

WATER

1. CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER SERVICE TO ALL EXISTING WATER USERS AFFECTED BY CONSTRUCTION.
2. CONTRACTOR SHALL PREVENT THE ENTRY OF ANIMALS, DIRT AND OTHER FOREIGN MATTER INTO PIPES AND SHALL NOT LEAVE ANY OPEN PIPE END AT ANY TIME WHEN ABSENT FROM THE WORK SITE.
3. ALL WATER MAIN LINE PIPE SHALL BE PVC CONFORMING TO AWWA C-900 DR 18 (235 PSI) OR CLASS 152 CEMENT MORTAR LINED DUCTILE IRON CONFORMING TO AWWA C-152. ALL FITTINGS SHALL BE DUCTILE IRON CONFORMING TO AWWA C-110.
4. ALL WATER MAIN LINE PIPE, AND SERVICES SHALL BE BEDDED WITH TYPE I OR TYPE III BEDDING. IN AREAS OF ROCK EXCAVATION, BEDDING SHALL BE SIX (6) INCHES BELOW THE BOTTOM OF PIPE.
5. MINIMUM DEPTH FOR ALL WATER MAIN PIPE SHALL BE FOUR (4) FEET FROM FINISHED GRADE TO TOP OF PIPE.
6. COMPACT TRENCH BACKFILL TO 95% OF ASTM D 698 (MINIMUM).
7. TAPE NO. 12 DIRECT BURIAL TRACER WIRE TO THE CROWN OF WATER MAIN PIPE AND SERVICE LINES. LOOP THE TRACER WIRE FROM THE MAIN LINE TO EACH SERVICE VAULT ALONG THE SERVICE PIPE AND BACK TO THE MAIN LINE. THE TRACER WIRE SHALL BE ACCESSIBLE AT ALL VALVE BOXES AND SHALL BE EXTENDED ALONG THE OUTSIDE OF THE LOWER PORTION AND ALONG THE INSIDE OF THE UPPER PORTION OF THE VALVE BOX. WIRE SHALL BE TAPED TO GATE VALVES SO IT IS ACCESSIBLE FROM ABOVE WITHOUT INTERFERING WITH VALVE OPERATION. CONDUCT AN ELECTRICAL CONTINUITY VERIFICATION TEST BEFORE PAVING.
8. ALL MAIN LINE WATER VALVES SHALL BE RESILIENT WEDGE GATE VALVES CONFORMING TO ANSI/AWWA C-509. ACCEPTABLE VALVES ARE MUELLER MODEL A-2360 AND A-2361 OR CLOW MODEL 2639 AND 2640. OTHER WATER VALVES MUST BE APPROVED BY THE CITY ENGINEER.
9. FURNISH ALL WATER VALVES WITH A STANDARD CAST IRON 5-1/4 INCH DIAMETER 3-PIECE ADJUSTABLE VALVE BOX. THE CAST IRON COVER SHALL BE DESIGNED TO SLIP INSIDE THE TOP BELL, MARKED WITH THE WORD "WATER" AS AN INTEGRAL PART OF THE COVER. A CONCRETE COLLAR SHALL BE REQUIRED WHEN LOCATED IN PAVEMENT.
10. ALL TEES, PLUGS, BENDS, AND OTHER LOCATIONS WHERE UNBALANCED FORCES EXIST, SHALL BE SECURED AND ANCHORED BY SUITABLE THRUST BLOCKING AS SHOWN ON ISPWC SD-403.
11. SLEEVE WATER SERVICE LINES IN A FOUR (4) INCH DIAMETER SCHEDULE 80 WATER CLASS PIPE WHEREVER THE SERVICE LINE CROSSES A STREET DRAINAGE SEEPAGE BED.

12. OPEN EACH METER SETTER AND VERIFY THAT THE CORPORATION STOP IS OPEN AND THE SERVICE IS OPERABLE BEFORE PAVING.
13. OPERATE EACH VALVE AND FIRE HYDRANT TO ENSURE PROPER FUNCTION BEFORE PAVING. A CITY OF KUNA REPRESENTATIVE SHALL OBSERVE THE TESTING.
14. LEAK-TEST, FLUSH AND DISINFECT ALL WATER MAIN LINES AFTER INSTALLATION OF ALL UTILITIES, BEFORE CONNECTING TO THE WATER DISTRIBUTION SYSTEM, AND BEFORE PAVING. PRESSURE TEST THE DISTRIBUTION SYSTEM PER ISPWC SECTION 401.
15. THE CONTRACTOR MAY PRESSURE TEST ALL WATER LINES AFTER DISINFECTION AND FLUSHING BUT BEFORE INSTALLATION OF OTHER UTILITIES. AFTER ALL UTILITIES ARE INSTALLED AND PRIOR TO PAVING THE CONTRACTOR SHALL PERFORM A FINAL PRESSURE TEST WITH CITY PERSONNEL IN ATTENDANCE. THE CONTRACTOR SHALL FURNISH ALL PERSONNEL AND EQUIPMENT NECESSARY TO CONDUCT THE TEST.
16. DISINFECT AND FLUSH WATER MAINLINES ACCORDING TO ISPWC DIVISION 400. THE DISINFECTION AND FINAL FLUSHING SHALL BE TESTED TO DETERMINE IF THE APPROPRIATE MINIMUM CHLORINE RESIDUALS HAVE BEEN MET.
17. SAMPLE AND TEST ALL WATER LINES FOR BACTERIAL COLIFORMS. ALL WATER LINES SHALL PASS THE REQUIRED BACTERIOLOGICAL TEST BEFORE BEING PUT INTO SERVICE.
18. CONTRACTOR SHALL PROVIDE BACTERIAL TEST REPORTS FROM A CERTIFIED LABORATORY SHOWING THAT THE WATER LINES HAVE PASSED BACTERIA SAFETY REQUIREMENTS. A CITY OF KUNA REPRESENTATIVE SHALL OBSERVE THE SAMPLE EVENT.
19. LOCATE VALVES, FLANGED OR M.J., IN THE STREET UNLESS EXPLICITLY APPROVED BY THE CITY ENGINEER. SET ALL GATE VALVES AS CLOSE (FLANGE CONNECTED) AS POSSIBLE TO WATER MAIN LINE FITTINGS.
20. CONTRACTOR SHALL FIELD VERIFY ALL VALVE BOX LID ELEVATIONS TO ENSURE THAT LID ELEVATIONS MATCH FINAL STREET GRADE, AND ALL METER LID ELEVATIONS MATCH SIDEWALK ELEVATIONS.
21. LOCATE ALL WATER METERS AND FIRE HYDRANTS OUT OF THE ROAD RIGHT-OF-WAY. PROVIDE AT LEAST ONE (1) FOOT SEPARATION BETWEEN BACK OF SIDEWALK (OR CURB IF NO SIDEWALK) AND THE LEADING EDGE OF ANY FIRE HYDRANT.
22. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING SERVICE CONNECTIONS WITH AN 8 FOOT 2" X 4" BOARD OR METAL T POST PAINTED BLUE.
23. PAVING CONTRACTOR SHALL SET WATER VALVE RISERS IN CONCRETE COLLARS PER ISPWC STANDARD DRAWING SD-406.

24. ALL FIRE HYDRANTS SHALL BE DRY BARREL CONFORMING TO AWWA C-502, INSTALLED PER ISPWC SECTION 403 AND ISPWC DWG SD-404. FIRE HYDRANTS SHALL HAVE A FIVE (5) FOOT SETTING MINIMUM, 150 PSI WORKING PRESSURE, ONE 4-1/2 INCH DIAMETER NATIONAL STANDARD PUMPER NOZZLE EQUIPPED WITH STORZ FITTING, AND TWO 2-1/2 INCH DIAMETER NATIONAL STANDARD THREAD FIRE HOSE NOZZLES. THE VALVE OPERATOR SHALL OPEN COUNTER CLOCKWISE. THE HYDRANT SHALL BE EQUIPPED WITH A DRAIN THAT OPENS WHEN THE HYDRANT IS CLOSED; AND A SIX (6) INCH FLANGED BY MECHANICAL JOINT RESILIENT WEDGE GATE VALVE ATTACHED DIRECTLY TO THE WATER MAIN LINE TEE. ALPHA RESTRAINT ALLOWED.
25. FIRE HYDRANTS SHALL BE CLOW MEDALLION, WATEROUS PACER 100, OR MUELLER A423. NO OTHERS WILL BE ACCEPTED. MAXIMUM HYDRANT SPACING SHALL BE 500 FEET. HYDRANT LOCATIONS SHALL BE APPROVED IN WRITING BY THE KUNA RURAL FIRE DEPARTMENT AND SUBMITTED WITH THE CONSTRUCTION PLANS FOR FINAL REVIEW AND APPROVAL BY THE CITY ENGINEER.
26. INSTALL INDIVIDUAL ONE (1)-INCH WATER SERVICES FOR EACH CONNECTION FROM A SINGLE OR DUAL METER VAULT. EXTEND THE ONE (1)-INCH WATER SERVICE FOR EACH CONNECTION AT LEAST 10-FEET ON THE HOUSE SIDE OF THE METER, OR AS REQUIRED TO EXTEND PAST OTHER UTILITIES LOCATED WITHIN THE 10-FOOT UTILITY EASEMENT. DETAILS SHALL BE AS NOTED IN ISPWC DWG SD-401.
27. THE CITY OF KUNA SHALL FURNISH AND INSTALL WATER METERS.
28. CONTRACTOR SHALL PROVIDE EACH WATER SERVICE LEG WITH 18-INCH TALL ¾-INCH COPPER METER SETTER, CURB STOP, LOCKABLE SHUTOFF VALVE AND CHECK VALVE, 20-INCH DIAMETER BY 36-INCH TALL INSULATED METER BOX AS MANUFACTURED BY "MID-STATES PLASTICS, INC." WITH 20" X 1" FOAM INSULATION PADS AND A CAST IRON FRAME AND COVER TAPPED WITH A 1-INCH DIAMETER RECESSED HOLE FOR THE CITY AUTOREAD METER SENSOR AS APPROVED BY THE CITY.
29. METER BOXES SHALL BE LOCATED ON THE NORTH OR EAST SIDE OF THE PROPERTY, OR IN CASE OF DUAL WATER SERVICE, ON THE NORTH OR EAST SIDE OF THE COMMON PROPERTY LOT LINE.
30. THE CENTERLINE OF THE METER SETTER SHALL BE LOCATED 18-INCHES BELOW FINISH GRADE. METERS SHALL BE PLACED 18-INCHES INSIDE THE PROPERTY LINE AND 18-INCHES AWAY FROM THE SIDE LOT LINE.
31. MULTIPLE TAPS IN THE SAME PIPE JOINT SHALL BE STAGGERED AND SHALL BE SEPARATED BY A MINIMUM OF ONE AND A HALF (1 ½) FEET OR AS LISTED IN THE PIPE MANUFACTURERS RECOMMENDATIONS, WHICHEVER IS GREATER