

Building near a Public Water Main

Technical Guidance

Guidance notes

NI Water has a legal requirement to maintain a wholesome supply of water to its customers.

To ensure service delivery NI Water needs to be able to maintain, repair, refurbish and replace water mains as and when the need arises. This requires access to our infrastructure at all times and is supported with legislation under Article 236 of the Water and Sewerage Services (Northern Ireland) Order 2006.

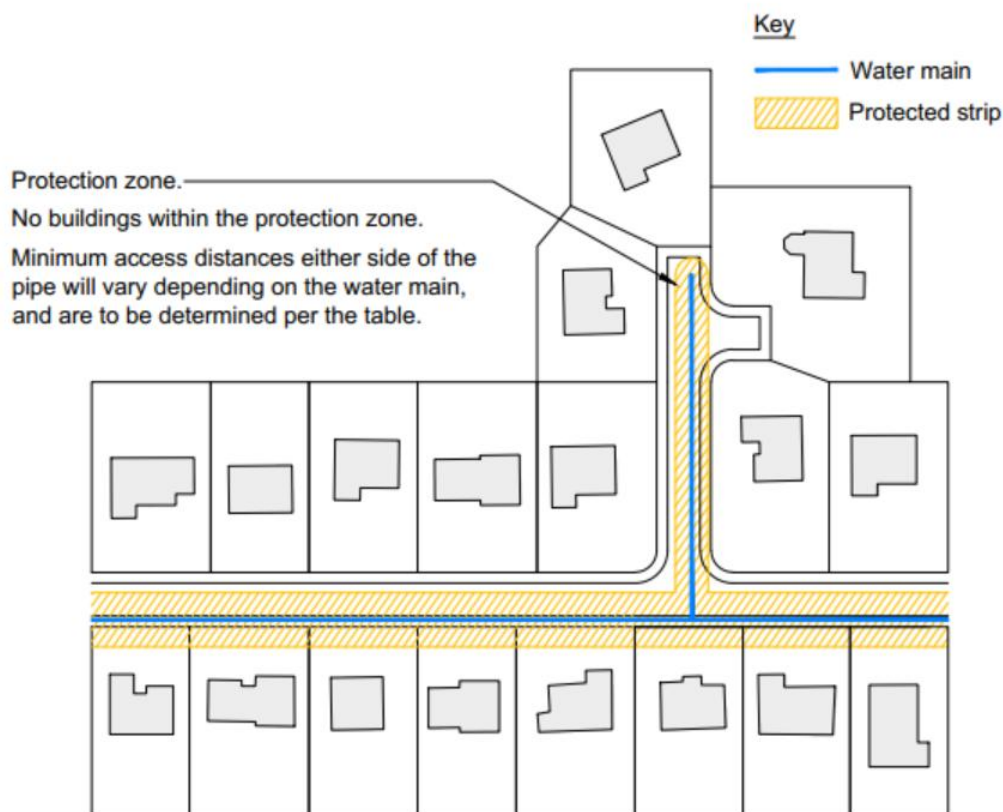
The following guidance sets out NI Water's requirements to deliver its statutory duties, mitigate potential damage to property and minimise Health and Safety Risks should the infrastructure fail.

Access/Protection Zones

The minimum clearance distances detailed below are primarily determined based on operational requirements, and the strategic importance of the asset within the Network; however, other factors such as site-specific topography, high-pressure systems and depth of the main may determine greater clearance distances.

Pipe Diameter	Minimum Access Distance either side of pipe
Up to 180mm	3 metres
181 - 300mm	4 metres
Greater than 300mm	Requires consultation and approval from NI Water

Note: Table assumes pipe at nominal cover to crown of <1.5m, where this is not the case additional clearance will be required.



NI Water acknowledges that there may be locations across the province where buildings have previously been sited within the access/protection zone, this is no longer acceptable unless approved by NI Water following full consultation prior to planning approval (see Exceptional Approval below).

Design of New Developments

Where a development is planned in the vicinity of existing water mains, the onus is on the Developer to carry out exploratory excavations to determine the exact line and level of the pipework prior to finalising the proposed layout for the site. The layout should be designed to ensure that NI Water infrastructure is located within a verge, road or public green space within the site; the design should not result in the land, under which existing mains are located, becoming private property.

Building over a water main is not allowed under any circumstances

Any proposed increase in ground levels in the access/protection zone needs to be agreed with NI Water to avoid overloading and settlement of the pipework or hampering of operational repairs.

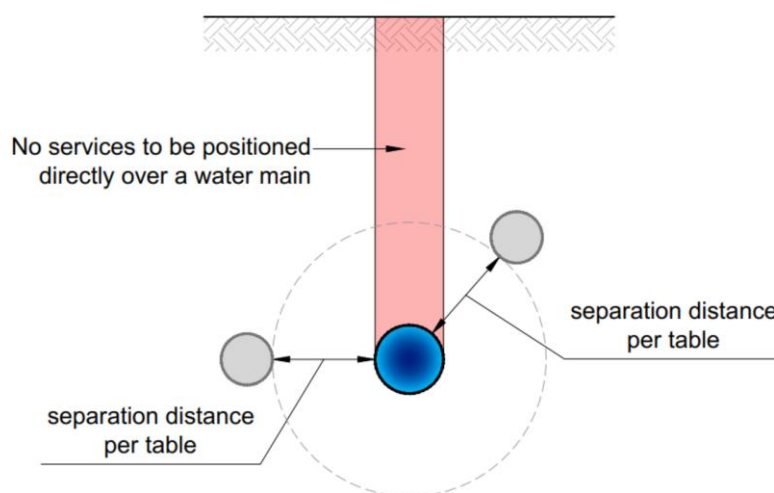
Your Services

If you are installing pipes, cables or ducts as part of your development, it's important that they are not positioned directly over a water main. The minimum horizontal and vertical clearance from any services you install to our water main depends on the size of the water main you are crossing.

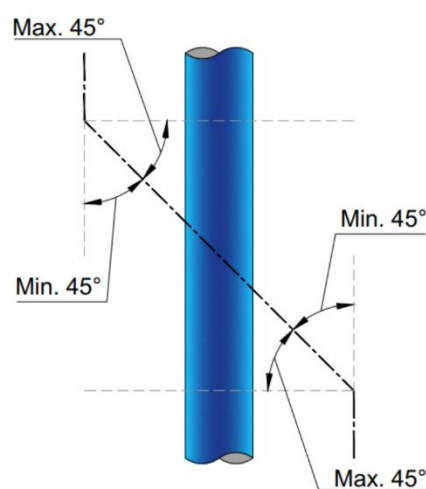
Pipe Diameter	Minimum horizontal clearance	Minimum vertical clearance
Up to 180mm	300 mm	300 mm
181 - 350mm	300 mm	300 mm

351 – 600mm	500 mm	500 mm
Greater than 600mm	Requires consultation and approval from NI Water	Requires consultation and approval from NI Water

These are NI Water's minimum clearances, and other utility providers like gas, electricity or telecoms might have their own minimum clearances. You should always consult the relevant utility provider for their minimum clearances and may need to provide evidence of this to NI Water for crossings where our approval is needed.



SECTION



PLAN

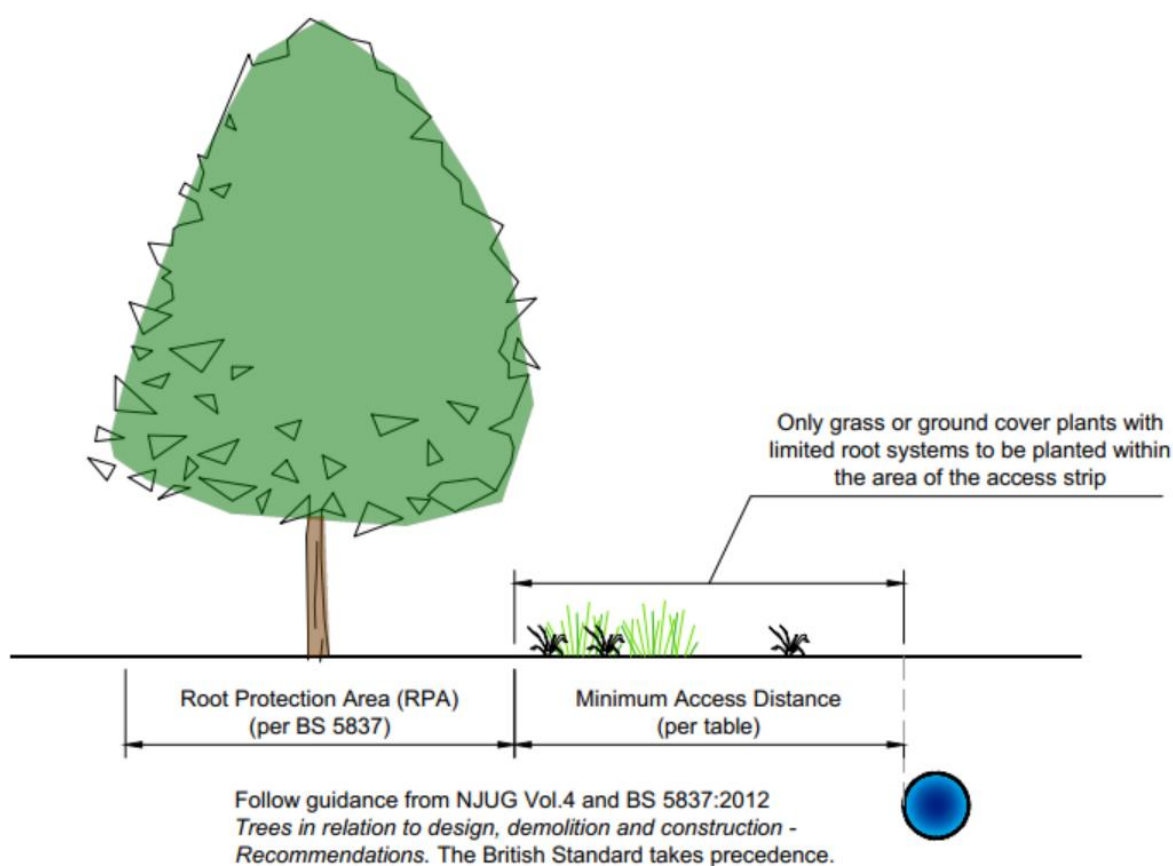
Any proposed pipe crossing our water main should always aim to cross perpendicular to the water main, or as close to 90 degrees as possible. The crossing must be at a minimum of 45 degrees.

Any crossings need to be a minimum of 500mm from a joint or water main fitting, such as valves and hydrants. If in any doubt about clearances to existing water mains on your development, you should contact NI Water for comment.

Trees

If your development requires any work to trees in proximity to our water mains, or you have proposed planting in proximity to water mains, you should refer to the Street Works UK publication *Volume 4 NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees*. Follow guidance from NJUG Vol.4 and BS 5837:2012 *Trees in relation to design, demolition and construction - Recommendations*. The British Standard takes precedence. Care must be taken not to damage our infrastructure.

Trees should not be planted in the immediate vicinity of water mains. Only grass or ground cover plants with limited root systems should be planted. Roots from trees and shrubs can damage water mains, so it's essential that any trees and shrubs to be planted near water mains are selected and positioned carefully, with root protection barriers used where necessary. This is to minimise the potential root damage to the main, but also avoid problems if we need to excavate for maintenance or repair in the future.



Exception Approval

NI Water recognise in some circumstances that site-specific conditions cannot afford the provision of the minimum access distances specified above. In these cases **it may be possible for NI Water to grant 'exception approval' provided an engineering solution is put in place** to protect both the pipework and the proposed building(s) plus still permitting access for any future maintenance or replacement work required under our statutory duties. The Developer should therefore consult with NI Water as soon as possible and prior to seeking planning approval for the site.

Provided reasonable access to NI Water assets are maintained, engineering solutions can include

- the construction of foundations at a level below NI Water infrastructure to protect the integrity of the building
- provision of a protective structure to avoid undermining of buildings should the main fail
- any other proposal that would mitigate the risk to both NI Water assets and the proposed development

Diversion Option

If Access/Protection Zones cannot be achieved diversion of NI Water infrastructure may be an option provided it is considered practical and the Developer is prepared to meet all costs involved.

This will be subject to a separate formal agreement with NI Water covered under Article 247 of the Water and Sewerage Services (Northern Ireland) Order 2006.

Customers wishing to apply to divert a public water main should submit a completed WD-A247 Form

Construction Phase

The Developer should determine line and level of the existing water mains and put in place mitigating measures as required to avoid damage during construction. If cover to the water main is less than 750mm the Developer should contact NI Water as soon as possible. In some cases, there may be a need to design and construct an engineering solution to protect the pipework from any future loading.

If any excavation work is required within the access/protection zone and close to the water main, the Developer should submit a Method Statement and Risk Assessment to NI Water's Water Performance Team at developerservices@niwater.com, 21 days in advance of the works. This will allow time for liaison with local Operational Staff and the preparation of contingency measures.

Access to the protection zone shall be kept clear and unrestricted at all times i.e. construction materials and excavated material should not be stored there.

Piling near water mains

Where piling works are being carried out care must be taken to avoid any damage to water mains. Any piled foundations near water mains are subject to our approval and will require additional surveys to be carried out.

The position of water mains on your site should be established by survey. Then, if a water main is likely to be within 15 metres of the piling works, trial holes must be excavated to establish the exact location of the main.

Your proposed works must not transmit any load to the water mains. Piling techniques must be chosen to minimise the impact to water mains, and a suitable method statement must accompany any application. Piled foundations must be constructed a minimum of 15 metres from the outside of the pile to the outside of the water main unless the piling method can be shown not to adversely impact the water main. When using piled foundations within 15 metres from an existing water main, only continuous flight augured piles or similar are acceptable, if they can be shown not to adversely impact the watermain We will not allow driven piles within 15 metres of a water main.

Notification to Future Property Owners

NI Water requires Developers to notify future property owners of the land-use restriction near water mains, by including the restrictions within the Deed of Conditions such that they remain visible to all future property owners and are in the public domain.

Infringements

NI Water has a statutory duty to ensure its operations do not pose a risk to others. It is NI Water policy to legally contest any infringements of above.

If you have any queries please contact the Developer Services at:

Developer Services - Servicing Team Northern Ireland Water
Ballykeel Office
188 Larne Road
Ballykeel
Ballymena
Co Antrim BT42 3HA

Tel: 03458 770 003