

**Question on Notice
No. 42
Asked on 16 February 2011**

MR ELMES asked the Minister for Public Works and Information and Communication Technology (MR SCHWARTEN) -

With reference to government buildings –

- (1) How many new buildings constructed in the last five years were built with a cyclone shelter or to a standard able to resist 300km/h winds (reported by year of completion and location)?
- (2) What was the total cost of meeting the commitment for each new building to either cyclone shelter or 300km/h wind resistance?

ANSWER:

Minister for Government Services, Building Industry and Information and Communication Technology (MR FINN) –

While this question was asked of Minister Swarten's portfolio, due to recent changes in Ministerial responsibility, I am now the Minister responsible for this matter and therefore provide this response.

- (1) Under the *Building Act 1975*, Queensland Government buildings, like all buildings, are constructed to meet the requirements of the Building Code of Australia and relevant Australian Standards called up by the Code.

Under the Building Code of Australia, buildings are constructed to meet the Australian Wind Code (AS/NZS 1170.2) for wind resistance. The designed level of wind resistance is determined by the building's location and function.

With respect to buildings that incorporate cyclone shelter requirements, the Department of Public Works is aware that four projects (two schools and two community facilities) have been designed to serve as public cyclone shelters in addition to their normal functions. The two school projects are the Redlynch Multipurpose Sports Centre and the Innisfail State College Performing Arts Centre which are owned by the Department of Education and Training; and the two community facilities are the Sport and Recreation Centre at Kowanyama and the Community Event Centre at Cooktown, which were jointly funded by local, State and Australian Government departments and managed by the local government.

Cyclone shelters must be located in safe and accessible areas that meet certain criteria. My department has developed guidelines for local governments to determine their community shelter needs and where these buildings can be safely located. The guidelines are available from the department's web site at http://www.works.qld.gov.au/tdd/safe_build/cyclone-shelter.asp.

- (2) All buildings in Queensland are built in accordance with the Building Code of Australia. In Queensland's cyclonic region, a building such as a hospital is built to a design wind gust speed of 277 km/hr. For a house the design wind gust speed is generally 248 km/hr, but may be greater if it is sited on top of a hill.

If a building is to be considered for additional use as a cyclone shelter, it is recommended to be built in accordance with the public cyclone shelter design criteria. These criteria exceed the Building Code of Australia requirements. In the guidelines, the design wind gust speed for a public cyclone shelter building is 306 km/hr. The construction criteria for a cyclone shelter includes other design features such as being able to withstand debris loads and impacts and that the building is located outside storm surge zones and flood prone areas.

It has been estimated that the additional cost of upgrading a suitable building structure at the time of construction to cyclone shelter criteria adds in the order of 25 per cent to 30 per cent onto its "normal design" building cost.

Research undertaken by the department in 2006 showed that where it may have been technically possible to retrofit and upgrade an existing suitable building to become a cyclone shelter, it was very expensive and not cost effective to do so. These studies were based on four types of existing buildings, a lecture theatre, a gymnasium, an auditorium and a multipurpose hall.