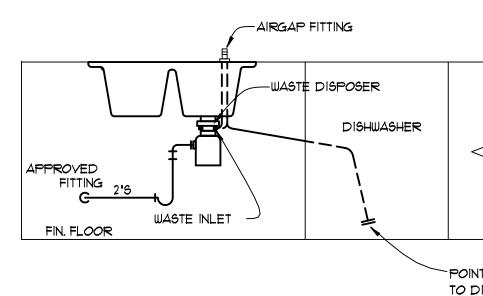
	SYMBOL LEGEND			
<u>SYMBOL</u>	ABBR.	DESCRIPTION		
G	G	GAS PIPING		
	CW	COLD WATER PIPING		
·	FW	FILTERED WATER PIPING		
	ΗW	HOT WATER PIPING		
	HWR	HOT WATER RETURN PIPING		
	S	SANITARY PIPING		
	V	VENT PIPING		
CD	CD	CONDENSATE DRAIN PIPING		
	(E)	EXISTING		
$\bowtie$	5.O.V.	SHUT-OFF VALVE		
Z		CHECK VALVE		
F		GAS COCK		
		UNION		
ப		PIPE CAP & STUB-OUT		
Ŧ	WCO	WALL CLEAN OUT		
	2000	TWO-WAY CLEANOUT		
<b>—Ф</b> —	COTG	CLEANOUT TO GRADE		
<b>-∞</b> -		PRESSURE REGULATOR		
	<u>WC</u>	WATER CLOGET		
	Ŀ	LAVATORY		
	<u>K9</u>	KITCHEN SINK		
	<u>H9</u>	HAND SINK		
	<u>M5</u>	MOP SINK		
	<u>WH</u>	WATER HEATER		
	V.T.R.	VENT THRU ROOF		
	A.F.F.	ABOVE FINISHED FLOOR		
-	P.O.C.	POINT OF CONNECTION		
. ↓	POD	POINT OF DISCONNECT		
	T.D.L.	TOTAL DEVELOPED LENGTH		
	Pia Pia	PLUMBING DETAIL REFERENCE		
	×	EQUIPMENT REFERENCE		



# KITCHEN SINK & DISHWASHER SANITARY DETAIL NO SCALE

## <u>Water Calculation</u> BASED ON APPENDIX "A" U.P.C.

TYPE	QTY.	F.U.	TOTAL
ШС	5	2.5	12.5
L	٦	1	F
SH	Б	2	iØ
ΗB	2	2.5+1	3.5
KS/DW	5	3	15
CW	5	4	2Ø
ICEMAKER	5	Ø.5	2.5
		TOTAL F.U.	70.5
		MAX G.P.M	37 GPM
_ <u>099555</u>			
BLDG. HEIGHT			22 ft.
EET x Ø.43 P.9			9.46 psi.
		J. 10 pol.	

		0,10	P 0
MIN. FIX. PRESSURE		2Ø	psi.
WATER FILTER		Ø	psi.
	TOTAL	29.46	psi.
DEVELOPED LENGTH TO			
FURTHEST FIXTURE		180	ft.
FITTING LOSS TOTAL		36	ft.
	TOTAL	216	ft.
MIN. PRESSURE AT P.O.C.		55	psi.
BLDG. PRESSURE LOSS		29.46	psi.
PRESSURE AVAILABLE FOR FRICTION LOSS		25.54	psi.
MAXIMUM ALLOWABLE		25.54	psi.
PRESSURE DROP		216	ft.
		11.82	psi.
PER 100 FT.		100	ft.

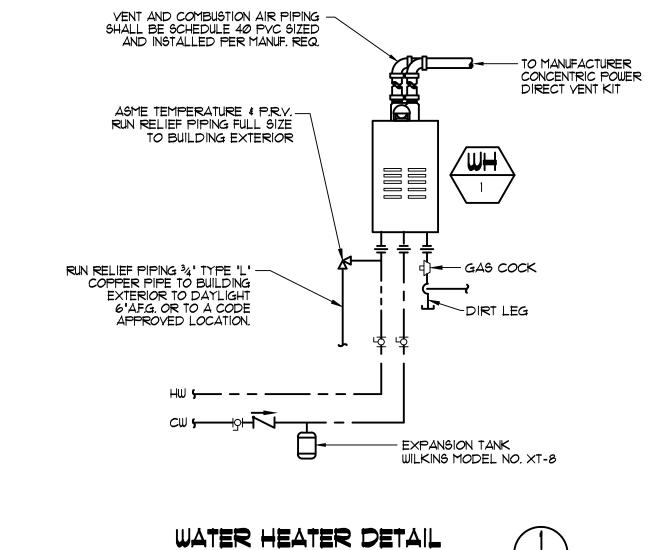
14" DIAMETER MAIN SELECTED PER CHART A-4.1 2012 U.P.C.

#### GAS CALCULATION INPUT (CFH) QTY. NAME 130

WATER HEATER RANGE 65 DRYER 35 FAU 44

2<sup>1</sup>/<sub>2</sub>" DIAMETER MAIN SELECTED. PER TABLE 1216.2(1), 2012 U.P.C. 91 FT. T.D.L. (100 FT. ROW)

	TANKLESS WATER HEATER SCHEDULE					
SYMBOL	MANUFACTURER/ MODEL NUMBER OR EQUAL	MINIMUM STORAGE (GALLONS)	ENERGY FACTOR	TYPE OF GAS	GAS INPUT (MBTUH)	REMARKS
	RINNAI RUI3Øi	-	Ø.95	NATURAL	13Ø	

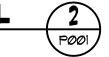


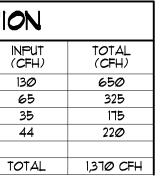
NO SCALE

( PØØI )

	Plumbing Sheet Index
SHEET NUMBER:	SHEET NAME:
P001	SPECIFICATION, SCHEDULE, DETAILS, CALCULATIONS, SYMBOL LEGEND AND SHEET INDI
P101	FIRST FLOOR PLUMBING PLAN (WASTE & VENT)
P101.1	FIRST FLOOR PLUMBING PLAN (WATER & GAS)
P102	SECOND FLOOR PLUMBING PLAN (WASTE & VENT)
P102.1	SECOND FLOOR PLUMBING PLAN (WATER & GAS)

POINT OF CONNECTION TO DISHWASHER





## SPECIFICATION

## <u>GENERAL</u>

- CONTRACTOR SHALL CHECK AND VERIFY ALL SIZES, DIMENSIONS, AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATIONS OR PROBLEMS SHALL BE TRANSMITTED TO THE ENGINEER FOR REVIEW.
- 2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2012 IRC, UMC, UPC, 2011 NEC AND 2012 IECC AS AMENDED AND ADOPTED BY CLARK COUNTY
- 3. ALL EQUIPMENT SHALL BE BALANCED, ADJUSTED, AND TESTED TO PROVIDE SAFE, STABLE, AND QUIET OPERATION.
- 4. CONTRACTOR TO PROVIDE A PRESSURE REDUCING VALVE W/ BYPASS SET TO 15 P.S.I. WHEN INCOMING WATER PRESSURE EXCEEDS 80 P.S.I.
- 5. DRAWINGS ARE DIAGRAMMATIC, SMALL SCALE, AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED.
- 6. ALL DESIGNS TO COMPLY WITH 2012 U.P.C. AND WITH LOCAL AMENDMENTS. 1. MAINTAIN OCCUPANCY AND FIREWALL SEPARATION INTEGRITY AS REQUIRED. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF ALL OCCUPANCY/FIREWALL SEPARATIONS AND SPECIFIC DETAILS FOR CONSTRUCTION. PROVIDE ALL NECESSARY U.L. LISTED SLEEVES, ACCESS DOORS, CAULKING, ETC., FOR APPROVED INSTALLATION.

### PRODUCTS

DOMESTIC WATER PIPING (CONFIRM W/ BUILDER/OWNER) ABOVE GROUND: TYPE 'M' COPPER, WROUGHT FITTINGS, LEAD-FREE SOLDERED.

BELOW SLAB: TYPE 'L' COPPER TUBING, SLEEVED THRU SLAB, ALL JOINTS SILVER BRAZED.

## OR

- "WIRSBO" OR EQUAL' CROSS-LINKED POLYETHYLENE TYPE "A" PIPING WITH BRASS FITTINGS, SUITABLE FOR POTABLE WATER, WHEN INSTALLED BY A PRODUCT CERTIFIED TECHNICIAN. \* PIPING WITHIN THE BUILDING SHALL BE OF A LIKE MATERIAL, (FOR SIZES 14 \* AND LARGER COPPER SHALL BE USED.) REF. ABOVE SPECS.  $\underline{\mathsf{NOTE}}$  DIELECTRIC FITTINGS SHALL BE USED WHEREVER DISSIMILAR
- METALS ARE JOINED.
- 2. <u>SANITARY WASTE AND VENT PIPING</u> ABS OR PVC, PAINT WITH LATEX PAINT WHERE EXPOSED.
- 3. <u>GAS PIPING</u>
- SCHEDULE 40 BLACK IRON, THREADED MALLEABLE FITTINGS INSIDE AND GALVANIZED FITTINGS AND PIPE WHERE EXPOSED, JOINT COMPOUND. PROVIDE ISOLATION VALVES AT ALL EQUIPMENT. SUSPENDED PIPING SHALL BE SUPPORTED AT THE FOLLOWING
- INTERVALS: 6 FEET FOR 1/2", 8 FEET FOR 3/4" AND 1", 10 FEET FOR 1-1/4" AND LARGER
- <u>UNDERSLAB:</u> SLEEVED, SEALED & VENTED FERROUS GAS PIPING SHALL BE "GASTITE" OR EQUAL", AND HAVE FACTORY PROTECTIVE COATING. POLYETHYLENE GAS YARD PIPING: TO BE INSTALLED PER LATEST IAPMO.
- 4. DOMESTIC HOT WATER AND RECIRCULATING PIPE INSULATION (COPPER ONLY) CLOSED CELL NEOPRENE PIPE INSULATION WITH A MIN R-3 VALUE, INSTALLED IN UNCONDITIONED SPACES & ON ALL HOT WATER RECIRCULATING SYSTEMS PER 2012 IECC.
- 5. <u>PLUMBING FIXTURES</u>

PROVIDE CP ANGLE STOPS TO FINISH PLUMBING FIXTURES, PROVIDE SHUT-OFF VALVES WITH UNIONS TO ALL OTHER FIXTURES. PROVIDE PRESSURE BALANCED OR THERMOSTATIC MIXING VALVES, PER 2012 U.P.C., AT ALL SHOWERS, BATHTUBS, AND/OR COMBINATIONS TO ALLOW FOR A MAXIMUM WATER TEMPERATURE OF 120°F. ALL PLUMBING FIXTURES SHALL COMPLY WITH LOCAL AUTHORITIES CURRENT WATER CONSERVATION CODES.

# GENERAL NOTES

- SEAL ALL ROOF AND WALL PENETRATIONS WATER TIGHT.
- 2. MAINTAIN PLUMBING VENTS A MINIMUM OF 10'-0" AWAY FROM ANY OA INTAKE.
- REFER TO PLUMBING FIXTURE SCHEDULE FOR ANY UNMARKED ROUGH-IN SIZES.
- 4. COORDINATE WORK WITH OTHER TRADES PRIOR TO ANY ROUGH-INS.
- 5. ALL SANITARY DRAINAGE PIPING 4" AND SMALLER SHALL BE SLOPED AT 1/4" PER FOOT.
- 6. ALL VENT AND BRANCH VENT PIPING SHALL BE FREE FROM DROPS/SAGS AND EACH SUCH VENT SHALL BE LEVEL OR SHALL BE SO GRADED AND CONNECTED AS TO DRIP BACK BY GRAVITY TO THE DRAINAGE PIPE IT SERVES.
- ALL CONDENSATE PIPING SHALL BE SLOPED AT 1/8" PER FOOT.
- CONTRACTOR SHALL FIELD VERIFY EXACT SIZE, INVERT AND LOCATION OF SAN PIPING.



7010 Easy Wind Dr. Ste 200 Austin, TX 78752 512.899.3100

www.designopa.com



S  $\square$  $\triangleleft$ > $\bigcap$  $\boldsymbol{Z}$  $\bigcap$  $\boldsymbol{Z}$  $\bigcirc$  $\mathcal{O}$  $\mathbf{C}$ END 

#### 2018 OPA Design Studio. All Rights Reserved. These designs / drawings are the sole property of the Architect, OPA Design Studio. They may not be reproduced in any form, by any method, for any purpose without previous written permission

from the Archite	ct.
JOB NO.:	201724-C
PHASE:	CD
DRAWN:	SO, LE
CHECKED:	SO
DATE:	10/22/2018

# PLUMBING SHEET INDEX

- TION, SCHEDULE, DETAILS, ONS, SYMBOL LEGEND AND SHEET INDEX
- R PLUMBING PLAN (WASTE & VENT)
- R PLUMBING PLAN (WATER & GAS)
- OOR PLUMBING PLAN (WATER & GAS)