



**Document name:** 19633-EDGE-XX-XX-RP-G-0004\_VERI [P01]

## VERIFICATION REPORT FOR 19633 – 6 & 8 BROOKBURN RD, MANCHESTER

09 February 2021

**Prepared for:**

**CEJ Builders**

Unit 138

Green Lane

Stockport

Cheshire SK6 3JG

**Geo-environmental**

| Revision | Date     | Description         | Status | Prepared by | Approved by |
|----------|----------|---------------------|--------|-------------|-------------|
| P01      | 09/02/21 | Verification Report | –      | JH          | AB          |

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## DRAWINGS

Butterfield Architecture Ltd Drawing No 2174 A/PL/001  
Butterfield Architecture Ltd Drawing No 2174 A/PL/002

Site Location Plan  
Proposed Site Plan

## APPENDICES

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## 1.0 INTRODUCTION

### 1.1. Background

Alliance Design UK Ltd t/a EDGE Consulting Engineers ("EDGE") has been appointed by CEJ Builders to produce a verification report for a development at 6 & 8 Brookburn Road, Chorlton-cum-Hardy, Manchester, M21 9ES.

Planning Permission (Ref 123186/FO/2019) has been approved for the erection of a first and third floor extension to No 6 Brookburn Road along with the erection of four new homes with associated gardens (in Plots 1–3 only) and parking, following the demolition of No 8 Brookburn Road. The proposed site development plan is presented as Butterfield Architecture Ltd Drawing No 2174 A/PL/002 in Appendix F.

EDGE has undertaken previous investigations at the site as detailed in Section 2.2 of this report.

The EDGE reports identified risks from contamination and hazardous ground gas and make specific recommendations for remediation which have been agreed with Manchester City Council's Contaminated Land Officer.

Planning condition 3(b) requires the submission of a Verification Report to, and approval in writing by, the Local Planning Authority.

This Verification Report presents a summary of the verification works undertaken in order to satisfy planning condition 3(b) and to fully discharge planning conditions which relate to contaminated land.

## 2.0 BACKGROUND

### 2.1. Site Details

The site is located off 6 & 8 Brookburn Road, Chorlton-cum-Hardy, Manchester, M21 9ES. The National Grid Reference for the centre of the site is SJ 81268 93407.

The site is formed by a roughly rectangular shaped parcel of land covering an area of approximately 540 m<sup>2</sup> with No 6 Brookburn Road in the north and No 8 in the south. No 8 Brookburn Road formerly comprised a three-storey double brick and breeze block construction with a pitched roof, small one-storey extension and driveway. This building was formerly used as residential apartments (unoccupied since 2017) and, prior to that, as a social club. No 8 Brookburn Road was demolished between December 2019 and January 2020 with the below ground structures (excluding existing piles) broken out and removed.

### 2.2. Summary of Previous Investigations

The site has been the subject of a Phase 1 Preliminary Risk Assessment as well as two stages of Phase 2 site investigation as detailed in the following reports;

- Phase 1 Geo-environmental Risk Assessment Report, Ref 19633-EDGE-XX-XX-RP-G-001 Phase 1 [P03], dated September 2019;
- Phase 2 Geo-environmental Risk Assessment Report, Ref 19633-EDGE-XX-XX-RP-G-002\_Phase 2 [P02] dated November 2019;
- Supplementary Geo-environmental Risk Assessment Report Ref 19633-EDGE-XX-XX-RP-G-003\_Phase 2 [R02] dated February 2020.

On the basis of the investigations and risk assessments undertaken, EDGE considered that the development did not represent a significant potential risk to human health, the site or the general environment in terms of contamination.

However, one elevated concentration of lead was recorded within made ground in Borehole WS4 at 2.95 m with a concentration of 1,490 mg/kg compared to the C4SL value of 200 mg/kg for a residential end use with gardens. Provision of a clean soil cover layer in gardens was therefore recommended to be installed to isolate end users from the source of contamination.

Gas monitoring undertaken at the site recorded a maximum carbon dioxide concentration of 8.1% with a maximum flow rate of 0.1 l/hr. No methane concentrations were recorded. The site was subsequently classified as 'CS2' / Amber 1 with basic gas protection measures recommended to be installed in the new structures.

### 3.0 REMEDIATION MEASURES AND VALIDATION

As stated in Section 2.2, remediation measures were required at the site to protect end users from localised elevated concentrations of lead in the made ground as well as elevated concentrations of hazardous ground gas.

The remediation measures required were agreed with the local planning authority and are detailed below.

#### 3.1. Provision of Clean Soil Cover in Garden Areas

In order to protect end users from localised elevated concentrations of lead, a minimum clean soil cover layer of 450 mm was recommended to be installed in gardens in accordance with Manchester City Council's 'Planning Guidance in Relation to Ground Contamination: Guidance Note for Applicants, Developers, Land Owners and Consultants, Version 6.00, September 2016'.

15m<sup>3</sup> of clean topsoil was imported to the site for use in garden areas, placed on geotextile. The topsoil was sourced from Lindow Lawn Turf, 91 Racecourse Rd, Wilmslow SK9 5LW where it is produced on site by mixing quarried sand (from Sibelco UK) with compost from WGR Ltd.

An EDGE engineer visited Lindow Lawn Turf on 19<sup>th</sup> January 2021 to obtain three samples of the topsoil (Ref TS1 to TS3). The samples were tested for pH, metals (As, Cd, Cu, Pb, Ni, Zn, Cr, Cr<sup>VI</sup>, Se, Hg), water soluble boron, total cyanide, speciated polycyclic aromatic hydrocarbons (PAH), total organic carbon, total phenols, total sulphate and water soluble sulphate in accordance with the remediation requirements.

The results were assessed against S4ULs (and where absent ie for lead, C4SLs) for a residential end use with plant uptake. No elevated concentrations of contamination were recorded when assessed against the assessment criteria. The topsoil is therefore chemically suitable for use at the development.

The chemical test results for the topsoil are presented in Appendix E.

EDGE attended site on 8<sup>th</sup> February 2020 to verify topsoil depth at Plots 1–3. The topsoil was placed to depths in excess of 450 mm in all three plots as shown in the photographs presented in Appendix A.

### 3.2. Installation of Gas Protection Measures

Due to the potential risks from ground gas and in accordance with CIRIA C665, all of the plots were required to be installed with gas mitigation measures in line with Amber 1 / Characteristic Situation 2.

BS8485 (2015) Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings uses a points based system for the installation of gas protection measures. For Type A private residential buildings with CS2 protection a score of 3.5 is required.

At the Brookburn Road development, the following measures were recommended to achieve the required score of 3.5:

- (a) Reinforced cast in-situ suspended floor slab with minimal penetrations (1.5 points),
- (b) A gas resistant membrane with validation in accordance with CIRIA C735 (2 points)

Details of the gas mitigation measures which have been sent to MCCs Contaminated Land Officer (on 19<sup>th</sup> March 2020) are presented in Appendix B.

The instillation of gas mitigation measures was independently verified and documented by EDGE. Inspection of the gas protection measures was undertaken on 20<sup>th</sup> May 2020 (membrane perimeters) and twice on 19<sup>th</sup> October 2020 (membrane interiors). On the morning of the second visit a number of minor faults were reported in Plots 1–3 by the EDGE engineer (as detailed in Appendix C) and these were reported to the site manager and repaired on the same day. In addition, installation of the membrane in Plot 4 was ongoing during the morning visit having been completed by the afternoon. Following re-inspection in the afternoon the approved mitigation measures were completed to satisfaction.

Photographs taken during the inspections are presented in Appendix A with site inspection sheets presented in Appendix C and validation certificates presented in Appendix D.

## 4.0 CONCLUSIONS

In accordance with the requirements set out by Manchester City Council, EDGE has undertaken the inspection and validation of the clean soil cover system and gas protection measures at the new development at 6 & 8 Brookburn Road, Chorlton-cum-Hardy, Manchester, M21 9ES.

All four of the plots at the site have been installed with the recommended gas protection measures in accordance with the site specification. Plots 1–3 have been installed with the minimum cover of 450 mm clean imported topsoil which has been proven to be chemically suitable.



Based on the information contained in this report EDGE considers that the remediation works have been successfully completed and planning condition 3 can now be fully discharged.

## **APPENDIX A**

### **Photographs**



Photograph 1: Plot 1 perimeter membrane and DPC installation (May 2020).



Photograph 2: Corner of Plots 3 & 4 showing membrane perimeter and DPC spanning cavity (May 2020).



Photograph 3: Overlapping of membrane sections (May 2020).



Photograph 4: Top hat and service entry in Plot 1 (Oct 2020).



Photograph 5: Poor/untidy taping of service entry with gaps between plastic pipe and tape in Plot 3 (October 2020).



Photograph 6: Tidying / repair of area shown in Plot 3 in Photograph 5 following EDGE inspection (October 2020).



Photograph 7: Plot 2 car port cable with gap between and beneath 2 pipes (October 2020).



Photograph 8: Extra taping applied to Plot 2 car port cable. Untidy but seal formed (October 2020).



Photograph 9: Gap around service entry in Plot 2 with no tape at base (October 2020).



Photograph 10: Repairs to area shown in Photograph 9 (October 2020).



Photograph 11: Overview of Plot 2 (October 2020).



Photograph 12: Overview of Plot 3 (October 2020).



Photograph 13: Plot 4 membrane under construction.



Photograph 14: Plot 1 Overview.



Photograph 15: Rear gardens of Plots 1 & 2 (February 2021).



Photograph 16: Rear garden of Plot 3 (February 2021).



Photograph 17: Plot 1 cover depth (February 2021).



Photograph 18: Plot 2 cover depth (February 2021).

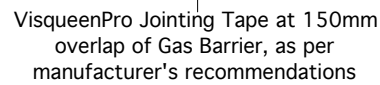


Photograph 19: Plot 3 cover depth (February 2021).

## **APPENDIX B**

### **Gas Mitigation Specification**

All to be installed to Visqueen's recommendations

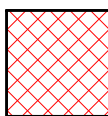


Visqueen Gas Barrier lapped up and over external brickwork to DPC level

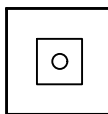
VisqueenPro Jointing Tape at 150mm  
overlap of Gas Barrier, as per  
manufacturer's recommendations



Visqueen Gas Barrier / DPM / DPC



Visqueen Detailing Strip; installed to manufacturer's recommendations.



Visqueen Top Hat with Visqueen GR Lap Tape, Visqueen double Sided Jointing Tape and Jubilee Clips to all service penetrations to Gas Barrier. Drainage demonstrated here.

All to be installed by a competent person, to Manufacturer's recommendations.

All gas protection installation to be approved by independent verifier.

|                     |                                                                    |
|---------------------|--------------------------------------------------------------------|
| CLIENT              | Huse Living Ltd                                                    |
| ADDRESS             | 102 Roseneath Road,<br>Urmston,<br>Manchester,<br>M41 5AZ          |
| PROJECT DESCRIPTION | 3no. 4 and 1no. 2 bedroom proposed dwellings                       |
| PROJECT ADDRESS     | 8 Brookburn Road,<br>Chorlton-cum-Hardy,<br>Manchester,<br>M21 9ES |

**BUTTERFIELD**  
ARCHITECTURE  
ARCHITECTURE \ INTERIORS \ PROJECT MANAGEMENT

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DT01 Bifolds level threshold (Plot 1-3):

Externally:  
ACO MultiDrain brickslot drainage chanel laid to fall to 1:60 fall bedded in lean mix concrete; all to manufacturer's details and recommendation.

Bound stone resin floor, to specialist design and detail on 65mm min Concrete slab (primer may be required on new concrete, well compacted non-frost susceptible sub base.

Internally:  
Bound stone resin floor, to specialist design and detail

65mm sand and cement screed with under floor heating pipes

Visqueen vapour barrier separating layer

Min 100mm Kingspan K103 insulation

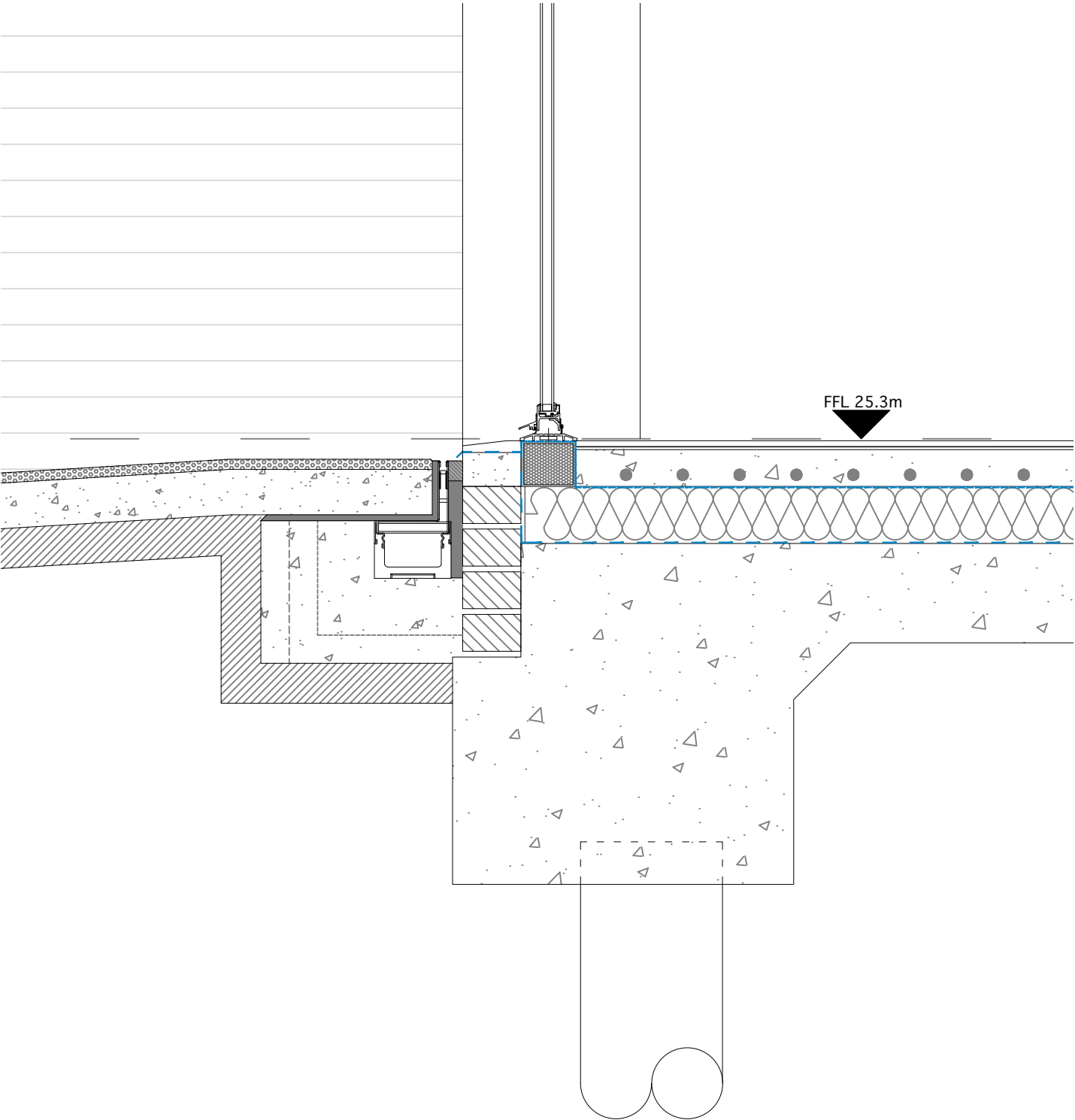
Visqueen Gas Barrier (Gas membrane&DPM); all to manufacturer's details and recommendation.

Visqueen top hat units to all incoming services penetrating gas membrane

175mm RC slab, to Structural Engineer's design and detail.

Ensure min 25mm insulation and/or insulated cavity closer to screed edge to prevent cold bridging.

Min U-value of 0.15 W/sqmK



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                                                                 |          |                   |       |      |             |                                                                                                                                                                     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ADDRESS         | 102 Roseneath Road<br>Urmston<br>Manchester<br>M41 5AZ          | ISSUE    | CONSTRUCTION (DR) | Rev   | Date | Description |                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PROJECT TITLE   | 3no. 4 and 1no. 2 bedroom proposed dwellings                    | DATE     | 18/03/2020        |       |      |             |                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PROJECT ADDRESS | 8 Brookburn Road<br>Chorlton-cum-Hardy<br>Manchester<br>M21 9ES | REVISION | JOB NO.           |       |      |             |                                                                                                                                                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                                                                 | 00       | 2174              |       |      |             |                                                                                                                                                                     |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 | 2174-CN-GA- 500                                                 |          |                   |       |      |             |                                                                                                                                                                     |
| TITLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                                                                 |          |                   |       |      |             | PROPOSED CRITTALL DOOR<br>THRESHOLD SECTIONAL DETAIL<br>(ALL PLOTS)                                                                                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |                                                                 |          |                   |       |      |             |                                                                                                                                                                     |

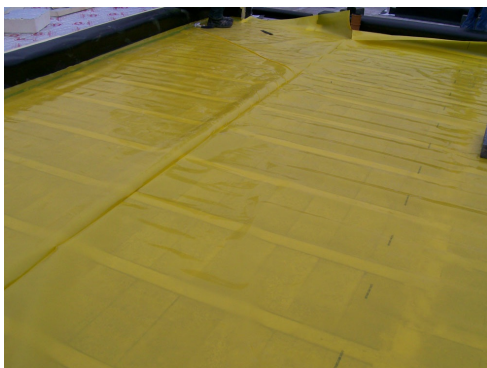
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## Low Permeability Gas Membrane

CE Mark to EN 13967:2017

Page 1



- Approved for use in NHBC Amber 1
- High quality robust co-polymer thermoplastic membrane
- Supplied in centre folded sheeting which reduces the risk of cracks in screed
- A high performance radon membrane
- BBA Certificate 13/5069 and CE Mark 13967:2012

### Description

Visqueen Low Permeability Gas Membrane is a robust co-polymer thermoplastic membrane approved for use in NHBC Amber 1 and radon applications. For ease of identification on site the membrane is coloured yellow. The membrane is flexible, easy to install and supplied in a 4m x 12.5m roll.

The membrane is manufactured as a centre folded product to limit creases which aids jointing and welding applications on site. Centre Folded films can also help to reduce cracks found in structural concrete screeds where traditional multi-folded DPMs are used.

### Applications

Visqueen Low Permeability Gas Membrane offers a safe solution for the protection of buildings and occupiers against, damp radon and on NHBC amber 1 site conditions. NHBC Technical Extra Document 20 contains further information on their traffic light application criteria and is available on this [link](#).

### BS8485:2015

**Visqueen Low Permeability Gas Membrane does NOT meet the criteria of BS8485:2015** and should only be used on the above applications. To ensure correct specification Visqueen's new Gas Protection guide is an easy to use tool and contains a product selector - page 9 - and a gas membrane criteria check sheet on page 6.

[Please click here to download Visqueen's Ultimate Gas Protection Guide.](#)

Also, the product is not intended for use where there is risk of hydrostatic pressure.

### System components

- Visqueen Double Sided Jointing Tape
- Visqueen Gas Resistant (GR) Foil Tape
- Visqueen Top Hat Units
- Visqueen TreadGUARD1500
- Visqueen Detailing Strip

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**VISQUEEN**



### Installation

Visqueen Low Permeability Gas Membrane and ancillary components must be installed

## Low Permeability Gas Membrane

CE Mark to EN 13967:2017

Page 2

in accordance with the recommendations of Building Research Establishment BRE 414 "Protective measures for housing on gas contaminated land", NHBC guidelines and the Chartered Institute of Environmental Health Ground Gas Handbook.

The membrane should be installed on a smooth grouted surface allowing adequate overlap for jointing between the sheets. To avoid slip or shear planes and high compressive loadings it is not recommended to take the membrane through the wall. In order to provide a continuous barrier across the cavity Visqueen Zedex CPT DPC should be taken through the blockwork and incorporated below the damp proof course cavity tray in the outer leaf.

Laps can be joined together by either using the Visqueen Gas Barrier jointing system or welded by our specialist on-site contractors.

### Radon areas

The membrane can be used as a robust solution under concrete slabs on a top of a smooth blinding layer.

### Jointing and Sealing

Visqueen Low Permeability Gas Membrane should be overlapped by at least 150mm and bonded with Visqueen Double Sided Tape. The joint should then be secured with Visqueen Gas Resistant (GR) Foil Jointing Tape. Ensure that the membrane is clean and dry at the time of jointing. Airtight seals should be formed around all service entry points. Visqueen Pre-formed Top Hat Units must be used for sealing service entry pipes. The base of the top hat should be sealed using Visqueen Double Sided Tape and Visqueen GR Foil Jointing Tape should be used to secure the joint.

NB. In demanding site conditions use Visqueen Gas Lap Tape as a high performance alternative to Visqueen GR Foil Jointing Tape.

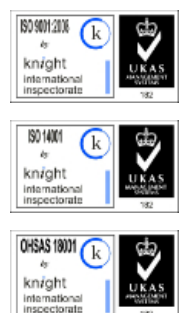
### Storage and Handling

The membrane should be stored under cover in a dry environment. The material is not recommended for applications where it will be exposed to long periods of outdoor weathering as exposure to ultraviolet light will embrittle the product. Weathering will not occur when the membrane is installed in accordance with CP 102:1973. Care should be taken to avoid accidental damage when handling the membrane on site. When the weather is cold all jointing tapes should be kept in a warm and dry place until needed. Installation is not recommended below 5°C

### Technical Data and CE Mark

Visqueen Low Permeability Gas Membrane complies with the requirements and clauses of EN 13967 - Flexible sheets for waterproofing - Plastic and rubber damp proof sheets including plastic rubber basement tanking sheet - Definitions and characteristics.

British Board of Agreement performed initial inspection of the manufacturing plant and of factory production control and continuous surveillance, assessment and evaluation of factory production control, and issued certificate of constancy of conformity of factory production control. 0836-CPD – 13/F029 applies.



# Low Permeability Gas Membrane

## CE Mark to EN 13967:2017

### Product Data

### Product Data

| Characteristic                           | Test method         | Units  | Compliance criteria | Value or Statement |
|------------------------------------------|---------------------|--------|---------------------|--------------------|
| Visible defects                          | EN 1850 -2          | -      | Pass/Fail           | Pass               |
| Length                                   | EN 1848-2           | m      | -10%/+10%           | 12.5               |
| Width                                    | EN 1848-2           | m      | -2.5%/+2.5%         | 4                  |
| Straightness                             | EN 1848-2           | -      | Pass/Fail           | Pass               |
| Thickness                                | EN 1849-2           | mm     | -12%/+12%           | 0.5                |
| Grammage                                 | EN 1849-2           |        | -12%/+12%           | 460                |
| Tensile Strength - MD                    | EN EN12311          |        | >MLV                | 15                 |
| Tensile Strength - TD                    | EN EN12311          |        | >MLV                | 15                 |
| Tensile Elongation - MD                  | EN EN12311          | %      | >MLV                | 400                |
| Tensile Elongation - TD                  | EN EN12311          | %      | >MLV                | 400                |
| Joint Strength                           | EN12317-2           | N      | MDV                 | 298                |
| Watertightness 2kPa                      | EN 1928             | -      | Pass/Fail           | Pass               |
| Resistance to impact                     | EN 12691            | mm     | >MLV                | 200                |
| Durability (artificial ageing)           | EN 1296 and EN 1928 | -      | Pass/Fail           | Pass               |
| Durability Chemical Resistance           | EN 1847             | -      | Pass/Fail           | Pass               |
| Resistance to tearing (nail shank) CD    | EN 12310-1          | N      | MDV                 | 333                |
| Resistance to tearing (nail shank) MD    | EN 12310-1          | N      | MDV                 | 335                |
| Resistance to static loading             | EN 12730            | Kg     | >MLV                | Pass-20kgs         |
| Water vapour transmission - resistance   | EN 1931             | MNs/g  | MDV                 | 2100               |
| Water vapour transmission - permeability | EN 1931             |        | MDV                 | 0.08               |
| Radon Permeability                       | SP Test Method      |        | MDV                 | 5.477x10-12        |
| Radon Transmittance                      | SP Test Method      | m/s    | MDV                 | 5.477x10-12        |
| Carbon Dioxide Permeability              | ISO 2782            | m/s/Pa | MDV                 | 2.8x10-17          |
| Methane Permeability                     | ISO 2782            | m/s/Pa | MDV                 | 1.13x10-17         |
| Reaction to Fire                         | EN 13501-1          | Class  | MDV                 | F                  |



# Low Permeability Gas Membrane

## CE Mark to EN 13967:2017

### Appendix A

#### About Visqueen

Visqueen is the market leader in the manufacture and supply of structural waterproofing and gas protection systems. Visqueen offers the complete package – a proven, reliable range backed by a technical support service that goes unmatched in the market - everything you would expect from a reputable and ethical company.

#### Complete Range, Complete Solution

- Structural Waterproofing
- Damp Proof Course
- Damp Proof Membranes
- Gas Protection and Gas Venting
- Vapour Control Layers
- Stormwater Protection

#### Download Library

- Technical Datasheet
- Standard Details
- Technical Service
- Visqueen Gas Protection Brochure
- NBS Clauses
- BBA Certificates
- Material Safety Datasheets
- Specification Guide

#### Find your local stockist

Search our directory of Visqueen specification [Specialist Centres](#) to locate your nearest Visqueen Partner.

#### Technical support throughout your project

We are specialists in our field and can help you specify the correct solutions with the necessary performance levels, in accordance with building regulations.

- Nationwide site support team
- Specification advice
- Installation guidance & project sign off
- System design including CAD details

#### CPD Seminars and Training Academy



##### Gas Protection CPD

The specification, technical design, and installation of gas protection systems, enabling the sustainable regeneration of brownfield sites.



##### Structural Waterproofing CPD

The specification, technical design, and installation of structural waterproofing systems for protection against water and damp ingress in both above and below ground projects.



##### Visqueen Training Academy

We are now able to offer exclusive in depth training opportunities on a wide variety of Visqueen products at our Training Academy.



##### Visqueen Special Projects

We provide high-level expertise, comprehensive support and experience in all types of waterproofing and gas protection.



Part of RPC bpi group

Heanor Gate Road, Heanor, Derbyshire, DE75 7RG

0333 202 6800 [enquiries@visqueen.com](mailto:enquiries@visqueen.com) [www.visqueen.com](http://www.visqueen.com)

The information given in this datasheet is based on data and knowledge correct at the time of printing. Statements made are of a general nature and are not intended to apply to any use or application outside any referred to in the datasheet. As conditions of usage and installation are beyond our control we do not warrant performance obtained but strongly recommend that our installation guidelines and the relevant British Standard Codes of Practice are adhered to. Please contact us if you are in any doubt as to the suitability of application.



## **APPENDIX C**

### **Gas Inspection Records**

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 1 V1\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 1 Visit 1        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|                    |                              |                           |                     |     |                     |                 |
|--------------------|------------------------------|---------------------------|---------------------|-----|---------------------|-----------------|
| <b>Gas barrier</b> | <b>Inspection date/type:</b> | 20 <sup>th</sup> May 2020 | <b>Inspected by</b> | AJB | <b>Photographed</b> | Y/ <del>N</del> |
|--------------------|------------------------------|---------------------------|---------------------|-----|---------------------|-----------------|

|                           |                 | Notes/comments (see guide notes below)                           |
|---------------------------|-----------------|------------------------------------------------------------------|
| Membrane type             | Y/ <del>N</del> | 8. Visqueen low permeability membrane                            |
| Extent of coverage        | Y/ <del>N</del> | 9. Perimeter only                                                |
| Underside of membrane     | Y/ <del>N</del> | 10.Ok                                                            |
| Slab/membrane condition   | Y/ <del>N</del> | 11. Free from debris                                             |
| Laps and joints           | Y/ <del>N</del> | 12. As per manufacturers spec                                    |
| Damp-proof membrane       | Y/ <del>N</del> | 13. Ok                                                           |
| Service entries and seals | Y/ <del>N</del> | 14.Not yet – perimeter installed only                            |
| Cavity inspection         | Y/ <del>N</del> | 15. Cavity spanned with membrane and DPC. Both in good condition |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

~~This plot has PASSED / FAILED inspection.~~ Interior of membrane to be installed followed by further inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.



On behalf of EDGE Consulting Engineers

05/05/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 1 V2\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 1 Visit 2        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 am | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)                                                                                       |
|---------------------------|-----------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane                                                                                        |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                                                                                                      |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to view.                                                                                                          |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Generally ok although small tear hole within the rear right of the membrane. Perimeter needs tidying up and taping down. |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec                                                                                                |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                                                                                                       |
| Service entries and seals | Y/ <del>N</del>             | 14. Generally ok although small gap between tape around service entry.                                                       |
| Cavity inspection         | <del>Y</del> / <del>N</del> | 15. Cavity spanned with membrane and DPC.                                                                                    |

## Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

This plot has ~~PASSED~~ / FAILED inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.




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On behalf of EDGE Consulting Engineers

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19/10/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 1 V3\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 1 Visit 3        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 pm | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)          |
|---------------------------|-----------------------------|-------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane           |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                         |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to view.                             |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Repairs undertaken to satisfactory standard |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec                   |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                          |
| Service entries and seals | Y/ <del>N</del>             | 14. Repairs undertaken to satisfactory standard |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC.       |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

This plot has PASSED / ~~FAILED~~ inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection ~~IS~~ / IS NOT required for this plot.



On behalf of EDGE Consulting Engineers

20/10/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 2 V1\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 2 Visit 1        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|                    |                              |                           |                     |     |                     |                 |
|--------------------|------------------------------|---------------------------|---------------------|-----|---------------------|-----------------|
| <b>Gas barrier</b> | <b>Inspection date/type:</b> | 20 <sup>th</sup> May 2020 | <b>Inspected by</b> | AJB | <b>Photographed</b> | Y/ <del>N</del> |
|--------------------|------------------------------|---------------------------|---------------------|-----|---------------------|-----------------|

|                           |                 | Notes/comments (see guide notes below)                           |
|---------------------------|-----------------|------------------------------------------------------------------|
| Membrane type             | Y/ <del>N</del> | 8. Visqueen low permeability membrane                            |
| Extent of coverage        | Y/ <del>N</del> | 9. Perimeter only                                                |
| Underside of membrane     | Y/ <del>N</del> | 10.Ok                                                            |
| Slab/membrane condition   | Y/ <del>N</del> | 11. Free from debris                                             |
| Laps and joints           | Y/ <del>N</del> | 12. As per manufacturers spec                                    |
| Damp-proof membrane       | Y/ <del>N</del> | 13. Ok                                                           |
| Service entries and seals | Y/ <del>N</del> | 14.Not yet – perimeter installed only                            |
| Cavity inspection         | Y/ <del>N</del> | 15. Cavity spanned with membrane and DPC. Both in good condition |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

~~This plot has PASSED / FAILED inspection.~~ Interior of membrane to be installed followed by further inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.




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On behalf of EDGE Consulting Engineers

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05/05/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 2 V2\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 2 Visit 2        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 am | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)                                                                                                     |
|---------------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane                                                                                                      |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                                                                                                                    |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to see                                                                                                                          |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Free from debris. Edges required tidying and taping down.                                                                              |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec                                                                                                              |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                                                                                                                     |
| Service entries and seals | Y/ <del>N</del>             | 14. Small hole/gap encountered on the external electric car port cable as well as gaps between membrane floor and general service entries. |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC.                                                                                                  |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

This plot has ~~PASSED~~ /-FAILED inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.




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On behalf of EDGE Consulting Engineers

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19/10/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 2 V3\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 2 Visit 3        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 pm | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)          |
|---------------------------|-----------------------------|-------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane           |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                         |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to view.                             |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Repairs undertaken to satisfactory standard |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec                   |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                          |
| Service entries and seals | Y/ <del>N</del>             | 14. Repairs undertaken to satisfactory standard |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC.       |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

This plot has PASSED / ~~FAILED~~ inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection ~~IS~~ / IS NOT required for this plot.




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On behalf of EDGE Consulting Engineers

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20/10/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 3 V1\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 3 Visit 1        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|                    |                              |                           |                     |     |                     |                 |
|--------------------|------------------------------|---------------------------|---------------------|-----|---------------------|-----------------|
| <b>Gas barrier</b> | <b>Inspection date/type:</b> | 20 <sup>th</sup> May 2020 | <b>Inspected by</b> | AJB | <b>Photographed</b> | Y/ <del>N</del> |
|--------------------|------------------------------|---------------------------|---------------------|-----|---------------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)                           |
|---------------------------|-----------------------------|------------------------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane                            |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter only                                                |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10.Ok                                                            |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Free from debris                                             |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec                                    |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                                           |
| Service entries and seals | Y/ <del>N</del>             | 14.Not yet – perimeter installed only                            |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC. Both in good condition |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

~~This plot has PASSED / FAILED inspection.~~ Interior of membrane to be installed followed by further inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.



On behalf of EDGE Consulting Engineers

05/05/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 3 V2\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 3 Visit 2        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 am | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)                                |
|---------------------------|-----------------------------|-----------------------------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane                                 |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                                               |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to see                                                     |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Free from debris. Edges required tidying and taping down.         |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec                                         |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                                                |
| Service entries and seals | Y/ <del>N</del>             | 14. Gaps between membrane floor and service entries due to poor seal. |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC.                             |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

This plot has ~~PASSED~~ / FAILED inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.




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On behalf of EDGE Consulting Engineers

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20/05/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 3 V3\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 3 Visit 3        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 pm | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)          |
|---------------------------|-----------------------------|-------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane           |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                         |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to view.                             |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Repairs undertaken to satisfactory standard |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec                   |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                          |
| Service entries and seals | Y/ <del>N</del>             | 14. Repairs undertaken to satisfactory standard |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC.       |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

This plot has PASSED / ~~FAILED~~ inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection ~~IS~~ / IS NOT required for this plot.




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On behalf of EDGE Consulting Engineers

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20/10/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 4 V1\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 4 Visit 1        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                           |              |     |              |     |
|-------------|-----------------------|---------------------------|--------------|-----|--------------|-----|
| Gas barrier | Inspection date/type: | 20 <sup>th</sup> May 2020 | Inspected by | AJB | Photographed | Y/N |
|-------------|-----------------------|---------------------------|--------------|-----|--------------|-----|

|                           |     | Notes/comments (see guide notes below)                           |
|---------------------------|-----|------------------------------------------------------------------|
| Membrane type             | Y/N | 8. Visqueen low permeability membrane                            |
| Extent of coverage        | Y/N | 9. Perimeter only                                                |
| Underside of membrane     | Y/N | 10. Ok                                                           |
| Slab/membrane condition   | Y/N | 11. Free from debris                                             |
| Laps and joints           | Y/N | 12. As per manufacturers spec                                    |
| Damp-proof membrane       | Y/N | 13. Ok                                                           |
| Service entries and seals | Y/N | 14. Not yet – perimeter installed only                           |
| Cavity inspection         | Y/N | 15. Cavity spanned with membrane and DPC. Both in good condition |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

~~This plot has PASSED / FAILED inspection.~~ Interior of membrane to be installed followed by further inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.



On behalf of EDGE Consulting Engineers

05/05/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 4 V2\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 4 Visit 2        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 am | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)                                  |
|---------------------------|-----------------------------|-------------------------------------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane                                   |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                                                 |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to see                                                       |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Free from debris. Edges required tidying and taping down.           |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec where completed although work in progress |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                                                  |
| Service entries and seals | Y/ <del>N</del>             | 14. Ok where completed although work in progress.                       |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC.                               |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

~~This plot has PASSED / FAILED inspection.~~ Installation still underway. Satisfactory so far but incomplete. EDGE to return later in day to re-inspect.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection IS / ~~IS NOT~~ required for this plot.



On behalf of EDGE Consulting Engineers

20/05/2020

Date

**Document name:** 19633-EDGE-XX-XX-RP-G-PLOT 4 V3\_GAS PROTECTION VALIDATION RECORD[PO1]

## GAS PROTECTION VALIDATION RECORD

One record sheet to be completed for each plot inspected by a suitably qualified independent consultant/engineer

|                    |                  |                                 |                                                                               |
|--------------------|------------------|---------------------------------|-------------------------------------------------------------------------------|
| <b>Job No</b>      | 19633            | <b>Design/specification ref</b> |                                                                               |
| <b>Site Name</b>   | 8 Brookburn Road | <b>Building use</b>             | Residential/ <del>commercial</del> / <del>other</del>                         |
| <b>Plot No</b>     | 4 Visit 3        | <b>Building description</b>     | <del>Detached</del> / <del>semi-detached</del> /terrace/ <del>apartment</del> |
| <b>Compiled By</b> | JH/AJB           | <b>Gas protection type</b>      | Active/passive                                                                |
|                    |                  | <b>Foundation type</b>          | Suspended floor/ <del>raft</del> / <del>other</del>                           |

|                                          |                              |     |                     |     |                     |     |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|
| <b>Ventilated sub floor (if present)</b> | <b>Inspection date/type:</b> | N/A | <b>Inspected by</b> | N/A | <b>Photographed</b> | Y/N |
|------------------------------------------|------------------------------|-----|---------------------|-----|---------------------|-----|

| Notes/comments (see guide notes below) |     |        |
|----------------------------------------|-----|--------|
| Void former type                       | Y/N | 1. N/A |
| Height of void space                   | Y/N | 2. N/A |
| Gravel type                            | Y/N | 3. N/A |
| Pipe size and spacing                  | Y/N | 4. N/A |
| External wall air bricks               | Y/N | 5. N/A |
| Internal sleeper walls                 | Y/N | 6. N/A |
| External vent trenches/ducts           | Y/N | 7. N/A |

|             |                       |                                  |              |     |              |                 |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|
| Gas barrier | Inspection date/type: | 19 <sup>th</sup> October 2020 pm | Inspected by | AJB | Photographed | Y/ <del>N</del> |
|-------------|-----------------------|----------------------------------|--------------|-----|--------------|-----------------|

|                           |                             | Notes/comments (see guide notes below)      |
|---------------------------|-----------------------------|---------------------------------------------|
| Membrane type             | Y/ <del>N</del>             | 8. Visqueen low permeability membrane       |
| Extent of coverage        | Y/ <del>N</del>             | 9. Perimeter & interior                     |
| Underside of membrane     | <del>Y</del> / <del>N</del> | 10. Unable to view.                         |
| Slab/membrane condition   | Y/ <del>N</del>             | 11. Completed to satisfactory standard      |
| Laps and joints           | Y/ <del>N</del>             | 12. As per manufacturers spec               |
| Damp-proof membrane       | Y/ <del>N</del>             | 13. Ok                                      |
| Service entries and seals | Y/ <del>N</del>             | 14. Ok. Completed to satisfactory standard. |
| Cavity inspection         | <del>Y</del> /N             | 15. Cavity spanned with membrane and DPC.   |

#### Guide notes

|    |                              |                                                                                                                                                                                                                                                                                                                                                                              |
|----|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Void former height           | Proprietary type – manufacturer and specification, in accordance with design? Installed property without damage                                                                                                                                                                                                                                                              |
| 2. | Height of void space         | Height of proprietary former of constructed ventilated space below suspended floor – note any debris on void/obstructions to air flow, note formation surface soil type (e.g. crushed concrete/brick), evidence of flooding                                                                                                                                                  |
| 3. | Gravel type                  | Gravel type if used (limestone/granite etc) and any specification (e.g. 6F2), typical particle dimensions (mm), apparent fines content (low/high), compaction (loose/dense), waterlogging/contamination by clay, organic matter, other debris. Take photographs of stockpile or check details on delivery notes. Check depth of stone conforms to at least 300 mm if visible |
| 4. | Pipe size and spacing        | Diameter in mm; material type (e.g. PVC); slotted or perforated; positioning and spacing/separation and jointing as on design drawing – if not sketch arrangement – do pipes connect with external (telescopic/swan neck) vents? Take photographs of vents on external walls for each plot.                                                                                  |
| 5. | External wall airbricks      | Check numbers, size, and positions as design drawing – check for blockage e.g. mortar, soil, paving's etc                                                                                                                                                                                                                                                                    |
| 6. | Internal wall airbricks      | Check ventilation holes e.g. honeycomb brickwork or pipe crossings – note size, spacing and location                                                                                                                                                                                                                                                                         |
| 7. | External vent trenches/ducts | Check whether located and constructed in accordance with design drawings; if open-topped gravel, note gravel type and presence of fines/contamination; if pipe or other vents – check positions and construction for functionality and absence of blockages – vents may be built over                                                                                        |
| 8. | Membrane type                | Note manufacturer and product specification, including batch/roll numbers if present – in accordance with specification? Check stock storage arrangements – protected from dirt and damage                                                                                                                                                                                   |

|     |                           |                                                                                                                                                                                                                                                                                                                                                            |
|-----|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.  | Extent of coverage        | If membrane cover is incomplete, then further inspection will be required – note areas completed/incomplete – is membrane fully visible or have internal walls been constructed over membrane/screed placed?                                                                                                                                               |
| 10. | Underside of membrane     | Where necessary, for example, when using a granular blanket as a ventilation layer, check the underside of the membrane has adequate protection e.g. minimum 50 mm no fines concrete blinding layer or appropriate geo-textile                                                                                                                             |
| 11. | Slab/membrane condition   | Record presence of ducts/rough surfaces, in particular sharp projections, below or above membrane; record locations of all punctures or repairs, note arrangements to protect membrane surface from traffic/tools and equipment/materials and temporary weighting down of membrane e.g. use of boards. Take photographs of each plot inspected.            |
| 12. | Laps and joints           | Check that all joints are lapped and sealed in accordance with manufacturer's requirements/specification, particular where creases/folds are present (usually minimum 150 mm laps with double-sided tape between sheets and single sided tape on top surface; note size of sheets and frequency of edge seals). Take photographs of jointing for each plot |
| 13. | Damp-proof course         | Record DPC manufacturer and product code – usually integrated with the membrane; measure the DPC projection from external wall in mm; check laps and seals between membrane and DPC – note any potential stress points and tension between the two; check for damage to DPC                                                                                |
| 14. | Service entries and seals | Check top hat seal arrangement in accordance with design/specification (laps and seals between top hat and floor membrane, pipe upstand is usually a minimum 150 mm) check. Take photographs for all plots inspected                                                                                                                                       |
| 15. | Cavity inspection         | Check gas membrane or gas resistant DPC is taken across cavity. Check for rips across cavity. Check for jointing detail of gas resistant DPC or membrane across cavity to main membrane. Take photographs for all plots inspected                                                                                                                          |

This plot has PASSED / ~~FAILED~~ inspection.

(any proposed remedial works should be noted in the 'Notes/comments' column of this form)

An additional inspection ~~IS~~ / IS NOT required for this plot.




---

On behalf of EDGE Consulting Engineers

---

20/10/2020

Date

## **APPENDIX D**

### **Certificates**

## VALIDATION CERTIFICATE

is hereby granted to **CEJ Builders** for **Plot No. 1** at 8 Brookburn Road, Chorlton-cum-Hardy, Manchester, M21 9ES.

Alliance Design UK Ltd t/a EDGE Consulting Engineers certifies that the approved gas mitigation measures have been completed and that the garden has been capped with a minimum of 450 mm of clean, uncontaminated topsoil as required by the Local Planning Authority.



On behalf of EDGE Consulting Engineers

09/02/2021

Date

## CONDITIONS OF ISSUE

1. Certificate to be issued alongside the validation record/verification report.
2. This certificate is issued by EDGE Consulting Engineers for the exclusive use of the certificate holder and its agents. No warranties or guarantees should be assumed by any third parties.
3. This certificate is limited to the verification of the installation of the gas membrane only and clean soil cover. No professional liability is extended to any aspect of the design of the gas protection measures.
4. This certificate confirms the membrane lining system was defect free immediately following completion of the inspection(s). EDGE Consulting Engineers take no responsibility for the integrity of the lining system following any subsequent work.

## VALIDATION CERTIFICATE

is hereby granted to **CEJ Builders** for **Plot No. 2** at 8 Brookburn Road, Chorlton-cum-Hardy, Manchester, M21 9ES.

Alliance Design UK Ltd t/a EDGE Consulting Engineers certifies that the approved gas mitigation measures have been completed and that the garden has been capped with a minimum of 450 mm of clean, uncontaminated topsoil as required by the Local Planning Authority.



On behalf of EDGE Consulting Engineers

09/02/2021

Date

## CONDITIONS OF ISSUE

1. Certificate to be issued alongside the validation record/verification report.
2. This certificate is issued by EDGE Consulting Engineers for the exclusive use of the certificate holder and its agents. No warranties or guarantees should be assumed by any third parties.
3. This certificate is limited to the verification of the installation of the gas membrane only and clean soil cover. No professional liability is extended to any aspect of the design of the gas protection measures.
4. This certificate confirms the membrane lining system was defect free immediately following completion of the inspection(s). EDGE Consulting Engineers take no responsibility for the integrity of the lining system following any subsequent work.

## VALIDATION CERTIFICATE

is hereby granted to **CEJ Builders** for **Plot No. 3** at 8 Brookburn Road, Chorlton-cum-Hardy, Manchester, M21 9ES.

Alliance Design UK Ltd t/a EDGE Consulting Engineers certifies that the approved gas mitigation measures have been completed and that the garden has been capped with a minimum of 450 mm of clean, uncontaminated topsoil as required by the Local Planning Authority.



On behalf of EDGE Consulting Engineers

09/02/2021

Date

## CONDITIONS OF ISSUE

1. Certificate to be issued alongside the validation record/verification report.
2. This certificate is issued by EDGE Consulting Engineers for the exclusive use of the certificate holder and its agents. No warranties or guarantees should be assumed by any third parties.
3. This certificate is limited to the verification of the installation of the gas membrane only and clean soil cover. No professional liability is extended to any aspect of the design of the gas protection measures.
4. This certificate confirms the membrane lining system was defect free immediately following completion of the inspection(s). EDGE Consulting Engineers take no responsibility for the integrity of the lining system following any subsequent work.

## VALIDATION CERTIFICATE

is hereby granted to **CEJ Builders** for **Plot No. 4** at 8 Brookburn Road, Chorlton-cum-Hardy, Manchester, M21 9ES.

Alliance Design UK Ltd t/a EDGE Consulting Engineers certifies that the approved gas mitigation measures have been completed as required by the Local Planning Authority.



On behalf of EDGE Consulting Engineers

09/02/2021

Date

## CONDITIONS OF ISSUE

1. Certificate to be issued alongside the validation record/verification report.
2. This certificate is issued by EDGE Consulting Engineers for the exclusive use of the certificate holder and its agents. No warranties or guarantees should be assumed by any third parties.
3. This certificate is limited to the verification of the installation of the gas membrane only and clean soil cover. No professional liability is extended to any aspect of the design of the gas protection measures.
4. This certificate confirms the membrane lining system was defect free immediately following completion of the inspection(s). EDGE Consulting Engineers take no responsibility for the integrity of the lining system following any subsequent work.

## **APPENDIX E**

### **Chemical Test Results (Topsoil)**

## FINAL ANALYTICAL TEST REPORT

**Envirolab Job Number:** 21/00525  
**Issue Number:** 1  
**Date:** 29 January, 2021

**Client:** Edge Consulting Engineers  
3rd Floor  
Conavon Court  
12 Blackfriars Street  
Manchester  
M3 5BQ

**Project Manager:** Andrew Bain; Joe Halligan  
**Project Name:** Lindow Lawn Turf (for 8 Brookburn Rd)  
**Project Ref:** 19633  
**Order No:** PO-0233  
**Date Samples Received:** 20/01/21  
**Date Instructions Received:** 20/01/21  
**Date Analysis Completed:** 29/01/21

**Prepared by:**

  
Melanie Marshall  
Laboratory Coordinator

**Approved by:**

  
Holly Neary-King  
Client Services Supervisor

Envirolab Job Number: 21/00525

Client Project Name: Lindow Lawn Turf (for 8 Brookburn Rd)

Client Project Ref: 19633

| Lab Sample ID                                       | 21/00525/1 | 21/00525/2 | 21/00525/3 |  |  |  |  | Units | Limit of Detection | Method ref  |
|-----------------------------------------------------|------------|------------|------------|--|--|--|--|-------|--------------------|-------------|
| Client Sample No                                    |            |            |            |  |  |  |  |       |                    |             |
| Client Sample ID                                    | TS1        | TS2        | TS3        |  |  |  |  |       |                    |             |
| Depth to Top                                        |            |            |            |  |  |  |  |       |                    |             |
| Depth To Bottom                                     |            |            |            |  |  |  |  |       |                    |             |
| Date Sampled                                        | 19-Jan-21  | 19-Jan-21  | 19-Jan-21  |  |  |  |  |       |                    |             |
| Sample Type                                         | Soil - D   | Soil - D   | Soil - D   |  |  |  |  |       |                    |             |
| Sample Matrix Code                                  | 4E         | 4E         | 4E         |  |  |  |  |       |                    |             |
| % Stones >10mm <sub>A</sub>                         | <0.1       | 1.6        | 1.0        |  |  |  |  | % w/w | 0.1                | A-T-044     |
| pH <sub>D</sub> <sup>M#</sup>                       | 8.39       | 8.44       | 8.52       |  |  |  |  | pH    | 0.01               | A-T-031s    |
| Sulphate (water sol 2:1) <sub>D</sub> <sup>M#</sup> | <0.01      | <0.01      | <0.01      |  |  |  |  | g/l   | 0.01               | A-T-026s    |
| Sulphate (acid soluble) <sub>D</sub> <sup>M#</sup>  | 250        | 260        | <200       |  |  |  |  | mg/kg | 200                | A-T-028s    |
| Cyanide (total) <sub>A</sub> <sup>M#</sup>          | <1         | <1         | <1         |  |  |  |  | mg/kg | 1                  | A-T-042sTCN |
| Phenols - Total by HPLC <sub>A</sub>                | <0.2       | <0.2       | <0.2       |  |  |  |  | mg/kg | 0.2                | A-T-050s    |
| Total Organic Carbon <sub>D</sub> <sup>M#</sup>     | 3.05       | 2.46       | 2.03       |  |  |  |  | % w/w | 0.03               | A-T-032s    |
| Arsenic <sub>D</sub> <sup>M#</sup>                  | 2          | 2          | <1         |  |  |  |  | mg/kg | 1                  | A-T-024s    |
| Boron (water soluble) <sub>D</sub>                  | <1.0       | <1.0       | <1.0       |  |  |  |  | mg/kg | 1                  | A-T-027s    |
| Cadmium <sub>D</sub> <sup>M#</sup>                  | <0.5       | <0.5       | <0.5       |  |  |  |  | mg/kg | 0.5                | A-T-024s    |
| Copper <sub>D</sub> <sup>M#</sup>                   | 7          | 10         | 5          |  |  |  |  | mg/kg | 1                  | A-T-024s    |
| Chromium <sub>D</sub> <sup>M#</sup>                 | 6          | 5          | 5          |  |  |  |  | mg/kg | 1                  | A-T-024s    |
| Chromium (hexavalent) <sub>D</sub>                  | <1         | <1         | <1         |  |  |  |  | mg/kg | 1                  | A-T-040s    |
| Lead <sub>D</sub> <sup>M#</sup>                     | 30         | 20         | 13         |  |  |  |  | mg/kg | 1                  | A-T-024s    |
| Mercury <sub>D</sub>                                | <0.17      | <0.17      | <0.17      |  |  |  |  | mg/kg | 0.17               | A-T-024s    |
| Nickel <sub>D</sub> <sup>M#</sup>                   | 6          | 5          | 4          |  |  |  |  | mg/kg | 1                  | A-T-024s    |
| Selenium <sub>D</sub> <sup>M#</sup>                 | <1         | <1         | <1         |  |  |  |  | mg/kg | 1                  | A-T-024s    |
| Zinc <sub>D</sub> <sup>M#</sup>                     | 30         | 30         | 20         |  |  |  |  | mg/kg | 5                  | A-T-024s    |

Envirolab Job Number: 21/00525

Client Project Name: Lindow Lawn Turf (for 8 Brookburn Rd)

Client Project Ref: 19633

| Lab Sample ID                                    | 21/00525/1 | 21/00525/2 | 21/00525/3 |  |  |  |  | Units | Limit of Detection | Method ref |
|--------------------------------------------------|------------|------------|------------|--|--|--|--|-------|--------------------|------------|
| Client Sample No                                 |            |            |            |  |  |  |  |       |                    |            |
| Client Sample ID                                 | TS1        | TS2        | TS3        |  |  |  |  |       |                    |            |
| Depth to Top                                     |            |            |            |  |  |  |  |       |                    |            |
| Depth To Bottom                                  |            |            |            |  |  |  |  |       |                    |            |
| Date Sampled                                     | 19-Jan-21  | 19-Jan-21  | 19-Jan-21  |  |  |  |  |       |                    |            |
| Sample Type                                      | Soil - D   | Soil - D   | Soil - D   |  |  |  |  |       |                    |            |
| Sample Matrix Code                               | 4E         | 4E         | 4E         |  |  |  |  |       |                    |            |
| <b>PAH-16MS</b>                                  |            |            |            |  |  |  |  |       |                    |            |
| Acenaphthene <sub>A</sub> <sup>M#</sup>          | <0.01      | <0.01      | <0.01      |  |  |  |  | mg/kg | 0.01               | A-T-019s   |
| Acenaphthylene <sub>A</sub> <sup>M#</sup>        | <0.01      | <0.01      | <0.01      |  |  |  |  | mg/kg | 0.01               | A-T-019s   |
| Anthracene <sub>A</sub> <sup>M#</sup>            | <0.02      | <0.02      | <0.02      |  |  |  |  | mg/kg | 0.02               | A-T-019s   |
| Benzo(a)anthracene <sub>A</sub> <sup>M#</sup>    | 0.14       | 0.16       | 0.14       |  |  |  |  | mg/kg | 0.04               | A-T-019s   |
| Benzo(a)pyrene <sub>A</sub> <sup>M#</sup>        | 0.16       | 0.17       | 0.15       |  |  |  |  | mg/kg | 0.04               | A-T-019s   |
| Benzo(b)fluoranthene <sub>A</sub> <sup>M#</sup>  | 0.17       | 0.21       | 0.17       |  |  |  |  | mg/kg | 0.05               | A-T-019s   |
| Benzo(ghi)perylene <sub>A</sub> <sup>M#</sup>    | 0.11       | 0.11       | 0.11       |  |  |  |  | mg/kg | 0.05               | A-T-019s   |
| Benzo(k)fluoranthene <sub>A</sub> <sup>M#</sup>  | <0.07      | 0.11       | <0.07      |  |  |  |  | mg/kg | 0.07               | A-T-019s   |
| Chrysene <sub>A</sub> <sup>M#</sup>              | 0.15       | 0.16       | 0.14       |  |  |  |  | mg/kg | 0.06               | A-T-019s   |
| Dibenzo(ah)anthracene <sub>A</sub> <sup>M#</sup> | <0.04      | <0.04      | <0.04      |  |  |  |  | mg/kg | 0.04               | A-T-019s   |
| Fluoranthene <sub>A</sub> <sup>M#</sup>          | 0.23       | 0.28       | 0.24       |  |  |  |  | mg/kg | 0.08               | A-T-019s   |
| Fluorene <sub>A</sub> <sup>M#</sup>              | <0.01      | <0.01      | <0.01      |  |  |  |  | mg/kg | 0.01               | A-T-019s   |
| Indeno(123-cd)pyrene <sub>A</sub> <sup>M#</sup>  | 0.12       | 0.13       | 0.11       |  |  |  |  | mg/kg | 0.03               | A-T-019s   |
| Naphthalene <sub>A</sub> <sup>M#</sup>           | <0.03      | <0.03      | <0.03      |  |  |  |  | mg/kg | 0.03               | A-T-019s   |
| Phenanthrene <sub>A</sub> <sup>M#</sup>          | 0.07       | 0.10       | 0.07       |  |  |  |  | mg/kg | 0.03               | A-T-019s   |
| Pyrene <sub>A</sub> <sup>M#</sup>                | 0.20       | 0.24       | 0.20       |  |  |  |  | mg/kg | 0.07               | A-T-019s   |
| Total PAH-16MS <sub>A</sub> <sup>M#</sup>        | 1.35       | 1.67       | 1.33       |  |  |  |  | mg/kg | 0.01               | A-T-019s   |

## **REPORT NOTES**

### **General**

This report shall not be reproduced, except in full, without written approval from Envirolab.

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

### **Soil chemical analysis:**

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

### **TPH analysis of water by method A-T-007:**

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

### **Electrical Conductivity of water by Method A-T-037:**

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

### **Asbestos:**

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

### **Predominant Matrix Codes:**

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

### **Secondary Matrix Codes:**

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

### **Key:**

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

## Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR  
Tel. 0161 368 4921 email. ask@envlab.co.uk

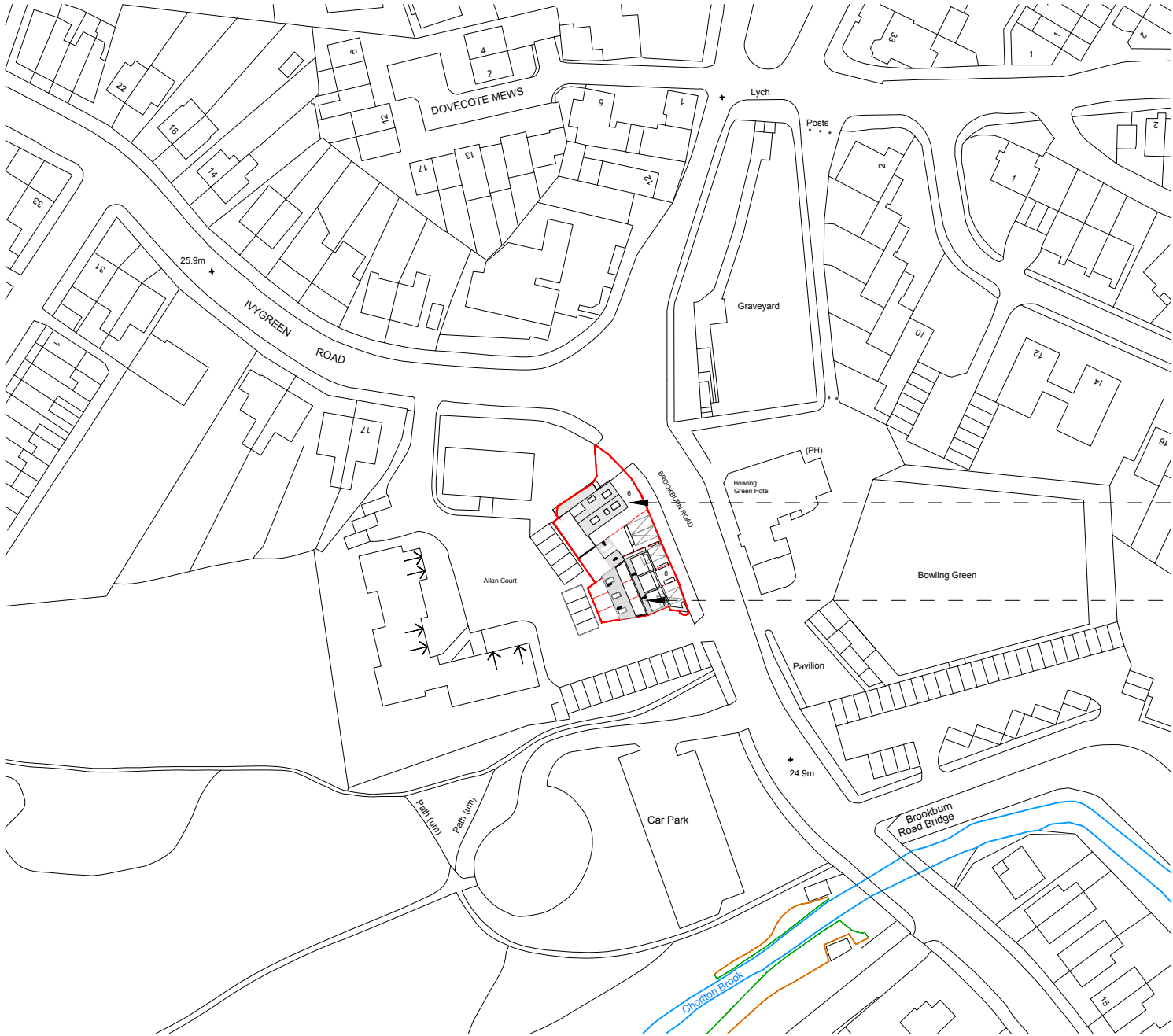
|                            |                                                                                                    |                                    |                 |
|----------------------------|----------------------------------------------------------------------------------------------------|------------------------------------|-----------------|
| <b>Client:</b>             | Edge Consulting Engineers , 3rd Floor, Conavon Court, 12 Blackfriars Street,<br>Manchester, M3 5BQ | <b>Project No:</b>                 | 21/00525        |
| <b>Project:</b>            | Lindow Lawn Turf (for 8 Brookburn Rd)                                                              | <b>Date Received:</b>              | 20/01/2021 (am) |
| <b>Clients Project No:</b> | 19633                                                                                              | <b>Cool Box Temperatures (°C):</b> | 13.3            |

### NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

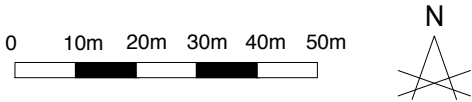
## **APPENDIX F**

### **Drawings**



no. 6 Brookburn Road

no. 8 Brookburn Road



© COPYRIGHT This drawing is protected by copyright, it may not be reproduced in any form or by any means for any purpose, without gaining written permission from Butterfield Architecture

NOTES This drawing is to be read in conjunction with all relevant Butterfield Architecture, Structural Engineer's, Service Engineer's, and Subcontractor drawings. Review all drawings and report any discrepancies to Butterfield Architecture prior to consulting. Do not scale from this drawing. All dimensions and levels including any abutment to existing structures to be checked on site prior to commencement All dimensions in millimetres unless stated otherwise. Work from figured dimensions only. No deviation from details shown on this drawing is allowed without Butterfield Architecture's prior permission in writing. All work is to be carried out in accordance with British Standard Codes of Practice, Statutory requirements and the Contract Documents.

|                 |                                                                           |                                                                 |
|-----------------|---------------------------------------------------------------------------|-----------------------------------------------------------------|
| CLIENT          | Huse Living Ltd                                                           | Jules Copsey                                                    |
| ADDRESS         | 102 Roseneath Road<br>Urmston<br>Manchester<br>M41 5AZ                    | 6 Brookburn Road<br>Chorlton-cum-Hardy<br>Manchester<br>M21 9ES |
| PROJECT TITLE   | 4no. 3 and 2-bedroom dwellings & extension to a detached dwelling at no.6 |                                                                 |
| PROJECT ADDRESS | 6 & 8 Brookburn Road<br>Chorlton-cum-Hardy<br>Manchester<br>M21 9ES       |                                                                 |

|          |                        |
|----------|------------------------|
| SCALE    | 1:1250 @ A3            |
| ISSUE    | Non-Material Amendment |
| DATE     | 26/03/2019             |
| REVISION | JOB NO.                |
| A        | 2174 A                 |
| DWG.NO.  | 2174 A/PL/001          |

| NOTES |          |                                                                                                   |
|-------|----------|---------------------------------------------------------------------------------------------------|
| Rev   | Date     | Description                                                                                       |
| RevA  | 30.07.19 | Revised roof plans - dormers, rear second floor rooflights, ground floor two bed rooflights added |

— Site Boundary

**BUTTERFIELD**  
ARCHITECTURE

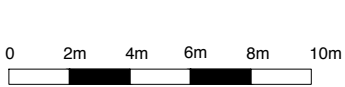
ARCHITECTURE \ INTERIORS \ PROJECT MANAGEMENT

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M \ +44 (0) 7779302856

102 ROSENEATH ROAD, URMSTON, MANCHESTER, M41 5AZ

TITLE

LOCATION PLAN



— Site Boundary

**BUTTERFIELD**  
ARCHITECTURE

ARCHITECTURE \ INTERIORS \ PROJECT MANAGEMENT

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|                 |                                                                           |                                                                 |
|-----------------|---------------------------------------------------------------------------|-----------------------------------------------------------------|
| CLIENT          | Huse Living Ltd                                                           | Jules Copsey                                                    |
| ADDRESS         | 102 Roseneath Road<br>Urmston<br>Manchester<br>M41 5AZ                    | 6 Brookburn Road<br>Chorlton-cum-Hardy<br>Manchester<br>M21 9ES |
| PROJECT TITLE   | 4no. 3 and 2-bedroom dwellings & extension to a detached dwelling at no.6 |                                                                 |
| PROJECT ADDRESS | 6 & 8 Brookburn Road<br>Chorlton-cum-Hardy<br>Manchester<br>M21 9ES       |                                                                 |

|          |                        |
|----------|------------------------|
| SCALE    | 1:250 @ A3             |
| ISSUE    | Non-Material Amendment |
| DATE     | 26/03/2019             |
| REVISION | JOB NO.                |
| A        | 2174 A                 |
| DWG.NO.  | 2174 A/PL/002          |

| NOTES |          |                                                                                                   |
|-------|----------|---------------------------------------------------------------------------------------------------|
| Rev   | Date     | Description                                                                                       |
| RevA  | 30.07.19 | Revised roof plans - dormers, rear second floor rooflights, ground floor two bed rooflights added |

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M \ +44 (0) 7779302856

102 ROSENEATH ROAD, URMSTON, MANCHESTER, M41 5AZ

TITLE

PROPOSED  
SITE PLAN