



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

**WATER NOTES TO THE CONTRACTOR**

1. FINAL ACCEPTANCE OF UNDERGROUND FACILITIES BY GLOBAL WATER SHALL BE IN ACCORDANCE WITH DESIGN STANDARD, ACCEPTANCE OF UNDERGROUND FACILITIES.
2. WATER METERS WILL NOT BE INSTALLED TO ANY WATER SERVICE LOCATION UNTIL ALL GLOBAL WATER OWNED FACILITIES HAVE BEEN INSPECTED AND ACCEPTED, BY GLOBAL WATER. ALL WATER METERS SHALL BE OBTAINED THROUGH GLOBAL WATER.
3. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO VERIFY THE PRESENCE AND LOCATION OF ANY AND ALL EXISTING OVERHEAD AND OR UNDERGROUND UTILITIES THAT MAY INTERFERE WITH THIS CONSTRUCTION, WHETHER OR NOT SAID UTILITIES ARE SHOWN ON THE CONSTRUCTION PLANS FOR THIS PROJECT. CONTRACTOR SHALL ADEQUATELY PROTECT AND MAINTAIN SUCH UTILITIES TO AVOID ANY DAMAGE.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE ENGINEER OF RECORD OR SURVEYOR AND PROVIDE SUFFICIENT TIME FOR SAID ENGINEER OF RECORD OR SURVEYOR TO LOCATE ALL FACILITIES FOR AS-BUILT PURPOSES. ALL HORIZONTAL BENDS, TEES, AND VERTICAL REALIGNMENTS MUST BE LEFT EXPOSED UNTIL SUFFICIENT AS-BUILT INFORMATION HAS BEEN OBTAINED. QUANTITIES SHALL BE CORRECTED TO REFLECT THE ACTUAL NUMBER OF FACILITIES INSTALLED. FINAL



ACCEPTANCE OF THE WATER FACILITIES WILL NOT BE ISSUED UNTIL AS-BUILT DRAWINGS HAVE BEEN REVIEWED AND ACCEPTED BY GLOBAL WATER.

5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION, ELEVATION, PIPE SIZE, AND SEPARATION OF ALL EXISTING WATER MAINS BEING CONNECTED TO, PRIOR TO CONSTRUCTION.
6. ANY CONSTRUCTION PERFORMED WITHOUT THE KNOWLEDGE OF THE GLOBAL WATER INSPECTOR, OR HIS/HER REPRESENTATIVE, IS CONSIDERED AT RISK AND LIABLE FOR REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING AT THE JOB SITE WITH GLOBAL WATER INSPECTOR PRIOR TO THE START OF CONSTRUCTION. GWR INSPECTOR CAN BE REACHED AT [ENGINEERING.DEPARTMENT@GWRESOURCES.COM](mailto:ENGINEERING.DEPARTMENT@GWRESOURCES.COM).
8. COPIES OF ALL TEST RESULTS SHALL BE GIVEN TO GLOBAL WATER RESOURCES.
9. REVIEW OF THESE PLANS FOR COMPLIANCE WITH THE REQUIREMENTS OF GLOBAL WATER SHALL NOT PREVENT ANY CORRECTION OF ERRORS FOUND TO BE IN VIOLATION OF ANY APPLICABLE STANDARDS OF THE UTILITY OR ANY OTHER GOVERNMENTAL AGENCY.
10. ALLOWABLE PIPE DEFLECTION FOR DUCTILE IRON PIPE.

| Type | Size    | Max. Joint Deflection | Max. Offset Per joint | Min. Radius |
|------|---------|-----------------------|-----------------------|-------------|
| DIP  | 8"-12"  | 2.5 Degrees           | 9.4 inches            | 412.3 feet  |
| DIP  | 14"-16" | 2.0 Degrees           | 7.5 inches            | 515.5 feet  |
| DIP  | 18"-24" | 1.5 Degrees           | 5.7 inches            | 687.3 feet  |

THE MAXIMUM DEFLECTION ANGLES SHALL NOT EXCEED ½ OF THE MANUFACTURER'S RECOMMENDATIONS. THE MAXIMUM OFFSET PER JOINT, IN THE ABOVE-REFERENCED TABLE, IS BASED ON AN 18 FOOT LYING LENGTH OF PIPE TO GET THE MAXIMUM OFFSET. IF A DIFFERENT LYING LENGTH IS USED, THE ENGINEER IS TO CALCULATE THE REQUIRED OFFSET.



11. FOR COMMERCIAL SITES AND AREAS OUTSIDE OF RIGHT-OF-WAY, ALL VERTICAL AND HORIZONTAL BENDS SHALL BE MARKED WITH 3M BALL MARKERS OR EQUAL. MARKERS SHALL BE LOCATED AT AN ELEVATION OF 1.0 FOOT OVER TOP OF PIPE FOR TRENCHES 5.0 FEET OR LESS. FOR TRENCHES GREATER THAN 5.0 FEET, BALL MARKER LOCATIONS SHALL NOT EXCEED 4.0 FT BELOW FINISHED GRADE LINE.
  
12. CONNECTION TO EXISTING WATER STUBS WILL NOT BE ALLOWED UNTIL ALL FACILITIES HAVE BEEN TESTED. A TEMPORARY CONNECTION WILL BE REQUIRED IN ORDER TO PROVIDE WATER FOR TESTING, FLUSHING AND GENERAL CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO SECURE A METER AND BACKFLOW DEVICE FROM GLOBAL WATER. THE NUMBER OF CONNECTION POINTS SHALL BE DETERMINED BY GLOBAL WATER. ANY OTHER CONNECTIONS WILL NOT BE ALLOWED UNTIL ALL ON-SITE FACILITIES HAVE BEEN TESTED. UPON ACCEPTANCE OF THE WATER FACILITIES, THE METER AND BACKFLOW DEVICES SHALL BE REMOVED AND ALL TEMPORARY CONNECTIONS COMPLETED.