MP 3.5 – Construction of buildings in flood hazard areas

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Part 1  
Introduction  

1  Purpose  
To ensure—  
(a) particular buildings located in flood hazard areas—  
(i) resist flotation, collapse or significant permanent movement caused by flood water; and  
(ii) safeguard occupants and other people against illness or injury caused by flood water affecting buildings; and  
(iii) are protected from backflow; and  
(iv) have utilities that are protected from the effects of flood water; and  
(b) that a customer dedicated substation is designed or located so its ability to function effectively is not affected by flood water.  

2  Commencement  
This Part of the Queensland Development Code (this Part) was published on 12 December 2013 and commences on 20 December 2013.  

3  Application  
(1) This Part applies to the lawful carrying out of building work\(^1\) as indicated by ticks (✓) in the relevant columns in Table 1, to the extent the building work is carried out wholly or partly within a flood hazard area and a defined flood level is declared by a local government for the flood hazard area.  

Table 1 – Application of MP 3.5  

<table>
<thead>
<tr>
<th>Application</th>
<th>Performance Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction of a new class 1 or a class 4 part of a building</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Construction of a new class 2, 3, 9a or 9c building</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Relocation of a class 1 building</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Additions to a class 1 building where the additions constitute 50% or more of the floor area of the existing building</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Additions to a class 2, 3, 9a or 9c building, or a class 4 part of a building</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
<tr>
<td>Construction of a new class 5, 6, 7, 8 or 9b building</td>
<td>✓ ✓ ✓ ✓</td>
</tr>
</tbody>
</table>

\(^1\)Any plumbing or drainage work mentioned in this Part is plumbing or drainage work under the Plumbing and Drainage Act 2002 and is subject to the requirements under that Act.  

(2) Despite subsection (1), this Part does not apply to—  
(a) a building with an importance level 4 as specified by the BCA; or
(b) alterations that are not additions to the floor area of an existing building; or
(c) building work that is for, or directly relates to, raising an existing building; or
(d) repairing an existing building; or
(e) adding an extra storey above an existing part of a building; or
(f) a floating building anchored to mooring piles that comply with Mandatory Part 3.1 of the QDC, performance criteria 3; or
(g) utilities for a new class 5, 6, 7, 8 or 9b building where the building’s certificate of classification states that the building is not intended to be occupied during, or in the aftermath of, a defined flood event (DFE), unless a local government has set contrary requirements for these classes of building in a local planning scheme, temporary local planning instrument or by resolution; or
(h) a building located, or proposed to be located, on a lot that is subject to—
   (i) significant mudslide or significant landslide caused by rainfall or runoff, where it would be reasonable to expect that the mudslide or landslide would affect the part of the lot where the building is, or is proposed to be, located; or
   (ii) storm surge.

Note—
See the Building Act, sections 36 and 37.

4 Limitation

The acceptable solution A1(a) for this Part only applies to building work carried out on a lot, or part of a lot, located in—
(a) an area with a maximum flow velocity not greater than 1.5 metres per second; or
(b) an inactive flow or backwater area.

Note—
If building work does not comply with A1, an alternative solution will be required in order to ensure it complies with P1. To formulate an alternative solution, the services of a competent person may be required.

5 Referral agency

Defined flood level

(1) Under section 13 of the Building Regulation, a local government may declare a DFL for all or part of a flood hazard area.

(2) If the DFL stated in a building development application is lower than the DFL declared by the local government, the local government must, as a concurrence agency, decide whether the DFL stated in the application is appropriate.

Maximum flow velocity of water (MFV)

(1) Under section 13 of the Building Regulation, a local government may declare an MFV for all or part of a flood hazard area.
(2) If the MFV stated in a building development application is lower than the MFV declared by the local government, the local government must, as a concurrence agency, decide whether the MFV stated in the application is appropriate.

Note—
For details of the concurrence agency jurisdiction, see the Sustainable Planning Act 2009, and the Sustainable Planning Regulation 2009, schedule 7, table 1, items 30 and 31.

6 Compliance with the QDC

Under section 14 of the Building Act, building work complies with the QDC only if it complies with all relevant performance requirements under the QDC. The building work complies with a relevant performance requirement only if it achieves a relevant building solution under the QDC for the performance requirement. This can be achieved by—

(a) complying with the relevant acceptable solution for the performance requirement; or

(b) formulating an alternative solution that complies with the performance requirement or is shown to be at least equivalent to the relevant acceptable solution; or

(c) a combination of paragraphs (a) and (b).

7 Associated requirements

- Building Act 1975
- Building Code of Australia (BCA)
- Building Regulation 2006
- Electricity Act 1994
- Electricity Regulation 2006
- Plumbing and Drainage Act 2002
- Standard Plumbing and Drainage Regulation 2003
- Sustainable Planning Act 2009
- Sustainable Planning Regulation 2009

Part 2 Interpretation

8 What is defined flood level

(1) Defined flood level (DFL) is the level to which it is reasonably expected flood waters may rise.

(2) The DFL for a lot in a flood hazard area is—

(a) the level declared by a local government, under section 13 of the Building Regulation 2006, to be the DFL for the part of the area where the lot is located; or

(b) if the DFL stated in a building development application for the lot is lower than the DFL declared by the local government—the level stated in the application, subject to a concurrence agency's response.

Note—
If the DFL stated in a building development application is lower than the DFL declared by the local government, the local government must, as a concurrence agency, decide whether the DFL stated in

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the application is appropriate. (See the Sustainable Planning Regulation 2009, schedule 7, table 1, item 30.)

9 What is freeboard

(1) Freeboard is a height above the DFL that takes account of matters that may cause flood waters to rise above the DFL.

(2) The freeboard for a lot in a flood hazard area, is—

(a) if a local government has declared a freeboard for the part of the area where the lot is located, under section 13 of the Building Regulation—the height above the DFL declared to be the freeboard; or

(b) otherwise— a height of at least 300mm.

10 What is maximum flow velocity

(1) Maximum flow velocity (MFV), for all or part of a flood hazard area, is a flow velocity of water that is reasonably expected to be the maximum flow velocity of water for all or part of the area.

(2) The MFV for a lot in a flood hazard area is—

(a) if a local government has declared, under section 13 of the Building Regulation, an MFV for the part of the area where the lot is located—

(i) the flow velocity declared to be the MFV for the part of the area; or

(ii) if the MFV stated in a building development application for the lot is lower than the MFV declared by the local government—the MFV stated in the application, subject to a concurrence agency’s response; or

(b) otherwise—

(i) the flow velocity stated by a competent person to be the MFV for the lot; or

(ii) a flow velocity determined to be the MFV for the lot, based on historical documents or information about the flow velocity of water for the part of the flood hazard area where the lot is located.

Note for section 10(2)(a)(ii)—

If the MFV stated in a building development application is lower than the MFV declared by the local government, the local government must, as a concurrence agency, decide whether the MFV stated in the application is appropriate. (See the Sustainable Planning Regulation 2009, schedule 7, table 1, item 31.)

11 Definitions

Note—

Italicised words within the body of the text, other than legislation titles, are defined below.

(1) The following definitions define particular words used in this Part and in sections 2.3–2.8 and 2.10 of the national flood standard—

acceptable solution see the Building Act, section 14.

alternative solution see the Building Act, schedule 2.
**appropriate authority** means a local government that declares, under the *Building Regulation*, section 13, the *finished floor level* for *class 1 buildings*.

**backflow** means the reverse flow of waste from a *sanitary drain* into a *building*.

**BCA** see the *Building Act*, schedule 2.

**building** see the *Building Act*, schedule 2.

Note—
The term includes any part of a *building*.

**Building Act** means the *Building Act 1975*.

**Building Regulation** means the *Building Regulation 2006*.

**building development application** see the *Building Act*, schedule 2.

**building work** see the *Building Act*, section 5.

**class** see the Building Act, schedule 2.

**competent person**, means—
(a) a person who is a registered professional engineer of Queensland specialising in hydrologic and hydraulic models; or
(b) a person assessed as a *competent person* under the *Building Regulation*, section 17(3).

**concurrence agency’s response** see the *Sustainable Planning Act 2009*, schedule 3.

**connection point** see the *Standard Plumbing and Drainage Regulation 2003*, schedule 6.

**customer dedicated substation** means a *substation* installed in a *building* after an entity has acted under section 59(2)(a) of the *Electricity Regulation 2006*.

**defined flood event (DFE)** means a flood event where flood water rises to the *DFL* for the area.

**defined flood level (DFL)** see section 8.

**enclosed**, for a *non-habitable room*, means the room is completely surrounded on all sides by walls that would restrict, but not necessarily totally prevent, flood water from entering the room.

Example—
A room surrounded on all sides with a brick veneer wall (including weep holes) and a garage or pedestrian door would be considered to be *enclosed*. However, a room surrounded by cladding incorporating gaps that allow relatively free movement of water would not be considered *enclosed*.

**essential services** means services related to a *fire safety installation* that is required by the *QDC* or the *BCA*.

**fire safety installation** see the *Building Act*, schedule 2.
**finished floor level** see the *Building Regulation*, section 13.

**flood hazard area** means an area, whether or not mapped, designated by a local government as a flood hazard area under the *Building Regulation*, section 13.

Note—
The *Building Regulation*, section 13 requires a local government to keep a register of the flood hazard areas it designates, and when each designation was made.

**flood hazard level**, for a **flood hazard area**, means the DFL plus the freeboard.

**floor area** see the *Building Act*, schedule 2.

**freeboard** see section 9.

**habitable room** see the *national flood standard*, section 1.7.

**hydrodynamic action** see the *national flood standard*, section 1.7.

**hydrostatic action** see the *national flood standard*, section 1.7.

**inactive flow or backwater area** see the *Building Regulation*, section 13.

Note—
The *Building Regulation*, section 13 provides that **inactive flow or backwater area** means all or part of a flood hazard area where the maximum flow velocity of water is not likely to be greater than 1.5m/s. That section allows a local government to declare an inactive flow or backwater area for all or part of a flood hazard area.

**maximum flow velocity of water** see section 10.


**on-site sewerage facility** see the *Plumbing and Drainage Act 2002*, schedule.

**performance requirement** see the *Building Act*, section 14.

**planning scheme** see the *Sustainable Planning Act 2009*, schedule 3.

**Queensland Development Code (QDC)** see the *Building Act*, section 13.

**reflux valve** means a valve that prevents the reverse flow of waste by means of a flap or other mechanism.

**sanitary drain** see the *Plumbing and Drainage Act 2002*, schedule.

**substation** see the *Electricity Act 1994*, schedule 5.

**temporary local planning instrument** see the *Sustainable Planning Act 2009*, schedule 3.

**utilities** means any of the following—

(a) lift motors and lift motor rooms for emergency lifts;
(b) electrical switchboards and meters;
(c) back-up power supplies and generators for essential services;
(d) sprinkler valve rooms and any associated pumps;
(e) fire indicator panels;
(f) controls for stairwell pressurisation and air-handling systems used for smoke control;
(g) hot water systems.

wet flood proofing see the national flood standard, section 1.7

(2) To remove any doubt, it is declared that a definition mentioned in this Part applies for the purposes of interpreting sections 2.3–2.8 and 2.10 of the national flood standard.

Part 3 Performance requirements and acceptable solutions

<table>
<thead>
<tr>
<th>PERFORMANCE REQUIREMENT</th>
<th>ACCEPTABLE SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and construction of buildings</td>
<td>The building complies with sections 2.3, 2.5 - 2.8 and section 2.10 of the national flood standard, and—</td>
</tr>
<tr>
<td>P1</td>
<td>(a) if the building is a class 1 building and the local government has declared, under section 13 of the Building Regulation 2006, the finished floor level for a class 1 building—the finished floor level of the building complies with the level declared; or</td>
</tr>
<tr>
<td></td>
<td>(b) otherwise—the finished floor level of the building complies with section 2.4 of the national flood standard.</td>
</tr>
</tbody>
</table>

Note—Where A1 does not apply (refer to the provision in this part with the heading ‘Limitations’), an alternative solution will be required in order to ensure it complies with P1. To formulate an alternative solution, the services of a competent person may be required.
### Design and location of utilities

**PERFORMANCE REQUIREMENT**

Utilities associated with a building, other than an electrical meter for a class 1 building, must be designed or located to reduce the effects of flood water on the utilities in the event of a flood up to the DFL.

**ACCEPTABLE SOLUTION**

1. Utilities associated with a class 1 building, other than an electrical meter for the building, are located above—

   - (a) if the local government has declared, under section 13 of the Building Regulation, the finished floor level for a class 1 building—the level declared; or
   - (b) otherwise—the flood hazard level.

2. Utilities associated with a building other than a class 1 building are located above the flood hazard level.

Note—

Electrical installations may be installed by a person only if the person is a licensed electrician. Electrical meters must be installed in accordance with electrical entity requirements.

### Protection from backflow from sanitary drains

**PERFORMANCE REQUIREMENT**

A building with a sanitary drain must be protected from backflow so that in the event of a flood up to the DFL the effects of flood water on the building are reduced.

**ACCEPTABLE SOLUTION**

1. A building with a sanitary drain is protected from backflow by a reflux valve fitted between the building and—

   - (a) if the building has an onsite sewerage facility—the on-site sewerage facility; or
   - (b) otherwise—the connection point.

2. Also, a reflux valve fitted under subsection (1) is accessible for maintenance in accordance with AS3500.2:2003, section 4.5.

Note—

A reflux valve may be fitted by a person only if the person is licensed to fit the valve under the Plumbing and Drainage Act 2002.
Design and location of customer dedicated substations

A customer dedicated substation located in a building must be designed or located so its ability to function effectively is not affected by a flood event up to the DFL.

Note—

Under section 59(2)(a) of the Electricity Regulation 2006, an entity may require the owner of premises to provide space on the premises for a substation.

Note—

Some planning schemes may not permit development be to be carried out on land prone to flooding. Check with the local government in the area to determine what land use restrictions apply to the relevant lot.

Version history

<table>
<thead>
<tr>
<th>Version</th>
<th>Publication date</th>
<th>Commencement date</th>
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<tbody>
<tr>
<td>1.0</td>
<td>22 October 2012</td>
<td>26 October 2012</td>
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<td>1.1</td>
<td>12 December 2013</td>
<td>20 December 2013</td>
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