

Protecting Buried Pipelines

Information Brochure



Important information for any work near Water Corporation Pipelines

Working on or near Water Corporation pipelines can be dangerous. At all times the safety of the general public and your employees for your works remains your responsibility.

The information contained in this brochure is for asset protection advice only. For advice concerning personnel safety, please refer to the Annex attached

Pipeline damage can be expensive, hazardous and highly disruptive to the community. If you are a planner, constructor, supervisor, excavator or work in a similar role this brochure has important information to help you plan your site work and ensure that Water Corporation pipelines are not damaged.

All buried pipes must be visually identified before using powered machinery.

About Water Corporation Pipelines

The Water Corporation operates vast water, sewerage and drainage pipe networks throughout WA. At any given location there may be multiple pipes in the ground of different sizes, depths, alignments and materials.

Many pipes operate at high pressures and flow rates. The sudden release of large volumes of water under pressure may be dangerous to people in the vicinity and could lead to significant damage and community disruption.

Water reticulation mains are present in most streets with individual property services connected to these mains. These property services may be located by finding the property water meter. Property services are not marked on plans, however their presence should be anticipated.

Sewer Gravity Mains, Sewer Property Services and Drainage Gravity Mains are present in many streets and are often within property boundaries. Gravity mains may be located by the presence of an access chamber or manhole along the line of the sewer. Sewer property services are not marked on plans however their presence should be anticipated. See "Private Property" below for more information.

Other assets associated with pipes are: anchor and thrust blocks, sampling points, valves, valve pits, cathodic protection systems, underground tanks, manholes, and flow measuring equipment.

Interfering with or damaging these assets can be hazardous. Some pipes operate at high pressures and volumes, and hazardous gases may be present.





How pipelines can be damaged

Pipes may be damaged by common construction activities such as excavating, drilling, boring, compaction, pile driving, movement of heavy loads, and operating cranes and vehicles.

Any damaged must be reported on **13 13 75** (24 hrs).

How to avoid damage

Damage can be avoided by carefully planning and conducting the work. Apply the 4-Ps: Plan - Pothole - Protect – Proceed.

Will the work possibly...?	Examples
a) cause direct contact in any way with a pipeline (including any minor contact with the protective coating)	Scraping with an excavator bucket or directional drilling head.
b) involve digging near to pipe or otherwise disturbing pipe foundations, bedding or other support	A crossing over or under a pipe.
c) cause subsidence of a pipeline, supporting material or structures	Excavating long or deep close to a pipe.
d) cause high loads to be applied to a pipeline or soil cover	Heavy vehicles and material stockpiles.
e) result in high impacts, shock or vibration near to or directly on a pipeline	Heavy vibratory compaction, pile driving, blasting & dropping heavy loads
f) limit access for future works or maintenance	Installing facilities too close to pipelines.
g) cause electrical currents to be applied to induced in a pipeline	Trenchless underground power installation.
h) interfere with cathodic protection systems	Direct damage to cables or affecting voltage potentials

1 - Plan

Before starting site work, request plans from the free **Dial Before You Dig** service. Plans usually will be provided within 2 days. (Mailed responses may take longer.)

Read and fully understand the plans and any other information provided.

Assess the risks and plan your work to avoid damage and other interference. Use the table above as a guide:

Remember plans (including the location of pipes and other assets) are approximate only. You must use safe and proper procedures to locate the exact location of Water Corporation assets including potholing (see 2 below).

The Water Corporation must be notified prior to starting work in some instances – see below.



2 - Prepare

Prepare by looking for onsite asset and infrastructure clues such as pit lids, marker posts and meters. Engagement of a DBYD Certified Locator is strongly recommended, which includes undertaking an electronic location survey prior to potholing.

3 - Pothole

Pothole by hand and visually confirm pipe location and depth before excavating with powered machinery. Pipes are not always at the exact location shown on plans and may not follow straight lines or constant depths..

4 – Protect

Use the appropriate measures to prevent pipe damage such as:

- Conducting a detailed utilities survey
- Choosing an alternative excavation or drilling site
- Marking the assets using flags, markings, barricades, signs, or bunting
- Choosing appropriate equipment and ensuring it will be used with care
- Choosing site specific work methods such as excavation planning, supervision, use of spotters, hand digging and shoring.
- Engaging the Water Corporation for site assistance if necessary (charges apply).
- Ensuring site workers are aware of pipes and protection requirements.

5 - Proceed

After you have completed the planning and preparation and have established the steps to prevent damage you can proceed – carefully.

Continue to monitor work for changes.

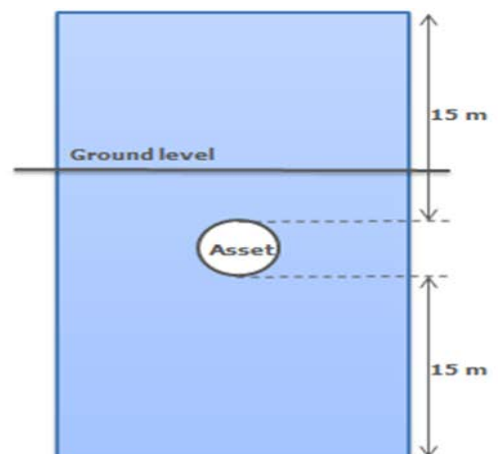
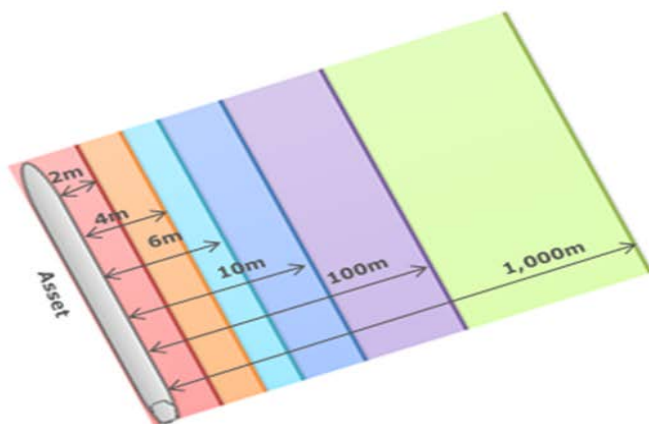
Notification of intention to work near Water Corporation pipelines

Whether you are a property owner, contractor or developer, and you intend to **excavate** or do other **ground disturbing work** near Water Corporation pipelines as listed below you may require approval before working near our assets. It is **strongly recommended** that you notify the Water Corporation. Contact **13 13 75** at least **5 working days** prior to commencing work to discuss plans with a technical advisor. The technical advisor may require a damage risk assessment. This will usually be conducted in a face-to-face meeting at one of our offices. In straight forward cases the assessment may be conducted over the phone. This risk assessment will enable you to be better prepared to undertake the work without causing damage.

Under Section 90 of the *Water Services Act 2012*, we require you to request approval if your proposed works are in, on, over, under or within the Prescribed Proximities to our assets. The Prescribed Proximities are summarised in the table below



Type of works	Asset type	Asset size	Prescribed Proximity (distance from the asset)
Ground disturbing works Including movement of heavy vehicles, ground compaction, dewatering, earthworks, open and trenchless excavations	Sewer pipelines	All	2 m
	Main drains	All	
	Water supply pipelines	< 300 mm diameter	4 m
	Water supply pipelines	≥ 300 mm diameter	6 m
	Sewer pressure mains	All	
	Drainage pressure mains	All	
Buildings, structures and other obstructions Including residential/commercial/industrial buildings, pools, sheds, carports, transport infrastructure, services, equipment installed on our assets, stockpiles, ground anchors, large trees	All assets	All	10 m both sides of the asset 15 m above & below the asset
Pile driving	All pipelines	All	100 m
Blasting	All pipelines	All	1,000 m



Work that does not require approval

- Light weight structures, fences and walls than can be readily removed
- Planting and removing trees that have a mature height of less than 5 m

Note that requirements still apply to these types of works – refer to the Water Corporation Technical Guidelines



In accordance with the Act:

A person must not:

- *Erect, construct, install, place or demolish any building, plant, wall, fence or other obstruction in, on, over or under, or within the prescribed proximity to water service works of a licensee, except in accordance with the approval of the licensee.*
- *Drill, bore, excavate or use impact equipment within the prescribed proximity to water service works, of a prescribed kind, of a licensee, or engage in any other activity within the prescribed proximity that may damage those works, except in accordance with the approval of the licensee.*

Penalty for an individual: a fine of up to \$10,000

The Prescribed Proximities have been established to protect our assets and your work from damage, as well as to ensure that you avoid costs and inconvenience associated with ceasing, demolishing, removing or altering your work as necessary to protect our assets.

In most instances work conducted outside of the Prescribed Proximities will have no impact on our assets, however in all situations you must still assess the risk of potential damage associated with your work. If you have any doubts about the potential for your work to cause damage email us at POS_enquiries@watercorporation.com.au.

For **assistance with information** on Water Corporation assets supplied through Dial Before You Dig call **13 13 95** between 8 am and 5 pm weekdays.

On-site locations - If you cannot locate a Water Corporation asset on-site call **13 13 75** (all hours) to request an on-site location which may be arranged where possible. Charges apply. See also Underground Service Locaters in the Yellow Pages®.

Private Property - For additional information about private services contact **13 13 95** between 8 am and 5 pm weekdays.

Plans of private property sewers may be available at cost from any Water Corporation Business Office or the Master Plumbers Association.

Building approval is required from the Water Corporation for new buildings, building improvements, parapet walls, retaining walls and swimming pools.

The service pipe between the water meter and the house or external tap is the owner's responsibility. It is recommended that this pipe be located by hand digging.

Further information

- Dial Before You Dig: www.1100.com.au
- Guidelines for Working Near Water Corporation Pipelines. Available from www.watercorporation.com.au. (Look under *Your business - Working near pipelines.*)
- Utility Providers Code of Practice for Western Australia. Available from: www.mainroads.wa.gov.au/UsingRoads/RoadTrafficInformation/Pages/WorksOnMainRoads.aspx

Safety Annex



Safety - Your Responsibility

At all times the safety of the general public and your employees for your works remains your responsibility.

- You therefore have to determine how to best conduct your work near our asset while ensuring that you maintain a safe system of work at all times.
- You have a duty or care to ensure that your works do no damage or interfere with our assets or cause hazards to any party.

Potential Hazards

Potential hazards associated with Water Corporation assets include, but are not limited to:

- Large forces associated with the release of water or wastewater under high pressure
- Rapid release of large volumes of water which may lead to drowning or traffic hazards
- Biohazards associated with contact with wastewater
- Exposure to asbestos (asbestos cement pipe and asbestos in some pipe wrapping)
- Exposure to toxic gasses in the wastewater system
- Exposure to hazardous wastes discharged by various industries to the wastewater system
- Ignition of combustible gasses in the wastewater system
- Fall hazards associated with accessing access chambers or high structures
- Electric shock hazards arising from Electrical infrastructure in the vicinity of pipelines, electrical faults or lightning
- Secondary hazards arising from damage or disruption to other structures or services due to damaged pipelines

Occasionally our assets also fail for reasons that are unrelated to third party works (such as from aging, corrosion or mechanical failures) which can also have hazardous impacts.

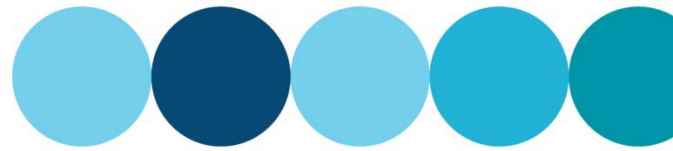
Authorised Access Only

Unauthorised interference with Water Corporation sewers and other assets (including uncovering, opening or repairing) is prohibited and may result in prosecution under the *Water Services Act 2012* (WA).

Responsibility

Parties are also responsible for all **OSH and public safety requirements** associated with their works. All works must be carried out in accordance with the relevant acts, regulations standards and codes of practice, as well as arranging any approvals, clearances etc required by other agencies

Safety Annex



Liability

Under Section 90 of the Water Service Act: *A person must not drill, bore, excavate or use impact equipment within the prescribed proximity to water service works, of a prescribed kind, of a licensee, or engage in any other activity within the prescribed proximity that may damage those works, except in accordance with the approval of the licensee.*

Penalty: a fine of \$10 000

Disclaimer

Any plans or other information provided by Water Corporation must be used as a guide only. Plans (including the location of pipes and other assets) are approximate only and it is your responsibility to locate the exact location of Water Corporation assets before commencing work. Water Corporation does not warrant or make any representation as to the accuracy, completeness, reliability, currency, quality or fitness for purpose of any plans or other information (including, but not limited to, the accuracy of the scale of, or the location of, anything shown on any plan or diagram).