



**Design and Construction Standards apply to  
ALL Global Water Resources  
owned and operated utilities.**

**GENERAL WATER NOTES**

- 1. ALL WORK AND MATERIALS SHALL CONFORM TO GLOBAL WATER STANDARDS, LATEST REVISION, AS WELL AS ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (“ADEQ”) REGULATIONS AND STANDARDS OR ITS DELEGATED ENTITY, CURRENT MAG SPECIFICATIONS AND LOCAL GOVERNING AUTHORITY, AS APPLICABLE. IN THE EVENT OF CONFLICT, THE MORE STRINGENT REQUIREMENT SHALL GOVERN.**
- 2. PRIOR TO CONSTRUCTION, ALL PERMITS SHALL BE SECURED AS REQUIRED FROM THE APPROPRIATE GOVERNING AGENCIES. COPIES OF ALL PERMITS SHALL BE PROVIDED TO GLOBAL WATER RESOURCES INSPECTOR PRIOR TO THE PRE-CONSTRUCTION MEETING.**
- 3. MORTAR-LINED DUCTILE IRON PIPE SHALL BE IN ACCORDANCE WITH MAG SECTION 750. POTABLE WATERLINES SHALL BE BLUE POLYETHYLENE WRAPPED AND RAW WATER TRANSMISSION WATERLINES SHALL BE BLACK POLYETHYLENE WRAPPED FOR ENTIRE LENGTH IN ACCORDANCE WITH M.A.G. SECTION 610.6.**
- 4. ALL WATERLINES SHALL HAVE A MINIMUM COVER OF 48 INCHES. ALL WATER SERVICES SHALL HAVE A MINIMUM COVER OF 30 INCHES**
- 5. ALL VALVE BOXES SHALL BE ADJUSTED TO FINISHED GRADE IMMEDIATELY AFTER PLACING OF ASPHALT CONCRETE SURFACE. ALL VALVES IN PAVEMENT OR CONCRETE SHALL HAVE LOCKING LID COVERS. ANY VALVES LOCATED OUTSIDE OF THE PAVING SECTION WILL BE REQUIRED TO HAVE DEBRIS CAPS, INFAC CORP. MUD PLUS OR APPROVED EQUAL.**
- 6. ALL WATER LINES MUST BE DISINFECTED PER ADEQ ENGINEERING BULLETIN # 8 OR AWWA C651-86. TESTING RESULTS ARE TO BE GIVEN, IN WRITING, STAMPED AND APPROVED BY THE EOR TO GLOBAL WATER RESOURCES INSPECTOR.**
- 7. ALL BENDS AND FITTINGS SHALL BE MECHANICAL JOINT IN ACCORDANCE WITH AWWA C110 AND M.A.G. SECTION 750.4, AND GASKETS SHALL BE IN ACCORDANCE WITH AWWA C111. JOINT RESTRAINTS SHALL BE FIELD LOK 350 GASKET JOINT RESTRAINT OREBBA SERIES 2000 PV MECHANICAL JOINT RESTRAINT FOR C900 AND C905 MEG-A-LUG OR EQUAL WITH LENGTHS IN ACCORDANCE WITH M.A.G. 303-1 & 2. CONCRETE THRUST BLOCKS AS A SUBSTITUTE FOR RESTRAINED JOINTS IS NOT ACCEPTABLE.**



- 8. ALL PIPES, FITTINGS, VALVES COATINGS, ETC. SHALL CONFORM TO NSF STANDARD 61.**
- 9. CONTRACTOR SHALL INSTALL BLUE LOCATING TAPE ONE FOOT ABOVE TOP OF WATERMAINS AND COMPACTED ABC PRIOR TO BACKFILLING TO FINISH GRADE.**
- 10. CONTRACTOR SHALL INSTALL BLUE LOCATING TRACER WIRE TAPED TO THE POLYETHYLENE WRAPPER WITH 10 MIL BLACK PVC TAPE ON TOP OF WATER MAINS PRIOR TO BACKFILL.**
- 11. ALL VALVES 8 TO 16 INCHES SHALL BE CLOW, MUELLER OR KENNEDY RESILIENT SEATED GATE VALVE IN ACCORDANCE WITH AWWA C509 AND MAG 630-3. VALVES LARGER THAN 16 INCHES SHALL BE BUTTERFLY TYPE IN ACCORDANCE WITH AWWA STANDARD SC504 LOCATED WITHIN AN OPERATING MANHOLE WITH A BYPASS.**
- 12. ALL FIRE HYDRANTS SHALL BE CLOW MEDALLION OR MUELLER IN SPECIFIC LOCATIONS WITH A MINIMUM 3.0 FT BURY DEPTH, 5-1/4 INCH MAIN VALVE OPENING, ONE 4 1/2 INCH NST PUMPER CONNECTION WHICH FACES THE CURB OR SIDEWALK, AND TWO 2-1/2 INCH NST HOSE CONNECTIONS. NO SUBSTITUTIONS WILL BE ALLOWED. ELEVATION AND LOCATION OF THE HYDRANT FLANGE SHALL CONFORM TO GLOBAL WATER STANDARD DETAIL 360-1 AND 360-2.**
- 13. ALL SERVICE SADDLES SHALL BE MUELLER BR2B DOUBLE STRAPPED FOR DUCTILE IRON PIPE OR APPROVED EQUAL.**
- 14. BACKFLOW PREVENTER FOR COMMERCIAL / IRRIGATION SIZES 3/4" TO 2 1/2" SHALL BE REDUCED PRESSURE ASSEMBLIES AND SHALL HAVE A CERTIFICATE OF APPROVAL ISSUED BY USC-FCCCHR IN ACCORDANCE WITH AAC R18-4-115. ALL ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH GLOBAL WATER RESOURCES STANDARD DETAIL 351-1. A CERTIFIED TEST MUST BE SUBMITTED TO GLOBAL WATER RESOURCES MARICOPA OFFICE TO THE ATTENTION OF THE COMPLIANCE DEPARTMENT WITHIN 24 HOURS OF THE METER INSTALLATION. THE CERTIFIED TESTER MUST BE REGISTERED WITH THE GLOBAL WATER COMPLIANCE DEPARTMENT, OR TESTING RESULTS WILL BE REJECTED. ACCEPTANCE OF THE WATER FACILITIES WILL NOT BE GRANTED PRIOR TO BACKFLOW PREVENTION APPROVAL. ALL COMMERCIAL / IRRIGATION BACKFLOW PREVENTERS SIZES 3/4" TO 2 1/2" SHALL HAVE A TAN QUALITY ENCLOSURE OR EQUAL AND SIZED ACCORDINGLY.**
- 15. BACKFLOW PREVENTER FOR FIRELINES 3" – 10" SHALL BE DOUBLE CHECK ASSEMBLIES AND SHALL HAVE A CERTIFICATE OF APPROVAL ISSUED BY USC-FCCCHR IN ACCORDANCE WITH AAC R18-4-115. ALL THE ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH GLOBAL WATER RESOURCES STANDARD DETAIL 350-2. A CERTIFIED TEST MUST BE SUBMITTED TO GLOBAL WATER RESOURCES MARICOPA OFFICE TO THE ATTENTION OF THE COMPLIANCE DEPARTMENT WITHIN 24 HOURS OF THE METER INSTALLATION. THE CERTIFIED TESTER MUST BE REGISTERED WITH THE GLOBAL WATER COMPLIANCE DEPARTMENT, OR TESTING RESULTS WILL BE REJECTED. ACCEPTANCE OF THE WATER FACILITIES WILL NOT BE GRANTED PRIOR TO BACKFLOW PREVENTION APPROVAL.**



**16. AIR RELEASE VALVES SHALL BE A.R.I. MODEL D-040 OR ABCO 140 C FOR WATERLINES UP TO 12 INCHES IN DIAMETER AND FOR LINES LARGER THAN 12 INCHES ARI D060 OR ABCO 147 / 148 AND INSTALLED PER GLOBAL WATER DETAIL 388-1. ALL AIR RELEASE VALVES SHALL HAVE A TAN QUALITY ENCLOSURE OR EQUAL SIZED ACCORDINGLY.**

**17. GLOBAL WATER INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE START OF WORK AND EACH TEST EVENT. WEEKENDS AND HOLIDAYS ARE NOT CONSIDERED AS PART OF THE NOTIFICATION PERIOD.**

**18. TO INSURE BACKFILL AND CONCRETE PLACEMENT IS COMPLETED PER GLOBAL WATER DETAIL 200 AND, MAG 601 PLAN SPECIFICATIONS, COPIES OF ALL CONCRETE AND COMPACTION TEST REPORTS SHALL BE SUBMITTED TO GLOBAL WATER UPON COMPLETION OF EACH TESTING EVENT.**

**19. ALL WORK WILL BE SUBJECTED TO A ONE- OR TWO-YEAR WARRANTY PERIOD THAT DOES NOT BEGIN UNTIL THE BILL OF SALE HAS BEEN COMPLETED. SEE GLOBAL WATER DESIGN STANDARDS, FINAL ACCEPTANCE / BILL OF SALE.**

**20. IN ACCORDANCE WITH A.A.C. R18-9 E301 (D) (I) (D), SEPARATION BETWEEN WATER (POTABLE, RECLAIMED OR STORMDRAIN) AND SEWER MAIN SHALL COMPLY WITH THE REQUIREMENTS OF R18 A.A.C. 5, ARTICLE 5 AND M.A.G. 404-1, 2 AND 3. WHERE A WATERLINE CROSSES A RECLAIMED WATERLINE STORMDRAIN OR OTHER NON-POTABLE LINES THEY SHALL BE CONSIDERED SEWER.**

**21. CONTRACTOR/DEVELOPER TO PROVIDE FITTING FOR METERS LESS THAN 1”.**

**22. UNDER CONDITIONS OF MAXIMUM DAY DEMAND AND FIRE CONDITIONS, GLOBAL WATER RESOURCES IS COMMITTED TO PROVIDING A MINIMUM FLOW OF 1,000 GPM FOR RESIDENTIAL AREAS AND 1,500 GPM FOR OTHER AREAS WHILE MAINTAINING A MINIMUM RESIDUAL PRESSURE OF 20 PSI. ONSITE FIRE SUPPRESSION SYSTEMS SHALL BE DESIGNED BASED ON GLOBAL WATER RESOURCES MINIMUM FIRE FLOW AND RESIDUAL PRESSURE COMMITMENT. FOR FIRE SUPPRESSION SYSTEMS THAT NEEDS A HIGHER FLOW AND OR PRESSURE, DESIGNER SHOULD CONSIDER ONSITE PROVISIONS TO ACCOMMODATE FIRE SUPPRESSION SYSTEM NEEDS.**

**23. FOR ALL METER INQUIRIES, CONTACT [meterapps@gwresources.com](mailto:meterapps@gwresources.com) YOUR INSPECTOR IS NOT PROVIDED WITH ANY DETAILS REGARDING METERS.**