

DOT Classification of explosives	DOT Classification of detonators
Magazine barricaded? ___ YES ___ NO	Magazine barricaded? ___ YES ___ NO
Distance (in feet) from nearest occupied building	Distance (in feet) from nearest occupied building
Distance (in feet) from nearest magazine	Distance (in feet) from nearest magazine

List all certified blasters who will be operating at this site:

Name: _____ Certification #: _____

Expiration Date: _____

Name: _____ Certification #: _____

Expiration Date: _____

Name: _____ Certification #: _____

Expiration Date: _____

I HEREBY ACKNOWLEDGE, that the information contained herein, and DECLARE that it be true and correct, to the best of my knowledge and belief. Further, I am the OWNER/OPERATOR, or a duly authorized AGENT acting on behalf of the OWNER, for all activities at the above referenced property or location. As such, I hereby agree to comply fully with all requirements Virginia Statewide Fire Prevention Code and the City of Staunton Fire Prevention Code governing the operation I wish to conduct.

Signature of Applicant: _____ Date: _____

FOR OFFICE USE ONLY

Site Inspection Date

Date Issued

Expiration Date

Application: ___ Approved ___ Disapproved By: _____

Date: _____ Fire Official

Comments/Conditions:



Fire Marshal's Office

Explosives and Blasting Permit Requirements

NOTE: This list is not all inclusive. All persons who handle, use or store explosives shall be familiar with and comply with the Virginia Statewide Fire Prevention Code, NFPA, Federal, State and Local laws ordinances, codes, standards and rules.

GENERAL

- A document of financial responsibility shall be provided, current and on file with this office.
- Insurance for blasting: The minimum amount of a certificate of insurance shall not be less than \$2,000,000 (two million dollars). The Fire Marshal's Office reserves the right to require more than two million dollars of insurance if more property value is identified. This certificate of insurance shall further indemnify the City of Staunton, named as an additional insured, its agents and employees from any and all actions which may result from the permitted blasting.
- Blasting site permits will be issued for a maximum of 90 days from the date of issuance.
- The permit application shall include a map showing the exact location of the blasting site(s).
 - Preferably, Global Positioning System (GPS) coordinates should be used.
 - If GPS coordinates are not available, City of Staunton Geographic Information System (GIS) can be used with an overlay.
 - Some large sites may be divided into zones and designated as such for daily reporting requirements.
- The permit application shall have a business and emergency contact number for the permit requestor.
- The Fire Marshal's Office reserves the right to request and have provided a "Blasting Plan" before any permit may be issued, this shall be in addition to the permit application and map.
- The Fire Marshal's Office will conduct a site inspection of all new blasting locations; an attempt will be made to conduct a site inspection for all renewals.
- The blaster in charge shall be certified and have credentials on his/her person, issued by the Virginia Dept. of Housing and Community Development (DHCD) at all times. Blasters operating at mines shall be certified by Virginia Department of Mines, Minerals and Energy. Additionally, the blaster shall be authorized to conduct business by the Virginia State Corporation Commission.
- Blasting operations conducting in quarries and mines are regulated and enforced by Virginia Department of Mines, Mineral, and Energy.
- All persons handling or coming in contact with explosives shall have the proper background clearances and their employing firm shall maintain a certified record of the background clearance to the satisfaction of the Fire Marshal.
- The City of Staunton Communications Center (ECC) shall be contacted each day before blasting operations begin and the blaster in charge or blasting firm manager shall provide the exact location of the blasting site including GPS Coordinates and/or exact address and the permit number for the site. The contact number for ECC is (540) 332-3842.

Fire Station #1 500 North Augusta Street Staunton, Virginia 24401 540.332.3884

Fire Station #2 302 Grubert Avenue Staunton, Virginia 24401 540.332.3718

www.staunton.va.us

- Blasting shall only be conducted during daylight hours, on normal business days. Any blasting that needs to occur on City Holidays or weekends must be approved in advance by the Fire Marshal. A schedule or notification that Saturday blasting or Holiday blasting will occur should be submitted with the permit application.
- All problems, misfires, fly rock incidents, and/or complaints shall immediately be reported to the Fire Marshal's Office and/or the department representative on site.
- Copies of shot records and seismograph reports shall be provided to the Fire Marshal's Office if requested.
- Any variance from these requirements will require a request in writing to: The Fire Marshal, 500 North Augusta Street, Staunton VA 24401. An additional 7 – 14 days will be required for approval of any variance.
- The Fire Marshal and/or staff will spot check all blasting sites.
- The Fire Marshal from the City of Staunton and/or his designee will be on site for all blasting.
- The City of Staunton Fire Marshals office requires no less than two days' notice before any blasting is to accrue.

SITE OPERATIONS

- When within the 200 feet of any utility, 24-hours' notice shall be given to the utility company, (some utility firms require more than 24-hour notice).
- The blast area and blast site shall be secure.
- The blast site shall have warning signs in place.
- Blasting mats shall be used on every blasting operation.
- All structures within 500 feet of the blast site shall be offered a pre-blast survey conducted by the blasting firm or their designee.
- All blasting within 250 feet of any structure shall comply with the following:
 - A minimum of 8 feet of cover should exist from the top of the loaded borehole to the ground surface, which may be accomplished by depth of drilling from existing grade of the placement of additional material over the blast area where a minimum of 8 feet of cover can be accomplished. Mats will be used.
 - Stemming gravel shall be used, drill cuttings are not allowed.
 - Blast mats shall be used between structures when conducting foundation shots.
- All residents/occupants shall be notified within 500 feet of each blasting operation, at least 2 days prior to the initial blasting.
- At least one seismograph shall be set up and operational at the nearest structure to the blast site. The Fire Marshal's Office may require additional monitoring for special hazards or concerns.
- All vibrations and air blast shall be minimized to prevent damage, vibrations limits set forth by NFPA 495 as referenced in the State Fire Prevention Code shall be followed.
 - Any blaster who exceeds vibration limits shall be issued a notice of violation for a first offense.
 - A second offense within a one-year period shall result in a notice of violation and/or a summons. A meeting will be held with the blaster and their supervisor.
 - A third offense within a one-year period will result in a summons and suspension of blasting privileges within the City of Staunton.
- Any and all fly rock is unacceptable and grounds for immediate permit revocation and/or a Virginia Uniform Summons issued to the blaster in charge.

- There shall be no on-site delivery of explosives without prior approval of the Fire Marshal.
 - The request for approval must be made at the time of the use permit application and approval will be given on a case-by-case basis.
 - On site delivery shall be only for the explosives to be used at that permitted site.
 - The Fire Marshal's Office will conduct an onsite inspection, stipulate the transfer of explosives and only that location may be used.
 - The area must be properly marked and posted.
 - A security/safety watch shall be established and no unauthorized persons shall enter the area; transfer shall cease if unauthorized persons enter the area and all explosives shall be immediately secured.
 - Explosives must be transferred from and into appropriate approved magazines.
- There shall be no open flame devices, matches, lighters etc. within 50 feet of the blast site, transport vehicle or area containing explosives or explosive residues.
- There shall be no smoking materials within 50 feet of the blast site.
- Detonators shall be kept in the appropriate magazine until needed.
- Detonators shall not be placed into primers until the borehole is to be loaded and this shall be done at least 50' from any magazine or transport vehicle.
- There shall be no unauthorized personnel at the site.
- Pre and Post blast warning signals shall be sounded.
- Special Concerns may require blasting to take place at specific times and under certain conditions. The blaster shall contact person(s) in charge of these occupancies and determine safe times and conditions. Special concerns may include: (Any high occupancy area)

- | | |
|----------------------------|-------------------------|
| 1. Schools | 7. Roadways/Bike Trails |
| 2. Day Cares | 8. Utilities |
| 3. Hospitals/Nursing homes | 9. Fuel stations |
| 4. Hotel/Motel | 10. Bulk fuel storage |
| 5. Special Infrastructure | 11. Special Industry |
| 6. Technology Centers/Hubs | |

- Blasting firms shall provide sufficient personnel to safely perform operations.
- All traffic on roadways and/or bike/walking paths or trails shall be stopped prior to any blasting within 300 ft.
- Blasting within 1000 ft. of any school shall be done only after school hours unless the school principal or his /her designees agree to blasting during school hours. In all cases the Fire Marshal's Office shall be notified and give final approval.
- The overnight storage of explosives at blasting sites will not be permitted.
- The burning of waste/packaging materials is prohibited on any blasting site.
- Special Precautions must be taken for blasting within proximity to wells and Historic structures. (see appropriate sections of this document)

WATER SUPPLY WELLS

- There shall be no blasting within 100 feet of any potable water supply well.
- All wells within 500 feet of any blasting shall be located and identified on site drawings.

- It is suggested that water quantity testing be performed, where possible, on all wells that are not properly drilled, cased and grouted within 300 feet of blasting.
- All wells that are not properly drilled, cased and grouted within 500 feet of any blasting shall be monitored with seismograph equipment for all blasting within the scope of the permit.
- A geosciences/geophysical consulting firm shall develop a blasting plan and calculate a safe ground vibration limit for all wells that are not properly drilled, cased and grouted within 500 feet of any blasting. This safe limit, measured by inches per second peak particle velocity, shall not be exceeded during any blasting within the scope of this permit.
- Property owners whom have hired or contracted to perform blasting on their land may opt out of the requirements in this section “Water Supply Wells”, this must be done in writing and submitted with the permit application for blasting.
- Information can be found at:
<https://www.vdh.virginia.gov/EnvironmentalHealth/Onsite/technicalresources/>

HISTORIC DISTRICTS AND STRUCTURES

- Historic Districts and/or Structures shall be identified when within 500 feet of any blasting.
- All Districts and structures registered with the Virginia Landmarks Registry and/or the National Registry of Historic Places shall be included.
The following websites may be of assistance:

<https://www.nationalregisterofhistoricplaces.com/>

<https://www.dhr.virginia.gov/historic-registers/>

<http://www.dhr.virginia.gov/register/RegisterMasterList.pdf>
- Peak Particle Velocities shall not exceed .50 inches per second for any Historic Structure within 500 feet of blasting. The only exception to exceed .50 inches per second shall be if a geosciences/geophysical consulting firm develops a blasting plan and establishes safe ground vibration and air blast limits. These safe limits are subject to the approval of the Fire Marshal and shall not be exceeded during any blasting within the scope of any permitted site.
- The primary reason for this is to prevent damage to older structures that may contain fragile components, such as aged plaster or glass.
- The nearest Historic Structures within 500 feet of any blasting shall be monitored with appropriate seismology equipment which may include monitors and/or coupling devices on exterior and interior components of the structure.
- Please note that Historic Districts will require an extensive search of the structures, monuments and cemeteries listed within the district to the satisfaction of the Fire Marshal.

TRANSPORTATION

- All transport vehicles shall be properly placarded, in accordance with US Department Of Transportation.
- All transport vehicles shall have at least 2 operable fire extinguishers of proper size and rating.
- The blast site and vehicle must be attended at all times.

- All United States Department of Transportation laws shall be complied with.
- All “bulk” explosive transport vehicles shall have in working order, a metering device to accurately measure the amount of explosives or blasting agents being expelled from the vehicle.
- All explosives transport vehicles shall have a means of communication to a supervisor or dispatch center that is manned at all times or a direct means of communication to 911 centers, when the vehicle is carrying explosives.
- When an explosive transport vehicle becomes inoperable due to a breakdown or if an explosive transport vehicle is involved in accident, the Fire Marshal’s Office must be notified immediately.

MISFIRES

- A misfire is when some or all of an explosive charge does not detonate when initiated by typical means. A misfire could involve an entire shot with several blast columns, a row of blast columns, or portions of a column of explosives/blasting agents.
- Blasters should take every precaution to ensure that misfires do not occur. Detection of misfires is critical during the post-blast inspection by the blaster in charge.
- Compliance with IME Publication #17 is required.
- The blaster in charge and/or the blasting supervisor is required to immediately notify the City of Staunton Fire Marshal or his designee onsite.
- The blaster in charge must immediately secure the blast area and prevent any unauthorized entry until the explosive threat is removed. Mitigation efforts shall be performed during daylight hours. The blaster in charge shall follow his adopted safety plan, Virginia Statewide Fire Prevention Code 3307.15, NFPA 495 – 10.5, and IME Publication #17.
- The blaster in charge shall not allow anyone in the blast area that is not trained and familiar with the blasting operation and properties of explosive materials.
- The blaster in charge shall develop a plan to uncover and trace the initiation circuit and the columns of explosives/blasting agents that have not fired or detonated.
- The blaster in charge shall develop a written mitigation plan to either re-fire the column(s) of explosives/blasting agents and/or remove the explosives/blasting agent or a combination of both. This shall be done with all typical safety precautions taken. All shot records shall record the actions taken and the results.
- If the misfire cannot be resolved during daylight hours, they must stop all work at sunset and provide adequate on scene security until the next day.
- The Fire Marshal’s Office shall be notified when the misfire is resolved and either the shot is fired or the explosives have been removed.