

## ORDINANCE NO. 1994-6

### AN ORDINANCE FOR THE ESTABLISHMENT OF BLASTING AND DUST CONTROL GUIDELINES FOR QUARRIES OPERATING IN THE TOWN OF CLOVERDALE, INDIANA

WHEREAS, it is now deemed necessary for the Town of Cloverdale, Indiana to adopt an ordinance regulating the conduct of quarry operations within the corporate limits of the Town; and

WHEREAS, this ordinance being more comprehensive in its scope, it is now deemed necessary for the Town to amend its zoning ordinance to provide that performance standards contained therein are inadequate as they pertain to quarries, and that the terms of these standards should be applicable to quarries.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED BY THE TOWN COUNCIL OF THE TOWN OF CLOVERDALE, INDIANA, AS FOLLOWS:

Section 1. Purpose. The purpose of this Ordinance is to provide standards for the protection of the public health, safety and welfare.

Section 2. Scope. The provisions of this Ordinance apply to all stone and mineral quarries operating within the corporate limits of the Town of Cloverdale, whether now existing or hereafter established, except as hereinafter expressly provided.

Section 3. General Noise Control Guidelines.

- a. All stone and mineral quarries within the Town of Cloverdale shall comply with all applicable State and Federal regulations as they relate to blasting.
- b. All blasts shall be sized and designated to minimize ground vibrations and air blasts.
- c. Explosives shall not be stored at the stone or mineral quarry.
- d. Prior to commencement of operations, any stone or mineral quarry hereafter established (including any stone or mineral quarry where production is reestablished after more than one year without production) in the Town of Cloverdale shall offer to perform a pre-blast survey at no cost to the property owner, of each residence currently existing within 1,500 feet of the proposed final excavation limit. The offer shall be made in writing, and sent by certified mail, return receipt requested. Such survey will be performed by an independent company, and copies of the survey will be given to the owners. This offer shall be extended up until the date that production blasting is initiated.

e. The owner and, if different, the operator of the stone or mineral quarry shall retain responsibility for all blasting regardless of whether the blasting is done by the owner's and/or operator's personnel, or done by others performing as independent subcontractors.

#### Section 4. Blasting Practices.

a. When a blast occurs within 2,000 feet of the limits of the quarry property, all quarry faces shall be oriented toward the interior of the quarry property, away from the property lines.

b. Blasting shall be limited to the period between 10:00 a.m. to 5:00 p.m. on weekdays, and explosives shall not be detonated on weekends or holidays recognized by the State of Indiana, except when necessary to detonate a loaded shot which could not be detonated because of sudden adverse weather or other conditions which could not reasonably be foreseen by the quarry operator.

c. All blasting shall be conducted by a qualified blaster pursuant to applicable requirements, if any, of the State of Indiana and federal regulations.

d. Blasting shall not occur during weather conditions that are known to cause a reflection of a significant amount of the noise and energy of the blast back to the ground unless a loaded charge must be detonated before the end of the day. Such weather conditions may include:

- i. A severe temperature inversion;
- ii. Periods of strong winds; and
- iii. Calm overcast days with very low cloud ceilings.

e. Blasting shall come no closer than 100 feet to any natural gas pipelines unless the pipeline company authorizes or company authorizes or confirms, in writing, a lesser distance, provided that such distance shall in no event be less than 25 feet.

f. Blast hole drillers shall report any cavities encountered during drilling to the blasting supervisor **who shall record such reports in a blasting report.** During loading explosives, all cavities shall be sleeved or "stick" explosives shall be used and the amount of explosives loaded into each hole monitored and recorded to avoid overloading a blast. **These blasting reports shall be made available for inspection and copying the Town officials during normal business hours.**

#### 5. Monitoring Guidelines.

a. All blasts shall be monitored for both horizontal and vertical ground vibrations and for air blast.

b. For each blast, at least two seismographs shall be used, placed approximately at right angles to each other, with one being approximately behind the shot, opposite the direction of the blast and the other being generally between the blast and developed areas of the Town, located at the nearest available residence or other building generally occupied by the public during the period when blasting occurs.

c. The seismographs shall be of a type making a permanent record of the results, such as Everlert II including printer, manufactured by Vibra-Tech Engineering, Inc. or equivalent.

d. Records for each blast, including location of blast, number of holes, depth of holes, amount of explosives used, amount of stemming and approximate number of tons of stone blasted, together with the seismograph record shall be maintained by the quarry operator at the site for a period of no less than three years.

e. Records from each blast shall be available for inspection and copying by Town of Cloverdale officials or their designated representatives.

f. If the average frequency of blasting in any calendar year is equal to or less than once per week, vibration and air blast monitoring shall be performed at least once during that calendar year. If the average frequency of blasting in any calendar year is greater than once per week, vibration and air blast monitoring shall be performed at least twice during that calendar year. Vibration and air blast monitoring shall be performed by an independent company, such as Vibra-Tech, Inc. or equivalent at the expense of the operator, and their results shall be retained along with other blasting records in accordance with Sections 5d. and 5e. above, a copy of the monitoring report shall also be provided to the Town Clerk within 15 days.

#### Section 6. Vibration and Air Blast Limits

a. Any one of the frequency response method of recording ground vibrations, the U. S. Bureau of Mines Siskind Curve Method or the OSMRE alternative blasting level criteria shall be used for analyzing the seismograph results.

b. The maximum peak particle velocity (PPV), measured in the 40 Hz frequency range shall be 0.60 inches per second.

c. The maximum air blast at any seismograph monitoring location, measured in the "A" scale, shall be 125 decibels and, if measured in the lienal scale, shall be 129 decibels (provided that the equipment can measure the energy down to 6 Hz).

#### Section 7. General Dust Control Guidelines

a. The quarry operator shall obtain and maintain all permits required pursuant to state and federal air pollution control laws and regulations.

- b. All trees and vegetation shall be left in place to the greatest extent possible.
- c. Overburden removal shall be limited to the area expected to be mined during operating season, except where the quarry operator desires to construct earthen berms around the quarry site or pit (in which case, if the areas so disturbed will not be mined within one year, they will be seeded and maintained in a permanent cover crop to prevent wind and water erosion). The quarry operator shall also provide Town officials with a copy of an erosion control plan and comply with "Rule 5" (327 IAC 15-5) as adopted by the State Water Pollution Control Board.
- d. Overburden berms shall be graded and seeded promptly following completion of the berm.

#### Section 8. Dust Control Measures

- a. Wet suppression control system equipment shall be installed and maintained at all crushing and screening equipment, and conveyor transfer points, except for the wet section of the processing plant when water is added to the process in sufficient quantities to clean the stone free of all fine particles.
- b. Paved Roads and Parking Lots
  - i. The access road from any adjacent public street or highway shall be paved for a distance of at least 500 feet from the edge of that public street or highway.
  - ii. At the interior end of any paved access road, either (i) a series of speed bumps shall be installed to "bump" any dirt and mud from the truck tires and truck body or (ii) a pull-off area will be installed to permit drivers to remove dirt, mud and excess stone from the truck tires and truck body.
  - iii. The paved portion of the access road, including any speed bumps and any paved parking or pull-off areas shall be vacuumed or washed free of any dirt whenever needed to prevent the generation of dust, but no less than once each week during periods of operation.
- c. Unpaved Roads and Parking Lots
  - i. All interior roads, quarry floor, stockpile areas, and the like, that will experience vehicle traffic shall be sprayed with water on an as-needed basis to minimize the generation of dust.
  - ii. Records of water applications shall be retained for a period of at least three years at the site, and made available to Town of Cloverdale officers or their designated representatives for inspection and copying.
- d. Open stockpiles containing greater than one percent of material finer than 200

mesh size, such as #53 or #73 dense graded aggregate, shall be sprayed with water using a truck equipped with a fire nozzle spray system on an as-needed basis to minimize the generation of dust.

e. Loading of stone trucks, hoppers or bins, either in the quarry or in and around the processing plant shall be done in a manner to minimize the free fall distance.

f. No visible fugitive dust shall cross the boundaries of the quarry property except in accordance with state and federal air emissions standards.

Section 9. Enforcement

Whenever in this ordinance, the doing of any act, or the omission to do any act or to perform any duty, is a violation, any person held liable by a court of competent jurisdiction shall be fined not more than Five Hundred Dollars (\$500.00) for the first such violation in a twenty-four (24) month period, One Thousand Dollars (\$1,000.00) for the second such violation in twenty-four month period or Two Thousand Five Hundred Dollars (2,500.00) for the third or more such violation in a twenty-four month period. In addition, the Town of Cloverdale may enjoin or abate any violation of this ordinance by appropriate action.

PASSED AND ADOPTED by the Town Council of the Town of Cloverdale, Indiana, this 9 day of May, 1994.

By: Phyllis J. Galbraith  
President

By: Martha A. Davis  
Member

By: Sandra J. Todd  
Member

By: Jesse Pickett  
Member

By: Marcia E. Mann  
Member

ATTEST:

Eda Leno Cloverdale  
Clerk-Treasurer