MP 1.4 – Building over or near relevant infrastructure

Contents

1 Purpose

To ensure *building work* for a *building* or *structure* on a lot that contains, or is adjacent to a lot that contains, *relevant infrastructure* is carried out so—

(a) it does not adversely affect the operation of the infrastructure or place any load on it; and

(b) when completed, it:

(i) does not prevent the *relevant service provider* from gaining access to the infrastructure for the purpose of inspecting, maintaining or replacing the infrastructure; and

(ii) allows any gas that builds up in the infrastructure to escape in a way that ensures individuals in close proximity to a *maintenance cover* for the infrastructure are not harmed by the gas.

2 Commencement

This Part of the *Queensland Development Code* (this Part) was published on 2 December 2013 and commences on 13 December 2013.

3 Application

(1) This Part applies to *building work* for a *building* or *structure* proposed to be carried out on a lot that contains, or is adjacent to a lot that contains, *relevant infrastructure*, as indicated in table 1.

(2) However, this Part does not apply to the *building work*—

(a) if the *relevant infrastructure* is located within an easement registered in the Queensland Land Registry in favour of the *relevant service provider*; or

(b) if it is *self-assessable building work* for a *structure* that, when completed, will not be supported by continuous concrete footings; or

(c) if—

(i) it is for a *class* 2, 3, 4, 5, 6, 7, 8 or 9 *building*; and

(ii) when the *building work* is completed, all parts of the *building* will be located at least 10m away from the *vertical plane along the centreline* of the *relevant infrastructure*; or

Example—

See **Figure 1**

(d) if it—

(i) is for an alteration or repair of an existing *building* or *structure*; and

(ii) will not—

(A) increase the size of the floor area of the *building* or *structure*; or

(B) affect the existing footing system or substructure of the *building* or *structure*.

Table 1

Application	Performance criteria applicable
Building work is proposed to be carried out on a lot and *relevant infrastructure* is located on the lot.	P1 and P2
Building work is proposed to be carried out on a lot (the subject lot) and *relevant infrastructure* is located on a lot adjacent to the subject lot, but not on the subject lot itself.	P1
Building work is proposed to be carried out on a lot (the subject lot) and *relevant infrastructure* is located on both the subject lot and a lot adjacent to it.	For the *relevant infrastructure* on the subject lot—P1 and P2 For the *relevant infrastructure* on the adjacent lot—P1

4 Referral agency

The *Sustainable Planning Regulation 2009*, schedule 7, table 1, item 27A applies to a *building development application* for *building work* on a lot that contains, or is adjacent to a lot that contains, a *relevant service provider*'s infrastructure if—

(a) the application does not comply with the *acceptable solutions* set out in this Part; or

(b) there are no relevant *acceptable solutions* for the application.

In such a case the application must be referred to the *relevant service provider* so it may exercise jurisdiction as a concurrence agency for the application.

5 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 criteria under the *QDC*. The *building work* complies with a relevant performance criteria only if it achieves a relevant building solution under the *QDC* for the performance criteria. This can be achieved by—

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

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

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

Notes—

1 **Figures 2 -11** provide examples of how to achieve the *acceptable solutions* for the performance criteria set out in this Part, P1 and P2.

2 The *acceptable solutions* set out in this Part are relevant to *building work* for a *class* 1 *building*, or a *class* 10 *building* or *structure*, but are not relevant to *building work* for a *class* 2, 3, 4, 5, 6, 7, 8 or 9 *building*. Therefore, compliance with P1 or P2 for such *building work* can only be achieved by formulating an *alternative solution* for the relevant performance criteria.

3 A *building development application* involving an *alternative solution* (other than an *alternative solution* for a *combined sanitary drain)* for P1 or P2 must be referred to a concurrence agency for assessment against the relevant performance criteria.

6 Associated requirements

- AS/NZS 3500 (Set): 2003 – Plumbing and Drainage Set
- *Building Act 1975*
- *Building Regulation 2006*
- *Local Government Act 2009*
- National Construction Code
- *Plumbing and Drainage Act 2002*
- *Professional Engineers Act 2002*
- *South-East Queensland Water (Distribution and Retail Restructuring) Act 2009*
- *Standard Plumbing and Drainage Regulation 2003*
- *Sustainable Planning Act 2009*
- *Sustainable Planning Regulation 2009*
- *Water Supply (Safety and Reliability) Act 2008*

7 Definitions

Note—

Italicised words, other than some legislation titles, included in this Part are defined below.

acceptable solution see the *Building Act*, section 14.

alternative solution see the *Building Act*, schedule 2.

angle of repose means the steepest angle of descent or dip of the slope relative to the horizontal plane when material on the slope face is on the verge of sliding.

Note—

The angle of repose for the *zone of influence* of a *building* or *structure* is determined based on the type of soil present where the *building* or *structure* is located. Generally, the *assessment manager* for a *building development application* will determine the angle to be 30 degrees for *cohesionless soil* and 45 degrees for other types of soil (measured from the horizontal plane). The appropriate angle should be used when designing any footings for a *building* or *structure* located over or near *relevant infrastructure.*

Examples—

See **Figures 2**, **3** and **11**.

assessment manager *see the Building Act*, section 11.

building see the *Building Act*, schedule 2.

Note—

building includes a building of any class. See also the definition *of* ***structure***.

Building Act means the *Building Act 1975*.

building development application see the *Building Act,* section 6.

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

centreline, of *relevant infrastructure*, means a notional line running through the centre of the infrastructure along its length.

class, for a *building* or *structure*, see the *Building Act*, schedule 2.

clear zone, for *relevant infrastructure*, means a three dimensional space, free of—

(a) overhanging parts of a *building* or *structure*; and

(b) other objects that would impede access to the *relevant infrastructure* required by the *relevant service provider* for the purpose of inspecting, maintaining or replacing the infrastructure, as required.

Examples—

See **Figures 9A**, **9B** and **10**.

cohesionless soil means any free-running type of soil, such as sand or gravel, whose soil strength relies on friction between particles.

combined sanitary drain see the *Standard Plumbing and Drainage Regulation 2003*, schedule 6.

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

DN means nominal diameter.

fill means material used to backfill a trench or build up the level of land above the original surface level before *building work* commences.

gravity wall means a retaining wall that relies on its mass to resist pressure from behind the wall.

Example—

A boulder wall.

invert level, for a pipe, means the lowest point of the internal surface of the pipe at any cross-section of the pipe.

Example—

See **Figures 2**, **3**, **10** and **11**.

load bearing element, of a *building* or *structure*, means an element of the *building* or *structure* intended to resist vertical or horizontal (including lateral) forces additional to those due to its own weight.

maintenance cover, for *relevant infrastructure*, means a cover, whether above, at, or below ground level, for a chamber through which a person, machine or device may gain access to the *relevant infrastructure*, for the purpose of inspecting, maintaining or replacing the infrastructure.

outermost projection means the outermost part of a *building* or *structure* including, in the case of a roof, the outside face of the fascia, or the roof structure where there is no fascia, or attached sunhoods or the like, but does not include retractable blinds, fixed screens, rainwater fittings, or ornamental attachments.

pressure pipeline means a pipeline that is designed to operate predominantly under pressure, whether imposed by pumping or gravity, at pipe-full flow.

Example—

A sewer rising main.

Note—

Pipelines known as 'non-pressure pipelines' are designed to operate predominantly in part-full flow conditions and therefore do not fall within the definition of *pressure pipeline,* even though they may operate under pressure at certain times. An example of a non-pressure pipeline is a surcharged stormwater drain.

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

relevant infrastructure means any of the following—

(a) a *sewer* operated by or for a *sewerage service provider*;

(b) a *water main* operated by or for a *water service provider*;

(c) a *stormwater drain* operated by or for a local government;

(d) a *combined sanitary drain*.

Note—

Relevant infrastructure ceases at the *connection point*.

relevant service provider means—

(a) for a *sewer*—the *sewerage service provider* for the *sewer*; or

(b) for a *water main*—the *water service provider* for the *water main*; or

(c) for a *stormwater drain*—the owner of the *stormwater drain.*

Note—

A service provider register that lists *sewerage service providers* and *water service providers* under the *Water Supply (Safety and Reliability) Act 2008* can be accessed on the website of the Department of Energy and Water Supply at <www.dews.qld.gov.au/our-department/energy-and-water-supply-data>.

RPEQ means a registered professional engineer under the *Professional Engineers Act 2002*.

sanitary drainage see the *Plumbing and Drainage Act*, schedule.

self-assessable building work see the *Building Act*, section 21(3).

sewer means—

(a) a sewer under the *Plumbing and Drainage Act 2002*; and

(b) any *maintenance cover* for the sewer.

sewerage service provider see the *Water Supply (Safety and Reliability) Act 2008*, schedule 3.

stormwater drain means—

(a) infrastructure used for receiving, storing, transporting or treating stormwater; and

(b) any *maintenance cover* for the infrastructure.

structure see the *Building Act*, schedule 2.

vertical plane along the centreline, for *relevant infrastructure,* means a notional two dimensional vertical plane extending upwards and downwards through the *centreline* of the infrastructure.

water main means—

(a) infrastructure used for transporting water other than stormwater; and

(b) any *maintenance cover* for the infrastructure.

water service provider see the *Water Supply (Safety and Reliability) Act 2008*, schedule 3.

zone of influence, of a *building* or *structure*, the subject of a *building development application*, means the area determined by the *assessment manager* to be loaded by the footings or other *load bearing elements* of the *building* or *structure* taking into account the *angle of repose.*

Example—

See **Figures 2**, **3** and **11**.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
Ensuring building work does not damage relevant infrastructure	
P1 *Building work* for a *building* or *structure* on a lot that contains, or is adjacent to a lot that contains, *relevant infrastructure* does not— (a) adversely affect the operation of the *relevant infrastructure*; or (b) place any load on the *relevant infrastructure.*	**A1** (1) The requirements set out in subsection (2) apply for *building work* for a *building* or *structure* on a lot that contains, or is adjacent to a lot that contains, *relevant infrastructure* that is— (a) a *sewer* with a *DN* not more than 225mm that is not a *pressure pipeline*; or (b) a *stormwater drain* with a *DN* not more than 375mm that is not a *pressure pipeline*; or (c) a *combined sanitary drain*. (2) The requirements are— (a) the *building work* is for a *class* 1 *building*, or a *class* 10 *building* or *structure*; and (b) either— (i) the *building* or *structure* is located so the *invert level* of the *relevant infrastructure* is at least 300mm above the point of the *zone of influence* that intersects with the *vertical plane along the centreline*; or

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	Example— See **Figure 2**. (ii) the footings of the *building* or *structure* are supported on screwed or bored (but not driven) piles or piers that— (A) are installed at least 1.2m from the *vertical plane along the centreline* of the *relevant infrastructure*; and (B) extend so that the point of the *zone of influence* of the piles or piers that is closest to the *relevant infrastructure* is at least 300mm below the *invert level* of the *relevant infrastructure*; and Example— See **Figure 3**. (c) excavation is not carried out within 600mm of the outer wall of the *relevant infrastructure*; and Example— See **Figure 4**. (d) compaction by vibration is not carried out within 2m of the *vertical plane along the centreline* of the *relevant*

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	infrastructure; and Example— See **Figure 5**. (e) either— (i) use of *fill* for the *building work*, does not result in over 1m of *fill* being placed over *relevant infrastructure;* or Example— See **Figure 6**. (ii) if over 1m of *fill* is associated with a retaining wall—the *relevant infrastructure* is bridged over via a design certified by an *RPEQ* that complies with all other relevant requirements set out in subsection A1(2). Example— See **Figure 7**. Note— Reliance on A1(2)(e)(ii) for achieving compliance with P1 will prevent reliance on A2 for achieving compliance with P2, and an *alternative solution* for P2 will be required.

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS

Maintaining access to and ventilation for relevant infrastructure

P2 When completed*, building work* for a *building* or *structure* on a lot that contains *relevant infrastructure,* allows—

(a) the *relevant service provider* to gain access to the *relevant infrastructure* for the purpose of inspecting, maintaining or replacing the *relevant infrastructure*; and

(b) any gas that builds up in the *relevant infrastructure* to escape in a way that ensures individuals in close proximity to the *maintenance cover* for the infrastructure are not harmed by the gas.

A2

(1) The requirements set out in subsection (2) apply to completed *building work* for a *building* or *structure* on a lot that contains *relevant infrastructure* that is—

(a) a *sewer or water main* with a *DN* not more than 225mm; or

(b) a *stormwater drain* with a *DN* not more than 375mm.

(2) The requirements are—

(a) the *building work* is for a *class* 1 *building*, or a *class* 10 *building* or *structure*; and

(b) a wall, footing, pile, pier or floor of the *building or structure* is installed at least 1.2m from the *vertical plane along the centreline* of the *relevant infrastructure*; and

Example—

See **Figure 8**.

(c) for any part of the *relevant infrastructure* other than a *maintenance cover, a clear zone* having the following dimensions is maintained—

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	(i) a minimum width of 1.5m along the horizontal plane that intersects the *vertical plane along the centreline* of the *relevant infrastructure*; and (ii) a height of 2.4m from the finished surface level; and (iii) a length the same as the length of the *relevant infrastructure*; and Examples— See **Figures 9A** and **9B**. (d) for any *maintenance cover*— (i) a *clear zone* having the following dimensions is maintained— (A) a circular base with a radius of 1.5m along the horizontal plane from the centre of the cover at finished surface level; and (B) an infinite height from the finished surface level; and (ii) access to the *clear zone* for the *cover* is not impeded by

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	the *building* or *structure;* and (iii) the *building* or *structure* does not cause ponding on the upper *surface* of the cover (because the *building* or *structure* allows water to drain away naturally); and (iv) the cover is not covered by *fill* associated with the *building work*; and Example— See **Figure 10**. (e) for any *gravity wall* over 1m high— (i) the wall is constructed so the *invert level* of the *relevant infrastructure* is at least 300mm above the point of the *zone of influence* that intersects with the *vertical plane along the centreline*; or Example— See **Figure 11**. (ii) the design of the wall is certified by

PERFORMANCE CRITERIA	ACCEPTABLE SOLUTIONS
	an *RPEQ* to be appropriate taking into account the safety of workers who will inspect, maintain or replace the *relevant infrastructure*, as required.

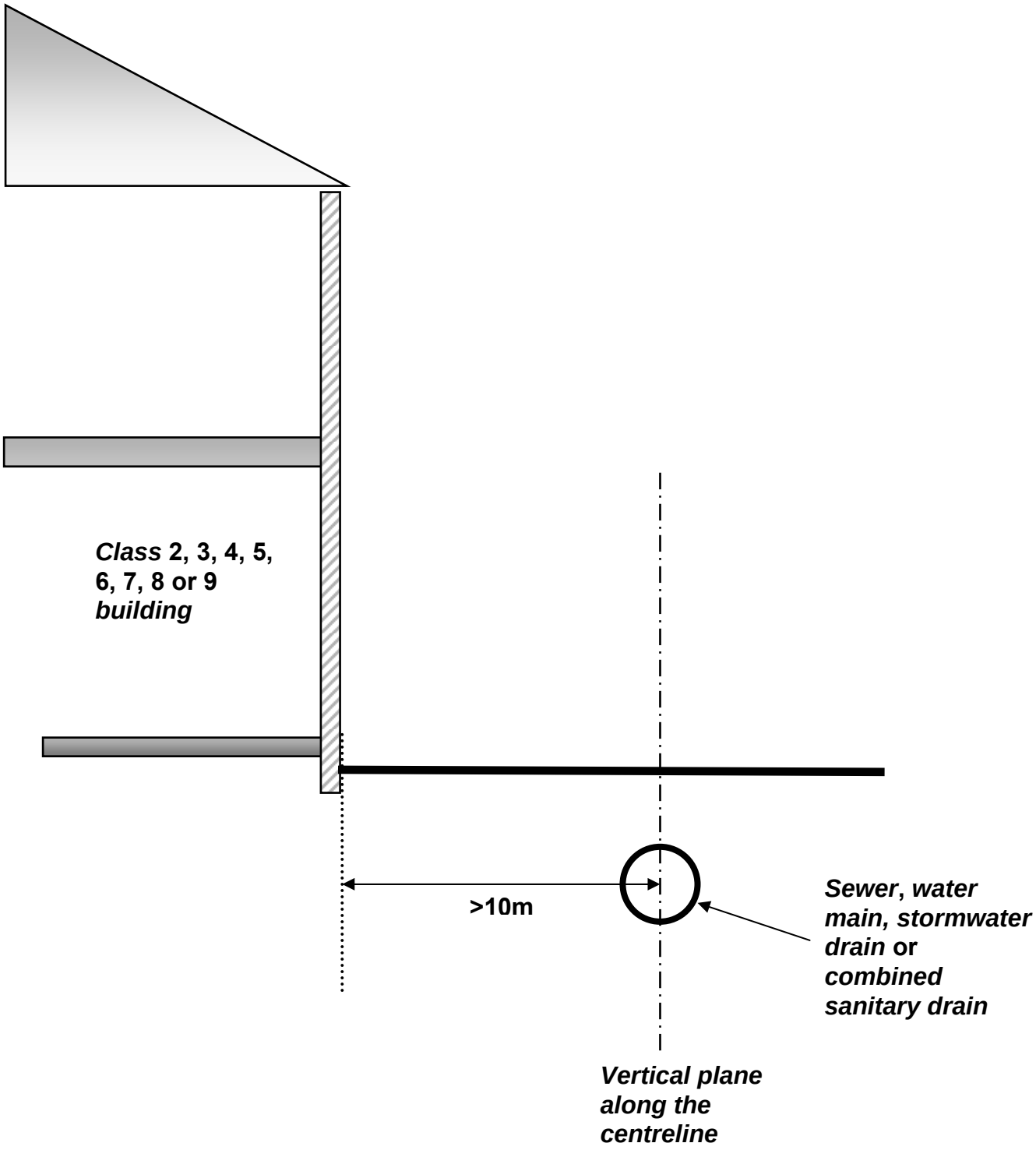


Figure 1
Example for section 3(2)(c)

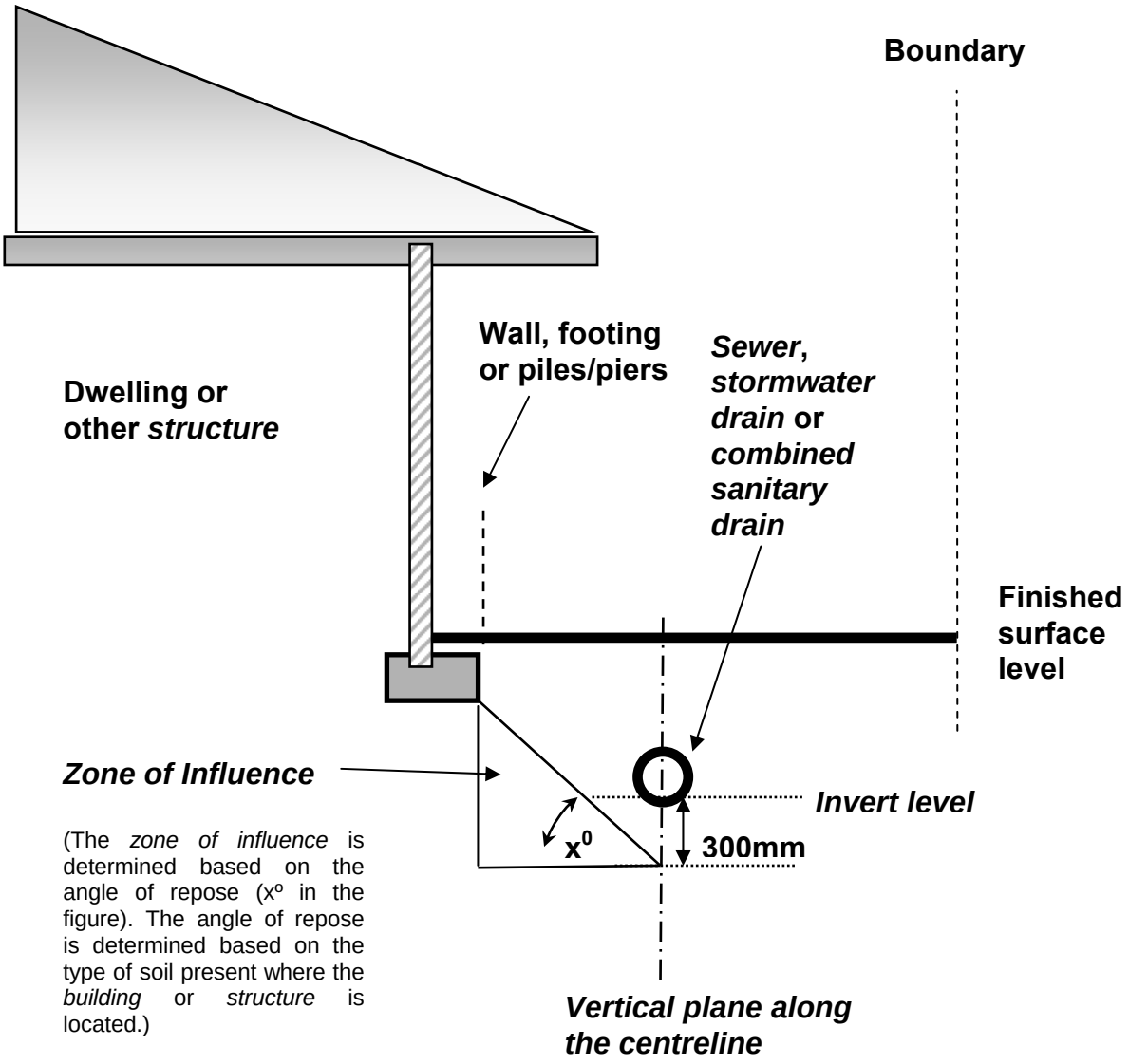
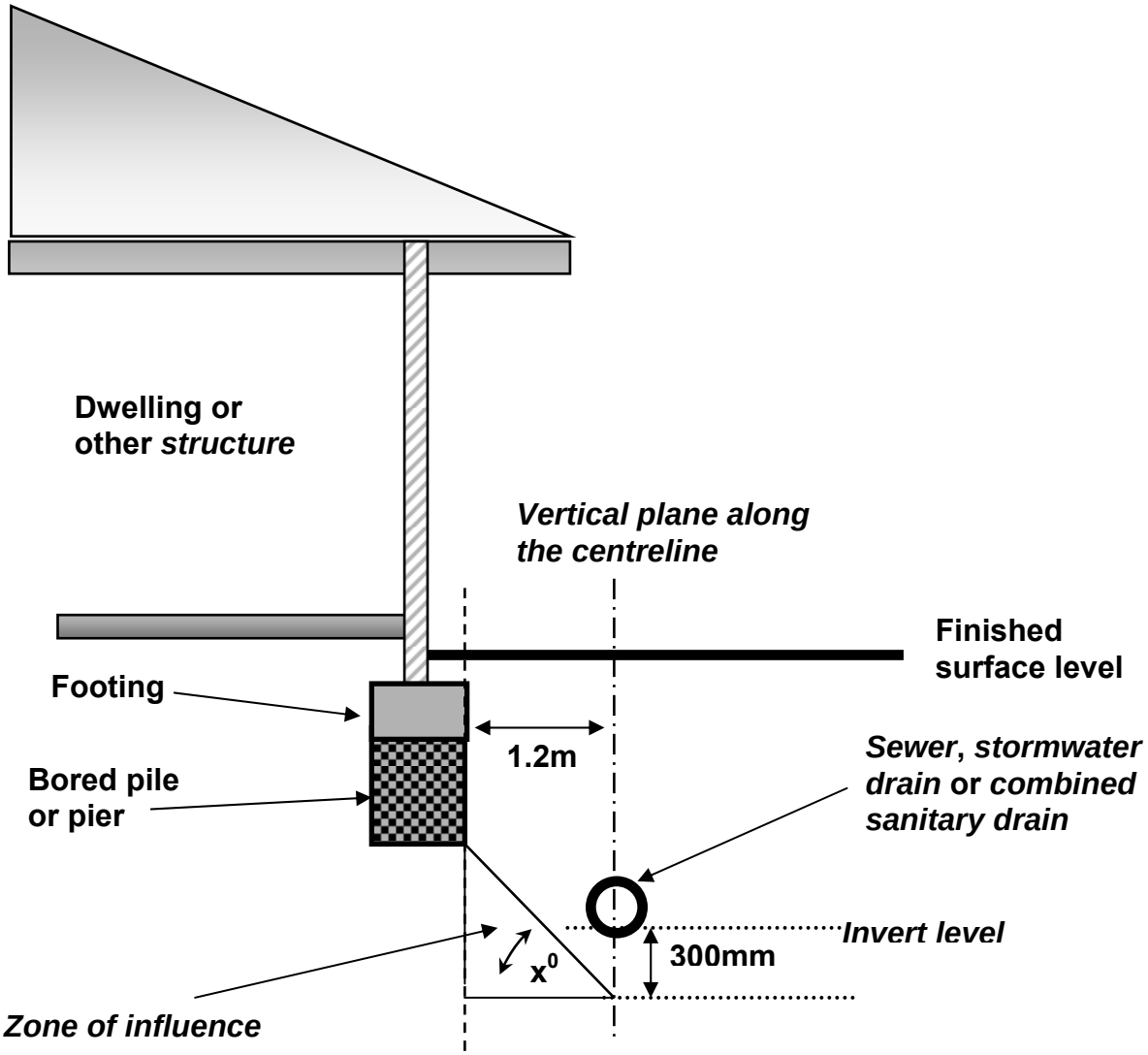


Figure 2
Example for A1(2)(b)(i)



(The *zone of influence* is determined based on the angle of repose (x^o in the figure). The angle of repose is determined based on the type of soil present where the *building* or *structure* is located.)

Figure 3
Example for A1(2)(b)(ii)

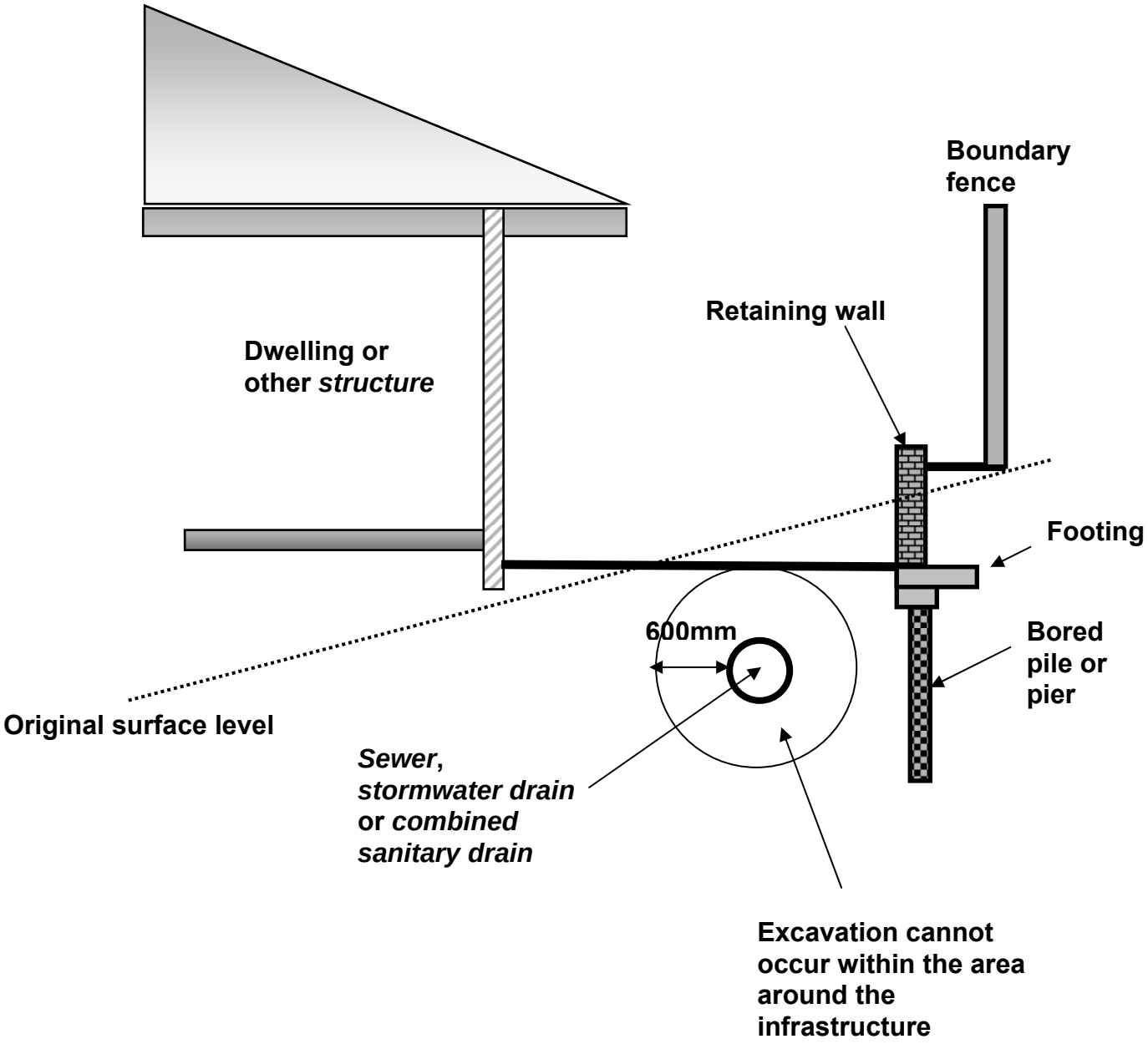


Figure 4
Example for A1(2)(c)

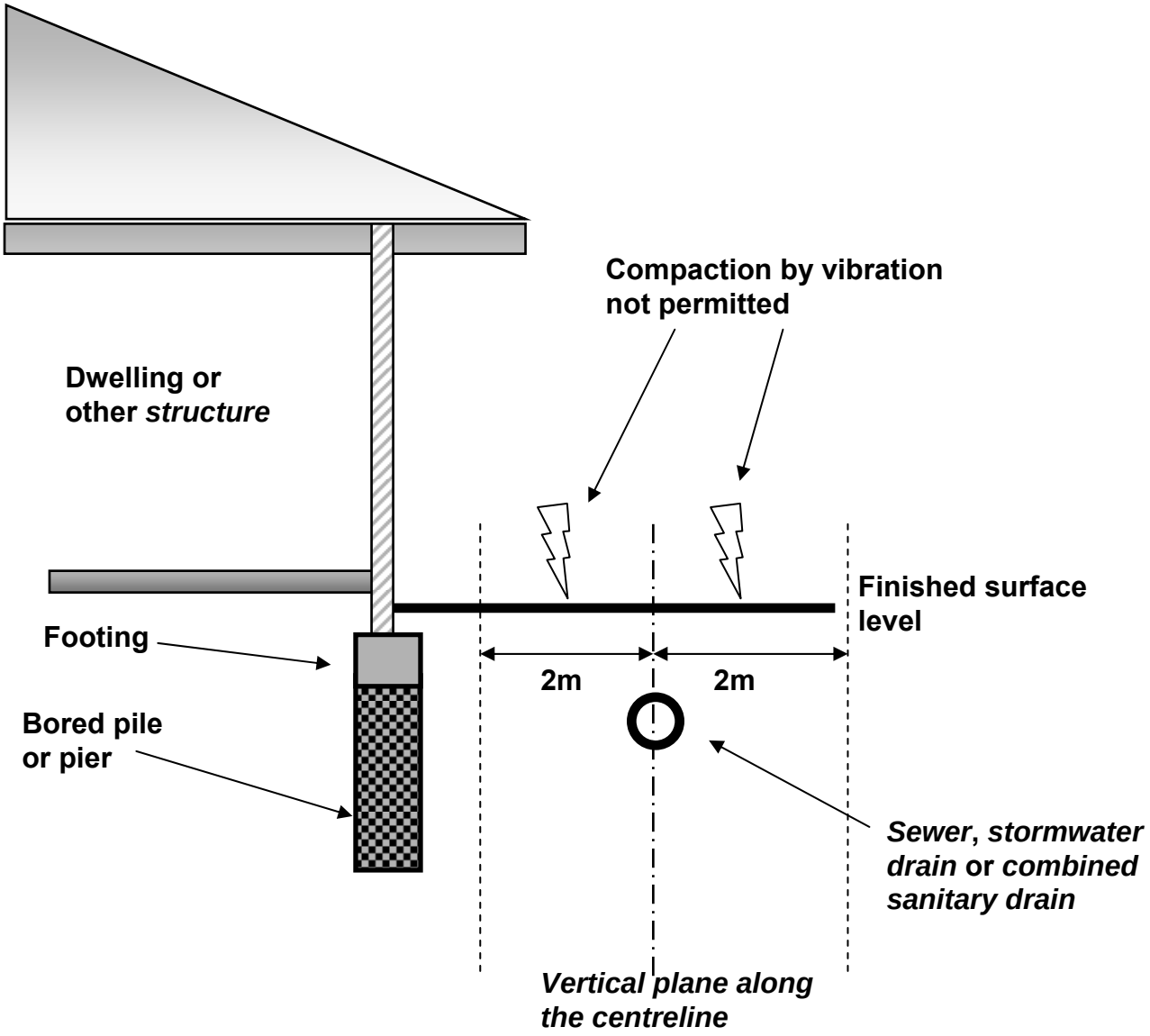


Figure 5
Example for A1(2)(d)

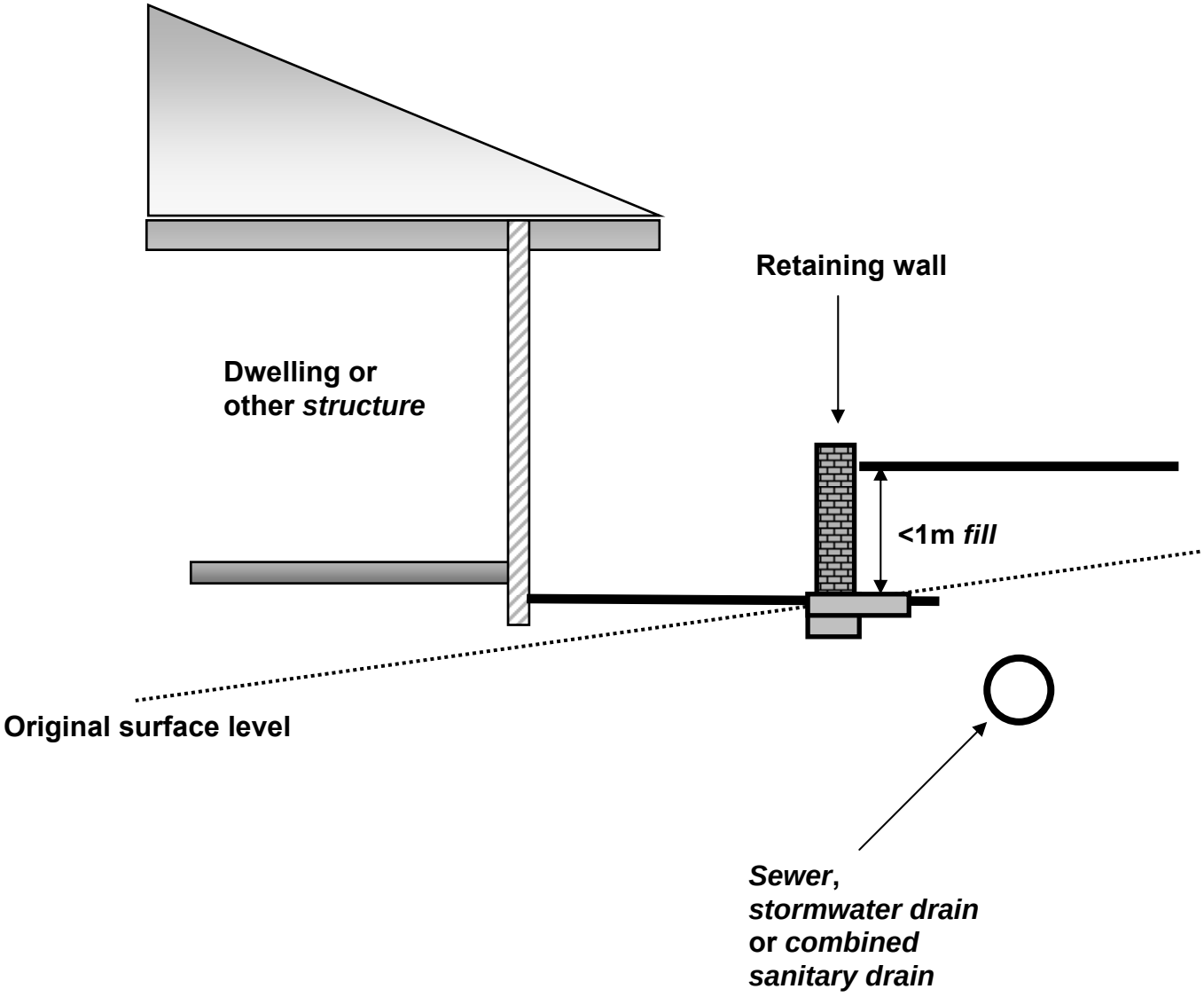


Figure 6
Example for A1(2)(e)(i)

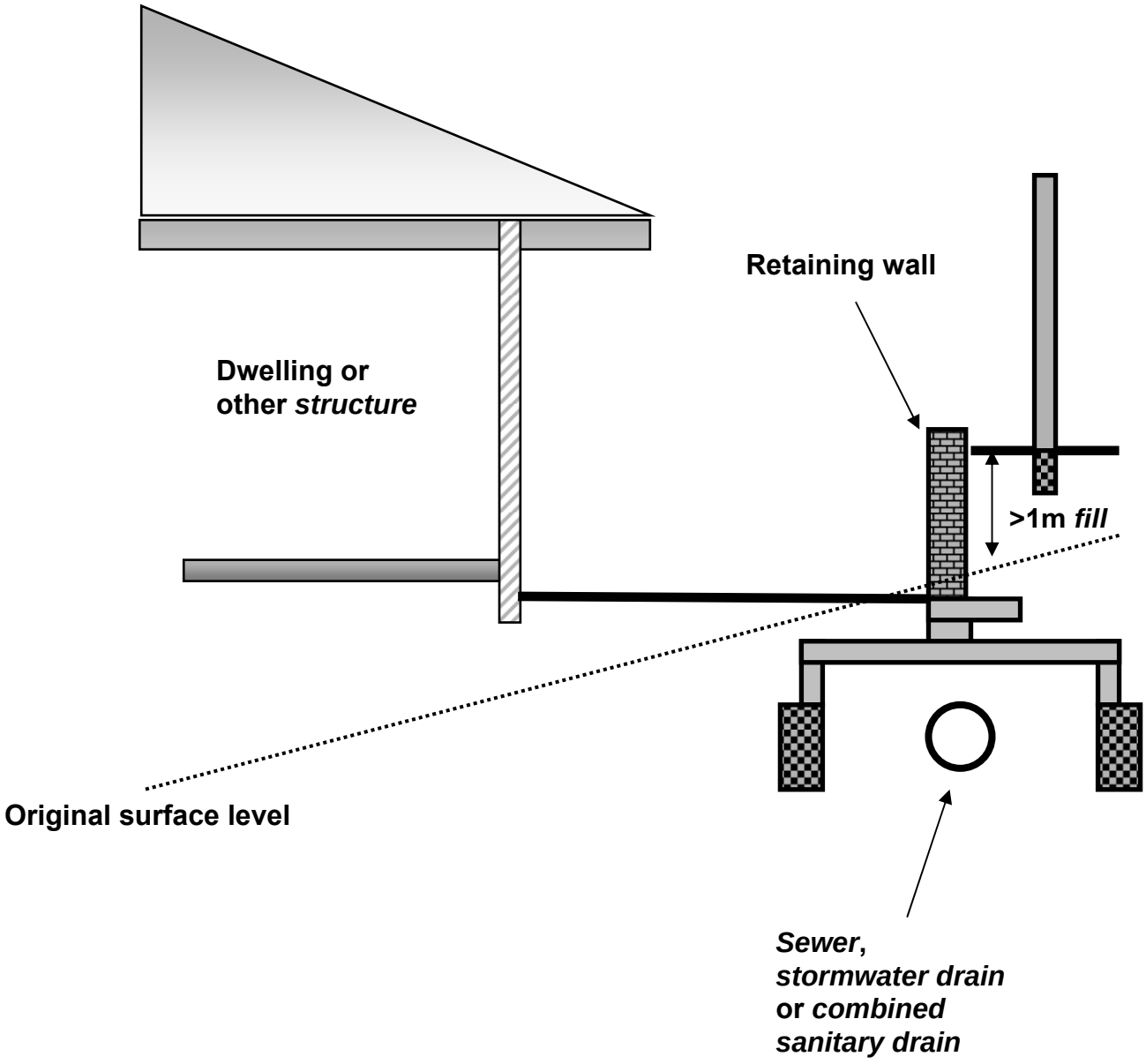


Figure 7
Example for A1(2)(e)(ii)

Note—

The bridging design must be certified by an *RPEQ*.

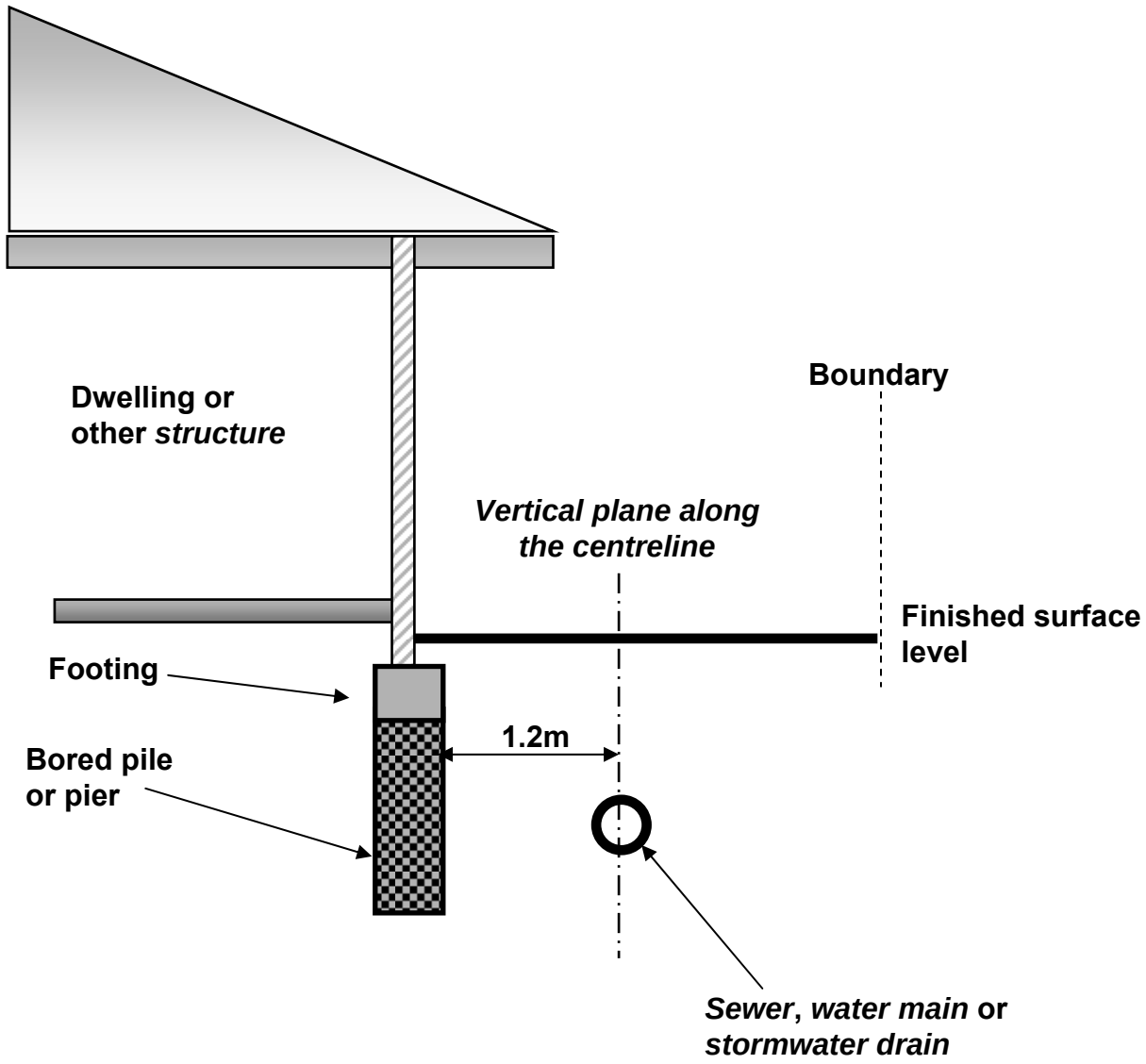


Figure 8
Example for A2(2)(b)

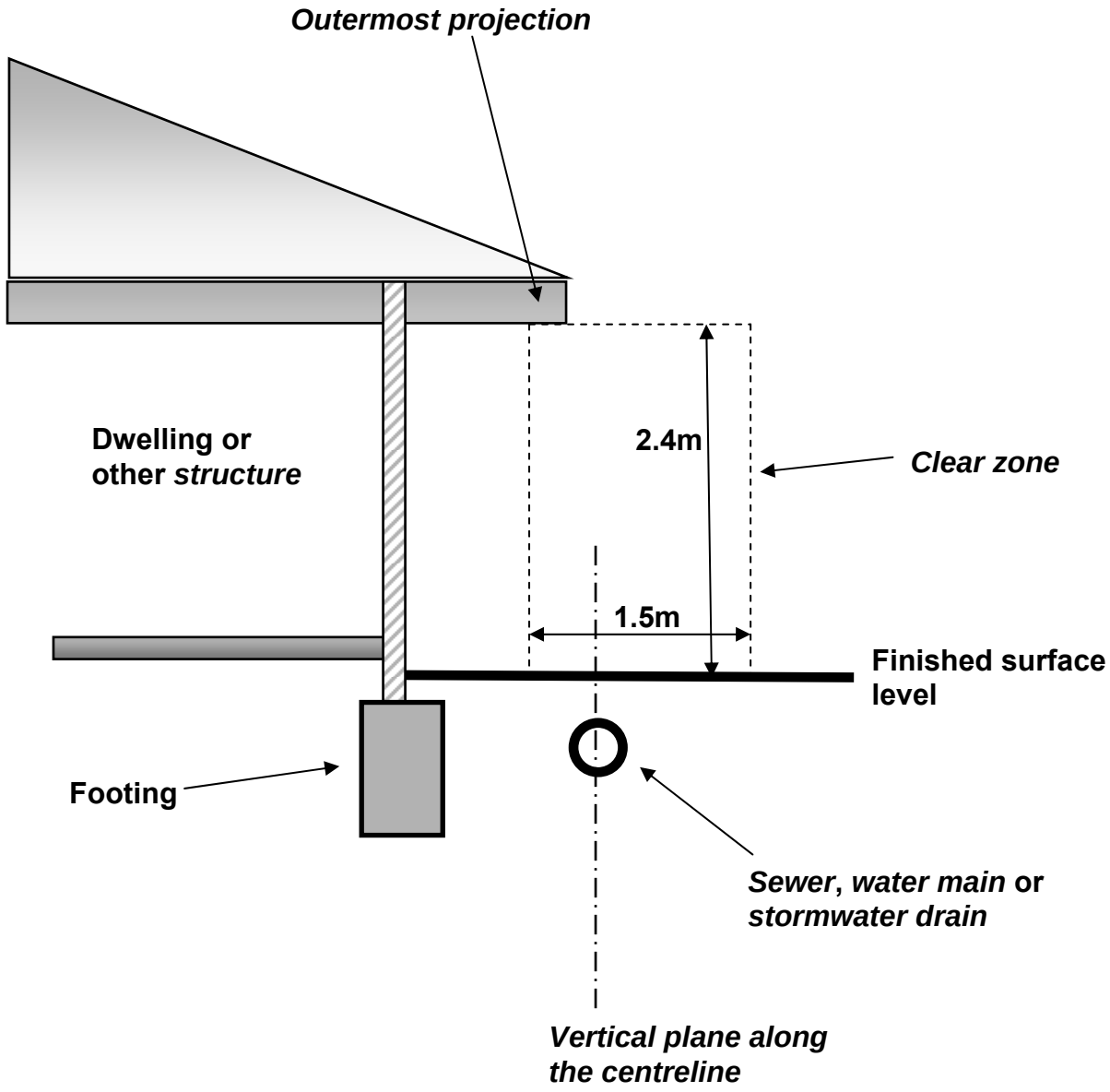


Figure 9A

Example for A2(2)(c)
(Two dimensional diagram)

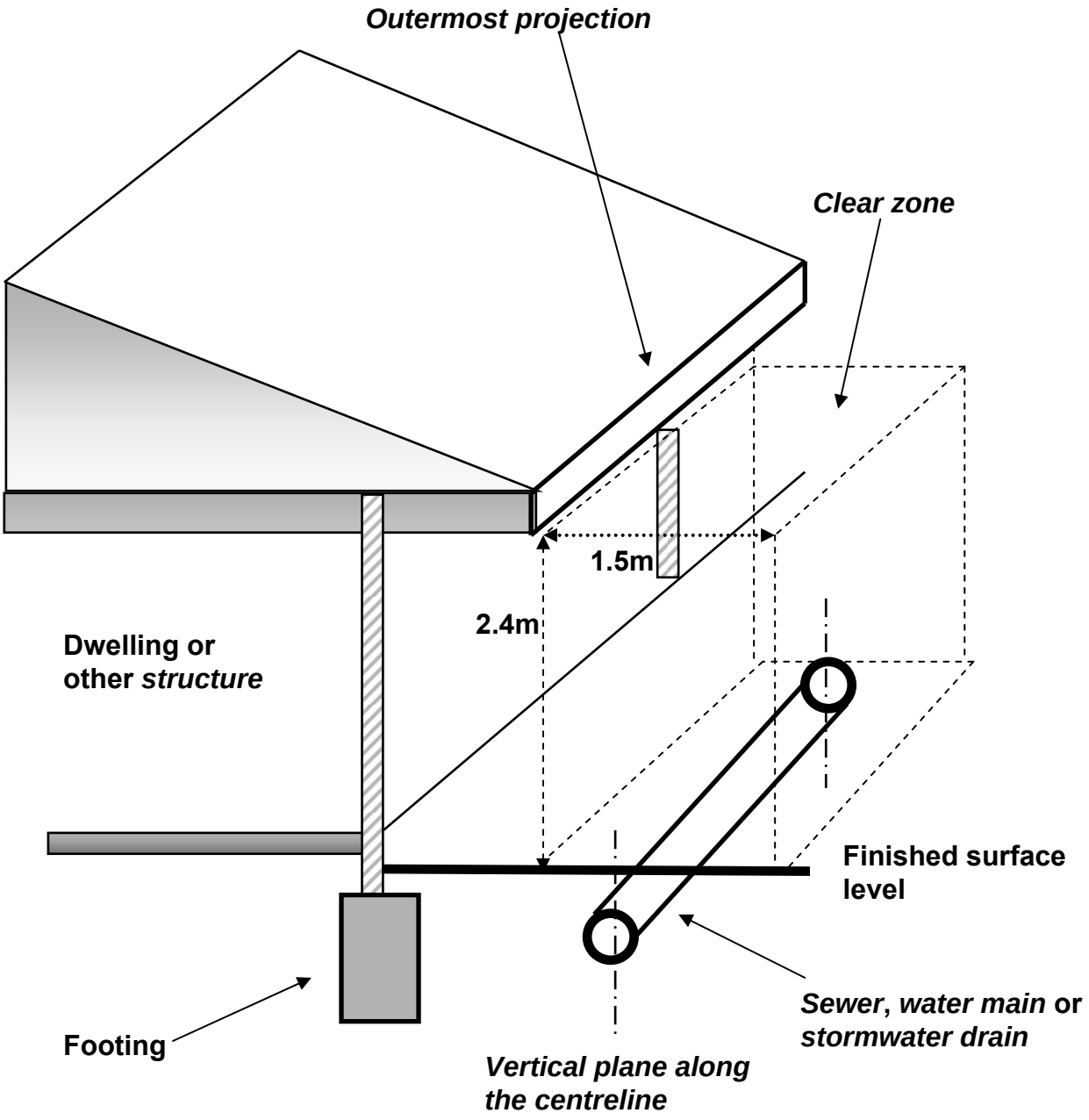


Figure 9B

Example for A2(2)(c)
(Three dimensional diagram)

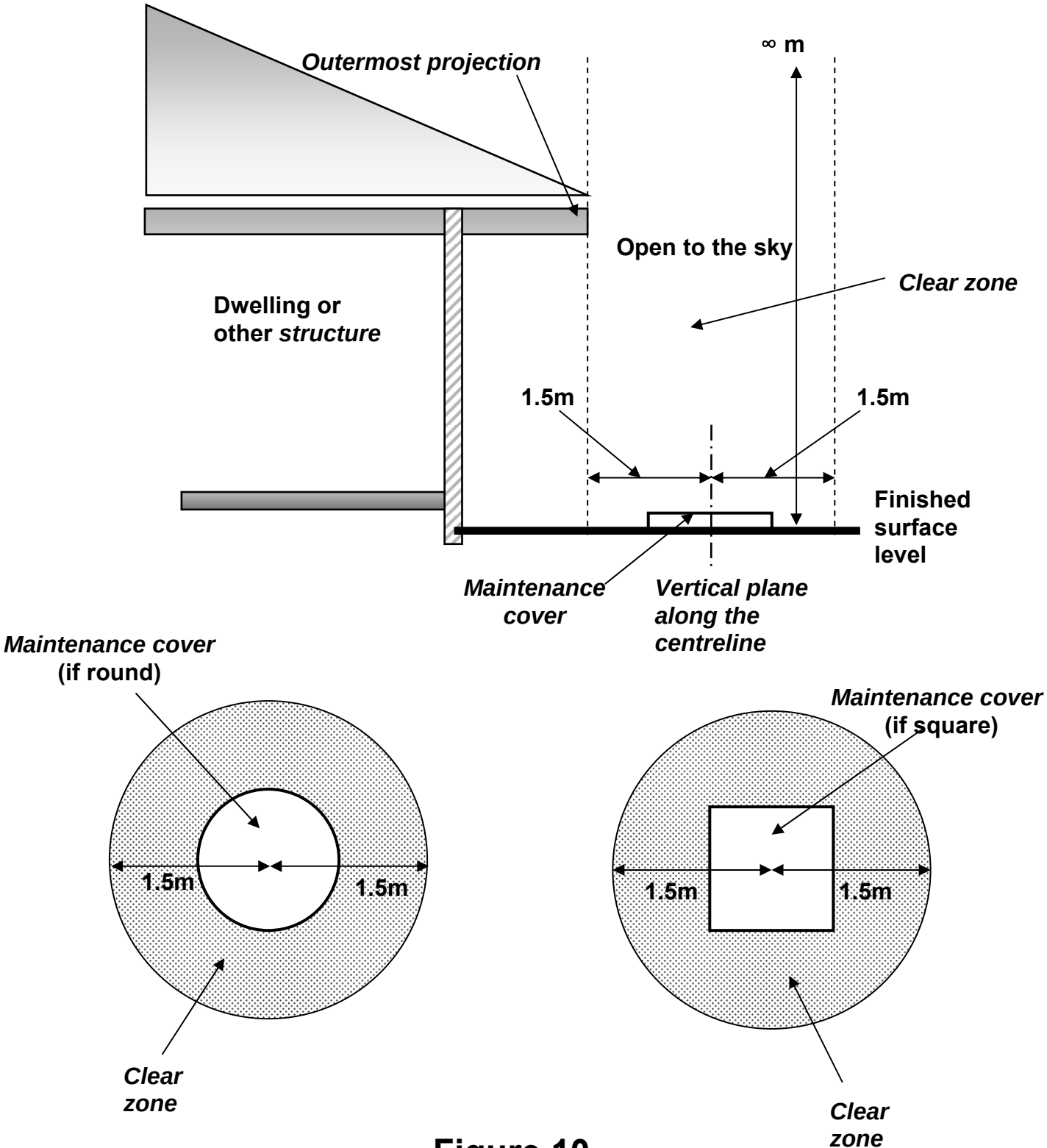
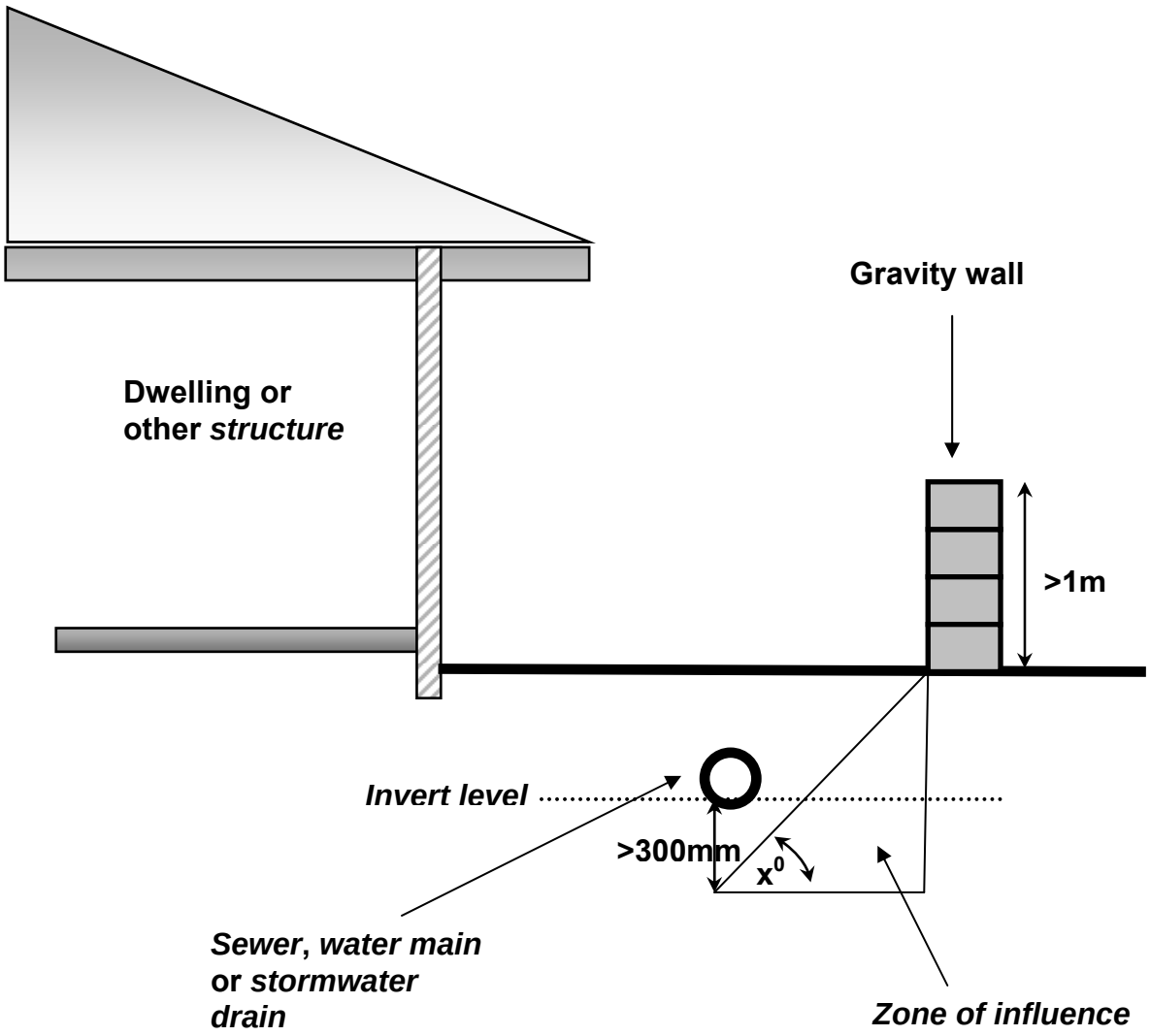


Figure 10
Example for A2(2)(d)



(The *zone of influence* is determined based on the angle of repose (x⁰ in the figure). The angle of repose is determined based on the type of soil present where the *building* or *structure* is located.)

Figure 11
Example for A2(2)(e)(i)

Note: This scenario would not require an *RPEQ* certification.

Version history

Version	Publication date	Commencement date
1.1	2 December 2013	13 December 2013
1.0	15 October 2013	1 November 2013