1. Haringey Council Procedure

1.1 Working in confined spaces can be a hazardous activity. On average, about 15 people a year are killed in the UK working in confined spaces, and more are seriously injured. The fatalities are not just limited to complex plant, work in simple storage vessels is just as hazardous. Multiple fatalities have occurred when rescuers, without having had the proper training or the right equipment, have been overcome by the same conditions that have affected the people they have tried to rescue.

The Confined Spaces Regulations 1997 are in place to protect staff and others against risks to their health while working in a confined space.

The purpose of this procedure outlines the steps to be taken by Haringey Council to ensure that:

- Staff or others do not work in confined spaces where it can be avoided.
- Where this is not possible, a risk assessment is undertaken and a safe system of work (which may include a permit to work) and emergency arrangements developed that will reduce the risk of injury.
- Relevant legislation is complied with.

2. Scope of Procedure

2.1 This procedure is applicable to all staff employed by Haringey Council as well as temporary workers, agency workers, trainees, and contractors working in confined spaces within Haringey Council.

2.2 Where Haringey Council has duties in relation to people at work who are not their employees, the duty is to do what is 'reasonably practicable' in the circumstances. In many cases, Haringey Council will need to liaise and cooperate with others (eg other employers, contractors) to agree the respective responsibilities in terms of the Regulations, duties and the Council's permit to work system.

2.3 Haringey Council, and in particular Managers, shall take all reasonably practicable steps to engage competent contractors and ensure there is a clear understanding of who has responsibility for doing what. In this way, those in control can be clear about what they can reasonably do to ensure that those undertaking the work in the confined space observe this and other Council procedures as well as relevant regulations.

3. Key Terms and Summary Information

3.1 Key Terms

Confined Space	Any place, including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well or other similar space in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk of: (a) serious injury to any person at work arising from a fire or explosion; (b) without prejudice to paragraph (a) —

	(i) the loss of consciousness of any person at work arising from an increase in body temperature; (ii) the loss of consciousness or asphyxiation of any person at work arising from gas, fume, vapour or the lack of oxygen; (c) the drowning of any person at work arising from an increase in the level of liquid; or (d) the asphyxiation of any person at work arising from a free flowing solid or the inability to reach a respirable environment due to entrapment by a free flowing solid. A 'confined space' must have both of the following defining features: (a) it must be a space which is substantially (though not always entirely) enclosed; **and** (b) one or more of the specified risks must be present or reasonably foreseeable.

4. Responsibilities for Implementation

4.1 Directors/Assistant Directors

4.1.1 Ensure that adequate arrangements and resources are in place to enable Haringey Council to fully comply with all confined spaces regulations and guidance.

4.1.2 Bring to the attention of all their staff the contents of this procedure and monitor its implementation.

4.2 Managers

Managers will, if required, seek support from Haringey Council's Corporate Health and Safety Team, and:

4.2.1 Ensure that every effort is made to avoid entry into a confined space. Where entry into any confined space cannot be avoided, a suitable and sufficient assessment of the risks to health must be carried out in accordance with the Council's Risk Assessment Procedure. [See section 6 'Other documents you may need to consider'].

4.2.2 Ensure that, prior to entry into a confined space, a written safe system of work, including emergency procedures has been developed and a permit to work for a confined space issued by an authorised permit to work issuer and in accordance with the Council's Permit to Work Procedure. [See section 6 'Other documents you may need to consider'].

4.2.3 Take all reasonably practicable steps to engage competent contractors and ensure they have the appropriate knowledge and expertise to carry out such work safely and in line with the relevant legislation.

4.2.4 Ensure that all staff and contractors involved in entry into confined spaces are aware of this procedure, understand its content and comply with local procedures and safe systems of work.

4.2.5 Ensure all staff who will enter a confined space are fit to do so.

4.2.6 Ensure that all staff who enter confined spaces and those who issue permits to work, have appropriate information, instruction, training and supervision in confined spaces working.

4.2.7 Before any work can commence, ensure there are adequate communication systems and adequate arrangements for emergency rescue in place. Everyone in the vicinity of the confined space shall be provided with suitable information, instruction and training covering these arrangements, prior to the work commencing.

4.3 Employees

All employees shall:

4.3.1 Assist with the assessment of risks and comply with any safe system of work developed through risk assessment and comply with any requirements of a confined space permit to work.

4.3.2 Inform their Manager of any known health issues that may preclude them from working in a confined space.

4.3.3 Inform their Manager if they suspect that the system of work in place, or planned, could be ineffective or inadequate.

4.3.4 Not work in a confined space unless instructed to do so by their Manager and a risk assessment and safe system of work is in place prior to entry and, where necessary, a permit to work is in operation. They shall take all necessary safety precautions and ensure their Manager and anyone in the vicinity of the confined space is informed of the work being done.

4.3.5 Report all incidents, including near misses, procedural failures or equipment defects via the Council's incident reporting procedure.

4.4 Health and Safety Wellbeing Champion

4.4.1 The Health, Safety and Wellbeing Champion shall bring any significant concerns reported to them, and in relation to Confined Spaces, to the attention of their Director, Assistant Director or relevant Health and Safety Board.

4.5 Corporate Health and Safety Team

The Council's Corporate Health and Safety Team shall:

4.5.1 Provide advice, support and technical assistance in matters relating to Confined Spaces.

4.5.2 Assist managers in undertaking Confined Spaces related incident investigations.

5. Specialist Advice

5.1 What is a confined space

5.1.1 A Confined Space can be any space of an enclosed nature where there is a risk of death or serious injury from hazardous substances or dangerous conditions (e.g. lack of oxygen). Some confined spaces are fairly easy to identify, for example

- Enclosures with limited openings
- Storage tanks
- Silos
- Enclosed drains and sewers

Others may be less obvious but equally as dangerous, for example:

- Open topped chambers
- Vats
- Combustion chambers in furnaces, etc.
- Ductwork
- Unventilated or poorly ventilated rooms

It is not possible to provide a comprehensive list of confined spaces. Some places may become confined spaces when work is carried out, or during their construction, fabrication or subsequent modification.

5.1.2 Not all enclosed workplaces are subject to the confined spaces regulations; an enclosed workplace without a 'specified risk' (as listed in the 'Key Terms') is not a confined space that is subject to the regulations even where there are other risks due to the size or difficulty of working in it.

The figure produced by the HSE at Appendix 1 can assist with the decision as to what makes an enclosed space a confined space.

5.2 Hazards

Dangers can arise in confined spaces because of the following:

5.2.1 Flammable substances and oxygen enrichment

A risk of fire or explosion can arise from the presence of flammable substances or the ingress of flammable gasses, for example, caused by a leak from an oxygen cylinder forming part of welding equipment etc. There is also a risk of explosion from the ignition of airborne flammable contaminants. A fire or explosion could be caused by leaks from adjoining plant or processes that have not been effectively isolated.

5.2.2 Excessive heat

Hot conditions can lead to a dangerous rise in core body temperature and this can be made worse by wearing PPE, highly physical or strenuous work, or working at a high work rate.

Excessive heat can occur where:

- work is being done in hot conditions or where, for example, boilers or furnaces have not been allowed sufficient time to cool before entering to undertake maintenance work;
- the confined space is exposed to the sun or another heat source;
- equipment has been steam cleaned to remove hydrocarbons; or
- hot work is being carried out, eg using welding equipment for repair.

A slower heat build-up in the body can also cause heat stress. If action is not taken to cool the body there is a risk of heat stroke and unconsciousness.

5.2.3 Toxic gas, fume or vapour

The presence of toxic gas, fume or vapour can lead to asphyxia or unconsciousness. These can:

- build-up in sewers and manholes and in pits connected to the system;
- enter tanks or vessels from connecting pipes;
- leak into trenches and pits in contaminated land, such as old refuse tips and old gas works.

5.2.4 Oxygen deficiency

This can occur:

- where there is a reaction between some soils and the oxygen in the atmosphere;
- following the action of groundwater on chalk and limestone which can produce carbon dioxide and displace normal air;
- in ships' holds, freight containers, lorries etc as a result of the cargo reacting with oxygen inside the space;
- inside steel tanks and vessels when rust forms;
- burning operations and work such as welding and grinding which consume oxygen;
- due to a gradual depletion of oxygen as workers breathe in confined spaces and where provision of replacement air is inadequate, particularly where the work is strenuous or the rate of breathing is increased due to the ambient temperature in the space.

5.2.5 The ingress or presence of liquids

Liquids can flow into the confined space and lead to drowning. The presence of a liquid can also lead to other serious injury or health effect depending on the nature of the liquid, such as its corrosivity or toxicity.

5.2.6 Solid materials which can flow

Free-flowing solids can submerge a person, preventing breathing. Materials which create this hazard include grain, sugar, flour, sand, coal dust and other substances in granular or powder form. In a confined space the risk is increased because there is no space for the material to flow away.

5.2.7 Other hazards not specific to confined spaces

Other hazards (such as electricity, noise, collapse or subsidence of or within the space, loss of structural integrity and those arising from mechanical equipment and working space) can be identified when assessing the risk from the need to enter or work in a confined space. These hazards are not unique to confined spaces working and are not dealt with in the regulations or this procedure. Where these hazards are present in a confined space, the precautions will almost always be more extensive because of the enclosed nature of the confined space.

6. Other documents you may need to consider

6.1 Legislation and Guidance (hyperlinks)

6.1.1 Safe Work in Confined Spaces (ACOP, Regulations and Guidance) L101 - HSE
6.1.2 Guidance on Permit to Work Systems HSG250 - HSE
6.1.3 Guidance on confined spaces - HSE website
6.1.4 Guidance on risk management - HSE website

7. Action to Take

7.1 Risk assessment

The main emphasis throughout the confined spaces regulations is that entry must be avoided if it is reasonably practicable to undertake the work from outside the confined space.

7.1.1 Where this is not possible, a risk assessment must be carried out and appropriate precautions must be taken to mitigate any hazards identified. For confined spaces that are entered regularly, it is appropriate to have a written procedure.

7.1.2 Prior to entry, a risk assessment must be undertaken by a competent person on behalf of Haringey Council or the Contractor (whoever is responsible for the works) and recorded in line with the Haringey Council Risk Assessment Procedure.

The assessment must consider whether the confined space entry can be avoided in the first instance. Where entry cannot be avoided, then all hazards and risks detailed in section 5.0 above must be considered upon which a safe system of work is to be based. Adequate emergency arrangements shall also be put into place before any works starts.

Note: the list in section 5.0 is not exhaustive and other additional risks may have to be considered.

7.1.3 The assessment will identify the risks to those entering or working there, and also any others, for example, other workers including contractors and the general public in the vicinity who could be affected by the works to be undertaken.

7.1.4 A competent person for these purposes will be someone with sufficient experience of, and familiarity with, the relevant processes, plant and equipment so that they understand the risks involved and can devise necessary precautions to meet the requirements of the Confined Spaces Regulations. In complex cases more than one person may be needed to conduct the assessment of risks relating to specific required areas of expertise.

7.1.5 It is the responsibility of the relevant Manager/Head of School to ensure these risk assessments are carried out in conjunction with personnel from within the area where the confined space work is to be carried out.

7.2 Safe Systems of Work

If entry into a confined space cannot be avoided, a safe system for working inside the space shall be put into place prior to the work commencing.

7.2.1 The results of the risk assessment will assist in the identification of the precautions that need to be taken to reduce the risk of injury. These will depend on the nature of the confined space, the associated risk and the work involved. The safe system of work, including the precautions identified, shall then be developed and put into practice.

7.2.2 The Manager/Head of School or Contractor who is responsible for the works shall ensure a safe system of work is produced in writing. They shall also ensure that everyone involved is properly trained and instructed so that they know what to do and how to do it safely.

The typical components of a safe system of work are detailed in sections 7.2.3 to 7.2.18 below. More detailed advice on safe systems of work and emergency procedures can be found in ACOP/Guidance 4 & 5 of the HSE Safe Work in Confined Spaces – Approved Code of Practice and Guidance.

7.2.3 Appointment of Supervisor

Supervisors must be appointed to oversee all confined space work. It is their responsibility to ensure all the necessary precautions are taken, that the safe system of work is being followed and if necessary to remain present while work is underway. It is the responsibility of the relevant Manager/Head of School or Contractor to appoint a suitably trained and experienced supervisor.

The degree of supervision will be based on the findings of the risk assessment. In some cases, periodic checks may be sufficient if the work is low risk and routine.

It is more likely that the level of risk will require a competent person to supervise the work and remain present while the work is being undertaken.

7.2.4 Competence

Specific training for work in confined spaces is required for all personnel involved in this type of work. They must have adequate training and experience in the particular work involved to be competent to work safely in a confined space.

The training will include topics such as:

- Awareness of the Confined Spaces Regulations and in particular the need to avoid entry where possible;
- An understanding of the work to be undertaken, the hazards, the safe system of work and all necessary precautions;
- An understanding of the Council's 'Permit to Work' procedures and systems;
- How emergencies arise, the need to follow prepared emergency plans and the dangers of not doing so.

It is the responsibility of the person responsible for the works, (ie. Manager/Head of School and/or Contractor) to ensure persons entering and working in a confined space have adequate training and experience to work safely. The Corporate Health

and Safety Team can be contacted for further support and advice regarding competency and training.

7.2.5 Communications

An adequate communication system is required to enable:

- Communication between people inside and people outside the confined space;
- Help to be summoned in an emergency;
- Emergency rescue procedures to be initiated.

Systems can include speech, tugs on a rope, telephones, radios etc. Equipment such as telephones and radios to be used in potentially flammable or explosive atmospheres should be specially protected so they do not present a source of ignition. The suitability of communication methods shall also be considered for any workers wearing breathing apparatus.

7.2.6 Testing the Air and Provision of Ventilation

The risk assessment may highlight a need to check that the atmosphere is free from both toxic and flammable vapours and that there is an adequate concentration of oxygen prior to entry. A competent person using a suitable gas detector, which is correctly calibrated, must carry out testing. Where the risk assessment indicates that conditions may change, or as a further precaution, continuous monitoring of the air may be necessary. Test results must be recorded on the permit to work.

Note: There are significant risks if the concentration of oxygen in the atmosphere varies significantly from normal (ie. 20.9%). Oxygen enrichment will increase the risk of fire and explosion and low oxygen levels can lead to impaired mental ability, unconsciousness and even death. Work must not be undertaken if the oxygen concentration is below 19.5% or over 21% unless a suitable risk assessment has been carried out and a safe system of work is in place.

It is the responsibility of the supervisor to ensure that air testing requirements identified by the risk assessment are carried out prior to entry by a competent person, who is trained in the use of the equipment and can interpret results.

Ventilation may be improved by increasing the number of openings, however, mechanical forced ventilation maybe necessary in order to ensure an adequate supply of fresh air, if this is the case, then continuous monitoring is required. Fresh air should be drawn from a point where it is not contaminated either by used air or other contaminants.

Use of portable gas cylinders and diesel equipment should be avoided where possible. If their use cannot be avoided, then forced ventilation is essential to prevent the accumulation of gases/fumes.

Warning: Carbon monoxide in the exhaust from petrol fuelled engines is so dangerous that use of such equipment in confined spaces must **never** be allowed.

7.2.7 **Decontamination before entry**

Residues may need to be removed from the confined space to allow work to be undertaken safely. It is essential to ensure fumes do not develop from such residues while the work is being done. Dangerous substances (e.g. hazardous gas, fume and vapours) can be released when residues are disturbed or when heat is applied to them. Therefore, the cleaning and removal of residues from the confined space must be carried out and the atmosphere tested before work can be started. It is the responsibility of the Manager to ensure effective decontamination is carried out.

7.2.8 **Isolation from gases, liquids and other flowing materials**

Confined spaces should be securely isolated from ingress of substances that could pose a risk to those working within the space. Methods of isolation may include:

- Complete disconnection of pipes and ducts.
- Insertion of blanks.
- Reliable valves that can be locked shut, providing there is no possibility of them being unlocked when people are inside the confined space.

Whatever means of isolation is used it must be tested to ensure it is sufficiently reliable by checking for substances to see if isolation has been effective.

7.2.9 **Isolation from mechanical and electrical equipment**

Some confined spaces contain electrical and mechanical equipment with power supplied from outside the space. The power must be disconnected and separated from the equipment unless the risk assessment specifically enables the system of work to allow power to remain on, either for the purposes of the task being undertaken or as vital services.
Isolation could include locking off the switch and formally securing the key in accordance with the Permit to Work system [see 'Other documents you may need to consider' for the Council's procedures on Permit to Work].

It is the responsibility of the supervisor to ensure that all necessary mechanical and electrical isolations (including lock-off of isolation switches) have been made and are effective.

7.2.10 **Selection and use of suitable equipment**

Any equipment provided for use in a confined space must be suitable for the purpose. Consideration should be given to:

- Likelihood of flammable atmospheres and sources of ignition.
- Emissions of fumes and gases.
- Risk of electrocution.
- Earthing requirements with regard to static electricity.
- Mechanical hazards (e.g. trapping, falling, shearing).

7.2.11 Personal Protective Equipment (PPE) and Respiratory Protective Equipment (RPE)

So far as reasonably practicable you should ensure that a confined space is safe to work in without the need for personal protective equipment (PPE) and respiratory protective equipment (RPE). PPE and RPE should be a last resort, except for rescue work (including the work of the emergency services), because its use can make movement more difficult, it can add to the effects of hot temperature and can be heavy.

If the risk assessment requires the use of PPE or RPE, then it must be assessed for suitability by a competent person and offer the correct level of protection. [See 'Other documents you may need to consider' for the Council's procedure on PPE].

7.2.12 Portable gas cylinders and internal combustion engines

Petrol-fuelled internal combustion engines should **never** be used in confined spaces because of the fumes they produce and the ease with which petrol vapour ignites.

The use of portable gas cylinders (for heat, power or light), and diesel-fuelled internal combustion engines are nearly as hazardous as petrol-fuelled engines and are inappropriate and therefore should be avoided within a confined space.

7.2.13 Gas supplied by pipes and hoses

The use of pipes and hoses for conveying oxygen or flammable gases into a confined space should be controlled to minimise the risks.

At the end of every working period:

- Supply valves for pipes and hoses must be securely closed before being withdrawn.
- Pipes and hoses must be withdrawn from the confined space to a well-ventilated area.
- Where pipes and hoses cannot be removed, they must be disconnected from the supply at a point outside the confined space and their contents safely vented.

7.2.14 Access and egress

The access/egress point must be suitable, unobstructed and big enough to allow workers wearing all the necessary clothing and equipment to climb in and out safely, allow for quick escape in an emergency and to allow adequate access for rescue purposes.

7.2.15 Fire prevention

Flammable and combustible materials must not be stored in confined spaces that have not been specifically created or allocated for that purpose. If this type of material must be used during work, it must be kept to a minimum and not be allowed to accumulate. Control of ignition sources and use of ventilation must also be

considered if there is a risk of flammable or potentially explosive atmospheres. Smoking is prohibited in all confined spaces including those outside buildings. The risk assessment may also require an exclusion area for smoking to a suitable distance beyond the confined space, for example where there is a risk of explosion.

7.2.16 Lighting

Adequate and suitable lighting, including emergency lighting, must be provided. The lighting must be specially protected if used where flammable or potentially explosive atmospheres and likely to occur. Lighting must also be protected against impacts and be suitable for use in wet environments. Where possible, residual current devices (RCD's) should be used to protect against electric shock, especially in wet or damp conditions.

7.2.17 Use of Permit to Work procedure

A permit to work ensures a formal check is undertaken to make sure all the elements of the safe system of work are in place before people are allowed to enter or work in the confined space. The permit to work procedure is an extension of the safe system to work, not a replacement for it or the risk assessment.

A permit to work will be required for any entering and working in confined spaces within Haringey Council. Permission to enter or work in a confined space can only be given by a person who has received appropriate training and is authorised to sign a permit to work for a confined space. It is the responsibility of the supervisor to ensure that a permit to work has been completed for every confined space entry.

The decision not to implement a permit to work system must only be taken by a competent person, bearing in mind the findings of the risk assessment and the requirement to ensure a safe system of work.

[For the Council's Permit to Work Procedure, see section 6.0 'Other documents you may need to consider'].

7.2.18 Suitability of persons

The competent person carrying out the risk assessment must consider the suitability of individuals working in the confined space. Persons required to enter confined spaces must have the physical strength and ability and shall not have pre-existing medical conditions that may put them or others in danger, such as claustrophobia, asthma.
In addition, prior to entering a confined space the supervisor must provide information and instructions to persons entering of the specific hazards, precautions to be applied and details of the rescue plan.
Consideration should also be given to limiting the time workers are allowed in a confined space, for example where RPE/PPE is used or where there are extremes of temperature or humidity, or where there is restricted space.

It is the responsibility of the person in charge of the works, ie. Manager/Head of School and Contractor to consider the suitability of persons entering and working in a confined space.

7.3 Emergencies and rescue

7.3.1 The arrangements for emergency rescue of persons must be suitable and sufficient and must be in place before any person enters or works in a confined space. The arrangements must not only take into account incidents arising out of specified risks but also those that arise out of rescuing others that, for example, may have collapsed or ceased to respond. Rescue plans must not endanger those entering the confined space.

7.3.2 To be suitable and sufficient the arrangements for rescue and resuscitation must include consideration of:

a) rescue and resuscitation equipment, such as an automated external defibrillator;
b) raising the alarm and rescue;
c) safeguarding the rescuers;
d) fire safety;
e) control of plant;
f) first aid;
g) public emergency services;
h) training.

7.3.3 It is the responsibility of the Manager/Head of School and Contractor responsible for the works to ensure an assessment of the emergency requirements has been made. It is the supervisor's responsibility to ensure any measures deemed necessary are in place **and tested** prior to any confined space entry.

8. Record Keeping

8.1 Permits to work and risk assessments should be filed with the contract documents (if appropriate) and be readily available for inspection outside the confined space. These records should be retained for a minimum of 3 years to enable an effective monitoring and audit process.

9. Monitoring and Review

9.1 Permit to Work monitoring checks should be undertaken by permit issuers, site management and supervisors to ensure compliance with instructions and control measures. These checks should be used to reinforce safe working practices on site.

9.2 This safety procedure must be reviewed by the Council's Corporate Health, Safety and Wellbeing Board within a period not greater than 26 months and where

necessary, it will be revised as soon as practicable where changes in statute or industry best practice deem the content out of date.

10. Approval of the Procedure

10.1 This safety procedure was reviewed by the Corporate Health, Safety and Wellbeing Board and approved by the Council's Head of Organisational Resilience on 15th February 2021. Any required variations from this safety procedure should be brought to the attention of the Council's Head of Organisational Resilience.

Approved by (print name):

Andrew Meek, Head of Organisational Resilience

Signature:

Date: 15.02.2021

APPENDIX 1

HSE Decision tree for a 'confined space'