

ORDINANCE NOS. 2388 & 2416
(Blasting Regulations)

On November 15, 2005, City of Henderson adopted Ordinance 2388. REPEALING SECTION 7705 OF "ATTACHMENT A" OF SECTION 15.32.030 "FIRE CODE AMENDMENT, 2000 UNIFORM FIRE CODE AMENDMENTS" OF THE HENDERSON MUNICIPAL CODE AND ADOPTING A NEW CHAPTER 15.33 TO THE HENDERSON MUNICIPAL CODE ENTITLED "BLASTING REGULATIONS," AND OTHER MATTERS RELATED THERETO.

On December 6, 2005, City of Henderson adopted Ordinance 2416 which amended Ordinance 2388 REPEALING SECTION 15.33.140.07 OF ORDINANCE 2388 TO THE HENDERSON MUNICIPAL CODE ENTITLED "NOTIFICATION PLAN" AND REPLACING IT WITH A NEW SECTION 15.33.140.07 ENTITLED "NOTIFICATION PLAN"; AND REPEALING SECTION 15.33.150.02 OF ORDINANCE 2388 TO THE HENDERSON MUNICIPAL CODE ENTITLED "NEIGHBORHOOD MEETING" AND REPLACING IT WITH A NEW SECTION 15.33.150.02 ENTITLED "NOTIFICATION PLAN"; AND OTHER MATTERS RELATED THERETO.

- WHEREAS, The City Council for the City of Henderson acknowledges the unregulated use of explosives is inherently dangerous to public health, safety and welfare.
- WHEREAS, Use of explosives is recognized under Nevada law as an ultra-hazardous activity for which operators are strictly liable for any death, injury or property damage caused thereby.
- WHEREAS, The City Council further acknowledges that the use of explosives within the City of Henderson is a process utilized for the orderly development of terrain not readily improved without blasting. Regulation of such activity is required to preserve public health, safety and welfare, including peaceable use and enjoyment of both private and public property.
- WHEREAS, Public notification and education regarding the use of explosives is deemed paramount to inform the citizenry regarding blasting operations;
- WHEREAS, Blasting activity within extremely close proximity to existing homes, utilities and other buildings (within 100 feet) increases the risk of injury and damage to persons and property, and negatively impacts the quality of life;
- WHEREAS, Blasting activity from 100 to 300 feet of buildings and utilities, while scientifically capable of safe operation, requires special consideration to preserve quality of life and use of property; and
- WHEREAS, Regulated blasting activity beyond 300 feet of buildings and utilities is the minimum distance acceptable for blasting activity with general conditions.

NOW, THEREFORE, the City Council does ordain as follows:

SECTION 1. Section 7705 of Attachment "A" of Section 15.32.030 to the "Fire Code Amendment, 2000 Uniform Fire Code Amendments" of the Henderson Municipal Code is hereby repealed.

SECTION 2. Henderson Municipal Code Chapter 15.33 entitled "Blasting Regulations" is hereby adopted.

SECTION 3. As authorized by Henderson City Charter Section 2.160(3), the Blasting Regulations described herein, together with certain appendices, is hereby adopted with other matters related thereto and set forth as follows: Chapter 15.33 Blasting Regulations

15.33.010	Short Title.
15.33.020	Adoption.
15.33.030	Scope
15.33.040	Substantial Compliance Standard
15.33.050	Technical Opinions & Reports
15.33.060	Inspections
15.33.070	Enforcement Authority
15.33.080	Citations
15.33.090	Appeals & Other Enforcement Actions
15.33.100	Penalties & Other Enforcement Actions
15.33.110	Definitions
15.33.120	Permits
15.33.130	Performance Standards
15.33.140	Non-Proximate Blasting Permit Requirements
15.33.150	Proximate Blasting Permit Requirements

15.33.010. SHORT TITLE.

This Chapter shall be known as the City of Henderson "Blasting Regulations" and may be cited as such.

15.33.020. ADOPTION.

The City of Henderson adopts this Ordinance as its Blasting Regulations and by this designation and reference is hereby adopted and made a part of this chapter, the same as if it were fully set forth herein. One copy of this Blasting Regulations is on file in the Office of the City Clerk.

15.33.030. SCOPE

The on-site storage, handling, and use of explosives to prepare land for development shall be in accordance with this ordinance, except for the following:

1. The armed forces of the United States, Coast Guard or National Guard.
2. The transportation and use of explosive materials by federal, state and local regulatory law enforcement and fire agencies acting in their official capacities.
3. When preempted by federal law or regulations

NOTE: The manufacturing, possession, off-site storage, sale, transportation, handling, and use of explosives shall be in accordance with the adopted Fire Code and all applicable State and Federal regulations.

The use of explosives within 100 feet of a building or utility is prohibited.

Exceptions:

1. When the use of explosives is required to eliminate imminent hazards.
2. Public construction projects.
3. Where written permission of all building owner(s) within 100 feet of the blast hole(s) has been obtained on a form provided by the City.
4. Where written acknowledgement of all utility owner(s) within 100 feet has been obtained on a form provided by the City.

The use of explosives is permitted at a distance greater than 100 feet and less than 300 feet from a building or utility (herein identified as "proximate" blasting) only upon issuance of a proximate blasting permit, as specified herein.

The use of explosives is permitted greater than 300 feet from a building or utility (herein identified as "non-proximate" blasting).

15.33.040 SUBSTANTIAL COMPLIANCE STANDARD

In the enforcement of this ordinance the Fire Chief and the Building & Fire Safety Director are authorized to grant minor variances from the strict application of this ordinance where, in the opinion of the Fire Chief and the Building & Fire Safety Director, the work or method is in substantial compliance with the intent of this ordinance.

15.33.050 TECHNICAL OPINIONS & REPORTS

Technical assistance. To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of explosives, the Fire Chief and Building & Fire Safety Director are authorized to require the owner or agent to provide at no expense to the City, a technical opinion and report. The opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the Fire Chief and Building and Fire Safety Director and shall analyze the design, operation and use of explosives in regards to the application submitted and recommend necessary changes and render an opinion as to whether the proposed blasting can be conducted safely and in accordance with the provisions of this ordinance or provide peer review of the engineered plans.

15.33.060 INSPECTIONS

The City reserves the right to conduct inspections at any time during the duration of the permit.

15.33.070 ENFORCEMENT AUTHORITY

A Fire Safety Division is established within the Building and Fire Safety Department. The City of Henderson Blasting Regulations shall be enforced by the Fire Safety Division, which shall be operated under the direction of the City of Henderson Fire Marshal. The primary function of the Fire Safety Division will be to assist the Fire Chief in the administration and enforcement of the Fire Code and the Blasting Ordinance. Management oversight of the Fire Safety Division is provided by the Director of the Building and Fire Safety Department. The Fire Chief has the final decision making authority on all technical fire code issues and blasting issues.

15.33.080 CITATIONS

The City of Henderson Fire Marshal, the Deputy Fire Marshal(s), the Fire Investigators, and members of Code Enforcement for the Henderson Building and Fire Safety Department may prepare, sign, and serve written citations upon persons accused of violating any provision of this title. Any designated employee issuing a citation pursuant to this section shall comply with the provisions of NRS 171.1773.

15.33.090 ADMINISTRATIVE REVIEW

An Administrative Review of the application and interpretation of the provisions of these regulations may be requested by any aggrieved party. The Administrative Review shall be conducted within 4 business days of the filing of the request with the Fire Chief or the Director of Building & Fire Safety. The party requesting the review will be notified of the date, time, and location for the review and provided an opportunity to attend and present pertinent information.

The review shall be heard by an Administrative Review Committee consisting of the Fire Chief, Director of Building & Fire Safety, Fire Marshal, Risk Manager, and the Emergency Management Coordinator, or their designee. The Committee shall adopt reasonable rules and regulations for conducting reviews, and shall render its decisions and findings in writing, with a copy to the appellant. Decisions of the Committee are final.

A request for review under this section does not stay any suspension or revocation order.

15.33.100 PENALTIES AND OTHER ENFORCEMENT ACTIONS

15.33.100.01. Any person, firm, or corporation who violates any of the provisions of these Blasting Regulations shall be deemed guilty of a misdemeanor and each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this code is committed, continued, or permitted, and upon conviction of any such violation such person shall be punished as the law allows for a misdemeanor crime.

15.33.100.02. The application of the above penalty shall not be held to prevent the enforced removal of prohibited conditions.

15.33.100.03. The Fire Chief and Director of Building & Fire Safety are hereby authorized and may file a complaint with the Nevada State Contractors Board against any violator of this Chapter.

15.33.110 DEFINITIONS

Air Blast. An airborne pressure wave resulting from the detonation of explosives.

Blast. Any detonation(s) of an explosive(s) being initiated simultaneously by a single energy source.

Blast Area. The area surrounding a blast site where fly rock could occur and which should be guarded against entry during the shot.

Blast Site. The area in which explosives materials are being or have been loaded and which includes all holes loaded or to be loaded for the same blast and for a distance of 50 feet in all directions.

Blaster. A person who holds a valid Certificate of Registration issued by the State Fire Marshal and qualified to be in charge of and responsible for the design, loading and firing of a blast.

Blast hole. A hole drilled in the material to be blasted, for the purpose of containing an explosive charge, also called borehole or drill hole.

Building. For purposes of this ordinance a building is defined as specified in the adopted Building Code, whether under construction or completed.

Exception: Unoccupied utility buildings, towers, and similar structures.

Building & Fire Safety Director. The appointed head of the Building & Fire Safety Department of the City of Henderson or his designee.

Certificate of Registration. A license granted by the State Fire Marshal to a blaster which allows the license holder to be in charge of and responsible for the loading and firing of a blast.

Explosives. Any chemical compound, mixture or device, the primary or common purpose of which is to function by explosion; including, but not limited to, water gel, slurries, emulsion, dynamites, pellet powder, blasting caps, cast primers and boosters, detonating cord, detonating cord delay connectors, and blasting agents.

Fire Chief. The appointed head of the Fire Department of the City of Henderson or his designee.

Fly Rock. Rock and/or earth propelled from the blast site through the air or along the ground by the force of the detonated explosives.

Misfire. A charge of explosive material that fails to detonate completely after initiation.

Non-Proximate Blasting. That area containing blast holes greater than 300 feet from any building or utility.

Permit Area. The area within the perimeter of the parcel(s) on which a blast site(s) exists.

Pre-Blast Survey. A visual and written record of the existing condition of a given building near an area where blasting is to be conducted. The purpose of the survey is to record the pre-blasting condition of the building and to document any observable defects or damage.

Proximate Blasting. That area containing blast holes 300 feet or less from any building or utility.

Special Inspection. Inspection required by these regulations for the preparation and conducting of regulated blasting operations.

Utility. Any water, sewer, natural gas, electrical service, telecommunication line or distribution component.

Velocity. The measurement of speed.

Velocity, particle. The velocity at which the earth vibrates, measured in inches per second.

Velocity, peak particle. The highest recorded particle velocity in any one of three mutually perpendicular directions.

Velocity, seismic. The velocity at which a vibration or seismic wave travels outward from the source. It is measured in thousands of feet per second.

Vibration, blasting. The energy from a blast that manifests itself in vibrations which are transmitted through the earth away from the immediate blast area.

Vibration, ground. Shaking the ground, by elastic waves emanating from a blast; usually measured in inches per second of particle velocity.

Vibration, frequency. The number of cycles of vibration per unit of time. The units of frequency are in cycles per second or Hertz (Hz).

15.33.120 PERMITS

15.33.120.01 General.

A permit constitutes permission to use explosives and conduct blasting operations as may be conditioned or limited under the terms of such permit. Such permission shall not be construed as authority to violate, cancel or set aside any of the provisions of this ordinance or the adopted Fire Code or any other applicable local or state law.

Where the provisions of this ordinance conflicts with any other applicable code or regulation, the most restrictive provision shall apply, unless otherwise preempted under law. Such permit shall not take the place of any license required by law.

The issuance of a blasting permit shall not preclude the Fire Chief and Building & Fire Safety Director from subsequently suspending or revoking the permit, imposing additional requirements on the applicant, or supplementing any existing requirement whenever, in the opinion of the Fire Chief and Building & Fire Safety Director, later information or newly discovered conditions justify such actions.

15.33.120.02 Blasting Permit Required.

A permit shall be obtained from the Fire Safety Division of the Building & Fire Safety Department prior to any drilling in preparation for blasting and for all subsequent blasting activities.

Blasting permits shall be issued to only those persons or entities currently licensed for blasting by the Nevada State Contractors Board, City of Henderson Business License Division, and U.S. Department of Justice Bureau of Alcohol, Tobacco, Firearms and Explosives.

Blasting permits shall be either non-proximate or proximate. The applicant shall declare upon submission of the application the type of permit being requested. Permits and accompanying approved documents shall be readily available on the job site during any drilling or blasting operations.

15.33.120.03 Refusal to issue permit.

The issuance of a blasting permit is a discretionary action on the part of the City of Henderson and as such the City has the right to refuse to issue a permit for blasting. Such refusal shall be in writing and shall contain the reasons for refusal.

15.33.120.04 Expiration.

A permit shall not be valid for more than 180 days.

15.33.120.05 Non-transferable.

Permits are not transferable and any change in ownership of the permittee shall require that a new permit be issued.

15.33.120.06 Revocation or Suspension.

The Fire Chief and the Building & Fire Safety Director are authorized to suspend or revoke any permit or portion thereof under the following circumstances:

1. The permit holder does not follow the requirements of these regulations;
2. The permit holder does not follow any condition of the permit;
or
3. The blasting causes or may cause an imminent hazard to public health, safety, or welfare.

Upon notification that a permit has been suspended or revoked, all blasting and drilling activities as specified in the order shall immediately cease and all explosive materials shall be removed from the permit area immediately. Such notification shall be by any of the following methods:

1. Posting the notice at the permit area;
2. Personal service on individuals performing blasting operations;
3. By facsimile;
4. Telephone;

5. Electronic mail; or
6. First Class U.S. mail.

The Fire Chief and Building & Fire Safety Director are authorized to reinstate a suspended permit at such time as the conditions that caused the suspension have been corrected. If the conditions have not been corrected within 30 days of service of the notice of suspension, the permit shall be automatically revoked. A permit that has been revoked cannot be reinstated. The holder of a revoked permit may submit a new application, if so desired, to resume blasting operations on a site where a permit has been revoked.

15.33.120.07 Suspension or Revocation Hearing.

A permittee may request a hearing within 5 business days of the suspension or revocation of a permit by filing a written request with either the Fire Chief or Building & Fire Safety Director. A request for hearing does not stay any suspension or revocation order. The hearing shall be conducted by the Fire Chief and Building & Fire Safety Director within 5 business days of filing of the written request for a hearing, unless by mutual agreement the hearing is scheduled for a later time. A written decision shall be rendered no later than 10 business days after the conclusion of the hearing.

15.33.120.08 Fees

Cost Recovery. Fees shall be assessed so that all costs incurred by the City are recovered. Permit fees shall be paid at the time the application is submitted. Permit fees shall be as specified in the Development Services Center fee schedule.

15.33.130 PERFORMANCE STANDARDS

15.33.130.01.Blast Scheduling

1. Blasting contractors are required to request a blast time for each blast. Blasts shall be scheduled by the Building & Fire Safety Department. The Department shall issue such scheduling rules as the Fire Chief and Building & Fire Safety Director deem necessary and appropriate. The scheduling rules may be modified by the Fire Chief and Building & Fire Safety Director, whenever necessary. Notice of modifications shall be sent to the blasting contractors regularly conducting business in Henderson at least 7 days prior to the effective date of the modifications.
2. All blasting shall be conducted between the hours of 8:00am-4:00pm, Monday – Friday. The Fire Chief and Building & Fire Safety Director may approve alternative time periods for blasting, at their sole discretion, as deemed appropriate.

3. The blasting contractor shall notify Fire Department Dispatch using a non-emergency telephone number a minimum of 1 hour prior to each blast.

15.33.130.02. Seismograph monitoring location(s)

Seismographs shall be placed at the nearest building(s) to the blast site in accordance with Table 1. Seismographs shall be provided in sufficient numbers, distances, and directions that will provide ground motion and airblast records representative of the maximum impacts on the surrounding neighborhoods. The Fire Chief and Building & Fire Safety Director may require additional seismographs as deemed necessary to obtain additional attenuation data.

Table 1

Number of Seismographs Required

Distance (feet)	Pounds of Explosives per Delay	
	≤ 100	> 100
≤ 1000	1	2
> 1000	2	3

15.33.130.03. Seismograph monitoring equipment

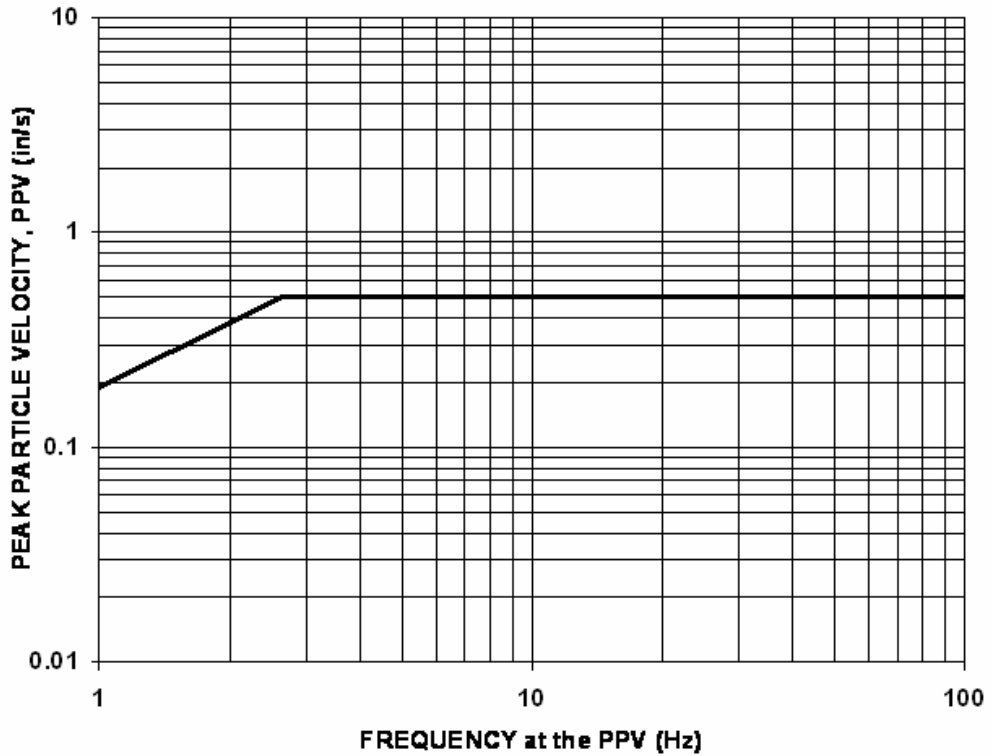
- a) The ground vibration and airblast measuring systems shall have a flat response between 2 and 200 Hz.
- b) Ground vibrations and airblast shall be monitored with blasting seismographs that meet the current International Society of Explosives Engineer’s guideline entitled “Performance Specifications for Blasting Seismographs” (www.isee.org) and approved by the Fire Chief and Building & Fire Safety Director.
- c) Blasting seismographs shall be deployed in the field according to the current International Society of Explosive Engineers guidelines entitled “Field Practice Guidelines for Blasting Seismographs” (www.isee.org)

15.33.130.04. Ground vibration

- a) At all blasting operations, the frequency-based maximum ground vibrations shall not exceed the limitations specified in Figure 1 at any building or utility.
- b) Compliance shall be verified by employing blasting-type seismographs to record particle velocity time histories (full wave forms) and the frequency content of the time histories for three mutually perpendicular components of ground motions.

c) Ground vibrations shall be reported in terms of the peak particle velocity (PPV) and the frequency at the PPV

FIGURE 1



15.33.130.05. Airblast

Airblast shall not exceed the maximum limit of 120 dBL sound pressure level equivalent of air pressure measured on a linear-weighted scale at the location of any building.

Exception: The maximum limit may be raised to 133dBL with written permission of all building owner(s) within the distance as shown in Figure 2.

15.33.130.06. Fly Rock

Fly rock traveling in the air or along the ground shall not be projected beyond the permit area.

15.33.130.07. Reports

All reports required by this section shall be submitted with the required reports attached via email to an address designated by the Building & Fire Safety Department.

The permittee shall provide written notification to the Fire Chief and Building & Fire Safety Director of any incident, damage claim, or neighbor annoyance report brought to the permittee's attention. Such notification shall be provided within twenty-four (24) hours after a report of an incident, damage, or annoyance.

a. Seismograph reports

A seismograph report shall be provided to the City within forty-eight (48) hours after every blast. The report shall include:

1. Date and time of recording(s)
2. Name of the person and firm taking the reading
3. Name of the person and firm analyzing the seismographic record
4. Type of instrument, serial number and calibration signal or certification of annual calibration
5. Trigger levels used for the ground motion and airblast (ground motion trigger levels at distances over 300 ft. shall be set at 0.03 in/sec)
6. Show location on a scaled map for each seismograph by address, if applicable
7. GPS location, distance and direction from the blast of each seismograph
8. Ground motion time histories for three mutually perpendicular components
9. Airblast time history
10. Peak particle velocity (PPV) and the frequency at the PPV
11. Peak airblast in decibels (dB) and pounds per square foot (psi) and the frequency at the peak
12. Maximum pounds of explosives per 8 millisecond (ms) delay

b) Blasting report

The operator shall retain a record of all blasts for a minimum of 3 years. At the request of the Fire Chief and Building & Fire Safety Director, the blasting operator shall provide to the City of Henderson a copy of the blasters log or report within twenty-four (24) hours after the blast. The blasting log shall include the following:

1. Name and signature of the operator and blaster conducting the blast
2. Date, time, and location of the blast
3. GPS coordinates of the blast
4. Type of material blasted
5. Total number of drill holes.
6. Diameter and depth of holes (maximum, minimum, and average depth)
7. Burden, and spacing used in the blasting pattern
8. Subdrill depth
9. Type and length of stemming (minimum, maximum, and average)
10. Total pounds of each type of explosive used
11. Initiation system and delay periods used in design
12. Schematic showing the drill hole pattern and detonation timing of each blast hole
13. Weather conditions, including those which may cause possible adverse blasting effects
14. The maximum weight of explosives detonated in an 8-millisecond period
15. Type and size of any fly rock protection devices used, if any
16. Distances to and addresses of all closest buildings to the blast site in all directions
17. Reasons and conditions for each unscheduled blast

c) Noncompliant Incident Report

When a blast exceeds established limits as specified herein, the permittee shall file a written noncompliant incident report with the Building & Fire Safety Department within 24 hours of the event. The incident report shall state:

1. What specified limit was exceeded
2. Why the specified limit was exceeded
3. Corrective measures taken to prevent similar future occurrences

15.33.140 NON-PROXIMATE BLASTING PERMIT REQUIREMENTS

15.33.140.01. Blasting Permit. A blasting permit application will be considered by the Fire Chief and Director of Building & Fire Safety or their designee to be complete and ready for review once the application includes:

1. A completed application form provided by the City of Henderson
2. Site maps and drawings
3. Blasting plan

4. Seismograph monitoring plan
5. Traffic and access control plan
6. Notification plan
7. Proof of bonding or insurance
8. Utility acknowledgement (when applicable)

Six (6) copies of the entire application packet are required for all blasting permit applications.

15.33.140.02 Application Form.

An application form approved by the Fire Chief and Building & Fire Safety Director shall be completed and submitted for each blasting permit.

15.33.140.03 Site maps and drawings

An aerial site map with measured distances shall be submitted and shall:

1. Show the perimeter of the blast area.
2. Identify the locations of all buildings, utilities, and gas transmission pipelines located within 1000 feet of the blast site.
3. Measure the distance(s) to the closest building(s) from the nearest blast hole.

The blast sites shall be superimposed upon the approved engineered grading plan and shall include information designated in items 1, 2, and enumerated above.

15.33.140.04 Blasting Plan

Blast plans shall be provided for all applications within the notification distance as shown in Figure 2. Information deemed proprietary in nature by the applicant shall be clearly and distinctly identified as such. The City will maintain any proprietary information submitted in accordance with the Nevada Revised Statutes.

The plan must include:

1. The location where the blast(s) will occur and the nearest building designated on a map or drawing using either of the following two methods:
2. An engineered scaled drawing with the nearest buildings located on this drawing, or,
3. Show the blast site on a generic drawing/map by providing measured distances from the perimeter of the blast site to the nearest buildings.

4. The measured distance to the nearest building shall be provided.
5. The approximate total amount of material to be blasted (cubic yards).
6. The incremental volumes, per blast, of material to be blasted.
7. The types and packaging of explosive materials to be used.
8. The drill hole diameters, depths, patterns, sub drilling depths and drill hole orientation to be used.
9. A description of the initiation system, the incremental delay times, and the location of the primers in the explosive column.
10. A description of the stemming depths and stemming material for the various estimated depths of drill holes to be blasted.
11. The blast design shall provide either:
12. The maximum pounds per delay to be detonated within 8 milliseconds based on the distance to the nearest building, or
13. The scaled distance factor (SD) that they will stay above for the blasts.
14. A description of the fly rock control procedures and equipment to be used.
15. A description of the blast warning sound system and equipment to be used.
16. The scheduled start date and finish date of blasting operations.
17. Additional information as requested.

15.33.140.05 Seismograph Monitoring Plan

A monitoring plan will be submitted to identify the name and address of an independent vibration monitoring company and describe plans for seismograph use, monitoring, and reporting. A seismograph monitoring plan will include:

1. The number and general locations of seismographs to be used during monitoring identified on the site map.
2. The plan will include a sufficient number of seismographs strategically located within the surrounding neighborhoods to measure the influence of distance and direction on ground vibrations and airblast.
3. The name of the company supplying and operating seismographs and responsible for preparing the seismograph report.
4. The manufacturer and model of seismographs employed.
5. Seismograph monitoring shall comply with the International Society of Explosives Engineers (ISEE) Field Practice Guidelines for Blasting Seismographs.

15.33.140.06 Traffic and access control plan

A traffic and access control plan shall include warning signage, flagging, temporary road closures, and detour routes for blasting operations. Permit areas that are secured from entry by the general public are exempt from this equipment.

During the loading and detonation of a blast hole, signs shall be conspicuously placed reading "Blasting Area" along the edge of any blasting area. Access within the blasting area shall be controlled to prevent presence of unauthorized persons during blasting and until an authorized representative of the operator has reasonably determined that no unusual hazards, such as undetonated charges, exist, and access to and travel within the blasting area can be safely resumed.

15.33.140.07 Notification Plan

The notification plan shall consist of the following:

- a) Blasting Notification Mailing
- b) Neighborhood Meeting

The Director of Building & Fire Safety and the Fire Chief are authorized in their joint discretion to:

1. Allow one blasting notification mailing and/or neighborhood meeting for a project that involves multiple permits such as, but not limited to, projects requiring permit renewals; geographic proximity of proposed blast areas in relation to other development; and master planned communities.
2. Allow one blasting notification mailing and/or neighborhood meeting for multiple projects that involve multiple permits such as, but not limited to, projects subject to a master development agreement; contiguous projects; and master homeowner associations.
3. Require additional blasting notification mailing(s) and/or neighborhood meeting(s) if the scope of the project substantially changes or otherwise warrants additional information sharing with the public such as, but not limited to, substantial acreage added to permit area; or change to blasting plan.
4. Not require blasting notification mailing and/or a neighborhood meeting for permit applications that fall within the scope and notification distance requirements of existing permits by the same blasting contractor.

- a). Blasting Notification Mailing

A blasting notification mailing shall be sent to all property owners, and homeowner associations, with a copy provided to the City of Henderson Departments of Building and Fire Safety, and Neighborhood Services,

within the scaled notification distance from the perimeter of the Assessor's parcel numbers or applicant's designated blast site(s) upon which the blasting permit is requested no less than 7 days and no greater than 21 days prior to the start of blasting operations. When fewer than 5 different property owners are within the notification distance, the applicant may propose a custom plan for informing these owners pursuant to this section. The Fire Chief and Building & Fire Safety Director may accept or modify this plan.

The notification distance for a blasting notification mailing shall be based on Figure 2. The distance from the perimeter of the Assessor's Parcel Number containing the closest blast site for notifying property owners is the point where the weight intersects the line on the chart. The weight is based on the applicant's statement stating the maximum anticipated pounds of explosives in any single delay.

Figure 2

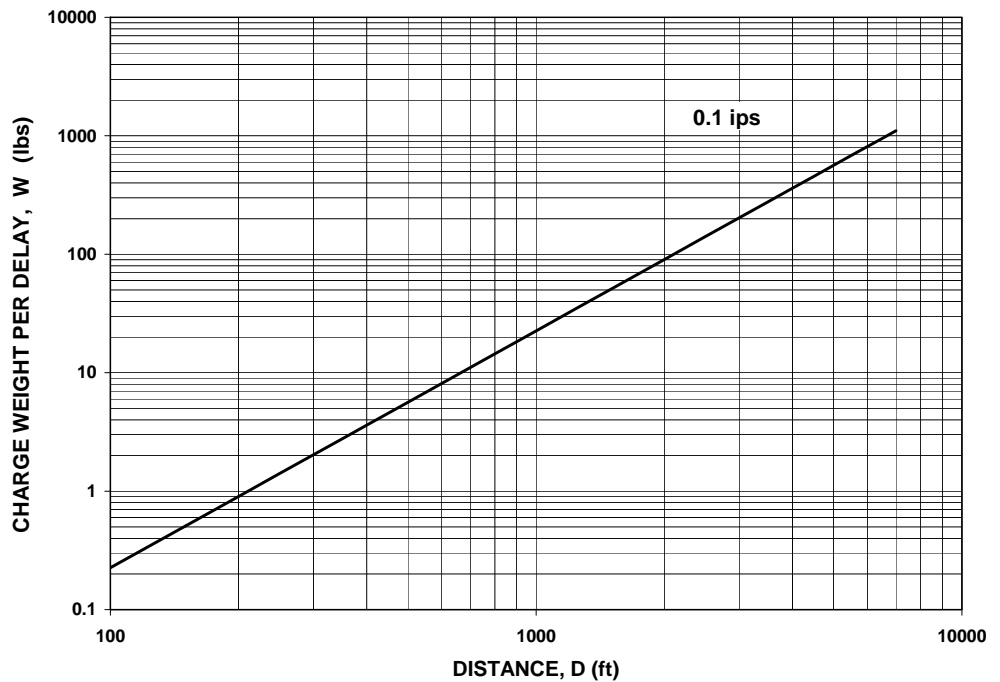


Figure 2 is based on the following equation: $D \text{ (ft)} = 210 * W^{1/2} \text{ (lbs)}$ where D is the scaled notification distance and W is the maximum charge weight per 8 ms delay.

Upon request, the City of Henderson will provide a mailing list for all residences within the scaled notification distance from the perimeter of the Assessor's parcels upon which the blasting permit is requested. A fee shall be charged to recover the cost of providing this service.

The applicant may request to have the City prepare and process the mailing for the neighborhood meeting and shall charge a fee to recover the cost of providing this service.

The blasting notification mailing shall have a return address identifying the applicant. The contents of the notice shall include, but are not limited to, the following:

1. Why the blasting is necessary.
2. Name of blasting company.
3. When the blasting will occur, i.e. date range and approximate times of blasting.
4. Where the blasting will be conducted. A map shall be provided.
5. How to contact the blasting company.
6. Date, time, location of the required neighborhood meeting.

When no blasting occurs for a period of 30 or more days, a new blasting notification mailing shall be sent. The notice shall include items 1 through 5 above.

b). Neighborhood Meeting

The location of the neighborhood meetings are subject to the approval of the Fire Chief and Building & Fire Safety Director.

A neighborhood meeting will be conducted prior to the issuance of a non-proximate blasting permit by representatives of the blasting company, the developer, and the vibration consultants implementing the monitoring program.

Information provided to neighborhood residents will include, but is not limited to:

1. A general description of the blasting activities, including an explanation of the drilling and blasting process.
2. The anticipated duration of the blasting.
3. An anticipated schedule of blasts, including estimated dates and times of blasting
4. The qualifications of the blasters.
5. The warning signals for blasting and the all clear signal.

6. Measures to be taken for the control of ground vibrations, air blast, fly rock, fumes, and dust.
7. Contact information for submitting questions or complaints.
8. Insurance carrier contact information for submitting claims.
9. A description of the vibration monitoring process.

15.33.140.08 Proof of Insurance

General. A valid Certificate of Insurance shall be submitted with each application when applying for a permit to conduct blasting.

Certificate Information Required. The certificate shall be issued by an insurance company authorized to transact business in the State of Nevada, or be named on the list of authorized insurers maintained by the Nevada Department of Business and Industry, Division of Insurance. The following information shall be identified:

1. The contractor shall be named as the insured. If the insurance is provided by an individual, company or partnerships other than the contractor, the contractor shall be named as an additional insured.
2. The City of Henderson Municipal Corporation, its officers, agents, employees and volunteers” shall be named as additional insured and certificate holder.
3. Commercial general liability limits, including contractual liability, in the minimum amount of \$5,000,000.00, per occurrence.

15.33.140.09 Additional Insurance.

Greater liability insurance amounts may be required under circumstances where the blasting activity is deemed by the Fire Chief and Building & Fire Safety Director to present unusual hazards.

15.33.140.10 Indemnification.

Each permit issued under the authority of this Chapter shall contain the following indemnification provision:

“The permittee hereby fully indemnifies, holds harmless and agrees to defend the City of Henderson, its agents, officers and employees from any and all claims, expenses, losses, liability, actions, suits or demands, including legal defense costs thereof, of whatever nature, arising out of or connected with this blasting permit.”

15.33.140.11 Utility Notification

Utilities within 300 feet of the blast site shall be notified as follows:

1. Utility service provider shall acknowledge the use of explosives by providing a signature from an authorized person on a form provided by the City of Henderson or written permission on utility company letterhead.
Exception: Alternate methods of notification as acceptable to the utility and filed with the Building & Fire Safety Department.
2. The blasting contractor shall provide a minimum of 24 hours notice to the utility in advance of the initial blast.

15.33.150 PROXIMATE BLASTING PERMIT REQUIREMENTS

15.33.150.01 In addition to all other requirements of this Chapter, the following safety precautions shall be taken for proximate blasting:

1. Additional seismographs may be required by the City of Henderson or its consultant.
2. The blast plan shall also note the measured distance between the seismograph and the nearest blast hole.
3. Only packaged, measured or metered explosives shall be used.
4. A drill log shall be maintained on all proximate blasting to allow the blasting supervisor to monitor the drilling process closely and to take the appropriate action if an anomaly occurs.
5. Drill hole depth shall be held to a maximum of 20 feet of solid rock when conducting proximate blasting.
6. The diameter of the drill hole shall not exceed 3 inches when conducting proximate blasting.
7. Stemming material shall be ½ inch angular gravel or crushed stone
8. All proximate blasts shall be videotaped at a distance and direction that will allow visual capture of any fly rock. A copy of the videotape shall be provided to the Fire Chief and Building & Fire Safety Director within 24 hours upon request.
9. The Fire Chief and Building & Fire Safety Director may require protective cover such as matting used on top of proximate blasts to prevent fly rock. The type of and quantity of cover shall be as determined by the contractor, but not less than simple topsoil or a manmade material like synthetic rubber.
10. The approximate powder factors anticipated.

15.33.150.02 Notification Plan

The notification plan shall consist of the following:

- a) Blasting Notification Mailing
- b) Neighborhood Meeting

The Director of Building & Fire Safety and the Fire Chief are authorized in their joint discretion to:

- 1 Allow one blasting notification mailing and/or neighborhood meeting for a project that involves multiple permits such as, but not limited to, projects requiring permit renewals; geographic proximity of proposed blast areas in relation to other development; and master planned communities.
- 2 Allow one blasting notification mailing and/or neighborhood meeting for multiple projects that involve multiple permits such as, but not limited to, projects subject to a master development agreement; contiguous projects; and master homeowner associations.
- 3 Require additional blasting notification mailing(s) and/or neighborhood meeting(s) if the scope of the project substantially changes or otherwise warrants additional information sharing with the public such as, but not limited to, substantial acreage added to permit area; or change to blasting plan.
- 4 Not require blasting notification mailing and/or a neighborhood meeting for permit applications that fall within the scope and notification distance requirements of existing permits by the same blasting contractor.

a). Blasting Notification Mailing

A blasting notification mailing shall be sent to all property owners, and homeowner associations, with a copy provided to the City of Henderson Departments of Building and Fire Safety, and Neighborhood Services, within the scaled notification distance from the perimeter of the Assessor's parcel numbers or applicant's designated blast site(s) upon which the blasting permit is requested no less than 7 days and no greater than 21 days prior to the start of blasting operations. When fewer than 5 different property owners are within the notification distance, the applicant may propose a custom plan for informing these owners pursuant to this section. The Fire Chief and Building & Fire Safety Director may accept or modify this plan.

The notification distance for a blasting notification mailing shall be based on Figure 3. The distance from the perimeter of the Assessor's Parcel Number containing the closest blast site for notifying property owners is the point where the weight intersects the line on the chart. The weight is based on the applicant's statement stating the maximum anticipated pounds of explosives in any single delay.

Figure 3

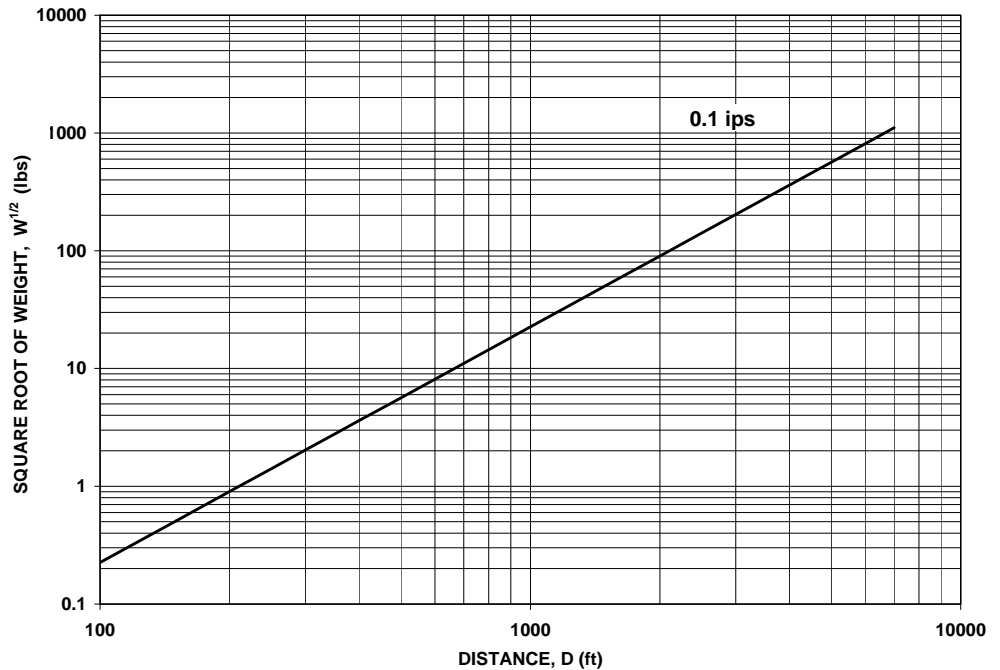


Figure 3 is based on the following equation: $D \text{ (ft)} = 210 * W^{1/2} \text{ (lbs)}$ where D is the scaled notification distance and W is the maximum charge weight per 8 ms delay.

Upon request, the City of Henderson will provide a mailing list for all residences within the scaled notification distance from the perimeter of the Assessor's parcels upon which the blasting permit is requested. A fee shall be charged to recover the cost of providing this service.

The applicant may request to have the City prepare and process the mailing for the neighborhood meeting and shall charge a fee to recover the cost of providing this service.

The blasting notification mailing shall have a return address identifying the applicant. The contents of the notice shall include, but are not limited to, the following:

1. Why the blasting is necessary.
2. Name of blasting company.
3. When the blasting will occur, i.e. date range and approximate times of blasting.
4. Where the blasting will be conducted. A map shall be provided.
5. How to contact the blasting company.
6. Date, time, location of the required neighborhood meeting.

When no blasting occurs for a period of 30 or more days, a new blasting notification mailing shall be sent. The notice shall include items 1 through 5 above.

b). Neighborhood Meeting

The location of the neighborhood meetings are subject to the approval of the Fire Chief and Building & Fire Safety Director.

A neighborhood meeting will be conducted prior to the issuance of a proximate blasting permit by representatives of the blasting company, the developer, and the vibration consultants implementing the monitoring program.

Information provided to neighborhood residents will include, but is not limited to:

1. A general description of the blasting activities, including an explanation of the drilling and blasting process.
2. The anticipated duration of the blasting.
3. An anticipated schedule of blasts, including estimated dates and times of blasting
4. The qualifications of the blasters.
5. The warning signals for blasting and the all clear signal.
6. Measures to be taken for the control of ground vibrations, air blast, fly rock, fumes, and dust.
7. Contact information for submitting questions or complaints.
8. Insurance carrier contact information for submitting claims.
9. A description of the vibration monitoring process.

15.33.150.03 Pre-blast and Post-Blast Surveys

Before proximate blasting may commence, the blasting company shall complete pre-blast surveys of all buildings 300 feet or less from the nearest blast hole. Pre-blast and post-blast surveys shall comply with the following:

a). Pre-Blast surveys

1. At least 21 days before initiation of blasting, the permit applicant shall notify, in writing, all property owners within 300 feet of the permit area, of their eligibility to request a pre-blast survey and the procedure for requesting a survey.
2. The pre-blast survey shall be conducted by an independent engineering consulting firm qualified to inspect buildings.
3. The inspector conducting the survey shall determine the condition of the building and shall document with scaled photographs and supplemental sketches any pre-blasting damage and other physical factors that could reasonably be affected by the blasting.
4. Documentation shall include foundation and building construction details, other improvements and landscape features.
5. Utilities such as pipelines, cables, transmission lines, and cisterns, wells, and other water systems warrant special attention; however, the assessment of these may be limited to surface conditions and other readily available data.
6. The written report of the survey shall be signed by the person who conducted the survey.
7. Copies of pre-blast inspection reports and any owner refusals shall be provided to the City, upon request.

b) Post-Blast Survey

1. A property owner that received a pre-blast survey may request a post-blast survey.
2. The permittee is responsible for notifying the property owner of this right.
3. The property owner must request this survey in writing to the permittee and a survey must be conducted within 3 business days following receipt of notification from the property owner.
4. The post-blast survey, signed by the person conducting the survey, shall consist of scaled photographs of any alleged damages and a written report comparing the pre-blast photographs with the post-blast photographs.
5. Copies of inspection reports or owner refusals shall be provided to the City upon request.

15.33.150.04 Special Inspections

Proximate blasting operations require special inspection. The owner of the property for which the permit is issued shall employ one or more independent special inspectors to provide inspections of all proximate

blasting operations. The special inspector shall be from an agency qualified in blasting operations that has demonstrated competence to the satisfaction of the Fire Chief and the Building & Fire Safety Director.

The Fire Chief and Building & Fire Safety Director may condition, suspend, or revoke the approval of any special inspector for any of the following grounds:

1. Failure to comply with the requirement or conditions of permit issuance;
2. Incompetence;
3. Conflict of interest;
4. Willful and negligent failure to inspect;
5. Failure to maintain certifications and licenses;
6. Failure to report non-compliances;
7. Violation of approved permit documents; or
8. Failure to perform any of the duties designated for special inspectors.

Conditions, suspensions or revocations of special inspectors shall be for a period determined by the Fire Chief and the Building & Fire Safety Director.

The special inspector shall develop a plan and inspection schedule to verify compliance with the approved plans. This plan and schedule shall be approved by the Fire Chief and Building & Fire Safety Director. The special inspector shall issue a stop work order when the approved blasting permit and accompanying documentation are not available on the job site at the time of inspection. The special inspector shall immediately notify the blasting contractor and shall maintain a copy of the stop work order on the blasting site.

The special inspector shall immediately notify the contractor in writing of any blasting preparations or operations which is in non-conformance with the approved permit, blasting plan, or any provisions of this ordinance. Work shall not proceed unless the conditions noted in the non-conformance report have been corrected. The special inspector shall maintain a copy of the non-compliance report on the job site.

The special inspector shall write daily report(s) and provide, as directed by the Fire Chief or the Building & Fire Safety Director or by the design professional or owner, such other information as may be required within the scope of the special inspector's duties. All daily reports prepared by a special inspector pursuant to these regulations are the property of the City of Henderson and shall be made available upon request of the Fire Chief or the Building & Fire Safety Director. The daily reports shall address conformance with the following:

1. Site maps and drawings
2. Blasting Plan
3. Seismograph Monitoring Plan
4. Traffic and Access Control Plan
5. Notification Plan
6. Other criteria as specified in these regulations

The special inspector shall immediately notify the contractor and the Fire Chief and Building & Fire Safety Director in writing of uncorrected non-conformance to the approved permits, blasting plan, or any provisions of these regulations within the scope of the special inspector. Notification shall be within 24 hours and may be by e-mail, fax, or telephone call.

The special inspector shall submit a final report to the Fire Chief and Building & Fire Safety Director stating whether all required inspections were completed, documented, and found to be in compliance with the approved permit, blasting plan, and applicable provisions of these regulations. Final reports shall include all non-compliance reports with dates of corrective action approval and completed inspection history record.

15.33.150.05 EXCEPTIONS

1. The requirements of section 15.33.150 may be waived when the owner of the blast site and any building(s) within 300 feet are the same, and written permission is submitted on a form provided by the City.
2. The requirements of section 15.33.150 may be waived where written acknowledgement of all utility owner(s) within 300 feet has been submitted on a form provided by the City and there are no building(s) within 300 feet.