



GEOSHIELD Verification Report



PROJECT REFERENCE: GEO102491

REPORT NUMBER: 001

PROJECT: Blocks D3 & D4. Clarendon Road.

PROJECT ADDRESS: Clarendon Road Phase 3

Hornsey,

North London.

MEMBRANE 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

Pudlo GP ultra plus.

Pudlo ultra EXT tape.

Pudlo liquid GB.

Pudlo Ultra Tape and Pudlo Ultra Seal.

PUDLO GB DPC and Pudlo self seal primer.



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MEMBRANE SPECIFICATION:

DESIGN DETAILS:

Material specification technical data sheets

BKH-CLR-007e - Ground Beam Perimeter Detail

BKH-CLRD3D4-006 - Pile Head Detail

BKH-CLR-001a - Slab Joint Detail

BKH-CLR-002 - Kicker Joint Detail

BKH-CLR-003 - Wall Head Joint Detail

BKH-CLR-005 - Pile Cap Detail

BKH-CLR-007b - Ground Beam Perimeter Detail

BKH-CLR-012 - Slab Pipe Penetration (Cast-in) Detail

BKH-CLR-014 - Slab Pipe Penetration (Box-out) Detail

BKH-CLR-018 - GP Ultra+ Overlapping Detail (Plan View)

BKH-CLR-020c - GF Substation Service Trench Entry Detail

BKH-CLR-023a- Lift Pit Detail 2

BKH-CLR-GA-100b



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MEMBRANE SPECIFICATION:

DESIGN DETAILS:

Material specification technical data sheets

BKH-CLR-GA-101b

BKH-CLR-GA-103c

BKH-CLR-GA-105b

BKH-CLR-008c - Lift Pit Detail

BKH-CLR-E-001a - Typical Block E Liner Wall Detail

BKH-CLR-E-002a - Typical Block E Sheet Pile Retaining Wall Detail

BKH-CLR-E-004a - Pile Head to Pile Cap Detail

BKH-CLR-E-005c - Grade 3 Capping Beam Detail

BKH-CLR-E-006a - Grade 3 Slab to Liner Wall Kicker Detail

BKH-CLR-E-011a - Grade 2 Wall Pipe Pen.Cast-in Detail

BKH-CLR-E-012a - Grade 2 Slab Pipe Pen.Hi-Flow Grout Box-out Detail

BKH-CLR-E-019- Capping Beam Infill Detail

Material Specification Technical Data Sheets

Radon Maps UK - (Map 1) Site Location & (Map 2) Nearby Location



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VERIFICATION OFFICER: Kavanagh Palmer-Fletcher

VERIFICATION COMPANY: GeoShield Limited

Icon Business Park, 4100 Park Approach

Thorpe Park, LEEDS

West Yorkshire

LS15 8GB

CONTACT NUMBER: 07470012812

EMAIL ADDRESS: Kpalmer-fletcher@geoshield.co.uk

ORDER NUMBER:

PER VISIT: YES:

☐

NO:



PROJECT: YES:



NO:

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CLIENT DETAILS

CLIENT CONTACT: Brian Grant

CONTACTS ROLE:

MOBILE PHONE: 07956 342 201

EMAIL ADDRESS: bgrant@foundation-dev.com

CLIENT CONTACT:

CONTACTS ROLE:

MOBILE PHONE:

EMAIL ADDRESS

NOTES:

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APPLICATION TEAM LEADERS

APPLICATOR NAME: Robin

COMPANY: SWC

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME: Mick

COMPANY: SWC

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES: The installers from SWC are specialists in the installation of ground gas

NOTES: and waterproofing systems. They hold NVQ level 2 qualifications in the

NOTES: installation of gas membranes and weld all lap joints, which is required

NOTES: for this project.



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AREA SURVEYED: Block D3 - Core.

SITE CONDITIONS:

WEATHER: Sunny & showers

TEMPERATURE: 12c

MEMBRANE TEMPERATURE: N/a

RELATIVE HUMIDITY: N/a

TIME: 10:00-12:00

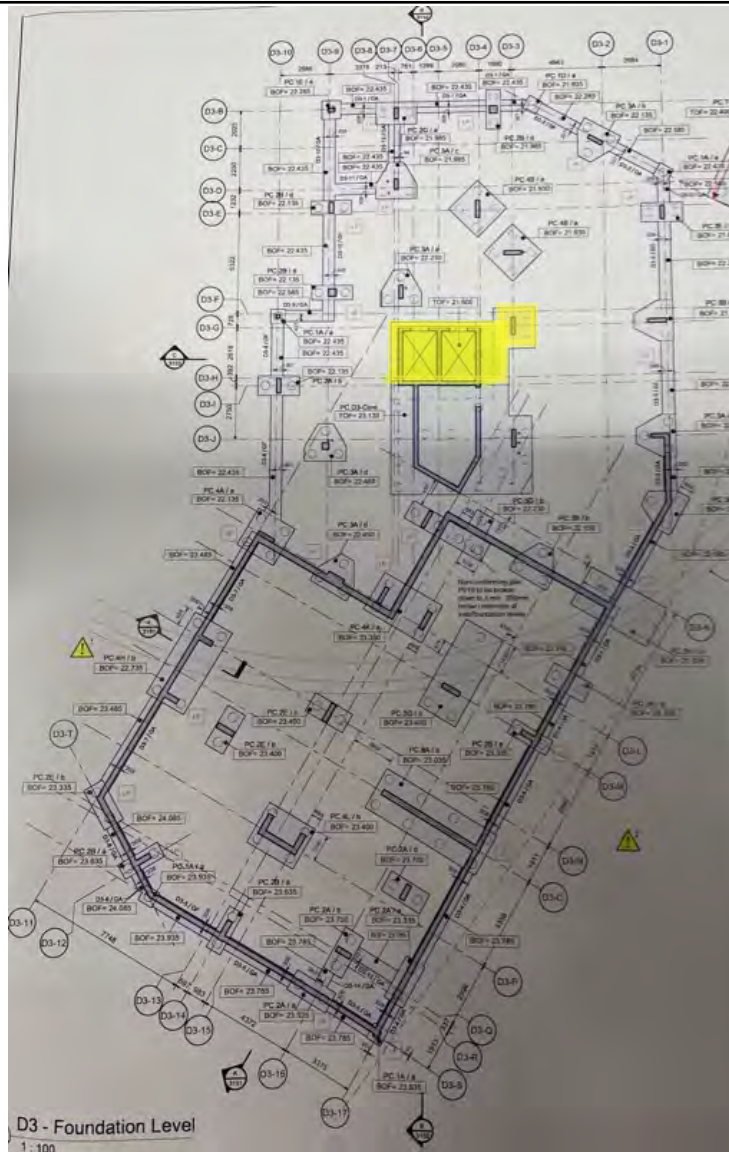
REPORT NUMBER: 001

DATE: 16/03/2022

ACCOMPANIED FDL and SWC.

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VERIFICATION LAYOUT



The above photograph displays a layout plan of block D3.

The area highlighted yellow above is where verification took place during this visit.

Block D3 - Core.



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OVERVIEW PHOTOGRAPHS



Overview photograph of the area verified during this visit.

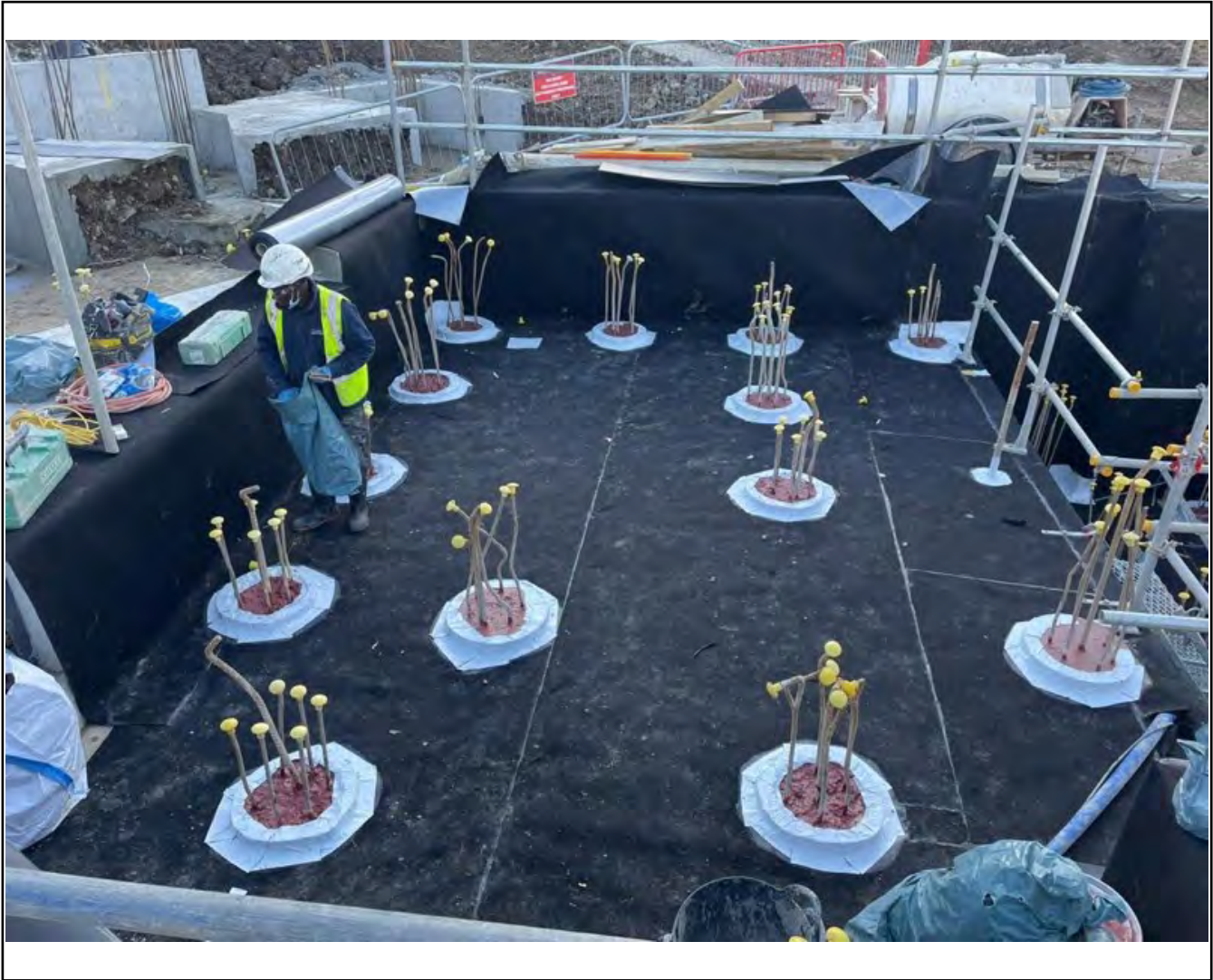
Block D3 core - lower level.



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OVERVIEW PHOTOGRAPHS



Alternate overview photograph of the area verified during this visit.

Block D3 core - upper level.



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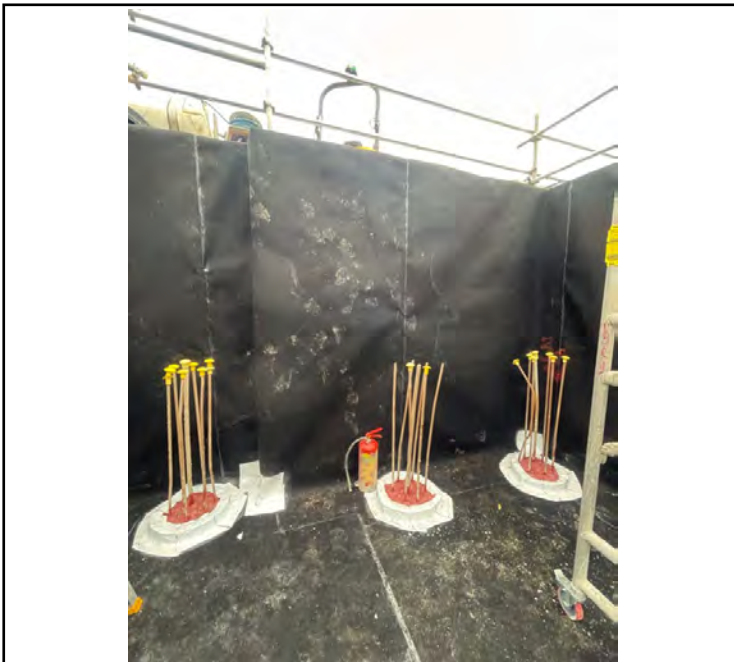


VERIFICATION ITEM ONE

LOCATION/GRID LINE: Block D3 - Core.

NOTES: Installation-

The installation of Pudlo ultra plus membrane has been lined throughout the core. All overlaps between the sheets of membrane have been welded in accordance to BS8485:2019 using a hot air tool and silicone roller. Continuity has been achieved throughout the core...



...as the Pudlo ultra + membrane has been returned up the concrete cast walls and up through the step down between the upper and lower levels of the core.

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VERIFICATION ITEM ONE



The above photograph displays an overview photograph of the Pudlo ultra + membrane returned up the concrete cast walls. The Pudlo ultra + membrane has been returned in excess of 150mm on to the ground level so a sufficient overlap can be achieved in preparation for the further membrane works to the ground slab areas.

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VERIFICATION ITEM ONE



The above photograph displays a mechanical point stress test also known as a pick and probe test being conducted upon a welded lap joint. All overlaps have been a minimum of 100mm and on selvedged edges only to ensure the fleece surface of the Pudlo ultra+ does not hinder the weld. Verified in accordance with CIRIA 735.



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VERIFICATION ITEM TWO

LOCATION/GRID LINE: Block D3 - Core.

NOTES: Pile heads-

Throughout the core area a number of pile heads required sealing. All of the piles received a thick coat of Pudlo liquid GB which is a liquid membrane and left to cure prior to the Pudlo ultra + being cut tightly around each individual pile head.



The pile heads have then been sealed/terminated to the Pudlo ultra plus membrane using Pudlo ultra EXT tape which is a gas resistant self adhesive membrane.

The fleece has been removed around the perimeter of each pile head so that the fleece surface does not hinder the adherence of the Pudlo ultra EXT tape.

All piles have been sealed in accordance to design details & manufactures specification.

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VERIFICATION ITEM TWO



The above photograph displays a mechanical point stress test being conducted upon

a successfully sealed pile head detail.

The Pudlo ultra EXT tape has successfully adhered upon the Pudlo liquid GB'ed pile

heads and onto the Pudlo ultra plus membrane.



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VERIFICATION ITEM THREE

LOCATION/GRID LINE: Block D3 - Core.

NOTES: Faults identified-

During the visual inspection and thorough pick and probe testing conducted throughout the Pudlo ultra plus installation to the core area a couple of faults were identified. These areas were highlighted so the installers could carry out the necessary remediations.



The photograph on the left shows one of the faults identified (miswelded lap joint)

and highlighted. The photograph on the right shows the NVQ qualified installer

from SWC carrying out the remediation re-welding the lap joint using a hot air tool

and silicone roller. No outstanding remediations.



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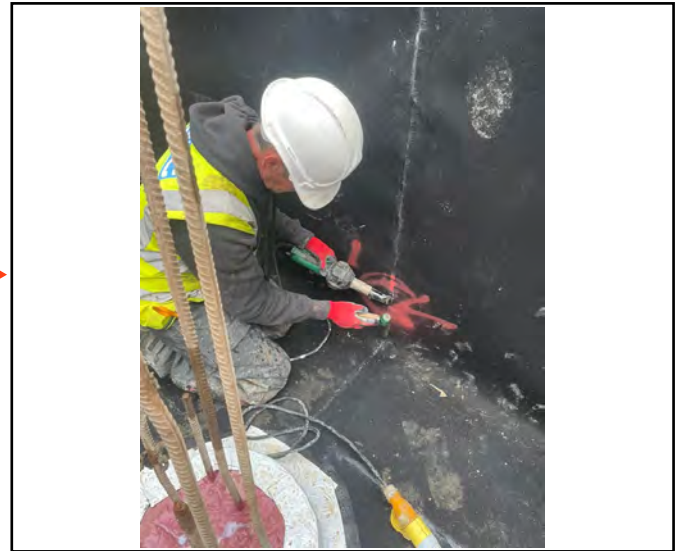


ADDITIONAL PHOTOGRAPHS



Fault 1 of 2 identified.

Remediated on-site.



The installer re-welding the lap joint.

No outstanding remediations.



Corner detailing sealed using

Pudlo ultra EXT tape.



Pick&probe testing to corner detailing.

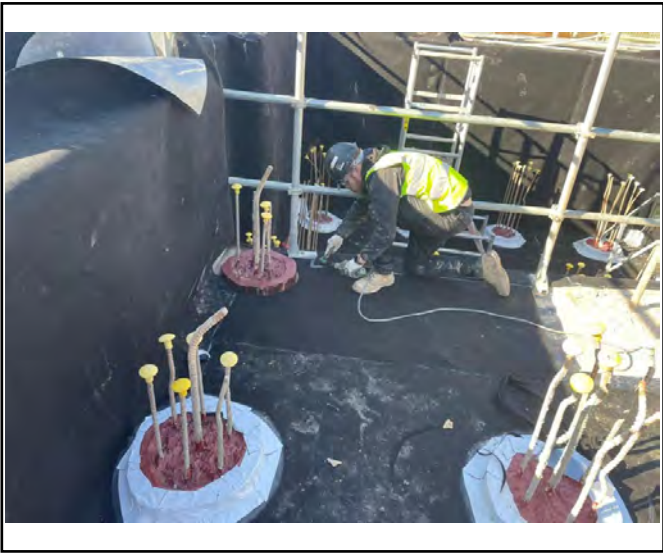
No faults identified.



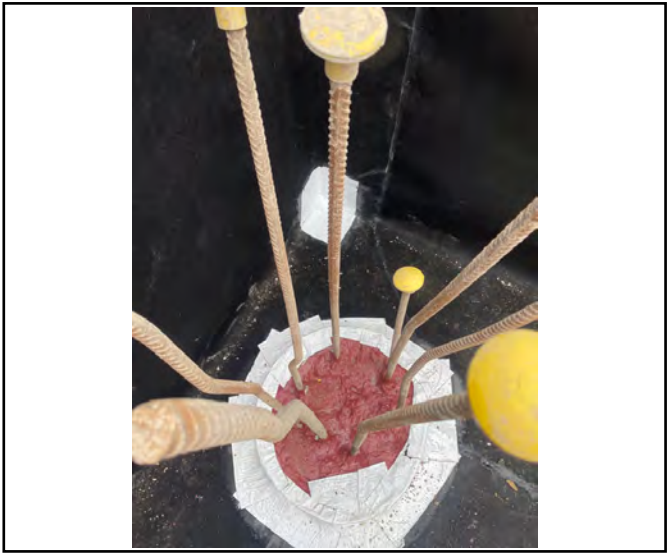
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ADDITIONAL PHOTOGRAPHS



Installer welding a lap joint.



Successfully sealed pile head and

corner detailing.



Pick and probe testing to a successfully

sealed pile head. No faults found.



Overview photograph of the upper level.



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VERIFICATION SUMMARY

This was the first visit to Block D3 on Clarendon Road Phase 3. Verification was required for the Pudlo ultra plus membrane installation to the core area. The install has been carried out by trained and experienced installers from SWC. All of the overlaps between sheets of Pudlo ultra plus have been successfully welded as required. A number of pile heads throughout the core have been successfully sealed in accordance to design details using Pudlo Liquid GB which once cured the piles have been successfully sealed/terminated to the Pudlo ultra+ creating a consistent seal throughout. A couple of corner details also required sealing using the Pudlo ultra EXT tape. Visual pick&probe testing identified a couple of faults which were remediated on-site. Verified in accordance with CIRIA 735.

GEOSHIELD SIGNATURE:

DATE: 16/03/2022