



Policies, Procedures and Guidelines

BUILD IN VICINITY OF SEWER MAINS POLICY

INF012

BACKGROUND

This policy has been compiled to specifically address the process of approving construction over and adjacent to Council sewer mains where footing loads encroach on to the zone of influence (ZOI) of the sewer main.

All footing loads from proposed buildings must be outside the ZOI as damage may result to the sewer main or building if this is not adhered to.

OBJECTIVES

The objectives of this policy are to:

- provide property owners, developers and consultants with a Council approval process and advise of Council's requirements when excavating or building over / adjacent to Council's existing sewer mains
- ensure that no part of the weight of the building works is transferred to the sewer main
- ensure that Council assets are protected when there is new development in the vicinity of existing sewer mains.

SCOPE

This policy applies to all Lachlan Shire Council's gravity sewer mains and rising mains.

DEFINITIONS

'Building': is any type of structure, permanent or semi-permanent, including retaining walls

'Strata': is the ground in which a sewer pipe is laid.

'Sewer Maintenance Hole' (SMH): is a chamber constructed over a sewer main.

'Zone of Influence' (ZOI): is the envelope within which above ground and/or below ground building works have potential to exert influence on an asset. The ZOI commences at the required minimum horizontal from the Council's sewer. Refer to Figures 1 and 2.

RESPONSIBILITIES

Lachlan Shire Council is responsible for the operation and maintenance of the existing sewerage system. This policy allows for a consistent approach to be implemented ensuring that the sewerage assets are protected when future buildings are constructed in the near vicinity.

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REQUIREMENTS

The requirements for building a structure over or within the ZOI of one of its sewer mains are as follows:

No building shall be permitted over Council’s sewer mains other than where, in the opinion of the Director of Infrastructure, exceptional circumstances exist and then only if the applicant can demonstrate that relocating the building/structure and/or relocation of the sewer is not feasible. It is not permitted to build over SMHs, lampholes, maintenance points or junctions or rising mains at any time.

Any subsequent approval shall be subject to the owner of the building meeting all costs associated with the work. In these instances, the following requirements will be carried out:

- a. The sewer main shall, wherever possible, be replaced by a new sewer pipeline to be constructed around the site of the proposed building. The new sewer pipeline is to be of the same internal diameter and constructed with SN8 uPVC pipe with a design submitted to and approved by the Director of Infrastructure prior to construction.
- b. Where in the opinion of the Director of Infrastructure, exceptional circumstances exist and it is not feasible to construct a new sewer main around the site of the proposed building, approval may be granted for the construction of a building over a sewer main. The existing sewer main shall be replaced by a new ductile iron class K9 cement lined pipeline of the same or greater internal diameter to be constructed to an alignment and grade submitted to and approved by the Director of Infrastructure at no cost to Council. The existing sewerage flow is to be managed appropriately during the construction of the new pipeline.
- c. Buildings erected adjacent to, or over a sewer pipeline that are within the ZOI shall have all footings constructed to or piered 150mm below the ZIO. A minimum horizontal clearance of 1000mm is required between any piers and the face of a sewer main.

The ZOI depends on the strata of the ground in which the pipeline is located. The ZOI of a sewerage pipeline shall be defined by a line commencing 500 millimetres from the outside wall of the sewer pipeline at the invert level of that pipeline. The ZOI may alternatively be defined for any particular soil strata by certification issued by an appropriately qualified geotechnical engineer.

In water charged ground the apex of the ZOI may extend further from the sewerage pipe than the 500mm stipulated above.

The use of displacement and screw pile construction methods will require approval by Lachlan Shire Council and may require additional clearances to existing assets as directed.

- d. Any structure built over a sewer pipeline shall be designed and constructed as to not suffer structural damage should any failure occur to the sewer pipeline or earthworks surrounding the pipeline.
- e. Concrete encasement will not be permitted as a sewer main protection measure.
- f. Appendix 1 should be referred to when considering planting near sewer mains.



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Figure 1: For sand, filled ground, loam, etc., the ZOI shall be 1 vertical: 2 horizontal.

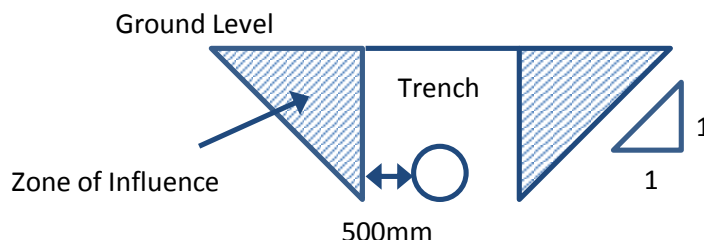


Figure 2: For clay, soil etc., the ZOI shall be 1 vertical: 1 horizontal.

f. Engineering plans are required to be submitted with a Development Application, if it is proposed to build over a sewer.

The following details are required to be shown on the engineering plans:

- location of proposed building
- invert level of the sewer including offset distances (Council to provide this information)
- nature of ground
- limits of the ZOI
- pier location and depths
- section across the zone of influence including piercing details
- Certification on the plan by a suitably qualified structural engineer, that the building has been designed structurally adequate to be self-supporting in the event of failure of the sewer pipeline and/or surrounding soil.

g. Swimming pools including both above ground and in-ground must not be constructed closer than 1500mm to the outside wall of the sewer pipeline. Swimming pools constructed within the ZOI shall have all footings constructed or pierced 150mm below the ZIO.

h. Certain species of trees are not recommended to be planted near sewer mains, refer Appendix 1.

RELATED DOCUMENTS

None

Liz Collyer
GENERAL MANAGER

/ /

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APPENDIX 1 – PLANTS TO AVOID NEAR SEWER MAINS

Botanical name	Common Name	Damage rating
Cinnamomum camphora	Camphor Laurel	Extreme
Ficus species	Fig Trees & Rubber Plants	Extreme
Populus species	Poplars	Extreme
Salix species	Willows	Extreme
Erythrina species	Coral Trees	Very High
Eucalyptus species	Large Gum Trees	Very High
Jacaranda mimosifolia	Jacaranda	Very High
Liquidambar styraciflua	Liquidambar	Very High
Araucaria species	Norfolk Island & Bunya Pines	Very High
Brachychiton acerifolium	Illawarra Flame Tree	Very High
Casuarina species	Casuarinas	Very High
Melia azedarach	Australian White Cedar	Very High
Pinus species	Pine Trees	Very High
Platanus acerifolia	Plane Tree	Very High
Schinus molle	Pepper Tree	Very High
Ulmus species	Elms	Very High
Bougainvillea species	Bougainvilleas	High
Cortaderia selloana	Pampas Grass	High
Grevillea robusta	Silky Oak	High
Ilex species	Hollies	High
Lagunaria patersonii	Norfolk Island Hibiscus	High
Ligustrum species	Privets	High
Magnolia species	Magnolias	High
Nerium oleander	Oleander	High
Phoenix canariensis	Canary Island Date Palm	High
Phyllostachus species	Bamboos	High
Toxicodendron species	Rhus Trees	High
Lophostemon confetus	Brush Box, Tristania	High
Wisteria species	Wisteria	High

Source: *Building in the Vicinity of Sewer Mains Guidelines*, NSW Water Directorate, May 2013