLD WATER FAUCET THAT HAS A HOSE CONNECTION. PIPE 3/4" COLD WATER TO FILTER (BY KITCHEN EQUIPMENT CONTRACTOR) WITH SHUT-OFF VALVE PIPING FROM FILTER TO EQUIPMENT ROUTED IN WALL.
6. PROVIDE STAINLESS STEEL WASTE PIPE AND P-TRAP AT ALL BARS, SODA STATIONS, WAITRESS STATIONS AND BEVERAGE STATIONS ABOVE GRADE (SCHEDULE 40 PVC FOR BELOW GRADE). RUN-OUTS SHALL BE A MINIMUM OF 20'-0" OF STAINLESS STEEL DRAIN PIPE OR TO THE MAIN DRAIN OF AREA SERVED.
7. PROVIDE INSULATION ON ALL WASTE PIPING AND P-TRAPS FROM FLOOR DRAINS, SINKS AND TROUGHS RECEIVING INDIRECT WASTE FROM ICE MACHINES AND ICE BINS. PIPING INSULATION SHALL BE PROVIDED FROM THE DRAIN CONNECTION FOR A MINIMUM OF 15'-0" OR UNTIL THE NEXT BRANCH CONNECTION.
8. PROVIDE SHEET METAL DRAIN DRAIN PAN UNDER GRAVITY OR PUMPED DRAIN PIPING WHERE PIPING OCCURS ABOVE KITCHENS, FOOD SERVICE PREP, FUTURE TENANT KITCHENS OR FOOD SERVICE CORRIDORS. PIPE 3/4" DRAIN FROM DRAIN PAN TO OVER NEAREST FLOOR SINK.
9. PROVIDE SHEET METAL DRAIN PAN UNDER PIPING WHERE PIPING OCCURS, ABOVE ANY ELECTRICAL ROOMS, IT CENTER OR ELECTRICAL SWITCH GEAR. PIPE 3/4" DRAIN FROM DRAIN PAN TO OVER NEAREST FLOOR SINK.
10. REFER TO APPROVED FOOD SERVICE DRAWINGS FOR HOT AND COLD WATER HOSE BIBB LOCATIONS UNDER HAND SINKS IN KITCHEN AREAS.
11. SEISMIC RESTRAINTS SHALL BE PROVIDED PER THE LATEST ADOPTED STANDARD BUILDING CODE AND THE SMACNA SEISMIC RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE PROPOSED RESTRAINTS, STRUCTURAL ATTACHMENT METHODS AND RESTRAINT LOCATIONS TO THE ARCHITECT FOR REVIEW. THE SUBMITTED DOCUMENTS SHALL BE PREPARED AND STAMPED BY A STRUCTURAL ENGINEER LICENSED IN THE PROJECT STATE.
12. COORDINATE SPRINKLER DRAIN REQUIREMENTS AND LOCATIONS WITH THE FIRE PROTECTION DIVISION OF WORK.
13. REFER TO CIVIL DRAWINGS FOR INVERT AT SITE UTILITY POINTS OF CONNECTION. PROVIDE OFFSET AND INCREASER FOR STORM DRAIN OR SEWER AS REQUIRED FOR CONNECTION TO CIVIL.
14. GREASE TRAP INSTALLATION SHALL CONFORM WITH APPLICABLE CITY REQUIREMENTS. MANHOLE SPACING SHALL NOT EXCEED 10'-0" ON CENTER. PROVIDE QUANTITY AS REQUIRED TO COMPLY WITH MAXIMUM SPACING. COORDINATE WITH CIVIL DIVISION OF WORK.
15. PROVIDE TRAP PRIMERS FOR AREAS OF INFREQUENT USE, INCLUDING FLOOR DRAINS IN RESTROOMS AND MECHANICAL ROOMS. EQUAL TO PRECISION PRODUCTS CO. "PRIME-RITE" WITH DISTRIBUTION UNITS FOR MULTIPLE FLOOR DRAINS AND FLOOR SINKS. TRAP PRIMER SHALL BE ACCESSIBLE AND INSTALLED PER MANUFACTURER'S REQUIREMENTS. PROVIDE LINE SIZE SHUT-OFF VALVE AHEAD OF EACH TRAP PRIMER AND PRIMER LINE SHALL BE INSTALLED ON A COLD WATER LINE LESS THAN 2" DIAMETER. ALL ELECTRONIC TYPE TRAP PRIMERS SHALL BE PPP "PRIME-TIME" ELECTRONIC TRAP PRIMING MANIFOLD" WITH FOUR (4) TO 30 OUTLETS, VACUUM BREAKER, 24 HOUR CLOCK, MANUAL OVERRIDE, SOLENOID VALVE, CALIBRATED MANIFOLD WITH 1/2" OUTLET COMPRESSION FITTINGS, PROVIDE 3/4" SHUT-OFF VALVE ON INLET. (ELECTRONIC TRAP PRIMERS TO BE LOCATED IN MECHANICAL ROOMS AND CONCRETE BLOCK WALLS.)
16. REFER TO BALANCING VALVE ASSEMBLY DESIGN DETAIL FOR NOMINAL GPM AT EACH HOT WATER RETURN BRANCH LINE CONNECTION.
17. HOT WATER RETURN PIPING BRANCH LINES TO DROP DOWN IN WALL AND CONNECT TO HOT WATER SUPPLY AT STOPS OR AT TEMPERING STATIONS. REFER TO DESIGN DETAILS FOR DIAGRAMS SHOWING CONNECTIONS.
18. ARRANGE WATER HEATERS AND PIPING TO PROVIDE EASE OF DISASSEMBLY AND MAINTENANCE.
19. GREASE WASTE PIPING SHALL PITCH AT 2% PER FOOT.
20. PROVIDE A 6mm POLYETHYLENE SLEEVE EQUAL TO IPS WATER-TITE FOR COPPER DOMESTIC WATER PIPE BELOW SLAB.
21. HOT AND COLD WATER SHUT-OFF VALVES AND HOT WATER RETURN BALANCING VALVES SHALL BE LOCATED TO BE EASILY ACCESSED.
22. PROVIDE STAINLESS STEEL BASKET AT KITCHEN AND BAR FLOOR SINKS. DRAIN SPECIALITIES MODEL NUMBER DS-200.
23. PROVIDE WALL CLEANOUTS AT URINALS IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE ADOPTED STANDARD PLUMBING CODE.
24. VENTS THROUGH ROOF SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKES AND BUILDING OPENINGS.
25. EQUIPMENT AND PIPING LOCATIONS SHOWN FROM THE BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY SIZE AND LOCATIONS PRIOR TO START OF WORK. IF SYSTEMS ARE NOT AS SHOWN IN DRAWINGS, REPORT DEVIATIONS TO ARCHITECT/ENGINEER WITHIN 48 HOURS OF DISCOVERY.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND PATCHING OF DAMAGED ARCHITECTURAL COMPONENTS TO REMAIN DURING THE REMOVAL OF DESIGNATED SYSTEMS. COORDINATE REPAIR REQUIREMENTS WITH ARCHITECT.
27. RESOLVE ALL QUESTIONS OR CONFLICTS WITH ENGINEER BEFORE ANY EQUIPMENT IS ORDERED, MATERIALS FABRICATED OR SYSTEMS INSTALLED.
28. COORDINATE THE INSTALLATION OF MECHANICAL SYSTEMS WITH OTHER TRADES.
29. COORDINATE ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS WITH THE GENERAL CONTRACTOR.
30. COORDINATE AND VERIFY THAT ALL OPENINGS IN WALLS ABOVE CEILING / DOOR LOUVERS / DOOR UNDERCUTS ARE PROVIDED AS INDICATED ON THESE DRAWINGS.
31. COORDINATE EXACT SIZE OF EQUIPMENT HOUSEKEEPING PAD WITH EQUIPMENT OVERALL FOOTPRINT DIMENSIONS.
32. LEVEL ALL EQUIPMENT CURBS / BASES PRIOR TO INSTALLATION OF ANY EQUIPMENT.
33. INSTALL FULL SIZE CONDENSATE DRAIN WITH TRAP SEAL DEPTH EQUAL TO 1.5 X UNIT TOTAL STATIC PRESSURE FOR EACH COOLING COIL. DISCHARGE DRAIN TO ROOF DRAIN FOR ROOFTOP UNITS AND TO FLOOR DRAIN FOR FAN COIL UNITS AND INDOOR AIR HANDLING UNITS.
34. SEAL ALL WALL AND ROOF PENETRATIONS WATERTIGHT WITH SILICONE CAULKING AND BACKER ROD.
35. PROVIDE 30x30 ACCESS PANELS IN "HARD" CEILINGS FOR ACCESS TO ALL MOTORS / CONTROLS / BALANCING DAMPERS AND FIRE DAMPERS.
36. PROVIDE OFFSETS AS NECESSARY TO ACCOMMODATE STRUCTURE AND OTHER TRADES.



20381 Lake Forest Dr. Suite B16  
Lake Forest, CA. 92630  
Main: 951.710.6334 Web: kineticdesign.build  
Email: info@kineticdesign.build



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THIS DRAWING IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY. APPROVAL FROM THE ARCHITECT AND GOVERNING JURISDICTIONS MUST BE OBTAINED PRIOR TO THE ISSUANCE OF CONSTRUCTION DOCUMENTS. THE ARCHITECT AND HIS CONSULTANTS ASSUME NO RESPONSIBILITY FOR CONSTRUCTION BID'S OR CONSTRUCTION PERFORMED FROM THESE DRAWINGS.

REVISIONS

No.	DATE	DESCRIPTION
	09-22-21	PCC #1, CLIENT AND LANDLORD REVISIONS

CLIENT INFORMATION



PROJECT NAME  
NEKTER - LEE'S SUMMIT, MO

940 NW PRYOR ROAD, UNIT: G,  
LEE'S SUMMIT, MISSOURI 64081

SHEET NAME  
PLUMBING GENERAL NOTES

DRAWN	RH	CHECKED
DATE	09/22/21	
SCALE	AS NOTED	
PROJECT NUMBER		
SHEET		

P001



GENERAL ANNOTATIONS

	DETAIL No. REF DWG No.	DETAIL CALL OUT	
	SECTION No. REF DWG No.	SECTION CALL OUT	
	A	GRID DESIGNATION	
	A	EXISTING GRID DESIGNATION	
	ELEVATION No. REF DWG No.	ELEVATION REFERENCE EXTERIOR	
	ELEVATION No. REF DWG No.	ELEVATION REFERENCE INTERIOR	
	ELEVATION NAME	NEW SPOT ELEVATION	
	ELEVATION NAME	EXISTING SPOT ELEVATION	
	MATCH LINE SEE A201	MATCHLINE	
	KEYNOTE	HEXAGON SHEET KEYNOTE	
	KEYNOTE	CIRCLE SHEET KEYNOTE	
	KEYNOTE	OVAL SHEET KEYNOTE (WORK)	
	KEYNOTE	SQUARE SHEET KEYNOTE	
	KEYNOTE	DIAMOND SHEET KEYNOTE (DEMO)	
	REVISION	REVISION NOTE	
	POC	POINT OF CONNECTION (DATUM)	
	POD	POINT OF DISCONNECT	
	ROOM NAME 101	ROOM NAME AND ROOM TARGET	
	101	ROOM PARTITION TARGET	
	TRUE NORTH	PLAN NORTH	
	SITE NORTH	ISOMETRIC NORTH	
	SITE NORTH		

GENERAL SYMBOLS

	THERMOMETER
	AUTOMATIC AIR VENT
	MANUAL AIR VENT
	PRESSURE GAGE OR GAGE COCK
	WATER METER
	GAS METER
	IN-LINE CIRCULATING PUMP
	ACCESS PANEL
	BACKFLOW PREVENTER (DOUBLE CHECK)
	REDUCED PRESSURE PRINCIPLE BACKFLOW
	MANUAL FLOW BALANCING VALVE (CIRCUIT SETTER)
	AUTOMATIC THERMOSTATIC BALANCING VALVE
	VACUUM RELIEF VALVE
	PRESSURE & TEMPERATURE RELIEF VALVE
	UNION
	ECCENTRIC REDUCER
	CONCENTRIC REDUCER
	STRAINER
	SWING CHECK VALVE / BACK WATER VALVE
	SOLENOID VALVE
	THREE-WAY SOLENOID VALVE
	GAS COCK / PLUG VALVE
	GATE VALVE
	BALL VALVE / SHUT OFF VALVE
	RISER BALL VALVE / SHUT OFF VALVE
	NEEDLE VALVE / THROTTLING VALVE
	BUTTERFLY VALVE
	GLOBE VALVE
	THERMOSTATIC MIXING VALVE
	THREE-WAY VALVE
	ANGLE VALVE / ANGLE STOP VALVE
	MOTORIZED T.C. VALVE/2-WAY
	MOTORIZED T.C. VALVE/3-WAY
	NORMALLY CLOSED, NORMALLY OPEN
	ROOF RECEPTOR
	QUICK DISCONNECT
	FLANGED CONNECTION
	FLEX CONNECTOR
	EXPANSION CONNECTOR
	90 ELBOW - DOWN
	90 ELBOW - UP
	TEE - DOWN
	TEE - UP
	FLOW INDICATOR
	PIPE CAP
	PIPE BREAK

PLUMBING ABBREVIATIONS

AB	ANCHOR BOLT	FLA	FLASHING	PK	PARKING
ABV	ABOVE	FLR	FLOOR	PL	PLATE
AC	ACOUSTICAL	FLUOR	FLUORESCENT	PLAM	PLASTIC LAMINATE
A/C	AIR CONDITIONING	FND	FOUNDATION	PLAS	PLASTER
ACON	ASPHALTIC CONCRETE	FOB	FACE OF BLOCK	PLWD	PLYWOOD
		FOC	FACE OF CONCRETE	PM	PRESSED METAL
ACT	ACOUSTICAL TILE	FOM	FACE OF FINISH	PNL	PANEL
ADH	ADHESIVE	FOS	FACE OF STUDS	PNT	PAINT(ED)
ADJ	ADJACENT	FOW	FACE OF WALL	PV	POUNDS PER SQUARE INCH
ADJT	ADJUSTABLE	FR	FRAME(D), (ING)	PT	PAINT
AFF	ABOVE FINISHED FLOOR	FRT	FIRE-RETARDANT	PTN	PARTITION
		FT	FOOTING	PV	PAVE(D), (ING)
		FUR	FURRED(ING)	PVMT	PAVEMENT
		FUT	FUTURE	QT	QUARRY TILE
ANOD	ANODIZED	GA	GAGE, GAUGE	RAD	RADIUS
AP	ACCESS PANEL	GALV	GALVANIZED	RB	RUBBER BASE
APX	APPROXIMATE	GD	GRADE, GRADING	RD	ROOF DRAIN
ARCH	ARCHITECT(URAL)	GEN	GENERAL	RE	REINFORCE(D),
ASPH	ASPHALT	GI	GALVANIZED IRON	REF	REFERENCE
AUTO	AUTOMATIC	GL	GLASS, GLAZING	REFR	REFRIGERATOR
		GLU-LAM	GLUE LAMINATED	REG	REGISTER
			BEAM	RE	REMOVE
BD	BOARD	GPDW	GYP SUM DRYWALL	M	RESILIENT
BEL	BELOW	GT	GROUT	RE	RETURN
BET	BETWEEN	GYP BD	GYP SUM BOARD	S	REVISION(S),
BLDG	BUILDING	HB	HOSE BIBB	RE	REVISED
BLK	BLOCKING	HC	HOLLOW CORE	RFG	ROOFING
BM	BLUM	HD	HEAD	RFH	ROOF HATCH
BOT	BOTTOM	HDR	HEADER	REFL	REFLECT(ED), (IVE), (OR)
BRG	BEARING	HDW	HARDWARE	RFT	RAFTER
BS	BOTH SIDES	HM	HOLLOW METAL	RI	RISER
BUR	BUILT UP ROOFING	HORIZ	HORIZONTAL	RL	RAIL(ING)
		HT	HEIGHT	RM	ROOM
CAB	CABINET	HVAC	HESATING /VENTILATING/	RO	ROUGH OPENING
CB	CATCH BASIN	HWD	HARDWOOD	ROS	ROUGH SAWN
CEM	CEMENT	1-HR	ONE-HOUR FIRE RESISTIVE RATING	RO	RIGHT OF WAY
CFT	CUBIC FOOT	2-HR	TWO-HOUR FIRE RESISTIVE RATING	W	RESAWN
CHAM	CHAMFER			RS	REDWOOD
CI	CAST IRON	ID	INSIDE DIAMETER	SOUTH	SOUTH
CIPC	CAST-IN-PLACE CONCRETE	INCAND	INCANDESCENT	SC	SOLID
		INS	INSULATE(D), (ION)	SCH	CORE
CIR	CIRCLE	INT	INTERIOR	SEC	SCHEDULE
CIRC	CIRCUMFERENCE			SERV	SECTION SERVICE
CJT	CONTRACT JOINT	JAN	JANITOR	SF	SQUARE FEET
CK	CAULK(ING)	JST	JOIST	SH	SHELF, SHELIVING
CLG	CLEAR(ANCE)	KPL	KICKPLATE	SHT	SHEET
CLR	CLOSURE	LAM	LAMINATE(D)	SHTG	SHEATHING
CLS	CLOSURE	LAV	LAVATORY	SIM	SIMILAR
CM	CENTIMETER(S)	LC	LIGHTWEIGHT CONCRETE	SKL	SKYLIGHT
CMU	CONCRETE	LDR	LADDER	SPL	SPECIAL SPECIFICATION(S)
	MASONRY UNIT	LGT	LIGHT	SQ	SQUARE
COL	COLUMN	LWT	LIGHTWEIGHT	SSK	SERVICE SINK
COMB	COMBINATION	LVR	LOUVER	STG	SEATING
COMP	COMPRESSION(ED), (ION), (IBLE)	M	MEN	SG	STAINGRADE
COMPQ	COMPOSITION (COMPOSITE)	MAS	MASONRY	SS	STAINLESS STEEL
COMPT	COMPARTMENT	MATL	MATERIAL(S)	STD	STANDARD
CONC	CONCRETE	MAXI	MAXIMUM	STL	STEEL
CONST	CONSTRUCTION	MB	MACHINE BOLT	STOR	STORAGE
CONT	CONTINUOUS OR CONTINUE	MECH	MEDIUM	STR	STRUCTURAL
CONTR	CONTRACT(OR)	MFR	MANUFACTURE(R)	SUSP	SUSPENDED
COPR	CORRUGATED	MIN	MINIMUM	SYS	SYSTEM
CPT	CARPET(ED)	MISC	MISCELLANEOUS	T	TEMPERED
CSK	COUNTERSINK	ML&PL	METAL LATH & PLASTER	T&G	TONGUE AND GROOVE
CT	CERAMIC TILE	MLD'G	MOLDING, MOULDING	TEL	TELEPHONE
CX	CONNECTION	MO	MASONRY OPENING	THK	THICK(NESS)
CYD	CUBIC YARD	MR	MIRROR	THR	THRESHOLD
CYL	CYLINDER	MT	MOUNT(ED), (ING)	TOC	TOP OF CONCRETE
		MTL	METAL	TOIL	TOILET
D	DRAIN	MUL	MULLION	TP	TOP OF PARAPET
DBL	DOUBLE	MWK	MILLWORK	TPTN	TOILET PARTITION
DEMO	DEMOLISH, DEMOLITION	N	NORTH	TR	TREAD
DET	DETAIL	NAT	NATURAL	TRS	TRANSOM
DF	DOUGLAS FIR	NIC	NOT IN CONTRACT	TS	TOP SET
DIA	DIAMETER	NOM	NOMINAL	TSH	TOP OF SHEATHING
DIM	DIMENSION	NTS	NOT TO SCALE	TSL	TOP OF SLAB
DISP	DISPENSER	OC	ON CENTER(S)	TST	TOP OF STEEL
DPR	DAMPER	OD	OUTSIDE DIAMETER	TV	TELEVISION
DR	DOOR	OFOI	OWNER FURNISHED	TW	TOP OF WALL
DS	DOWNSPOUT	OFOW	OWNER FURNISHED	TYP	TYPICAL
DWG	DRAWING	OWNR	OWNER	UC	UNDERCUT
DWR	DRAWER	OWNR	OWNER	UL	UNDERWRITER'S
		OWNR	OWNER	UNO	UNLESS NOTED OTHERWISE
E	EAST	OWNR	OWNER	URIN	URINAL
EF	EACH FACE	OWNR	OWNER	V	VINYL
ELEC	ELECTRIC(AL)	OWNR	OWNER	VB	VAPOR BARRIER
ELEV	ELEVATOR	OWNR	OWNER	VCT	VINYL COMPOSITION
EMER	EMERGENCY	OWNR	OWNER	VEN	VENEER
ENC	ENCLOSE(URE)	OWNR	OWNER	VERT	VERTICAL
EQ	EQUAL	OWNR	OWNER	VEST	VESTIBULE
EQUIP	EQUIPMENT	OWNR	OWNER	VTR	VENT THRU ROOF
EST	ESTIMATE	OWNR	OWNER	W	WEST
EWC	ELECTRIC WATER COOLER	OWNR	OWNER	W	WOMEN
	EXISTING	OWNR	OWNER	WAINS	WAINSCOT
EXG	EXISTING	OWNR	OWNER	WC	WATER CLOSET
EXH	EXHAUST	OWNR	OWNER	WD	WOOD
EXP	EXPANDED/ EXPANSION	OWNR	OWNER	WG	WIRED GLASS
	EXTERIOR	OWNR	OWNER	WH	WALL HUNG
EXT	EXTENSION	OWNR	OWNER	WM	WIRE MESH
FBO	FURNISHED BY OTHERS	OWNR	OWNER	WND	WINDOW
	CONTRACTOR	OWNR	OWNER	W/O	WITHOUT
FD	FLOOR DRAIN	OWNR	OWNER	WP	WATERPROOFING
FEC	FIRE EXTINGUISHER	OWNR	OWNER	WR	WATER REPELLANT
	CABINET	OWNR	OWNER	WTV	WALL TO WALL
FF	FACTORY FINISH	OWNR	OWNER	WWF	WELDED WIRE FABRIC
FFE	FINISHED FLOOR	OWNR	OWNER		
FFL	FINISHED FLOOR LINE	OWNR	OWNER		
FG	FIXED GLASS	OWNR	OWNER		
FH	FIRE HOSE	OWNR	OWNER		
FHC	FIRE HOSE CABINET	OWNR	OWNER		
FIN	FINISHED(ED)	OWNR	OWNER		

PLUMBING SYSTEMS

CD	CONDENSATE DRAIN
PCD	PUMPED CONDENSATE DRAIN
CW	DOMESTIC COLD WATER
HW	DOMESTIC HOT WATER (120° F)
HWR	DOMESTIC HOT WATER RETURN (120° F)
HW(140° F)	DOMESTIC HOT WATER (140° F)
HWR(140° F)	DOMESTIC HOT WATER RETURN (140° F)
TW	TEMPERED WATER (105° F)
ICW	INDUSTRIAL COLD WATER
IRR	IRRIGATION
RCW	RAW COLD WATER
SCW	SOFT COLD WATER
F	FIRE PROTECTION
W	WASTE ABOVE GROUND
W	WASTE BELOW GROUND
V	SANITARY VENT
TP	TRAP PRIMER
GW	GREASE WASTE
SD	STORM DRAIN
OD	STORM DRAIN OVERFLOW
SSD	SUBSURFACE DRAINAGE
FOF	FUEL OIL FILL
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
AW	ACID WASTE
AV	ACID VENT
G	LOW PRESSURE NATURAL GAS (8" WC)
LPG	LIQUEFIED PETROLEUM GAS (PROPANE)
MPG	MEDIUM PRESSURE NATURAL GAS (5 PSIG)
HPG	HIGH PRESSURE NATURAL GAS
A	COMPRESSED AIR
VAG	VACUUM
N	MEDICAL NITROGEN
N2O	MEDICAL NITROUS OXIDE
Co2	CARBON DIOXIDE
(E)	EXISTING PIPING
(G)	DEMOLITION WORK
2%	SLOPE DOWN IN DIRECTION OF FLOW

PLUMBING SYMBOLS

	ROUND / SQUARE FLOOR DRAIN OR EMERGENCY FLOOR DRAIN
	ROOF DRAIN/OVERFLOW DRAIN
	FLOOR SINK - FULL, 1/2 & 3/4 GRATE
	TRENCH DRAIN
	SLOPE
	HOSE BIBB, EXPOSED
	HOSE BIBB, RECESSED
	FLOOR CLEANOUT/ CLEANOUT TO GRADE
	CLEANOUT/WALL CLEANOUT
	P-TRAP
	WATER HAMMER ARRESTOR

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**Kinetic Design**  
20381 Lake Forest Dr. Suite B16  
Lake Forest, CA. 92630  
Main: 951.710.6334 Web: kineticdesign.build  
Email: info@kineticdesign.build

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REVISIONS		
No.	DATE	DESCRIPTION
1	09-22-21	PCC #1, CLIENT AND LANDLORD REVISIONS

CLIENT INFORMATION

PROJECT NAME  
**NEKTER - LEE'S SUMMIT, MO**

940 NW PRYOR ROAD, UNIT: G,  
LEE'S SUMMIT, MISSOURI 64081


SHEET NAME  
**PLUMBING SYMBOLS AND ABBREVIATIONS**

DRAWN	RH	CHECKED	
DATE			09/22/21
SCALE			AS NOTED
PROJECT NUMBER			
SHEET			

**P002**

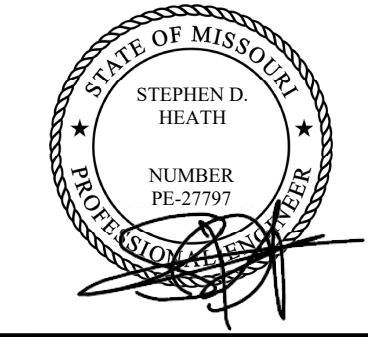


PART I - GENERAL		PART II - PRODUCTS	PART III - EXECUTION	
<p><u>1.00 APPLICABLE PROVISIONS OF GENERAL CONDITIONS APPLY TO THE WORK OF THIS SECTION.</u></p> <p><u>1.01 WORK INCLUDED:</u></p> <p>A. NOTE THAT THE WORK OF THIS SECTION MAY BE INDICATED ON ANY OF THE CONTRACT DRAWINGS.</p> <p>B. NOTE THAT THE WORK OF THIS SECTION MAY BE INDICATED ON ANY OF THE CONTRACT DRAWINGS.</p> <p>C. ALL DOMESTIC HOT AND COLD WATER INSIDE OF BUILDING AND EXTERIOR OF BUILDING TO SITE CONNECTIONS.</p> <p>D. FURNISHING AND INSTALLING OF PLUMBING FIXTURES, ETC.</p> <p>E. ALL HOT WATER AND HOT WATER RETURN PIPING INSULATION.</p> <p>F. WORK INDICATED ON DRAWINGS BUT NOT MENTIONED IN SPECIFICATIONS, OR VISE VERSA, SHALL BE PERFORMED THE SAME AS IF SPECIFICALLY MENTIONED OR INDICATED IN BOTH LOCATIONS. ALL SUPPLEMENTARY LABOR OR MATERIALS REQUIRED FOR A COMPLETE, APPROVED, AND PROPERLY OPERATING INSTALLATIONS SHALL BE FURNISHED WHETHER OR NOT INDICATED AND SPECIFIED, AND WITHOUT ADDITIONAL COST TO OWNER.</p> <p>G. PERMITS AND FEES REQUIRED FOR THE INSTALLATION OF WORK OF THIS SECTION. THIS INCLUDES OBTAINING AND PAYING FOR PERMIT FOR THE INSTALLATION OF THE SEPTIC TANK, AT NO ADDITIONAL COST TO OWNER.</p> <p><u>1.02 RELATED WORK IN OTHER SECTIONS</u></p> <p>A. TEMPORARY WATER.</p> <p>B. ALL LINE VOLTAGE ELECTRICAL WIRING AND CONDUIT.</p> <p>C. FIRE SPRINKLER SYSTEM.</p> <p><u>1.03 REFERENCED GENERAL REQUIREMENTS</u></p> <p>A. ADMINISTRATIVE REQUIREMENTS: WORK COVERED BY CONTRACT DOCUMENTS; SITE CONDITIONS; CODES.</p> <p>B. CUTTING AND PATCHING.</p> <p>C. SUBMITTALS: SCHEDULING SUBMITTALS; PROJECT SCHEDULE DATA.</p> <p>D. SHOP DRAWINGS, PRODUCT DATA AND SAMPLES: DRAWINGS; MATERIAL LIST; CATALOG CUTS; SAMPLES.</p> <p>E. QUALITY CONTROL.</p> <p>F. FIELD QUALITY CONTROL TESTS.</p> <p>G. CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS: PROTECTION OF WORK AND PROPERTY; CLEANUP DURING CONSTRUCTION.</p> <p>H. PRODUCT OPTIONS AND SUBSTITUTIONS: PROPRIETARY SPECIFYING; CONTRACTOR REQUESTED SUBSTITUTIONS BY ARCHITECT.</p> <p>I. CONTRACT CLOSEOUT: FINAL CLEANUP; WARRANTIES; RECORD DOCUMENTS; OPERATION AND MAINTENANCE MANUALS.</p> <p><u>1.05 CODE PERMITS, FEES AND ACCEPTANCES</u></p> <p>A. CODES.</p> <p>1. DEFINED IN OTHER SECTIONS</p> <p>2. COMPLY WITH CODES.</p> <p>3. COMPLY FULLY WITH FIRE DEPARTMENT REQUIREMENTS.</p> <p>B. PERMITS AND FEES.</p> <p>1. PROVIDE FOR THE WORK OF THIS SECTION AS REQUIRED.</p> <p>2. OBTAIN AND PAY FOR PERMITS FOR WORK OF THIS SECTION.</p> <p>C. ACCEPTANCES.</p> <p>1. PRIOR TO ACCEPTANCE FURNISH OWNER WITH SUCH SETS OF OPERATION AND MAINTENANCE MANUALS AS ARE REQUIRED BY OTHER SECTIONS. PROVIDE VALVE LEGEND, TABLE OF CONTENTS, AND ALL WARRANTIES.</p> <p>2. OBTAIN ARCHITECTS ACCEPTANCE OF ALL SYSTEMS AND OPERATIONS.</p> <p><u>1.06 QUALITY ASSURANCE</u></p> <p>A. SUPERVISION: PERFORM THE WORK UNDER THE CONTINUOUS SUPERVISION OF A COMPETENT SUPERINTENDENT AND/OR FOREMAN CAPABLE OF UNDERSTANDING THE CONTRACT DOCUMENT AND IMPLEMENTING THEIR REQUIREMENTS. DO NOT CHANGE SUPERVISOR WITHOUT ACCEPTANCE OF SUBSTITUTION BY ARCHITECT.</p> <p>B. WORKSMANSHIP: EMPLOY WORKMEN SKILLED IN THE VARIOUS TYPES OF WORK BEING PERFORMED.</p> <p>C. PERFORM WORK AS SPECIFIED.</p> <p>D. REPLACE WORK NOT CONFORMING TO REVIEWED/ACCEPTED SHOP DRAWINGS/PRODUCT DATA.</p> <p>E. REPLACE WORK NOT CONFORMING TO CONTRACT REQUIREMENTS.</p> <p><u>1.07 SCHEDULING</u></p> <p>A. AS SPECIFIED IN OTHER SECTIONS.</p> <p>1. SCHEDULE SUBMITTALS.</p> <p>2. PROVIDE PROGRESS SCHEDULE DATES.</p> <p>3. CONTRACTOR SHALL INCLUDE ALL REQUIRED TIME TO MEET WITH OWNER'S REPRESENTATIVE IN HIS WORK TO SCHEDULE ALL CONSTRUCTION FOR THE PROJECT, AT NO ADDITIONAL COST.</p> <p><u>1.08 SUBSTITUTION</u></p> <p>A. PROCEDURES FOR REQUESTING SUBSTITUTION ARE SPECIFIED IN GENERAL CONDITIONS.</p> <p><u>1.09 SUBMITTALS</u></p> <p>A. SHOP DRAWINGS.</p> <p>1. COMPLY WITH PERTINENT PROVISIONS OF OTHER SECTIONS.</p> <p>2. DRAWINGS SHALL INDICATE FOLLOWING.</p> <p>B. ALL INFORMATION REQUIRED TO INDICATE COMPLIANCE OF SYSTEM WITH DESIGN CRITERIA AND OTHER CONTRACT REQUIREMENTS.</p> <p>C. COORDINATION WITH STRUCTURAL ELEMENTS, CEILING SYSTEM, LIGHTING FIXTURES, HVAC OUTLETS, DUCTWORK.</p> <p>1. SUBMIT DATED, CERTIFIED REPORTS REQUIRED TESTS.</p> <p>2. SUBMIT COMPLETE DRAWINGS FOR FINAL REVIEW.</p> <p>D. PRODUCT DATA.</p> <p>1. FIXTURES, PIPING, VALVES, FLOOR SINK.</p> <p>2. PIPE AND FITTINGS.</p> <p>E. MANUFACTURER/SUPPLIER PRODUCT SPECIFICATIONS AND INSTALLATIONS INSTRUCTIONS.</p> <p>F. MANUFACTURER/SUPPLIER CERTIFICATES ATTESTING THAT PRODUCTS FURNISHED COMPLY WITH STANDARDS SPECIFIED/REFERENCED HEREIN.</p> <p><u>1.10 RECORD DOCUMENTS</u></p> <p>A. PROVIDE AS REQUIRED BY GENERAL CONDITIONS.</p> <p>B. PROVIDE/MAINTAIN SHOP DRAWINGS FOR WORK OF THIS SECTION.</p> <p>C. RECORD DRAWINGS SHALL BEAR STAMP IMPRINTS AND SIGNATURES INDICATING THEIR ACCEPTABILITY TO BUILDING AUTHORITIES.</p> <p><u>1.11 PROTECTION OF WORK AND PROPERTY</u></p> <p>A. PROVIDE AS SPECIFIED IN OTHER SECTIONS.</p> <p>B. REPAIR AND MAKE GOOD DAMAGE RESULTING FROM THE WORK OF THIS SECTION.</p> <p><u>1.12 TEMPORARY WATER</u></p> <p>A. PROVIDE AS REQUIRED PER CODE.</p> <p><u>1.13 INSPECTIONS REQUIRED</u></p> <p>A. ARRANGE FOR AND PROVIDE INSPECTIONS REQUIRED BY BUILDING AUTHORITIES.</p> <p><u>1.14 CUTTING AND PATCHING</u></p> <p>A. PERFORM AS SPECIFIED IN OTHER SECTIONS.</p> <p><u>1.15 WARRANTY</u></p> <p>A. PROVIDE INSTALLER'S WARRANTY AS SPECIFIED IN OTHER SECTIONS.</p>		<p><u>2.01 GENERAL</u></p> <p>A. TO THE EXTENT POSSIBLE MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE:</p> <p>1. U.L. LISTED.</p> <p>2. FACTORY MUTUAL APPROVED.</p> <p><u>2.02 MATERIALS</u></p> <p>A. ALL MATERIALS FOR THE SAME GENERAL USE SHALL BE OF THE SAME TYPE AND MANUFACTURER.</p> <p><u>2.03 PIPE SCHEDULE</u></p> <p>A. WATER DESTRIIBUTION PIPE AND FITTINGS.</p> <p>a. MAIN WATER SERVICE BELOW GRADE:</p> <p>1. PIPE: COPPER TYPE K MAKE JOINTS WILL SILFOSE</p> <p>2. FITTINGS: WROUGHT COPPER TO MATCH PIPE MATERIAL.</p> <p>b. DOMESTIC WATER PIPING IN BUILDING:</p> <p>1. PIPE: COPPER TYPE L MAKE JOINTS WITH 95-5 SILVER SOLDER OR APPROVED EQUIAL.</p> <p>2. FITTINGS: TO MATCH PIPE MATERIAL.</p> <p>c. PEX PIPING ACCEPTABLE IF ALLOWED BY AUTHORITY HAVING JURISDICTION.</p> <p>B. GRAVITY PIPE AND FITTINGS</p> <p>a. SOIL, WASTE AND VENT PIPING:</p> <p>1. FOR SANITARY WORK BELOW FLOOR AND OUTSIDE UNDERGROUND SHALL BE SERVICE WEIGHT CAST IRON PIPE AND FITTINGS. SOIL LINES 5 FEET OR MORE FROM BUILDINGS MAY BE VITRIFIED CLAY PIPE WITH FIRST GRADE MARKINGS UNLESS NOTED OTHERWISE.</p> <p>2. FOR PIPING INSTALLED ABOVE GROUND, SHALL BE SERVICE WEIGHT CAST IRON PIPE AND FITTINGS. NO-HUBS WITH STAINLESS STEEL COUPLING.</p> <p>3. PVC AND CPVC ARE ACCEPTABLE AS ALTERNATIVE IF ALLOWED BY AUTHORITY HAVING JURISDICTION.</p> <p>C. GAS PIPE AND FITTINGS</p> <p>a. NATURAL GAS PIPING:</p> <p>1. SCHEDULE 40 BLACK STEEL WITH SCREWED FITTINGS.</p> <p>D. PIPE SUPPORTS</p> <p>1. PROVIDE PIPE SUPPORT AND BRACING TO COMPLY WITH GOVERNING AUTHORITIES.</p> <p>2. MANUFACTURERS: GRINNELL, FEE AND MASON, ELCCN, MICHIGAN, SUPERSTRUT.</p> <p><u>2.04 PIPE MATERIALS, FITTINGS AND VALVES</u></p> <p>A. CAST IRON SOIL PIPE AND FITTINGS: SERVICE WEIGHT CAST IRON, CONFORMING ASTM A-74-69 OR NO-HUB TYPE CONFORMING TO CISPI 301-72.</p> <p>B. LEAD: NEW PIG LEAD, CONFORMING TO ASTM B29-43.</p> <p>C. HEMP PACKING: IMPREGNATED JUTE, MANUFACTURED FOR CAULKING SOIL PIPE AND FITTINGS.</p> <p>D. GALVANIZED OR BLACK IRON PIPE: STANDARD WEIGHT PIPE CONFORMING TO ASTM A12-47.</p> <p>E. FITTINGS: SERVICE WEIGHT CAST IRON DRAINAGE TYPE FITTINGS FOR STEEL LINES. WROUGHT COPPER FITTINGS FOR COPPER LINES.</p> <p>F. UNIONS: FOR CONNECTIONS IN IRON PIPE LINES 2 1/2 INCHES AND SMALLER, USE GROUND JOINT BRASS TO IRON UNIONS. UNIONS IN COPPER LINES SHALL BE COPPER TO COPPER.</p> <p>G. VITACILIC COUPLINGS MAY BE USED WHERE PERMITTED BY CODE.</p> <p>H. VALVES SHALL CONFORM TO THE FOLLOWING:</p> <p>1. GATE VALVES: SOLID WEDGE DISC, RISING STEM. NON RISING STEM MAY BE USED ONLY WHERE THERE IS INSUFFICIENT CLEARANCE.</p> <p>a. 3" AND SMALLER: CRANE #428 (RISING STEM)</p> <p>2. GLOBE VALVES: REPLACEABLE COMPOSITION DISC SUITABLE FOR 200 DEGREES HOT WATER.</p> <p>a. 2" AND SMALLER: CRANE #7, BRONZE, SCREWED.</p> <p>3. CHECK VALVES:</p> <p>a. 3" AND SMALLER: CRANE #37, BRONZE, SCREWED, SWING CHECK TYPE.</p> <p>4. GAS COCKS:</p> <p>a. 2" AND SMALLER: CRANE #250, BRONZE, SCREWED.</p> <p>5. STRAINERS:</p> <p>a. 3" AND LARGER: CRANE #988, SCREWED.</p> <p>6. PRESSURE REGULATORS: MUELLER H-9000, WILKINS SERIES 500. INSTALL WITH BRASS STRAINER UPSTREAM OF REGULATOR.</p> <p>7. PARTITION STOP VALVES: CHICAGO FAUCET # 1771, LOOSE KEY TYPE.</p> <p><u>2.05 FLASHING</u></p> <p>A. FLASH ALL PIPES PASSING THROUGH ROOF WITH SEMCO #1100-4 SEAMLESS FOUR POUND FLASHING WITH STEEL REINFORCED VARIPITCH BOOT AND CAST IRON COUNTERFLASHING SLEEVE.</p> <p><u>2.06 PIPE HANGERS</u></p> <p>A. WATER PIPING: FEE AND MASON #199 ADJUSTABLE SPLIT RING HANGERS WITH SUPPORTING RODS. PROVIDE SEMCO SERIES #100 OR #500 TRISULATORS.</p> <p>B. SOIL AND WASTE PIPING: FEE AND MASON #199 ADJUSTABLE SPLIT RING HANGERS WITH SUPPORTING RODS. USE FEE AND MASON #241 RISER CLAMPS AT EACH FLOOR AND AS REQUIRED.</p> <p><u>2.07 CLEANOUTS</u></p> <p>A. EXTERIOR: SMITH #4253 WITH X.H. CAST IRON TOP IN CONCRETE AREAS. IN NONSURFACED OR BLACKTOP AREAS INSTALL WITH RING OF CONCRETE 6" BELOW SURFACE.</p> <p>B. FLOORS: SMITH #4023 WITH ROUND NICKEL BRONZE TOP IN FINISHED ROOM FLOORS. SMITH #4223 WITH ROUND CAST IRON TOP IN UNFINISHED ROOM FLOORS. CLEANOUTS SHALL BE FLUSH WITH FLOOR TYPE WITH ADJUSTABLE WATER-TYPE COVER, HAVING INTEGRAL ANCHORING FLANGE AND CLAMPING COLLAR WHEN WATERPROOFING MEMBRANE IS USED.</p> <p>C. FINISHED WALLS: SMITH #4332 WITH ROUND CHROME PLATED OR STAINLESS STEEL ACCESS PATE AND SCREW.</p> <p>D. CLEANOUT PLUGS SHALL BE EXTRA HEAVY BRONZE PLUGS.</p> <p><u>2.08 ACCESS BOXES</u></p> <p>A. WALLS: STAINLESS STEEL FACE IN TILE WALLS. USE BONDERIZED PRIME COATED STEEL FACE AND WITH ALLEN LOCK IN WALLS OF OTHER FINISHED ROOMS.</p> <p>B. CEILINGS: USE WITH BONDERIZED PRIME COATED STEEL FACE AND ALLEN LOCK IN WALLS OF OTHER FINISHED ROOMS.</p> <p>C. FLOORS: SMITH #44910 WITH POLISHED ALUMINUM ALLOY OR NICKEL BRONZE NON-SKID TOP IN FINISHED ROOMS. USE SMITH #4910 WITH PLAIN ALUMINUM OR NICKEL BRONZE NON SKID TOP IN UNFINISHED ROOMS. USE SMITH #44920 FOR FLOORS COVERED WITH TILE.</p> <p><u>2.09 TRAPS</u></p> <p>A. FOR LAVATORIES AND SINKS, EXCEPT SERVICE SINKS, SHALL BE CHROME PLATE CAST BRASS. I.A. PATTERN WITH BRASS NUTS. PROVIDE TRAP INSULATORS AS REQUIRED BY HANDICAPPED CODE. INSULATORS SHALL BE PRE-FORMED, WRAPPING IS NOT ACCEPTABLE.</p> <p><u>2.10 WATER HAMMER ARRESTORS</u></p> <p>A. SMITH #5000 SERIES STAINLESS STEEL.</p> <p><u>2.11 FIXTURES AND EQUIPMENT</u></p> <p>A. REFER TO FIXTURE SCHEDULE ON PLUMBING DRAWINGS.</p> <p><u>2.12 INSULATION</u></p> <p>A. HOT WATER AND HOT WATER RETURN PIPING: FURNISH AND INSTALL 1" THICK FIBERGLASS PIPE INSULATION WITH PREFORMED INSULATION FITTINGS. (NO EXCEPTION FOR PEX PIPING)</p>	<p><u>3.01 INSPECTION</u></p> <p>A. INSPECT AREA OF INSTALLATION AND STATUS OF RELATED WORK.</p> <p>B. MEASURE WORK IN PLACE. DIMENSIONS CRITICAL TO INSTALLATION, INCLUDING LEVEL AND PLUMB.</p> <p>C. REPORT CONDITIONS PREVENTING PROPER EXECUTION.</p> <p>D. DO NOT PROCEED IN AREAS ADVERSELY AFFECTED UNTIL DEFICIENCIES ARE CORRECTED.</p> <p><u>3.02 PREPARATION, LAYOUT AND DETAILING</u></p> <p>A. VERIFY ALL SPACES, DIMENSIONS, LOCATIONS, CONDITIONS, ETC., REQUIRED FOR INSTALLATION OF ALL PLUMBING AND RELATED WORK, ASSUME FULL RESPONSIBILITY THEREOF.</p> <p>B. OBTAIN ALL NECESSARY ROUGH-IN DATA AND DIMENSIONS FOR ALL FIXTURES, EQUIPMENT, OWNER FURNISHED EQUIPMENT, AND EQUIPMENT FURNISHED UNDER OTHER SECTIONS.</p> <p>C. EARTH OR GRAVEL COVER OVER UNDER-FLOOR LINES SHALL BE 4" MINIMUM.</p> <p>D. NO EXPOSED PIPES OR CONDUIT WILL BE PERMITTED TO SHOW ON INTERIOR OF BUILDING IN ANY FINISHED ROOM. WHERE THIS WOULD OCCUR, EXPOSED PORTION SHALL BE FURRED OR CASED WHEN NOT ADJACENT TO THE WALL.</p> <p>E. NO UNDERGROUND LINE SHALL BE INSTALLED LESS THE TEN INCHES AWAY FROM ANY REFRIGERANT PIPING.</p> <p>F. MAINTAIN AMPLE HEADROOM, CLEARANCES AND ACCESSIBILITY. INTERFERENCES BETWEEN WORK OF VARIOUS TRADES WILL BE RESOLVED BY THE ARCHITECT WHOSE DECISION WILL BE FINAL. RELOCATE OR OFFSET ANY WORK AS REQUIRED TO ACCOMMODATE WORK OF OTHER TRADES. ALL AT NO ADDITIONAL COST TO OWNER. MAINTAIN CEILING HEIGHTS TO AVOID EXCESSIVE FURRING REQUIREMENTS.</p> <p>G. IF NOT EXACTLY LOCATED ON DRAWINGS, OBTAIN LOCATIONS OF FIXTURES, EQUIPMENT, APPLIANCES, ETC. FROM ARCHITECT. NO TOLERANCE WILL BE ALLOWED.</p> <p><u>3.03 ROUGHING-IN</u></p> <p>A. PROCEED WITH ROUGH-IN AS RAPIDLY AS CONSTRUCTION WILL PERMIT. FIT ALL PIPING WITHIN AVAILABLE SPACES, LINES, FITTINGS, OFFSETS, HANGERS, ETC., REQUIRED TO ACCOMPLISH THIS RESULT. NOTIFY ARCHITECT AND OWNER WHEN ROUGH-IN IS COMPLETE SO THEY MAY INSPECT AND VERIFY LOCATIONS OF ALL ROUGH-INS, STUB-UPS, ETC., PRIOR TO CLOSING IN OF WALLS OR POURING OF CONCRETE FLOORS.</p> <p><u>3.04 PIPE INSTALLATION AND HANGERS</u></p> <p>A. ALL PIPING SHALL BE RUN CONCEALED IN FINISHED ROOMS. IN OTHER ROOMS WHERE PIPING RUN IS EXPOSED, PLACE IN UNIMPORTANT AND OUT-OF-WAY PLACES, AND AS ACCEPTED BY ARCHITECT.</p> <p>B. ALL VERTICAL PIPES SHALL BE PLUMB, GRADE HORIZONTAL PIPES TO UNIFORM SLOPES AS REQUIRED. WHERE TWO OR MORE PIPE RUNS ARE PLACED TOGETHER, RUN PARALLEL TO EACH OTHER.</p> <p>C. ALL PIPING SHALL BE INSTALLED EITHER PARALLEL OR AT RIGHT ANGLES TO BUILDING WALLS.</p> <p>D. REMOVE FOREIGN MATERIAL FROM ALL PIPES, VALVES, AND FITTINGS. WHENEVER PIPES ARE CUT FOR CAULKING OR SCREWED FITTINGS, CAREFULLY REAM OUT AND CLEAN OFF ALL BURRS, CHIPS AND DIRT.</p> <p>E. PROVIDE SHUT-OFF VALVES AT ALL FIXTURES, WHERE INDICATED ON THE DRAWINGS, AND WHERE REQUIRED FOR PROPER CONTROL OF THE SYSTEM. PROVIDE SHUT-OFF VALVES AT THE PIPING CONNECTIONS TO ALL EQUIPMENT CONTROLS. WHERE VALVES ARE LOCATED IN CONCEALED PIPING, FURNISH AND INSTALL METAL ACCESS PANELS OF SUITABLE SIZE AND OF THE TYPE SPECIFIED.</p> <p>F. UNLESS FLANGES ARE INDICATED, A UNION SHALL BE INSTALLED AT BYPASSES AND EQUIPMENT CONNECTION ADJACENT TO ALL VALVES AND ELSEWHERE AS INDICATED OR REQUIRED FOR EASE OF INSTALLATION AND SERVICING. UNDER NO CIRCUMSTANCES SHALL UNIONS BE INSTALLED IN INACCESSIBLE LOCATIONS.</p> <p>G. INSTALL APPROVED DIELECTRIC UNIONS WHEN JOINING DISSIMILAR METALS. USE OF COUPLINGS WILL NOT BE PERMITTED.</p> <p>H. MAKE SUITABLE PROVISIONS FOR MAXIMUM EXPANSION AND CONTRACTION OF ALL PIPING. PROVIDE SWING JOINTS FITTINGS AND ANCHORS AS REQUIRED.</p> <p>I. FURNISH AND INSTALL WATER ARRESTORS ON BOTH THE HOT AND COLD WATER PIPE.</p> <p>J. INSTALL IN UPRIGHT POSITION AT QUICK CLOSING VALVES AND FIXTURES, ETC. AS REQUIRED. LOCATE BEHIND ACCESS PANEL WHEN LOCATED IN CONCEALED AREAS.</p> <p>K. PIPES PASSING THROUGH CONCRETE OR MASONRY WALLS OR PARTITION SHALL BE RUN THROUGH RUST-PROOF SLEEVES. SLEEVES THROUGH WATERPROOFED SURFACES SHALL BE CAST IRON AND CAULKED WATERTIGHT IN AN APPROVED MANNER. SPACE BETWEEN SLEEVES AND PIPES IN OTHER WALLS OR PARTITIONS SHALL BE PACKED TIGHT WITH DENSE FIBERGLASS, OR OTHER APPROVED MATERIAL. ANY HOLES REQUIRED AFTER CONCRETE IS POURED SHALL BE CORED DRILLED.</p> <p>L. PIPES PASSING THROUGH CEILINGS AND STUD WALLS SHALL BE RUN THROUGH SPERZEL CRETE SLEEVE.</p> <p>M. EXPOSED PIPING SHALL BE EQUIPPED WITH CAST BRASS, SPLIT HINGED HROME PLATED ESCUTCHEON PLATES, LOCKED IN PLACE WITH SET SCREWS. WHERE COVERING OCCURS, USE LONG SCREWS THROUGH COVERING.</p> <p>N. JOINTS IN COPPER LINES SHALL BE THOROUGHLY CLEANED WITH SANDPAPER, FLUXED, AND LINED AS FOLLOWS.</p> <p>1. 2 1/2" AND SMALLER: USE 95-5 SILVER SOLDER WHERE PRESSURE IS LESS THAT 150 PSIG AND TEMPERATURE IS LESS THAT 150 DEGREES F.</p> <p>O. EXPOSED PLATED, POLISHED OR EMELEED CONNECTIONS FOR FIXTURES SHALL SHOW NO TOOL MARKS.</p> <p>P. VALVES, TRAPS, AND OTHER APPARATUS SHALL BE INSTALLED IN EASILY ACCESSIBLE LOCATIONS. WATER LINES SHALL BE RUN FROM POINT OF CONNECTION AT MAIN TO ALL FIXTURES, EQUIPMENT AND OUTLETS AS REQUIRED FOR COMPLETE INSTALLATION. CONNECT HOT WATER LINES TO HOT WATER HEATERS AS SHOWN ON DRAWINGS. EXTEND HOT WATER SERVICES TO ALL FIXTURES, EQUIPMENT AND OUTLETS AS INDICATED ON DRAWINGS. HOT WATER LINES SHALL GRADE UPWARD FROM THE SOURCE OF SUPPLY. EXERCISE CARE TO PREVENT AIR TRAPS IN THE HOT WATER SYSTEM. INSULATE AS REQUIRED BY GOVERNING CODES.</p> <p>Q. CAST IRON PIPE JOINTS:</p> <p>1. CAULKED JOINTS SHALL BE MADE WITH HEMP PACKING AND SOFT PIG LEAD. JOINTS SHALL BE RUN FULL AT ONE POURING AND CAULKED SOLID FLUSH WITH HUB. HEMP PACKING FOR SEALED JOINTS SHALL BE OF LONG FIBERS OF BEST QUALITY JUTE, WOVEN IN TO STRANDS AND KEPT CLEAN ON COVERED BALES UNTIL USED.</p> <p>2. NO HUB JOINTS ARE PERMITTED IF APPROVED BY LOCAL AUTHORITIES. USE STAINLESS STEEL BANDS ABOVE GRADE AND TYPE MG BELOW GRADE.</p> <p>3. VITRIFIED PIPE JOINTS SHALL BE MADE WITH WEDGELOCK FITTINGS.</p> <p>ACCESS BOXES SHALL BE PROVIDED AND INSTALLED WHERE INDICATED ON DRAWINGS AND OVER ALL CONCEALED EQUIPMENT SUCH AS VALVES, TRAP PRIMERS, WATER HAMMER ARRESTOR, ETC., OF SUITABLE SIZE FOR SERVICE INTENDED, MINIMUM 10 X 10.</p> <p>S. INSTALL CLEANOUTS AT ALL BENDS, ANGLES AND ENDS OF ALL WASTE AND SEWER PIPING AND WHERE NOTED ON DRAWINGS. ALL CLEANOUTS SHALL BE BROUGHT TO GRADE AND IN ALL CASES SHALL BE ACCESSIBLE. CLEANOUTS SHALL NOT BE LOCATED UNDER OR BEHIND FIXTURES, UNLESS ACCESSIBLE. VERIFY WHERE CLEANOUTS WILL BE CONSIDERED ACCESSIBLE. ALL CLEANOUTS THREADS SHALL BE THOROUGHLY GREASED WHEN INSTALLED.</p> <p>T. CHANGE IN LINE SIZES SHALL BE MADE WITH REDUCING FITTINGS. NO BUSHINGS SHALL BE USED.</p> <p>U. THOROUGHLY REAM OR DE-BURR ALL PIPING PRIOR TO INSTALLATION AND AFTER INSTALLATION THOROUGHLY BLOWOUT AND WASH OUT ALL PIPING. MAKE UP ALL RUNS OF PIPING WITH FULL LENGTH SECTIONS OF PIPE OR LENGTHS CUT TO FIT. USE NO COUPLINGS, EXCEPT WHERE LENGTH OF RUN REQUIRES MORE THAN ONE LENGTH OF PIPE. THE SHORT LENGTH SHALL BE USED AT ENDS AND NOT IN THE MIDDLE OF THE RUN. STREET ELBOWS, LONG THREADED PIPE, RUNNING THREAD OR BULLHEAD TEES SHALL NOT BE USED. ALL OFFSETS SHALL BE MADE WITH FITTINGS AND PIPES SHALL NOT BE BENT AT ANY TIME.</p> <p>V. CUT THREADS ON PIPE WITH CLEAR SHARP DIES, FULL THICKNESS OF DIE. MAKE JOINTS IN ALL SCREWED PIPE WITH APPROVED PIPE COMPOUND, COMPLETELY COVERING MALE/THREAD.</p> <p>W. PIPE SUPPORTS: PROVIDE PIPE HANGERS AND HANGING RODS AS REQUIRED TO FULLY SUPPORT PIPES AND WEIGHT OF MATERIALS CARRIED. SUBMIT SCHEDULE OF RODS, PIPE SIZES, AND SUPPORTING BRACKETS.</p> <p>X. WATER LINES: SECURELY ATTACH TO WALLS, STUDS, ETC. ISOLATE ALL SUCH PIPING FROM THE STRUCTURE BY A 1/8" THICK FELT PAD WRAPPED AROUND PIPING.</p> <p><u>3.05 HOT WATER HEATERS</u></p> <p>A. PROVIDE SHUTOFF VALVES AND UNIONS AT BOTH INLET AND OUTLET CONNECTIONS. FOR STORAGE TANK TYPE, INSTALL PRESSURE TEMPERATURE RELIEF VALVE WITH TEST LEVER AT EACH HEATER, MOUNTED WITH ELBOW. MOUNT HEATER INSIDE 22 GAGE GALVANIZED SHEET METAL PAN WITH 3" LIP AND WITH SOLDERED SEAMS. RUN 3/4" DRAIN FROM PAN TO NEAREST RECEPTOR.</p> <p><u>3.07 VALVES</u></p> <p>A. ALL VALVES SHALL BE LOCATED IN ACCESSIBLE PLACES. WHERE IT IS NECESSARY TO INSTALL VALVE BODIES IN WALLS OR FLOORS, PROVIDE ACCESS PANELS WITH VALVE WHEELS AND BONNETS IN ACCESSIBLE LOCATION. GATE VALVES SHALL BE USED ON ALL LINES REQUIRING VALVES TO BE WIDE OPEN OR TIGHT SHUT. ALL VALVES SHALL HAVE NAME OR TRADEMARK OF MANUFACTURERS AND GUARANTEED WORKING PRESSURE CAST OR STAMPED ON BODY. ALL VALVES OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER.</p>	<p><u>3.08 PROTECTION</u></p> <p>A. CLOSE ALL WASTE, VENT, WATER AND OTHER PIPE OPENINGS BY MEANS OF A TEST PLUG, SCREW CAP OR OTHER FITTING. NO PAPER, WOOD, BRICK, OR OTHER SUBSTITUTES WILL BE ALLOWED. PLUGS OR CAPS SHALL NOT BE REMOVED FROM OPENINGS EXCEPT DURING THE TIME THE OPENING IN PIPE IS BEING ACTUALLY WORKED UPON.</p> <p>B. ALL TRAPS IN CLOSET BOWLS, URINALS, SINKS AND LAVATORIES SHALL BE CLOSED SO THAT NO DEBRIS CAN ENTER. AREA DRAINS SHALL BE PROVIDED WITH AN INNER TOPPING AND SHALL BE PLUGGED DURING CONSTRUCTION.</p> <p>C. WATER CLOSETS, LAVATORIES, SINKS, AND OTHER FIXTURES SHALL BE FULLY PROTECTED DURING THE COURSE OF CONSTRUCTION. SHOULD ANY FIXTURE BECOME DAMAGED, THEN THE CONTRACTOR SHALL REPLACE WITHOUT ADDITIONAL COST TO OWNER.</p> <p>D. ON COMPLETION OF WORK AND IMMEDIATELY PRIOR TO FINAL TEST, REMOVE ALL PROTECTION COVERINGS, THOROUGHLY CLEAN ALL FIXTURES, AND OTHER EQUIPMENT IN CONNECTION WITH WORK. POLISH ALL BRIGHT WORK AND LEAVE WORK IN NEAT, CLEAN CONDITION READY FOR USE OPERATION AND ACCEPTABLE TO ARCHITECT.</p> <p>E. VALVES, METERS, REGULATORS, AND OTHER EQUIPMENT SHALL BE PROTECTED FROM DAMAGE, WHEN SO DIRECTED BY ARCHITECT, BY PROPERLY LOCATED 6" DIAMETER CONCRETE FILLED PIPE GUARDS.</p> <p><u>3.09 ADJUSTING</u></p> <p>A. UPON COMPLETION OF WORK AND AFTER CLEANING OF ALL SYSTEMS AND APPARATUS, AUTOMATIC PARTS OF PLUMBING SYSTEM SHALL BE CAREFULLY ADJUSTED FOR NORMAL OPERATION AND MAKE FINAL ADJUSTMENTS WHERE REQUIRED. INSPECT AND CLEAN VACUUM BREAKERS OF ANY FOREIGN MATERIALS THAT WOULD HINDER THEIR PROPER FUNCTIONING.</p> <p><u>3.10 PIPE INSULATION</u></p> <p>A. COVER ALL HOT WATER SUPPLY AND RETURN LINES. APPLY INSULATION OVER CLEAN DRY PIPES WITH ALL JOINTS BUTTED FIRMLY TOGETHER. INSULATE FITTINGS WITH SECTIONS OF PIPE INSULATION CEMENTED TO A THICKNESS EQUAL TO THE ADJOINING INSULATION. FINISH FITTINGS WITH GLAS CLOTH AND MASTIC. TYPE H. INSULATION SHALL BE PROTECTED AT HANGERS, SLEEVES ETC., WITH 16 GAGE SADDLES.</p> <p>B. CONDENSATE DRAINS FOR AIR CONDITIONING UNITS SHALL BE INSULATED INSIDE OF BUILDING.</p> <p>C. INSULATION EXPOSED TO WEATHER SHALL BE PROTECTED AND MAKE WEATHERPROOF BY COVERING WITH ALUMINUM JACKET. ARRANGE SEAMS TO PREVENT TRAPPING OF MOISTURE.</p> <p>D. INDIRECT DRAIN PIPE: PVC/CPVC PIPING IS ACCEPTABLE IF ALLOWED BY AUTHORITY HAVING JURISDICTION. OTHERWISE, TYPE "M" COPPER WITH "NO-LEAD" SOLDER.</p> <p><u>3.11 TESTS</u></p> <p>A. ALL TESTS SHALL BE MADE IN STRICT ACCORDANCE WITH THE APPLICABLE ORDINANCES OR AS UTLINE BELOW. IF REQUIREMENTS OF ORDINANCES ARE MORE SEVERE, THEY SHALL BE FOLLOWED.</p> <p>B. ARCHITECT, OWNER AND LOCAL AUTHORITIES SHALL BE NOTIFIED IN ADVANCE OF TIME SCHEDULED FOR TESTS SO THAT THEY MAY HAVE A REPRESENTATIVE AT ALL TESTS.</p> <p>C. ALL TESTS SHALL BE MADE IN PRESENCE OF AND TO SATISFACTION OF OWNER AND LOCAL AUTHORITIES. TEST PRESSURE SHALL BE HELD FOR MINIMUM OF FOUR HOURS WITHOUT SHOWING ANY LEAKAGE.</p> <p>D. EQUIPMENT WHICH WOULD BE SUBJECT TO DAMAGE DUE TO TEST PRESSURE SHALL BE REMOVED OR ISOLATED FROM SYSTEM.</p> <p>E. ALL POWER AND WATER AND ALL INSTRUMENTS REQUIRED SHALL BE FURNISHED BY CONTRACTOR AS WELL AS ALL NECESSARY LABOR.</p> <p>F. ENTIRE SOIL, WASTE AND DRAINAGE SYSTEM SHALL BE TESTED UNDER WATER PRESSURE OF 5 PSIG.</p> <p>G. ALL HOT AND COLD WATER PIPING SHALL BE TESTED UNDER A HYDROSTATIC PRESSURE OF 175 PSIG.</p> <p>H. ALL GAS PIPING SHALL BE TESTED UNDER AIR PRESSURE OF 50 PSIG.</p> <p><u>3.12 CUTTING AND PATCHING</u></p> <p>A. PERFORM ALL CUTTING AND PATCHING AS SPECIFIED IN OTHER SECTIONS.</p> <p>B. DO ALL CUTTING AND PATCHING AND PROVIDE ALL OPENINGS TOGETHER WITH LINTELS AND SUPPORTS WHICH MAY BE REQUIRED FOR INSTALLATION OR WORK UNDER THIS SECTION OF THE SPECIFICATIONS. PATCHING SHALL BE OF SAME MATERIAL, WORKMANSHIP, AND FINISH AND ACCURATELY MATCH ALL SURROUNDING CONSTRUCTION. ALL CUTTING AND PATCHING SHALL BE DONE UNDER THE ARCHITECT'S INSTRUCTION, AND WHEN SO REQUIRED BY MECHANIC WHO DID ORIGINAL WORK, WHERE PIPES PASS THROUGH OR INTERFERE WITH ANY STRUCTURAL MEMBER, OR WHERE NOTCHING, BORING, OR CUTTING OF STRUCTURE IS NECESSARY, WORK SHALL BE DONE AS DIRECTED BY THE STRUCTURAL ENGINEER. TOP PLATES IN BEARING PARTITIONS SHALL NOT BE CUT OR NOTCHED.</p> <p><u>3.13 HASES, SHAFTS, ETC.</u></p> <p>A. CONTRACTOR SHALL ASCERTAIN THAT ALL CHASES, FURRED PIPE SPACES AND OTHER SHAFTS AND PIPEWAYS REQUIRED THROUGH WALLS, FLOORS, CEILINGS, AND ROOFS AND THROUGH ANY PARTS OF THE STRUCTURE, ARE PROPERLY LOCATED. OTHERWISE HE SHALL CUT ALL NEW OPENING REQUIRED AT HIS OWN EXPENSE.</p> <p><u>3.14 CLEAN-UP</u></p> <p>A. PERFORM AS SPECIFIED IN OTHER SECTIONS.</p> <p>B. AFTER PLUMBING WORK HAS BEEN TESTED AND APPROVED, CONTRACTOR SHALL THOROUGHLY CLEAN ALL EQUIPMENT AND PIPING INSTALLATION. EXPOSED PARTS WHICH ARE TO BE PAINTED, SHALL BE THOROUGHLY CLEAN OF CEMENT, PLASTER, AND OTHER MATERIAL, ALL GREASE OR OIL SPOTS REMOVED, AND THE MATERIAL LEFT IN PROPER CONDITION TO RECEIVE PAINTER'S FINISH.</p> <p>C. CAREFULLY WIPE OR SCRAPE OUT ALL CRACKS AND CORNERS.</p> <p>D. EXPOSED ROUGH METAL WORK SHALL BE CAREFULLY BRUSHED WITH STEEL BRUSHES TO REMOVE RUST AND OTHER SPOTS, AND LEFT IN PROPER CONDITION TO RECEIVE PAINTER'S FINISH.</p> <p><u>3.15 STERILIZATION OF WATER LINES</u></p> <p>A. GENERAL</p> <p>1. BEFORE BEING PLACED IN SERVICE ALL POTABLE WATER PIPING SHALL BE CHLORINATED AS SPECIFIED BY THE LOCAL BUILDING AND HEALTH DEPARTMENT CODES.</p> <p>2. CHLORINE MAY BE APPLIED BY THE USE OF CHLORINE GAS-WATER MIXTURE, DIRECT CHLORINE-GAS FEED OR A MIXTURE OF CALCIUM HYPOCHLORITE AND WATER. THE POWDER SHALL BE MIXED WITH WATER TO FORM A PASTE THINNED TO A SLURRY AND PUMPED OR INJECTED INTO THE PIPING AS HEREINAFTER SPECIFIED.</p> <p>3. IF DIRECT CHLORINE-GAS FEED IS USED IT SHALL BE FED WITH EITHER A SOLUTION FEED CHLORINATOR OR BY A PRESSURE FEED CHLORINATOR WITH A DIFFUSER IN THE PIPE.</p> <p>B. PROCEDURE</p> <p>1. PRIOR TO CLEANING, REMOVE ALL DIRT AND FOREIGN MATTER BY A THOROUGH FLUSHING OF THE WATER SYSTEM. THE CLEANING AGENT SHALL BE FED SLOWLY INTO THE WATER SYSTEM AND THE CHLORINE APPLIED IN QUANTITIES TO PRODUCE A DOSAGE OF 50 PPM OF AVAILABLE CHLORINE. RETENTION IN THE SYSTEM SHALL BE FOR A MINIMUM OF 8 HOURS. DURING THE PROCESS ALL VALVES AND ACCESSORIES SHALL BE OPERATED.</p> <p>2. AFTER COMPLETION OF THE ABOVE REQUIREMENTS, THE SYSTEM SHALL BE FLUSHED UNTIL THE WATER IN THE SYSTEMS GIVES CHEMICAL AND BACTERIA TEST READINGS AS REQUIRED BY GOVERNING AUTHORITIES.</p> <p>3. TESTS SHALL BE CONDUCTED BY A STATE-CERTIFIED LABORATORY AND APPROVED BY THE LOCAL AUTHORITIES HAVING JURISDICTION. COPIES OF THE TESTS SHALL BE SUBMITTED TO THE ARCHITECT AND ALL GOVERNING AUTHORITIES.</p> <p>4. WARNING SIGNS SHALL BE PROVIDED AT ALL OUTLETS WHILE THE CLEANING OF THE SYSTEM IS IN PROGRESS.</p> <p><u>3.16 FIXTURES AND TRIM</u></p> <p>A. ALL FAUCETS SHALL BE EQUIPPED WITH RENEWABLE SEATS. ALL EXPOSED METAL PARTS OF PLUMBING FIXTURES IN TOILET ROOMS AND PUBLIC AREAS SHALL BE CHROME PLATED. ALL PLUMBING FIXTURES SHALL BE THE PRODUCT OF ONE MANUFACTURER, EXCEPT WHERE CHANGES ARE APPROVED IN WRITING BY THE ARCHITECT.</p> <p>B. ALL FIXTURES SHALL BE SECURELY ATTACHED TO SUPPORTING SURFACES AS SPECIFIED AND INSTALLED PLUMB AND LEVEL. GROUT BEHIND ALL WALL HUNG PLUMBING FIXTURES WITH WHITE, DURABLE PLASTIC MATERIAL, ELIMINATING ALL CRACKS AND VOIDS.</p> <p>C. SEPARATELY VALVE EVERY SUPPLY TO EVERY FIXTURE AND PIECE OF EQUIPMENT REQUIRING VARIOUS SERVICES WITH LOCKSHIELD LOOSE KEY STOPS. IN GENERAL, THESE VALVES ARE SPECIFIED WITH FIXTURE, BUT WHERE NOT CALLED FOR IN FICTURE SPECIFICATIONS, PROVIDE SUITABLE STOPS IN ADDITION TO FAUCETS.</p> <p>D. ALL CONNECTIONS TO FIXTURES SHALL BE MADE WITH DROP ELBOWS SECURED TO BUILDING STRUCTURE AND OUTLET OF ELBOW SHALL BE SCREWED. CONNECTIONS FROM ELBOW TO FIXTURE SUPPLY PIPE SHALL BE MADE WITH 85 % BRASS CHROME PLATED NIPPLE.</p> <p><u>3.17 ACCESSIBILITY OF EQUIPMENT</u></p> <p>A. ALL VALVES, MOTORS, CONTROLS, AND OTHER DEVICES OR COMPONENTS REQUIRING SERVICE, MAINTENANCE, AND/OR ADJUSTMENT SHALL BE PLACED IN FULLY ACCESSIBLE POSITIONS AND LOCATIONS, PROVIDE ACCESS DOORS WHERE REQUIRED IN CONSTRUCTION, WHETHER SHOWN OR NOT.</p>



Kinetic Design

20381 Lake Forest Dr. Suite B16  
Lake Forest, CA. 92630  
Main: 951.710.6334 Web: kineticdesign.build  
Email: info@kineticdesign.build



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REVISIONS		
No.	DATE	DESCRIPTION
1	09-22-21	PCC #1, CLIENT AND LANDLORD REVISIONS

CLIENT INFORMATION

NEKTER - LEE'S SUMMIT, MO

940 NW PRYOR ROAD, UNIT: G

LEE'S SUMMIT, MISSOURI 64081

PROJECT NAME

SHEET NAME

PLUMBING SPECIFICATION

DRAWN

RH

CHECKED

DATE

09/22/21

SCALE

AS NOTED

PROJECT NUMBER

SHEET

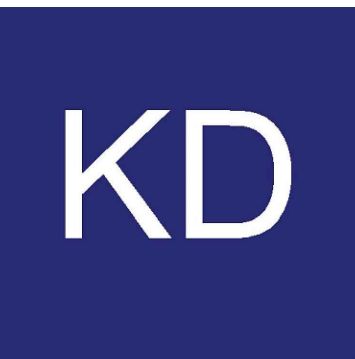
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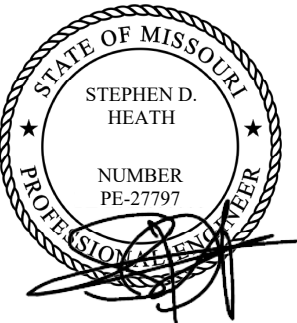
PIPING INSULATION TABLE						
MINIMUM PIPE INSULATION						
FLUID/OUTSIDE TEMPERATURE	PIPE DIAMETER (INCH)					
	≤ 1"	1.25"-2"	2.5"-4"	5"-6"	≥ 8"	
306-460	2.5	2.5	3.0	3.5	3.5	
251-305	2.0	2.5	2.5	3.0	3.0	
201-250	1.5	1.5	2.0	2.0	2.0	
105-200	1.0	1.0	1.5	1.5	1.5	
61-104	1.0	1.0	1.5	1.5	1.5	
40-60	0.5	.75	1.0	1.0	1.0	
BELOW 40	1.0	1.5	1.5	1.5	1.5	
STEAM CONDENSATE	1.0	1.5	2.0	2.0	2.0	
THE THICKNESS OF INSULATION LISTED IN THIS TABLE IS BASED ON MATERIALS HAVING A THERMAL RESISTANCE IN THE RANGE OF R-4.0 TO R-4.6 PER INCH. ADJUSTMENTS ARE REQUIRED FOR INSULATION MATERIALS OUTSIDE THIS RANGE.						

PLUMBING FIXTURE AND EQUIPMENT SCHEDULE/CONNECTIONS						
MARK	FIXTURE	FIXTURE ROUGH-IN				DESCRIPTION
		W	V	CW	HW	
<u>WC-1</u>	WATER CLOSET (FLUSH TANK)	4"	2"	3/4"	-	AMERICAN STANDARD CADET FLOWIS MODEL # 2467.100 ELONGATED PRESSURE-ASSISTED TOILET WITH 1.1 GPF, VITREOUS CHINA, ADA COMPLIANT, OR EQUIVALENT.
<u>MS-1</u>	MOP SINK	3"	2"	3/4"	3/4"	MUSTEE/T&S MODEL #63M/ B-0665-BSTR COMPOSITE SINK WITH BACK FLOW PREVENTER DEVICE WITH MOUNTING MIXING VALVE MUSTEE/ T& S 63M / B-0665-BSTR.
<u>L-1</u>	LAVATORY	2"	2"	1/2"	1/2"	AMERICAN STANDARD LUCERNE WALL MOUNTED SINK MODEL #0355.012, COMPLETE WITH T&S BRASS MODEL # B-2711. MOUNT PER ADA/T-24 REQUIREMENTS.
<u>MV-1</u>	MIXING VALVE	-	-	1/2"	1/2"	MIXING VALVE WATTS - MODEL #LFMMV-M1, SET OUTLET TEMPERATURE AT 105°F.
<u>TP-1</u>	TRAP PRIMER	-	-	1/2"	-	PRECISION PLUMBING PRODUCTS TRAP PRIMER MODEL PR-500, AUTOMATIC PRESSURE DROP ACTIVATED, OR EQUIVALENT.
<u>FS-1</u>	FLOOR SINK	2"	1-1/2"	-	-	FLOOR SINK ZURN MODEL # Z1900-25; 12X12 SQ.X6" DEEP INDIRECT SANITARY WASTE DRAIN.
<u>BFP-1</u>	BACK FLOW PREVENTER	-	-	1/2"	-	ZURN, MODEL # 740 ; DOUBLE CHECK VALVE ASSEMBLY.
<u>CP-1</u>	RE-CIRCULATION PUMP	-	-	1/2"	-	BELL & GOSSETT MODEL NO NBF-12U-LW, ALL BRONZE LEAD FREE CIRCULATOR WITH UNION CONNECTION, 115V. 55 WATT, 2800 RPM, 5 GPM FLOW RATE AT 8 FEET OF HEAD. OPERATING WEIGHT = 10 LBS.
<u>WCO</u>	WALL CLEANOUT	SEE PLANS	-	-	-	ZURN WALL CLEANOUT MODEL Z1441-VP, DURA-COATED CAST IRON BODY, GAS AND WATERTIGHT, VANDAL PROOF SCREWS, COORDINATE FINAL LOCATIONS AND FINISH WITH ARCHITECTURAL.
<u>FD-1</u>	FLOOR DRAIN	2"	1-1/2"	-	-	ZURN MEDIUM DUTY FLOOR DRAIN MODEL Z507, 7" TOP DRAIN, DURA-COATED CAST IRON BODY, OR EQUIVALENT. 3' / 2% SLOPE TO ALL FLOOR DRAINS. OR EQUIVALENT.
<u>HS-1</u>	HAND SINK	2"	1-1/2"	1/2"	1/2"	KROWNE HAND SINK MODEL # HS-26L W/ SPLASH GUARDS, T&S BRASS FAUCET WITH MIXING VALVE (MV-1)
<u>1CS-1</u>	1 - COMPARTMENT SINK	2" INDIRECT	1-1/2"	1/2"	1/2"	GSW, 1-COMPARTMENT SINK MODEL # SE18181L COMPLETE WITH FAUCET ASSEMBLY T&B RASS. MUST HAVE A WASTE HANDLE BRACKET PER BOWL FOR TRAP (FX25). PROVIDE T&S BRASS WASTE VALVE.
<u>3CS-1</u>	3 -COMPARTMENT SINK	2" INDIRECT	1-1/2"	1/2"	1/2"	GSW, 3-COMPARTMENT SINK MODEL # SE18183C COMPLETE WITH PRE-RINSE AND FAUCET ASSEMBLY T&S BRASS. MUST HAVE A WASTE HANDLE BRACKET PER BOWL FOR TRAP (FX25). COMPLETE WITH WASTE VALVE T&S BRASS.
<u>SF-1</u>	SINGLE FAUCET	-	-	1/2"	-	T&B FAUCET MODEL # B-0212 WITH WATER FILTER (WF-1) .
<u>IM-1</u>	ICE MAKER	INDIRECT	-	1/2"	-	ICE-O-MATIC ICE MAKER WITH WATER FILTER MODEL # IFQ1.
<u>GT-1</u>	GREASE TRAP	2"	-	-	-	ENDURA HYDRO-MECHANICAL GREASE TRAP MODEL # 3950A03, 50GPM @100 lbs CAPACITY.
<u>WF-1</u>	WATER FILTER	--	--	1/2"	--	WATER FILTER MODEL # IFQ1 SINGLE FILTER FLOW RATE 1.5 GPM, 3 lbs.
<u>WH-1</u>	ELECTRIC WATER HEATER	-	-	3/4"	3/4"	A.O SMITH ELECTRIC WATER HEATER MODEL # DEN-52 .
<u>ET-1</u>	EXPANSION TANK	--	--	1/2"	--	EXPANSION TANK AMTROL THERM-X-TROL EXPANSION TANK MODEL ST-5, 2.0 GALLONS
NOTES: 1. CONTRACTOR TO VERIFY THAT ALL PLUMBING FIXTURES ARE FOR INSTALLATION ON EXPOSED SLAB. 2. SEE ARCHITECT PLANS SPECIFICATIONS FOR ADDITIONAL INFORMATION.						

WATER AND DRAINAGE CALCULATION							
Fixture Type	QTY	Each			Total		
		W	CW(100%)	HW	W	CW(100%)	HW(75%)
Water Closet (FT)	1	4.0	2.5	0.000	4.0	2.5	0.000
Lavatory	1	1.0	1.0	0.750	1.0	1.0	0.750
3-Comp. Sink	1	3.0	4.0	3.000	3.0	4.0	3.000
Sink (HS-PS)	3	2.0	1.5	1.125	6.0	4.5	3.375
Mop Sink	1	3.0	3.0	2.250	3.0	3.0	2.250
Hose Bibb	1	0.0	2.5	0.000	0.0	2.5	0.000
Hose Bibb (additional)	1	0.0	1.5	0.000	0.0	1.5	0.000
Ice Maker+SF	2	0.0	1.0	0.000	0.0	2.0	0.000
Floor Sink/Drain	6	2.0	0.5	0.000	12.0	3.0	0.000
Total		0.0	1.0	0.000	0.0	0.0	0.000
		2.0	0.0	0.000	0.0	0.0	0.000
	17				29.0	24.0	9.375
						17 GPM	




**Kinetic Design**  
20381 Lake Forest Dr. Suite B16  
Lake Forest, CA. 92630  
Main: 951.710.6334 Web: kineticdesign.build  
Email: info@kineticdesign.build




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CLIENT INFORMATION



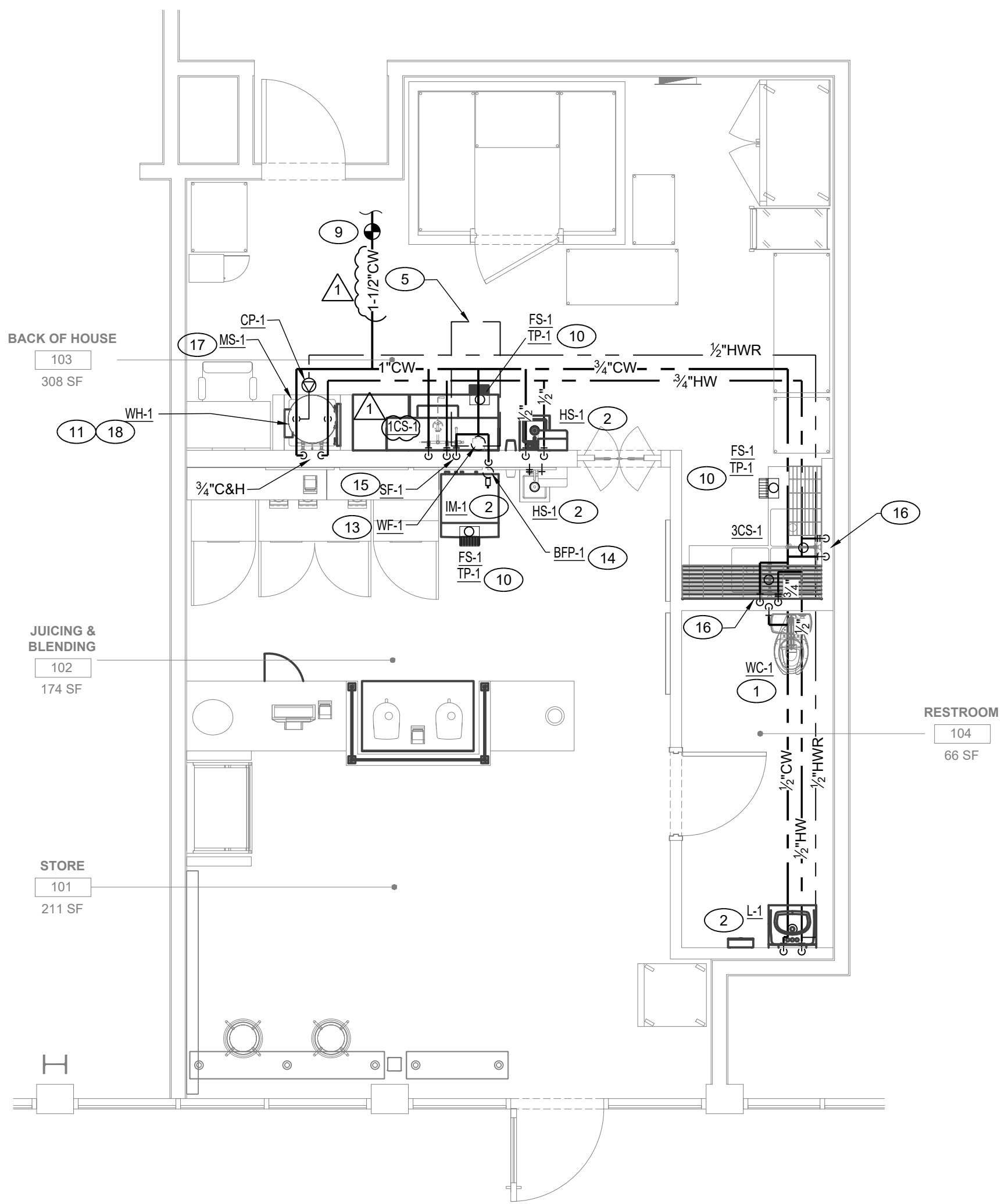
PROJECT NAME  
**NEKTER - LEE'S SUMMIT, MO**

940 NW PRYOR ROAD, UNIT: G;  
LEE'S SUMMIT, MISSOURI 64081

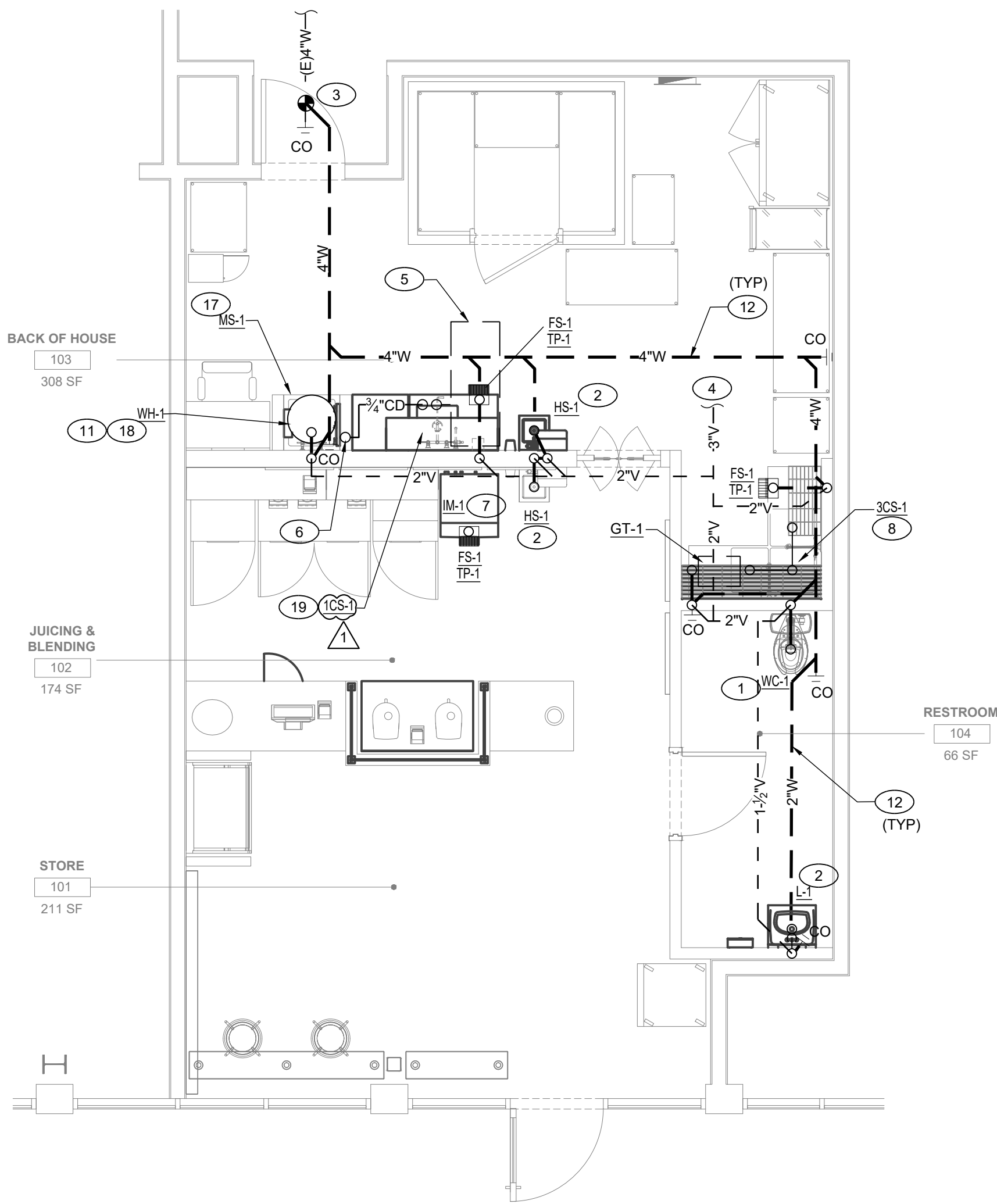
SHEET NAME  
**PLUMBING SCHEDULES**

DRAWN	CHECKED
RH	
DATE	09/22/21
SCALE	AS NOTED
PROJECT NUMBER	
SHEET	<b>P004</b>

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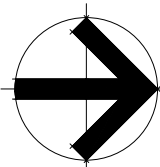


DOMESTIC WATER



WASTE AND VENT

1 PLUMBING FLOOR PLAN  
1/4" = 1'-0"

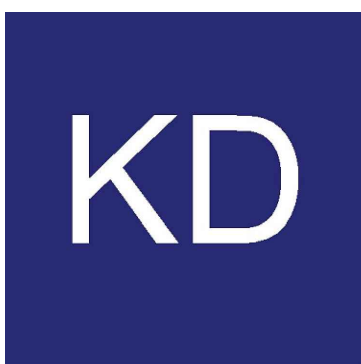


GENERAL NOTES

- A PRIOR TO DETAILING & INSTALLING PLUMBING AND FIRE PROTECTION PIPING COORDINATE EXACT ROUTING AND ELEVATIONS WITH MECHANICAL, ELECTRICAL AND FIRE SPRINKLER CONTRACTORS. PROVIDE WRITTEN CONFIRMATION THAT THIS COORDINATION HAS BEEN IMPLEMENTED PRIOR TO PROCEEDING WITH INSTALLATION OF PIPING.
- B PRIOR TO INSTALLATION OF SEWER AND WATER PIPING BELOW GRADE COORDINATE EXACT LOCATIONS AND DEPTHS OF BURIAL WITH CIVIL AND FOUNDATION DRAWINGS AND CORRESPONDING ENGINEERS.
- C ALL PLUMBING FIXTURES SHALL BE WATER CONSERVATION TYPE AS MANDATED BY LOCAL BUILDING DEPARTMENT.
- D ALL PLUMBING FIXTURES SHALL HAVE AN ANGLED SHUT OFF VALVE.
- E ALL PLUMBING FIXTURES SHALL HAVE A TRAP INSTALLED AND SHALL BE PROPERLY VENTED IN ORDER TO MAINTAIN THE TRAP SEAL.
- F ALL PLUMBING FLOOR SINKS, FLOOR DRAINS, MOP SINKS, AND HUB DRAINS SHALL HAVE A TRAP PRIMER INSTALLED AND SHALL BE PROPERLY VENTED IN ORDER TO MAINTAIN THE TRAP SEAL.
- G FAUCET CONTROLS AND OPERATING MECHANISMS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL NOT BE GREATER THAN 5 LB-FT.
- H HOT WATER AND DRAIN PIPES EXPOSED UNDER SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED SO AS TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER SINKS.
- I ALL WATER CLOSETS DESIGNATED AS HANDICAP SHALL BE INSTALLED SUCH THAT THE ACTUATOR IS OPERABLE FROM THE WIDE SIDE OF THE WATER CLOSET.
- J NOT ALL PIPING, DUCTWORK, OR DEVICES HAVE BEEN SHOWN FOR CLARITY. CONTRACTOR IS RESPONSIBLE FOR ALL WORK IN AND AROUND SYSTEMS NOT SHOWN HEREIN.
- K THE CONTRACTOR SHALL, BEFORE SUBMITTING ANY PROPOSAL, EXAMINE THE SITE AND SHALL DETERMINE FOR HIMSELF THE CONDITIONS THAT MAY AFFECT THE WORK. NO ALLOWANCE SHALL BE MADE IF THE CONTRACTOR FAILS TO MAKE SUCH EXAMINATIONS.
- L PRIOR TO STARTING CONSTRUCTION, DETERMINE EXACT INVERT ELEVATION, SIZE, DEPTH, DIRECTION OF FLOW AND LOCATION OF EXISTING UTILITIES WHERE CONNECTIONS ARE TO BE MADE OR INTERSECTIONS OCCUR. NOTIFY ARCHITECT OR ENGINEER FOR DISCREPANCY BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS. WORK BACK TOWARD BUILDING FROM UTILITY CONNECTION FOR ALL PIPING SYSTEMS.
- M CONTRACTOR TO REMOVE ALL EXISTING PIPING THAT WILL NOT BE REUSED. ABANDONED PIPES ARE NOT ACCEPTABLE.
- N CONTRACTOR SHALL PROVIDE AND INSTALL ANY INCIDENTAL WORK OR ITEMS NOT SHOWN OR SPECIFIED WHICH ARE NECESSARY TO PROVIDE A COMPLETE AND WORKABLE SYSTEM.

SHEET NOTES:

- 1 3/4" CW WATER 4" WASTE AND 2" VENT CONNECT TO WATER CLOSET.
- 2 1/2" CW, 1/2" HW, 2" WASTE AND 1-1/2" VENT CONNECT TO LAVATORY /SINK. PROVIDE MIXING VALVE.
- 3 POINT OF CONNECTION TO EXISTING WASTE LINE. CONTRACTOR TO VERIFY IN THE FIELD EXACT LOCATION OF THE EXISTING WASTE LINE PRIOR TO START OF WORK.
- 4 3" VENT PIPE TO POINT OF CONNECTION OF EXISTING VENT PIPE IN CEILING. CONTRACTOR TO VERIFY IN THE FIELD EXACT LOCATION AND SIZE OF THE EXISTING VENT LINE PRIOR TO START OF WORK.
- 5 EXISTING MECHANICAL UNIT ON CEILING SPACE.
- 6 PROVIDE 3/4" CD LINE FROM FAN COIL DOWN IN WALL, AND TERMINATE TO MOP SINK.
- 7 EXTEND INDIRECT DRAIN PIPING FROM ICE MAKER TO FLOOR SINK.
- 8 EXTEND INDIRECT DRAIN PIPING FROM 3-COMP. SINK TO FLOOR SINK.
- 9 POINT OF CONNECTION OF EXISTING COLD WATER ON CEILING. EXISTING SUB-METER AND SPACE SHUT-OFF VALVE TO REMAIN. CONTRACTOR TO VERIFY IN THE FIELD, EXACT LOCATION AND SIZE PRIOR TO START OF WORK.
- 10 1/2" COLD WATER DOWN TO TRAP PRIMER FOR FLOOR DRAIN. PROVIDE 10"X10" ACCESS PANEL FOR TRAP-PRIMING DEVICE. INSTALL TP VALVE AT LEAST 12" ABOVE FINISHED FLOOR WITH BALL VALVE.
- 11 INSTALL ELECTRIC WATER HEATER HANGING ON WALL ABOVE MOP SINK. SEE SHEET P004 FOR MORE INFORMATION.
- 12 WASTE LINE ON THE BASEMENT CEILING SPACE. CONTRACTOR VERIFY IN THE FIELD, FOR EXACT LOCATION OF NEW WASTE LINE.
- 13 WATER FILTER LOCATION FOR ICE MAKER AND SINGLE WALL FAUCET AT SINGLE COMP. SINK.
- 14 PROVIDE BFP FOR FILTERED WATER TO ICE MACHINE.
- 15 1/2" COLD FILTERED WATER CONNECT TO SINGLE FAUCET.
- 16 1/2" CW AND 1/2" HW CONNECT TO 3-COMP. SINK.
- 17 3/4" CW, 3/4" HW, 3" WASTE AND 2" VENT CONNECT TO MOP SINK.
- 18 1" CW AND 1" HW CONNECT TO WATER HEATER. 3/4" DRAIN LINE DOWN TO MOP SINK. TERMINATE W/2" AIR GAP.
- 19 EXTEND INDIRECT DRAIN PIPING FROM 1 COMP. SINK TO FLOOR SINK.



Kinetic Design  
20381 Lake Forest Dr. Suite B16  
Lake Forest, CA 92630  
Main: 951.710.8334 Web: kineticdesign.build  
Email: info@kineticdesign.build



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REVISIONS

No.	DATE	DESCRIPTION
1	09-22-21	PCC #1, CLIENT AND LANDLORD REVISIONS

CLIENT INFORMATION



NEKTER - LEE'S SUMMIT, MO  
940 NW PRYOR ROAD, UNIT: G,  
LEE'S SUMMIT, MISSOURI 64081

PLUMBING FLOOR PLAN

PROJECT NAME	NEKTER - LEE'S SUMMIT, MO
DRAWN	RH
CHECKED	
DATE	09/22/21
SCALE	AS NOTED
PROJECT NUMBER	
SHEET	P200



