TETRA TECH COFFEY

**Mirvac Real Estate Pty Ltd**

# Confined Spaces Assessment

## 1 Southbank Boulevard, 4 Riverside Quay, and 6 Riverside Quay, Southbank, VIC 3006

28 October 2022

Project Ref: 754-SYDEN228268 – 1SBB, 4RSQ and 6RSQ Confined Space Report 2022

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# CONFINED SPACES ASSESSMENT

Prepared for
Mirvac Real Estate Pty Ltd

Prepared by
Coffey Services Australia Pty Ltd
Level 19, Tower B, 799 Pacific Highway
Chatswood NSW 2067 Australia
t: +61 2 9406 1000 f: +61 2 9406 1002
ABN: 55 139 460 521

28 October 2022

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## Quality information

### Revision history

| Revision | Description | Date | Originator | Reviewer | Approver |
|---|---|---|---|---|---|
| R01 | Final | 28/10/2022 | Phoebe Quessy | Ben McCann | Ben McCann |

### Distribution

| Report Status | No. of copies | Format | Distributed to | Date |
|---|---|---|---|---|
| R01 Final | 1 | PDF | Mirvac Real Estate Pty Ltd | 28/10/2022 |

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# EXECUTIVE SUMMARY

Tetra Tech Coffey Pty Ltd (TTC) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at 1 Southbank Boulevard, 4 and 6 Riverside Quay, Southbank VIC, 3006 (the site). Phoebe Quessy and Wilson Kong of TTC carried out the assessment on 25th May 2022. For the purpose of this assessment, the principal definition of a confined space is that described in the *Occupational Health & Safety Regulations 2017 (VIC)*.

Identified confined spaces were not entered by personnel at the time of the assessment, therefore the risk assessments contained in this report are limited to general observations made. A more detailed task specific risk assessment is required prior to entering any confined spaces identified in this report.

## Assessment Findings

The following findings are based on the site inspection, discussions with site personnel, and review of relevant documentation:

- A total of 52 confined spaces were identified at the site.
- 17 of the confined spaces were appropriately signposted, however 35 of the confined spaces were not signposted (e.g. the majority of the underground pits on the Basement Level).
- All confined spaces appeared to be appropriately secured from unauthorised access at the time of the assessment.

Note: Refer to **Appendix A** for the confined space register and **Appendix C** for photographs.

## Recommended Actions

The following actions are recommended, based on the above findings:

- Ensure a task specific risk assessment is conducted prior to commencing any works within a confined space.
- Ensure that all the confined spaces throughout the site are appropriately signposted. Ensure the signage complies with *AS 2865:2009 Confined Spaces*, Section 3.2.2. Refer to **Appendix D** for examples of confined space safety signage.
- Ensure a confined space entry permit system is available for the site and appropriately implemented. The permit should include space for details regarding plant and service isolations, space specific risk assessment, atmospheric testing results, risk control measures to be utilised, PPE required, and emergency rescue procedures.
- Ensure the confined space entry permit includes a procedure for the isolation and tag out of plant and services associated with work in confined spaces.
- Ensure all staff and contractors working within areas containing confined spaces at the site are provided with appropriate information, instruction and training to ensure they are able to work safely in these areas. It is recommended that this be managed within the site induction.
- Although it was not possible to access the spaces at the time of the inspection, they have been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.
- Avoid entering the confined spaces if possible e.g. conduct cleaning/maintenance activities from outside etc.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure task specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.

- All works and access in relation to confined spaces must be undertaken in accordance with the *Occupational Health & Safety Regulations 2017 (VIC),* the *Compliance Code: Confined Spaces (WorkSafe Victoria, 2019)* and A*S 2865:2009 Confined Spaces*.
- TTC is able to assist the client to implement the above recommended actions.

# 1. INTRODUCTION

Tetra Tech Coffey Pty Ltd (TTC) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at 1 Southbank Boulevard, 4 and 6 Riverside Quay, Southbank VIC, 3006. Phoebe Quessy and Wilson Kong of TTC carried out the assessment on 25th May 2022. For the purpose of this assessment, the principal definition of a confined space is that described in the *Occupational Health & Safety Regulations 2017 (VIC)*.

Identified confined spaces were not entered by personnel at the time of the assessment, therefore the risk assessments contained in this report are limited to general observations made. A more detailed specific risk assessment is required prior to entering any confined spaces identified in this report.

## 1.1 Site Description

The site consisted of 3 adjacent 7 level office buildings (approximately 33,000m$^2$ total). The buildings were constructed between 1986 and 1988. The site was occupied at the time of the assessment.

# 2. SCOPE

The objective of the Confined Spaces Assessment was to identify and assess confined spaces at the site, and manage the associated risks to the health and safety of site occupants (including workers, students, visitors and contractors). The assessment included a physical inspection of accessible areas of the site, as well as discussions with relevant site personnel, and a review of relevant systems/documentation.

## 2.1 Inaccessible Areas

The following areas were not accessible during the inspection:

- Within confined spaces, voids and ceiling spaces.
- Within plant and machinery.
- Lift shafts and pits.
- Below cars and stored items.
- Occupied rooms and tenanted areas.
- Roof areas.

# 3. WHAT IS A CONFINED SPACE?

The *Occupational Health & Safety Regulations 2017 (VIC)* defines a confined space as a space in any vat, tank, pit, pipe, duct, flue, oven, chimney, silo, reaction vessel, container, receptacle, underground sewer or well, or any shaft, trench or tunnel or other similar enclosed or partially enclosed structure, if the space:

a) is, or is intended to be, or is likely to be, entered by any person; and
b) has a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space; and
c) is, or is intended to be, at normal atmospheric pressure while any person is in the space; and
d) contains, or is intended to contain, or is likely to contain:
    (i) an atmosphere that has a harmful level of any contaminant; or
    (ii) an atmosphere that does not have a safe oxygen level, or
    (iii) any stored substance, except liquids, that could cause engulfment.

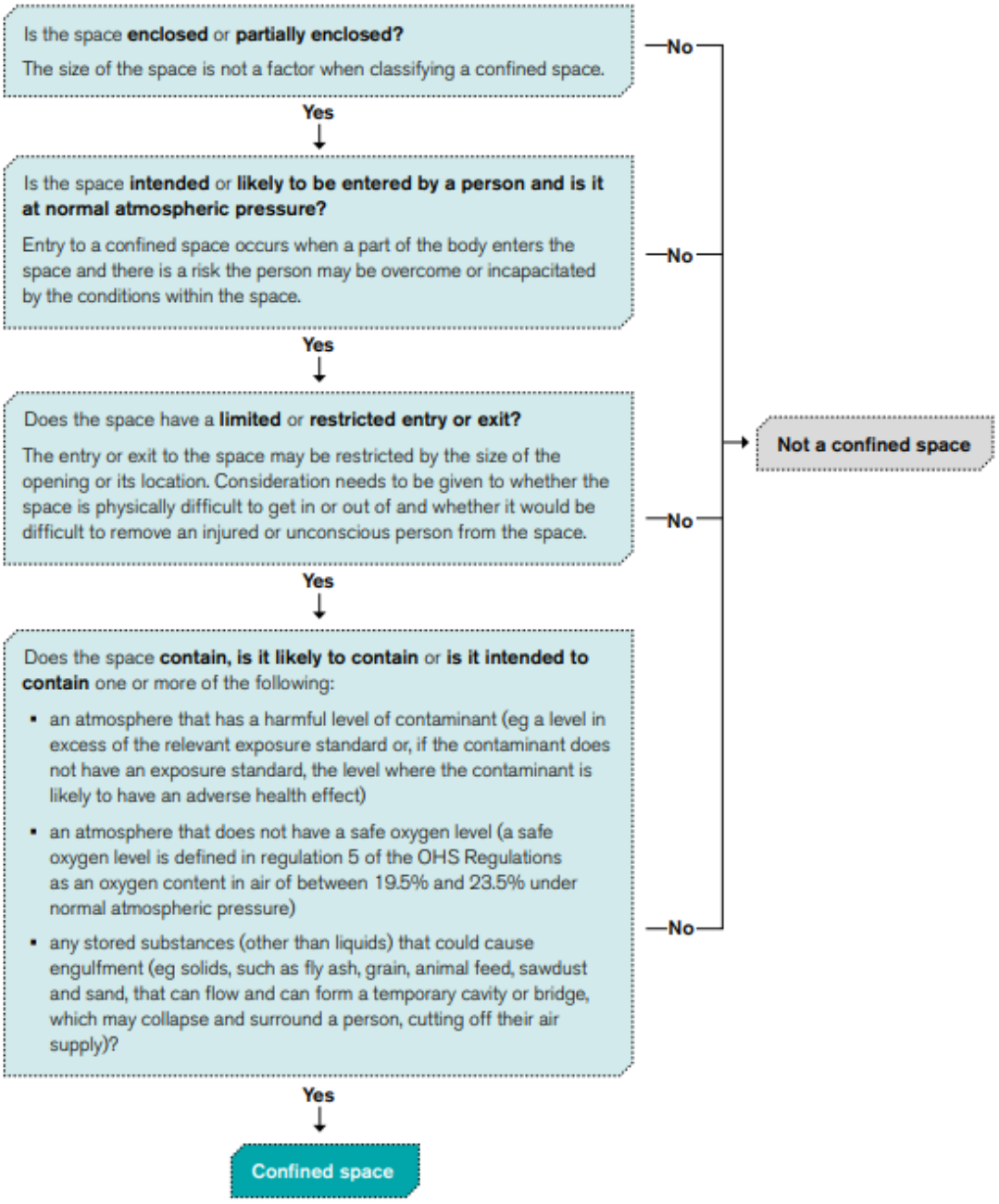
Note: The above definition does not include a shaft, trench or tunnel that is a mine or is part of the workings of a mine.

Section 55 (1) of the *Occupational Health & Safety Regulations 2017 (VIC)* states that 'an employer must so far as is reasonably practicable, identify all hazards associated with work in a confined space.

Section 56 (1) of the *Occupational Health & Safety Regulations 2017 (VIC)* states that 'an employer must so far as is reasonably practicable, eliminate any risk associated with work in a confined space.

Section 54 of the Regulations also state that the requirements relating to confined spaces within the Regulations refer to confined spaces that are under the employers management or control. For this reason, confined spaces that are identified on site but that fall under the management or control of another employer may not be included in this report. Examples of such confined spaces include storm water drains and sewer pits (managed by the local water authority), and underground electrical substations (managed by the local power authority).

Further explanation of a confined space definition is explained in the figure below:




**Source: Compliance Code: Confined Spaces 2019**

# 4. RISK ASSESSMENT

Risk assessments have been conducted for each confined space identified on site. The risk assessments considered the nature of the confined space, including its location, frequency of entry, work performed, the nature of the potential hazards present and the controls currently in place. Each identified potential hazard was risk assessed, based on the likelihood of an event occurring, and the consequence or outcome of that event in general terms. An overall risk rating of Low, Medium, High, Very High or Extreme was then assigned to each hazard using the provided risk assessment matrix (refer to Risk Matrix below). The assessment of the risk is a subjective assessment and is to be used for guidance purposes in relation to selecting and implementing corrective actions.

**Risk Matrix**

| LIKELIHOOD | CONSEQUENCE | | | | |
|---|---|---|---|---|---|
| | **Insignificant** (No injuries) | **Minor** (First aid only) | **Moderate** (Medical treatment) | **Major** (Extensive injuries, loss of production) | **Catastrophic** (Fatality / permanent disability) |
| **Almost Certain** (Expected in most circumstances) | Medium | High | Very High | Extreme | Extreme |
| **Likely** (Will probably occur in most circumstances) | Medium | High | Very High | Extreme | Extreme |
| **Possible** (Might occur at some time) | Low | Medium | High | Very High | Extreme |
| **Unlikely** (Not likely to occur) | Low | Low | Medium | High | Very High |
| **Rare** (May occur only in exceptional circumstances) | Low | Low | Medium | High | High |

Where the hazards associated with work in particular confined spaces are similar in nature, a group risk assessment has been prepared. Separate space specific risk assessments will be prepared for any confined spaces identified as having unique hazards or risks that are different to the group risk assessment.

Refer to **Appendix B** for confined space risk assessments.

# 5. FINDINGS

The following findings are based on the site inspection, discussions with site personnel, and review of relevant documentation:

- A total of 52 confined spaces were identified at the site.
- 17 of the confined spaces were appropriately signposted, however 35 of the confined spaces were not signposted (e.g. the majority of the underground pits on the Basement Level).
- All confined spaces appeared to be appropriately secured from unauthorised access at the time of the assessment.

Note: Refer to **Appendix A** for the confined space register and **Appendix C** for photographs.

# 6. RECOMMENDED ACTIONS

The following actions are recommended, based on the above findings:

- Ensure a task specific risk assessment is conducted prior to commencing any works within a confined space.
- Ensure that all the confined spaces throughout the site are appropriately signposted. Ensure the signage complies with *AS 2865:2009 Confined Spaces*, Section 3.2.2. Refer to **Appendix D** for examples of confined space safety signage.
- Ensure a confined space entry permit system is available for the site and appropriately implemented. The permit should include space for details regarding plant and service isolations, space specific risk assessment, atmospheric testing results, risk control measures to be utilised, PPE required, and emergency rescue procedures.
- Ensure the confined space entry permit includes a procedure for the isolation and tag out of plant and services associated with work in confined spaces.
- Ensure all staff and contractors working within areas containing confined spaces at the site are provided with appropriate information, instruction and training to ensure they are able to work safely in these areas. It is recommended that this be managed within the site induction.
- Although it was not possible to access the spaces at the time of the inspection, they have been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.
- Avoid entering the confined spaces if possible e.g. conduct cleaning/maintenance activities from outside etc.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure task specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- All works and access in relation to confined spaces must be undertaken in accordance with the *Occupational Health & Safety Regulations 2017 (VIC),* the *Compliance Code: Confined Spaces (WorkSafe Victoria, 2019)* and A*S 2865:2009 Confined Spaces*.
- TTC is able to assist the client to implement the above recommended actions.

# 7. REFERENCES


- *Occupational Health & Safety Act, 2004 (VIC).*
- *Occupational Health & Safety Regulations, 2017 (VIC).*
- *Compliance Code: Confined Spaces (WorkSafe Victoria, 2019).*
- *Australian Standard 2865:2009 Confined Spaces.*

# 8. LIMITATIONS

This report and the associated services performed by Tetra Tech Coffey are in accordance with the scope of services set out in the contract between Tetra Tech Coffey and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

Tetra Tech Coffey derived the data in this report primarily from visual inspections, examination of available records, and interviews with individuals with relevant information about the site. In preparing this report, Tetra Tech Coffey has relied upon, and presumed accurate, certain information (or absence thereof) provided by government authorities, the Client and others identified herein. Except as otherwise stated in the report, Tetra Tech Coffey has not attempted to verify the accuracy or completeness of any such information.

No warranty, undertaking, or guarantee, whether expressed or implied, is made with respect to the data reported or to the findings, observations, and recommendations expressed in this report. Furthermore, such data, findings, observations, and recommendations are based solely upon existence at the time of the assessment. The passage of time, manifestation of latent conditions or impacts of future events (e.g. changes in legislation, scientific knowledge, land uses, etc.) may require further investigation at the site with subsequent data analysis and re-evaluation of the findings, observations, and recommendations expressed in this report.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between Tetra Tech Coffey and the Client. Tetra Tech Coffey accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties. It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

# APPENDIX A: CONFINED SPACES REGISTER

| Confined Spaces Register | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Space ID | Type | Level | Location / Comments | Secure | Signage | Dimensions | Risk Assessment | Photo |
| 001-005 | Cooling Tower x 5 | R | 1 SBB, Plant Room | Yes | Yes | 20 $m^3$ | A | 01 |
| 006-009 | Water Tank x 4 | R | 1 SBB, Plant Room | Yes | 3 Yes, 1 **No** | 4 $m^3$ | B | 02 |
| 010-012 | Cooling Tower x 3 | R | 4 RSQ, Plant Room | Yes | Yes | 25 $m^3$ | A | 03 |
| 013-014 | Drinking Water Tank x 2 | R | 4 RSQ, Plant Room | Yes | Yes | 4 $m^3$ | B | 04 |
| 015-016 | Flusher Water Tank x 2 | R | 4 RSQ, Plant Room | Yes | Yes | 4 $m^3$ | B | 05 |
| 017-018 | Drinking Water Tank x 2 | R | 6 RSQ, Plant Room | Yes | **No** | 4 $m^3$ | B | 06 |
| 019-020 | Flusher Water Tank x 2 | R | 6 RSQ, Plant Room | Yes | **No** | 4 $m^3$ | B | 07 |
| 021-022 | Chilled Water Tank x 2 | R | 6 RSQ, Plant Room | Yes | **No** | 4 $m^3$ | B | 08 |
| 023 | Unknown Pit | B | Basement, adjacent parking bay 50 | Yes | **No** | Unknown | C | 09 |
| 024 | Above Ground Grease Trap | B | Basement, parking bay 94 (4 RSQ) | Yes | Yes | 2 $m^3$ | D | 10 |
| 025 | Unknown Pit | B | Basement, adjacent parking bay 54 | Yes | **No** | Unknown | C | 11 |
| 026 | Unknown Pit | B | Basement, adjacent parking bay 60 | Yes | **No** | Unknown | C | 12 |
| 027 | Unknown Pit | B | Basement, parking bay 47 | Yes | **No** | Unknown | C | 13 |
| 028 | Unknown Pit | B | Basement, parking bay 63 | Yes | **No** | Unknown | C | 14 |
| 029-030 | Unknown Pit x 2 | B | Basement, adjacent 1 SBB lift lobby | Yes | **No** | Unknown | C | 15 |
| 031 | Grease Interceptor Pit | B | Basement, adjacent 1 SBB lift lobby | Yes | **No** | Unknown | F | 15 |

| Confined Spaces Register | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Space ID | Space ID | Space ID | Space ID | Space ID | Space ID | Space ID | Space ID | Space ID |
| 032 | Unknown Pit | B | Basement, adjacent 1 SBB lift lobby, end of trip | Yes | **No** | Unknown | C | 16 |
| 033 | Sewer Tank | B | Basement adjacent 4RSQ lift lobby | Yes | **No** | 1 $m^3$ | E | 17 |
| 034 | Water Tank | B | Basement, adjacent parking bay 97 | Yes | Yes | 4 $m^3$ | B | 18 |
| 035-036 | Grease Interceptor Pit x 2 | B | Basement, adjacent parking bay 112 | Yes | **No** | Unknown | F | 19 |
| 037 | Unknown Pit | B | Basement, adjacent parking bay 157 | Yes | **No** | Unknown | C | 20 |
| 038 | Unknown Pit | B | Basement, adjacent parking bay 151 | Yes | **No** | Unknown | C | 21 |
| 039 | Unknown Pit | B | Basement, parking bay 156 | Yes | **No** | Unknown | C | 22 |
| 040 | Unknown Pit | B | Basement, parking bay 143 | Yes | **No** | Unknown | C | 23 |
| 041-042 | Grease Interceptor Pit x 2 | B | Basement, parking bay 126 and 127 | Yes | **No** | Unknown | F | 24 |
| 043 | Above Ground Grease Trap | B | Basement, adjacent parking bay 126 and 127 | Yes | **No** | 2 $m^3$ | D | 25 |
| 044 | Unknown Pit | B | Basement, parking bay 130 | Yes | **No** | Unknown | C | 26 |
| 045 | Unknown Pit | B | Basement, parking bay 131 | Yes | **No** | Unknown | C | 27 |
| 046 | Unknown Pit | B | Basement, adjacent parking bay 164 | Yes | **No** | Unknown | C | 28 |
| 047 | Grease Interceptor Pit | B | Basement, adjacent parking bay 164 | Yes | **No** | Unknown | F | 28 |
| 048 | Unknown Pit | B | Basement, adjacent parking bay 120 | Yes | **No** | Unknown | C | 29 |

| Confined Spaces Register | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Space ID | Space ID | Space ID | Space ID | Space ID | Space ID | Space ID | Space ID | Space ID |
| 049 | Unknown Pit | B | Basement, adjacent parking bay 109 | Yes | **No** | Unknown | C | 30 |
| 050-052 | Above Ground Grease Trap x 3 | B | Basement, adjacent parking bay 60 | Yes | **No** | 2 $m^3$ | D | 31 |

# APPENDIX B: CONFINED SPACE RISK ASSESSMENTS

| Risk Assessment A: Cooling Tower | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | YES |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |
| **Works to be completed:** | Maintenance and inspection activities. |
| **Comments:** | Access to space is restricted. No access gained during assessment. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | VH | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | E | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | L | No action required. |
| Build-up of organic vapours to within explosive limits | L | No action required. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | M | Wear appropriate hearing protection PPE when accessing plant rooms (required for access to the space). |
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | VH | Isolate all inflow pipes into the space. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Engulfment | E | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |
| Manual handling of covers, lowering equipment into pits | L | No action required. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). |
| Slips and trips | H | Wear slip resistant boots. |
| Falls from height | L | No action required. |
| Electrical hazards | M | Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | H | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).<br>Wash hands and face after exiting the space. |
| Lack of lighting | H | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

| Risk Assessment B: Water Tank | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | NO |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |
| **Works to be completed:** | Cleaning and maintenance activities. |
| **Comments:** | Access to space is restricted. No access gained during assessment. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | VH | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | E | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | L | No action required. |
| Build-up of organic vapours to within explosive limits | L | No action required. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | M | Wear appropriate hearing protection PPE when accessing plant rooms (required for access to the space). |
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | VH | Isolate all inflow pipes into the space. |
| Engulfment | E | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Manual handling of covers, lowering equipment into pits | M | Use a winch or rope pulley system to lower equipment into the tank. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | L | No action required. |
| Slips and trips | M | Wear slip resistant boots. |
| Falls from height | VH | Wear a safety harness and remain connected to a lifeline at all times. |
| Electrical hazards | M | Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).<br>Wash hands and face after exiting the space. |
| Lack of lighting | H | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

| Risk Assessment C: Unknown Pit | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | YES |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |

| | |
|---|---|
| **Works to be completed:** | Unknown. Presumed maintenance and/or inspection activities. |
| **Comments:** | The purpose of the pit is unknown. Access within the space was not available at the time of assessment. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | VH | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | E | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | VH | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up of organic vapours to within explosive limits | VH | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit.<br>Continually monitor the atmosphere within the space during entry.<br>Ensure no ignition sources are located within or introduced into the space. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | L | No action required. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | VH | Isolate all services within the space.<br>Ensure no vehicles operate in the vicinity of the entry.<br>Ensure the standby person is monitoring external weather conditions and any other factors that could impact the confined space. |
| Engulfment | E | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |
| Manual handling of covers, lowering equipment into pits | M | Ensure a two-person lift or lifting device is used when lifting or removing covers.<br>Use a winch to lower equipment into the space. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). |
| Slips and trips | H | Wear slip resistant boots. |
| Falls from height | H | Wear a safety harness and remain connected to a lifeline at all times. |
| Electrical hazards | VH | Isolate all power sources within the space.<br>Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).<br>Wash hands and face after exiting the space. |
| Lack of lighting | M | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights and traffic management issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

| Risk Assessment D: Above Ground Grease Trap | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | YES |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |

| | |
|---|---|
| **Works to be completed:** | Cleaning and maintenance activities. |
| **Comments:** | Access to space is restricted. No access gained during assessment. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | H | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | H | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | H | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up of organic vapours to within explosive limits | H | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit.<br>Continually monitor the atmosphere within the space during entry.<br>Ensure no ignition sources are located within or introduced into the space. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | L | No action required. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | H | Isolate all services within the space. |
| Engulfment | H | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |
| Manual handling of covers, lowering equipment into pits | L | No action required. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). |
| Slips and trips | H | Wear slip resistant boots. |
| Falls from height | L | No action required. |
| Electrical hazards | M | Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).<br>Wash hands and face after exiting the space. |
| Lack of lighting | M | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses traffic management issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

| Risk Assessment E: Sewer Tank | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | YES |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |
| **Works to be completed:** | Maintenance and inspection activities. |
| **Comments:** | Access to space is restricted. No access gained during assessment. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | H | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | H | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | VH | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up of organic vapours to within explosive limits | H | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit.<br>Continually monitor the atmosphere within the space during entry.<br>Ensure no ignition sources are located within or introduced into the space. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | L | No action required. |
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | H | Isolate all services within the space.<br>Ensure no vehicles operate in the vicinity of the entry.<br>Ensure the standby person is monitoring external weather conditions and any other factors that could impact the confined space. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Engulfment | H | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |
| Manual handling of covers, lowering equipment into pits | L | No action required. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). |
| Slips and trips | H | Wear slip resistant boots. |
| Falls from height | L | No action required. |
| Electrical hazards | M | Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | H | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).<br>Wash hands and face after exiting the space. |
| Lack of lighting | M | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

| Risk Assessment F: Grease Interceptor Pit | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | YES |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |

| | |
|---|---|
| **Works to be completed:** | Cleaning and maintenance activities. |
| **Comments:** | Access to space is restricted. No access gained during assessment. |

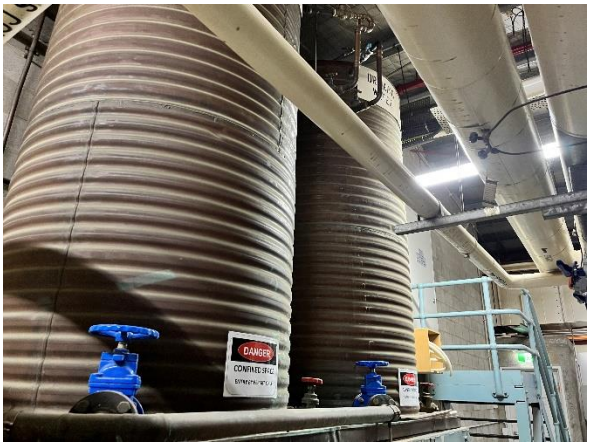
| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | VH | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | E | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | VH | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up of organic vapours to within explosive limits | VH | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit.<br>Continually monitor the atmosphere within the space during entry.<br>Ensure no ignition sources are located within or introduced into the space. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | L | No action required. |

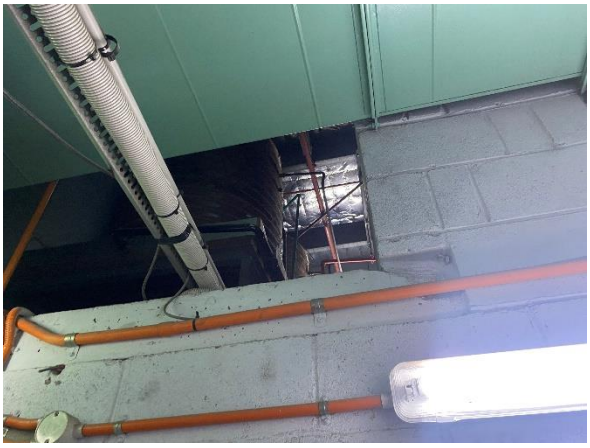
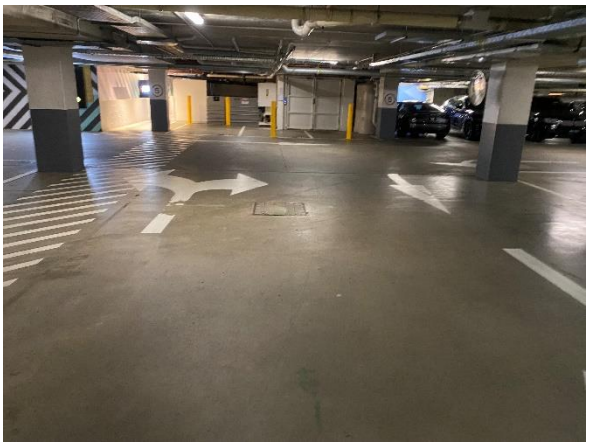
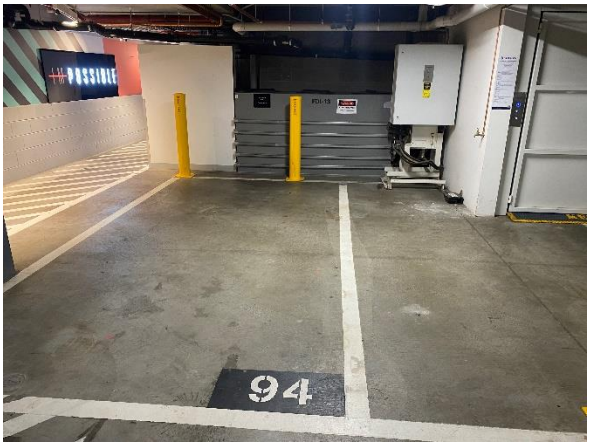
| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | VH | Isolate all services within the space. |
| Engulfment | E | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |
| Manual handling of covers, lowering equipment into pits | M | Ensure a two-person lift or lifting device is used when lifting or removing covers.<br>Use a winch to lower equipment into the space. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). |
| Slips and trips | H | Wear slip resistant boots. |
| Falls from height | H | Wear a safety harness and remain connected to a lifeline at all times. |
| Electrical hazards | M | Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).<br>Wash hands and face after exiting the space. |
| Lack of lighting | M | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights and traffic management issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

# APPENDIX C: PHOTOGRAPHS

| | |
|---|---|
|  |  |
| **Photo 01.** 1 SBB, Plant Room, cooling tower x 5 | **Photo 02.** 1 SBB, Plant Room, water tank x 4 |
|  |  |
| **Photo 03.** 4 RSQ, Plant Room, cooling tower x 3 | **Photo 04.** 4 RSQ, Plant Room, drinking water tank x 2 |
|  |  |
| **Photo 05.** 4 RSQ, Plant Room, flusher water tank x 2 | **Photo 6.** 6 RSQ, Plant Room, drinking water tank x 2 |

<table>
<tr><td> 
</td><td>  </td></tr>
<tr><td>Photo 07. 6 RSQ, Plant Room, flusher water tank x 2</td><td>Photo 08. 6 RSQ, Plant Room, chilled water tank x 2</td></tr>
<tr><td>  </td><td> 
</td></tr>
<tr><td>Photo 09. Basement, adjacent parking bay 50, unknown pit</td><td>Photo 10. Basement, parking bay 94, above ground grease trap</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Photo 11. Basement, adjacent parking bay 54, unknown pit</td><td>Photo 12. Basement, adjacent parking bay 60, unknown pit</td></tr>
</table>

| | |
|---|---|
|  |  |
| **Photo 13.** Basement, parking bay 47, unknown pit | **Photo 14.** Basement, parking bay 63, unknown pit |
|  |  |
| **Photo 15.** Basement, adjacent 1 SBB lift lobby, unknown pit x 2 and grease interceptor pit | **Photo 16.** Basement, adjacent 1 SBB lift lobby, end of trip, unknown pit |
|  |  |
| **Photo 17.** Basement, adjacent 4RSQ lift lobby, sewer tank | **Photo 18.** Basement, adjacent parking bay 97, water tank |

| | |
|---|---|
|  |  |
| **Photo 19.** Basement, adjacent parking bay 112, grease interceptor pit x 2 | **Photo 20.** Basement, adjacent parking bay 157, unknown pit |
|  |   |
| **Photo 21.** Basement, adjacent parking bay 151, unknown pit | **Photo 22.** Basement, parking bay 156, unknown pit |
|   |   |
| **Photo 23.** Basement, parking bay 143, unknown pit | **Photo 24.** Basement, parking bay 126 and 127, grease interceptor pit x 2 |

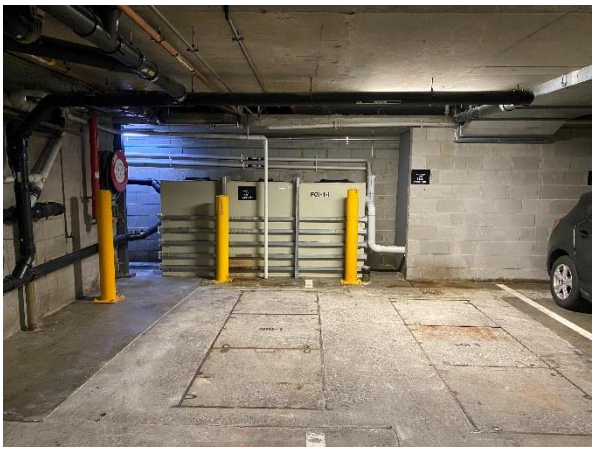


**Photo 25.** Basement, adjacent parking bay 126 and 127, above ground grease trap


**Photo 26.** Basement, parking bay 130, unknown pit

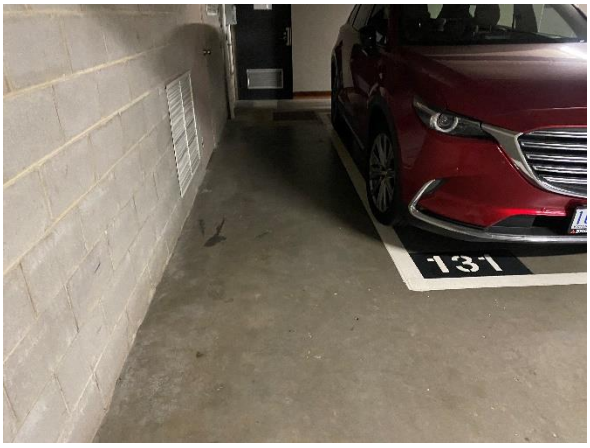



**Photo 27.** Basement, parking bay 131, unknown pit

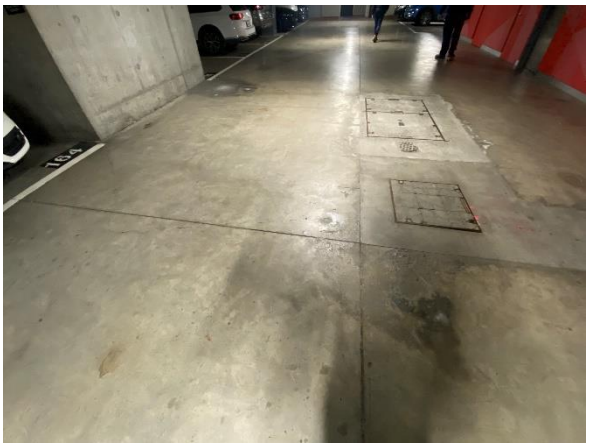


**Photo 28.** Basement, adjacent parking bay 164, unknown pit and grease interceptor pit

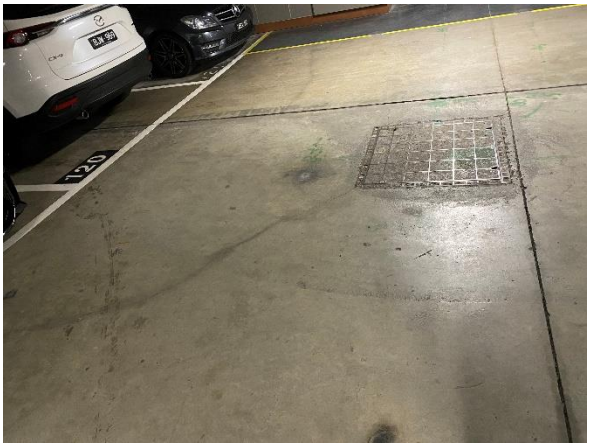



**Photo 29.** Basement, adjacent parking bay 120, unknown pit


**Photo 30.** Basement, adjacent parking bay 109, unknown pit

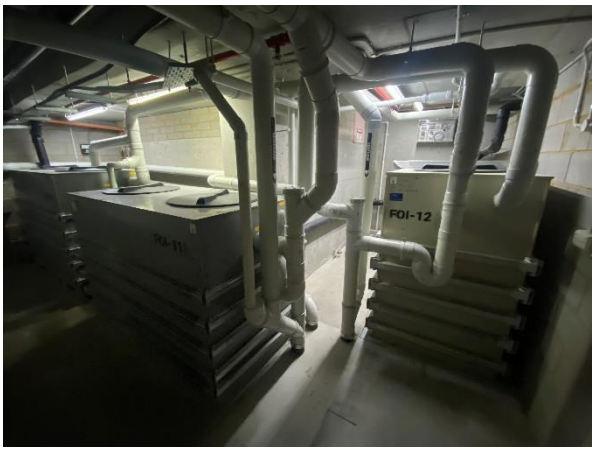



**Photo 31.** Basement, adjacent parking bay 60, above ground grease trap x 3

# APPENDIX D: CONFINED SPACE SIGNAGE

**Example A:** Fixed confined space warning sign that can be established in a prominent position adjacent the confined space or on the access hatch.


**Example B:** Another fixed confined space warning sign that can be established in a prominent position adjacent the confined space or on the access hatch. The warning signage carries brief information that would need to be listed in the confined space entry permit.

**Example C:** Mobile confined space warning sign that can be established in a prominent position adjacent the confined space while works are in progress.

TETRA TECH COFFEY

## Mirvac Real Estate Pty Ltd

# Confined Spaces Assessment

### 2 Riverside Quay, Southbank, Melbourne, Victoria 3000

28 October 2022

Project Ref: 754-SYDEN228268 – 2 RSQ Confined Space Report 2022

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# CONFINED SPACES ASSESSMENT

Prepared for
Mirvac Real Estate Pty Ltd

Prepared by
Coffey Services Australia Pty Ltd
Level 19, Tower B, 799 Pacific Highway
Chatswood NSW 2067 Australia
t: +61 2 9406 1000 f: +61 2 9406 1002
ABN: 55 139 460 521

28 October 2022

754-SYDEN228268 – 2 RSQ Confined Space Report 2022

## Quality information

### Revision history

| Revision | Description | Date | Originator | Reviewer | Approver |
|---|---|---|---|---|---|
| R01 | Final | 28/10/2022 | Phoebe Quessy | Dean Gleeson | Dean Gleeson |

### Distribution

| Report Status | No. of copies | Format | Distributed to | Date |
|---|---|---|---|---|
| R01 Final | 1 | PDF | Mirvac Real Estate Pty Ltd | 28/10/2022 |

# CONTENTS

# EXECUTIVE SUMMARY

Tetra Tech Coffey Pty Ltd (TTC) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at 2 Riverside Quay, Southbank, Victoria 3006. Phoebe Quessy and Wilson Kong of TTC carried out the audit on 25th May 2022. For the purpose of this audit, the principal definition of a confined space is that described in the *Occupational Health & Safety Regulations 2017 (VIC)*.

Identified confined spaces were not entered by personnel at the time of the assessment, therefore the risk assessments contained in this report are limited to general observations made. A more detailed space and task specific risk assessment is required prior to entering any confined spaces identified in this report.

## Assessment Findings

The following findings are based on the site inspection, discussions with site personnel, and review of relevant documentation:

- A total of 5 confined spaces were identified at the site.
- None of the confined spaces were labelled.
- All confined spaces appeared to be appropriately secured from unauthorised access at the time of the assessment.

Note: Refer to **Appendix A** for the confined space register and **Appendix C** for photographs.

## Recommended Actions

The following actions are recommended, based on the above findings:

- Ensure all of the confined spaces are appropriately signposted. Ensure the signage complies with *AS 2865:2009 Confined Spaces*, Section 3.2.2. Refer to **Appendix D** for examples of confined space safety signage.
- Ensure a confined space entry permit system is available for the site and appropriately implemented. The permit should include space for details regarding plant and service isolations, space specific risk assessment, atmospheric testing results, risk control measures to be utilised, PPE required, and emergency rescue procedures.
- Ensure the confined space entry permit includes a procedure for the isolation and tag out of plant and services associated with work in confined spaces.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Ensure all staff and contractors working within areas containing confined spaces at the site are provided with appropriate information, instruction and training to ensure they are able to work safely in these areas. It is recommended that this be managed within the site induction.
- Although it was not possible to access the spaces at the time of the inspection, they have been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.
- Avoid entering the confined spaces if possible e.g. conduct cleaning/maintenance activities from outside etc.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure task specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.

- All works and access in relation to confined spaces must be undertaken in accordance with the *Occupational Health & Safety Regulations 2017 (VIC),* the *Compliance Code: Confined Spaces (WorkSafe Victoria, 2019)* and A*S 2865:2009 Confined Spaces*.
- TTC is able to assist the client to implement the above recommended actions.

# 1. INTRODUCTION

Tetra Tech Coffey Pty Ltd (TTC) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at 2 Riverside Quay, Southbank, Victoria 3006. Phoebe Quessy of TTC carried out the audit on 26th May 2022. For the purpose of this audit, the principal definition of a confined space is that described in the *Occupational Health & Safety Regulations 2017 (VIC)*.

Identified confined spaces were not entered by personnel at the time of the assessment, therefore the risk assessments contained in this report are limited to general observations made. A more detailed specific risk assessment is required prior to entering any confined spaces identified in this report.

## 1.1 Site Description

The site consisted of a 23 level (approximately 21,308m$^2$) office building, constructed in 1988. The building was occupied at the time of the assessment.

# 2. SCOPE

The objective of the Confined Spaces Assessment was to identify and assess confined spaces at the site, and manage the associated risks to the health and safety of site occupants (including workers, students, visitors and contractors). The assessment included a physical inspection of accessible areas of the site, as well as discussions with relevant site personnel, and a review of relevant systems/documentation.

## 2.1 Inaccessible Areas

The following areas were not accessible during the inspection:

- Within confined spaces, voids and ceiling spaces.
- Within plant and machinery.
- Lift shafts and pits.
- Below cars and stored items.
- Occupied rooms and tenanted areas.
- Roof areas.

# 3. WHAT IS A CONFINED SPACE?

The *Occupational Health & Safety Regulations 2017 (VIC)* defines a confined space as a space in any vat, tank, pit, pipe, duct, flue, oven, chimney, silo, reaction vessel, container, receptacle, underground sewer or well, or any shaft, trench or tunnel or other similar enclosed or partially enclosed structure, if the space:

a) is, or is intended to be, or is likely to be, entered by any person; and
b) has a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space; and
c) is, or is intended to be, at normal atmospheric pressure while any person is in the space; and
d) contains, or is intended to contain, or is likely to contain:
    (i) an atmosphere that has a harmful level of any contaminant; or
    (ii) an atmosphere that does not have a safe oxygen level, or
    (iii) any stored substance, except liquids, that could cause engulfment.

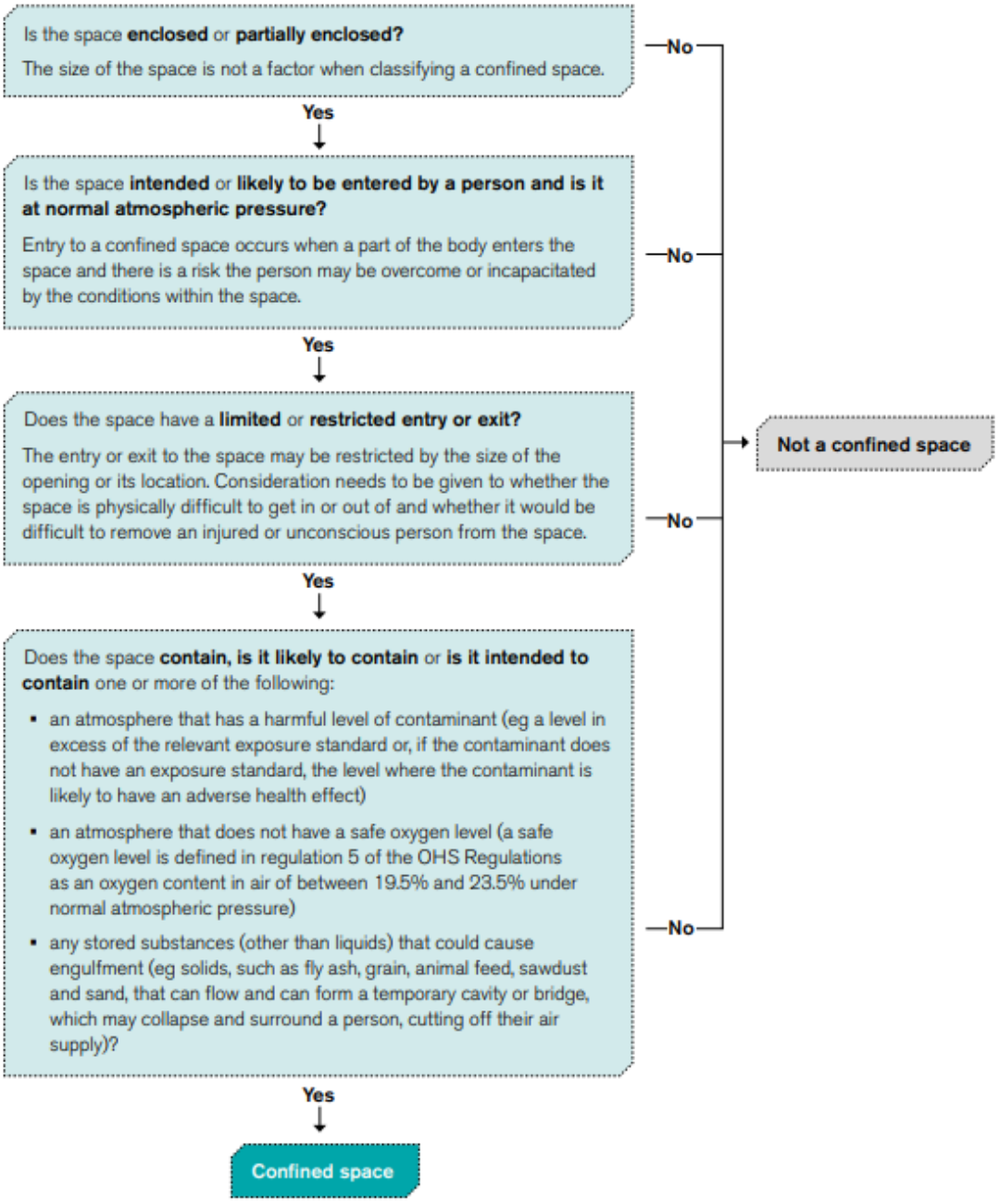
Note: The above definition does not include a shaft, trench or tunnel that is a mine or is part of the workings of a mine.

Section 55 (1) of the *Occupational Health & Safety Regulations 2017 (VIC)* states that 'an employer must so far as is reasonably practicable, identify all hazards associated with work in a confined space.

Section 56 (1) of the *Occupational Health & Safety Regulations 2017 (VIC)* states that 'an employer must so far as is reasonably practicable, eliminate any risk associated with work in a confined space.

Section 54 of the Regulations also state that the requirements relating to confined spaces within the Regulations refer to confined spaces that are under the employers management or control. For this reason, confined spaces that are identified on site but that fall under the management or control of another employer may not be included in this report. Examples of such confined spaces include storm water drains and sewer pits (managed by the local water authority), and underground electrical substations (managed by the local power authority).

Further explanation of a confined space definition is explained in the figure below:




**Source: Compliance Code: Confined Spaces 2019**

# 4. RISK ASSESSMENT

Risk assessments have been conducted for each confined space identified on site. The risk assessments considered the nature of the confined space, including its location, frequency of entry, work performed, the nature of the potential hazards present and the controls currently in place. Each identified potential hazard was risk assessed, based on the likelihood of an event occurring, and the consequence or outcome of that event in general terms. An overall risk rating of Low, Medium, High, Very High or Extreme was then assigned to each hazard using the provided risk assessment matrix (refer to Risk Matrix below). The assessment of the risk is a subjective assessment and is to be used for guidance purposes in relation to selecting and implementing corrective actions.

**Risk Matrix**

| LIKELIHOOD | CONSEQUENCE | | | | |
|---|---|---|---|---|---|
| | **Insignificant** (No injuries) | **Minor** (First aid only) | **Moderate** (Medical treatment) | **Major** (Extensive injuries, loss of production) | **Catastrophic** (Fatality / permanent disability) |
| **Almost Certain** (Expected in most circumstances) | Medium | High | Very High | Extreme | Extreme |
| **Likely** (Will probably occur in most circumstances) | Medium | High | Very High | Extreme | Extreme |
| **Possible** (Might occur at some time) | Low | Medium | High | Very High | Extreme |
| **Unlikely** (Not likely to occur) | Low | Low | Medium | High | Very High |
| **Rare** (May occur only in exceptional circumstances) | Low | Low | Medium | High | High |

Where the hazards associated with work in particular confined spaces are similar in nature, a group risk assessment has been prepared. Separate space specific risk assessments will be prepared for any confined spaces identified as having unique hazards or risks that are different to the group risk assessment.

Refer to **Appendix B** for confined space risk assessments.

# 5. FINDINGS

The following findings are based on the site inspection, discussions with site personnel, and review of relevant documentation:

- A total of 5 confined spaces were identified at the site.
- None of the confined spaces were labelled.
- All confined spaces appeared to be appropriately secured from unauthorised access at the time of the assessment.

Note: Refer to **Appendix A** for the confined space register and **Appendix C** for photographs.

# 6. RECOMMENDED ACTIONS

The following actions are recommended, based on the above findings:

- Ensure all of the confined spaces are appropriately signposted. Ensure the signage complies with *AS 2865:2009 Confined Spaces*, Section 3.2.2. Refer to **Appendix D** for examples of confined space safety signage.
- Ensure a confined space entry permit system is available for the site and appropriately implemented. The permit should include space for details regarding plant and service isolations, space specific risk assessment, atmospheric testing results, risk control measures to be utilised, PPE required, and emergency rescue procedures.
- Ensure the confined space entry permit includes a procedure for the isolation and tag out of plant and services associated with work in confined spaces.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Ensure all staff and contractors working within areas containing confined spaces at the site are provided with appropriate information, instruction and training to ensure they are able to work safely in these areas. It is recommended that this be managed within the site induction.
- Although it was not possible to access the spaces at the time of the inspection, they have been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.
- Avoid entering the confined spaces if possible e.g. conduct cleaning/maintenance activities from outside etc.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure task specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- All works and access in relation to confined spaces must be undertaken in accordance with the *Occupational Health & Safety Regulations 2017 (VIC),* the *Compliance Code: Confined Spaces (WorkSafe Victoria, 2019)* and A*S 2865:2009 Confined Spaces*.
- TTC is able to assist the client to implement the above recommended actions.

# 7. REFERENCES


- *Occupational Health & Safety Act, 2004 (VIC).*
- *Occupational Health & Safety Regulations, 2017 (VIC).*
- *Compliance Code: Confined Spaces (WorkSafe Victoria, 2019).*
- *Australian Standard 2865:2009 Confined Spaces.*

# 8. LIMITATIONS

This report and the associated services performed by Tetra Tech Coffey are in accordance with the scope of services set out in the contract between Tetra Tech Coffey and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

Tetra Tech Coffey derived the data in this report primarily from visual inspections, examination of available records, and interviews with individuals with relevant information about the site. In preparing this report, Tetra Tech Coffey has relied upon, and presumed accurate, certain information (or absence thereof) provided by government authorities, the Client and others identified herein. Except as otherwise stated in the report, Tetra Tech Coffey has not attempted to verify the accuracy or completeness of any such information.

No warranty, undertaking, or guarantee, whether expressed or implied, is made with respect to the data reported or to the findings, observations, and recommendations expressed in this report. Furthermore, such data, findings, observations, and recommendations are based solely upon existence at the time of the assessment. The passage of time, manifestation of latent conditions or impacts of future events (e.g. changes in legislation, scientific knowledge, land uses, etc.) may require further investigation at the site with subsequent data analysis and re-evaluation of the findings, observations, and recommendations expressed in this report.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between Tetra Tech Coffey and the Client. Tetra Tech Coffey accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties. It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

# APPENDIX A: CONFINED SPACES REGISTER

| Confined Spaces Register | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Space ID | Type | Level | Location / Comments | Secure | Signage | Dimensions | Risk Assessment | Photo |
| 001& 002 | Unknown Pit | LD | Loading Dock (x 2) | Yes | **No** | Unknown | A | 01 |
| 003 | Unknown Pit | LD | Loading Dock, bin bay | Yes | **No** | Unknown | A | 02 |
| 004 | Unknown Pit | B | Carpark, adjacent to Fire Control room | Yes | **No** | Unknown | A | 03 |
| 005 | Diesel Tank | R | Roof, diesel storage area | Yes | **No** | $1m^3$ | B | 04 |

# APPENDIX B: CONFINED SPACE RISK ASSESSMENTS

| Risk Assessment A: Unknown Pit | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | YES |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |
| **Works to be completed:** | Unknown. Presumed maintenance and/or inspection activities. |
| **Comments:** | The purpose of the pit is unknown. Access within the space was not available at the time of assessment. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | VH | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | E | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | VH | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up of organic vapours to within explosive limits | VH | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit.<br>Continually monitor the atmosphere within the space during entry.<br>Ensure no ignition sources are located within or introduced into the space. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | L | No action required. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | VH | Isolate all services within the space.<br>Ensure no vehicles operate in the vicinity of the entry.<br>Ensure the standby person is monitoring external weather conditions and any other factors that could impact the confined space. |
| Engulfment | E | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |
| Manual handling of covers, lowering equipment into pits | M | Ensure a two-person lift or lifting device is used when lifting or removing covers.<br>Use a winch to lower equipment into the space. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). |
| Slips and trips | H | Wear slip resistant boots. |
| Falls from height | H | Wear a safety harness and remain connected to a lifeline at all times. |
| Electrical hazards | VH | Isolate all power sources within the space. Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).<br>Wash hands and face after exiting the space. |
| Lack of lighting | H | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights and traffic management issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

| Risk Assessment B: Fuel Tank | |
|---|---|
| **Does the space meet the requirements of a Confined Space?**<br>(If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). | **YES** |
| A. Is the space intended to be, or is likely to be, entered by any person? | YES |
| B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space? | YES |
| C. Is the space intended to be at normal atmospheric pressure while any person is in the space? | YES |
| D. Does the space contain, or is intended to contain, or is likely to contain: | |
| • an atmosphere that has a harmful level of any contaminant? | YES |
| • an atmosphere that does not have a safe oxygen level? | YES |
| • any stored substance, except liquids, that could cause engulfment? | NO |

| | |
|---|---|
| **Works to be completed:** | Cleaning and maintenance activities. |
| **Comments:** | Access to space is restricted. No access gained during assessment. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Restricted entry and egress in an emergency | VH | Wear a safety harness and remain connected to a lifeline at all times.<br>Ensure the standby person remains in constant contact with person(s) entering the space. |
| Oxygen deficiency whilst work in progress | E | Monitor the atmosphere within the space prior to entering.<br>Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%).<br>Ventilate the space if required.<br>Continually monitor the atmosphere within the space during entry. |
| Build-up or excess of vapours such as hydrogen sulphide ($H_2S$) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES) | L | No action required. |
| Build-up of organic vapours to within explosive limits | E | Monitor the atmosphere within the space prior to entering.<br>Purge and ventilate the space if required.<br>Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit.<br>Continually monitor the atmosphere within the space during entry.<br>Ensure no ignition sources are located within or introduced into the space. |
| Airborne dust concentrations above the WES | L | No action required. |
| Radiation (non-ionising and ionising) | L | No action required. |
| Noise generated at levels above 85 dB(A) | M | Wear appropriate hearing protection PPE when accessing plant rooms (required for access to the space). |
| Uncontrolled introduction of substances (e.g. steam, water, gases etc.) | VH | Isolate all inflow pipes into the space. |

| Hazard Types | Risk Rating | Recommended Actions |
|---|---|---|
| Engulfment | E | Isolate all inflow pipes into the space.<br>Wear a safety harness and remain connected to a lifeline at all times. |
| Manual handling of covers, lowering equipment into pits | M | Use a winch or rope pulley system to lower equipment into the tank. |
| Mechanical hazards (e.g. entanglement, crushing, cutting, etc.) | L | No action required. |
| Skin contact with hazardous substances and surface contaminants | M | Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). |
| Slips and trips | M | Wear slip resistant boots. |
| Falls from height | VH | Wear a safety harness and remain connected to a lifeline at all times. |
| Electrical hazards | M | Portable electrical equipment should be protected through an RCD, located outside of the space. |
| Biological hazards (e.g. E-coli) | L | No action required. |
| Lack of lighting | H | Use appropriate and safe temporary lighting and/or torch within the space. |
| Heat and cold stress | L | No action required. |

**General Recommendations**

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.

# APPENDIX C: PHOTOGRAPHS

| | |
|---|---|
|  |  |
| **Photo 01.** Loading Dock, unknown pit x 2. | **Photo 02.** Loading Dock, bin bay, unknown pit. |
|  |  |
| **Photo 03.** Basement, car park, adjacent to Fire Control Room, unknown pit. | **Photo 04.** Roof, diesel storage area, diesel tank. |

# APPENDIX D: CONFINED SPACE SIGNAGE

**Example A:** Fixed confined space warning sign that can be established in a prominent position adjacent the confined space or on the access hatch.


**Example B:** Another fixed confined space warning sign that can be established in a prominent position adjacent the confined space or on the access hatch. The warning signage carries brief information that would need to be listed in the confined space entry permit.

**Example C:** Mobile confined space warning sign that can be established in a prominent position adjacent the confined space while works are in progress.