

PLUMBING LEGEND

SYMBOL	DESCRIPTION	ABBR.	SYMBOL	DESCRIPTION	ABBR.
	SOIL, WASTE, or SEWER BELOW GRADE	S or W		EXIST. SOIL, WASTE, or SEWER BELOW GRADE	S or W(E)
	SOIL, WASTE, or SEWER ABOVE GRADE	S or W		EXIST. SOIL, WASTE, or SEWER ABOVE GRADE	S or W(E)
	VENT	V		EXIST. VENT	V(E)
	STORM DRAIN BELOW GRADE	SD		EXIST. STORM DRAIN BELOW GRADE	SD(E)
	STORM DRAIN ABOVE GRADE	SD		EXIST. STORM DRAIN ABOVE GRADE	SD(E)
	OVERFLOW STORM DRAIN BELOW GRADE	OSD		EXIST. OVERFLOW STORM DRAIN BELOW GRADE	OSD(E)
	OVERFLOW STORM DRAIN ABOVE GRADE	OSD		EXIST. OVERFLOW STORM DRAIN ABOVE GRADE	OSD(E)
	COLD WATER	CW		EXIST. COLD WATER	CW(E)
	HOT WATER	HW		EXIST. HOT WATER	HW(E)
	HOT WATER RETURN	HWR		EXIST. HOT WATER RETURN	HWR(E)
	GAS-LOW PRESSURE	G		EXIST. GAS-LOW PRESSURE	G(E)
	GAS-MEDIUM PRESSURE	MG		EXIST. GAS-MEDIUM PRESSURE	MG(E)
	DRAIN	D		EXIST. DRAIN	D(E)
	GATE VALVE	GV		PIPE ANCHOR	PA
	BALL VALVE	BV		PIPE GUIDE	PG
	GAS COCK	GC		BACKFLOW PREVENTER	BFP
	GAS PRESSURE REGULATOR	GPR		FIRE PROTECTION WATER SUPPLY	F
	PRESSURE REDUCING VALVE	PRV		SOLENOID VALVE	SV
	CHECK VALVE	CH		VALVE ON RISER	
	TEMPERATURE & PRESSURE RELIEF VALVE	T & PRV		RISER DOWN	
	STRAINER	STR		RISER UP	
	CONCENTRIC REDUCER	CR		BRANCH TOP CONNECTION	
	ECCENTRIC REDUCER	ER		BRANCH BOTTOM CONNECTION	
	UNION	UN		CAP ON END OF PIPE	
	WATER HAMMER ARRESTOR	WHA		PITCH DOWN IN DIRECTION OF ARROW	
	FLOOR DRAIN	FD		FLOW IN DIRECTION OF ARROW	
	FLOOR SINK	FS		ABOVE FINISHED FLOOR	AFF
	FLOOR CLEANOUT	FCO		FAHRENHEIT	F
	GRADE CLEANOUT	GCO		GALLONS	GAL
	WALL CLEANOUT	WCO		HORSEPOWER	HP
	HOSE BIBB	HB		KILOWATT	KW
	VENT THRU ROOF	VTR		MAXIMUM	MAX.
	ROOF DRAIN	RD		MINIMUM	MIN.
	OVERFLOW ROOF DRAIN	ORD		BELOW	BEL.
	DECK DRAIN	DD		ABOVE	ABV.
	POINT OF CONNECTION	POC		TRENCH DRAIN	TD
	ACCESS DOOR	AD		WET STANDPIPE	WSP
	COMPRESSED AIR	A		DRY STANDPIPE	DSP
	VACUUM	VAC		FIRE DEPARTMENT CONNECTION	FDC
	MEDICAL COMPRESSED AIR	MA		CONDENSATE DRAIN	CD
	MEDICAL VACUUM	MV		ACID WASTE BELOW GRADE	AW
	FINISHED FLOOR	FF		ACID WASTE ABOVE GRADE	AW
	INVERT ELEVATION	IE		ACID VENT	AV
	CUBIC FEET PER HOUR	CFH		TEMPERED WATER	TW
	GALLONS PER MINUTE	GPM		POUNDS PER SQUARE INCH	PSI
	GALLONS PER HOUR	GPH		WATER COLUMN	W.C.
	BRITISH THERMAL UNIT	BTU		TOTAL DEVELOPED HEAD	TDH
	EXISTING	EXIST.			

NOTE:
SYMBOLS AND ABBREVIATIONS SHOWN MAY INCLUDE ITEMS
NOT USED FOR THIS PROJECT.

PLUMBING FIXTURE SPECIFICATION

WC-1	WATER CLOSET AMERICAN STANDARD "AFWALL" MODEL NO. 2257-103, WALL HUNG, VITREOUS CHINA, FURNISHED IN WHITE, ELONGATED BOWL, SIPHON JET FLUSHING (1.6 GPF), 1-1/2" TOP SPUD, SLOAN MODEL NO. 111, CHROME PLATED BRASS WATER SAVER FLUSH VALVE, (SET REGULATING SCREW ONE FULL TURN DOWN FROM FACTORY PRESET POSITION FOR MAXIMUM WATER SAVING). OLSONITE MODEL NO. 95, OPEN FRONT SEAT, LESS COVER, ZURN ADJUSTABLE CARRIERS. Z-1203 SERIES.
WC-2	WATER CLOSET (HANDICAP) SAME AS ABOVE EXCEPT RIM MOUNTING HEIGHT CONFORMING TO ADA REQUIREMENTS. SEE ARCHITECTURALS FOR MOUNTING ELEVATIONS.
U-1	URINAL AMERICAN STANDARD "MAYBROOK" MODEL NO. 6581-015, WALL MOUNTED, VITREOUS CHINA, FURNISHED IN WHITE, WASH DOWN FLUSH, 3/4" TOP SPUD, 1.0 GPF. SLOAN MODEL NO. 186-1 FLUSH VALVE (SET REGULATING SCREW UP IN TURN FORM FACTORY PRESET TO 1.0 GPF). J.R. SMITH FLOOR MOUNTED SUPPORT. HEIGHT CONFORMING TO ADA REQUIREMENTS. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING ELEVATIONS.
L-1	LAVATORY AMERICAN STANDARD "AQUALYN" MODEL NO. 0476-028, DROP-IN COUNTER TOP, 20"x17" OVAL VITREOUS CHINA BOWL, FURNISHED IN WHITE CHICAGO FAUCETS MODEL NO. 802A-336 SLOW CLOSING METERING FAUCET TO DELIVER 0.5 GPM FOR 30 SECONDS (TOTAL .25 GPM), SUPPLIED WITH MINDED HANDLES, AERATOR OUTLET AND MCGUIRE NO. 155A GRID STRAINER ASSEMBLY, MCGUIRE MODEL NO. PW2125 PREWRAPPED 1-1/4" CAST BRASS J-BEND, WALL BEND, P-TRAP, TAIL PIECE COVER, AND 2 SUPPLY COVERS WITH CHROME PLATED FLANGE. CHROME PLATED BRASSCRAFT SUPPLIES.
SH-1	SHOWER SYMMONS "HYDAPIPE" THRU WALL SUPPLY PIPING SHOWER UNIT MODEL NO. 1-9035-60, PRESSURE -BALANCING MIXING VALVE WITH ADJUSTABLE STOP SCREW DRIVER STOP TO LIMIT HANDLE TURN. INTEGRAL SERVICE STOPS. SHOWER HEAD AND SOAP DISH. WALL/HAND SHOWER WITH FLEXIBLE 60" METAL HOSE, IN-LINE VACUUM BREAKER, 30" BAR AND SOAP DISH.
SH-2	SHOWER SYMMONS "HYDAPIPE" EXPOSED SHOWER UNIT MODEL NO. 1-8015-FSB, PRESSURE -BALANCING MIXING VALVE WITH ADJUSTABLE STOP SCREW DRIVER STOP TO LIMIT HANDLE TURN. INTEGRAL SERVICE STOPS. SHOWER HEAD AND SOAP DISH. WALL/HAND SHOWER WITH FLEXIBLE 60" METAL HOSE, IN-LINE VACUUM BREAKER, 30" BAR AND SOAP DISH.
SS-1	SERVICE SINK FLORESTONE MODEL NO. 30, 24"x24"x12" MOLDED MOP RECEPTOR. MODEL NO. 90 WITH ONE (1) TILING FLANGE. FAUCET: CHICAGO FAUCETS 897, VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAIL HOOK AND 3/4" HOSE. HOSE AND HOSE BRACKET #MR-370, DRAIN. STAINLESS STEEL STRAINER. TRAP: 2" CAST IRON P-TRAP.
EW-1	ELECTRIC WATER COOLER SUNROC DUAL HEIGHT REFRIGERATED DRINKING FOUNTAIN, MODEL NO. SF-3700, WALL MOUNTED, NO LEAD, STAINLESS STEEL SATIN FINISH. WITH REMOTE CHILLER RC-1 MODEL NO.RWC-10, 1/4 HP, 5.5 AMPS. 115V/1PH/60HZ., 17 GAUGE CHROME PLATED P-TRAP (1-1/4"x1-1/2", CHROME PLATED SOLID BRASSCRAFT SUPPLY.
HB-1	HOSE BIBB WOODFORD MODEL B65 WALL HYDRANT, AUTOMATIC DRAINING, FREZZELESS, VACUUM BREAKER WITH RECESSED LOCKING BOX.
HB-2	HOSE BIBB WOODFORD MODEL Y95 FLOOR HYDRANT, AUTOMATIC DRAINING, FREZZELESS, VACUUM BREAKER WITH RECESSED LOCKING BOX. MOUNT FLUSH WITH FINISH FLOOR.
RD-1	ROOF DRAIN ZURN MODEL NO. Z-100-WZ, CAST IRON BODY, UNDERDECK CLAMP, SUMP RELIEVER, GALVANIZED CAST IRON DOME MODEL NO. 2-199 DOWNSPOUT NOZZLE.
ORD-1	OVERFLOW ROOF DRAIN ZURN MODEL NO. Z-100-WZ, CAST IRON BODY, UNDERDECK CLAMP, SUMP RELIEVER, GALVANIZED CAST IRON DOME MODEL NO. 2-199 DOWNSPOUT NOZZLE.
FD-1	FLOOR DRAIN J.R. SMITH NO. 2005, CAST IRON BODY, NICKEL BRONZE TOP, 5" DIAMETER STRAINER, TRAP PRIMER CONNECTION, FLANGED, FLASHING ON UPPER FLOORS, SEAL FLOOR PENETRATIONS WATERTIGHT. SIZE AS INDICATED ON DRAWINGS.
FD-2	FLOOR DRAIN J.R. SMITH NO. 2005, CAST IRON BODY, NICKEL BRONZE TOP, 5" DIAMETER STRAINER, LESS TRAP PRIMER CONNECTION, FLANGED, FLASHING ON UPPER FLOORS, SEAL FLOOR PENETRATIONS WATERTIGHT. SIZE AS INDICATED ON DRAWINGS.
TP-1	TRAP PRIMER PRECISION PLUMBING PRODUCTS, INC. TRAP PRIMER VALVE MODEL PRIME RITE WITH TWO (2) OPENING DISTRIBUTION UNIT. INSTALL PER MANUFACTURERS INSTRUCTIONS.
EEW-1	EMERGENCY EYEWASH WALL MOUNTED WITH 1-1/2" P-TRAP AND 1/2" CW SUPPLY CONNECTION. GREEN ABS PLASTIC RECEPTOR, OWNI-FLO. WRAP AROUND SPRAY HEAD. STAINLESS STEEL PUSH FLAG ACTIVATION LEVER. HAWS MODEL NO. 7000 BT.
BD-1	FLOOR DRAIN ZURN MODEL NO. 415-9N, CAST IRON BODY, NICKEL BRONZE TOP, 9" DIAMETER STRAINER, LESS TRAP PRIMER CONNECTION, FLANGED, FLASHING, SEAL FLOOR PENETRATIONS WATERTIGHT. SIZE AS INDICATED ON DRAWINGS.

PLUMBING FIXTURE SCHEDULE

ABBR.	FIXTURE	ROUGH-IN SIZES (inches)					REMARKS
		HW	CW	V	TRAP	SorW	
WC-1	WATER CLOSET	-	1	2	*	4	
WC-2	WATER CLOSET	-	1	2	*	3	
L-1	LAVATORY	1/2	1/2	1 1/2	**	1 1/2	
S-1	SINK	1/2	1/2	1 1/2	1 1/2	2	
SS-1	SERVICE SINK	1/2	1/2	1 1/2	2	2	
EW-1	ELECTRIC WATER COOLER	-	1/2	1 1/2	**	2	
HB-1	HOSE BIBB	-	3/4	-	-	-	
SH-1	SHOWER	1/2	-	1 1/2	2	2	
SH-2	SHOWER	1/2	-	1 1/2	2	2	
U-1	URINAL	-	3/4	2	*	2	
EEW-1	EYE WASH	1/2	-	-	-	-	

NOTE:
* INTEGRAL TRAP
** 1 1/4" x 1 1/2" TRAP

PLUMBING EQUIPMENT SPECIFICATION

WH-1	WATER HEATER A.O. SMITH CYCLONE MODEL NO. BTH-150, 100 GALLON CAPACITY SEAMLESS GLASS LINED STEEL STORAGE. 150,000 BTUH INPUT, 271 GPH RECOVERY AT 100°F RISE. 115V/1Ø/60 HZ, 8 AMPS. PROVIDE SEAL COMBUSTION DIRECT VENTING SYSTEM WITH 3" DIAMETER PVC AIR INTAKE AND EXHAUST PIPE. PROVIDE INTAKE AND EXHAUST FLE CAPS. INSTALL PER MANUFACTURER RECOMMENDATIONS.
WHA-1	WATER HAMMER ARRESTER PRECISION PLUMBING PRODUCTS, INC. PART NO. SC-1000 (1" - PDI-C)
CP-1	CIRCULATION PUMP BELL & GOSSETT MODEL NO. 1R-158 BRONZE BOOSTER PUMP 1/12 HP, 115 V / 1 PH/ 60 HZ, TO PUMP 5 GPM AT 10 FEET TDH.
TV-1	TEMPERING VALVE SYMMONS TEMPCONTROL MODEL NO. 5-900-B, THERMOSTATIC CONTROLLER WITH CHECK STOPS, REMOVABLE CARTRIDGE WITH STRAINER, SHUT-OFF VALVE, DIAL THERMOMETER, SURFACE MOUNTED CABINET, TOP SUPPLIES, SET FOR 105° F DEGREES LEAVING WATER TEMPERATURE.
TV-2	TEMPERING VALVE SYMMONS TEMPCONTROL MODEL NO. 5-200-B, THERMOSTATIC CONTROLLER WITH CHECK STOPS, REMOVABLE CARTRIDGE WITH STRAINER, SHUT-OFF VALVE, DIAL THERMOMETER, SURFACE MOUNTED CABINET, TOP SUPPLIES, SET FOR 75° F DEGREES LEAVING WATER TEMPERATURE.

WATER CALCULATIONS

CW F.U. (100%) : 83 = 64 GPM

	PIPE SIZE	FRICTION LOSS PER 100 FEET: 10 LBS.			
		GPM	FT FU	FV FU	VEL
A. STREET PRESSURE:	78 PSI				
B. PRV SET AT:	*				
C. PRESSURE LOSSES	7 PSI				
1. LOSS THRU 1-1/2" METER:		1/2	3.5	3	-
2. LOSS DUE TO BUILDING HEIGHT 12 FT X 0.434=	5.2 PSI	3/4	9.5	12	-
3. PRESSURE REQ AT MOST REMOTE OUTLET:	25 PSI	1	20	30	-
4. LOSS THRU 1-1/2" RPPA:	12 PSI	1-1/4	35	66	20
5. PRESSURE LOSS AT PRV:	49.2 PSI	1-1/2	55	151	60
6. TOTAL PRESSURE LOSSES:		2	95	348	214
D. PRESSURE LEFT TO OVERCOME FRICTION 78 PSI - 49.2 PSI =	28.8 PSI	2-1/2	145	611	521
E. 210 FT X 1.2 FITTINGS=	255 FT	3	210	1018	1009
F. AVAILABLE FRICTION HEAD LOSS PER 100FT .28.8 PSI X 100 FT=	11.29 PSI	-	-	-	-
255 FT		-	-	-	-
* NOT REQUIRED					

City of Las Vegas Plumbing Plan General Notes & Requirements

These plans have been reviewed under the 1997 UPC and Southern Nevada Plumbing Code Ordinance. All installations shall comply with these documents.

All Plumbing fixtures shall comply with UPC Water Conservation requirements.

All fixtures, piping and materials shall be listed and approved by this jurisdiction.

All copper piping underslab shall be sleeved.

All equipment over 400 lbs shall be laterally braced per UBC 1632.1.

Tub and shower valves shall be pressure balancing or thermostatic types per UPC 420.

Water heater access shall meet UPC 511.

Combustion air is required per UPC 507.

Cleanouts must be installed per UPC 707.

Provide cross connection control as require in UPC 603.

Water shut off valves shall be provided per UPC 605.

Provide pressure regulators and relief valves per UPC 608.

No alterations of steel assemblies allowed without approved details. Refer to architectural plans for rated assemblies and fire stop systems.

Approval of this plan does not permit violations of applicable codes or ordinances.

Approval is based on information supplied on plans, any changes or increased demands may require submittal of revisions for Approval.

PLANS APPROVED

PLUMBING/MECHANICAL

Building & Safety Dept.

City of Las Vegas, Nevada

Aug 31 2000

Does Not Include Architectural, Electrical, Structural or Civil. Improvements Made No Change Without Approval. Plan is Not a Permit to Violate Any Ordinance.

RECEIVED

JUL 26 2000

CITY OF LAS VEGAS

PLUMBING PERMITS

Sheet Number:

P001

Date: 10-22-99

Project No. 9903500

Scale: NO SCALE

Drawn By: L.A.

Building Comments: 7/17/00 PLAN CHECK COMMENTS

Revisions:

500 PILOT ROAD, SUITE A, LAS VEGAS, NEVADA 89119 • PHONE (702) 263-7111 FAX: (702) 263-8111