



WATER MAIN TESTING & TIE-IN PROCEDURE

Prior to the completion of a tie-in of a newly constructed water main to the City of West Kelowna Water System, the following procedures and tests must be performed, recorded and presented to the City of West Kelowna for acceptance.

Note: New water main and all appurtenances connected to it, to remain physically separated from existing water system during testing and flushing, and to remain separated until all test results have been reviewed and accepted by the City of West Kelowna Development Engineering. Testing against an existing water system valve is not permitted.

1. Pipe must be clean of any residual debris, foreign material, silt etc. by means of flushing. For flushing procedures, refer to MMCD 33 11 01, 3.18 and AWWA C651.
2. Leakage and pressure testing to be performed in accordance with MMCD 33 11 01, 3.19 as well as AWWA C600 & M41 for ductile iron pipe, and C605 & M23 for PVC pipe.
3. Disinfection of water main to be in accordance with AWWA C651, MMCD 33 11 01 3.21. Results from this procedure must include actual concentration levels at 0 & 16 hours and must be from at least or at a minimum both end of the pipe.
4. Flush water main to tanker truck or an approved location and dechlorinate the disinfection solution using sodium thiosulfate. Confirm that the solution has been neutralized prior to disposing to an approved location.
5. Test water main in accordance with AWWA C651-14 to confirm that no bacteria exists. Testing to include two consecutive sets of samples with either Option A: at least 16 hours apart or Option B: let it sit for minimum 16 hrs, then sample 15 minutes apart while sampling taps are left running. Samples to be taken at both ends of the pipe, including all branches and at intervals in between as specified in AWWA C651. Tests required for the samples are; Total Coliform, E-Coli and Chlorine Residual.

The *Engineer of Record* to include the following results to the City of West Kelowna Development Engineering with the "Request for Water Main Tie-in" form, as prescribed by the City of West Kelowna.

1. Copies of all test results including those from other companies that performed any of the tests.
2. A sketch or copy of a drawing showing the sections tested and the location of the tie-in(s).

Please note that water used for flushing and filling to be from an approved hydrant or from the City of West Kelowna's filling station. Ensure that adequate flushing of hydrant and hydrant lead takes place prior to using water. All water drawn from the City Water System to be done with approved backflow protection.

If the pipe is left idle for a period of more than 6 months, the line is to be flushed. Zero hour and 16 hour bacteria samples are to be taken. Repeat flushing and testing until water quality is satisfactory.

For information on procedures and testing, refer to the appropriate documents applicable as described above, or as listed below:

- Contract Documents
- Master Municipal Specifications (MMCD, Platinum Edition notes 24 hr between tests)
- City of West Kelowna Works and Services Bylaw 0120
- City of West Kelowna Water Bylaws
- AWWA standards, (the current AWWA C651-14, allows for 16 hr min. between tests)
- Guidelines for Canadian Drinking Water Quality