



Building Near Water & Sewer Services Policy

Policy No: DC1.3 Version No: 3
Issue Date: 16th July 2003
Responsible Officer: Development and Design Manager
Authorised by: MidCoast County Council

BUILDING NEAR WATER AND SEWER SERVICES POLICY



TITLE: Building Near Water and Sewer Services

MCW REFERENCE: 64752

VERSION: 2.0

DATE OF ISSUE: 16 July 2003

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October 1998

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Amendments

Initial	Details	Date	New Version No.
DB	Revision of format and figures	15/07/03	2.0

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POLICY

MidCoast Water will not give approval for structures to be built over a sewer rising main, or a water main or within any MidCoast Water easement or, where an easement does not exist, within distances specified in this policy.

MidCoast Water will not permit structures to be built over a sewer, within an easement provided for gravity sewer or within the distances specified in this document (subject to exceptions as specified in this document).

MidCoast Water may approve structures to be built adjacent to a sewer, a sewer rising main or a water main providing precautions are taken with the design of the footings. Structural Engineers details will be required.

1 APPLICATION

This policy applies to the construction of all buildings, dwellings, carports, garages, sheds, swimming pools, pergolas, retaining walls and permanent structures within Council's area that are to be built near water mains, sewers and sewer rising mains.

2 COVERAGE

This policy covers regulations relating to building over or adjacent to the following Council owned pipes throughout the MidCoast Water area:

- Sewers.
- Sewer rising mains.
- Water mains.

In recently constructed subdivisions the above pipelines are located in an easement. The easement provides a means for Council to gain access to the pipelines. If an easement has been designated, it will be shown on the deposited plan for the block. Where a formal easement does not exist, Council has a legal right-of-way to obtain access to the pipes.

3 AIM

This policy is aimed at:

- Preventing structural damage to the water or sewer pipes. This damage is a result of the load from the structure bearing on the pipework. This may cause the pipes to subside and/or fracture.
- Preventing damage to buildings. Buildings located on or near underground pipes can be subject to subsidence with consequent damage to the structure. Subsidence can occur when a pressurised pipeline breaks and the flow of water undermines the surrounding soils. When a hole occurs in an underground sewer, the surrounding soil can be drawn into the pipe leaving a void, which may then collapse. Any structure located over or near this collapsing ground may be damaged unless piers adequately support it.
- Maintaining access to manholes, junctions and inspection shafts. This will allow staff to undertake regular maintenance to pipework without having to remove structures. Sewers, in particular, are subject to blockages that need to be cleared quickly.
- Enabling efficient and economical access to pipework for major repairs and/or replacement without damaging structures. Large earthmoving equipment is used to repair pipelines. This equipment needs room to manoeuvre. Structures that are too close to the line will make access difficult and may also be at risk of being damaged.
- Reducing future maintenance costs to Council. It is unreasonable that Council, and subsequently our customers, should incur unnecessary costs when carrying out maintenance and/or repairs caused by having to remove and then replace structures that have been built over or too close to an underground line.
- Providing a consistent approach to building over or near underground pipework throughout the MidCoast Water area. This will assist in maintaining the structural integrity of existing buildings that may be affected by new building proposals. Existing buildings may become at risk where a new building has been built without consideration for nearby pipelines. A new structure may impose a load on an underground line causing it to fail. This failure may, in turn, cause damage to the existing structures.

4 NEW DEVELOPMENT AND /OR BUILDING APPLICATIONS

When an application is made to build a new structure or extend and/or alter an existing structure, an assessment is made of the effect the proposal may have on any nearby sewers, sewer rising mains or water mains. All applications should show the position of any sewer or water mains in relation to the property and existing or proposed structures. Plans should be drawn at a scale of 1:200 or 1:100.

It is advisable to contact MidCoast Water to ascertain the general location of any pipelines and whether special designs will be required for the proposed structure before submitting plans. If any part of the proposed structure is to be located over the underground pipeline, within the easement or, where an easement does not exist, within specified distances of the pipeline then the application may be refused. In this case the applicant will be requested to redesign the structure so that it does not encroach on the underground pipeline. (See section 6 for specified distances).

A structure that is to be built close to an easement may require a Structural Engineer's detail to ensure that it does not place a loading within the "zone of influence" of the sewer, sewer rising main or water main. Before plans are submitted, the applicant should have a surveyor locate the pipeline to ensure that footing designs will be adequate for the proposed structure. This may be required in some circumstances where Councils records cannot be confirmed.

5 BUILDING NEAR AN UNDERGROUND WATER MAIN OR SEWER RISING MAIN

These pressure mains are usually located in footpaths or roadways and are sited well away from most structures. However, occasionally pressure mains are located through private property and in these cases special advice should be obtained from MidCoast Water before commencing design work. A burst water main may quickly cause severe damage to an adjacent structure.

Under no circumstances will approval be given for any structure to be built over a water main or sewer rising main or within their easements.

Where an easement has not been provided then a corridor at least 3 m wide and centred on the line is used to determine the area in which a structure cannot be located.

6 BUILDING NEAR AN UNDERGROUND GRAVITY SEWER

6.1 Where easements are not provided

Where an easement has not been provided then the dimensions shown in Figure 1 will apply.

No part of structure to be closer than 1050 mm to the side of the pipe

No external wall to be closer than 1500 mm to the side of the pipe

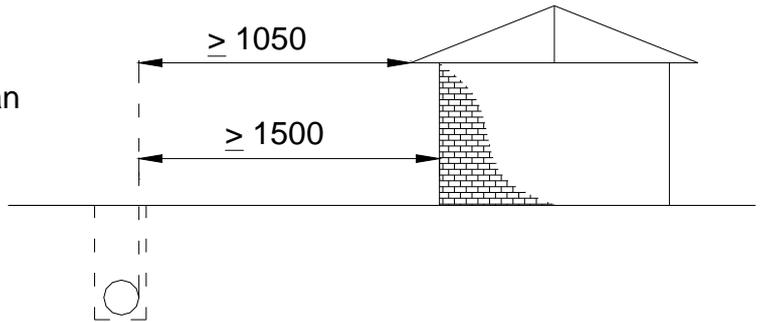


Figure 1 Minimum Distances from the side of pipes

The closest distance that the external edge of a structure can be located to the outside edge of a sewer or drainage line is:

- 1050 mm from the outside edge of an overhang such as an eave or gutter.
- 1500 mm from an external wall or footing.

(The above distances allow a maximum eave overhang of 450 mm. For larger overhangs the distance of the wall to the side of pipeline would have to be greater than 1500 mm).

NOTE: These distances are measured horizontally between the proposed structure and a line drawn vertically from the side of the pipeline as shown in Figure 1.

6.1.1 Proposed structures of two or more storeys

An allowance may be made for 2 or more storey structures where the eave is well above the ground level (>3000mm) to allow further encroachment of an overhang. In these cases an individual assessment will be made. This assessment will consider the distance from the pipe to the external wall of the structure, the distance from the lowest point of the overhang to the ground level, the depth of the pipe and the difficulty of access for machinery.

6.2 **Where easements are provided**

Easements of specified width are defined on the Deposited Plan for each lot. Where an easement **has been** provided the following conditions will apply.

- No external wall of a structure can be built within an easement.
- An overhang is permitted within an easement. Where a structure is to be built up to the easement the maximum eave overhang would be 450 mm
- It cannot be assumed that the underground pipe will always be located in the centre of the easement. Where the pipe has been located to one side of an easement then it may be necessary for a structure to be located well outside the easement to maintain the minimum distances from the pipe. In these cases an individual assessment will be made to determine the minimum wall and eave setbacks required. This assessment will consider the distance from the pipe to the edge of the easement, the depth of the pipe and the difficulty of access for machinery.

7 ZONE OF INFLUENCE FOR SEWERS AND DRAINS

The “Zone of Influence” is located within the soils surrounding a pipe and is that part of the soils that will be affected by any damage occurring to the pipe or during excavation of a trench. For example, should a pipe break or a joint leak, subsidence may occur within the “Zone of Influence”. The depth of the pipeline, the type of soil and the slope of the site determine the size of the zone.

How the “zone of influence” is calculated:

- a) The line depth and its position in relation to the proposed building site is found. (These details are taken from Council’s records or by inspection of the site).
- b) The depth of the trench containing the pipework is calculated by adding 300 mm to the pipe depth.
- c) The width of the trench depends on the pipe diameter. As a guide, pipes up 225 mm diameter will have a trench width of 600 mm whilst pipes over 225 mm diameter will have a trench width of 1000 mm. In the case of large diameter pipes and/or deep trenches the trench width may be larger than the preceding values. In these cases an individual assessment will be made.
- d) The zone is calculated using the depth of the trench and half the trench width. This calculation varies due to the type of soil present. Figures 3 and 4 indicate the Zone of Influence for clay soils and for sand, filled ground and loam respectively.

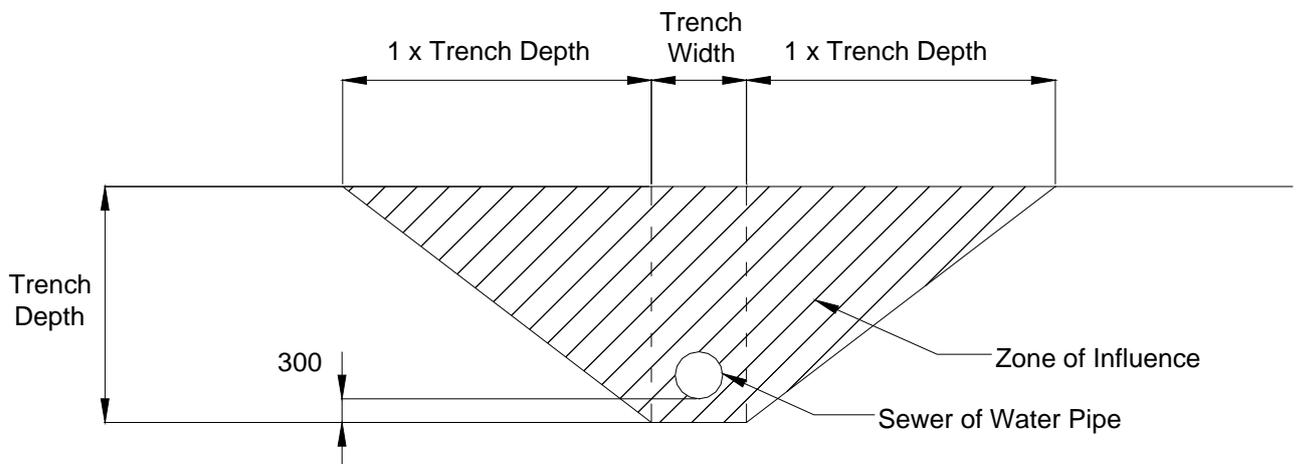


Figure 2 Zone of Influence for Clay Soils

As Figure 2 indicates, the Zone of Influence extends out from the edge of the pipe trench the same distance as the depth of the trench (The ratio used is 1:1). For clay soils the zone will extend the same distance as the depth plus half the width of the trench. For example, for a pipeline of 150 mm diameter and a depth of 1500 mm, the trench depth is 1800 mm deep (i.e. 1500 + 300) therefore, the zone extends 2100 mm from the pipe centre line (i.e. 1800 + 300).

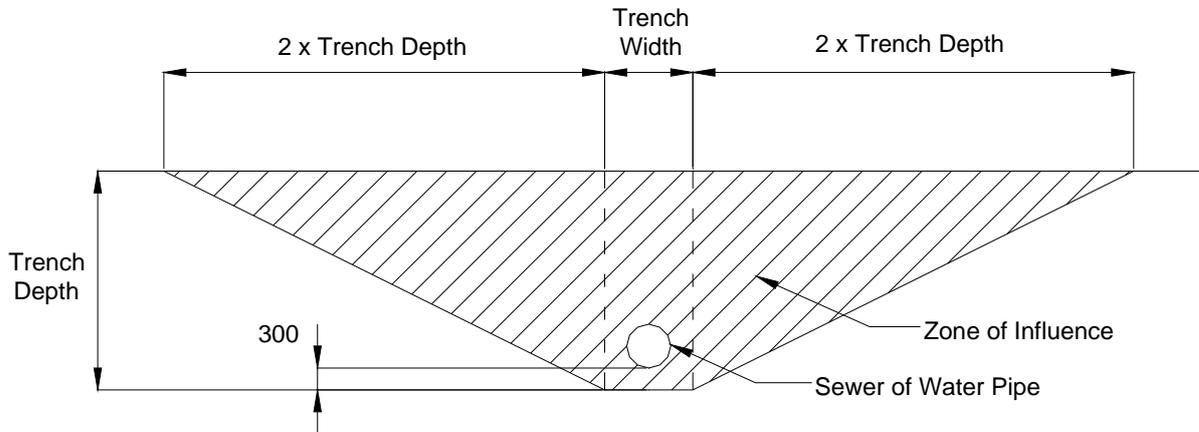


Figure 3 Zone of Influence for Sand, Filled Ground and Loam

The Zone of Influence extends out from the edge of the pipe trench twice the distance as the depth of the trench. (The ratio used is 2:1). For sand, filled ground (including controlled fill), loam, etc. the zone will extend **twice** the depth of the trench plus half the width of the trench. For example, for a pipe line of 375 mm diameter and a depth of 2500 mm, the trench depth is 2800 mm deep (i.e. 2500 + 300) therefore, the zone extends 6100 mm from the pipe centre line (i.e. (2800 x 2) + 500)).

The zone of influence may be affected by the topography of the site. If the proposed building is to be located on a slope above the pipe then the zone may be substantially extended. Alternatively, if the proposed building is to be located on a slope below the pipe then the zone may be substantially reduced. On steep blocks substantial footings may be required to overcome the effect of the zone of influence. Figures 4, 5 and 6 indicate the effect on the zone of influence in relation to topography.

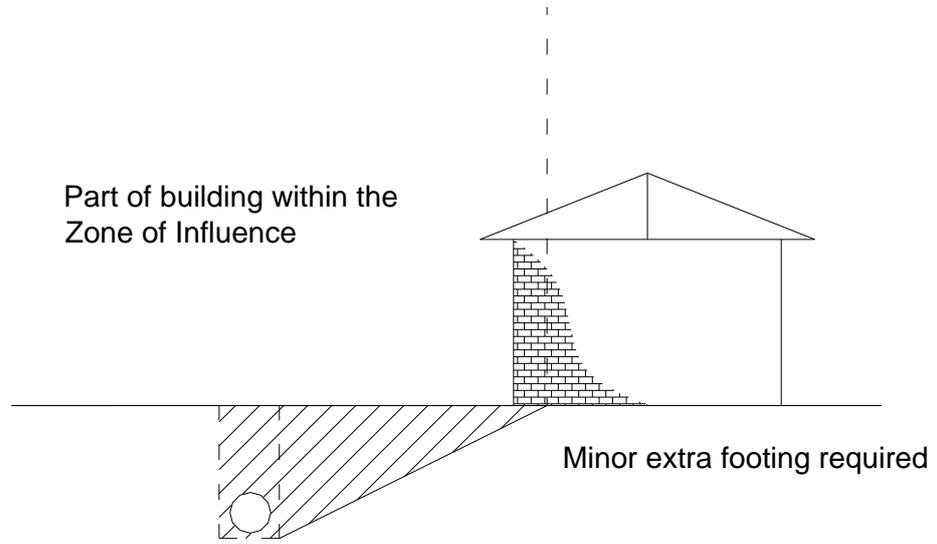


Figure 4 Zone of Influence on Flat Ground

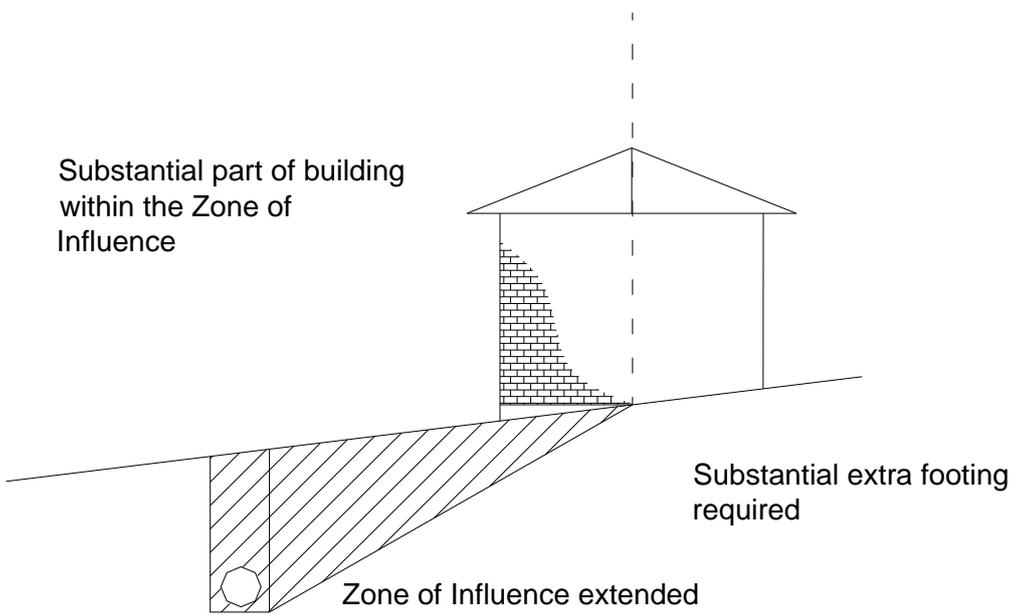


Figure 5 Zone of Influence where pipe is located downhill from building

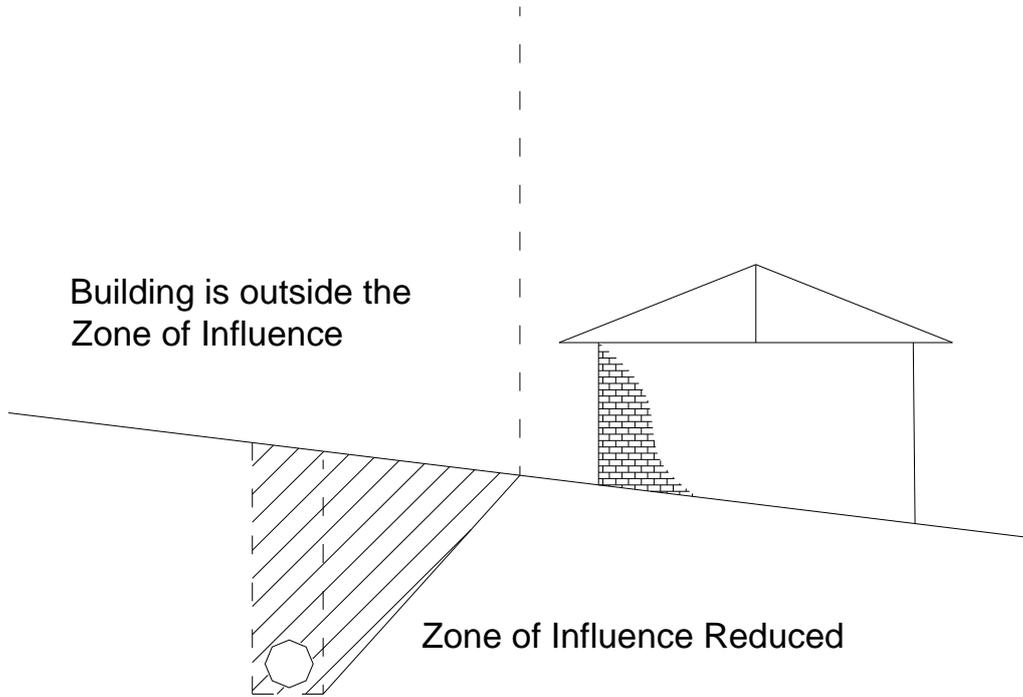


Figure 6 Zone of Influence where pipe is located uphill from building

8 MINOR EXCEPTIONS FOR BUILDING OVER SEWERS

Minor exceptions may be made to this policy to allow certain limited, light demountable structures to be built adjacent to or over sewers where it can be demonstrated that the operation and maintenance of Council's assets will not be hindered. Where an applicant feels that the underground mains will unreasonably limit their design then discussions should be held with MidCoast Water staff to explore options before submitting a proposal.

Consideration may be given to approving a strictly limited range of light demountable structures located over an underground sewer if, and only if, it is not practical to build the structure elsewhere on the block. Any proposal seeking exclusion would be considered in the light of the options for locating the structure on other parts of the site and the type of structure proposed.

The types of structures that may be considered are limited to light timber or metal carports, pergolas and awnings that are bolted together and can readily be removed, car parking areas, fences and gardens. Properly designed retaining walls that cross the easement at right angles to the pipeline are also permissible. No other structures will be permitted. Any structures approved under this section of the policy cannot be altered (eg by enclosing carports with walls to make a garage) without Council approval.

The types of structures that may be refused approval include (but is not limited to) carports, pergolas and awnings that have been permanently fixed (eg using nails, welds, etc.), garages, all garden sheds, aviaries, ferneries, glasshouses, pools and sporting facilities (eg tennis courts using artificial surfaces) etc.

Where this policy restricts the ability to develop in an appropriate manner for that area (eg commercial areas) then proposals will be investigated on an individual basis in line with the aims of this policy.

9 EXISTING STRUCTURES

Where structures have been built over an underground pipeline without Council approval then Council may require that the structure be demolished, moved or substantially modified so that it complies with this policy.

Where it is necessary to access an underground line for maintenance or repair work Council will not be held liable for the cost of restoring any illegal structures and the property owner may be charged for extra work required due to the illegal structure.

Where a structure has been given permission, previously by Council, to be built over a pipeline then no further extensions, additions or reconstructions will be allowed. Council recognises that the existing structure presents a risk to both the building and Council's liability. Therefore Council will not be prepared to increase this risk by approving further structures or additions and alterations.

10 APPLICATION REQUIREMENTS

All Development and Construction Certificate applications where the structure is to be built adjacent to a Council sewer will be required to have footing details that show how the proposed structure will be designed to accommodate the zone of influence from these adjacent pipelines. These details must be designed and certified by a Structural Engineer. Plans should be drawn to an appropriate scale (i.e. 1:200 or 1:100).

11 GLOSSARY

Manhole - Used to provide direct access to the sewers for maintenance and clearing blockages. Located where sewers change direction or at about every 100 metres on long lines. They are usually concrete, about 600 mm in diameter and flush with the ground.

Junction - This is the point where household pipes connect to the Council's sewer line.

Inspection Shafts - This is a pipe rising to ground level that is the connection point between the owner's pipes and Council's pipes. It is usually a PVC pipe, either 100 mm or 150 mm in diameter and finished 100 mm above ground level with a concrete surround. The inspection shaft is used to access both the owner's pipes and Council's pipes when there is a blockage etc.

Easement - Is a strip of land set aside for the laying of underground pipes. Not all lots have easements and not all underground lines are located in easements. If a lot has an easement it will be shown on the deposited plan that is created when the land is subdivided.

Sewers - These pipes take wastewater from dwellings, shops and industrial premises. The drains from kitchen sinks, laundry tubs, showers, baths, hand basins, toilets, etc., are connected to the sewer line.

Sewer Rising Mains - These pipelines take wastewater from sewer pumping stations to the treatment plant.

Watermains - These pipelines provide treated drinking water to dwellings, shops and industrial premises.

Council - Shall be taken to refer to MidCoast County Council trading as MidCoast Water.