



Post Office Box 20 Danbury, NC 27016
Phone: 336-593-2083 Fax: 336-593-2359

Investigations • Inspections • Fire & Rescue Support • Emergency Mgmt • Fire & Life Safety Education

Blasting / Explosive Materials

Permit Application

Contractor Information

Name Of Permit Applicant / Contractor	_____
Applicant's Mailing Address	_____
Name Of Person Making Application	_____ Office Telephone # _____
Other Numbers / Contact Information	_____

Job Site Information

Facility / Site Name	_____
Address Of Work Site	_____
Estimated Start Date Of Work Covered By This Permit	_____
Estimated Completion Date Of Work Covered By This Permit	_____
Description Of Proposed Work	_____

Check And Sign Beside Each Item To Indicate Compliance

() A bond or certificate of insurance is attached with this completed permit application. This bond / policy provides adequate coverage for any personal injury, fire, explosion, collapse, or any other damages which might arise from the operation listed in this permit application:_____

() All employees / persons in charge of the blasting operation are at least 21 years of age, and are properly trained in the storage, use, handling, and safety precautions regarding the use of the explosive material in accordance with national standards:_____

() Yes () No There will be no explosive materials stored or otherwise left at the site overnight, all blasting will take place during the daylight hours:_____

() An approved record of the blasting operation will be maintained including all transactions involving receipt, removal, use, or disposal of explosive materials. The blasting contractor will maintain this record for a period of five years. Any loss, theft, or unauthorized use will be immediately reported to the code official and law enforcement._____

() The explosive materials and equipment used for this operation shall comply with all requirements set forth in the North Carolina Fire Code and other applicable standards:_____

() We have read and understand the N.C. Fire Code requirements attached with the permit application. We agree to comply with each of these safety requirements that may apply to this particular operation:_____

These answers have been given to the best of my ability and knowledge. I hereby understand that any answer deliberately falsified or misrepresented shall be justification for revocation of the permit.

Printed Name: _____ Signature: _____ Date: _____

FIRE MARSHAL'S OFFICE USE ONLY

Combined Permit ?	_____	Total Permit Fees	\$ _____		
Issued Permit #	_____	Plans Review By:	_____		
Date Received	_____	Plans Approved	_____	Date Permit Issued	_____
Final Approval Date	_____	Plans Denied	_____	Acceptance Inspector	_____
_____ Approved	_____ Denied	Inspector's Signature:	_____	Date:	_____



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BLASTING PERMIT REQUIREMENTS

Reprinted From The N.C. Fire Prevention Code

The following are requirements from the N.C. Fire Code to obtain a blasting permit from the Stokes County Fire Marshal's Office. Please read them carefully and complete the attached permit application. Sections in bold or italics should be given careful review. You will also need to attach any other required documentation such as your proof of insurance with your completed application. Send your completed application and attached documentation along with the \$60.00 permit fee to the Stokes County Fire Marshal's Office at P.O. Box 20 Danbury, N.C. 27016. After receipt of the application, we will call you to arrange a site inspection. Your permit will be presented to you at that time if all items are in order.

Exerts From Chapter 33 of the North Carolina Fire Code

3301.1, Scope., "The provisions of this chapter shall govern the possession, manufacture, storage, handling, sale and use of explosives, explosive materials, fireworks and small arms ammunition. Exceptions: 1. The Armed Forces of the United States, Coast Guard or National Guard. 2. Explosives in forms prescribed by the official United States Pharmacopoeia. 3. The possession, storage and use of small arms ammunition when packaged in accordance with DOTn packaging requirements. 4. The possession, storage, and use of not more than 1 pound (0.454 kg) of commercially manufactured sporting black powder, 20 pounds (9 kg) of smokeless powder and 10,000 small arms primers for hand loading of small arms ammunition for personal consumption. 5. The use of explosive materials by federal, state and local regulatory, law enforcement and fire agencies acting in their official capacities. 6. Special industrial explosive devices which in the aggregate contain less than 50 pounds (23 kg) of explosive materials. 7. The possession, storage and use of blank industrial-power load cartridges when packaged in accordance with DOTn packaging regulations. 8. Transportation in accordance with DOTn 49 CFR Parts 100-178. 9. Items preempted by federal regulations."

3301.1.1, Explosive material standard. "In addition to the requirements of this chapter, NFPA 495 shall govern the manufacture, transportation, storage, sale, handling and use of explosive materials."

3301.2, Permit required. Permits shall be required as set forth in Section 105.6 and regulated in accordance with this section.

3301.2.1 Residential uses. "No person shall keep or store, nor shall any permit be issued to keep or store, any explosives at any place of habitation, or within 100 feet (30 480 mm) thereof. Exception: Storage of smokeless propellant, black powder, and small arms primers for personal use and not for resale in accordance with Section 3306."

3301.2.3 Permit restrictions. "The code official is authorized to limit the quantity of explosives, explosive materials, or fireworks permitted at a given location. No person, possessing a permit for storage of explosives at any place, shall keep or store an amount greater than authorized in such permit. Only the kind of explosive specified in such a permit shall be kept or stored."

3301.2.4 Financial responsibility. , "*Before a permit is issued, as required by Section 3301.2, the applicant shall file with the jurisdiction a corporate surety bond in the principal sum of \$100,000 or a public liability insurance policy for the same amount, for the purpose of the payment of all damages to persons or property which arise from, or are caused by, the conduct of any act authorized by the permit upon which any judicial judgment results. The code official is authorized to specify a greater or lesser amount when, in his or her opinion, conditions at the location of use indicate a greater or lesser amount is required. Government entities shall be exempt from this bond requirement.*"

3301.2.4.1 Blasting. *"Before approval to do blasting is issued, the applicant for approval shall file a bond or submit a certificate of insurance in such form, amount, and coverage as determined by the legal department of the jurisdiction to be adequate in each case to indemnify the jurisdiction against any and all damages arising from permitted blasting."*

3301.3, Prohibited explosives., *"Permits shall not be issued or renewed for possession, manufacture, storage, handling, sale or use of the following materials and such materials currently in storage or use shall be disposed of in an approved manner. 1. Liquid nitroglycerin. 2. Dynamite containing more than 60-percent liquid explosive ingredient. 3. Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage. 4. Nitrocellulose in a dry and uncompressed condition in a quantity greater than 10 pounds (4.54 kg) of net weight in one package. 5. Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden. 6. Explosive compositions that ignite spontaneously or undergo marked decomposition, rendering the products of their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167°F (75°C). 7. New explosive materials until approved by DOTn, except that permits are allowed to be issued to educational, governmental, or industrial laboratories for instructional or research purposes. 8. Explosive materials condemned by DOTn. 9. Explosive materials containing an ammonium salt and a chlorate. 10. Explosives not packed or marked as required by DOTn 49 CFR, Parts 100-178. Exception: Gelatin dynamite."*

3301.4, Qualifications., *"Persons in charge of magazines, blasting, fireworks display, or pyrotechnic special effect operations shall not be under the influence of alcohol or drugs which impair sensory or motor skills, shall be at least 21 years of age, and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of explosives, explosive materials or fireworks."*

3301.5, Supervision., *The code official is authorized to require operations permitted under the provisions of Section 3301.2 to be supervised at any time by the code official in order to determine compliance with all safety and fire regulations.*

3301.6, Notification., *"Whenever a new explosive material storage or manufacturing site is established, including a temporary job site, the local law enforcement agency, fire department, and local emergency planning committee shall be notified 48 hours in advance, not including Saturdays, Sundays and holidays, of the type, quantity and location of explosive materials at the site."*

3301.7, Seizure., *"The code official is authorized to remove or cause to be removed or disposed of in an approved manner, at the expense of the owner, explosives, explosive materials or fireworks offered or exposed for sale, stored, possessed or used in violation of this chapter."*

3303.1, General., *"Records of the receipt, handling, use or disposal of explosive materials, and reports of any accidents, thefts, or unauthorized activities involving explosive materials shall conform to the requirements of this section."*

3303.2, Transaction record., *"The permittee shall maintain a record of all transactions involving receipt, removal, use, or disposal of explosive materials. Such a record shall be maintained for a period of 5 years, and shall be furnished to the code official for inspection upon request. Exception: Where only Division 1.4G (consumer fireworks) are handled, records need only be maintained for a period of 3 years."*

3303.3, Loss, theft or unauthorized use., *"The loss, theft or unauthorized removal of explosive materials from a magazine or permitted facility shall be reported to the code official, local law enforcement authorities, and the U.S. Department of Treasury, Bureau of Alcohol, Tobacco and Firearms within 24 hours. Exception: Loss of Division 1.4G (consumer fireworks) need not be reported to the Bureau of Alcohol, Tobacco and Firearms."*

3303.4, Accidents., "Accidents involving the use of explosives, explosive materials and fireworks, which result in injuries or property damage, shall be reported to the code official immediately."

3303.5, Misfires., "The pyrotechnic display operator or blaster in charge shall keep a record of all aerial shells that fail to fire or charges that fail to detonate."

3303.6, Hazard communication., "Manufacturers of explosive materials and fireworks shall maintain records of chemicals, chemical compounds and mixtures required by DOL 29 CFR, Part 1910.1200, and Section 407."

3303.7, Safety rules., "Current safety rules covering the operation of magazines, as described in Section 3304.7, shall be posted on the interior of the magazine in a visible location."

3304.1, General., "Storage of explosives and explosive materials, other than Division 1.4G fireworks, small arms ammunition, small arms primers, propellant-actuated cartridges and smokeless propellants in magazines, shall conform to the provisions of this section."

3304.2, Magazine required., "Explosives and explosive materials, and Division 1.3G fireworks shall be stored in magazines constructed, located, operated, and maintained in accordance with the provisions of this section and NFPA 495 or NFPA 1124. Exception: Storage of fireworks at display sites in accordance with Section 3308.5 and NFPA 1123 or NFPA 1126."

3304.3, Magazines., "The storage of explosives and explosive materials in magazines shall comply with Table 3304.3."

3304.3.1, High explosives., "Explosive materials classified as Division 1.1 or 1.2 or formerly classified as Class A by the U.S. Department of Transportation shall be stored in **Type 1, 2 or 3 magazines. Exceptions: 1. Black powder shall be stored in a Type 1, 2, 3 or 4 magazine. 2. Cap-sensitive explosive material that is demonstrated not to be bullet sensitive, shall be stored in a Type 1, 2, 3, 4 or 5 magazine."**

3304.3.3, Detonating cord., "For quantity and distance purposes, detonating cord of 50 grains per foot shall be calculated as equivalent to 8 pounds (4 kg) of high explosives per 1,000 feet (305 m). Heavier or lighter core loads shall be rated proportionally."

3304.4, Prohibited storage., "Detonators shall be stored in a separate magazine for blasting supplies and shall not be stored in a magazine with other explosive materials."

3304.5, Location., "The use of magazines for storage of explosives and explosive materials shall comply with Sections 3304.5.1 through 3304.5.3.3."

3304.5.1, Indoor magazines., "The use of indoor magazines for storage of explosives and explosive materials shall comply with the requirements of this section."

3304.5.1.1, Use., "The use of indoor magazines for storage of explosives and explosive materials shall be limited to warehouses and wholesale or retail establishments."

3304.5.1.2, Construction., "Indoor magazines shall comply with the following construction requirements: 1. Construction shall be fire resistant and theft resistant. 2. Exterior shall be painted red. 3. Base shall be fitted with wheels, casters or rollers to facilitate removal from the building in an emergency. 4. Lid or door shall be marked with conspicuous white lettering not less than 3 inches (76 mm) high and minimum 0.5 inch (12.7 mm) stroke, reading EXPLOSIVES - KEEP FIRE AWAY. 5. The least horizontal dimension shall not exceed the clear width of the entrance door."

3304.5.1.3, Quantity limit., "Not more than 50 pounds (23 kg) of explosives or explosive materials shall be stored within an indoor magazine."

3304.5.1.4, Prohibited use., "Indoor magazines shall not be used within buildings containing Group R occupancies."

3304.5.1.5, Location., "Indoor magazines shall be located within 10 feet (3048 mm) of an entrance and only on floors at or having ramp access to the exterior grade level."

3304.5.1.6, Number., "Not more than two indoor magazines shall be located in the same building. Where two such magazines are located in the same building, one magazine shall be used solely for the storage of not more than 5,000 detonators."

3304.5.1.7 ,Separation distance., "When two magazines are located in the same building, they shall be separated by a distance of not less than 10 feet (3048 mm)."

3304.5.2 ,Outdoor magazines., All outdoor magazines other than Type 3 shall be located so as to comply with Table 3304.5.2(2) or Table 3304.5.2(3) as set forth in Table 3304.5.2(1).

TABLE 3304.5.2(2) REQUIRES THE FOLLOWING SEPARATION DISTANCES FOR 1651b OF EXPLOSIVES: Inhabited buildings 470ft., Public highways with traffic volume less than 3,000 vehicle per day 190ft., Public highways with traffic volume greater than 3,000 vehicle per day and passenger railways 350ft., Separation of magazines 42ft.

3304.6, Construction., Magazines shall be constructed in accordance with Sections 3304.6.1 through 3304.6.5.2.

3304.6.1 ,Drainage., The ground around a magazine shall be graded so that water drains away from the magazine.

3304.6.2 ,Heating., Magazines requiring heat shall be heated as prescribed in NFPA 495 by either hot water radiant heating within the magazine or by indirect warm air heating.

3304.6.3 ,Lighting., "When lighting is necessary within a magazine, electric safety flashlights or electric safety lanterns shall be used, except as provided in NFPA 495."

3304.6.4 ,Nonsparking materials., "In other than Type 5 magazines, there shall be no exposed ferrous metal on the interior of a magazine containing packages of explosives."

3304.6.5 ,Signs and placards., "Property upon which Type 1 magazines and outdoor magazines of Types 2, 4 and 5 are located shall be posted with signs stating: **EXPLOSIVES - KEEP OFF**. These signs shall be of contrasting colors with a minimum letter height of 3 inches (76 mm) with a minimum brush stroke of 0.5 inch (12.7 mm). The signs shall be located to minimize the possibility of a bullet shot at the sign hitting the magazine."

3304.6.5.1 ,Access road signs., "At the entrance to explosive material manufacturing and storage sites, all access roads shall be posted with the following warning sign or other approved sign: **DANGER!; NEVER FIGHT EXPLOSIVE FIRES.; EXPLOSIVES ARE STORED ON THIS SITE; CALL _____**. The sign shall be weather resistant with a reflective surface and have lettering at least 2 inches (51 mm) high."

3304.7, Operation., Magazines shall be operated in accordance with Sections 3304.7.1 through 3304.7.9.

3304.7.1 ,Security., Magazines shall be kept locked in the manner prescribed in NFPA 495 at all times except during placement or removal of explosives or inspection.

3304.7.2 ,Open flames and lights., "Smoking, matches, flame-producing devices, open flames, firearms and firearms cartridges shall not be permitted inside of or within 50 feet (15 240 mm) of magazines."

3304.7.3 ,Brush., "The area located around a magazine shall be kept clear of brush, dried grass, leaves, trash, debris, and similar combustible materials for a distance of 25 feet (7620 mm)."

3304.7.4 ,Combustible storage., Combustible materials shall not be stored within 50 feet (15 240 mm) of magazines.

3304.7.5 ,Unpacking and repacking explosive materials., "Containers of explosive materials, except fiberboard containers, and packages of damaged or deteriorated explosive materials or fireworks shall not be unpacked or repacked inside or within 50 feet (15 240 mm) of a magazine or in close proximity to other explosive materials."

3304.7.5.1 ,Storage of opened packages., Packages of explosive materials that have been opened shall be closed before being placed in a magazine.

3304.7.5.2 ,Nonsparking tools., "Tools used for the opening and closing of packages of explosive materials, other than metal slitters for opening paper, plastic or fiberboard containers, shall be made of nonsparking materials."

3304.7.5.3 ,Disposal of packaging., Empty containers and paper and fiber packaging materials that previously contained explosive materials shall be disposed of or reused in an approved manner.

3304.7.6 ,Tools and equipment.,"Metal tools, other than nonferrous transfer conveyors and ferrous metal conveyor stands protected by a coat of paint, shall not be stored in a magazine containing explosive materials or detonators."

3304.7.7 ,Contents.,"Except as provided in Section 3304.7.4, magazines shall be used exclusively for the storage of explosive materials, blasting materials, and blasting accessories."

3304.7.8 ,Compatibility.,Corresponding grades and brands of explosive materials shall be stored together and in such a manner that the grade and brand marks are visible. Stocks shall be stored so as to be easily counted and checked. Packages of explosive materials shall be stacked in a stable manner not exceeding 8 feet (2438 mm) in height.

3304.7.9 ,Stock rotation.,"When explosive material is removed from a magazine for use, the oldest usable stocks shall be removed first."

3304.8,Maintenance.,Maintenance of magazines shall comply with Sections 3304.8.1 through 3304.8.3.

3304.8.1 ,Housekeeping.,"Magazine floors shall be regularly swept and be kept clean, dry and free of grit, paper, empty packages and rubbish. Brooms and other cleaning utensils shall not have any spark-producing metal parts. Sweepings from magazine floors shall be disposed of in accordance with the manufacturers' approved instructions."

3304.8.2 ,Repairs.,"Explosive materials shall be removed from the magazine before making repairs to the interior of a magazine. Explosive materials shall be removed from the magazine before making repairs to the exterior of the magazine where there is a possibility of causing a fire. Explosive materials removed from a magazine under repair shall either be placed in another magazine or placed a safe distance from the magazine, where they shall be properly guarded and protected until repairs have been completed. Upon completion of repairs, the explosive materials shall be promptly returned to the magazine. Floors shall be cleaned before and after repairs."

3304.8.3 ,Floors.,Magazine floors stained with liquid shall be dealt with according to instructions obtained from the manufacturer of the explosive material stored in the magazine.

3304.9,Inspection.,Magazines containing explosive materials shall be opened and inspected at maximum 7-day intervals. The inspection shall determine whether there has been an unauthorized or attempted entry into a magazine or an unauthorized removal of a magazine or its contents.

3304.10,Disposal of explosive materials.,Explosive materials shall be disposed of in accordance with Sections 3304.10.1 through 3304.10.7.

3304.10.1 ,Notification.,The code official shall be notified immediately when deteriorated or leaking explosive materials are determined to be dangerous or unstable and in need of disposal.

3304.10.2 ,Deteriorated materials.,"When an explosive material has deteriorated to an extent that it is in an unstable or dangerous condition, or when a liquid has leaked from an explosive material, the person in possession of such material shall immediately contact the material's manufacturer to obtain disposal and handling instructions."

3304.10.3 ,Qualified person.,The work of destroying explosive materials shall be directed by persons experienced in the destruction of explosive materials.

3304.10.4 ,Storage of misfires.,Explosive materials and fireworks recovered from blasting or display misfires shall be placed in a magazine until an experienced person has determined the proper method for disposal.

3304.10.5 ,Disposal sites.,"Sites for the destruction of explosive materials and fireworks shall be approved and located at the maximum practicable safe distance from inhabited buildings, public highways, operating buildings, and all other exposures to ensure keeping air blast and ground vibration to a minimum. The location of disposal sites shall be no closer to magazines, inhabited buildings, railways, highways, and other rights-of-way than is permitted by Tables 3304.5.2(1), 3304.5.2(2) and 3304.5.2(3). When possible, barricades shall be utilized between the destruction site and inhabited buildings. Areas where explosives are detonated or burned shall be posted with adequate warning signs."

3304.10.6 ,Reuse of site., "Unless an approved burning site has been thoroughly saturated with water and has passed a safety inspection, 48 hours shall elapse between the completion of a burn and the placement of scrap explosive materials for a subsequent burn."

3304.10.7 ,Personnel safeguards., "Once an explosive burn operation has been started, personnel shall relocate to a safe location where adequate protection from air blast and flying debris is provided. Personnel shall not return to the burn area until the person in charge has inspected the burn site and determined that it is safe for personnel to return."

3307.1,General., "Blasting operations shall be conducted only by approved, competent operators familiar with the required safety precautions and the hazards involved and in accordance with the provisions of NFPA 495.",

3307.2,*Manufacturer's instructions.*, **Blasting operations shall be performed in accordance with the instructions of the manufacturer of the explosive materials being used.**,

3307.3,Blasting in congested areas., "When blasting is done in a congested area or in close proximity to a structure, railway, or highway, or any other installation, precautions shall be taken to minimize earth vibrations and air blast effects. Blasting mats or other protective means shall be used to prevent fragments from being thrown.",

3307.4,Restricted hours., "Surface-blasting operations shall only be conducted during daylight hours. Other blasting shall be performed during daylight hours unless otherwise approved by the code official.",

3307.5,Utility notification., "Whenever blasting is being conducted in the vicinity of utility lines or rights-of-way, the blaster shall notify the appropriate representatives of the utilities at least 24 hours in advance of blasting, specifying the location and intended time of such blasting. Verbal notices shall be confirmed with written notice. Exception: In an emergency situation, the time limit shall not apply when approved.",

3307.6,Electric detonator precautions., "Precautions shall be taken to prevent accidental discharge of electric detonators from currents induced by radar and radio transmitters, lightning, adjacent power lines, dust and snow storms, or other sources of extraneous electricity.",

3307.7,Nonelectric detonator precautions., "Precautions shall be taken to prevent accidental initiation of nonelectric detonators from stray currents induced by lightning or static electricity.",

3307.8,Blasting area security., "During the time that holes are being loaded or are loaded with explosive materials, blasting agents or detonators, only authorized persons engaged in drilling and loading operations or otherwise authorized to enter the site shall be allowed at the blast site. The blast site shall be guarded or barricaded and posted. Blast site security shall be maintained until after the post-blast inspection has been completed.",

3307.9,Drill holes., "Holes drilled for the loading of explosive charges shall be made and loaded in accordance with NFPA 495.",

3307.10,Removal of excess explosive materials., "After loading for a blast is completed and before firing, excess explosive materials shall be removed from the area and returned to the proper storage facilities."

3307.11,Initiation means., "The initiation of blasts shall be by means conforming to the provisions of NFPA 495."

3307.12,Connections., "The blaster shall supervise the connecting of the blastholes and the connection of the loadline to the power source or initiation point. Connections shall be made progressively from the blasthole back to the initiation point. Blasting lead lines shall remain shunted (shorted) and shall not be connected to the blasting machine or other source of current until the blast is to be fired."

3307.13,Firing control., "No blast shall be fired until the blaster has made certain that all surplus explosive materials are in a safe place in accordance with Section 3307.10, all persons and equipment are at a safe distance or under sufficient cover, and that an adequate warning signal has been given."

3307.14, Post-blast procedures., "After the blast, the following procedures shall be observed. 1. No person shall return to the blast area until allowed to do so by the blaster in charge. 2. The blaster shall allow sufficient time for smoke and fumes to dissipate and for dust to settle before returning to or approaching the blast area. 3. The blaster shall inspect the entire blast site for misfires before allowing other personnel to return to the blast area. "

3307.15, Misfires., "Where a misfire is suspected, all initiating circuits shall be traced and a search made for unexploded charges. Where a misfire is found, the blaster shall provide proper safeguards for excluding all personnel from the blast area. Misfires shall be reported to the blasting supervisor immediately. Misfires shall be handled under the direction of the person in charge of the blasting operation in accordance with NFPA 495."