

BY-LAW NO. 8-05

LEDUC COUNTY

A BY-LAW OF LEDUC COUNTY, IN THE PROVINCE OF ALBERTA, HEREAFTER REFERRED TO AS THE LEDUC COUNTY FIRE HYDRANT BY-LAW, TO PROVIDE FOR REGULATION OF PUBLIC AND PRIVATE FIRE SERVICE WATER MAINS AND HYDRANTS AND TO REPEAL BY-LAW NO. 34-91.

WHEREAS the *Municipal Government Act* R.S.A. 2000 Chapter M-26, as amended, provides that a Council of a Municipality may pass bylaws respecting the safety, health and welfare of people and the protection of people and property;

WHEREAS the *Safety Codes Act* R.S.A. 2000 Chapter S-1, as amended, provides that an accredited municipality may make bylaws respecting fees for anything issued or any material or service provided pursuant to the *Safety Codes Act*;

WHEREAS the *Safety Codes Act* R.S.A. 2000 Chapter S-1, as amended, provides that an accredited municipality may make bylaws respecting the carrying out of its powers and duties as an accredited municipality;

NOW THEREFORE the Council of Leduc County, in the Province of Alberta, duly assembled, enacts as follows:

1.
 - (a) In this By-Law, the term "private fire service water main" shall mean that pipe and its appurtenances on private property between a point on the public water system designated by the County Department of Public Works & Engineering and the base of the riser (flange or flange and spigot piece or base tee) for automatic sprinkler systems, open sprinkler systems, water spray fixed systems, standpipe systems, inlets to foam making systems, or the base elbow of private fire hydrants or monitor nozzles.
 - (b) In this By-Law, the term "public water main" shall mean pipe and appurtenances located on public property and used to deliver water for fire fighting purposes.
 - (c) In this By-Law, neither the term "hydrant" nor the term "fire hydrant" shall be taken to mean, refer to, or include a hydrant or fire hydrant downstream of a County of Leduc water meter.

2.
 - (a) A plan and specifications, bearing the stamp and seal of a professional engineer licensed to practice in the Province of Alberta, shall be provided to the County Department of Public Works & Engineering, in every case where a new private fire service water main and/or fire hydrant is contemplated.
 - (b) The plan shall be drawn to scale and shall include all essential details as:
 - i) Size and location of all water supplies.
 - ii) Size and location of all piping, indicating the class and type and depth of existing pipe, the class and type of new pipe to be installed and the depth to which it is to be buried.
 - iii) Size, type and location of valves, indicating if located in a pit or if operation is by post indicator valve or key wrench through a curb box and indicating the size, type and location of meters, regulators and check valves.
 - iv) Size and location of hydrants, showing size and number of outlets and if outlets are to be equipped with independent gate valves, indicating if hose houses are to be provided and by whom.
 - v) Sprinkler and standpipe risers and monitor nozzles to be supplied by the system.
 - vi) Location of fire department connections, if part of private fire service water main system, including detail of connections.

3. All installation work shall be done by fully experienced and responsible persons.

4. No person shall install or alter any portion of the Leduc County municipal water main system without obtaining the required permit and approval from the County Public Works & Engineering Department.

5. Where connections are made from public waterworks systems, it is necessary to guard against possible contamination of the public water supply. The requirements of the Leduc County Design Guidelines and Construction Standards for Developments shall be regarding water line disinfection shall be followed.

6. Connections larger than 50 millimetres to public water mains shall be controlled by post indicator valves of a standard type and located not less than 12.2 metres from the buildings protected. Post indicator valves shall be set so that the top of the post will be one meter above the final grade and shall be protected against mechanical damage where needed. Where it is impractical to provide a post indicator valve, valves may be placed in pits. Valve pits shall meet the requirements of the County Public Works & Engineering Department and the location of the valve shall be clearly marked and the cover of the pit shall be kept free of obstructions.
7. Public and private fire service main systems shall have sectional controlling valves at appropriate points in accordance with good engineering practices, in order to permit sectionalizing the system in the event of a break, or for the making of repairs or extensions.
8. Fire hydrants shall be of an approved type acceptable to Leduc County and shall have not less than a 150 mm connection with the mains. A valve shall be installed in the hydrant connection.
9. Hydrants shall have two (2) 65 millimetre, Alberta Mutual Aid (AMA) thread hose connections, and 114 millimetre pumper connection complete with quick connect "Storz" coupler, internal bug. The operating nut shall be three-sided, opening in a counter-clockwise direction.
10. The required fire flow for each building and hydrant locations shall be determined by the County Fire Services Department in conjunction with the requirements of the current edition of the Alberta Building Code. Hydrants must not be located closer than 15 metres to a building unless written permission is given by the County Fire Services Department authorizing the variance.
11. Where an additional hydrant is required by the Alberta Building Code to meet distance limits between an existing municipal hydrant and fire department connections on a building, it will be the property owner's responsibility to install the hydrant. If an additional hydrant is required because the fire hydrant coverage, at the County's sole discretion, is determined to be deficient, it will be the County's responsibility to install the hydrant. If the hydrant is attached directly to the public water main outside private property, ownership of the hydrant will be transferred to the County following approval by the County of the installation.
12. All hydrant drains shall be plugged unless written permission is given by the County Public Works & Engineering Department authorizing the variance.
13. Hydrants shall be protected against damage by vehicular traffic. Steel posts of at least 150 millimetres diameter filled with concrete, shall be placed into the ground a minimum of one meter from sides of hydrant requiring protection. Care must be taken not to obstruct access to hydrant ports. Such protective posts shall be painted bright yellow.
14. All hydrants shall be clearly identified with a reference number and be painted bright yellow with red caps.
15. Where hydrants are intended for use by plant personnel or a plant fire brigade, an adequate supply of hose and equipment shall be provided by the owner of the property being protected. Hose shall be stored so that it is readily accessible and is protected from the weather.
16. The use of fire hydrants or other fire protection systems for purposes other than fire related services is prohibited unless authorized by the County Public Works & Engineering Department.
17. Piping and fittings used for public and private fire service water mains and their appurtenances shall be listed for fire protection service and comply with approved standards.
18. No pipe smaller than 150 millimetres shall be installed as a private fire service water main, unless the main supplies only automatic sprinkler systems, open sprinkler systems, water spray fixed systems, foam systems, or Class II standpipe systems.
19. Piping, fittings, valves and hydrants shall be installed in accordance with good engineering practice. Water mains shall be installed at a depth which will provide a minimum cover of 2.75 metres.
20. Underground mains and lead-in connections to system risers shall be flushed thoroughly before connection is made to sprinkler, standpipe or other fire protection system piping to remove any foreign materials which may have entered the piping during installation. The minimum rate of flow shall be not less than the water demand rate of the system, or not less than that necessary to provide a velocity of 3 metres per second, whichever is greater.

21. Before requesting final approval from the County Public Works & Engineering Department, the installing company shall furnish a standard Contractor's Material and Test Certificate (Schedule "A") countersigned by the property owner or representatives and a hydrant flow test performed on the hydrant.
22. All new public and private fire service water mains shall be tested hydrostatically at not less than 1400 kilopascals pressure for two hours or at 350 kilopascals in excess of the maximum static pressure is in excess of 1000 kilopascals.
23. Underground piping, valves and other fittings shall not be buried until approval to do so has been given by the County Public Works & Engineering Department.
24. Prior to being placed into service, each new fire hydrant shall be fully opened and closed under system water pressure. Where fire pumps are available, this shall be done with the pumps running. All control valves shall be fully opened and closed under system water pressure to ensure proper operation. All outlet caps shall be opened and closed to ensure ease of operation.
25. Periodic flow tests may be carried out under the direction of the County Public Works & Engineering Department where deemed necessary.
26. Any person making an inspection under Sections 25 or 26, flushing hydrants under Section 30 or conducting a test under Section 32 has the right to enter at reasonable times, the property upon which a private fire service water main is located and may take with him any person or thing that he considers would be of assistance in carrying out his duties. Whenever possible, permission to enter the property shall be obtained in advance, from the property owners or occupiers.
27. Where a current water flow test is requested by a company or agency for the purposes of determining available fire flow, permission may be granted for the test by the County Public Works & Engineering Department. The requesting company or agency will be responsible for test flowing hydrant(s). A fee of \$25.00 shall be charged for each fire hydrant which is opened for the test along with the cost of estimated water used to the nearest cubic metre, at the current rate established by Council. A representative from Leduc County must be present during the test and a copy of the test results must be provided to Leduc County.
28. No person shall in any manner obstruct the free access to any fire hydrant or valve or other fire protection device. No vehicle, building, rubbish or any other matter which would cause such obstruction shall be placed closer than 5 metres to a hydrant, valve or other fire protection device.
29. A person who contravenes any provision of this bylaw is guilty of an offence and if no other penalty is provided, is liable upon prosecution to a fine of not less than \$500.00 and not more than \$10,000. No person convicted of an offence under this bylaw shall be subject to imprisonment.
30. A person who contravenes Section 16 of this By-Law is guilty of an offence and is liable to a fine of \$1000.00 per offence.
31. A person who contravenes Section 35 of this By-Law is guilty of an offence and is liable to a fine of \$100.00 per offence.
32. This By-Law shall come into full force and effect upon third and final reading.
33. This by-law repeals By-Law 34-91 and any other amendments thereto.

DONE AND PASSED in open Council assembled at Nisku, in the Province of Alberta, this 26th day of April, A.D., 2005.

Read a first time this 26th day of April, A.D., 2005.

Read a second time this 26th day of April, A.D., 2005.

Read a third time with the unanimous consent of the Council Members present and finally passed this 26th day of April, A.D., 2005.

John Whaley

REEVE

SEAL



COUNTY MANAGER

SCHEDULE "A"

By-Law No. 8-05

Contractor's Material and Test Certificate for Private Fire Service Mains

PROCEDURE

Upon completion of work, inspection and tests shall be made by the contractor's representative and witnessed by an owner's representative. All defects shall be corrected and system left in service before the contractor's personnel finally leaves the job.

A certificate shall be filled out and signed by both representatives. Copies shall be prepared for Leduc County Public Works & Engineering, Leduc County Fire Services, owners and contractor. It is understood that the owner's signature in no way prejudices any claim against the contractor for faulty material, poor workmanship or failure to comply with Leduc County's requirements or local ordinances.

PROPERTY NAME	DATE
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PROPERTY ADDRESS

PLANS	ACCEPTED BY LEDUC COUNTY (NAMES)		
	ADDRESS		
	INSTALLATION CONFORMS TO ACCEPTED PLANS	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	EQUIPMENT USED IS APPROVED	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	IF NO, STATE DEVIATIONS		
INSTRUCTIONS	HAS THE PERSON IN CHARGE OF THE FIRE EQUIPMENT BEEN INSTRUCTED AS TO LOCATION OF CONTROL VALVES AND CARE AND MAINTENANCE OF THIS NEW EQUIPMENT? IF NO, EXPLAIN	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	HAVE COPIES OF APPROPRIATE INSTRUCTIONS AND CARE AND MAINTENANCE CHARTS BEEN LEFT ON THE PREMISES? IF NO, EXPLAIN	<input type="checkbox"/> Yes	<input type="checkbox"/> No
LOCATION	SUPPLIES BUILDINGS		
PIPES AND JOINTS	PIPE TYPES AND CLASS	TYPE JOINT	
	PIPE CONFORMS TO _____ STANDARD		<input type="checkbox"/> Yes <input type="checkbox"/> No
	FITTINGS CONFORM TO _____ STANDARD		<input type="checkbox"/> Yes <input type="checkbox"/> No
	IF NO, EXPLAIN		
	BURIED JOINTS NEEDING ANCHORAGE CLAMPED, STRAPPED OR BLOCKED IN ACCORDANCE WITH _____ STANDARD		<input type="checkbox"/> Yes <input type="checkbox"/> No
	IF NO, EXPLAIN		
TEST DESCRIPTION	<p>FLUSHING: Flow the required rate until water is clear as indicated by no collection of foreign material in burlap bags at outlets such as hydrants and blow-offs. Flush at flows not less than 1500 l/min (330 gal/min) for 100 millimetre pipe, 3300 l/min (725 gal/min) for 150 millimetre pipe, 5900 l/min (1298 gal/min) for 200 millimetre pipe, 9200 l/min (2023 gal/min) for 250 millimetre pipe, and 13,300 l/min (2926 gal/min) for 300 millimetre pipe. When supply cannot produce stipulated flow rates, obtain maximum available.</p> <p>HYDROSTATIC: Hydrostatic tests shall be made at not less than 1400 kPa (203 psi) for two hours or 350 kPa (51 psi) above static pressure in excess of 1000 kPa (1450 psi) for two hours.</p> <p>LEAKAGE: New pipe laid with rubber gasketed joints shall, if the workmanship is satisfactory, have little or no leakage at the joints. The amount of leakage at the joints shall not exceed 0.0033 litres/millimetre of diameter/100 metres of pipe.</p>		
FLUSHING TESTS	NEW PIPING FLUSHED ACCORDING TO _____ STANDARD		<input type="checkbox"/> Yes <input type="checkbox"/> No
	BY (COMPANY)		
	IF NO, EXPLAIN		
	HOW FLUSHING FLOW WAS OBTAINED	THROUGH WHAT TYPE OF OPENING	
<input type="checkbox"/> PUBLIC WATER <input type="checkbox"/> TANK OR RESERVOIR <input type="checkbox"/> FIRE PUMP	<input type="checkbox"/> HYDRANT BUTT <input type="checkbox"/> OPEN PIPE		
LEAD-INS FLUSHED ACCORDING TO _____ STANDARD		<input type="checkbox"/> Yes <input type="checkbox"/> No	
BY (COMPANY)			
IF NO, EXPLAIN			
	HOW FLUSHING FLOW WAS OBTAINED	THROUGH WHAT TYPE OF OPENING	
<input type="checkbox"/> PUBLIC WATER <input type="checkbox"/> TANK OR RESERVOIR <input type="checkbox"/> FIRE PUMP	<input type="checkbox"/> Y CONN. TO FLANGE & SPIGOT <input type="checkbox"/> OPEN PIPE		

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SCHEDULE "A"

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HYDROSTATIC TEST	ALL NEW PIPING HYDROSTATICALLY TESTED AT _____ kPa FOR _____ HOURS		BURIED JOINTS COVERED <input type="checkbox"/> Yes <input type="checkbox"/> No
	TOTAL AMOUNT OF LEAKAGE MEASURED _____ LITRES _____ HOURS NO LEAKAGE ALLOWED FOR VISIBLE JOINTS		
LEAKAGE TEST	ALLOWABLE LEAKAGE (BURIED) _____ LITRES _____ HOURS NO LEAKAGE ALLOWED FOR VISIBLE JOINTS		
HYDRANTS	NUMBER INSTALLED	TYPE AND MAKE	ALL OPERATE SATISFACTORILY <input type="checkbox"/> Yes <input type="checkbox"/> No
CONTROL VALVES	WATER CONTROLS VALVES LEFT WIDE OPEN IF NO STATE REASON		<input type="checkbox"/> Yes <input type="checkbox"/> No
	HOSE THREADS OF FIRE DEPARTMENT CONNECTIONS AND HYDRANTS INTERCHANGEABLE WITH THOSE OF FIRE DEPARTMENT ANSWERING ALARM		<input type="checkbox"/> Yes <input type="checkbox"/> No
REMARKS	DATE LEFT IN SERVICE _____ ADDITIONAL COMMENTS _____		
SIGNATURES	NAME OF INSTALLING CONTRACTOR _____		
	TEST WITNESSED BY _____		
	FOR PROPERTY OWNER (SIGNED)	TITLE	DATE
	FOR INSTALLING CONTRACTOR (SIGNED)	TITLE	DATE
ADDITIONAL EXPLANATION AND NOTES			

JBW