



# Operational Permit Application

## Explosives



[www.cityofvancouver.us/departments/fire-department](http://www.cityofvancouver.us/departments/fire-department)

International Fire Code as adopted by VMC 16.04 (Washington State Fire Code)

### Permitting Requirements

An **operational permit** is required for the manufacture, storage, handling, possession, sale, or use of any quantity of explosives, explosive materials, or pyrotechnic special effects as regulated by WSFC 105.5.16.

### Project Information

Site Address		Owner Name	
Other			

### Applicant Information

Company Name			Address		
Contact Name					
Office Phone		Cellular		Email	

### Contractor

Company Name			Address		
Contact Name					
Office Phone		Cellular		Email	
Related Permits:	RES _____	CMI _____	DEF _____	MPE _____	

### General Description of Work


Explosives Type:	<input type="checkbox"/> High Explosives	<input type="checkbox"/> Blasting Agents	<input type="checkbox"/> Low explosives
	<input type="checkbox"/> Black Powder	<input type="checkbox"/> Theatrical Flash Powder	<input type="checkbox"/> Other ( <i>Specify</i> ): _____

## Electronic Plan Standards

### File Naming Standards:

Electronic plans and documents shall be named as specified in the City of Vancouver [ePLANS](https://www.cityofvancouver.us/business/permits-licenses-and-inspections/eplans/) system:  
<https://www.cityofvancouver.us/business/permits-licenses-and-inspections/eplans/>



### Acceptable File Types:

Plans, calculations, specifications and supporting documents shall be uploaded as a PDF file.

### Plan Sheet Standards:

All plans shall be drawn to scale, as identified in the checklist, and each sheet shall state the scale and show a measurable scale on the page for measurement calibrations.

### Document Orientation:

All plans must be uploaded in "Landscape" format in the horizontal position with a north indicator. All other documents can be in "Portrait" format.

### Stamped:

Where documentation contains a code analysis or engineering calculations, such documents shall be stamped by the design professional.

## Definitions

See WSFC chapters 2 and 56, RCW 70.74.10, and applicable Codes of Federal Regulations (CFR) definitions sections and NFPA Standard definitions.

## Minimum Submittal Checklist for Upload to ePLANS

- ☐ Completed Fire Operational Permit Application – Explosives (this document) Check all *Permit Conditions* checkboxes that are applicable to your project
- ☐ Completed Materials Management Plan (HMMP) documents and supplemental documents (See *Document Details* below)
- ☐ Site plans and floor plans (see *Plan Details* below)
- ☐ Washington State / Federal Licensing

## Document Details

HMMP Guide: <https://www.cityofvancouver.us/wp-content/uploads/2023/10/Hazardous-Materials-Management-Plan.pdf>

See Vancouver Fire Department HMMP Guide for direction on completing required HMMP and/or supplemental forms

Does your business...	If YES, please complete these pages of the HMMP and supplemental (linked above)	
Store or use explosives or explosive materials, including blasting agents?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> All HMMP documents

### An HMMP must contain the following minimum elements:

- ☐ Facility Information Form: Business Activities Declaration page
- ☐ Facility Information Form: Business Owner/Operator Identification page
- ☐ Hazardous Materials Inventory Statement (HMIS)
- ☐ HMIS Hazard Class Summary Report
- ☐ Emergency Response/Contingency Plan
- ☐ Employee Training Plan
- ☐ Recordkeeping
- ☐ Facility Site Plan & Storage Map

- ☐ SDS documentation

**In addition to the HMMP documents listed above, provide the following documents:**

- ☐ All current fire protection system inspection reports
- ☐ Insurance public liability certification in the amount determined by the City of Vancouver
- ☐ Environmental impact assessment
- ☐ Local authority and property owner permission documentation.
- ☐ Copy of emergency drills and employee training records.
- ☐ A list of types, sizes and quantities of explosives, detonation cords and caps, etc.
- ☐ A list of types, sizes and quantities of fireworks and their classifications (1.3G fireworks are also known as UN 0335 by the DOTn).
- ☐ Method of transport and storage.
- ☐ List types, sizes, and locations of Magazines.

## Plan Details

The following is a list of information required on all plan submittals for review of an explosives permit. The plan shall be drawn to 1/8" = 1'-0" minimum scale. The applicant is required to submit all applicable information so an accurate and timely review may be completed:

**General:**

- ☐ North indicator and measurable scale.
- ☐ Emergency access lanes for fire and EMS.
- ☐ Site map including the other structures, property lines, locations of structures on other neighboring properties, and distance measurements between all structure locations from the magazine(s) as well as listings for each magazine for products, and quantities stored. Also identify the location of all on-site fire suppression to include fire pumps, ponds, water supplies, layout of fire lanes, gas meter, portable fire extinguishers, fire engine staging, and Knox lock equipment if installed.
- ☐ Proximity to wildfire risk areas
- ☐ Site plan including buildings, magazines, and other structures with distance measurements.
- ☐ Drawing/floor plan of building including all entrance and exits, location of primary and secondary exit routes, locations of fire extinguishers, fire protection system panels, risers, and/or other fire protection control systems and/or panels.
- ☐ Copy of the emergency plan compliant with Chapter 4 of the 2021 WSFC.
- ☐ Information on the types of fire alarm systems installed, and when they were last inspected (provide report/photo of current inspection tag(s)). This shall include all fire alarm systems or other gas detection systems at the facility.
- ☐ Information of the sprinkler system type, fire extinguishers and their locations or any type of alternate (including but not limited to automatic hood suppression, paint booth systems, clean agent, etc.) fire protection system and last inspection date (provide photo/report of current inspection tag(s)).

**Storage:**

- ☐ Material showing the storage of explosives and explosive materials in magazines in compliance with table 5604.3.
- ☐ Written details listing the types of explosives stored and their specific amounts and intended uses.
- ☐ Written statement certifying compliance with Chapter 56 of the WSFC and other applicable codes and standards:
  - o NFPA 495 – Explosive Materials Code
  - o NFPA 1124- Code for the Manufacturing, Transportation, and Storage of Fireworks and Pyrotechnic Articles

**Blasting:**

- ☐ Written plan for the blasting operation including site plan with all blasting locations noted.
- ☐ Written safety and emergency plan to include notification to the responding fire department and identifying who with the fire department received notice.

- ☐ Copy of proof of certificate of insurance or bond in such form, amount, and coverage as determined by the city of Vancouver attorney's office to be adequate in each case to indemnify Vancouver against any and all damages arising from permitted blasting.
- ☐ Written misfire procedures and post blast procedures
- ☐ Accountability procedures to ensure misfires are not left on site.
- ☐ Copies of all certifications and licenses
- ☐ Notification plans: Affected neighboring property owner notifications, emergency responder notifications (police & fire) a minimum of two working days in advance is required.
- ☐ Proposed blasting dates and hours.

## Permit Conditions and Regulations

The following is a list of Chapter 56 WSFC requirements related to explosive operations. Use this form to confirm that all applicable requirements are met.

### General:

- ☐ In addition to the requirements set forth by WSFC Chapter 56, NFPA 495 shall govern the manufacture, transportation, storage, sale, handling, and use of explosive materials (WSFC 5601.1.1).
  - ☐ In addition to the requirements set forth by WSFC Chapter 56, the operation of explosive material terminals shall conform to the provisions of NFPA 498 (WSFC 5601.1.2).
  - ☐ The storage, handling and use of model and high-power rockets shall comply with the requirements of NFPA 1122, NFPA 1125 and NFPA 1127 (WSFC 5601.1.4).
  - ☐ The storage and handling of ammonium nitrate shall comply with the requirements of NFPA 400 and WSFC Chapter 63 (WSFC 5601.1.5).
- Exception: Storage of ammonium nitrate in magazines with blasting agents shall comply with the requirements of NFPA 495.
- ☐ The following materials or such materials currently in storage shall not be permitted for the manufacture, storage, handling, sale or use and shall be disposed of in an approved manner (WSFC 5601.3):
    1. Liquid nitroglycerin.
    2. Dynamite containing more than 60-percent liquid explosive ingredient.
    3. Dynamite having an unsatisfactory absorbent on one that permits leakage of a liquid explosive ingredient under any condition liable to exist during storage.
    4. Nitrocellulose in a dry and uncompressed condition in a quantity greater than 10 pounds of net weight in one package.
    5. Fulminate or 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.
    7. New explosive materials until approved by DOTn, except that permits are allowed to be issued to education, governmental or industrial laboratories for instructional or research purposes.
    8. Explosive materials forbidden by DOTn.
    9. Explosive materials containing ammonium salt and chlorate.
    10. Explosives not packed or marked as required by DOTn 49 CFR Parts 100 – 185.

Exception: Gelatin dynamite

- Persons in charge of magazines or blasting operations shall not be under the influence of alcohol or drugs that impair sensory or motor skills, shall not be less than 21 years of age and shall demonstrate knowledge of all safety precautions related to the storage, handling or use of explosives and explosive materials (WSFC 5601.4).
- 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 weekends and holidays, of the type, quantity, and location of explosive materials at the site (WSFC 5601.6).
- Storage of explosives and explosive materials, small arms ammunition, small arms primers, propellant-actuated cartridges, and smokeless propellants in magazines shall comply with the provisions of WSFC 5604 (WSFC 5604.1).
- Magazines containing explosive materials shall be opened and inspected at maximum seven-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 (WSFC 5604.9).

**Establishment of Quantity:**

- The quantity-distance tables in WSFC 5604.5 and 5605.3 shall be used to provide the minimum separation distance from potential explosion sites as set forth in Tables 5601.8.1(1), 5601.8.1(2), and 5601.8.1(3) (WSFC 5601.8.1).
- The total net explosive weight of mass-detonating explosives (Divisions 1.1, 1.2, or 1.5) shall be used. See Table 5604.5.2(1) or Table 5605.3, as appropriate (WSFC 5601.8.1.1).  
Exception: Where the TNT equivalence of the explosive material has been determined, the equivalence is allowed to be used to establish the net explosive weight
- Non-mass-detonating explosives (excluding Division 1.4) shall be as follows (WSFC 5601.8.1.2):
  1. Division 1.3 propellants. The total weight of the propellants alone shall be the net explosive weight. The net weight of propellant shall be used. See Table 5604.5.2(2).
  2. Combinations of bulk metal powder and pyrotechnic compositions. The sum of the net weights of metal powders and pyrotechnic compositions in the containers shall be the net explosive weight. See Table 5604.5.2(2).
- Combinations of mass-detonating and non-mass-detonating explosives (excluding Division 1.4) shall be as follows (5601.8.1.3):
  1. Where Division 1.1 and 1.2 explosives are located in the same site, determine the distance for the total quantity considered first as 1.1 and then as 1.2. The required distance is the greater of the two. Where the Division 1.1 requirements are controlling and the TNT equivalence of the 1.2 is known, the TNT equivalent weight of the 1.2 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 5604.5.2(2) or Table 5605.3, as appropriate.
  2. Where Division 1.1 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1 and then as 1.3. The required distance is the greater of the two. Where the Division 1.1 requirements are controlling and the TNT equivalence of the 1.3 is known, the TNT equivalent weight of the 1.3 items shall be allowed to be added to the total explosive weight of Division 1.1 items to determine the net explosive weight for Division 1.1 distance determination. See Table 5604.5.2(1), 5604.5.2(2) or 5605.3, as appropriate.
  3. Where Division 1.1, 1.2 and 1.3 explosives are located in the same site, determine the distances for the total quantity considered first as 1.1, next as 1.2 and finally as 1.3. The required distance is the greatest of the three. As allowed by Items 1 and 2, TNT equivalent weights for 1.2 and 1.3 items are allowed to be used to determine the net weight of explosives for Division 1.1 distance determination. Table 5604.5.2(1) or Table 5605.3 shall be used where TNT equivalency is used to establish the net explosive weight.
  4. For composite pyrotechnic items Division 1.1 and Division 1.3, the sum of the net weights of the pyrotechnic composition and the explosives involved shall be used. See Tables 5604.5.2(1) and 5604.5.2(2).
- For Division 1.4 explosives, the total weight of the explosive material alone is the net weight. The net weight of the explosive material shall be used (WSFC 5601.8.1.4).

### Record Keeping and Reporting:

- ☐ The permittee shall maintain a record of all transactions involving receipt, removal, use or disposal of explosive materials. Such record shall be maintained for 5 years (WSFC 5603.2).  
Exception: Where only Division 1.4G explosives are handled, records need only be maintained for a period of 3 years.
- ☐ The loss, theft or unauthorized removal of explosive materials from a magazine or permitted facility shall be reported to local law enforcement authorities and the US Department of Treasury, Bureau of Alcohol, Tobacco, Firearms and Explosives within 24 hours (WSFC 5603.3).  
Exception: Loss of Division 1.4G explosives need not be reported to the Bureau of Alcohol, Tobacco, Firearms and Explosives.
- ☐ Accidents involving the use of explosives and explosive materials that result in injuries or property damage should be reported immediately (WSFC 5603.4).
- ☐ Manufacturers of explosive materials shall maintain records of chemicals, chemical compounds and mixtures required by DOL 29 CFR Part 1910.1200 and WSFC 407 (WSFC 5603.6).
- ☐ Current safety rules covering the operation of magazines, as described in WSFC 5604.7, shall be posted on the interior of the magazine in a visible location (WSFC 5603.7).

### Storage and Handling:

- ☐ 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 WSFC 5604 and NFPA 495 or NFPA 1124 (WSFC 5604.2).  
Exception: Portable or mobile magazines not exceeding 120 square feet in area shall not be required to comply with the requirements of the IBC.

- ☐ The storage of explosives and explosive materials in magazines shall comply with the table at right (WSFC 5604.3):
- ☐ Explosive materials classified as Division 1.1 or 1.2 or formerly classified as Class A by the US DOT shall be stored in Type 1, 2 or 3 magazines (WSFC 5604.3.1).

#### 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.

- ☐ Explosive materials that are not cap sensitive shall be stored in a Type 1, 2, 3, 4, or 5 magazine (WSFC 5604.3.2).
- ☐ For quantity and distance purposes, detonating cord of 50 grains per foot shall be calculated as equivalent to 8 pounds of high explosives per 1000 feet. Heavier or lighter core loads shall be rated proportionally (WSFC 5604.3.3).
- ☐ Detonators shall be stored in a separate magazine for blasting supplies and shall not be stored in a magazine with other explosive materials (WSFC 5604.4).

### Indoor Magazines:

- ☐ The use of indoor magazines for storage of explosives and explosive materials shall be limited to occupancies of Group F, H, M or S, and research development laboratories (WSFC 5604.5.1.1).

TABLE 5604.3

STORAGE AMOUNTS AND MAGAZINE REQUIREMENTS FOR EXPLOSIVES, EXPLOSIVE MATERIALS AND FIREWORKS, 1.3G  
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA

NEW UN/DOTn DIVISION	OLD DOTn CLASS	ATF/OSHA CLASS	INDOOR <sup>a</sup> (pounds)				OUTDOOR (pounds)	MAGAZINE TYPE REQUIRED				
			Unprotected	Cabinet	Sprinklers	Sprinklers & cabinet		1	2	3	4	5
1.1 <sup>b</sup>	A	High	0	0	1	2	1	X	X	X	—	—
1.2	A	High	0	0	1	2	1	X	X	X	—	—
1.2	B	Low	0	0	1	1	1	X	X	X	X	—
1.3	B	Low	0	0	5	10	1	X	X	X	X	—
1.4	B	Low	0	0	50	100	1	X	X	X	X	—
1.5	C	Low	0	0	1	2	1	X	X	X	X	—
1.5	Blasting Agent	Blasting Agent	0	0	1	2	1	X	X	X	X	X
1.6	Not Applicable	Not Applicable	0	0	1	2	1	X	X	X	X	X

a. A factor of 10 pounds per gallon shall be used for converting pounds (solid) to gallons (liquid) in accordance with section 5003.1.2.

b. Black powder shall be stored in a Type 1, 2, 3 or 4 magazine as provided for in section 5604.3.



- Indoor magazines shall comply with the following construction requirements (WSFC 5604.5.1.2):
  1. Construction shall be fire-resistant and theft restraint.
  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 high and minimum ½ inch stroke reading:

**“EXPLOSIVES—KEEP FIRE AWAY”**

- 5. The least horizontal dimension shall not exceed the clear width of the entrance door.
- Not more than 50 pounds of explosives or explosive materials shall be stored with an indoor magazine (WSFC 5604.5.1.3).  
*Exception:* Day boxes used for the storage of in-process material in accordance with WSFC 5604.6.4.1.
- Indoor magazines shall not be used within buildings containing Group R occupancies (WSFC 5604.5.1.4).
- Indoor magazines shall be located within 10 feet of an entrance and only on floors at or having ramp access to the exterior grade level (WSFC 5604.5.1.5).
- 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 (WSFC 5604.5.1.6).
- Where two magazines are located in the same building, they shall be separated by a distance of not less than 10 feet (WSFC 5604.5.1.7).

**Outdoor Magazines:**

- Outdoor magazines other than Type 3 shall be located so as to comply with Table 5604.5.2(2) or 5604.5.2(3) as set forth in Tables 5601.8.1(1) through 5601.8.1(3). Where a magazine or group of magazines, as described in WSFC 5604.5.2.2, contains different classes of explosive materials, and Division 1.1 materials are present, the required separations for the magazine or magazine group as a whole shall comply with Table 5604.5.2(2) (WSFC 5604.5.2).
  - Separation: Where two or more storage magazines are located on the same property, each magazine shall comply with the minimum distances specified from inhabited buildings, public transportation routes and operating buildings. Magazines shall be separated from each other by not less than the inter-magazine distances (IMD) shown for the separation of magazines (WSFC 5604.5.2.1).
  - Grouped Magazines: Where two or more magazines are separated from each other by less than the IMD, such magazines as a group shall be considered as one magazine and the total quantity of explosive materials stored in the group shall be treated as if stored in a single magazine. The location of the group of magazines shall comply with the IMD specified from other magazines or magazine groups, inhabited buildings, public transportation routes and operating buildings (ILD or IPD) as required (WSFC 5604.5.2.2).

**Type 3 Magazines:**

- Wherever practicable, Type 3 magazines shall be located away from neighboring inhabited buildings, railways, highways and other magazines in accordance with Table 5604.5.2(2) or 5604.5.2(3), as applicable (WSFC 5604.5.3.1).
- Type 3 magazines shall be attended when explosive materials are stored within. Explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the workday (WSFC 5604.5.3.2).
- Not more than two Type 3 magazines shall be located at the same blasting site. Where two Type 3 magazines are located at the same blasting site, one magazine shall be used solely for the storage of detonators (WSFC 5604.5.3.3).

**Construction:**

- The ground around a magazine shall be graded so that water drains away from the magazine (WSFC 5604.6.1).
- 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 (5604.6.2).

- ☐ Where lighting is necessary within a magazine, electric safety flashlights or electric safety lanterns shall be used, except as provided in NFPA 495 (WSFC 5604.6.3).
- ☐ In other than Type 5 magazines, there shall not be exposed ferrous metal on the interior of a magazine containing packages of explosives (WSFC 5604.6.4).
- ☐ Property on which Type 1 magazines and outdoor magazines of Types 2, 4 and 5 are located shall be posted with signs stating:  

**"NO SMOKING" and "EXPLOSIVES—KEEP OFF".**
- ☐ These signs shall be of contrasting colors with a minimum letter height of 3 inches with a minimum brush stroke of ½ inch.  

The signs shall be located to minimize the possibility of a bullet shot at the sign hitting the magazine (WSFC 5604.6.5).
- ☐ At the entrance to explosive material manufacturing and storage sites, all access roads shall be posted with the following warning sign or other permitted sign:

**DANGER**  
**NEVER FIGHT EXPLOSIVE FIRES**  
**EXPLOSIVES ARE STORED ON THIS SITE**  
**CALL 911**

The sign shall be weather resistant with a reflective surface and have lettering not less than 2 inches high (WSFC 5604.6.5.1).

- ☐ Type 5 magazines containing Division 1.5 blasting agents shall be prominently placarded as required during transportation by DOTn CFR Part 172 and DOTy 27 CF Pat 555 (WSFC 5604.6.5.2).

#### **Magazines:**

- ☐ Magazines shall be kept locked in the manner prescribed in NFPA 495 at all times except during placement or removal of explosives or inspection (WSFC 5604.7.1).
- ☐ Smoking, matches, flame producing devices, open flames, firearms, and firearms cartridges shall not be allowed inside of or within 50 feet of magazines (WSFC 504.7.2).
- ☐ 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 (WSFC 5604.7.3).
- ☐ Combustible material shall not be stored within 50 feet of magazines (WSFC 5604.7.4).
- ☐ 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 of a magazine or in close proximity to explosive materials (WSFC 5604.7.5).
  1. Packages of explosive materials that have been opened shall be closed before being placed in the magazine (WSFC 5604.7.5.1).
  2. 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 non-sparking materials (WSFC 5064.7.5.2).
  3. Empty containers and paper and fiber packing materials that previously contained explosive materials shall be disposed of or reused in an approved manner (5604.7.5.3).
- ☐ Metal tools, other than nonferrous transfer conveyors and ferrous metal conveyer stands protected by a coat of paint, shall not be stored in a magazine containing explosive materials or detonators (WSFC 5604.7.6).
- ☐ Magazines shall be used exclusively for the storage of explosive materials, blasting materials, and blasting accessories (WSFC 5604.7.7).
- ☐ 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 in height (5604.7.8).



- ☐ 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 manufacturer's permitted instructions (WSFC 5604.8.1).
- ☐ 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 (WSFC 5604.8.2).
- ☐ Magazine floors stained with liquid shall be dealt with in accordance with instructions obtained from the manufacturer of the explosive material stored in the magazine (WSFC 5604.8.3).

#### **Disposal of Explosive Materials:**

- ☐ Where 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 materials manufacturer to obtain disposal and handling instructions (WSFC 5604.10.2).
- ☐ The work of destroying explosive materials shall be directed by persons experienced in the destruction of explosive materials (WSFC 5604.10.3).
- ☐ Explosive materials recovered from blasting misfires shall be placed in a magazine until an experienced person has determined the proper method for disposal (WSFC 5604.10.4)
- ☐ 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 not be closer to magazines, inhabited buildings, railways, highways, and other rights-of-way than is allowed by Tables 5604.5.2(1), 5604.5.2(2), and 5604.5.2(3). Where 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 (WSFC 5604.10.5).
- ☐ Unless an accepted 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 (WSFC 5604.10.6).
- ☐ 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 (WSFC 5604.10.7).

#### **Manufacture, Assembly and Testing:**

- ☐ The manufacture, assembly, and testing of explosives, ammunition, blasting agents and fireworks shall comply with the requirements of WSFC 5605 and NFPA 495 or NFPA 1124 (WSFC 5605.1).

##### Exceptions:

1. The hand loading of small arms ammunition prepared for personal use and not offered for resale.
  2. The mixing and loading of blasting agents at blasting sites in accordance with NFPA 495.
  3. The use of binary explosives or phosphoric materials in blasting or pyrotechnic special effects applications in accordance with NFPA 495 or NFPA 1126.
- ☐ Emergency plans, emergency drills, employee training and hazard communication shall conform to the provisions of WSFC 404, 405, 406, and 407 (WSFC 5605.2).
  - ☐ Explosives manufacturing buildings and fireworks manufacturing buildings, including those where explosive charges are assembled, manufactured, prepared, or loaded utilizing Division 1.1, 1.2, 1.3, 1.4 or 1.5 explosives, shall be separated from all

other buildings, including magazines, within the confines of the manufacturing plant, at a distance not less than those shown in Table 5604.5.2(3) or Table 5605.3, as appropriate, and comply with the following:

1. The quantity of explosives in an operating building shall be the net weight of all explosives contained therein.
2. Distances shall be based on the hazard division requiring the greatest separation unless the aggregate explosive weight is divided by approved walls or shields designed for that purpose.
3. Where dividing a quantity of explosives into smaller stacks, a suitable barrier or adequate separation distance shall be provided to prevent propagation from one stack to another.
4. Where distance is used as the sole means of separation within a building, such distance shall be established by testing. Testing shall demonstrate that propagation between stacks will not result.
5. Barriers provided to protect against explosive effects shall be designed and installed in accordance with standards (WSFC 5605.3).

Exception: Fireworks manufacturing buildings separated in accordance with NFPA 1124.

- Where an operating building on an explosive materials plant site is designed to contain explosive materials, such a building shall be located away from inhabited buildings, public transportation routes and magazines in accordance with Table 5064.5.2(2) or 5604.5.2(3) as appropriate, based on maximum quantity of explosive materials permitted to be in the building at one time (WSFC 5605.4).

Exception: Fireworks manufacturing buildings separated in accordance with NFPA 1124.

- Net Explosive Weight: In addition to the requirements of WSFC 5601.8 to determine the net explosive weight for materials stored or used in operating buildings, quantities of explosive materials stored in magazines located at distances less than intraline distances from the operating building shall be added to the contents of the operating building to determine the net explosive weight (WSFC 5605.4.1).
- Buildings or rooms that exceed the maximum allowable quantity per control area of explosive materials shall be operated in accordance with this section and constructed in accordance with the requirements of the IBC for Group H occupancies (WSFC 5605.5).

Exception: Fireworks manufacturing buildings constructed and operated in accordance with NFPA 1124

- Explosive dust shall not be exhausted to the atmosphere (WSFC 5605.5.1).
    1. Wet Collector: When collecting explosives dust, a wet collector system shall be used. Wetting agents shall be compatible with the explosives. Collector systems shall be interlocked with process power supplies so that the process cannot continue without the collector systems operating (WSFC 5605.5.1.1).
    2. Waste Disposal: Explosives dust shall be removed from the collection chamber as often as necessary to prevent overloading. The entire system shall be cleaned at a frequency that will eliminate hazardous concentrations of explosive dust in pipes, tubing, and ducts (WSFC 5605.5.1.2).
  - Exhaust Fans: Squirrel cage blowers shall not be used for exhausting hazardous fumes, vapors, or gases. Only nonferrous fan blades shall be used for fans located within the ductwork and through which hazardous materials are exhausted. Motors shall be located outside the duct (WSFC 5605.5.2).
  - Workstations: Workstations shall be separated by distance, barrier, or other alternatives so that fire in one station will not ignite material in another workstation. Where necessary, the operator shall be protected by a personnel shield located between the operator and the explosive device or explosive material being processed. This shield and its support shall be capable of withstanding a blast from the maximum amount of explosives allowed behind it (WSFC 5605.5.3).
- Detonation of explosive materials for testing purposes shall be done only in isolated areas at sites where distance, protection from missiles, shrapnel or fly rock, and other safeguards provides protection against injury to personnel or damage to property (WSFC 5605.8). The detonation of fireworks is prohibited within the City of Vancouver.
  - Protective clothing and equipment shall be provided to protect persons engaged in the testing, ignition, or detonation of explosive materials (WSFC 5605.8.1).

- ☐ Where tests are being conducted or explosives are being detonated, only authorized persons shall be present. Areas where explosives are regularly or frequently detonated or burned shall be approved and posted with adequate warning signs. Warning devices shall be activated before burning or detonating explosives to alert persons approaching from any direction that they are approaching a danger zone (WSFC 5605.8.2).
- ☐ Disposal of explosive waste from manufacturing, assembly or testing operations shall be in accordance with WSFC 5604.10 (WSFC 5605.9).

**Operations:**

- ☐ Where the type of material and processing warrants, mechanical operations involving explosives in excess of 1 pound shall be carried on at isolated stations or at intraplane distances, and machinery shall be controlled from remote locations behind barricades or at separations so that workers will be at a safe distance while machinery is operating (WSFC 5605.6.1).
- ☐ The work area where the screening, grinding, blending and other processing of static-sensitive explosives or pyrotechnic materials is done shall be provided with approved static controls (WSFC 5605.6.2).
- ☐ Bulk explosives shall be kept in approved, non-sparking containers when not being used or processed. Explosives shall not be stored or transported in open containers (WSFC 5605.6.3).
- ☐ The quantity of explosives at any particular workstation shall be limited to that posted on the load limit signs for the individual workstation. The total quantity of explosives for multiple workstations shall not exceed that established by the intraplane distances in Table 5604.5.2(3) or Table 5605.3, as appropriate (WSFC 5605.6.4).
  1. Magazines used for storage in processing areas shall be in accordance with the requirements of Section 5604.5.1. Explosive materials shall be removed to appropriate storage magazines for unattended storage at the end of the workday. The contents of indoor magazines shall be added to the quantity of explosives contained at individual workstations and the total quantity of material stored, processed, or used shall be utilized to establish the intraplane separation distances indicated by Table 5604.5.2(3) or Table 5605.3, as appropriate (WSFC 5605.6.4.1).
- ☐ Approved receptacles with covers shall be provided for each location for disposing of waste material and debris. These waste receptacles shall be emptied and cleaned as often as necessary but not less than once each day or at the end of each shift (WSFC 5605.6.5)
- ☐ General safety rules and operating instructions governing the particular operation or process conducted at that location shall be available at each location (WSFC 5605.6.6)
- ☐ The number of occupants in each process building and, in each magazine, shall not exceed the number necessary for proper conduct of production operations (WSFC 5605.6.7)
- ☐ Not more than 500 pounds of pyrotechnic or explosive composition, including not more than 10 pounds of salute powder shall be allowed at one time in any process building or area. Compositions not in current use shall be kept in covered nonferrous containers (WSFC 5605.6.8)

Exception: Composition that has been loaded or pressed into tubes or other containers as consumer fireworks.

- ☐ The maximum number of occupants and maximum weight of pyrotechnic and explosive composition permitted in each process building shall be posted in a conspicuous location in each process building or magazine (WSFC 5605.6.9).
- ☐ Fireworks, explosives or explosive charges in explosive materials manufacturing, assembly or testing shall not be stored near any source of heat (WSFC 5605.6.10).

Exception: Approved drying or curing operations.

**Small Arms Ammunition (if accessory to higher explosives storage):** See Explosives Small Arms Storage and Sales if this is the only subject matter.

- ☐ Indoor storage and display of black powder, smokeless propellants, small arms primers, small arms ammunition, and commercial reloading shall comply with WSFC 5606 and NFPA 495 (WSFC 5606.1).
- ☐ Small arms ammunition shall not be stored together with Division 1.1 , Division 1.2, or Division 1.3 explosives unless the storage facility is suitable for the storage of explosive materials (WSFC 5606.2).

- ☐ Smokeless propellants shall be stored in approved shipping containers confirming to DOT 49 CFR Part 173 (WSFC 5606.3).
  - ☐ Repackaging: The bulk repackaging of smokeless repellants, black powder and small arms primers shall not be performed in retail establishments (WSFC 5606.3.1).
  - ☐ Damage: Damaged packages shall not be repackaged (WSFC 5606.3.2).
    - Exception: Approved repackaging of damaged containers of smokeless propellant into containers of the same type and size as the original container.
- ☐ Black powder for personnel use in quantities not exceeding 20 pounds shall be stored in original containers in occupancies limited to Group R-3. Quantities exceeding 20 pounds shall not be stored in any Group R occupancy (WSFC 5606.4.1).
- ☐ Smokeless propellants for personnel use in quantities not exceeding 20 pounds shall be stored in original containers in occupancies limited to Group R-3. Smokeless propellants in quantities exceeding 20 pounds but not exceeding 50 pounds and kept in a wooden box or cabinet having walls of not less than 1-inch nominal thickness shall be allowed to be stored in occupancies limited to Group R-3. Quantities exceeding these amounts shall not be stored in any Group R occupancy (WSFC 5606.4.2).
- ☐ Not more than 10,000 small arms primers shall be stored in occupancies limited to Group R-3 (WSFC 5606.4.3).
- ☐ Not more than 20 pounds of smokeless propellants, in containers of 1 pound or less capacity each, shall be displayed in Group M occupancies (WSFC 5606.5.1.1).
- ☐ Not more than 1 pound of black powder shall be displayed in Group M occupancies (WSFC 5606.5.1.2).
- ☐ Not more than 10,000 small arms primers shall be displayed in Group M occupancies (WSFC 5606.5.1.3).
- ☐ Commercial stocks of smokeless propellants shall be stored as follows (WSFC 5606.5.2.1):
  1. Quantities exceeding 20 pounds, but not exceeding 100 pounds shall be stored in portable wooden boxes having walls of not less than 1-inch nominal thickness.
  2. Quantities exceeding 100 pounds, but not exceeding 800 pounds, shall be stored in nonportable storage cabinets having walls not less than 1-inch nominal thickness. Not more than 400 pounds shall be stored in any one cabinet, and cabinets shall be separated by a distance of not less than 25 feet or by a fire partition having a fire-resistance rating of not less than 1 hour.
  3. Storage of quantities exceeding 800 pounds, but not exceeding 5,000 pounds in a building shall comply with all of the following:
    - ☐ The warehouse or storage room is not open to unauthorized personnel.
    - ☐ Smokeless propellant shall be stored in nonportable storage cabinets having wood walls not less than 1-inch nominal thickness and having shelves with not more than 3 feet of separation between shelves.
    - ☐ Not more than 400 pounds is stored in any one cabinet.
    - ☐ Cabinets shall be located against walls of the storage room or warehouse with not less than 40 feet between cabinets.
    - ☐ The minimum required separation between cabinets shall be 20 feet provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades must extend not less than 10 feet outward, be firmly attached to the wall and be constructed of steel not less than ¼-inch thick, 2-inch nominal thickness wood, brick, or concrete block.
    - ☐ Smokeless propellant shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids, or oxidizing materials by a distance of 25 feet or by a fire partition having a fire-resistance rating of 1 hour.
    - ☐ The building shall be equipped throughout with an automatic sprinkler system installed in accordance with WSFC 903.3.1.1.
  4. Smokeless propellants not stored in accordance with Item 1, 2, or 3 shall be stored in a Type 2 or 4 magazine in accordance with WSFC 5604 and NFPA 495.
- ☐ Commercial stocks of black powder in quantities less than 50 pounds shall be allowed to be stored in Type 2 or 4 indoor or outdoor magazines. Quantities greater than 50 pounds shall be stored in outdoor Type 2 or 4 magazines. Where black powder

and smokeless propellants are stored together in the same magazine, the total quantity shall not exceed that permitted for black powder (5606.5.2.2).

- ☐ Commercial stocks of small arms primers shall be stored as follows (5606.5.2.3):
  1. Quantities not to exceed 750,000 small arms primers stored in a building shall be arranged such that not more than 100,000 small arms primers are stored in any one pile and piles are not less than 15 feet apart.
  2. Quantities exceeding 750,000 small arms primers stored in a building shall comply with all of the following:
    - ☐ The warehouse or storage building is not open to unauthorized personnel.
    - ☐ Small arms primers shall be stored in cabinets. Not more than 200,000 small arms primers shall be stored in any one cabinet.
    - ☐ Shelves in cabinets shall have vertical separation of not less than 2 feet.
    - ☐ Cabinets shall be located against walls of the warehouse or storage room with not less than 40 feet between cabinets. The minimum required separation between cabinets shall be allowed to be reduced to 20 feet provided that barricades twice the height of the cabinets are attached to the wall, midway between each cabinet. The barricades shall be firmly attached to the wall and shall be constructed of steel not less than ¼ - inch thick, 2-inch nominal thickness wood, brick, or concrete block.
    - ☐ Small arms primers shall be separated from materials classified as combustible liquids, flammable liquids, flammable solids, or oxidizing materials by a distance of 25 feet by a fire partition having a fire-resistance rating of 1 hour.
    - ☐ The building shall be protected throughout with an automatic sprinkler system installed in accordance with WSFC 903.3.1.1.
  3. Small arms primers not stored in accordance with Item 1 or 2 of this section shall be stored in a magazine meeting the requirements of WSFC 5604 and NFPA 495.

**Blasting:**

- ☐ All 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. All operations shall be performed in accordance with the instructions of the manufacturer of the explosive materials being used (WSFC 5607.1 and 5607.2).
- ☐ Where 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 (WSFC 5607.3).
- ☐ Surface blasting operations shall only be conducted during daylight hours between sunrise and sunset. Other blasting shall be performed during daylight hours unless otherwise approved (WSFC 5607.4).
- ☐ Where blasting is being conducted in the vicinity of utility lines or rights-of-way, the blaster shall notify the appropriate representatives of the utilities not less than 24 hours in advance of blasting. Specifying the location and intended time of such blasting. Verbal notices shall be confirmed with written notice (WSFC 5607.5).

Exception: In an emergency situation, the time limit shall not apply where approved.
- ☐ 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 snowstorms, or other sources of extraneous electricity. For nonelectric detonators, precautions shall be taken to prevent accidental initiation from stray currents (WSFC 5607.6 and 5607.7).
- ☐ 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 (WSFC 5607.8).
- ☐ Holes drilled for the loading of explosive charges shall be made and loaded in accordance with NFPA 495 (WSFC 5607.9).
- ☐ 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 (WSFC 5607.10).

- ☐ The blaster shall supervise the connection of the blastholes and the connection of the load line 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 and shall not be connected to the blasting machine or other source of current until the blast is to be fired (WSFC 5607.12).
- ☐ A blast shall not be fired until the blaster has made certain that all surplus explosive materials are in a safe place in accordance with WSFC 5607.10, all persons and equipment are at a safe distance under sufficient cover and that an adequate warning signal has been given (WSFC 5607.13).
- ☐ After the blast, the following post blast procedure shall be observed (WSFC 5607.14):
  1. Persons shall not 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.
- ☐ 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 (WSFC 5607.15).
- ☐ Changes in conditions. When in the opinion of the fire code official or the operator that a hazardous condition exists, the explosive operations shall be immediately discontinued, until or unless the condition changes. Examples: increased wind speed, change of wind direction, lightning storms, or similar unplanned conditions.
- ☐ Pre-blasting notifications shall be completed prior to commencement.

The owner/operator shall be responsible to maintain compliance with all applicable Federal, State, and local laws, regulations and standards for fire and life safety, including, but not limited to International Fire Code chapter 56, DOTn 49 CFR parts 100-185, NFPA 495, NFPA 498, NFPA 1122, NFPA 1125, NFPA 1127, NFPA 400, RCW 70.74 and RCW 70.77.

**NOTE:** *This is not intended to be an all-inclusive list. The WSFC requirements listed are intended to ensure that we have adequate information to begin a review of the application, and so that the applicant understands their responsibilities. Additional information may be required, and additional conditions may apply.*

**This permit is not transferrable to another type or size of material, operator, owner, location, or date(s).**

**I understand that all applicable codes apply and that other regulatory codes may also apply. Errors and/or omissions on the plans and corrections from field inspections are the responsibility of the owner/operator. All work is subject to compliance with City of Vancouver ordinances and laws of the State of Washington.**

APPLICANT NAME: \_\_\_\_\_ APPLICATION DATE: \_\_\_\_\_

APPLICANT SIGNATURE: \_\_\_\_\_

Key personnel names and cell phone personnel for emergency blast pause or discontinuation communications:

- 1.
- 2.
- 3.
- 4.



For structural demolition using explosives, additional engineering, modeling and expert third party oversight will be required. Additionally, all public safety needs and requirements must be addressed prior to demolition.

For use of explosives in motion picture production, additional safety measures, federal and industry regulations will be required. An expert report shall be submitted detailing how all regulations and safety requirements are met.

Additional insurance may be required.