



GEOSHIELD Verification Report



PROJECT REFERENCE: GEO102491

REPORT NUMBER: 006

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 final slab area. GL's; D3-11/D3-17 - D3S/D3K

Perimeter termination detailing.

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 18c

MEMBRANE TEMPERATURE: N/a

RELATIVE HUMIDITY: N/a

TIME: 08:30-11:30

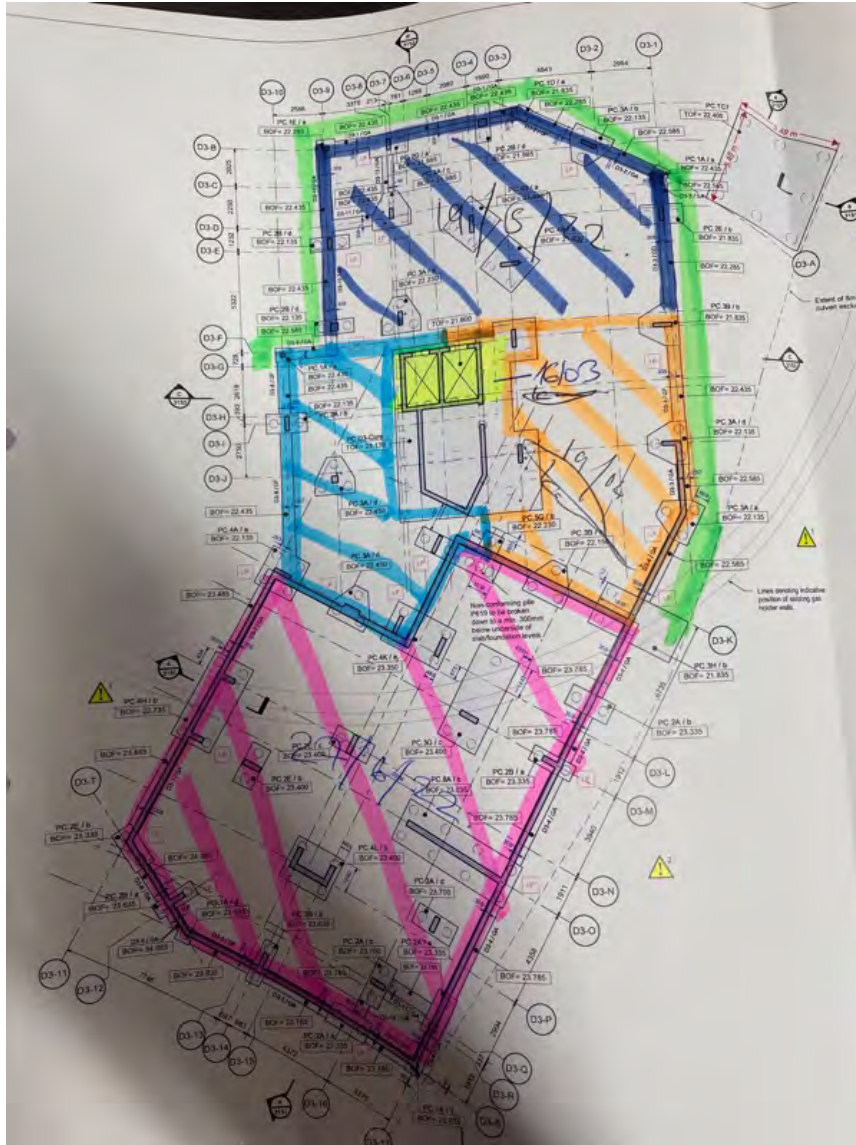
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ACCOMPANIED FDL

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VERIFICATION LAYOUT



The above photograph displays a layout plan of block D3.

The area highlighted pink&green above is where verification took place in this visit.

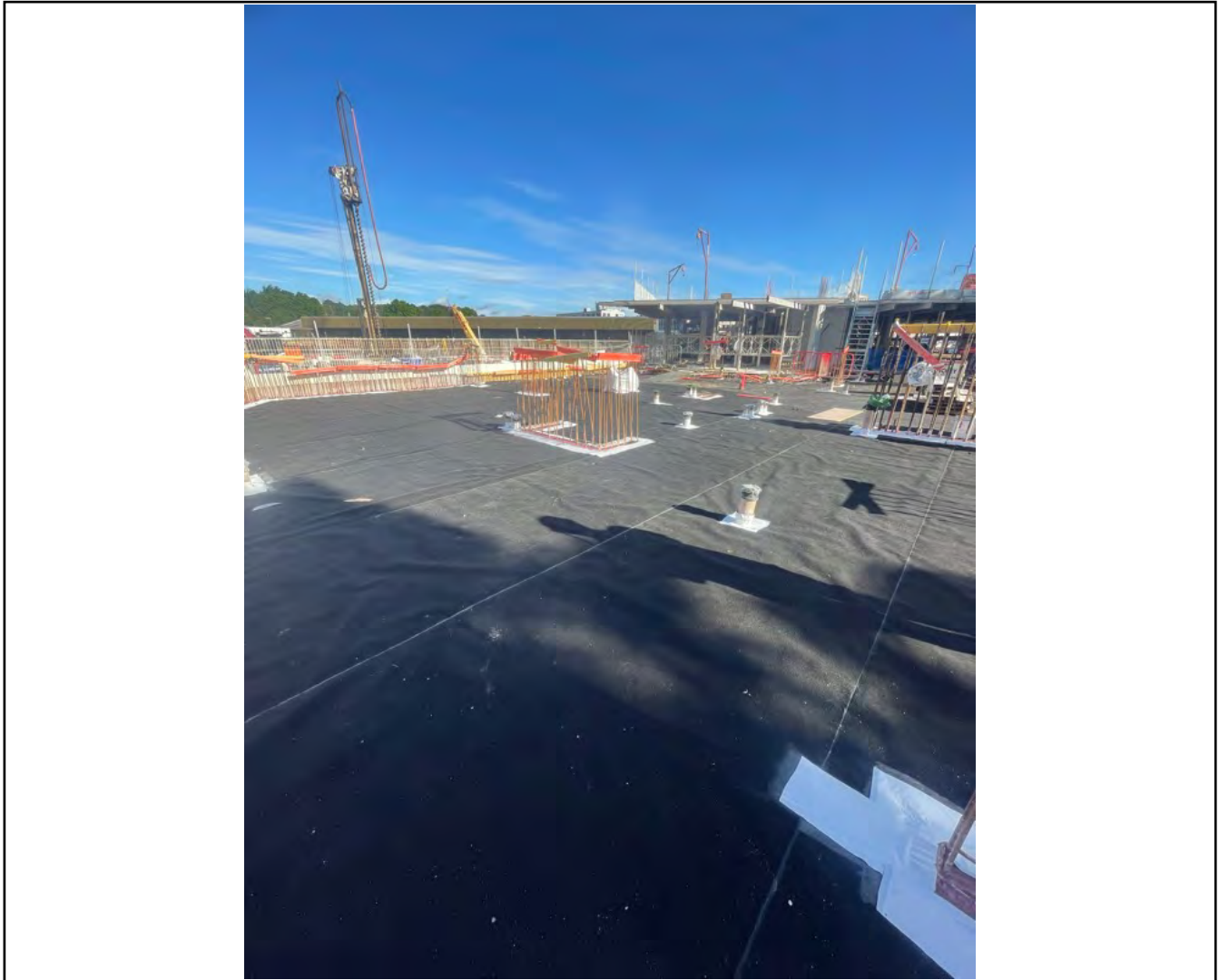
Block D3 - GL's; D3-11/D3-17 - D3S/D3K & termination detailing (highlighted green).



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OVERVIEW PHOTOGRAPHS



Overview photograph of the area verified during this visit.

Block D3 - GL's; D3-11/D3-17 - D3S/D3K final slab area.



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OVERVIEW PHOTOGRAPHS



Overview photograph of the area verified during this visit.

Block D3 termination detailing.



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VERIFICATION ITEM ONE

LOCATION/GRID LINE: Block D3 - GL's; D3-11/D3-17 - D3S/D3K

NOTES: Installation-

installation of Pudlo ultra + has been completed to the final slab area within Block D3. All overlaps have been welded in accordance to BS8485:2019 using a hot air tool & silicone roller. Like the other areas continuity has been achieved between the adjacent slab areas.



The exposed Pudlo ultra + membrane from the adjacent slab and/or core have been welded between new and old Pudlo ultra plus to create a consistent & continuous seal.

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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 conforming to manufactures specification with all welds carried out on selvedged (fleece free) edges of Pudlo ultra plus. Verified in accordance with CIRIA 735.



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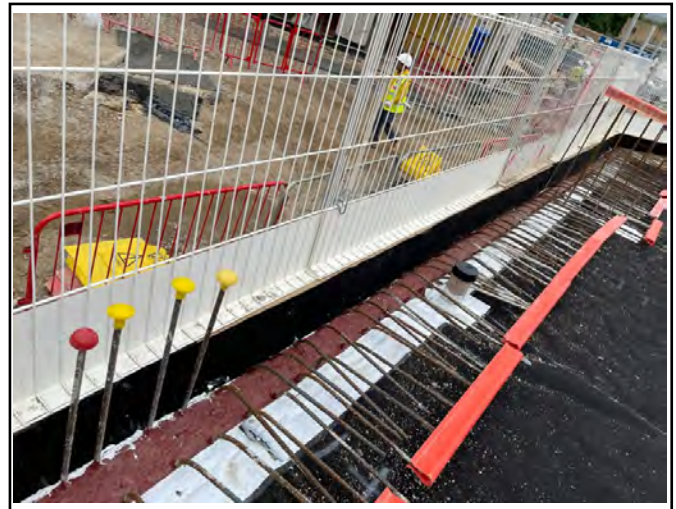


VERIFICATION ITEM TWO

LOCATION/GRID LINE: Block D3 - GL's; D3-11/D3-17 - D3S/D3K

NOTES: Pile cap & beam detailing-

All pile caps and ground beams have received a thick coverage of Pudlo liquid GB and as per detail. Internal termination works have been achieved using Pudlo EXT tape lapping onto the Pudlo ultra plus and Pudlo liquid GB'ed areas as shown below.



Sufficient coverage of Pudlo liquid GB has been achieved with no areas of concrete visually exposed. The perimeter works around the temporary shuttering works has been achieved as per Pudlos section detail lapped 50mm minimum onto the beam and sealed using Pudlo surestop adhesive as per the detail.

Installation successfully carried out in accordance to 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 cap detail.

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

pile cap & onto the Pudlo ultra plus membrane. Verified in accordance with CIRIA 735.



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VERIFICATION ITEM TWO

LOCATION/GRID LINE: Block D3 - GL's; D3-11/D3-17 - D3S/D3K

NOTES: Pipe penetrations-

Throughout the Pudlo ultra plus installation a number of pipe penetrations required

sealing. This has been achieved using Pudlo ultra EXT tape which is a gas resistant

self adhesive membrane. The Pudlo ultra+ has been cut tightly around all pipes prior...



to being sealed. The pipe penetrations have been sealed to manufactures specification

and to good NVQ standard as shown in the photographs above.

The photographs above show typical pipe penetration sealed details.

The fleece upon the Pudlo ultra plus membrane has been removed prior to sealing

so that a direct seal has been achieved and not hindered by the fleece surface.

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VERIFICATION ITEM TWO



Fleece free surface.

The above photograph displays a mechanical point stress test being conducted upon a pipe penetration which has been sealed in accordance to manufactures specification.

The pudlo ultra EXT tape has been sealed directly upon the membrane to prevent the fleece surface jeopardising the seal. Verified in accordance with CIRIA 735.



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VERIFICATION ITEM THREE

LOCATION/GRID LINE: Block D3 - GL's; D3-11/D3-17 - D3S/D3K

NOTES: Faults identified-

During the visual inspection and thorough pick and probe testing conducted throughout the Pudlo ultra plus installation to the referenced area only 4 faults were identified.

These were highlighted so the installers could carry out the necessary remediations.



The photograph on the left shows a example of a fault identified- a miswelded lap joint.

The photograph above on the right shows the completed remediation.

Removal of the fleece surface and a 150mm patch repair remediation carried out.

Verified in accordance with CIRIA 735. No outstanding remediations.



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VERIFICATION ITEM THREE

LOCATION/GRID LINE: Block D3 perimeter.

NOTES: Termination detailing-

Perimeter termination works have begun on a section of perimeter on Block D3 by FDL

The concrete perimeter upstands have been primed using Pudlo self seal and left to

cure prior to works commencing. The Pudlo ultra seal has been returned from the top...



...of the upstands- sealing the adjacent concrete pillars within the perimeter.

The Pudlo ultra seal has been returned in excess of 150mm onto the exposed

Pudlo ultra plus around the perimeter of the building creating a continuous seal

throughout the perimeter prior to Pudlo DPC works being carried out.



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VERIFICATION ITEM THREE

LOCATION/GRID LINE: Block D3 perimeter.

NOTES: Testing procedures-

The below photographs displays the testing procedures conducted throughout the

Pudlo ultra seal termination detailing around a section of Block D3. Mechanical point

stress tests also known as visual pick and probe testing was carried out.



The photograph above on the left shows a pick and probe test being conducted

upon a sealed overlap between sheets of Pudlo ultra seal. No faults identified.

The photograph above on the right shows the Pudlo ultra seal return onto the Pudlo

ultra plus. No faults were identified. Verified & tested in accordance with CIRIA 735.



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ADDITIONAL PHOTOGRAPHS



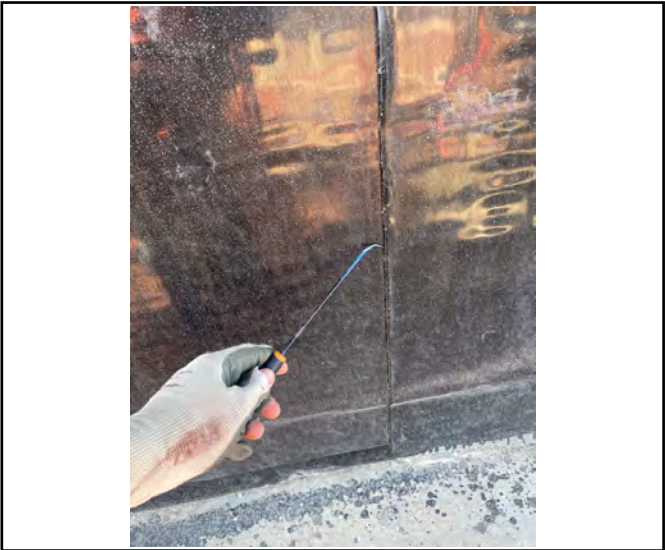
Intricate external corner detailing.

Pudlo ultra seal termination works.



Sealed column detailing.

Pudlo ultra seal termination works.



Pick&probe testing to sealed overlap.

Pudlo ultra seal termination works.



Intricate detailing.

Pudlo ultra seal termination works.



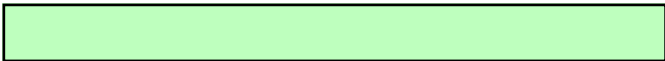
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ADDITIONAL PHOTOGRAPHS



Successfully sealed pilecap detail.

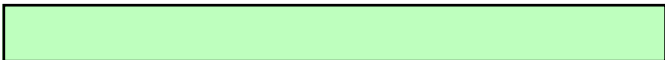


Pick and probe testing to welded

lap joint.



Successfully sealed pipe penetrations.



Successfully sealed perimeter beam

detailing (internal)



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VERIFICATION SUMMARY

This was the 6th verification visit required for Block D3 at Clarendon Road.

The specialist installers from SWC have carried out the Pudlo ultra plus install to

the final slab area between adjacent slabs previously verified. All lap joints have

been successfully welded in accordance to BS8485:2019. All pipes have been

to a good standard using Pudlo ultra EXT tape. Pile caps and beams have been

sealed using Pudlo liquid GB with all Pudlo ultra plus termination works being

carried out in accordance to the necessary detail. Perimeter termination works

have commenced using Pudlo ultra seal installed in accordance to design detail.

Visual pick&probe testing identified 4 small faults which were emediated on-site.

Verified and tested in accordance with CIRIA 735.

GEOSHIELD SIGNATURE:

DATE: 27/06/2022