

<b>POLICY:-</b>	
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<b>PROCEDURES/GUIDELINES:-</b>	
Date procedure/guideline was developed;	
Procedure/guideline reference number:	

<b>RESPONSIBILITY:-</b>	
Draft Policy Developed by:	Manager / Coordinator Water Sewer & Waste
Committee/s (if any) consulted in the development of this policy::	N/A
Responsibility for implementation:	Manager / Coordinator Water Sewer & Waste
Responsibility for review of Policy:	Director Environment and Planning

## **1. PRINCIPALS ADOPTED**

Upper Lachlan Shire Council is responsible for the operations and maintenance of the reticulated sewerage system. The aim of this document is to ensure that property owners exercise certain precautions when proposing to build over or adjacent to Council sewer mains. These precautions are necessary to register or reduce as far as possible the need for future maintenance on sewer mains that have buildings in their vicinity.

The following principles need to be observed –

- 1.1 Council will not permit building over concrete and asbestos cement pipes, or arising mains. However, for concrete and asbestos cement gravity lines, if local conditions permit, the possibility of relaying these in UPVC pipes will be considered.
- 1.2 Where a building is to be erected over or adjacent to a sewer (within the zone of influence) concrete encasement of the pipes is required, except in the following cases:
  - a. Where conditions of the access will remain unaffected and result in no additional superimposed load to the existing sewer.
  - b. Concrete and/or asbestos cement pipes. These pipes will need to be replaced with UPVC pipes, if local conditions permit then encased.
- 1.3 The builder is required to expose the sewer so that it may be inspected by Council's Coordinator Water, Sewer and Waste and, if necessary, required or renewed by Council cost to developer or Council before the concrete encasement is placed by the builder under Council supervision. Encasement shall be taken to a flexible pipe joint at least 1000mm clear of the building (see Appendix A1).
- 1.4 Buildings constructed over a sewer must provide sufficient headroom for excavations of the sewer if required.
- 1.5 Building over a sewer in water charged ground is not permitted unless satisfactory provision can be made for direct access to the sewer other than by tunneling, and normal building over sewer precautions are taken.
- 1.6 Building over sewer rising mains is not permitted.
- 1.7 Building over a sewer manhole or within 1.2m radius of a manhole is generally not permitted. Working space around the manhole must be provided. When a building formerly over a manhole has been demolished rebuilding over the manhole is not permitted. Building over a manhole may be permitted when the manhole is not enclosed and conditions of access and ventilation remain satisfactory with sufficient headroom.
- 1.8 Arrangements involving access to a sewer through the floor of a residence will not be permitted.

- 1.9 Arrangements involving access to a sewer through the floor in trading areas of shops, stores, hotels and such buildings or in areas where food is proposed to be used to be stored will not be permitted.
- 1.10 Where satisfactory arrangements for building over a sewer cannot be provided deviation of the sewer at the owners expense where practicable, may be considered. In the case of a sewer line under a private dwelling, shop, etc, where the pipe is UPVC or vitrified clay of 300mm diameter or greater, the usual requirement for access could be relaxed provided that the concrete encasement is reinforced where soil is unstable. In some cases satisfactory arrangements can be provided by enlarging the pipe and concrete encasing. Generally each must be treated on its merits having regard to the type and importance of the sewer, the nature of the strata, feasibility of redesigning or relocating the proposed building and so on.
- 1.11 Tunneling or driving horizontally under a building to gain access to a sewer is not considered to be access in a practical sense.
- 1.12 The footings of any structure over or immediately adjacent to (see Appendix A2) a sewer shall be founded below the invert or on sound rock. Pier and beam footings are usually acceptable. Displacement piles must be cored to a depth below the invert. Concrete raft foundations over a sewer are not acceptable when access to the sewer would necessitate cutting through the raft unless special provisions for access is made in the design of the raft.
- 1.13 When building close to but not actually over a sewer the footings must be taken below the zone of influence relative to the trench which would be required for access to the sewer. Concrete encasement of the sewer is required in accordance with Appendix A2.
- 1.14 Where is proposed to construct a building across the whole frontage of a block of land which has a sewer manhole at the rear of the site, in cases where the building is not within the zone of influence of the sewer and where access to the manhole would then be denied or be through other private property, the building plan should be endorsed with special conditions as regards to future access.
- 1.15 When building plans provide for reduction of soil cover over a sewer to below permissible minimum the sewer must be encased in concrete or diverted at the owners expense.
- 1.16 The placing of fill to excessive depths over sewers in trench is not permitted (5m is a maximum depth for practical access). Additional filling to increase the depth above 2.5m requires checking for loading on the pipes.
- 1.17 Rebuilding of any premises is subject to the same conditions as would be imposed on respect of an entirely new building.

- 1.18 The owner is required to indemnify Council against all claims arising out of the presence, operation, maintenance or repair of a sewer under the proposed building.
- 1.19 Some structures may be exempt from certain conditions set down in this policy if they can be readily dismantled and do not place a superimposed load on the sewer main either at the stage of construction or in the foreseeable future owing to alteration of the structure. Examples of such structures could be certain carports, pergolas and garden sheds. In general each case will be assessed on its merits at the time of application with consideration being given to the loads imposed on the sewer and accessibility of the sewer.

## **2. POLICY ON ENQUIRIES**

The point at which Council approves or refuses to approve building plans is when those plans are submitted to it. Anything said by Council officers prior to submission of plans, or any other information provided to an intending applicant, can only be of a general preliminary nature and does not constitute approval. Moreover, the precision with which such information can be given is necessarily dependent on the precision of the information supplied by the intending applicant.

Building plans should set out the manner of construction, the type of material to be used and the precise location of the structure in relation to Council's sewer and other structures, boundaries etc. These factors can influence the Council's building over sewer requirements and enable Council to determine the proposed location of the structure in relation to any Council sewers. It is only at the building plan stage that final details can be given to the likely effects of structures on Council sewers.

## **3. WHAT PLANS ARE REQUIRED?**

After the foundations and access requirements are advised and before building plans will be approved by Council, the following plans must be submitted to Councils Coordinator Water Sewer & Waste.

Two (2) copies of Architectural plan. These plans must include the location of the existing sewer with respect to the lot boundaries and the proposed structure(s). All dimensions indicated on the plan should be established by site survey and not copied from Councils records. If required, arrangements can be made with Council's Coordinator Water Sewer & Waste for one of Council's technical staff to meet on site to mark out the location of the sewer. One copy will be retained by Council's Manager Water Sewer & Waste or Coordinator Water Sewer & Waste.

Two (2) copies of foundation structural plans. One copy will be retained by Council's Coordinator Water Sewer & Waste.

The plans must clearly indicate the concrete encasement of the sewer, compliance with foundation and access requirements and access to any

manholes. Any other conditions indicated by Council will need to be shown.

At the completion of the approval works the applicant must submit two (2) copies of Works as Executed plans prior to final approval.

#### **4. CONSIDERING PLANS FOR APPROVAL**

The principles set out in Section 1 above are to be observed when considering any building proposal which is likely to affect Council's sewerage services.

The principles could be summarized as follows:

- a. Council's sewers are to remain readily accessible to allow repair and/or renewal works to be carried out by Council in the future without undue restrictions being caused by the proposed building.
- b. No building loads are to be transmitted to Council's sewers by the proposed building, and the building is to be founded so that Council's works could be carried out without affecting the stability of the building.
- c. Wherever access to the sewer is to be restricted by building over or adjacent to it the sewer is to be upgraded (i.e encased in concrete) to eliminate or minimize the need for future access.

These principles require the following aspects to be considered in detail:

##### **4.1 Horizontal Clearance**

For open trench access where no timbering is required, i.e the trench is less than 1.5metres deep, the face of any foundations should be at least 1200mm clear of the centerline of small (150 or 225mm diameter) pipes or minimum 1200mm clear outside of larger sewers. This dimension may be reduced in special circumstances.

##### **4.2 Vertical Clearance**

- a. Where access to Council's sewer is to be through the concrete floor of a building, there shall be a clearance between the underside of the floor and the pipe encasement sufficient to prevent any loads being transmitted to Council's sewer. The removable part of the floor has to be capable of being removed without affecting the stability of the building.
- b. In the case of lack of cover, the encased sewer may form part of the floor slab, provided it is separated from the rest of the floor by construction joints. The concrete encased sewer is not to be an integral part of any structural member of the building (viz beam or footing). This principle may be satisfied if a compressible membrane is used to isolate the encased pipe.

##### **4.3 Manholes, Lampholes and Rodding**

- c. No building, wall or other improvement will be permitted over or within 1.2metres radius of a manhole or within 0.75 metres radius of a lamphole or rodding point.

- d. Unrestricted access to all manhole, lampholes and rodding points is to be provided for working space, extending a minimum 1.2 metres horizontally from the lamphole or rodding point.
- e. A minimum headroom of 2 metres over the manhole, lamphole or rodding point is to be provided for working space, extending a minimum 1.2 metres horizontally from the manhole or 0.75 metres horizontally from the lamphole or rodding point.
- f. Full responsibility is to be accepted by the property owner for any damage within the property due to any overflow from the manhole, lamphole or rodding point.
- g. Where the building extends across the whole frontage of the building block, care should be taken to ensure that access to the manhole, lamphole or rodding point at the rear of the building is available at all times. Access from adjoining properties, unless public reserve, can only be relied on, if an easement leads to the subject property to provide permanent access. Otherwise a corridor, minimum 1.2 meters wide and 1.8 meters high should be provided on the ground level for access purposes.

#### **4.4 Deviations and Adjustments**

If the proposed building design does not satisfy Council's building over sewer requirements, adjustment or deviation of Council's service, at the applicants cost, may be considered.

#### **4.5 Foundation Details of the Proposed Buildings**

- a. The building and its foundations are designed in such a way that no building loads are transmitted to Council's sewer and the pipe can be repaired or renewed at any time without affecting the stability of the building.
- b. Footings, piers and other foundations in the immediate vicinity of Council's sewer, are to be founded at or below the invert level of the pipe, or on solid rock. All other foundations are to be located so that the building is founded below the "zone of influence" of Council's sewer trench (see section 4.8).
- c. Where building construction involves displacement piles the applicant is to be referred to Council's Wastewater Manager. No displacement piles will be permitted within 5 metres of Council's sewer. Piles adjacent to the sewer need to be cored below the invert level to prevent heaving of the ground affecting the sewer.
- d. Engineers design details are required to show the design of footings are specified clearances.

#### **4.6 Condition Details**

Council's Manager Water Sewer & Waste requirements will be given by listing them with the conditions of Building Approval.

#### **4.7 Indemnities**

Council will not accept any responsibility for the design and/or execution of the

construction of the proposed building over Council's sewer. In order to make this quite clear to the applicant, an indemnity is to be signed by the property owner.

In all cases where a structure is built within the zone of influence of a sewer main (see Plain Indemnity Appendix B1). Structures which fall within the scope of Clause 1.19, which allows certain structures to be built within the zone of influence of a sewer main without piercing of the structure, the property owner will indemnify Council against repair or replacement of the sewer main.

The indemnity is not to replace the need of taking usual precautions.

Where approved the indemnity may include an undertaking to remove the structure (as in cases of removable structures like above ground swimming pools etc), or an undertaking not to make Council responsible for restoration of special surfaces (tennis courts etc).

Examples of indemnities used are in Appendix B and include:

**B1 – Plain Indemnity**

**B2-** Where removal of structures may be involved (eg above ground swimming pools, tennis courts, paving, garden sheds, pergolas etc.)

The terms of Council's indemnity state that Council is not held responsible for any damage to the building apart from negligence by council or its employees. This condition is transferred to successors in title even if they fail to renew the original indemnity and undertaking.

#### **4.8 Zone of Influence**

- a. Factors which determine the zone of influence are the width of the trench, depth of trench and the nature of strata.
- b. The zone of influence is that section of the ground, both vertically and horizontally, which can be affected by excavation necessary to expose the sewer for repair or renewal. This is also the zone within which building loads could be transmitted to the sewer.
- c. The boundary of the zone of influence coincides with the angle of repose of the strata encountered. Common practice shows that the angle of repose in soil and clay is 1 horizontal to 1 vertical. The angle of response in sand, filled ground, loam etc is 2 horizontal to 1 vertical. This boundary shall commence at the bottom corner of the trench nearest the proposed foundation. If the trench is partly in rock or shale the boundary shall commence at the top of the rock or shale strata.
- d. The above foundation requirements shall not be used for water charged strata. Foundations in water charged ground are required to be designed by a consulting engineer and approved by Council's Wastewater Manager.

#### **4.9 Concrete Encasement**

- a. Only vitrified clay and UPVC pipes may be encased in concrete.



Permission may be given to replace other types of pipes with UPVC pipes prior to encasement.

- b. All flexible pipe joints are to be maintained. The minimum length of the encasement will be the total length of the building proposed over the sewer plus 1000mm on either side plus any additional length to ensure encasement finishes at a flexible joint. If site conditions require, Council's Manager Water Sewer & Waste may increase this length.
- c. If a manhole is less than 2 metres from the end of encasement required in b) above, then the encasement is to be extended up to the manhole.
- d. Concrete encasement is also required where the cover over the pipes will be reduced to below the minimum safe cover.
- e. Concrete encasement may also be required to minimize the risk of failure of pipes in locations where adequate access is not available.
- f. The builder will be required to excavate the trench in accordance with WorkCover guidelines, supply and construct any formwork required and supply and place the concrete (minimum 28-day strength of 15 MPa) in accordance with relevant standards.

A Council Supervisor, organized 24 hours in advance of the inspection being required, will supervise the excavation around and under the pipes, the temporary supporting of pipes if necessary, and the placing of concrete. Backfilling of the trench with suitable material must not be commenced until at least 24 hours after placing the concrete.

#### **4.10 Supervision**

- a. Building and foundation work over or adjacent to a sewer as approved by Council and encasing of the sewer are to be carried out in the presence and to the satisfaction of a Council Officer.
- b. Supervision by a Council officer is required in all cases where any precaution, ie clearances and/or special foundations, are to be observed.



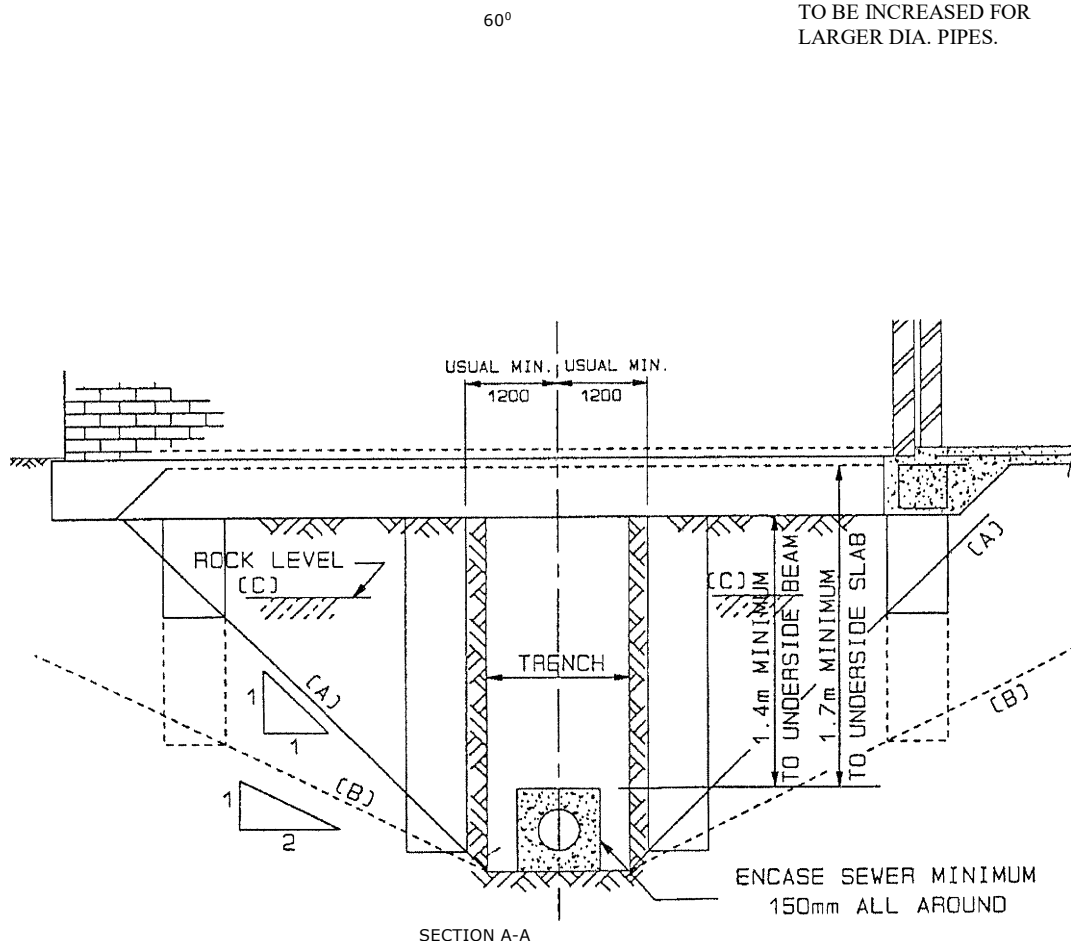
## APPENDIX A1 — Building over Council's sewer

### TYPICAL DETAILS FOR UPVC AND VC PIPES

ALL FOUNDATION DESIGNS MUST BE IN  
ACCORDANCE  
WITH COUNCIL'S REQUIREMENTS.

OPEN EXCAVATED  
PIERS (WHERE LESS THAN 1200MM FROM  
CENTRELINE OF SEWER

\*600MM ABSOLUTE  
MINIMUM WHERE PIERS  
CONSTRUCTED BY OPEN  
EXCAVATION FOR  
150mm & 225 mm DIA.  
PIPES THIS DIMENSION  
TO BE INCREASED FOR  
LARGER DIA. PIPES.



- A) 1,1 ZONE OF INFLUENCE, SEWER IN CLAY, SOIL, ETC.
- B) 2,1 ZONE OF INFLUENCE, SEWER IN SAND, FILLED GROUND, LOAM, ETC.
- C) IF ROCK OR HARD SHALE, PIER ONLY TO ROCK OR SHALE.

## APPENDIX A2 — Piering of foundations adjacent to Council's sewer

### TYPICAL DETAILS FOR UPVC AND VC PIPES

ALL FOUNDATION DESIGNS MUST BE  
IN ACCORDANCE

WITH COUNCIL'S REQUIREMENTS.

BORED OR  
EXCAVATED PIERS TO  
ENGINEERS DESIGN

- (B) 2:1 ZONE OF  
INFLUENCE, SEWER IN SAND,  
FILLED GROUND, LOAM  
(C) IN ROCK OR HARD SHALE, PIER  
ONLY TO ROCK OR SHALE

- NOTES
1. \*\*THIS DISTANCE MAY BE REDUCED TO 600mm FOR CASES (A) & (C) ONLY IF SEWER IS 150 OR 225mm DIA. THE DEPTH LESS THAN 1.5m & THE PIERS ARE CONSTRUCTED BY OPEN EXCAVATION.
  2. \*\*FOR SEWER PIPES OVER 2.5m DEEP OR s.w.c's THIS DIMENSION IS TO BE INCREASED TO 2.0m
  3. OTHER SPECIAL SITUATIONS WHERE THE ABOVE EXAMPLES DO NOT SATISFY COUNCIL'S REQUIREMENTS. SPECIAL DESIGNS ARE REQUIRED.

APPENDIX – B 1— Indemnity

Owner's Address:.....

.....

.....

.....

Date: .....

The General Manager  
Upper Lachlan Shire  
Council PO Box 42  
GUNNING NSW 2581

Dear Sir,

Property:.....

RE: BUILDING OVER SEWER MAINS --INDEMNITY

I/We .....

being the owners, for the time being, of the abovementioned property, hereby agree to indemnify Upper Lachlan Shire Council against all claims arising out of the presence on the subject property of the sewer/s and maintenance thereon which may result from the erection of the:

.....

over/adjacent to the said sewer/s and which do not result from negligence on the part of the Council or its officers or workmen.

I/We also undertake to obtain alike indemnity from my/our successors in Title.

.....  
Owner's Signature

.....  
Witness's Signature

APPENDIX B2  
**Indemnity where removal of structures are involved**

Owner's Address:.....

.....

.....

.....

Date: .....

The General Manager  
Upper Lachlan Shire Council PO Box 42  
GUNNING NSW 2581

Dear Sir,

Property:.....

RE: BUILDING OVER SEWER MAINS --INDEMNITY

I/We .....  
being the owners, for the time being, of the abovementioned property, hereby agree to indemnify Upper Lachlan Shire Council against all claims arising out of the presence on the subject property of the sewer/s and maintenance thereon which may result from the erection of the:

.....  
over/adjacent to the said sewer/s and which do not result from negligence on the part of the Council or its officers or workmen.

I/We also undertake to obtain alike indemnity from my/our successors in Title.

.....  
Owner's Signature

.....  
Witness's Signature