Guidelines for Building near Sewer or Water Pipelines

Version 2.0

Document Approval and Issue Notice

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(for release)

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0.1	01/02/2017	David Boyle	Initial draft	All
1.0	01/02/2017	David Boyle	Release	All
1.1	28/03/2017	David Boyle	Replace manhole with maintenance hole	1.1, 4.4
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Amendments in this release:

Selection Title	Selection Number	Amendment Summary
1.1 Sewer Inspection Openings	4.2.1 - Table 5	Replace manhole with maintenance hole
4.4 Sewer Junction	4.4.1	Replace manhole with maintenance hole

Distribution:

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1. Purpose

Section 56W of the Water and Sewerage Industry Act 2008 prohibits the construction of prescribed structures within TasWater easements and/or over or within two metres of TasWater infrastructure without consent.

This guideline provides an outline of the requirements which need to be followed when planning to seek consent to construct works within a TasWater easement or within 2.0m of the TasWater pipeline where no easement exists or where a pipe is not centrally located in the easement. By following the steps outlined below a request for consent should be processed with minimal delay and inconvenience.

1. Prior to designing any structure or carrying out works, establish if the proposed structure and/or work are planned to be located in a TasWater easement or within 2.0m of TasWater assets.
2. If the intended works are to be constructed over an easement or within 2.0m of a TasWater asset prior approval must be requested
3. Refer to these guidelines to determine if the proposal complies with TasWater requirements.
4. Formally submit a request to TasWater for consent for a prescribed structure to be built over or near a TasWater pipeline.

Reason for Guidelines

- Protection of a persons and property
- Protect TasWater assets from structural damage from imposed loadings from buildings
- Protect buildings from damage or subsidence in the case of a failed or failing TasWater pipeline
- Protecting the environment by maintaining the ability to operate and maintain TasWater assets, attend to blockages, repair collapses etc.
- Protect TasWater (and ultimately our customers) from the cost impost of unreasonable maintenance or operational requirements.

Hierarchy of Control

1. Move the prescribed structure
2. Move the TasWater asset
3. Engineer a solution (build over or near)
4. Refuse consent

2. Scope

Situations which arise that are not contained within this Guideline will be considered on a ‘Case By Case’ basis.

3. Introduction

When considering a request for consent to construct within a TasWater easement or within 2.0m of TasWater water or sewerage pipelines TasWater take the following issues into consideration:

- The development's potential to damage the TasWater asset within the 'zone of influence';
- The criticality of the asset (e.g. the number of properties upstream of the proposed development being served by the asset);
- Condition of the asset (e.g. age, pipe material, maintenance records); and
- TasWater's ability to access, service and replace or reline the asset in a timely manner without incurring additional unreasonable costs.
- Through any approvals process (either for a Planning Permit or a Certificate for Certifiable Works) TasWater may require protection measures beyond 2m from TasWater infrastructure.

The Zone of Influence is an area extending both horizontally and longitudinally along a sewer or water pipeline where:

- Settlement or disturbance of the ground surrounding the pipe may cause damage to buildings or structures on the surface above; or
- Loads from building or structures on the surface may have an impact on the buried pipeline.

Figures 1 and 2 define the extent of the zone of influence which is a function of the depth of the pipeline, the pipeline trench width as per Table 1 and soil properties.

Figure 1

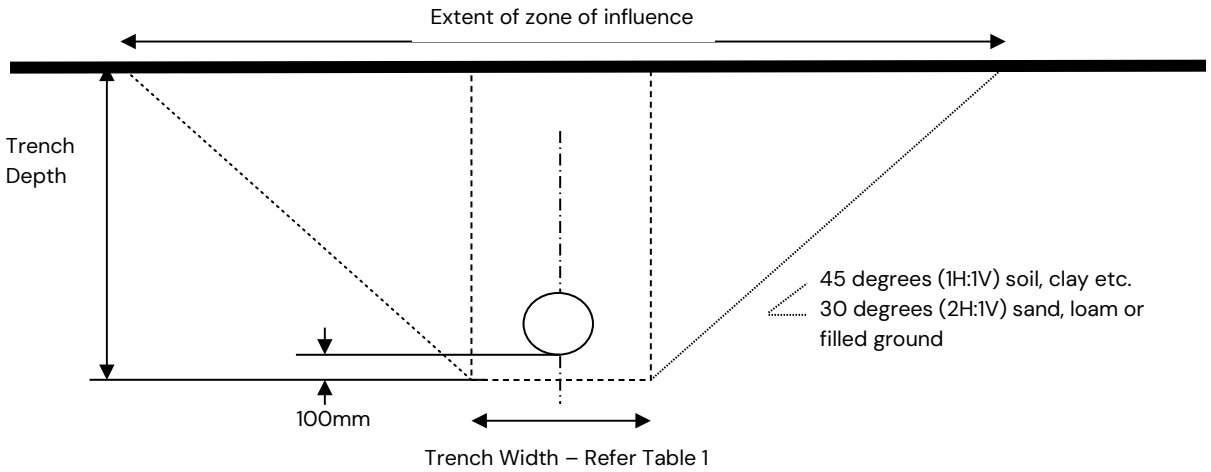

Figure 2

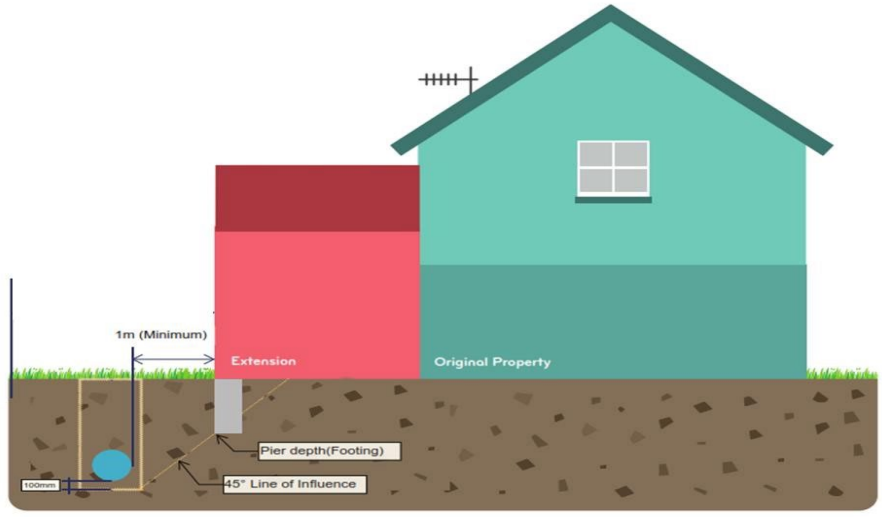

Table 1

Nominal Pipe Diameter	Trench Width
≤DN150	DN + 200mm
DN150<DN≤DN300	DN + 300mm
DN300<DN≤DN450	DN + 400mm
DN450<DN≤DN900	DN + 600mm
≥DN900	DN + 700mm

4. Sewerage Infrastructure

4.1. Sewer Pipelines

4.1.1. Can I build over or near a Sewer Pipeline?

TasWater may approve structures to be constructed over or adjacent to sewer pipelines in accordance with the requirements of Tables 2 and 3.

Table 2

Sewer Pipeline Type	Restrictions
Reticulation Sewer: generally all sewers ≤DN225, for the collection of wastewater from individual properties and conveyance to branch and trunk sewers or to a point of treatment	Build over may be permitted for some National Construction Code Building Class structures as specified in Table 3 provided that all bored piers/footings associated with the structure extend below the zone of influence and that the specified minimum clearance is maintained all around the pipe. Where piers are required they shall be bored. Driven piles will not be permitted. Prior to the works proceeding the pipeline may be required to be inspected using CCTV at the applicants cost, a TasWater condition assessment undertaken and appropriate rehabilitation works undertaken if required at the applicants cost.

Branch and Trunk Sewers: are the principal sewers of a catchment system that drain to the point of treatment.	Build over of branch or trunk sewer mains will not be permitted regardless of National Construction Code Building Class. TasWater may permit building within an easement or adjacent to a branch or trunk sewer main provided that the minimum horizontal distance from the edge of the branch or trunk sewer main to the footing is a minimum of 1.0 metre and the line of influence from the base of the footing must pass below the invert of the pipe and be clear of the pipe trench.
Property Connection Sewer: is a short sewer generally which connects the reticulation gravity sewer and the customer sanitary drain.	Build over maybe permitted for some National Construction Code Building Class structures as specified in Table 3 provided that all bored piers/footings associated with the structure extend below the zone of influence and that the specified minimum clearance is maintained all around the pipe.
Sewer Rising Mains: are sewer mains that are pressurised by sewage pumping stations.	Build over of a sewer rising main, or within an easement containing a sewer rising main will not be permitted regardless of National Construction Code Building Class. TasWater may permit building adjacent to a sewer rising main or a sewer rising main easement on a case by case basis.

Table 3 – Structures allowed in relation to reticulation and property connection pipelines

NCC Building Class +	Build over[1]	Build Adjacent[2]	Typical structures for the Class
Class 1*	×	✓	**Class 1a**: A single dwelling being a detached house, or one or more attached dwellings, each being a building, separated by a fire-resisting wall, including a row house, terrace house, town house or villa unit. **Class 1b**: A boarding house, guest house, hostel or the like with a total area of all floors not exceeding 300m2, and where not more than 12 reside, and is not located above or below another dwelling or another Class of building other than a private garage.
Class 2	×	✓	A building containing 2 or more sole-occupancy units each being a separate dwelling.
Class 3	?	✓	A residential building, other than a Class 1 or 2 building, which is a common place of long term or transient living for a number of unrelated persons. Example: boarding-house, hostel, backpacker's accommodation or residential part of a hotel, motel, school or detention centre.
Class 4	?	✓	A dwelling in a building that is Class 5, 6, 7, 8 or 9 if it is the only dwelling in the building.
Class 5	?	✓	An office building used for professional or commercial purposes, excluding buildings of Class 6, 7, 8 or 9.
Class 6	?	✓	A shop or other building for the sale of goods by retail or the supply of services direct to the public. E.g.: café, restaurant, kiosk, hairdressers, showroom or service station.
Class 7	?	✓	**Class 7a**: A building which is a carpark. **Class 7b**: A building which is for storage or display of goods or produce for sale by wholesale.
Class 8	?	✓	A laboratory, or a building in which a handicraft or process for the production, assembling, altering, repairing, packing, finishing, or cleaning of goods or produce is carried on for trade, sale or gain.

Class 9	?	✓	A building of a public nature – **Class 9a**: A health care building, including those parts of the building set aside as a laboratory. **Class 9b**: An assembly building, including a trade workshop, laboratory or the like, in a primary or secondary school, but excluding any other parts of the building that are of another class. **Class 9c**: An aged care building.
Class 10*	✓	✓	A non-habitable building or structure – **Class 10a**: A private garage, carport, shed or the like. **Class 10b**: A structure being a fence, mast, antenna, retaining or free standing wall, swimming pool or the like.

[1] Case by case analysis
[2] Buildovers – any structural component must be a minimum of 1m clear of TasWater infrastructure.
[2] Buildings adjacent – must be a minimum 1m clear of TasWater infrastructure.
*For the purpose of this guideline, decks associated with a Class 1 building will be treated as per Class 10 structures.
+ Refer to the National Construction Code Website for further details: http://www.abcb.gov.au/

4.1.2. Vertical Clearances

TasWater requires that the minimum vertical clearances in accordance with Table 4 shall be achieved so that should TasWater need to undertake a repair on non-concrete encased reticulation gravity sewers then they can enter the Class 10a structure with suitable equipment and affect a repair.

Table 4

Sewer Depth to invert of pipe (m)	Minimum height clearance above floor level (m)
0 – 2.3	2.3
2.4 – 2.8	2.8
> 2.8	Depth to invert of the sewer

For structures adjacent to sewer pipelines the minimum vertical clearance shall be to the underside of the building eaves

Cantilever structures are permitted over a TasWater reticulation sewer provided minimum clearances contained within Tables 3 and 4 are maintained.

4.1.3. Can I change the ground levels within TasWater easements and/or over or within two metres of TasWater infrastructure

Section 56W of the Water and Sewerage Industry Act 2008 also requires that a person must not change the ground levels either by filling or removal of materials without TasWater approval.

4.1.4. Can I construct a retaining wall over or near a Sewer Pipeline?

TasWater may approve retaining structures over reticulation sewers only provided that:

- Any added fill must not increase the cover over the pipe beyond a total of 4.0m

- Any cut must not decrease the cover over the pipe past the minimum allowable 600mm for nontrafficable areas and 900mm for trafficable areas
- The pipeline should be a minimum of 1.0m from the edge of the footing or outside the zone of influence, whichever is the larger.

Any retaining walls which cross the reticulation sewer shall be perpendicular to the sewer +/- 15 degrees and will require the same restrictions as Section 3.1.1.

4.1.5. Can I construct a pool or spa over or near a Sewer Pipeline?

TasWater will generally approve above ground demountable pools or spas to be constructed over Reticulation gravity sewers only, provided that there is a minimum of 600mm of cover over the pipe.

TasWater will not permit in-ground pools or spas to be constructed over easements or sewer pipelines. The sewer must be located outside of the zone of influence or 1.0m, whichever is larger.

4.1.6. Utilities and Private Services

Utilities and private services shall either run parallel to or perpendicular to TasWater sewer lines in accordance with the requirements of the latest edition of the TasWater Supplement to the WSAA Sewerage Code of Australia WSA02- MRWA Edition.

4.2. 4.2. Sewer Inspection Openings

4.2.1. How close can I build near a Sewer Inspection Opening?

TasWater will generally approve structures to be constructed adjacent to sewer inspection openings in accordance with the requirements of Table 5 for inspection openings associated with sewers ≤ DN225. Horizontal clearances for sewer inspection openings for inspection openings associated with sewers > DN225 will be considered on a case by case basis.

Building structures over inspection openings is generally not permitted, however some lightweight structures may be approved by TasWater subject to conditions. Types of lightweight structures which may be permitted include structures such as Decks, Carports and Pergolas. Approval will be subject to the requirements of Table 5, unrestricted access at all times and ensuring that adequate ventilation is maintained for the escape of any gases.

Table 5

Sewer Inspection Openings	Horizontal Restrictions	Vertical Restrictions
Sewer Maintenance holes: are generally concrete structures nominally 1.0 - 1.2 metres in diameter and essential for the operation and maintenance of the sewer as they provide a personnel access point for repair and the clearing of any blockages which may occur. Maintenance holes may also act as surcharge point should a blockage occur in the sewer downstream.	Any structural component must be located min 1.0 metre to the outside edge of the maintenance hole shaft. This minimum set back shall increase to 2 metres if the proposal is to build around two or more sides of a maintenance hole. At least one side must be open and accessible at all times.	Minimum vertical clearance of at least 3 metres above the lid of the inspection opening. Decks with less than 3 metres clearance may be considered for approval over sewer inspection shafts subject to 1m x 1m trapdoor access being available at all times.
Sewer Inspection Shafts: are vertical shafts from the sewer pipe to the ground surface and are typically 150mm in diameter, and are used to inspect the sewer and clear blockages from the surface.	Any structural component must be located min 1.0 metre to the outside edge of a Sewer Inspection Shaft. This minimum set back shall increase to 2 metres if the proposal is to build around two or more sides of an inspection shaft. At least one side must be open and accessible at all times.	Minimum vertical clearance of at least 3 metres above the lid of the inspection opening. Decks with less than 3 metres clearance may be considered for approval over sewer inspection shafts subject to 0.6m x 0.6m trapdoor access being available at all times.
Sewer main dead ends: are the end of a sewer line extending from a downstream maintenance hole or inspection shaft. It is an access point used to inspect the sewer and clear blockages from the surface	Any structural component must be located min 1.0 metre to the outside edge of a Sewer Main Dead End cap.	Build over of a sewer main dead end will not be permitted however TasWater may approve some structures subject to conditions such as extending the sewer line clear of the structure at the applicants cost.

4.2.2.Access

TasWater requires that all sewer inspection openings be accessible at all times for emergency situations. Development on properties with sewer inspection openings must provide a minimum 1.0 metre wide clear access to the sewer structures.

4.3. Sewer Vent Shaft

4.3.1. Definition

A **Sewer Vent Shaft** is a structure to limit pressure fluctuations in the sewerage system and/or to allow air to enter and escape from the system.

4.3.2. How close can I build near a Sewer Vent Shaft?

Proposed structures must not obstruct existing vent structures and must ensure sufficient height clearance (not less than 1 metre from roof level) between the building and the vent shaft to enable sewer gas to disperse without impact on surrounding properties.

Sewer vents require a minimum 1.5 metre radial clearance from the centre of the vent and in addition an access way for a 2.4 metre wide and 4 metre high vehicle is required to the vent shaft.

4.4. Sewer Junction

4.4.1. Definition

A **Sewer Junction** is a connection to a sewer which is not via a maintenance structure such as a maintenance hole. Property connections to reticulation sewers are "y" shaped junctions known as oblique junctions or OBs.

4.4.2. How close can I build near a Sewer Junction

Class 10 structures only, may be permitted to be built over a sewer junction as per Table 3.

5. Water Infrastructure

5.1. Can I build over or near a Water Pipeline?

Build over of a water pipeline, or within 2m, or within an easement containing a water pipeline will not be permitted regardless of National Construction Code Building Class.

Through any required approvals process (either for a Planning Permit or a Certificate for Certifiable Work) TasWater may require protection measures beyond 2m from TasWater infrastructure.

6. General Terms and Conditions of Section 56W Consent

6.1. General Terms and Conditions of Sections 56W Consent

6.1.1. Defined Terms and Interpretation

Defined Terms

Consent Works means the works specified in Item 3 of the Particulars of this Consent.

Land means the land specified in Item 1 of the Particulars of this Consent.

Liabilities means any allegation, cost, expense, debt, cause of action, liability, claim, proceeding, suit or demand of any nature whatsoever and by whomsoever and howsoever arising and whether present or future, fixed or unascertained, actual or contingent, and whether at law, in equity, under statute or otherwise.

Loss means any loss, cost, expense, damage, liability or exposure of any type.

Protective Work means in relation to TasWater Infrastructure:

a. work that is necessary or expedient for the protection of infrastructure or public safety; or
b. excavating Land in order to carry out work of a kind referred to in paragraph (a) of this definition.

Operational Work means in relation to TasWater Infrastructure:

a. locating, inspecting, testing, operating, maintaining, repairing, altering, adding to, installing, upgrading, replacing or removing the water infrastructure or sewerage infrastructure; or

b. excavating Land in order to carry out work of a kind referred to in paragraph (a) of this definition.

Owner means the person(s) identified as the owner(s) of the Land Information System Tasmania (LIST) and replicated in Item 4 of the Particulars of this Consent.

TasWater Infrastructure means the TasWater infrastructure specified in Item 2 of the Particulars of this Consent.

Interpretation

In this Consent, unless the context otherwise requires:

a. the singular includes the plural and vice versa;
b. a reference to anything is a reference to the whole or any part of it;
c. a reference to this Consent includes any schedule, appendix or attachment to this

Consent; and

d. mentioning anything after the words include, included or including does not limit the meaning of anything mentioned before those words.

6.1.2. Owners Responsibility

1. The owner must undertake the Consent Works in accordance with the General Terms and Conditions of this Consent including the following:
    a. The developer must ensure all foundations works near the TasWater sewer are carried out under suitable supervision to adequately protect the integrity of TasWater's assets.
    b. The developer must ensure TasWater assets are well protected. Any damage to TasWater's assets must be promptly reported to TasWater, and repaired at the developer's cost to the satisfaction of TasWater's Development Inspector. TasWater reserves the right to carry out the repairs.
2. The Owner grants to TasWater the right to enter and remain on the Land 24 hours a day, 7 days a week, in extension of any of its statutory rights to maintain, repair and replace the infrastructure.
3. The Owner will provide TasWater with a key to exercise this right within 24 hours of TasWater requesting the same, if required.

6.1.3. Release

That the Owner releases TasWater from all Liabilities, arising out of or in connection with any Loss or damage, including any Loss or damage to the Land, or any fixtures on the Land (which expressly includes the Consent Works), arising out of or in connection with TasWater performing Operational Work or Protective Work.

6.1.4. Indemnity

1. That the Owner indemnifies TasWater against all Liabilities, arising out of or in connection with any Loss or damage to TasWater, arising out of or in connection with the Consent Works.
2. That the Owner indemnifies TasWater against all Liabilities, arising out of or in connection with personal injury or damage to property, to any person or thing who or which is on the Land for any purpose in any way connected with this Consent and including without limitation, personal injury to users of the Consent Works or damage to property as a result of failure of the Infrastructure or sewage or sewer gas escaping from the Infrastructure in, on, or over the Land.

6.1.5. Limitation on Release and Indemnity

That the foregoing release and indemnities will apply except to the extent that such Loss is caused by any negligent act or omission of TasWater, its servants or agents, but excluding its decision to grant this Consent.

6.1.6. Obligation to Advise Prospective Purchaser

The Owner must advise any prospective purchaser of the existence of this Consent and its terms and conditions.

6.1.7. Costs

That the Owner reimburses TasWater for any costs, fees, and expenses incurred with respect to this Consent including but not limited to legal costs.

6.1.8. Governing Law

This Consent is governed by the law of Tasmania and the parties submit to the jurisdiction of the Courts of Tasmania.