

CHAPTER 2 BLASTING

2.01 Title.

This chapter shall be cited as the "Town of Deerfield Blasting Ordinance."

2.01 Authority

The regulations contained in this chapter are adopted to protect the public health, safety and welfare of residents of the Town of Deerfield. This chapter is authorized by the powers granted to the Town of Deerfield by the Town's adoption of Village powers under §60.10(2)(c), Wis. Stats., and is in accord with §61.34 (1), Wis. Stats., and Wis. Admin. Code SPS 307.

2.03 Purpose and Intent

The purpose of this chapter is to regulate the use of explosives in non-metallic mining operations, in demolition of structures or in other activities, which require, at a minimum, a class 3 blaster's license under Wis. Admin. Code §SPS 305.20 issued by the Wisconsin Department of Safety and Professional Services. This chapter is intended to limit the adverse effects of blasting on persons or property outside any controlled blasting site area.

2.04 Definitions

When used in this chapter, the terms below shall be defined and limited as follows:

- (1) **Affected building.** A building or structure within a distance extending 1320 feet from the outer perimeter of a controlled blasting site area.
- (2) **Airblast.** An airborne shockwave resulting from the detonation of explosives.
- (3) **Baseline Record.** Pre-blasting test results, including well test results of record that are measured after the longest period with no blasting activity.
- (4) **Blast site.** The area where explosive materials are handled during the loading of blast holes, including 50 feet in all directions from the perimeter formed by the loaded blast holes and 50 feet in all directions along the full depth of the blast hole.
- (5) **Blaster in charge.** The qualified person in charge of and responsible for loading and firing the blast.
- (6) **Blasting.** The use of explosives to loosen, penetrate, move or shatter masses of solid or semisolid materials.

- (7) Controlled blasting site area. An area that surrounds a blast site for which the operator has a legal right and duty to take all reasonable means to assure the safety of persons and property, either because the operator owns the area, because the operator has leased or has some special agreement with the owner of that area, or because the operator or blaster owes a special duty to other persons or property under other applicable regulations or laws.
- (8) Ground vibration. A shaking of the ground caused by the elastic wave emanating from a blast.
- (9) Licensed Blaster. An individual holding at least a valid Class 3 blaster's license issued by the Wisconsin Department of Safety and Professional Services authorized to perform and supervise blasting operations in Wisconsin, provided that the license authorizes the type of blasting authorized by a license issued under this chapter.
- (10) Peak Particle Velocity or "PPV". A measure of ground vibration describing the peak velocity at which a particle of ground vibrates when excited by a seismic wave.
- (11) "Nonmetallic mining" or "Nonmetallic mining operation." These terms as used in this chapter means any of the following:
 - (a) Extraction from the earth of mineral aggregates or nonmetallic minerals for off- site use or sale, including drilling and blasting as well as associated activities such as excavation, grading and dredging of such materials.
 - (b) Manufacturing or processing operations that may involve the use of equipment for the crushing, screening, separation, or blending of the mineral aggregates or nonmetallic minerals obtained by extraction from the mining site or with materials transferred from off-site.
 - (c) Manufacturing processes aimed at producing nonmetallic products or by products of such manufacturing processes for sale or use by the operator.
 - (d) Stockpiling of nonmetallic products for sale or use off-site and stockpiling of waste materials.
 - (e) Transport of the extracted nonmetallic materials, finished products or waste materials to or from the extraction site.
 - (f) Disposal of waste materials.
 - (g) Reclamation of the extraction site.

- (12) Operator. The individual or business entity conducting blasting activities, applying for a blasting license, or operating a non-metallic mining operation.
- (13) "License" or "Blasting License." A license to engage in blasting or other activities authorized under this Chapter.
- (14) Town. The Town of Deerfield, Dane County, State of Wisconsin

Town Board. The Town Board of the Town of Deerfield.

- (15) Town Clerk. The Clerk/Treasurer of the Town of Deerfield
- (16) Historic Building. A building or inhabited structure that is either:
 - (a) Constructed prior to 1900 A.D. and which has at least 50% of its original structure remaining after any renovations or additions; or,
 - (b) Registered with the National Register of Historic Places, the State Register of Historic Places, or listed with the Architecture and History Inventory maintained by the Wisconsin Historical Society².

2.05 Licenses Required.

No person, business or other entity may conduct blasting activities within the Town except pursuant to a valid license issued in accordance with the requirements of this Chapter and any other licenses or permits required under applicable state, federal or local statute or regulation. No holder of a blasting license issued under this chapter shall violate any term or condition of the license issued.

2.06 License Applications.

- (1) An application for a blasting license shall be signed by a licensed blaster and who shall agree to assume responsibility for the blasting activity and its compliance with all local and state regulations. A blasting license may be issued to a blasting business entity, provided that a licensed blaster signs the application and supervises the blasting activities.
- (2) Applications for a blasting license shall include copies of all required Town, County and State licenses or permits necessary for the operations that will include the proposed blasting.
- (3) Applications for blasting licenses shall be made on a form provided by the Town Clerk and shall be filed with the Clerk together with all additional, required documentation and the applicable license fees.

- (4) The application shall include the following information:
- (a) Applicant name including all partners if the applicant is a partnership, all officers if a corporation and all members, if a limited liability company, address, contact phone numbers, and email address.
 - (b) Name, address, license number, contact phone numbers, and email address of the blaster in charge of all blasting operations to be conducted under the license.
 - (c) A signature below a statement indicating acceptance of responsibility for all blasting activities to be conducted under the license, by a licensed blaster.
 - (d) Name, address, contact phone numbers, and email address of any person (agent or employee) in charge of the site at which the blasting operations will occur, who will be available at all times to respond to inquiries by, and receive notices from, the town.
 - (e) A map showing the location of the controlled blasting site area, the location of all buildings located within 1320 feet of the controlled blasting site area, and the names, addresses and contact information of the owners of those buildings.
 - (f) A description of the general operations conducted at the site.
 - (g) A certificate of insurance certifying a current policy of liability insurance satisfying the requirements of §2.15.
- (5) An application shall be regarded as "complete" only when all of the information and the fee payment required by this section have been received by the Town Clerk.

2.07 License Approval.

Upon receipt of a completed application form and the license fee, the Town Clerk shall place the application on the agenda for the next regular meeting of the Town Board scheduled more than 72 hours after submission of the application. If the Town Board determines that the application is complete and the proposed blasting activity will not likely create an unreasonable risk of injury to persons or property in the Town, the Town Board shall grant a blasting license. If the Town Board determines that the application is incomplete or that the proposed blasting activity is likely to create unreasonable risks to persons and/or property, it shall deny the license. In granting a license, the Town Board may impose any conditions it determines to be reasonably necessary to assure compliance with this chapter and §SPS 307, Wis. Admin. Code and to minimize the adverse impacts of the blasting operation on persons and property outside the controlled blasting area.

2.08 Control of Adverse Effects of Blasting

- (1) Blasting operations shall not cause impacts at any residence, private well, or inhabited structure that is not owned or controlled by the operator in excess of the following standards:
 - (a) Ground vibrations shall not exceed a PPV of 0.30 inches per second from more than two (2) individual blasts out of any ten (10) consecutive blasts;
 - (b) Ground vibrations shall not exceed a PPV of 0.40 inches per second from any individual blast;
 - (c) The frequency of ground vibrations caused by blasting under the license shall not be less than 14Hz from more than one (1) individual blast out of any ten (10) consecutive blasts, as measured by any monitoring equipment maintained pursuant to §2.13, except that the frequency of ground vibrations may be less than 14Hz when the PPV is 0.15 inches per second or less³.
 - (d) Ground vibrations shall not in any case, exceed any ground vibration limitation imposed by the Wisconsin Department of Safety and Professional Services in Figure 7.44 of §SPS 307, Wis. Admin. Code.; and
 - (e) The blasting operation shall not cause an airblast of an intensity greater than 123 dB(A) from more than one (1) individual blast out of any ten (10) consecutive blasts, nor more than 128 dB from any individual blast.
- (2) Ground vibrations from blasting operations shall not exceed a PPV of 0.20 inches per second at any Historic Building².
- (3) The frequency of ground vibrations caused by blasting under the license shall not be less than 14Hz at any Historic Building, as measured by any monitoring equipment maintained pursuant to §2.13, except that the frequency of ground vibrations may be less than 14Hz when the PPV is 0.15 inches per second or less.⁴

<p>2-Ordinance 2016-03 Amending Chapter 2 3- Ordinance 2016-04 Amending Chapter 2 4- Ordinance 2016-05 Amending Chapter 2</p>

2.09 Pre-blasting Survey

- (1) At least 5 days prior to submitting a blasting license application, the applicant shall notify, in writing, all residents or owners of buildings or other structures (including, but not limited to, wells) located within 1320 feet from the controlled blasting site area that the applicant intends to apply for a blasting license from the Town. The written notification shall include a statement indicating that, upon the written request of the owner or resident of the subject property, the applicant will perform a pre-blasting survey, to provide a baseline record of the pre-existing condition of building, structures, water supply wells and well water quality on the property against which the effects of blasting can be assessed. Any survey conducted shall include both the interior and exterior of the buildings. The notice shall indicate that no survey will be done unless the resident or owner makes a written request for the pre-blast survey and/or a water quality test for existing wells. The resident or owner shall make any request for a pre-blast survey or water quality test to the applicant, in writing. The applicant shall conduct a pre-blast survey only of requested dwellings or structures and conduct water quality testing as requested for existing wells at the applicant's expense.
- (2) If the resident or owner requests a copy of the survey and/or any well test results, the applicant shall provide the requested materials within 48 hours of the request or of the applicant's receipt of the survey or test results, whichever is later.
- (3) The Town reserves the right to require a baseline well pre-blast test and/or any post-blast well testing at any well in operation, not owned by the operator, within 1320 feet of the controlled blast site area.
- (4) Any pre-blast water quality and sediment testing shall be conducted by an independent testing company and a laboratory approved by the State of Wisconsin or an organization selected by the applicant and approved by the Town Board. All costs of such surveys and testing shall be the sole responsibility of the operator.

2.10 Notification of Blasting

The operator shall give notice of each blasting event as provided in this section.

- (1) At least 24 hours prior to initial blasting at a blast site, the operator shall notify all residents and owners of affected buildings of the anticipated date and time of each blasting event. The operator shall make all reasonable efforts to ensure timely and effective notice, using such means as a written notice, telephone, email or in-person communication.

- (2) The operator shall maintain a resident and owner call list for the purpose of notifying persons living in the vicinity of the blast site of blasting events. A resident or owner shall be placed on the call list only upon request to be so listed and contacted in the manner indicated by the resident or owner. The operator shall use the call list to provide notice as required under this section in the manner requested by the resident or owner.
- (3) Whenever blasting is being conducted in the vicinity of gas, electric, water, fire alarm, telephone, telegraph or steam utilities, the appropriate utilities shall be notified no less than 72 hours prior to commencing blasting.
- (4) Verbal (in person or telephone) or written (on hard copy or email) notice shall be given to the Town Clerk at least 24 hours prior to the onset of any blasting event. The operator may include a schedule including dates and times of scheduled blasting events with its application in lieu of providing the notice required by this subsection D for the listed blasting events. Separate notice shall be provided of any change in the scheduled blasts.

2.11 Blasting Hours.

All blasting operations shall be conducted between 9:00 am and 5:00 pm on Mondays through Fridays.

2.12 Blasting Log

An accurate blasting log shall be prepared and maintained for each blast fired, and furnished to the Town within 3 working days after each blast. A true and complete copy of the log shall be kept by the operator for a period of not less than 5 years. The Town may require that the operator furnish an analysis of any particular blasting log to be prepared by the operator. Each blasting log shall include at least the following information:

- (1) Name, signature and license number of the blaster in charge of the blast.
- (2) Specific blast location, including address, bench and station number if applicable.
- (3) Type of blasting operation.
- (4) Date and time of the blast.
- (5) Weather conditions at the time of the blast.
- (6) Diagram of the blast layout and the delay pattern.
- (7) Number of holes.
- (8) Hole depth and diameter.
- (9) Spacing of blast holes.
- (10) Burden of blast holes.
- (11) Maximum holes per delay.
- (12) Maximum pounds of explosives per delay.
- (13) Number, type and length of stemming used between decks.
- (14) Total pounds and type of explosives used.

- (15) Distance to nearest inhabited building not owned by the operator.
- (16) Type of initiation used.
- (17) Seismographic and airblast records, which shall include all of the following:
 - (a) Type of instrument and last laboratory calibration date.
 - (b) Exact location of instrument and the date, time, and distance from the blast.
 - (c) Name of the person and firm taking the reading.
 - (d) Trigger levels for ground and airvibrations.
 - (e) The vibration and airblast levels recorded.

2.13 Monitoring

- (1) The operator shall monitor with suitable seismographic measurement and recording equipment all blasts at the 3 closest locations to the controlled blast area of any affected building or structure beyond the controlled blasting area, and any building of historical interest within ¼ mile of the controlled blasting area, provided, however, that the operator may monitor at another location approximately the same distance from the perimeter of the controlled blast area if the operator is unable to obtain permission to conduct the monitoring from the owner of the required location.
- (2) The Town Clerk or Town Board, may, at its discretion, require the relocation of the monitoring equipment to a more suitable site if deemed necessary to obtain appropriate information to evaluate the impacts from the blasting operation.

2.14 Storage of Explosives

No storage of explosive material on site is allowed for any period in excess of 48 hours.

2.15 Financial Assurance

- (a) Each application for blasting license, or a renewal thereof, shall be accompanied by a Certificate of Insurance for a Commercial General Liability Policy against claims for bodily injury, death, or property damage arising out of the blasting operation. Said Policy of Insurance shall have limits of coverage of not less than five million (\$5,000,000.00) dollars in the aggregate and two and one-half million (\$2,500,000.00) dollars per occurrence.
- (b) Each insurance policy shall provide that it shall not be cancelled by the insurance company, except after not less than thirty (30)¹ days' notice to the Town, in writing, by registered or certified mail. Not less than ten (10)¹ days prior to the expiration of the thirty (30)¹ day notice of cancellation, the license holder shall deliver to the Town a certificate representing a replacement insurance policy. In the event the replacement certificate is not timely provided, the blasting license shall be automatically suspended until the certificate is provided, and all blasting shall immediately cease. The liability insurance policy must be issued by a company licensed by the State of Wisconsin to issue the policy

1- Ordinance 2016-01 Amending Chapters 1 & 2

2.16 License Durations, Renewals and Fees

- (1) A short-term license may be issued for a single blasting event and shall be valid for 14 days from the effective date of the license. The non-refundable fee for a temporary license shall be as determined from time to time by resolution of the Town Board. A short-term license may not be renewed. A regular license is required if blasting exceeds 14 days in any calendar year.
- (2) A regular license shall be granted for a period of one year. The non-refundable fee for an annual license shall be as determined by the Town Board from time to time by resolution.
- (3) An application for a renewal of any existing regular license may be made up to 60 days prior to the expiration date of the existing license.
- (4) Renewal licenses shall not require further pre-blast surveys, unless the Town Board determines that there has been a significant change in the condition of buildings or water supplies on nearby properties that may have been caused by prior blasting by the applicant under a current or prior license.
- (5) Licenses shall be renewed by the Town Board unless the Town Board finds any of the following:
 - (a) The license holder has violated one or more provisions of this chapter while operating under the current license;
 - (b) Blasting operations under the current license have caused damage to property owned by third parties that has not been remedied by the license holder;
 - (c) The continued blasting under the terms of the existing license create a substantial risk to the public health, safety or welfare.

2.17 Revocation and Suspension

- (1) The Town Board may suspend or revoke the blasting license for any violation of provisions or requirements of this chapter or of other applicable State and Federal law relating to blasting operations.

- (2) The Town Clerk shall provide the operator with no less than 72 hours' notice of a meeting where action to suspend or revoke the blasting license will be considered and the reasons for the proposed action. The licensee's failure to appear at such meeting shall be deemed a waiver of the opportunity to be heard prior to final action of the Town Board. Written or verbal notice of the suspension, and of conditions that must be met to reinstate the license, shall be promptly given to the operator at the address contained in the application.

2.18 Penalties

Any person who violates any provision of this chapter shall be subject to forfeiture in an amount not less than \$250 nor more than \$5000 for each day of continued violation, plus the Town's legal costs including but not limited to the cost of prosecution.

2.19 Severability and Interpretation

- (1) Should any section, clause, provision or portion of this chapter be adjudged unconstitutional or invalid, unlawful or unenforceable by a final order of a court of competent jurisdiction, including all applicable appeals, the remainder of this chapter shall remain in full force and effect.
- (2) The provisions of this chapter shall be liberally construed in favor of the Town and shall not be construed to be a limitation or repeal of any other power now possessed or granted to the Town.

2.20 No Liability for Damages

This chapter shall not be construed as an assumption of liability by the Town or its officers for damages because of injuries sustained or property damaged or destroyed by any person's failure to comply with the requirements set forth herein.