

**WATER MAIN NOTES AND SPECIAL PROVISIONS**

1. ALL WATER MAIN CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION IN ILLINOIS", FIFTH EDITION, DATED MAY 1996 AND ALL REVISIONS THERETO; THESE SPECIAL PROVISIONS; AND WITH THE VILLAGE OF OAK BROOK ORDINANCES, REQUIREMENTS AND POLICIES.
2. ALL WATER MAIN SHALL BE CONSTRUCTED OF CEMENT LINED DUCTILE IRON PIPE, CLASS 52 WITH MECHANICAL AND/OR PUSH-ON JOINTS. DUCTILE IRON WATER MAIN SHALL CONFORM TO ANSI A21.51/AWWA C151, DUCTILE IRON COMPACT FITTINGS TO ANSI A21.53/AWWA C153, AND CEMENT LINING TO ANSI A21.4. RETAINER GLANDS SHALL BE USED WHERE SPECIFIED IN THE PLANS AND WHERE DIRECTED IN THE FIELD BY THE VILLAGE.
3. THE WATER MAIN SHALL BE WRAPPED IN POLYETHYLENE ENCASEMENT, (8 MIL THICK) CONFORMING TO ANSI A21.5/AWWA C105.
4. THE WATER MAIN SHALL BE SUBJECTED TO A PRESSURE AND LEAKAGE TEST ACCORDING TO THE STANDARD SPECIFICATIONS EXCEPT THE WATER MAIN SHALL BE SUBJECTED TO A MINIMUM HYDROSTATIC PRESSURE OF 150 PSI FOR A PERIOD OF NOT LESS THAN TWO (2) HOURS AND LEAKAGE SHALL NOT EXCEED THE ALLOWABLE LEAKAGE AS SHOWN IN TABLE 2 OF THE STANDARD DETAILS SECTION OF VILLAGE OF OAK BROOK PUBLIC WORKS CONSTRUCTION STANDARDS.  
SAID PRESSURE TEST MUST BE WITNESSED BY A STAFF MEMBER OF THE VILLAGE'S ENGINEERING DEPARTMENT OR WATER DEPARTMENT.
5. ALL NEW WATER MAIN SHALL HAVE A MINIMUM COVER OF 5'-6" (1.7 m) FROM FINISHED SURFACE ELEVATION TO TOP OF PIPE.
6. WATER MAINS AND WATER SERVICES SHALL BE INSTALLED IN SEPARATE TRENCHES AND AT LEAST 10 FEET (3.0 m) HORIZONTAL AWAY FROM STORM SEWERS AND STORM SERVICES AND FROM SANITARY SEWERS AND SANITARY SERVICES UNLESS OTHERWISE APPROVED BY THE VILLAGE IN WRITING.
7. TRENCHES UNDER OR WITHIN 5 FEET (1.5 m) OF ROADWAYS/PATHWAYS/DRIVEWAYS RESULTING FROM WATER MAIN OR WATER SERVICE CONSTRUCTION SHALL BE BACKFILLED, AS SOON AS PRACTICABLE, TO 5 FEET OUTSIDE THE ROADWAY/PATHWAY/DRIVEWAY WITH CA-6 TRENCH BACKFILL MECHANICALLY COMPACTED IN 1 FOOT (0.3m) LIFTS STARTING 1 FOOT (0.3m) ABOVE THE TOP OF PIPE.
8. ALL RESIDENTIAL WATER SERVICES SHALL BE 1 1/2" (38 mm) MINIMUM COPPER WATER TUBE (SEE STANDARD DETAIL) TYPE K PIPE, SOFT TEMPER WITH A MINIMUM OF 4'-6" (1.4 m) COVER. NO UNIONS OR COUPLINGS ARE ALLOWED UNLESS APPROVED BY THE VILLAGE. NO SOLDER OR SWEAT JOINTS ARE ALLOWED.
9. NO WATER SERVICE CONNECTION TAP SHALL BE MADE UNTIL THE NEWLY CONSTRUCTED WATER MAIN HAS BEEN TESTED, CHLORINATED AND FOUND TO BE ACCEPTABLE BY THE VILLAGE AND THE IEPA OPERATING PERMIT HAS BEEN ISSUED. NEW MATERIAL SHALL BE USED FOR THE ENTIRE SERVICE TO BE CONSTRUCTED.
10. ALL WATER MAINS AND ALL WATER SERVICES SHALL NOT BE BACKFILLED UNTIL INSPECTED BY THE VILLAGE ENGINEERING DEPARTMENT.
11. WATER SERVICE BOXES AND HYDRANT BOXES SHALL BE ADJUSTED TO THE ELEVATIONS OF THE FINISHED GROUND SURFACE AS SOON AS CONSTRUCTION OPERATIONS PERMIT. CARE IS TO BE TAKEN IN GRADING AROUND THESE BOXES. ANY BOXES DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
12. VALVE VAULTS SHALL BE PROVIDED ON ALL WATER MAIN AND SERVICE LINE VALVES EQUAL TO OR GREATER THAN 4" (100mm), BUT NOT FIRE HYDRANT AUXILIARY VALVES. VAULTS SHALL BE CONSTRUCTED OF PRECAST CONCRETE UNITS CONFORMING TO SECTION 44 IN THE "STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS" AND THE VALVE VAULT DETAIL IN THE STANDARD DETAILS SECTION OF THE VILLAGE OF OAK BROOK PUBLIC WORKS CONSTRUCTION STANDARDS. ALL JOINTS OF THESE UNITS SHALL BE SET IN A BITUMINOUS MASTIC BED; MORTAR IS NOT ALLOWED.
13. FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION MODEL NO. A-423, COMPLYING WITH AWWA C-502 AND HAVE BREAKABLE SAFETY FLANGES, AS CURRENTLY INSTALLED IN THE VILLAGE. THE MAIN VALVE OPENING SHALL BE 5-1/4" (133 mm), TWO (2) 2-1/2" (64 mm) HOSE NOZZLES AND ONE (1) 4-1/2" (114 mm) HOSE NOZZLE SHALL BE PROVIDED. HYDRANTS SHALL BE FURNISHED WITH A 6" (150 mm) R/W (RESILIENT WEDGE) MUELLER GATE VALVE, (MUELLER NO. A-2360-16) ATTACHED DIRECTLY TO THE HYDRANT, AND CAST IRON VALVE BOX TWO-PIECE (TYLER NO. 664S). HYDRANTS SHALL HAVE NATIONAL STANDARD THREADS AND SHALL BE PAINTED A GREEN COLOR. (GLIDDEN STRUCTURE GREEN NO. 4503, OR RUST SCAT MACK GREEN NO. 138). ALL PORT CAPS SHALL BE PAINTED A HIGHLY REFLECTIVE WHITE COLOR (3M TRAFFIC CONTROL DIVISION WHITE PAINT NO. 7216). ALL BONNETS SHALL BE PAINTED A COLOR IN ACCORDANCE WITH THE HYDRANT DETAIL. FOR FURTHER INFORMATION CONTACT THE VILLAGE WATER DEPARTMENT.  
  
WHERE THE HYDRANT IS BEING INSTALLED ADJACENT TO D.I.W.M. WRAPPED WITH POLYETHYLENE ENCASEMENT, ALL METAL APPURTENANCES, INCLUDING TEE, BENDS, HYDRANT BARREL, HYDRANT LEAD, VALVE, ETC., SHALL BE WRAPPED WITH A POLYETHYLENE ENCASEMENT CONFORMING TO ANSL A21.5. ALL HYDRANT LEADS SHALL BE 6" (150 mm) D.I.W.M. AND SHALL BE CONSTRUCTED WITH RETAINER GLANDS (SEE PARAGRAPH 24). ALL HYDRANTS SHALL FACE THE STREET AND SHALL BE 5' (1.5 m) FROM BACK OF CURB TO FACE OF HYDRANT OR 10' (3.0 m) FROM EDGE OF PAVEMENT TO FACE OF HYDRANT WHEN THERE IS NO CURB.  
  
HYDRANTS SHALL BE SPACED AT INTERVALS OF APPROXIMATELY 300' (100 m) AND SHALL BE LOCATED SO AS TO BE OPPOSITE A COMMON LOT LINE OR IN THE MIDDLE OF THE LOT.  
  
A SPRING STEEL HYDRANT MARKER, USA BLUEBOOK \*MC-75193, SHALL BE MOUNTED ON THE BACK OF THE HYDRANT FLANGE.
14. A 4" x 4" x 6" (100 mm x 100 mm x 1.8 m) WOOD POST, PAINTED BLUE ON TOP, SHALL BE PLACED VERTICALLY IN THE GROUND AT EACH B-BOX AND VALVE VAULT NOT IN THE ROADWAY AND SHALL HAVE A MINIMUM OF 2' (0.6 m) OF POST BURIED IN THE GROUND.
15. THE EXACT LOCATION OF EACH B-BOX SHALL BE DETERMINED IN THE FIELD AT THE TIME OF CONSTRUCTION. B-BOXES SHALL NOT BE PLACED WITHIN DRIVEWAYS. THE DEVELOPER SHALL FURNISH TO THE VILLAGE "RECORD DRAWINGS" OF THE WATER SYSTEM AT THE COMPLETION OF THE CONSTRUCTION. SAID RECORD DRAWINGS SHALL SHOW THE LOCATION OF ALL B-BOXES. EACH B-BOX SHALL BE DIMENSIONED FROM THE TWO (2) PROPERTY CORNERS.
16. ALL WATER MAIN VALVES SHALL ONLY BE MUELLER RESILIENT SEAT GATE VALVE (RESILIENT WEDGE, R/W) FOR MECHANICAL JOINTS CONFORMING TO AWWA C111 (MUELLER NO. A-2360-20). WHEN A TEE IS BEING CUT INTO AN EXISTING WATER MAIN, AN MJ X MJ X FLTEE SHALL BE USED AND AN FL X MJ ATTACHED ONTO THE TEE.
17. CAST IN PLACE THRUST BLOCKS OR PRE-CAST SOLID CONCRETE MASONRY UNITS SHALL BE PROVIDED AT ALL CHANGES IN ALIGNMENT OF THE WATER MAIN AND OPPOSITE ALL "TEE" CONNECTIONS. ALL THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH.
18. WATER MAIN FLUSHING AND CHLORINATION
  - A. THE WATER MAIN SHALL BE FLUSHED AND CHLORINATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE VILLAGE AND THE STANDARD SPECIFICATIONS. ANY PORTION OF THE NEW WATER MAIN EXTENSION SO STERILIZED SHALL BE ISOLATED AND VALVED OFF FROM THE REST OF THE SYSTEM UNTIL A CERTIFICATE OF APPROVAL IS RECEIVED FROM THE REGULATORY AGENCIES. THE VILLAGE SHALL DECIDE THE LOCATION AND NUMBER OF TESTS TO BE DONE.
  - B. CHLORINATION/DISINFECTION OF THE WATER MAIN SYSTEM SHALL BE ACCOMPLISHED BY CHLORINE GAS-WATER MIXTURE ONLY.
  - C. CHLORINATION OF THE WATER MAIN MUST BE WITNESSED BY A STAFF MEMBER OF THE VILLAGE ENGINEERING DEPARTMENT OR WATER DEPARTMENT. ALL CHLORINATING PROCEDURES WILL BE COMPLETED ON EITHER A MONDAY, TUESDAY OR WEDNESDAY; NO OTHER DAYS WILL BE ALLOWED BY THE VILLAGE.
19. FOLLOWING THE DISINFECTION AND FLUSHING PROCEDURES, SAMPLES SHALL BE COLLECTED FOR BACTERIOLOGICAL ANALYSIS ON TWO (2) SUCCESSIVE DAYS, BUT NOT LESS THAN 24 HOURS APART, FROM VARIOUS POINTS DETERMINED BY THE VILLAGE ON THE NEW PORTION OF THE SYSTEM (APPROXIMATELY EVERY 500 FEET (150 m)), SUBJECT TO EACH PROJECT'S UNIQUE CHARACTERISTICS).  
  
ALL SAMPLES WILL BE COLLECTED BY THE CONTRACTOR BUT WILL BE DELIVERED TO THE VILLAGE'S STATE CERTIFIED LABORATORY FOR ANALYSIS BY A STAFF MEMBER OF THE VILLAGE'S WATER DEPARTMENT. ALL LABORATORY COSTS SHALL BE BORNE BY THE CONTRACTOR AND HE/SHE WILL ARRANGE TO BE BILLED BY EITHER THE LABORATORY OR THE VILLAGE PRIOR TO ANY WATER MAIN STERILIZATION WORK.  
  
ALL LABORATORY TEST RESULTS MUST BE FURNISHED IN WRITING TO THE VILLAGE.  
  
CHLORINATION, FLUSHING AND WATER SAMPLING SHALL ALSO INCLUDE, WHEN NECESSARY, THE REMAINING PORTIONS OF THE EXISTING WATER MAIN SYSTEM AS DETERMINED BY THE VILLAGE.
20. ALL WATER MAIN VALVES WILL BE OPERATED BY VILLAGE PERSONNEL ONLY.
21. AT THE END OF THE DAY, THE CONTRACTOR WILL BARRICADE AND FENCE ALL OPEN TRENCH EXCAVATED AREAS, ALL OPEN MANHOLE AREAS AND ALL OPEN VALVE VAULT AREAS.
22. CASTINGS FOR VAULT ACCESS, FRAME AND CLOSED LID, SHALL CONFORM TO NEENAH FOUNDRY COMPANY CATALOG NO. R-1712, OR APPROVED EQUAL. THE SOLID LID (COVER) SHALL BEAR THE MARKING "WATER". CASTINGS PLACED ON PRECAST REINFORCED CONCRETE MASONRY UNITS SHALL BE SET IN A BITUMINOUS MASTIC BED; MORTAR WILL NOT BE ALLOWED.
23. PIPE FITTINGS (SEE STANDARD DETAILS):
  - A. FITTINGS SHALL BE DUCTILE IRON IN ACCORDANCE WITH ANSI A21.53/AWWA C153.
  - B. FITTING PRESSURE RATING: 350 PSI
  - C. RETAINER GLANDS FOR MECHANICAL JOINT FITTINGS
    1. MEGALUG JOINT RESTRAINT BY EBAA IRON CO. (SERIES 1100)
    2. UNI-FLANGE SERIES 1400 BY FORD
    3. PVC (SERIES 2000 PV) BY EBAA
    4. PVC (SERIES 1500) BY FORD
  - D. COUPLINGS FOR CONNECTING NEW WATER MAIN TO EXISTING WATER MAINS
    1. TYLER/UNION SOLID SLEEVE MJ C153 LONG FITTING
    2. SOME EXISTING WATER MAINS MAY HAVE NON-STANDARD EXTERNAL DIAMETERS, MEASURE EXISTING MAINS PRIOR TO ORDERING COUPLINGS (TYLER/UNION DUAL PURPOSE).
    3. ALL GLANDS MUST MEET PARAGRAPH "C" ABOVE.
  - E. TIE RODS AND BANDS FOR RESTRAINING COUPLINGS:
    1. STAINLESS STEEL OR MALLEABLE IRON
    2. CORROSION RESISTANT ALLOY OR COATED TO RESIST CORROSION
    3. ROD DIAMETER: 3/4" (20 mm) MINIMUM
    4. SUFFICIENT IN STRENGTH AND RESTRAINING ABILITY TO RESIST WORKING PRESSURES, TEST PRESSURES, AND SURGE PRESSURES IN WATER MAINS.
  - F. VALVE/FITTING CUT-IN SLEEVES
    1. MUELLER H-840 (GLAND SEE "C" ABOVE)
    2. TYLER/UNION DUAL PURPOSE
    3. ALL GLANDS MUST MEET PARAGRAPH "C" ABOVE.
  - G. TAPPING SLEEVE
    1. SMITH-BLAIR 665 STAINLESS STEEL FLANGE TAPPING SLEEVE
    2. OR APPROVED EQUAL
  - H. ANCHORING TEE
    1. TYLER MJ SWIVEL TEE
24. AFTER THE IEPA OPERATING PERMIT HAS BEEN ISSUED AND/OR WHEN APPROVED BY THE VILLAGE, ALL CORPORATION STOPS INSTALLED FOR TESTING PURPOSES WITHIN VAULTS, WILL BE REMOVED BY THE CONTRACTOR AND REPLACED WITH A BRASS PLUG. ANY CORPORATION STOPS INSTALLED FOR TESTING PURPOSES ELSEWHERE WILL BE REMOVED AND CLAMPED WITH AN ALL STAINLESS STEEL REPAIR SLEEVE. THIS WORK MUST BE WITNESSED BY A STAFF MEMBER OF THE VILLAGE ENGINEERING DEPARTMENT OR WATER DEPARTMENT.
25. WATER MAINS AND WATER SERVICES SHALL BE INSTALLED AT LEAST 10' (3.0 m) HORIZONTAL AWAY FROM BUILDINGS AND FROM ANY DUPAGE WATER COMMISSION WATER MAIN UNLESS ADEQUATE PRECAUTIONS, AS DETERMINED BY THE VILLAGE, ARE TAKEN.
26. WHERE SPECIFIED IN THE PLANS OR WHERE DIRECTED IN THE FIELD BY THE VILLAGE, SPECIAL HYDRANT TEES SHALL BE USED WHICH CONFORM TO TYLER CATALOG NO. 5-119, OR APPROVED EQUAL.
27. WATER MAINS SHALL BE INSTALLED WITH 4 INCHES (100 mm) OF CA-6 BEDDING UNDER THE PIPE, CA-6 HAUNCHING UP TO THE MIDDLE OF THE PIPE, AND CA-6 INITIAL BACKFILL TO 1 FOOT (0.3 m) ABOVE THE TOP OF THE PIPE.

FILE NAME = g:\oh07\0261\road\sheet\0160D12-SHT-WM	USER NAME = BAWisort GN.dgn	DESIGNED - CRH	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>WATER MAIN GENERAL NOTES</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 50,0000 ' / IN.	DRAWN - CRH	REVISED -			1453	55WRS	DuPAGE	362	121
	PLOT DATE = 8/5/2009	CHECKED - DWB	REVISED -			CONTRACT NO. 60D12				
		DATE - 07/24/2009	REVISED -			SCALE: NONE SHEET NO. 121 OF 362 SHEETS			FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT	