



# HSW Procedure

## Management of Confined Spaces

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## 1. Purpose

This procedure describes the requirements to identify confined spaces, ensure safe entry, work within and safe exit of Greater Western Water (GWW) confined space assets and is intended to address hazards to ensure (so far as reasonable practicable) people's health, safety and wellbeing.

## 2. Scope

This document has been prepared for, and applies to, all GWW employees and accredited contractors engaged to undertake activities associated with confined spaces. The [WorkSafe Victoria Compliance Code – Confined Spaces \(2019\)](#) (the "Code") shall be followed, with the addition of the requirements within this procedure.

## 3. Competency

**Table 1** below outlines confined space competency requirements. The training has a refresher frequency of two years.

**Table 1: Confined Space Competency Requirements**

Role	Confined Space Entry Course (RTO)	Confined Space Entry Awareness
Confined space management work (i.e. work scheduler, auditor, designer, call in/ call out service, GWW operator who issues a PTW)		X
All personnel involved in entering a confined space, including outside resources (i.e. person in charge, standby person, observer, entrant)	X	
Non-confined space entry activity (e.g. opening a man-hole to identify blockages, enable CCTV investigations, surveying, high pressure water jetting, sampling, etc. <b>Note 1: at least one member of the team must have completed Confined Space Entry Course.</b>	Note 1	X

Other competency requirements shall be determined by risk assessment for the specific nature of the confined space entry.

## 4. Health Requirements

Working in a confined space may impose additional physiological and psychological demands over and above those encountered in a normal working environment. Consideration shall be given to a person's:

- physical ability
- ability to work in a restrictive space (for example, claustrophobia); and
- ability to wear the personal protective equipment required to do the work.

### 4.2 Health Assessment

For GWW employees, the health requirements to enter a confined space are identified in Fitness to Work procedure.

### 4.3 Vaccinations

Personnel who work near sewage or recycled water classified below Class A are recommended to have the following vaccinations:

- Hepatitis A
- Hepatitis B
- Tetanus; and

- Q Fever.

GWW's sewer networks may contain waste water from abattoirs and rendering plants as well as various industries. Advice from a Medical Practitioner may be sought if additional risks are identified to determine what additional vaccinations may be required based on the environment and biological materials likely to be present.

## 5. Designers & Manufacturers

GWW shall use information provided in [Part 2 – Duties of designers, manufacturers and suppliers](#) from the “Code” to eliminate the need for any person to enter a confined space (so far as is reasonably practical).

## 6. Confined Space Entry

### 6.1 Identifying confined spaces

GWW shall use [Flow Chart 1 and Table 1](#) from the “Code” to determine whether a space is a confined space.

When identifying if a space is a confined space or not, there may be instances where the space might be determined as being a restricted space and not a confined space. These may pose risks similar to confined spaces and should be risk assessed and have appropriate controls implemented.

### 6.2 Hazard Identification & Risk Assessment

Prior to any confined space entry work a competent person on site must assess, understand and document hazards associated with the nominated confined space. A list of possible general hazards associated with confined space entry is provided within [Part 3.1 Hazard Identification](#) of the “Code”. In addition, a listing of specific hazards (but not limited to) when working in or near a GWW confined space are provided below in [Table 2](#).

**Table 2: Specific GWW Potential Hazards**

Specific GWW Hazards	Description/ Example
Uncontrolled introduction of hazardous substances	<ul style="list-style-type: none"> <li>▪ Release of hazardous substances from industry into live sewer and storm water networks</li> </ul>
Biological hazards	<ul style="list-style-type: none"> <li>▪ Exposure to sewage and/or other biological substances when working with recycled water classified below Class A, in sewer and storm water systems.</li> </ul>
Work performed in a confined space	<ul style="list-style-type: none"> <li>▪ Maintenance and repairs within confined space GWW asset that releases contaminants (e.g. use of paints, adhesives or solvents/ welding)</li> <li>▪ New works/connections to GWW asset</li> </ul>
Release of atmospheric contaminants	<ul style="list-style-type: none"> <li>▪ Cutting into sewer mains</li> <li>▪ Build up of hydrogen sulphide in sewer systems, storm water systems or pits (e.g. disturbing decaying vegetation or sludge).</li> <li>▪ Use of power drive machinery outside of a confined space (i.e. fuel driven equipment) that can impact confined space area</li> </ul>
Working during extreme weather conditions	<ul style="list-style-type: none"> <li>▪ Working in days of total fire ban (e.g. heat exhaustion amplified by working in confined space, and exposure to and/or causing a bush fire)</li> <li>▪ Inclement weather such a storms and rain can impact sewer and stormwater systems by introducing high levels of water in a short period of time.</li> </ul>

A risk assessment must be prepared and understood by all relevant workers prior to any works taking place. On site, works must be performed in accordance with the work specific risk assessment. If circumstances relating to the activity change, the risk assessment must be reviewed to ensure that it accurately reflects the work being undertaken.

### 6.3 Planning and Preparation

Planning and co-ordination of entry into and work inside the confined space shall be completed to control and mitigate hazards that may arise during the work.

#### 6.3.1 Confined Space Entry Within GWW's Network Operations

Prior to any work associated with a confined space entry into a network operations facility (e.g. water or sewerage networks), approval requests shall be provided to GWW at least five (5) days prior to the planned entry date, Unless in relation to emergency reactive works (for blockages, spills etc.), for these instances an

application does not need to be submitted. Authorisation shall only be granted by a competent GWW employee when the risks related to those spaces have been adequately risk assessed by the confined space work party.

#### 6.3.1.1 Application to GWW to Undertake Confined Space Entry Work

To initiate approval, the confined space entry applicant is required to complete and submit to the GWW Operational Control Centre (OCC) an *Application to Access/Enter Confined Spaces*. This Form will prompt the applicant to supply information relating to the works to be undertaken which includes, but is not limited to, the following:

- Type of work and reason for the work to be undertaken
- Copies of valid Confined Space Entry training RTO (i.e. refreshed every 2 years).
- A risk assessment
- A map indicating the location of the works.

#### 6.3.1.2 Confined Space Entry Authorisation

Prior to gaining access to the confined space a call-in phone call to the GWW OCC shall be conducted. Permission to access the confined space will be granted and call out times confirmed. After obtaining a GWW Case Number and on the day of the intended entry/access, **one hours'** notice must be given to GWW's OCC prior to the entry/access taking place. One hour's notice is not required for works undertaken directly for, or by, GWW maintenance teams or the appointed GWW Maintenance Contractor, Trade Waste, Operations Personnel, Capital Works, or Scheduled sewer cleaning/ CCTV etc. Once confined space entry work is completed, the working party shall make a call-out phone call to the OCC to advise person(s) have exited the confined space.

#### 6.3.1.3 Extending Confined Space Entry Times

If during the confined space entry work, the working party expects the exit time will be breached, they shall contact the OCC to request a time extension. Failure to do so or a failure to inform the OCC of the confined space exit will result in GWW reporting and escalating a breach of conditions. In such circumstances resources will be allocated to the site to confirm the work party's safety as part of GWW incident management process.

Refer to PRO-90: [Incident Management Procedure.docx](#)

#### 6.3.1.4 Entry Authorisation Cancellations

GWW reserve the right to cancel or abandon any confined space entry work at any time if there is an increased risk to the confined space entry team's Health and Safety (e.g. operational or network change, increase flows, variation to trade waste discharge, etc).

#### 6.3.1.5 Identification of NO-GO Sewers

GWW sewerage network consist of sewer pipes and manholes classified as **NO-GO Sewers**. NO-GO sewers receive sewage mainly from industries, hospitals or have high hydraulic/emergency flow. GWW identify, monitor and assign a higher level of confined space management and control on these sewers and as such GWW will impose additional risk control measures prior to anyone undertaking work (planned or responsive work) associated with NO-GO sewers. Information on and/or to seek approval to enter into a NO-GO Sewer can only be gained by communication with the Trade Waste and Network Delivery teams.

### 6.3.2 Confined Space Entry within GWW's Facility Service Site

Undertaking confined space entry within GWW's Facility Services sites (e.g. all treatment plants; or when a GWW representative issues a permit onsite at an unmanned site) are managed through a local Permit to Work system. Therefore, no authorisation through the OCC is required, as the approval process is managed locally by a competent GWW employee who will remain onsite for the duration of the entry and close off the permit. If the GWW representative cannot be onsite for the duration of the entry then authorisation must be completed through the OCC.

### 6.3.3 Third Party Engaged Contractor Confined Space Entry Activities

Confined space entry works being undertaken by contractors engaged by a third party and not through GWW are required to follow the same CSE authorisation requirements as outlined in section 6.3.1 or 6.3.2 of this procedure depending on the location of the work being undertaken.

### 6.3.4 Non-Confined Space Entry Activities

A non-confined space entry activity involves interacting with a confined space at close proximity but does not require entry. For example, opening an access chamber to identify blockages, enable CCTV investigations, surveying, high pressure water jetting, sampling, etc. from outside the confined space. Non-confined space entry activities still require an *Application to Access/Enter Confined Spaces* to be completed and authorised prior to commencement of works.

Personnel undertaking non-entry activities must conduct a risk assessment and be appropriately competent to work in the immediate vicinity of a confined space and in relation to the types of works performed, as well as any other GWW specific requirements. Competency requirements for non-confined space entry activities is provided in **Table 1**.

### 6.3.5 Isolation & Lock-Out/ Tag-Out of Plant and Services

Information on isolation requirements for entering a confined space is provided in [Part 3.4 – Risk Control: Specific duties](#) from the “Code”. Isolation of plant and services for GWW confined space assets shall be conducted so far as is reasonably practicable. For specific GWW isolation and lockout-tag requirements refer to GWW isolation and lock out/ tag out processes.

### 6.3.6 Confined Space Entry Work Party Size

As a minimum there shall be three (3) members of a confined space work party. This shall consist of two (2) personnel outside the confined space (i.e. observer and standby persons) and one (1) person entering the confined space. All members of the work party shall be appropriately competent and capable of initiating the emergency procedures (rescue plan), if required.

The requirement for additional person(s) inside and outside of the confined space shall be determined by the task specific risk assessment and recorded in the confined space permit and rescue plan.

### 6.3.7 Fall from Height

If it is not reasonably practicable to eliminate a risk associated with a fall in confined space, the risk shall be reduced so far as is reasonably practicable by using a passive fall prevention device (e.g. physical barriers, covers over the holes, scaffolding etc.), fall restrain and/or arrest systems.

### 6.3.8 Signage

GWW shall use [Signage Requirements](#) from the “Code” to determine worksite and confined space signage. Where practicable, signs shall be permanently mounted at each entry point to the confined spaces. When conducting short term works on footpaths or unfenced private property, erect barricades or install mesh covers at unattended open access chambers. Long term works must have the access chambers fully covered.

### 6.3.9 Confined Space Work Zone

GWW and contractors shall ensure that a confined space work zone area is risk assessed and established. The work zone area shall be demarcated to ensure unauthorised personnel and machinery does not come within the recommended distance. Authorised personnel include observer and/or standby person plus those who have been identified as part of the rescue plan.

### 6.3.10 Communications

Radio or telephone communication shall always be available on site to enable contact with OCC, Facility Services Permit Issuer and Emergency Services. Maintain regular and continuous communication between the outside and those inside a confined space.

### 6.3.11 Personal Protective Equipment

Personal protective equipment (PPE) depends upon both the type of confined space and the work being performed. PPE to be considered shall be identified by a risk assessment, and may include, but is not limited to, overalls, waders, hard hat, long sleeve shirts, long pants, gloves, eye and ear protection, buoyancy vest, industrial clothing, and safety or gum boots. Clean all contaminated work clothes and equipment at work, do not take contaminated clothing home.

### 6.3.12 Hot Work & Ignition Sources

No hot work or ignition sources (e.g. no smoking, welding, use of grinders, light fires, mobile phones or have other naked flames) are permitted in, or within 6 metres of the entrance to any confined space while working in, or inspecting sewers, access chambers, drains, wells or tanks.

If hot works or chemical usage is required to be performed in the confined space, a risk assessment must be completed to determine how the hazards will be controlled. Works shall not be undertaken unless an additional GWW Hot Work Permit or contractor alternative has been completed.

## 6.4 Ensuring a Safe Atmosphere

A safe atmosphere must be ensured, as far as is reasonably practicable, before entering and during work in a confined space.

### 6.4.1 Gas Detection Equipment

Air testing shall be conducted using an electronic gas detector. Gas detectors must be fitted with:

- **Six (6)** sensors, including of explosive gas (LEL), oxygen, hydrogen sulphide, carbon monoxide, ammonia and volatile organic compounds (VOCs) when entering confined spaces in industrial areas or any sewer rectic and sewer mains; and
- **Four (4)** sensors, including explosive gas (LEL), oxygen, hydrogen sulphide and carbon monoxide when entering confined spaces in GWW areas performing excavation work or works on house connection branch (HCB), water wells and valve pits except in a No-Go sewer areas.

Atmospheric testing equipment must be inspected and bump tested prior to each use and calibrated in accordance with manufacturer's recommendations.

### 6.4.2 Pre-entry Atmospheric Testing

Initial atmospheric testing shall be done from outside the confined space prior to entry to confirm that the confined space is safe to enter. Acceptable levels for entry into a confined space are provided below in **Table 3**.

**Table 3: Acceptable Pre-Entry Gas Levels & Continuous Monitoring Alarm Levels**

Gas Being Detected	Acceptable Pre-entry Level	Continuous Monitoring Alarm Levels
Oxygen (O <sub>2</sub> )	Not less than 19.5% Not greater than 23.5%	Less than 19.5% Greater than 23.5%
Carbon monoxide (CO)	Less than 30ppm	Greater than 30ppm
Hydrogen sulphide (H <sub>2</sub> S)	Less than 10ppm	Greater than 10ppm
Explosive level (LEL)	Less than 5% LEL	Greater than 10% LEL
Volatile Organic Compounds (VOC)	Less than 10 ppm	Greater than 10 ppm
Ammonia (NH <sub>3</sub> )	Less than 25 ppm	Greater than 25 ppm

If it is necessary to enter the space to test remote regions away from entrances or access holes, then air-supplied respiratory protection equipment needs to be worn. All results shall be recorded on the Confined Space Entry Permit. Where a safe atmosphere still cannot be achieved, the job must be escalated to GWW via the OCC, Facility Services PTW issuer and/or relevant GWW contact for further action.

### 6.4.3 Continuous Monitoring Atmospheric Testing

Continuous monitoring is required for all GWW confined space entries. Gas detectors shall be used to continuously monitor the air condition near the breathing zone and inside the space. Alarm levels at which all personnel must exit the space are provided above in **Table 3**.

When a confined space has been exited due to an unsafe atmosphere, and a safe condition can no longer be achieved, the job must be immediately reported to GWW via the OCC, Facility Services PTW issuer and/or relevant GWW contact for further action.

#### 6.4.4 Ventilation & Cleaning

Information on cleaning, purging and ventilation for entering a confined space is provided in [Part 3.4 – Risk Control: Specific duties](#) from the “Code”. The two most common types of ventilation used for GWW confined spaces are natural and forced.

Natural Ventilation involves the opening of an appropriate number of covers on the confined space to create a draft that allows fresh air to enter through natural circulation. In the case of sewers, the minimum requirement is to open the immediate downstream and upstream access chamber covers. When using natural ventilation, access covers should be **removed at least 15 minutes prior to entry**.

Forced Ventilation involves either blowing fresh air into the confined space or extracting air from the space by using a mechanical fan to force the air movement. When using mechanical ventilation, **it shall run for at least 15 minutes prior to entry**.

#### 6.4.5 Breathing Apparatus

If ventilation methods cannot establish a safe working atmosphere, then suitable breathing apparatus meeting AS/NZS 1715 requirements may be considered in order to work within the confined space (except in circumstances where the atmospheric hazard relates to high explosive/flammable gases). Breathing apparatus may also be considered in circumstances where smell and dust cause comfort problems. Appropriate training must be completed prior to the use of Breathing Apparatus equipment.

#### 6.4.6 Explosive/Flammable Gases

If explosive gases are found to be present at concentrations greater than 5% of their LEL after venting for a period of ten (10) minutes, the job shall be immediately reported to the GWW via the OCC, Facility Services PTW issuer and/or relevant GWW contact for further action. Confined space entry shall NOT be permitted if the explosive gas concentration is greater than 5% of its lower explosion limit (LEL).

### 6.5 Confined Space Entry Permit

A documented confined space entry permit shall be developed and reviewed by the work party prior to any person entering the confined space. Any changes to the working conditions or roles of persons in the work party must be updated on the permit and communicated to the work party. The permit must indicate when persons have entered and exited the confined space.

Each permit shall apply to one confined space only. The completed permit shall be available on site during the works and displayed in a prominent location to facilitate signing and clearance.

Copies of completed permits must be retained until the work to which it relates is completed. If a notifiable incident occurs in connection with the work to which the permit relates, the permit must be retained for a minimum of 2 years after the date on which the incident occurs.

Contractors may use alternative confined space entry Permit which shall comply with the requirements of the “Code”.

Refer: GWW Confined Space Entry Permit FOR-95

### 6.6 Emergency Response and Rescue Plan

GWW shall use information from [Planning & Establishment of Emergency, Rescue and First Aid Procedures](#) from the “Code” to determine emergency response and rescue plan controls for working within a confined space.

A documented emergency procedure shall be prepared in consultation with the work party prior to any person entering the confined space using either the GWW form or contractor alternative. The rescue plan must be reviewed (desktop or practical) by the working party prior to the confined space entry.

Refer: GWW Emergency Rescue Plan

### 6.7 Completion of Work

On completion of the confined space entry work, ensure the following activities have been undertaken:

- All work parties are safe and accounted for
- The worksite condition is reinstated and made safe for personnel and members of the public
- All documentation is signed off and the OCC has been advised of the exit time (for network operations sites).



- For Facility Sites Refer to 6.3.2 - Confined Space Entry within GWW's Facility Service Site

## 6.8 Assurance Program

Confined space works shall be audited on a regular basis to ensure ongoing compliance with this procedure. This may include field and/or desktop auditing. Audits shall be carried out in accordance with GWW's process for internal audits.

## Version Control Table

Version Number	Document Owner's Position Title	Purpose/Change	Date DD/MM/YYYY
V11.0	HSW Manager – Performance & Governance	Harmonisation of legacy City West Water and Western Water procedures for a new GWW HSW Management System.	24/03/2022

## Appendix A. References

Source	Responsibilities
Victorian Legislation	<ul style="list-style-type: none"> <li>Occupational Health &amp; Safety Act 2004</li> <li>Occupational Health &amp; Safety Regulations 2017</li> <li>WorkSafe Victoria Compliance Code - Confined Spaces (Dec 2019).</li> </ul>
Australian Standards	<ul style="list-style-type: none"> <li>AS/NZ 2865 Safe Working in a Confined Space</li> <li>AS/NZS 60079.29.2 – 2016 Explosive atmospheres – Gas detectors – Selection, installation, use and maintenance of detectors for flammable gases and oxygen</li> <li>AS 1657- 2013 Fixed platforms, walkways, stairways and ladders – Design, construction and installation</li> <li>AS/NZS 1716 – 2012 Respiratory protective devices</li> <li>AS/NZS 1715 – 2009 Selection, use and maintenance of respiratory protective devices</li> <li>AS/NZS 1891.4 – 2009 Industrial fall arrest systems and devices – Part 4. Selection, use and maintenance</li> <li>AS 1319 – 1994 Safety signs for the occupational environment</li> <li>AS 1674.1 – 1997 Safety in welding and allied processes – Fire precautions</li> </ul>
Industry	<ul style="list-style-type: none"> <li>Water Services Association of Australia (WSAA) Fatal Risk Guideline (Oct 2018)</li> </ul>

## Appendix B. Roles and Responsibilities

Role	Responsibilities
GWW Designers of Plant and Structures	GWW personnel who are responsible for the design of plant or structures that include, or is intended to include, a confined space shall use information provided in the "Code" to eliminate the need for any person to enter a confined space so far as is reasonably practical.
GWW Representative	The GWW employee who is engaging a contractor to undertake works, conduct a field audit or site visit. They shall: <ul style="list-style-type: none"> <li>ensure contractors are informed of the requirements of this procedure as a minimum and ensure that the contractor has their own safe system of work for the entry.</li> </ul>
Managers	<ul style="list-style-type: none"> <li>ensure that all appropriate actions are taken to implement GWWs procedures on safe working in confined spaces</li> <li>ensure that resources are available for personnel to receive appropriate training, including refresher training</li> <li>provide a visible commitment to the program by undertaking regular on-site visits and participating in checking on-site conditions</li> <li>hold employees under their direction accountable for meeting the objectives of this procedure.</li> </ul>
Observer	<ul style="list-style-type: none"> <li>A person who has the responsibility for assisting the person/s entering or exiting the confined space, complete confined space entry permits to ensure all persons and equipment have exited the space and instigate emergency response from outside the confined space.</li> </ul>

Operations Control Centre (OCC)	<p>GWW operate a 24 hour, 365 day Operational Control Centre (OCC) who shall:</p> <ul style="list-style-type: none"> <li>▪ monitor who enters a confined space into a GWW network operations facility (e.g. water or sewerage network).</li> <li>▪ Log entry and exit times</li> <li>▪ Provide confined space working party with a GWW Case Number as part of the approval process to enter a confined space</li> <li>▪ Escalate to GWW representative if no call out has been received by the expected time advised by the working party.</li> </ul>
Person in Charge of the Entry	<p>The person responsible for the overall supervision of the work being conducted within the confined space. They shall:</p> <ul style="list-style-type: none"> <li>▪ ensure that this procedure is followed by all members of the work party</li> <li>▪ arrange for the recording of atmospheric tests carried out in their area of responsibility so that any potentially hazardous atmosphere can be identified</li> <li>▪ ensure that the work party have current confined space certification prior to commencing confined space work</li> <li>▪ ensure that safety equipment is in good order and that defective equipment is not available for issue until repaired</li> <li>▪ ensure that equipment checks are carried out</li> <li>▪ ensure relevant permits are approved prior to entry</li> <li>▪ ensure a risk assessment is performed for the task</li> <li>▪ ensure that a rescue plan exists as part of the risk assessment and rehearsed (desktop or practical) prior to entry</li> </ul>
Standby Personnel:	<ul style="list-style-type: none"> <li>▪ A person within the immediate vicinity (sight and sound) who will make initial contact with emergency services if required and provide initial emergency rescue response from outside the confined space.</li> </ul>
Work Party Members	<ul style="list-style-type: none"> <li>▪ participate in the risk assessment process</li> <li>▪ sign in and out of the confined space entry permit</li> <li>▪ undertake training for confined space as required</li> <li>▪ use the correct safety equipment for the task being performed</li> <li>▪ ensure that the safety equipment is only used for the task it is designed for</li> <li>▪ record the results of confined space atmospheric testing as required and advise the person in charge of any dangerous atmospheres detected</li> <li>▪ report any defective safety equipment to the person in charge.</li> </ul>

## Appendix C. Definitions

Term	Definition
Atmospheric testing	Testing the atmosphere before a person(s) enters a confined space means a sample is taken of the atmosphere within the space from outside the point of entry to ensure a safe environment for a person(s) to enter.
Appropriately Competent	Section 3 Table 1 of this procedure provides clarification on competency requirements
Accredited Consultant / Contractor	A delivery partner/contractor or consultant that has been assessed by GWW and is pre-qualified to undertake confined space entry work on either the ARCUS or LinkSafe systems
Breathing Apparatus (BA)	A type of air-supplied respiratory protective equipment that meets requirements of AS/NZS 1715.
Breathing Zone	A radius of 300 millimetres, extending in front of a person's face.
Code	Refers to the <a href="#">WorkSafe Victoria Compliance Code – Confined Spaces (2019)</a>
Confined Space (CS)	GWW shall use <a href="#">Flow Chart 1 and Table 1</a> from the “Code” to determine whether a space is a confined space.
Confined Space Entry (CSE)	Entry to a confined space occurs when a part of the body enters the space and there is a risk the person may be overcome or incapacitated by the conditions within the space.
Competent Person	A person who has, through a combination of training, education and experience, acquired knowledge and skills enabling that person to perform correctly a specified task.
Confined Space Entry Permit	A formal permit that is prepared prior to a confined space entry being undertaken. It is only issued once a safe system of work is in place. The permit also provides a means of communication between GWW and those carrying out the work. It ensures appropriate checks are made during the confined space entry process.
GWW Confined Space Entry Authorisation	GWW written approval to enter or access a confined space: <ul style="list-style-type: none"> <li>For Network Sites – A case number is issued.</li> <li>For Facility Services sites – A local permit is issued.</li> </ul>
Hot Work	Grinding, welding, thermal or oxygen cutting or heating, and other related heat-producing or spark-producing operations.
Lower Explosive Limits (LEL)	Expressed as a percentage of the volume of vapour in air. LEL is the lowest concentration of a flammable gas or vapour in air at which an explosion or flame will occur if a source of ignition is present.
Manhole	Also known as an access chamber, is a chamber with a removable cover through which a person can gain access to an underground structure or installation (e.g. sewer pipe, pump station wet well etc.)
Non-Entry Activity	An activity that involves interacting with a confined space but does not require entry. For example, opening a manhole to identify blockages, enable CCTV investigations, surveying, high pressure water jetting, sampling, etc
No-Go Sewers	Refers to a length of sewer that requires location-specific control measures to be considered prior to any work being undertaken on them due to potential health and safety risks or high flows. Generally, these sewers receive wastewater from industrial trade waste customers, and are subject to high flow or may have structural integrity issues.
OCC	Operational Control Centre – GWW’s 24-hour emergency communication centre.
Parts per Million (ppm)	A weight for weight ratio used to describe concentrations of a substance in a larger mixture.
Restricted Space	A space that has limited or restricted entry or exit which could make it physically difficult to remove an injured or unconscious person. A restricted space may become classified as a confined space while certain work activities are being conducted that could change the atmosphere within the space, such as the introduction of contaminants.
RTO (for Confined Space)	A Registered Training Organisation authorised to train and certify people in confined space entry and associated work.