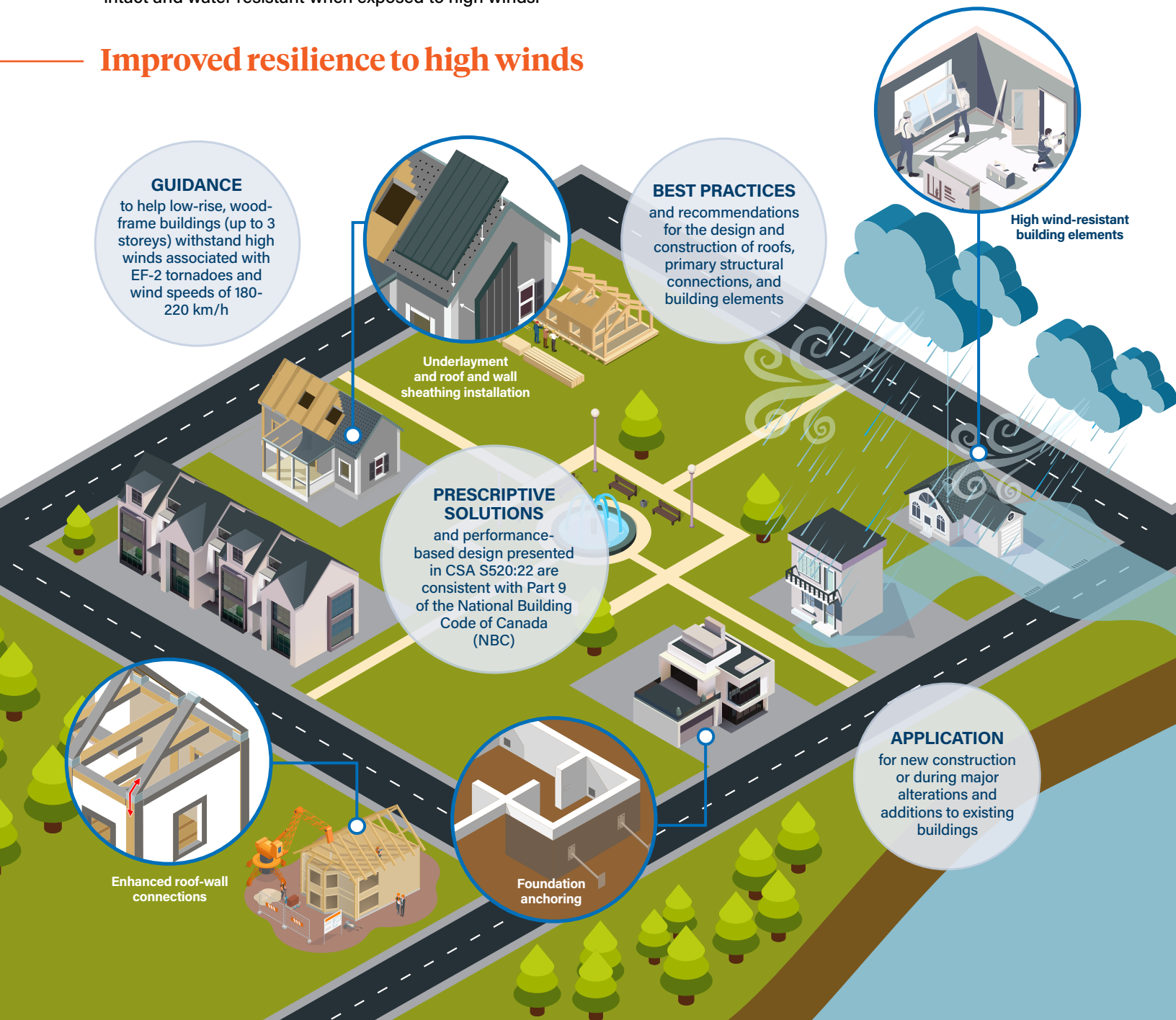


## CSA S520:22, Design and construction of low-rise residential and small buildings to resist high wind

A significant number of communities across Canada are situated in areas prone to high winds and tornadoes that can cause substantial damage to homes and property and put people's lives and health in danger. Protecting these communities is becoming even more important as the frequency of extreme weather events increases.

The National Standard of Canada, CSA S520:22, helps strengthen the resilience of residential buildings to high winds by providing guidance and best practices for their design, construction, and material selection to help ensure the roof remains intact and water resistant when exposed to high winds.

### Improved resilience to high winds



**GUIDANCE**

to help low-rise, wood-frame buildings (up to 3 storeys) withstand high winds associated with EF-2 tornadoes and wind speeds of 180-220 km/h

**BEST PRACTICES**

and recommendations for the design and construction of roofs, primary structural connections, and building elements

**PRESCRIPTIVE SOLUTIONS**

and performance-based design presented in CSA S520:22 are consistent with Part 9 of the National Building Code of Canada (NBC)

**APPLICATION**

for new construction or during major alterations and additions to existing buildings

Enhanced roof-wall connections

Foundation anchoring

Underlayment and roof and wall sheathing installation

High wind-resistant building elements

## Adopting the recommendations of CSA S520:22 can help:

### Who should use the Standard?

- Building and construction professionals
- Manufacturers
- Homeowners
- Property and casualty insurers
- Municipalities and regional government agencies
- Federal, provincial, and territorial governments



### Improve high wind resistance

of low-rise buildings to reduce the risk of structural and non-structural damage



### Reduce repair costs

by providing structural sufficiency to protect building contents from substantial water leakage



### Scale the approach

to address high wind resilience of existing buildings during their alteration and renovation



### Take advantage of best practices

for community-based flood resiliency that municipalities and local government agencies can implement within existing residential communities



### Extend the application

for community-based flood resiliency that municipalities and local government agencies can implement within existing residential communities

### Get CSA S520:22

 [csagroup.org/store](https://csagroup.org/store)

 [construction@csagroup.org](mailto:construction@csagroup.org)

For more on CSA Group research and standards for strengthening climate resilience of communities and critical infrastructure in Canada, visit [csagroup.org/ResilientInfrastructure](https://csagroup.org/ResilientInfrastructure)



This work was funded by the Standards to Support Resilience in Infrastructure Program at the Standards Council of Canada (SCC). For more on what SCC is doing to address climate resilient infrastructure, visit the [Climate and Sustainability](#) web page.