



GEOSHIELD Verification Plan



DETAILS

100mm PUDLO Ultra Tape selvage joint.

300mm PUDLO Ultra EXT Tape roll-end joint.

Stagger roll ends to avoid multiple roll end jointing.

Black GeoTextile to face installer. (THIS SIDE)

Part of the DB Group

DATE	DESCRIPTION	REV.	DES.	G.C.
18/03/20	First issue.	-	LD	CM

DB Group (Holdings) Ltd
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www.dbgholdings.com/pudlo

DRAWING TITLE	PROJECT
GP ULTRA+ OVERLAPPING DETAIL	Clarendon Road

STATUS	SCALE
CONSTRUCTION	nts on A4

DRAWING NUMBER	REVISION	SHEET NO.
BKH-CLR-018	+	1 of 1

CLIENT	PROJECT
Berkeley Homes	

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A4

PUDLO/DB Group STD Jan 2019 v1

Note:-

This PUDLO detail is to assist with the installation of its products. The detail shows how PUDLO CWP Modified Concrete, Membranes and how PUDLO ancillaries are to be installed. For site specific details and confirmation on extent of where PUDLO CWP Modified Concrete is used i.e. Overlay drawings, must be confirmed by structural engineers/contractor. Individual/Company responsibility for design of the structure must ensure that details shown on PUDLO drawings match the latest construction issue drawings. PUDLO GP Ultra+ Membrane offers gas protection against a number of ground gases in accordance with BS 8484:2015. When using PUDLO GP Ultra+ Membrane the client/contractor MUST appoint a 3rd party independent gas specialist for verification/remediation and review of gas levels in accordance with CIRIA 735. PUDLO only produces typical details for membranes. Specific drawings for gas specification need to be provided by an independent gas inspector. Contact details can be provided on request.

The information shown on this detail is given without obligation, or warranty EXCEPT to consultation or communication with PUDLO/DB Group Ltd.



GEOSHIELD

Verification Plan



DETAILS

100mm min. overlap

Stagger roll ends at a min. 300mm

N.A. - Surface/substrate must be primed with **PUDLO Self Seal Primer** prior to application of **PUDLO Self Seal**.

N.B. - 300mm min overlap required of selvedge/roll ends meet at a construction joint.

N.C. - When VOC gases are present **ALL** jointing is to be **HEAT WELDED** by a GNVQ Lvl 2 qualified specialist.

Silver side to face installer.
(THIS SIDE UP)

Part of the DB Group

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18/03/20	First issue.	-	LD	CM

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DRAWING TITLE	PROJECT
GP ULTRA SEAL OVERLAPPING DETAIL	Clarendon Road

STATUS	SCALE
CONSTRUCTION	nts on A4

DRAWING NUMBER	REVISION	SHEET NO.
BKH-CLR-019	+	1 of 1

CLIENT	PROJECT
Berkeley Homes	

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A4

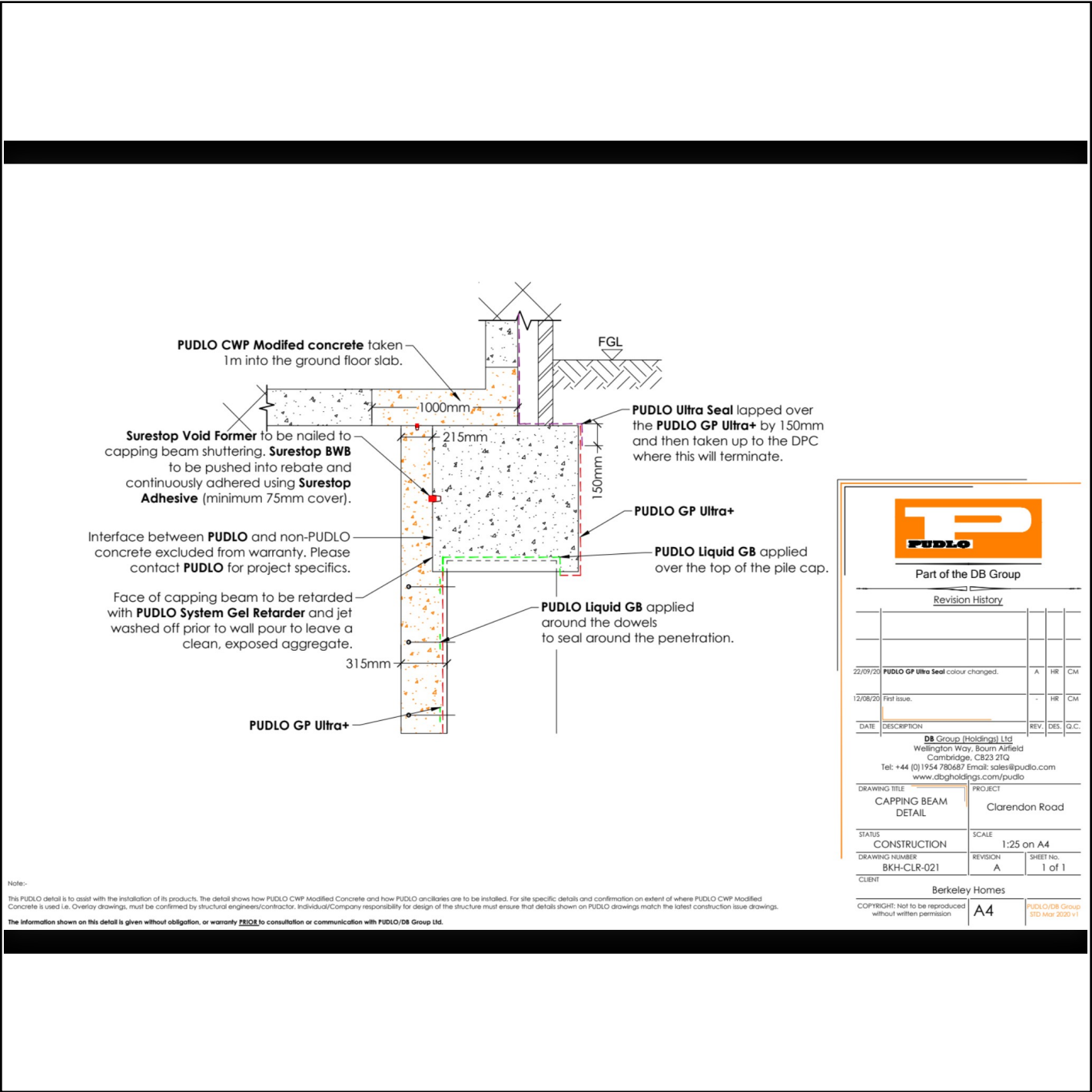
PUDLO/DB Group STD Jan 2019 v1



GEOSHIELD Verification Plan



DETAILS

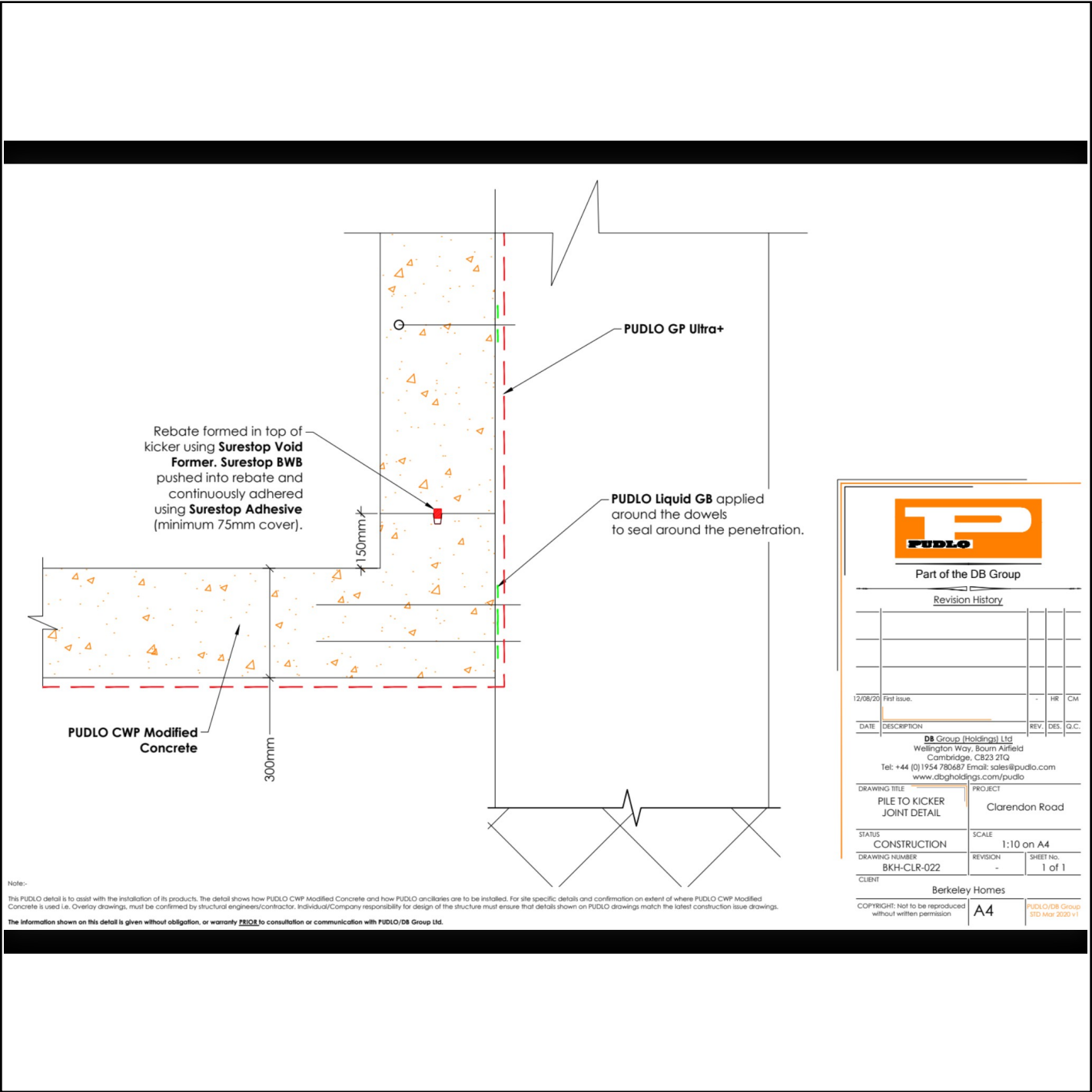




GEOSHIELD Verification Plan



DETAILS

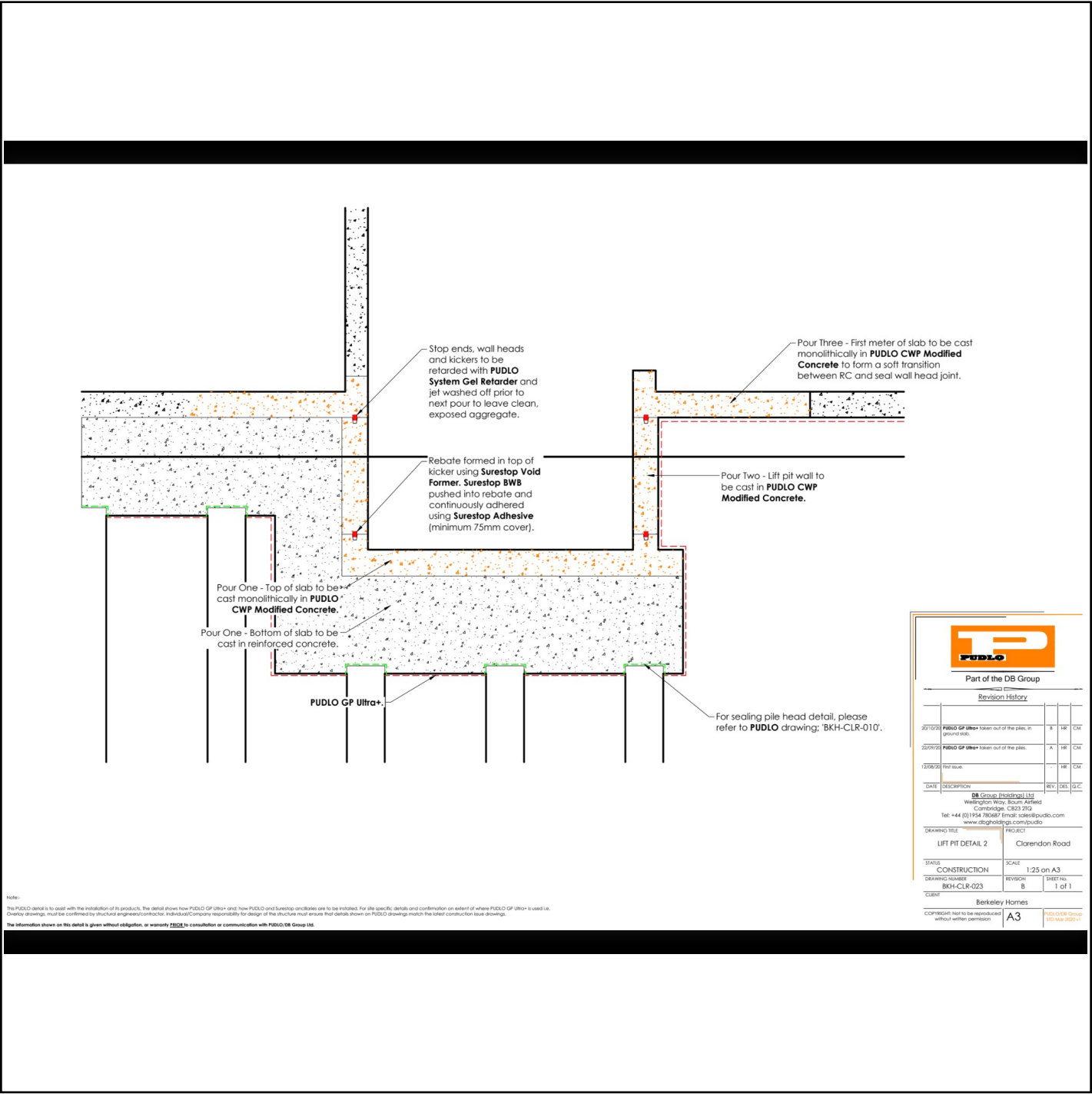




GEOSHIELD Verification Plan



DETAILS

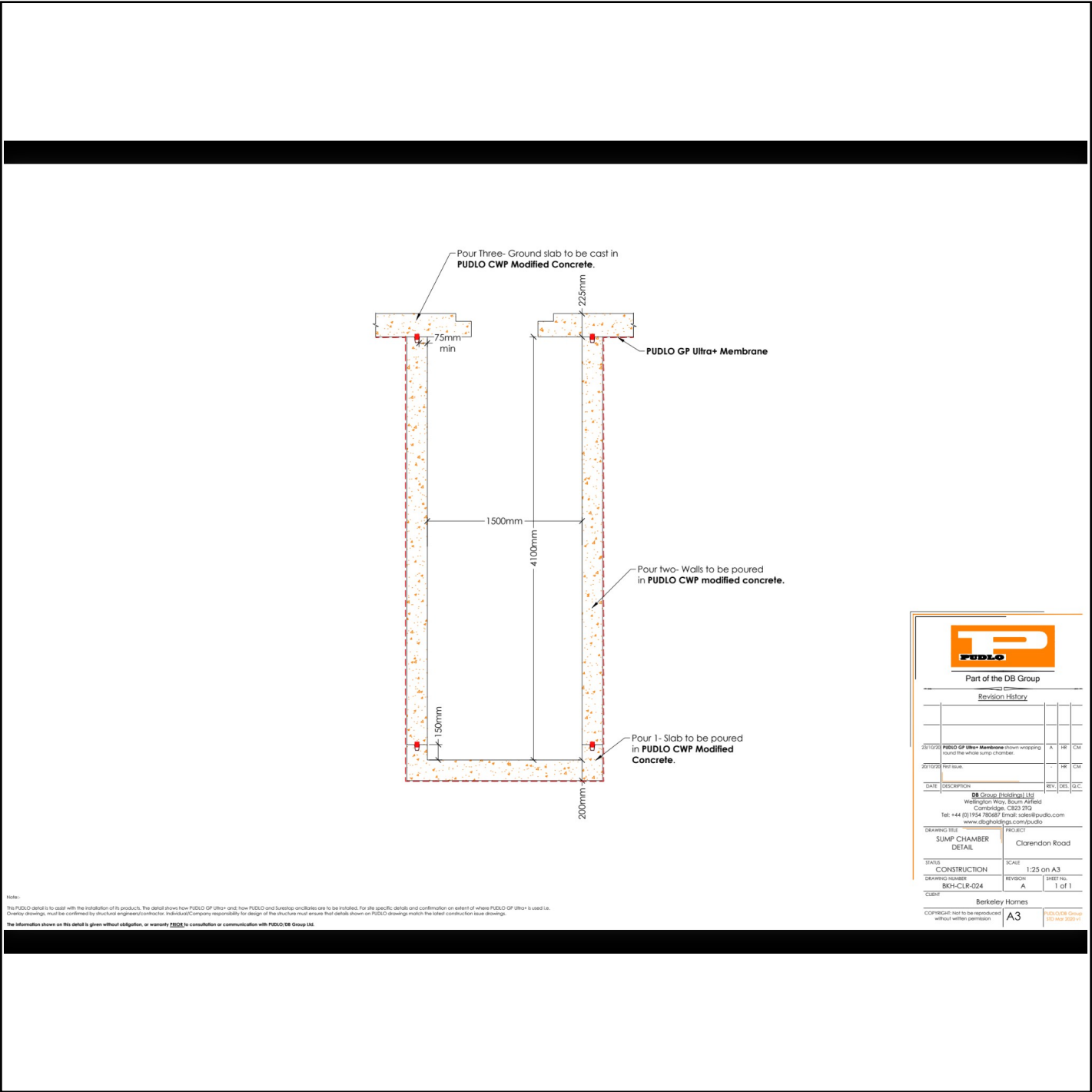




GEOSHIELD Verification Plan



DETAILS





Part of the DB Group

Revision History				
DATE	DESCRIPTION	REV	DES	QC
25/12/19	PUDLO GP Ultra+ Membrane shown wrapping around the entire sump chamber.	A	HR	CH
20/02/20	Rev Issue	-	HR	CH

DB Group (Holdings) Ltd
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DRAWING TITLE: SUMP CHAMBER DETAIL PROJECT: Clarendon Road

STATUS	SCALE
CONSTRUCTION	1:25 on A3

DRAWING NUMBER	REVISION	SHEET NO.
BKH-CLR-024	A	1 of 1

CUSTOMER: Berkeley Homes

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A3		

PUDLO CWP Group Ltd year 2020/21

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CLIENT DETAILS

CLIENT CONTACT:

Rohallah De Sousa

CONTACTS ROLE:

Ground Construction Ltd

MOBILE PHONE:

02082387000

EMAIL ADDRESS:

RohallahDeSousa@GroundConstruction.com

CLIENT CONTACT:

CONTACTS ROLE:

MOBILE PHONE:

EMAIL ADDRESS

NOTES:



GEOSHIELD
Verification Plan



APPLICATION TEAM LEADERS

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES:

NOTES:

NOTES:

NOTES:



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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:

NOTES:

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:

1.5 POINTS

Grade 2 basement:

N/A

Grade 3 basement:

N/A

Score for Venting:

N/A

Car park:

N/A

Score for Membrane:

2.0 POINTS

POINTS ACHIEVED UNDER BS8485 2015

3.5 POINTS



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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:

Air Lance testing will be carried out on all welded joints in accordance with

NOTES:

CIRIA 735. Remaining works will be visually inspected and mechanically tested

NOTES:

to ensure a good bond is achieved. All testing will be in accordance with CIRIA

NOTES:

735 and documented for forward to the Local Planning Authority.

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	22
Medium Risk	15 - 18	
Medium Low Risk	11 - 14	
Low Risk	0 - 10	

GeoShield have classed this project as a medium high risk. This is largely due to the installers being unknown and the challenging site conditions. Geoshield will lay down the parameters of verification visits during the pre start meeting to assist both the installer and the main contractor.



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	☐





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



GEOSHIELD
Verification Plan



VERIFICATION PLAN

METHOD STATEMENT

The geotechnical survey report confirms the site is a CS2 site with continued monitoring for VOCs.

The proposed designs have been reviewed and Geoshield confirm they are compliant with the requirements of CS2 and VOCs.

In this pre verification plan it has laid out the:

> Design

> Specification

> Verification procedure

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	✓
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Minimum Preparation	Swept Clear	Yes		No	
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Minimum Preparation	Vacuuming	Yes		No	
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Minimum Preparation	Compressed air to remove	Yes		No	
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Minimum Preparation	Remove Mortar Droppings	Yes		No	
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Stone Substrate	Yes	✓	No	
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Minimum Preparation	Minimum 25mm Sand Blinding	Yes	✓	No	
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Minimum Preparation	Limestone Dust	Yes		No	✓
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Minimum Preparation	Compacted Substrate	Yes	✓	No	
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Minimum Preparation	No large stones	Yes	✓	No	
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Concrete Substrate	Yes	✓	No	
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Minimum Preparation	No Hollows	Yes	✓	No	
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Minimum Preparation	Troweled Surface	Yes	✓	No	
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Remarks:	Concrete blinding and concrete floors to have smooth float finish after
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pour when wet.

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GEOSHIELD
Verification Plan



PROTECTION METHOD STATEMENT

Protection Type:

Protection Board	Yes	☐	No	☒
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Protection Fleece	Yes	☐	No	☒
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Insulation	Yes	☐	No	☒
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Where Protection Board is installed in the gas remediation strategy the

verifier must be allowed access to inspect the membrane

Remarks:	Protection Board has not been specified in the design details.
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WHERE NO PROTECTION BOARD SPECIFIED

Protection Board has not been specified. The concrete slab will be poured directly on the ground gas

membrane. Geoshield will need to liaise with the steel fixers and explain the importance of not damaging

the membrane during installation. All steel rebar to be carried flat and stood on its end. This may require

monitoring to ensure damage is done to the membrane after installation.

Remarks:	
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Concrete Spacers	Yes	☒	No	☐
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Plastic 'Tric-Trac'	Yes	☐	No	☒
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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:

10th November 2020



GEOSHIELD Verification Plan



GEOSHIELD SUMMARY RISK ASSESSMENT

BS8485 Building Type		1		2		3		4		5
Profile of Project (school, warehouse)		1		2		3		4		5
Past history of contractor		1		2		3		4		5
Past history of the installer		1		2		3		4		5
Installers hold NVQ 2		1		2		3		4		5
Specific gas design		1		2		3		4		5
Design conforms to BS8485		1		2		3		4		5
Materials conform to BS8485		1		2		3		4		5
Verification follows CIRIA 735		1		2		3		4		5
BS8485 Gas Classification		1		2		3		4		5
VOC		1		2		3		4		5
Complexity of Design		1		2		3		4		5
Repetition of Design		1		2		3		4		5
Installation environment		1		2		3		4		5
Substrate design		1		2		3		4		5
Membrane protection		1		2		3		4		5
Low risk					Low - Medium					
Medium					Medium - High					
High										

[illegible]