

# **THE TOWN OF ROCK ELM BLASTING ORDINANCE**

## **2014-01**

### **Section 1 Title**

This ordinance shall be cited as the "Town of Rock Elm Blasting Ordinance" and hereinafter referred to as "this ordinance".

### **Section 2 Authority**

This ordinance is adopted to protect the public health, safety and welfare of residents of the Town of Rock Elm. This ordinance is authorized by the powers granted to the Town of Rock Elm by the Town's adoption of Village powers under Wis. Stats., Sec. 60.10, is in accord with Wis. Stats., Sec. 61.34, and ch. SPS 307, Wis. Admin. Code, and also the Town of Rock Elm limit of 0.50 PPV

### **Section 3 Purpose and Intent**

The purpose of this ordinance is to regulate the use of explosives in non-metallic mining operations, in the erection or placement of structures greater than 15 feet high above the ground surface and in demolition of structures that require a level 3 license or higher depending on the limitations set in State regulations. This ordinance is intended to limit the adverse effects of blasting on persons or property outside any controlled blasting site area.

### **Section 4 Definitions**

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

- (1) Affected building or structure. 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) Blast area. The area of the blast as determined by the blaster in charge within the influence of flying rock missiles, the emission of gases, and concussion as determined by the blaster in charge.
- (4) Blast site. The area where explosive materials are handled during the loading of blast holes, including 50 feet in all directions from the edge of the perimeter formed by the loaded blast holes. A minimum of 30 feet may replace the 50 foot requirement, if the perimeter of loaded blast holes is marked and separated from the non-blast area outside of the site by a protective barrier. The 50 feet or 30 foot distance requirements apply in all directions along the full depth of the blast hole.
- (5) Blaster. Any individual holding a valid blaster's license issued by the Wisconsin Department of Commerce.

- (6) Blaster in charge. The qualified person in charge of and responsible for loading and firing the blast.
- (7) Blasting. The use of explosives to loosen, penetrate, move or shatter masses of solid materials.
- (8) Blasting resultants. Effects caused by blasting including, but not limited to, projectile matter, vibrations and concussion that cause injury, damage or unreasonable annoyance to persons or property located outside the controlled blasting site area.
- (9) Controlled blasting site area. An area that surrounds a blast site from 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, or because the operator has leased or has other agreement with the owner of that area which gives the operator the right to control the area for such purposes.
- (10) Flyrock. Rock or karst that is propelled through the air from a blast.
- (11) Ground vibration. A shaking of the ground caused by the elastic wave emanating from a blast.
- (12) Karst. An area or surficial geological features subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include areas with soils less than 60 inches thick over bedrock, caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps, swallets, and depressions with no surface drainage.
- (13) Particle velocity. A measure of ground vibration describing the velocity that a particle of ground vibrates when excited by a seismic wave.
- (14) PPV. Peak Particle Velocity is the maximum instantaneous particle velocity allowed.

### **Section 5 Applicability**

(1) This ordinance shall apply:

(a) To any person who blasts in the Town of Rock Elm in order to establish a footing, foundation, or other method of support for the construction, placement or erection of structures greater than 15 feet high above the ground surface.

(b) To any person who conducts blasting in the Town of Rock Elm as part of a nonmetallic mining operation.

(c) To any person who blasts in the Town of Rock Elm in order to demolish buildings or other structures when these require a level 3 license or higher depending on the limitations set in State regulations.



(2) Applications for a permit to blast shall only be submitted by and issued to an individual who holds a valid blaster's license issued by the Wisconsin Department of Commerce with the proper classification or who is supervised by a licensed blaster.

(3) Applications for a permit to blast may be submitted by and issued to a blasting business, provided that the individual operating under the permit holds a valid blaster's license issued by the Wisconsin Department of Commerce with the proper classification or is supervised by a licensed blaster.

(4) No blasting permit shall be issued to any person, unless the operation which blasting supports has all necessary state, county and town permits and is in compliance with all Town, County and State regulations, including but not limited to, the requirements of this chapter.

### **Section 6 The Application**

(1) An applicant shall obtain an application form for a blasting permit from the Town Clerk. The applicant shall submit the completed application form together with all additional documentation to the Town Clerk.

(2) The application shall include the following information on the form itself or on documents attached to the form:

(a) Name, license number, address, land and cell phone numbers, and email address of the applicant.

(b) Name address, license number, land and cell phone numbers, and email address of the blaster in charge of the blast, if other than the applicant.

(c) Name address, land and cell phone numbers, and email address of the person in charge of the operation that blasting will be used to support.

(d) A map showing the location of the blasting site and a brief description of the operation at the site. Include on this map the location of all buildings located within 500 feet of the controlled blasting site, attaching the names, addresses and land phone numbers of owners of those buildings.

(e) Copies of all County and State permits that have been granted to the operator for whose operation blasting is giving support.

(f) Proof of insurance.

(g) A Pre-blasting site inspection report.

(h) Copies of preblast report.

(3) An application shall be regarded as "complete" only when the information requested in section 6(2)(a-h) of this ordinance has been provided to the Town Clerk on the form or on attachments to the form.

### **Section 7 Pre-blasting Surveys**

(1) Pre-blasting surveys shall be conducted to determine the baseline condition of all buildings or structures within 1320 feet of the blast site(s). The quality of water in all wells within 1 mile of the blast area shall be tested. The pre-blasting surveys shall be completed at the applicant's expense. Each survey shall provide the name and address and telephone number (if known) of the resident or owner of said buildings, structures and or wells, and shall document any pre-blasting presence or absence of damage or other physical factors that could reasonably be expected to be affected by the use of explosives. The testing of wells shall determine whether the water is safe for human consumption according to established drinking water quality standards, including standards applicable to children of all ages and pregnant women. If the blasting for which a permit application is being made is part of an operation that has been already permitted, those water quality tests will be considered valid for a period of 180 days. Information regarding those tests can be submitted instead of testing the wells again.

(2) If any new building or structure is added or a new well drilled subsequent to the effective date of the permit, the owner may request and the permittee shall provide a survey to be done of that building or well and the permittee shall conduct that survey, at the permittee's expense. In addition, if a building or structure is improved and the cost of the improvement exceeds 50% of its fair market value prior to the improvement, the owner of that building or structure may request, and the permittee shall provide that a pre-blasting survey be completed, at the permittee's expense.

(3) Prior to obtaining a blasting permit, 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 blasting site that the applicant intends to apply for a blasting permit from the Town of Rock Elm and will be completing a pre-blasting survey as part of the application and review process. The written notification shall include a statement indicating that the survey provides a baseline record of the pre-existing condition of building or a structure against which the effects of blasting can be assessed and it should include both the interior and exterior of the buildings. It shall also indicate that no survey will be done unless the resident or owner makes a written request for a pre-blast survey and a water quality test for existing wells. The resident or owner shall make this request in writing to the applicant. The applicant shall conduct a pre-blast survey only of requested dwellings or structures and conduct water quality testing for existing wells.

(4) All affected residents or owners shall receive a copy of the preblast survey, the blaster shall provide the copy prior to any blasting.

(5) Where a blasting permit is renewed as part of a permitted continuing, uninterrupted operation extending beyond 12 months, the applicant shall not be required to conduct a pre-blast survey of



any dwelling or structure, or conduct a well water quality test more than once every two (2) years unless complaints of damage have been received during the previous permit period.

(6) The pre-blast survey and water quality testing shall be conducted by an independent survey company and a laboratory approved by the State of Wisconsin or an organization selected by the applicant and acceptable to the owner or resident and the Town. Reasonable and reasonably related costs of such independent survey shall be the sole responsibility of the applicant/permittee.

### **Section 8 Procedures**

(1) Upon receipt of a complete application and the permit fee(s), the Town Clerk shall place the application on the agenda for the next meeting of the Town Planning Commission. The Town Planning Commission shall review the application. If it determines that the permit application is complete and the proposed blasting activity will comply with all the applicable provisions of this ordinance and Wis. Administrative Code ch. SPS 307, and the Town of Rock Elm limit of 0.50 PPV the Town Planning Commission shall recommend that the Town Board grant a blasting permit. The Town Planning Commission may recommend conditions precedent to permit issuance to address unique and discreet issues and concerns peculiar to the proposed blasting and/or blast site. If Town Planning Commission determines that the application is incomplete or that the proposed blasting activity will not be conducted in conformity with the provisions of this ordinance or Wis. Administrative Code ch. SPS 307, the Town Planning Commission shall recommend the Town Board deny the permit.

(2) The Town Planning Commission shall present its recommendation at the next regularly scheduled Town Board meeting for review and action by the Town Board. The Town Board may approve, approve with conditions, deny or request additional information, as appropriate.

### **Section 9 Pre-Blasting Site Inspection**

(1) The blaster shall visually inspect the controlled blasting site area to determine if there is any evidence of a sinkhole, a cave or a subsurface void in the karst that could be part of a sinkhole or cave. If visual inspection reveals such, no blasting shall occur, nor shall any structure support be placed therein.

(2) In addition to a visual inspection, especially if visual inspection is inconclusive and the general area is known to have sinkholes and caves, it is recommended that the blaster use probes (such as borings) or geophysical methods such as resistivity tomography, seismic refraction, microgravity or ground penetrating radar, to ascertain the presence of sinkholes or caves.

(3) The blaster shall submit a pre-blasting site inspection report regarding his finding and methods used to the Town Planning Commission at the time an application for a permit to mine is made.

## **Section 10 Notification of Blasting**

Notification must be given to the following persons and by the following means at least 72 hours prior to the initial blasting at a blast site as well as prior to all subsequent blasting events at the blast site:

- (1) At least 72 hours prior to initial blasting at a blast site, the blaster in charge shall make a reasonable effort to notify all residents or owners of affected buildings, as defined in section 7 (2) of this ordinance. The blaster shall make all reasonable efforts to ensure timely and effective notice that a blasting operation is to begin, using such means as a written notice, a phone call, email or verbally in person.
- (2) A resident call list shall be established for the purpose of notifying persons living within 1 mile of the blast site at least 72 hours prior to a blasting event. The call list must be maintained and used prior to any blast.
- (3) Before any blasting operation or blasting event, the blaster in charge shall give notice thereof by the conspicuous display of a fluorescent flag and legible sign displayed within 100 feet of all public roads bordering the blasting site or at least the nearest public road bordering the blasting site. Said sign should also warn against the use of all mobile wireless communication equipment on all roads within 1000 feet of the blasting operations. The flag and sign shall be displayed prior to and during all blasting operations and events.
- (4) A distinctive warning signal shall be sounded prior to commencing blasting. Automotive or truck horns shall not be used as a warning signal.
- (5) Whenever blasting is being conducted in the vicinity of gas, electric, water, fire alarm, telephone, telegraph or steam utilities, these utilities shall be notified no less than 72 hours prior to commencing blasting.
- (6) Verbal (in person or by phone) and written (on hard copy or email) notice shall be given to the Town Clerk, the Town Chairperson, and the Town Planning Commission Chair at least three full working day prior to the onset of any blasting event. If a schedule including dates and times of blasting events is known at the time of application, making that schedule part of the application can serve as written notice. If part of the application, further notice shall be required only if there is deviation from the schedule.

## **Section 11 Blasting Schedule.**

All surface blasting shall be conducted between 10:00 AM- 3:00 PM, unless one of the following conditions applies:

- (1) A more restrictive time period is specified by the Town as a condition of use.



- (2) The operator has shown that the public will not be adversely affected by noise and other impacts, and the Town Board has approved a permitted deviation from normal blasting hours.

### **Section 12 Blasting Log**

An accurate blasting log shall be prepared and maintained for each blast fired, and a true and complete copy of this log shall be kept by the permittee for a period of not less than 5 years and furnished to the Town of Rock Elm within 3 working days of a request for a copy of said log by the Town Clerk, Town Planning Commission or Town Board. The Town of Rock Elm may require that the permittee furnish an analysis of any particular blasting log to be prepared by the permittee. Each blasting log shall include, but not be limited to, the following information:

- (1) Name and License number of the blaster in charge of the blast.
- (2) Blast location references on an aerial photograph.
- (3) Date and Time of blast.
- (4) Weather conditions at the time of blast.
- (5) Diagram and cross section of blast hole layout.
- (6) Number of blast holes.
- (7) Blast hole depth and diameter.
- (8) Spacing and burden of blast holes.
- (9) Maximum holes per delay.
- (10) Maximum pounds of explosives per delay.
- (11) Depth and type of stemming used.
- (12) Total pounds and type of explosives used.
- (13) Distance to nearest inhabited building not owned by the operator/blaster in charge.
- (14) Distance of blast hole to groundwater.
- (15) Type of initiation used.
- (16) Seismographic and air blast 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 person and firm taking the reading.
- (d) Trigger levels from ground and air vibrations.
- (e) The vibration and air blast levels recorded.

### **Section 13 Monitoring**

- (1) The permittee shall monitor all blasts at the closest location to the controlled blast area of any affected building or structure beyond the controlled blast area, provided, however, that the permittee may monitor at another location approximately the same distance from the perimeter of the controlled blast area, if the permittee is unable to obtain permission to conduct the monitoring from the owner of the preferred location. The Permittee shall explain to landowner or resident the benefit of having a seismograph located on their property.
- (2) The Town of Rock Elm, by its Town Clerk, Town Planning Commission or Town Board, may, at its discretion, require the relocation of the monitoring equipment to a more suitable site.

### **Section 14 Storage of Explosives**

No storage of explosive material on site is allowed.

### **Section 15 Control of Adverse Effects**

The permittee and the operation requiring blasting shall be responsible for taking all reasonable actions necessary to control the adverse effects described herein.

- (1) General requirements. Blasting shall be conducted by the permittee and the operation requiring such blasting so as to prevent injury and unreasonable annoyance to persons and damage to public or private property outside the controlled blasting site area.
- (2) Flyrock. The permittee and the operation requiring blasting shall take all reasonable actions to assure that flyrock traveling in the air or along the ground meets all of the following conditions:
  - (a) Remain within the controlled blasting site area.
  - (b) Not be cast more than one-half the distance to the nearest inhabited building within or outside of the controlled blasting site area.
- (3) Airblast.
  - (a) An air blast may not exceed 133 peak dB at the location of any dwelling, public building or place of employment outside the controlled blasting site area.



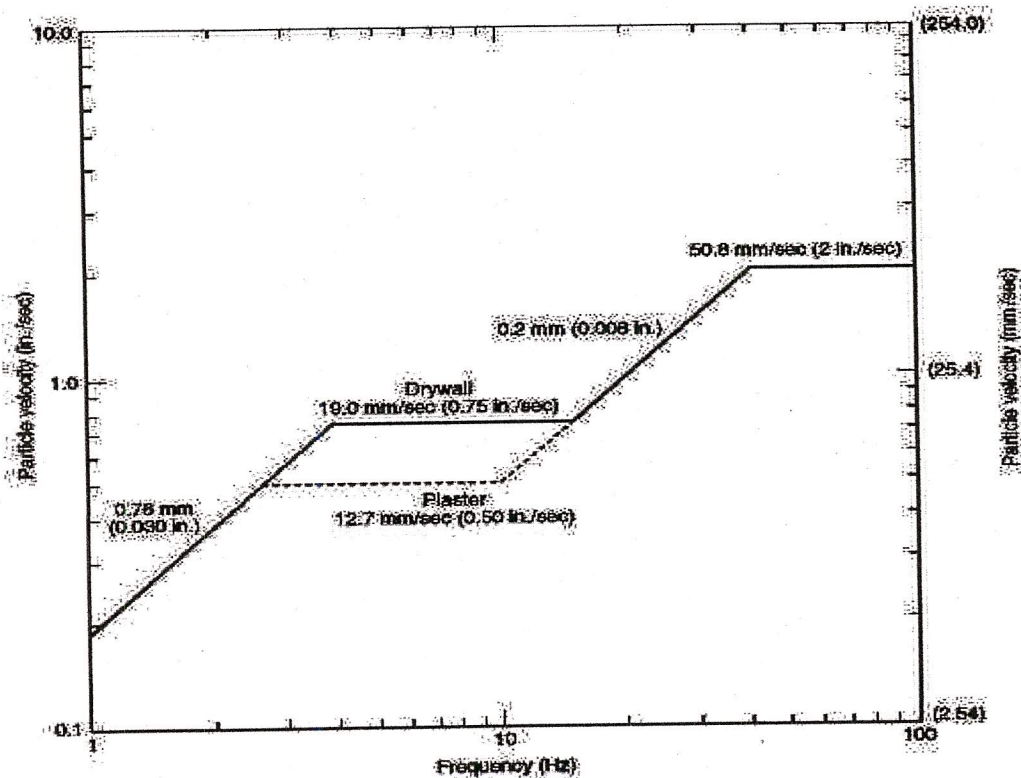
(b) The blaster shall conduct monitoring of every blast to determine compliance with the air blast limit. The measuring system used shall have a lower-end flat frequency response of not more than 2 Hz and an upper-end flat frequency response of at least 200 Hz

(4) Ground vibration.

(a) The maximum ground vibration at the location of any dwelling, public building or place of employment outside the controlled blasting site area shall be established in accordance with the blasting-level chart of par. (c) not to exceed 0.50 PPV.

(b) All structures in the vicinity of the controlled blasting site area, not listed in subd.1., such as water towers, pipelines and other utilities, tunnels, dams, impoundments and underground mines, shall be protected from damage by establishment by the blaster of a maximum allowable limit on the ground vibration not to exceed 0.50 PPV. The blaster shall establish the limit after consulting with the owner of the structure and results from the preblast survey.

(c) The blaster shall use the ground vibration limits specified in Figure 7.44 WI Admin. Code ch. SPS 307 (below) to determine the maximum allowable ground vibration. Ground vibration shall be measured as the particle velocity. Particle velocity shall be recorded in 3 mutually perpendicular directions. The Town of Rock Elm has established a maximum PPV of 0.50.



(d) The blaster shall make and keep a seismograph record including both particle velocity and vibration frequency levels for each blast. The method of analysis shall be subject to discretionary review by the Town Plan Commission. Records of the blast must be presented to the Town Clerk within 10 days of the blast

(e) For quarry operations, the blaster shall report any ground vibration levels to the Town Board that are above 0.50 inch per second with frequencies less than 40 Hz.

#### **Section 16 Proof of Insurance**

Each application for an explosives use permit as herein stated, or a renewal thereof, shall be accompanied by a certificate of Insurance for a Commercial General Liability Policy and said Policy of Insurance shall have limits of coverage of not less than nine million (\$9,000,000.00) dollars in the aggregate and four million (\$4,000,000.00) dollars per occurrence and the Town shall be named as an additional insured on said Policy of Liability Insurance.

#### **Section 17 Permit Durations, Renewals and Fees**

(1) A short-term permit may be issued for a single blasting event and shall be valid for 14 days from the effective date of the permit. A short term blasting permit shall require all of the standards and regulations stated above including insurance coverage. It must be done by a licensed blaster. Only one subsequent short term permit may be granted. The fees shall be as established by resolution of the Town Board in the Town of Rock Elm Fees and Forfeiture Schedule, as from time to time amended.

(2) A intermediate term permit shall be granted for period of no more than 180 days. The fee as established by resolution of the Town Board in the Town of Rock Elm Fees and Forfeiture Schedule, as from time to time amended.

(3) For continuing operations an Annual Blasting Permit is required. The fee shall be as established by resolution of the Town Board in the Town of Rock Elm Fees and Forfeiture Schedule as from time to time as amended.

(4) An application for a renewal of an existing permit shall be made 60 days prior to the expiration date of the existing permit.

#### **Section 18 Revocation and Suspension**

(1) The Town Board, on its own motion or following due review and investigation of a written complaint, may suspend or revoke the blasting permit for any violation of provisions or requirements of this ordinance or of other applicable State and Federal law. The following persons may file a written complaint and request suspension or revocation:

(a) A resident, lessee or owner of an affected building, structure or well.

(b) A building inspector.



(c) The Town Chairperson.

(d). A Town Supervisor.

(e) The Town Planning Commission Chairperson or member.

(2) Where warranted, by exigent circumstances affecting public health, safety and welfare as determined in the reasonable discretion of the Town Board, a blasting permit may be temporarily suspended upon meeting of the Town Board ( Notice of such a meeting shall be given to the permittee via emergency telephone or contact method as supplied on the application). Written notice of a temporary suspension, and of conditions that must be met to reinstate the permit, shall be promptly given to the permittee at the address contained in the application.

(3) Except as provided in subsection 2 above, the Town Clerk shall provide the permittee with no less than 72 hours notice of a meeting where action to suspend the blasting permit is on the agenda. Permittee'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 (In case of extenuating circumstances, a meeting may be rescheduled). Written notice of a suspension, and of conditions that must be met to reinstate the permit, shall be promptly given to the permittee at the address contained in the application.

(4) Prior to revocation of a blasting permit, the Town Board shall give the permittee no less than 72 hours notice of a meeting where action to consider revocation and to revoke shall be taken. The permittee shall be given a reasonable opportunity to be heard prior to final action by the Town Board. Permittee'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 (In case of extenuating circumstances, a meeting may be rescheduled) . Written notice of a revocation shall be promptly given to the permittee at the address contained in the application.

### **Section 19 Penalties**

(a) In addition to the denial, suspension or revocation of a permit issued under this ordinance, any person who violates any provision of this ordinance shall be subject to forfeiture in the amount of \$10,000.00 for each violation.

(b) Any person or entity adjudicated guilty of a violation of this Ordinance shall pay court costs and reasonable attorney fees and any other associated fees and costs.

(c) The remedies provided herein shall not be exclusive of other remedies.

### **Section 20 Severability and Interpretation**

(1) Should any section, clause, provision or portion of this ordinance 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 ordinance shall remain in full force and effect.

(2) The provisions of this ordinance shall be liberally construed in favor of the Town of Rock Elm and shall not be construed to be a limitation or repeal of any other power now possessed or granted to the Town of Rock Elm.

#### **Section 21 No Liability for Damages**

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

#### **Section 22 Blasting Agreement**

Any of the provisions of this Ordinance maybe modified by agreement between the Town and the Operator if the Town Board determines that the Agreement provides protections for the public at least equal to those of this Ordinance. The Town Board may establish unique protocol for blasting operations to be conducted by the operator based upon such factors as pre-existing conditional use permit conditions under which the operator is operating the mine and size of the mine site. No modification shall be made without first referring the matter to the Town Plan Commission for recommendation following a public hearing to be conducted by the Plan Commission. All landowners within 1 mile of the exterior boundary of the mine site shall receive notification of the public hearing at least 14 days prior thereto.

#### **Section 23 Effective Date**

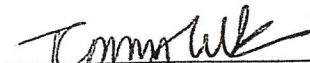
Following passage by the Town Board, this ordinance shall take effect the day after the date of publication or posting as provided by law.

ADOPTED this 8 day of 2014, 2014.

**TOWN OF ROCK ELM**

  
John Eager, Town Board Chairperson

Attested to this 8 day of Sept, 2014.

  
Tammy Waltz, Town Clerk

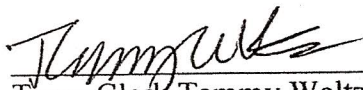


Posted this 11 day of Sept 2014, in the following places in the Town:

Town Hall

Town Dump

Exile Bar & Grill

  
Town Clerk Tammy Waltz