Appendix D

GEOSHIELD

Verification Certificate

Date: 23 September 2024

Signature Homes Yorkshire Limited

Plot 46
New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735. All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 23 September 2024

Signature Homes Yorkshire Limited

Plot 47
New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735. All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 23 September 2024

Signature Homes Yorkshire Limited

Plot 48
New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735. All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 23 September 2024

Signature Homes Yorkshire Limited

Plot 49
New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735. All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 23 September 2024

Signature Homes Yorkshire Limited

Plot 50
New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735. All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 26 September 2025

Signature Homes

New Mill Road – Plot 51
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification.

Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 26 September 2025

Signature Homes

New Mill Road – Plot 52
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification.

Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 26 September 2025

Signature Homes

New Mill Road – Plot 53
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification.

Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 26 September 2025

Signature Homes

New Mill Road – Plot 54
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification.

Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 26 September 2025

Signature Homes

New Mill Road – Plot 55
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification.

Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 26 September 2025

Signature Homes

New Mill Road – Plot 56
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification.

Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GeoShield Verification Report 27

PROJECT REFERENCE: GEO101204 R27

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road,

Holmfirth,

HD9 7LT

SPECIFICATION: Verified in accordance with CIRIA 735.

Design in accordance with BS8485 2015 + 2019 for Methane and Carbon Dioxide.

Substrate prepared in accordance with manufacturer's instructions

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Lap Tape

Visqueen Pro Detailing Tape

GeoShield Verification Report

NAME OF SURVEYOR:	Niall Hogan
VERIFICATION COMPANY:	GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER:	07423 116951
EMAIL ADDRESS:	nhogan@geoshield.co.uk
ORDER NUMBER:	To be confirmed

PER VISIT: YES: ✔ NO: ☐ PROJECT: YES: ✔ NO: ☐

GeoShield Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	07919 445467
EMAIL ADDRESS:	johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	

GeoShield Verification Report

APPLICATOR'S DETAILS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes Ltd
APPLICATOR TEL:	07919 445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes Ltd
APPLICATOR TEL:	07963 810635
APPLICATOR EMAIL:	

NOTES: At least one member of each team group will have a NVQ Level 2 qualification in the gas membrane installation.

All installers are competent and skilled to complete gas membrane installation.

GeoShield Verification Report

AREA SURVEYED:

Plots 1, 2, 3, 4, 5 & 6 - Infills

SITE CONDITIONS:

WEATHER:

Overcast

TEMPERATURE:

15ºc

RELATIVE HUMIDITY:

N/A

MEMBRANE TEMPERATURE:

N/A

TIME: 11:00 - 13:00

DATE: 30.05.2024

REPORT NUMBER: 027

ACCOMPANIED BY:

John - Signature Homes

GeoShield Verification Report

Verification Layout

The photograph above shows a plan layout of the site. The area highlighted in green shows Plots 1, 2, 3, 4, 5 & 6, where the verification inspection took place on site today.

GeoShield Verification Report

OVERVIEW

The photograph above displays an overview of Plot 1 where today's verification inspection took place on site.

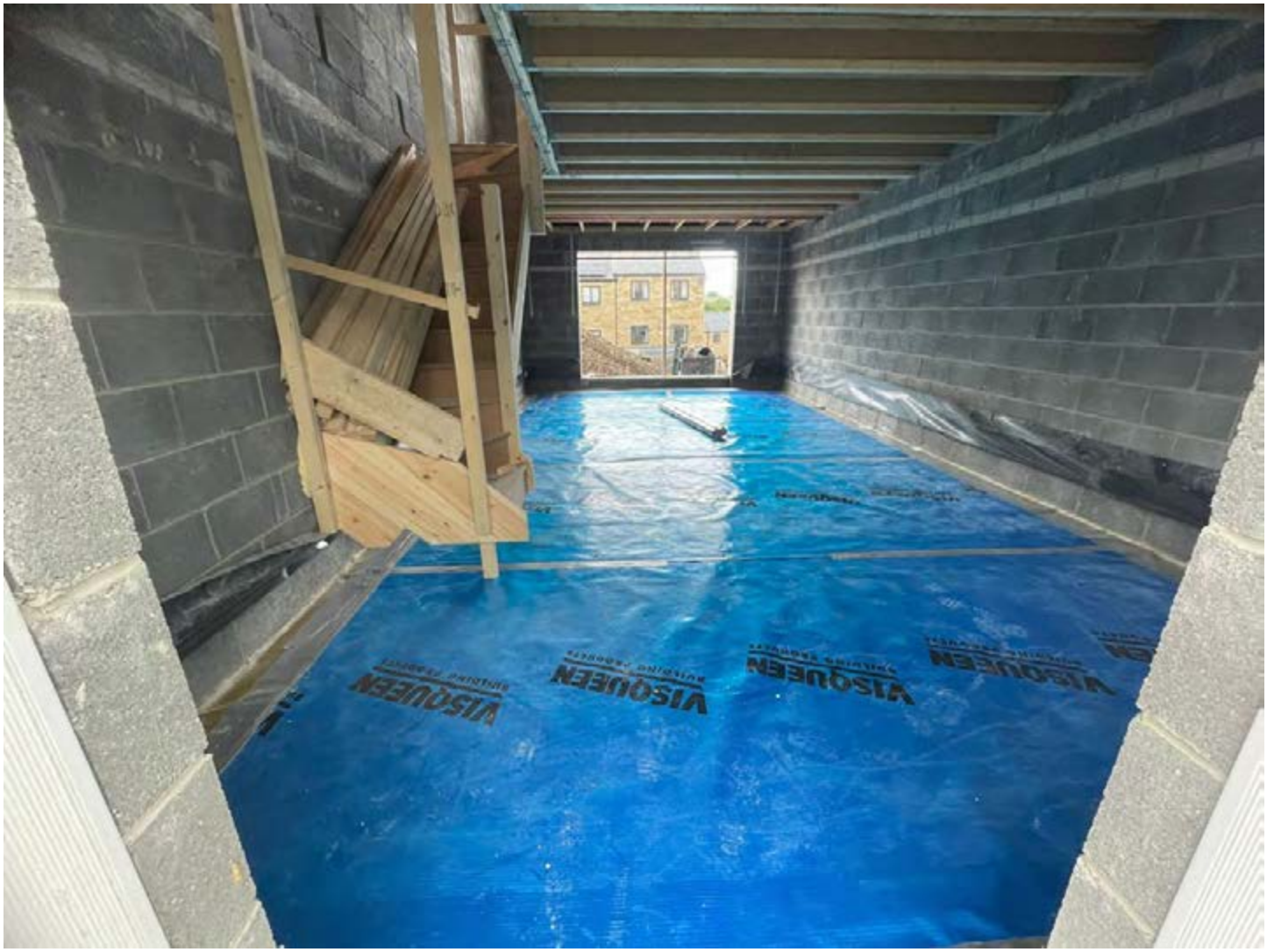
GeoShield Verification Report

OVERVIEW

The photograph above displays an overview of Plot 2 where today's verification inspection took place on site.

GeoShield Verification Report

OVERVIEW



The photograph above displays an overview of Plot 3 where today's verification inspection took place on site.

GeoShield Verification Report

OVERVIEW

The photograph above displays an overview of Plot 4 where today's verification inspection took place on site.

GeoShield Verification Report

OVERVIEW

The photograph above displays an overview of Plot 5 where today's verification inspection took place on site.

GeoShield Verification Report

OVERVIEW

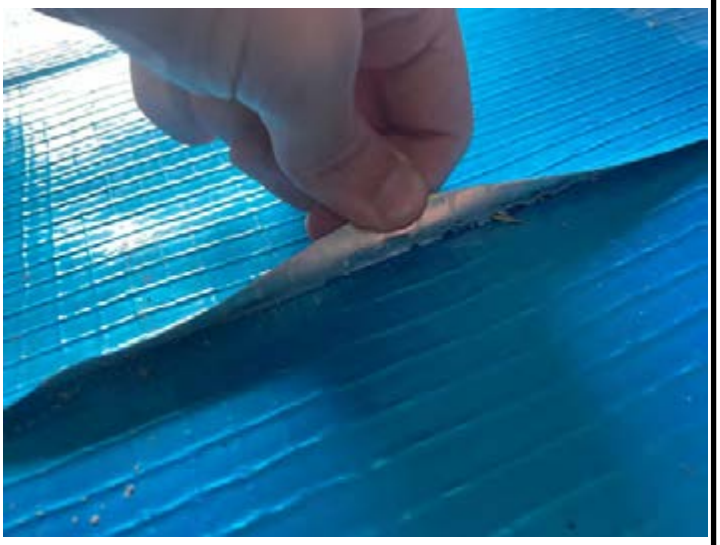
The photograph above displays an overview of Plot 6 where today's verification inspection took place on site.

GeoShield Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 1, 2, 3, 4, 5 & 6 - Infills

Installation of Visqueen Standard Gas Barrier



NOTES:

The Visqueen Standard Gas Barrier has been installed to the infills of Plots 1, 2, 3, 4, 5 & 6. The Visqueen Standard Gas Barrier has been lined out across the entirety of the plots, lapping onto the previously installed perimeter membrane.

NOTES:

All overlaps between the adjacent sheets of the Visqueen Standard Gas Barrier have been sealed using a dual taped system, Visqueen Ultimate Double Sided Butyl Tape between the overlaps and over-taped using Visqueen Foil Lap Tape, as shown in the photographs above.

GeoShield Verification Report

VERIFICATION ITEM ONE

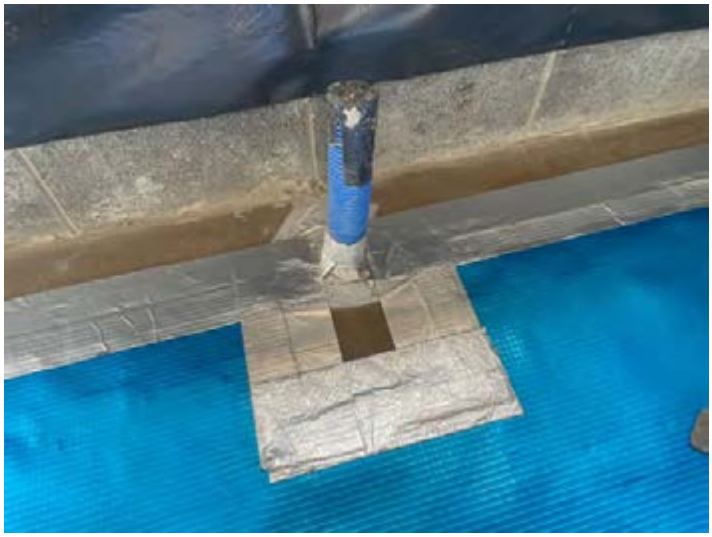
All dual taped lap joints throughout the infill installation to the referenced plots were subjected to thorough visual inspections, supported by mechanical point stress testing, as shown in the photograph above. No faults or defects were identified during the testing of the lap joints.

GeoShield Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 1, 2, 3, 4, 5 & 6 - Infills

Pipe Penetrations



NOTES:

Throughout the installation of the Visqueen Standard Gas Barrier to the referenced plots, there were a number of pipe penetrations that required sealing. These have been successfully sealed using Visqueen Pro Detailing Tape, which is a gas resistant self adhesive membrane. The pipe penetrations have been detailed

NOTES:

in accordance with manufacturer's specifications and to a good NVQ 2 standard, implementing a petal formation around the circumference of each individual pipe penetration and the application of a 300mm top hat over the top.

GeoShield Verification Report

VERIFICATION ITEM TWO

Like all other aspects of the installation thorough visual inspections, supported by the mechanical point stress test where a probe was run along all edges of the Visqueen Pro Detailing Tape. No faults or defects were identified.

GeoShield Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 1, 2, 3, 4, 5 & 6 - Infills

Faults Identified & Remediated

NOTES:

As mentioned within this report, the thorough visual inspections supported by mechanical point stress testing were conducted upon all aspects of the installation. During the inspection various punctures within the previously verified perimeter installation of Visqueen Ultimate GR DPC were identified, all of which were

NOTES:

highlighted for ease of identification and brought to the attention of the installers. The dedicated installers opted to remediate the faults identified by applying additional 150mm patches of Visqueen Pro Detailing Tape over the affected areas.

GeoShield Verification Report

VERIFICATION ITEM THREE

All remediated faults were re-tested via the mechanical point stress test where a probe was run along all edges of the Visqueen Pro Detailing Tape. No further faults were identified. The Visqueen Pro Detailing Tape patch repair remediations have successfully bonded onto the Visqueen Ultimate GR DPC around the perimeter.
Tested and verified in accordance with CIRIA 735.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	✔
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	✔
		remediated during the verification visit.	✔
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	✔
		during the verification visit.	✔
		Seven punctures to Visqueen Ultimate DPC all remediated during	✔
		the verification visit.	✔
		One puncture to Visqueen Gas Barrier but remediated during the	✔
		verification visit.	✔
24/02/2023	019	There were no faults identified throughout the verification.	✔
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	✔
		Proof Course both remediated during the verification visit.	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✔
01/06/2023	022	No faults were identified during the verification process.	✔
07/08/2023	023	No faults were identified during the verification process.	✔
18/09/2023	024	There were three punctures to the Visqueen Ultimate Damp Proof	✔
		Course all of which were remediated during the verification visit	✔
13/11/2023	025	There were no faults identified throughout the verification.	✔
		The integral garage to Plot 48 has yet to be completed and will be	✔
		verified during the next verification visit.	✔
24/11/2023	026	No faults were identified during the verification process.	✔
30/05/2024	027	A number of punctures to the perimeter were remediated.	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES		NO	✔

Testing checklist attached: YES | | NO | |

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✔
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✔
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49 & 50 infill	✔
Gridline/Plot Sign off	Plot 48 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 42, 43, 44 & 45 infills	✔
Gridline/Plot Sign off	Plots 3,4,5 & 6 perimeters & party walls	✔

GeoShield Verification Report

GAS MEMBRANE TESTING

VISUAL /PICK & PROBE:	✔	SMOKE TEST:	
AIR LANCING:		DILECTIC:	
DESTRUCTIVE:		OTHER:	
INERT GAS TEST:		SPECIFY:	

Testing checklist attached: YES ✔ NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 46 & 47 infill	✔
Gridline/Plot Sign off	Plot 48 infill excluding the integral garage.	✔
Gridline/Plot Sign off	Plot 48 - Integral Garage	✔
Gridline/Plot Sign off	Plots 1 & 2 perimeter/party wall	✔
Gridline/Plot Sign off	Plots 1, 2, 3, 4, 5 & 6 - Infills	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GeoShield Verification Report

VERIFICATION SUMMARY

This was the ninth visit to the site where verification was required for the infill installation of the Visqueen Standard Gas Barrier to Plots 1, 2, 3, 4, 5 & 6.

All lap joints within the installation have been sealed using the dual taped system, double sided butyl tape between the 150mm overlaps of the Visqueen Standard Gas Barrier and then over taped with Foil Tape.

All details throughout the installation, such as pipe penetrations have been successfully sealed using Visqueen Pro Detailing Tape, a self adhesive membrane which has been heated down to aid in the adherence.

Visual inspections were supported by thorough mechanical point stress testing throughout the inspection today. No faults of defects were identified. Several punctures were identified within the previously verified perimeter installation of Visqueen Ultimate GR DPC. All faults were remediated on site in the presence of GeoShield.

This was passed and verified in accordance with CIRIA 735 and installed to BS8485:2015+2019.

GEOSHIELD SIGNATURE:

DATE: 30-May-2024

GEOSHIELD

Date: 24 March 2021

Signature Homes Yorkshire Limited

Plot 16

New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
GeoShield Director of Site Services

GEOSHIELD

Date: 28 January 2021

Signature Homes Yorkshire Limited

Plot 18

New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
GeoShield Director of Site Services

GEOSHIELD

Date: 11 December 2020

Signature Homes Yorkshire Limited

Plot 20

New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
GeoShield Director of Site Services

GEOSHIELD

Date: 11 December 2020

Signature Homes Yorkshire Limited

Plot 21

New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
GeoShield Director of Site Services

GEOSHIELD

Date: 24 March 2021

Signature Homes Yorkshire Limited

Plot 16

New Mill Road
Holmfirth
HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
GeoShield Director of Site Services

GEOSHIELD
Verification
PLAN

PROJECT DESCRIPTION

Pre Verification Plan for the Ground Gas Membrane at:

New Mill Road
Holmfirth

The Plan reviews the findings in the Geotechnical Survey Report and reviews the proposed design. In accordance with BS8485:2015+2019 the building type is classed as Type A. The geotechnical survey report confirms the site is CS2.

Therefore, in accordance with BS8485:2019 the ground gas protection system requires 3.5 points. The plan documents these findings and confirms the proposed design is compliant. Compliance is achieved by building a suspended block and beam floor with a ventilated sub floor void and a ground gas membrane on top. The ground gas membrane must meet the requirements of BS8485:2019 Table 7 as do the products specified in this plan.

Testing and documenting the installation will be carried out in accordance with CIRIA 735 for submitting to the Local Planning Authority and Home Warranty Provider.

GEOSHIELD
Verification
PLAN

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GEOSHIELD
Verification
PLAN

Section 1: GEO101204

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

SPECIFICATION: Verified in accordance CIRIA 735.

Design in accordance with BS8485 2015 + 2019 for Methane and Carbon Dioxide.

Substrate prepared in-accordance with manufactures instructions and BS8485

Visqueen standard gas barrier

Visqueen GR DPC

Visqueen double sided butyl tape

Visqueen GR Foil Tape and Lap Tape

Visqueen Pro Detailing Tape

Telescopic Air Vents

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final - Updated to RevE

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscany - Amended as Tanking Detail to retaining wall omitted

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail - Omitted - Designed out

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD
Verification
PLAN

SURVEYOR:	Chris Ingham
VERIFICATION COMPANY:	GeoShield Limited
Icon Business Centre	
4100 Park Approach	
Thorpe Park	
Leeds	
CONTACT NUMBER:	07555 214 679
EMAIL ADDRESS:	CIngham@geoshield.co.uk
ORDER NUMBER:	To be confirmed

PER VISIT: YES: ✔ NO: ☐ PROJECT: YES: ☐ NO: ✔

GEOSHIELD Verification PLAN

SPECIFICATION

Eastwood & Partners
CONSULTING ENGINEERS
E P
Eastwood & Partners, St Andrews House, 23 Kingfield Road, Sheffield, S11 9AS
Tel: 0114 255 4554 Fax: 0114 255 4330 mail@eastwoodandpartners.com www.eastwoodandpartners.com

Mr G. Evans,
Bellway Homes Limited (Yorkshire Division)
2 Deighton Close
Wetherby
LS22 7GZ

PR/AJK/39141/007

By E-mail Only

21 October 2016

Dear Guy,

New Mill Road, Holmfirth

We write in relation to the above site, to report on the results of additional site investigation works carried out by Eastwood & Partners. The works have comprised the drilling of a series of dynamic probe holes across the site to determine the competency of the ground in relation to road construction, and the undertaking of further gas monitoring and testing of the soils to confirm the level of risk presented from the landfill materials that underlie the site.

Dynamic Probe Investigation

The additional works were undertaken on the 10 May 2016. A tracked dynamic probe mini-rig was used to undertake continuous SPTs (standard penetration tests) through the soils below the site. Fourteen positions were tested, which were located along the routes of the proposed access roads. The dynamic probe positions are indicated in the attached marked up site plan.

Probe Results

The results of the dynamic probing are indicated on the appended spreadsheet. The results indicate SPT N-values of generally between 20 and 35 within the upper 1 m from surface across the site, which would relate to a medium dense to dense compaction classification. The materials at shallow depth include the existing limestone/sandstone hardcore subbase beneath the existing surfacing, which was found to be around 300 mm thick. The underlying made ground generally comprises landfill material, but is appears that the upper layers have been compacted, either during the construction of the former car dealership, or through the general use of the site. DP10 was found to be slightly looser below 0.6 m bgl, with N-values of between 2 and 8 recorded above 1m bgl. This hole was located in the north west of the site, near to the edge of the embankment running along the site boundary.

Below 1m, the ground was found to be very loose to loose, with N-values of between 0 and 10 typically recorded within the landfill materials. Localised denser spots were recorded, but these

Also at:- Principle House, 121-123 Fleet Road, Fleet, Hampshire, GU51 3PD Tel: 01252 360580 Fax: 01252 360581

Directors: P Richardson BSc, CEng, MICE, MIStructE S D Preston BEng, CEng, FICE, FIStructE N J Baines BSc, CEng, MICE, MCIWEM
S R Ellis BEng, CEng, MIStructE, AMICE K R Pursall BEng, CEng, MIStructE
C A Topliss BSc, CEnv, CSci, CGeol, SiLC, AMICE, FGS S J English BEng, CEng, MIStructE A R Priest BEng
Senior Associates: K Newsome BSc, CEng, MICE, MIStructE S J Mitchell BSc, MSc, CEng, MEI, MCIBSE, MASHRAE A Allison BEng
M Young MA, CEng, MICE, MIStructE C A Wood BSc, CEng, MIStructE, AMICE
Associates: K Edwards MSci, FGS A J Kerslake BEng A G Marshall BEng, CEng, MIStructE C Hodge EngTech, TMICE P A Harrison BEng, CEng, MIStructE
M P Chappell BEng, IEng, AMIStructE P H Halberstadt MEng, ACGI, CEng, MICE M Dyson BSc(Hons.) CEng, MIStructE
Consultants: J M Wood BSc, CEng, MICE, FIStructE M J Yates BSc(Eng), ACGI, CEng, MICE, FIStructE

Eastwood & Partners (Consulting Engineers) Limited Registered No 1886921

GEOSHIELD Verification PLAN

SPECIFICATION

E P

Ground Gas Risk Assessment

Gas monitoring has been undertaken on the site by Eastwood & Partners, and also during a previous investigation by others. We have previously discussed the results of the gas monitoring with Kirklees Council Environmental Health, who subsequently recommended that the outline planning application should be approved, subject to carrying out additional rounds of monitoring and the undertaking of additional analysis/risk assessment.

The further risk assessment is undertaken below.

Conceptual Model

There is a landfill within the site (Berry Banks, operated by West Yorkshire Waste Management). This is recorded as accepting household, industrial and commercial wastes up to 1977. The landfill start date is not given, but with reference to the historical maps, is likely to be in at least the early 1970s. The material has therefore been in place nearly 40 years. It is possible that some filling was also undertaken prior to this date.

No other landfill sites are indicated in the local area, and consequently there is not considered to be a significant risk of gas migration from the surrounding area.

Ian Farmer Associates undertook an intrusive investigation in 2008 and Eastwood & Partners undertook further investigation in November 2015. The exploratory hole records show deep made ground across much of the site, increasing in thickness northwards and at a maximum of 11.3 m (ABH11).

The made ground is generally described as comprising clayey sands and sandy clays with inclusions of plastic, metal, ash, clinker, glass, brick, ceramic, concrete, sandstone and occasional paper, fabric and timber. Occasional organic odours were noted within the made ground.

It is therefore considered that this would probably be most appropriately classified as 'Old Landfill' in terms of being a typical source of generation in accordance with Table 8.5 of CIRIA C665 and therefore as 'moderate risk'.

Gas Monitoring

Gas monitoring wells were installed within seventeen of Ian Farmer Associates' exploratory holes and monitored on five occasions between 14 May 2008 and 20 October 2008. The monitoring results indicated low levels of carbon dioxide were present across the site and that methane was generally absent. The exceptions to this were ABH9, ABH11 and ABH12 in the

3

E P

north west of the site, where carbon dioxide concentrations of up to 19% by volume were recorded. Methane was also recorded on a number of occasions in these holes, with concentrations of up to 12% by volume. Significant gas flows were not recorded in any of the holes during most of the monitoring visits, with the majority of results indicating either a zero or a negative flow.

Eastwood & Partners carried out further monitoring in four new wells (BH1 to BH4) which were all installed in the northern half of the site where the deepest made ground. We also carried out further monitoring using two existing wells, one of which is believed to be ABH11 in which Ian Farmer Associates found the highest readings.

A copy of the Exploratory Hole Location Plan is attached. Also attached are the results for ten additional rounds of gas monitoring undertaken, along with a table showing the atmospheric pressure trends recorded from the BBC website. The atmospheric pressure is summarised as follows:

- 9 December 2015 – Atmospheric pressure 996 to 999 mb – The pressure was indicted to have been rising preceding the visit, however we were on site doing other works and as the pressure recorded on site was sufficiently low we carried out the monitoring. The pressure was indicated to fall following the visit so is likely to have been falling whilst we visited.
- 22 December 2015 – Atmospheric pressure 975/976 mb – The pressure was indicated to have fallen 13 mb over the preceding 48 hours.
- 8 January 2016 – Atmospheric pressure 965 – The pressure was indicated to have risen over the preceding 24 hours but to be falling by over 10 mb over the next 24 hours.
- 19 February 2016 – Atmospheric pressure 975 to 977 - The pressure was indicated to have been steady prior to monitoring and falling after.
- 8 March 2016 – Atmospheric pressure 980 – The pressure was indicated to have risen over the preceding 24 hours but to be falling by over 10 mb over the next 24 hours.
- 23 March 2016 – Atmospheric pressure 978-979 – The pressure was indicated to have been falling steadily for 48 hours prior to the visit.
- 10 May 2016 - Atmospheric pressure 984-985 – The pressure was indicated to have been gradually falling for several days prior to the visit.

- 10 June 2106 - Atmospheric pressure – 992-993 – The pressure was indicated to have fallen by over 10 mb over the preceding 48 hours.
- 8 July 2016 - Atmospheric pressure 985-986 – The pressure was indicated to have been falling for 48 hours prior to the visit.
- 3 August 2106 – Atmospheric pressure 995 – The pressure was not recorded prior to visiting the site, but historical data taken from www.wunderground.com for the Huddersfield area shows that the general trend was for falling air pressures, with a reduction from around 1017 mb to 1006 mb over the 48 hours prior to the site visit.

In summary, therefore, 5 rounds have been undertaken over 5 months in 2008 and 10 rounds over nine months in 2015/16; totalling 15 rounds over 14 months. This therefore satisfies the typical/idealised frequency and period of 12 rounds over a minimum of 6 months set out in tables 5.5 a and b of CIRIA C665.

Monitoring Results

BH2 and BH3 were new wells which we installed and which are located near to ABH11. These three wells are in the area where the deepest made ground was recorded, at 9 to 11.3 m, and recorded the highest concentrations as follows:

Location	Methane %	Carbon dioxide %	Maximum Flow l/hr
BH2*	9.6, 10.8, **11.3**, 9.2, 9.0, 8.9, 7.6, 7.2, 6.4	**16.1**, 15.8, 15.1, 14.3, 13.9, 14.3, 13.5, 13.6, 14.7	**0.6**, -1.6, -1.4, -0.1, 0.0, -0.3, -0.1, 0.0, 0.0
BH3	24.6, 26.6, **27.4**, 24.2, 23.1, 21.1, 15.5, 21.2, 21.0, 18.0,	19.8, **20.4**, 19.1, 17.3, 16.2, 17.8, 14.4, 18.1, 19.0, 17.2,	0.3, -1.6, -1.6, 0.6, **0.7**, -0.1, 0.1, 0.0, 0.0, 0.0
ABH11	0.0, NR, 0.0, 0.0, 0.0, 0.0, **9.2**, NR, 8.3, 7.2,	0.6, NR, 2.2, 10.2, 4.2, 1.7, 17.0, NR, **18.5**, 16.0	0.0, NR, -1.6, **0.2**, 0.0, 0.1, 0.0, NR, -0.1, 0.0

* Well could not be located on visit of 8.7.16.
NR – borehole not monitored on this occasion

Taking the highest concentrations of methane (27.4%) and carbon dioxide (20.4%) and multiplying these by the highest flow (0.7 l/hr) the following gas screening values are recorded:

E&P

- Methane – **0.1918 l/hr**, which is just above the threshold for classifying the site as Green of 0.16 l/hr. It would need to be over 3.2 times higher to classify the site as Amber 2 and 8.1 times higher to classify it as Red.
- Carbon dioxide – **0.1428 l/hr**, which is below the threshold for classifying the site as Green of 0.78 l/hr. It would need to be over 5.4 times higher to classify the site as Amber 1, 10.9 times higher to classify it as Amber 2 and 21.9 times higher to classify it as Red.

The wells are all around five metres deep with 1 m of plain pipe at the surface and are therefore considered to target the material likely to pose a risk appropriately. The results, particularly of the most recent monitoring, have also been very consistent giving us comfort in the robustness of any classification of the gassing regime.

The maximum concentrations recorded in BH3 only, exceed the typical maximum concentration of 20% for methane for classifying the site as Amber 2. However, an exceedance of this threshold has only been recorded on one occasion throughout the ten monitoring visits undertaken by E&P, and on only one occasion during all fifteen rounds of monitoring undertaken in total.

Footnote 5 for Table 8.7 in CIRIA C665 states that *'the "typical maximum concentration" can be exceeded in certain circumstances should the conceptual site model indicate it safe to do so. This is where professional judgement will be required, based on a thorough understanding of the gas-regime identified at the site where monitoring in the worst temporal conditions has occurred'*. We appreciate that the typical maximum concentration is what the authors established to be common consensus among those in the profession as reasonable. In this case, as the methane readings have remained consistent and not significantly above the upper limit; the gas screening value is significantly below the upper limit for classification as Amber 2; and monitoring has been undertaken during the worst temporal conditions, it is considered appropriate to classify the area of deepest made ground as Amber 2.

This is also in line with what we would expect from the conceptual model, where referring to the Ground Gas Handbook (Wilson et al, 2009):

> *'Significant gas generation is usually required for large volumes of gas to migrate either by diffusive or advective flow.'*

E P

Using the analogy of two balloons in Figure 4.4:

> *'Made ground would be considered to be a deflated balloon, in that it can have high concentrations of gas, but there is a low gas generation rate and low volume of gas, resulting in a low emission risk.'*

The text below this figure goes on to state that:

> *'Gas concentration within a source is a poor indicator of migration or surface emission risk. The methane concentration could be measured at similar levels in an inflated balloon (a domestic landfill, where there is a high concentration, high generation rate and large volume of gas, resulting in a high emission risk) but the risk of migration is obviously higher in the inflated balloon. Even where migration can occur by diffusion there needs to be a constant source of gas to replenish the gas that migrates, in order to maintain a constant gradient.'*

In addition, although piles are proposed, we have recommended steel tube piles. These are driven piles and therefore no soil is removed, which means the piles will have the effect of pushing the soils out horizontally and densifying them locally around the piles. The piles can be filled with concrete, although would be driven to below the made ground and therefore would not be expected to act as pathway for gas migration anyway.

Secondary Line of Evidence

In order to provide a secondary assessment, bulk samples of the landfill materials were collected from a series of additional trial pits excavated on site on 6 May 2016 in the north western corner of the site, in the vicinity of BH2, BH3 and ABH11, where the highest gas monitoring results were recorded. The samples were collected from a range of depths across each trial pit to include a range of materials from both shallow and greater depth.

The samples were dispatched to Chemtest Limited, in Newmarket, who are a UKAS accredited laboratory. Ten bulk samples of the landfill materials were submitted, and were scheduled for Forensic Descriptions of Made Ground, in accordance with the methodology prescribed by the Environmental Protection Group document *'An Alternative to Gas Monitoring for Ground Gas Risk Assessment' by* Card and Wilson.

This testing separates the made ground material into its main constituent parts and determines the volume of each of these within the sample. The categories of constituent material include degradable elements such as wood/trees, timber, vegetable matter, paper, cloth and leather, and organic soil, as well as inert/non degradable matter such as stones, metal glass and ceramics. The proportion of fine soil is also measured, and a total organic carbon (TOC) test is

GEOSHIELD Verification Plan

SPECIFICATION

E P

undertaken to determine whether a significant amount or organic matter is included within this finer material. A copy of the results is appended to this letter (Chemtest Report 16-11349-2).

The results indicate that within the samples, between 0.5% and 9.2% of the materials consisted of degradable material. Between 20% and 50% of the samples comprised coarse 'inert' material. Between 50% and 77% of the individual sample mass comprised fine soil, of which less than 1% TOC was recorded in three of the samples. In the remaining seven samples, the volume of fine material was insufficient to complete the TOC test. It can therefore be assumed that a significant volume of organic material is not present within the fine soils.

Risk Assessment

The results of the gas monitoring undertaken on the site are considered to provide a suitably robust data set such that the potential risk to the development through ground gas generation/migration from the underlying landfill materials can be fully assessed. The monitoring results indicate that in general, the concentrations and flows of gas are below the maximum threshold values set within the CIRIA C665 guidance for classification as 'Amber 2'. One result for methane on one single occasion exceeded the upper bound value of 20% v/v, but all remaining results were below this level. The flows recorded from the boreholes across the site were also negligible on most occasions and hence the calculated gas screening values were very low, falling within Amber 1 classification at worst. It is therefore considered appropriate to adopt a classification of Amber 2.

To confirm that the made ground in general does not present a significant potential for generating further concentrations of gas, forensic descriptions were commissioned from the laboratories. The results of this confirmed that the landfill materials comprise predominantly granular, not degradable materials, of which no significant organic content is present. The degradable elements of the landfill soils (paper, cloths, timber etc.) from only a very low proportion of the material, and food/plant waste is generally absent from the material, as would be expected from a landfill of this age.

Conclusion

We have previously recommended within our Phase 2 site investigation report that Gas protection measures be installed in all plots on the site. This was accepted by Kirklees at the outline planning stage on the proviso that this further monitoring was completed. This conclusion is maintained, and based on all of the additional monitoring results, soil testing and initial discussion with the regulators, 'Amber 2' protection (comprising an independently verified, fully lapped and sealed proprietary gas resistant membrane) is allowed for in all plots.

E P

We trust that this meets with your approval. However, please do not hesitate to contact us if you wish to discuss any of the above.

Yours sincerely,

P Richardson

Director

Enc: Exploratory Hole Location Plan, 39141/001/B
Dynamic Probe Results
Gas Monitoring Results
Table of Atmospheric Pressures
Chemtest Report 16-11349-2

Copy: Mr R. Cooke – Prospect Estates

GEOSHIELD
Verification Plan

DETAILS

Site Layout - Updated to Revision E

GEOSHIELD Verification Plan

DETAILS

House Type - Venice - Rome - Florence

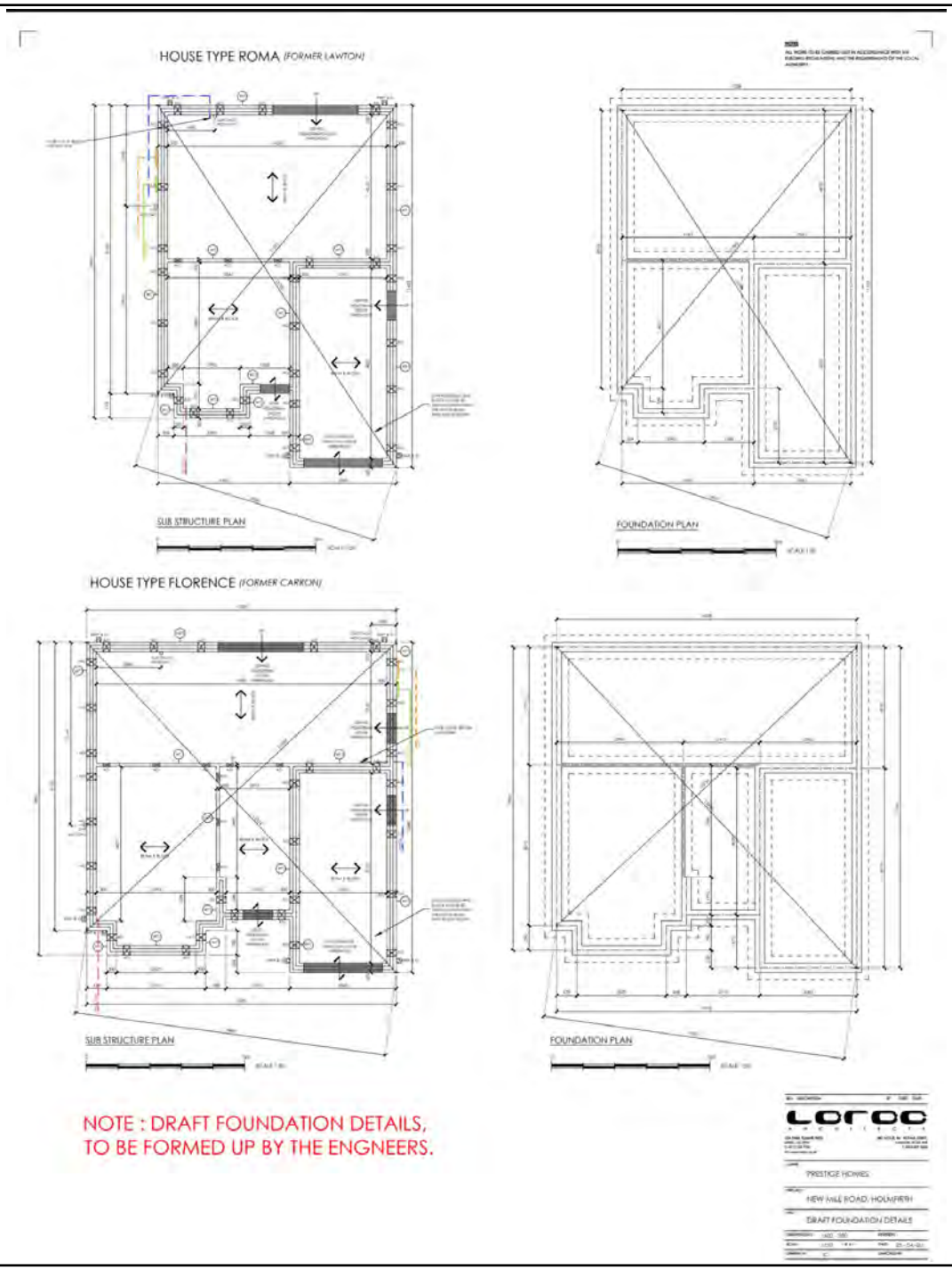
GEOSHIELD Verification Plan

DETAILS

House Type - Tuscany - Amended to remove retaining wall

GEOSHIELD Verification Plan

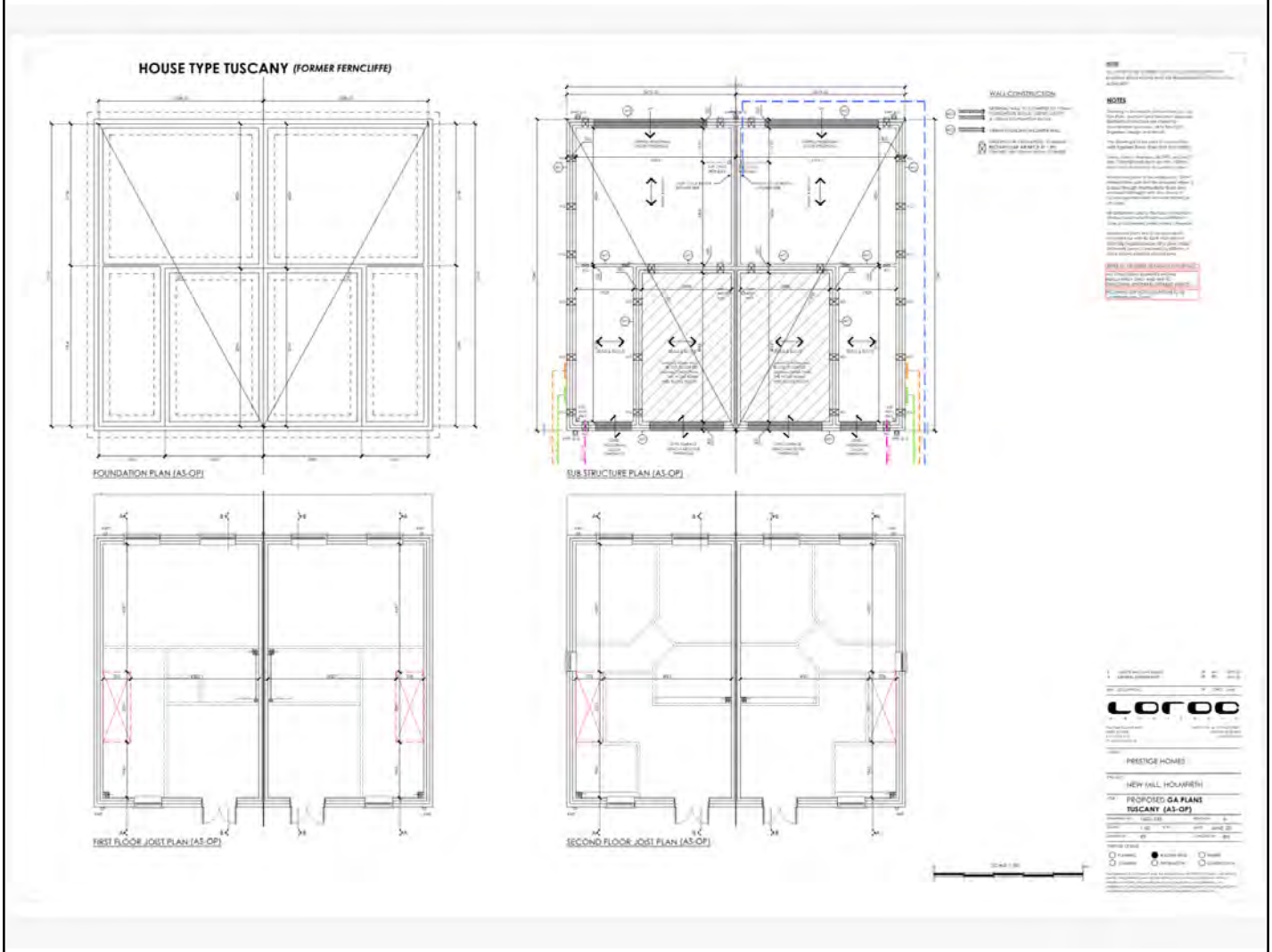
DETAILS



Foundation Layout - Draft

GEOSHIELD Verification Plan

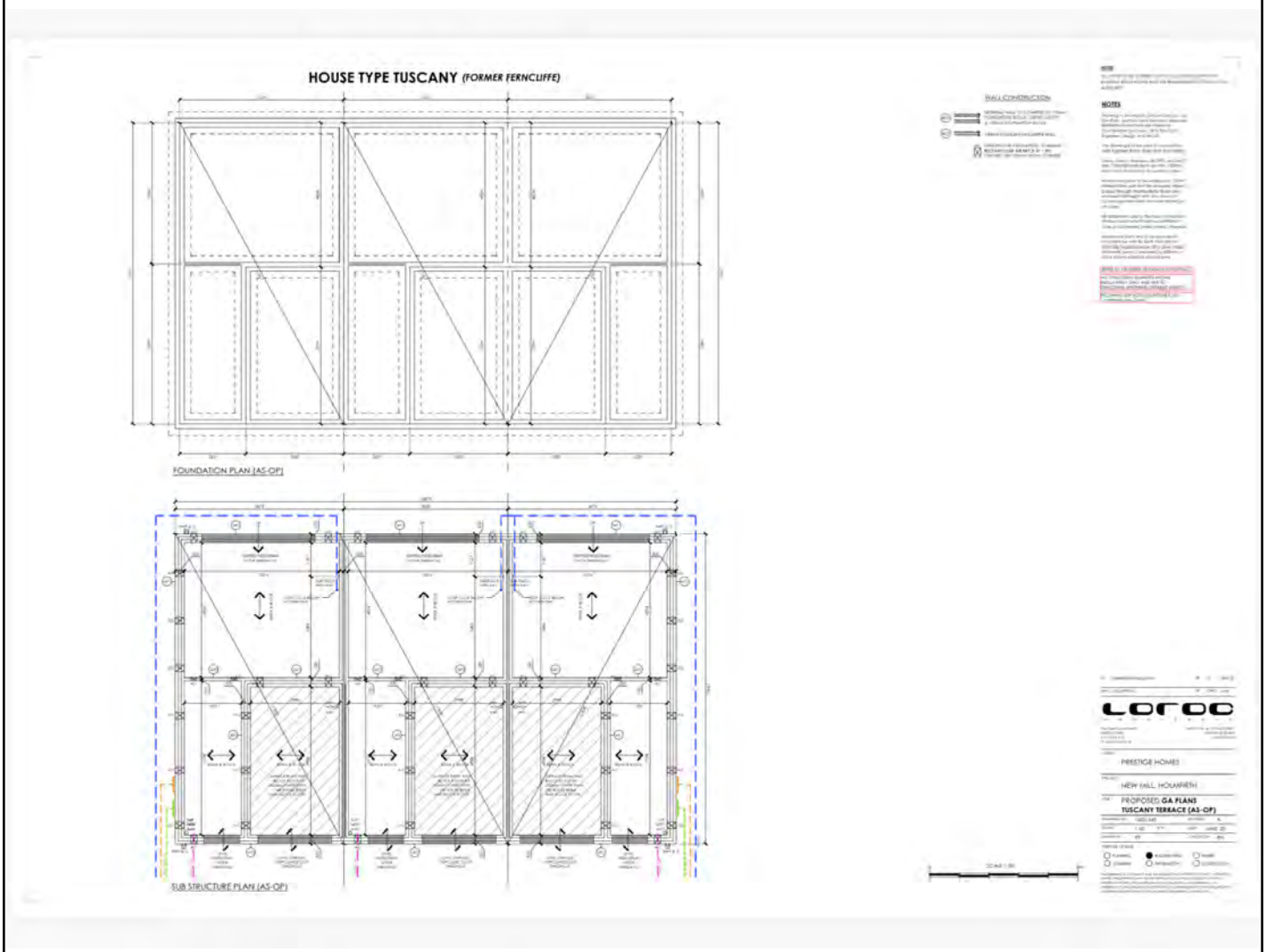
DETAILS



Foundation Layout - Tuscany - Amended to remove retaining wall

GEOSHIELD Verification Plan

DETAILS



Foundation Layout - Tuscany - Amended to remove retaining wall

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6600
LAST UPDATED: 09.03.2018

Page 1

VISQUEEN GAS BARRIER

Gas Barrier
CE Mark to EN 13967

- BBA approved, fully complies with BS8485:2015
- Low permeability to methane, radon and carbon dioxide
- Approved for use in NHBC Amber 2 applications
- Multi-layer reinforced LDPE membrane with aluminium core
- High puncture and tear resistance

Description

Visqueen Gas Barrier is a 400 gsm multi-layer reinforced polyethylene membrane with an integral 20 micron aluminium foil that is approved for use in BS8485:2015 and NHBC Amber 2 applications. For ease of identification on site Visqueen Gas Barrier is coloured blue on one side and silver on the reverse. The barrier combines strength and performance with flexibility and easy installation. Visqueen Gas Barrier also acts as a damp proof membrane.

BS8485:2015

When risk assessing under BS8485:2015 for sites which are effected by methane and carbon dioxide then the Visqueen Gas Barrier is an ideal solution.

The membrane has been modified to be 400 gsm with the multi layer structure greatly enhanced to improve its puncture and impact performance.

Visqueen utilise a 20 microns foil to avoid issues associated with thinner (12microns) foils.

Application

The Building Regulations require that proper precautions be taken to prevent danger to health and safety when building on contaminated land. Visqueen Gas Barrier offers a safe solution for the protection of buildings against methane, radon, stythe (a gas commonly found from disused mines, also known as blackdamp), and carbon dioxide, when installed in accordance with the relevant codes of practice such as BRE, CIRIA and the Chartered Institute of Environmental Health Ground Gas Handbook

Typically these are sites previously used as coalfields, landfill or are contaminated industrial sites.

The membrane should be installed blue side up

System components

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

Installation Guidelines

Visqueen Gas Barrier and ancillary components must be installed in accordance with the recommendations of Building Research Establishment BRE 414 "Protective measures for housing on gas contaminated land" and CIRIA C665 "Assessing risks posed by hazardous ground gases to buildings", NHB C guidelines, and the Chartered Institute of Environmental Health Ground Gas Handbook. The product is not intended for use where there is a risk of hydrostatic pressure. **The membrane should be installed blue side up**

The membrane should be installed on a compacted sand blinding layer or smooth concrete float finish. In areas where high levels of unsupported membrane occur it is recommended that Visqueen Pre Applied Membrane is used. To avoid slip or shear planes and high compressive loadings it is not recommended

VISQUEEN

Visqueen Standard Gas Barrier Data Sheet

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 5800
LAST UPDATED: 19.01.2018

Page 1

VISQUEEN GR DPC

Gas Resistant DPC
CE Mark to EN 14909

- Complies with BS8485:2015 for gas protection
- Tested & passed to ISO 15105-1 methane permeability method
- Aluminium foil to resist methane, radon, CO2 and low levels of hydrocarbon
- Easy to apply using traditional methods
- Independently assessed

DESCRIPTION

Visqueen Gas Resistant (GR) Damp Proof Course is a flexible polyethylene DPC with an aluminium foil designed to prevent the transmission of carbon dioxide, radon, methane and low level hydrocarbon vapours. This is in addition to the product's usage as a damp proof course. Resistance to harmful gases is achieved by an integral aluminium film.

APPLICATION

Visqueen Gas Resistant (GR) DPC should be used on any site where carbon dioxide, radon, methane or low level hydrocarbon vapours are a problem. Methane can occur in any construction on any site previously used for landfill. Such conditions can exist on household, commercial and industrial sites. Visqueen Gas Resistant (GR) DPC has excellent physical characteristics and good cold flexibility performance. It is suitable for vertical, horizontal, stepped and cavity tray applications.

Good Practice Tip

To avoid slip or shear planes it is not recommended to take membranes through the wall. In order to provide a continuous barrier across the cavity Visqueen Gas Resistant DPC should be sealed to the membrane, taken through the blockwork, up the wall and incorporated below the damp proof course on the cavity tray outer leaf

IMPORTANT

Where the DPC may be in direct contact with hydrocarbon contamination the use of Visqueen GX DPC must be considered.

The DPC must be installed with the black side facing up.

System components and jointing

All DPC laps must be a minimum of 100mm and bonded together with Visqueen Zedex DPC Jointing Tape.

Installation

Visqueen Gas Resistant (GR) DPC should be installed in accordance with BS 8215:1991, BS 8000: Part 3, 2001 and BS 5628: Part 3, 2005. All horizontal DPCs must be bedded on both sides with fresh mortar. All DPCs must project through the full width of the wall, including any externally applied rendering and project 5mm beyond the finished external face. All cavities must be kept clear of mortar droppings and other debris. Any mortar droppings reaching the DPCs must be removed before they harden, avoiding the use of sharp objects for removal. Reference should also be made to NHB C guidance notes and BRE Report BR211.

The DPC must be installed with the black side facing up.

VISQUEEN

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Visqueen GR DPC Data Sheet

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6800
LAST UPDATED: 18.11.2019

VISQUEEN JOINTING TAPES

Double Sided Jointing Tape

Page 1

CE CPD MEMBER nssPlus

- Resists Moisture & Gas Ingression
- Excellent adhesion
- BBA Approved
- Part of the VisqueenPRO 2 part system

Description
Visqueen Double Sided Jointing Tape is a high performance blue double sided butyl mastic tape, supplied in 50mm x 10m rolls for damp proof membrane joints; and Visqueen Zedex Joint tape 100mm x 15m for damp proof course joints.

Application
A tape for bonding Visqueen Damp Proof Membranes (DPM) at overlaps and for bonding membranes to Damp Proof Courses (DPC) at junctions with internal and external walls.

For Visqueen Damp Proof Membranes , the joint/lap should then be sealed using VisqueenPro Single Sided Jointing Tape.

Installation
Ensure surfaces are clean and dry. Apply tape to the lap area of the laid sheet starting approx 50mm from the membrane edge. Overlap adjoining membrane by minimum 150mm and remove tape release paper. Apply pressure to the jointed area to ensure adhesion.

For Visqueen Damp Proof Membranes , the joint/lap should then be sealed using VisqueenPro Single Sided Jointing Tape.

Storage
When the weather is cold, store tape in a warm, dry place until required.

VISQUEEN BUILDING PRODUCTS

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Email: enquiries@visqueenbuilding.co.uk
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Visqueen Double Sided Butyl Tape Data Sheet

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6900
LAST UPDATED: 23.03.2017

Page 1

VISQUEEN JOINTING TAPES

Gas Resistant (GR) Foil Tape

Sealing tape

- Provides a gas tight seal for gas membrane overlaps
- Secures gas membranes to DPCs
- Part of BBA Approved Gas Membrane systems

Description

A single sided aluminium and polyester composition with an acrylic adhesive supplied in 75mm x 50m rolls.

Application

For sealing gas membranes (Visqueen LPGM and Radon) at overlaps and for sealing membranes to gas proof courses at junctions with internal and external walls.

Installation

Poistion the tape equidistant over the lap joint and press down using a neoprene sealing roller to ensure the joint is secure.

Storage

Store in a warm – above 5oC – and dry environment.

VISQUEEN BUILDING PRODUCTS

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Visqueen GR Foil Tape

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6800
LAST UPDATED: 31.05.2018

VISQUEEN INSTALLATION & SYSTEM COMPONENTS

Visqueen Ultimate Lap Tape

Page 1

- Suitable for demanding site applications
- Provides a gas tight seal for membrane overlaps
- Secures gas membranes to DPCs
- Part of BBA Approved Gas Membrane systems

Description

A bitumen and aluminium composition single sided tape supplied in 150mm x 10m rolls.

Application

High performance, high bond tape for sealing membranes at overlaps in demanding site conditions and for sealing membranes to gas proof courses at junctions with internal and external walls.

The tape is suitable against vapours only. Where the tape may come into contact with fluids Visqueen recommend welding of joints.

Installation

Ensure surfaces are clean and dry. Apply tape equidistant over the bonded membrane lap. Apply pressure to the tape to ensure adhesion. When the weather is cold, store tape in a warm, dry place until required. Installation is not recommended below 5C.

Storage

Store in a warm – above 5oC – and dry environment.

Technical details

Dimensions – 150mm x 10m

Poistion the tape equidistant over the lap joint and press down using a neoprene roller to ensure the joint is secure.

VISQUEEN

Visqueen GR Lap Tape

GEOSHIELD Verification PLAN

SPECIFICATION

INSTALLATION & SYSTEM COMPONENTS

VISQUEEN

Technical Product Datasheet
Edition: 20/07/2018

VISQUEEN PRO DETAILING STRIP

System component for Visqueen membranes

- 2 x superior adhesion in cold weather
- Ideal for complex junctions, stanchions and terminations
- Utilises Visqueen's advanced adhesion technology
- BBA approved with Visqueen Damp, Gas and Tanking membranes
- Used with Visqueen HP Tanking Primer Solution to obtain best performance

Description

Visqueen Pro Detailing Strip is a silver faced, aluminium lined film utilising Visqueen's advanced self adhesive system, supplied in 300mm x 10m or 500mm x 10m rolls.

The improved formulation system gives superior adhesion to concrete, polyethylene and steel at wide ranging temperatures. It has been tested and compared to standard bitumen adhesives at low temperatures and has over twice the peel and adhesion properties. The new adhesive has also proven to work at below 5°C.

VISQUEEN

Visqueen Pro Detailing Tape

GEOSHIELD
Verification Plan

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Yorkshire Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	

GEOSHIELD
Verification Plan

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	
APPLICATOR EMAIL:	

NOTES: Installers are not NVQ Level 2 qualified but have proven good workmanship with

NOTES: the standard of installation carried out on site.

NOTES:

NOTES:

GEOSHIELD
Verification Plan

HEALTH AND SAFETY

INDUCTION:	YES	✔	NO:	
INDUCTION TIME:	To be confirmed at the pre-verification meeting			

CSCS CARD:	YES	✔	NO:	
CSCS CARD NUMBER:	All installers will be required to provide their CSCS card			

METHOD STATEMENT:	YES	✔	NO:	
RISK ASSESSMENT:	YES	✔	NO:	
COSHH:	YES	✔	NO:	

SITE SPECIFIC HAZARDS: Materials falling from height

Slips, trips and falls

Excavations

Confined spaces

Plant

GEOSHIELD
Verification Plan

NOTIFICATION:

24 HOURS:	YES		NO	✔
48 HOURS:	YES	✔	NO	

REASON FOR VISIT:

DURING INSTALLATION:	✔	UNDERSLAB VENTILATION	✔
PRE - POUR:		DPC MEMBRANE CONNECTION	✔
TESTING:	✔	OTHER	

TRAINING LEVEL:

SPECIALIST CONTRACTOR:	YES		NO	✔
NVQ LEVEL 2:	YES		NO	✔
COMPETENT APPLICATOR:	YES	✔	NO	
TOOLBOX BY GEOSHIELD:	YES	✔	NO	

NOTES: Toolbox talk carried out by Geoshield have installed have since proved to understand

NOTES: the methodology and carry out the installation to a good standard.

NOTES:

NOTES:

GAS REGIME:

CS1/Green	YES		NO	✔
CS2/Amber	YES	✔	NO	
CS3/Amber 2	YES		NO	✔
CS3/ or above/Red	YES		NO	✔
VOC	YES		NO	✔
RADON BASIC	YES		NO	✔
RADON FULL	YES	✔	NO	

Building Type: TYPE A

POINTS REQUIRED UNDER BS8485 2015: 3.5 POINTS

POINTS GAINED FROM BS8485 2015

Score for Structural Barrier:	0 POINTS
Grade 2 basement:	N/A
Grade 3 basement:	N/A
Score for Venting:	1.5 POINTS
Car park:	N/A
Score for Membrane:	2.0 POINTS

POINTS ACHIEVED UNDER BS8485 2015: 3.5 POINTS

GEOSHIELD
Verification Plan

TESTING:

VISUAL: PICK and PROBE	YES	✔	NO	
NON-DESTRUCTIVE SMOKE TEST:	YES		NO	✔
NON-DESTRUCTIVE COMPRESSED AIR LANCE:	YES	✔	NO	
DESTRUCTIVE JOINT TESTING:	YES		NO	✔
NON-DESTRUCTIVE TRACER GAS:	YES		NO	✔
DIELECTRIC POROSITY TEST:	YES		NO	✔
PUMP TEST FOR "Twinny" WELD	YES		NO	✔

NOTES: The level of ground gas detected does not mean the ground gas membrane needs

NOTES: to be welded but a taped system can be used. If joints are welded air Lance testing

NOTES: will be carried out.

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD
Verification Plan

RISK ASSESSMENT

SITE SPECIFIC CIRCUMSTANCES		1		2		3		4		5
Complexity of Design		1	✔	2		3		4		5
Repetition of design		1		2	✔	3		4		5
Experience of workforce	✔	1		2		3		4		5
Gas regime		1	✔	2		3		4		5
Project management experience	✔	1		2		3		4		5
Installation conditions (exposed?)		1		2	✔	3		4		5
Robust Project specific gas design		1	✔	2		3		4		5

TYPE OF RISK	RANGE	RISK
High Risk	23 - 30	
Medium High Risk	19 - 22	
Medium Risk	15 - 18	
Medium Low Risk	11 - 14	13
Low Risk	0 - 10	

Geoshield have carried out a toolbox talk and the installers have proved good workmanship with the level of installation on site. Installers do not hold NVQ Level 2 but have proved to be competent.

GEOSHIELD
Verification Plan

VERIFICATION REPORT

These items will be included in the report

NUMBER 1	GAS MEMBRANE SPECIFICATION
NUMBER 2	ELEMENTS OF THE GAS MEMBRANE
NUMBER 3	DATE, TIME and WEATHER CONDITIONS
NUMBER 4	PLANS and DETAILS ISSUED
NUMBER 5	INSTALLATION PHOTO's RELATING TO GRID LINES
NUMBER 6	REPORTING DEFECTS AND LOGGING IN REMEDIATION LOG
NUMBER 7	AREAS OF LIMITATION (areas unable to inspect)
NUMBER 8	LOGGING AND REPORTING RESULTS OF TESTING

VERIFICATION REPORT ISSUE

HARD COPY:	YES	✔	NO		EMAIL:	YES	✔	NO	
DROP BOX LINK:	YES		NO	✔	FLASH DRIVE:	YES	✔	NO	

The standard checklist will be adapted for the site

This will prepare the site to produce the minimum amount of contractor quality evidence for

GeoShield to audit each plot

GEOSHIELD
Verification Plan

GEOSHIELD COMPETENCE

>GeoShield was founded in 2015

>GeoShield solely verifies, they are fully independent of installers, manufactures and geotechnical companies.

>GeoShield follow guidance in CIRIA 735 (sufficient experience, membership of relevant professional organisations) GeoShield are members of the BVC, BGA, ERA, The RADON Council, and UKRA

>Currently GeoShield hold the Chairmanship of the British Verification Council

>Two employees are NSAC Level 3 assessors for the NVQ 2 Gas Membrane install

>GeoShield were key in forming the NVQ 4 Verification qualification in which 2 Verification officers are undertaking this qualification

>GeoShield have the only qualified assessor for the NVQ 4 Verification qualification

>GeoShield Verification officers currently keep up to date CPD's

>All GeoShield Verification Officers have a full understanding of gas membrane install including 3 experienced (NVQ 2) installers in the GeoShield team

>GeoShield Verification Officers are all independent carrying there own air compressors. Other testing equipment GeoShield have access to are 2 x Buckley Dielectric Testing machines and also inert gas testing equipment

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VERIFICATION PLAN

METHOD STATEMENT

The geotechnical survey report confirms the site is a low risk CS2 site.

The proposed designs have been reviewed and Geoshield confirm they are compliant with

the requirements of CS2.

In this conceptional verification plan it has laid out the:

> Design

> Specification

> Verification procedure

> CQA checklist

Testing and documenting of the ground gas membrane installation will be carried out in

accordance with CIRIA 735. Geoshield will liaise with the installation team and main

contractor to ensure all faults found are remediated.

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SUBSTRATE METHOD STATEMENT

Substrate Type:

Block and Beam Construction	Yes	✔	No	
Minimum Preparation	Swept Clear	Yes	✔	No	
Minimum Preparation	Vacuuming	Yes		No	✔
Minimum Preparation	Compressed air to remove	Yes		No	✔
Minimum Preparation	Remove Mortar Droppings	Yes	✔	No	

Stone Substrate	Yes		No	✔
Minimum Preparation	Minimum 25mm Sand Blinding	Yes		No	
Minimum Preparation	Limestone Dust	Yes		No	
Minimum Preparation	Compacted Substrate	Yes		No	
Minimum Preparation	No large stones	Yes		No	

Concrete Substrate	Yes		No	✔
Minimum Preparation	No Hollows	Yes		No	
Minimum Preparation	Troweled Surface	Yes		No	

Remarks:	

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Verification Plan

PROTECTION METHOD STATEMENT

Protection Type:

Protection Board	Yes		No	
Protection Fleece	Yes		No	
Insulation	Yes	✔	No	

Where Protection Board is installed in the gas remediation strategy the

verifier must be allowed access to inspect the membrane

Remarks:	Before insulation board is installed the membrane must be checked first

---

WHERE NO PROTECTION BOARD SPECIFIED

Insulation boards will be installed directly on top of the ground gas membrane which will protect it

from punctures/tares from follow on works. Access to the properties should be restricted after verification

inspections and ideally insulation boards installed immediately after or during inspection.

Remarks:	

Concrete Spacers	Yes		No	✔
Plastic 'Tric-Trac'	Yes		No	✔

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PRE-CONTRACT MEETING

Items for discussion at the Pre-Contract meeting	
>Induction Procedure	
>Identification of installation team and point of contact	
>Identification of Project management team	
>Identification of Sub-Contractors associated with membrane installation	
>Validation of Membrane and design specification	
>Verification procedure	
>Notifications for Verification	
>Preparation of substrate	
>Program of works	
>Utility entry	
>Protection of Membrane	
>Remediation Procedure	
>Testing Procedures	
>Sign off Procedure	
>Installer PI	

All information is assumed correct at time of issue.

DATE:	4th November 2020 - Revised 23/02/21

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PROJECT DESCRIPTION

Pre Verification Plan for the Ground Gas Membrane at:

New Mill Road
Holmfirth

The Plan reviews the findings in the Geotechnical Survey Report and reviews the proposed design. In accordance with BS8485:2015+2019 the building type is classed as Type A. The geotechnical survey report confirms the site is CS3.

Therefore, in accordance with BS8485:2019 the ground gas protection system requires 4.5 points. The plan documents these findings and confirms the proposed design is compliant. Compliance is achieved by building a suspended block and beam floor with a ventilated sub floor void and a ground gas membrane on top. The ground gas membrane must meet the requirements of BS8485:2019 Table 7 as do the products specified in this plan.

Testing and documenting the installation will be carried out in accordance with CIRIA 735 for submitting to the Local Planning Authority and Home Warranty Provider.

GEOSHIELD
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PLAN

Section 1: GEO101204

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

SPECIFICATION: Verified in accordance CIRIA 735.

Design in accordance with BS8485 2015 + 2019 for Methane and Carbon Dioxide.

Substrate prepared in-accordance with manufactures instructions and BS8485

Visqueen standard gas barrier

Visqueen GR DPC

Visqueen double sided butyl tape

Visqueen GR Foil Tape and Lap Tape

Visqueen Pro Detailing Tape

Telescopic Air Vents

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PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final - Updated to RevE

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscany - Amended as Tanking Detail to retaining wall omitted

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail - Omitted - Designed out

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

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PLAN

SURVEYOR:	Chris Ingham
VERIFICATION COMPANY:	GeoShield Limited
Icon Business Centre	
4100 Park Approach	
Thorpe Park	
Leeds	
CONTACT NUMBER:	07555 214 679
EMAIL ADDRESS:	CIngham@geoshield.co.uk
ORDER NUMBER:	To be confirmed

PER VISIT: YES: ✔ NO: ☐ PROJECT: YES: ☐ NO: ✔

GEOSHIELD Verification PLAN

SPECIFICATION

Eastwood & Partners
CONSULTING ENGINEERS
E P
Eastwood & Partners, St Andrews House, 23 Kingfield Road, Sheffield, S11 9AS
Tel: 0114 255 4554 Fax: 0114 255 4330 mail@eastwoodandpartners.com www.eastwoodandpartners.com

Mr G. Evans,
Bellway Homes Limited (Yorkshire Division)
2 Deighton Close
Wetherby
LS22 7GZ

PR/AJK/39141/007

By E-mail Only

21 October 2016

Dear Guy,

New Mill Road, Holmfirth

We write in relation to the above site, to report on the results of additional site investigation works carried out by Eastwood & Partners. The works have comprised the drilling of a series of dynamic probe holes across the site to determine the competency of the ground in relation to road construction, and the undertaking of further gas monitoring and testing of the soils to confirm the level of risk presented from the landfill materials that underlie the site.

Dynamic Probe Investigation

The additional works were undertaken on the 10 May 2016. A tracked dynamic probe mini-rig was used to undertake continuous SPTs (standard penetration tests) through the soils below the site. Fourteen positions were tested, which were located along the routes of the proposed access roads. The dynamic probe positions are indicated in the attached marked up site plan.

Probe Results

The results of the dynamic probing are indicated on the appended spreadsheet. The results indicate SPT N-values of generally between 20 and 35 within the upper 1 m from surface across the site, which would relate to a medium dense to dense compaction classification. The materials at shallow depth include the existing limestone/sandstone hardcore subbase beneath the existing surfacing, which was found to be around 300 mm thick. The underlying made ground generally comprises landfill material, but is appears that the upper layers have been compacted, either during the construction of the former car dealership, or through the general use of the site. DP10 was found to be slightly looser below 0.6 m bgl, with N-values of between 2 and 8 recorded above 1m bgl. This hole was located in the north west of the site, near to the edge of the embankment running along the site boundary.

Below 1m, the ground was found to be very loose to loose, with N-values of between 0 and 10 typically recorded within the landfill materials. Localised denser spots were recorded, but these

Also at:- Principle House, 121-123 Fleet Road, Fleet, Hampshire, GU51 3PD Tel: 01252 360580 Fax: 01252 360581

Directors: P Richardson BSc, CEng, MICE, MIStructE S D Preston BEng, CEng, FICE, FIStructE N J Baines BSc, CEng, MICE, MCIWEM
S R Ellis BEng, CEng, MIStructE, AMICE K R Pursall BEng, CEng, MIStructE
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Senior Associates: K Newsome BSc, CEng, MICE, MIStructE S J Mitchell BSc, MSc, CEng, MEI, MCIBSE, MASHRAE A Allison BEng
M Young MA, CEng, MICE, MIStructE C A Wood BSc, CEng, MIStructE, AMICE
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M P Chappell BEng, IEng, AMIStructE P H Halberstadt MEng, ACGI, CEng, MICE M Dyson BSc(Hons.) CEng, MIStructE
Consultants: J M Wood BSc, CEng, MICE, FIStructE M J Yates BSc(Eng), ACGI, CEng, MICE, FIStructE

Eastwood & Partners (Consulting Engineers) Limited Registered No 1886921

GEOSHIELD Verification PLAN

SPECIFICATION

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Ground Gas Risk Assessment

Gas monitoring has been undertaken on the site by Eastwood & Partners, and also during a previous investigation by others. We have previously discussed the results of the gas monitoring with Kirklees Council Environmental Health, who subsequently recommended that the outline planning application should be approved, subject to carrying out additional rounds of monitoring and the undertaking of additional analysis/risk assessment.

The further risk assessment is undertaken below.

Conceptual Model

There is a landfill within the site (Berry Banks, operated by West Yorkshire Waste Management). This is recorded as accepting household, industrial and commercial wastes up to 1977. The landfill start date is not given, but with reference to the historical maps, is likely to be in at least the early 1970s. The material has therefore been in place nearly 40 years. It is possible that some filling was also undertaken prior to this date.

No other landfill sites are indicated in the local area, and consequently there is not considered to be a significant risk of gas migration from the surrounding area.

Ian Farmer Associates undertook an intrusive investigation in 2008 and Eastwood & Partners undertook further investigation in November 2015. The exploratory hole records show deep made ground across much of the site, increasing in thickness northwards and at a maximum of 11.3 m (ABH11).

The made ground is generally described as comprising clayey sands and sandy clays with inclusions of plastic, metal, ash, clinker, glass, brick, ceramic, concrete, sandstone and occasional paper, fabric and timber. Occasional organic odours were noted within the made ground.

It is therefore considered that this would probably be most appropriately classified as 'Old Landfill' in terms of being a typical source of generation in accordance with Table 8.5 of CIRIA C665 and therefore as 'moderate risk'.

Gas Monitoring

Gas monitoring wells were installed within seventeen of Ian Farmer Associates' exploratory holes and monitored on five occasions between 14 May 2008 and 20 October 2008. The monitoring results indicated low levels of carbon dioxide were present across the site and that methane was generally absent. The exceptions to this were ABH9, ABH11 and ABH12 in the

3

E P

north west of the site, where carbon dioxide concentrations of up to 19% by volume were recorded. Methane was also recorded on a number of occasions in these holes, with concentrations of up to 12% by volume. Significant gas flows were not recorded in any of the holes during most of the monitoring visits, with the majority of results indicating either a zero or a negative flow.

Eastwood & Partners carried out further monitoring in four new wells (BH1 to BH4) which were all installed in the northern half of the site where the deepest made ground. We also carried out further monitoring using two existing wells, one of which is believed to be ABH11 in which Ian Farmer Associates found the highest readings.

A copy of the Exploratory Hole Location Plan is attached. Also attached are the results for ten additional rounds of gas monitoring undertaken, along with a table showing the atmospheric pressure trends recorded from the BBC website. The atmospheric pressure is summarised as follows:

- 9 December 2015 – Atmospheric pressure 996 to 999 mb – The pressure was indicted to have been rising preceding the visit, however we were on site doing other works and as the pressure recorded on site was sufficiently low we carried out the monitoring. The pressure was indicated to fall following the visit so is likely to have been falling whilst we visited.
- 22 December 2015 – Atmospheric pressure 975/976 mb – The pressure was indicated to have fallen 13 mb over the preceding 48 hours.
- 8 January 2016 – Atmospheric pressure 965 – The pressure was indicated to have risen over the preceding 24 hours but to be falling by over 10 mb over the next 24 hours.
- 19 February 2016 – Atmospheric pressure 975 to 977 - The pressure was indicated to have been steady prior to monitoring and falling after.
- 8 March 2016 – Atmospheric pressure 980 – The pressure was indicated to have risen over the preceding 24 hours but to be falling by over 10 mb over the next 24 hours.
- 23 March 2016 – Atmospheric pressure 978-979 – The pressure was indicated to have been falling steadily for 48 hours prior to the visit.
- 10 May 2016 - Atmospheric pressure 984-985 – The pressure was indicated to have been gradually falling for several days prior to the visit.

- 10 June 2106 - Atmospheric pressure – 992-993 – The pressure was indicated to have fallen by over 10 mb over the preceding 48 hours.
- 8 July 2016 - Atmospheric pressure 985-986 – The pressure was indicated to have been falling for 48 hours prior to the visit.
- 3 August 2106 – Atmospheric pressure 995 – The pressure was not recorded prior to visiting the site, but historical data taken from www.wunderground.com for the Huddersfield area shows that the general trend was for falling air pressures, with a reduction from around 1017 mb to 1006 mb over the 48 hours prior to the site visit.

In summary, therefore, 5 rounds have been undertaken over 5 months in 2008 and 10 rounds over nine months in 2015/16; totalling 15 rounds over 14 months. This therefore satisfies the typical/idealised frequency and period of 12 rounds over a minimum of 6 months set out in tables 5.5 a and b of CIRIA C665.

Monitoring Results

BH2 and BH3 were new wells which we installed and which are located near to ABH11. These three wells are in the area where the deepest made ground was recorded, at 9 to 11.3 m, and recorded the highest concentrations as follows:

Location	Methane %	Carbon dioxide %	Maximum Flow l/hr
BH2*	9.6, 10.8, **11.3**, 9.2, 9.0, 8.9, 7.6, 7.2, 6.4	**16.1**, 15.8, 15.1, 14.3, 13.9, 14.3, 13.5, 13.6, 14.7	**0.6**, -1.6, -1.4, -0.1, 0.0, -0.3, -0.1, 0.0, 0.0
BH3	24.6, 26.6, **27.4**, 24.2, 23.1, 21.1, 15.5, 21.2, 21.0, 18.0,	19.8, **20.4**, 19.1, 17.3, 16.2, 17.8, 14.4, 18.1, 19.0, 17.2,	0.3, -1.6, -1.6, 0.6, **0.7**, -0.1, 0.1, 0.0, 0.0, 0.0
ABH11	0.0, NR, 0.0, 0.0, 0.0, 0.0, **9.2**, NR, 8.3, 7.2,	0.6, NR, 2.2, 10.2, 4.2, 1.7, 17.0, NR, **18.5**, 16.0	0.0, NR, -1.6, **0.2**, 0.0, 0.1, 0.0, NR, -0.1, 0.0

* Well could not be located on visit of 8.7.16.
NR – borehole not monitored on this occasion

Taking the highest concentrations of methane (27.4%) and carbon dioxide (20.4%) and multiplying these by the highest flow (0.7 l/hr) the following gas screening values are recorded:

E&P

- Methane – **0.1918 l/hr**, which is just above the threshold for classifying the site as Green of 0.16 l/hr. It would need to be over 3.2 times higher to classify the site as Amber 2 and 8.1 times higher to classify it as Red.
- Carbon dioxide – **0.1428 l/hr**, which is below the threshold for classifying the site as Green of 0.78 l/hr. It would need to be over 5.4 times higher to classify the site as Amber 1, 10.9 times higher to classify it as Amber 2 and 21.9 times higher to classify it as Red.

The wells are all around five metres deep with 1 m of plain pipe at the surface and are therefore considered to target the material likely to pose a risk appropriately. The results, particularly of the most recent monitoring, have also been very consistent giving us comfort in the robustness of any classification of the gassing regime.

The maximum concentrations recorded in BH3 only, exceed the typical maximum concentration of 20% for methane for classifying the site as Amber 2. However, an exceedance of this threshold has only been recorded on one occasion throughout the ten monitoring visits undertaken by E&P, and on only one occasion during all fifteen rounds of monitoring undertaken in total.

Footnote 5 for Table 8.7 in CIRIA C665 states that *'the "typical maximum concentration" can be exceeded in certain circumstances should the conceptual site model indicate it safe to do so. This is where professional judgement will be required, based on a thorough understanding of the gas-regime identified at the site where monitoring in the worst temporal conditions has occurred'*. We appreciate that the typical maximum concentration is what the authors established to be common consensus among those in the profession as reasonable. In this case, as the methane readings have remained consistent and not significantly above the upper limit; the gas screening value is significantly below the upper limit for classification as Amber 2; and monitoring has been undertaken during the worst temporal conditions, it is considered appropriate to classify the area of deepest made ground as Amber 2.

This is also in line with what we would expect from the conceptual model, where referring to the Ground Gas Handbook (Wilson et al, 2009):

> *'Significant gas generation is usually required for large volumes of gas to migrate either by diffusive or advective flow.'*

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Using the analogy of two balloons in Figure 4.4:

> *'Made ground would be considered to be a deflated balloon, in that it can have high concentrations of gas, but there is a low gas generation rate and low volume of gas, resulting in a low emission risk.'*

The text below this figure goes on to state that:

> *'Gas concentration within a source is a poor indicator of migration or surface emission risk. The methane concentration could be measured at similar levels in an inflated balloon (a domestic landfill, where there is a high concentration, high generation rate and large volume of gas, resulting in a high emission risk) but the risk of migration is obviously higher in the inflated balloon. Even where migration can occur by diffusion there needs to be a constant source of gas to replenish the gas that migrates, in order to maintain a constant gradient.'*

In addition, although piles are proposed, we have recommended steel tube piles. These are driven piles and therefore no soil is removed, which means the piles will have the effect of pushing the soils out horizontally and densifying them locally around the piles. The piles can be filled with concrete, although would be driven to below the made ground and therefore would not be expected to act as pathway for gas migration anyway.

Secondary Line of Evidence

In order to provide a secondary assessment, bulk samples of the landfill materials were collected from a series of additional trial pits excavated on site on 6 May 2016 in the north western corner of the site, in the vicinity of BH2, BH3 and ABH11, where the highest gas monitoring results were recorded. The samples were collected from a range of depths across each trial pit to include a range of materials from both shallow and greater depth.

The samples were dispatched to Chemtest Limited, in Newmarket, who are a UKAS accredited laboratory. Ten bulk samples of the landfill materials were submitted, and were scheduled for Forensic Descriptions of Made Ground, in accordance with the methodology prescribed by the Environmental Protection Group document *'An Alternative to Gas Monitoring for Ground Gas Risk Assessment' by* Card and Wilson.

This testing separates the made ground material into its main constituent parts and determines the volume of each of these within the sample. The categories of constituent material include degradable elements such as wood/trees, timber, vegetable matter, paper, cloth and leather, and organic soil, as well as inert/non degradable matter such as stones, metal glass and ceramics. The proportion of fine soil is also measured, and a total organic carbon (TOC) test is

GEOSHIELD Verification Plan

SPECIFICATION

E P

undertaken to determine whether a significant amount or organic matter is included within this finer material. A copy of the results is appended to this letter (Chemtest Report 16-11349-2).

The results indicate that within the samples, between 0.5% and 9.2% of the materials consisted of degradable material. Between 20% and 50% of the samples comprised coarse 'inert' material. Between 50% and 77% of the individual sample mass comprised fine soil, of which less than 1% TOC was recorded in three of the samples. In the remaining seven samples, the volume of fine material was insufficient to complete the TOC test. It can therefore be assumed that a significant volume of organic material is not present within the fine soils.

Risk Assessment

The results of the gas monitoring undertaken on the site are considered to provide a suitably robust data set such that the potential risk to the development through ground gas generation/migration from the underlying landfill materials can be fully assessed. The monitoring results indicate that in general, the concentrations and flows of gas are below the maximum threshold values set within the CIRIA C665 guidance for classification as 'Amber 2'. One result for methane on one single occasion exceeded the upper bound value of 20% v/v, but all remaining results were below this level. The flows recorded from the boreholes across the site were also negligible on most occasions and hence the calculated gas screening values were very low, falling within Amber 1 classification at worst. It is therefore considered appropriate to adopt a classification of Amber 2.

To confirm that the made ground in general does not present a significant potential for generating further concentrations of gas, forensic descriptions were commissioned from the laboratories. The results of this confirmed that the landfill materials comprise predominantly granular, not degradable materials, of which no significant organic content is present. The degradable elements of the landfill soils (paper, cloths, timber etc.) from only a very low proportion of the material, and food/plant waste is generally absent from the material, as would be expected from a landfill of this age.

Conclusion

We have previously recommended within our Phase 2 site investigation report that Gas protection measures be installed in all plots on the site. This was accepted by Kirklees at the outline planning stage on the proviso that this further monitoring was completed. This conclusion is maintained, and based on all of the additional monitoring results, soil testing and initial discussion with the regulators, 'Amber 2' protection (comprising an independently verified, fully lapped and sealed proprietary gas resistant membrane) is allowed for in all plots.

E P

We trust that this meets with your approval. However, please do not hesitate to contact us if you wish to discuss any of the above.

Yours sincerely,

P Richardson

Director

Enc: Exploratory Hole Location Plan, 39141/001/B
Dynamic Probe Results
Gas Monitoring Results
Table of Atmospheric Pressures
Chemtest Report 16-11349-2

Copy: Mr R. Cooke – Prospect Estates

GEOSHIELD Verification Plan

DETAILS

Site Layout - Updated to Revision E

GEOSHIELD Verification Plan

DETAILS

House Type - Venice - Rome - Florence

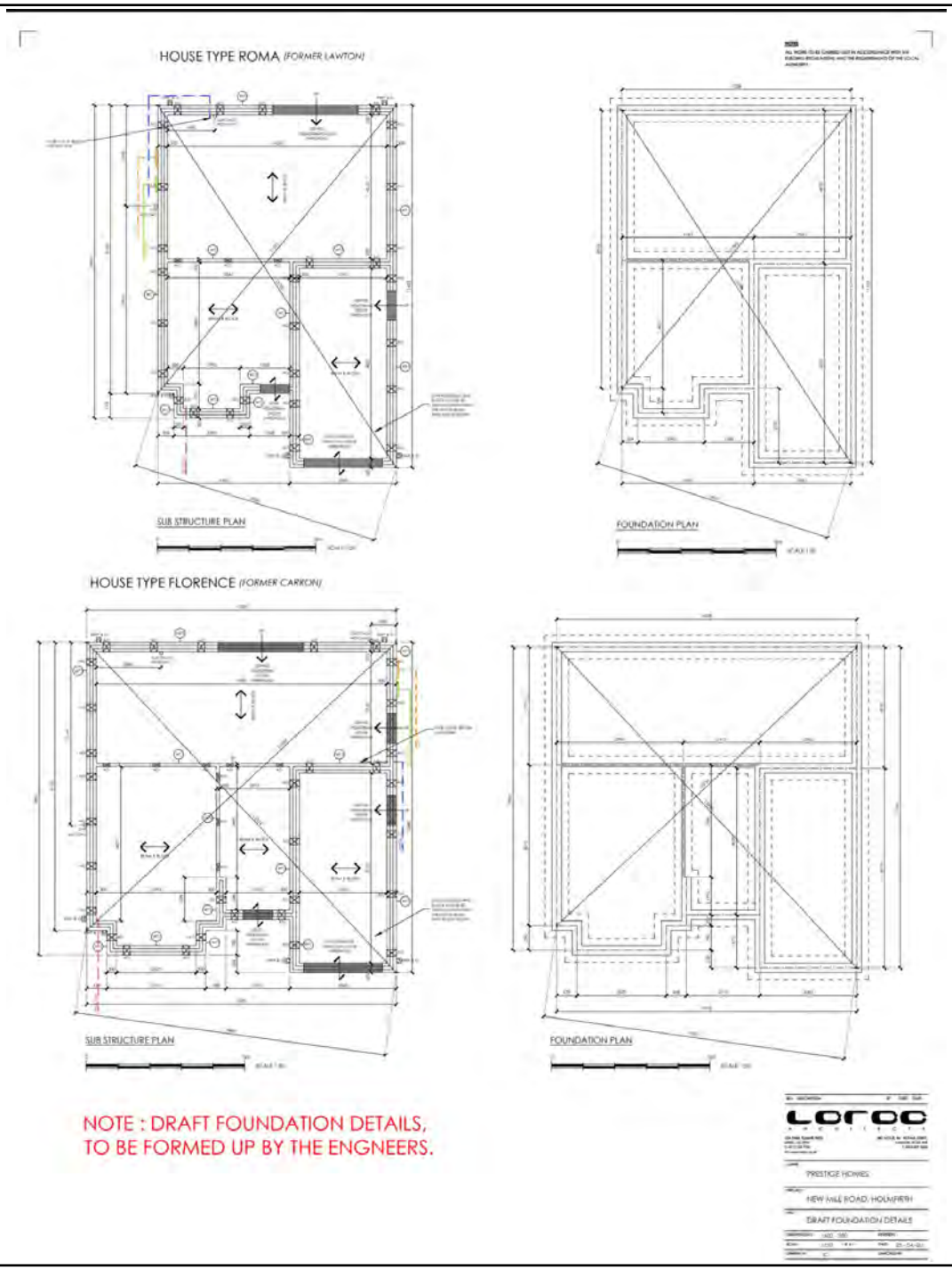
GEOSHIELD Verification Plan

DETAILS

House Type - Tuscany - Amended to remove retaining wall

GEOSHIELD Verification Plan

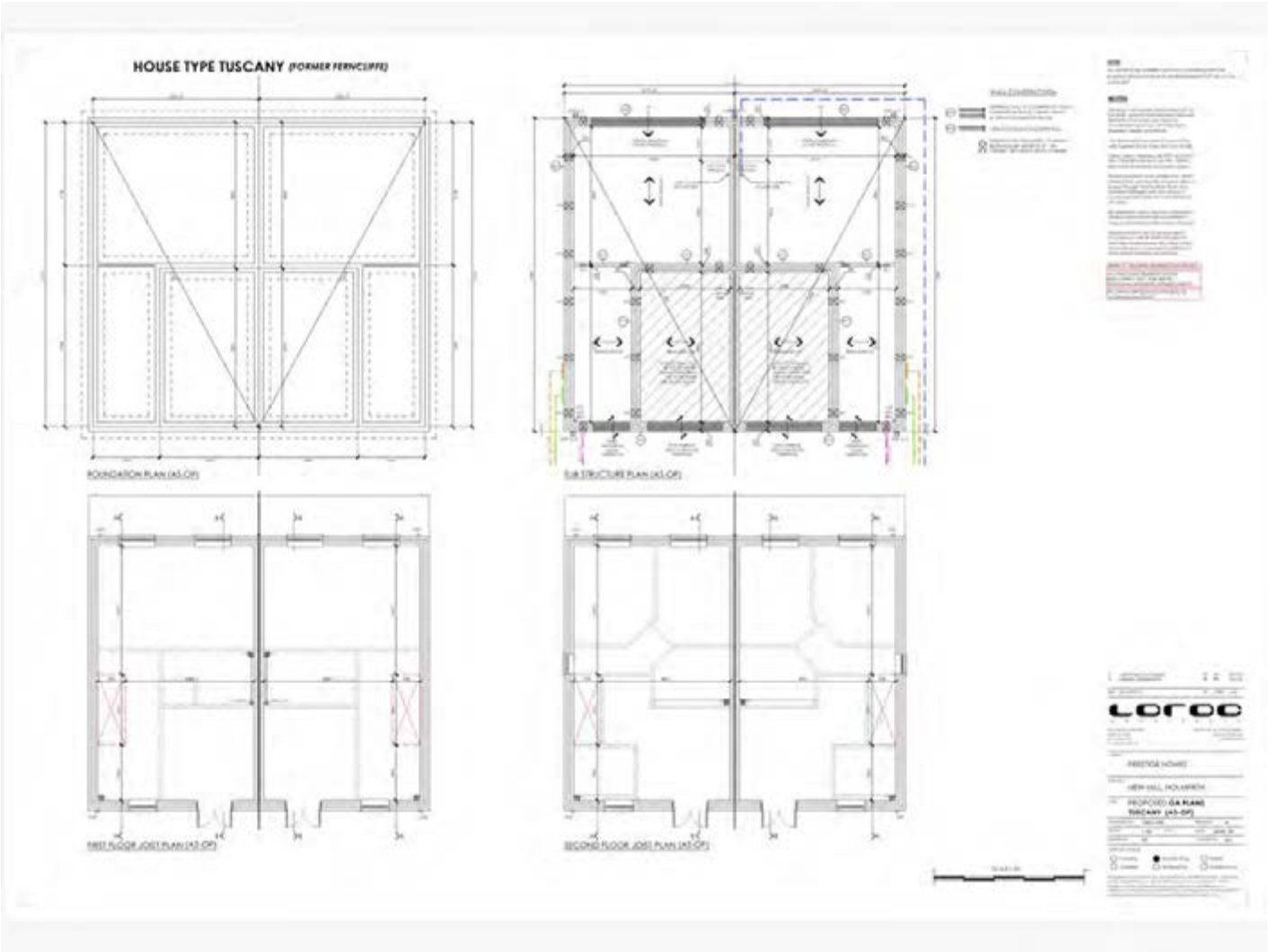
DETAILS



Foundation Layout - Draft

GEOSHIELD Verification Plan

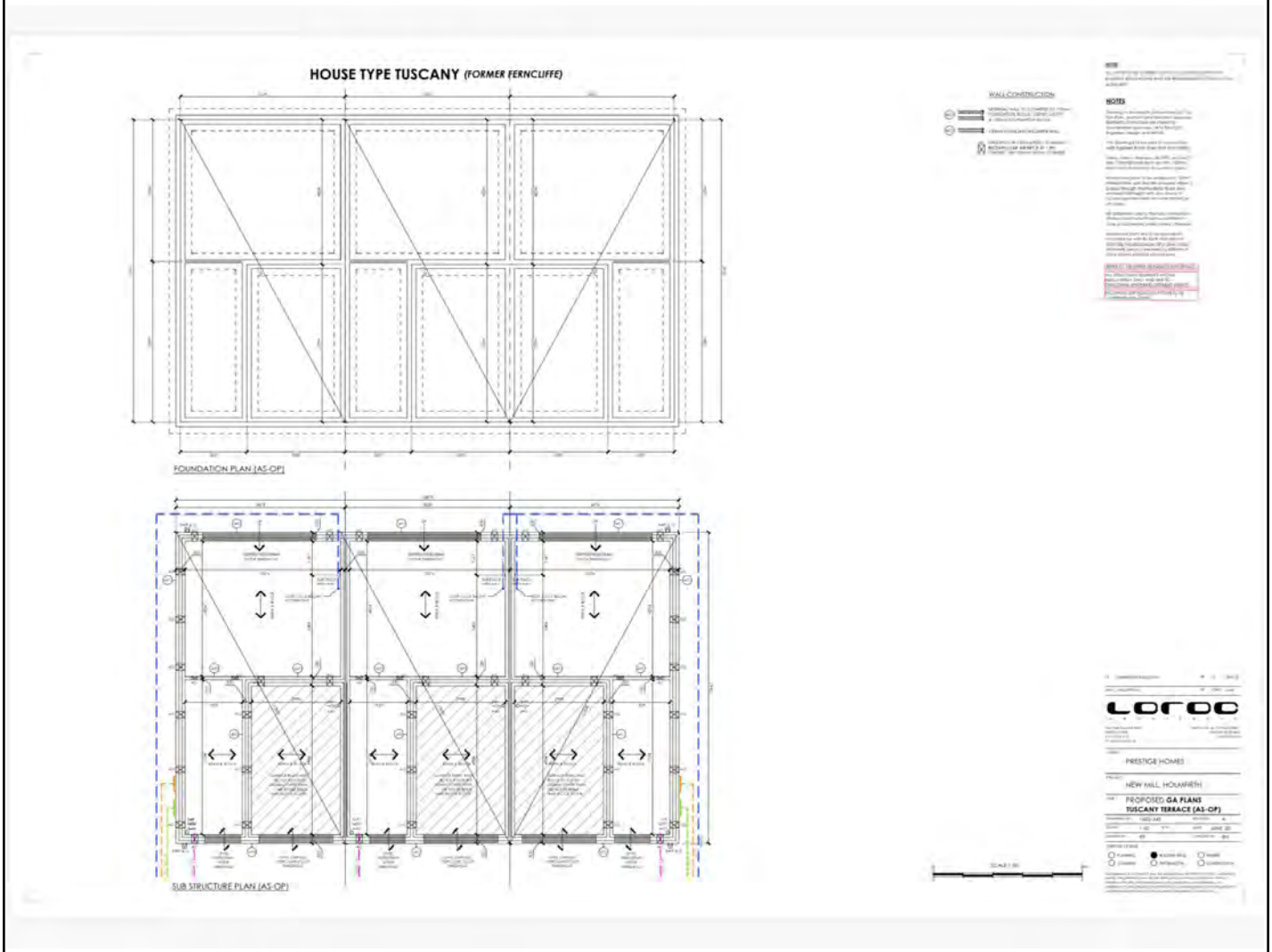
DETAILS



Foundation Layout - Tuscany - Amended to remove retaining wall

GEOSHIELD Verification Plan

DETAILS



Foundation Layout - Tuscany - Amended to remove retaining wall

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6600
LAST UPDATED: 09.03.2018

Page 1

VISQUEEN GAS BARRIER

Gas Barrier
CE Mark to EN 13967

- BBA approved, fully complies with BS8485:2015
- Low permeability to methane, radon and carbon dioxide
- Approved for use in NHBC Amber 2 applications
- Multi-layer reinforced LDPE membrane with aluminium core
- High puncture and tear resistance

Description

Visqueen Gas Barrier is a 400 gsm multi-layer reinforced polyethylene membrane with an integral 20 micron aluminium foil that is approved for use in BS8485:2015 and NHBC Amber 2 applications. For ease of identification on site Visqueen Gas Barrier is coloured blue on one side and silver on the reverse. The barrier combines strength and performance with flexibility and easy installation. Visqueen Gas Barrier also acts as a damp proof membrane.

BS8485:2015

When risk assessing under BS8485:2015 for sites which are effected by methane and carbon dioxide then the Visqueen Gas Barrier is an ideal solution.

The membrane has been modified to be 400 gsm with the multi layer structure greatly enhanced to improve its puncture and impact performance.

Visqueen utilise a 20 microns foil to avoid issues associated with thinner (12microns) foils.

Application

The Building Regulations require that proper precautions be taken to prevent danger to health and safety when building on contaminated land. Visqueen Gas Barrier offers a safe solution for the protection of buildings against methane, radon, stythe (a gas commonly found from disused mines, also known as blackdamp), and carbon dioxide, when installed in accordance with the relevant codes of practice such as BRE, CIRIA and the Chartered Institute of Environmental Health Ground Gas Handbook

Typically these are sites previously used as coalfields, landfill or are contaminated industrial sites.

The membrane should be installed blue side up

System components

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

Installation Guidelines

Visqueen Gas Barrier and ancillary components must be installed in accordance with the recommendations of Building Research Establishment BRE 414 "Protective measures for housing on gas contaminated land" and CIRIA C665 "Assessing risks posed by hazardous ground gases to buildings", NHB C guidelines, and the Chartered Institute of Environmental Health Ground Gas Handbook. The product is not intended for use where there is a risk of hydrostatic pressure. **The membrane should be installed blue side up**

The membrane should be installed on a compacted sand blinding layer or smooth concrete float finish. In areas where high levels of unsupported membrane occur it is recommended that Visqueen Pre Applied Membrane is used. To avoid slip or shear planes and high compressive loadings it is not recommended

VISQUEEN

Visqueen Standard Gas Barrier Data Sheet

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 5800
LAST UPDATED: 19.01.2018

Page 1

VISQUEEN GR DPC

Gas Resistant DPC
CE Mark to EN 14909

- Complies with BS8485:2015 for gas protection
- Tested & passed to ISO 15105-1 methane permeability method
- Aluminium foil to resist methane, radon, CO2 and low levels of hydrocarbon
- Easy to apply using traditional methods
- Independently assessed

DESCRIPTION

Visqueen Gas Resistant (GR) Damp Proof Course is a flexible polyethylene DPC with an aluminium foil designed to prevent the transmission of carbon dioxide, radon, methane and low level hydrocarbon vapours. This is in addition to the product's usage as a damp proof course. Resistance to harmful gases is achieved by an integral aluminium film.

APPLICATION

Visqueen Gas Resistant (GR) DPC should be used on any site where carbon dioxide, radon, methane or low level hydrocarbon vapours are a problem. Methane can occur in any construction on any site previously used for landfill. Such conditions can exist on household, commercial and industrial sites. Visqueen Gas Resistant (GR) DPC has excellent physical characteristics and good cold flexibility performance. It is suitable for vertical, horizontal, stepped and cavity tray applications.

Good Practice Tip

To avoid slip or shear planes it is not recommended to take membranes through the wall. In order to provide a continuous barrier across the cavity Visqueen Gas Resistant DPC should be sealed to the membrane, taken through the blockwork, up the wall and incorporated below the damp proof course on the cavity tray outer leaf

IMPORTANT

Where the DPC may be in direct contact with hydrocarbon contamination the use of Visqueen GX DPC must be considered.

The DPC must be installed with the black side facing up.

System components and jointing

All DPC laps must be a minimum of 100mm and bonded together with Visqueen Zedex DPC Jointing Tape.

Installation

Visqueen Gas Resistant (GR) DPC should be installed in accordance with BS 8215:1991, BS 8000: Part 3, 2001 and BS 5628: Part 3, 2005. All horizontal DPCs must be bedded on both sides with fresh mortar. All DPCs must project through the full width of the wall, including any externally applied rendering and project 5mm beyond the finished external face. All cavities must be kept clear of mortar droppings and other debris. Any mortar droppings reaching the DPCs must be removed before they harden, avoiding the use of sharp objects for removal. Reference should also be made to NHB C guidance notes and BRE Report BR211.

The DPC must be installed with the black side facing up.

VISQUEEN

Heanor Gate | Heanor | Derbyshire DE75 7RG
Email: enquiries@visqueenbuilding.co.uk

Visqueen GR DPC Data Sheet

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6800
LAST UPDATED: 18.11.2019

VISQUEEN JOINTING TAPES

Double Sided Jointing Tape

Page 1

CE CPD MEMBER nssPlus

- Resists Moisture & Gas Ingression
- Excellent adhesion
- BBA Approved
- Part of the VisqueenPRO 2 part system

Description
Visqueen Double Sided Jointing Tape is a high performance blue double sided butyl mastic tape, supplied in 50mm x 10m rolls for damp proof membrane joints; and Visqueen Zedex Joint tape 100mm x 15m for damp proof course joints.

Application
A tape for bonding Visqueen Damp Proof Membranes (DPM) at overlaps and for bonding membranes to Damp Proof Courses (DPC) at junctions with internal and external walls.

For Visqueen Damp Proof Membranes , the joint/lap should then be sealed using VisqueenPro Single Sided Jointing Tape.

Installation
Ensure surfaces are clean and dry. Apply tape to the lap area of the laid sheet starting approx 50mm from the membrane edge. Overlap adjoining membrane by minimum 150mm and remove tape release paper. Apply pressure to the jointed area to ensure adhesion.

For Visqueen Damp Proof Membranes , the joint/lap should then be sealed using VisqueenPro Single Sided Jointing Tape.

Storage
When the weather is cold, store tape in a warm, dry place until required.

VISQUEEN BUILDING PRODUCTS

Heanor Gate | Heanor | Derbyshire DE75 7RG
Email: enquiries@visqueenbuilding.co.uk
Tel: 0333 202 6800 | Web: www.visqueenbuilding.co.uk

Visqueen Double Sided Butyl Tape Data Sheet

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6900
LAST UPDATED: 23.03.2017

Page 1

VISQUEEN JOINTING TAPES

Gas Resistant (GR) Foil Tape

Sealing tape

- Provides a gas tight seal for gas membrane overlaps
- Secures gas membranes to DPCs
- Part of BBA Approved Gas Membrane systems

Description

A single sided aluminium and polyester composition with an acrylic adhesive supplied in 75mm x 50m rolls.

Application

For sealing gas membranes (Visqueen LPGM and Radon) at overlaps and for sealing membranes to gas proof courses at junctions with internal and external walls.

Installation

Poistion the tape equidistant over the lap joint and press down using a neoprene sealing roller to ensure the joint is secure.

Storage

Store in a warm – above 5oC – and dry environment.

VISQUEEN BUILDING PRODUCTS

Heanor Gate | Heanor | Derbyshire DE75 7RG
Email: enquiries@visqueenbuilding.co.uk

Visqueen GR Foil Tape

GEOSHIELD Verification PLAN

SPECIFICATION

DATASHEET

Technical Support: 0333 202 6800
LAST UPDATED: 31.05.2018

VISQUEEN INSTALLATION & SYSTEM COMPONENTS

Visqueen Ultimate Lap Tape

Page 1

- Suitable for demanding site applications
- Provides a gas tight seal for membrane overlaps
- Secures gas membranes to DPCs
- Part of BBA Approved Gas Membrane systems

Description

A bitumen and aluminium composition single sided tape supplied in 150mm x 10m rolls.

Application

High performance, high bond tape for sealing membranes at overlaps in demanding site conditions and for sealing membranes to gas proof courses at junctions with internal and external walls.

The tape is suitable against vapours only. Where the tape may come into contact with fluids Visqueen recommend welding of joints.

Installation

Ensure surfaces are clean and dry. Apply tape equidistant over the bonded membrane lap. Apply pressure to the tape to ensure adhesion. When the weather is cold, store tape in a warm, dry place until required. Installation is not recommended below 5C.

Storage

Store in a warm – above 5oC – and dry environment.

Technical details

Dimensions – 150mm x 10m

Poistion the tape equidistant over the lap joint and press down using a neoprene roller to ensure the joint is secure.

VISQUEEN

Visqueen GR Lap Tape

GEOSHIELD Verification PLAN

SPECIFICATION

INSTALLATION & SYSTEM COMPONENTS

VISQUEEN

Technical Product Datasheet
Edition: 20/07/2018

VISQUEEN PRO DETAILING STRIP

System component for Visqueen membranes

- 2 x superior adhesion in cold weather
- Ideal for complex junctions, stanchions and terminations
- Utilises Visqueen's advanced adhesion technology
- BBA approved with Visqueen Damp, Gas and Tanking membranes
- Used with Visqueen HP Tanking Primer Solution to obtain best performance

Description

Visqueen Pro Detailing Strip is a silver faced, aluminium lined film utilising Visqueen's advanced self adhesive system, supplied in 300mm x 10m or 500mm x 10m rolls.

The improved formulation system gives superior adhesion to concrete, polyethylene and steel at wide ranging temperatures. It has been tested and compared to standard bitumen adhesives at low temperatures and has over twice the peel and adhesion properties. The new adhesive has also proven to work at below 5°C.

VISQUEEN

Visqueen Pro Detailing Tape

GEOSHIELD
Verification Plan

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Yorkshire Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	

GEOSHIELD
Verification Plan

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	
APPLICATOR EMAIL:	

NOTES: Installers are not NVQ Level 2 qualified but have proven good workmanship with

NOTES: the standard of installation carried out on site.

NOTES:

NOTES:

GEOSHIELD
Verification Plan

HEALTH AND SAFETY

INDUCTION:	YES	✔	NO:	
INDUCTION TIME:	To be confirmed at the pre-verification meeting			

CSCS CARD:	YES	✔	NO:	
CSCS CARD NUMBER:	All installers will be required to provide their CSCS card			

METHOD STATEMENT:	YES	✔	NO:	
RISK ASSESSMENT:	YES	✔	NO:	
COSHH:	YES	✔	NO:	

SITE SPECIFIC HAZARDS: Materials falling from height

Slips, trips and falls

Excavations

Confined spaces

Plant

GEOSHIELD
Verification Plan

NOTIFICATION:

24 HOURS:	YES		NO	✔
48 HOURS:	YES	✔	NO	

REASON FOR VISIT:

DURING INSTALLATION:	✔	UNDERSLAB VENTILATION	✔
PRE - POUR:		DPC MEMBRANE CONNECTION	✔
TESTING:	✔	OTHER	

TRAINING LEVEL:

SPECIALIST CONTRACTOR:	YES		NO	✔
NVQ LEVEL 2:	YES		NO	✔
COMPETENT APPLICATOR:	YES	✔	NO	
TOOLBOX BY GEOSHIELD:	YES	✔	NO	

NOTES: Toolbox talk carried out by Geoshield have installed have since proved to understand

NOTES: the methodology and carry out the installation to a good standard.

NOTES:

NOTES:

GAS REGIME:

CS1/Green	YES		NO	✔
CS2/Amber	YES		NO	✔
CS3/Amber 2	YES	✔	NO	
CS3/ or above/Red	YES		NO	✔
VOC	YES		NO	✔
RADON BASIC	YES		NO	✔
RADON FULL	YES	✔	NO	

Building Type: TYPE A

POINTS REQUIRED UNDER BS8485 2015: 4.5 POINTS

POINTS GAINED FROM BS8485 2015

Score for Structural Barrier:	0 POINTS
Grade 2 basement:	N/A
Grade 3 basement:	N/A
Score for Venting:	2.5 POINTS
Car park:	N/A
Score for Membrane:	2.0 POINTS

POINTS ACHIEVED UNDER BS8485 2015: 4.5 POINTS

GEOSHIELD
Verification Plan

TESTING:

VISUAL: PICK and PROBE	YES	✔	NO	
NON-DESTRUCTIVE SMOKE TEST:	YES		NO	✔
NON-DESTRUCTIVE COMPRESSED AIR LANCE:	YES	✔	NO	
DESTRUCTIVE JOINT TESTING:	YES		NO	✔
NON-DESTRUCTIVE TRACER GAS:	YES		NO	✔
DIELECTRIC POROSITY TEST:	YES		NO	✔
PUMP TEST FOR "Twinny" WELD	YES		NO	✔

NOTES: The level of ground gas detected does not mean the ground gas membrane needs

NOTES: to be welded but a taped system can be used. If joints are welded air Lance testing

NOTES: will be carried out.

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD
Verification Plan

RISK ASSESSMENT

SITE SPECIFIC CIRCUMSTANCES		1		2		3		4		5
Complexity of Design		1		2	✔	3		4		5
Repetition of design		1		2		3	✔	4		5
Experience of workforce		1		2	✔	3		4		5
Gas regime		1		2		3	✔	4		5
Project management experience	✔	1		2		3		4		5
Installation conditions (exposed?)		1		2	✔	3		4		5
Robust Project specific gas design		1	✔	2		3		4		5

TYPE OF RISK	RANGE	RISK
High Risk	23 - 30	
Medium High Risk	19 - 22	19
Medium Risk	15 - 18	
Medium Low Risk	11 - 14	
Low Risk	0 - 10	

Geoshield have carried out a toolbox talk and the installers have proved good workmanship with the level of installation on site. Installers do not hold NVQ Level 2 but have proved to be competent. CS3 site with Type A Buildings is deemed Medium to High Risk.

GEOSHIELD
Verification Plan

VERIFICATION REPORT

These items will be included in the report

NUMBER 1	GAS MEMBRANE SPECIFICATION
NUMBER 2	ELEMENTS OF THE GAS MEMBRANE
NUMBER 3	DATE, TIME and WEATHER CONDITIONS
NUMBER 4	PLANS and DETAILS ISSUED
NUMBER 5	INSTALLATION PHOTO's RELATING TO GRID LINES
NUMBER 6	REPORTING DEFECTS AND LOGGING IN REMEDIATION LOG
NUMBER 7	AREAS OF LIMITATION (areas unable to inspect)
NUMBER 8	LOGGING AND REPORTING RESULTS OF TESTING

VERIFICATION REPORT ISSUE

HARD COPY:	YES	✔	NO		EMAIL:	YES	✔	NO	
DROP BOX LINK:	YES		NO	✔	FLASH DRIVE:	YES	✔	NO	

The standard checklist will be adapted for the site

This will prepare the site to produce the minimum amount of contractor quality evidence for

GeoShield to audit each plot

GEOSHIELD
Verification Plan

GEOSHIELD COMPETENCE

>GeoShield was founded in 2015

>GeoShield solely verifies, they are fully independent of installers, manufactures and geotechnical companies.

>GeoShield follow guidance in CIRIA 735 (sufficient experience, membership of relevant professional organisations) GeoShield are members of the BVC, BGA, ERA, The RADON Council, and UKRA

>Currently GeoShield hold the Chairmanship of the British Verification Council

>Two employees are NSAC Level 3 assessors for the NVQ 2 Gas Membrane install

>GeoShield were key in forming the NVQ 4 Verification qualification in which 2 Verification officers are undertaking this qualification

>GeoShield have the only qualified assessor for the NVQ 4 Verification qualification

>GeoShield Verification officers currently keep up to date CPD's

>All GeoShield Verification Officers have a full understanding of gas membrane install including 3 experienced (NVQ 2) installers in the GeoShield team

>GeoShield Verification Officers are all independent carrying there own air compressors. Other testing equipment GeoShield have access to are 2 x Buckley Dielectric Testing machines and also inert gas testing equipment

VERIFICATION PLAN

METHOD STATEMENT

The geotechnical survey report confirms the site is a medium to high risk CS3 site.

The proposed designs have been reviewed and Geoshield confirm they are compliant with the requirements of CS3.

In this conceptional verification plan it has laid out the:

> Design

> Specification

> Verification procedure

> CQA checklist

Testing and documenting of the ground gas membrane installation will be carried out in accordance with CIRIA 735. Geoshield will liaise with the installation team and main contractor to ensure all faults found are remediated.

GEOSHIELD
Verification Plan

SUBSTRATE METHOD STATEMENT

Substrate Type:

Block and Beam Construction	Yes	✔	No	
Minimum Preparation	Swept Clear	Yes	✔	No	
Minimum Preparation	Vacuuming	Yes		No	✔
Minimum Preparation	Compressed air to remove	Yes		No	✔
Minimum Preparation	Remove Mortar Droppings	Yes	✔	No	

Stone Substrate	Yes		No	✔
Minimum Preparation	Minimum 25mm Sand Blinding	Yes		No	
Minimum Preparation	Limestone Dust	Yes		No	
Minimum Preparation	Compacted Substrate	Yes		No	
Minimum Preparation	No large stones	Yes		No	

Concrete Substrate	Yes		No	✔
Minimum Preparation	No Hollows	Yes		No	
Minimum Preparation	Troweled Surface	Yes		No	

Remarks:	

GEOSHIELD
Verification Plan

PROTECTION METHOD STATEMENT

Protection Type:

Protection Board	Yes		No	
Protection Fleece	Yes		No	
Insulation	Yes	✔	No	

Where Protection Board is installed in the gas remediation strategy the

verifier must be allowed access to inspect the membrane

Remarks:	Before insulation board is installed the membrane must be checked first

---

WHERE NO PROTECTION BOARD SPECIFIED

Insulation boards will be installed directly on top of the ground gas membrane which will protect it

from punctures/tares from follow on works. Access to the properties should be restricted after verification

inspections and ideally insulation boards installed immediately after or during inspection.

Remarks:	

Concrete Spacers	Yes		No	✔
Plastic 'Tric-Trac'	Yes		No	✔

GEOSHIELD
Verification Plan

PRE-CONTRACT MEETING

Items for discussion at the Pre-Contract meeting	
>Induction Procedure	
>Identification of installation team and point of contact	
>Identification of Project management team	
>Identification of Sub-Contractors associated with membrane installation	
>Validation of Membrane and design specification	
>Verification procedure	
>Notifications for Verification	
>Preparation of substrate	
>Program of works	
>Utility entry	
>Protection of Membrane	
>Remediation Procedure	
>Testing Procedures	
>Sign off Procedure	
>Installer PI	

All information is assumed correct at time of issue.

DATE:	4th November 2020 - Revised B 19/05/2021

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	014
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Chris Ingham

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555214679

EMAIL ADDRESS: CIngham@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 22-25 Infills and Plots 29-36 Perimeters

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 15c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 81

TIME: 09:00 - 11:30 REPORT NUMBER: 014

DATE: 24/05/2022

ACCOMPANIED Adrian

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 22-25 Infills and Plots 29-36 Perimeters

Infills highlighted in red

Perimeters highlighted in blue

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of interior of a plot

Plots 22-25 Infills

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of perimeters and partitions

Plots 29-36 Perimeters

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 22-25 Infills

NOTES: Installation has been carried out to an excellent standard.

Joints in Visqueen Standard Gas Barrier sealed with butyl tape and GR Foil Tape.

Joints to GR DPC sealed with butyl tape and GR Lap Tape as per manufacturers spec.

ALl joints visually inspected and checked with pick and probe. Excellent install.

1. Pick and probe proved good bond achieved.

2. Pick and probe proved good bond achieved.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

3. Double sided butyl tape installed inside all joints and correct lap tapes used

throughout. Excellent installation throughout. Passed and verified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 22-25 Infills

NOTES: Visqueen Standard Gas Barrier in good condition and detailing has been carried out to a good standard. Access is now restricted until floor insulation to be installed today. Good install throughout.

1. Good detailing and good seal to previously verified GR DPC.

2. Consistent full seal achieved throughout.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

3. Pipe penetrations sealed with Pro Detailing tape as per NVQ Level 2.

Good installation and good bond achieved.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 29-36 Perimeters

NOTES: Perimeters have been sealed with GR DPC and Visqueen

Ultimate Gas Damp Proof Membrane. Spec of new membrane covers for Radon, CO2,

Methane, VOCS and Hydrocarbons. All joints sealed with butyl tape and corner

details reinforced with Pro Detailing Tape.

1. All joints sealed with butyl tape

2. All joints sealed with butyl tape.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

3. Corner details reinforced with Pro Detailing Tape.

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 26, 27 and 28 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 22-25 Infills and Plots 29-36 Perimeters	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

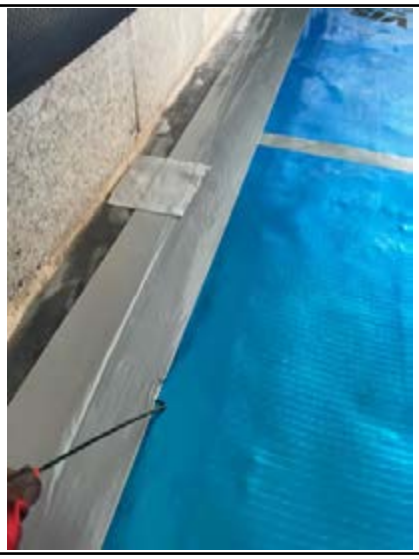


Photo evidence of good installation

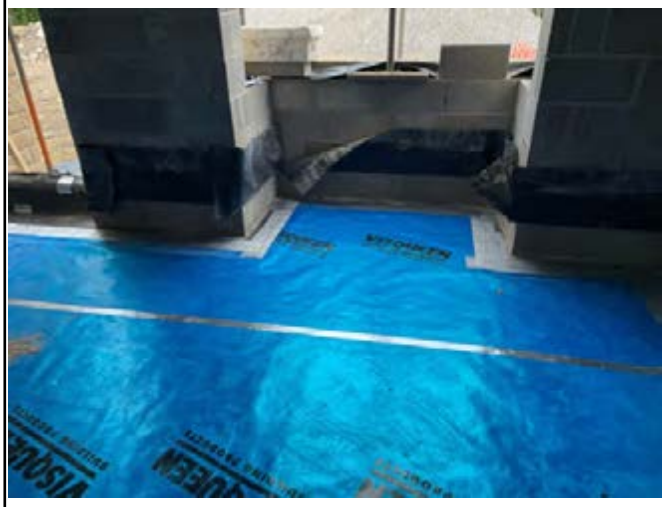


Photo evidence of good installation

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 014 is for Plots 22-25 Infills and Plots 29-36 Perimeters. All works visually inspected and tested with Mechanical Point Stress Test (pick and probe).

Excellent installation with no faults found. Good number of telescopic vents throughout.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	24/05/2022

GEOSHIELD

Verification Certificate

Date: 24 May 2022

Signature Homes Yorkshire Limited

Plot 22

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	014
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Chris Ingham

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555214679

EMAIL ADDRESS: CIngham@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 22-25 Infills and Plots 29-36 Perimeters

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 15c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 81

TIME: 09:00 - 11:30 REPORT NUMBER: 014

DATE: 24/05/2022

ACCOMPANIED Adrian

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 22-25 Infills and Plots 29-36 Perimeters

Infills highlighted in red

Perimeters highlighted in blue

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of interior of a plot

Plots 22-25 Infills

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of perimeters and partitions

Plots 29-36 Perimeters

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 22-25 Infills

NOTES: Installation has been carried out to an excellent standard.

Joints in Visqueen Standard Gas Barrier sealed with butyl tape and GR Foil Tape.

Joints to GR DPC sealed with butyl tape and GR Lap Tape as per manufacturers spec.

ALl joints visually inspected and checked with pick and probe. Excellent install.

1. Pick and probe proved good bond achieved.

2. Pick and probe proved good bond achieved.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

3. Double sided butyl tape installed inside all joints and correct lap tapes used

throughout. Excellent installation throughout. Passed and verified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 22-25 Infills

NOTES: Visqueen Standard Gas Barrier in good condition and detailing has been carried out to a good standard. Access is now restricted until floor insulation to be installed today. Good install throughout.

1. Good detailing and good seal to previously verified GR DPC.

2. Consistent full seal achieved throughout.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

3. Pipe penetrations sealed with Pro Detailing tape as per NVQ Level 2.

Good installation and good bond achieved.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 29-36 Perimeters

NOTES: Perimeters have been sealed with GR DPC and Visqueen

Ultimate Gas Damp Proof Membrane. Spec of new membrane covers for Radon, CO2,

Methane, VOCS and Hydrocarbons. All joints sealed with butyl tape and corner

details reinforced with Pro Detailing Tape.

1. All joints sealed with butyl tape

2. All joints sealed with butyl tape.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

3. Corner details reinforced with Pro Detailing Tape.

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 26, 27 and 28 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 22-25 Infills and Plots 29-36 Perimeters	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

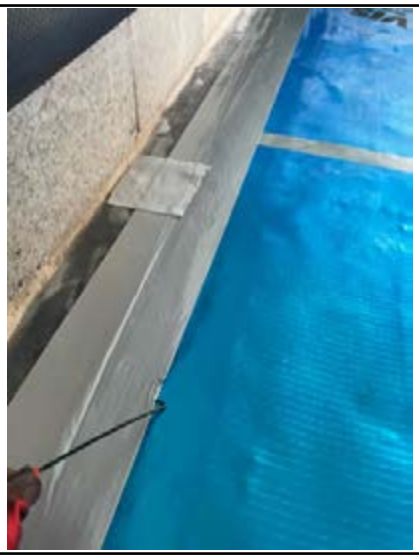


Photo evidence of good installation

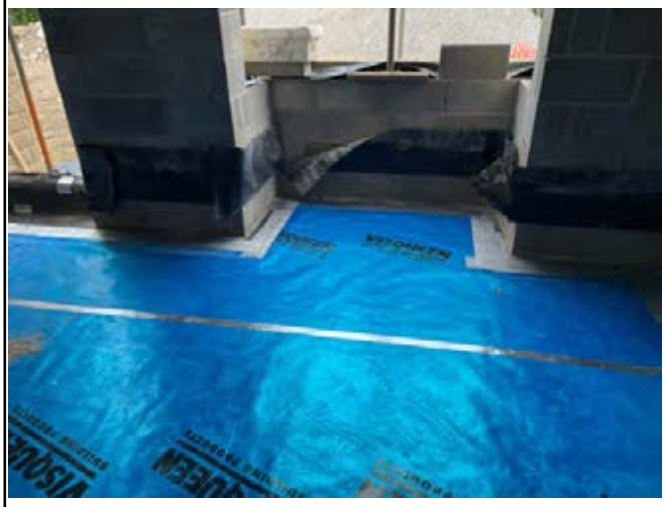


Photo evidence of good installation

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 014 is for Plots 22-25 Infills and Plots 29-36 Perimeters. All works visually inspected and tested with Mechanical Point Stress Test (pick and probe).

Excellent installation with no faults found. Good number of telescopic vents throughout.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	24/05/2022

GEOSHIELD

Verification Certificate

Date: 24 May 2022

Signature Homes Yorkshire Limited

Plot 23

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 24 May 2022

Signature Homes Yorkshire Limited

Plot 24

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 24 May 2022

Signature Homes Yorkshire Limited

Plot 25

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 22 June 2022

Signature Homes Yorkshire Limited

Plot 26

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 27 July 2022

Signature Homes Yorkshire Limited

Plot 27

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 27 July 2022

Signature Homes Yorkshire Limited

Plot 28

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 27 July 2022

Signature Homes Yorkshire Limited

Plot 29

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 27 July 2022

Signature Homes Yorkshire Limited

Plot 30

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD

Verification Certificate

Date: 22 June 2022

Signature Homes Yorkshire Limited

Plot 31

New Mill Road

Holmfirth

HD9 7LT

The documentation in this handover package shows that the installation of the Gas Membrane and ancillaries was installed to specification. Verified in accordance with BS 8485:2015+A1:2019 and CIRIA 735.

All areas were verified, and remediation issues corrected.

Paul Colbeck
Director of Site Services

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 015

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Chris Ingham

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555214679

EMAIL ADDRESS: CIngham@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 31 and 26 Infills and Plots 32-35 Perimeters

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 19c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 56

TIME: 09:00 - 11:30 REPORT NUMBER: 015

DATE: 22/06/2022

ACCOMPANIED Adrian

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 31 and 26 Infills and Plots 32-35 Perimeters

Infills highlighted in red

Perimeters highlighted in blue

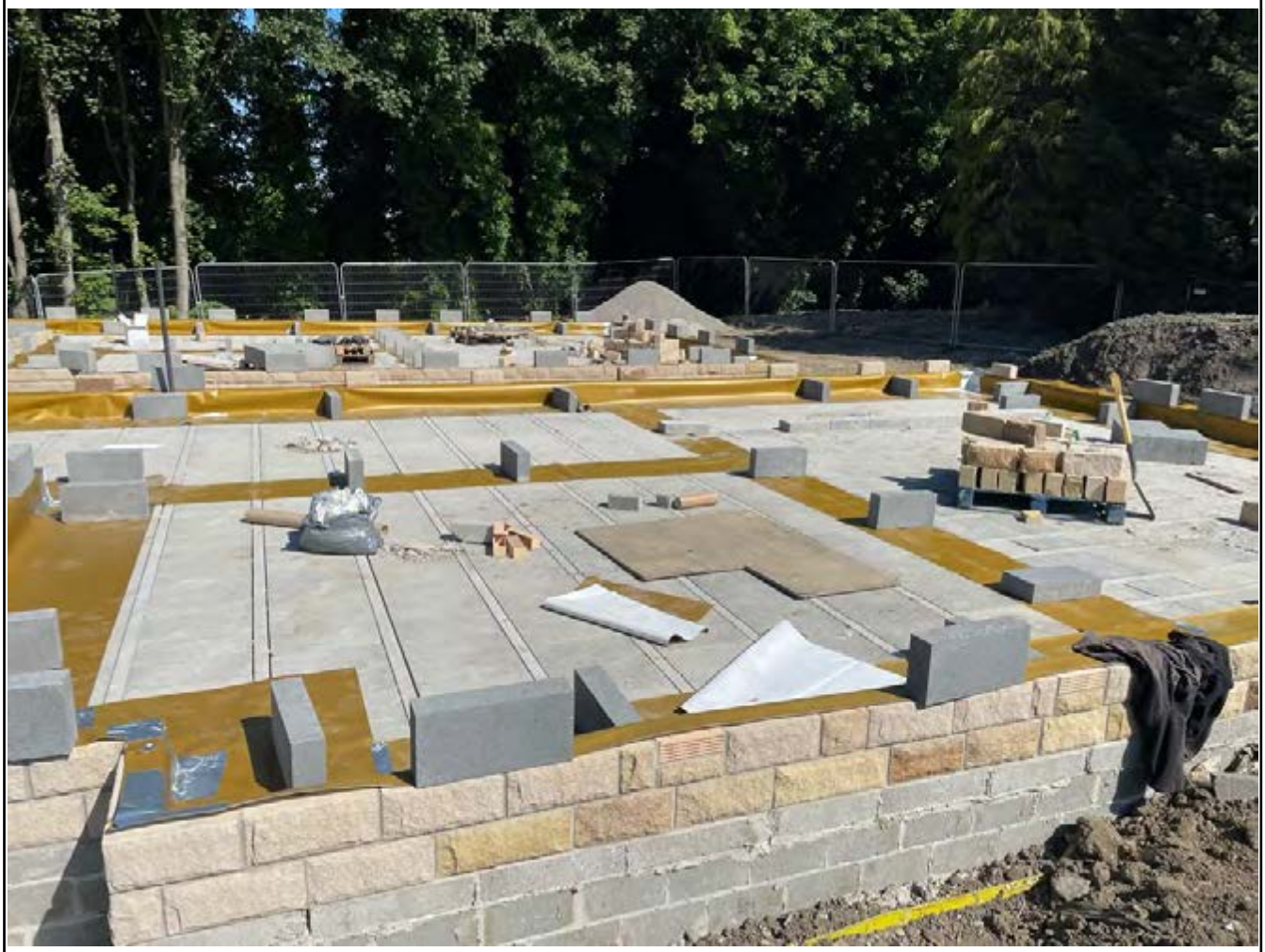
GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of infill

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of perimeters

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 31 and 26 Infills

NOTES: All works visually inspected and tested with pick and probe.

Installation as per manufacturers specification with double sided butyl tape inside all

joints - GR Lap Tape to GR DPC and GR Foil Tape to joints in Standard Gas Barrier.

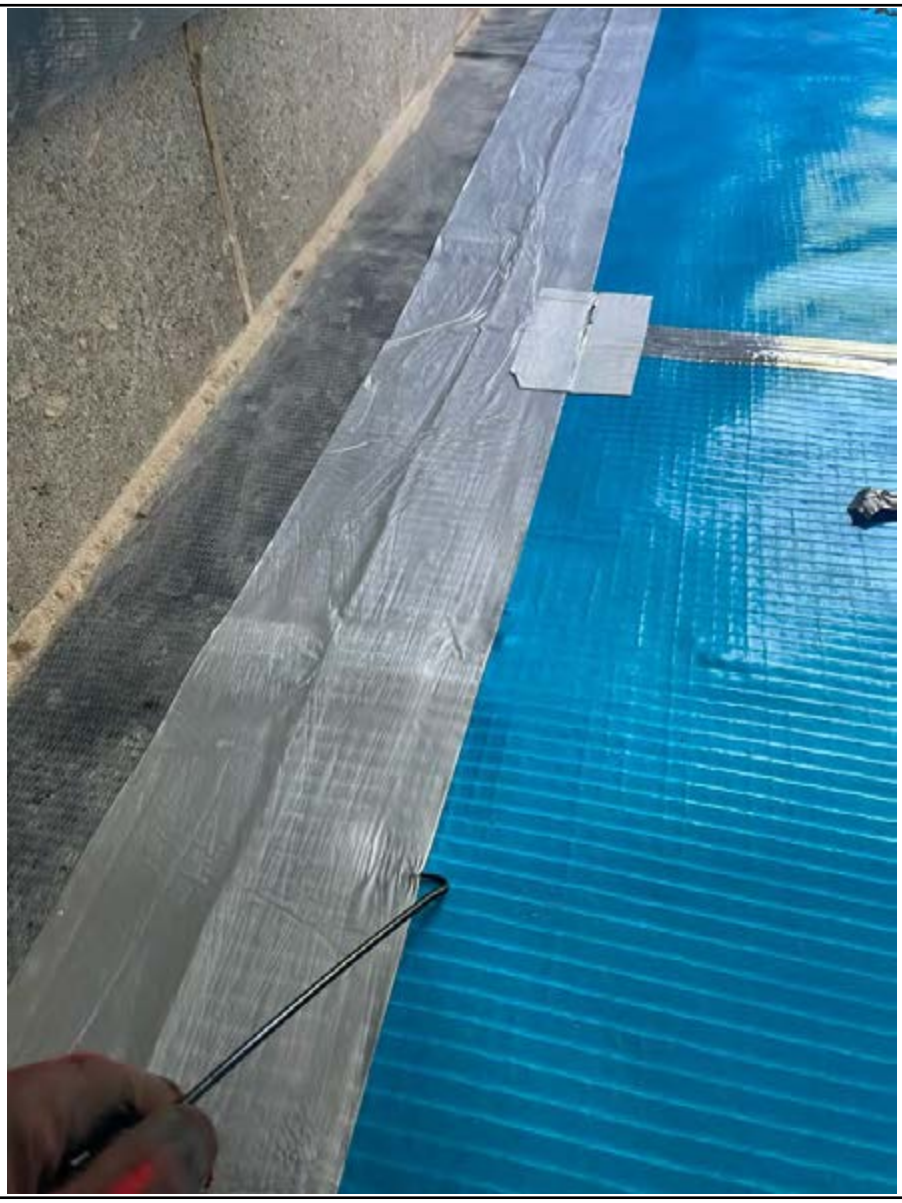
Good installation throughout.

1. Photo evidence of good installation.

2. Photo evidence of good installation.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



3. Pick and probe carried out and good bond achieved throughout. Passed and

verified. No faults found.

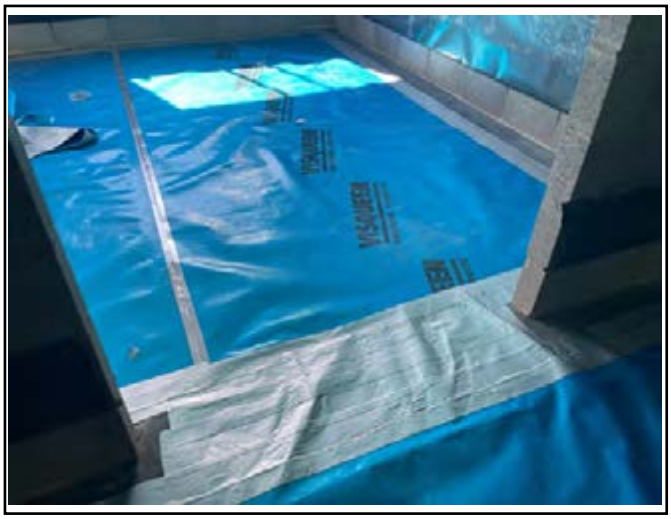
GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 31 and 26 Infills

NOTES: All works visually inspected and no faults found. Pipe penetration sealed to a good standard. All other pipes to come in through the wall.

Passed and verified.



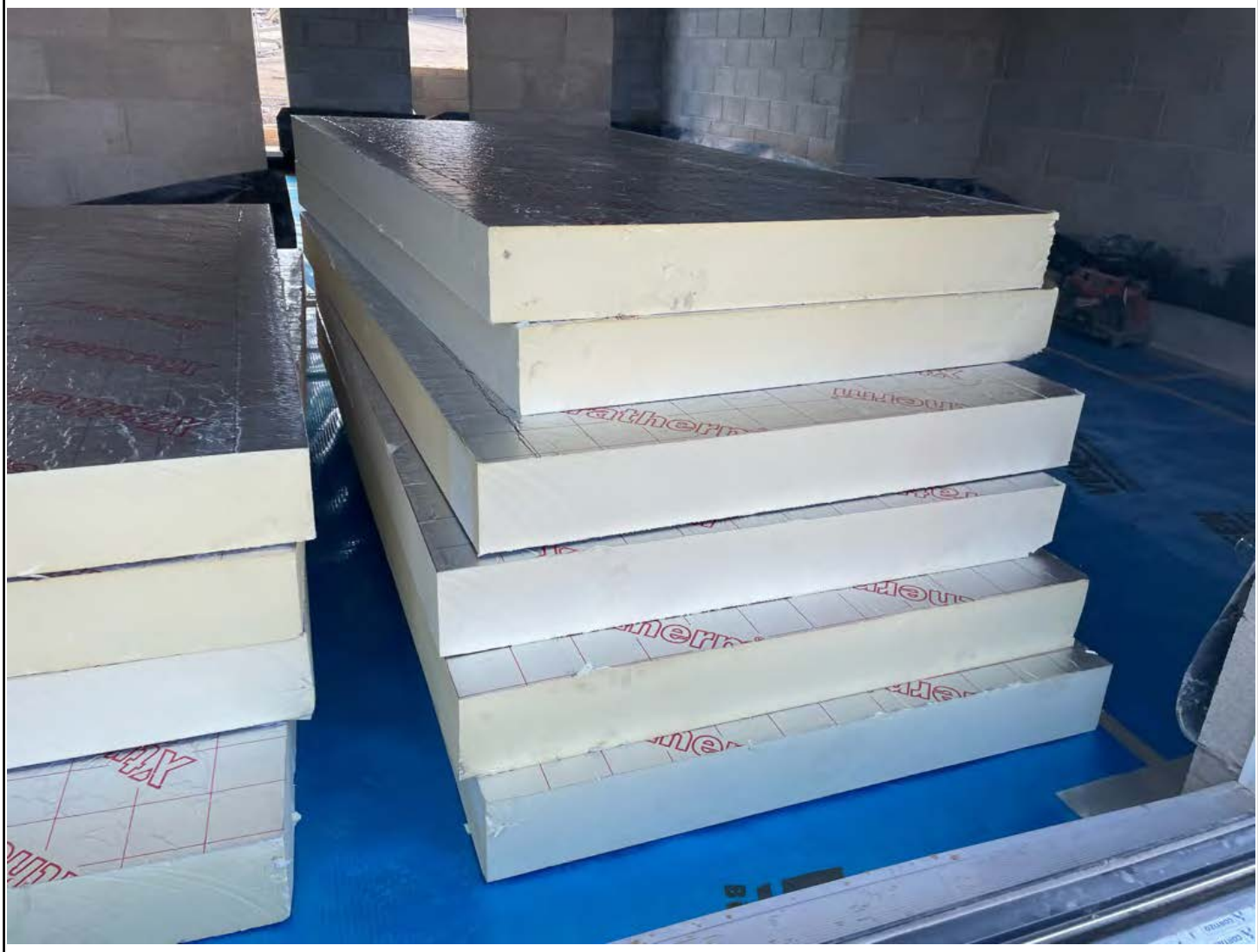
1. Pipe penetrations sealed to good standard. All other pipes to come in through the walls.

2. Damaged GR DPC fully sealed and Pro Detailing Tape.

No faults found.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO



3. Insulation brought in to install before any other trades have access to the plot.

This will protect the membrane from damage. Passed and verified.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 32-35 Perimeters

NOTES: Corner details sealed to as good standard. Butyl tape inside all joints with Pro Detailing to overlap and to reinforce corner details as per toolbox talk. Passed and verified with no faults found.

1. Photo evidence of good installation

2. Photo evidence of good installation.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

3. Butyl tape inside all joints.

Lap Tape then applied. Good installation throughout. Passed and verified.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

Photo evidence of good installation

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 26, 27 and 28 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 22-25 Infills and Plots 29-36 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 015 is for Plots 31 and 26 Infills and Plots 32-35 Perimeters. Installation has been carried out to a good standard using products throughout. All works visually inspected and tested with pick and probe. No faults found. Insulation brought in to protect the membrane before any follow on trades have access.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	22/06/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	016
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Finlay Todd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07502343063

EMAIL ADDRESS: Ftodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 27,28,29,30

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 25c

MEMBRANE TEMPERATURE:

RELATIVE HUMIDITY:

TIME: 12:30-14:00 REPORT NUMBER: 016

DATE: 27/06/2022

ACCOMPANIED Adrian

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of verified plots highlighted in blue

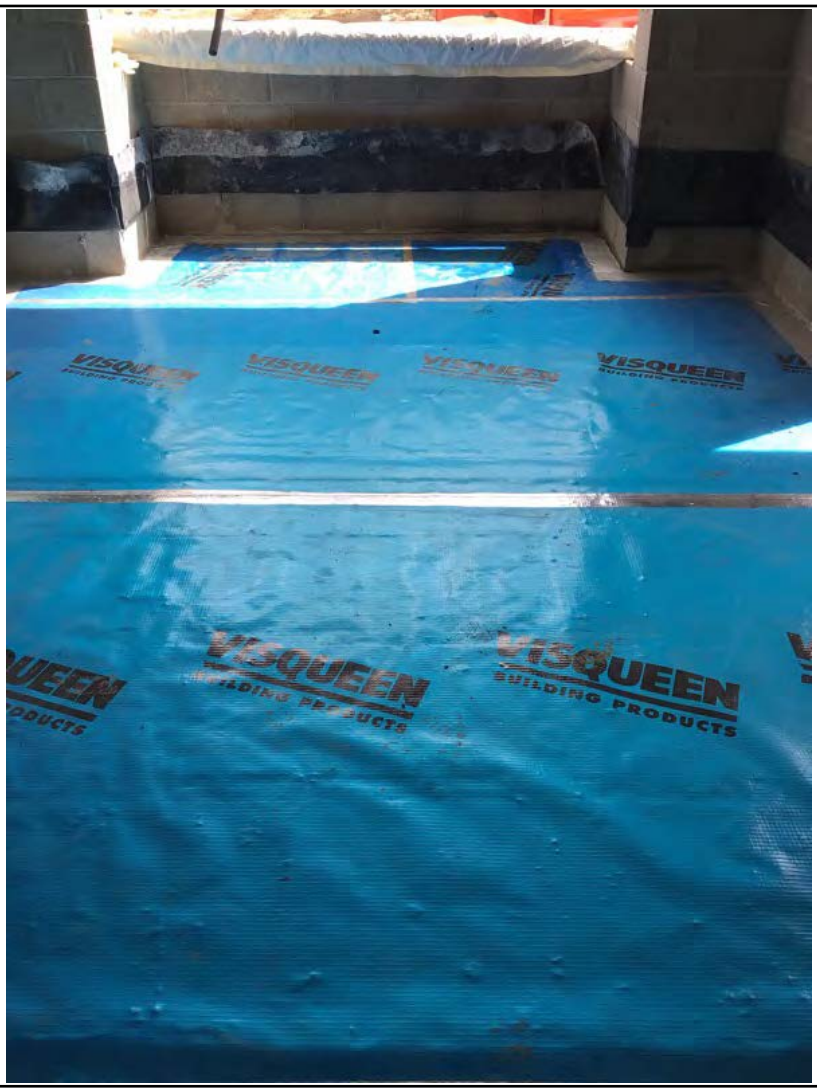
GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of verified area

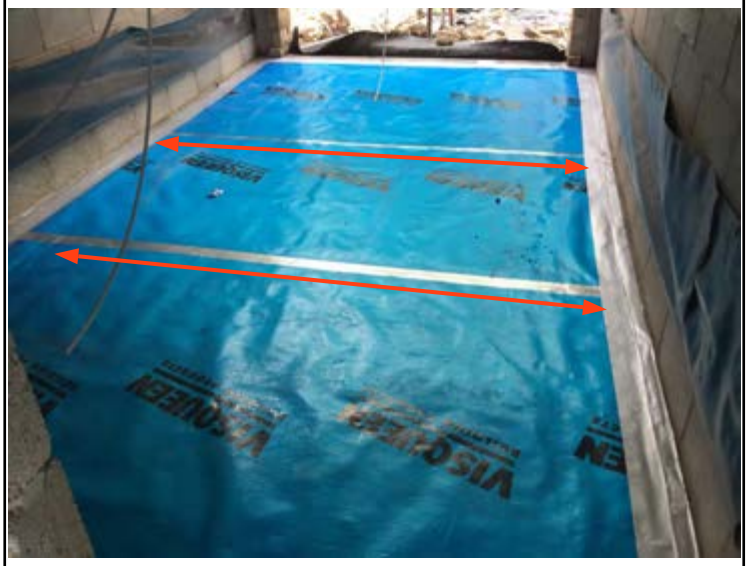
GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 27-30

NOTES: Taped Lap Joints

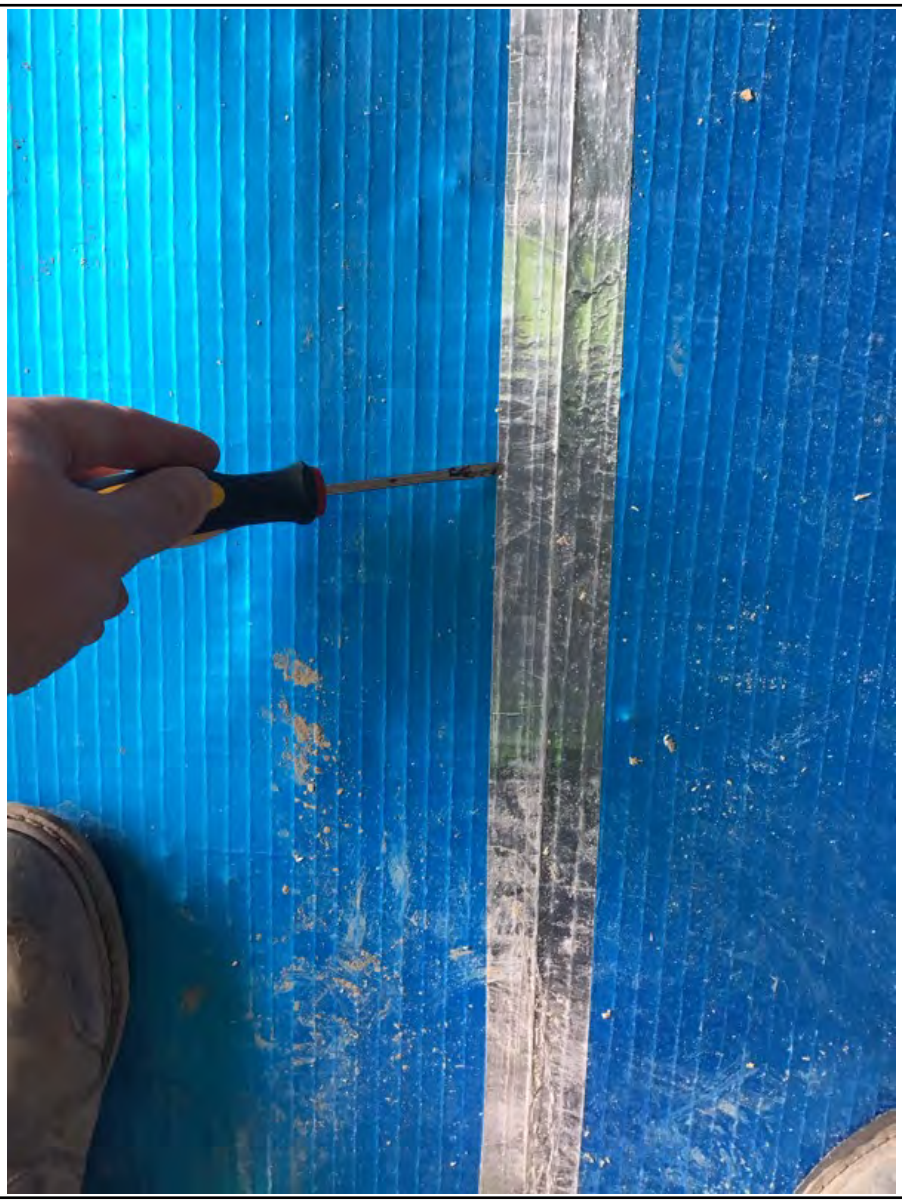
Visqueen Standard Gas Barrier has been installed to the infill of the plots 27-30 with overlaps of 150mm created. These overlaps have been sealed using double sided gas resistant butyl tape. The left photo shows an overview of a verified room with the red



arrows highlighting the taped lap joints. The right photo shows the double sided butyl tape used during the installation.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



A thorough pick and probe test was carried out on all taped lap joints to ensure a strong bond has been created between the materials. No faults found during the verification.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 27-30

NOTES: Sealed Pipe Penetration

All service entries across the verified areas have been sealed using Visqueen Gas Resistant Self Adhesive Membrane. Sections of GR SAM have been cut and a hot air leister has been used to activate the black bitumen side. The sections have then been

applied to the service entry 150mm vertically and returned a further 150mm to the membrane in a petal method. A top hat has then been cut and applied to the entry to complete the detail.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Pick and probe testing found no faults on any service entry with material installed

to manufacturers specification.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔

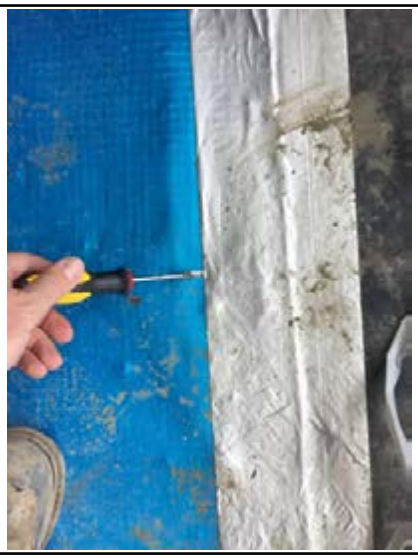
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

GR SAM used

Silver foil taped used during install

Double sided butyl tape



Pick and probe test

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 26, 27 and 28 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 22-25 Infills and Plots 29-36 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔
Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 016 is to verify the membrane installed across plots 27-30 infills. Visqueen Standard Gas Barrier has been installed to the infills of the given plots and sealed using double sided butyl tape and silver foil tape. The service entries have been sealed using Visqueen Gas Resistant Self Adhesive Membrane, with no faults found during the verification process.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	27/07/2022

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 018

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 32, 33 & 34 inclusive (infill)

Plots 35 & 36 (remaining garage only)

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 14.C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 08:00 to 09:25 REPORT NUMBER: 018

DATE: 11/11/2022

ACCOMPANIED Adrian Needle

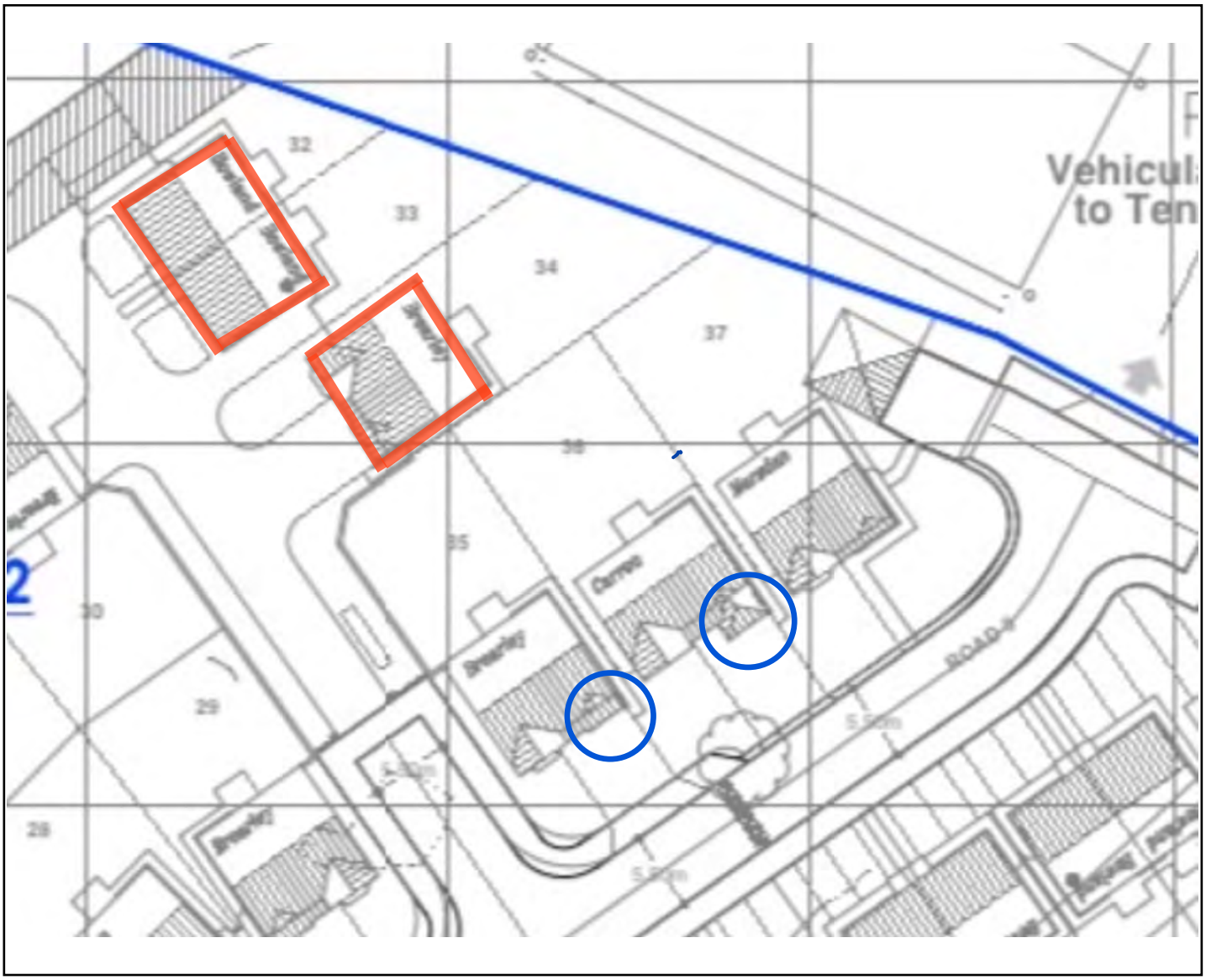
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots highlighted as follows:-

Outlined in red - verification of infill

Outlined in blue - verification of remaining integral garage only

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - Garage Infill

Plot 35 & 36

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - garage infill

Plot 35

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - garage infill

Plot 36

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area

Plots 32, 33 & 34.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - full infill

Plot 32

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - full infill

Plot 33

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - full infill

Plot 34

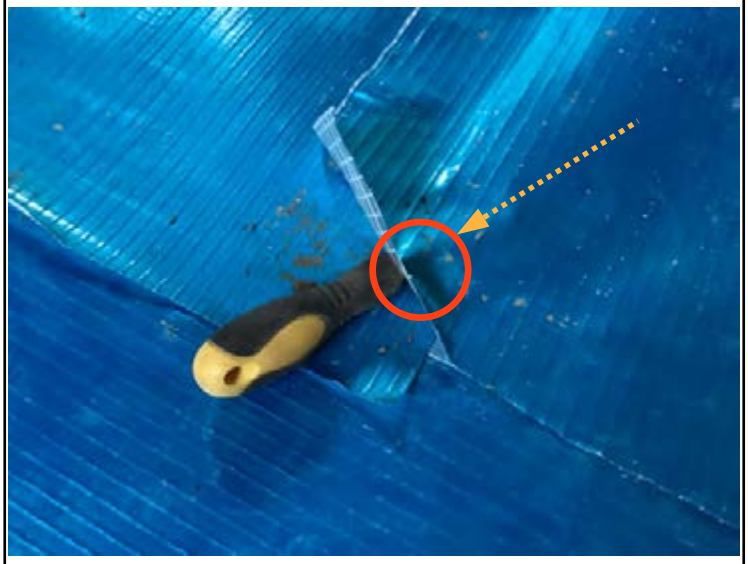
GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 32, 33 & 34 inclusive

NOTES: Visqueen Gas Barrier Installation-Lap Joints

The Visqueen Gas Barrier had been installed (infill) to the previously installed Visqueen Ultimate Damp Proof Course. The Visqueen Foil Lap Tape was carefully peeled back exposing the Visqueen Double Sided Butyl Tape sealing the formed lap joint. The left



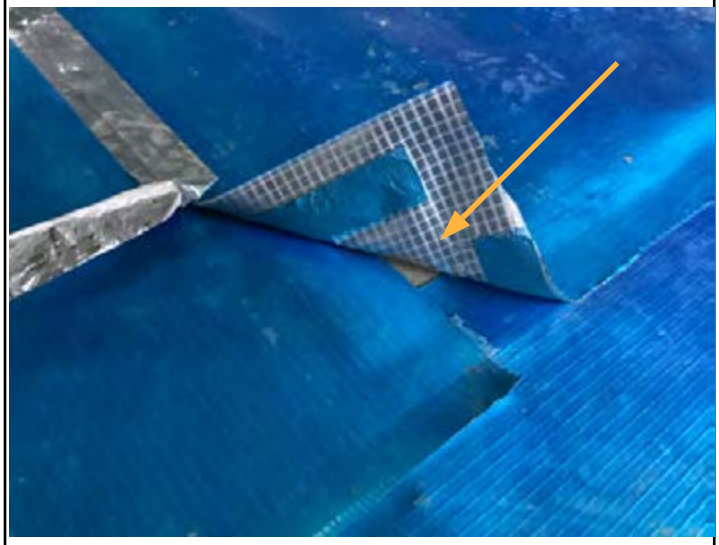
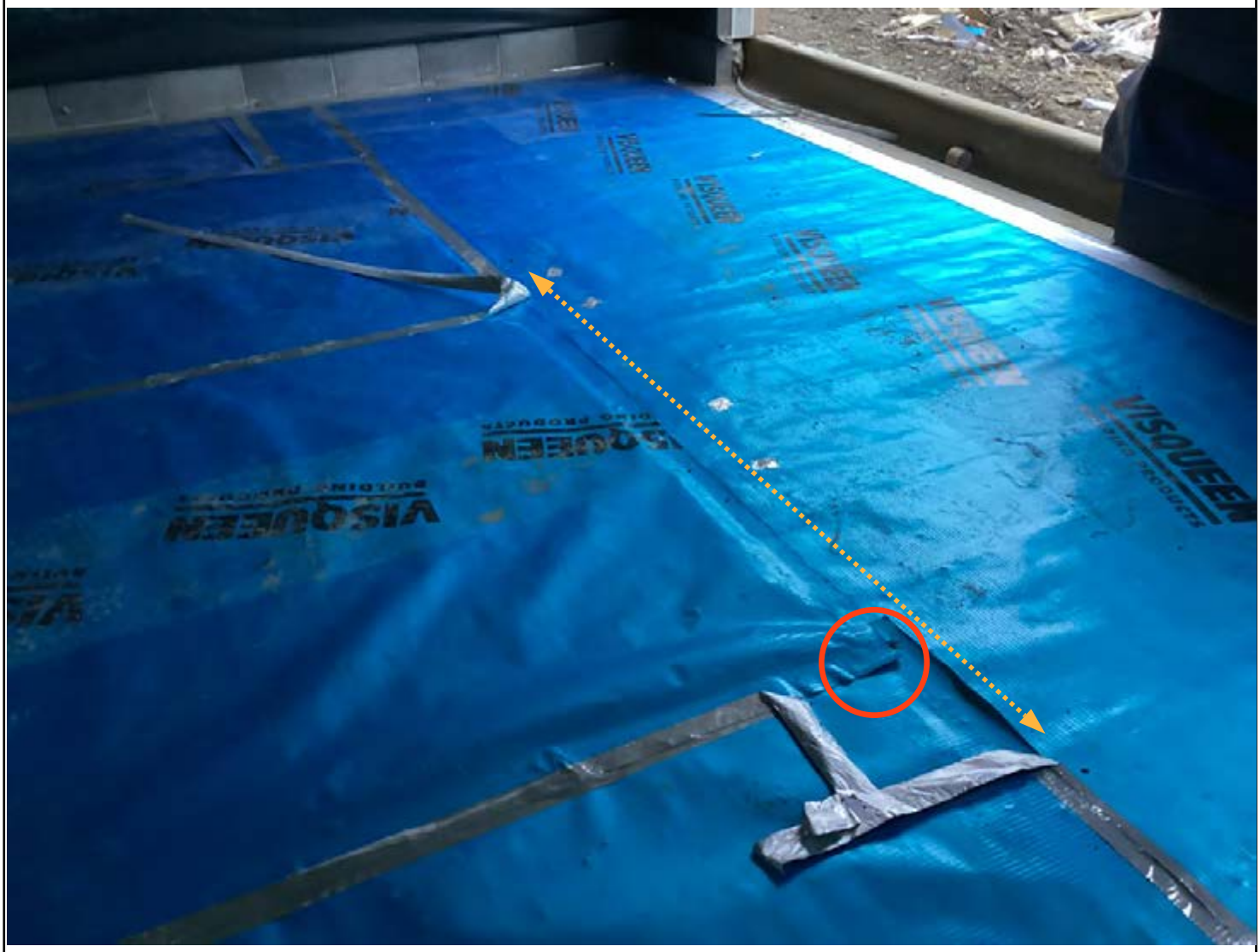


image shows on this occasion, a gap within the seal. The right image shows the extent of the issue where the Visqueen Double Sided Butyl Tape has not been lapped correctly.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



The overview image shows the extent of the sampled Visqueen Lap Joint (yellow arrow)

The Mechanical Point Stress Test was undertaken along the exposed lap joint but on

this occasion, the joint at the corner (red circle) was incomplete. The lap joint was then

remediated using additional Visqueen Double Sided Butyl Tape-see additional photos.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 32, 33 & 34 inclusive and Plots 35 & 36 Garage Only

NOTES: Visqueen Gas Barrier/Ultimate DPC - Damage Inspection

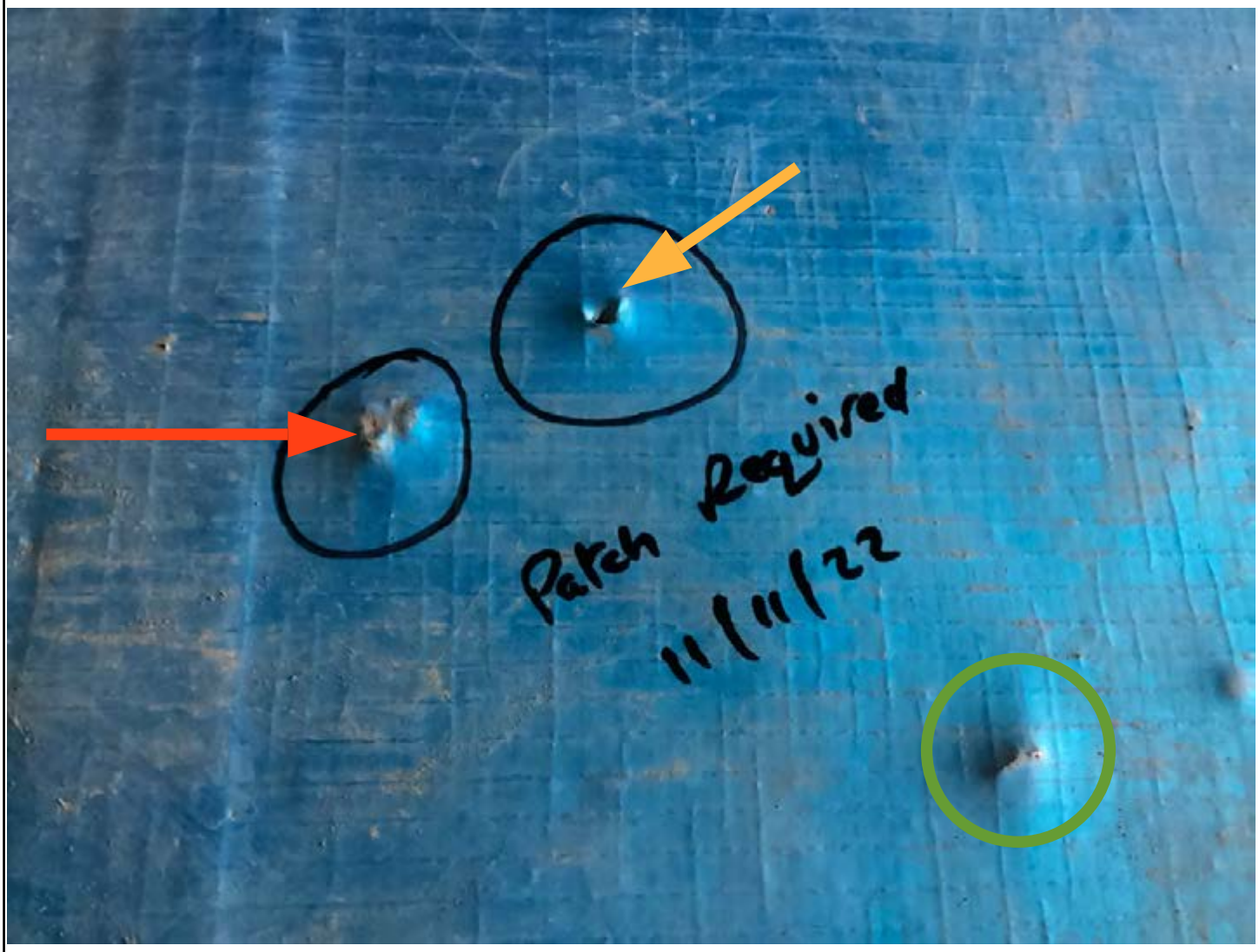
The Visqueen Gas Barrier was installed (infill) to the previously installed Visqueen Ultimate DPC. A visual inspection identified damage which was likely caused by follow on trades. The image on the left shows initially that the Visqueen Ultimate DPC

is effective in that it fully crossed to the garage perimeter edge. It was noted however that there was s small number of punctures (red circle) and required remediation.

The image on the right shows the Visqueen Ultimate DPC crossing a door threshold and again, there were a couple of damaged areas requiring remediation. The required remediations were completed during the verification and recorded in 'additional photos'.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO



The image shows three areas identified during the inspection. The red arrow identifies a potential puncture due to some debris beneath the Visqueen Gas Barrier

The area identified with a green circle proved to be some ‘soft debris’ which flattened under pressure but the yellow arrow identified a puncture requiring remediation..

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 32, 33 & 34 inclusive.

NOTES: Pipe Penetration Installation

The various pipe penetrations had all been sealed using strips of the Visqueen Pro Detailing Tape ensuring a seal with both the pipe and the Visqueen Gas Barrier.

The image on the right shows the Mechanical Point Stress Test being undertaken along the edges checking there was full adhesion but also there were no potential capillary leaks. The image on the right shows the Mechanical Point Stress Test being undertaken along the edges to the Visqueen Gas Barrier. The adhesion of the Visqueen Pro-Detailing Tape was aided be the application of additional heat.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

the overview image shows a typically installed pipe penetration this report.

The Visqueen Pro-Detailing Tapes had been cut and secured by combining

both heat and sufficient pressure resulting in a fully sealed pipe penetration.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

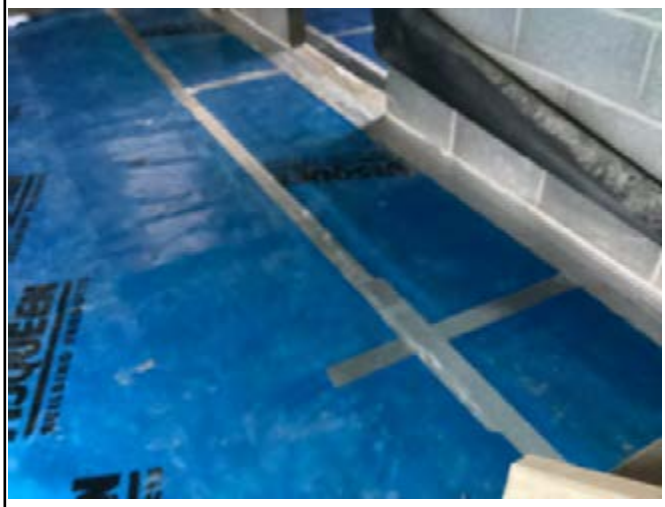
GEOSHIELD Verification Report

REMEDIATION LOG

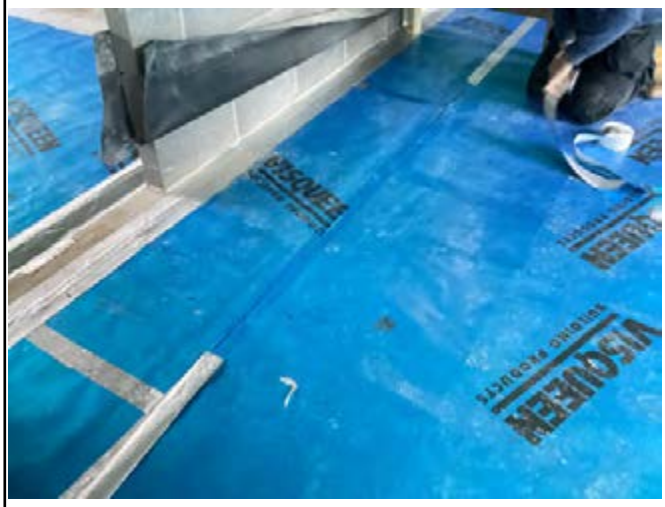
Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✔
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✔
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✔

GEOSHIELD Verification Report

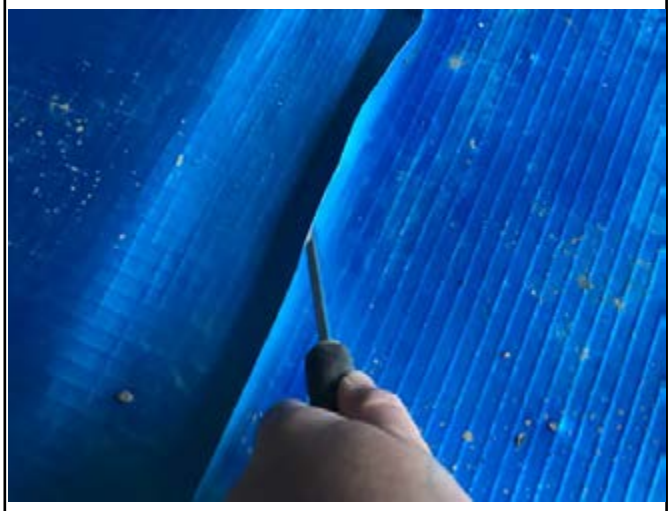
ADDITIONAL PHOTOGRAPHS



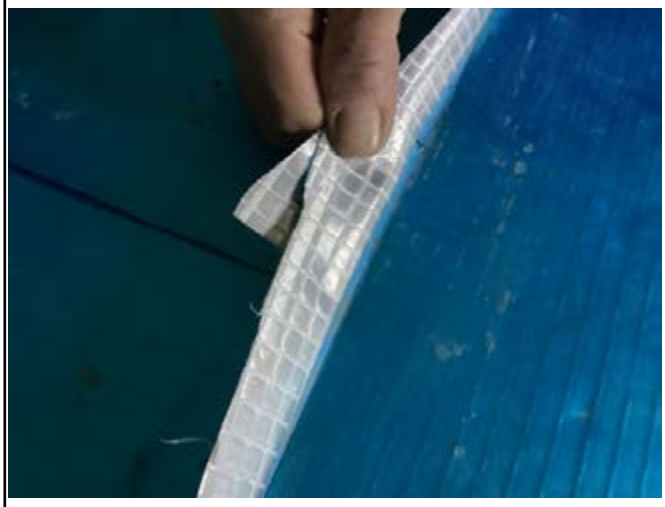
Plot 33 - view of a sampled lap joint prior to checking the lap joint seal.



View of Foil Tape following it's careful removal prior to testing seal



Mechanical Point Stress Test being undertaken along the butyl tape seal

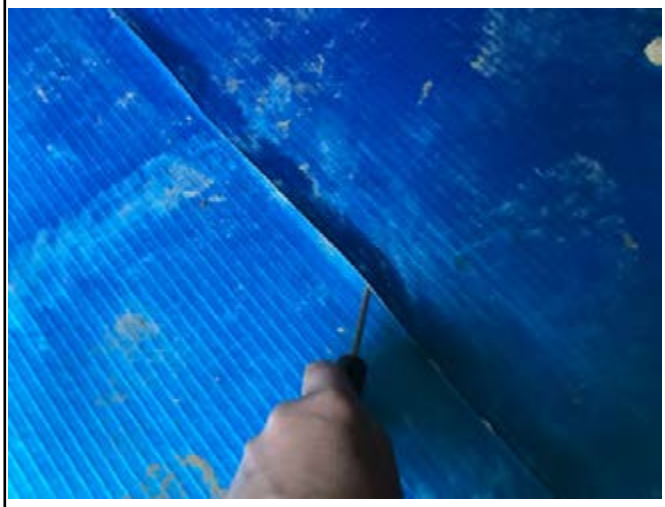


View of the butyl tape identified within the sampled lap joint - Plot 33

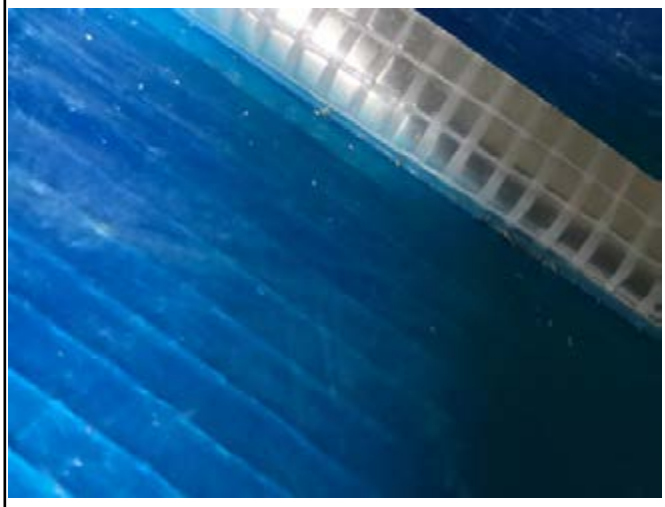
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of Foil Tape following it's careful removal prior to testing seal - Plot 32



Mechanical Point Stress Test being undertaken along the butyl tape seal



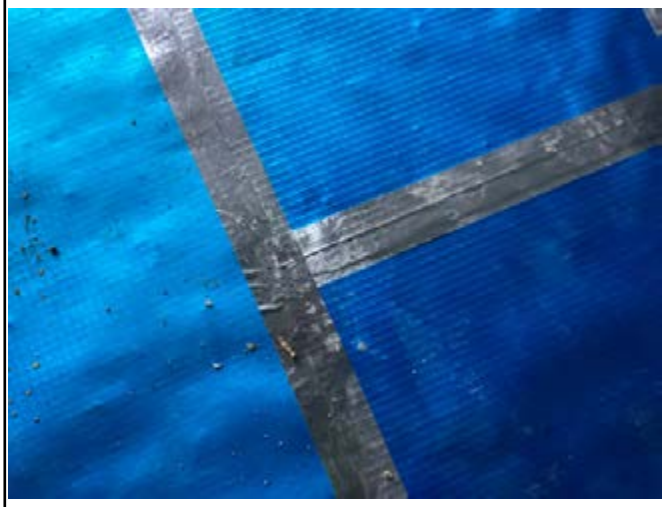
View of the butyl tape identified within the sampled lap joint - Plot 32

View of the corner butyl tape identified within the sampled lap joint - Plot 32

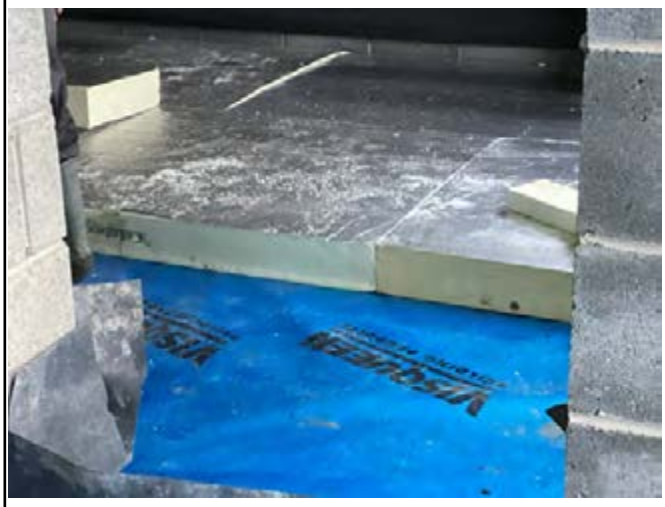
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Mechanical Point Stress Test being undertaken along Ultimate DPC lap



View of a typical Visqueen Gas Barrier lap joint completed with Foil Tape

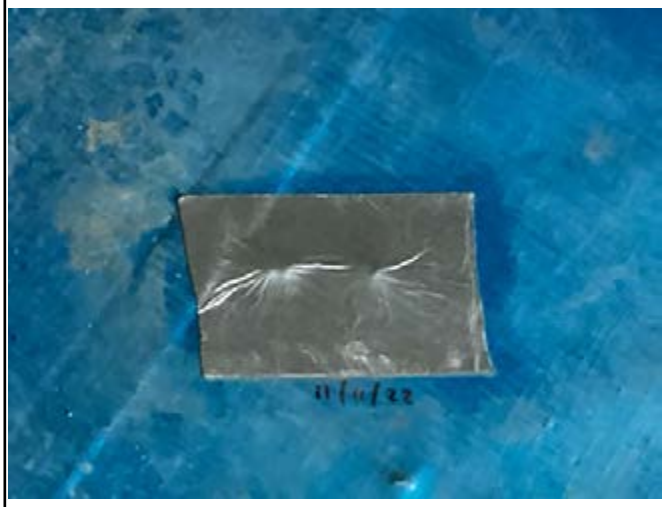


View showing the insulation being placed within one of the rooms.

Remediation completed to the Visqueen Gas Barrier using GRSAM

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS



Remediation completed to the

Visqueen Gas Barrier using GRSAM

Remediation completed to the

Visqueen Gas Barrier using GRSAM

View showing completed Visqueen

Gas Barrier within Plot 35

View showing completed Visqueen

Gas Barrier within Plot 36

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✔
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the eighteenth verification visit where I was accompanied by Adrian

Needle of Signature Homes.

Verification was completed as follows:-

>. Mechanical Point Stress Test to physically sampled Visqueen Lap Joints within

Plots 32, 33 & 34 - only one issue identified and remediated.

>. Visual inspection of infill installation to plots 32, 33 & 34 - eight punctures

identified and remediated.

>. Mechanical Point Stress Test to sampled Visqueen pipe penetration detailing

and no issues were identified.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	11/11/2022

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 017

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 35, 36, 37, 38, 39, 40 & 41

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 25c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 14:00 to 16:00 REPORT NUMBER: 017

DATE: 21/09/2022

ACCOMPANIED Adrian Needle

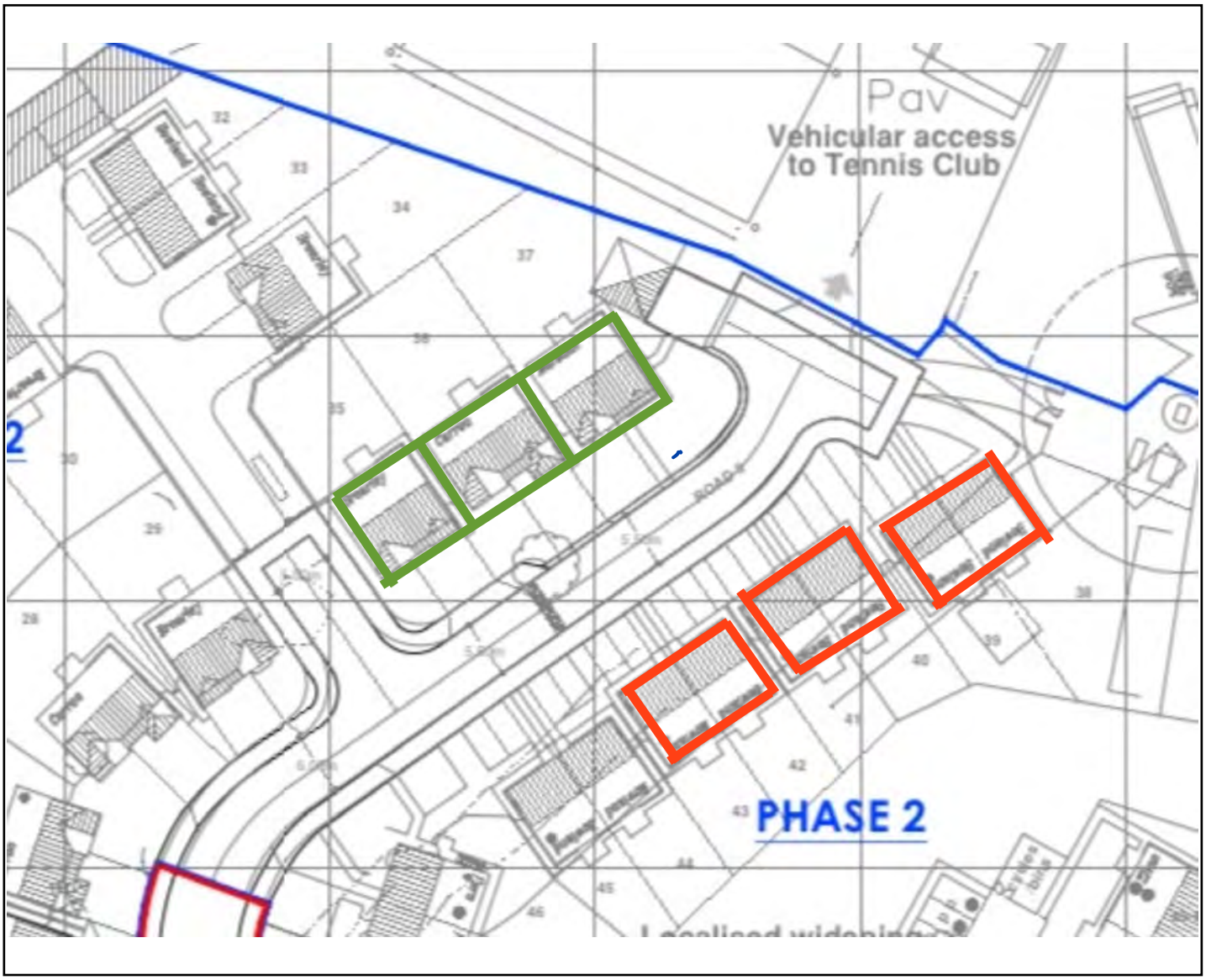
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of verified plots highlighted in blue

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots highlighted as follows:-

Outlined in green - verification of infill

Outlined in red - verification of perimeter/internal walls

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - infill

Plot 35

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - infill

Plot 36

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - infill

Plot 37

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 38

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 39

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 40

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 41

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 38, 39, 40 & 41 inclusive

NOTES: Perimeter/Internal Wall Installation

Photo 1 showing a typical internal corner formed using Visqueen Gas Resistant Self Adhesive Membrane. The installation proved to be fully bonded to the Visqueen Ultimate Damp Proof Course (blue arrow) following the Mechanical Point Stress Test (red arrow).

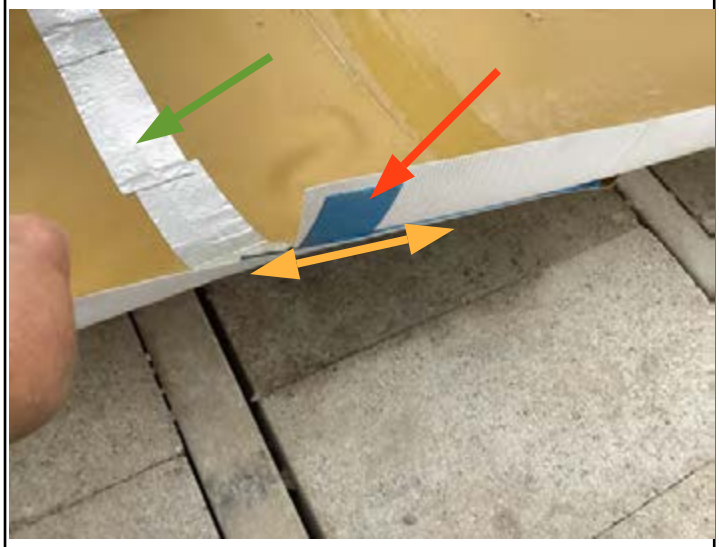


Photo 2 showing a typical minimum 150mm lap joint (yellow arrow), sealed with Visqueen Double Sided Butyl Tape (red arrow) and lap completed using GRSAM (green arrow).

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Overview showing the extent of the typical installation of the Visqueen Ultimate Damp Proof Course to both the perimeter (red arrow) and internal wall positions (blue arrow).

A thorough inspection confirmed the whole installation was completed correctly and no faults were identified during the verification visit.

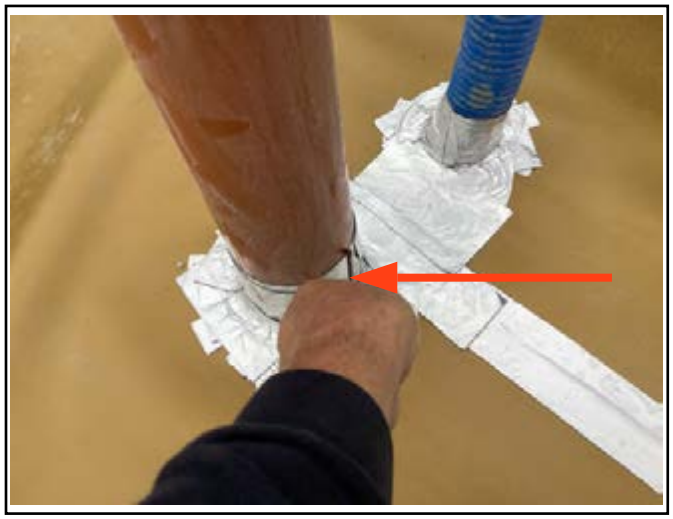
GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 38, 39, 40 & 41 inclusive

NOTES: Pipe Penetration Installation

The pipe penetrations were typically sealed using Visqueen Gas Resistant Self Adhesive Membrane to the Visqueen Ultimate Damp Proof Course.



Photos showing that the edges of the Visqueen Gas Resistant Self Adhesive Membrane being checked for potential capillary leaks using the Mechanical Point Stress Test (red arrows).

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview of the typical pipe penetration installation where all pipes were fully

sealed to the Visqueen Ultimate Damp Proof Course using Visqueen Gas

Resistant Self Adhesive Membrane.

No faults were identified during the verification visit.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 35, 36, 37 inclusive.

NOTES: Visqueen Gas Barrier Installation- infill

The Visqueen Gas Barrier had been installed (infill) to the previously installed Visqueen Ultimate Damp Proof Course. The lap joints had been sealed combining Visqueen Double Sided Butyl Tape and Visqueen Foil Tape.

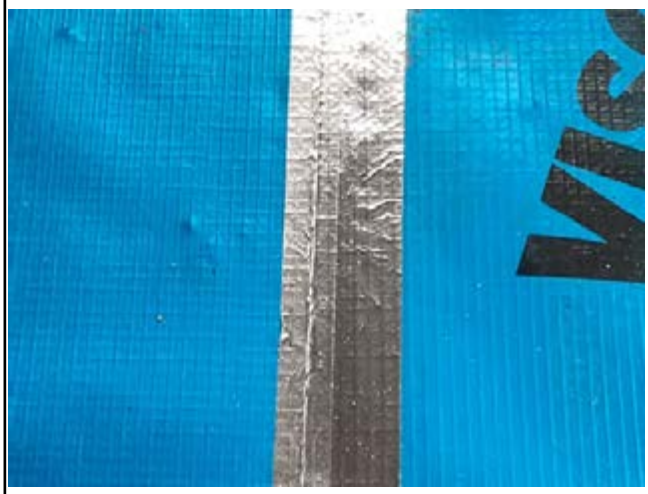
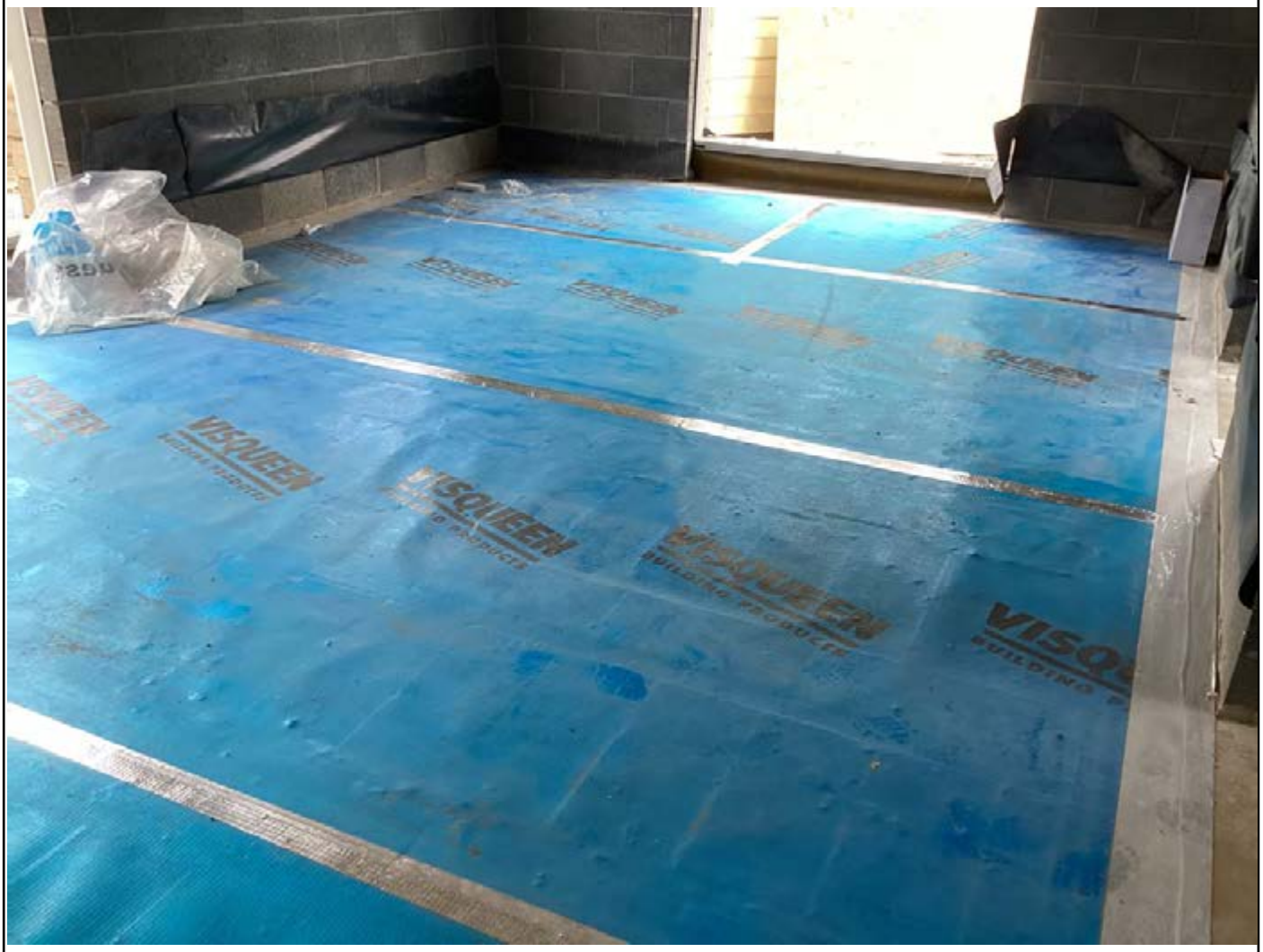


Photo 1 showing the typically completed lap joint where the Visqueen Foil Tape is on view. Photo 2 showing a sampled lap joint where checks could be made to ensure the Visqueen Double Sided Butyl Tape had been installed forming the seal (see yellow arrow) Verification confirmed all sampled lap joints were fully sealed.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE



Overview showing the typical infill installation of the Visqueen Gas Barrier

to the various rooms within the plots.

In addition, a visual inspection of the Visqueen Gas Barrier was undertaken

checking for any damage. Only one fault was identified during the verification visit.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
		One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View along the Visqueen Ultimate

DPC crossing the external cavity wall.

View showing the Visqueen Ultimate

DPC to internal wall position

View showing Visqueen Ultimate DPC

lapped and sealed to perimeter

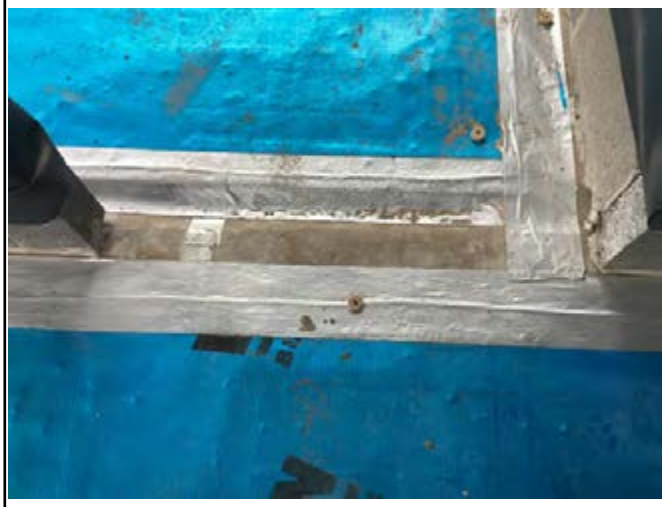
View showing the perimeter lap joint

with Visqueen Gas Barrier infill.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the DPC which was used to protect the Ultimate DPC



Typical threshold showing complete seals between DPC and Gas Barrier

Puncture identified within plot 37 requiring remediation

Remediated puncture within plot 37 using GRSAM patch.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View showing incomplete Gas Barrier seal due to scaffolding

Mechanical Point Stress Test to perimeter GRSAM

Incomplete Visqueen Gas Barrier within plot 35 garage

Incomplete Visqueen Gas Barrier within plot 35 garage

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the seventeenth verification visit where I was accompanied by Adrian

Needle of Signature Homes.

Verification was completed as follows:-

>. Mechanical Point Stress Test to all internal corner and pipe penetration detailing

to the perimeters within plots 38, 39, 40 & 41 - no faults identified.

>. Three sampled lap joints within plots 35, 36 & 37 - no faults identified.

>. Visual inspection of infill installation to plots 35, 36 & 37 - one puncture identified

All in all, the gas membrane installation was very well installed having only

identified one fault throughout the verification process.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	21/09/2022

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 017

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 35, 36, 37, 38, 39, 40 & 41

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 25c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 14:00 to 16:00 REPORT NUMBER: 017

DATE: 21/09/2022

ACCOMPANIED Adrian Needle

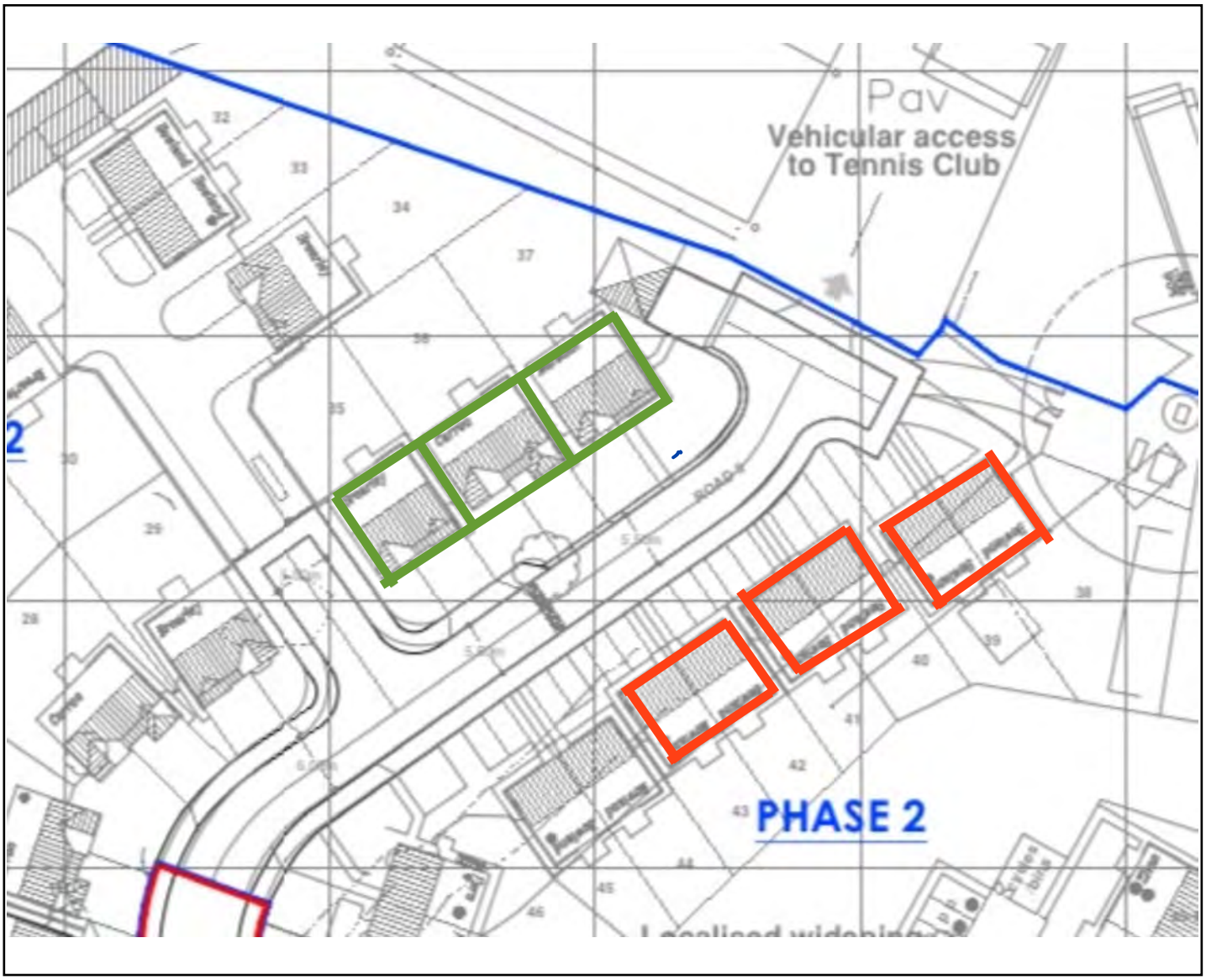
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of verified plots highlighted in blue

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots highlighted as follows:-

Outlined in green - verification of infill

Outlined in red - verification of perimeter/internal walls

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - infill

Plot 35

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - infill

Plot 36

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - infill

Plot 37

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 38

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 39

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 40

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - perimeter/internal walls

Plot 41

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 38, 39, 40 & 41 inclusive

NOTES: Perimeter/Internal Wall Installation

Photo 1 showing a typical internal corner formed using Visqueen Gas Resistant Self Adhesive Membrane. The installation proved to be fully bonded to the Visqueen Ultimate Damp Proof Course (blue arrow) following the Mechanical Point Stress Test (red arrow).

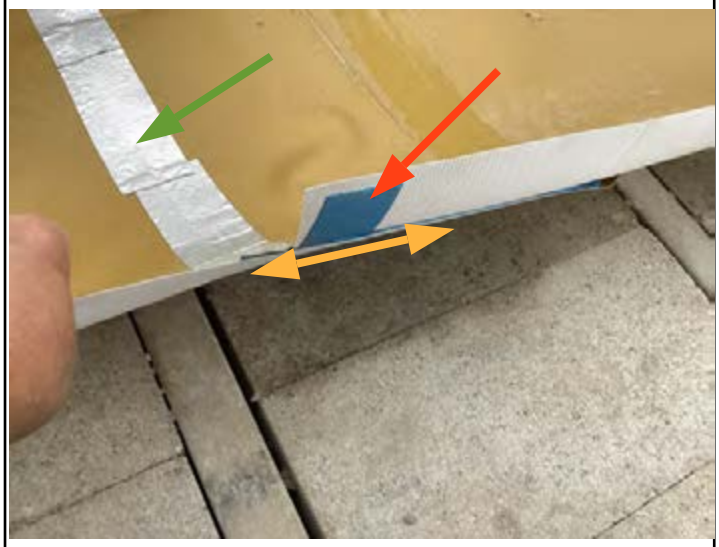


Photo 2 showing a typical minimum 150mm lap joint (yellow arrow), sealed with Visqueen Double Sided Butyl Tape (red arrow) and lap completed using GRSAM (green arrow).

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Overview showing the extent of the typical installation of the Visqueen Ultimate Damp Proof Course to both the perimeter (red arrow) and internal wall positions (blue arrow).

A thorough inspection confirmed the whole installation was completed correctly and no faults were identified during the verification visit.

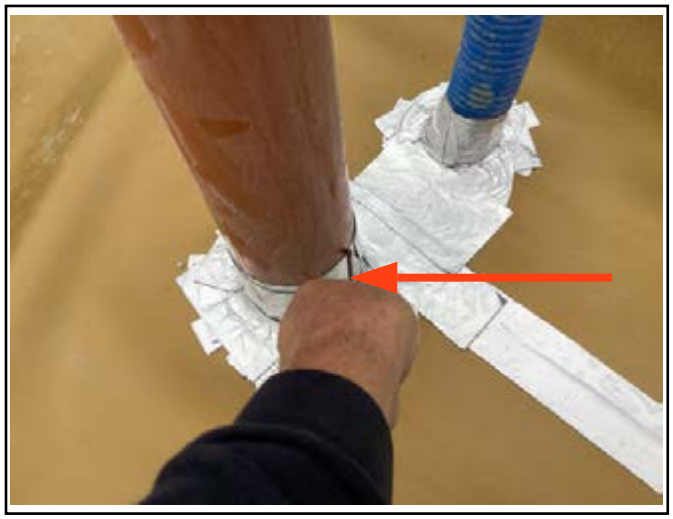
GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 38, 39, 40 & 41 inclusive

NOTES: Pipe Penetration Installation

The pipe penetrations were typically sealed using Visqueen Gas Resistant Self Adhesive Membrane to the Visqueen Ultimate Damp Proof Course.



Photos showing that the edges of the Visqueen Gas Resistant Self Adhesive Membrane being checked for potential capillary leaks using the Mechanical Point Stress Test (red arrows).

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview of the typical pipe penetration installation where all pipes were fully

sealed to the Visqueen Ultimate Damp Proof Course using Visqueen Gas

Resistant Self Adhesive Membrane.

No faults were identified during the verification visit.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 35, 36, 37 inclusive.

NOTES: Visqueen Gas Barrier Installation- infill

The Visqueen Gas Barrier had been installed (infill) to the previously installed Visqueen Ultimate Damp Proof Course. The lap joints had been sealed combining Visqueen Double Sided Butyl Tape and Visqueen Foil Tape.

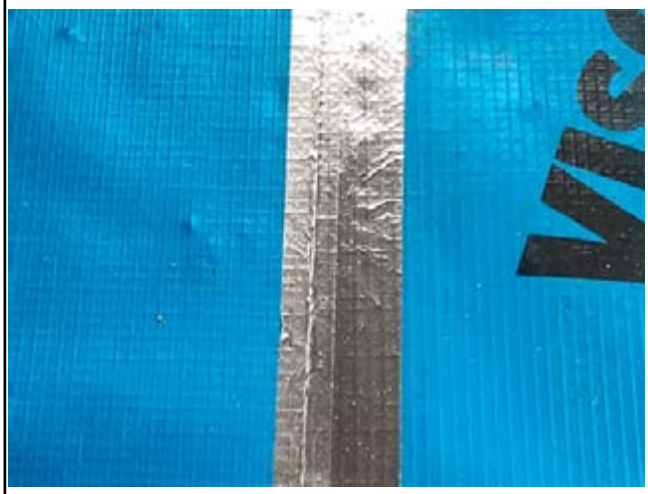
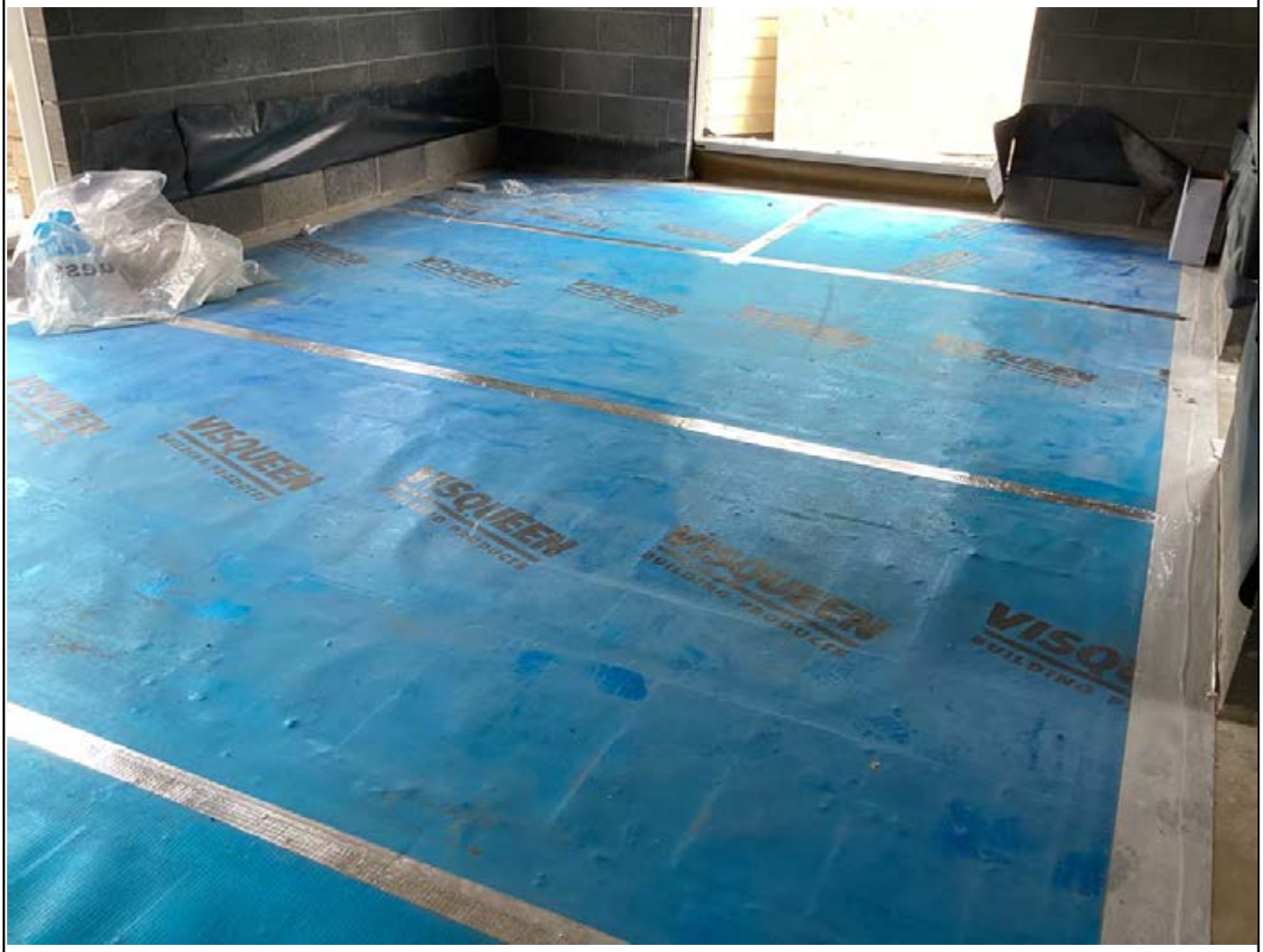


Photo 1 showing the typically completed lap joint where the Visqueen Foil Tape is on view. Photo 2 showing a sampled lap joint where checks could be made to ensure the Visqueen Double Sided Butyl Tape had been installed forming the seal (see yellow arrow) Verification confirmed all sampled lap joints were fully sealed.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE



Overview showing the typical infill installation of the Visqueen Gas Barrier

to the various rooms within the plots.

In addition, a visual inspection of the Visqueen Gas Barrier was undertaken

checking for any damage. Only one fault was identified during the verification visit.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
		One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View along the Visqueen Ultimate

DPC crossing the external cavity wall.

View showing the Visqueen Ultimate

DPC to internal wall position

View showing Visqueen Ultimate DPC

lapped and sealed to perimeter

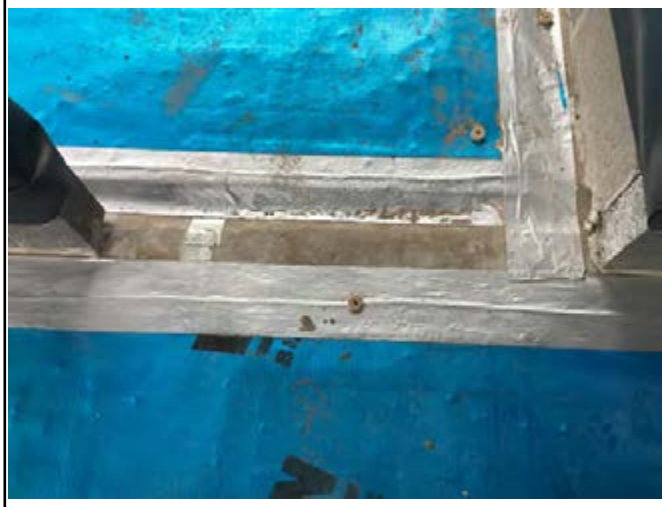
View showing the perimeter lap joint

with Visqueen Gas Barrier infill.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the DPC which was used to protect the Ultimate DPC



Typical threshold showing complete seals between DPC and Gas Barrier

Puncture identified within plot 37 requiring remediation

Remediated puncture within plot 37 using GRSAM patch.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View showing incomplete Gas Barrier seal due to scaffolding

Mechanical Point Stress Test to perimeter GRSAM

Incomplete Visqueen Gas Barrier within plot 35 garage

Incomplete Visqueen Gas Barrier within plot 35 garage

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the seventeenth verification visit where I was accompanied by Adrian

Needle of Signature Homes.

Verification was completed as follows:-

>. Mechanical Point Stress Test to all internal corner and pipe penetration detailing

to the perimeters within plots 38, 39, 40 & 41 - no faults identified.

>. Three sampled lap joints within plots 35, 36 & 37 - no faults identified.

>. Visual inspection of infill installation to plots 35, 36 & 37 - one puncture identified

All in all, the gas membrane installation was very well installed having only

identified one fault throughout the verification process.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	21/09/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	024
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

AREA SURVEYED: Plots 42, 43, 44 & 45 inclusive (infill only)

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 13.5C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 12:30 to 14:30 REPORT NUMBER: 024

DATE: 18/09/2023

ACCOMPANIED Adrian Needle

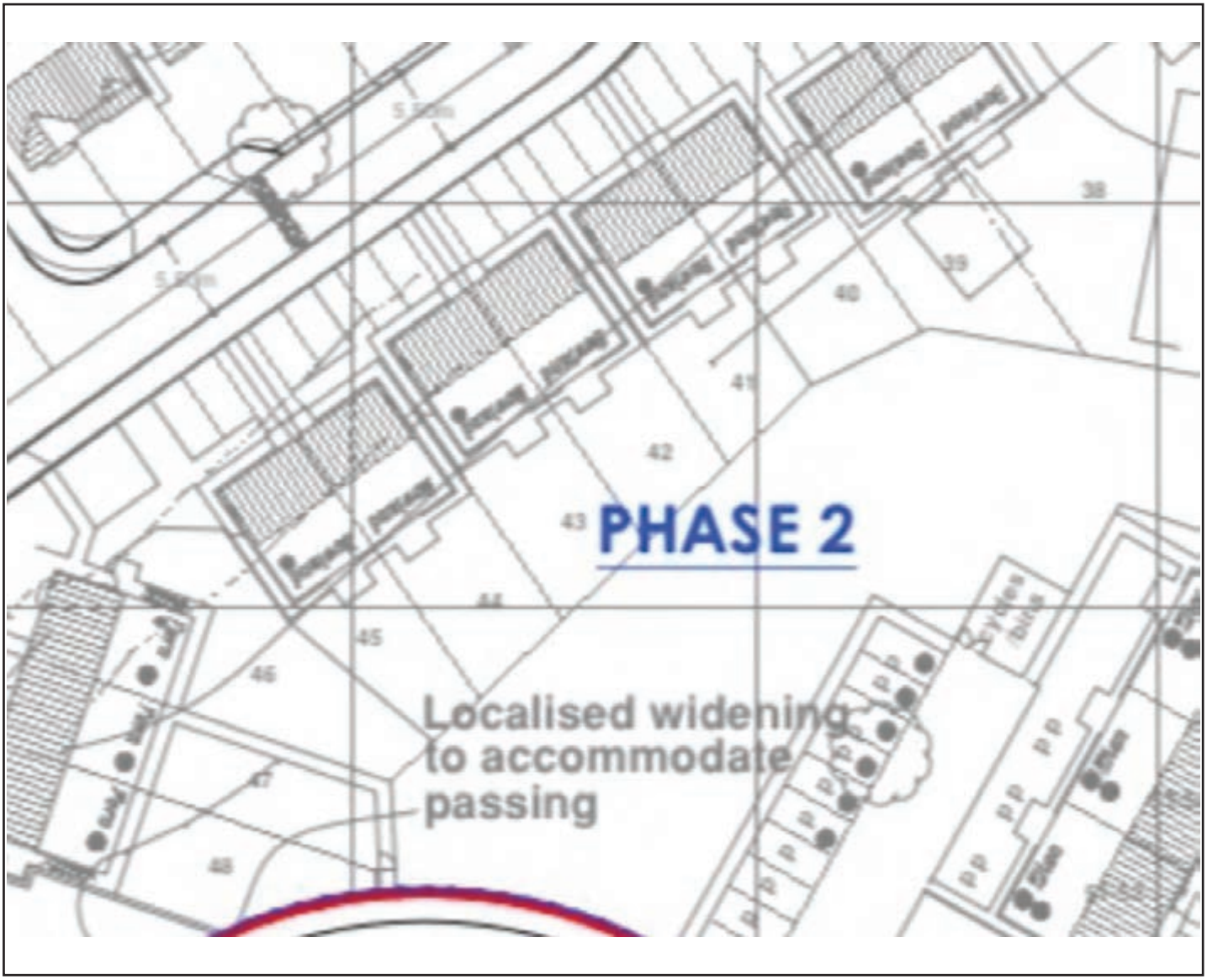
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots

Plots 42, 43, 44 & 45 (Infill) outlined in red.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 42

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 42

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 42

NB - the insulation was moved aside during the verification process.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 43

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 43

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 43

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 44

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 44

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 45

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 45

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 42, 43, 44 & 45 inclusive (infill only)

NOTES: Visqueen Gas Barrier Installation-Lap Joint

The installation of the Visqueen Gas Barrier had all been lapped and sealed using a dual taped system combining both the Visqueen Double Sided Butyl Tape and GR Foil Tape.

The left image shows where the Double Sided Butyl Tape had been exposed allowing the

Mechanical Point Stress Test to be undertaken which confirmed a full seal had been achieved. The right image shows the Double Sided Butyl Tape providing the lap joint seal.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

The overview image shows the area where the GR Foil Tape had been removed to allow access to the Double Sided Butyl Tape used to seal the lap joint. The Mechanical Point Stress Test was then undertaken to ensure the completed seal was providing a robust seal between the two sections of Visqueen Gas Barrier. No faults were identified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 42, 43, 44 & 45 inclusive (infill only)

NOTES: Pipe Penetration Detailing

The various pipe penetrations were all completely sealed using strips of Visqueen ProDetailing Tape. The initial inspection determined that the installation had fully bonded to both the pipe itself and the Visqueen Ultimate Damp Proof Course.

The images show the typical Mechanical Point Stress Test being undertaken checking that the Visqueen ProDetailing Tape had bonded correctly. In addition, the installation was visually checked where there was the occasional creasing to the Visqueen ProDetailing Tape but the creases did not pose any issues and therefore no potential capillary leaks were identified throughout the verification process.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

The overview image shows two typically installed pipe penetrations which had been sealed along the perimeter/party wall junction. The initial inspection noted that the proposed cavity blockwork would not affect the pipe penetration and the associated Visqueen ProDetailing Tape installation. No faults were identified throughout.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 42, 43, 44 & 45 inclusive (infill only)

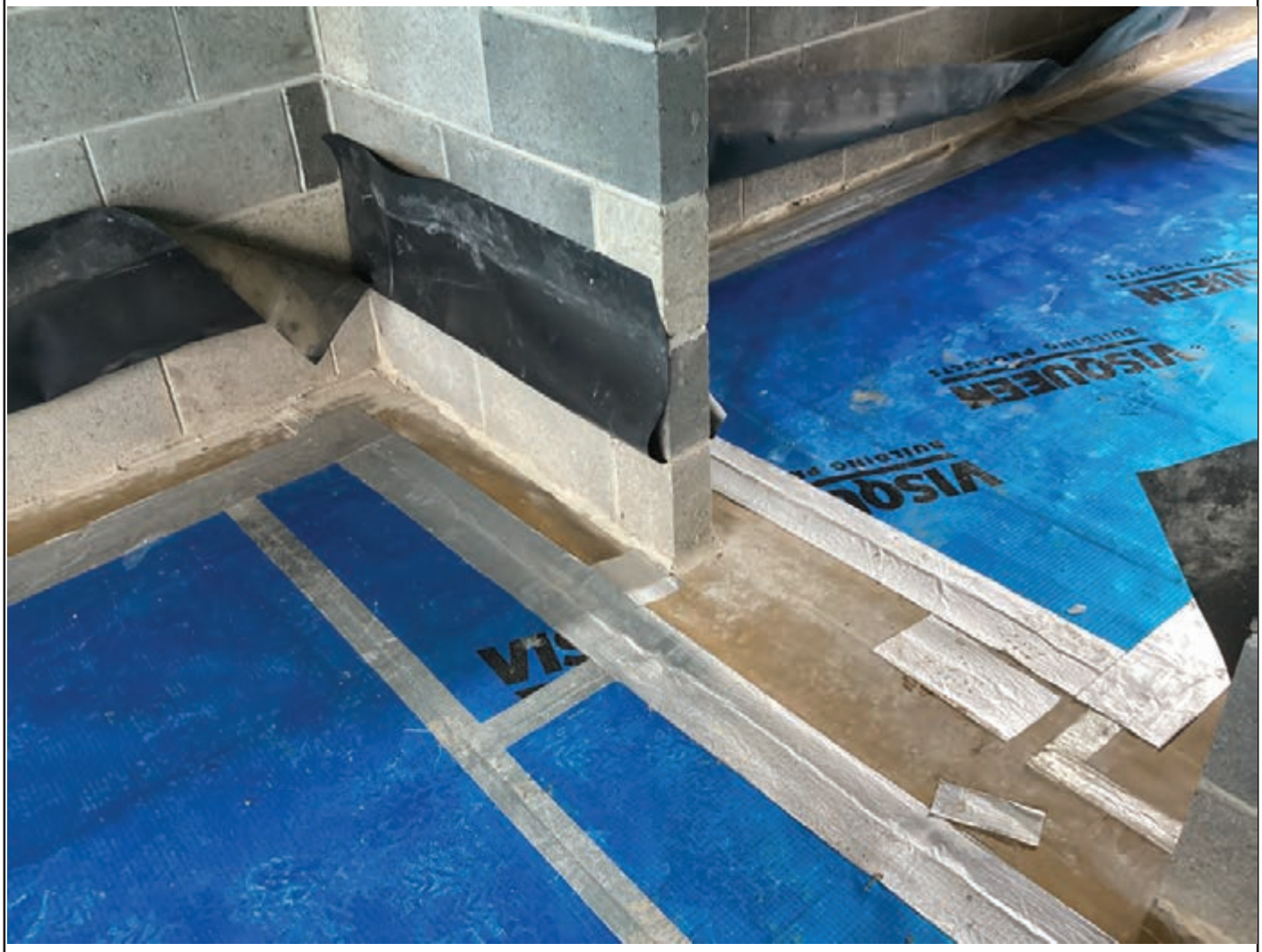
NOTES: Visqueen Gas Barrier/Ultimate DPC Installation

The perimeter and party walls of the four plots had been previously installed and verified. The infill stage involved lapping the Visqueen Gas Barrier with the Visqueen Ultimate Damp Proof Course using strips of Visqueen GR lap Tape. The initial

inspection noted that the Visqueen GR lap Tape looked to have been securely bonded whilst forming and sealing the laps. The images show the Mechanical Point Stress Test being undertaken along the edges of the Visqueen GR lap Tape so as to ensure a secure bond had been achieved and therefore no potential capillary leak risks.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE



The overview image shows the typically lapped and sealed lap joints following the installation of the Visqueen Gas Barrier. The Visqueen GR lap Tape does provide good adhesive properties generally but there were signs that both pressure and heat were used to help improve adhesion. No faults were identified.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✓
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✓
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✓
02/11/2020	004	Corners must be seen on future visit	✓
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✓
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✓
28/02/2021	007	No faults found	✓
24/03/2021	008	No faults found	✓
26/07/2021	009	No faults found	✓
19/01/2022	010	No faults found	✓
26/01/2022	011	No faults found	✓
15/02/2022	012	No faults found	✓

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✓
24/05/2022	014	No faults found	✓
22/06/2022	015	No faults found	✓
27/07/2022	016	No faults found during visit	✓
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✓
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✓
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✓
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✓
24/02/2023	019	There were no faults identified throughout the verification.	✓
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✓

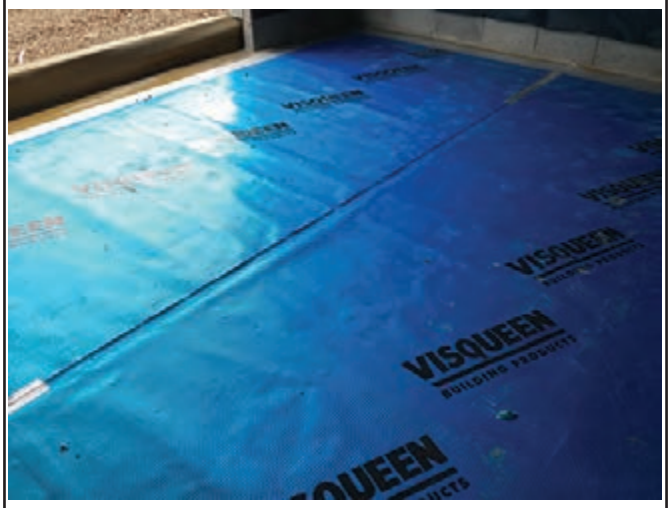
GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✓
01/06/2023	022	No faults were identified during the verification process.	✓
07/08/2023	023	No faults were identified during the verification process.	✓
18/09/2023	024	There were three punctures to the Visqueen Ultimate Damp Proof	
		Course all of which were remediated during the verification visit	✓

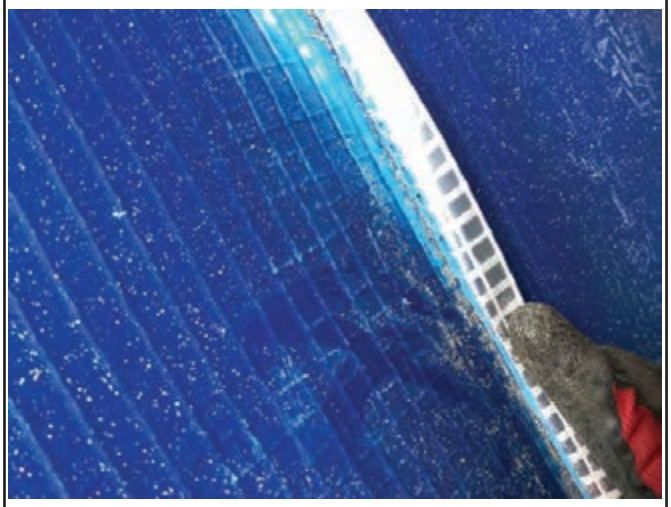
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

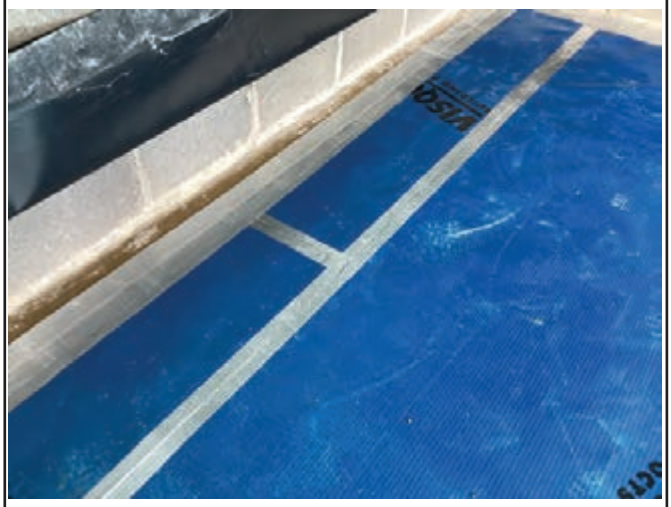


Plot 43 - view of sampled lap joint where seal was checked and verified

Plot 43 - Mechanical Point Stress Test to exposed lap joint during verification



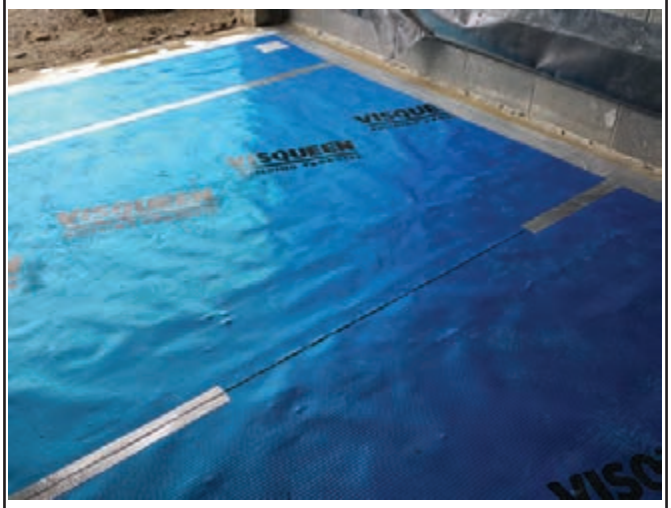
Plot 43 - view of Double Sided Butyl Tape within exposed lap joint seal



Plot 43 - view of a typically completed joint where lap tape in place

GEOSHIELD Verification Report

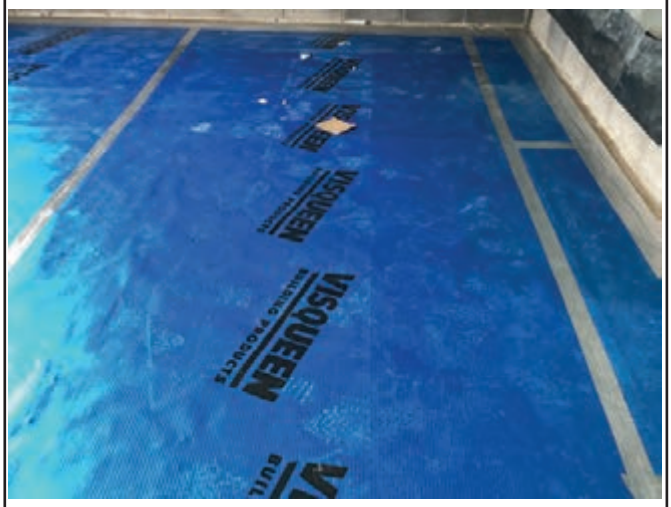
ADDITIONAL PHOTOGRAPHS



Plot 44 - view of sampled lap joint where seal was checked and verified

Plot 44 - Mechanical Point Stress Test to exposed lap joint during verification

Plot 44 - view of Double Sided Butyl Tape within exposed lap joint seal

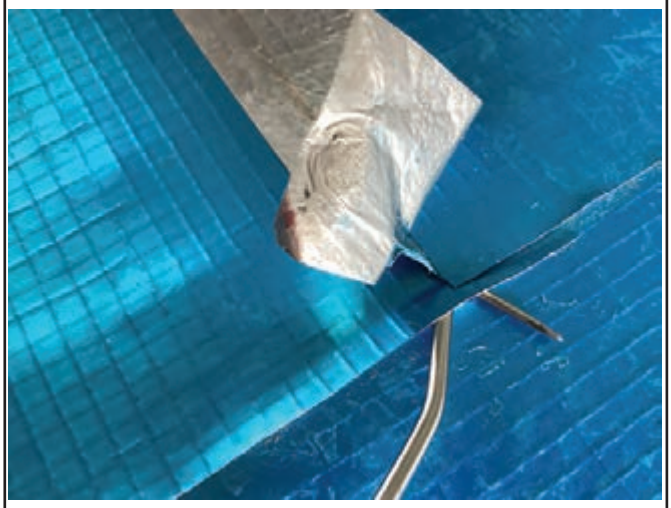


Plot 44 - view of a typically completed joint where lap tape in place

GEOSHIELD Verification Report

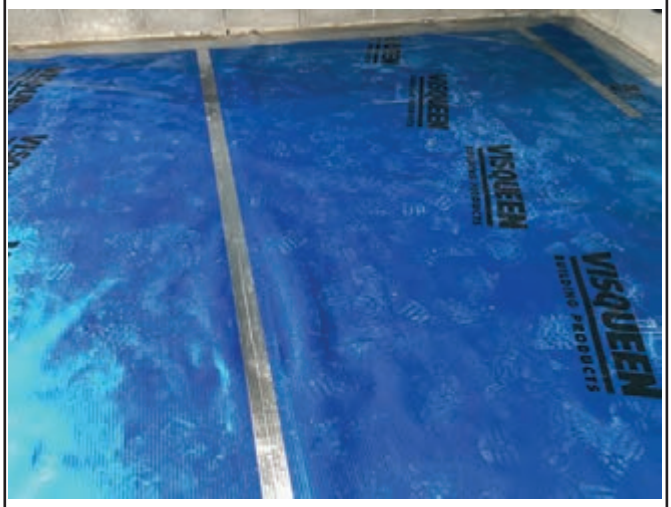
ADDITIONAL PHOTOGRAPHS

Plot 45 - view of sampled lap joint where seal was checked and verified



Plot 45 - Mechanical Point Stress Test to exposed lap joint during verification

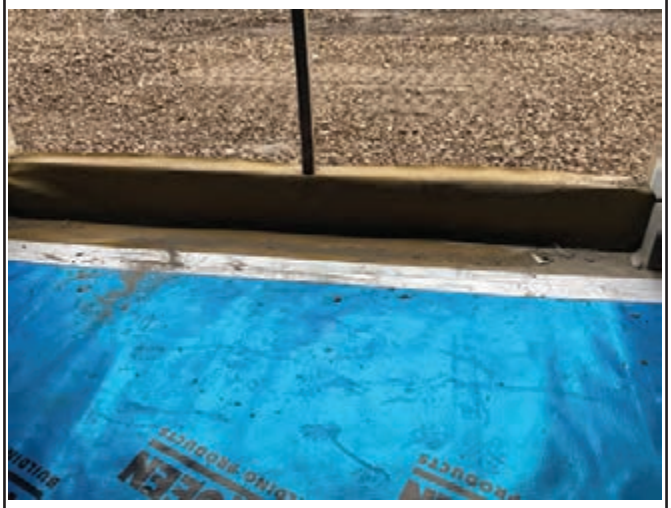
Plot 45 - view of Double Sided Butyl Tape within exposed lap joint seal



Plot 45 - view of a typically completed joint where lap tape in place

GEOSHIELD Verification Report

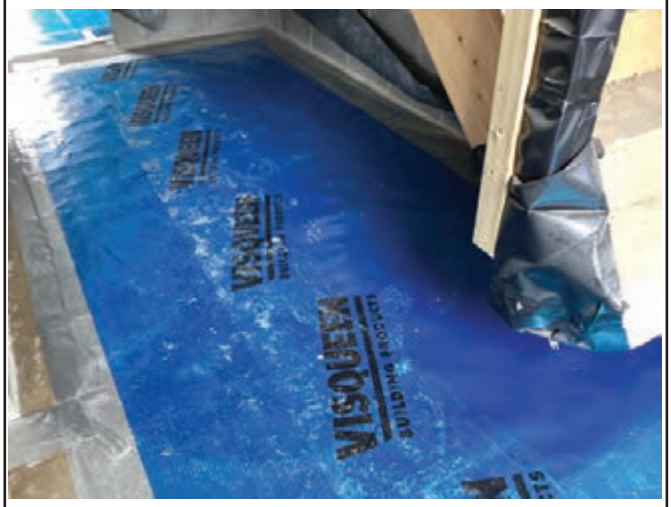
ADDITIONAL PHOTOGRAPHS



View of window threshold where seal continuous with DPC and Gas Barrier

View showing a strip of standard DPC which protected Ultimate DPC

View of door threshold where seal continuous with DPC and Gas Barrier



View of the typical Gas Barrier installation in stairwell area

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Plot 43 - small puncture to threshold

Remediated puncture to threshold

Ultimate DPC requiring remediation

Ultimate Damp Proof Course in Plot 43

Plot 45 - small puncture to ultimate

Remediated puncture to Ultimate

DPC along doorway/threshold

Damp Proof Course in Plot 45

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES		NO	✓

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 20-21	✓
Gridline/Plot Sign off	Plots 14-15 and 18-19	✓
Gridline/Plot Sign off	Plots 16-17	✓
Gridline/Plot Sign off	Plots 7-13	✓
Gridline/Plot Sign off	Plot 25 Perimeters	✓
Gridline/Plot Sign off	Plots 23-24 Perimeters	✓
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✓
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✓

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES	✓	NO	

Testing checklist attached: YES ☐ NO ✓

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✓
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✓
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✓
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✓
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✓
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49 & 50 infill	✓
Gridline/Plot Sign off	Plot 48 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 42, 43, 44 & 45 infills	✓
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-fourth visit to site where Plots 42, 43, 44 & 45 had been

infilled completing the installation of the Gas Membrane requirements.

The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to four sampled (exposed) Gas Barrier lap joints.

>. Visual inspection of the whole installation where three punctures were identified

through the Visqueen Ultimate Damp Proof Course. These were remediated

during the verification visit and recorded within the remediation log this report

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	18/09/2023

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 022

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 46 & 47 inclusive (Perimeters & Internal Walls only)

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 9.0C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 06:45 to 07:30 REPORT NUMBER: 022

DATE: 01/06/2023

ACCOMPANIED Adrian Needle

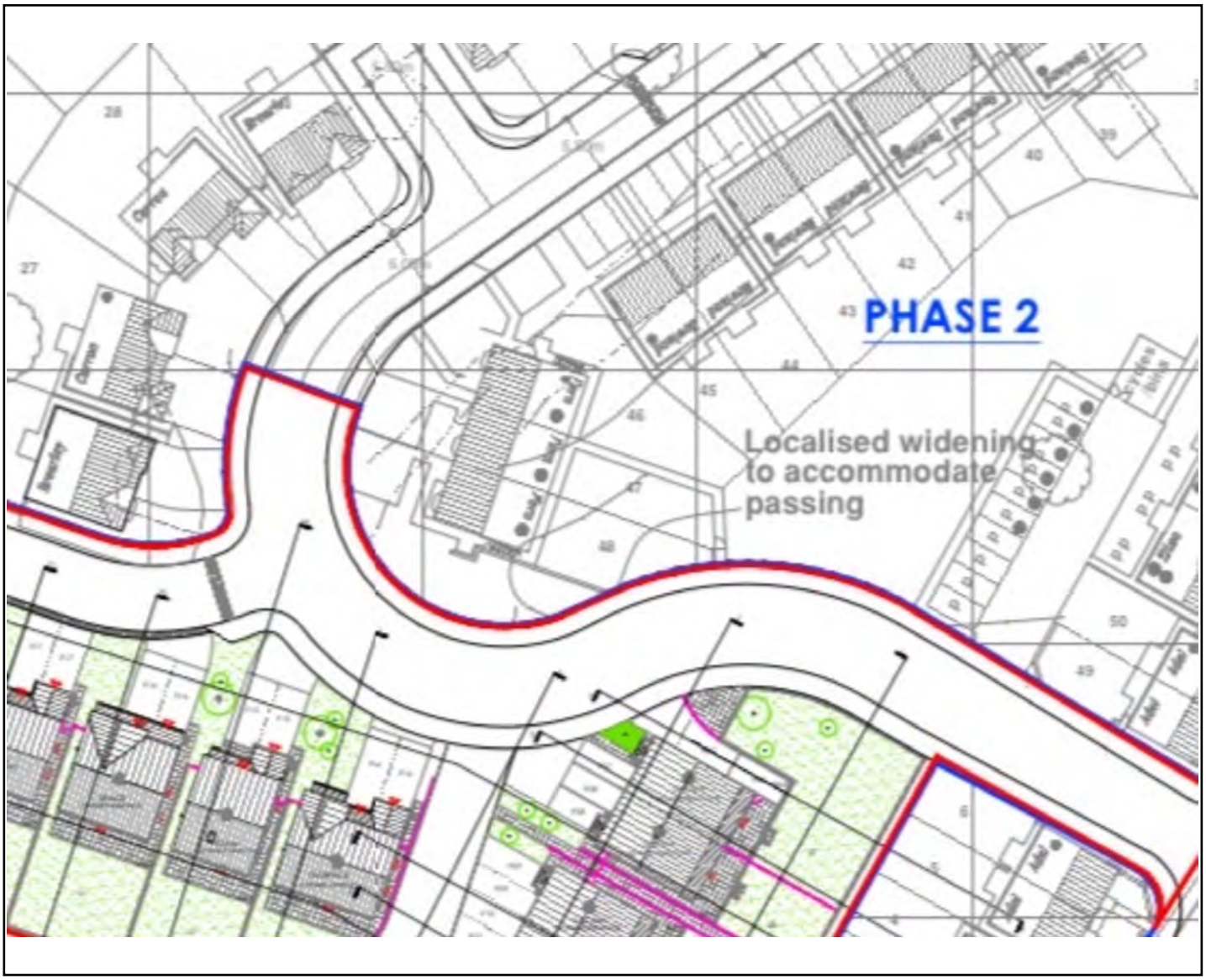
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots (infill only)

Plots 46 & 47 outlined in red

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and internal walls completed.

Plot 46

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and internal walls completed.

Plot 47

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 46 & 47 inclusive (Perimeters & Internal Walls).

NOTES: Visqueen Ultimate Damp Proof Course Installation-Lap Joint

The perimeters, party walls and any internal walls had a strip of Visqueen Ultimate Damp Proof Course installed and sealed with a minimum 150mm lap joint. The various lap joints were dual sealed using both the Visqueen Double Sided Butyl Tape and a strip of

Visqueen ProDetailing Tape. The left image shows the Mechanical Point Stress Test being undertaken and the right image shows the minimum lap plus Butyl Tape seals.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

The image shows a typical Visqueen Ultimate Damp Proof Course which has been used beneath the proposed internal walls lapping with the perimeter installation. The various laps were completed combining both the Visqueen using the Visqueen Double Sided Butyl Tape and Visqueen ProDetailing Tape. No faults were identified throughout.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 46 & 47 inclusive (Perimeters & Internal Walls).

NOTES: Internal/External Corner Detailing

The various internal/external corners were all completely sealed using strips of Visqueen ProDetailing Tape. The initial inspection determined that the installation had fully bonded to the Visqueen Ultimate Damp Proof Course.

The images show the typical Mechanical Point Stress Test being undertaken checking that the Visqueen ProDetailing Tape had bonded correctly. In addition, the installation was visually checked where there was the occasional creasing to the Visqueen ProDetailing Tape but the creases did not pose any issues and therefore no potential capillary leaks were identified throughout the verification process.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

The overview image shows two typically installed corners which had been sealed along the perimeter corners. The initial inspection noted that each of the completed corner installations were fully bonded to the Visqueen Gas Resistant Damp Proof Course and this was aid

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 46 & 47 inclusive (Perimeters & Internal Walls).

NOTES: Visqueen Ultimate Damp Proof Course-Perimeter Install

A strip of Visqueen Ultimate Damp Proof Course had been installed/profiled to lap the perimeter of the Plots and profiled along the block & beam and up and over the perimeter terminating above the air brick level. The left image shows how the

Visqueen Ultimate Damp Proof Course has been typically installed around the plot perimeters. The whole of the installation was also visually checked where no damage and/or punctures was identified. In addition, the ventilation leading from the subfloor void was identified and the right image shows a typical air brick.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

The overview image shows a typically installed strip of Visqueen Ultimate Damp Proof Course which terminates upon the course of stonework and above the various air bricks leading from the subfloor void.

No faults were identified throughout the verification process.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✔
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✔
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✔
24/02/2023	019	There were no faults identified throughout the verification.	✔
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✔
01/06/2023	022	No faults were identified during the verification process.	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the only pipe penetration which penetrated each plot this report.

Mechanical Point Stress Test being undertaken along the GRSAM seal

Mechanical Point Stress Test being undertaken along the GRSAM seal

View showing the Visqueen Ultimate DPC beneath typical internal walls

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View showing the Visqueen Ultimate DPC to perimeter/internal wall junction

View of typical internal corner sealed with Visqueen ProDetailing Tape

View of typical corners sealed with Visqueen ProDetailing Tape

Mechanical Point Stress Test being undertaken along lap joint.

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES		NO	✔

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✔
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✔
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-second visit to site where two plots have had a strip of

Visqueen Ultimate Damp Proof Course to plots 46 & 47.

The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to all corners.

>. Visual inspection of the whole installation where no punctures were identified

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE: 01/06/2023

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 025

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 46 & 47 inclusive (infill only)

Plots 3,4,5 & 6 inclusive (Perimeters and Party Walls only)

Plot 48 - refer also to limitations.

SITE CONDITIONS:

WEATHER: Windy & Raining

TEMPERATURE: 11.0c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 14:40 to 16:00 REPORT NUMBER: 025

DATE: 13/11/2023

ACCOMPANIED Adrian Needle

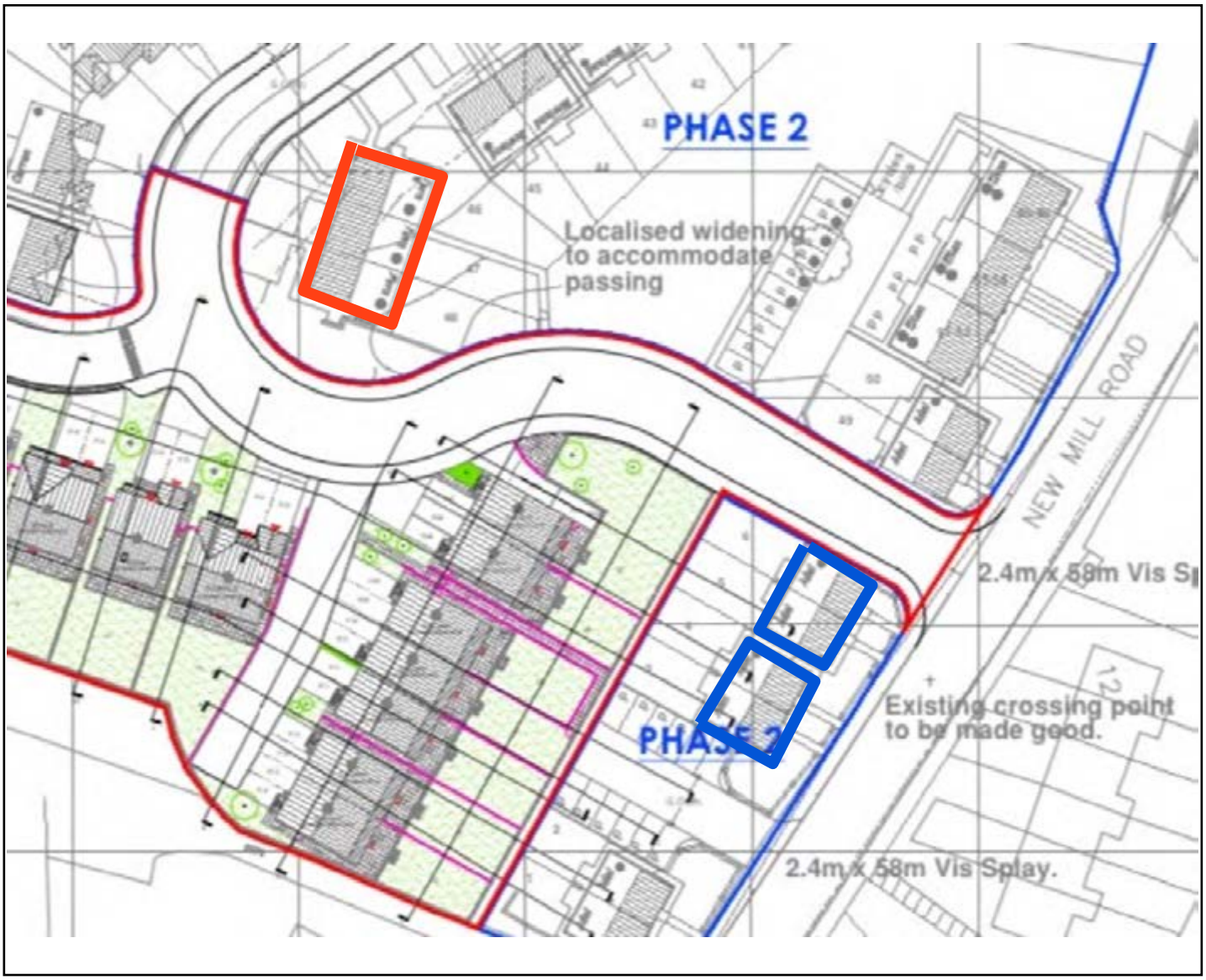
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots

Plots 46 & 47 (Infill) outlined in red.

Plots 3,4,5 & 6 (perimeters/party walls) outlined in blue.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 3

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 4

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 5

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 6

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 48

RESTRICTIONS AND LIMITATIONS: Integral Garage incomplete

During the verification visit, it was noted that the integral garage to Plot 48 had not yet been completed due to mainly some damage to the threshold installation. The images show the extent of the damage where the Visqueen Ultimate Damp Proof Course had been cut/damaged by follow on trades and therefore will require remediation.

The remainder of the Visqueen Ultimate Damp Proof Course to the three elevations within the integral garage looked to be in good condition. The initial protective damp proof course (black) had served its purpose of protecting the Visqueen Ultimate DPC and any surface debris was being cleared away in readiness for the infill stage.

GEOSHIELD Verification Report

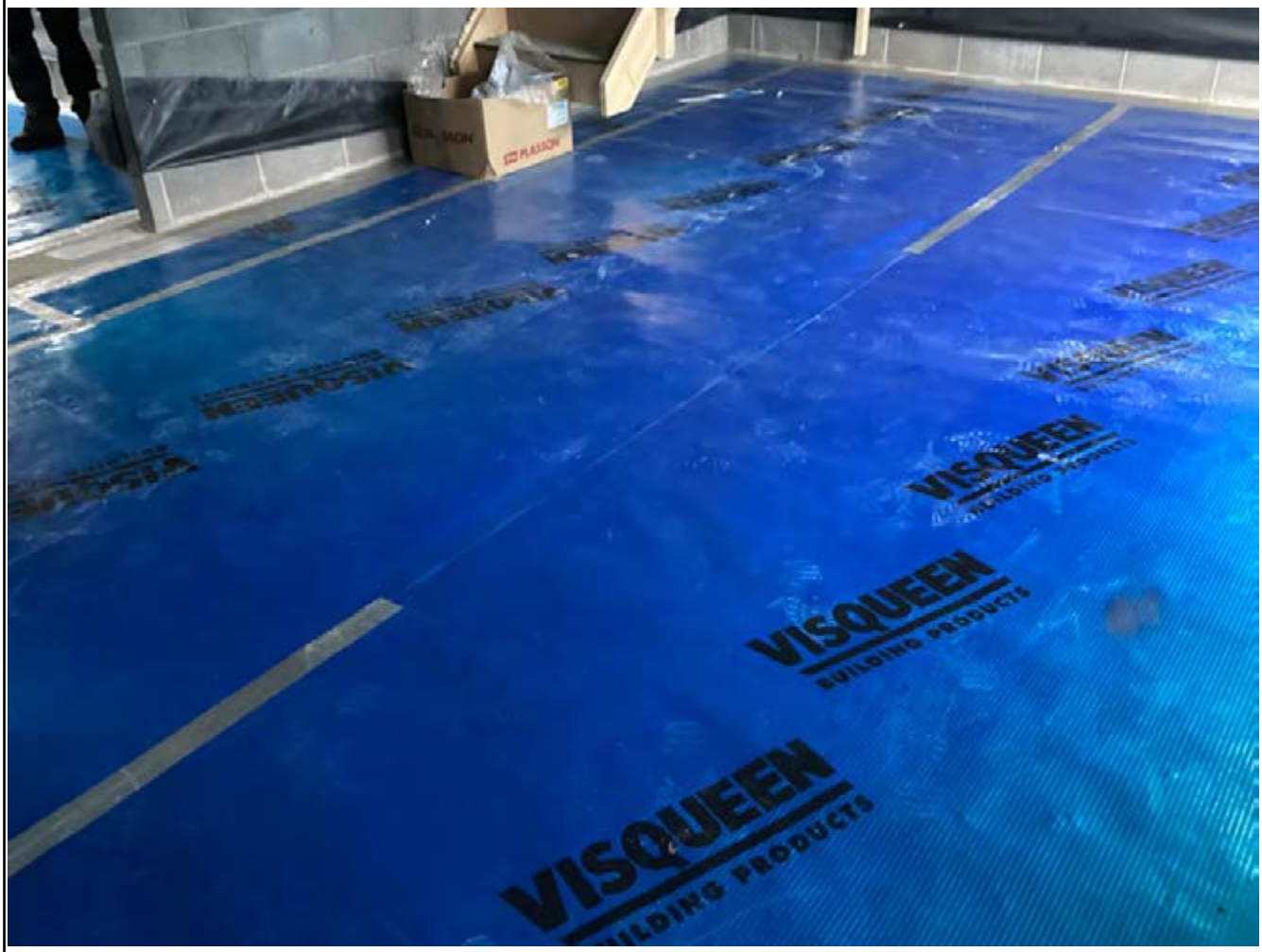
OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

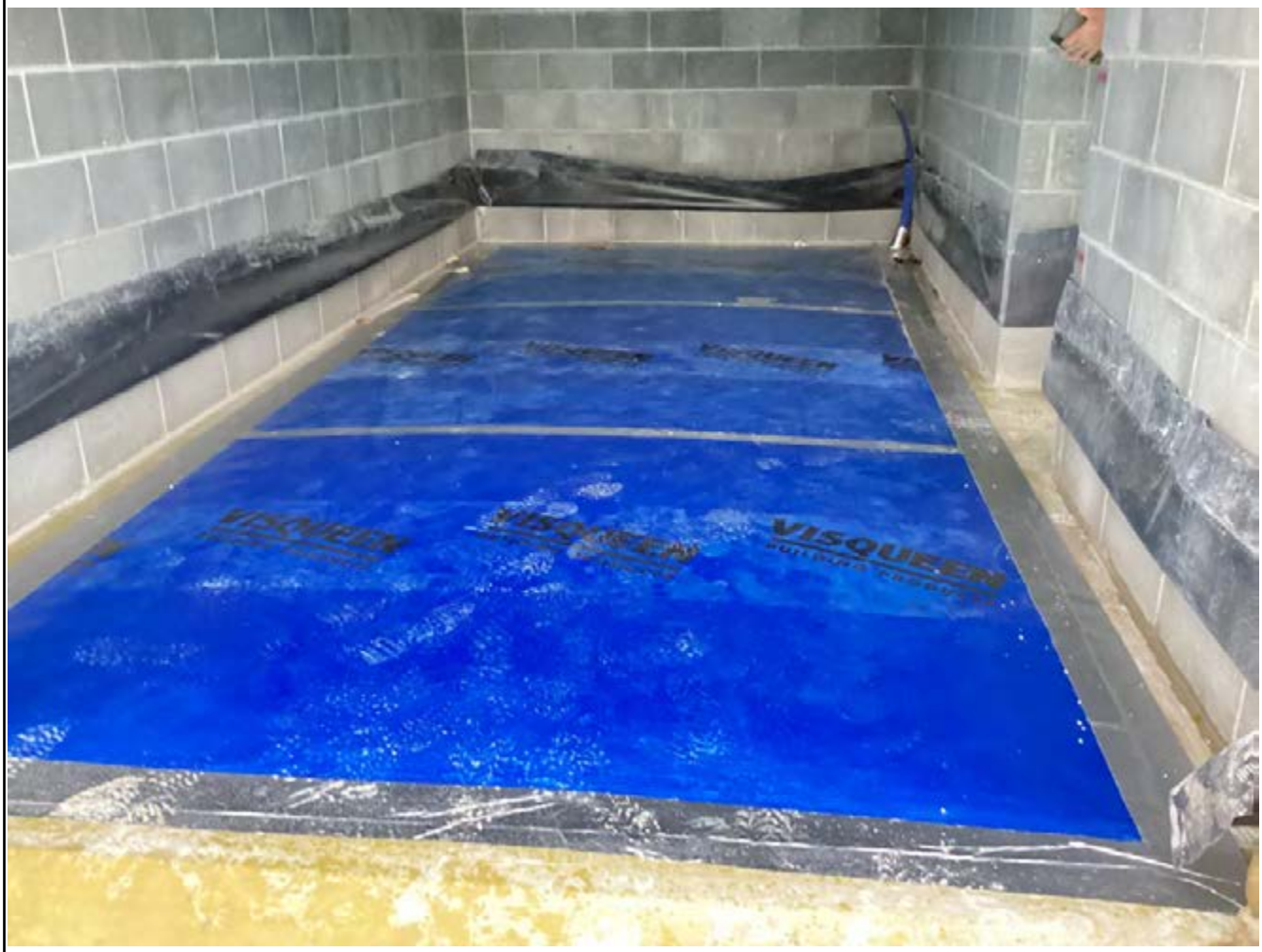


General internal overview of the verification area.

Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of the verification area within the Integral Garage

Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 50

GEOSHIELD Verification Report

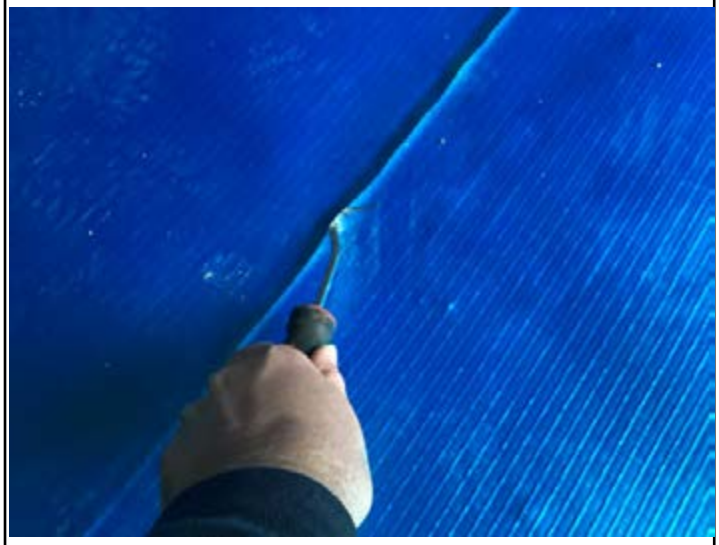
VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 46,47 & 48 inclusive (infill stage)

NOTES: Visqueen Gas Barrier Installation-Lap Joint

The installation of the Visqueen Gas Barrier had all been lapped and sealed using a dual taped system combining both the Visqueen Double Sided Butyl Tape and GR Foil Tape.

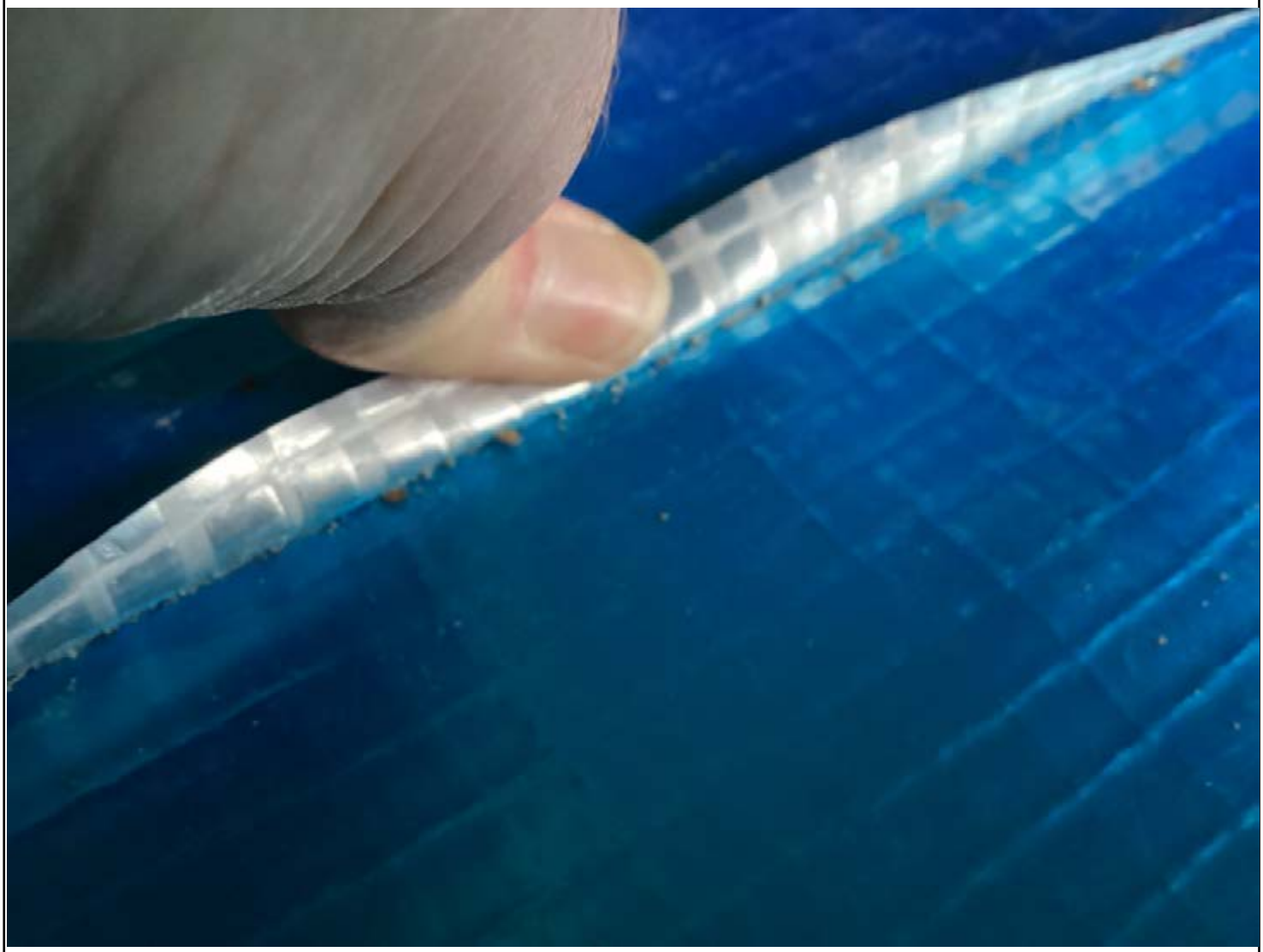
The left image shows where the Double Sided Butyl Tape had been exposed allowing the



Mechanical Point Stress Test to be undertaken which confirmed a full seal had been achieved. The right image shows the Double Sided Butyl Tape providing the lap joint seal.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



The overview image shows the area where the GR Foil Tape had been removed to allow access to the Double Sided Butyl Tape used to seal the lap joint. The Mechanical Point Stress Test was then undertaken to ensure the completed seal was providing a robust seal between the two sections of Visqueen Gas Barrier. No faults were identified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 46,47 & 48 inclusive (infill stage)

NOTES: Perimeter Detailing

The interior of both plots were infilled using the Visqueen Gas Barrier where the edges we're under-lapped combining both the Visqueen Double Sided Butyl Tape and a strip of Visqueen ProDetailing Tape. The initial inspection involved checking there were no

excessive creasing across the width of the installation and that a full bond had been achieved with both the Visqueen Ultimate Damp Proof Course and the Visqueen Gas Barrier. The bond was confirmed when the Mechanical Point Stress Test was undertaken as per the above two images. There were no signs of unsealed lap joints and therefore no potential capillary leak risk.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

The overview image shows the perimeter edge where the previously verified Visqueen Ultimate Damp Proof Course was lapped and sealed with using a dual taped system. The Visqueen Ultimate Damp Proof Course was also visually inspected for damage and/or punctures of which there were none identified.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 3,4,5 & 6 (Perimeters & Party Walls).

NOTES: Visqueen Ultimate Damp Proof Course-Perimeter Install

A strip of Visqueen Ultimate Damp Proof Course had been installed/profiled to lap the perimeter of the Plots and profiled along the block & beam and up and over the perimeter terminating above the air brick level. Visqueen Ultimate DPC has been

typically lapped and sealed at the corner where the laps were a minimum of 150mm and dual sealed using both Visqueen double sided butyl tape and a strip of Gas Resistant Self Adhesive Membrane. The left image shows the Mechanical Point Stress Test confirming the bond where the right image shows the typical lap seal.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

The overview image shows a typically installed strip of Visqueen Ultimate Damp Proof Course which terminates upon the course of stonework at a corner. The corner had been fully sealed using strips of Visqueen Gas Resistant Self Adhesive Membrane and the corner lap joint typically sealed using a dual tape system.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✔
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✔
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✔
24/02/2023	019	There were no faults identified throughout the verification.	✔
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✔

GEOSHIELD Verification Report

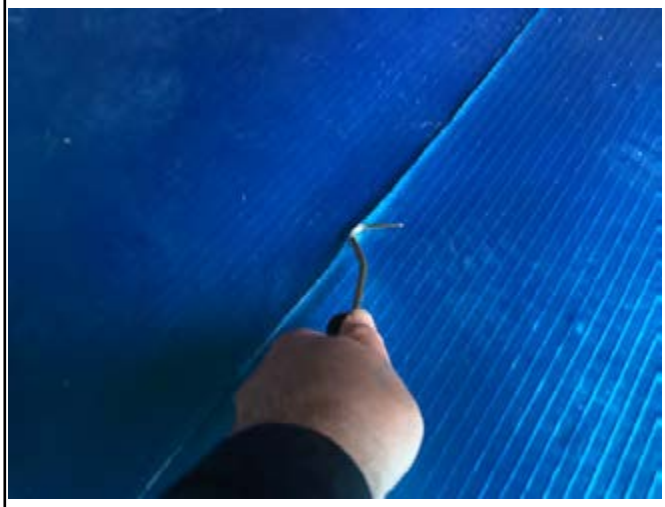
REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✔
01/06/2023	022	No faults were identified during the verification process.	✔
07/08/2023	023	No faults were identified during the verification process.	✔
18/09/2023	024	There were three punctures to the Visqueen Ultimate Damp Proof	
		Course all of which were remediated during the verification visit	✔
13/11/2023	025	There were no faults identified throughout the verification.	✔
		The integral garage to Plot 48 has yet to be completed and will be	
		verified during the next verification visit.	

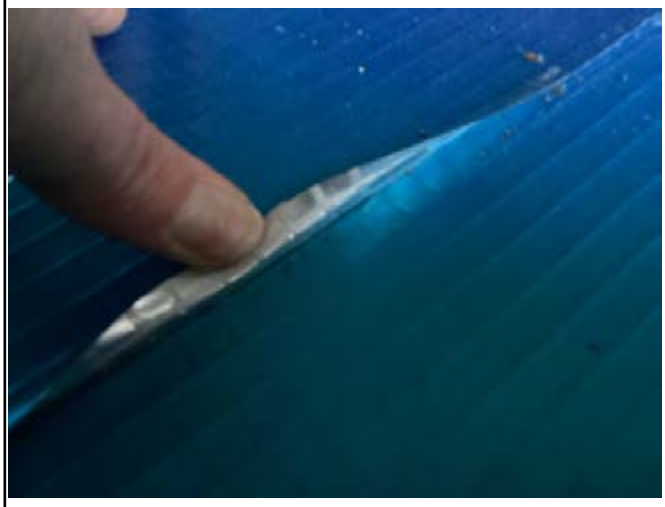
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Plot 47 - view of sampled lap joint where seal was checked and verified



Plot 47 - Mechanical Point Stress Test to exposed lap joint during verification

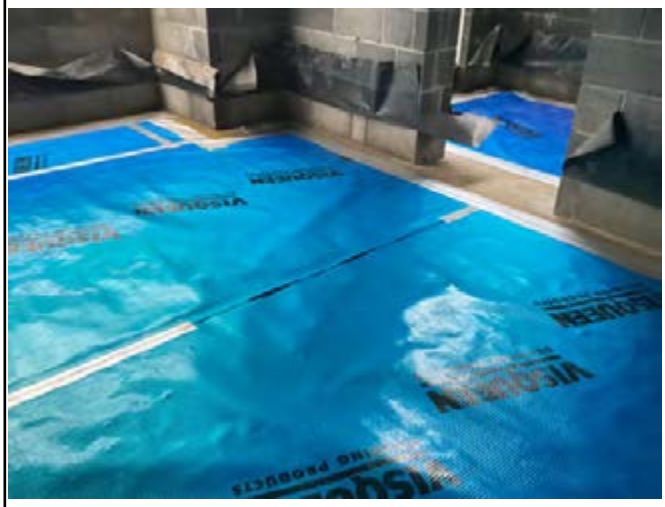


Plot 47 - view of Double Sided Butyl Tape within exposed lap joint seal

Plot 47 - view of a typically completed joint where lap tape in place

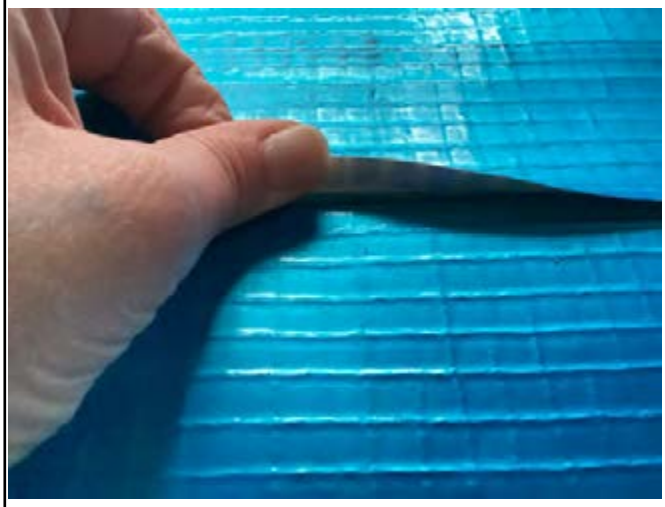
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS



Plot 48 - view of sampled lap joint

where seal was checked and verified



Plot 48 - view of Double Sided Butyl

Tape within exposed lap joint seal

Plot 48 - view of a typically completed

joint where lap tape in place

Typically lapped and sealed Visqueen

Ultimate DPC at perimeter/corner

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Mechanical Point Stress Test to

GRSAM at external corner

Mechanical Point Stress Test to

GRSAM at external corner

Mechanical Point Stress Test to

small pipe penetration at perimeter

Mechanical Point Stress Test to

small pipe penetration at perimeter

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Mechanical Point Stress Test to

typical GRSAM lap joint seal

Mechanical Point Stress Test to

GRSAM seal with Ultimate DPC

Mechanical Point Stress Test to

GRSAM seal with pipe penetration

Mechanical Point Stress Test to

typical GRSAM lap joint seal

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of a typical party wall junction

and completely dual sealed

View of typical internal corner at

perimeter completely dual sealed

Typical pipe penetration sealed

using strips of GRSAM

View of Visqueen Ultimate DPC

placed beneath the party wall.

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES		NO	✔

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✔
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✔
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49 & 50 infill	✔
Gridline/Plot Sign off	Plot 48 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 42, 43, 44 & 45 infills	✔
Gridline/Plot Sign off	Plots 3,4,5 & 6 perimeters & party walls	✔

GeoShield Verification Report

GAS MEMBRANE TESTING

VISUAL /PICK & PROBE:	✔	SMOKE TEST:	
AIR LANCING:		DILECTIC:	
DESTRUCTIVE:		OTHER:	
INERT GAS TEST:		SPECIFY:	

Testing checklist attached: YES ✔ NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 46 & 47 infill	✔
Gridline/Plot Sign off	Plot 48 infill excluding the integral garage.	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-fifth visit to site where Plots 46,47 & 48 had been infilled with exception to the integral garage in Plot 48 plus Plots 3,4,5 & 6 where the perimeters/party walls completed. The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to three sampled (exposed) Gas Barrier lap joints.

>. Visual inspection of the whole installation where no punctures were identified although the threshold to the integral garage to Plot 48 had been and this area could not be completed this report.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE: 13/11/2023

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	023
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ✓ NO: ☐ PROJECT: YES: ☐ NO: ✓

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plot 48 (Perimeters & Internal Walls only)

Plots 49 & 50 (Infill)

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 13.5C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 06:30 to 08:00 REPORT NUMBER: 023

DATE: 07/08/2023

ACCOMPANIED Adrian Needle

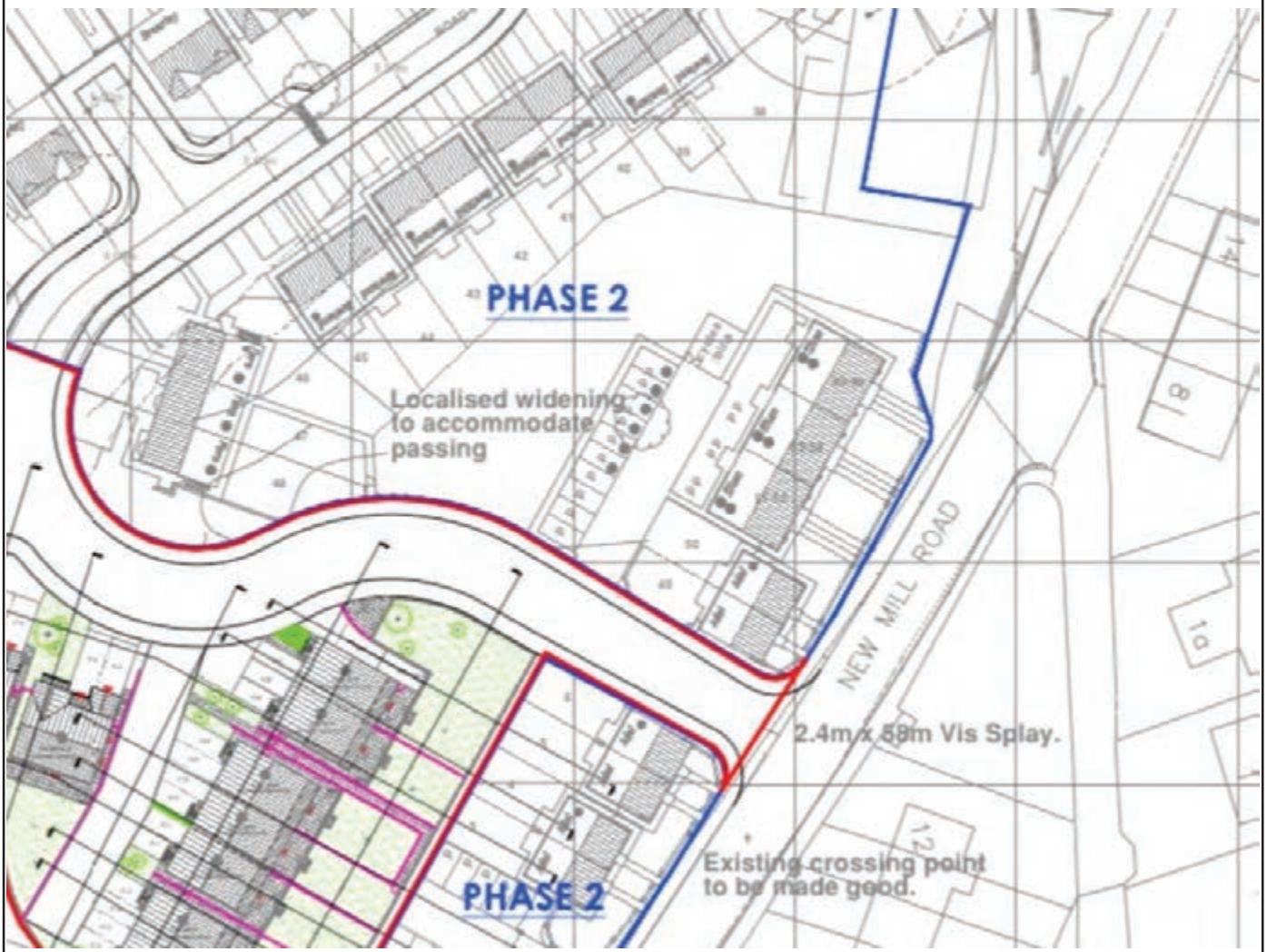
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots

Plot 48 (Perimeter/Internal Walls Only) outlined in blue

Plots 49 & 50 (Infill) outlined in red.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and internal walls completed.

Plot 48

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 49

GEOSHIELD Verification Report

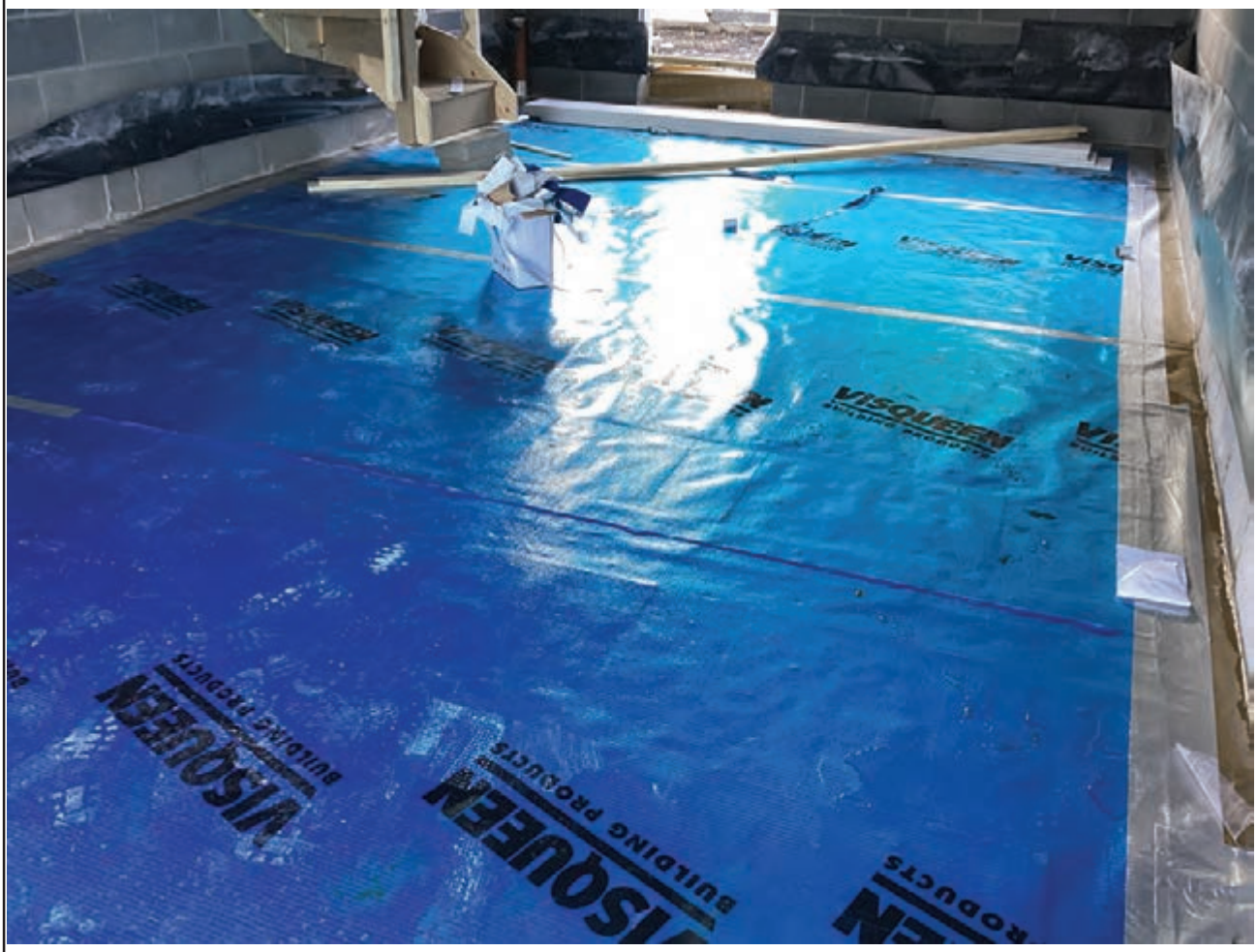
OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of the verification area within the Integral Garage

Plot 49

GEOSHIELD Verification Report

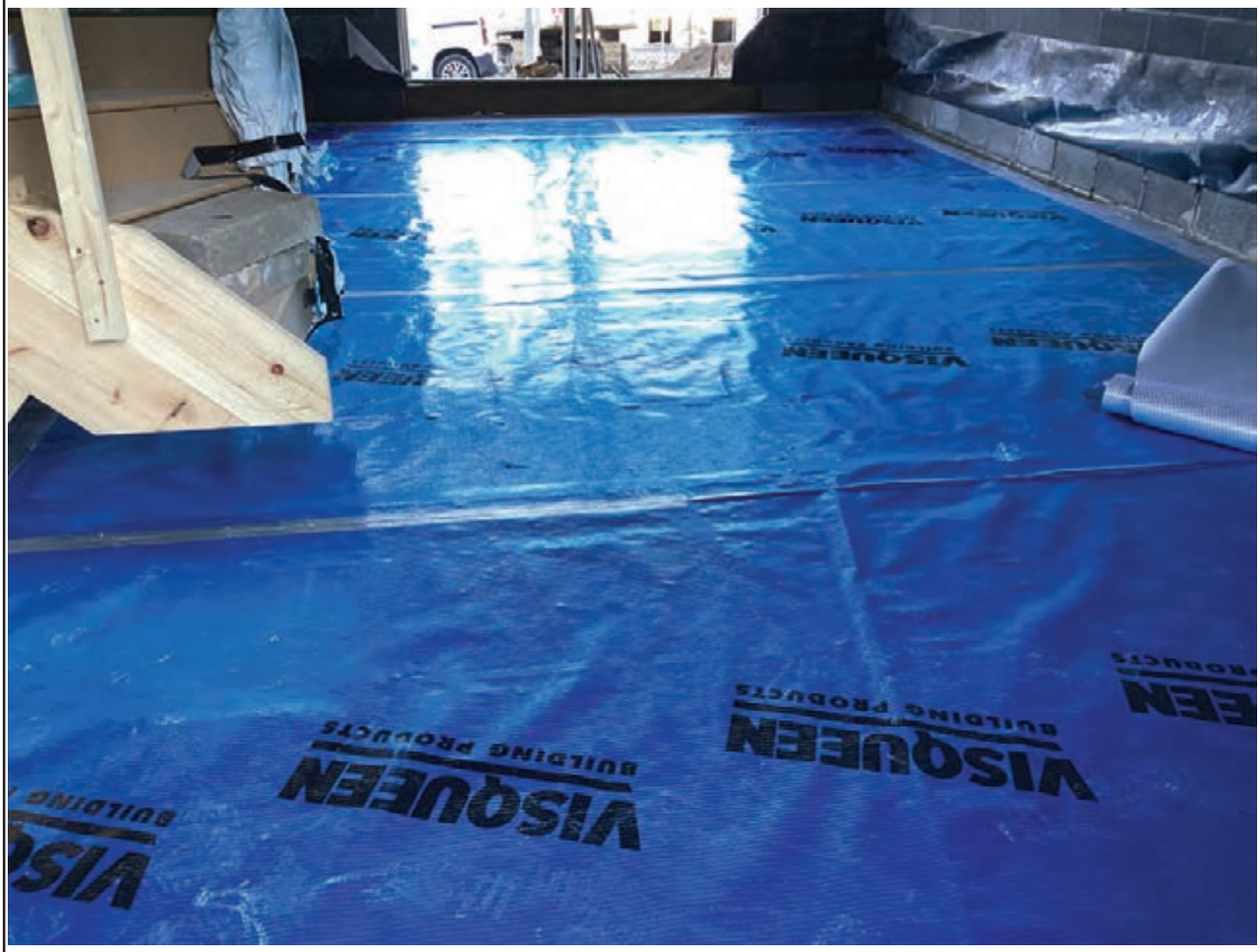
OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

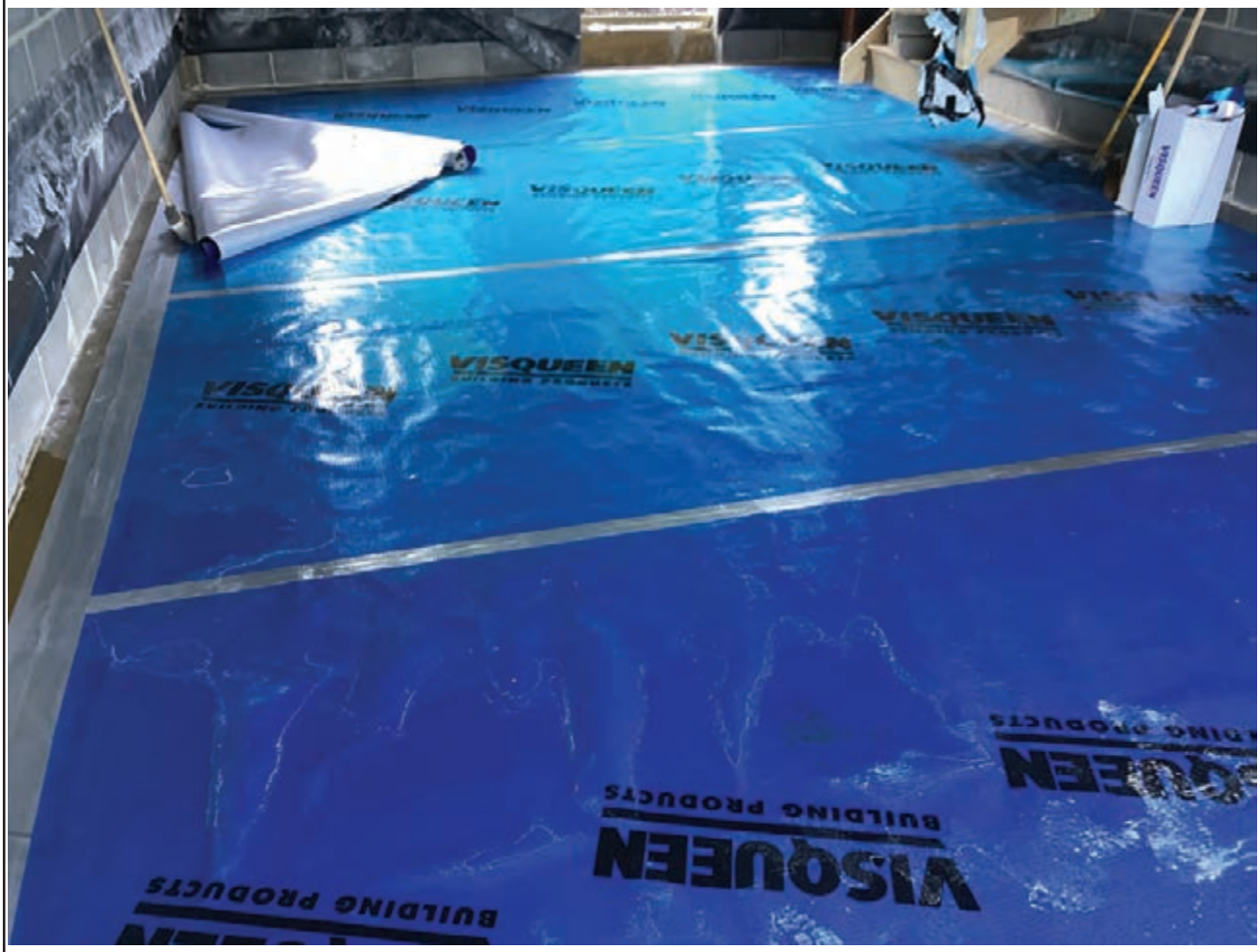


General internal overview of the verification area.

Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of the verification area within the Integral Garage

Plot 50

GEOSHIELD Verification Report

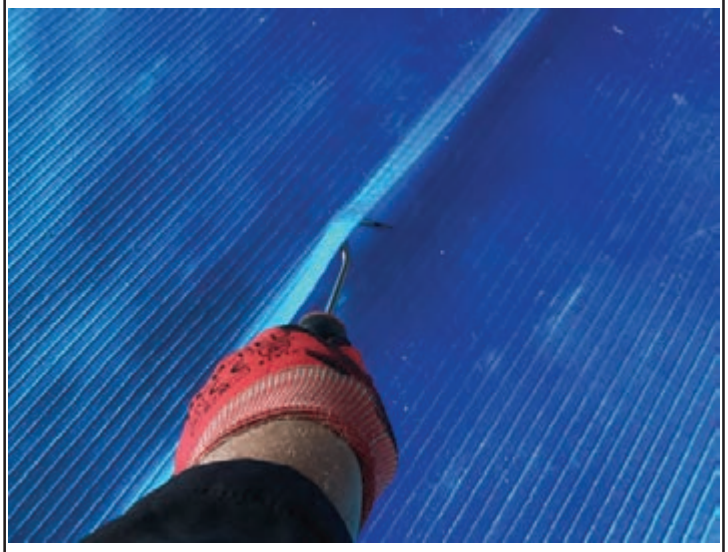
VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 49 & 50 inclusive (infill only)

NOTES: Visqueen Gas Barrier Installation-Lap Joint

The installation of the Visqueen Gas Barrier had all been lapped and sealed using a dual taped system combining both the Visqueen Double Sided Butyl Tape and GR Foil Tape.

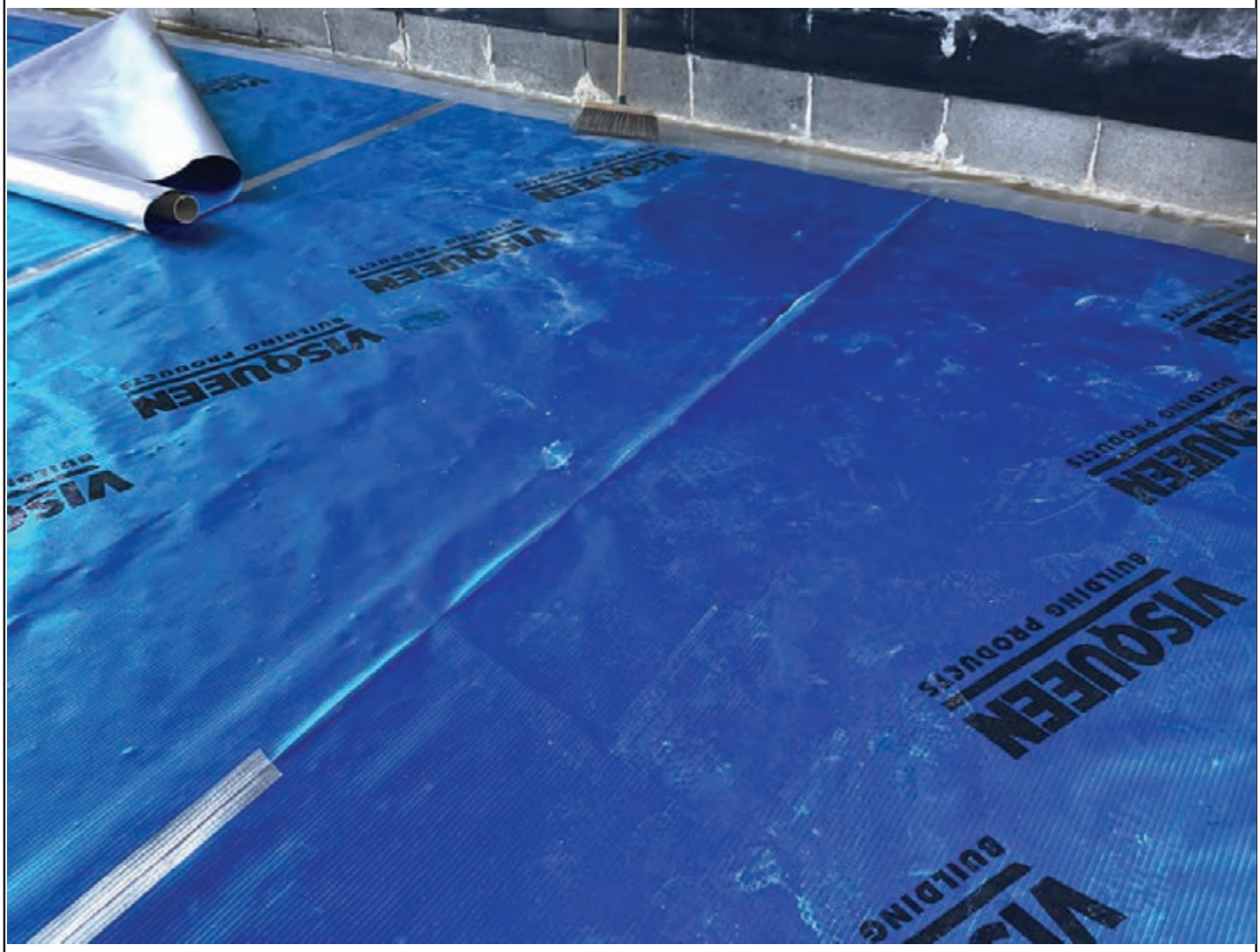
The left image shows where the Double Sided Butyl Tape had been exposed allowing the



Mechanical Point Stress Test to be undertaken which confirmed a full seal had been achieved. The right image shows the Double Sided Butyl Tape providing the lap joint seal.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



The overview image shows the area where the GR Foil Tape had been removed to allow access to the Double Sided Butyl Tape used to seal the lap joint. The Mechanical Point Stress Test was then undertaken to ensure the completed seal was providing a robust seal between the two sections of Visqueen Gas Barrier. No faults were identified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 38, 39, 40 & 41 inclusive (infill only)

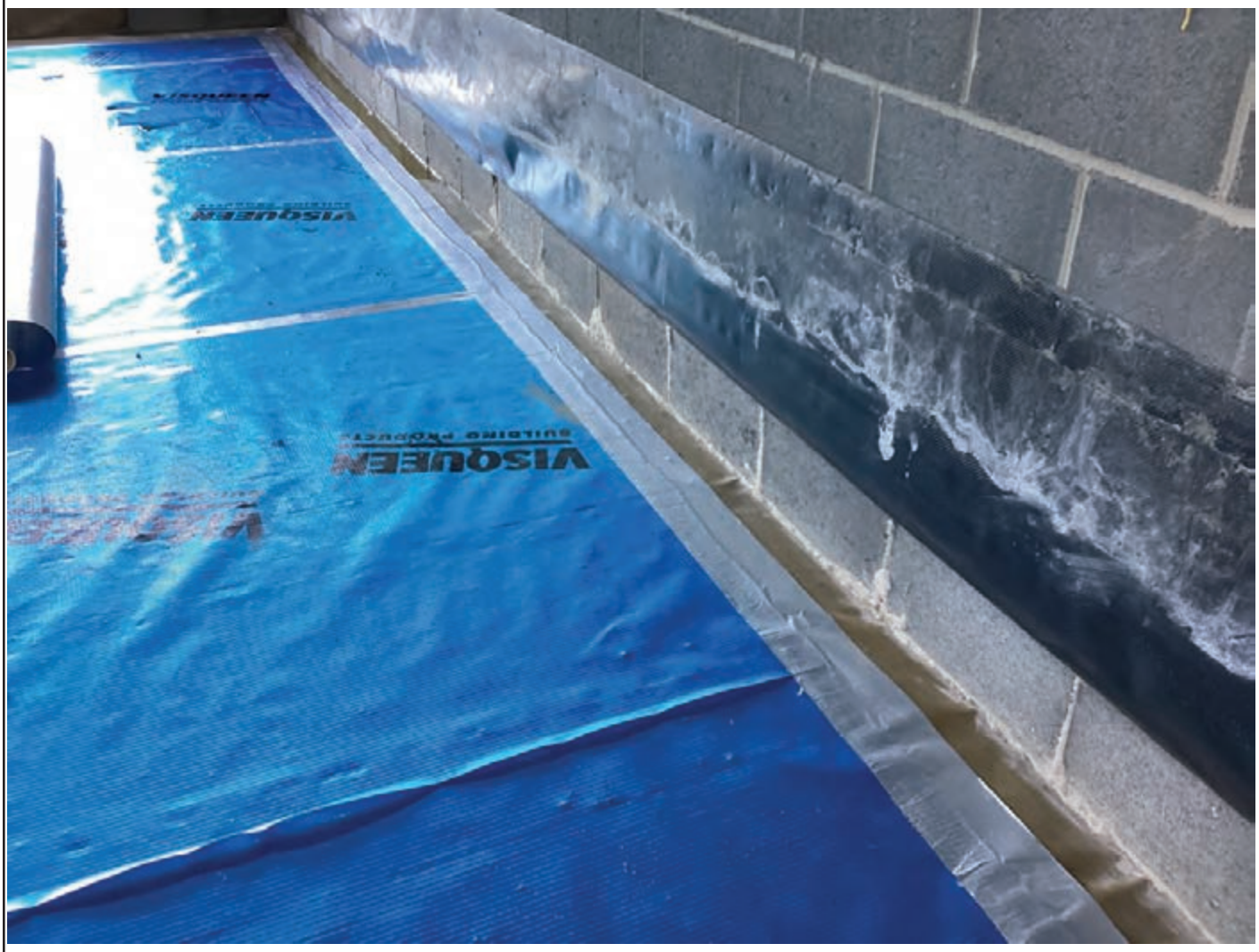
NOTES: Perimeter Detailing

The interior of both plots were infilled using the Visqueen Gas Barrier where the edges we're under-lapped combining both the Visqueen Double Sided Butyl Tape and a strip of Visqueen ProDetailing Tape. The initial inspection involved checking there were no

excessive creasing across the width of the installation and that a full bond had been achieved with both the Visqueen Ultimate Damp Proof Course and the Visqueen Gas Barrier. The bond was confirmed when the Mechanical Point Stress Test was undertaken as per the above two images. There were no signs of unsealed lap joints and therefore no potential capillary leak risk.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO



The overview image shows the perimeter edge where the previously verified Visqueen Ultimate Damp Proof Course was lapped and sealed with using a dual taped system. The image also shows an exposed internal lap joint where the Visqueen Double Sided Butyl Tape was exposed and verified.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 48 (Perimeters & Internal Walls).

NOTES: Visqueen Ultimate Damp Proof Course-Perimeter Install

A strip of Visqueen Ultimate Damp Proof Course had been installed/profiled to lap the perimeter of the Plots and profiled along the block & beam and up and over the perimeter terminating above the air brick level. The left image shows how the

Visqueen Ultimate Damp Proof Course has been typically installed around the plot perimeters. The whole of the installation was also visually checked where no damage and/or punctures was identified. In addition, the ventilation leading from the subfloor void was identified and the right image shows a typical air brick.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

The overview image shows a typically installed strip of Visqueen Ultimate Damp Proof Course which terminates upon the course of stonework and above the various air bricks leading from the subfloor void.

No faults were identified throughout the verification process.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✓
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✓
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✓
02/11/2020	004	Corners must be seen on future visit	✓
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✓
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✓
28/02/2021	007	No faults found	✓
24/03/2021	008	No faults found	✓
26/07/2021	009	No faults found	✓
19/01/2022	010	No faults found	✓
26/01/2022	011	No faults found	✓
15/02/2022	012	No faults found	✓

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✓
24/05/2022	014	No faults found	✓
22/06/2022	015	No faults found	✓
27/07/2022	016	No faults found during visit	✓
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✓
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✓
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✓
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✓
24/02/2023	019	There were no faults identified throughout the verification.	✓
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✓

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✓
01/06/2023	022	No faults were identified during the verification process.	✓
07/08/2023	023	No faults were identified during the verification process.	✓

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the only pipe penetration which penetrated each plot this report.

Mechanical Point Stress Test being undertaken along the GRSAM seal

Mechanical Point Stress Test being undertaken along the GRSAM seal

View showing the Visqueen Ultimate DPC beneath typical internal walls

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of various internal/external

corners sealed with GRSAM

Mechanical Point Stress Test to

a typical internal corner

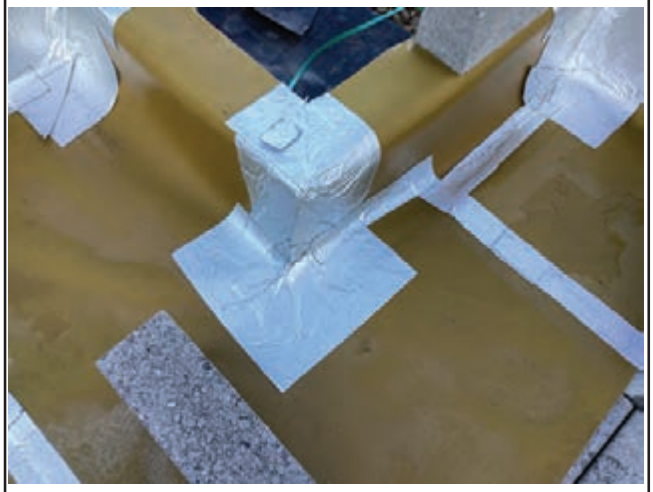
Mechanical Point Stress Test to

a typical external corner

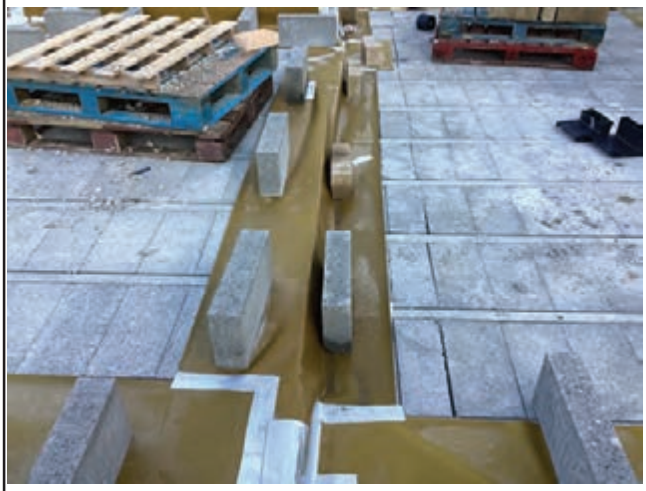
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

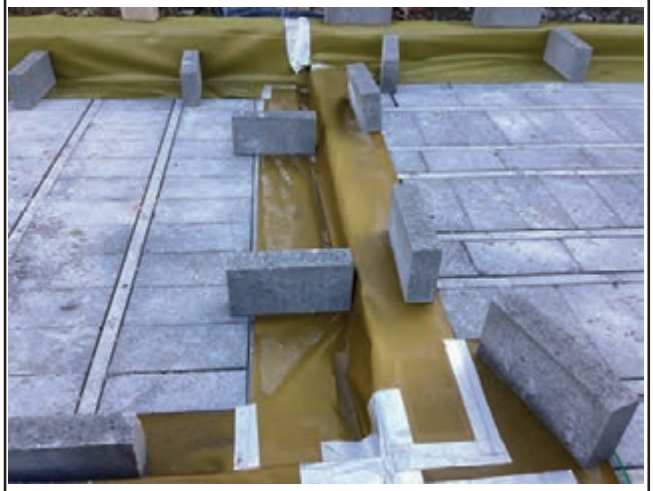
View of typical internal corner sealed with strips of Visqueen GRSAM



View of typical external corner sealed with strips of Visqueen GRSAM



View of the stepped detail where the Visqueen Ultimate DPC is profiled



View of the stepped detail where the Visqueen Ultimate DPC is profiled

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the Visqueen Double Sided

Butyl Tape present within lap joint

View of the Visqueen Double Sided

Butyl Tape present within lap joint

View of a typical lap where the Ultimate

DPC is lapped minimum 150mm

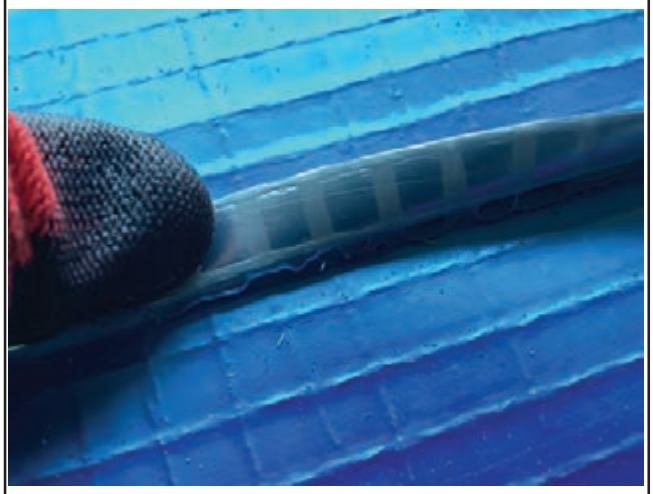
View of the Visqueen Double Sided

Butyl Tape present within lap joint

GEOSHIELD Verification Report

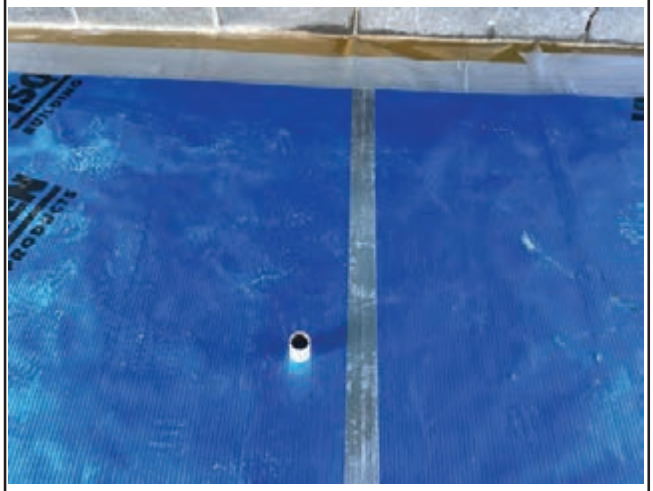
ADDITIONAL PHOTOGRAPHS

Mechanical Point Stress Test to an exposed lap joint during verification



View of Double Sided Butyl Tape within exposed lap joint seal

View of sampled lap joint where the seal was checked and verified



View of a typically completed lap joint where lap tape in place

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES		NO	✓

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 20-21	✓
Gridline/Plot Sign off	Plots 14-15 and 18-19	✓
Gridline/Plot Sign off	Plots 16-17	✓
Gridline/Plot Sign off	Plots 7-13	✓
Gridline/Plot Sign off	Plot 25 Perimeters	✓
Gridline/Plot Sign off	Plots 23-24 Perimeters	✓
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✓
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✓

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES	✓	NO	

Testing checklist attached: YES | | NO | ✓

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✓
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✓
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✓
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✓
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✓
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49 & 50 infill	✓
Gridline/Plot Sign off	Plot 48 perimeters & internal walls	✓
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-third visit to site where Plot 48 has had a strip of the Visqueen Ultimate Damp Proof Course installed and Plots 49 & 50 have been infilled. The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to all corners.

>. Visual inspection of the whole installation where no punctures were identified at the time of verification.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	07/08/2023

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 020

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED:

Plots 49, 50, 51/52, 53/54 & 55/56 inclusive (perimeters & internal walls only)

SITE CONDITIONS:

WEATHER: Overcast and occasional showers

TEMPERATURE: 9.0C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 09:00 to 11:00 REPORT NUMBER: 020

DATE: 13/03/2023

ACCOMPANIED Lee Neeve

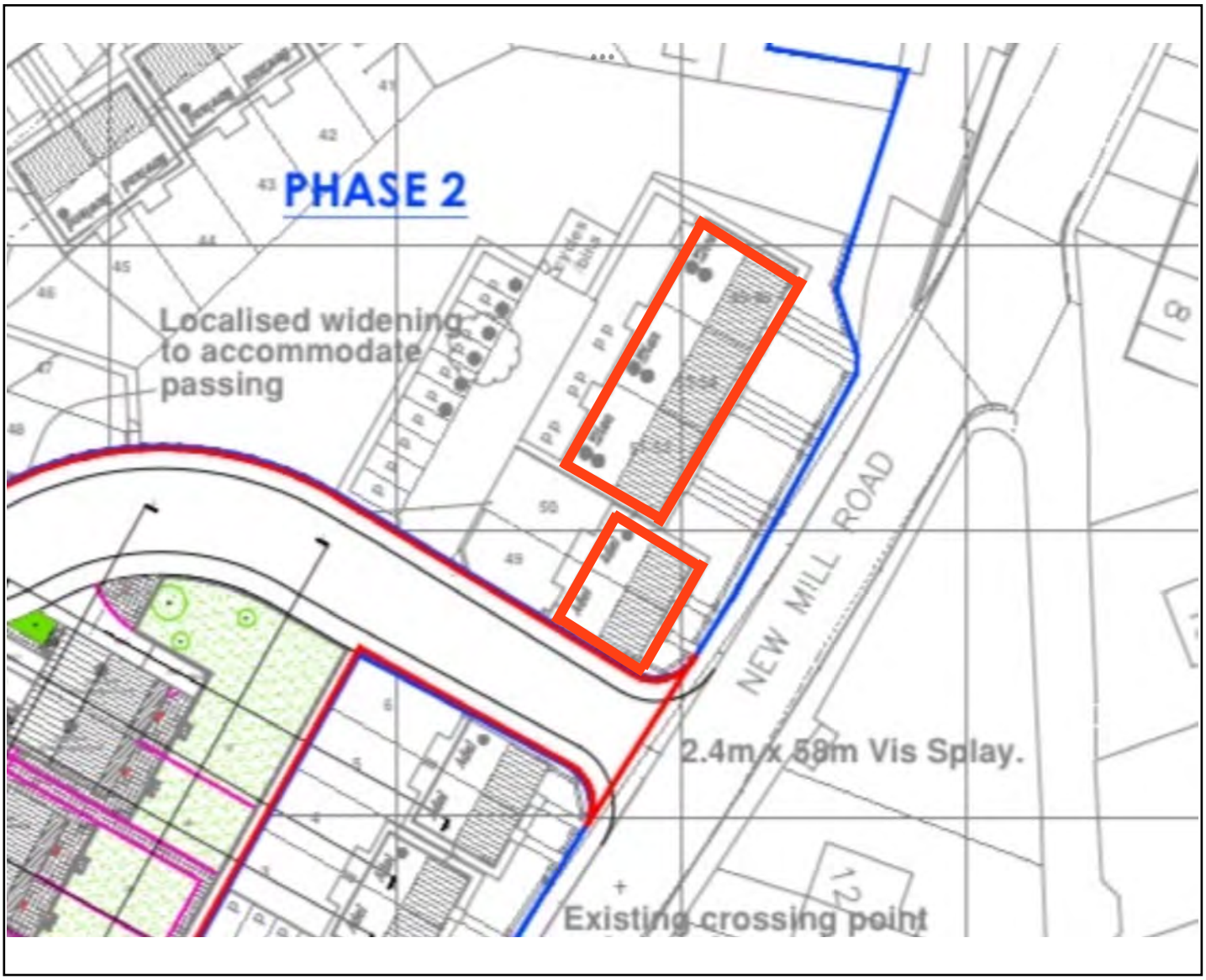
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots

Plots 49, 50, 51/52, 53/54 & 55/56 outlined in red

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Plot 51/52

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Plot 53/54

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Plot 55/56

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 49, 50, 51/52, 53/54 & 55/56 inclusive

NOTES: Visqueen Ultimate Damp Proof Course Installation-Lap Joint

The perimeters, party walls and any internal walls had a strip of Visqueen Ultimate Damp Proof Course installed and sealed with a minimum 150mm lap joint. The various lap joints were dual sealed using both the Visqueen Double Sided Butyl Tape and a strip of

Visqueen ProDetailing Tape. The images show the Mechanical Point Stress Test being undertaken along the edges of typically completed lap joints completed within the plots.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

The image shows a typical Visqueen Ultimate Damp Proof Course which has been sealed along three elevations with Visqueen Double Sided Butyl Tape (blue strip). The lap was then completed using the Visqueen ProDetailing Tape. All lap joints all proved to be sealed in this manner where no capillary leaks were identified throughout.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 49, 50, 51/52, 53/54 & 55/56 inclusive

NOTES: Pipe Penetration Detailing

The various pipe penetrations were all completely sealed using strips of Visqueen ProDetailing Tape. The initial inspection determined that the installation had fully bonded to both the pipe itself and the Visqueen Ultimate Damp Proof Course.

The images show the typical Mechanical Point Stress Test being undertaken checking that the Visqueen ProDetailing Tape had bonded correctly. In addition, the installation was visually checked where there was the occasional creasing to the Visqueen ProDetailing Tape but the creases did not pose any issues and therefore no potential capillary leaks were identified throughout the verification process.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

The overview image shows two typically installed pipe penetrations which had been sealed along the perimeter/party wall junction. The initial inspection noted that the proposed cavity blockwork would not affect the pipe penetration and the associated Visqueen ProDetailing Tape installation.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 49, 50, 51/52, 53/54 & 55/56 inclusive

NOTES: Visqueen Ultimate Damp Proof Course-Visual Checks

The perimeters, party walls and any internal walls had a strip of Visqueen Ultimate Damp installed but due to the recent weather conditions, had a number of blocks laid upon the membrane to help hold it in place. The verification involved a close visual

inspection of the whole installation and where blocks were laid, these were moved aside so as to check for any potential areas of damage. The images show the only two punctures identified during the verification. The punctures were both remediated using a strip of Visqueen ProDetailing Tape - see additional photos.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

The overview image shows a typically installed strip of Visqueen Ultimate Damp Proof Course which has been weighted down using concrete blocks. These blocks were systematically moved to enable a visual inspection to be complete checking for any damage and/or punctures. Two punctures were identified and remediated

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✔
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✔
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✔
24/02/2023	019	There were no faults identified throughout the verification.	✔
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Puncture (1) through Visqueen

Ultimate DPC requiring remediation

Completed remediation to puncture (1)

sealed using Visqueen ProDetailing

Puncture (2) through Visqueen

Ultimate DPC requiring remediation

Completed remediation to puncture (2)

sealed using Visqueen ProDetailing

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View showing section of party wall

lapped with an internal wall.

Mechanical Point Stress Test being

undertaken to sealed corner

Mechanical Point Stress Test being

undertaken to sealed corner

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View along an elevation showing the Visqueen Ultimate DPC to perimeter

View along an elevation showing the Visqueen Ultimate DPC to perimeter

View along an elevation showing the various air bricks leading from subfloor

View of a typical Air Brick linked to periscope ventilation from subfloor

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of typical strip of Visqueen

Ultimate DPC with blocks removed

View showing two pipe penetrations

sealed with ProDetailing Tape

View showing extent of perimeter

Visqueen Ultimate DPC

View of perimeter corner incorporating

a sealed corner + pipe penetration

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES		NO	✔

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✔
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✔
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twentieth visit to site where the perimeters and internal walls had

been completed to five plots. I was accompanied by Lee Neeve of Signature

Homes and the following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to all corners.

>. Visual inspection of the whole installation where two small punctures to the

Visqueen Ultimate DPC were identified but remediated this report.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE: 13/03/2023

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	001
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Finlay Todd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07502343063

EMAIL ADDRESS: Ftodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 16-17 & 20-21 Perimeters

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 14c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 72%

TIME: 10:00-14:00 REPORT NUMBER: 001

DATE: 2nd November 2020

ACCOMPANIED Adrian Needle

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 16,17 & 20,21 Perimeters

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the site

Plots 16 & 17 in the foreground with Plots 20 & 21 to the rear

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Plots 16

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 16

RESTRICTIONS AND LIMITATIONS: On this visit I was due to to verify the DPC installation of Plot 16. However on arrival block work had already been installed on top of the DPC. Because of this access to double sided butyl tape and sealed joints was made impossible. The below photos show DPC installed throughout Plot 16 with some double sided butyl tape visible in parts.

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 16

RESTRICTIONS AND LIMITATIONS: Below shows installation of DPC around the perimeter of Plot 16. The overlaps of the DPC are visible and in some areas the double sided butyl tape is also. However block work has caused major limitations during the verification process. No corner details has been sealed using Gas Resistant Self Adhesive tape to reinforce the detailing.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21	✔
Gridline/Plot Sign off		✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Visit 001 was to verify the DPC installation on Plots 16,17,20,21. On arrival it was evident that limitations would be caused in the verification process as block work had already been installed on top of the DPC. No Gas Resistant Self Adhesive had been used to reinforce the corner detailing and double sided butyl tape wasnt always visible. John from Signature Homes assured me that building regulations had been present when prior to the block work being laid and was satisfied with the standard of installation, something he stated in an email to John.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	2nd November 2020

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	002
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Finlay Todd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07502343063

EMAIL ADDRESS: Ftodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

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NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 16-17 & 20-21 Perimeters

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 14c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 72%

TIME: 10:00-14:00 REPORT NUMBER: 002

DATE: 2nd November 2020

ACCOMPANIED Adrian Needle

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 16,17 & 20,21 Perimeters

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the site

Plots 16 & 17 in the foreground with Plots 20 & 21 to the rear

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Plots 17

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 17

RESTRICTIONS AND LIMITATIONS: Visqueen GR DPC has been installed to the perimeter of Plot 17, however due to the block work already being installed prior to the visit major limitations have been caused. Double sided butyl tape is not always visible during the verification process and the Gas Resistant Self Adhesive has not been used to reinforce any of the corner details. John from Signature Homes assured me that

double sided butyl tape had been used across all the joints created around the perimeter.

Pick and probe tests were carried out where the double sided tape was visible.

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 17

RESTRICTIONS AND LIMITATIONS: Below shows corners from inside the proposed plot 17. The right photo shows the corner joint which has already had block work installed. The blue circle shows the joints and the arrow shows where Gas Resistant Self Adhesive needed to be installed to reinforce the corner detail.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Visit 002 was to verify the perimeter of Plots16,17,20,21. Block work has already been installed on the Gs Resistant DPC so limitations were caused in the verification process. Pick and probe tests were carried out where double sided butyl tape was visible.

John from Signature Homes assured me that building regulations had been present when prior to the block work being laid and was satisfied with the standard of installation, something he stated in an email to John.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	2nd November 2020

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	003
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Finlay Todd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07502343063

EMAIL ADDRESS: Ftodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 16-17 & 20-21 Perimeters

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 14c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 72%

TIME: 10:00-14:00 REPORT NUMBER: 003

DATE: 2nd November 2020

ACCOMPANIED Adrian Needle

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 16,17 & 20,21 Perimeters

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the site

Plots 16 & 17 in the foreground with Plots 20 & 21 to the rear

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

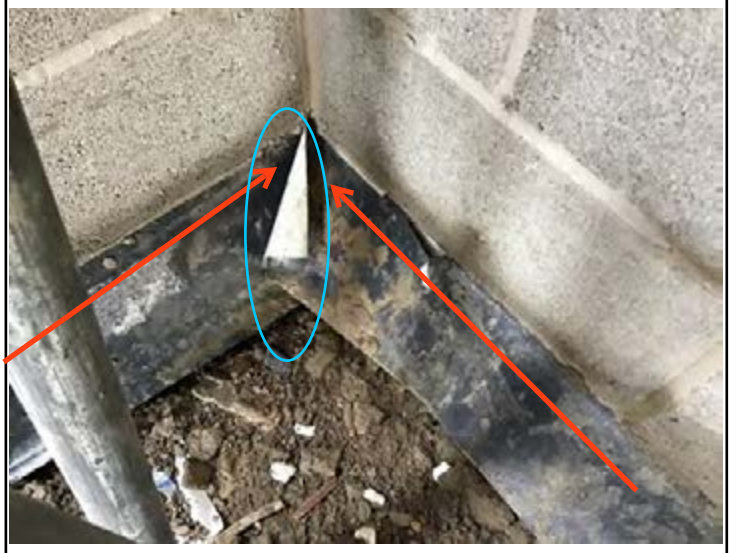
Overview of Plot 21

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 21

RESTRICTIONS AND LIMITATIONS: Visqueen GR DPC has been installed to the perimeter of Plot 21, and the proposed structure has continued to be built prior to the verification visit. Because of this it has been impossible to verify the corner double sided butyl tape as there was no access. However this will be remediated during the infill process



GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 21

RESTRICTIONS AND LIMITATIONS: No Gas Resistant DPC has been installed across the door threshold and therefore no corners have been sealed. These will be seen on a later visit and verified.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Visit 003 was the verify he Gas Resistant DPC installation of Plot 21, the block work and proposed structure had already been installed so verification of the double sided butyl tape wasn' possible. Remediation work will be carried out during the infill process and seen at a later date.

John from Signature Homes assured me that building regulations had been present when prior to the block work being laid and was satisfied with the standard of installation, something he stated in an email to John.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	2nd November 2020

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 004

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Finlay Todd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07502343063

EMAIL ADDRESS: Ftodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 14-15 & 18-19 Perimeters

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 14c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 72%

TIME: 10:00-14:00 REPORT NUMBER: 004

DATE: 2nd November 2020

ACCOMPANIED Adrian Needle

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 14,15 & 19,18 Perimeters

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the site

Plots 14-15 & 18-19 Perimeters

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of interior of plot

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plots 14-15 & 18-19 Perimeters

RESTRICTIONS AND LIMITATIONS: Gas Resistant DPC has been installed across the proposed perimeter of Plots. Again like other built plots the structure has continued to be built meaning that verifying them double sided butyl tape wasn't possible. This will be remediated on the infill and all corners will be sealed. Below highlights the corners across the area that need to be sealed and seen on a future visit.

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plots 14-15 & 18-19 Perimeters

RESTRICTIONS AND LIMITATIONS: The door thresholds have either not had any GR DPC installed, or it has been installed and no double sided butyl tape has been installed. This will need to be seen on a future visit to ensure that all corners are tanked and sealed with GR SAM.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
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Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Visit 004 was to verify the perimeter of Plot 14,15,19,18. The structured had continued to be built prior to verification which has caused limitations. Remediation which will need to be seen on a later visit.

John from Signature Homes assured me that building regulations had been present when prior to the block work being laid and was satisfied with the standard of installation, something he stated in an email to John.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE: 2nd November 2020

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 005

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Chris Ingham

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555214679

EMAIL ADDRESS: CIngham@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ✔ NO: ☐ PROJECT: YES: ☐ NO: ✔

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
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EMAIL ADDRESS	
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NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

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NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 7-11 Perimeters and Partitions

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 5C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 79

TIME: 08:00 - 10:30 REPORT NUMBER: 005

DATE: 13th November 2020

ACCOMPANIED Adrian Needle

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 7-11 Perimeters and Partitions verified in this report - highlighted above

Plots 12-13 perimeters not yet complete at time of inspection

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Plots 7-11 Perimeters and Partitions

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Plots 7-11 Perimeters and Partitions

GEOSHIELD Verification Report

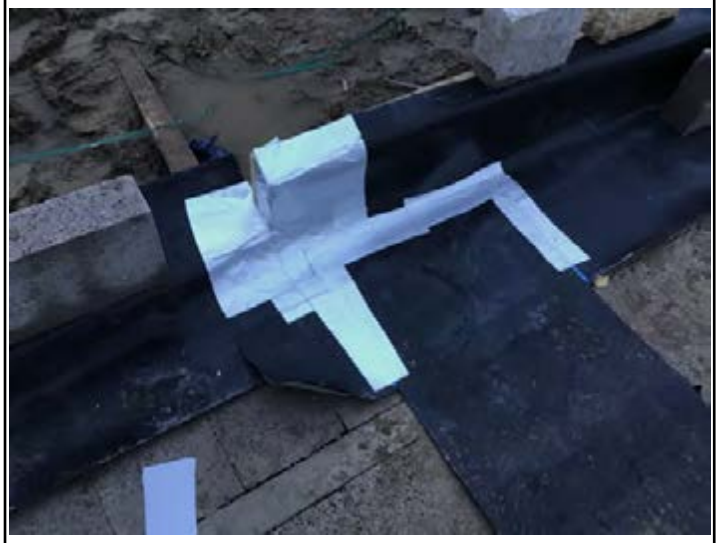
VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 7-11 Perimeters and Partitions

NOTES: Corner details sealed as per toolbox talk in accordance with NVQ Level 2. Pro Detailing tape used and installed with ‘diamond’ in weak spot.

Visual inspection and pick and probe carried out. No faults found. Passed and verified.

1. Overview of corner detail



2. Overview of corner detail

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

3. Overview of corner details sealed to good standard. Passed and verified

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 7-11 Perimeters and Partitions

NOTES: Pipe penetrations sealed with Pro Detailing Tape as per NVQ Level 2. Visual inspection and pick and probe carried out to test bond, good installation. Passed and verified

1. Overview of pipe penetrations sealed

2. Overview of pipe penetrations sealed

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

3. Overview of pipe penetration sealed with GR DPC extended and

sealed. Passed and verified

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 7-11 Perimeters and Partitions

NOTES: Joints all sealed with double sided butyl tape and lap tape.

Visual inspection and pick and probe carried out. Good installation with all

capillary leaks sealed. Passed and verified.

1. Overview of joints sealed

2. Double sided butyl tape inside joints.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

3. Overview of joints sealed with capillary leaks sealed

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	
		Visqueen Standard Gas Barrier	

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Sub floor void inspected

Easily exceeds minimum 100mm

required

Telescopic vents connected to

sub floor void

Sufficient number of vents for CS3

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Visqueen Low Perm on site doesn't

comply with CS3 - informed Signature

Visqueen Low Perm on site doesn't

comply with CS3 - informed signature

Overview

Corners sealed

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Corners sealed

Joints sealed

Overview

Corners sealed

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
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Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 005 is for Plots 7-11 Perimeters and Partitions.

Visqueen GR DPC installed with a taped system. Double sided butyl tape to all

joints with lap tape. Pro Detailing Tape to corner details and pipe penetrations.

Visual inspection and pick and probe carried out. Installation to a good standard

throughout with no faults found.

Depth of sub floor void inspected and easily exceeds minimum 100mm required.

Sufficient number of telescopic vents for CS3.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	13th November 2020

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	006
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Chris Ingham

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555214679

EMAIL ADDRESS: CIngham@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ✔ NO: ☐ PROJECT: YES: ☐ NO: ✔

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

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GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 12-13 Perimeters and Partitions

Plots 20-21 Infills

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 4C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 68

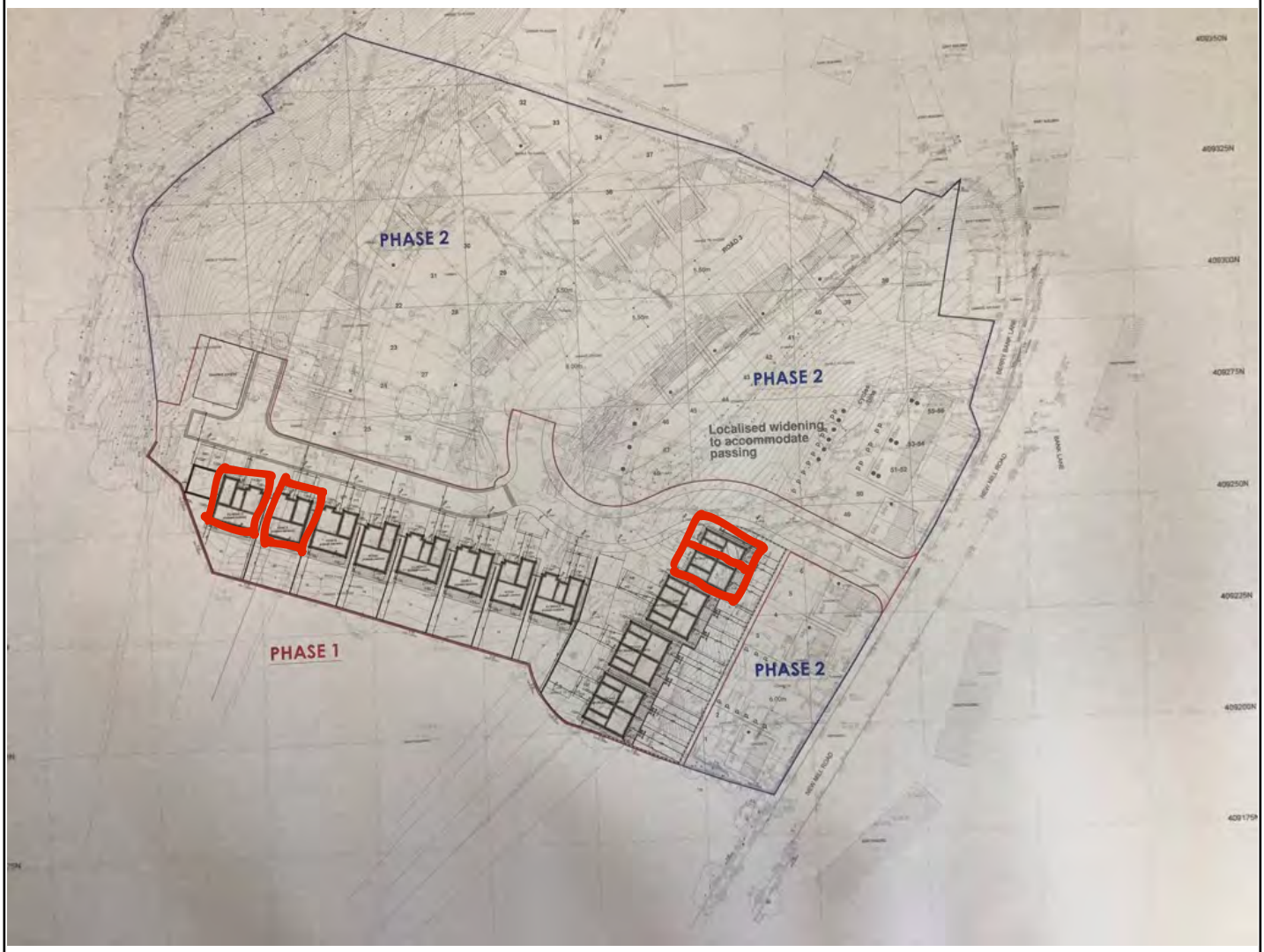
TIME: 10:30 - 12:30 REPORT NUMBER: 006

DATE: 11th December 2020

ACCOMPANIED John Hewittn

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Plots 12-13 Perimeters and Partitions verified in this report

Plots 20-21 infills verified in this report

Highlighted above

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of site

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Plots 20-21 infills

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Plot 21 infill

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Plots 12-13 perimeters

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 20-21 Infill

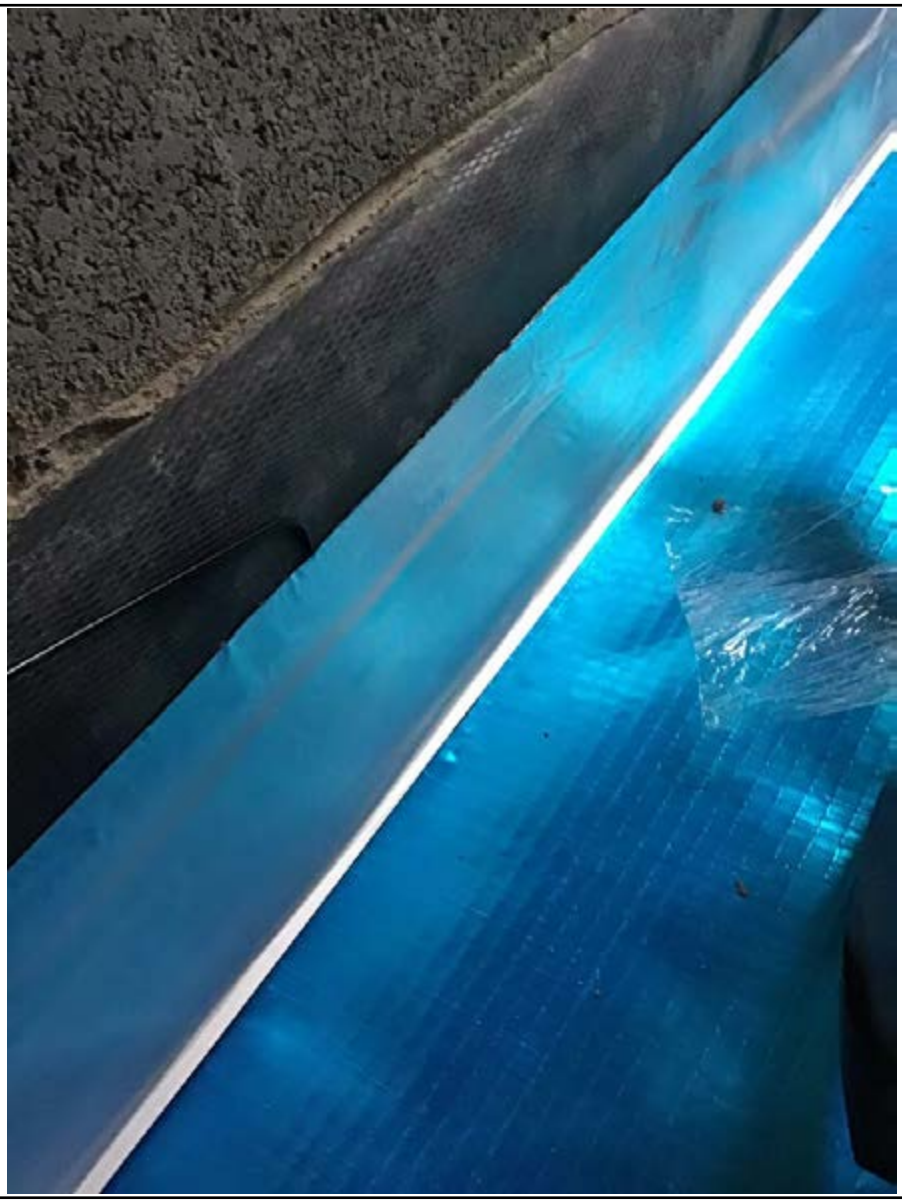
NOTES: Visqueen Standard Gas Barrier has been installed in the interior of Plots 20 and 21. GR Lap Tape used to seal standard gas barrier to the GR DPC. Visual inspection pick and probe carried out, GR DPC had been thoroughly cleaned and good bond achieved. Excellent work, no faults found.

1. Overview of GR Lap Tape sealing standard gas barrier to GR DPC.

2. Pick and probe test to ensure good bond achieved.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



3. Pick and probe test to ensure good bond achieved. GR DPC has been cleaned

and GR Lap Tape applied with a heat gun to activate the bitumen backing. Finished

Floor Level approx 50mm higher than GR DPC level. Good installation throughout,

no faults found, passed and verified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 20-21 Infill

NOTES: Corner details sealed with Pro Detailing Tape as discussed. As walls had walls had been built difficult to assess the seal in joints of GR DPC. Pro Detailing Tape installed as discussed to ensure seal achieved.

1. Overview of corner detail sealed with Pro Detailing Tape

2. Overview of corner details sealed with Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

3. Overview of corner detail and pipe penetrations sealed with Pro Detailing Tape.

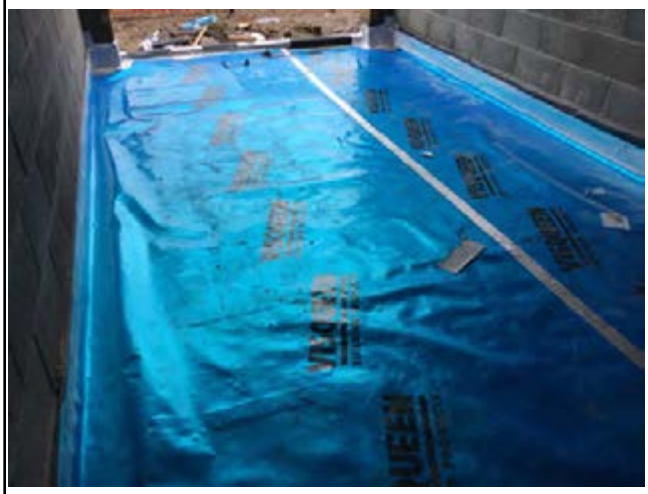
Good installation throughout. Passed and verified.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 20-21 Infill

NOTES: Joints sealed as per manufacturers spec. Double sided butyl tape inside the joints and GR foil Tape to overlap. Visual inspection and pick and probe carried out to ensure full sealed. Passed and verified.



1. Double sided butyl tape inside the joints

2. Overview of garage fully sealed

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

3. Joint in GR DPC accessible at the door threshold. Closer inspection

shows that the blue double sided butyl tape runs consistently through the joint.

Good bond formed with GR Lap Tape.

Passed and verified.

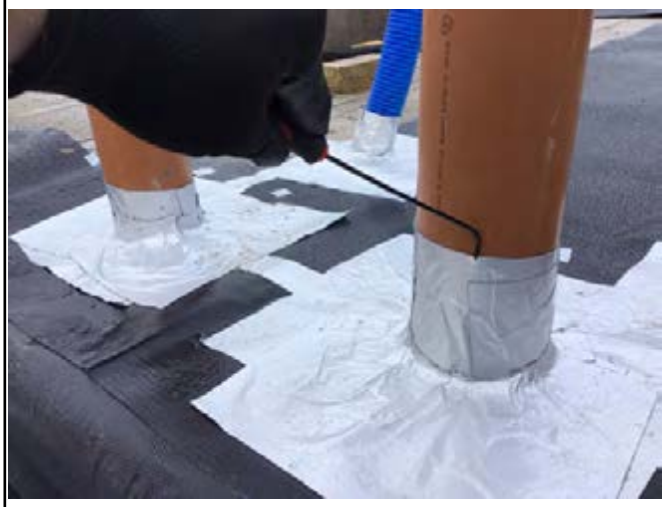
GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS



Plots 12-13 photo evidence

Plots 12-13 photo evidence

Plots 12-13 photo evidence

Plots 12-13 photo evidence

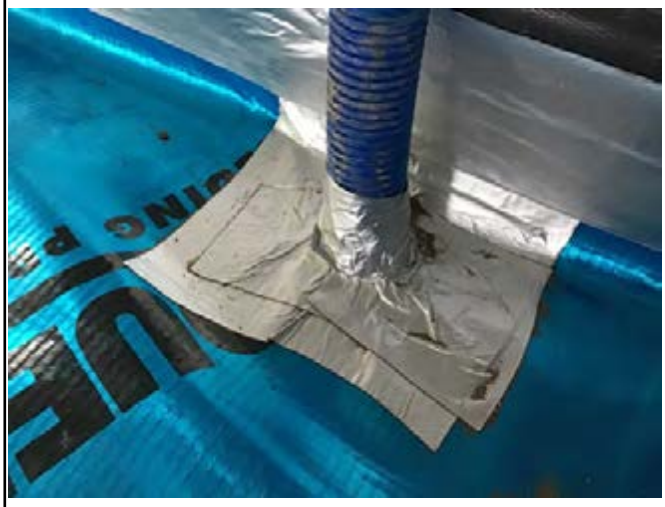
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Plots 12-13 photo evidence

Plots 12-13 photo evidence

Plots 20-21 photo evidence

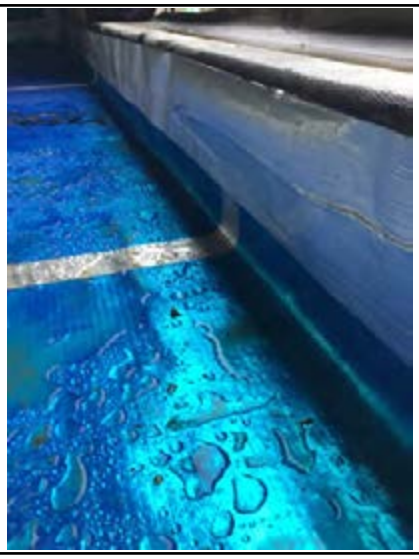


Plots 20-21 photo evidence

GEOSHIELD Verification Report

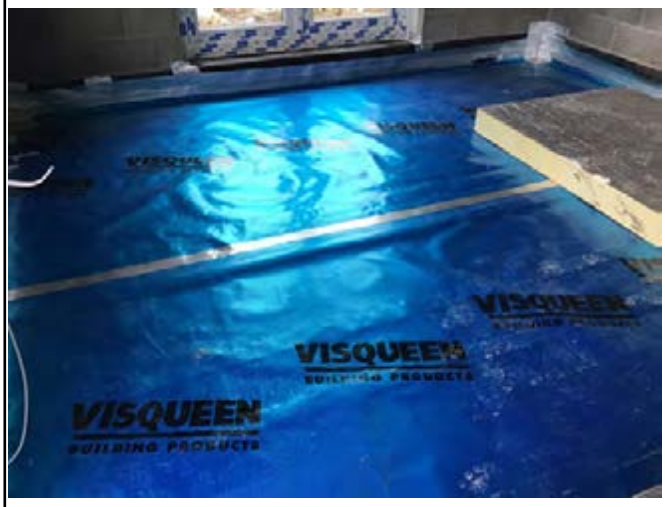
ADDITIONAL PHOTOGRAPHS

Plots 20-21 photo evidence



Plots 20-21 photo evidence

Plots 20-21 photo evidence



Plots 20-21 photo evidence

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21 Infill	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 006 is for Plots 20-21 infill and Plots 12-13 perimeters and partitions.

All works have been installed as per he manufacturers material specification.

A visual inspection and pick and probe test have been carried out on all of

the installation throughout. This is a good standard of installation, care has

been taken to clean and prep the substrate and GR DPC. All joints have been

sealed and heat applied where required. Detailing sealed to a good standard

throughout, no faults found.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	11th December 2020

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	007
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Chris Ingham

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555214679

EMAIL ADDRESS: CIngham@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ✔ NO: ☐ PROJECT: YES: ☐ NO: ✔

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 14-15 and 18-19

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 5c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 89

TIME: 10:30 - 12:30 REPORT NUMBER: 007

DATE: 28th January 2021

ACCOMPANIED Adrian Needle

GEOSHIELD Verification Report

VERIFICATION LAYOUT

Plots 14-15 and 18-19 infills verified in this report

Highlighted above

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of site

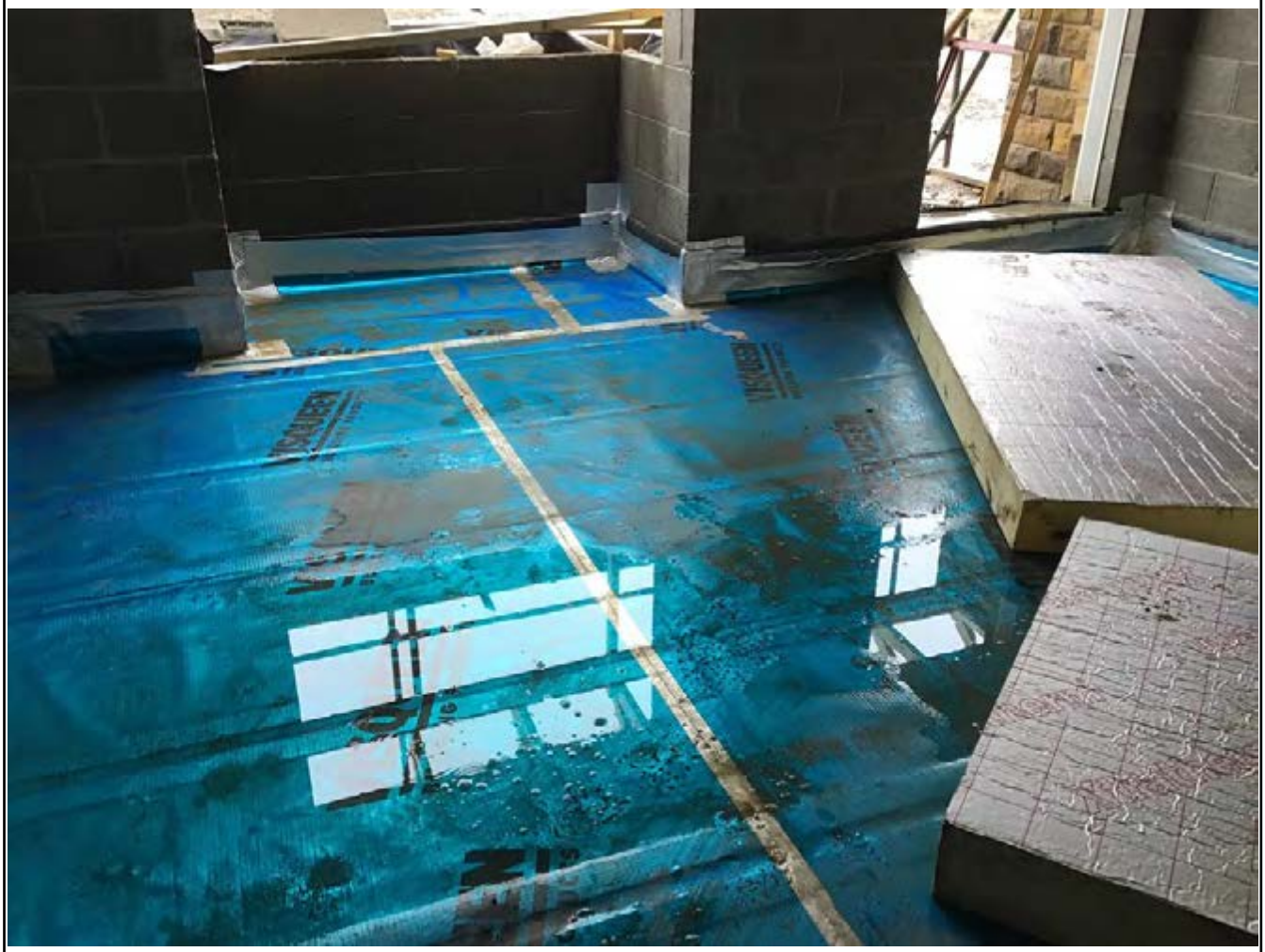
GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of site

GEOSHIELD Verification Report

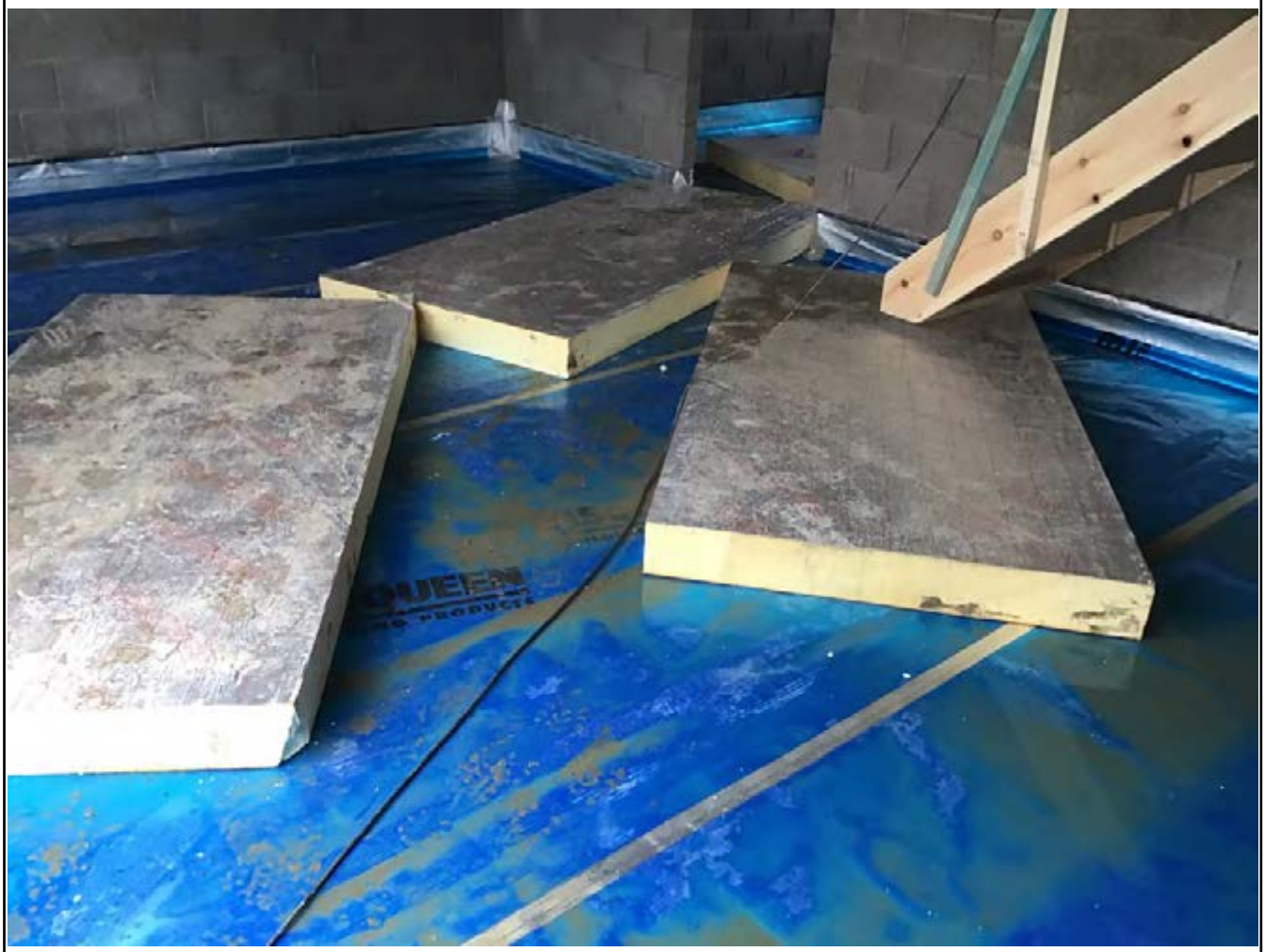
OVERVIEW PHOTOGRAPHS



Overview of interior of plot

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of interior of plot

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 14-15 and 18-19

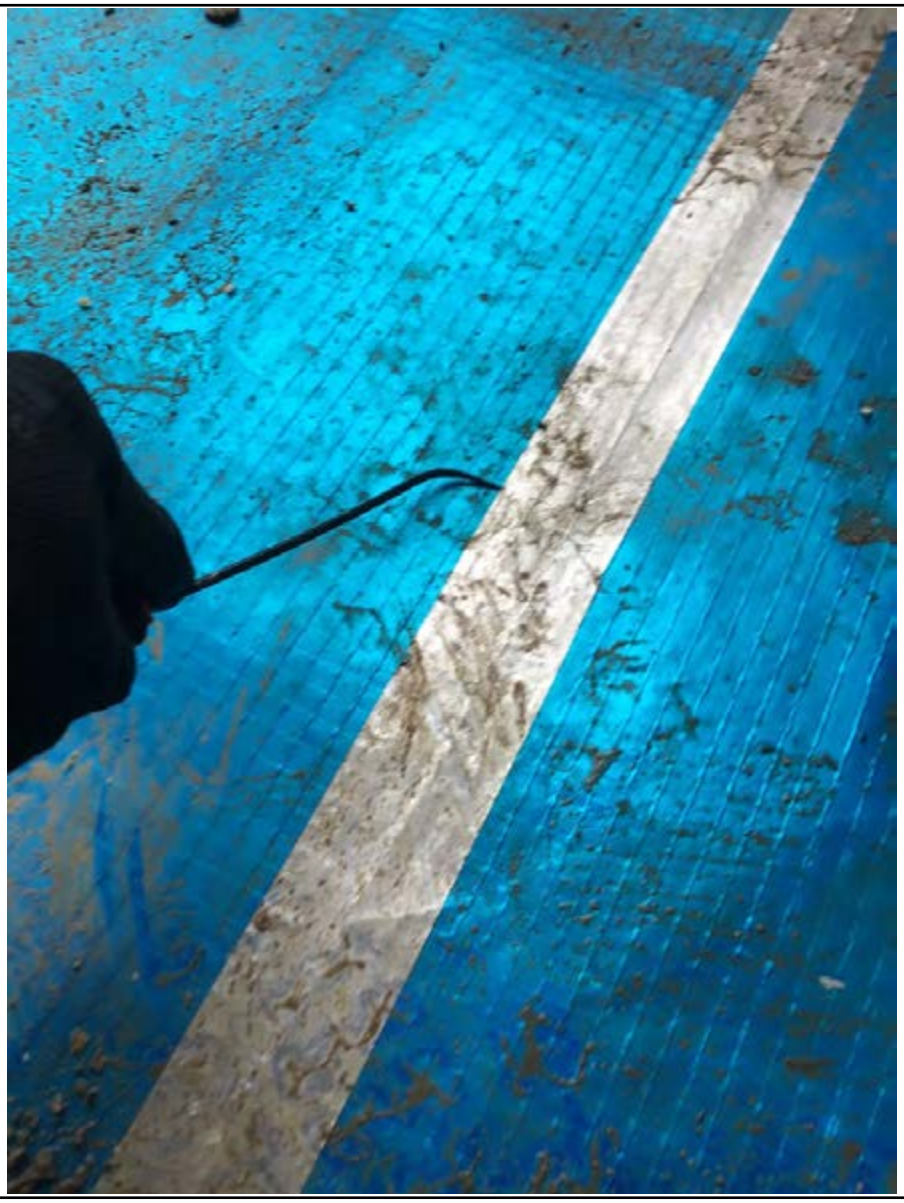
NOTES: All works visually inspected and tested with mechanical point stress test to ensure good consistent bond achieved. Passed and verified.

1. Double sided butyl tape installed in all joints as per manufacturers spec

2. Pick and probe to GR Foil Tape to ensure good bond achieved.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



3. Pick and probe to GR Foil Tape to ensure good bond achieved. Passed and

verified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 14-15 and 18-19

NOTES: Corner details in GR DPC and Visqueen standard

gas barrier sealed and reinforced with Visqueen Pro Detailing Tape as per toolbox

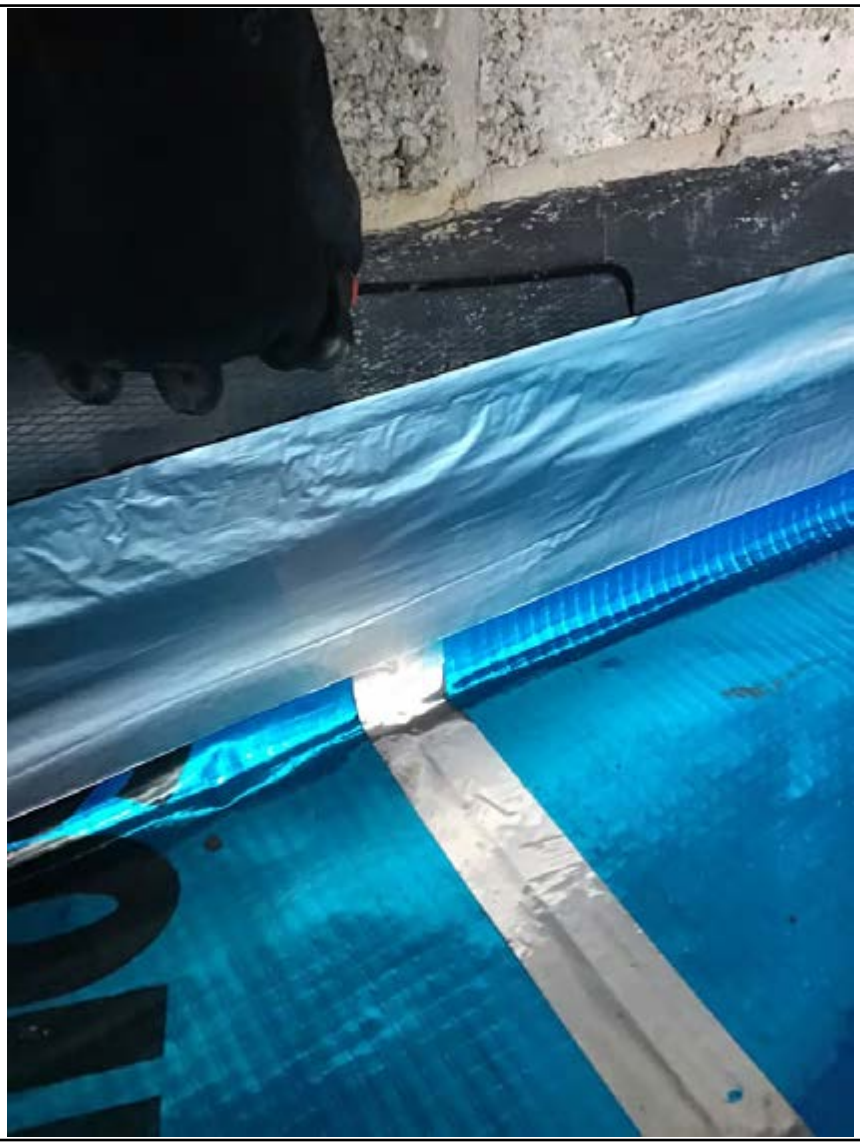
talk. Passed and verified.

1. Overview of corner details to garage opening.

2. Overview of internal corner detail sealed.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO



3. Pick and probe to perimeter GR Lap Tape to ensure good bond

achieved when sealing infill to previously verified perimeter and partition

install. Good bond achieved.

GEOSHIELD Verification Report

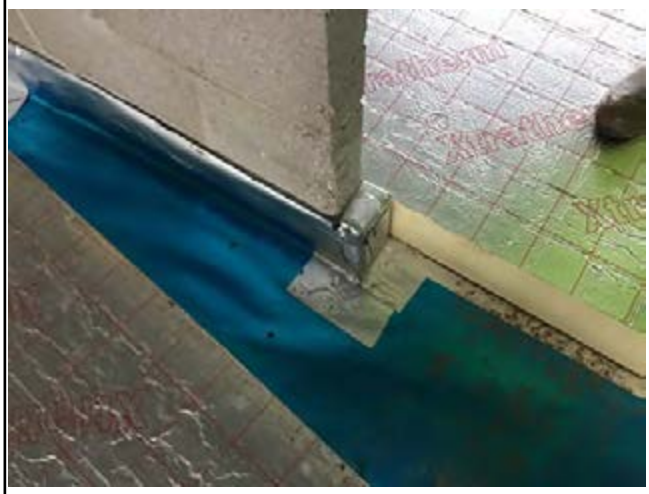
VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 14-15 and 18-19

NOTES: Detailing to corner details in GR DPC well sealed

at door openings as per images below. Visual inspection and pick and probe

carried out throughout the entire install. Passed and verified.

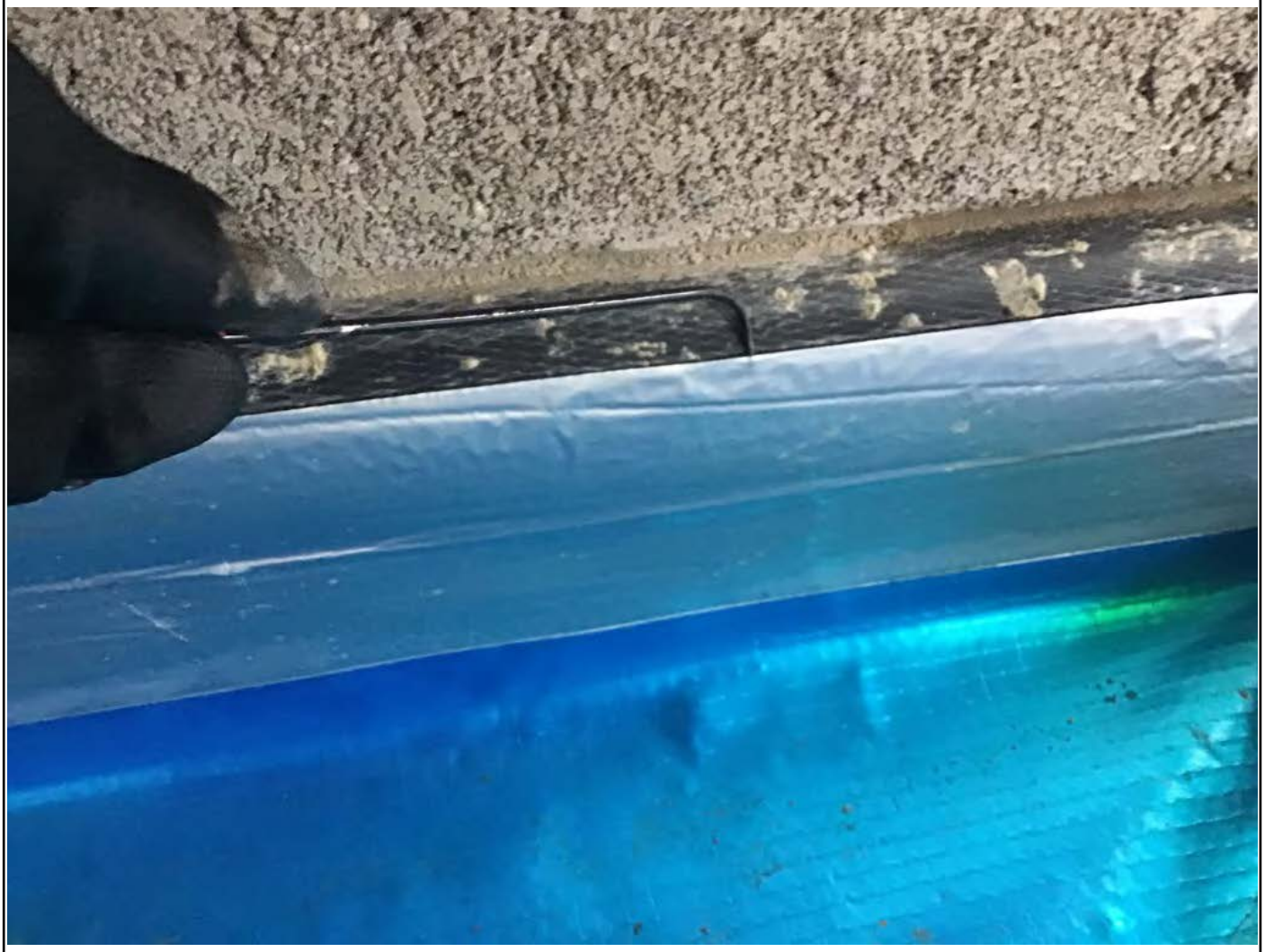


1. Overview of GR DPC sealed at door openings.

2. GR DPC sealed at door openings

GEOSHIELD Verification Report

VERIFICATION ITEM THREE



3. Pick and probe to perimeter Gr Lap Tape carried out throughout.

Heat and roller used for the application and good bond achieved.

Passed and verified.

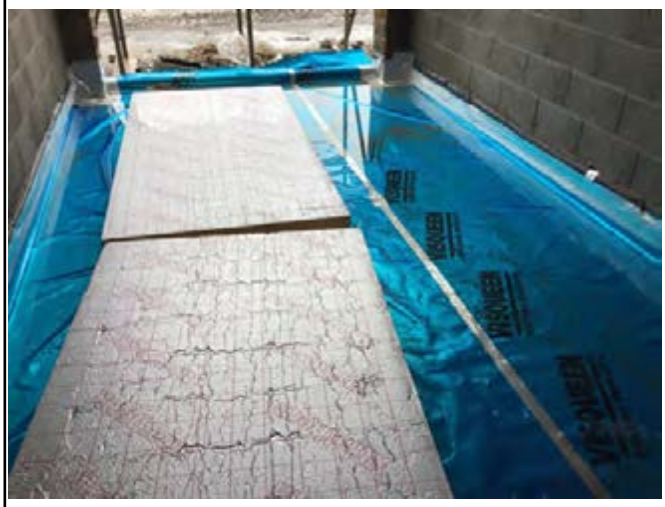
GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔

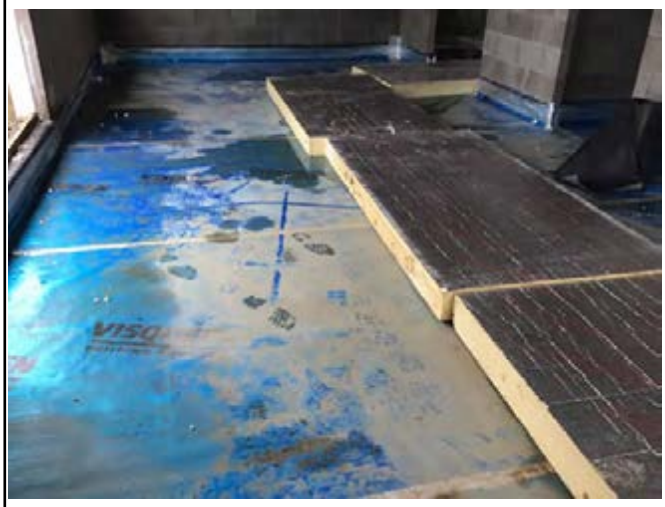
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS



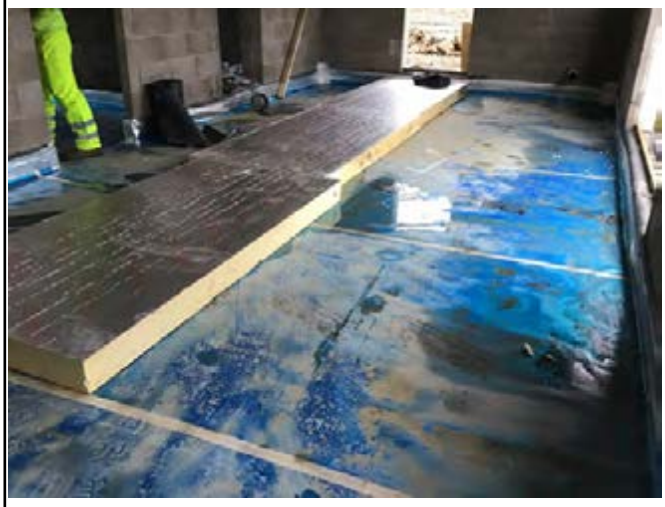
Insulation used to protect membrane

with walkways through buildings



Insulation used to protect membrane

with walkways through buildings



Insulation used to protect membrane

with walkways through buildings

Insulation used to protect membrane

with walkways through buildings

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

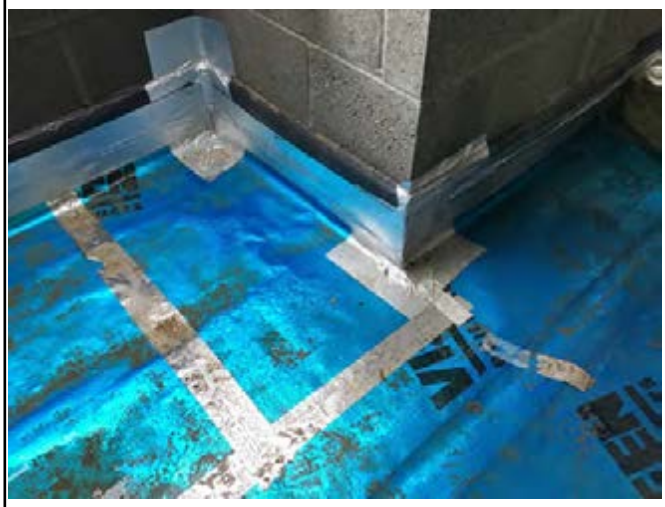


Photo evidence

Photo evidence

Photo evidence

Photo evidence

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

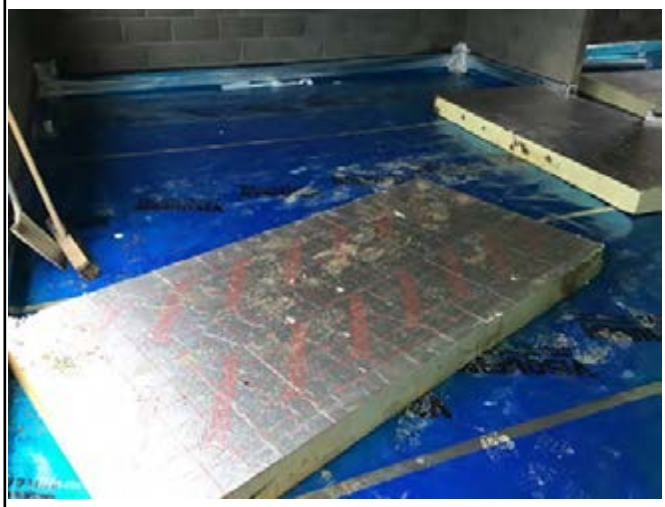


Photo evidence

Photo evidence

Photo evidence

Photo evidence

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21 Infill	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 007 is for Plots 14-15 and 18-19. Visqueen Standard Gas Barrier has been installed using the taped system. All joints sealed with double sided butyl tape and GR Foil Tape. Corner details and pipe penetrations sealed with Pro Detailing tape as per toolbox talk. Standard Gas Barrier sealed to GR DPC with GR Lap Tape. Visual inspection and pick and probe carried out on all joints. Sufficient number of vents installed for CS3.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	28th January 2021

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	008
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD
Verification
PLAN

SPECIFICATION:

INFORMATION INCLUDED:

Material specification technical data sheets

Geotechnical Survey Report - PR/AJK/39141/007

Site Layout - Final

Phase Plan

1602-110 House Type - Venice - Roma - Florence

1602-111 House Type - Tuscant

1602-300 Draft Foundations

1602-301 Draft Foundations

1451-700a Typical Tanking Detail

Information presented to at the pre-verification stage assumed correct

Any change client will let GeoShield know or this Pre-verification Plan will be void.

GEOSHIELD Verification Report

VERIFICATION OFFICER: Chris Ingham

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555214679

EMAIL ADDRESS: CIngham@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ✔ NO: ☐ PROJECT: YES: ☐ NO: ✔

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 16-17

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 8c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: 71

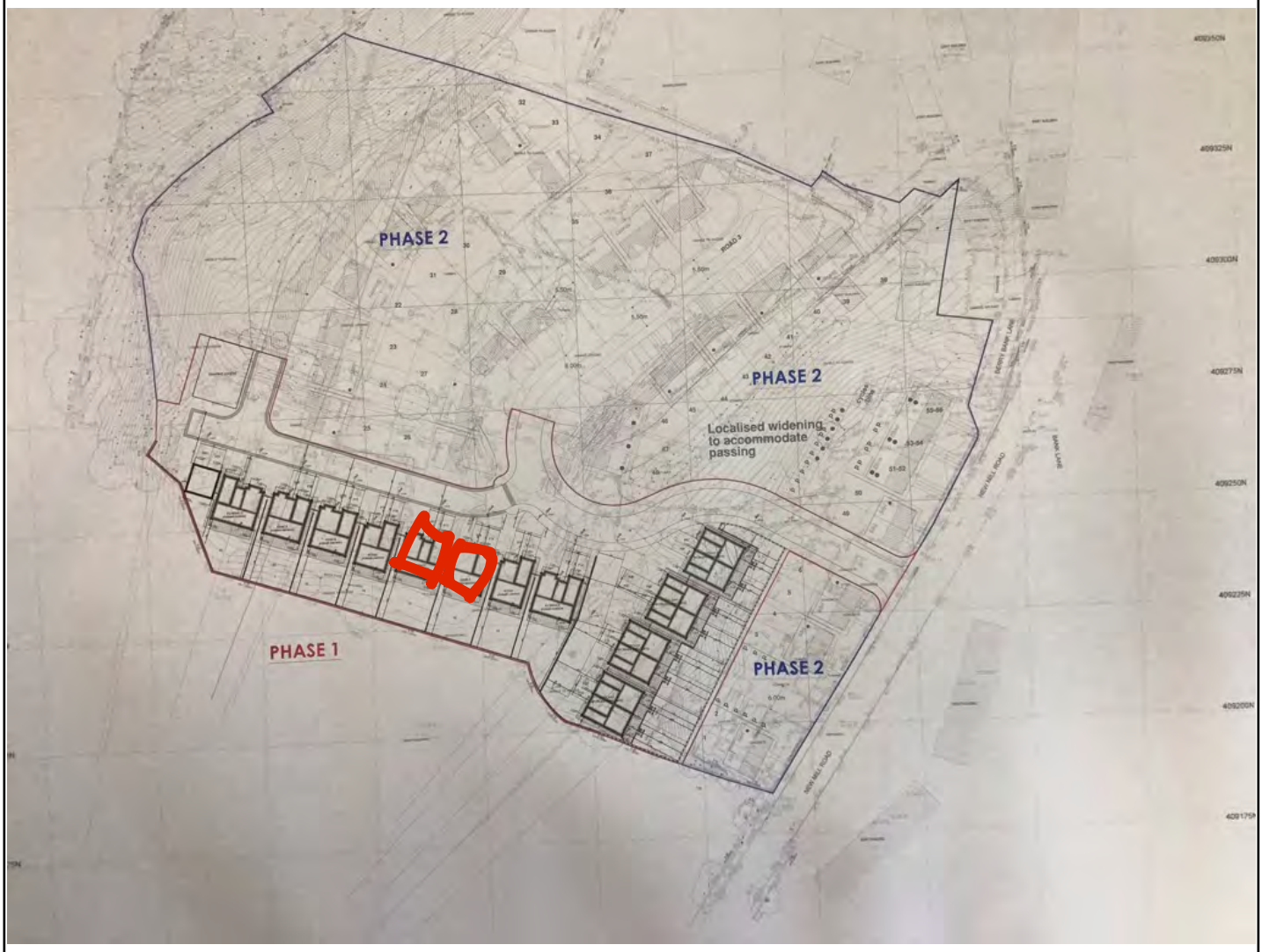
TIME: 10:00 - 12:30 REPORT NUMBER: 008

DATE: 24th March 2021

ACCOMPANIED Adrian Needle

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Plots 16-17 infills verified in this report

Highlighted above

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Area that has been Installed

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of Area that has been Installed

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 16-17

NOTES: Corner details have been sealed with Visqueen GR SAM

as per the toolbox talk. All works visually inspected and good bond has been achieved.

Good overlap onto the Standard Gas Barrier and extended up inner leaf as agreed.

1. Corner detail sealed

2. Corner detail sealed

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

3. Overview of corner details sealed.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 16-17

NOTES: Standard Gas Barrier installed and sealed to Visqueen

GR DPC using Visqueen GR Lap Tape. Lap Tape heat activated to ensure good consistent bond achieved. All works visually inspected and sealed.

1. Overview of Visqueen Standard Gas Barrier sealed to GR DPC.

2. Overview of Visqueen Standard Gas Barrier sealed to GR DPC.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

3. Overview of Visqueen Standard Gas Barrier sealed to GR DPC.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 16-17

NOTES: Joints in the Visqueen Standard Barrier have been sealed as per manufacturers specification. Double sided butyl tape inside the joints and GR Foil Tape to the overlaps. Works visually inspected, passed and verified.

1. Overview of joints sealed as per manufacturers specification.

2. Overview of joints sealed as per manufacturers specification

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

3. Overview of joints sealed as per manufacturers specification

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Corner detail sealed

Corner detail sealed

Garage sealed

Insulation to protect membrane in walkways.

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

Report 008 is for Plots 16-17. Visqueen Standard Gas Barrier has been installed throughout. Joints have been sealed as per manufacturers specification with double sided butyl tape inside the joints and GR Foil Tape on the overlaps. Corner details sealed with GR SAM to extend up inner leaf as agreed. Standard gas barrier sealed to GR DPC running through cavity walls. Sufficient number of telescopic vents for CS3 site.

Next visit to verify the infills for Plots 7-13.

Plots 16-17 passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	24th March 2021

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 022

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 46 & 47 inclusive (Perimeters & Internal Walls only)

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 9.0C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 06:45 to 07:30 REPORT NUMBER: 022

DATE: 01/06/2023

ACCOMPANIED Adrian Needle

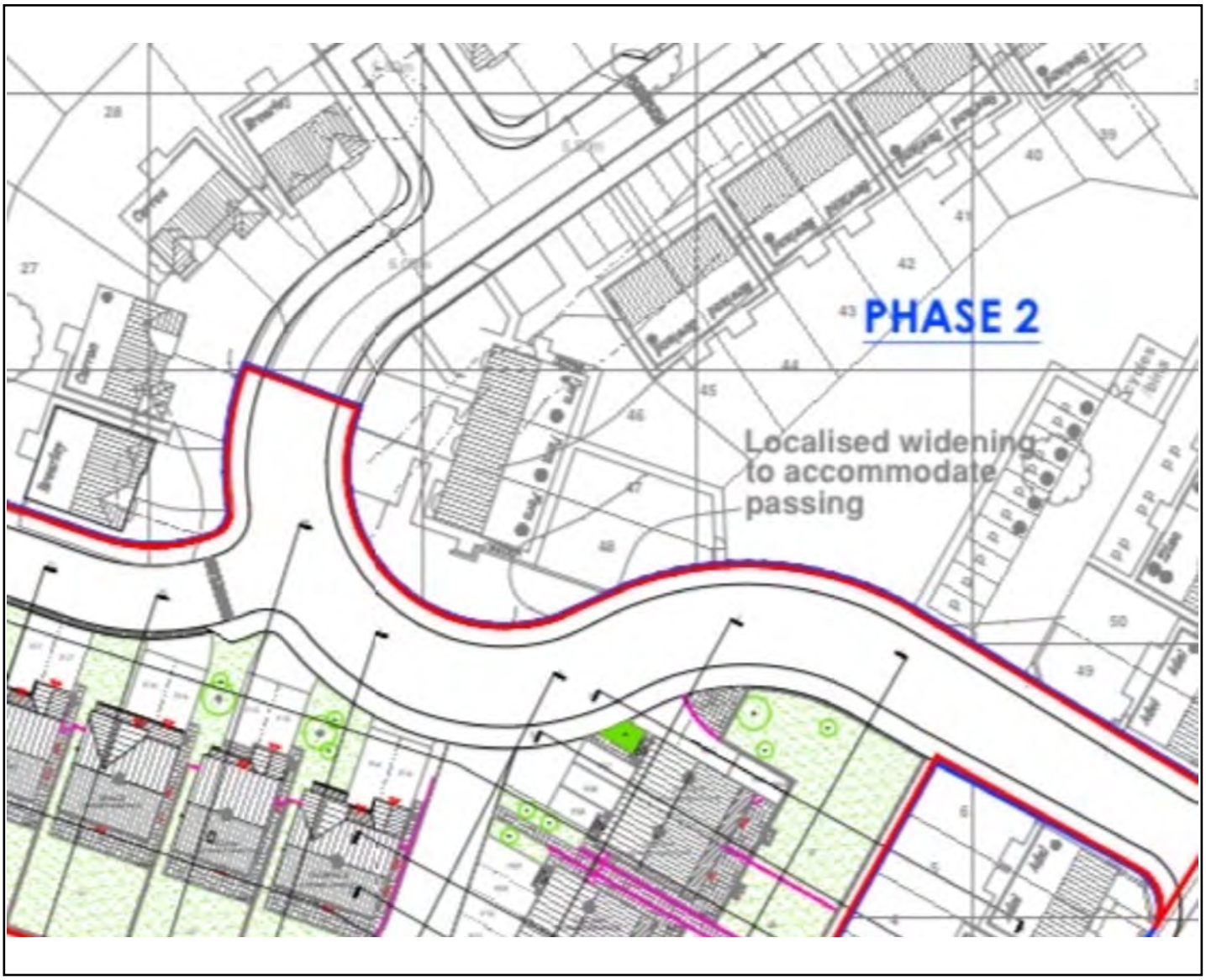
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots (infill only)

Plots 46 & 47 outlined in red

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and internal walls completed.

Plot 46

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and internal walls completed.

Plot 47

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 46 & 47 inclusive (Perimeters & Internal Walls).

NOTES: Visqueen Ultimate Damp Proof Course Installation-Lap Joint

The perimeters, party walls and any internal walls had a strip of Visqueen Ultimate Damp Proof Course installed and sealed with a minimum 150mm lap joint. The various lap joints were dual sealed using both the Visqueen Double Sided Butyl Tape and a strip of

Visqueen ProDetailing Tape. The left image shows the Mechanical Point Stress Test being undertaken and the right image shows the minimum lap plus Butyl Tape seals.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

The image shows a typical Visqueen Ultimate Damp Proof Course which has been used beneath the proposed internal walls lapping with the perimeter installation. The various laps were completed combining both the Visqueen using the Visqueen Double Sided Butyl Tape and Visqueen ProDetailing Tape. No faults were identified throughout.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 46 & 47 inclusive (Perimeters & Internal Walls).

NOTES: Internal/External Corner Detailing

The various internal/external corners were all completely sealed using strips of Visqueen ProDetailing Tape. The initial inspection determined that the installation had fully bonded to the Visqueen Ultimate Damp Proof Course.

The images show the typical Mechanical Point Stress Test being undertaken checking that the Visqueen ProDetailing Tape had bonded correctly. In addition, the installation was visually checked where there was the occasional creasing to the Visqueen ProDetailing Tape but the creases did not pose any issues and therefore no potential capillary leaks were identified throughout the verification process.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

The overview image shows two typically installed corners which had been sealed along the perimeter corners. The initial inspection noted that each of the completed corner installations were fully bonded to the Visqueen Gas Resistant Damp Proof Course and this was aid

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 46 & 47 inclusive (Perimeters & Internal Walls).

NOTES: Visqueen Ultimate Damp Proof Course-Perimeter Install

A strip of Visqueen Ultimate Damp Proof Course had been installed/profiled to lap the perimeter of the Plots and profiled along the block & beam and up and over the perimeter terminating above the air brick level. The left image shows how the

Visqueen Ultimate Damp Proof Course has been typically installed around the plot perimeters. The whole of the installation was also visually checked where no damage and/or punctures was identified. In addition, the ventilation leading from the subfloor void was identified and the right image shows a typical air brick.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

The overview image shows a typically installed strip of Visqueen Ultimate Damp Proof Course which terminates upon the course of stonework and above the various air bricks leading from the subfloor void.

No faults were identified throughout the verification process.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✔
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✔
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✔
24/02/2023	019	There were no faults identified throughout the verification.	✔
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✔
01/06/2023	022	No faults were identified during the verification process.	✔

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the only pipe penetration which penetrated each plot this report.

Mechanical Point Stress Test being undertaken along the GRSAM seal

Mechanical Point Stress Test being undertaken along the GRSAM seal

View showing the Visqueen Ultimate DPC beneath typical internal walls

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View showing the Visqueen Ultimate DPC to perimeter/internal wall junction

View of typical internal corner sealed with Visqueen ProDetailing Tape

View of typical corners sealed with Visqueen ProDetailing Tape

Mechanical Point Stress Test being undertaken along lap joint.

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES		NO	✔

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✔
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✔
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-second visit to site where two plots have had a strip of

Visqueen Ultimate Damp Proof Course to plots 46 & 47.

The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to all corners.

>. Visual inspection of the whole installation where no punctures were identified

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE: 01/06/2023

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	023
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ✓ NO: ☐ PROJECT: YES: ☐ NO: ✓

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plot 48 (Perimeters & Internal Walls only)

Plots 49 & 50 (Infill)

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 13.5C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 06:30 to 08:00 REPORT NUMBER: 023

DATE: 07/08/2023

ACCOMPANIED Adrian Needle

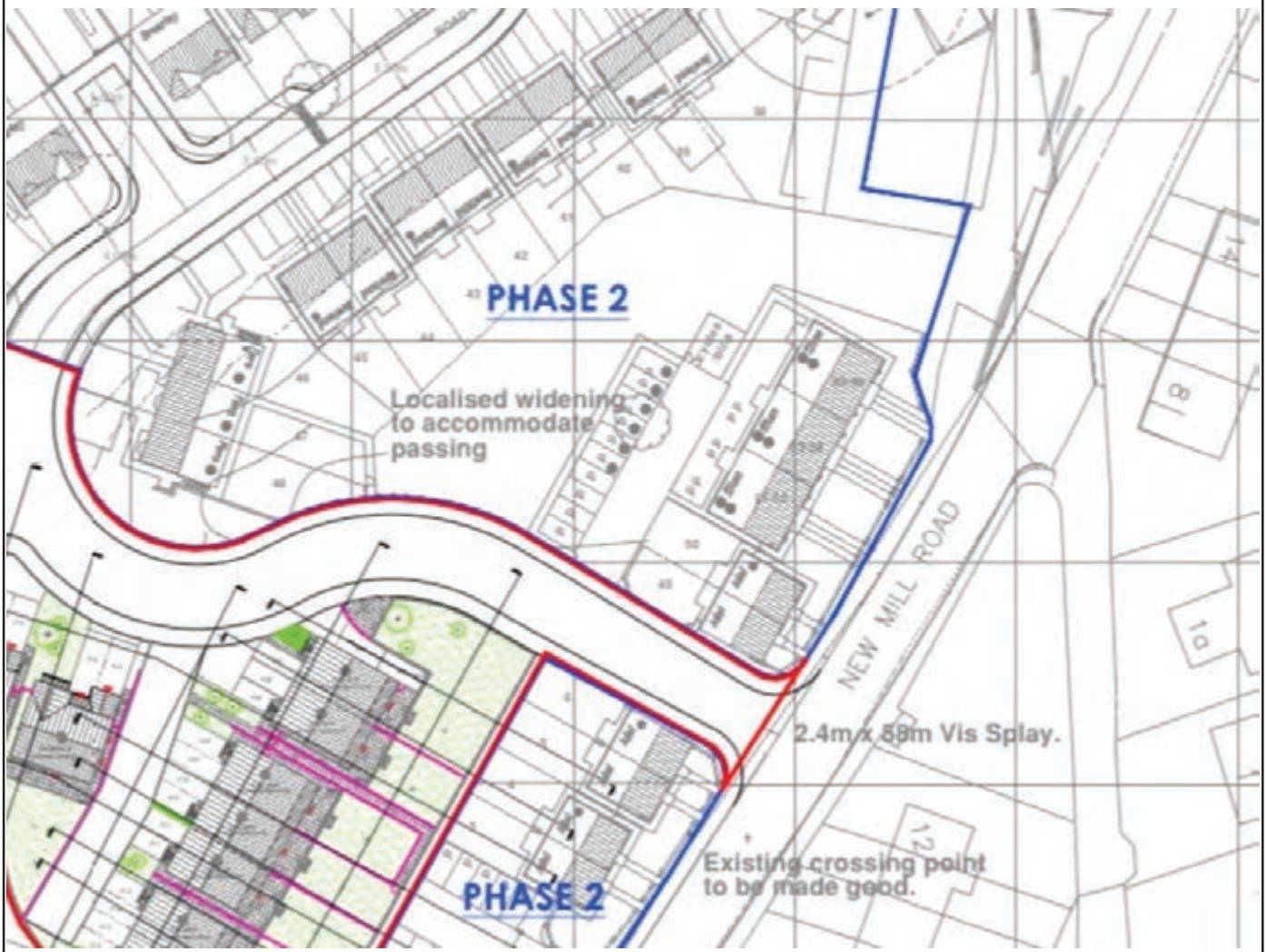
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots

Plot 48 (Perimeter/Internal Walls Only) outlined in blue

Plots 49 & 50 (Infill) outlined in red.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and internal walls completed.

Plot 48

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 49

GEOSHIELD Verification Report

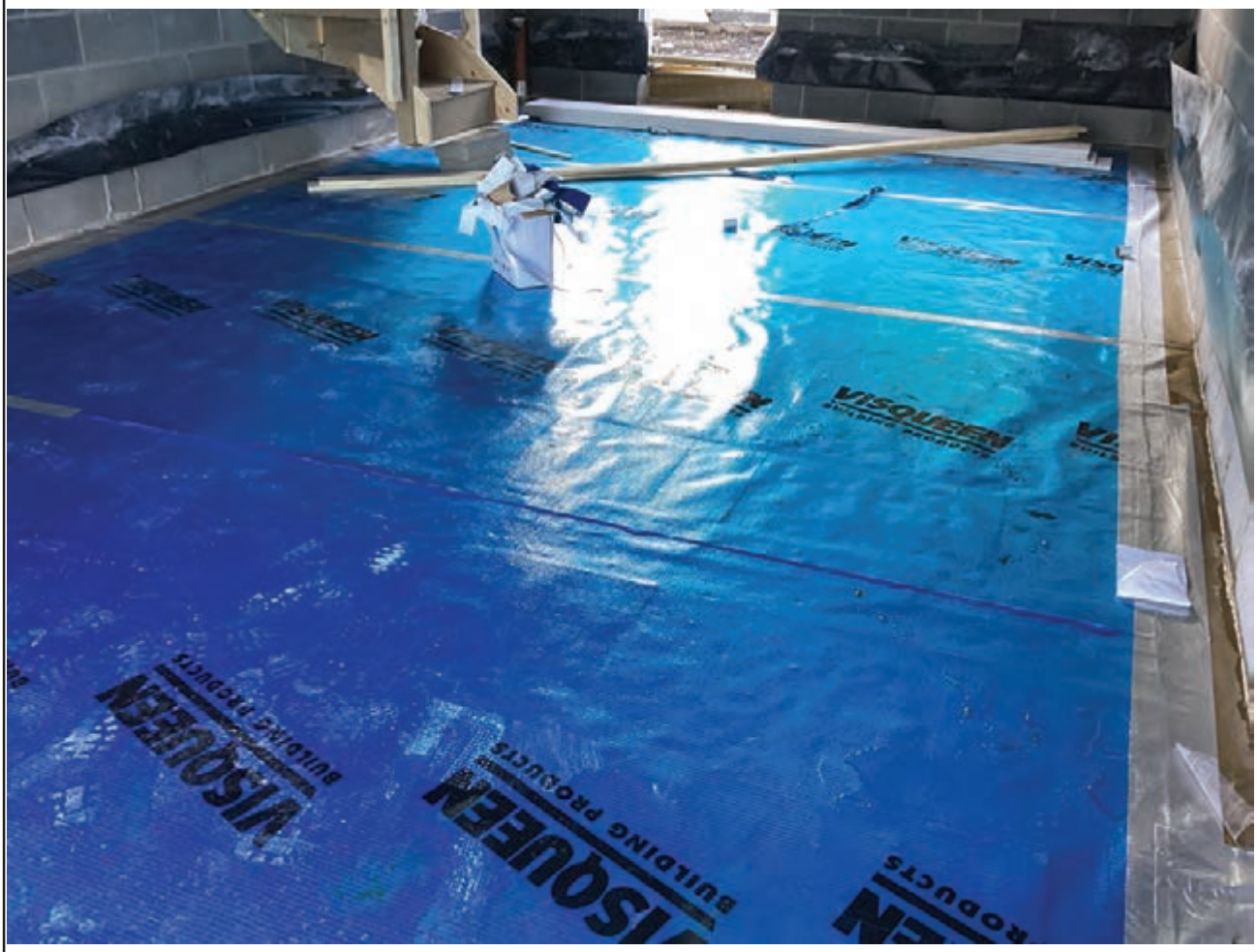
OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of the verification area within the Integral Garage

Plot 49

GEOSHIELD Verification Report

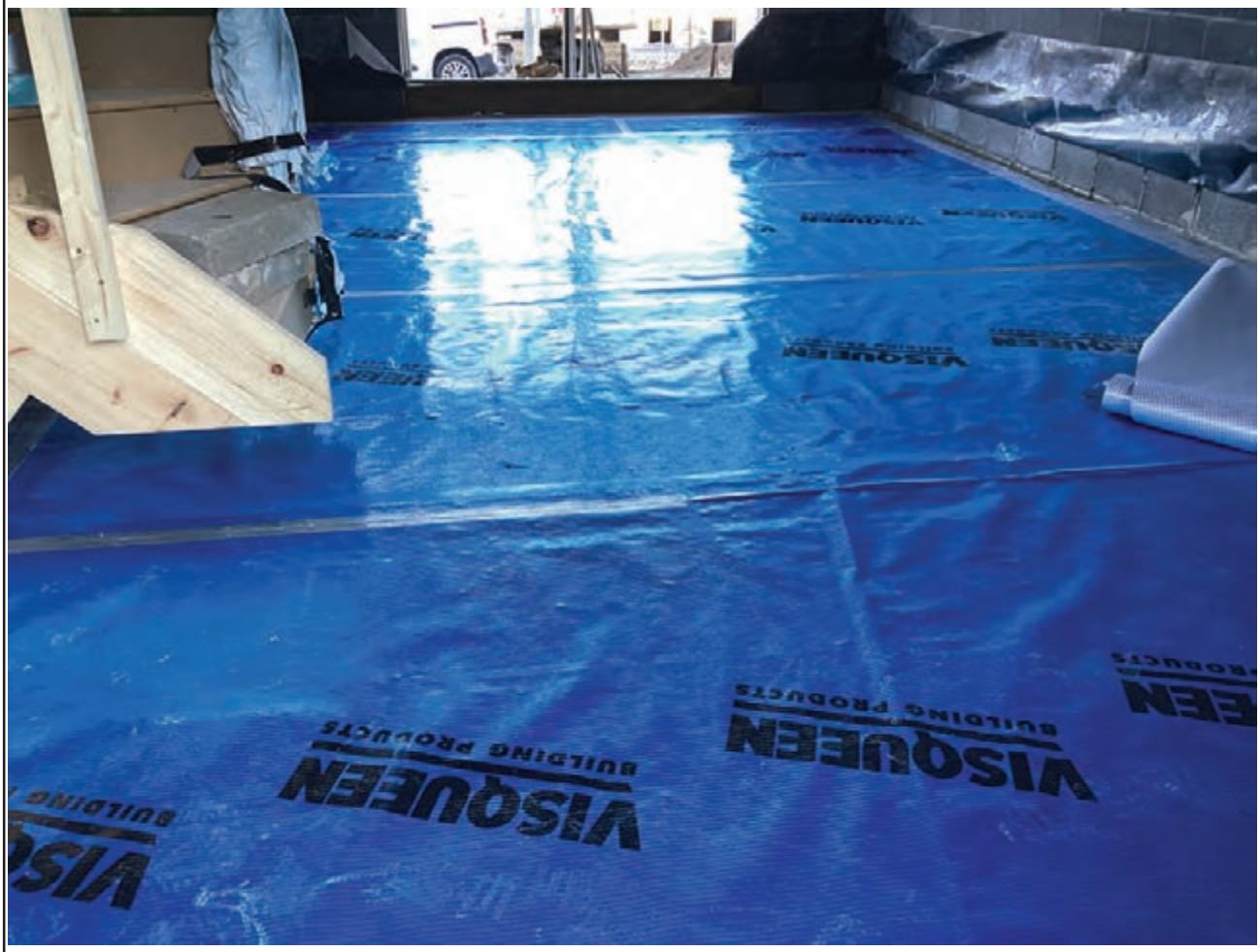
OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

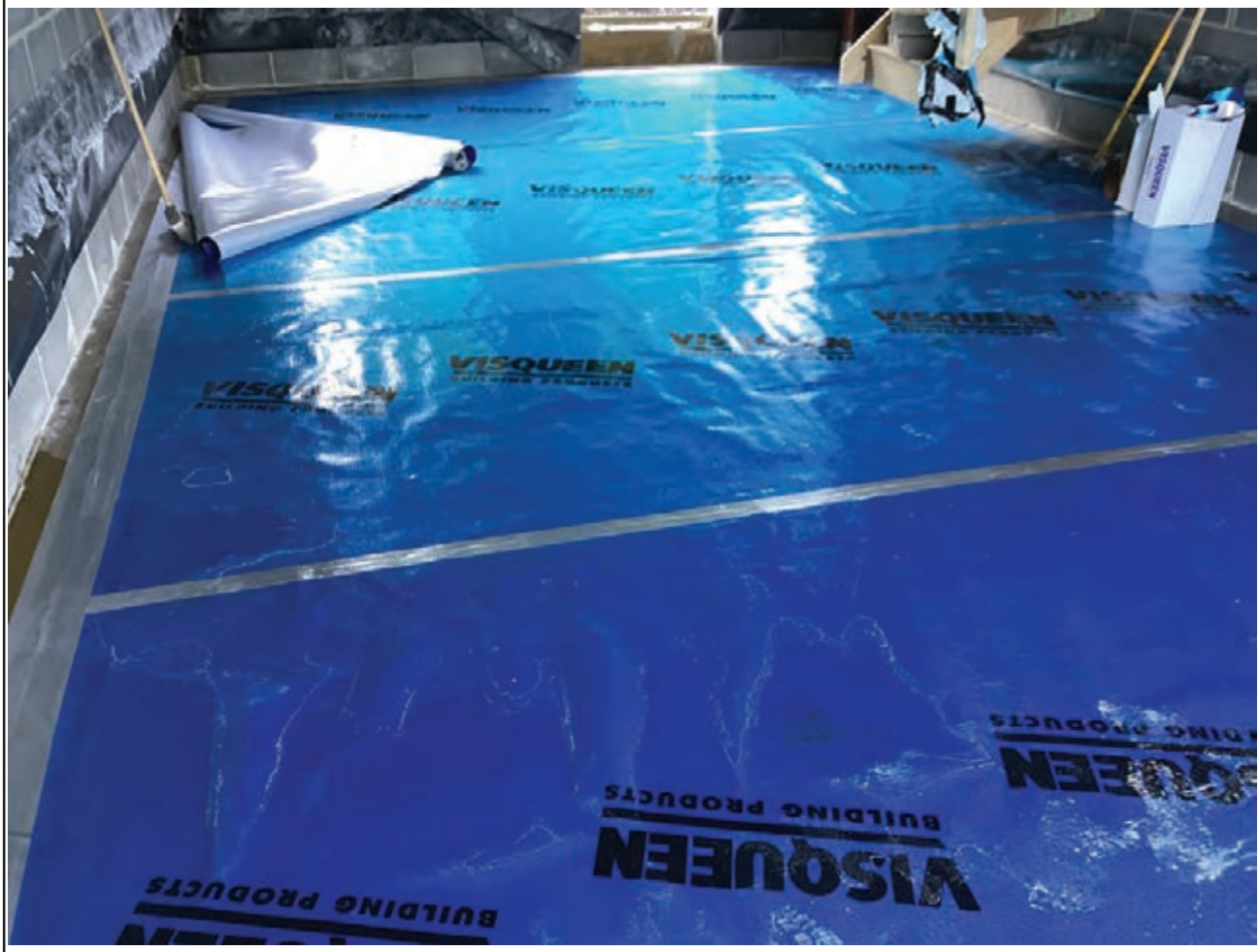


General internal overview of the verification area.

Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of the verification area within the Integral Garage

Plot 50

GEOSHIELD Verification Report

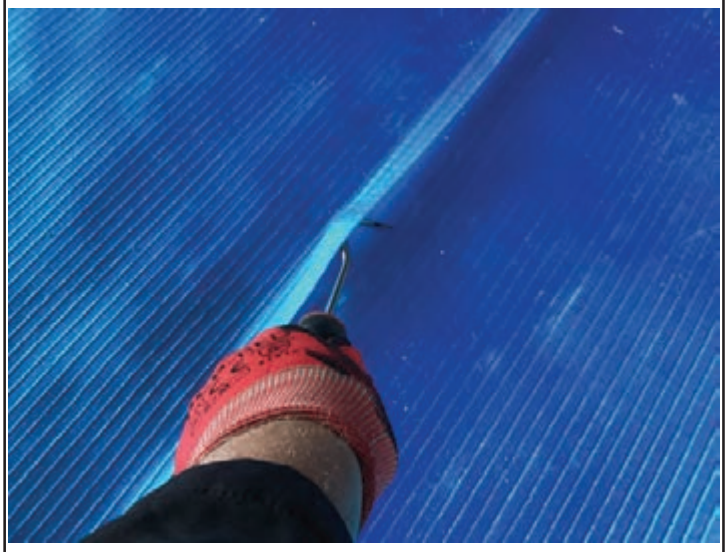
VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 49 & 50 inclusive (infill only)

NOTES: Visqueen Gas Barrier Installation-Lap Joint

The installation of the Visqueen Gas Barrier had all been lapped and sealed using a dual taped system combining both the Visqueen Double Sided Butyl Tape and GR Foil Tape.

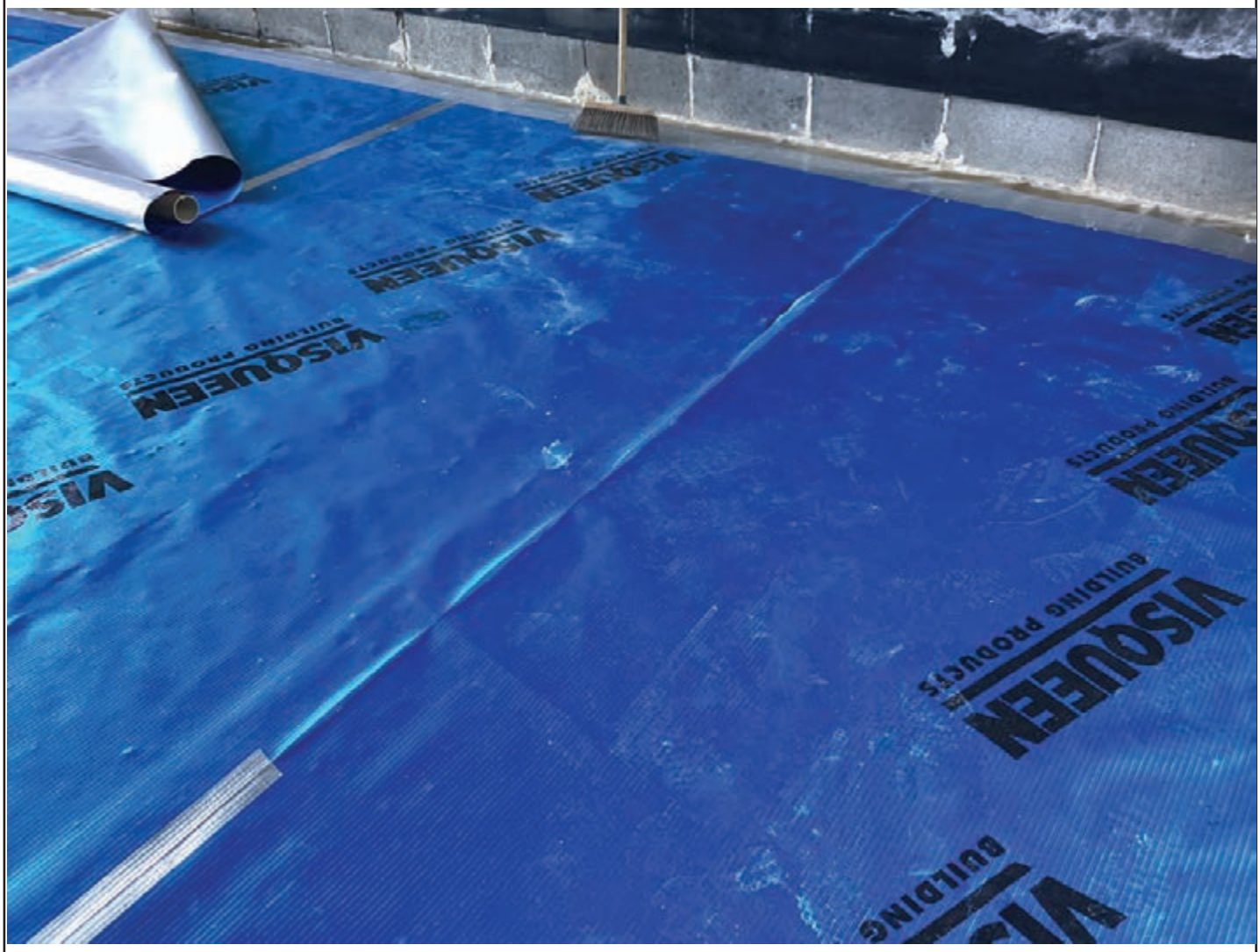
The left image shows where the Double Sided Butyl Tape had been exposed allowing the



Mechanical Point Stress Test to be undertaken which confirmed a full seal had been achieved. The right image shows the Double Sided Butyl Tape providing the lap joint seal.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



The overview image shows the area where the GR Foil Tape had been removed to allow access to the Double Sided Butyl Tape used to seal the lap joint. The Mechanical Point Stress Test was then undertaken to ensure the completed seal was providing a robust seal between the two sections of Visqueen Gas Barrier. No faults were identified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 38, 39, 40 & 41 inclusive (infill only)

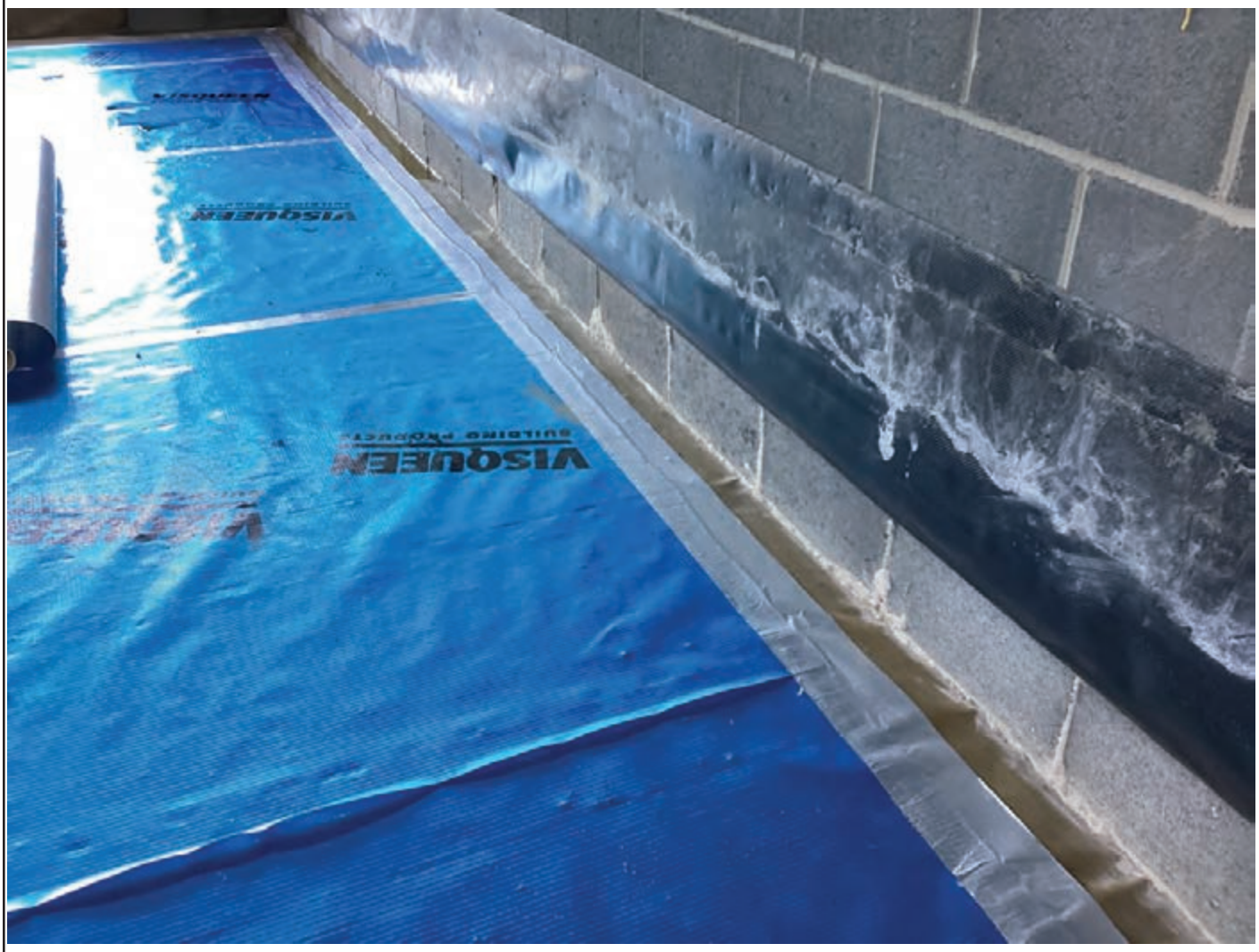
NOTES: Perimeter Detailing

The interior of both plots were infilled using the Visqueen Gas Barrier where the edges we're under-lapped combining both the Visqueen Double Sided Butyl Tape and a strip of Visqueen ProDetailing Tape. The initial inspection involved checking there were no

excessive creasing across the width of the installation and that a full bond had been achieved with both the Visqueen Ultimate Damp Proof Course and the Visqueen Gas Barrier. The bond was confirmed when the Mechanical Point Stress Test was undertaken as per the above two images. There were no signs of unsealed lap joints and therefore no potential capillary leak risk.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO



The overview image shows the perimeter edge where the previously verified Visqueen Ultimate Damp Proof Course was lapped and sealed with using a dual taped system. The image also shows an exposed internal lap joint where the Visqueen Double Sided Butyl Tape was exposed and verified.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 48 (Perimeters & Internal Walls).

NOTES: Visqueen Ultimate Damp Proof Course-Perimeter Install

A strip of Visqueen Ultimate Damp Proof Course had been installed/profiled to lap the perimeter of the Plots and profiled along the block & beam and up and over the perimeter terminating above the air brick level. The left image shows how the

Visqueen Ultimate Damp Proof Course has been typically installed around the plot perimeters. The whole of the installation was also visually checked where no damage and/or punctures was identified. In addition, the ventilation leading from the subfloor void was identified and the right image shows a typical air brick.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

The overview image shows a typically installed strip of Visqueen Ultimate Damp Proof Course which terminates upon the course of stonework and above the various air bricks leading from the subfloor void.

No faults were identified throughout the verification process.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✓
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✓
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✓
02/11/2020	004	Corners must be seen on future visit	✓
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✓
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✓
28/02/2021	007	No faults found	✓
24/03/2021	008	No faults found	✓
26/07/2021	009	No faults found	✓
19/01/2022	010	No faults found	✓
26/01/2022	011	No faults found	✓
15/02/2022	012	No faults found	✓

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✓
24/05/2022	014	No faults found	✓
22/06/2022	015	No faults found	✓
27/07/2022	016	No faults found during visit	✓
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✓
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✓
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✓
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✓
24/02/2023	019	There were no faults identified throughout the verification.	✓
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✓

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✓
01/06/2023	022	No faults were identified during the verification process.	✓
07/08/2023	023	No faults were identified during the verification process.	✓

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the only pipe penetration which penetrated each plot this report.

Mechanical Point Stress Test being undertaken along the GRSAM seal

Mechanical Point Stress Test being undertaken along the GRSAM seal

View showing the Visqueen Ultimate DPC beneath typical internal walls

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of various internal/external

corners sealed with GRSAM

Mechanical Point Stress Test to

a typical internal corner

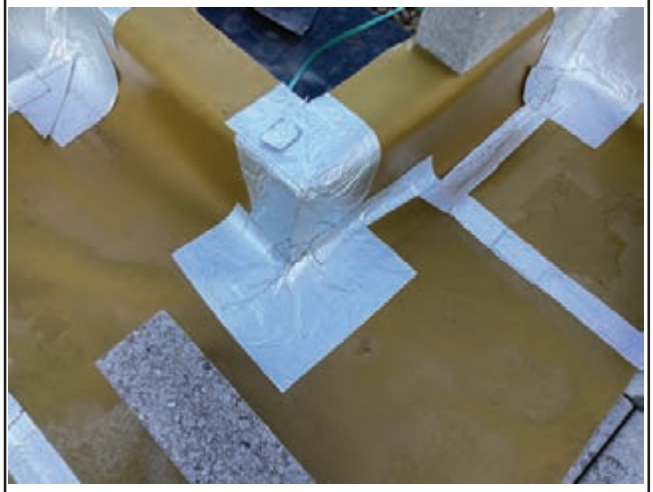
Mechanical Point Stress Test to

a typical external corner

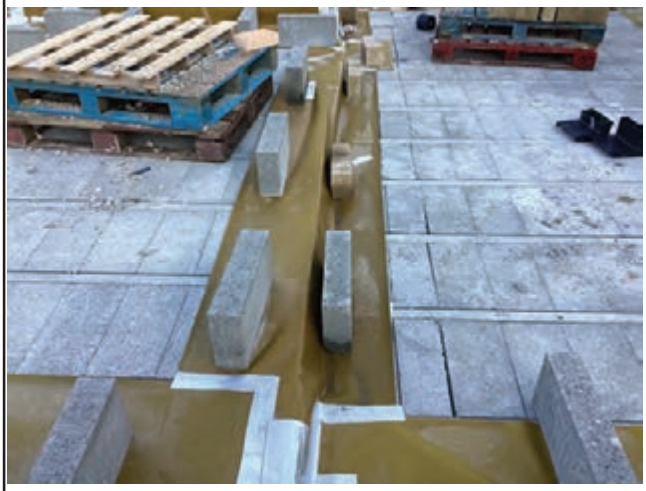
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

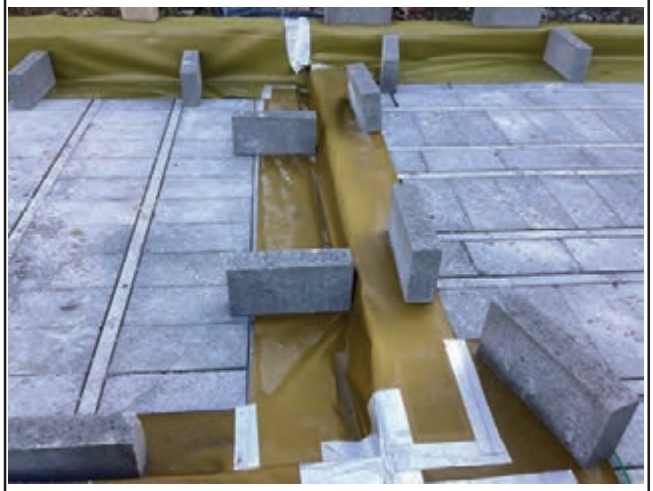
View of typical internal corner sealed with strips of Visqueen GRSAM



View of typical external corner sealed with strips of Visqueen GRSAM



View of the stepped detail where the Visqueen Ultimate DPC is profiled



View of the stepped detail where the Visqueen Ultimate DPC is profiled

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of the Visqueen Double Sided

Butyl Tape present within lap joint

View of the Visqueen Double Sided

Butyl Tape present within lap joint

View of a typical lap where the Ultimate

DPC is lapped minimum 150mm

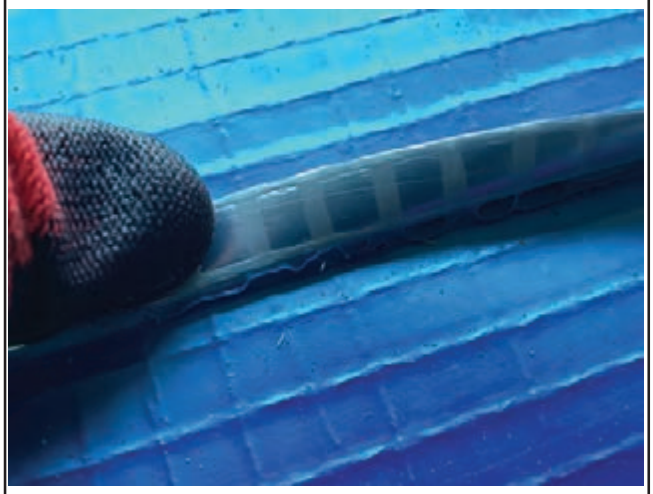
View of the Visqueen Double Sided

Butyl Tape present within lap joint

GEOSHIELD Verification Report

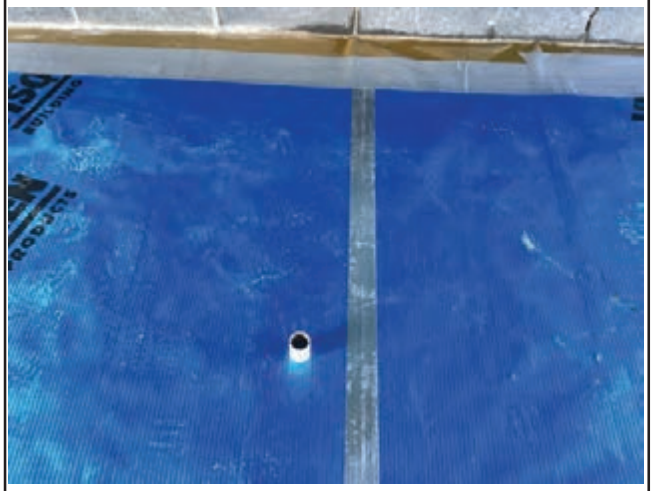
ADDITIONAL PHOTOGRAPHS

Mechanical Point Stress Test to an exposed lap joint during verification



View of Double Sided Butyl Tape within exposed lap joint seal

View of sampled lap joint where the seal was checked and verified



View of a typically completed lap joint where lap tape in place

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES		NO	✓

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 20-21	✓
Gridline/Plot Sign off	Plots 14-15 and 18-19	✓
Gridline/Plot Sign off	Plots 16-17	✓
Gridline/Plot Sign off	Plots 7-13	✓
Gridline/Plot Sign off	Plot 25 Perimeters	✓
Gridline/Plot Sign off	Plots 23-24 Perimeters	✓
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✓
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✓

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES	✓	NO	

Testing checklist attached: YES | | NO | ✓

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✓
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✓
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✓
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✓
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✓
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49 & 50 infill	✓
Gridline/Plot Sign off	Plot 48 perimeters & internal walls	✓
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-third visit to site where Plot 48 has had a strip of the Visqueen Ultimate Damp Proof Course installed and Plots 49 & 50 have been infilled. The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to all corners.

>. Visual inspection of the whole installation where no punctures were identified at the time of verification.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	07/08/2023

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO101204
REPORT NUMBER:	024
PROJECT:	Signature Homes - Holmfirth
PROJECT ADDRESS:	New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

AREA SURVEYED: Plots 42, 43, 44 & 45 inclusive (infill only)

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 13.5C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 12:30 to 14:30 REPORT NUMBER: 024

DATE: 18/09/2023

ACCOMPANIED Adrian Needle

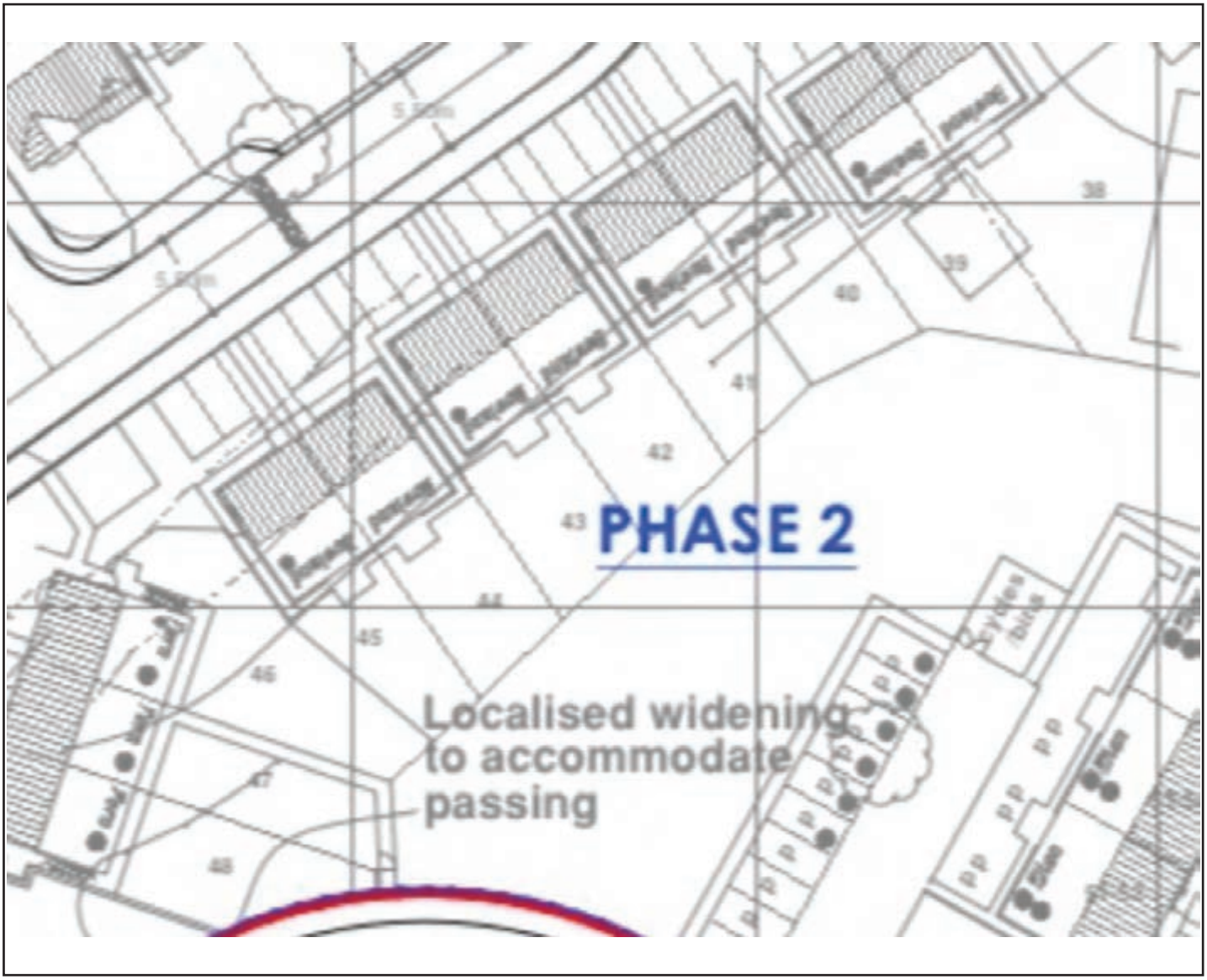
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots

Plots 42, 43, 44 & 45 (Infill) outlined in red.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 42

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 42

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 42

NB - the insulation was moved aside during the verification process.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 43

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 43

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 43

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 44

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 44

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 45

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 45

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 42, 43, 44 & 45 inclusive (infill only)

NOTES: Visqueen Gas Barrier Installation-Lap Joint

The installation of the Visqueen Gas Barrier had all been lapped and sealed using a dual taped system combining both the Visqueen Double Sided Butyl Tape and GR Foil Tape.

The left image shows where the Double Sided Butyl Tape had been exposed allowing the

Mechanical Point Stress Test to be undertaken which confirmed a full seal had been achieved. The right image shows the Double Sided Butyl Tape providing the lap joint seal.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

The overview image shows the area where the GR Foil Tape had been removed to allow access to the Double Sided Butyl Tape used to seal the lap joint. The Mechanical Point Stress Test was then undertaken to ensure the completed seal was providing a robust seal between the two sections of Visqueen Gas Barrier. No faults were identified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 42, 43, 44 & 45 inclusive (infill only)

NOTES: Pipe Penetration Detailing

The various pipe penetrations were all completely sealed using strips of Visqueen ProDetailing Tape. The initial inspection determined that the installation had fully bonded to both the pipe itself and the Visqueen Ultimate Damp Proof Course.

The images show the typical Mechanical Point Stress Test being undertaken checking that the Visqueen ProDetailing Tape had bonded correctly. In addition, the installation was visually checked where there was the occasional creasing to the Visqueen ProDetailing Tape but the creases did not pose any issues and therefore no potential capillary leaks were identified throughout the verification process.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

The overview image shows two typically installed pipe penetrations which had been sealed along the perimeter/party wall junction. The initial inspection noted that the proposed cavity blockwork would not affect the pipe penetration and the associated Visqueen ProDetailing Tape installation. No faults were identified throughout.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 42, 43, 44 & 45 inclusive (infill only)

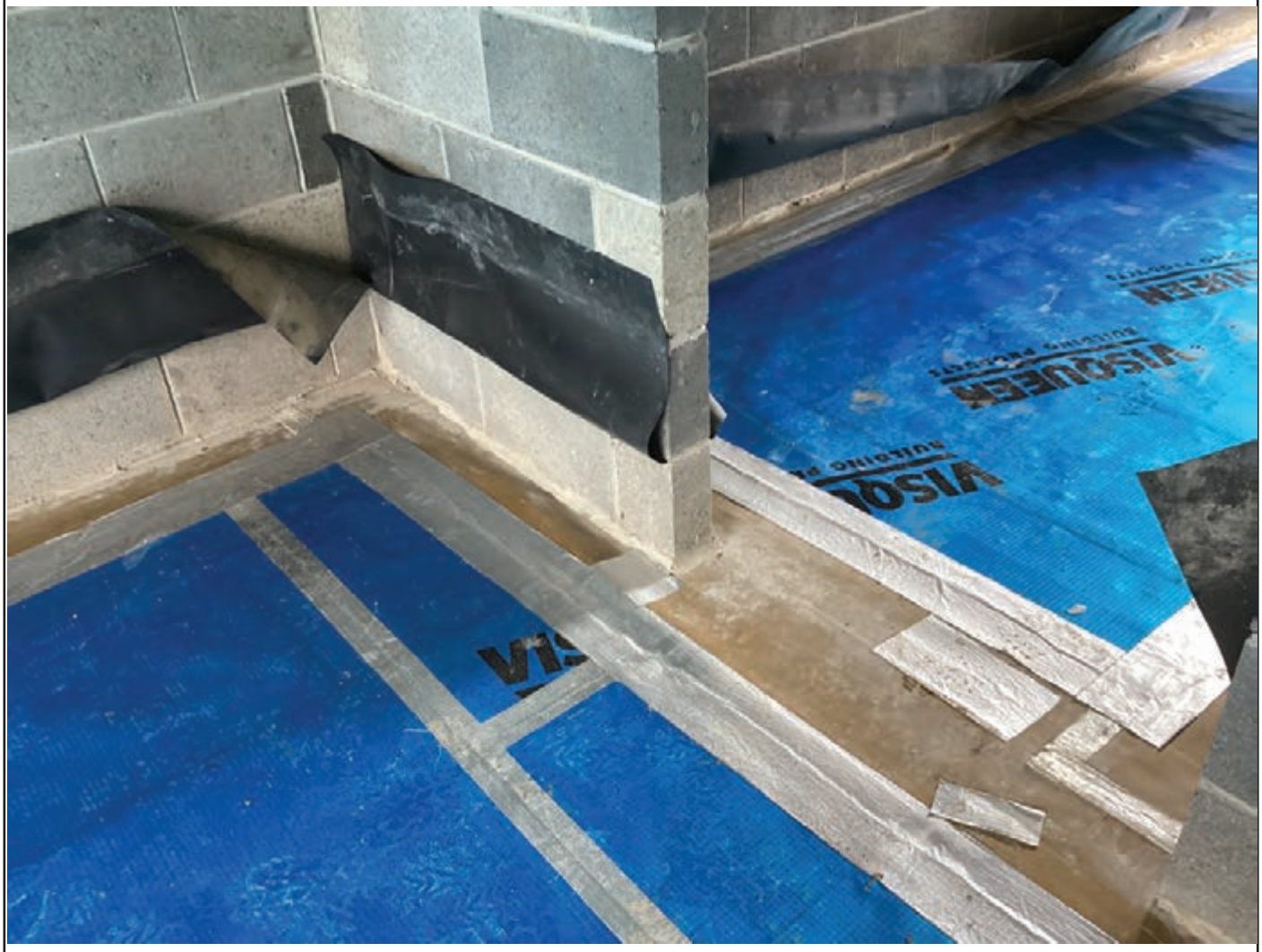
NOTES: Visqueen Gas Barrier/Ultimate DPC Installation

The perimeter and party walls of the four plots had been previously installed and verified. The infill stage involved lapping the Visqueen Gas Barrier with the Visqueen Ultimate Damp Proof Course using strips of Visqueen GR lap Tape. The initial

inspection noted that the Visqueen GR lap Tape looked to have been securely bonded whilst forming and sealing the laps. The images show the Mechanical Point Stress Test being undertaken along the edges of the Visqueen GR lap Tape so as to ensure a secure bond had been achieved and therefore no potential capillary leak risks.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE



The overview image shows the typically lapped and sealed lap joints following the installation of the Visqueen Gas Barrier. The Visqueen GR lap Tape does provide good adhesive properties generally but there were signs that both pressure and heat were used to help improve adhesion. No faults were identified.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✓
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✓
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✓
02/11/2020	004	Corners must be seen on future visit	✓
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✓
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✓
28/02/2021	007	No faults found	✓
24/03/2021	008	No faults found	✓
26/07/2021	009	No faults found	✓
19/01/2022	010	No faults found	✓
26/01/2022	011	No faults found	✓
15/02/2022	012	No faults found	✓

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✓
24/05/2022	014	No faults found	✓
22/06/2022	015	No faults found	✓
27/07/2022	016	No faults found during visit	✓
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✓
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✓
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✓
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✓
24/02/2023	019	There were no faults identified throughout the verification.	✓
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✓

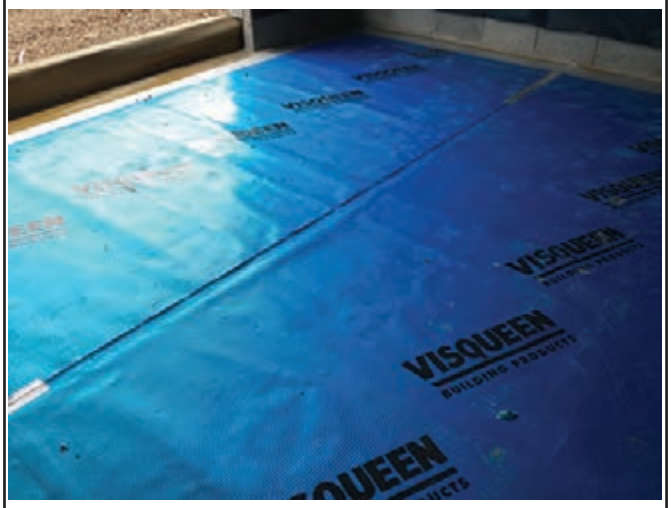
GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✓
01/06/2023	022	No faults were identified during the verification process.	✓
07/08/2023	023	No faults were identified during the verification process.	✓
18/09/2023	024	There were three punctures to the Visqueen Ultimate Damp Proof	
		Course all of which were remediated during the verification visit	✓

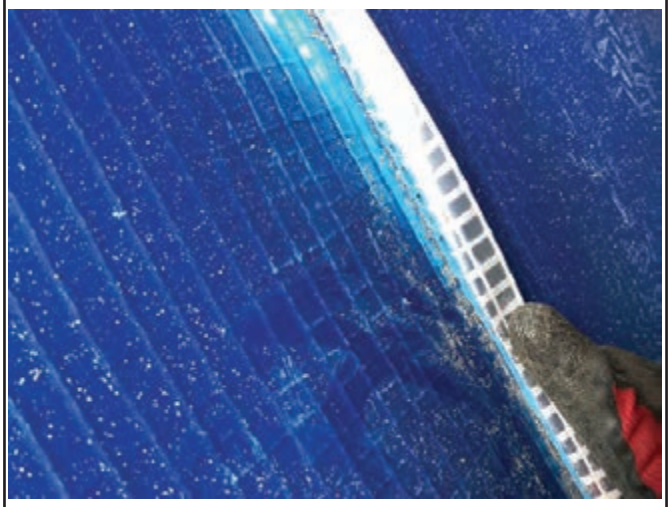
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

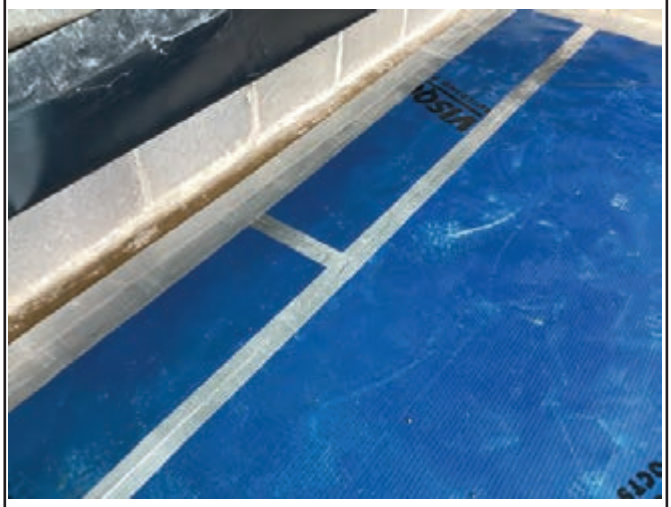


Plot 43 - view of sampled lap joint where seal was checked and verified

Plot 43 - Mechanical Point Stress Test to exposed lap joint during verification



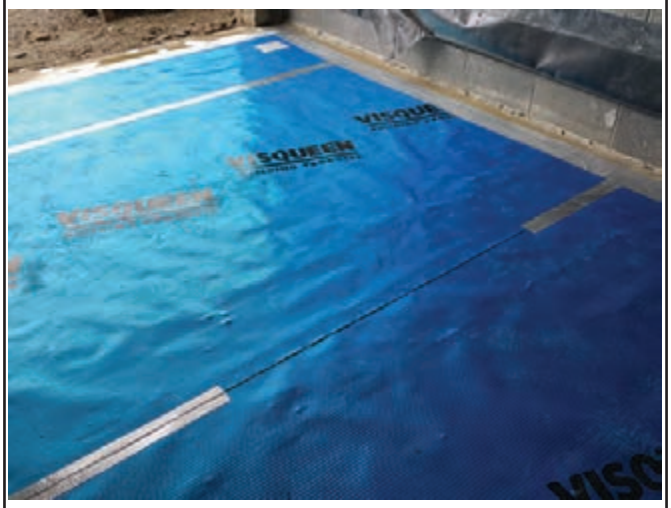
Plot 43 - view of Double Sided Butyl Tape within exposed lap joint seal



Plot 43 - view of a typically completed joint where lap tape in place

GEOSHIELD Verification Report

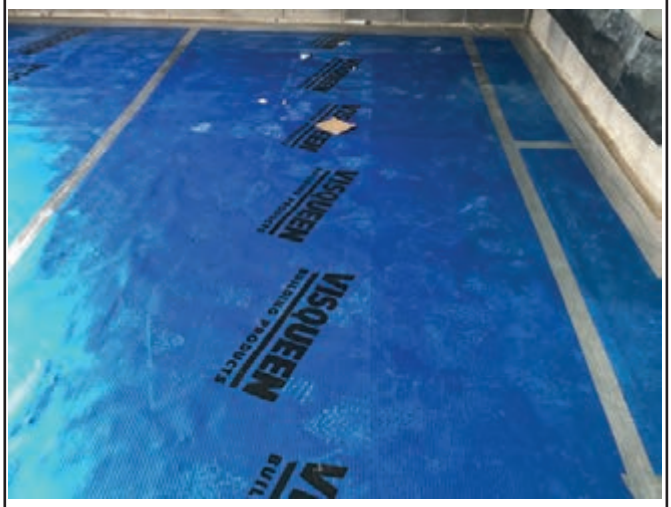
ADDITIONAL PHOTOGRAPHS



Plot 44 - view of sampled lap joint where seal was checked and verified

Plot 44 - Mechanical Point Stress Test to exposed lap joint during verification

Plot 44 - view of Double Sided Butyl Tape within exposed lap joint seal

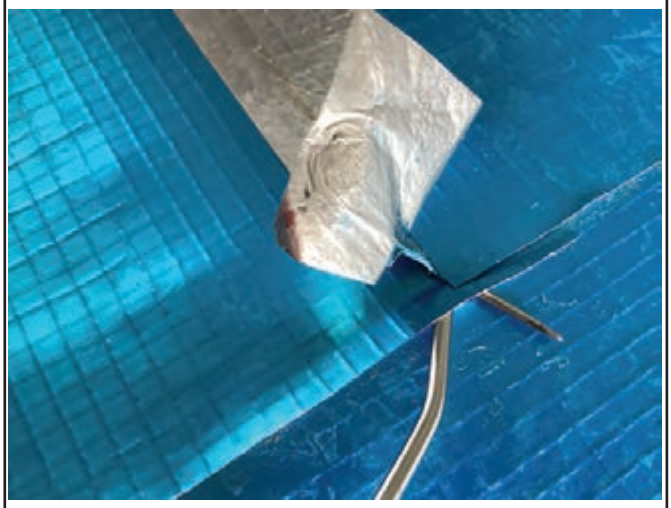


Plot 44 - view of a typically completed joint where lap tape in place

GEOSHIELD Verification Report

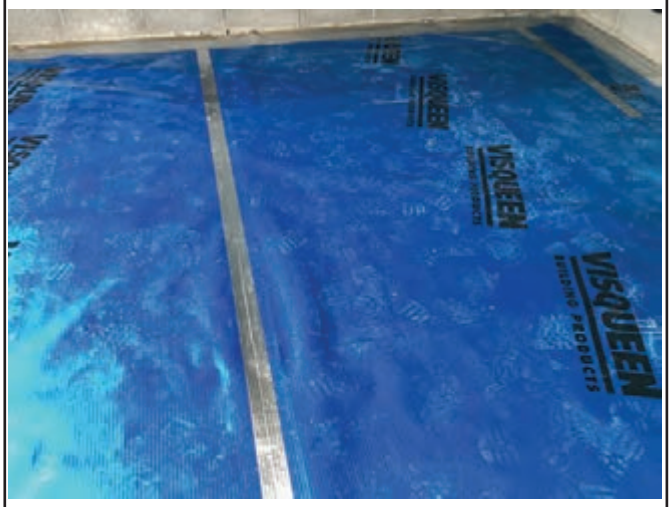
ADDITIONAL PHOTOGRAPHS

Plot 45 - view of sampled lap joint where seal was checked and verified



Plot 45 - Mechanical Point Stress Test to exposed lap joint during verification

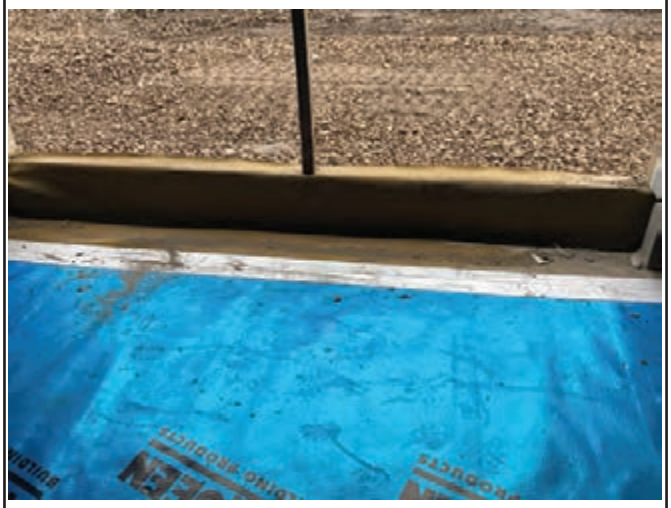
Plot 45 - view of Double Sided Butyl Tape within exposed lap joint seal



Plot 45 - view of a typically completed joint where lap tape in place

GEOSHIELD Verification Report

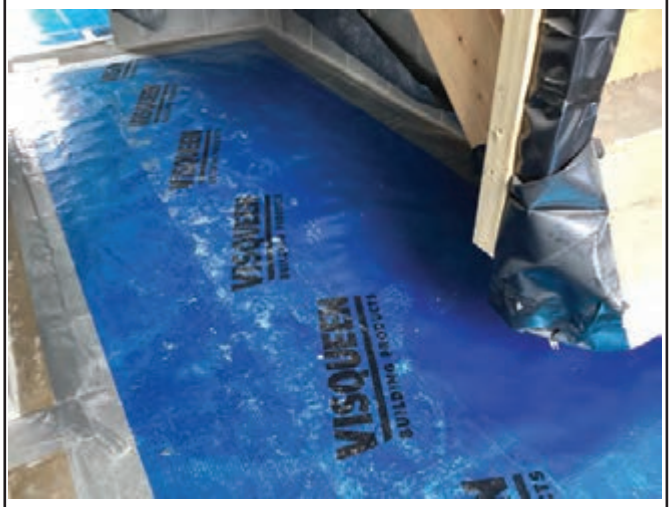
ADDITIONAL PHOTOGRAPHS



View of window threshold where seal continuous with DPC and Gas Barrier

View showing a strip of standard DPC which protected Ultimate DPC

View of door threshold where seal continuous with DPC and Gas Barrier



View of the typical Gas Barrier installation in stairwell area

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Plot 43 - small puncture to threshold

Remediated puncture to threshold

Ultimate DPC requiring remediation

Ultimate Damp Proof Course in Plot 43

Plot 45 - small puncture to ultimate

Remediated puncture to Ultimate

DPC along doorway/threshold

Damp Proof Course in Plot 45

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES		NO	✓

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✓
Gridline/Plot Sign off	Plots 20-21	✓
Gridline/Plot Sign off	Plots 14-15 and 18-19	✓
Gridline/Plot Sign off	Plots 16-17	✓
Gridline/Plot Sign off	Plots 7-13	✓
Gridline/Plot Sign off	Plot 25 Perimeters	✓
Gridline/Plot Sign off	Plots 23-24 Perimeters	✓
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✓
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✓

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✓	NO		SMOKE TEST:	YES		NO	✓
COMPRESSED AIR:	YES		NO	✓	DILECTIC	YES		NO	✓
DESTRUCTIVE:	YES		NO	✓	OTHER:	YES	✓	NO	

Testing checklist attached: YES ☐ NO ✓

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✓
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✓
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✓
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✓
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✓
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 49 & 50 infill	✓
Gridline/Plot Sign off	Plot 48 perimeters & internal walls	✓
Gridline/Plot Sign off	Plots 42, 43, 44 & 45 infills	✓
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-fourth visit to site where Plots 42, 43, 44 & 45 had been

infilled completing the installation of the Gas Membrane requirements.

The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to four sampled (exposed) Gas Barrier lap joints.

>. Visual inspection of the whole installation where three punctures were identified

through the Visqueen Ultimate Damp Proof Course. These were remediated

during the verification visit and recorded within the remediation log this report

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	18/09/2023

GEOSHIELD Verification Report

PROJECT REFERENCE: GEO101204

REPORT NUMBER: 025

PROJECT: Signature Homes - Holmfirth

PROJECT ADDRESS: New Mill Road

Holmfirth

HD9 7LT

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2019

Installed to CIRIA 735

Visqueen GR DPC

Visqueen Standard Gas Barrier

Visqueen Double sided butyl tape

Visqueen GR Foil Tape

Visqueen GR lap Tape

Visqueen Pro Detailing Tape

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: mdodd@Geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES: ☑ NO: ☐ PROJECT: YES: ☐ NO: ☑

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	John Hewitt
CONTACTS ROLE:	Signature Homes Ltd
MOBILE PHONE:	01226 790892
EMAIL ADDRESS:	Johnhewittbeyond@hotmail.com

CLIENT CONTACT:	
CONTACTS ROLE:	
MOBILE PHONE:	
EMAIL ADDRESS	
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	John Hewitt
COMPANY:	Signature Homes
APPLICATOR TEL:	07919445467
APPLICATOR EMAIL:	

APPLICATOR NAME:	Adrian Needle
COMPANY:	Signature Homes
APPLICATOR TEL:	07963810635
APPLICATOR EMAIL:	

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Plots 46 & 47 inclusive (infill only)

Plots 3,4,5 & 6 inclusive (Perimeters and Party Walls only)

Plot 48 - refer also to limitations.

SITE CONDITIONS:

WEATHER: Windy & Raining

TEMPERATURE: 11.0c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 14:40 to 16:00 REPORT NUMBER: 025

DATE: 13/11/2023

ACCOMPANIED Adrian Needle

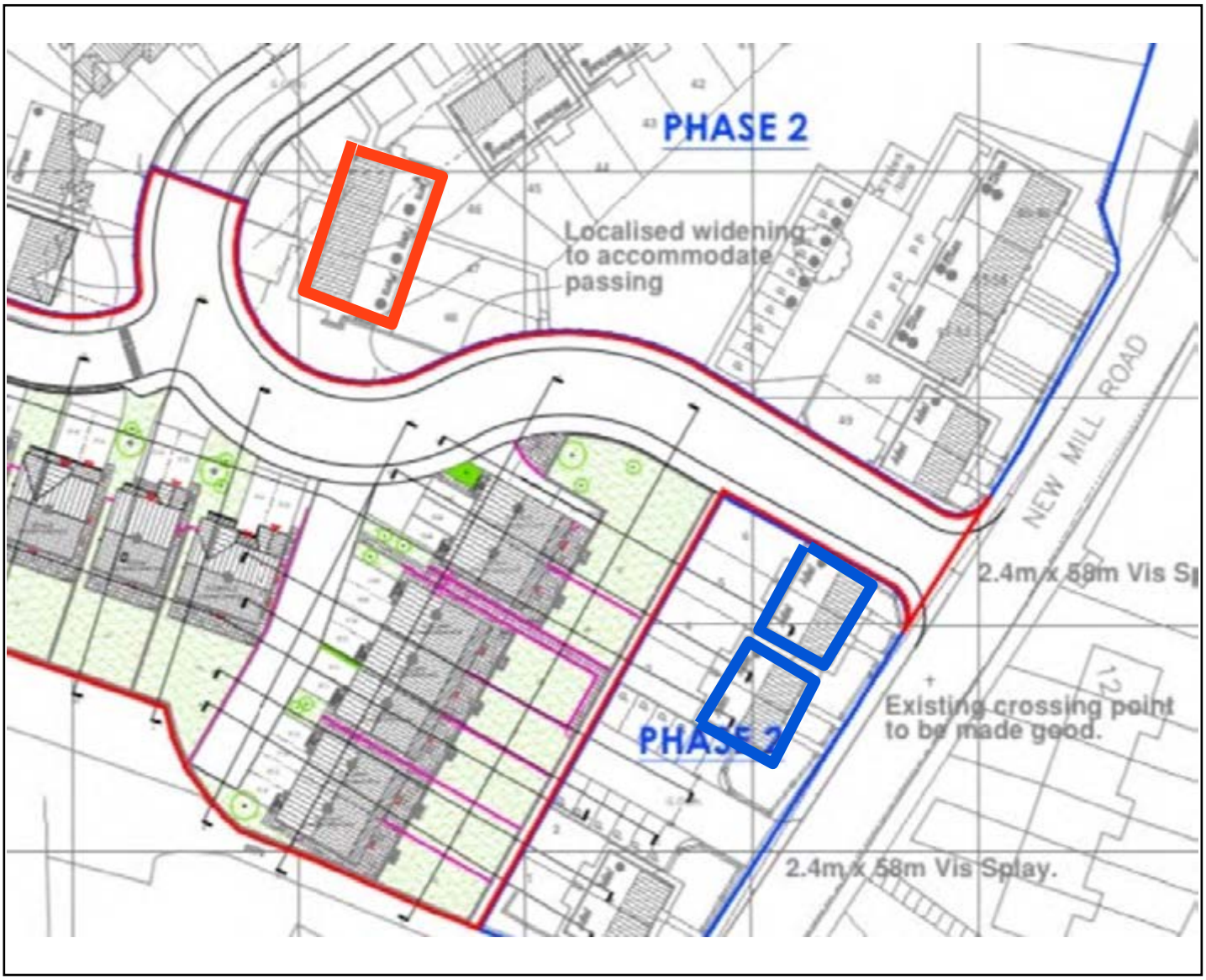
GEOSHIELD Verification Report

VERIFICATION LAYOUT

Overview of the Site Layout

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified plots

Plots 46 & 47 (Infill) outlined in red.

Plots 3,4,5 & 6 (perimeters/party walls) outlined in blue.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 3

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 4

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 5

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area.

Perimeter and party wall completed.

Plot 6

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Plot 48

RESTRICTIONS AND LIMITATIONS: Integral Garage incomplete

During the verification visit, it was noted that the integral garage to Plot 48 had not yet been completed due to mainly some damage to the threshold installation. The images show the extent of the damage where the Visqueen Ultimate Damp Proof Course had been cut/damaged by follow on trades and therefore will require remediation.

The remainder of the Visqueen Ultimate Damp Proof Course to the three elevations within the integral garage looked to be in good condition. The initial protective damp proof course (black) had served its purpose of protecting the Visqueen Ultimate DPC and any surface debris was being cleared away in readiness for the infill stage.

GEOSHIELD Verification Report

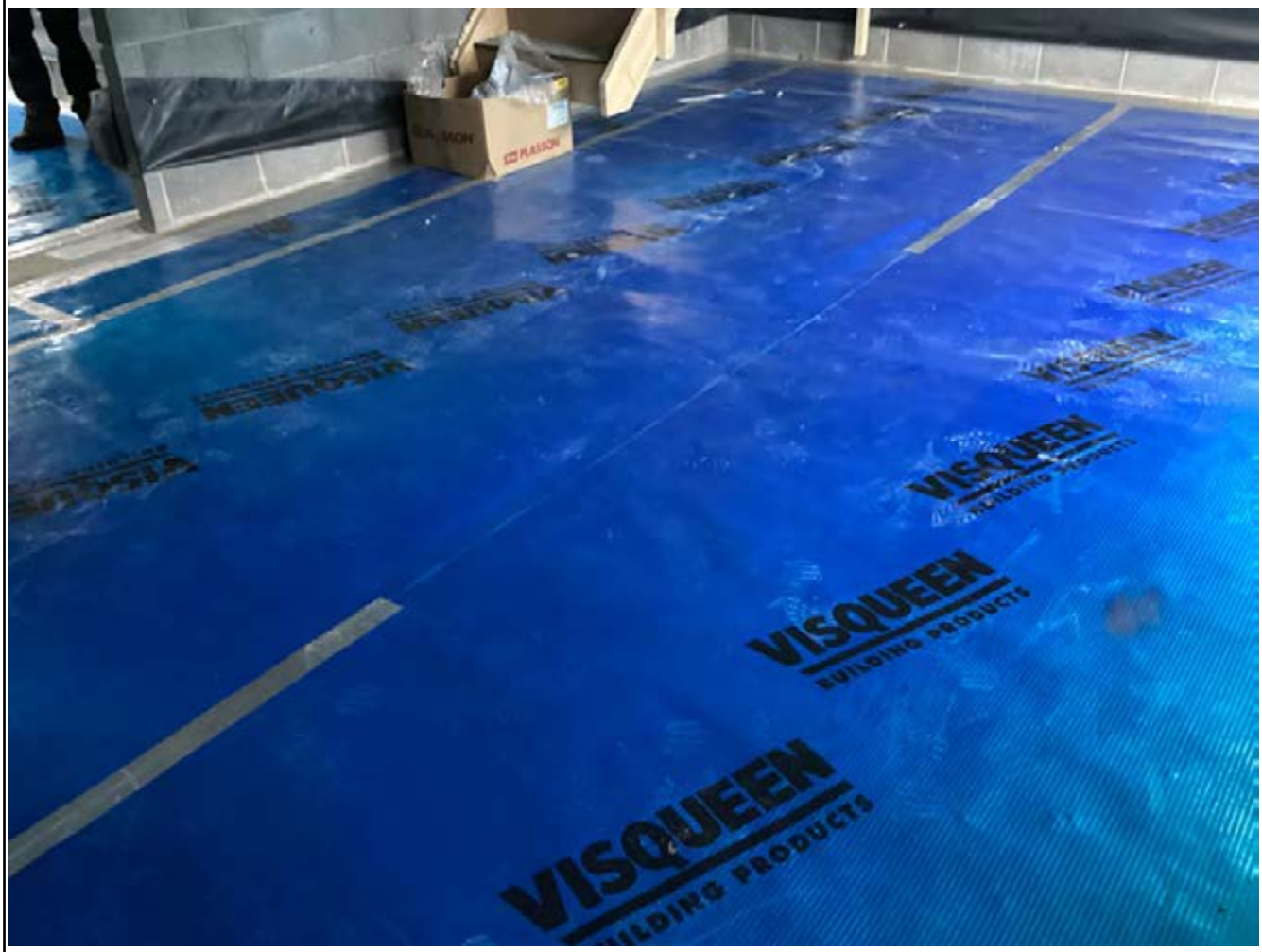
OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

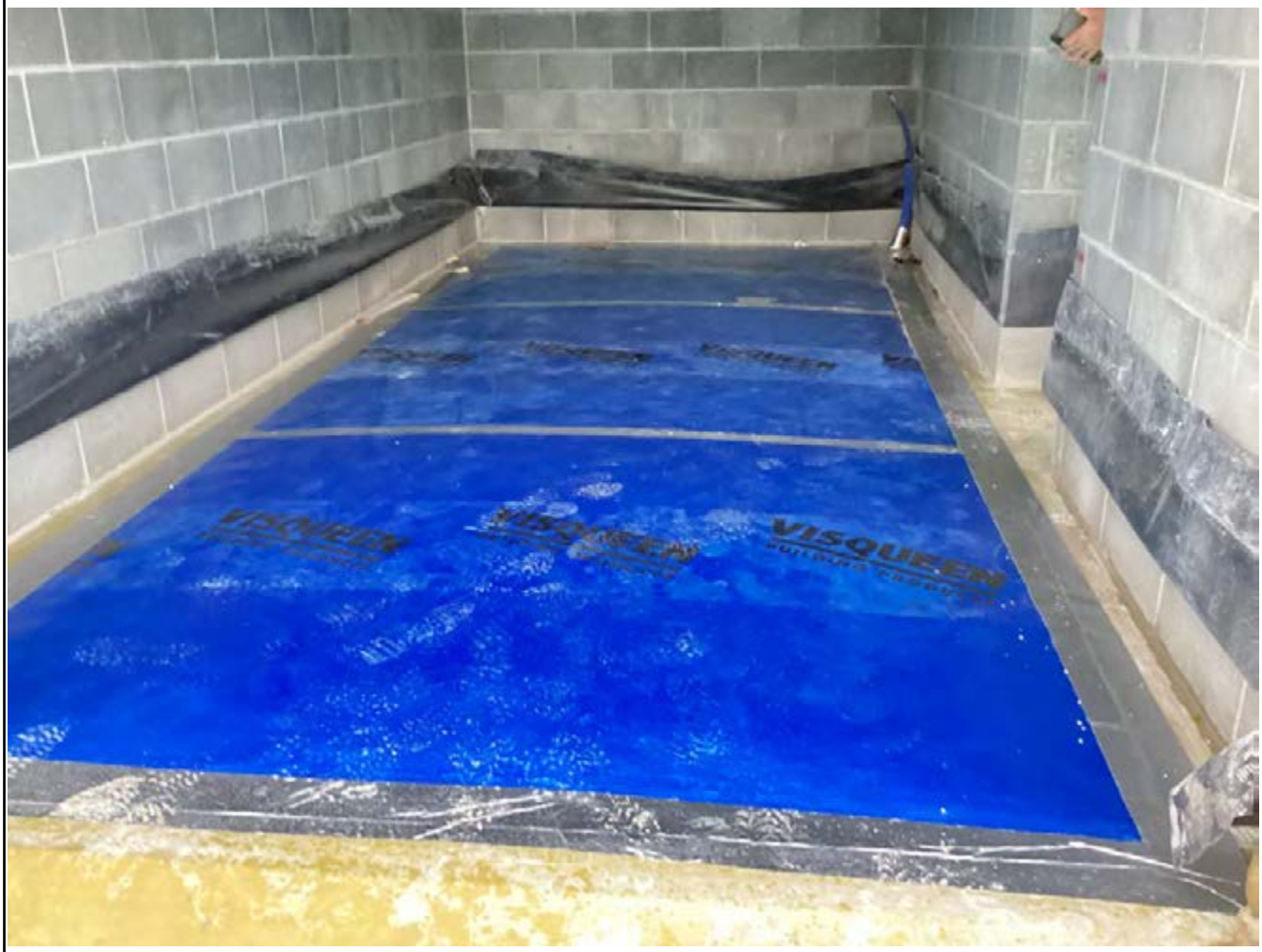


General internal overview of the verification area.

Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of the verification area within the Integral Garage

Plot 49

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area

Front Elevation of Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

General internal overview of the verification area.

Plot 50

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the verification area within the Integral Garage

Plot 50

GEOSHIELD Verification Report

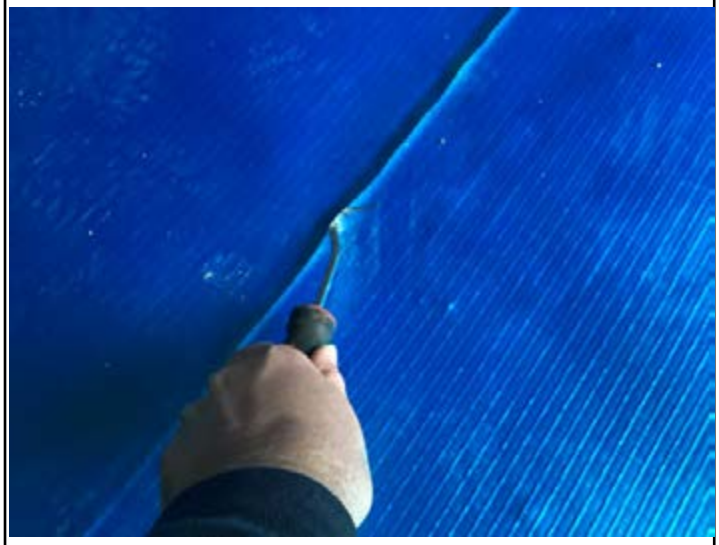
VERIFICATION ITEM ONE

LOCATION/GRID LINE: Plots 46,47 & 48 inclusive (infill stage)

NOTES: Visqueen Gas Barrier Installation-Lap Joint

The installation of the Visqueen Gas Barrier had all been lapped and sealed using a dual taped system combining both the Visqueen Double Sided Butyl Tape and GR Foil Tape.

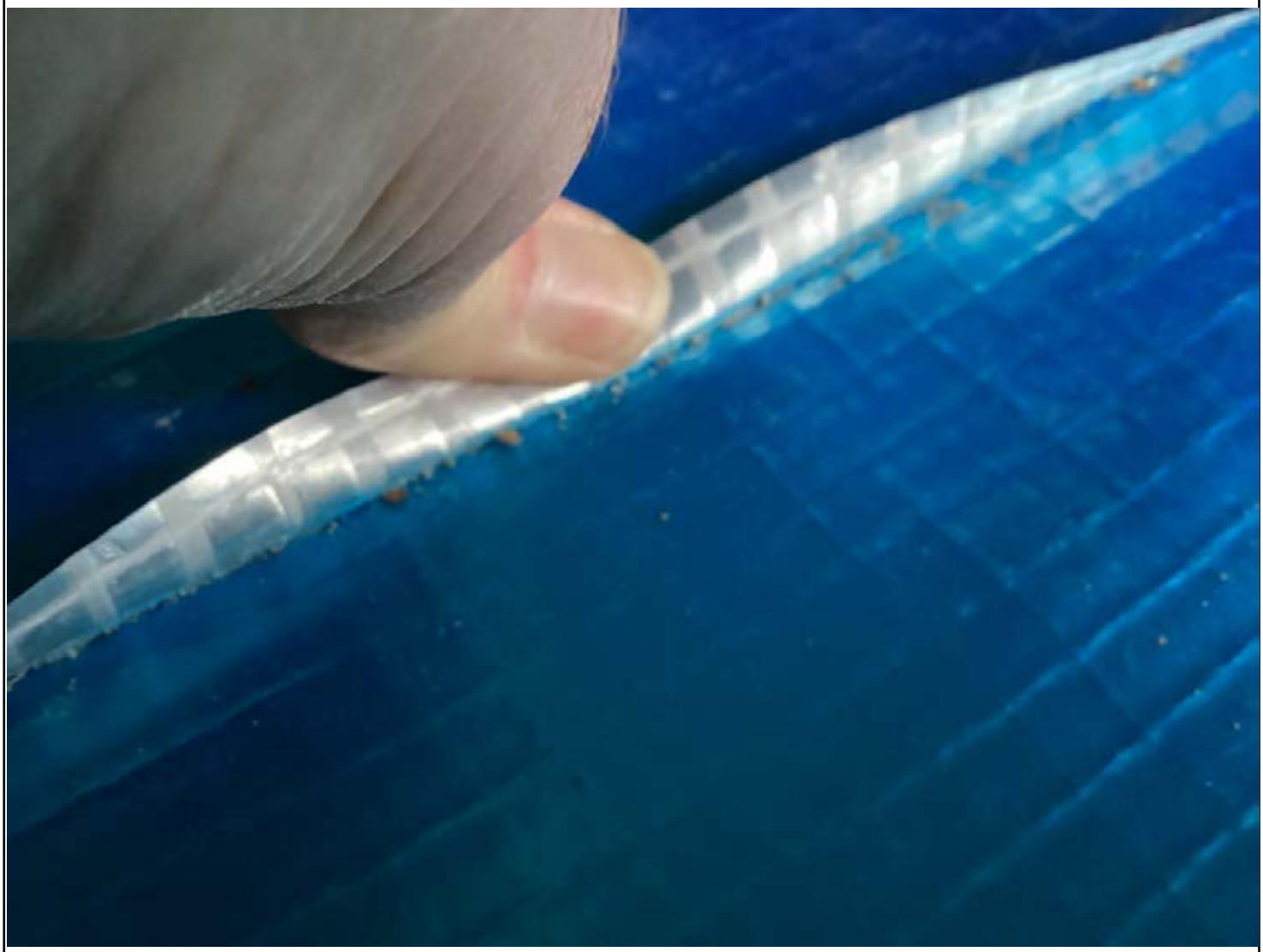
The left image shows where the Double Sided Butyl Tape had been exposed allowing the



Mechanical Point Stress Test to be undertaken which confirmed a full seal had been achieved. The right image shows the Double Sided Butyl Tape providing the lap joint seal.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE



The overview image shows the area where the GR Foil Tape had been removed to allow access to the Double Sided Butyl Tape used to seal the lap joint. The Mechanical Point Stress Test was then undertaken to ensure the completed seal was providing a robust seal between the two sections of Visqueen Gas Barrier. No faults were identified.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Plots 46,47 & 48 inclusive (infill stage)

NOTES: Perimeter Detailing

The interior of both plots were infilled using the Visqueen Gas Barrier where the edges we're under-lapped combining both the Visqueen Double Sided Butyl Tape and a strip of Visqueen ProDetailing Tape. The initial inspection involved checking there were no

excessive creasing across the width of the installation and that a full bond had been achieved with both the Visqueen Ultimate Damp Proof Course and the Visqueen Gas Barrier. The bond was confirmed when the Mechanical Point Stress Test was undertaken as per the above two images. There were no signs of unsealed lap joints and therefore no potential capillary leak risk.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

The overview image shows the perimeter edge where the previously verified Visqueen Ultimate Damp Proof Course was lapped and sealed with using a dual taped system. The Visqueen Ultimate Damp Proof Course was also visually inspected for damage and/or punctures of which there were none identified.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Plots 3,4,5 & 6 (Perimeters & Party Walls).

NOTES: Visqueen Ultimate Damp Proof Course-Perimeter Install

A strip of Visqueen Ultimate Damp Proof Course had been installed/profiled to lap the perimeter of the Plots and profiled along the block & beam and up and over the perimeter terminating above the air brick level. Visqueen Ultimate DPC has been

typically lapped and sealed at the corner where the laps were a minimum of 150mm and dual sealed using both Visqueen double sided butyl tape and a strip of Gas Resistant Self Adhesive Membrane. The left image shows the Mechanical Point Stress Test confirming the bond where the right image shows the typical lap seal.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

The overview image shows a typically installed strip of Visqueen Ultimate Damp Proof Course which terminates upon the course of stonework at a corner. The corner had been fully sealed using strips of Visqueen Gas Resistant Self Adhesive Membrane and the corner lap joint typically sealed using a dual tape system.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
02/11/2020	001	DPC installation had major limitations due to block work install	✔
02/11/2020	002	GR DPC installed but major limitations caused by block work.	✔
02/11/2020	003	GR DPC already covered with block work however so limitations	
		were caused, however remediations will be made during the infil	
		process	✔
02/11/2020	004	Corners must be seen on future visit	✔
13/11/2020	005	Visqueen Low Perm on site - informed needs upgrading to	✔
		Visqueen Standard Gas Barrier	
11/12/2020	006	No faults found	✔
28/02/2021	007	No faults found	✔
24/03/2021	008	No faults found	✔
26/07/2021	009	No faults found	✔
19/01/2022	010	No faults found	✔
26/01/2022	011	No faults found	✔
15/02/2022	012	No faults found	✔

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
	013	No Faults found	✔
24/05/2022	014	No faults found	✔
22/06/2022	015	No faults found	✔
27/07/2022	016	No faults found during visit	✔
21/09/2022	017	One puncture to Visqueen Gas Barrier within Plot 37 and was	
		remediated during the verification visit.	✔
11/11/2022	018	One incomplete Visqueen lap joint within plot 34 but remediated	
		during the verification visit.	✔
		Seven punctures to Visqueen Ultimate DPC all remediated during	
		the verification visit.	✔
		One puncture to Visqueen Gas Barrier but remediated during the	
		verification visit.	✔
24/02/2023	019	There were no faults identified throughout the verification.	✔
13/03/2023	020	There were two punctures through the Visqueen Ultimate Damp	
		Proof Course both remediated during the verification visit.	✔

GEOSHIELD Verification Report

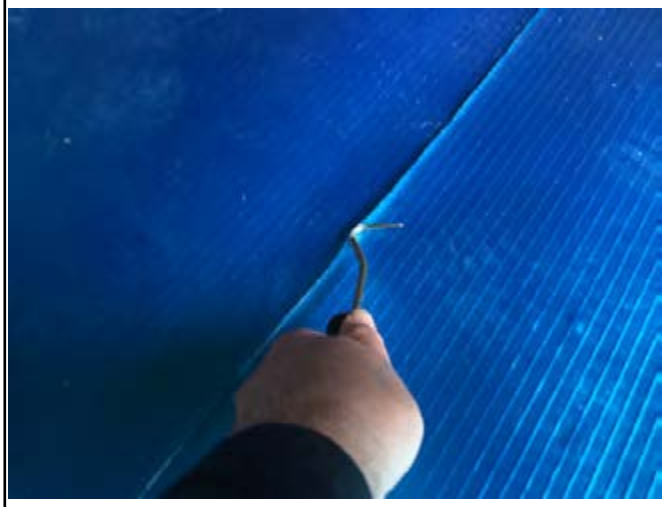
REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
09/05/2023	021	No faults were identified during the verification process.	✔
01/06/2023	022	No faults were identified during the verification process.	✔
07/08/2023	023	No faults were identified during the verification process.	✔
18/09/2023	024	There were three punctures to the Visqueen Ultimate Damp Proof	
		Course all of which were remediated during the verification visit	✔
13/11/2023	025	There were no faults identified throughout the verification.	✔
		The integral garage to Plot 48 has yet to be completed and will be	
		verified during the next verification visit.	

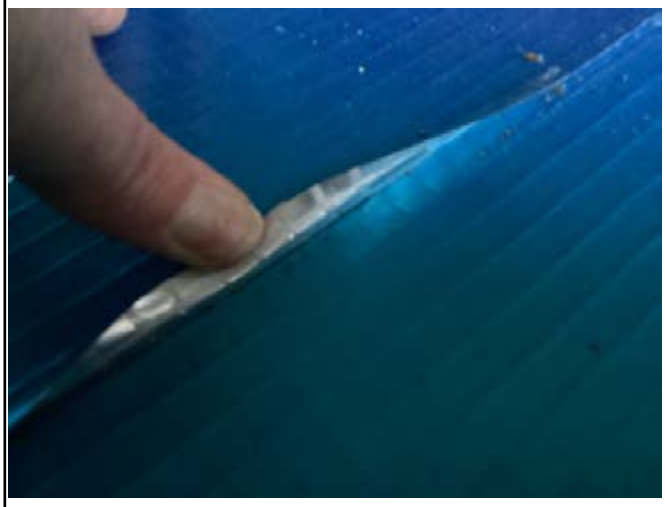
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Plot 47 - view of sampled lap joint where seal was checked and verified



Plot 47 - Mechanical Point Stress Test to exposed lap joint during verification

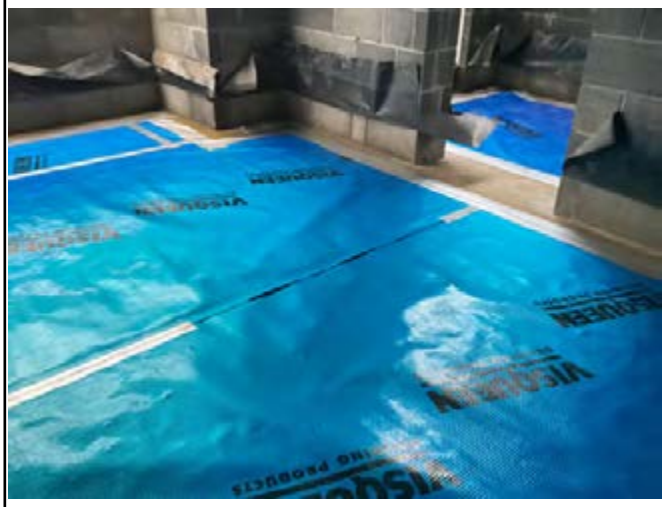


Plot 47 - view of Double Sided Butyl Tape within exposed lap joint seal

Plot 47 - view of a typically completed joint where lap tape in place

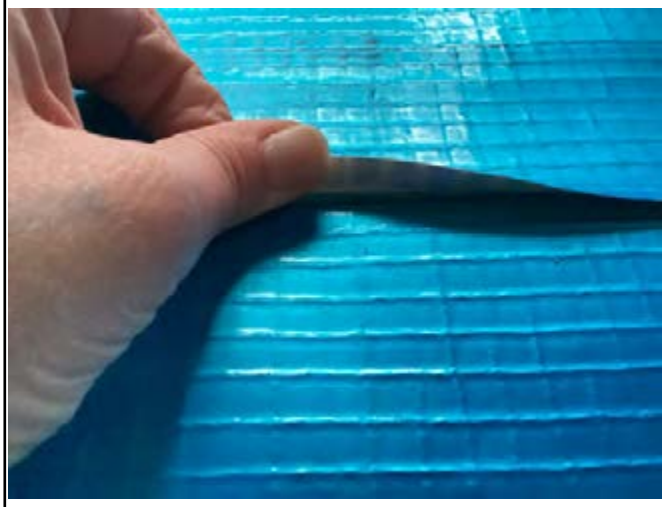
GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS



Plot 48 - view of sampled lap joint

where seal was checked and verified



Plot 48 - view of Double Sided Butyl

Tape within exposed lap joint seal

Plot 48 - view of a typically completed

joint where lap tape in place

Typically lapped and sealed Visqueen

Ultimate DPC at perimeter/corner

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Mechanical Point Stress Test to

GRSAM at external corner

Mechanical Point Stress Test to

GRSAM at external corner

Mechanical Point Stress Test to

small pipe penetration at perimeter

Mechanical Point Stress Test to

small pipe penetration at perimeter

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Mechanical Point Stress Test to

typical GRSAM lap joint seal

Mechanical Point Stress Test to

GRSAM seal with Ultimate DPC

Mechanical Point Stress Test to

GRSAM seal with pipe penetration

Mechanical Point Stress Test to

typical GRSAM lap joint seal

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of a typical party wall junction

and completely dual sealed

View of typical internal corner at

perimeter completely dual sealed

Typical pipe penetration sealed

using strips of GRSAM

View of Visqueen Ultimate DPC

placed beneath the party wall.

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES		NO	✔

Testing checklist attached: YES ☐ NO ☐

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 16,17 & 20,21 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 14-15 & 18-19 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 7-11 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 12-13 Perimeters and Partitions	✔
Gridline/Plot Sign off	Plots 20-21	✔
Gridline/Plot Sign off	Plots 14-15 and 18-19	✔
Gridline/Plot Sign off	Plots 16-17	✔
Gridline/Plot Sign off	Plots 7-13	✔
Gridline/Plot Sign off	Plot 25 Perimeters	✔
Gridline/Plot Sign off	Plots 23-24 Perimeters	✔
Gridline/Plot Sign off	Plots 22, 30 and 31 Perimeters	✔
Gridline/Plot Sign off	Plots 31 and 26 Infills and Plots 32-35 Perimeters	✔

GEOSHIELD Verification Report

GAS MEMBRANE TESTING

VISUAL:	YES	✔	NO		SMOKE TEST:	YES		NO	✔
COMPRESSED AIR:	YES		NO	✔	DILECTIC	YES		NO	✔
DESTRUCTIVE:	YES		NO	✔	OTHER:	YES	✔	NO	

Testing checklist attached: YES | | NO | ✔

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 27-30 Infills	✔
Gridline/Plot Sign off	Plots 38, 39, 40 & 41 perimeters/internal walls	✔
Gridline/Plot Sign off	Plots 35, 36 & 37 infills	✔
Gridline/Plot Sign off	Plots 32, 33 & 34 inclusive (infill)	✔
Gridline/Plot Sign off	Plots 35 & 36 (remaining garage only)	✔
Gridline/Plot Sign off	Plots 42,43,44 & 45 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49, 50, 51/52, 53/54 & 55/56 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 46 & 47 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 49 & 50 infill	✔
Gridline/Plot Sign off	Plot 48 perimeters & internal walls	✔
Gridline/Plot Sign off	Plots 42, 43, 44 & 45 infills	✔
Gridline/Plot Sign off	Plots 3,4,5 & 6 perimeters & party walls	✔

GeoShield Verification Report

GAS MEMBRANE TESTING

VISUAL /PICK & PROBE:	✔	SMOKE TEST:	
AIR LANCING:		DILECTIC:	
DESTRUCTIVE:		OTHER:	
INERT GAS TEST:		SPECIFY:	

Testing checklist attached: YES ✔ NO

Gridline/Plot Sign off

Gridline/Plot Sign off	Plots 46 & 47 infill	✔
Gridline/Plot Sign off	Plot 48 infill excluding the integral garage.	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was the twenty-fifth visit to site where Plots 46,47 & 48 had been infilled with

exception to the integral garage in Plot 48 plus Plots 3,4,5 & 6 where the

perimeters/party walls completed. The following verification was undertaken:-

>. Mechanical Point Stress Test to all lap joints.

>. Mechanical Point Stress Test to all pipe penetrations.

>. Mechanical Point Stress Test to three sampled (exposed) Gas Barrier lap joints.

>. Visual inspection of the whole installation where no punctures were identified

although the threshold to the integral garage to Plot 48 had been and this area

could not be completed this report.

Passed and verified in accordance with BS8485:2019 and CIRIA 735.

GEOSHIELD SIGNATURE:

DATE:	13/11/2023