CONFINED SPACE MANAGEMENT

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Health and Safety Policy			
Permit to Work Procedure			

Amendment History

Issue	Status	Date	Reason for Change	Authorised

Please note:

If you require a copy of this procedure in an alternative format (for example Large Print, Easy Read) or would like any assistance in relation to the content of this procedure, please contact the Human Resources (HR) team on 01803 656680.

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1. Introduction

Many workplaces contain spaces that are considered to be “confined” because the configuration or hazards within hinder or presents risk to the activities of any employees who must enter into, work in and exit from them.

There are specific responsibilities for the employer and employees to accidents within confined spaces under the following Acts and Regulations.

1.1 Health and Safety at Work Act 1974

This requires employers to ensure the health and safety of all employees and anyone who may be affected by their work, including any and all visitors to any part of the Trust’s premises. This includes taking steps to control confined spaces risks. Employees must not endanger themselves or others and must use any safety equipment provided. Manufacturers and suppliers have a duty to ensure that their products are safe. They must also provide adequate information about appropriate use.

1.2 Management of Health and Safety at Work Regulations 1999

These build on the Act and include duties on employers to assess risks and where necessary take action to safeguard health and safety.

1.3 Confined Spaces Regulations 1997

The Regulations place duties on employers, the self- employed, and any person who controls the work of others (e.g. facilities managers or building owners who may contract others to work in confined spaces) to the extent they control the work. It requires that work is undertaken safely and that the risks presented by confined spaces are adequately controlled. The regulations have an accompanying Approved Code of Practice (HSE L101) that has special legal status and contains further detail on the requirements for managing work in confined spaces.

2. Purpose

The purpose of this document is to enable the Trust to ensure that it provides, , a safe working environment in any confined space by ensuring that potential hazards are identified, a suitable and sufficient risk assessment is carried out, and a safe system of work developed and managed.

It sets out the steps to be taken by the Trust to ensure that staff/others do not work within confined spaces where it can be avoided. Where it is not possible all individuals entering a confined space must operate under a Permit to Work (PTW) in line with the Trust procedure.

3. Definitions

3.1 Confined Space

A “confined space” means any place, including any chamber, tank, vat, pit, trench, pipe, sewer, flue, well, service ducts or other similar space in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk.

Under the Regulations a “confined space” must have both of the following defining features:

- It must be a space which is substantially (though not always entirely) enclosed; and
- One or more of the specified risks must be present or reasonably foreseeable.

Some confined spaces are fairly easy to identify, for example sewers and closed tanks used to store chemicals. However, identification may not always be so easy, as a confined space **is not necessarily**:

- Enclosed on all sides – some, such as vats, and sumps, may have open tops or sides
- Small and/or difficult to work in – some, like plant rooms and tunnels, can be very large
- Difficult to get in or out of – some have several entrances/exits, others have quite large openings or are apparently easy to escape from
- A place where people do not regularly work – some confined spaces (such as those used for spray painting in car repair centers) are used regularly by people in the course of their work.
- Temporary confined space by virtue of temporary process

A flow chart to assist in the identification of a confined space can be seen at Appendix 1.

3.2 Specified Risk

A “specified risk” means a risk of:

- Serious injury to any person at work arising from a fire or explosion
- The loss of consciousness of any person at work arising from an increase in body temperature
- The loss of consciousness or asphyxiation of any person at work arising from gas, fume, vapour or the lack of oxygen
- The drowning of any person at work arising from an increase in the level of liquid
- 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

4. Roles and Responsibilities

4.1 Chief Executive

The Chief Executive has overall responsibility for the implementation of this procedure and in turn this responsibility is discharged to the Director of Estates & Commercial

Development.

4.2 Director of Environment

The Director of Environment is responsible for the operation and management of Confined Spaces within the Trust and the successful implementation, management and monitoring of this procedure.

4.3 Head of Estates Operations

The Head of Estates Operations is responsible for:

- Ensuring a register and drawings is maintained of all Trust confined spaces
- Provision and recording of risk assessments and method statements for all work in Confined Spaces
- Implementation of appropriate safe systems of work and recording of safety documentation
- Maintenance of a register of specialist contractors approved for working in confined spaces
- Control of specialist contractors working in confined spaces
- Ensuring that the Trust's Estates staff are appropriately trained and supervised when working in a confined space
- Ensuring all air quality monitoring equipment is well maintained and calibrated

4.4 Estates Managers

Estates Managers are responsible for:

- Ensuring unauthorised access to confined spaces is prevented
- Ensuring that the access points to all confined spaces are clearly signed to indicate the hazards within and that no unauthorized access is permitted and a permit must be obtained before entry
- Avoiding entry into a confined space as far as is reasonably practicable
- Ensuring that, where entry into any confined space cannot be avoided, a suitable and sufficient assessment of the risks to health and safety has been carried out
- Ensuring that all staff involved in entry into confined spaces are aware of this policy, understand its contents and comply with local procedures and safe systems of work
- Ensuring employees are consulted when assessing the risks connected with entering or working in a confined space

- Ensuring that prior to entry into a confined space, a written safe system of work, including emergency procedures, has been developed and a PTW issued, and that suitable equipment is provided

- Ensuring all staff that will enter a confined space are fit to do so, and seeking Occupational Health advice where appropriate

- Ensuring that all staff that will enter confined spaces and those who issue a PTW, have appropriate information, instruction, training and supervision in confined space working

- Ensuring the confined spaces register is populated and kept up to date

4.5 Estates Managers and Supervisors who issue a PTW

Those who issue a PTW are responsible for:

- Assessing all associated risks involved in the entry into confined spaces

- Developing a safe system of work for the confined space

- Ensuring all necessary precautions, equipment and emergency procedures are taken

- Ensuring suitable and sufficient equipment is provided to be involved in confined spaces work

- Checking with employees, that they are fit and healthy and confirm their suitability for work in confined spaces

- Checking safety at each stage of the work

- The issue of the permit to work and its cancellation

4.6 Employees

All employees have a responsibility to abide by this procedure and any decisions arising from the implementation of it and are responsible for:

- Contacting their line manager if they have any concerns or doubts about their safety due to the condition of location they are being asked to work in.

- Assisting with the assessment of risks

- Complying with any safe system of work developed through risk assessment and any requirements of a permit to work

- Ensuring they are physically fit and healthy to be involved in work with confined spaces and notifying their line manager of any changes

- Ensuring all equipment is available and is suitable and sufficient
- Informing their managers if they suspect that the system of work in place is ineffective or inadequate
- Reporting all incidents (including near misses and any defects in equipment) using the Trusts designated incident reporting system.
- Securing all confined spaces against unauthorised access
- Reporting any confined space hazards that they become aware of to their manager

5. Risk Assessment

If it is not reasonably practicable to avoid the need to work in a confined space the duty holder must assess the risks connected with entering or working in the space. The assessment should 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 work to be undertaken. The risk assessment must be carried out by someone competent to do so.

A competent person for these purposes will be someone with the necessary skills, knowledge and experience of, and familiarity with, the relevant processes, plant and equipment. They must be able to 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 assess the risks relating to specific areas.

The risk assessment should look at the following areas:

- Hazards within the space e.g. contaminants, heat, electrical, radiation, sparks and gases
- Work required to be done within the space, including whether it is necessary to enter, will the nature of the work change existing hazards in the confined space or introduce new hazards
- The range of methods by which work can be done
- Equipment required and the hazards associated with these e.g. welding in a flammable area can be hazardous
- Number of persons required to enter the space, number required outside space to maintain equipment essential for work in the confined space and for communication with those inside
- The identity and nature of the substances last contained in the confined space
- The atmospheric testing to be undertaken and the parameters to be tested before PTW is issued
- The availability and adequacy of personal protective equipment

- Whether cleaning the confined space is necessary
- Whether hot work is to be conducted within the space
- Whether certain activities, equipment or substances should be prohibited from the area e.g. naked flames, combustion sources
- The emergency procedures and means of escape from the confined space

An example of the hazards associated with confined spaces has been attached at Appendix 2

6. Training

Workers must have adequate training and experience in the particular work involved to be competent to work safely in a confined space. Training standards must be appropriate to the task, and to the individual's roles and responsibilities, so that work can be carried out safely.

Where the risk assessment indicates that properly trained individuals can work for periods without supervision, checks should be made that they are competent to follow the established safe system of work and have been provided with adequate information and instruction about the work to be done

7. Safe System of Work (SSOW)

Where it is not reasonably practicable to avoid entering a confined space to undertake work, the duty holder is responsible for ensuring that a SSOW is used. In designing a SSOW, they should give priority to eliminating the source of any danger before deciding what precautions are needed for entry.

The SSOW must consider the findings and control measures documented in the risk assessment for the particular confined space in question.

To be effective, a SSOW must be in writing and be specific to the particular confined space and the work activity being carried out, it must clearly document the precautions to be taken including:

- The safe means of access and egress
- The risk control measures and the reasons for their application
- The means for preventing unauthorised access when there is no need for anybody to access the confined space
- The means of emergency evacuation

When written down it is a formal record that all foreseeable hazards and risks have been considered in advance, and the necessary precautions have been taken and are in place before the work is allowed to begin. The safe procedure consists of all appropriate precautions taken in the correct sequence. In practice, a SSOW will only ever be as good as its implementation.

8. Communications

All work in confined spaces will be carried out by a minimum of 2 persons; one person will act as the safety person and will remain at the entrance to the confined space throughout the work. An adequate communication system must be in place and should enable communication:

- Between those inside the confined space
- Between those inside the confined space and those outside
- To summon help in case of emergency

Whatever system is used, and it can be based on speech, tugs on a rope, the telephone, radio etc., all messages should be able to be communicated easily, rapidly and unambiguously between relevant people. Consideration must be given to whether the communication methods are appropriate for any workers wearing breathing apparatus. The communication system should also cover the need for those outside the space to raise the alarm and set in motion emergency rescue procedures.

Any communication system should incorporate active, positive verification on a frequent basis that the persons inside the confined space are safe. This could be a regular communication on the radio or a routine pull of a rope that is responded too. The communication system should not rely on those inside the confined space being able to raise the alarm.

Equipment such as telephones and radios should be specially protected so that it does not present a source of ignition where there is a risk of flammable or potentially explosive atmospheres.

9. Testing/monitoring the atmosphere

Prior to entry, the atmosphere within a confined space should be tested to check the oxygen concentration or for the presence of hazardous gas, fume or vapour.

Testing should be carried out where knowledge of the confined space (e.g. from information about its previous contents or chemicals used in a previous activity in the space) indicates that the atmosphere might be contaminated or to any extent unsafe to breathe, or where any doubt exists as to the condition of the atmosphere. Testing should also be carried out if the atmosphere was known to be contaminated previously, was ventilated as a consequence, and needed to be tested to check the result.

Where testing is required it should be carried out using a recognized calibrated instrument by a competent person.

10. Permit to Work (PTW)

A PTW system is a formal written system and is required where there is a reasonably foreseeable risk of serious injury in entering or working in the confined space.

The PTW procedure is an extension of the safe system to work, not a replacement for it.

The use of a PTW system does not, by itself, make the job safe. It supports the SSOW, providing a ready means of recording findings and authorizations required to proceed with the entry. It also contains information, on results of the gas testing, and other information that may be required during an emergency and which, when the job is completed, can also provide historical information on original entry conditions.

All work in Confined Spaces will be controlled by a PTW using the Estates Confined Space Permit to Work Procedure, which is a separate document, a copy of which can be seen at Appendix 3.

11. References

The following references and further reading are applicable to this document:

- Health and Safety at Work Act etc. 1974
- Management of Health and Safety at Work Regulations 1999
- Confined Spaces Regulations 1997
- HSE - Safe work in confined spaces: Approved Code of Practice and Guidance L101

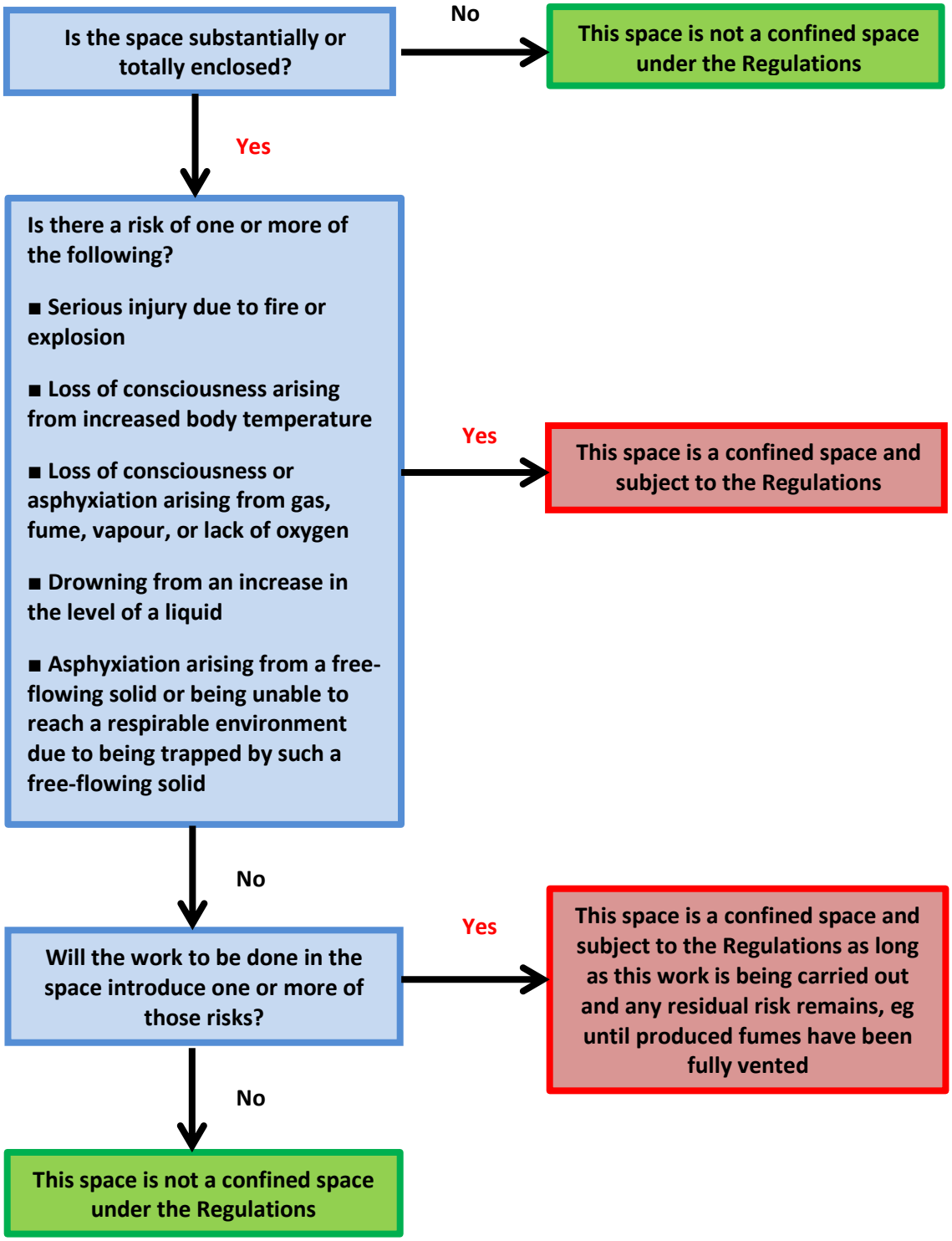
12. Appendices

Appendix 1 – Confined Spaces Flow chart

Appendix 2 – Examples of the hazards associated with confined spaces

Appendix 3 – Copy of the Estates Confined Spaces PTW Form (Separate Document)

Appendix 1


Is the space substantially or totally enclosed?
No
This space is not a confined space under the Regulations
Yes
Is there a risk of one or more of the following?
■ Serious injury due to fire or explosion
■ Loss of consciousness arising from increased body temperature
■ Loss of consciousness or asphyxiation arising from gas, fume, vapour, or lack of oxygen
■ Drowning from an increase in the level of a liquid
■ Asphyxiation arising from a free-flowing solid or being unable to reach a respirable environment due to being trapped by such a free-flowing solid
Yes
This space is a confined space and subject to the Regulations
No
Will the work to be done in the space introduce one or more of those risks?
Yes
This space is a confined space and subject to the Regulations as long as this work is being carried out and any residual risk remains, eg until produced fumes have been fully vented
No
This space is not a confined space under the Regulations

Appendix 2

Hazards of Confined Spaces

The hazards of working in a confined space arise through a combination of the nature of the working space itself, and the possible presence of substances or conditions which, taken together, increase the risk to the employee's health and safety. A serious risk can be introduced to a substantially enclosed space that otherwise would be safe. The most likely hazards (but not the only ones) are:

1. Oxygen Deficiency

Below the usual level of about 21.%, people become less able to function properly and eventually lose consciousness. Oxygen deficiency can be caused by biological or chemical processes consuming the oxygen in an enclosed chamber; as a result of purging with an inert gas to remove contaminants; or as a result of the work itself e.g. welding or even the respiration of workers if the fresh air is inadequate.

2. Toxic Gases Fumes or Vapour

Toxic vapours of many types can accumulate in a confined space for a variety of reasons. These include:

- Vapour from disturbed deposits or sludge, remains from previous processing or storage, or residues from cleaning
- Vapour produced by the work itself e.g. welding fume, lead fume, brush or spray painting, solvents from cleaning
- Vapour produced by work outside the confined space can also cause fumes to be given off inside
- Vapour can seep in from surrounding areas whilst work is in progress

If the presence of contaminated air is known or suspected, stringent precautions must be taken to protect those inside or about to enter.

3. Ingress of Water, Other Liquids of Free-Flowing Solid Substances

Work in a tunnel, duct or vessel, could result in someone inside finding themselves in water (or another liquid) which is rising dangerously. A similar danger of drowning exists with free-flowing solids like grain, or finely divided chemicals in large store facilities like a storage bin. Inadvertent operation of machinery could result in gas or steam being allowed to enter where people are at work. Whilst some of these possibilities are extremely unlikely at Trust sites, consideration should be given to the possibility of blocked drains causing a rapid buildup of rainwater during heavy precipitation or sudden leaks from pipework causing water, gas or steam to rapidly enter a space. The possibilities must be considered as part of the risk assessment.

4. Flammable Substances and Oxygen Enrichment

Biological and chemical processes can also cause oxygen concentration in a confined space to rise. If this is coupled to the presence of flammable or explosive gases (or dust) and a source of ignition, then there is a real risk of fire or explosion. Greases and other hydrocarbons can react violently with oxygen at pressure so extreme care is needed for any confined space where this could be possible.

7. Excessive Heat

The presence of elevated (or rising) temperatures will exacerbate the exhausting effects of strenuous work, and increase any possibility of fire or explosion, and increase the generation of any toxic fume or vapour.

Appendix 3 – example copy of Confined Space Permit to Work Form

Torbay and South Devon NHS
NHS Foundation Trust

Estates and Facilities Standard Form

Confined Space Permit to Work

Applicability: This permit establishes that all hazards have been identified and controlled and it lists the confined space entry supervisor and authorised entrants and attendants.

Instructions: This form must be signed by the authorising person, Section 5, before entry and it must be kept at the works location. Once the work is completed, the authorising person must close the permit by signing Section 6.

NB – Working in a confined space is strictly prohibited unless all other practicable measures not to enter have been have been considered

1. Permit Conditions **Permit No.** .....

Reason for entry:	Permit Valid On				
	Date				
	Time	From		To	
Names of Personnel	Duty/Responsibility				
	Supervisor				
Location/Site Address:					
Known and potential hazards:					
Additional required permits (for example hot work):					

2. Requirements Checklist (*tick all that apply and specify as necessary*)

Risk Assessment attached	☐	Method Statement Attached and Approved			☐
Equipment			PPE		
☐ Full Body Harness	☐ Tripod/hoist		Gloves	☐ Leather	☐ Impervious
☐ Lifeline	☐ Gas Monitors		Gloves	☐ Chemical	☐ Other
☐ Warning Signs	☐ Guarding		Face / Eye Protection		☐ Face Shield
☐ Ladder	☐ Fall Protection		☐ Goggles		☐ Other :-
☐ Ventilation Fan or blower			☐ Coveralls (Type) :-		
☐ Fire Extinguisher (Type) :-			☐ Footwear (Type) :-		
☐ Self Contained breathing apparatus (SCBA)			☐ Head Protection		
☐ Radio			☐ Lighting (Hazardous Location Rated)		
☐ Other :-					

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Authorised by Director

Rapid Equality Impact Assessment *(for use when writing policies and procedures)*

Policy Title (and number)	Confined Space Management Procedure	**Version and Date**	*V3 December 2022*
Policy Author	SE, KW		

An equality impact assessment (EIA) is a process designed to ensure that a policy, project or scheme does not discriminate or disadvantage people. EIAs also improve and promote equality. Consider the nature and extent of the impact, not the number of people affected.

EQUALITY ANALYSIS: How well do people from protected groups fare in relation to the general population?
PLEASE NOTE: Any 'Yes' answers may trigger a full EIA and must be referred to the equality leads below

Is it likely that the policy/procedure could treat people from protected groups less favorably than the general population? (see below)

Age	Yes ☐ No ☒	Disability	Yes ☒ No ☐	Sexual Orientation	Yes ☐ No ☒
Race	Yes ☐ No ☒	Gender	Yes ☐ No ☒	Religion/Belief (non)	Yes ☐ No ☒
Gender Reassignment	Yes ☐ No ☒	Pregnancy/ Maternity	Yes ☒ No ☐	Marriage/ Civil Partnership	Yes ☐ No ☒

Is it likely that the policy/procedure could affect particular 'Inclusion Health' groups less favorably than the general population? (substance misuse; teenage mums; carers[1]; travellers[2]; homeless[3]; convictions; social isolation[4]; refugees)	Yes ☐ No ☒

Please provide details for each protected group where you have indicated 'Yes'.
Due to the nature of what this procedure covers – those with some disabilities or under maternity/pregnancy risk assessments may need to be excluded from working in confined spaces to protect them as per Health and Safety legislation as dependent on risk assessment and other policies and procedures

VISION AND VALUES: Policies must aim to remove unintentional barriers and promote inclusion

Is inclusive language[5] used throughout?	Yes ☒ No ☐
Are the services outlined in the policy/procedure fully accessible[6]?	Yes ☒ No ☐
Does the policy/procedure encourage individualised and person-centered care?	Yes ☒ No ☐
Could there be an adverse impact on an individual's independence or autonomy[7]?	Yes ☐ No ☒

If 'Yes', how will you mitigate this risk to ensure fair and equal access?

EXTERNAL FACTORS

Is the policy/procedure a result of national legislation which cannot be modified in any way?	Yes ☒ No☐

What is the reason for writing this policy? (Is it a result in a change of legislation/ national research?)

Review due

Who was consulted when drafting this policy/procedure? What were the recommendations/suggestions?

Trust Health and Safety Committee members and Head of Estates Operations

ACTION PLAN: Please list all actions identified to address any impacts

Action	Person responsible	Completion date

AUTHORISATION:

By signing below, I confirm that the named person responsible above is aware of the actions assigned to them			
Name of person completing the form	Senior Corporate Health & Safety Advisor	**Signature**	SE
Validated by (line manager)	Corporate Health & Safety Manager	**Signature**	KW

Any issues Please contact Diversity & Inclusion Lead

[1] Consider any additional needs of carers/ parents/ advocates etc., in addition to the service user
[2] Travelers may not be registered with a GP - consider how they may access/ be aware of services available to them
[3] Consider any provisions for those with no fixed abode, particularly relating to impact on discharge
[4] Consider how someone will be aware of (or access) a service if socially or geographically isolated
[5] Language must be relevant and appropriate, for example referring to partners, not husbands or wives
[6] Consider both physical access to services and how information/ communication in available in an accessible format
[7] Example: a telephone-based service may discriminate against people who are d/Deaf. Whilst someone may be able to act on their behalf, this does not promote independence or autonomy