

POLICY NAME: BUILDING OVER OR ADJACENT TO COUNCIL ASSETS

POLICY REF: B06

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OBJECTIVE

This policy document has been prepared as a guideline for construction over or adjacent to Council's gravity sewer mains, sewerage rising mains, water mains, stormwater pipes or other Council asset. The implementation of this policy will ensure that Council's assets are protected.

POLICY

1. Applications for development or works over or adjacent to Council assets

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 Council assets. All applications should show the position of any Council assets in relation to the property and existing or proposed structures. Plans are required at a suitable scale to enable assessment by Council.

It is advisable to undertake a Dial Before You Dig (DBYD) search at the planning stage of any proposed works. If clarification is required contact Council to ascertain the general location of any asset/pipeline and whether special designs will be required for the proposed structure before submitting plans.

If any part of the structure or works is proposed to be located over or adjacent to the asset/pipeline, within the easement or, where an easement does not exist, within specified distances of the asset/pipeline then the application will **be refused**. In this case the applicant will be requested to redesign the structure so that it does not encroach on the Council assets. Section 5 provides options where variations to this policy may be applicable and may be considered by Council.

A structure that is to be built close to an easement may require an accredited Structural Engineer's assessment to ensure that it does not place additional loading within the "zone of influence" of the sewer gravity main, sewerage rising main, water main, storm water pipeline or any other Council assets. Before plans are submitted to Council for assessment, the applicant should have a surveyor locate the asset/pipeline and an engineer to ensure that footing designs are adequate for the proposed structure. This may be required where Council's records do not confirm the asset location.

2. How close can you build to a Water Main or Sewerage 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 Council before commencing design work. A burst pressure main may quickly cause severe damage to an adjacent structure or landform.

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

Where an easement has not been provided, a corridor at least 3m wide plus the outer diameter of the pipe or asset and centred on the pipeline is used to determine the offset distance in

which a structure cannot be located. Refer to Section 4 for details on the zone of influence for underground assets.

3. How close can you build to an Underground Asset?

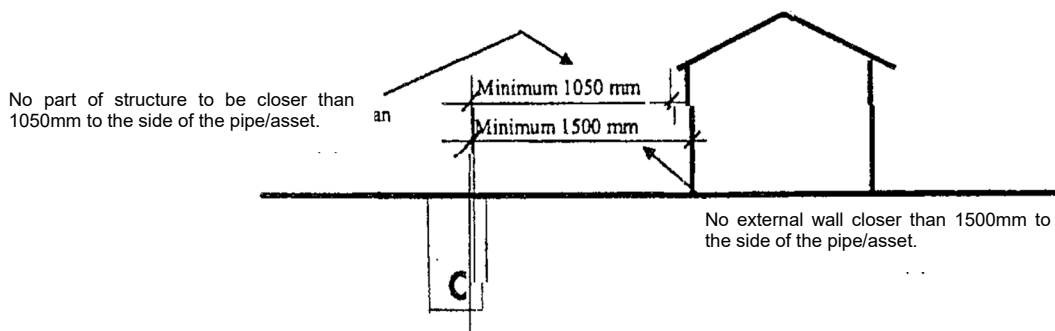
3.1 Where an easement has not been provided the following dimensions shall apply.

The closest distance that the external edge of a structure can be located to the outside edge of an asset is:

- 1050mm from the outside edge of an overhang such as an eave or gutter. and
- 1500mm from an external wall or footing (where the depth of the main is 1500mm or less), and
- The depth of the pipeline from the invert level to finished surface level (where the depth of the main is greater than 1500mm) in accordance with the requirements of Section 4 - zone of influence.
- A corner of a structure may be allowed up to 1000mm from an asset/pipeline if the corner is cantilevered and any pier or foundation must extend below the zone of influence to the invert level of the pipeline. Matters such as easement width, site access, location of other services etc, need to be adequate if this corner concession is allowed.

Note – these distances are measured horizontally between the proposed structure and a line drawn vertically from the side of the asset as shown in the following diagram:

Minimum Distances from the side of assets (Diag.1.)



3.2 Proposed Structures of 2 or more Storeys

An allowance may be made for 2 or more storey structures where the overhang is greater than 3000mm above the ground level. 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 asset/pipe and the difficulty of access for machinery.

3.3 Easements

Where an easement **has** been provided the following conditions will apply. (The easement is defined on the Deposited Plan or registered dealing for each lot and its width can vary.)

- No structure or part thereof can be built within an easement (unless otherwise approved by Council within the scope of this policy)
- An overhang is permitted within an easement. Where a structure is to be built up to the easement the maximum eave overhang would be 450mm. Where the overhang is greater than 3000m above the ground level, 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 asset/pipe and the difficulty of access for machinery.
- A corner of a structure may be allowed up to 1000mm from the edge of an asset/pipeline if the structure corner is cantilevered and any pier or foundation must extend below the zone of influence to the invert level of the pipeline. Sufficient access along the easement and the location of other services etc, need to be adequate if this corner concession is allowed.
- It cannot be assumed that the easement will always cover the entire zone of influence of the asset/pipeline (section 4). Where an easement does not cover the zone of influence of the asset/pipeline it will be necessary that any adjacent structures be designed to ensure that their integrity is not affected by the asset/pipeline nor the structure does not affect the Council asset. In these cases the external wall of the structure can be built up to the edge of the easement however the footings must be a pier footing or similar design with the load bearing component of the footing being at or below the level of the invert of the adjacent asset/pipeline.

4. Zone of Influence for Underground Assets

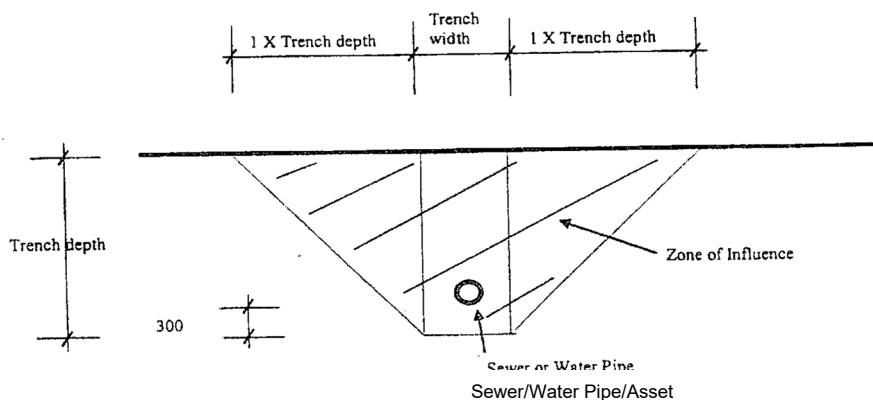
The “Zone of Influence” is located within the soils surrounding an asset and is that part of the soils that will be affected by any damage occurring to the asset or during excavation of a trench. For example, should an asset break or a joint leak, subsidence may occur within the “Zone of Influence”. The size of the zone is determined by the **depth of the asset/pipeline**, the **type of soil** and the **slope of the site**. Structures will generally not be approved within the zone of influence of an underground asset.

How the “Zone of Influence” is calculated:

- 4.1 The asset depth and its position in relation to the proposed building site is found. (These details are taken from Council’s records, by inspection of the site, or by having a survey done to locate assets).

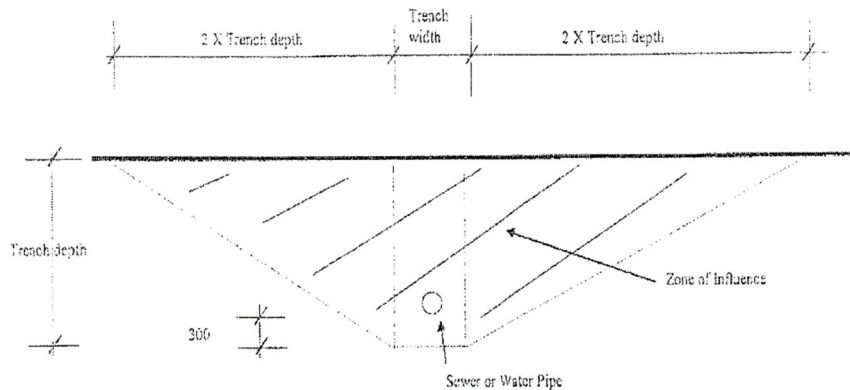
- 4.2** The **depth** of the trench containing the asset/pipe work is calculated by adding 300mm to the asset/pipe depth
- 4.3** The **width** of the trench depends on the asset/pipe diameter. As a guide, pipes up to 225mm diameter will have a trench width of 600mm whilst pipes over 225mm diameter will have a trench width of 1000mm. 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.
- 4.4** The zone is calculated using the depth of the trench and half the trench width each side of the asset. This calculation is affected by the type of soil (see diagrams 2 & 3)

Red Clay Soils (diag. 2)



The “Zone of Influence” extends out from the edge of the asset/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 each side of the asset:

For example: For a pipe line of 150mm diameter and a depth of 1500mm.
 Trench depth is 1800mm deep (i.e. 1500 + 300).
 The zone extends 2100mm from the asset/pipe centre line. Being the trench depth plus ½ trench width eg: 1800 + 300)

Sand, Filled Ground, Loam etc (diag. 3).

The “Zone of Influence” extends out from the edge of the asset/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 – each side of the asset.

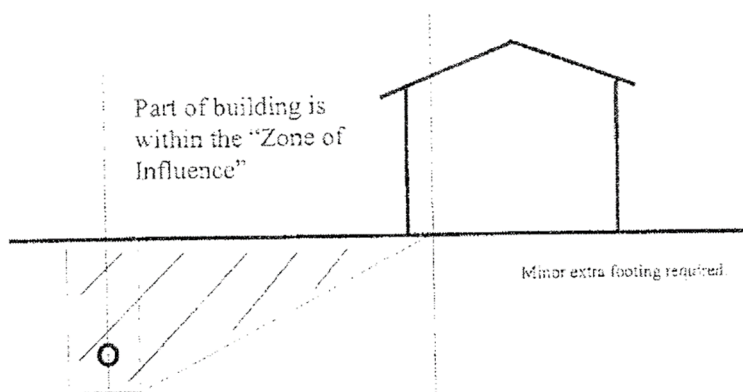
For example: For a pipe line of 375mm diameter and a depth of 2500mm:
 The trench depth is 2800mm deep (eg: 2500 + 300)
 The zone extends 6100mm from the pipe centre line (i.e. trench depth x 2 + ½ trench width (2800 x 2) + 500).

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.

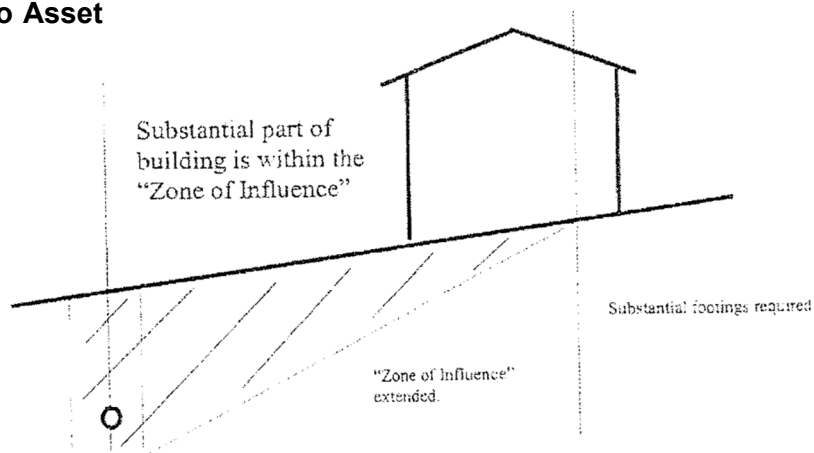
See diagrams 4a, 4b & 4c.

Flat Ground

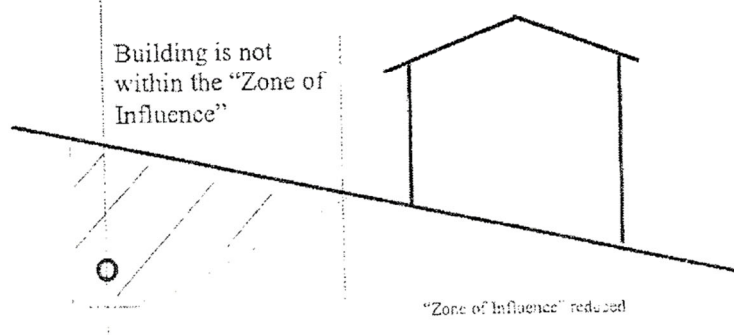
(Diag 4a)

**Slope Down to Asset**

(Diag 4b)

**Slope Up to Asset**

(Diag 4c)



5. Variations for Structures or works over or adjacent to Council Assets

Where this policy unreasonably restricts the ability to develop in an appropriate manner for that area, then proposals will be investigated on an individual basis in line with the objectives of this policy.

Only in exceptional circumstances will Council consider a variation to this policy.

Applicants dissatisfied with a decision of a Council officer made under this section, may appeal, in writing to the General Manager. In response, the General Manager will complete a review, and where practical, be advised by a different officer to the person who completed the initial assessment. The General Manager's decision represents the Council's final consideration of the appeal.

6. Swimming Pools (In Ground) adjacent to Council Assets

A proposed inground swimming pool is to be positioned outside an easement and outside the zone of influence of the asset. Should Council consider an inground swimming pool be constructed within the zone of influence of a Council asset, the pool must be designed and constructed as a self supporting structure that will not load the asset in any way and be at least 1.5m from the edge of the asset.

The design must ensure that the structural integrity of the pool will be maintained in the event that adjoining soils are excavated to provide access to the adjacent pipeline/asset for maintenance/reconstruction works and the asset is protected during pool construction.

7. Fences and Retaining Walls over or adjacent to Council Assets

Timber or light weight construction fences (e.g. sheet metal or aluminium) may be used on boundaries near pipelines. If the structure is within the zone of influence, any pier or foundation must extend below the zone of influence to the invert level of the pipeline.

Brick, stone, masonry or similar materials for fences/retaining walls/piers/foundations must be located outside the zone of influence of the pipeline. If the structure is proposed within the zone of influence, the structure must not be closer than 1.5m to the pipeline or manhole/pit and any pier or foundation must extend below the zone of influence to the invert level of the pipeline.

Where a fence or wall crosses the Council asset, the strip footings shall be constructed to bridge the main and be supported on approved piers at least 1.0m from the sides of the main.

Fences or retaining walls are not permitted to be built over a Council manhole or pit.

8. Land forming or Site filling over or adjacent to Council Assets

Minor site filling of up 500mm is permissible over underground pipelines where no manholes or pits are located.

Any site filling over an underground pipe (that increases the depth of the Council asset to more than 2.5m) will require approval by Council.

No fill is to be placed over any manhole, pit, grate or shaft and, if filling is approved, any manholes, pits, grates or shafts are to be raised in conjunction with any site filling. The raising of any structure shall only be carried out by Council or with Council approval.

No site filling, excavation or ground reshaping is permitted over any overland flow path, whether the flow path is designated within an easement or not, without approval by Council.

9. Rainwater and Storage Tanks over or adjacent to Council Assets

Rainwater or storage tanks are load-bearing structures and must be located outside the zone of influence or easement for the asset.

10. Vegetation Planting over or adjacent to Council Assets

Tree roots can penetrate into sewer pipes through joints or damaged sections of pipe causing blockages and subsequent over flows. As a result, certain species are not to be planted near sewer or stormwater mains. A list of the high risk species is provided in Appendix 1.

When planting trees on private property, careful consideration of the species, soil type and root control measures is required.

Where private property vegetation is constantly penetration Council's sewer or stormwater pipes, the property owner will be required to remove the vegetation at their cost. If this request is refused, the cost of any future maintenance or emergency works resulting from the vegetation will be charged to the property owner.

11. Miscellaneous Structures (on private land) over or adjacent to Council Assets

There are structures on private land that generally do not require specific works to protect Council assets. These structures include residential driveways, paved areas and lightweight fences (e.g. timber or metal). Care must be taken to ensure drainage paths and/or overland flow paths are not affected.

If these structures require altering the ground surface such that minimum depth requirements for the asset may be compromised, please seek advice from Council.

Council does not allow 'demountable' structures (e.g. pergolas, carports, garden sheds, decks etc) over or adjacent to assets unless they have been approved in accordance with this policy.

12. Existing Structures over or adjacent to Council Assets

Any structures built under the exempt and complying development codes shall not be erected over or adjacent to any Council assets in accordance with this policy.

Where structures have been built over a Council asset without Council approval, then Council may require that the structure be demolished, moved or substantially modified so that it complies with this policy. All works are at no cost to Council.

Where it is necessary to access an underground asset for maintenance or repair work Council will not be held liable for the cost of dismantling, moving, restoring or replacing any illegal structures and the property owner may be charged for extra work required to be undertaken because of the illegal structure.

Where a structure has been given permission, previously by Council, to be built over an asset 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.

13. Application Requirements

All Development and Construction Certificate applications where the structure is to be built adjacent to a Council asset 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 may need to be designed and certified by an accredited Structural Engineer. Plans are required at a suitable scale to enable assessment by Council.

BACKGROUND

This statement may include descriptions of the following where relevant:

- need for Policy eg: legislative or business requirements;
- context in which policy has arisen and what it will resolve;
- benefits of having the policy.

DEFINITIONS

Asset	Any pipe, pit, main, shaft, drainage flowpath or structure owned by Council.
Council	Ballina Shire Council
Easement	An easement is a right annexed to land. Not all lots have easements and not all underground lines or overland flow paths are located in easements. If a lot has an easement it will be noted on the certificate of title for the property and will refer to a deposited plan or dealing that describes the easement.
Junction	This is the point where household pipes connect to the Council's sewer line.
Inspection Shafts	This is the 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.

Inter-allotment Drainage Lines	These pipes usually PVC or concrete and take roof water and ground runoff from properties where it is not possible to drain to the street.
Manhole	Used to provide direct access to the sewers for maintenance and clearing blockages. Located where sewers change direction or about every 100 metres on long lines. They are usually concrete, about 600mm in diameter and flush with the ground.
Sewer Pipes	These pipes take waste water 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.
Sewerage Rising Mains	These pipelines take wastewater from sewerage pumping stations to the treatment plant.
Stormwater Pipelines	These pipes, pits or box culverts collect and transport roof water or surface water from properties and streets and discharge it to nearby waterways or detention basins.
Water Mains	These pipelines provide drinking and recycled water to dwellings, shops and industrial premises. Pipes for recycled water are coloured lilac.

SCOPE OF POLICY

This policy applies to (add or delete where necessary):

- Council employees
- Developers/Builders
- Council Consultants/Contractors

RELATED DOCUMENTATION

Nil.

APPLICATION OF POLICY

This policy applies to the construction of all buildings, dwellings, carports, garages, driveways, sheds, swimming pools, pergolas, decking, retaining walls and permanent structures within Council's area that are to be built over or near water mains, sewers and sewerage rising mains, stormwater pipes or other Council assets.

REVIEW

The Building over or adjacent to Council Assets Policy will be reviewed every four years or as deemed necessary.

Appendix 1**Table of species not recommended to be planted near sewer mains**

Botanical Name	Common Name	Damage Rating
Cinnamomum camphora	Camphor Laurel	Extreme
Ficus species	Fig Trees and Rubber Plants	Extreme
Brachychiton populneus	Kurrajong	Extreme
Populus species	Poplars	Extreme
Salix species	Willows	Extreme
Melia azedarach	Australian White Cedar	Very High
Lauris noblis	Bay Laurel	Very High
Casuarina species	Casuarinas	Very High
Erythrina species	Coral Trees	Very High
Ulmus species	Elms	Very High
Robinia pseudoacacia	Golden Robinia	Very High
Eucalyptus species	Gum Trees	Very High
Brachychiton acerifolius	Illawarra Flame Tree	Very High
Jacaranda mimosifolia	Jacaranda	Very High
Liquidambar styraciflua	Liquidambar	Very High
Araucaria species	Norfolk Island and Bunya Pines	Very High
Schinus molle	Pepper Tree	Very High
Pinus species	Pine Trees	Very High
Platanus acerifolia	Plane Tree	Very High
Acer pseudoplatanus	Sycamore	Very High
Phyllostachys species	Bamboo	High
Bougainvillea species	Bougainvilleas	High
Lophostemon confertus	Brush Box, Tristania	High
Phoenix canariensis	Canary Island Date Palm	High
Fraxinus ornus	Claret Ash, Manna Ash	High
Callistemon citron's	Crimson Bottlebrush	High
Ilex species	Hollies	High
Magnolia species	Magnolias	High
Lagunaria patersonii	Norfolk Island Hibiscus	High
Nerium oleander	Oleander	High
Cortaderia species	Pampas Grass	High
Ligustrum species	Privets	High
Toxicodendron species	Rhus Trees	High
Grevillea robusta	Silky Oak	High
Wisteria species	Wisteria	High