

B Y - L A W N U M B E R 6366

A BY-LAW RESPECTING THE TRANSPORTING,
STORING, HANDLING AND USE OF EXPLOSIVES IN
THE CITY OF WINDSOR

Passed the 22nd day of October, 1979

WHEREAS Section 3 of *The City of Windsor Act, 1978*, provides that The Corporation of the City of Windsor may pass by-laws for prohibiting the manufacturing, transporting, storing, keeping, having or using of any explosives in the Municipality and for examining, licensing, regulating and governing persons who transport, store, keep, have or use any explosives in the Municipality;

AND WHEREAS it is deemed expedient to enact this by-law;

THEREFORE the Council of The Corporation of the City of Windsor enacts as follows:

1. **DEFINITIONS**

(1) In this by-law,

- (a) **"Blaster"** means an individual knowledgeable and competent in the handling and use of explosives for the purpose of breaking up formations of rock, masonry, concrete or ice, or demolishing a structure.
- (b) **"Blasting"** means the breaking up of rock, masonry, concrete or ice formations, or the demolition of a structure.
- (c) **"Building Commissioner"** means the Building Commissioner appointed by the Council and shall include any person authorized by the Building Commissioner to carry out any of the powers or duties of the Building Commissioner pursuant to this by-law.
- (d) **"Chief of Police"** means the Chief of Police appointed by the Board of the Commissioners of Police for the City of Windsor.
- (e) **"Corporation"** means The Corporation of the City of Windsor.
- (f) **"Council"** means the Council of The Corporation of the City of Windsor.
- (g) **"Explosives"** means blasting explosives such as dynamite, blasting agents and related explosive accessories, including detonators, authorized under *The Explosives Act*, R.S.C. 1970, C. E-15 and Regulations passed thereunder and included in classes 1, 2, 3, and 4 and Division 3 of Class 6 therein.
- (h) **"Explosives Permit"** means a permit issued by the Building Commissioner which allows the carrying out of blasting as set out on the said permit and only by a licensed blaster who is named on the said permit.
- (i) **"Fire Chief"** means the Fire Chief appointed by the Council.
- (j) **"Licensed Magazine"** means a magazine in respect of which a licence has been issued under Section 6 of *The Explosives Act*, R.S.C. 1970, and is in force.

- (k) **"Magazine"** means any building, storehouse, structure or place in which any explosive is kept or stored.
- (l) **"Person"** includes a corporation, and the heirs, executors, administrators, or other legal representatives of a person to whom the context can apply according to law.
- (m) **"School Building"** means any building or group of buildings in which people receive instruction in the learning process under supervision.
- (n) **"Shipping Document"** means any document that accompanies dangerous goods being handled for transportation or transported and that describes or contains information relating to the goods and, in particular, but without restricting the generality of the foregoing, includes a bill of lading, cargo manifest, shipping order, way-bill and switching order.
- (o) **"Structure"** means any building used for habitation, commercial, manufacturing, storage or any other purpose, any concrete, masonry or metal installation above ground surface, sewer, water and other utility manholes.
- (p) **"Suitable Receptacle"** shall mean a receptacle conforming to the standards for a Type 6 magazine (receptacle) as defined in Section 6 of the Standards for Blasting Explosives Magazines of the Explosives Division of the Canada Department of Energy, Mines and Resources.
- (q) **"Vehicle"** means a motor driven conveyance having at least four wheels and for the purpose of transporting goods or materials.

2. **ADMINISTRATION**

- (1) In this by-law,
 - (a) It shall be the duty of the Building Commissioner to administer and enforce this by-law.
 - (b) The Building Commissionoer shall cause:
 - (i) the acceptance of applications for permits and the issuance of permits in accordance with Section 5 of this by-law;
 - (ii) proper records to be kept of permit applications, permits issued, notices and orders issued, fees collected, inspection records, and of any documents or material or information used in the operation of the Department of Buildings of the Corporation, and under the jurisdiction of the Building Commissioner, pertaining to this by-law;
 - (iii) an annual report to be made to the City Administrator of the Corporation.
 - (c) The Building Commissioner may exercise all powers necessary for the administration of this by-law and without limiting the generality of the foregoing, he may:
 - (i) enter upon any property at all reasonable times to ascertain whether the provisions of this by-law are being obeyed and to enforce and carry into effect any such provisions;

- (ii) require the assistance and co-operation of any person in charge of any explosive both prior to and during any blasting operation or inspection thereof;
- (iii) require the assistance and co-operation of the Chief of Police and/or the Fire Chief, if deemed necessary, with respect to any condition involving explosives;
- (iv) order any work involving explosives be stopped wherever there is reason to believe a condition exists which may be or could become unsafe and to take temporary possession of such explosives;
- (v) take into custody any explosives not in the possession of any properly authorized person;
- (vi) permit such deviation from the provisions of this by-law as may be deemed proper and reasonable within authority of the said Building Commissioner.

3. **EXEMPTIONS**

- (1) Nothing in this by-law shall be deemed to apply to:
 - (a) any explosive in the possession and control of the Department of National Defence;
 - (b) any explosive in the possession of any federal, provincial or municipal police officer acting in the performance of any lawful duty;
 - (c) any explosive in transit in the lawful possession of a carrier licensed under any Act of the Regulations made thereunder;
 - (d) gunpowder to a quantity of not more than 11.34 kilograms (25 pounds) kept in accordance with good practice and solely for lawful private use;
 - (e) such devices commonly used in a fireworks display and where the sale and use of such devices are regulated under By-law Number 2480 of the Corporation.

4. **PROHIBITIONS**

- (1) No person shall manufacture any explosives in the City of Windsor, provided that nothing shall apply to prohibit teachers in school buildings in carrying out their duties in a safe manner.
- (2) No person shall, within the limit of the City of Windsor,
 - (a) construct or cause to be constructed a licensed magazine;
 - (b) store or cause to be stored any explosives over night.
- (3) No person shall transport, store, keep, have or use, or cause to be transported, stored, possessed of, or used, nitroglycerine in the City of Windsor; provided, however, that nothing in this subsection shall be deemed to prohibit the normal and lawful transportation, possession or use of nitroglycerine for medical purposes, in quantities no greater than reasonably necessary, and other wise in accordance with law.

- (4) (a) No person shall use explosives in the demolition of a structure in the City of Windsor save and until a professional engineer has been retained to undertake a general review of the project during demolition where required by Ontario Regulation 925/75 as amended, made under the *Building Code Act, 1974*, Statutes of Ontario.
- (b) For the purpose of this subsection, a professional engineer shall mean a member or licensee of the Association of Professional Engineers of the Province of Ontario under the *Professional Engineers Act*, R.S.O. 1970, Chapter 366.

5. **PERMITS, LICENCES AND PAYMENT OF FEES**

- (1) No person shall perform or cause to be performed any work involving the use of explosives unless:
 - (a) an application for an explosives permit has been filed with the Building Commissioner, such application being on a prescribed form as set forth in Appendix "A" hereto, and such application shall be accompanied with evidence that the applicant has in effect public liability coverage in an amount not less than One Million (\$1,000,000.00) Dollars;
 - (b) an explosives permit has been obtained from the Building Commissioner and such permit shall:
 - (i) bear the personal signature of the Building Commissioner; or
 - (ii) in case of the absence of the Building Commissioner, bear the signature of an individual authorized personally by the Building Commissioner so to do; and
 - (iii) set out thereon the name and licence number of the blaster designated to handle and use the explosives during performance of the work authorized by the permit.
- (2) No person shall store, handle, or use explosives for blasting purposes unless:
 - (a) an application for a blaster licence has been filed with the Building Commissioner, such application being on the prescribed form as set forth in Appendix "B" hereto; and
 - (b) a blaster licence has been issued by the Building Commissioner.
- (3) Payment of applicable fees shall be made at the time an application is filed and any such fee paid shall not be refundable.
- (4) No permit or licence shall be issued to any person other than the person who signed the application and any such permit or licence shall be non-transferable.
- (5) An explosives permit not acted upon within a period of thirty (30) days following the date of issue shall be considered to have expired.

6. **REGULATIONS**

- (1) No blasting operation shall be carried out in the City of Windsor unless:
 - (a) it is authorized by an explosives permit, and
 - (b) such operation is performed by a person having a blaster licence, and

- (c) the Building Commissioner has been notified in writing at least two (2) full working days in advance of such operation and such notification shall specify the location, day, date and exact time it is proposed to carry out such operation, and
 - (d) the Building Commissioner or an inspector under his jurisdiction is at the site of such scheduled operation at least one (1) hour before and remains there during the actual operation for inspection purposes.
- (2) No explosives shall be transported in the City of Windsor unless in compliance with the following:
- (a) All vehicles used for transporting explosives shall bear the word **Explosives** clearly displayed in red letters not less than 152.4 mm - 6 inches in height on a white background on both sides and front and rear of the vehicle, to be plainly visible, but shall not be displayed when "no explosives" are carried.
 - (b) The transportation of explosives in transit through the City of Windsor shall be in accordance with Part VI of the Explosives Regulations enacted pursuant to *The Explosives Act*, R.S.C. 1970, C. E-15.
 - (c) Not more than two thousand (2000) lbs. of any explosive or eighty (80%) per cent of the carrying capacity of the vehicle as defined in accordance with Part VI of the Explosives Regulations enacted pursuant to *The Explosives Act*, R.S.C. 1970, C. E-15, whichever is the less, shall be transported on a street in one vehicle at one time and only when transported in a vehicle especially equipped and fitted for the sole purpose of transporting explosives and only carried from an outside location, for delivery to work sites within the City of Windsor.
 - (d) The explosives contained in the vehicle, loaded in accordance with the provisions of section 6(2)(c) hereof, may be delivered to a number of work sites, but the quantity delivered at each work site must not exceed that prescribed in section 6(3)(e) and (f) hereafter.
 - (e) The operation of loading, unloading or transportation of explosives are subject to the following conditions:
 - (i) all persons engaged in the loading, unloading or transportation of explosives shall observe all due precautions for the prevention of accidents of fire or explosion, and for preventing unauthorized persons having access to the explosive so being loaded, unloaded or transported, and shall abstain from any act whatever that tends to cause fire or explosion, and is not reasonably necessary for the purpose of loading, unloading or transportation of such explosive or of any other article carried therewith, and for preventing any other person from committing any such act and, any other person who, after being warned, commits any such act, shall be deemed to commit a breach of this regulation,
 - (ii) after the loading or unloading of explosives on or out of any vehicle is begun, it shall not be stopped until completed and it shall be completed as expeditiously as possible,
 - (iii) no bale hooks or other metal tools shall be used for loading, unloading or other handling of packages containing explosives nor shall any package or container of explosives be thrown or dropped during such loading or unloading,
 - (iv) the engine of a gasoline or oil-driven vehicle shall not be run during the loading or unloading of explosives,

- (v) the ignition of a gasoline or oil-drive vehicle shall be turned off and the brakes set when the vehicle containing explosives is parked,
- (vi) gasoline or oil-driven motor vehicles used for the transportation of explosives shall be inspected daily to ascertain that,
 - fire extinguishers are filled and in working order,
 - electric wiring is completely insulated and firmly secured,
 - gasoline tank and feed lines have no leaks,
 - chassis, engine, pan and bottom of body are clean and free from surplus oil and grease, and
 - brakes and steering apparatus are in good condition,
- (vii) a vehicle that is not in sound mechanical condition in all respects and suitable for and capable of safely transporting explosives shall not be used to transport explosives,
- (viii) explosives shall not be loaded onto a motor vehicle unless the vehicle has been fully serviced with respect to supplies to fuel, oil and air,
- (ix) the gasoline tank of a vehicle shall not be filled while explosives are upon the vehicle except in case of necessity, in which case the engine shall be stopped, the ignition shut-off, and the tank filled only at a place where filling would not be a danger to the public safety,
- (x) smoking on, in, or while attending any vehicle containing an explosive is prohibited,
- (xi) the driver or operator of any vehicle containing an explosive shall not drive or conduct same in a dangerous or reckless manner, and a person who is impaired shall not have charge of any such vehicle and shall not be permitted to be in, on, or attend same,
- (xii) the driver or operator of a vehicle transporting explosives shall not stop unnecessarily but when a stop is necessary it shall not be longer than may be reasonably required; stops at places where the public safety would be endangered shall be avoided,
- (xiii) routes passing through centres of habitation shall be as far as possible avoided,
- (xiv) due provision shall be made for preventing the introduction into a vehicle of fire, matches or any substance or article likely to cause explosion or fire, or any iron, steel or grit that may come into contact with an explosive; this paragraph does not prevent the introduction of an artificial light of such construction, position or character, or of safety matches of a character that will not cause any danger of fire or explosion,
- (xv) any vehicle transporting explosives shall be equipped with a fire extinguisher in working order, of adequate size and capable of dealing with a gasoline or oil fire,
- (xvi) each vehicle transporting explosives shall be in the exclusive charge of and constantly attended by some competent person, not under eighteen (18) years of age, and such person shall not have charge of more than one such vehicle,

- (xvii) when a halt is made overnight, the premises in which the vehicle is kept shall not be used for any other purpose that might give rise to the presence therein of naked lights, matches or any substance or article likely to cause explosion or fire, and the premises shall be at least three hundred and five metres (305m) - 1000 feet from any habitation or storehouse, and such vehicle shall, at all times, be in charge of, and attended by, some competent person not under eighteen (18) years of age,
 - (xviii) when two (2) or more vehicles transporting explosives are travelling together, a space of at least three hundred and five metres (305m) - 1000 feet - between each vehicle and every such vehicle shall be maintained unless circumstances render it impractical,
 - (xix) vehicles transporting explosives shall not be driven past fires of any kind burning on or near the highway or other thoroughfare until after due caution shall have been taken to ascertain that such passing can be made with safety,
 - (xx) no passengers other than persons licensed to assist in handling explosives shall be permitted on a vehicle transporting explosives,
 - (xxi) the driver or operator of a vehicle transporting explosives shall bring it to a full stop before crossing any railroad track,
 - (xxii) any explosive while being transported on a street shall be carefully packaged so as to prevent jolting and concussion, and
 - (xxiii) the speed of a vehicle transporting explosives shall conform to all local traffic laws, ordinances, and by-laws and be consistent with road and weather conditions.
- (3) No explosives shall be stored and held in storage for use in the City of Windsor unless in compliance with the following:
- (a) following transportation to the project site, explosives shall be placed in a suitable receptacle until use, and
 - (b) the suitable receptacle shall not be used to store an explosive overnight, during holidays or weekends, or any further period of time when work is not in progress, and
 - (c) every suitable receptacle shall have the word **Explosives** printed thereon in red letters at least 152.4 mm - 6 inches - high and painted on a heat reflecting surface, and
 - (d) a suitable receptacle shall be,
 - used exclusively for the keeping of explosives,
 - kept scrupulously clean, and
 - kept away from goods of a flammable nature, and
 - (e) storage of explosives on the project shall be in compliance with the requirements of the Building Commissioner, and
 - (f) the quantities of explosives stored pursuant to section 6(4)(c) hereof should not exceed those specified in the "Quantity-Distance Table for Blasting Explosives" of the Canada Department of Energy, Mines and Resources, and
 - (g) no explosive shall be kept or stored in any building which is used for any purpose other than the storage of explosives, and

- (h) detonators shall at all times be kept or stored separately from other explosives, and
 - (i) damp or deteriorating explosives shall be promptly disposed of in an approved safe manner, and
 - (j) when explosives are kept at or near the site of any work in progress a watchman shall be kept on duty at all times when the workmen are away from the site of the work, and
 - (k) all explosives not used on the work shall be returned to a licensed magazine located outside the City of Windsor.
- (4) No blasting operation shall be carried out in the City of Windsor unless in compliance with the following:
- (a) written permission is first obtained from the Windsor Utilities Commission to perform any blasting operation within a distance of one hundred and sixty-six metres (166m) - 545 feet - from any water storage reservoir, water pumping station, water works, water storage tank or transformer station, and
 - (b) written permission is first obtained from the relevant Commission, Municipal Department or utility company to perform any blasting operation within three point seven metres (3.7m) - 12 feet - of any water main, gas main, hydro conduit, telephone conduit, sanitary sewer, fire cable, petroleum lines or any other underground utility, and
 - (c) unless otherwise specified in this by-law, the use of explosives in the City of Windsor shall be in accordance with the following table and values for distances greater than fifteen point two four metres (15.24m) - 50 feet - may be obtained from the formula for,
 - (i) Imperial measurement $d = \frac{300\sqrt{E}}{8.2}$
where d = distance from blasting shot to structure affected (in feet)
E = weight of explosives used without delay caps (in lbs.)
where delay caps are used, pounds per delay = $\delta\sqrt{E}$
 - (ii) Metric measurement $d = \frac{300\sqrt{E}}{18.12}$
where d = distance from blasting shot to structure affected (in metres)
where E = weight of explosives used without delay caps (in kilograms)
where delay caps are used, kilograms per delay = $\delta\sqrt{E}$

Distance from Blasting Shot to any Structure (in feet) (in metres)		Maximum Weight of Explosive used without Delay Caps (in pounds) (in kilograms)		Maximum Weight of Explosive per Delay when Delay Caps used (in pounds) (in kilograms)	
20	6.096	0.5	0.227	0.5	0.227
30	9.144	1.0	0.454	1.0	0.454
40	12.192	1.5	0.680	1.0	0.454
50	15.240	2.0	0.907	1.5	0.680
60	18.288	3.0	1.361	2.0	0.907
70	21.336	4.0	1.814	2.7	1.225
80	24.384	5.0	2.268	3.3	1.497
90	27.432	6.0	2.722	4.0	1.814
100	30.481	8.0	3.629	5.3	2.404
200	60.961	30	13.608	20	9.072
400	121.921	120	54.432	80	36.288
600	182.882	270	122.472	180	81.648
800	243.843	476	215.914	317	143.791
1000	304.804	746	338.386	492	223.171

The weight of explosive contained in any one (1) blast shall not exceed nine hundred kilograms (900 kg) - 2000 pounds, and

- (d) granting of the written permission referred to in sections 6(4)(a) and (b) shall not absolve the holder of the permit from liability for damage caused by the blasting, and
- (e) the holder of an explosive permit shall,
 - (i) maintain a continuous record showing the total weight of explosives and the number of detonators delivered each day to the work and the disposal made of the explosives and detonators not used,
 - (ii) maintain a record of each blast, indicating the number of holes, time, location, weight of explosives and timing period,
 - (iii) make a return at the end of each month to the Building Commissioner clearly setting forth the above information,
 - (iv) such records shall be available at all times for checking by the Building Commissioner, and
- (f) no person shall carry on blasting in the City of Windsor at any time except during daylight hours or at any time on Sunday or at any time when atmospheric conditions prevent a clear observation at a distance of ninety-one metres (91m) - 300 feet - from the place where the blasting is to be carried on except by special permission in writing from the Building Commissioner, and
- (g) except as hereinafter provided, no person shall,
 - (i) fire any blast other than by means of an approved electrical apparatus,
 - (ii) use batteries installed in automobiles for blasting purposes,
 - (iii) operate an engine with spark ignition within three metres (3m) - 10 feet - of any blasting circuit,
 - (iv) connect any firing wire to the electrical firing device or testing apparatus until everything connected with the blasting operation is in readiness and all clear, and

- (h) except as hereinafter provided,
 - (i) after the blast has been exploded, the blasting circuit shall be immediately disconnected, and
 - (ii) in the event of a misfire, the firing device shall be disconnected immediately from the blasting circuit and shall remain disconnected, and
- (i) all electrical apparatus shall be kept in perfect order and shall be thoroughly inspected before and after each blasting operation and all wiring connected therewith shall be properly and adequately insulated, and all wiring shall be tested by approved apparatus before the connection of the electrical firing device to the blasting circuit, and
- (j)
 - (i) where, in the opinion of the Building Commissioner, a radio frequency may exist in the vicinity of radio-frequency generators such as, for example, radio, television and radar stations and radio-frequency furnaces, he may require that non-electrical methods of blasting be used, but in any event no person shall use non-electrical methods of blasting without the written authority of the building Commissioner,
 - (ii) the Building Commissioner may, at the expense of the person applying for a blasting permit, require that a radio-frequency field-strength measurement be made in order to determine the magnitude of the hazard, and
- (k) every mobile radio transmitter within thirty point five metres (30.5m) - 100 feet - of a blasting circuit shall be switched off at the main power switch, and
- (l) all blasting operations shall cease during electrical storms, and
- (m) all electrical apparatus of any nature used in blasting operations shall, when not in use, be kept under lock and key and under the direct charge of the powderman, and
- (n) no person shall carry on blasting within a radius of three hundred and five metres (305m) - 1000 feet - of any school building during school hours, or any hospital until the superintendent or the person in charge thereof shall have been notified six (6) hours previous to the blast being fired, and
- (o) no person to whom an explosives permit has been issued shall, or shall cause anyone to,
 - (i) drill within seven point six metres (7.6m) - 25 feet - of any loaded hole or any hole being loaded or until any misfire shall have been blasted,
 - (ii) make up primers in advance of loading holes,
 - (iii) load up hole while it is still hot from drilling,
 - (iv) load any hole except one to be fired in the next round of blasting, and

- (p) immediately after loading the explosive and before the blast, the material to be blasted shall be covered on all exposed sides either with a strong steel wire matting of at least thirty-eight millimetres (38mm) - 1½ inches - thickness woven from steel wire rope in good condition or less than nineteen millimetres (19mm) - ¾ inch - in diameter or a rubber-type mat not less than one hundred fifty-two millimetres (152mm) - 6 inches in thickness weighing not less than one kilogram per square metre - 24 pounds per square foot. After the material has been thus covered, the blast shall be fired within fifteen (15) minutes, and
- (q) no person while blasting shall permit any rock or other material to fly through the air in such a way as to fall upon any other person or upon property other than that owned by the person who is blasting, and
- (r) when blasting is being carried on,
 - (i) the person carrying on the blasting shall provide at least two (2) competent assistants and as many additional competent assistants as circumstances may require to warn all occupants of buildings in the vicinity and to take all reasonable precautions to adequately safeguard such occupants and guard all persons and vehicles from approaching within the danger zone of the blasting,
 - (ii) the holder of the permit shall also post warning signs within a radius of ninety-two metres (92m) - 300 feet - of the work advising that blasting operations are in progress,
 - (iii) at least three (3) minutes before firing a blast, the blaster shall give warning thereto by causing a competent man carrying a red flag to be situated at a reasonable distance from the blast at each avenue of approach or point of danger, and he shall give five (5) long blows on a whistle five (5) minutes before firing the blast and three (3) long blows one (1) minute before setting off the blast, and immediately following the explosion and, ascertaining that complete safety has been restored, shall sound one (1) long and shall then signal the traffic to proceed over such street or roadway,
 - (iv) no blasting is to be considered complete until the material broken at the firing of the last blast has been cleared away and the rock faces examined for misfires and cut off holes giving special attention to old bottoms, and the excavation has been pronounced safe by a certified blaster. This procedure is the responsibility of whichever blaster permit holder set off the blast,
 - (v) no charge of any explosive that has missed fire shall be withdrawn but the charge shall be blasted without undue delay,
 - (vi) no drilling or rock breaking shall be done within one hundred and fifty millimetres (150mm) - 6 inches - of any hole that has been charged and blasted or any remnant of such holes.

7. **INCORPORATION OF APPENDICES**

- (1) Appendix "A" is declared to form part of this by-law being a prescribed form "Application for Explosives Permit" and setting out the permit fee therein.
- (2) Appendix "B" is declared to form part of this by-law being a prescribed form "Applicaton for Blaster Licence" and setting out the licence fee therein.
- (3) Appendix "C" is declared to form part of this by-law being a prescribed form "Examination Report on the Competency of Applicant for a Blaster Licence".

8. **VIOLATIONS AND PENALTIES**

- (1) Every person who contravenes any of the provisions of this by-law (Chapter) is guilty of an offence and shall, upon conviction thereof, forfeit and pay a penalty of not more than Five Thousand Dollars (\$5,000), exclusive of costs and every such fine is recoverable under the *Provincial Offences Act*. (amended B/L 10277, May 22/90)
9. This by-law shall come into force and effect on the day of the final passing thereof.

(signed) "A. H. Weeks"
MAYOR

(signed) "J. B. Adamac"
CLERK

First Reading - October 22, 1979
Second Reading - October 22, 1979
Third Reading - October 22, 1979