

PLUMBING FIXTURE SPECIFICATIONS

SYMBOL	DESCRIPTION
WC-1	WATER CLOSET (HANDICAPPED) - AMERICAN STANDARD #2168100, CADET 17" H EL 16" FA, FLR MOUNT, VITREOUS CHINA, ELONGATED BOUL, SIPHON JET, CLOSE-COUPLED FLUSH-O-METER TANK. SEAT: OLSONITE #95, OPEN FRONT, LESS COVER. TRIM: FLEXIBLE RISER WITH STOP.
WC-2	WATER CLOSET - AMERICAN STANDARD #2251103, ARWALL, WALL HUNG, VITREOUS CHINA, ELONGATED BOUL, SIPHON JET, FLUSH VALVE: SLOAN #11, SUPPLY WITH STOP. SEAT: OLSONITE #95, OPEN FRONT, LESS COVER.
WC-3	WATER CLOSET (HANDICAPPED) - AMERICAN STANDARD #2251103, ARWALL, WALL HUNG, VITREOUS CHINA ELONGATED BOUL, SIPHON JET, FLUSH VALVE: SLOAN #11, SUPPLY WITH STOP. SEAT: OLSONITE #95, OPEN FRONT, LESS COVER MOUNT TO ADA REQUIREMENTS.
U-1	URINAL (HANDICAPPED) - AMERICAN STANDARD #6541132, ALLBROOK, VITREOUS CHINA, SIPHON JET (10 GLLONS PER FLUSH), 1" X 3/4" INLET SPUD. ONE (1) WALL HANGER. FLUSH VALVE: SLOAN ROYAL #86-1, SUPPLY WITH STOP.
L-1	LAVATORY - AMERICAN STANDARD #2355012, LUCERNE VITREOUS CHINA, WITH FRONT OVERFLOW AND FAUCET LEDGE, WITH WALL HANGER. FAUCET: SYMMONS #9-60-GH WITH GRID DRAIN AND BLADE TYPE HANDLE. TRAP: 1 1/4" X 1 1/2" ADJUSTABLE P-TRAP. SUPPLIES: FLEXIBLE RISERS WITH STOPS.
L-2	LAVATORY - AMERICAN STANDARD #2416028, AQUALYN SELF-RIMMING VITREOUS CHINA, WITH FRONT OVERFLOW AND FAUCET LEDGE. FAUCET: SYMMONS #9-61-G WITH GRID DRAIN AND BLADE TYPE HANDLE. TRAP: 1 1/4" X 1 1/2" ADJUSTABLE P-TRAP. SUPPLIES: FLEXIBLE RISERS WITH STOPS.
L-3	LAVATORY - AMERICAN STANDARD #2416028, AQUALYN SELF-RIMMING VITREOUS CHINA, WITH FRONT OVERFLOW AND FAUCET LEDGE. FAUCET: SYMMONS #9-60-GH WITH GRID DRAIN TRAP: 1 1/4" X 1 1/2" ADJUSTABLE P-TRAP. SUPPLIES: FLEXIBLE RISERS WITH STOPS.
S-1	SINK - ELKAY #BLH-15-C, 15"X15"X1" DEEP, STAINLESS STEEL HOSPITALITY SINK. FAUCET: LK-2432 SUPPLIES: FLEXIBLE RISERS WITH STOPS.
S-2	SINK - ELKAY #LR-3322, 33"X22"X8" DEEP, DOUBLE BOUL STAINLESS STEEL SINK TYPE 302. FAUCET: #LK-4320-F. TRAP: J.R. SMITH #114 SOLIDS INTERCEPTOR. SUPPLIES: FLEXIBLE RISERS WITH STOPS.
KS-1	KITCHEN SINK - ELKAY #LGR-4322-C, 10" DEEP, TRIPLE COMPARTMENT, 18 GAUGE TYPE 302 STAINLESS STEEL, SELF RIMMING WITH DRAIN FITTING & STRAINER. FAUCET: #LK-4124-F, 10" REACH WITH HOSE SPRAY. DISPOSER: 1SE CLASSIC, 1HP, 120V. SUPPLIES: FLEXIBLE RISERS WITH STOPS.
EW-1	ELECTRIC WATER COOLER - ELKAY #ERHP-8-C, RECESSED IN-THE-WALL REFRIGERATION UNIT, BARRIER FREE ACCESS MODEL. 8.0 GPH OF 50°F WATER BASED ON 80°F INLET / 90°F AMBIENT. 1/5 HP, 4.1 FLA.
EW-2	ELECTRIC WATER COOLER - ELKAY #EFHA-8, WALL MOUNT REFRIGERATION UNIT, BARRIER FREE ACCESS MODEL. 7.6 GPH OF 50°F WATER BASED ON 80°F INLET / 90°F AMBIENT. 1/5 HP, 4.8 FLA.
DF-1	DRINKING FOUNTAIN - ELKAY #EDFFU-14-C, WALL MOUNT, BARRIER FREE ACCESS MODEL.
WF-1	WASH FOUNTAIN - BRADLEY #KHC-8541, PRECAST TERRAZZO BOUL AND PEDESTAL, WATER SAVER STAINLESS STEEL, SPRAYHEAD WITH RESTRAINING BRACKET, TWO HAND-TAP PUSH BUTTON VALVES, TWO VANDAL-RESISTANT PUMP SOAP VALVES W/ 1 GALLON SOAP TANK COMBINATION STOP, STRAINER AND CHECK VALVES, THERMOSTATIC MIXING VALVE, REMOTE ACTUATED METERING VALVE WITH CONNECTING TUBING AND FLOW CONTROL, SPUD WITH STRAINER AND LOCKNUT.
SH-1	WALL SHOWER (HANDICAP) - BRADLEY TYPE IN WALL UNIT WITH HINGED STATION, TOUCH N FLO VALVE, HAND HELD SHOWER HEAD, SHOWER HEAD W/ POST STYLE MOUNTING BRACKET, 59" STAINLESS STEEL HOSE WITH QUICK DISCONNECT IN-LINE BACK FLOW PREVENTER AND DIRVERTER VALVE. MOUNT TO ADA REQUIREMENTS, COORDINATE WITH ARCH. (1)
SH-2	WALL SHOWER - BRADLEY TYPE IE-MV-9X EXPOSED PIPING METERING VALVE SHOWER HEAD, BOTTOM INLET WITH STAINLESS STEEL CONSTRUCTION. (1)
SH-3	WALL SHOWER - BRADLEY TYPE 3W WITH TOUCH N FLO VALVE (TF) AND PIPE SHROUD(SH). (1)
SH-4	COLUMN SHOWER - BRADLEY TYPE 6CA WITH TOUCH N FLO VALVE (TF) AND TYPE "A" DRAIN FITTING. (1)
SH-5	WALL SHOWER (HANDICAP) - BRADLEY TYPE 2UMS WITH TOUCH N FLO VALVE, ONE SIDE TO HAVE HAND HELD SHOWER HEAD SHOWER HEAD W/ POST STYLE MOUNTING BRACKET, 59" STAINLESS STEEL HOSE WITH QUICK DISCONNECT IN-LINE BACK FLOW PREVENTER AND DIRVERTER VALVE AND PIPE SHROUD(SH). (1)
SH-6	WALL SHOWER - BRADLEY TYPE 2UMS WITH TOUCH N FLO VALVE (TF) AND PIPE SHROUD(SH). (1)
SS-1	SERVICE SINK - FIAT #T8B-3003 MOLDED STONE. 36"X24"X12" DEEP, DROP FRONT. FAUCET: CHICAGO #931, VACUUM BREAKER, INTEGRAL STOPS, ADJUSTABLE WALL BRACE, PAUL HOOK AND 3/4" HOSE HOSE AND HOSE BRACKET #32-AA-30. DRAIN: STAINLESS STEEL STRAINER. TRAP: 3" CAST IRON P-TRAP.
FS-1	FLOOR SINK - COMMERCIAL ENAMELING #308, 12"X12"X8" DEEP, CAST IRON BODY WITH ACID RESISTING ENAMEL AND DOME STRAINER. GRATE AS INDICATED ON DRAWINGS.
FD-1	FLOOR DRAIN - JAY R. SMITH #2025A, CAST IRON BODY WITH ADJUSTABLE STRAINER. SQUARE OR ROUND GRATE TO MATCH FLOOR FINISH. TILE FLOORS TO HAVE SQUARE GRATE. SEE ARCH. DUGS FOR FLOOR FINISH. COORDINATE LOCATIONS WITH TILE CONTRACTOR.
HB-1	HOSE BIBB - JAY R. SMITH #10109, INTEGRAL VACUUM BREAKER BRONZE HYDRANT BOX WITH CHROME PLATED FACE.
RD-1	ROOF DRAIN - JAY R. SMITH #1010Y, CAST IRON BODY, UNDERDECK CLAMP.
ORD-1	OVERFLOW ROOF DRAIN - JAY R. SMITH #1010Y, CAST IRON BODY, UNDERDECK CLAMP WITH STANDPIPE.

1 SYMMONS 4-428 SHOWEROFF METERING VALVE MAY BE USED IN PLACE OF THE BRADLY TOUCH FLO. VERIFY W/ MAINTENANCE DEPT PRIOR TO ORDERING. COORDINATE PARTITIONS AND VALVE PANEL LOCATIONS AND MOUNTING METHODS PRIOR TO ORDERING. REFER TO ARCH DRAWINGS FOR EXACT LOCATIONS.

SYMBOL	STORAGE CAPACITY	GPH RECOVERY	TEMPERATURE RISE °F	MBH (KW) INPUT	MANUFACTURER & MODEL NO.	REMARKS
WA	30	15	80	(3 KW) 3 KW	A.O. SMITH DEN-30	TP4R VALVE AND RETAINING STRAP. 480V/3PH.
WA	15	13	80	(2.5 KW)	A.O. SMITH DEL-15	TP4R VALVE AND RETAINING STRAP 208V/1PH.
WA	INSTANT FLOW	5 GPM	63	(4.6 KW)	CHRONOMITE S-461L	DISTRIBUTION PIPING, 5 GPM INLINE FLOW CONTROL, 13 GPM AERATOR (2TV/1PH)
WA	200	291	100	300 MBH	A.O. SMITH BTP-200-300	TP4R VALVE AND RETAINING STRAP. 120V/1PH, 4.6 AMPS, 1/4 HP.
WA	100	239	80	191 MBH	A.O. SMITH BIC-191	TP4R VALVE AND RETAINING STRAP. 120V/1PH, 604Z

* REFER TO ELECTRICAL DRAWINGS FOR EXACT ELECTRICAL CHARACTERISTICS.

PLUMBING EQUIPMENT

SYMBOL	DESCRIPTION
BP-1	BACKFLOW PREVENTER: REDUCED PRESSURE BACKFLOW PREVENTER, 2" LINE SIZE WITH STRAINER. AWWA AND USC LISTED. WATTS SERIES #209GT-5.
PR-1	PRESSURE REDUCER: WATTS #223-5, BRONZE BODY CONSTRUCTION, 100 GPM CAPACITY AT 10PSI FALL-OFF 2" LINE SIZE WITH STRAINER. ASSE LISTED. SET AT 80PSI DISCHARGE PRESSURE.
PR-2	PRESSURE REDUCER: WATTS #223-5, BRONZE BODY CONSTRUCTION, 40 GPM CAPACITY AT 10PSI FALL-OFF 1 1/4" LINE SIZE W/ STRAINER. ASSE LISTED. SET AT 80PSI DISCHARGE PRESSURE.

PLUMBING FIXTURE SCHEDULE

SYMBOL	FIXTURE	ROUGH-IN (INCHES)						REMARKS
		C/W	H/W	T/W	V	S/W	TRAP	
WC-1	WATER CLOSET	1/2	-	-	2	4	-	FLUSH TANK, HANDICAP
WC-2	WATER CLOSET	1	-	-	2	4	-	FLUSH VALVE WALL HUNG
WC-3	WATER CLOSET	1	-	-	2	4	-	FLUSH VALVE WALL HUNG, HANDICAP
U-1	URINAL	3/4	-	-	1 1/2	2	-	FLUSH VALVE WALL HUNG
L-1	LAVATORY	1/2	1/2	-	1 1/2	1 1/2	1 1/4" X 1 1/2"	WALL HUNG
L-2	LAVATORY	1/2	1/2	-	1 1/2	1 1/2	1 1/4" X 1 1/2"	COUNTER TOP
L-3	LAVATORY	1/2	1/2	-	1 1/2	1 1/2	1 1/4" X 1 1/2"	COUNTER TOP
S-1	SINK 1-COMPARTMENT	1/2	1/2	-	1 1/2	2	1 1/2"	COUNTER TOP
S-2	SINK 2-COMPARTMENT	1/2	1/2	-	1 1/2	2	1 1/2"	COUNTER TOP
KS-1	KITCHEN SINK 3-COMPARTMENT	1/2	1/2	-	1 1/2	2	-	COUNTER TOP
EW-1	ELECTRIC WATER COOLER	1/2	-	-	1 1/2	1 1/2	1 1/4"	MOUNT FOR BARRIER FREE ACCESS SEE ARCHITECTURAL DRAWINGS.
EW-2	ELECTRIC WATER COOLER	1/2	-	-	1 1/2	1 1/2	1 1/4"	MOUNT FOR BARRIER FREE ACCESS SEE ARCHITECTURAL DRAWINGS.
DF-1	DRINKING FOUNTAIN	1/2	-	-	1 1/2	1 1/2	1 1/4"	MOUNT FOR BARRIER FREE ACCESS SEE ARCHITECTURAL DRAWINGS.
WF-1	WASH FOUNTAIN	-	-	1/2	1 1/2	1 1/2	1 1/4"	MOUNT FOR BARRIER FREE ACCESS SEE ARCHITECTURAL DRAWINGS.
SH-1	SHOWER	-	-	1/2	1 1/2	1 1/2	1 1/4"	HANDICAP
SH-2	SHOWER	-	-	1/2	-	-	-	OUTDOOR
SH-3	SHOWER	-	-	1/2	-	-	-	2 PERSON
SH-4	SHOWER	-	-	1/2	-	-	-	3 PERSON
SS-1	SERVICE SINK	1/2	1/2	-	1 1/2	3	-	FLOOR MOUNTED
FS-1	FLOOR SINK	-	-	-	2	-	-	REFER TO DUGS, FOR EXACT SIZES
FD-1	FLOOR DRAIN	-	-	-	2	-	-	REFER TO DUGS, FOR EXACT SIZES
HB-1	WALL HYDRANT	3/4	-	-	-	-	-	FREEZE PROOF W/ LOCKING COVER
RD-1	ROOF DRAIN	-	-	-	-	-	-	REFER TO DUGS, FOR EXACT SIZES
ORD-1	OVERFLOW RD.	-	-	-	-	-	-	REFER TO DUGS, FOR EXACT SIZES

WATER PIPE SIZING INFORMATION

STATIC HEAD = 1 FT. X 0.43 = 3.01 PSI
 PRESSURE AVAIL. = 36.4 (SERVICE PRESS.) - (3.01 + 15 (REQ. PRESS.) + 10 (FRIC)) = 8.39 PSI
 LONGEST RUN = 366 FT.
 25% FITTING LENGTH = 91.5 FT.
 TOTAL LENGTH = 457.5 FT.
 ALLOWABLE FRICTION LOSS/100 FT. = $\frac{100(8.39)}{457.5} = 1.8$ PSI

PIPE SIZE	MAX. FLOW (GPM)	FLUSH TANK FU.	FLUSH VALVE FU.	VELOCITY	TABLE VALUES FROM U.P.C. APPENDIX A.
1/2"	1	1	-	6 F.P.S.	36.4 PSI @ BUILDING FF. BASED ON INFORMATION BY CIVIL ENGINEER. VALUE BASED ON PEAK DEMAND WITH METER LOSSES INCLUDED.
3/4"	2.5	3	-	6 F.P.S.	
1"	6	7	-	6 F.P.S.	
1 1/4"	11	15	-	6 F.P.S.	
1 1/2"	17	24	10	6 F.P.S.	
2"	37	74	23	6 F.P.S.	
2 1/2"	60	175	76	6 F.P.S.	
3"	100	380	245	6 F.P.S.	
4"	200	945	931	6 F.P.S.	
5"	350	2204	2204	6 F.P.S.	

GENERAL NOTES:

- ALL PLUMBING FIXTURES SHALL BE WATER CONSERVATION TYPE AS MANDATED BY LOCAL BLDG. DEPT.
- ALL WATER CLOSETS DESIGNATED AS HANDICAP SHALL BE INSTALLED SUCH THAT THE ACTUATOR IS OPERABLE FROM THE WIDE SIDE OF WATER CLOSET.
- PRIOR TO INSTALLATION OF SEWER AND WATER PIPING BELOW GRADE COORDINATE EXACT LOCATIONS AND DEPTHS OF BURIAL WITH CIVIL AND FOUNDATIONS DUGS & CORRESPONDING ENGINEERS.
- 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.
- SLOPE SOIL, DRAIN, WASTE AND VENT PIPING AT 1/4" PER FOOT UNLESS NOTED OTHERWISE.
- SEAL ALL OPENINGS & PENETRATIONS THRU FIRE RATED ASSEMBLIES PER DETAILS.

FIRE SPRINKLER NOTES:

- ALL SPRINKLER HEADS & ESCUTCHEONS SHALL HAVE PAINTED FINISH, COLOR AS SELECTED BY ARCHITECT.
- SPRINKLERS IN MAIN LOBBY AND CORRIDORS SHALL BE CONCEALED TYPE.
- ALL SPRINKLERS SHALL BE CENTERED WITHIN THE CEILING TILES, COORDINATE EXACT LOCATION WITH ARCHITECT PRIOR TO SUBMITTAL OF DUGS, TO FIRE DEPT.

PLUMBING LEGEND

SYMBOL	ABBREV.	DESCRIPTION
---	S OR U	WASTE OR DRAIN BELOW GRADE
---	S OR U	SOIL OR WASTE ABOVE GRADE
V	V	VENT
C.W.	C.W.	COLD WATER
H.W.	H.W.	HOT WATER
H.W.R.	H.W.R.	HOT WATER RETURN
G	G	LOW PRESSURE GAS
CD	C.D.	CONDENSATE DRAIN
T	T	TEMPERED WATER
UP	UP	RISE OR RISER
DN	DN	DOWN OR DROP
B.V.	B.V.	BALL VALVE
G.C.	G.C.	GAS COCK
U	U	UNION
BFP	BFP	BACK FLOW PREVENTER
F.D.	F.D.	FLOOR DRAIN
F.S.	F.S.	FLOOR SINK
F.C.O.	F.C.O.	FLOOR CLEAN OUT
G.C.O.	G.C.O.	GRADE CLEAN OUT
W.C.O./G.O.	W.C.O./G.O.	WALL CLEAN OUT OR CLEAN OUT
V.T.R.	V.T.R.	VENT THRU ROOF
WHA-D	WHA-D	WATER HAMMER ARRESTOR (WHA-) (LETTER DESIGNATES PDI SIZING)
H.B.	H.B.	HOSE BIBB
R.D.	R.D.	ROOF DRAIN
O.R.D.	O.R.D.	OVERFLOW ROOF DRAIN
P-1	P-1	PLUMBING FIXTURE CALLOUT
WH-1	WH-1	EQUIPMENT CALLOUT
		BALANCING VALVE
ABBV.	ABBV.	ABBREVIATION
AFF	AFF	ABOVE FINISHED FLOOR
AFG	AFG	ABOVE FINISHED GRADE
B/F	B/F	BELOW FLOOR
B/G	B/G	BELOW GRADE
BLDG.	BLDG.	BUILDING
CONT.	CONT.	CONTINUATION
(E)	(E)	EXISTING
F	F	DEGREES FAHRENHEIT
FIN.	FIN.	FINISHED
F.P.S.	F.P.S.	FEET PER SECOND
FT.	FT.	FEET OR FOOT
F.U.	F.U.	FIXTURE UNITS
GA.	GA.	GAUGE
G.P.M.	G.P.M.	GALLONS PER MINUTE
LBS.	LBS.	POUNDS
MIN.	MIN.	MINIMUM
NO.	NO.	NUMBER
PRESS.	PRESS.	PRESSURE
P.S.I.	P.S.I.	POUNDS PER SQUARE INCH
(REF)	(REF)	REFERENCE
REQ'D	REQ'D	REQUIRED
R.P.P.	R.P.P.	REDUCED PRESSURE BACKFLOW PREVENTOR
SQ. FT.	SQ. FT.	SQUARE FEET
TYP.	TYP.	TYPICAL
V/PH/Hz	V/PH/Hz	VOLT/PHASE/HERTZ

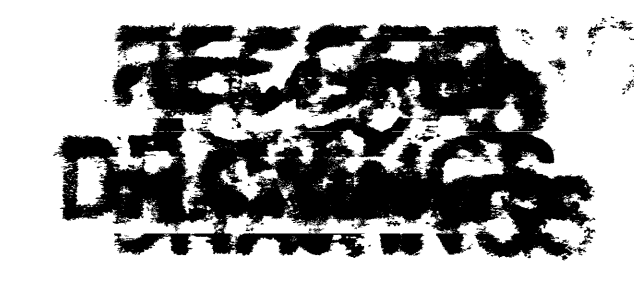
PIPING MATERIAL NOTES

- DOMESTIC WATER PIPING MATERIALS: ABOVE GROUND SHALL BE TYPE "L" COPPER. BELOW GROUND SHALL BE TYPE "K" COPPER. REFER TO SPECIFICATIONS.
- DOMESTIC WASTE & VENT PIPING MATERIALS: ABOVE GROUND SHALL BE NO-HUB CAST IRON. BELOW GROUND SHALL BE NO-HUB CAST IRON OR PVC/ABS DWV PIPING BASED ON SOIL CONDITIONS. REFER TO SPECIFICATIONS.

RECIRCULATING PUMP SCHEDULE

SYMBOL	DESCRIPTION	SERVICE	FLOW GPM	HEAD FT.	MOTOR HP	V/PH/Hz	MANUFACTURER & MODEL NO.	REMARKS
RP	INLINE	WH-1	1	1	1/2	115/160	BAG SERIES 100	ALL BRONZE BODY
RP	INLINE	WH-4 & WH-5	2	1	1/2	115/160	BAG SERIES 100	ALL BRONZE BODY
RP	INLINE	WH-6 & WH-7	1	2	1/2	115/160	BAG SERIES 100	ALL BRONZE BODY
RP	INLINE	WH-6 & WH-7	3	6	1/2	115/160	BAG SERIES 100	ALL BRONZE BODY

* REFER TO ELECTRICAL DRAWINGS FOR EXACT ELECTRICAL CHARACTERISTICS.



101 OF 118
650.59

REV. BY: _____ DATE: _____

DESCRIPTION: _____

REVISION: _____

WAYNE SCHREINER AIA
THOMAS M. SILVA AIA

1525 WEST OAKLEY BLVD
LAS VEGAS, NV 89102
(702) 383-0077
FAX 383-0057

City of Las Vegas Department of Park and Leisure Activities
Durango Recreation Facility

Job No: 960901
Date: 2-20-98
Drawn By: DGD
Check: KJK
Sheet: P.11

MECHANICAL ELECTRICAL CONSULTING ENGINEERS
3024 Regal Avenue
Las Vegas, NV 89102
Ph: (702) 222-9877
Fax: (702) 222-9820

1 of 6
650-59