



## Installation of Racking/ Shelving Structures

**No.: PERMITS-40**  
**Date: 2008-05-01**  
**Revised: 2016-03-31**

### Purpose:

To inform property owners, designers and contractors of the City's Building Permit requirements for the installation of racking/shelving structures used for storage that are over 8 feet in height.

### Background:

- Racking/shelving structures designed to the 2012 BCBC are often installed in existing buildings built to the 1998 BCBC or earlier Codes. The geotechnical reports for such buildings do not provide information of the ground response spectrum required for the design of the structure in accordance to the 2012 BCBC.
- NFPA 13 and the BC Fire Code impose restrictions on the storage of commodities based on the hazard classification of the commodities, storage configuration and level of sprinkler protection provided.

### Implementation:

The following documentation is required for the completion of a Building Permit Application for the Installation of Racking:

1. Completed "Interior Finishing, Alterations Plan Review Application" form.
2. Completed City of Richmond's Schedule F "Owner's Undertakings", which must list all the names of the registered professionals involved in the project. A Coordinating Registered Professional is required when two or more Registered Professionals are submitting Letters of Assurance (LOA).
3. Plans providing sufficient information to show that the proposed racking/shelving and the building where the racking/shelving will be located will conform to the 2012 BC Building Code.
4. Signed and sealed letter by the Structural Engineer confirming that the soil conditions, seismic restraints and existing slab capacity are capable of supporting the loads imposed by the racks/shelves in accordance with the 2006 BC Building Code requirements. In lieu of a letter, this information may be provided in the signed and sealed Structural Drawings.
5. The Structural Engineer shall indicate the design bearing capacity of the soil:
  - 5.1 If the design load is  $\leq 1000$  psf, no Geotechnical input is required.
  - 5.2 If the design load is  $> 1000$  psf, the Structural Engineer must justify how the soil conditions can support such a load. This may be achieved by a letter from a Geotechnical Engineer, or reference to a previous Geotechnical Report used for the building.
  - 5.3 Site Class and applicable  $F_a$  and  $F_v$  values.

See over →

6. The building must be reviewed to determine the level of fire protection required for the proposed storage. This assessment may be made after the Building Permit has been issued, provided that the BUILDING OWNER/TENANT provide written verification that they understand that final occupancy will not be issued until all outstanding items have been addressed.

6.1 If the building is not sprinklered:

6.1.1 Applicant to submit detailed assessment of the commodity list and storage arrangement for review. The level of storage may be restricted based on the hazard classification of the commodities stored on site. The City reserves the right to request verification from a Registered Professional if the hazard classification of the commodities being stored on site cannot be determined.

OR

6.1.2 Applicant to submit signed and sealed letter from a Registered Professional verifying commodity classification and storage criteria. The level of storage may be restricted based on the hazard classification of the commodities stored on site.

6.2 If the building is sprinklered:

6.2.1 Applicant to submit detailed assessment of the commodity list and storage arrangement for review. The existing sprinkler system may be upgraded to suit the new commodities, OR the storage height may be restricted based on the hazard classification of the commodities stored on site and the level of fire protection provided. The City reserves the right to request verification from a Registered Professional if the hazard classification of the commodities being stored on site cannot be determined.

OR

6.2.2 Applicant to submit signed and sealed letter from a Registered Professional verifying commodity classification and storage criteria. The existing sprinkler system may be upgraded to suit the new commodities, OR the storage height may be restricted based on the hazard classification of the commodities stored on site and the level of fire protection provided.

7. A Sprinkler Permit will be required for any alteration or upgrade to the sprinkler system. Refer to Bulletin Permits-10.

8. In accordance with the BC Fire Code, the storage method and maximum height of storage shall be posted with a legible sign in a conspicuous location.

9. Letters of Assurance Schedule B's and the City of Richmond's Schedule E, including insurance information from the Registered Professionals.

10. Letter of Assurance Schedule A and the City of Richmond's Schedule E are required from the Coordinating Registered Professional if more than one Registered Professional is submitting LOA. The Coordinating Registered Professional may be one of the involved Registered Professionals.

Should you have any questions, comments or suggestions concerning this bulletin, please contact the Code Engineer, Permits Section at 604-204-8515.