

# PLUMBING SPECIFICATIONS

**SCOPE OF WORK:**  
THE WORK INCLUDED UNDER THIS CONTRACT INCLUDES THE FURNISHING OF ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION, SERVICES, ETC. REQUIRED IN THE COMPLETE INSTALLATION OF PLUMBING WORK AS SPECIFIED HEREIN AND SHOWN ON ACCOMPANYING DRAWINGS AND AS REQUIRED BY THE CONDITIONS AT THE SITE. THE GENERAL AND SPECIAL CONDITIONS ARE HEREBY MADE A PART OF THIS SECTION. IN ADDITION, WORK IN THESE SECTIONS ARE GOVERNED BY ALL PROVISIONS OF THE CONTRACT DOCUMENTS.

BEFORE SUBMITTING A BID EACH SUBCONTRACTOR SHALL CAREFULLY STUDY THE ARCHITECTURAL DRAWINGS AND SHALL MAKE A CAREFUL EXAMINATION OF THE THE PREMISES AND ANY EXISTING WORK. THE CONTRACTOR SHALL DETERMINE IN ADVANCE THE METHODS OF INSTALLING AND CONNECTING THE APPARATUS, THE MEANS TO BE PROVIDED FOR GETTING THE EQUIPMENT INTO THE SITE, AND SHALL BECOME THOROUGHLY FAMILIAR WITH ALL OF THE REQUIREMENTS OF HIS CONTRACT, BY SUBMITTING A PROPOSAL FOR THE WORK REQUIRED AND INCLUDED IN THE CONTRACT. THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH STUDY AND EXAMINATION, AND TO BE FAMILIAR WITH AND ACCEPT ALL CONDITIONS OF THE SITE.

**CODES, PERMITS, FEES, INSPECTIONS, RULES, AND REGULATIONS:**  
THE CONTRACTOR MUST COMPLY WITH ALL NATIONAL, STATE AND TRIBAL BUILDING AND SAFETY LAWS, ORDINANCES AND REGULATIONS, RELATING TO BUILDING, PUBLIC HEALTH AND SAFETY, ALL WORK SHALL BE IN CONFORMANCE WITH THE GOVERNING CODES.

**INSTALLATION:**  
THE ENTIRE PLUMBING SYSTEM SHALL BE INSTALLED IN A NEAT, WORKMANLIKE, FINISHED AND SAFE MANNER. CONCEAL ALL PIPING IN FINISHED AREAS UNLESS NOTES OTHERWISE. ALL PIPING SHALL BE ADEQUATELY SUPPORTED AND INSTALLED PARALLEL WITH THE BUILDING WALLS. THE ENTIRE INSTALLATION SHALL BE SUBJECT TO THE ARCHITECT'S APPROVAL.

**ELECTRICAL:**  
WIRING IS INCLUDED UNDER THE ELECTRICAL DIVISION OF THE SPECIFICATIONS. ALL EQUIPMENT, DEVICES, AND WIRING SHALL CONFORM TO THE NATIONAL ELECTRIC CODE OR LOCAL JURISDICTION, WHICH EVER IS MORE STRINGENT. PROVIDE PLUMBING EQUIPMENT HAVING MOTORS WITH MOTOR PROTECTORS, WIRING AND PROPER OPERATION OF THE PLUMBING EQUIPMENT IS THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR. ALL WIRING SHALL BE ROUTED IN CONDUIT OR IN PLUMB RATED WIRING. PROVIDE ONE (1) POWER CONNECTION POINT FOR ALL ELECTRICAL WIRING ON ALL EQUIPMENT.

**EQUIPMENT LIST AND MAINTENANCE MANUAL:**  
MAINTENANCE MANUAL SHALL INCLUDE ALL AVAILABLE MANUFACTURERS' OPERATION AND MAINTENANCE INSTRUCTIONS, TOGETHER WITH THE RECORD DRAWINGS HEREIN BEFORE SPECIFIED, AND ALL OTHER DIAGRAMS AND INSTRUCTIONS NECESSARY TO PROPERLY OPERATE AND MAINTAIN THE EQUIPMENT. THE MANUAL SHALL ALSO INCLUDE THE NAME, ADDRESS, AND PHONE NUMBER OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS INVOLVED IN ANY OF THE WORK SPECIFIED HEREIN. THE EQUIPMENT LIST AND MAINTENANCE MANUAL SHALL BE SUBMITTED IN ACCORDANCE WITH THE ARCHITECT'S SPECIFICATIONS.

**WARRANTY:**  
THIS SYSTEM SHALL HAVE A WARRANTY COVERING LABOR, MATERIALS, AND EQUIPMENT FOR A PERIOD OF ONE YEAR AFTER COMPLETION AND ACCEPTANCE. REPLACE OR REPAIR ALL DEFECTIVE WORKMANSHIP, EQUIPMENT, AND MATERIALS AT NO ADDITIONAL COST TO THE OWNER.

**FINAL TESTING:**  
BEFORE ACCEPTANCE AND FINAL PAYMENT, THE CONTRACTOR SHALL DEMONSTRATE THAT ALL APPARATUS ARE FUNCTIONING PROPERLY AND EFFICIENTLY.

**PRODUCTS:**  
ALL PRODUCTS SHALL BE NEW AND UNUSED OF ESTABLISHED AND REPUTABLE AMERICAN MANUFACTURERS, ITEMS OF EQUIPMENT USED FOR THE SAME PURPOSE SHALL BE OF THE SAME MANUFACTURER.

SYSTEMS SHALL BE COMPLETE AND OPERABLE. ANY ACCESSORIES REQUIRED FOR THE OPERATION OF THE SYSTEM SHALL BE PROVIDED WHETHER OR NOT THEY SPECIFICALLY INDICATED. SUCH ACCESSORIES WOULD INCLUDE FILTERS, CONDENSATE DRAINS, RELIEF VALVES, SERVICE VALVES, ETC.

SPECIFIC REFERENCE TO A MANUFACTURER'S PRODUCT IS ONLY TO ESTABLISH TYPE, QUALITY, AND PERFORMANCE REQUIRED. THESE QUALIFICATIONS ARE IN ADDITION TO THE REQUIREMENTS SHOWN ON THE DRAWINGS AND HEREIN THESE SPECIFICATIONS, LISTING OF ALTERNATE EQUIPMENT MANUFACTURERS SHALL NOT BE CONSIDERED AS AN UNCONDITIONAL APPROVAL OF THE PRODUCTS OF THOSE MANUFACTURERS.

SUBSTITUTIONS OF MATERIALS OR PRODUCTS SHOWN HEREIN SHALL BE AT THE OWNER'S, ARCHITECT'S, OR ENGINEER'S WRITTEN APPROVAL, ONLY WITH COPIES OF APPROVAL SENT TO THE PROJECT FILE. ANY ADDITIONAL COST RESULTING FROM THE USE OF SUBSTITUTED EQUIPMENT SHALL BE AT THE CONTRACTOR'S EXPENSE. ANY DEVIATION FROM THESE DRAWINGS WILL NOT BE ALLOWED WITHOUT PRIOR APPROVAL.

ALL EQUIPMENT SHALL BE LABELED WITH STEEL TAGS EMBOSSED WITH 1/4" HIGH LETTERS, PERMANENTLY ATTACHED. TAG SHALL CLEARLY INDICATE THE AREA SERVED BY THE EQUIPMENT.

**RECORD DRAWINGS:**

PROVIDE RECORD DRAWINGS WHICH SHALL CLEARLY SHOW ALL DIFFERENCES BETWEEN THE CONTRACT WORK AS DRAWN AND INSTALLED. PIPING MAINS BELOW SLAB AND/OR GRADE AND ALL BRANCH LINES BELOW SLAB OR GRADE IN EXCESS OF 5 FEET IN LENGTH, SHALL BE DIMENSIONED FROM COLUMNS OF ANY PERMANENT STRUCTURE. ALSO, SHOW ALL WORK ADDED TO THE CONTRACT WHICH IS NOT SHOWN ON THE CONTRACT DOCUMENTS. RECORD DRAWINGS SHALL BE IN ACCORDANCE THE ARCHITECT'S SPECIFICATIONS.

**PIPE INSULATION:**

HOT WATER PIPING, HOT WATER RETURN PIPING AND COLD WATER PIPING IN RETURN AIR PLenums (IF APPLICABLE) SHALL HAVE 1" THICK FIBERGLASS INSULATION WITH ASJ JACKET, HAVING A THERMAL CONDUCTIVITY (K-FACTOR) OF 0.24 AT 75 DEGREES MEAN TEMPERATURE. THE MAXIMUM FIRE HAZARD CLASSIFICATION OF THE INSULATION SYSTEM SHALL NOT HAVE MORE THAN A FLAME SPREAD OF 25, AND A FUEL CONTRIBUTED RATING OF 50, AND A SMOKE DEVELOPED RATING OF 50, WHEN TESTED IN ACCORDANCE WITH UL REQUIREMENTS, PIPE COVERING SHALL BEAR THE UL LABEL.

INSULATE ALL FITTINGS, VALVE BODIES, ETC. WITH SINGLE OR MULTIPLE LAYERS OF INSULATION, WITH PREFABRICATED FITTINGS AND P.V.C. JACKETS.

**FIXTURES:**

USE POLISHED CHROME PLATED ADJUSTABLE BRASS P-TRAPS AND WASTE ARMS, WITH WALL ESCUTCHEONS AT ALL EXPOSED LOCATIONS. USE POLISHED CHROME PLATED FAUCETS WITH BRASS BODY AND BRASS HANDLES, FIXTURES AND SUPPLY FITTING SHALL BE AS SPECIFIED. PROVIDE DIAPHRAGM TYPE POLISHED CHROME PLATED FLUSH VALVES WITH INTEGRAL VACUUM BREAKERS AND SERVO DRIVER STOPS OR PROVIDE FIXTURE STOPS AND VALVES AHEAD OF ALL EQUIPMENT OR FIXTURES AFTER FIXTURES ARE SET IN PLACE AND SECURED TO WALLS, CALLK ALL AROUND BETWEEN FIXTURES AND WALL WITH EITHER "DOW CORNING #180" OR "G.E. CONSTRUCTION SEALANT" WHITE SILICONE CALKING COMPOUND.

**TESTS:**  
WATER PIPING TO 125 PSI AND HOLD FOR 4 HOURS.

SEWER AND VENT PIPING WITH A 10 FOOT HEAD FOR 4 HOURS.

REPAIR ALL LEAKS UNTIL SYSTEMS ARE WATERIGHT, TEST AND OBTAIN APPROVAL ON ALL UNDERGROUND PIPING BEFORE COVERING WORK. PROVIDE WRITTEN TESTING REPORT TO ARCHITECT.

**STERILIZATION:**

STERILIZE THE ENTIRE WATER DISTRIBUTION SYSTEM THOROUGHLY WITH A SOLUTION CONTAINING NOT LESS THAN 50 PARTS PER MILLION OF AVAILABLE CHLORINE FOR CHLORINATING MATERIALS. USE SODIUM HYPOCHLORITE SOLUTION CONFORMING TO FEDERAL SPEC. 0-8-441, GRADE D, AND INTRODUCTION INTO THE SYSTEM BY USE OF A COCK AT A SLOW, EVEN, CONTINUOUS RATE. ALLOW THE STERILIZING SOLUTION TO REMAIN IN THE SYSTEM FOR A PERIOD OF 8 HOURS, DURING WHICH TIME ALL VALVES AND FAUCETS SHALL BE OPENED AND CLOSED SEVERAL TIMES. AFTER STERILIZATION, FLUSH THE SOLUTION FROM THE SYSTEM WITH CLEAN WATER UNTIL THE RESIDUAL CHLORINE CONTENT IS NOT GREATER THAN 0.2 PARTS PER MILLION. PLATE COUNT SHALL INDICATE COUNT LESS THAN 100 BACTERIA PER CC.

**TESTING CERTIFICATION:**

CERTIFY THAT SPECIFIED TESTS, INSPECTIONS, AND PROCEDURES HAVE BEEN PERFORMED ACCORDING TO THE REQUIREMENTS IN NPS 4.93 AND CERTIFY REPORT RESULTS, INCLUDE THE FOLLOWING: INSPECTIONS PERFORMED, PROCEDURES, MATERIALS, AND GAGES USED, TEST METHODS USED, AND RESULTS OF TESTS.

**CLEANING:**

AT THE COMPLETION OF THE WORK AND PRIOR TO FINAL ACCEPTANCE, ALL PARTS OF THE WORK INSTALLED UNDER THIS SPECIFICATION SHALL BE THOROUGHLY CLEANED. ALL EQUIPMENT, FIXTURES, PIPE VALVES AND FITTINGS SHALL BE CLEANED OF GREASE, METAL CUTTINGS AND SLUDGE, WHICH MAY HAVE ACCUMULATED BY OPERATION OF THE SYSTEM FOR FIBERGLASS HEREIN BEFORE SPECIFIED OR FROM OTHER CAUSES.

## GENERAL NOTES

- EXACT LOCATION OF PLUMBING FIXTURES SHALL BE DETERMINED FROM ARCHITECTURAL DRAWINGS.
- BEFORE SUBMITTING BID, THE PLUMBING CONTRACTOR SHALL REVIEW THE ARCHITECTURAL DRAWINGS AND INCLUDE IN HIS BID AN AMOUNT TO FURNISH AND INSTALL ANY FIXTURES WHICH ARE SHOWN IN ADDITION TO FIXTURES SHOWN ON THE PLUMBING DRAWINGS.
- CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SEWERS TO WHICH NEW WASTE LINES ARE TO BE CONNECTED BEFORE MAKING UP OR INSTALLATION OF NEW WASTE SYSTEM.
- CONTRACTOR SHALL VERIFY AND COORDINATE LOCATION OF ALL PLUMBING LINES WITH DUCTWORK AND ELECTRICAL SERVICES.
- THE INSTALLATION OF ALL VALVES UNIONS THERMOWELTERS, GAUGES, OR OTHER INDICATING OR RECORDING EQUIPMENT, OR SPECIALTIES REQUIRING FREQUENT READING, REPAIRS, ADJUSTMENT, INSPECTION, REMOVAL OR REPLACEMENT SHALL BE CONVENIENTLY AND ACCESSIBLY LOCATED WITH REFERENCE TO THE FINISHED BUILDING.
- ALL VENTS THROUGH ROOF SHALL BE 10" -Ø" REMOVED FROM ALL AIR INTAKES.
- WHERE POSSIBLE, TIE VENTS TOGETHER SO THAT A MINIMUM NUMBER TERMINATE THROUGH THE ROOF.
- CONTRACTOR SHALL NOT CUT HOLES IN STRUCTURAL MEMBERS WITHOUT FIRST SECURING WRITTEN APPROVAL FROM THE ARCHITECT OR ENGINEER.
- CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
- CONTRACTOR SHALL ROUGH-IN ALL WASTES AND SUPPLIES TO SPECIAL EQUIPMENT ACCORDING TO MANUFACTURERS SHOP DRAWINGS AND MAKE FINAL CONNECTIONS, ALL SUPPLIES SHALL BE VALVED.

**WATER PIPING:**

ALL PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE ANSI SAFETY CODE, BE FREE FROM ALL DEFECTS AND BE PROPERLY IDENTIFIED.

ABOVE GROUND: SHALL BE PEX PIPING CONFORMING TO ASTM F871.

ALL PEX PIPE FITTINGS SHALL BE CRIMP PRESS FITTINGS AND CONFORM TO ASTM F1001.

**SOIL, WASTE, AND VENT PIPING:**

SOIL, WASTE, AND VENTING PIPING SHALL CONSIST OF PVC PIPE AND SHALL CONFORM TO ASTM D2665.

**ABS:**

ABS PIPING CONFORMING TO ASTM D2661-78 FOR ALL SOIL, WASTE AND VENT PIPING WITH MATCHING FITTING, ABS ABOVE AND BELOW GRADE FOR NON-COMBUSTIBLE CONSTRUCTION OR ALLOWED BY LOCAL JURISDICTION. ABS FOR NON-COMBUSTIBLE CONSTRUCTION BELOW GRADE ONLY.

ALL SOIL AND WASTE PIPING 3" AND SMALLER SHALL SLOPE MINIMUM OF 1/4" PER FOOT, PIPING 4" AND LARGER SHALL SLOPE MIN. OF 1/8" PER FOOT.

**UNIONS:**

PROVIDE A UNION BETWEEN CONNECTIONS TO EACH FIXTURE, DEVICE OR PIECE OF EQUIPMENT FOR DISCONNECTING OF PIPING, PROVIDE DIELECTRIC UNION AT CONNECTIONS OF DISSIMILAR MATERIALS.

**VALVES:**

GATE VALVES: WATTS B-3001, 125#, BRONZE BODY, PEX PIPE CRIMP COMPATIBILITY WITH NON-RISING STEM FOR ALL LINES UP THROUGH 3" SIZE.

CHECK VALVES: WATTS B-5001, 125#, BRONZE BODY, SOLDER JOINT CHECK VALVE WITH HORIZONTAL BRONZE DISC FOR ALL VALVES UP TO 2" SIZE. WATTS F-511-BB71, 125#, IRON BODY, BRONZE TRIMMED, FLANGED HORIZONTAL CHECK VALVE FOR ALL VALVES LARGER THAN 2" SIZE.

BALL VALVES: RIFENG BRASS BALL VALVES WITH CRIMP FITTING COMPATIBILITY.

**PIPE HANGERS:**

PIPE HANGERS SHALL BE SERIES 150/160 PLASTIC PIPE CLIPS. ACCOMMODATE 5/16" TO 1" PEX PIPING.

## PLUMBING FIXTURE SPECIFICATIONS:

WC- WATER CLOSET ADA (BATH-1,2,3,4)

ADA COMPLIANT KOHLER WELLWORTH SIMARSON, 2-PIECE, VITREOUS CHINA 1.28 GPF ELONGATED TOILET IN WHITE. MODEL#K-11491-0

LAVI-LAVATORY ADA (BATH-1,2,3,4)

KOHLER THOREAU COUNTER TOP, CAST IRON, SELF-RIMMING BATHROOM SINK WITH 8 IN CENTERS IN WHITE. MODEL#K-2901-8-0

BTH-BATH WITH SHOWER SURROUND ADA (BATH-3,4)

KOHLER BELLWETHER 5FT CAST IRON BATHTUB WITH RIGHT HAND DRAIN AND SAFEGUARD FINISH. MODEL#K-030-0

BTH-BATH WITH SHOWER SURROUND ADA (BATH-2)

KOHLER BELLWETHER 5FT CAST IRON BATHTUB WITH LEFT HAND DRAIN AND SAFEGUARD FINISH. MODEL#K-031-0

SH- SHOWER ADA (BATH-1)

FREEDOM ADA COMPLIANT ROLL-IN SHOWER. MODEL# AFPC0233BFTB

601-SERVICE SINK

FLAT FOLDED STONE TOP SERVICE BASIN, WHITE, 24"X24"X10"

MODEL# M9B2424

HUI-HOT WATER HEATER

40 SMITH 00 GAL. ELECTRIC WATER HEATER FROMAX 4500 WATTS

240 VOLT DOUBLE ELEMENT

MODEL# ECT-00

HEI-HOSE BIB

WALL HYDRANT, NON-FREEZE PEX PIPING BRONZE, JAY R SMITH

MODEL# 550901

## PLUMBING FIXTURE CONNECTION SCHEDULE

MARK	DESCRIPTION	W.	V.	C.W.	H.W.	PEX	C.W.	H.W.	NOTES
WC	WATER CLOSET	4"	2"	1/2"	--	4	2.5	--	
LAV	LAVATORY	2"	2"	1/2"	1/2"	4	3	4	
BTH	BATH W/ SHUR	3"	2"	1/2"	1/2"	4	4	4	
SH	SHOWER	3"	2"	1/2"	1/2"	4	4	4	
SS	SERVICE SINK	2"	2"	1/2"	1/2"	3	3	3	
HB	HOSE BIB	--	--	1/2"	--	--	2.5	--	



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PROJECT:  
**CANOE JOURNEY 2013 AND BEYOND**

SCALE: none

REVISION: A, 1

DESIGNED BY:  
**BUM/NPU**

DATE:  
**9/1/2012**

SHEET CONTENTS:  
**PLUMBING SPECIFICATIONS**

REVISION HISTORY:


CUSTOMER:  
**QUINAULT INDIAN NATION**

LOCATION:  
**TAHOLAH, WA**

SHEET  
**A4.3**

Of 412