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Installation of Racking/ Shelving Structures

No.: PERMITS-40
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This bulletin is to inform owners, designers, and contractors of the Building Permit requirements for the installation of racking/shelving structures used for storage that are over 8 feet in height.

Summary

- A Building Permit is required for the installation of racking/shelving structures over 8 feet in height.
- Signed and sealed structural drawings by a Structural Engineer demonstrating compliance with the BC Building Code (BCBC) are required.
- Sprinkler upgrades and a sprinkler permit may be required to accommodate the proposed racking/shelving storage.

Racking/shelving structures designed to the BC Building Code (BCBC) are often installed in existing buildings built to earlier codes. The geotechnical reports for such buildings may not provide information on the ground response spectrum required for the design of the structure in accordance with present day BCBC. NFPA 13 and the BC Fire Code also regulates the storage of commodities (products) based on the hazard classification of the commodities, storage configuration, and level of sprinkler protection provided.

Application Requirements

The following documentation is required for the completion of a Building Permit Application for the installation of racking/shelving structures:

1. Complete Interior Finishing, Alterations Plan Review Application form. If the applicant is not the owner a Letter of Authorization is required.
2. Completed City of Richmond's Schedule F "Owner's Undertakings", which must list all Registered Professionals involved in the project. A Coordinating Registered Professional is required when two or more Registered Professionals are involved.
3. **Key Plan** showing unit/area of work and **Architectural Plans** of the entire unit/building. The architectural plans must show racking/shelving locations, room use, dimensions, and provide sufficient information to show that installation complies with BCBC with respect to exiting, travel distance, etc.
4. **Signed and sealed structural plans** providing sufficient information to show that the proposed racking/shelving and the building where the racking/shelving will be located will conform to BCBC.
5. **Signed and sealed letter by a 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 BCBC requirements. This information may also be provided in the signed and sealed structural drawings.

See over →

6. The Structural Engineer shall indicate the **seismic design criteria, soil Site Class, and the design bearing capacity** of the soil:
 - 6.1 If the design load is \leq 1000 psf, no Geotechnical input is required.
 - 6.2 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.
7. The building must be reviewed to determine the **level of fire protection required for the proposed storage**.
 - 7.1 If the building is **not sprinklered**:

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 and BC Fire Code requirements.
 - 7.2 If the building is **sprinklered**:

Applicant to submit signed and sealed letter from a Registered Professional verifying commodity classification and storage criteria. The existing sprinkler system may need to 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. 1½" small hose stations in accordance with NFPA 13 are required where storage height exceeds 12 ft.
8. A **Sprinkler Permit** will be required for any alterations or upgrades to the sprinkler system including the addition of small hose stations. See Bulletin PERMITS-10 for more information.
9. In accordance with the BC Fire Code, the **storage method, permitted storage commodities, and maximum storage height shall be posted with a legible sign in a conspicuous location**.
10. Letters of Assurance **Schedule B's** and the City of Richmond's **Schedule E**, including insurance information from the Registered Professionals.
11. 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 involved. The Coordinating Registered Professional may be one of the involved Registered Professionals.

References

- City of Richmond, [Building Schedules](#)
- City of Richmond, [Interior Finishing, Alterations Plan Review Application](#)
- City of Richmond, [Permits-10: Automatic Fire Sprinkler Permits for TIs and Minor Additions](#)
- City of Richmond, [Letter of Authorization \(PL-40\)](#)

Should you have any questions, comments, or suggestions concerning this bulletin, please reference the Bulletin number and email building@richmond.ca or call the Building Approvals General Inquiries line at 604-276-4118.