

LEGEND		
ACU	AIR CONDITIONING UNIT	
AFF	ABOVE FINISHED FLOOR	
AHJ	AUTHORITY HAVING JURISDICTION	
BHP	BRAKE HORSEPOWER	
BTUH	BRITISH THERMAL UNIT PER HOUR	
C	COMMON	
CAP	CAPACITY	
CC	COOLING COIL	
CD	CEILING DIFFUSER	
CEM	CUBIC FEET PER MINUTE	
CLG	CEILING, COOLING	
CO	CLEAN OUT	
COMB	COMBUSTION	
CONT	CONTINUE, CONTROL	
CONTR	CONTRACTOR	
COP	COEFFICIENT OF PERFORMANCE	
CWS	CHILLED WATER RETURN	
D	DIAMETER	
DB	DRY BULB, DECIHEL	
DEG	DEGREE	
DIM	DIMENSION	
DISCH	DISCHARGE	
DN	DOWN,	
EAT	ENTERING AIR TEMPERATURE	
EFF	EFFICIENCY	
EG	ENGINE GENERATOR	
ELEC	ELECTRIC	
EQUIV	EQUIVALENT	
EXH	EXHAUST	
FCU	FAN COIL UNIT	
FW	FILTERED COLD WATER	
FLR	FLOOR	
FOF	FUEL OIL FILL	
FPM	FEET PER MINUTE	
FPS	FEET PER SECOND	
GAL	GALLONS	
CPM	GALLONS PER MINUTE	
GWB	GYP SUM WALLBOARD	
HD	HEAD	
HORIZ	HORIZONTAL	
HP	HORSEPOWER	
HPU	HEAT PUMP UNIT	
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING	
HWR	HOT WATER RETURN	
HWS	HOT WATER SUPPLY	
ID	INDIRECT DRAIN	
IN	INCH	
KW	KILOWATT	
L	LONG, LENGTH	
LB	POUND	
MBH	THOUSAND BTU PER HOUR	
MECH	MECHANICAL	
MCA	MINIMUM CIRCUIT AMPACITY	
MCCP	MAXIMUM OVER CURRENT PROTECTION	
MTD	MOUNTED	
OD	OUTSIDE DIMENSION OR DIAMETER	
OPNG	OVER FLOW DRAIN	
PD	OPENING	
PDC	PUMP	
PRV	PRESSURE DROP, PUMPED DRAIN	
PSIG	POINT OF CONNECTION	
	PRESSURE REDUCING VALVE	
	POUNDS PER SQUARE INCH	
	GAUGE	
RD	ROOF DRAIN	
REF	REFERENCE	
RPM	REVOLUTIONS PER MINUTE	
SCH	SCHEDULE	
SF	SQUARE FOOT	
SR	SUDS RELIEF	
SS	STAINLESS STEEL	
	SANITARY SEWER	
SQ	SQUARE	
TYP	TYPICAL	
UNO	UNLESS OTHERWISE NOTED	
V	VENT	
VTR	VENT THRU ROOF	
W	WASTE	
	WATT	
	WOW	

FICTION SCHEDULE							
ITEM	FIXTURE	COLD WATER	HOT WATER	WASTE	WASTE	STORM DRAIN	DESCRIPTION
WC	WATER CLOSET	1/2"	-	3"	2"	-	1.28 GALLONS/FLUSH SELECTION TBD BY OWNER
LAV	LAVATORY	1/2"	1/2"	2"	1-1/2"	-	2.2 GPM, FAUCET SELECTION TBD BY OWNER
BAT	BATHTUB	1/2"	1/2"	2"	1-1/2"	-	1.8 GPM, SELECTION TBD BY OWNER
SH	SHOWER	1/2"	1/2"	2"	1-1/2"	-	1.8 GPM, SELECTION TBD BY OWNER
KS	KITCHEN SINK	1/2"	1/2"	2"	1-1/2"	-	1.8GPM@60 PSI, SELECTION TBD BY OWNER
SK	SINK	1/2"	1/2"	2"	1-1/2"	-	1.8GPM@60 PSI, SELECTION TBD BY OWNER
HB	HOSE BIBB	1/2"	-	-	-	-	ACORN NO.8120 WALL MOUNTED WITH ATMOSPHERIC VACUUM BREAKER

PIPE INSULATION SCHEDULE			
SERVICE	MATERIAL	THICKNESS	FIELD APPLIED JACKET
DOMESTIC COLD WATER AND CONDENSATE DRAINS	MINERAL-FIBER WITH JACKET	ALL SIZES 1/2"	NONE
DOMESTIC HOT WATER WITHIN THE UNITS (NON-RECIRCULATED)	MINERAL-FIBER WITH JACKET	RUNOUTS: 1/2" 1/2" - 2" PIPE: 1"	NONE
DOMESTIC HOT WATER AND RECIRCULATED WATER OPERATING TEMPERATURE: 105 TO 140 DEG F.	MINERAL-FIBER WITH JACKET	RUNOUTS: 1/2" 1/2" - 2" PIPE: 1" 2" - 6" PIPE: 1-1/2"	NONE
HORIZONTAL RAINWATER CONDUCTORS	MINERAL-FIBER OR CELLULAR GLASS, WITH JACKET	ALL SIZES 1/2"	FOIL AND PAPER
ROOF DRAIN BODIES	MINERAL-FIBER OR CELLULAR GLASS, WITH JACKET	1"	NONE
EXPOSED SANITARY DRAINS AND DOMESTIC WATER SUPPLIES AND STOPS FIXTURES FOR THE DISABLED.	"LAV - GUARD" AS MANUFACTURE BY TRUEBRO	N/A	PVC P-TRAP AND SUPPLY COVERS

GAS CALCULATIONS FOR PLAN (ADU)			
APPLIANCE	QTY	GAS USAGE (BTU/h)	TOTAL GAS USAGE (BTU/h)
WATER HEATER	1	200k	200k
RANGE	1	65k	65k
STOVE	1	65k	65k
CLOTHES DRYER	1	35k	35k
TOTAL GAS DEMAND			365k

1. APPLIANCE GAS USAGE BASED ON 2019 CPC TABLE 12-1 OR CATALOG.
- 2.REFER TO GAS DIAGRAM FOR LONGEST DEVELOPED PIPE LENGTH AND PIPE SIZES.

FIXTURE UNT CALCULATIONS PLAN FOR (ADU)									
FIXTURE TYPE	QTY	DEMAND WEIGHT IN WSPYU1					DRAINAGE		
		COLD2	HOT2	FIXTURE DEMAND	TOTAL COLD WATER	TOTAL HOT WATER	TOTAL DEMAND	DFU	TOTAL
WATER CLOSET, 1.8 GPF	2	2.5	0	2.5	5	0	5	3	6
BATHTUB OR TUB-SHOWER COMBO	2	3	3	4	6	6	8	2	4
LAVATORY	3	1	1	1	3	3	3	1	3
CLOTHES WASHER	1	3	3	4	3	3	4	2	2
DISWASHER	1	1.5	1.5	1.5	1	1.5	1.5	2	2
KITCHEN SINK	1	1.5	1.5	1.5	1.5	1.5	1.5	2	2
LAUNDRY SINK	0	1.5	1.5	1.5	-	-	-	2	-
HOSE BIB	0	2.5	0	2.5	-	-	-	0	-
TOTAL FIXTURE UNITS					20	15	23		19
EQUIVALENT WATER DEMAND IN GPM3					19.6	17.5	21.5		
OTHER REQUIRED WATER OUTLETS IN GPM					0	0	0		
TOTAL WATER DEMAND IN GPM					19.6	17.5	21.5		
REQUIRED MINIMUM PIPE SIZE4					1"	1"	1"		4"

1. FIXTURE UNITS ARE BASE ON 2019 CPC TABLE 610.3 FOR WATER AND TABLE 702.1 FOR DRAINAGE.
- 2.THE SEPARATE COLD WATER AND HOT WATER FIXTURE UNITS ARE TAKEN AS THREE-QUARTER (3/4) OF TOTAL FIXTURE DEMAND, PER 2019 CPC TABLE 610.3, NOTE 3.
- 3.GPM EQUIVALENTS ARE BASED ON 2019 CPC CHART A103.1.
- 4.PIPE SIZE ARE BASED ON 2019 CPC CHART 610.4 FOR WATER AND TABLE 703.2 FOR SEWER.

LEGENDS		
		SANITARY LINE
		VENT PIPING
		FLOOR DRAIN
		HOT WATER SUPPLY
		COLD WATER SUPPLY
		GAS LINE
		CONDENSATE PIPE
		STORM WATER PIPE
		CLEAN OUT
		WATER METER
		WATER SHUTOFF VALVE
		GAS SHUTOFF VALVE

GENERAL NOTES	PIPE MATERIALS
1. ALL CONSTRUCTION AND INSTALLATION SHALL CONFORM TO THE 2019 CALIFORNIA BUILDING PLUMBING CODES.	1. UNDERGROUND SERVICE ENTRANCE PIPING: COPPER TYPE L.
2. THE INTENT OF THESE DRAWINGS ARE TO PROVIDE COMPLETE OPERATIONAL SYSTEMS. EVEN THOUGH ALL FITTINGS & COMPONENTS MAY NOT BE SHOWN ON THE DRAWINGS, THE CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING ALL SERVICES, LABOR, MATERIALS, TOOLS, AND EQUIPMENT TO CONSTRUCT, INSTALL AND COMMISSION COMPLETE OPERATIONAL SYSTEMS.	2. ABOVEGROUND WATER DISTRIBUTION PIPING: CPVC
3. COORDINATE ALL INSTALLATIONS WITH ALL OTHER TRADES	3. UNDERGROUND WASTE & VENT PIPING: CPVC
4. VERIFY ALL DIMENSIONS AND FINAL LOCATIONS WITH THE OWNER OR OWNER'S REPRESENTATIVE OR ARCHITECT.	4. ABOVEGROUND WASTE & VENT PIPING: CPVC
5. VERIFY THE FINISHES FOR FIXTURES WITH OWNER OR OWNER'S REPRESENTATIVE OR ARCHITECT PRIOR TO PROCUREMENT.	5. ABOVEGROUND GAS PIPING: STEEL PIPE, ASTM A 53; TYPE E OR S; GRADE B; SCHEDULE 40; BLACK.
6. PROVIDE MINIMUM 1 YEAR WARRANTY ON WORKMANSHIP AND MATERIALS FROM THE DATE OF THE FINAL INSPECTION.	6. UNDERGROUND GAS PIPING: POLYETHYLENE, ASTM D-2513
7. FURNISH TO THE OWNER A SET OF AS-BUILT DRAWINGS IN PDF FORMAT.	7. CONDENSATE DRAIN PIPING: CPVC
	8. UNDERGROUND STORM PIPING: CPVC
	9. ABOVEGROUND STORM PIPING: CPVC

TANKLESS GASS WATER HEATER SCHEDULE					
FIXTURE SYMBOL	MANUFACTURER	MODEL NUMBER	HEAT CAPACITY INPUT BTUH	UEF	REMARKS
TWH-1	NAVIEN	NPE-240A	19,900 - 199,000	0.96	SEE DETAILS IN SHEET P6

PLUMBING NOTES, LEGENDS
SCHEDULES, CALCULATIONS

CODES ANALYSIS

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODES

2019 CALIFORNIA RESIDENTIAL CODE WHICH INCLUDES:
2019 CALIFORNIA ELECTRICAL CODE,
2019 CALIFORNIA GREEN BUILDING CODE,
2019 CALIFORNIA MECHANICAL CODE,
2019 CALIFORNIA PLUMBING CODE,
2019 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS,
2019 CALIFORNIA BUILDING CODE,
2019 CALIFORNIA FIRE CODE.