

## Blasting Near Existing Buildings

If you are a retired person living a quiet peaceful life in a quiet peaceful neighbourhood, then the arrival of a blasting team next door is your worst nightmare come true. A month of blasting and the six months to two years of the kind of construction that usually follows blasting, will ruin your quiet, ruin your peace, and ruin your overall well being.

**WARNING:** Blasting may also directly and immediately ruin your physical and mental health.  
**They are about to blast next door. What do you need to know?**

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### 1. Protect your family's lives.

#### **1(a) Blasting creates poisonous gases:**

- Blasting creates massive volumes of **gases with explosive force** at supersonic speeds. It is this rapidly expanding gas that creates the force that moves and breaks rock.
- Some of the gas escapes upwards into the air, while some is **pressured down** and along under the ground.
- Some of the explosion gases are poisonous, and the **most dangerous of these is Carbon-Monoxide (CO)**. CO is odorless, tasteless, invisible, slightly lighter than air, and is a poison that can **kill or cripple your brain.** You don't know CO is present while it is poisoning you.
- Blasting within a 100 meters of a building sometimes pushes dangerous amounts of **CO into that building through its foundation** (through cracks, holes, vents, pipe entrances, sump wells, unsealed floors, and floor drains). This is especially true if there was ever other blasting near the building, or if there are extensive perimeter drains around the house.
- CO from blasting can percolate into a building for **up to a week**.

#### **1(b) Install carbon-monoxide (CO) detectors.**

- As soon as you are told there is to be blasting, you must install one or more carbon-monoxide (CO) detectors in your **crawlspace, cellar, or basement**, and install them near the most likely places where the CO may enter.
- Do **not** allow people to **sleep in a basement** for the extent of the blasting and for seven days afterwards.
- If a CO alarm goes off, **RUN FOR YOUR LIFE. Seriously.** Immediately get everyone out of the house and outside into the fresh air. Once safely outside, call 911, and then warn all of your neighbours and the blaster that there is a **toxic spill in your house**. If your neighbours don't have CO alarms, they may not know that their **lives may be at risk**.
- **CO in a building requires a 911 Emergency Call** because the Fire Department is needed with

all of their protective gear, gas sensors, and training. If **anyone is feeling the least bit ill**, headachy, nauseous, or has a flushed look to their skin, then the 911 call should include an **ambulance** to rush them to the **Emergency Ward**.

- DO NOT enter your house again until the firemen tell you that it is safe to do so. They are the experts, and their main concern is your safety. In their protective gear they can go inside to test the levels of CO and meanwhile open windows, doors, and vents to speed up the dissipation of the CO. They may forbid you from sleeping in the house for a number of days, while they monitor the CO levels.

### 1(c) After a poison gas emergency.

- As soon as you are calm enough, you must **report the toxic spill of "blast CO" to the province and the municipality**. When reporting, make a note of the name and contact information of the person who answered your call for help, and note the organization's file number for future reference.
- Oak Bay Building & Planning Dept: 250-598-2042. - Tell them of the Emergency and that the blasting needs to be suspended pending investigation by the province.
- BC Ministry of the Environment 1 800 663-3456 - Tell them there has been a toxic spill which is risking lives. Make sure that you get a reference number from them because they have mechanisms by which you will be refunded for expenses.
- Do **NOT** contact WorksafeBC (WCB) 1 888 621-7233, the media, or the politicians unless you have a negative response from the Min of Env. It is better to have a Min of Env investigation because they have mechanisms by which you will be refunded for expenses, but they will not investigate if the WCB is involved.
- Once there is a proven conduit for CO to enter your house, the CO will continue to use that conduit with every blast ... so **DO NOT ALLOW the blasting to continue** until the blasting plan has been revised to protect you.
- Do not allow the blasting to continue until **all of your expenses from the Emergency have been paid in full** either by the blaster, the developer, their insurance, or the Ministry of the Environment; including any hotel or meal costs you incurred while you were forced out of your house. Note that under the BC Environmental Management Act, all costs of toxic spills must be assumed by those that created the spill.
- Demand that Oak Bay audit the blasting to ensure that it is following "**Best Practices**".
- If the blaster resumes blasting prior to investigations and additional safeguards then **immediately** call the police. There are lives at risk.

## 2. Protect your Buildings

- Blasting can cause damage to your buildings and property to an extent that may cost you tens of thousands or even hundreds of thousands of dollars to fix, and therefore **blasters must carry insurance on your property**.
- The blaster's insurance company should **send an agent to your house** prior to blasting. Make sure you take his card and the name and contact information of the developer, the blaster, and the insurance company. The agent will take photos to protect the insurance company from false claims, and they may refuse share them with you, so follow them around using your own camera.
- **Contact your own house insurance company** and inform them of the blasting, and ask their advice on temporary additions to your insurance, such as increased coverage, special coverage,

or coverage for the cost of lawyers in case you end up in court fighting for the costs of any damage done by blasting.

- Blasting can crack concrete, tile, stucco, plaster, glass and almost anything else that is brittle. Before blasting begins, **take your own digital photos** of every wall, roof, ceiling, floor, door, and window on the inside and outside of every building so that if necessary you can prove that the blasting has caused damage. Also take photos of fences, retaining walls, ornaments, pools, sidewalks, and driveways.
- Blasting can shift, raise, slump and otherwise compromise foundations, so make sure you take photos of the inside and outside of your foundations where ever possible.
- Blasting can shake pipe fittings loose. If you **smell household gas, or see unexplained dampness**, contact the insurer. If you smell gas, evacuate the building and call the gas company.
- Blasting can **compromise what is invisible underground**, such as pipes and drains, so if they begin to misbehave, contact the insurer.
- Blasting can shake things loose, so photograph and **safely pack away any precious breakables**.
- Do not be afraid to make a **claim on the blaster's insurance**. That is why they carry it. Advise your own insurance company - their legal office should assist you (so that they don't get stuck with the bill).

### **3. Protect your Plants**

- The plants most at risk are the trees and bushes that have **roots crossing over your property line** into the blast site. The blasting may sicken or kill them.
- If the plant/tree is a protected species, or if it is a tree with a trunk diameter over 20 cm (8 inches) measured 4ft up from the ground, or if it provides valuable animal habitat, then prior to blasting you should **report the danger** it is in to - Oak Bay Building & Planning Dept: 250-598-2042.
- Oak Bay has a tree bylaw which deals with plants that cross property lines, but do not assume that the B&P Dept has the time/resources to protect your plants **unless they are asked** to do so.
- Trees that interfere with a foundation of a house are **NOT well protected by the Tree bylaw**, however it does allow the Building & Planning Dept to negotiate a different building foot print if that will save a tree.

### **4. Protect your Pets**

- Animals are much **more sensitive** to the noises and smells of blasting than humans. If the blasting worries, irritates and stresses you, then that applies to your pets threefold.
- Do not leave pets **alone** on your property while blasting is happening
- Do not punish your pets for **misbehavior** during blasting. It's not their fault.
- Do not leave pets in a **basement** during blasting or allow them to sleep there until seven days after the blasting is completed. Carbon-monoxide (**CO**) **kills pets too**.
- If your pet is **panicking**, perhaps you should also be panicking. They sense poisons that you cannot.

### **5. Blasting Best Practices**

- Many public organizations share the **responsibility for blasting safety**. The Min. of Transport for the movement of explosives, the Min of Energy and Mines for the industrial use of blasting,

the Min. of Environment for the toxic results of blasting, each municipality for issuing specific blasting permits, and WorksafeBC (WCB) for certification and safety of the blasters and their blasting practices.

- A blaster who was not following the know "**best practices**" when a blasting emergency happens, may be **judged negligent or criminally negligent** and may be de-certified or worse.
- Best practices add to the cost of blasting and decrease the profits for developers, so there is a **financial incentive to being negligent**. Keep a wary eye on the blasting site and report to WorksafeBC 1 888 621-7233 if best practices are not being followed.

**The Best Practices (summary version) for blasting within a hundred meters of an occupied building include:**

- Before blasting commences, the blaster must **notify all neighbours of the deadly risk of CO** and of what to do in an emergency. There must be confirmation from each household that they understand the risks.
- Before blasting commences, the blaster must **install one or more CO sensors** in likely locations inside each surrounding building.
- Before blasting, all covering **sediment should be removed** so that it does not block the dissipation of gases.
- Before blasting, buildings with a high risk of CO infiltration should have **other protections in place**, such as trenching along the property line to give the gas more chance of dissipating, and the use of blowing or suction devices to help dissipate the gas.
- **High grade** (smokeless) explosives should be used.
- The initial blast should be **as far away from buildings as possible**, and then move towards the building.
- Rather than single large blasts, **sequences of small blasts** should be used.
- Blast sequences should be **varied** from blast to blast.
- **Blast mats** should be in place prior to the blast to curb fly rock.
- Blast mats and blasted rubble should be **removed immediately after each blast** so that they do not block the dissipation of gases.
- Any Emergency or **Toxic Spill should be reported by the blaster immediately** to 911, buildings should be evacuated, the toxic spill should be reported to the Min. of Environment hot line, and the danger to lives reported to WorksafeBC.
- After an Emergency or a Toxic Spill, **blasting should be suspended** until the blasting plan can be reviewed and revised to enhance safety, because once there is a proven CO conduit into a building it will be used by the CO in every subsequent blast.
- After an Emergency or a Toxic Spill, the **blaster must cooperate with the other organizations** to get the situation back to normal as soon as possible.

**6. References:**

“Carbon Monoxide Poisoning and Blasting - Preventive Practices Guide”

First published in 2012 by La Commission de la Santé et de la Sécurité du Travail (CSST) (WorksafeBC's sister organization in Quebec) due to blasting deaths caused by CO.  
<http://publications.msss.gouv.qc.ca/acrobat/f/documentation/2011/11-203-03F.pdf>

THE END