

Our ref: CRS/L19065a Radon Assessment rev1

Mr J. Fernandes
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Hiview House
Highgate Road
London
NW5 1TN

24 September 2020

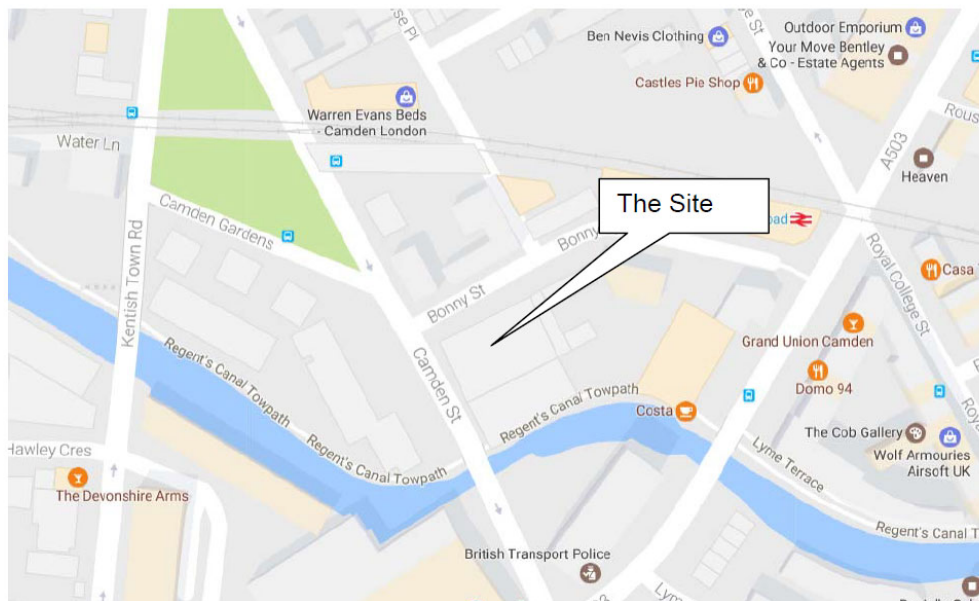
Dear Jason

RADON ASSESSMENT
140-146 CAMDEN STREET, LONDON BOROUGH OF CAMDEN

Further to your recent instructions Patrick Parsons have undertaken an assessment of the radon potential at the above site.

Site Location

The site is located at 140-146 Camden St NW1 9LN, in the London Borough of Camden, in North London. The postcode for the site is NW1 9PF. The site is rectangular in plan measuring approximately 40m x 35m and is located at the northern end of Camden Street on the corner with Bonny Street as shown below.



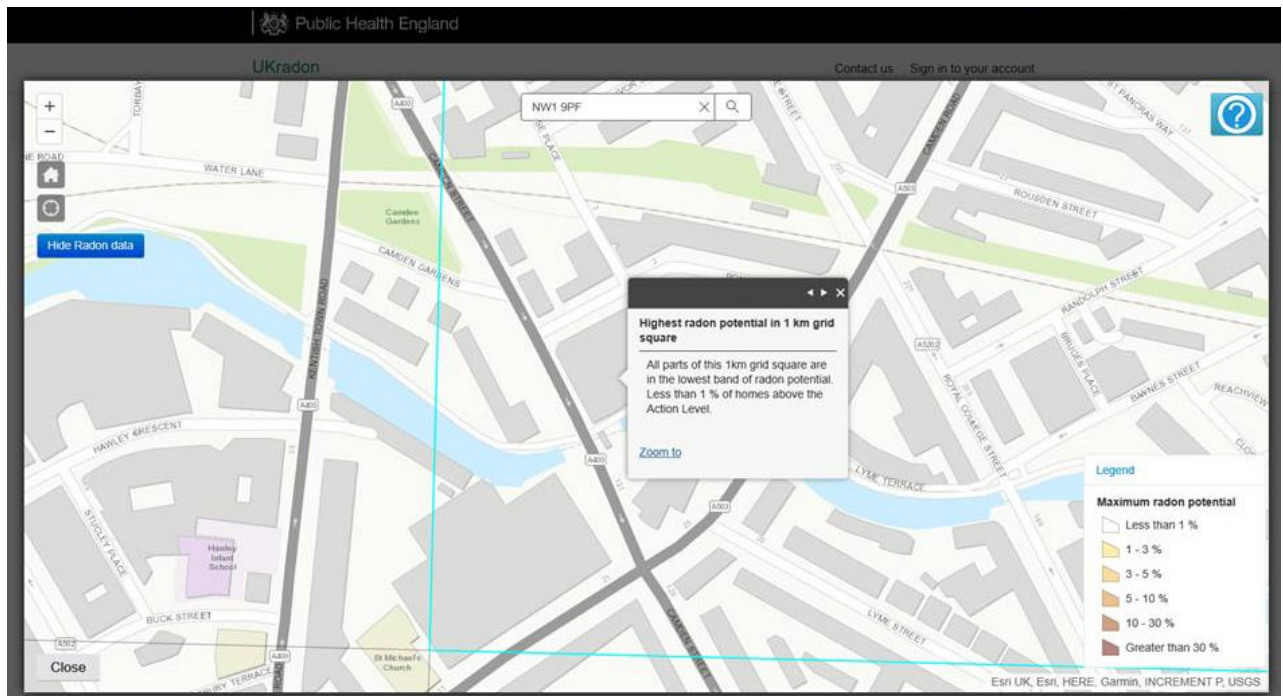
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Radon Potential

The radon potential for the site has been checked against the records provided by Public Health England on the website www.ukradon.org/information/maps, as shown below the site is within an area where <1% of homes are above the radon action level, this is the lowest rating.



Furthermore map 5 (extract appended) in BRE211 2015 'Radon: Guidance on protective measures for new buildings' confirms that radon protection measures are not required in new buildings in this area.

Whilst the development is a low radon potential area it is potentially at a higher risk due to the fact that it includes a basement and as outlined in 'Radon in Workplace Basements – An analysis of PHE measurements and recommendations when to test' (Public Health England, Ref PHE-CRCE-028, July 2016) there is greater than 1% chance of high radon levels being encountered in any basement in the UK and not just in areas deemed to be affected by high radon.

The PHE report recommends that radon monitoring is undertaken in all workspace basements and mitigation measures installed if levels than $>300\text{Bq/m}^3$; representative monitoring can only be undertaken post construction and whilst the building is occupied, any monitoring undertaken prior to the building being completed and occupied can be highly inaccurate.

It is considered that post construction monitoring will be impractical as even though it is highly unlikely that a radon issue would be identified the retro fitting of mitigation measures such as additional ventilation or a positive pressurisation system would be extremely difficult to complete in a occupied building. As such it is proposed to install a radon barrier in the basement fabric as a precautionary measure; this will negate the need for post development monitoring.

To provide the required precautionary protection the water proofing for the basement will be upgraded to a radon barrier, it is proposed to use Pudlo GP Ultra+ membrane with Pudlo Liquid GB used in areas where a traditional membrane cannot be used (i.e. over pile etc); typical details for the radon barrier are included for reference.

Conclusion

In lieu of post construction radon monitoring precautionary protection measures in the form of a radon barrier will be installed in the basement; these measures will reduce the residual radon risk and as such it is considered that all planning conditions relating to this matter can be discharged without the need for further works.

It is hoped that we have fully understood your requirements. Should you require any clarification of the above comments please do not hesitate to contact us.

Yours sincerely

**Chris Storey**

Director of Geoenvironmental Services

For and on behalf JSA Consulting Engineers Limited, 03631987

enc. BRE211 (2015) Map 5 Extract
Pudlo Gas Protection Details



The shading indicates the maximum requirements for radon protective measures in any location within each 1-km grid square to satisfy the guidance in Building Regulations Approved Document C. The requirement for an existing building with a valid postal address can be obtained for a small charge from www.ukradon.org. The requirement for a site without a postal address is available through the British Geological Survey GeoReports service, <http://shop.bgs.ac.uk/GeoReports/>.



Map 5 London, Sussex and west Kent, 100-km grid squares TQ and TV (axis numbers are the coordinates of the National Grid)
 © Crown copyright. All rights reserved [Health Protection Agency][100016969][2007]
 Radon potential classification © Health Protection Agency and British Geological Survey copyright [2007]

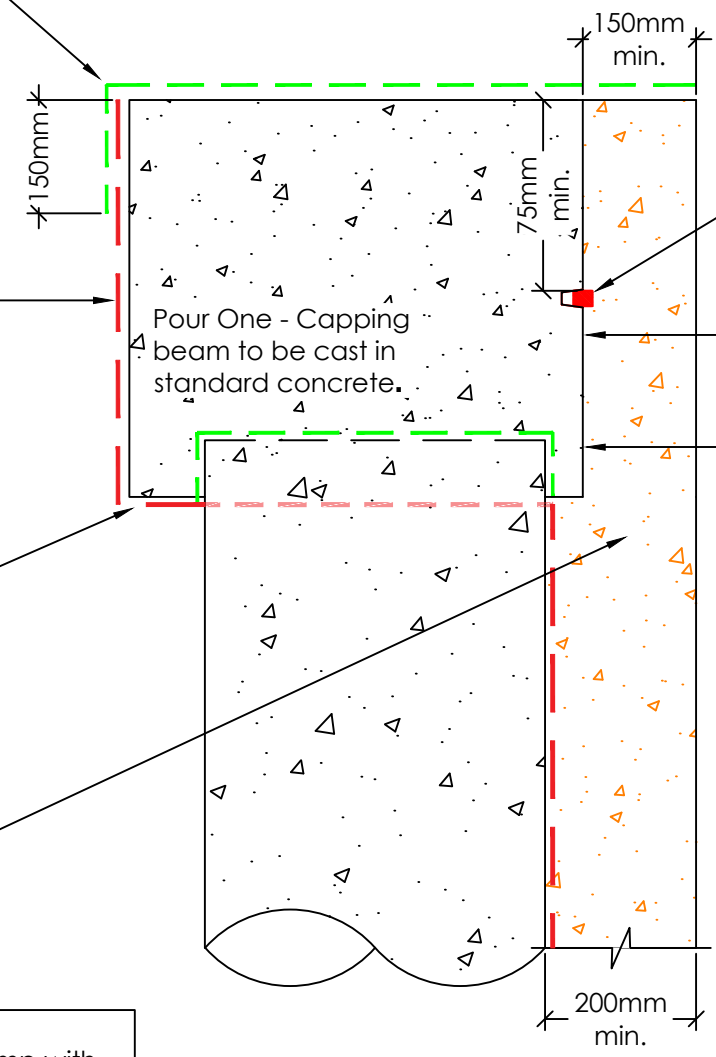
PUDLO Liquid GB to be taken across capping beam and up to DPC level. Min. 2 No. coats of **PUDLO Liquid GB** at least 1mm thick to achieve a compliant gas barrier.

PUDLO GP Ultra+.

For pile head at capping beam level detail refer to drawings; 'PUDLO-TJD-GP-SS-026/28' & 'PUDLO-TJD-GP-SS-027/29'.

Pour Two - Lining wall to be cast in **PUDLO CWP Modified Concrete.**

Note:-
Concrete for wall to be S4 slump with 10mm aggregate. Concrete should not be allowed to fall more than a maximum 2.5m from the end of the static line pump or skip hopper hose.



Surestop Void Former to be nailed to capping beam shuttering. **Surestop BWB** to be pushed into rebate and continuously adhered using **Surestop Adhesive** (minimum 75mm cover).

Interface between **PUDLO** and non-PUDLO concrete excluded from warranty. Please contact **PUDLO** for project specifics.

Face of capping beam to be retarded with **PUDLO System Gel Retarder** and jet washed off prior to wall pour to leave a clean, exposed aggregate.



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Revision History

DATE	DESCRIPTION	REV.	DES.	Q.C.
07/01/19	First issue.	-	LD	LL

DRAWING TITLE CAPPING BEAM DETAIL 1		PROJECT -	
STATUS -		SCALE 1:10 on A3	
DRAWING NUMBER PUDLO-TJD-GPU-SS-002		REVISION -	SHEET No. 1 of 1
CLIENT		-	

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A3

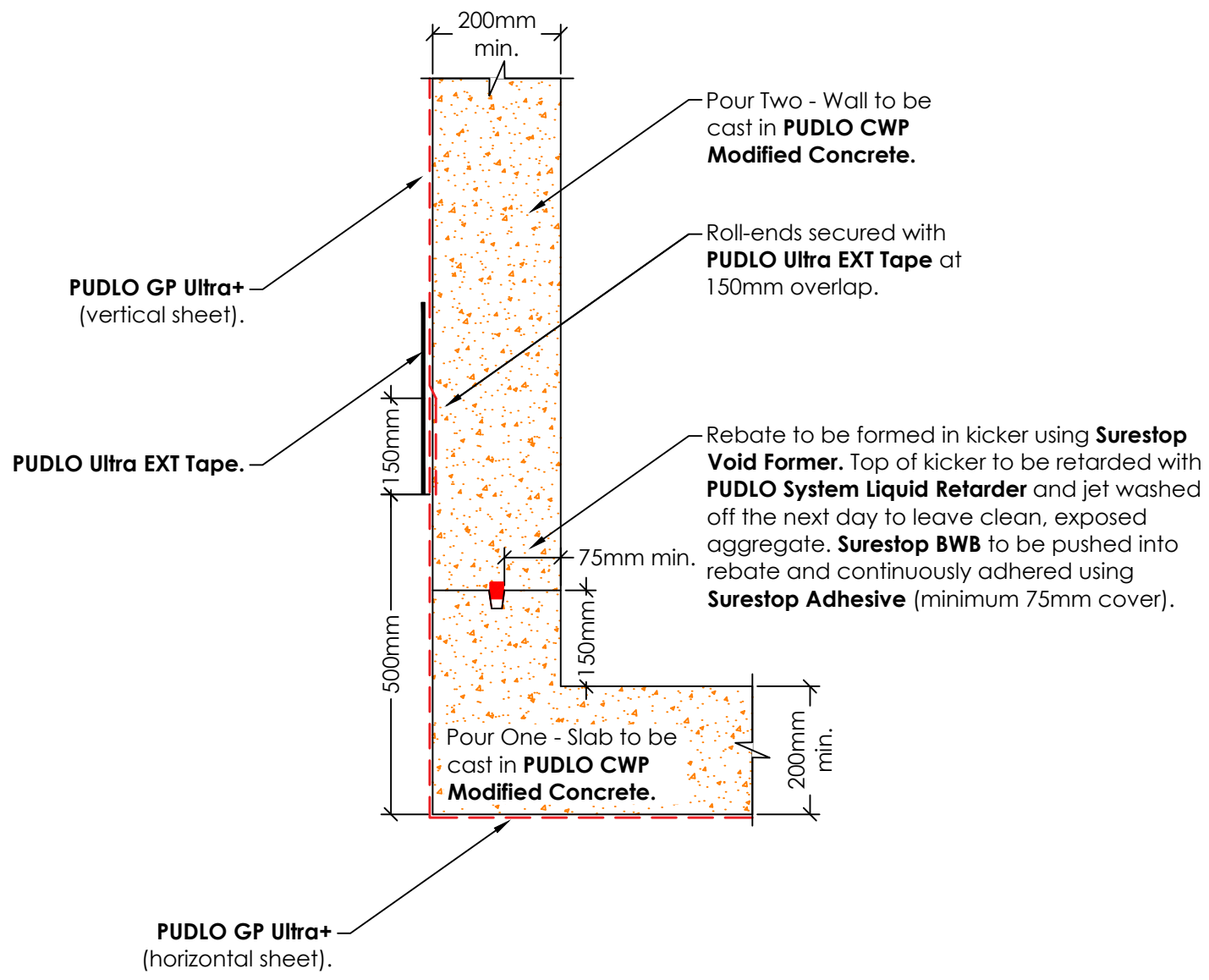
PUDLO/DB Group
STD Oct 2018 v1

Note:-

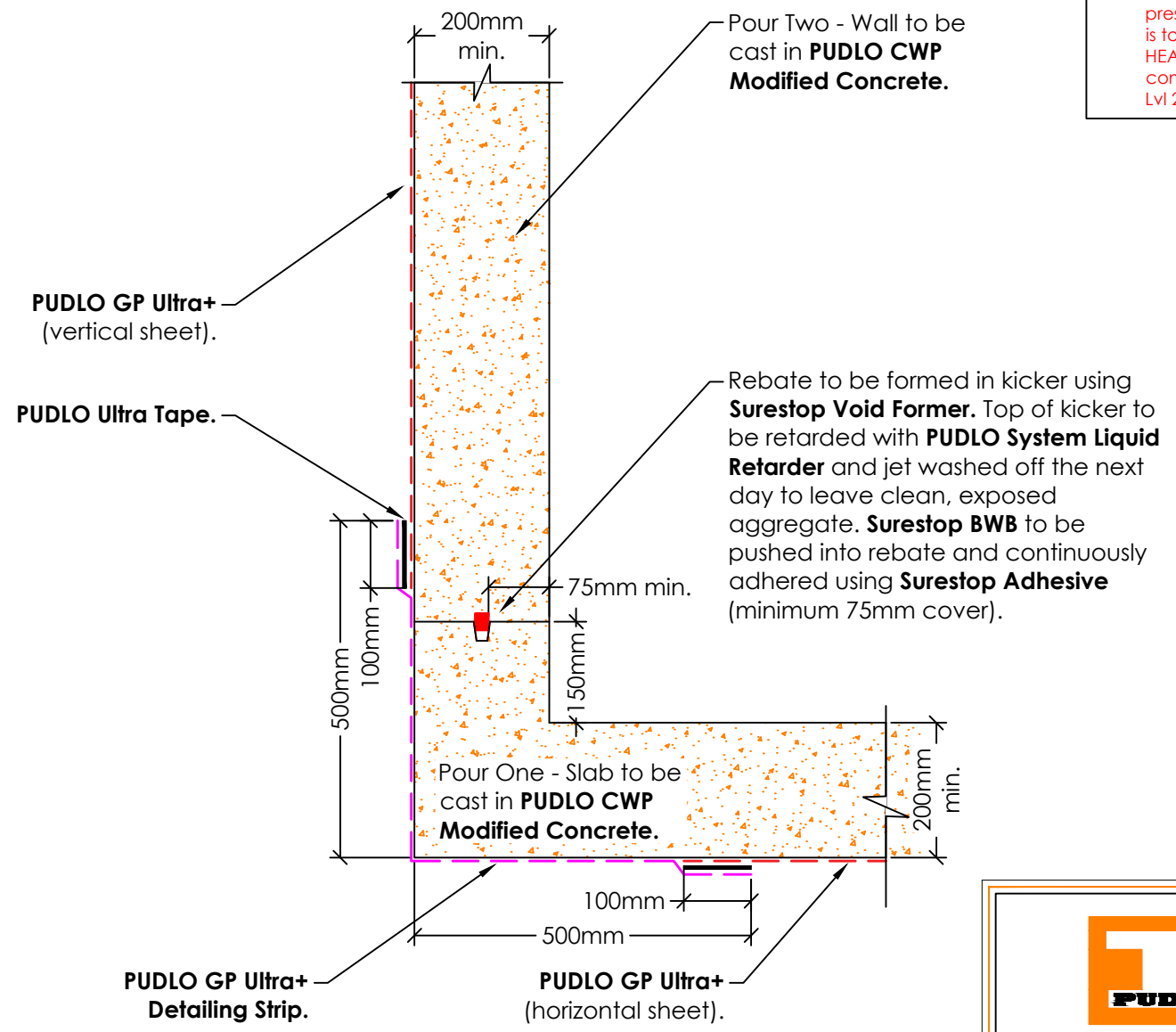
This PUDLO detail is to assist with the installation of its products. The detail shows how PUDLO CWP Modified Concrete, Membranes and how PUDLO ancillaries are to be installed. For site specific details and confirmation on extent of where PUDLO CWP Modified Concrete is used i.e. Overlay drawings, must 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 8485:2015. 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 **PRIOR** to consultation or communication with PUDLO/DB Group Ltd.

- Note:-
- All selvedge edges when using **PUDLO GP Ultra+** are to be sealed with **PUDLO Ultra Tape**.
 - All Roll Ends when using **PUDLO GP Ultra+** are to be sealed with **PUDLO Ultra EXT Tape**.
 - When VOC gases are present **ALL** tape jointing is to be superseded by **HEAT WELDING** completed by a GNVQ Lvl 2 qualified specialist.



1 Roll-end Joint Detail
Scale: 1:10



2 Detailing Strip Joint Detail
Scale: 1:10



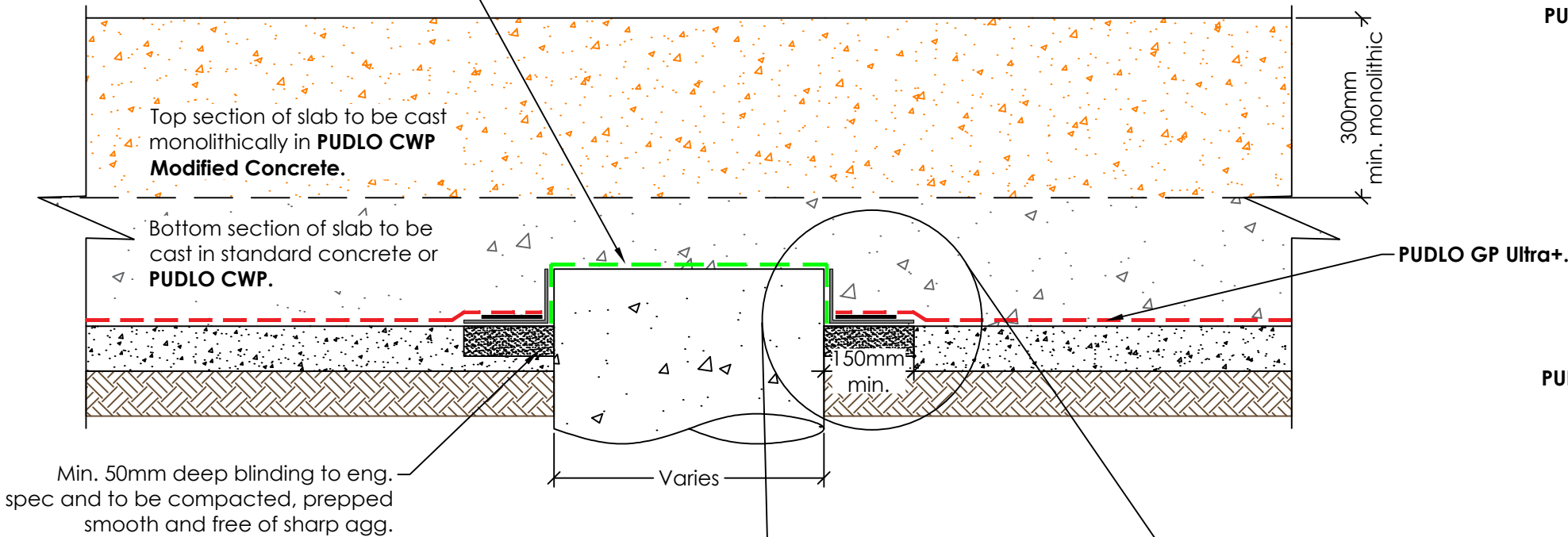
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Revision History

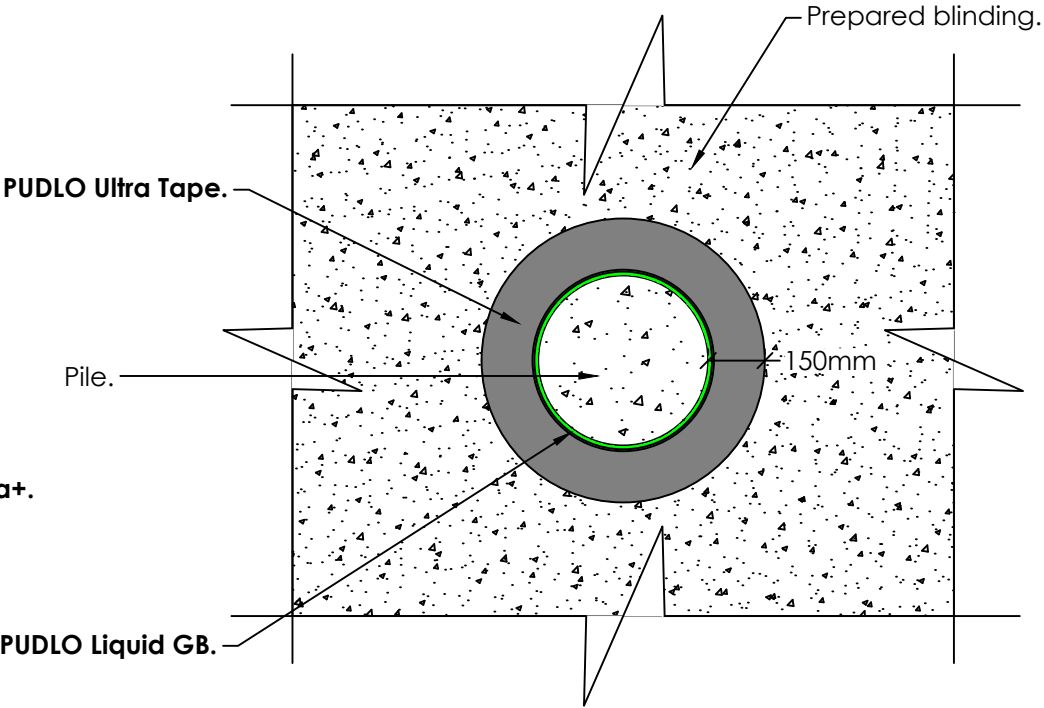
DATE	DESCRIPTION	REV.	DES.	Q.C.
01/05/20	Roll-end overlap updated.	A	LD	LD
07/01/19	First issue.	-	LD	LL

DRAWING TITLE KICKER JOINT DETAIL		PROJECT -	
STATUS FOR INFO		SCALE 1:10 on A3	
DRAWING NUMBER PUDLO-TJD-GPU-004		REVISION A	SHEET No. 1 of 1
CLIENT			

Min. 2 No. coats of **PUDLO Liquid GB** at least 1mm thick to achieve a compliant gas barrier.

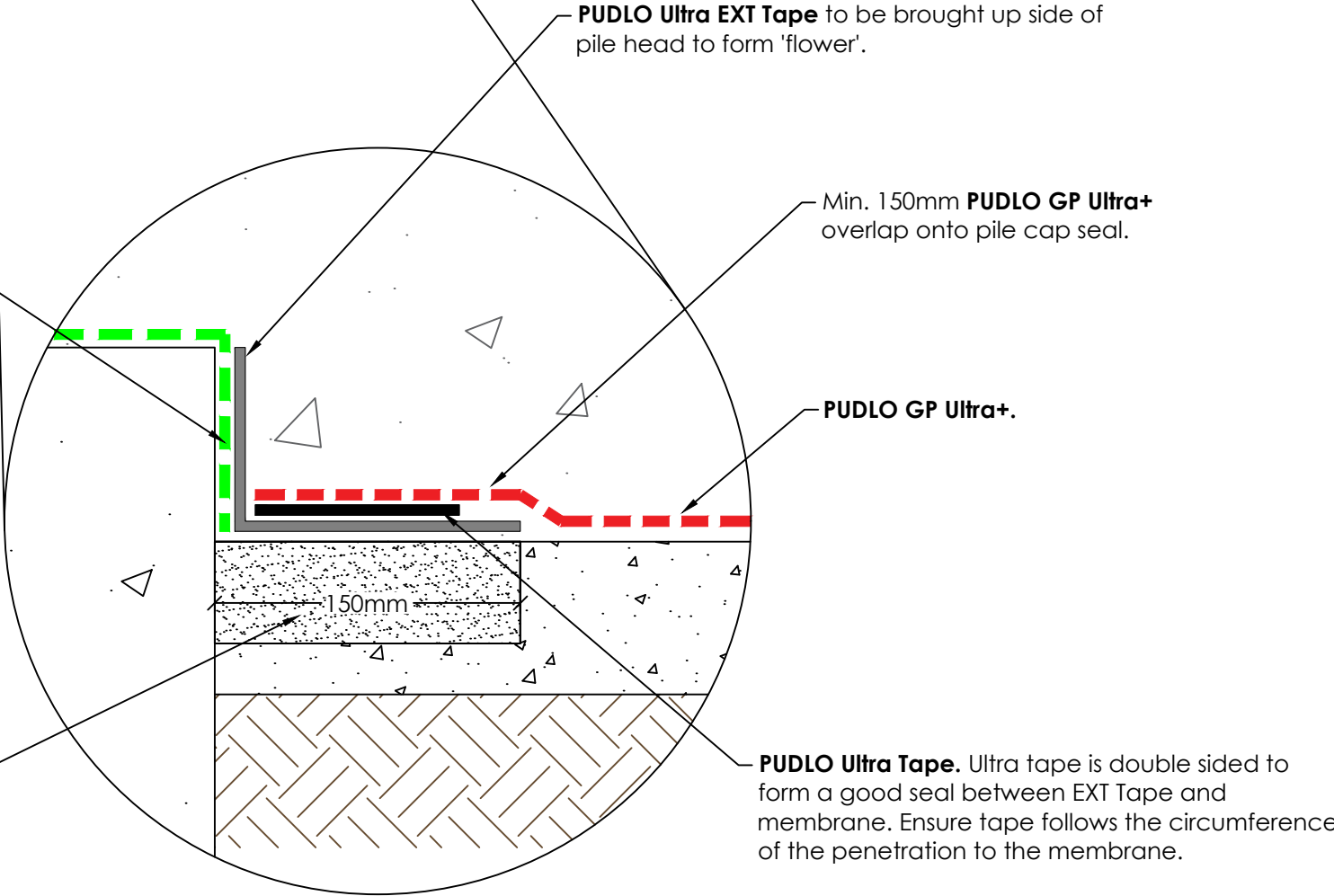


1 Pile Head Detail
Scale: 1:10



3 Ultra Tape Detail
Scale: 1:20

Min. 2 No. coats of **PUDLO Liquid GB** at least 1mm thick to extend down side of pile head.



2 Lapping and Jointing Detail at Pile Head
Scale: nts

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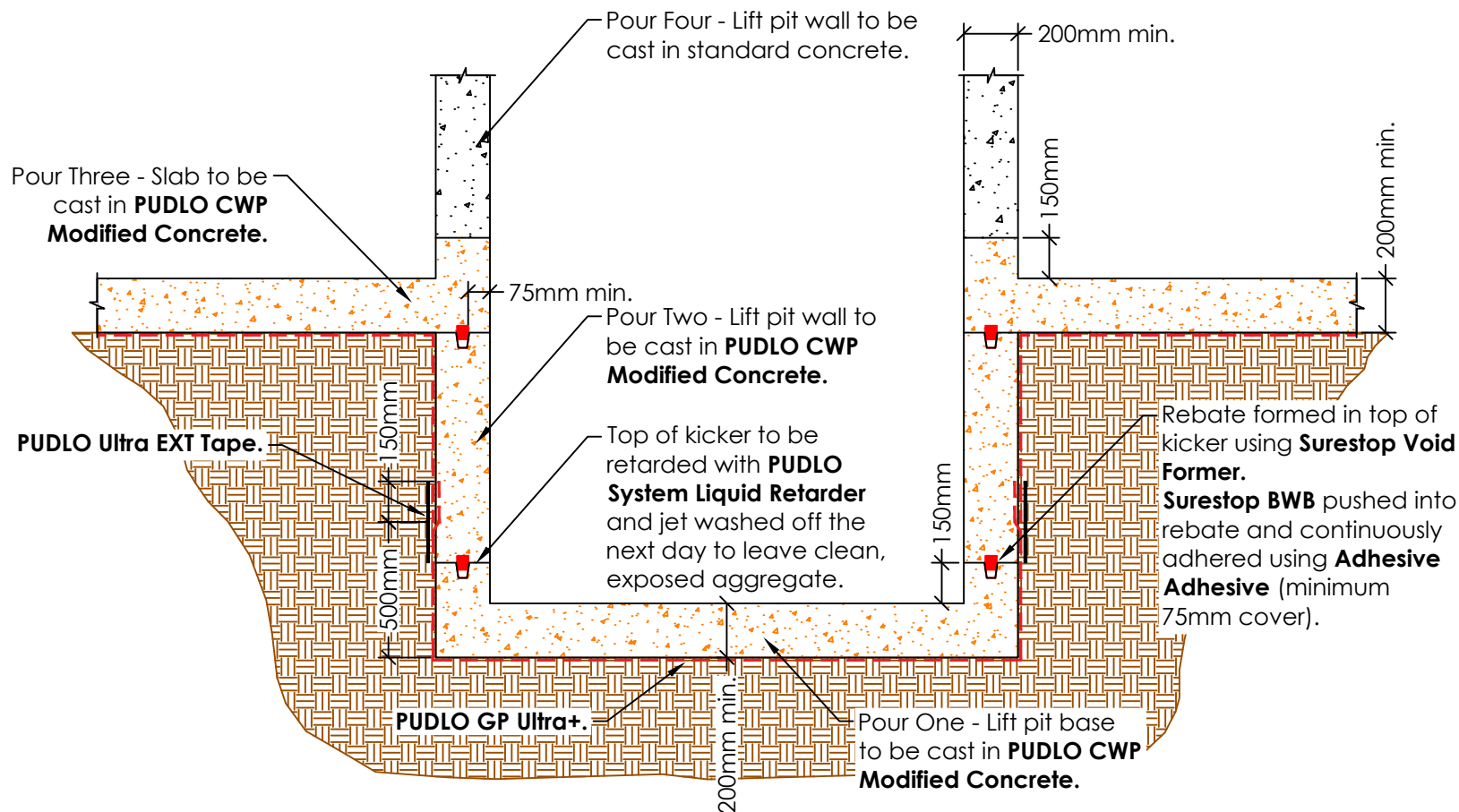
DATE	DESCRIPTION	REV.	DES.	Q.C.
11/02/19	First issue.	-	LD	LL

<div>DB Group (Holdings) Ltd</div> <div>Wellington Way, Bourn Airfield</div> <div>Cambridge, CB23 2TQ</div> <div>Tel: +44 (0)1954 780687 Email: sales@pudlo.com</div> <div>www.dbgholdings.com/pudlo</div>		
DRAWING TITLE	PROJECT	
PILE HEAD TO PILE CAP DETAIL	-	
STATUS	SCALE	
INFO	as shown on A3	
DRAWING NUMBER	REVISION	SHEET No.
PUDLO-TJD-GPU-SS-012	-	1 of 1
CLIENT		

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A3

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Revision History

DATE	DESCRIPTION	REV.	DES.	Q.C.
02/04/19	First issue.	-	LD	LL

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Cambridge, CB23 2TQ

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DRAWING TITLE		PROJECT	
LIFT PIT TYPE 1 DETAIL		-	
STATUS		SCALE	
FOR INFO		1:25 on A4	
DRAWING NUMBER		REVISION	SHEET No.
PUDLO-TJD-GPU-SS-010		-	1 of 1
CLIENT			

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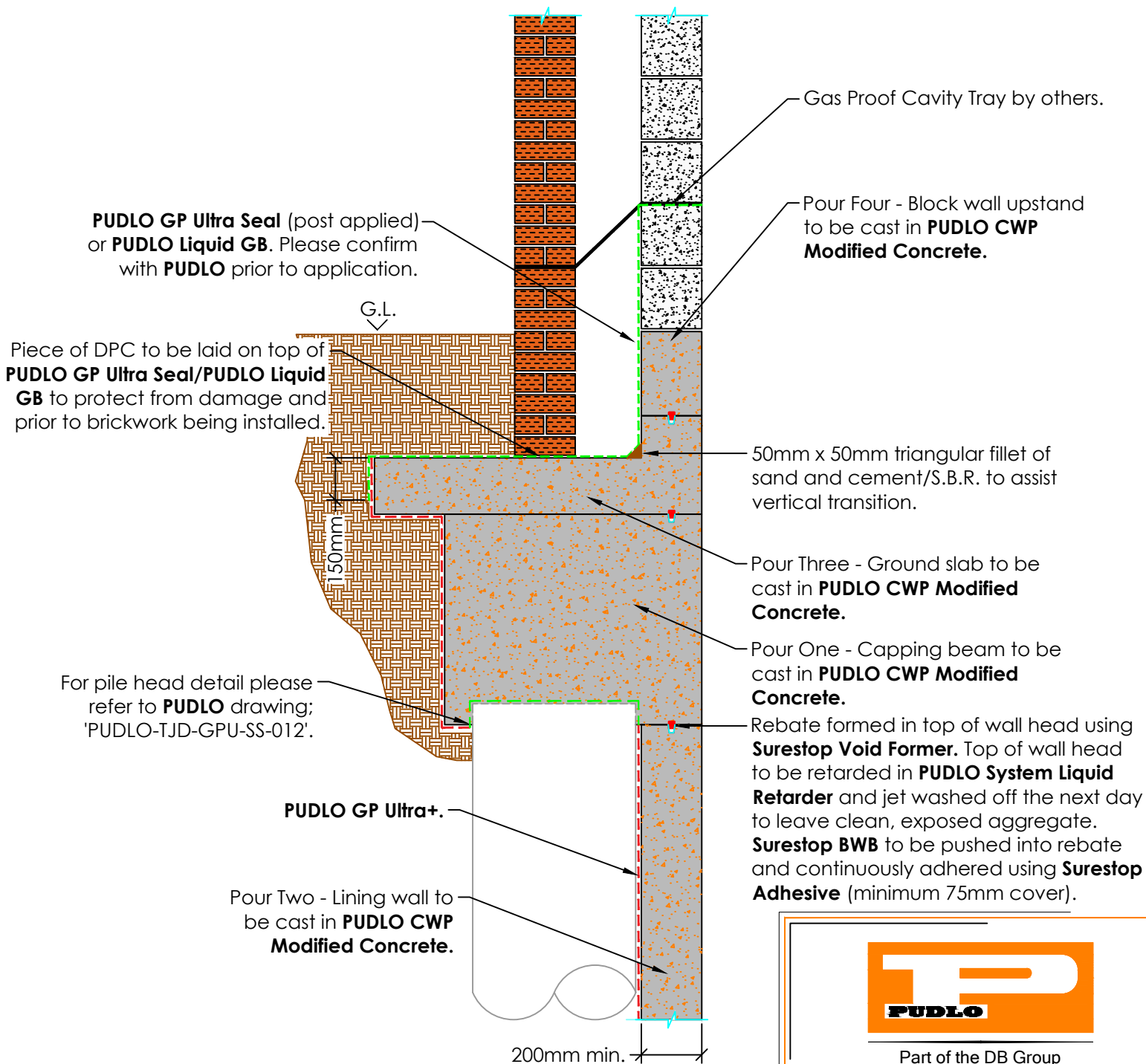
A4

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STD Jan 2019 v1

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DATE	DESCRIPTION	REV.	DES.	Q.C.
02/04/19	First issue.	-	LD	LL

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DRAWING TITLE CAPPING BEAM TO DPC INTERFACE DETAIL	PROJECT -
STATUS FOR INFO	SCALE 1:20 on A4
DRAWING NUMBER PUDLO-TJD-GPU-SS-021	REVISION -
CLIENT	SHEET No. 1 of 1

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A4

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