CHAPTER 4-8

BLASTING OPERATIONS

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4-8-1 PURPOSE

The purpose of this chapter is to regulate blasting operations conducted within the corporate limits of Herriman City in connection with mining, quarrying, grading, excavation, or land development activities, in order to protect the public health, safety, and welfare of residents and property owners. This chapter is adopted pursuant to the City's general welfare and police powers as set forth in U.C.A. § 10-8-84 and the Municipal Land Use, Development, and Management Act, U.C.A. § 10-20-101 et seq. This chapter is intended to complement, and not duplicate, the operational blasting permit requirements administered by the Unified Fire Authority (UFA) under the International Fire Code (IFC) as adopted by Herriman City Code § 4-1-1, and the licensing and safety requirements of Utah Code Title 40.

4-8-2 DEFINITIONS

As used in this chapter:

"Blast" or **"Blasting Operation"** means any use of explosives to fracture, displace, or excavate rock, soil, or other material, including but not limited to single-shot blasts, production blasts, and controlled demolition blasts.

"Blast Design Plan" means a written technical document prepared by a Certified Blaster that describes the explosive type and quantity, hole pattern, delay sequencing, burden and spacing, stemming, and predicted ground vibration and airblast levels for a proposed blast.

"Blast Exclusion Zone" means the area surrounding a blast site from which all persons, vehicles, and equipment not essential to the blasting operation are excluded during loading, priming, and detonation.

"Blasting Log" means a written record of each blast event, including date, time, location, explosive type and quantity, weather conditions, seismograph readings, and the name and license number of the Certified Blaster who conducted the blast.

"City" means Herriman City, Utah, acting through its authorized officers, employees, and agents.

"City Blasting Permit" means the permit issued by the City under this chapter, which is separate from and in addition to the UFA operational blasting permit.

"Explosives" Explosives means dynamite, blasting agents, ammonium nitrate-fuel oil mixtures (ANFO), water gels, slurries, primers, boosters, detonating cord, blasting caps, and any other material, chemical compound, mixture, or device intended to produce an explosion and commonly used for blasting, rock excavation, quarrying, mining, or construction activities.

"IFC" means the International Fire Code as currently adopted and amended by Herriman City Code § 4-1-1.

"Certified Blaster" means an individual who has successfully completed the training, examination, and certification requirements established by the Utah Division of Oil, Gas and Mining pursuant to Utah Administrative Code Rule R645-105 and who holds a current valid blaster certification issued under that rule or another certification recognized by the State of Utah for the handling and use of explosives.

"Operator" means any person, firm, corporation, or other legal entity that conducts, directs, or is responsible for a blasting operation within Herriman City, including a property owner, developer, general contractor, or blasting subcontractor.

"Pre-Blast Survey" means a documented inspection of structures within 600 feet of a proposed blast site, conducted before any blasting begins, to record the existing condition of those structures.

"Public Road" means any road, street, highway, or right-of-way within Herriman City that is open to public vehicular traffic, whether maintained by the City, Salt Lake County, or the Utah Department of Transportation.

"Seismograph" means an instrument that measures and records ground vibration (particle velocity) and airblast overpressure generated by a blasting operation.

"UFA" means the Unified Fire Authority, the fire authority having jurisdiction over Herriman City.

"UFA Operational Blasting Permit" means the permit required by the IFC and administered by the UFA for each blasting operation, which governs the storage, handling, and use of explosives.

4-8-3 GENERAL BLASTING PROHIBITIONS AND RESTRICTIONS

(A) Prohibited Hours. No blasting operation shall be conducted before 8:00 a.m. or after 5:00 p.m., Monday through Friday. No blasting shall be conducted on Saturday, Sunday, or any federal or Utah state holiday, unless the City grants a written exception upon a finding that extraordinary circumstances justify deviation from these restrictions and that adequate public safety measures are in place.

(B) Prohibited Locations. No blasting operation shall be conducted:

1. Within 250 feet of any occupied structure, unless the City grants a written exception upon a finding that the Blast Design Plan demonstrates that ground vibration and airblast levels at the structure will not exceed the limits set forth in Section 4-8-4, and that all other safety requirements of this chapter and the UFA operational blasting permit are satisfied.
2. Within any area where blasting is prohibited by state or federal law.

(C) Certified Blaster. Certified Blaster is required to supervise, handle, load, and detonate explosives. The certified blaster shall be responsible for and shall directly supervise all blasting operations and shall be physically present during the loading and firing of explosives.

(D) Blast Design Plan Required. No blast shall be detonated without a Blast Design Plan prepared and signed by the Certified Blaster. The Blast Design Plan shall be submitted to the City as part of the City Blasting Permit application under Section 4-8-6.

(E) Seismograph Monitoring Required. A seismograph shall be operated during every blast. The seismograph shall be placed at the nearest occupied structure or at the location most likely to experience the highest ground vibration levels, as determined by the Certified Blaster. Seismograph records shall be retained by the Operator for a minimum of three years and shall be made available to the City upon request.

(F) Flyrock Prevention. The Certified Blaster shall take all measures necessary to prevent flyrock from leaving the blast site, including but not limited to the use of blast mats, stemming, and reduced powder factors. No flyrock shall be permitted to travel beyond the blast exclusion zone.

(G) Weather Restrictions. No blast shall be detonated during an electrical storm or when lightning is within five miles of the blast site. The Certified Blaster shall monitor weather conditions and shall postpone any blast if conditions present a risk of premature detonation or impaired post-blast inspection.

4-8-4 NOISE RESTRICTIONS

(A) Ground Vibration Limits. Ground vibration generated by any blast shall not exceed the following peak particle velocity (PPV) limits, measured at the nearest occupied structure:

Distance from Blast (feet)	Maximum PPV (inches/second)
0 – 300	0.75
301 – 500	1.00
501 – 1,000	1.25
Over 1,000	2.00

(B) Airblast Limits. Airblast overpressure generated by any blast shall not exceed **133 decibels (dB Linear)** measured at the nearest occupied structure .

(C) Compliance Demonstration. The Blast Design Plan submitted under Section 4-8-6(B)(5) shall include calculations demonstrating that the proposed blast will comply with the limits in subsections (A) and (B). Post-blast seismograph records shall be submitted to the City within five business days of each blast and shall confirm actual compliance with these limits.

(D) Exceedance Reporting. If any blast exceeds the limits in subsections (A) or (B), the Operator shall notify the City in writing within 24 hours of the exceedance, shall immediately suspend blasting operations, and shall not resume blasting until the City approves a revised Blast Design Plan demonstrating how future blasts will comply with the limits.

4-8-5 UNIFIED FIRE AUTHORITY BLASTING PERMIT REQUIRED

(A) No blasting operation shall be conducted within Herriman City without first obtaining a valid UFA Operational Blasting Permit from the Unified Fire Authority, as required by the IFC and Utah Code § 15A-5-208.

(B) The City Blasting Permit issued under Section 4-8-6 does not substitute for, modify, or waive the UFA Operational Blasting Permit requirement. Both permits must be obtained before any blasting operation commences.

(C) As part of the City Blasting Permit application, the Operator shall submit a copy of the UFA Operational Blasting Permit, or written confirmation from the UFA that the permit application is pending and that the UFA has no objection to the City issuing its permit in advance of final UFA approval. The City Blasting Permit shall not authorize any blasting to commence until the UFA Operational Blasting Permit has been issued.

4-8-6 CITY BLASTING PERMIT — APPLICATION

(A) Permit Required. No person shall conduct a blasting operation within Herriman City without first obtaining a City Blasting Permit issued under this chapter. A separate City Blasting Permit is required for each blasting project. For ongoing blasting operations at a single site (e.g., a quarry or large grading project), the City may issue a single permit covering a defined project area and time period, subject to renewal as provided in subsection (D).

(B) Application Contents. An application for a City Blasting Permit shall be submitted to the City on a form prescribed by the City and shall include all of the following:

1. The name, address, telephone number, and email address of the Operator.
2. The name, address, telephone number, Utah blaster's certification number, and certification expiration date of the Certified Blaster who will supervise all blasting operations under the permit.

3. The address or legal description of the blast site, and a site map showing the location of the proposed blast area, all occupied structures within 600 feet, all public roads within 500 feet, and all utilities within 300 feet.
4. The anticipated start date and end date of blasting operations, and the anticipated number of blasts.
5. A Blast Design Plan as defined in Section 4-8-2, prepared and signed by the Certified Blaster.
6. A copy of the UFA Operational Blasting Permit, or written confirmation from the UFA as described in Section 4-8-5(C).
7. A description of the notification plan for residents and property owners within 1/4 mile (1,320 feet) of the blast site, as required by Section 4-8-8.
8. A description of the pre-blast survey plan for structures within 600 feet of the blast site, as required by Section 4-8-9.
9. A description of the utility notification plan as required by Section 4-8-10.
10. If any blast will require closure of a public road, a description of the proposed road closure and an approved traffic control permit through the City.
11. Any other information the City determines is reasonably necessary to evaluate the application.

(C) Application Fee. Each application for a City Blasting Permit shall be accompanied by a non-refundable application fee in an amount established by the City's current fee schedule.

(D) Permit Renewal. A City Blasting Permit issued for an ongoing blasting operation may be renewed upon submission of an updated application, payment of the renewal fee, and a finding by the City that the Operator has complied with all conditions of the prior permit and all requirements of this chapter.

4-8-7 CITY BLASTING PERMIT — APPROVAL PROCESS AND CRITERIA

(A) Review Period. The City shall review a complete City Blasting Permit application and issue a decision within **15 business days** of receipt of a complete application. The review window will not begin until a fully completed application is received. The City may extend the review period by an additional 10 business days upon written notice to the Operator if additional information is needed

(B) Approval Criteria. The City shall approve a City Blasting Permit application if the City finds that:

1. The application is complete and all required information has been submitted.
2. The Certified Blaster holds a valid Utah blaster's certification.

3. The Blast Design Plan demonstrates that the proposed blasting operation will comply with the ground vibration and airblast limits in Section 4-8-4.
4. The proposed blasting operation complies with the prohibited hours and prohibited locations in Section 4-8-3.
5. The notification plan satisfies the requirements of Section 4-8-8.
6. The pre-blast survey plan satisfies the requirements of Section 4-8-9.
7. The utility notification plan satisfies the requirements of Section 4-8-10.
8. If any blast will require closure of a public road, the road closure plan satisfies the requirements of Section 4-8-11.
9. The UFA Operational Blasting Permit has been issued or the UFA has confirmed no objection as described in Section 4-8-5(C).
10. The proposed blasting operation will not create an unreasonable risk to public health, safety, or welfare that cannot be adequately mitigated by the conditions of the permit.

(C) Conditions. The City may impose reasonable conditions on a City Blasting Permit to protect public health, safety, and welfare, including but not limited to requirements for additional seismograph monitoring locations, reduced blast sizes, modified blast timing, or additional resident notification.

(D) Denial. The City shall deny a City Blasting Permit application if the City finds that one or more of the approval criteria in subsection (B) are not satisfied and the deficiency cannot be cured by conditions. The City shall provide the Operator with written notice of denial stating the specific grounds for denial.

(E) Suspension and Revocation. The City may suspend or revoke a City Blasting Permit if the Operator:

1. Violates any condition of the permit or any requirement of this chapter.
2. Provides false or misleading information in the permit application.
3. Conducts blasting operations in a manner that creates an imminent risk to public health, safety, or welfare.
4. Fails to maintain a valid UFA Operational Blasting Permit.

4-8-8 RESIDENT AND PROPERTY OWNER NOTIFICATION

(A) Pre-Blasting Notification Required. Before any blasting operation commences, the Operator shall provide written notification to all residents and property owners within **1/4 mile (1,320 feet)** of the blast site.

(B) Notification Contents. The written notification shall include:

1. The name and contact telephone number of the Operator and the Certified Blaster.
2. The address or general location of the blast site.
3. The anticipated start date and end date of blasting operations.
4. The anticipated days of the week and hours during which blasting may occur.
5. A brief description of the nature of the blasting operation (e.g., rock excavation for road grading).
6. A statement that residents within 600 feet of the blast site will be offered a pre-blast survey of their structures at no cost, as described in Section 4-8-9.
7. A contact telephone number and email address for residents to ask questions or report concerns.

(C) Method of Notification. Notification shall be provided by first-class mail or hand delivery to the address of each property within the notification zone. The Operator shall use the Salt Lake County Assessor's records to identify property owners within the notification zone. Notification shall be mailed at least 10 calendar days before the first blast. or delivered 7 calendar days before the first blast.

(D) Day-of-Blast Notification. On each day that blasting is scheduled to occur, the Operator shall provide advance warning by sounding an audible signal (horn or siren) at the blast site at least **three minutes** before each blast. The audible signal pattern shall be described in the notification provided under subsection (B) so that residents understand what the signal means.

(E) Notification Log. The Operator shall maintain a log of all notifications provided under this section, including the names and addresses of all persons notified, the date and method of notification, and copies of all written notifications. The notification log shall be made available to the City upon request for 3 years.

4-8-9 PRE-BLAST SURVEY

(A) Survey Offer Required. Before any blasting operation commences, the Operator shall offer, at no cost to the property owner, a pre-blast survey of every structure within **600 feet** of the blast site. The offer shall be made in writing as part of the notification required by Section 4-8-8.

(B) Survey Scope. A pre-blast survey shall document the existing condition of the exterior and interior of the structure, including foundations, walls, ceilings, floors, windows, and any other features that could be affected by ground vibration or airblast. The survey shall include photographs and a written condition report.

(C) Qualified Surveyor. Pre-blast surveys shall be conducted by a qualified professional acceptable to the City, which may include a Certified engineer, Certified contractor, or other qualified inspector with demonstrated experience in pre-blast survey work. This professional cannot be affiliated with the blasting company or Operator in any way.

(D) Survey Records. The Operator shall provide a copy of each completed pre-blast survey to the property owner and shall retain a copy for a minimum of three years after the conclusion of blasting operations. Survey records shall be made available to the City upon request.

(E) Refusal. If a property owner declines the offer of a pre-blast survey, the Operator shall document the refusal in writing (including the date of the offer and the property owner's response) and shall retain that documentation for a minimum of three years. A property owner's refusal of a pre-blast survey does not waive any right the property owner may have under applicable law to seek compensation for blast-related damage.

(F) Post-Blast Damage Claims. The pre-blast survey records shall be used as the baseline for evaluating any claims of blast-related structural damage. Nothing in this section limits any right of a property owner to seek compensation for blast-related damage through any available legal remedy.

4-8-10 UTILITY NOTIFICATION

(A) Notification Required. Before any blasting operation commences, the Operator shall notify all utility owners and operators with facilities within **300 feet** of the blast site, including but not limited to providers of natural gas, electric power, water, sewer, pressurized irrigation, telecommunications, and cable television services.

(B) Blue Stakes Notification. The Operator shall contact the Blue Stakes of Utah at least **48 hours** (excluding weekends and holidays) before any excavation or blasting that may affect underground utilities, in accordance with Utah Code § 54-8a-1 et seq.

(C) Utility Marking. The Operator shall not commence blasting until all utilities within the blast area have been located and marked in accordance with the Utah Underground Service Alert program, and the Certified Blaster has reviewed the utility markings and incorporated them into the Blast Design Plan.

(D) Coordination with Utility Owners. If any utility owner or operator requests a pre-blast meeting or additional protective measures, the Operator shall accommodate that request to the extent reasonably practicable and shall document the outcome of any such coordination in the Blasting Log.

4-8-11 BLASTING NEAR AN OPERATING PUBLIC ROAD

(A) Applicability. This section applies to any blasting operation conducted within **500 feet of the centerline of any public road** that is open to vehicular traffic at the time of the blast, whether or not the road is temporarily closed for the blast itself.

(B) Cross-Reference to Existing Traffic Control Requirements. All blasting operations near a public road shall comply with all applicable traffic control requirements imposed by the Herriman City Land Disturbance Permit, Traffic Control Permit, and Engineering Standards, including but not limited to requirements for traffic control plans, road closure notifications, MUTCD compliance, and construction hour restrictions. This section imposes additional requirements specific to blasting hazards and does not replace or waive any existing traffic control obligation.

(C) Road Closure Required Within Blast Exclusion Zone.

1. No blast shall be detonated while any public road is open to vehicular or pedestrian traffic within the blast exclusion zone established by the Certified Blaster in the Blast Design Plan required under Section 4-8-6(B)(5).
2. The blast exclusion zone shall be no less than **300 feet from the nearest charge** in any direction, unless a greater distance is required by the Blast Design Plan, the UFA operational blasting permit, or applicable IFC provisions — in which case the greater distance controls.
3. The City shall be notified in writing of the proposed blast exclusion zone boundary at least **5 calendar days** (excluding weekends and holidays) before any blast that requires closure of a public road.
4. Road closure for blasting purposes shall be treated as a separate closure event from any general construction closure already permitted, and a traffic control permit shall be required to be obtained from the City.

(D) Traffic Control Personnel.

1. During any road closure required under subsection (C), at least **two flaggers** certified under the current Manual on Uniform Traffic Control Devices (MUTCD) shall be stationed at each approach to the closed segment, at a distance sufficient to stop traffic before it enters the blast exclusion zone.
2. Flaggers shall remain at their stations from the time the road is closed until the Certified Blaster has conducted a post-blast inspection and declared the road clear for reopening under subsection (G).
3. No flagger or traffic control personnel shall be positioned within the blast exclusion zone during detonation.

(E) Advance Notice of Road Closure for Blasting.

1. When a blast will require closure of a public road, the Operator shall provide advance written notice of the anticipated closure to the City at least 5 **days** (excluding weekends and holidays) before the blast.
2. The written notice shall identify the road or road segment to be closed, the anticipated closure start and end times, and the name and contact information of the on-site Certified Blaster.
3. The City may require the Operator to provide direct written notice to any business, school, emergency service provider, or other entity that the City determines will be materially affected by the road closure.
4. The City may require for any public road within 600 feet of the blast, a pre-inspection video documenting the condition of the road before the blast occurs.

(F) Coordination with Emergency Services.

1. Before any blast that requires closure of a public road, the Operator shall coordinate with the UFA and the Herriman City Police Department to ensure that emergency vehicle access to all properties within the affected area is maintained or that alternative emergency access routes are identified and communicated to dispatch.
2. The Operator shall provide the UFA and the Herriman City Police Department with the anticipated blast time and the estimated duration of the road closure at least **48 hours** (excluding weekends and holidays) in advance.
3. No blast requiring road closure shall be detonated if the UFA or the Herriman City Police Department notifies the Operator that emergency vehicle access cannot be adequately maintained during the closure period.

(G) Post-Blast Road Inspection and Reopening.

1. After each blast, the Certified Blaster shall conduct a thorough inspection of the road surface, shoulder, and any adjacent structures or retaining walls within the blast exclusion zone before the road is reopened to traffic.
2. The road shall not be reopened until the Certified Blaster has confirmed that:
    - No flyrock, debris, or displaced material is present on the road surface or shoulder;
    - No visible damage to the road surface, curb, gutter, sidewalk, or adjacent retaining walls has occurred; and
    - All fumes and dust have sufficiently dissipated to allow safe travel.

3. If the post-blast inspection reveals damage to the road surface or adjacent infrastructure, the Operator shall immediately notify the City and shall not reopen the road until the City has inspected the damage and authorized reopening.

(H) Road Damage — Repair Obligation.

1. The Operator shall be responsible for the cost of repairing any damage to a public road, shoulder, curb, gutter, sidewalk, retaining wall, or other public infrastructure caused by blasting operations.
2. Repair work shall be performed in accordance with Herriman City Engineering Standards and shall be completed within a timeframe approved by the City.
3. The City may require the Operator to post a cash deposit or performance bond in an amount sufficient to cover the estimated cost of road repairs before issuing a City Blasting Permit for any blast within 500 feet of a public road. The amount of the deposit or bond shall be determined by the City based on the scope and proximity of the proposed blasting operation.

(I) Blasting Log — Road Closure Entries. For each blast that requires closure of a public road, the Blasting Log required under Section 4-8-3(E) shall additionally record:

1. The individual name and segment of each road closed.
2. The actual closure start and end times.
3. The name of the Certified Blaster who conducted the post-blast road inspection.
4. The findings of the post-blast road inspection, including any damage observed.
5. The time the road was reopened to traffic.

4-8-12 PENALTY

(A) Any person who violates any provision of this chapter, or any condition of a City Blasting Permit issued under this chapter, is guilty of a class B misdemeanor, punishable as provided in Utah Code § 76-3-204.

(B) Each blast conducted in violation of this chapter constitutes a separate offense.

(C) In addition to criminal penalties, the City may seek injunctive relief or other civil remedies to enforce this chapter, including an order immediately suspending blasting operations pending compliance.

(D) The penalties provided in this section are in addition to, and not in lieu of, any penalty imposed by the UFA, the State of Utah, or any other governmental authority with jurisdiction over blasting operations.

4-8-13 APPEALS

(A) Any Operator aggrieved by a decision of the City to deny, suspend, or revoke a City Blasting Permit under this chapter may appeal that decision to the Herriman City Council.

(B) An appeal shall be filed in writing with the City Recorder within **15 calendar days** of the date of the City's written decision.

(C) The City Council shall hold a hearing on the appeal within **30 calendar days** of receipt of the written appeal, unless the Operator agrees to a longer period.

(D) The City Council's decision on appeal shall be final for purposes of local administrative remedies. Nothing in this section limits the right of any person to seek judicial review of a final City Council decision as provided by Utah law.

4-8-14 RELATIONSHIP TO OTHER PERMITS AND LAWS

(A) This chapter is intended to supplement, and not replace, all other applicable federal, state, and local laws, regulations, and permit requirements governing blasting operations, including but not limited to:

1. The UFA Operational Blasting Permit required under the IFC and Utah Code § 15A-5-208.
2. The Blue Stakes of Utah notification requirements of Utah Code § 54-8a-1 et seq.
3. The Herriman City Land Disturbance Permit.
4. The Herriman City Traffic Control Permit.
5. The Herriman City Engineering Standards.
6. Any applicable requirements of the Utah Department of Transportation as related to its facilities within the City.
7. Any applicable requirements of the Utah Division of Oil, Gas and Mining.
8. Any applicable requirements of the federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).

(B) Where any provision of this chapter conflicts with a requirement of state or federal law, the state or federal requirement controls.

(C) Obtaining a City Blasting Permit under this chapter does not relieve the Operator of the obligation to obtain all other required permits and approvals before commencing blasting operations.