

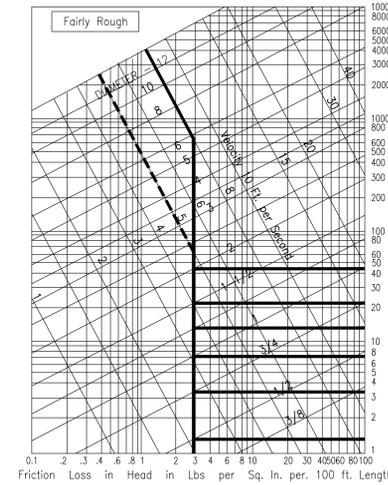




## DOMESTIC WATER BRANCH PIPE SIZING CALC

PROJECT: SNHD LAB 625 SHADOW LANE DATE: 05/24/2021  
 PROJECT NO.: L20211 BY: P.E. CHECKED BY: P.E.

Friction Loss in Head in Lbs per Sq. In. per 100 ft. Length



STATIC HEAD = 9 FT. x 0.43 = 3.87 PSI  
 PRESSURE AVAIL. = 34 (SERVICE PRESS.) - ( 3.87 + 25 (REQ. PRESS.) + 0 (METER)) = 5.13  
 LONGEST RUN = 115 FT.  
 50 % FITTING LENGTH = 58 FT.  
 TOTAL LENGTH = 173 FT.  
 ALLOWABLE FRICTION LOSS/100 FT. =  $\frac{(5.13) * 100 \text{ PSI}}{173} = 2.97$

COLD WATER	MAX. FLOW (GPM)	FLUSH TANK F.U.	FLUSH VALVE F.U.	VELOCITY (FPS)
1/2"	1.4	0	-	2.1
3/4"	3.3	3	-	2.6
1"	7.2	8	-	3.1
1 1/4"	13	18	-	3.5
1 1/2"	21	32	-	4.0
2"	42	95	31	4.7

HOT WATER	MAX. FLOW (GPM)	FLUSH TANK F.U.	FLUSH VALVE F.U.	VELOCITY (FPS)
1/2"	1.4	-	-	2.1
3/4"	3.3	-	-	2.6
1"	7.2	-	-	3.1
1 1/4"	13	-	-	3.5
1 1/2"	21	-	-	4.0
2"	42	-	-	4.7

## PLUMBING FIXTURE SPECIFICATIONS

MARK	DESCRIPTION
WC-1	WATER CLOSET (ACCESSIBLE) - AMERICAN STANDARD CADET MODEL #2467.016, FLOOR MOUNTED, VITREOUS CHINA, 2 1/8" TRAPWAY, ELONGATED BOWL, PRESSURE ASSISTED SIPHON JET, 1.6 GPF. SEAT: AMERICAN STANDARD MODEL #5901.100, OPEN FRONT, LESS COVER. MOUNT TO ADA REQUIREMENTS.
L-1	LAVATORY (ACCESSIBLE) - AMERICAN STANDARD #0355.012, LUCERNE VITREOUS CHINA, WITH FRONT OVERFLOW AND FAUCET LEDGE AT 4" OC, WITH SELF SUPPORTING CARRIER. FAUCET: ZURN #6915-XL, BATTERY POWERED, SENSOR ACTIVATED, WATER SENSE CERTIFIED. TRAP: 1 1/4" X 1 1/2" ADJUSTABLE P-TRAP. STAINLESS STEEL BRAIDED RISERS WITH LOOSE KEY STOPS. MOUNT TO ADA REQUIREMENTS. PROVIDE PIPE PROTECTION PER ADA REQUIREMENTS.
LS-1	LAB SINK - LAB FIXTURES MODEL #U59E, UNDERMOUNT SINK, 28"X15"X12" DEEP, FAUCET: T&S MODEL #B-0502-537K FLOOR MOUNTED DOUBLE PEDAL VALVE W/DUMMY RIGID GOOSE NECK AND SHORT ELBOW, 2.2 GPM.
S-1	SINK (ACCESSIBLE) - ELKAY MODEL LRAD3322, 33"X22"X6" DEEP, 18 GAUGE TYPE 304 STAINLESS STEEL, SELF RIMMING, FAUCET: ELKAY MODEL #LKD2433, SIDE SPRAY, BLADE TYPE HANDLES, GOOSENECK, REMOVABLE STRAINER, 1 1/2" ADJUSTABLE P-TRAP. SUPPLIES: FLEXIBLE RISERS WITH STOPS. PROVIDE WITH INSINKERATOR GARBAGE DISPOSAL MODEL #75941.
EW-C-1	ELECTRIC WATER COOLER - (ACCESSIBLE) ELKAY #LZSTL8WSLK, WALL MOUNT, BARRIER FREE ACCESS, WITH BOTTLE FILLER. 8.0 GPH OF 50°F WATER BASED ON 80° INLET / 90°F AMBIENT. 115V/60PH, 370 WATTS. MOUNT TO ADA REQUIREMENTS. REFRIGERANT SHALL BE NON-CFH/NON-HCFC.
FD-1	FLOOR DRAIN - JAY R. SMITH #2010A, CAST IRON BODY, ADJUSTABLE ROUND STRAINER, TRAP PRIMER CONNECTION.
FD-2	FLOOR DRAIN - JAY R. SMITH #2010B, CAST IRON BODY, ADJUSTABLE SQUARE STRAINER, TRAP PRIMER CONNECTION.
EW-1	EMERGENCY EYEWASH - GUARDIAN EQUIPMENT MODEL #GBF1849, BARRIER FREE, DECK MOUNTED WITH 2 GS-PLUS SPRAY HEADS ON CHROME PLATED BRASS SUPPLY ARMS. PROVIDE WITH GUARDIAN TEMPERING VALVE MODEL #G3600LF.
IMB-1	ICE MAKER BOX - GUY GRAY MODEL #BIM875, RECESSED, GALVANIZED STEEL. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT.

## PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	ROUGH-IN (INCHES)						REMARKS
		C.W.	TW	HW	V	S/W	TRAP	
WC-1	WATER CLOSET	1	-	-	2	4	-	FLOOR MOUNT - ACCESSIBLE
L-1	LAVATORY	1/2	-	1/2	1 1/2	2	1 1/4 x 1 1/2	WALL HUNG - ACCESSIBLE
LS-1	LAB SINK	1/2	-	1/2	1 1/2	2	1 1/4 x 1 1/2	UNDERMOUNT
S-1	SINK	1/2	-	1/2	1 1/2	2	-	COUNTERTOP - ACCESSIBLE
EW-C-1	WATER COOLER	1/2	-	-	1 1/2	2	-	ACCESSIBLE
FD-1	FLOOR DRAIN	-	-	-	2	3	-	SIZE AS SHOWN UNLESS NOTED OTHERWISE
FD-2	FLOOR DRAIN	-	-	-	2	3	-	SIZE AS SHOWN UNLESS NOTED OTHERWISE
EW-1	EYEWASH	-	1/2	-	-	-	-	
IMB-1	ICE MAKER BOX	1/2	-	-	-	-	-	

PROVIDE STOPS ON ALL FIXTURES NOT FURNISHED WITH INTEGRAL STOPS. REFER TO PLANS FOR TEMPERED/HOT WATER LOCATIONS.

## RECIRCULATING PUMP SCHEDULE

MARK	MANUFACTURER MODEL	SERVICE	FLOW GPM	HEAD FT	MOTOR		REMARKS
					HP	V/PH/HZ	
CP-1	B&G ECOCIRC	HWR	0.5	15	-	115	1, 2, 3

- PROVIDE SUPPLEMENTAL SUPPORT STEEL WITH NEOPRENE ISOLATION PAD.
- PUMP SHALL OPERATE PER PIPE MOUNTED AQUASTAT.
- SET AQUASTAT TO PUMP "ON" AT 110° F AND "OFF" AT 120° F.

**SCHEDULES**  
 Southern Nevada Health District  
**SNHD LAB EXPANSION**  
 700 South Martin Luther King Blvd.  
 Las Vegas, Nevada 89106

**IZ design studio**  
 design... sustainability... architecture.  
 Nevada  
 7229 W. Sahara Ave Suite 120  
 Las Vegas, NV 89117  
 Tel. 702.441.0026  
 Fax. 702.475.4755  
 www.izdesignstudio.com



**msa**  
 ENGINEERING CONSULTANTS  
 370 E Windmill Lane, Suite 100  
 Las Vegas, NV 89123  
 702.896.1100  
 msa-ec.com  
 MSA #L20211

DATE	DESCRIPTION	DELTA NO.	REVISION NO.	Project Number	Sheet Name
				20427	
				05/24/2021	
				MSA	
				PE	

P002

MAY 24 2021







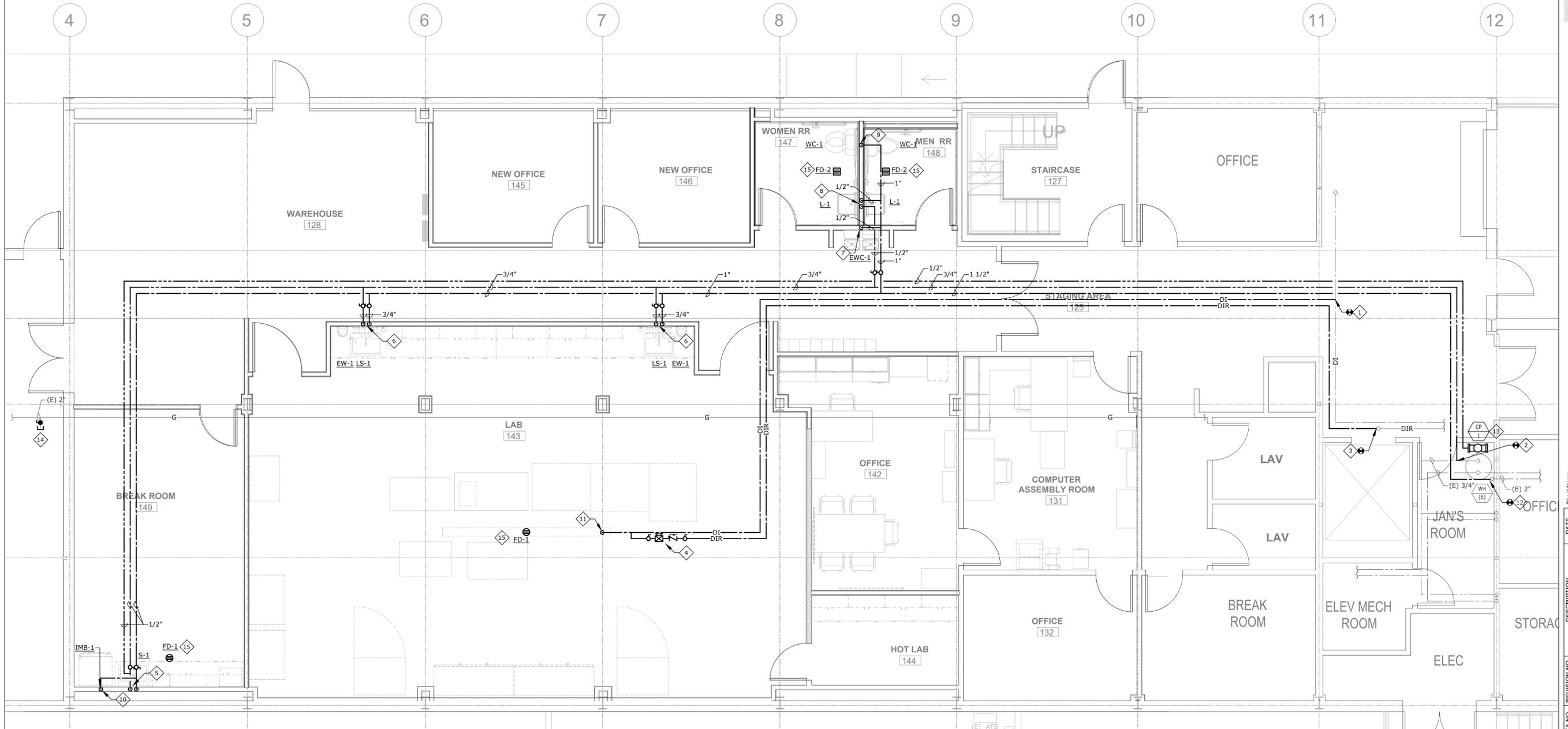
**GENERAL NOTES:**

- ALL WATER PIPING SHALL BE INSTALLED ON THE INTERIOR SIDE OF THE BUILDING.
- THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL PLUMBING ROUGH-IN LOCATIONS. REFER TO ARCHITECTURAL DRAWINGS FOR FIXTURES AND EQUIPMENT LOCATIONS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED TO ACCOMMODATE HIS WORK.
- SANITARY DRAINAGE PIPING SHALL BE SLOPED: UNDER 3" AT 1/4" PER FOOT, 3" AND LARGER AT 1/8" PER FOOT.
- PLUMBING CONTRACTOR SHALL COORDINATE ROUTING OF PIPING WITH ALL OTHER TRADES PRIOR TO COMMENCING WORK.
- ALL PLUMBING FIXTURES SHALL BE WATER CONSERVATION TYPE AS MANDATED BY LOCAL BUILDING DEPARTMENT.
- ALL WATER CLOSETS DESIGNATED AS ACCESSIBLE SHALL BE INSTALLED SUCH THAT THE ACTUATOR IS OPERABLE FROM THE WIDE SIDE OF THE WATER CLOSET.
- 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.
- REFER TO THE PLUMBING DIAGRAMS THAT APPLY TO THE WORK ON THIS DRAWING. THESE DIAGRAMS PROVIDE GUIDANCE AS TO INSTALLATION INTENT AND DO NOT NECESSARILY SHOW ALL COMPONENTS REQUIRED.

**SHEET NOTES:**

- CONNECT NEW 3/4" DI WATER LINE TO EXISTING 3/4" DI WATER IN CORRIDOR.
- CONNECT NEW 3/4" HW TO EXISTING 3/4" HW MAIN DOWNSTREAM OF WATER HEATER.
- CONNECT NEW 3/4" DI RETURN WATER LINE TO EXISTING 3/4" DI WATER RETURN IN CORRIDOR.
- PROVIDE LINE-SIZE CHECK VALVE, BALANCING VALVE, AND ISOLATION VALVES ON DI WATER RETURN LINE. VALVES SHALL MATCH BUILDING STANDARDS.
- 1/2" HW AND CW DOWN TO SINK.
- 3/4" HW AND CW DOWN TO LAB SINK. ROUTE WATER PER MANUFACTURERS REQUIREMENTS TO THE EYEWASH.
- 1/2" CW DOWN TO ELECTRIC WATER COOLER.
- 1/2" HW AND CW DOWN TO EACH THERMOSTATIC MIXING VALVE (LEONARD 270-LF OR EQUIVALENT). ROUTE 1/2" TW AND CW TO EACH LAVATORY AND SET DISCHARGE TEMPERATURE TO 105°F.
- 1" CW DOWN IN WALL TO EACH WATER CLOSET.
- 1/2" CW DOWN TO ICE MAKER BOX.
- 3/4" DI WATER DOWN TO LIAISON XL, ATELLICA CH AND ATELLICA IM PER MANUFACTURERS RECOMMENDATIONS.
- CONNECT NEW 1 1/2" CW TO EXISTING 2" CW MAIN.
- SEE A/P003 FOR MORE INFORMATION.

- VALVE AND CAP EXISTING GAS STUB FOR FUTURE USE.
- PROVIDE PRESSURE DEPENDANT TRAP PRIMER.



**A** PLUMBING - DOMESTIC WATER PLAN  
**P300** 1/4" = 1'-0"  
 0' 1' 2' 4' 8'  
 NORTH



**msa**  
 ENGINEERING CONSULTANTS  
 370 E Windmill Lane, Suite 100  
 Las Vegas, NV 89123  
 702.896.1100  
 msa-ec.com  
 MSA #L20211

**PLUMBING - DOMESTIC WATER PLAN**  
 Southern Nevada Health District  
**SNHD LAB EXPANSION**  
 700 South Martin Luther King Blvd.  
 Las Vegas, Nevada 89106

DELTA NO.	REVISION NO.	DESCRIPTION	DATE	Sheet Name	Project Name

Project Number 20427  
 Date 05/24/2021  
 Drawn By MSA  
 Checked By PE  
**P300**