

Section 8.2. Protection of the Public

8.2.1. Walkways, Fencing, Boarding and Barricades

8.2.1.1. Covered Walkways

- 1) If *construction* of a *building* may cause a hazard for persons using the adjacent sidewalk, work shall not commence until a covered walkway has been provided on the sidewalk in accordance with Article 8.2.1.2.
- 2) Despite the provisions of Sentence (1) a covered walkway is not required on a sidewalk if
 - a) the work is carried out entirely behind fencing, boarding or barricades which separate the *construction* site from the sidewalk, or
 - b) the *building* is located no less than 2 m from a sidewalk used by pedestrians, except that the *Chief Building Official* may require a covered walkway for a site which contains a *project* located more than 2 m from a sidewalk if, in the opinion of the *Chief Building Official*, site conditions so warrant.

8.2.1.2. Covered Walkway Construction

- 1) A covered walkway shall
 - a) have a clear height of not less than 2.5 m,
 - b) have a clear width of not less than 1.5 m or the width of the sidewalk, whichever is the lesser,
 - c) be designed and constructed to support safely all loads that may be reasonably expected to be applied to it, but in no case less than 2.4 kPa on the roof
 - d) have a weathertight roof sloped towards the site or, if flat, be equipped with a splash board not less than 300 mm high on the *street* side,
 - e) be totally enclosed,
 - i) on the *construction* site side with a structure having a reasonably smooth surface facing the *public way*,
 - ii) on the *construction* site side of the sidewalk, and
 - iii) walls with a smooth surface facing the sidewalk,
 - f) have a railing 1 070 mm high measured from the walking surface and located on the *street* side of the sidewalk if the covered way is supported by posts on the *street* side of the sidewalk, and
 - g) constructed with sufficient lighting to enable the public to walk safely through any walkway which
 - h) is constructed on a sidewalk which is illuminated by overhead *street* lighting at night.

8.2.1.3. Fencing, Boarding or Barricades

- 1) If *construction* which may cause a hazard to the public is located 2 m or more from a street, fencing, boarding or barricades not less than 1.8 m high shall be erected between the *construction* site and the *street*.
- 2) Fencing, boarding, and barricades erected in accordance with Sentence (1) shall have a smooth surface facing the *street* and shall be without openings, except those required for access to the *construction* site.
- 3) Access openings through fencing, boarding or barricades erected in accordance with Sentence (1) shall be equipped with gates that shall be
 - a) kept closed and locked when the *construction* site is unattended, and
 - b) maintained in place until *construction* is completed.

8.2.1.4. Special Hazards

- 1) If an unusual hazard exists on a *construction* site, security guards shall be posted 24 hours a day and 7 days a week, to prevent public access to the area where the unusual hazard is located.

8.2.1.5. Work Shutdown

- 1) All hazardous areas on a *project* site shall be secured against unauthorized entry at all times.
- 2) If workers are not present on a construction site during normal working hours,
 - a) all windows, doors and other openings located within 3 m of the ground shall be secured with barricades, or

- b) a fencing, boarding or barricades shall be constructed around the entire site in accordance with Article 8.2.1.3.

8.2.2. Excavation

8.2.2.1. Water Removal

- 1) *Excavations* shall be kept reasonably clear of water.

8.2.2.2. Protection of Adjoining Property

(See Note A-8.2.2.2.)

- 1) If the stability of adjoining *buildings* or adjacent municipal infrastructure may be endangered by the work of excavating, adequate underpinning, shoring and bracing shall be provided to prevent
 - a) damage to, or movement of, any part of the adjoining *building*, and
 - b) the creation of a hazard to the public.

8.2.3. Use of Streets or Public Property

8.2.3.1. Safe Passage Past Site

- 1) Except as provided in Article 8.2.3.2., provisions shall be made at all times for the safe passage of pedestrian and vehicular traffic past the *project* site.
- 2) Material or equipment shall not be placed on any *public way* except as authorized by the *City Engineer*, the *General Manager, Real Estate and Facilities Management*, or the *General Manager, Park Board*, as the case may be.
- 3) Except as provided in Sentence (4), where a sidewalk exists adjacent to the *construction* site it shall be kept clear of obstructions at all times.
- 4) Where construction operations necessitate the obstruction of a sidewalk, a temporary sidewalk shall be provided and it shall be kept clear of obstruction at all times.
- 5) If *construction* necessitates the movement of material or equipment on or across a *public way* a person shall be posted to supervise the movement of the material or equipment and shall take all steps necessary to ensure the safety of pedestrians and vehicular traffic on the *public way*.

8.2.3.2. Overhead Construction Activities

- 1) Overhead operations which may create a hazard to pedestrian or vehicular traffic shall only be carried out if the *public way* is closed to pedestrian and vehicular traffic.
- 2) For the purposes of Sentence (1), closure of a *street*, other than momentary interruptions in public use, shall only be permitted by the *City Engineer* if the *City Engineer* is satisfied that no other reasonable alternative exists to minimize the hazard to pedestrians and vehicular traffic.
- 3) For the purposes of Sentence (1), closure of a *public way* other than a *street* or park shall only be permitted by the *General Manager, Real Estate and Facilities Management* if the *General Manager, Real Estate and Facilities Management* is satisfied that no other reasonable alternative exists to minimize the hazard to pedestrians and vehicular traffic.
- 4) For the purposes of Sentence (1), closure of a park shall only be permitted by the *General Manager, Park Board* if the *General Manager, Park Board* is satisfied that no other reasonable alternative exists to minimize the hazard to pedestrians and vehicular traffic.
- 5) Permission to close a *street*, park or other *public way* as required in Sentences (2),(3), and (4) shall be applied for and obtained before the *street*, park or other *public way* is closed.

8.2.3.3. Barriers

- 1) An excavation in a *street* or other *public way* or adjacent to a traffic lane where there is no sidewalk or curb, shall be protected by barriers.
- 2) Barriers provided for in Sentence (1) shall be constructed of concrete interlocking barriers or plastic water filled interlocking barriers sufficient to prevent pedestrian or vehicular traffic from entering the excavation.

3) Barriers provided for in Sentence (1) shall be marked with retro reflective tape, paint or delineators sufficient to make the barriers visible from dusk until dawn.”

8.2.3.4. Restoration and Repair of Streets or City Property

1) All *streets*, parks or other public property that have been damaged shall be restored to the satisfaction of the City Engineer, the General Manager, Real Estate and Facilities Management, or the General Manager, Park Board, as the case may be.

2) All obstructions on *streets*, parks or other public property shall be removed as soon as the need for such obstructions is ended.

8.2.3.5. Warning Lights

1) Warning lights shall be placed and shall be in operation from dusk until dawn at all obstructions on *streets* or other *public ways*.

8.2.3.6. Maintenance of Public Ways

1) *Public ways* adjacent to *projects* shall be cleaned and maintained to the satisfaction of the *City Engineer*., the *General Manager*, *Real Estate and Facilities Management*, or the *General Manager*, *Park Board*, as the case may be.

2) No person shall place, park or leave *construction* vehicles on *public ways* or *City* property.

3) No person shall place or leave *construction* materials, overspills, debris, excavated materials or mud on *public ways* or *City* property.

4) No person shall dump or discharge waste water from *construction* activities or vehicle wash water from concrete trucks or dump trucks on *public ways* or *City* property.

8.2.4. Traffic Control

8.2.4.1. Protection of the Public on Public Ways

1) If work on a *project* site creates a traffic hazard on or adjacent to a *public way*, traffic control measures for the duration of the hazard shall include

- a) persons to direct *construction* workers,
- b) persons to direct vehicle and pedestrian traffic,
- c) appropriate warning signs indicating the presence of *construction* work and flagpersons.
- d) warning signs indicating any lane closures,
- e) if there is a lane closure of a vehicle travel lane, retro reflective lane control devices set up in a gradual taper to close the vehicle travel lane,
- f) if there is a lane closure of a vehicle travel lane at night, yellow flashing lights mounted on retro reflective barricades at the closure point of the vehicle travel lane,
- g) retro reflective lane control devices surrounding the closed portion of any *public way*, and
- h) at night, retro reflective barricades with yellow flashing lights in front of any construction material or equipment which is not marked with retro reflective sheeting.

2) If work on a *construction* site creates a hazard to bicycle traffic on a bikeway for more than 15 minutes, traffic control measures for the duration of the hazard must include

- a) a safe delineated continuous path for bicycle traffic or a safe alternative delineated path for pedestrian traffic,
- b) persons to supervise and direct bicycle traffic past the hazard, and
- c) if a safe alternative pedestrian path is provided, a bicycle dismount sign at either end of the path.

8.2.4.2. Traffic Control and Hazard Signs

- 1) Traffic control and traffic hazard signs shall be
 - a) at least 75 cm by 75 cm,
 - b) backed with retro reflective sheeting,
 - c) marked with black text or symbols on an fluorescent orange background for hazard signs, and
 - d) marked with black text or symbols on a white background for traffic control signs.

8.2.4.3. Lane Control Devices

- 1) A lane control device shall be
 - a) a fluorescent red or orange plastic tubular marker 100 cm in diameter marked with two 8 cm retro reflective bands,
 - b) a fluorescent red or orange plastic cone 45 cm or 70 cm in diameter at the base with a 15 cm retro reflective band, or
 - c) a fluorescent red or orange plastic flexible drum with two 10 inch retro reflective bands.

8.2.4.4. Traffic Control Person

- 1) A person directing traffic on a *public way* shall
 - a) carry written proof of completion of a traffic control course approved under the authority of the Workers' Compensation Act of British Columbia or the British Columbia Safety Council,
 - b) wear personal protective equipment approved under the authority of the Workers' Compensation Act of British Columbia including a safety vest, hard hat, reflective wrist straps, and safety footwear approved under the authority of the Canadian Standards Association,
 - c) use a traffic control paddle consisting of a "STOP" sign marked with white letters on a retro reflective red background and a "SLOW" sign marked with black letters on a retro reflective yellow background, and
 - d) use a flashlight that includes a red signaling hood for night traffic conditions.

8.2.4.5. Construction Vehicle Traffic Hazard

- 1) If the location or use of a vehicle related to a *construction* site creates a traffic hazard on a *public way* adjacent to a *construction* site, the vehicle shall display
 - a) a 360 degree yellow flashing light,
 - b) four way flashers, and
 - c) a flashing arrow board.

8.2.5. Waste Material**8.2.5.1. Control of Waste Material**

- 1) Waste material or other material shall not be permitted to fall freely from one *storey* to another.

8.2.5.2. Removal of Waste Material

- 1) Waste material shall be removed as quickly as possible by means of
 - a) appropriate containers,
 - b) an enclosed shaft or chute conforming to Sentence 8.2.5.4.(1), or
 - c) a hoisting apparatus if large pieces or objects are involved.

8.2.5.3. Enclosures for Waste Material

- 1) Waste material removed in accordance with Sentence 8.2.5.2.(1) shall be deposited in a container which is
 - a) designed to ensure that waste material cannot escape from the container, and
 - b) secure and inaccessible to the public.

8.2.5.4. Chutes for Waste Material

- 1) The chute described in Clause 8.2.5.2.(1)(b) shall be closed if it is inclined more than 45° to the horizontal.

8.2.5.5. Disposal of Waste Material

- 1) Except as provided in Sentence (2), all waste material on a *construction* site shall be sorted, diverted and disposed of in a manner satisfactory to the *Chief Building Official*. (See Note A-8.2.5.5.(1).)
- 2) Sentence (1) does not apply to
 - a) proposed work of a value of \$50,000 or less, and
 - b) corrective measures or immediate measures carried out by the *Chief Building Official* in accordance with Articles 1.5.3.4. and 1.5.3.5. of Division C.

8.2.6. Fire Safety Measures**8.2.6.1. Application**

(See Note A-8.2.6.1.)

- 1) This Subsection applies to fire safety for *projects* undergoing *construction* and adjacent *projects*.

8.2.6.2. Protection of Adjacent Buildings

(See Note A-8.2.6.2.)

- 1) Protection shall be provided for adjacent *buildings* that could be exposed to fire originating from *buildings* undergoing *construction*.

8.2.6.3. Fire Safety Plan

- 1) Before the commencement of *construction*, a fire safety plan for the *project* site shall be submitted to and accepted by the *Chief Building Official*.
- 2) Unless otherwise required by Sentence (3), a fire safety plan shall conform with the requirements of the Fire By-law and shall include
 - a) measures to reduce fire hazards in and around the *building* (See Note A-8.2.6.3.(2)(a).), and
 - b) a maintenance program for firefighting measures required by the Fire By-law.
- 3) Where *construction* occurs in an *existing building* that is required to have a fire safety plan conforming to the Fire By-law, the existing fire safety plan shall be modified to incorporate the alterations to the *existing building*.

8.2.6.4. Access for Firefighting

- 1) Unobstructed access to fire hydrants, portable extinguishers and fire department connections for standpipe and *sprinkler systems* shall be maintained on all *construction* sites.
- 2) Firefighters shall be provided with unobstructed access to all levels of the *building*.
- 3) Firefighters shall be provided with unobstructed access to all elevators, hoists or lifts in the *building*.
- 4) Firefighters shall be provided with unobstructed access to access routes for fire department vehicles.
- 5) Where a *project* site is enclosed by fencing, boarding or barricades, firefighters shall be provided with 24 hour emergency access for fire department equipment and personnel.

8.2.6.5. Portable Extinguishers

- 1) Portable extinguishers shall be provided in unobstructed locations in all areas where
 - a) hot work operations are carried out,
 - b) *combustibles* are stored,
 - c) internal combustion engines are located,
 - d) flammable liquids and *combustible* liquids or gases are stored or handled, and
 - e) temporary fuel-fired equipment is used.

- 2) Portable extinguishers required by Sentence (1) shall have a minimum rating of
 - a) 2-A:10-B:C on moveable equipment, and
 - b) 4-A:40-B:C in all other locations.

8.2.6.6. Standpipe Systems

(See Note A-8.2.6.6.)

- 1) Where a standpipe system is installed in a *building* under *construction*, the standpipe system shall be installed progressively, in conformance with Subsection 3.2.5. of Division B of this By-law, in occupied portions of a *building*.
- 2) Where a standpipe system is to be installed progressively in unoccupied portions of a *building* under *construction*, a permanent or temporary standpipe system is permitted, and the standpipe system shall have
 - a) conspicuously marked and readily accessible fire department connections on the outside of the *building* at street level
 - b) at least one hose outlet at each floor,
 - c) pipe size, hose valves and water supply conforming to Subsection 3.2.5. of Division B of this By-law,
 - d) as a minimum, secure supports and restraints on alternate floors,
 - e) at least one hose valve for attaching fire department hose at each intermediate landing or floor level in the exit stairway, and
 - f) valves which are kept closed and protected from mechanical damage at all times.
- 3) A standpipe system installed in accordance with Sentence (2) shall be progressively installed so that it is no more than one floor below the highest forms, staging, and similar *combustible construction* materials at all times.
- 4) A temporary standpipe system shall remain in service until the installation of the permanent standpipe system is complete.
- 5) If a *building* equipped with a standpipe system is being deconstructed or demolished floor by floor, the standpipe system, together with all fire department connections and valves, shall be maintained in operable condition at all times on all *storeys*, except for the *storey* located immediately below the *storey* being deconstructed or demolished.

8.2.6.7. Hot Surface Applications

- 1) Roofing operations and other surface applications that involve heat sources and hot processes shall be considered hot works and shall conform to the requirements in the Fire By-law.
- 2) Bitumen kettles shall not be located on roofs, and shall be
 - a) provided with a close-fitting cover constructed of steel with a minimum thickness of No. 14 sheet metal gauge,
 - b) under constant supervision when in operation, and
 - c) maintained free of excessive residue.
- 3) Mops used to spread bitumen shall be stored in a safe location at a safe distance away from *buildings*, when not in use.

8.2.6.8. Ignition Sources

(See Note A-8.2.6.8.)

- 1) Internal combustion engines, temporary heating equipment and other equipment capable of causing ignition shall be kept at a safe distance away from *combustible* materials.
- 2) The clearance between *combustible* materials and temporary heating equipment, including flues, shall be in conformance with Part 6 or in conformance with the minimum clearances shown on certified heating equipment.

8.2.6.9. Utility Services to Buildings under Construction

- 1) Except as required in Sentence (3) and except for water supplies for firefighting, utility services shall be terminated at a point located outside the *building* undergoing *deconstruction* or *demolition*.

- 2) A utility service provider whose service connections will be affected by *construction*, shall be notified before any service connections are terminated in accordance with Sentence (1).
- 3) If it is necessary to maintain any utility service, during *deconstruction* or *demolition*, the utility service shall be
 - a) relocated as necessary, and
 - b) protected from damage.
- 4) Temporary electrical installations shall be installed in conformance with the British Columbia Electrical Safety Regulation.

8.2.6.10. Fuel Supply Installation

- 1) Fuel supplies for heating equipment and internal combustion engines shall conform to
 - a) CAN/CSA-B139-M, “Installation Code for Oil-Burning Equipment,” or
 - b) the British Columbia Gas Safety Regulation.

8.2.6.11. Safety of Fuel Tanks and Piping at Construction Sites

- 1) Fuel tanks and piping at a *deconstruction* or *demolition* site which contain or may have contained flammable or combustible liquids or vapours shall be decommissioned in conformance with the Fire By-law.
- 2) Fuel tanks and piping at a *deconstruction* or *demolition* site which contain or may have contained flammable or combustible liquids or vapours shall be drained or vented and removed prior to the *deconstruction* or *demolition* of a *building*, except as permitted by Sentence (3).
- 3) Where it is impracticable to remove fuel tanks or piping from the *construction* site prior to *deconstruction* or *demolition* of a *building*, such equipment shall be tagged for identification and removed as soon as conditions permit.
- 4) Fuel tanks and piping referred to in Sentences (1), (2) and (3) shall be purged with inert materials prior to *deconstruction* or *demolition* of a *building*. (See Note A-8.2.6.11.(4).)

8.2.6.12. Fire Separations in Partly Occupied Buildings

- 1) Where part of a *building* under *construction* is occupied, the occupied part of the *building* shall be separated from the part of the *building* under construction by a *fire separation* having a *fire-resistance rating* of no less than 1 h.

8.2.6.13. Protection During Fire Protection System Shutdown

- 1) Except as permitted in Sentence (2), where a fire protection system is provided, it shall remain operational throughout the entire *building* during *construction*.
- 2) If any portion of a fire protection system is temporarily shut down during *construction*, protection of the *building* shall comply with the Fire By-law.

8.2.6.14. Requirement for Fire Watch

- 1) If a *building* is partly occupied and part of the *building* is undergoing *deconstruction* or *demolition*, a fire watch shall be maintained at all times, unless the *building* is provided with an active fire alarm system.
- 2) A fire watch as required by Sentence (1) shall include:
 - a) a complete tour of inspection of the *project* at least once every hour,
 - b) facilities to provide a fire warning to occupants, to the satisfaction of the *Chief Building Official*, and
 - c) facilities to communicate with the fire department in the event of fire, to the satisfaction of the *Chief Building Official*.

8.2.6.15. Smoking Restrictions on Construction Sites

- 1) Smoking shall only be permitted on *construction* sites in accordance with the Fire By-law.

8.2.6.16. Egress from Buildings under Construction

- 1) In *buildings* under *construction*, there shall be at least one *exit* which is accessible and usable at all times.
- 2) In *buildings* under *construction* there shall be least one stairway maintained in usable condition at all times.

8.2.6.17. Fire Warning in Buildings under Construction

- 1) Facilities shall be provided to alert persons on a *project* to the presence of a fire and such facilities shall be audible throughout the *building*.

8.2.6.18. Storage and Use of Dangerous Goods on Construction Sites

- 1) *Combustible* liquids and *flammable liquids* shall be stored and used in conformance with the Fire By-law.
- 2) Dangerous goods and materials shall be stored and used in conformance with the Fire By-law.
- 3) Dangerous goods and materials shall be stored and used in conformance with the British Columbia Gas Safety Regulations.

8.2.6.19. Temporary Enclosures on Construction Sites

- 1) Fabrics and films used to temporarily enclose *buildings* shall be securely fastened to prevent contact with heaters or other ignition sources.

8.2.6.20. Storage of Combustible Refuse

- 1) *Combustible* refuse shall be stored a safe distance away from *buildings*, and at a safe location. (See also Subsection 8.2.5.)

8.2.6.21. Shut-off of Utility Services at Excavation Sites

- 1) Except as provided in Article 8.2.6.22., before excavation begins, utility services shall be shut off, and terminated outside the limits of the excavation and the terminations shall be labeled so as to be easily identifiable. (See also Sentence 8.2.6.9. (1).)
- 2) A utility service provider whose service connections will be affected by *construction* shall be notified before any service connections are terminated in accordance with Sentence (1).
- 3) If it is necessary to maintain any utility service, during excavation, the utility service shall be
 - a) relocated as necessary, and
 - b) protected from damage.

8.2.6.22. Maintaining Existing Utility Services

- 1) Existing utility services may be left within the area of the excavation if
 - a) the service company consents to the location of the services before the excavation begins,
 - b) a method of excavation is adopted which ensures that the services are not damaged, and the services are provided with temporary support.”