GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848
REPORT NUMBER:	001
REPORT DATE:	20/07/2022
PROJECT:	Galiford Try Building
PROJECT ADDRESS:	Greenhead College
	Huddersfield
	HD1 4ES
MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Finlay Todd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

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:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

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

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME:

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Retaining Wall Kicker (highlighted section)

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 28c

MEMBRANE TEMPERATURE:

RELATIVE HUMIDITY:

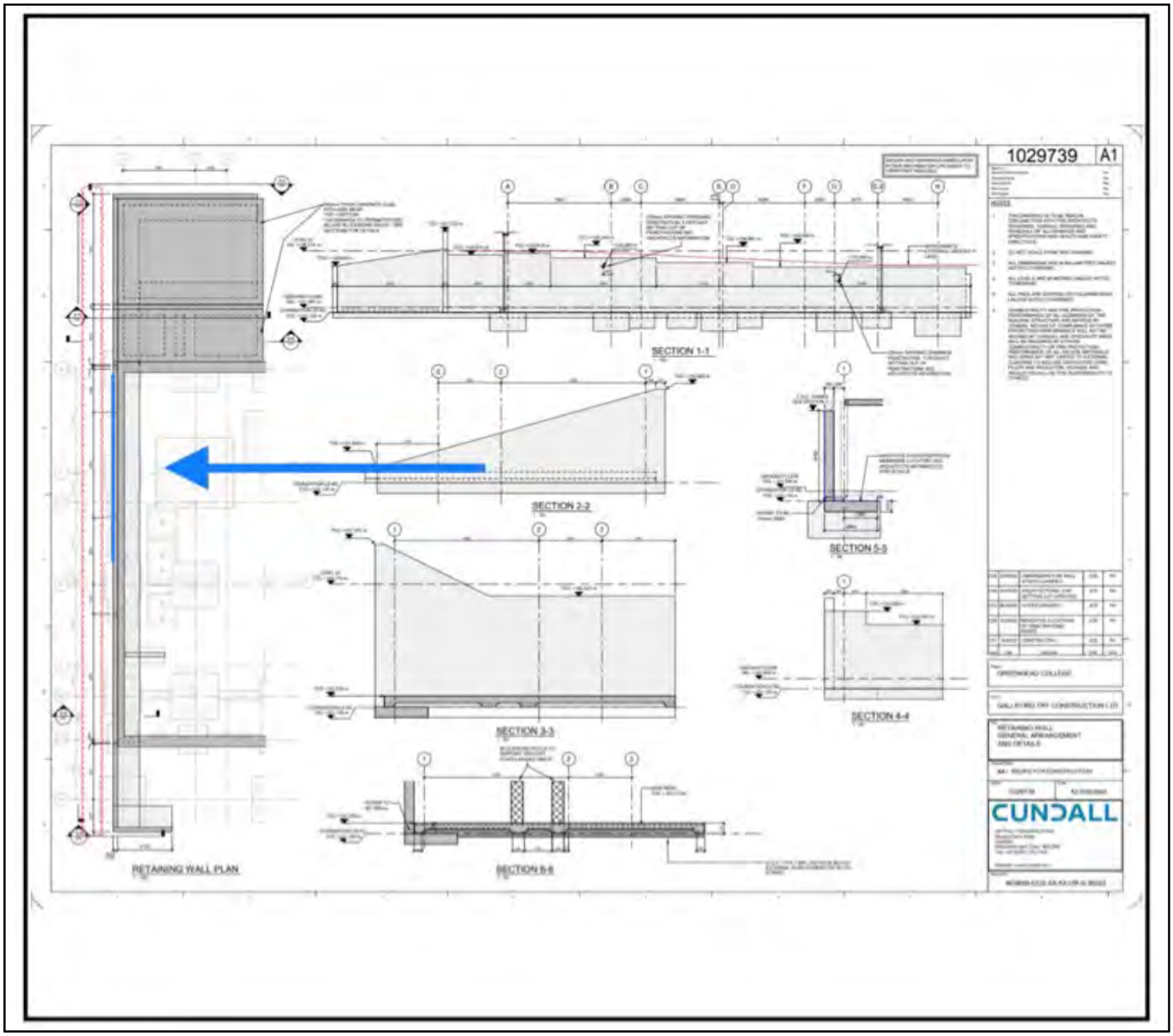
TIME: 10:45-12:30 REPORT NUMBER: 001

DATE: 20/07/2022

ACCOMPANIED

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Retaining Wall Kicker

RESTRICTIONS AND LIMITATIONS: Rebar is present in the kicker rising vertically from the concrete. This caused major problems when trying to accurately verify the space between the rebar. All other areas this was not a problem.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Retaining Wall Kicker

NOTES: Dielectric Testing

A visual inspection was first carried out to make sure a good coverage had been achieved and no water was on the wall. The dielectric test was then carried out on the retaining wall kicker. Some small pinholes were found during the testing, indicated by the machine beeping, some were then picked up visually. Where they were not visible a larger area was then remediated.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Above shows the remediation of a larger area. All areas indicated by the dielectric

machine were remediated on site.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Overview of verified area

Overview of verified area

Pinholes found

Pinholes found

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Overview of verified area

Remediated section

Overview of verified area

Overview of verified area

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔

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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
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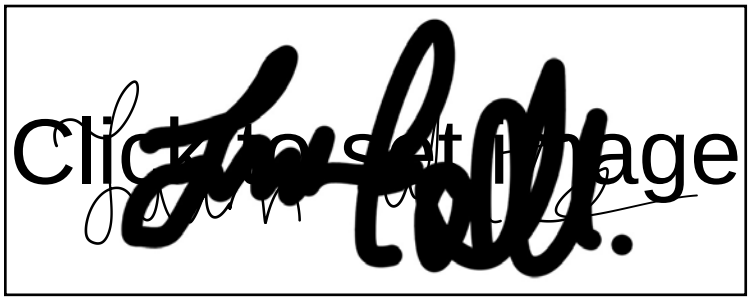
GEOSHIELD Verification Report

VERIFICATION SUMMARY

Visit 001 to this project was to carry out dielectric testing on a section of the retaining wall kicker. The kicker was dry when the test was carried out with visual good coverage achieved. Some small pinholes were found during the dielectric testing which were remediated during the visit as can be seen in the photos provided.

To BS8485 and CIRIA735

GEOSHIELD SIGNATURE:



DATE:	20/07/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848
REPORT NUMBER:	002
REPORT DATE:	27/07/2022
PROJECT:	Galiford Try Building
PROJECT ADDRESS:	Greenhead College

Huddersfield

HD1 4ES

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

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:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

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

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME: To be confirmed Monday 1st August

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME: To be confirmed Monday 1st August

COMPANY:

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES:

NOTES:

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Retaining Wall Kicker

Lift Pit Base Kicker

Stairwell Number Four

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 23c

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/An

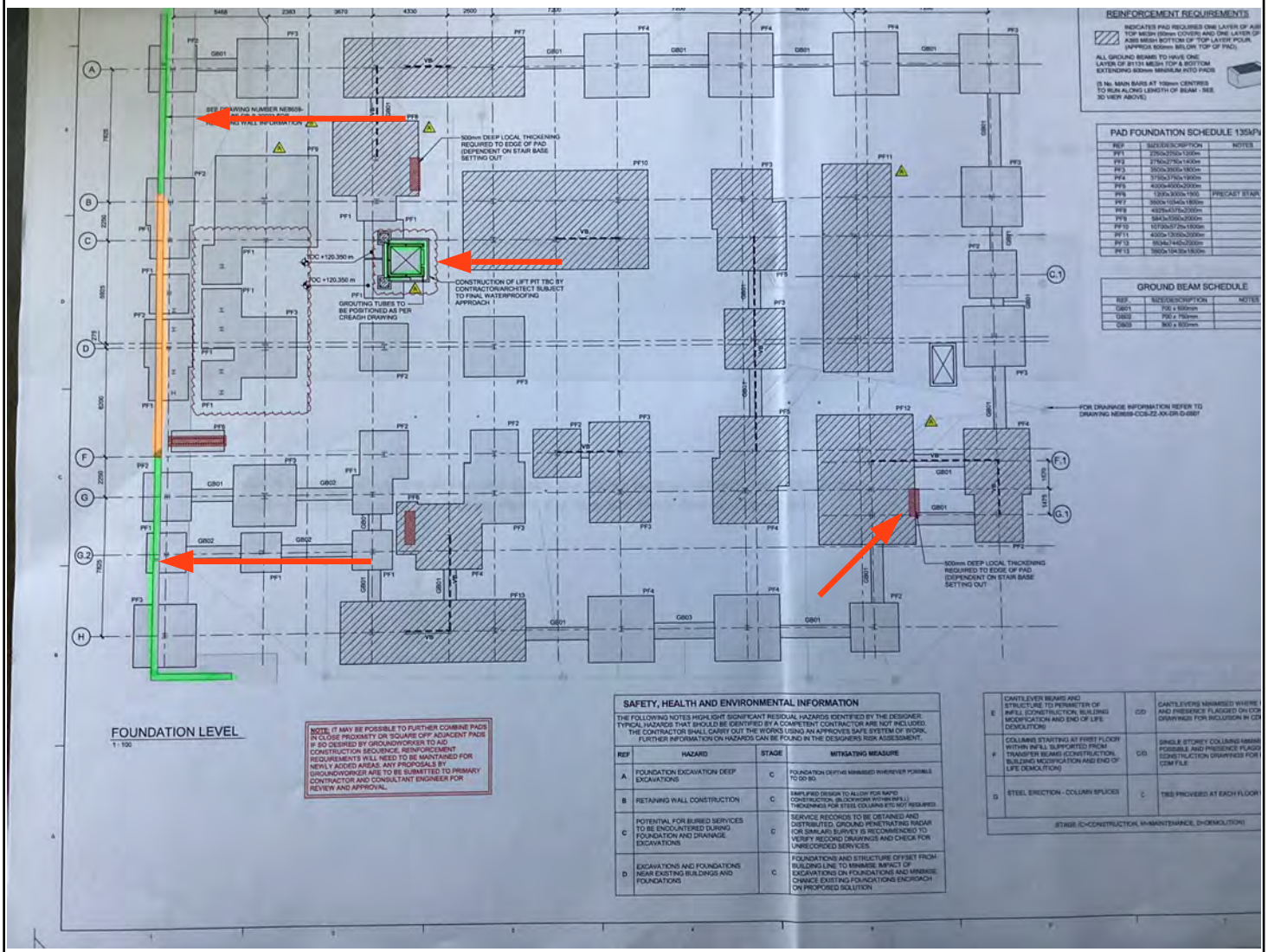
TIME: 11:00 to 12:30 REPORT NUMBER: 002

DATE: 27/07/2022

ACCOMPANIED Gerry

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified area as indicated with red arrows

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of verified area - Stairwell Number Four

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Lift Pit

NOTES: Liquid Gas Membrane Application.

A comprehensive visual inspection was completed of the Lift Pit Kicker where three coats of the Liquid Gas Membrane had been applied. The Dielectric Test revealed no faults upon the smooth areas of the concrete but a visual test had to be completed to the

remaining areas. Any small surface discrepancies had been fully coated and the base of the steel rebar had been coated fully too.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Overview of the Lift Pit base kicker showing the extent of the Liquid Gas Membrane application. The depth of the Lift Pit kicker had also been completed as these areas will be lapped over when the Gas Resistant Self-Adhesive Membrane is installed to the walls

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Retaining Walls

NOTES: Damage to Liquid Gas Membrane

Photos showing where follow on trades had inadvertently damaged the previously applied Liquid Gas Membrane (Report 001)

These areas were remediated during this verification visit and can be seen in the additional reports section this report. A further check will be completed at the next verification visit.

Please note - the inner core base of the Lift Pit will be completed at a later date.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview of a further area of damage to the previously applied Liquid Gas Membrane

and again this was in the process of being remediated during this verification visit but

checked once again during the next visit.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Stairwell Number Four

NOTES: Liquid Gas Membrane Application

The application of the Liquid Gas Membrane had been applied to three separate areas which form the underside of Stairwell number four. Three coats had been applied and upon close inspection, the areas were fully covered.

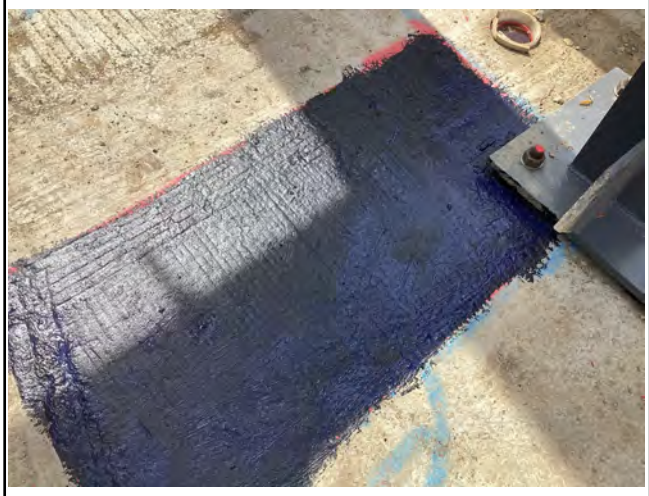
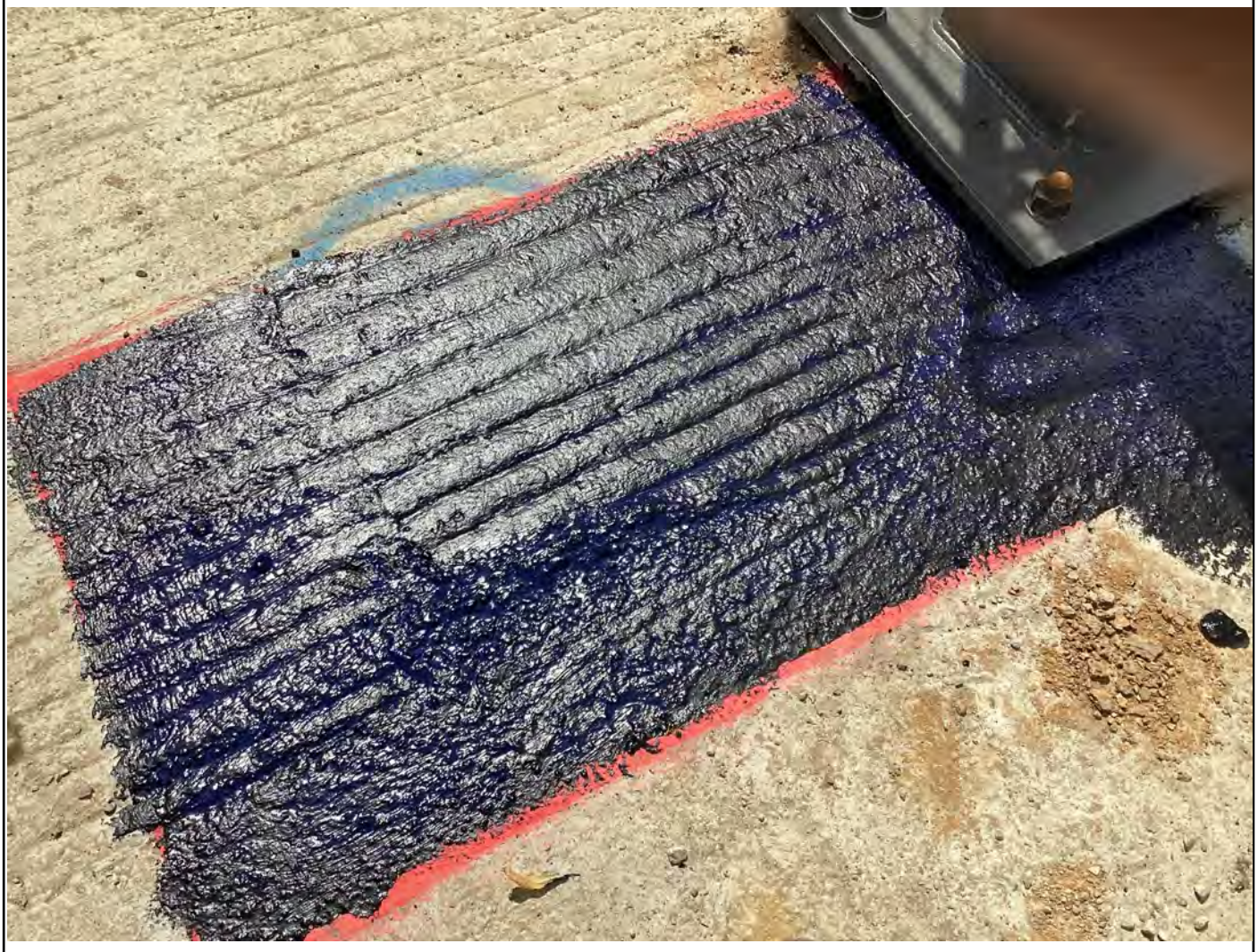


Photo 1 - the areas marked with a red circle are where future steel dowels will be installed and therefore holes will penetrate the application. Informed management that evidence will be required to show the Liquid Gas Membrane has been applied forming a new seal to the base of the dowels with the previous application.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE



Overview showing the third coat application of the Liquid Gas Membrane.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Application of Liquid Gas Membrane

to remediate damaged areas

Application of Liquid Gas Membrane

to remediate damaged areas

Application of Liquid Gas Membrane

to remediate damaged areas

Application of Liquid Gas Membrane

to remediate damaged areas

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔
27/07/2022	002	Some small areas of damage to previous Liquid Gas Membrane	
		installation to Retaining Wall Kicker - remediated during 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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Lift Pit Kicker	✔
Gridline/Plot Sign off	Underside of Stairwell Number Four	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
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Gridline/Plot Sign off		

GEOSHIELD Verification Report

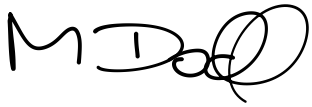
VERIFICATION SUMMARY

This was verification visit 002 having been asked to verify the recent application of a Liquid Gas Membrane to further areas of retaining wall, the Lift Pit kicker and the underside of the Stairwell number four. The verification of partly the Dielectric Test (limited access due to the amount of steel reinforcement) and a close visual inspection.

All in all a very good application of the Liquid Gas Membrane although there were some small areas of damage to previously installed Liquid Gas Membrane. These areas were remediated during this verification visit and further checks will be carried out during the next verification visit which is planned for Monday 1st August.

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

GEOSHIELD SIGNATURE:



DATE: 27th July 2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848
REPORT NUMBER:	003
REPORT DATE:	02/08/2022
PROJECT:	Galiford Try Building
PROJECT ADDRESS:	Greenhead College
	Huddersfield
	HD1 4ES
MEMBRANE SPECIFICATION:	Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

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:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

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

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME: Michael Carty

COMPANY: Shanco Contracting

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME: Chad Tinkler

COMPANY: Shanco Contracting

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES: Both Michael and Chad have had some experience with Gas Membrane

NOTES: installation but don't hold an NVQ L 2 in Gas Membrane Installation.

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Lift Pit - to include the external walls to ground level plus the internal base area prior to screeding.

SITE CONDITIONS:

WEATHER: Raining

TEMPERATURE: 19C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

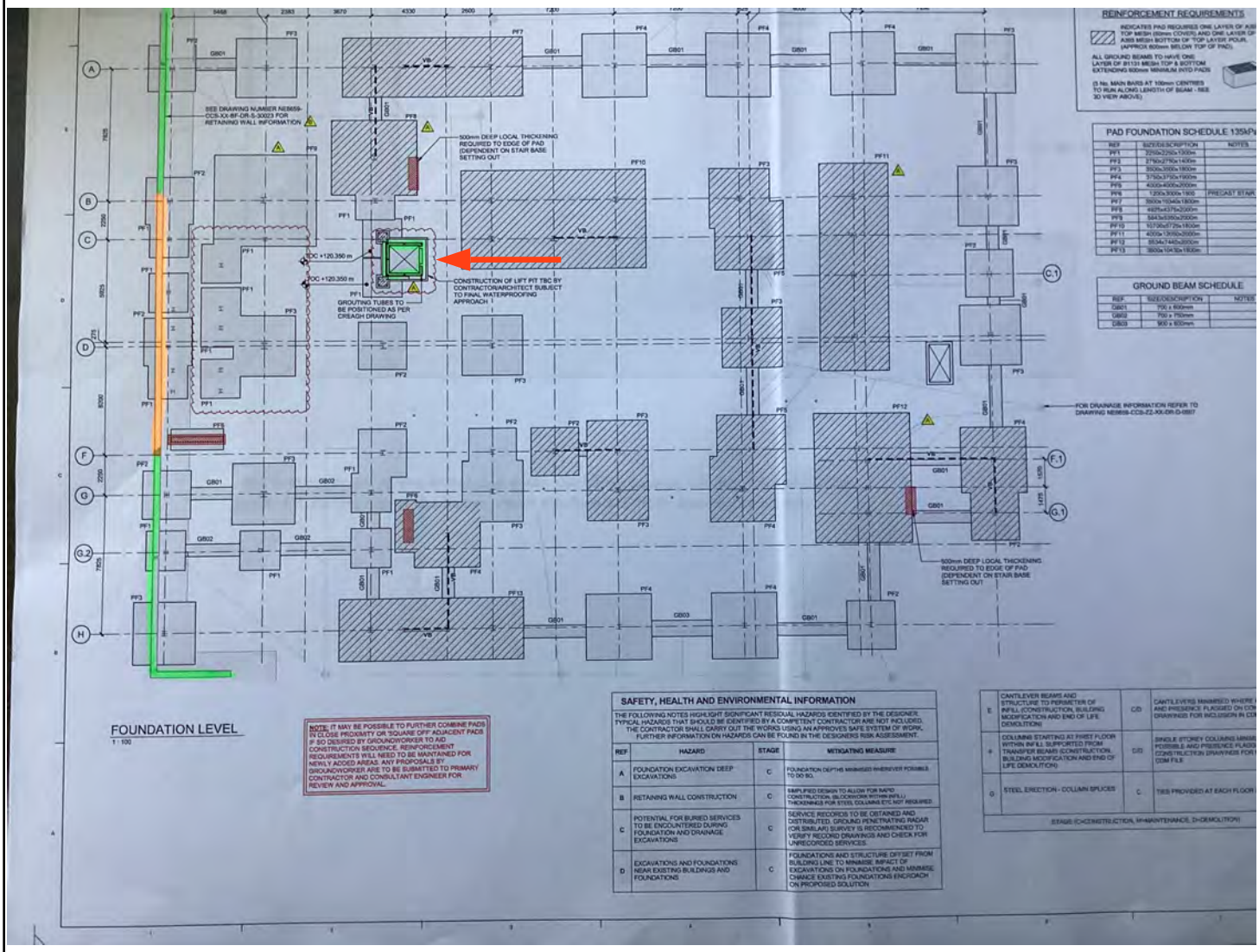
TIME: 08:30 to 09:30 REPORT NUMBER: 003

DATE: 02/08/2022

ACCOMPANIED Michael Carty

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified area as indicated with red arrow

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Lift Pit - the verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Alternative overview of the Lift Pit - the verified area

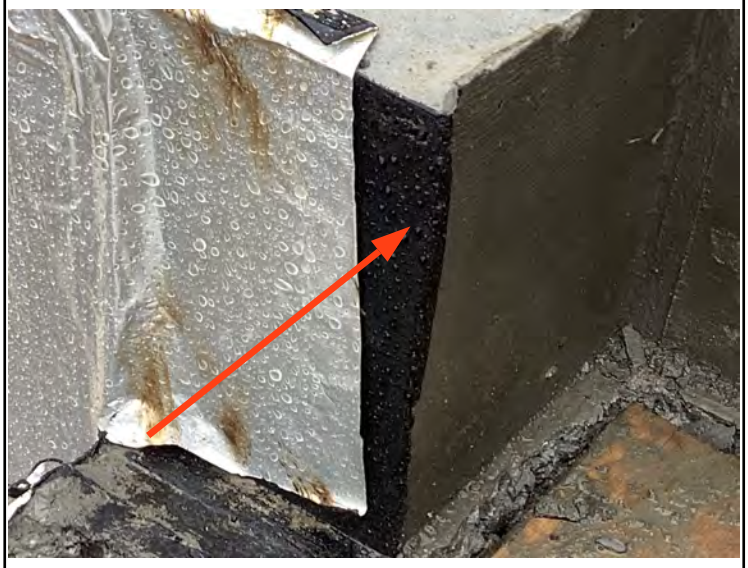
GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Lift Pit

NOTES: Lift Pit Wall Preparation

Photos showing that a coat of bitumen primer had been applied to all areas requiring the Visqueen Gas Resistant Self-Adhesive Membrane. This application aided the adhesion ensuring a good bond during installation.



GEOSHIELD Verification Report

VERIFICATION ITEM ONE

This photo again shows the extent of the applied bitumen primer which had been applied

applied to aid adhesion of the Visqueen Gas Resistant Self-Adhesive Membrane.

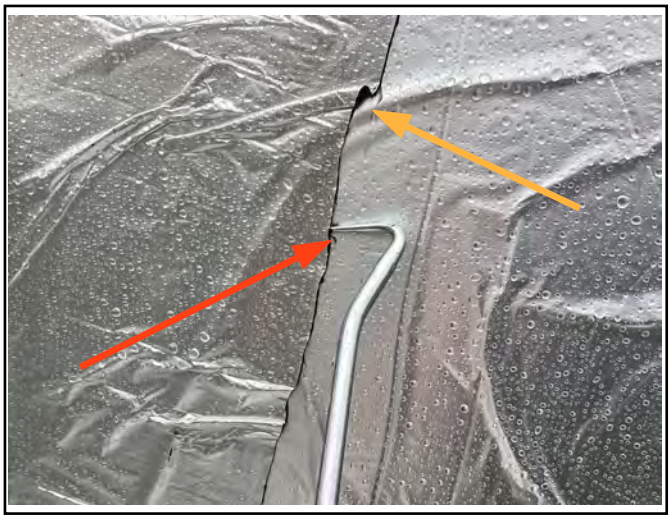
GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Lift Pit

NOTES: Lap Joints

Photos showing the Mechanical Stress Point Test being undertaken as indicated with the red arrows. All available lap joints were checked ensuring there were fully sealed.



There were a couple of areas where there was creasing to the Visqueen Gas Resistant Self-Adhesive Membrane during application. The crease indicated with the yellow arrow was a potential capillary leak but upon further investigation, there was no risk of ground gas entering at this point. The crease was pressed flat during this visit.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview showing a typical minimum lap of 100mm during the installation of the

Visqueen Gas Resistant Self-Adhesive Membrane .

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Lift Pit - internal application

NOTES:

Photos showing the Visqueen Gas Resistant Self-Adhesive Membrane had been

installed inside the base internally where on the first photo, the GRSAM has been

lapped vertically a minimum of 100mm and above the previously applied Visqueen

Liquid Gas Membrane (Report 2). The edge of the application as seen by the yellow

arrow, had peeled away slightly but the remainder was securely bonded.

Photo 2 showing the Visqueen GRSAM was lapped during application.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

Overview of the Visqueen Gas Resistant Self-Adhesive Membrane along the base within the Lift Pit.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View showing extent of the GRSAM application - elevation 1

View showing extent of the GRSAM application - elevation 2

View showing extent of the GRSAM application - elevation 3

View showing extent of the GRSAM application - elevation 4

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔
27/07/2022	002	Some small areas of damage to previous Liquid Gas Membrane	
		installation to Retaining Wall Kicker - remediated during visit.	✔
02/08/2022	003	One potential capillary leak via lap joint crease remediated during	
		verification 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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Lift Pit Kicker	✔
Gridline/Plot Sign off	Underside of Stairwell Number Four	✔
Gridline/Plot Sign off	Lift Pit - external Wall to Ground Level	✔
Gridline/Plot Sign off	Lift Pit - internal base installation	✔
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 verification visit 003 and was accompanied by Michael Carty of Shanco Contracting.

Today's verification was for the external Lift Pit walls and the inner base to the Lift Pit. Generally a good installation of the Visqueen Gas Resistant Self-Adhesive Membrane which had been applied to all four sides of the Lift Pit walls. The concrete walls had been previously prepared with a coat of bitumen primer to aid adhesion. All lap joints exceeded the minimum lap of 100mm and all were rolled flush although there were a few creases which fortunately did not a pose any potential capillary leaks.

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

GEOSHIELD SIGNATURE:

DATE: 02/08/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848		
REPORT NUMBER:	004	REPORT DATE:	11/08/2022
PROJECT:	Galiford Try Building		
PROJECT ADDRESS:	Greenhead College		

Huddersfield

HD1 4ES

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

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:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

CLIENT CONTACT:	Will McKaig
CONTACTS ROLE:	Site Manager
MOBILE PHONE:	07536 167603
EMAIL ADDRESS	will.mckaig2@gallifordtry.co.uk
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME: Michael Carty

COMPANY: Shanco Contracting

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME: Chad Tinkler

COMPANY: Shanco Contracting

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES: Both Michael and Chad have had some experience with Gas Membrane

NOTES: installation but don't hold an NVQ L 2 in Gas Membrane Installation.

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: B-H/1 and 1-2 (Retaining Wall)

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: 20C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

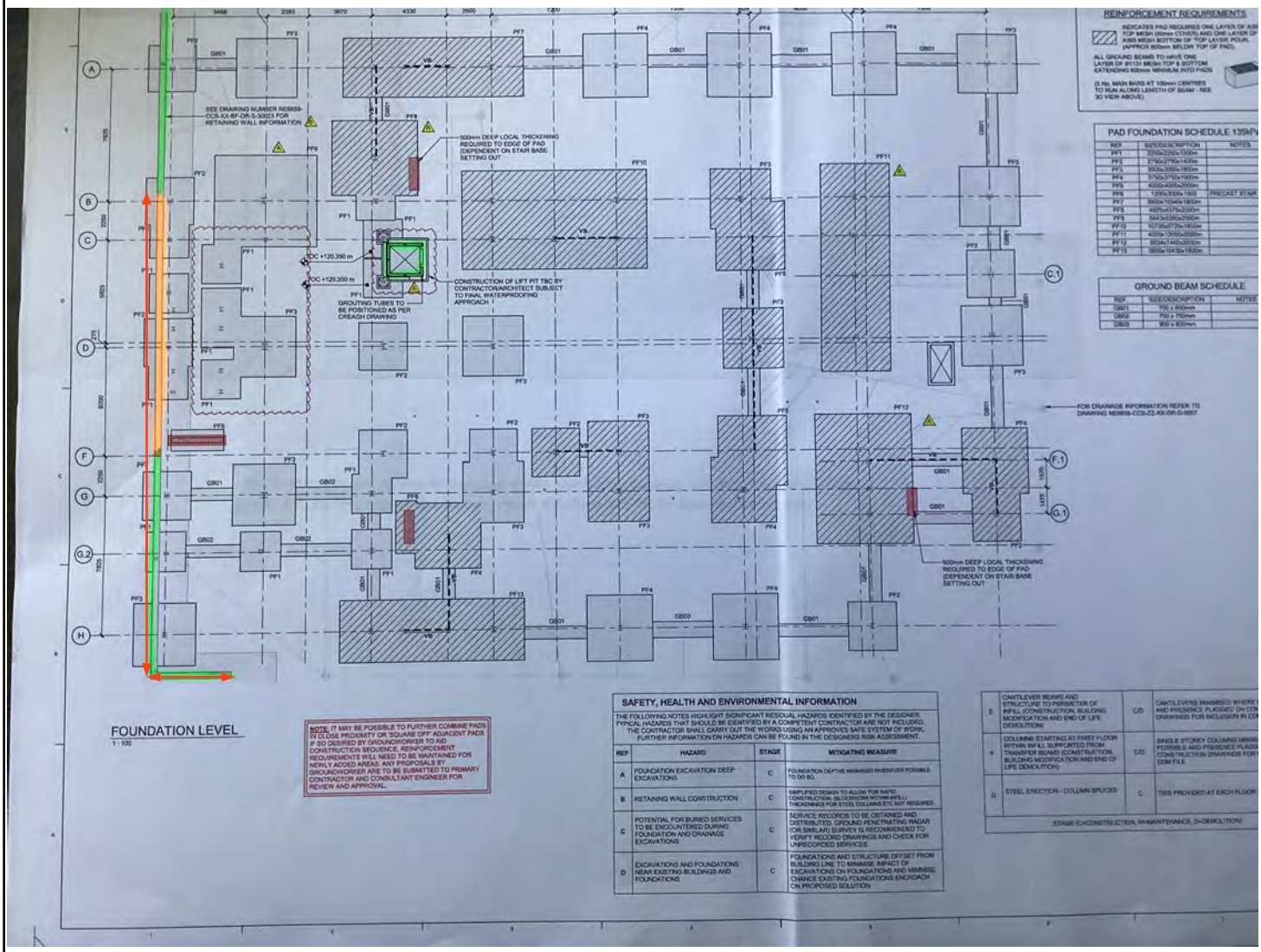
TIME: 08:00 to 09:15 REPORT NUMBER: 004

DATE: 11/08/2022

ACCOMPANIED Michael Carty

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified area as indicated with red arrow

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Retaining Wall - the verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Alternative overview of the Retaining Wall return

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Retaining Wall (Gridline 1/B-H)

NOTES: Retaining Wall Preparation

Photos showing that a coat of bitumen primer had been applied to all areas requiring the Visqueen Gas Resistant Self-Adhesive Membrane. This application aided the adhesion ensuring a good bond during installation.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

This photo again shows the extent of the applied bitumen primer which had been

applied to aid adhesion of the Visqueen Gas Resistant Self-Adhesive Membrane.

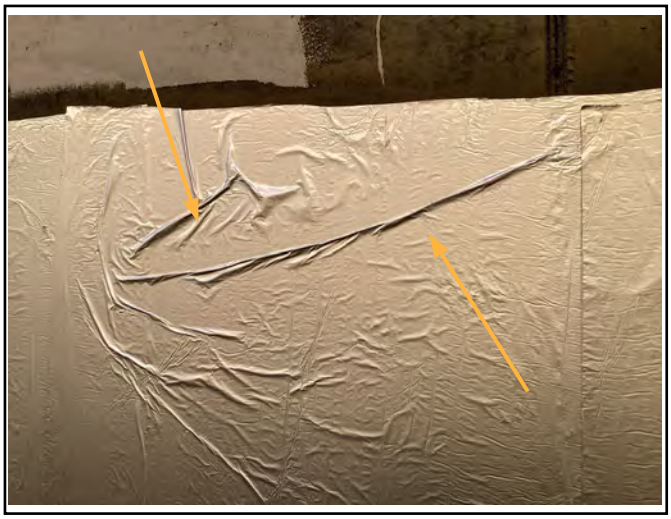
GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Retaining Wall

NOTES: Visqueen Gas Resistant Self Adhesive Membrane

There were a couple of areas where there was creasing to the Visqueen Gas Resistant Self-Adhesive Membrane during application. The crease indicated with the yellow arrow was a potential capillary leak but upon further investigation, there was no risk of ground gas entering at this point. The crease was pressed flat during this visit.



Shanco were informed that more care should be taken when installing the Gas Resistant Self Adhesive Membrane and ensure that all areas have been rolled properly as these areas are susceptible to damage.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview of an area of the applied Visqueen Gas Resistant Self Adhesive Membrane adhered to the Retaining Wall. Note the various creases which are a a possible source of puncture from follow on trades. The creases are to be avoided where possible.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

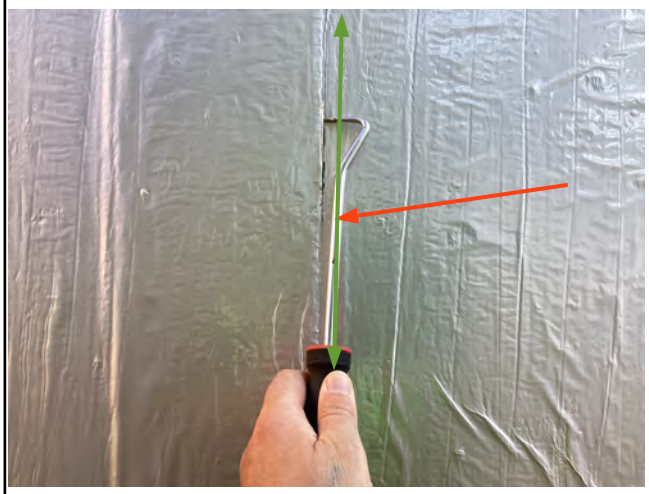
LOCATION/GRID LINE: Retaining Wall

NOTES: Visqueen Gas Resistant Self Adhesive Membrane Laps

The Visqueen Gas Resistant Self Adhesive Membrane must be lapped a minimum of

100mm. The lap joints were both measured to determine the lap widths and also

checked for potential capillary leaks. All lap joints were a minimum of 100mm wide



and following the completion of the Mechanical Point Stress Test (red arrow) along

along the edges of the lap joints (green arrow), no faults were identified during

verification.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

Overview of the Visqueen Gas Resistant Self-Adhesive Membrane where

there are small creases within the Visqueen Gas Resistant Self Adhesive

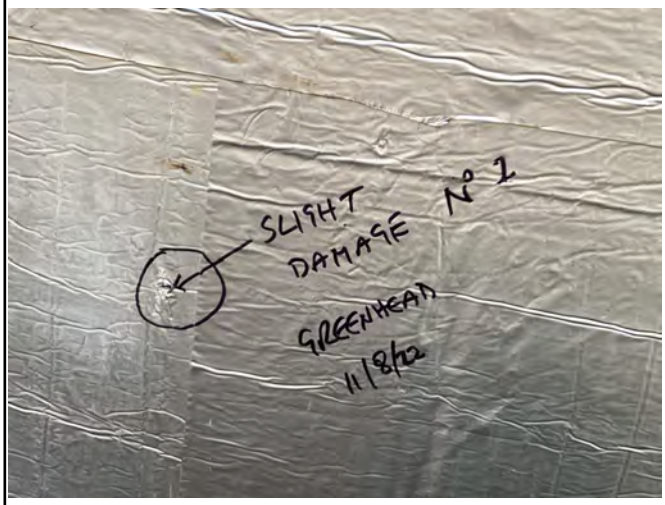
Membrane.

GEOSHIELD Verification Report

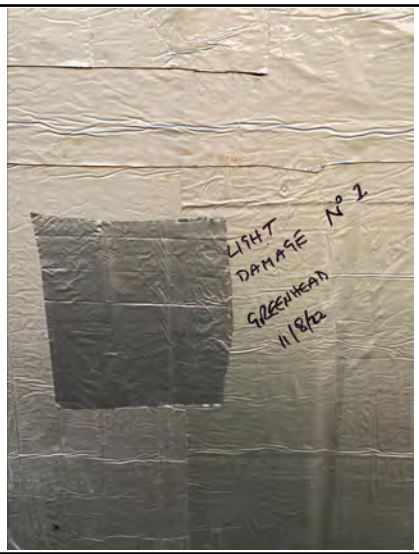
ADDITIONAL PHOTOGRAPHS

Slight groove within retaining wall to be aware of when sealing GRSAM

Loose edges of GRSAM remediated during verification visit



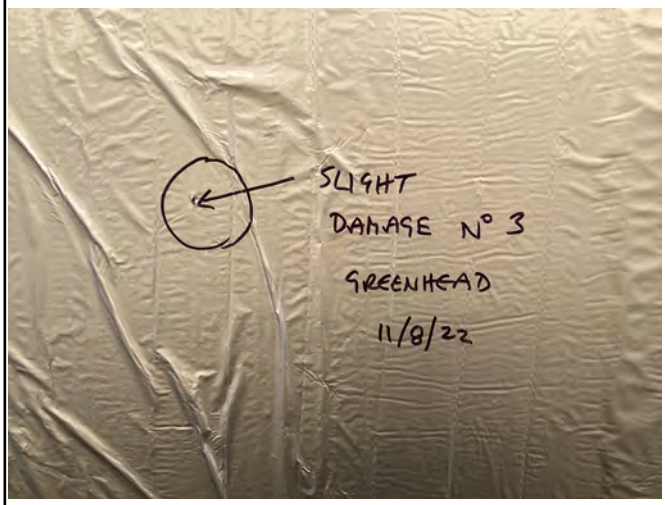
Small area of damage (1) to GRSAM requiring remediation



GRSAM damage at (1) remediated and fully sealed.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

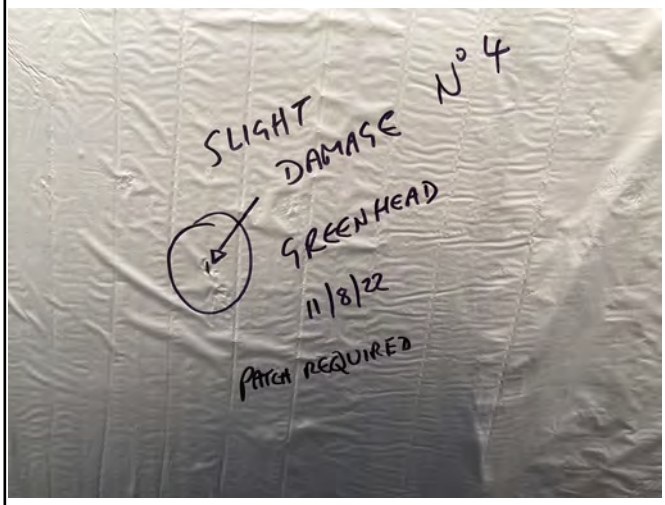


Small area of damage (3) to GRSAM

requiring remediation

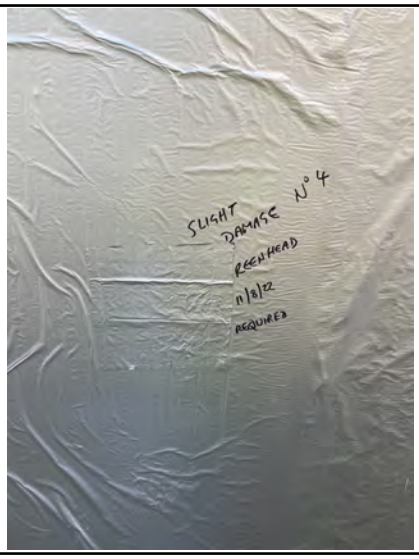
GRSAM damage at (3) remediated

and fully sealed.



Small area of damage (4) to GRSAM

requiring remediation

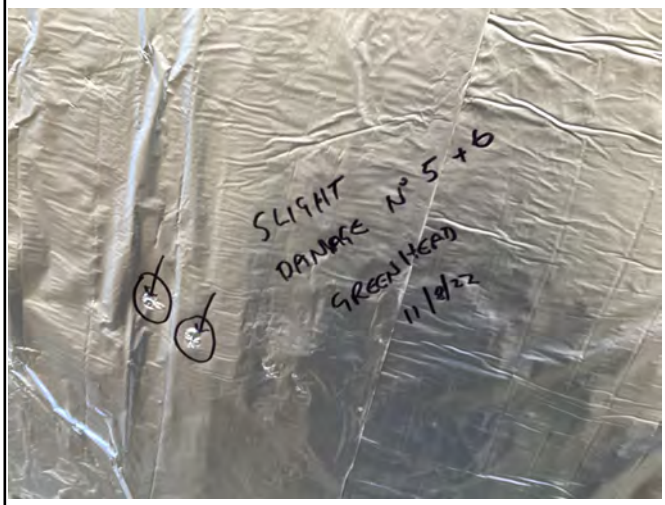


GRSAM damage at (4) remediated

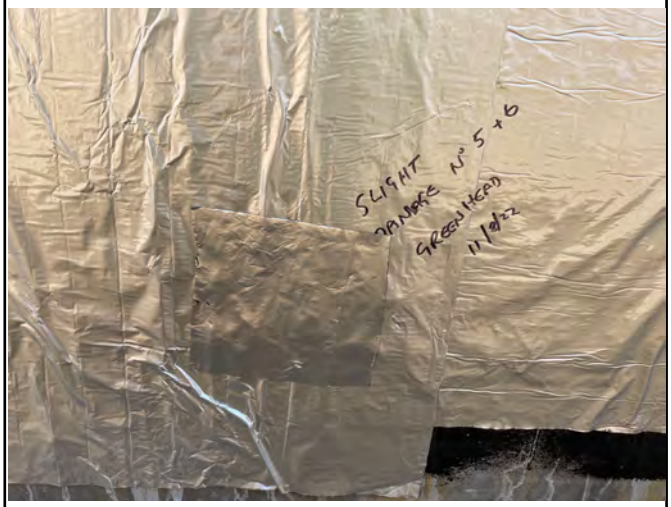
and fully sealed.

GEOSHIELD Verification Report

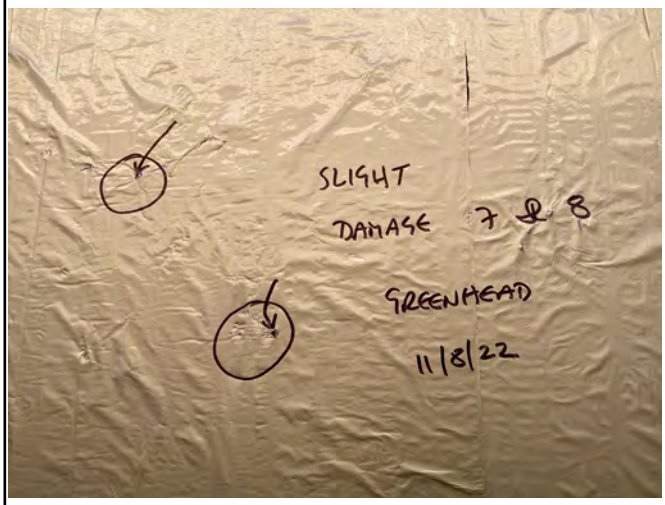
ADDITIONAL PHOTOGRAPHS



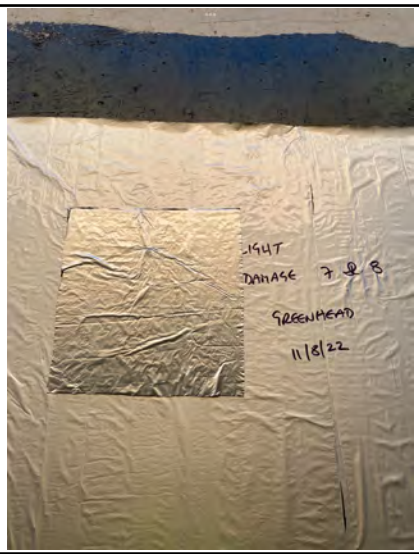
Small area of damage (5 & 6) to GRSAM requiring remediation



GRSAM damage at (5 & 6) remediated and fully sealed.



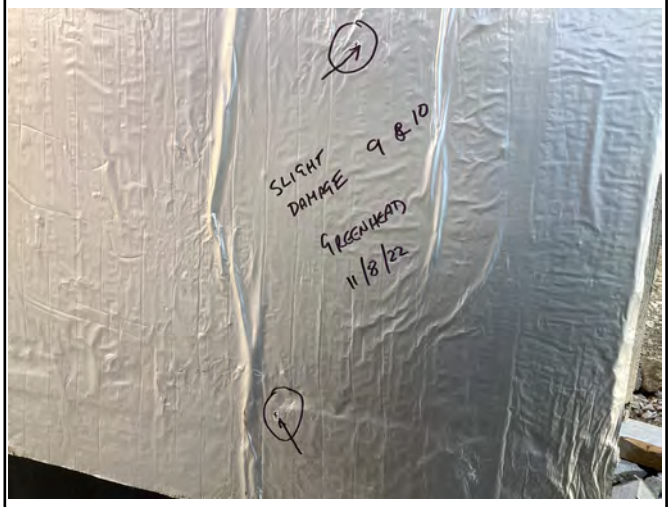
Small area of damage (7 & 8) to GRSAM requiring remediation



GRSAM damage at (7 & 8) remediated and fully sealed.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS



Small area of damage (9 & 10) to GRSAM requiring remediation

GRSAM damage at (9 & 10) remediated and fully sealed.

Small area of damage (2) to GRSAM remediated and fully sealed.

View showing that the GRSAM extends lower than the Liquid Gas Membrane

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of insulation protecting the GRSAM along rear of retaining wall

Alternative view of insulation protecting GRSAM along rear of retaining wall

Alternative view of insulation protecting GRSAM along rear of retaining wall

View showing GRSAM exceeding beyond the Liquid Gas Membrane

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔
27/07/2022	002	Some small areas of damage to previous Liquid Gas Membrane	
		installation to Retaining Wall Kicker - remediated during visit.	✔
02/08/2022	003	One potential capillary leak via lap joint crease remediated during	
		verification visit.	✔
11/08/2022	004	Ten areas of slight damage identified and requires remediation.	✔
		Various edges of the Visqueen Gas Resistant Self-Adhesive	✔
		Evidence of insulation being used to protect the Gas Resistant	
		Self Adhesive Membrane to the retaining 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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Lift Pit Kicker	✔
Gridline/Plot Sign off	Underside of Stairwell Number Four	✔
Gridline/Plot Sign off	Lift Pit - external Wall to Ground Level	✔
Gridline/Plot Sign off	Lift Pit - internal base installation	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0 m only)	✔
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 verification visit 004 and was accompanied by Michael Carty of Shanco Contracting. The retaining wall has had a layer of Visqueen Gas Resistant Self Adhesive Membrane installed upon a bitumen primer. The installation was the first of two vertical stages whereby the first section did not exceed 2 metres high.

Completed the following this report:-

>. Mechanical Point Stress Test to all GRSAM edges and lap joints - ten areas of small damage were identified and remediated.

>. A comprehensive visual check was undertaken ensuring all lap joints were a minimum of 100mm. Care needs to be taken as areas of the GRSAM was creased.

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

GEOSHIELD SIGNATURE:

DATE: 11/08/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848
REPORT NUMBER:	005 (CQA)
REPORT DATE:	12/98/2022
PROJECT:	Galiford Try Building
PROJECT ADDRESS:	Greenhead College

Huddersfield

HD1 4ES

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

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:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

CLIENT CONTACT:	Will McKaig
CONTACTS ROLE:	Site Manager
MOBILE PHONE:	07536 167603
EMAIL ADDRESS	will.mckaig2@gallifordtry.co.uk
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME: Michael Carty

COMPANY: Shanco Contracting

APPLICATOR TEL:

APPLICATOR EMAIL:

APPLICATOR NAME: Chad Tinkler

COMPANY: Shanco Contracting

APPLICATOR TEL:

APPLICATOR EMAIL:

NOTES: Both Michael and Chad have had some experience with Gas Membrane

NOTES: installation but don't hold an NVQ L 2 in Gas Membrane Installation.

NOTES:

NOTES:

GEOSHIELD Verification Report

AREA SURVEYED: Substation Base (Contractors Quality Assurance Survey).

SITE CONDITIONS:

WEATHER: Sunny

TEMPERATURE: N/A

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

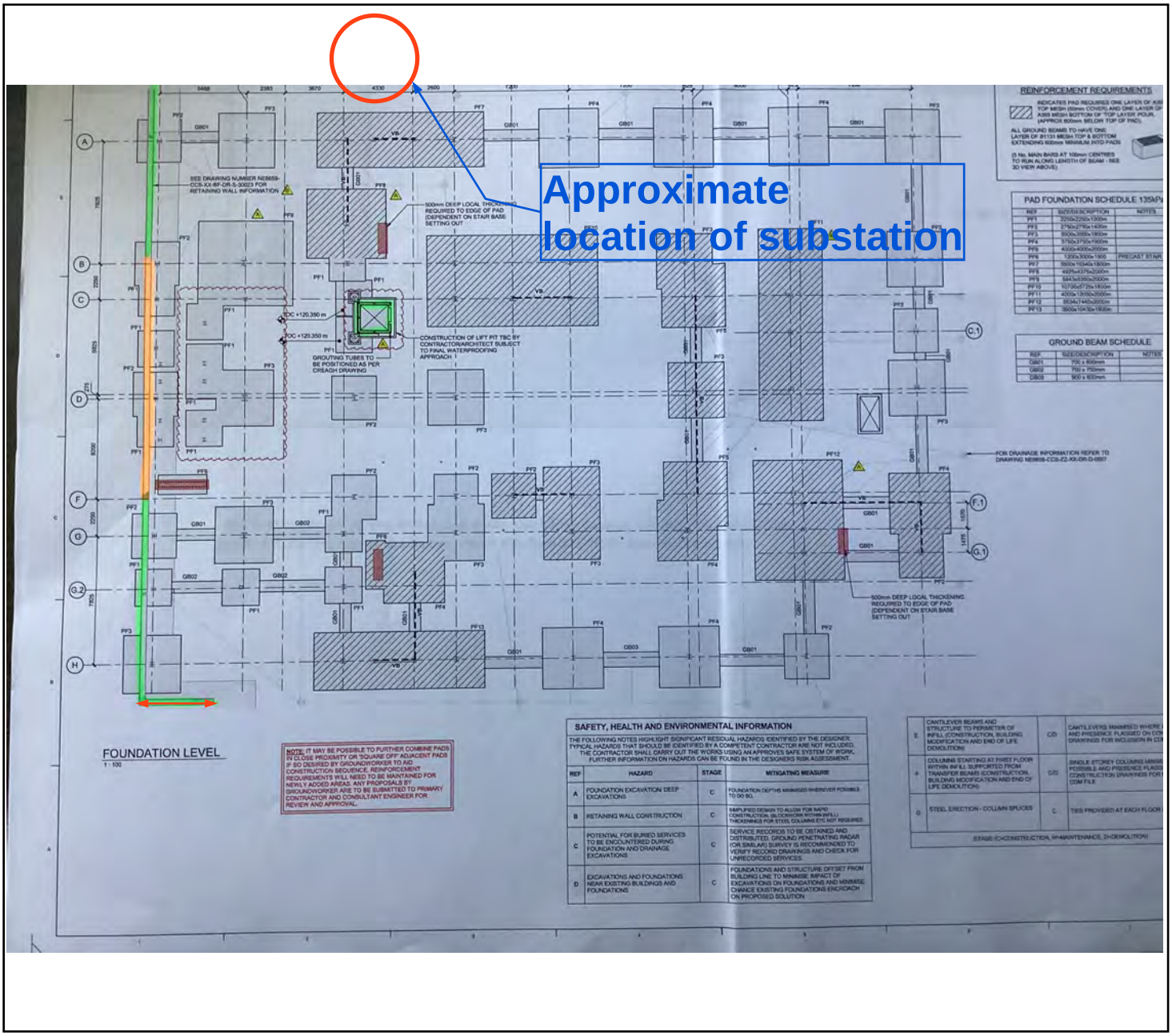
TIME: N/A REPORT NUMBER: 005 (CQA).

DATE: 12/08/2022

ACCOMPANIED N/A - Contractors Quality Assurance

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified area is not shown on available drawings.

Approximate position of substation identified by red circle.

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Substation Base - the verified area

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Substation Base Only (CQA)

NOTES: Substrate Preparation

The first stage before the installation of substation base perimeter for work was to prepare the substrate. Photos shows where crushed limestone has been placed ensuring the surface was reasonably flat with minimum larger stones visible.

Photo 2 also shows the correct substrate preparation extends past the proposed position of the formwork - see red arrows which identify the setting out.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Overview showing the formwork secured into position upon the previously prepared

substrate. The red circles identify larger stones which were identified during an email

exchange and was lead to believe these were removed - no further photo provided.

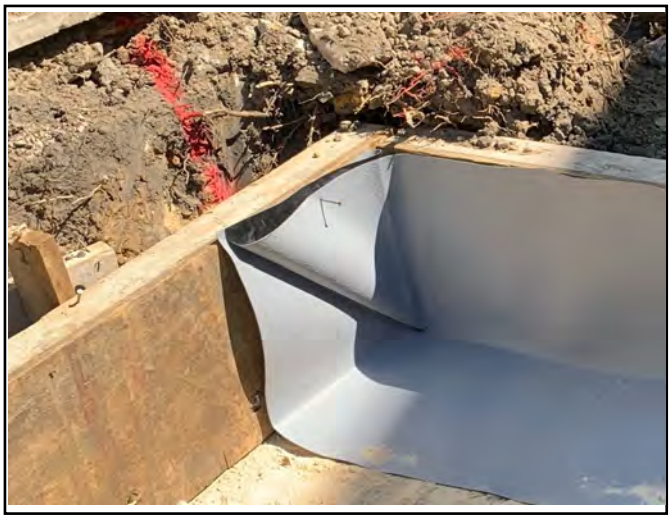
GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Substation Base Only (CQA)

NOTES: Visqueen Ultimate Geoseal Gas Membrane Installation

The installation of the Visqueen Ultimate Geoseal was completed in affectively two stages. The first stage was to install a strip of Visqueen Ultimate Geoseal along two opposing sides so that the Visqueen Ultimate Geoseal the base edge and vertically up



the sides of the formwork as per photo 1. There was particular attention when forming the four external corners as these areas are potentially the weakest areas if not completed correctly. Photo 2 shows a close up view of a typically formed internal corner where the Visqueen Ultimate Geoseal has been formed/folded and as there were no signs of any cutting, looked to be a fully sealed corner detail.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview showing where the Visqueen Ultimate Geoseal has been installed along

two sides of the formwork. The second stage will include the infilling of the

Visqueen Ultimate Geoseal which will lap a minimum of 150mm combining Visqueen

Double Sided Butyl Tape and Visqueen GR Lap Tape.

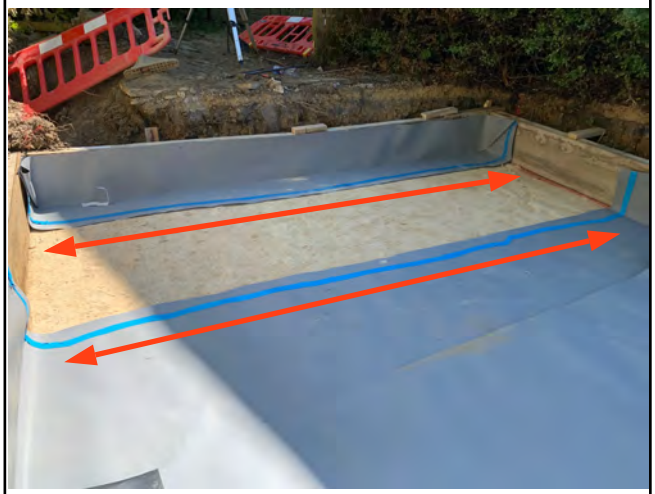
GEOSHIELD Verification Report

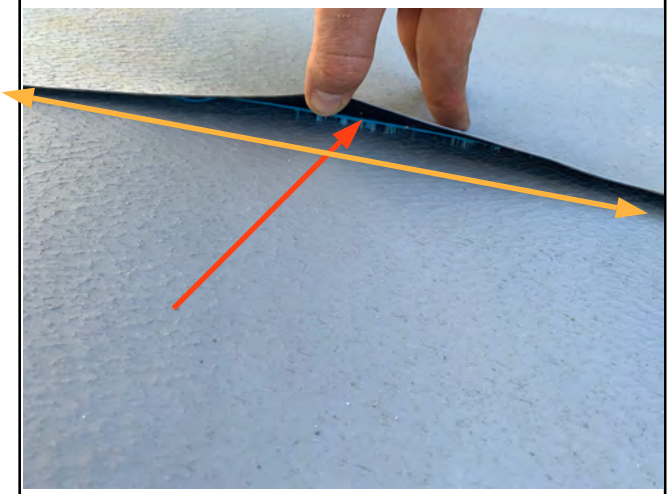
VERIFICATION ITEM THREE

LOCATION/GRID LINE: Substation Base Only (CQA)

NOTES: Visqueen Ultimate Geoseal Gas Membrane Installation

Photos showing the next stage of installing the Visqueen Ultimate Geoseal where any lap joints were lapped a minimum of 150mm according to the one photograph seen in the 'additional photos' section this report. Photo 1 is showing the Visqueen Double





Sided Butyl Tape adhered into position along the edge of the Visqueen Ultimate Geoseal (red arrow).

Photo 2 showing the Visqueen Double Sided Butyl Tape within the lap joint.

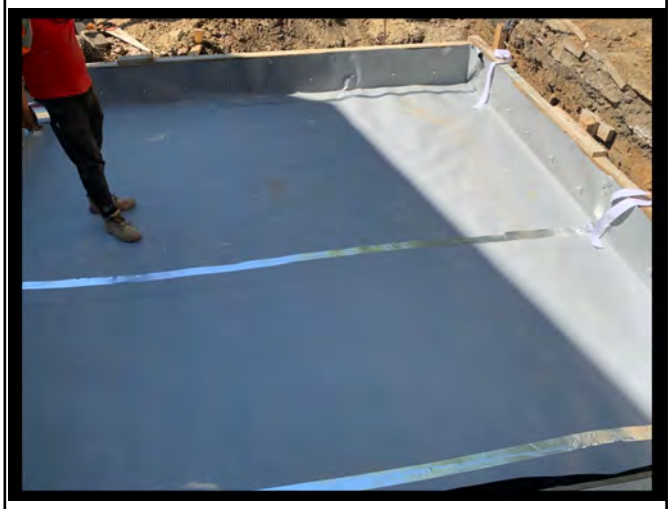
GEOSHIELD Verification Report

VERIFICATION ITEM THREE

Overview photo showing the completed installation of the Visqueen Ultimate Geoseal within the substation base. The red arrows indicate the positions of the two lap joints. The final stage is the installation of the Visqueen GR Lap Tape and evidence of this can be seen in ‘additional photos’ this report.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

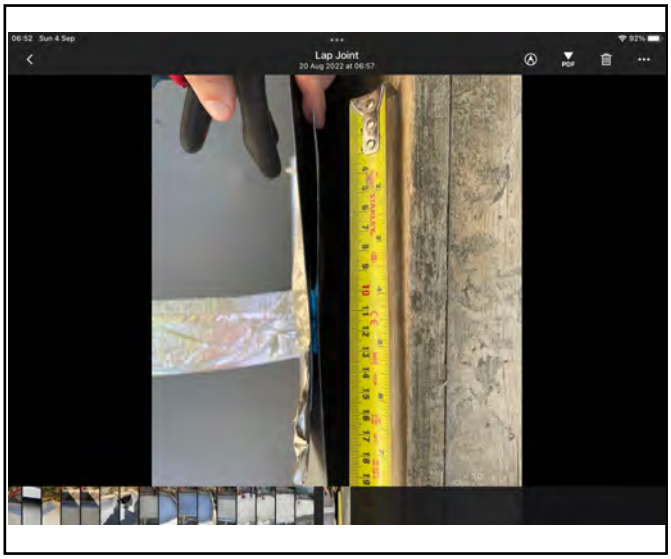


View showing the Visqueen GR Lap

Tape installed to the two lap joints.

Close up of the the corner formed

without cutting the Geoseal



Overview showing the lap joint

lapped at 150mm.

View of the Visqueen Double Sided

Butyl Tape along Ultimate Geoseal

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔
27/07/2022	002	Some small areas of damage to previous Liquid Gas Membrane	
		installation to Retaining Wall Kicker - remediated during visit.	✔
02/08/2022	003	One potential capillary leak via lap joint crease remediated during	
		verification visit.	✔
11/08/2022	004	Ten areas of slight damage identified and requires remediation.	✔
		Various edges of the Visqueen Gas Resistant Self-Adhesive	✔
		Evidence of insulation being used to protect the Gas Resistant	
		Self Adhesive Membrane to the retaining wall.	✔
12/08/2022	005	This was a CQA report and after viewing the photos provided by	
		Galliford Try, no faults were identified.	✔

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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Lift Pit Kicker	✔
Gridline/Plot Sign off	Underside of Stairwell Number Four	✔
Gridline/Plot Sign off	Lift Pit - external Wall to Ground Level	✔
Gridline/Plot Sign off	Lift Pit - internal base installation	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0 m only)	✔
Gridline/Plot Sign off	Substation Base	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

GEOSHIELD Verification Report

VERIFICATION SUMMARY

This is an agreed Contractors Quality Assurance Report between both Geoshield

and Galliford Try where this report (005) was completed using only the photos

provided by Galliford Try.

Based on the photos, the installation of the substation base was completed using

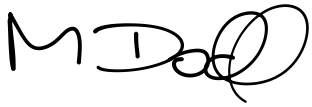
the correct installation methods as per the manufacturers product data sheets.

It is assumed that the various stages were checked throughout the process but

Geoshield have no evidence of such checks.

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

GEOSHIELD SIGNATURE:



DATE:	12/08/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848		
REPORT NUMBER:	006	REPORT DATE:	19/08/2022
PROJECT:	Galiford Try Building		
PROJECT ADDRESS:	Greenhead College		

Huddersfield

HD1 4ES

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

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:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

CLIENT CONTACT:	Will McKaig
CONTACTS ROLE:	Site Manager
MOBILE PHONE:	07536 167603
EMAIL ADDRESS	will.mckaig2@gallifordtry.co.uk
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	Michael Carty
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

APPLICATOR NAME:	Chad Tinkler
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

NOTES:	Both Michael and Chad have had some experience with Gas Membrane
NOTES:	installation but don’t hold an NVQ L 2 in Gas Membrane Installation.
NOTES:	Gerry Gardiner - Site Manager Shanco - manages the team of installers.
NOTES:	

GEOSHIELD Verification Report

AREA SURVEYED:	Sub Station
Retaining Walls - Gridline A-B/1	

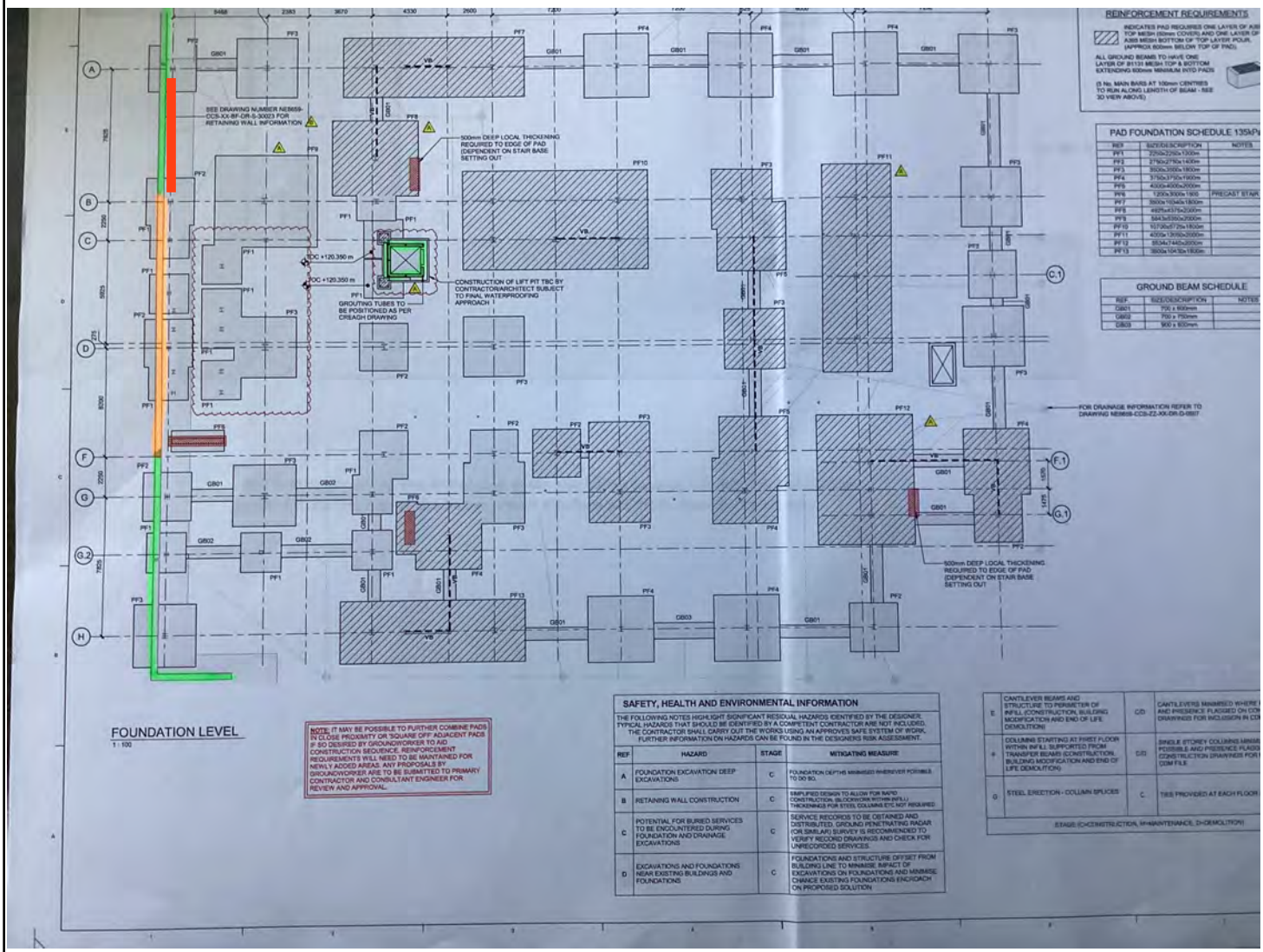
SITE CONDITIONS:

# WEATHER:	Intermittent Sunshine
# TEMPERATURE:	22C
# MEMBRANE TEMPERATURE:	N/A
# RELATIVE HUMIDITY:	N/A

TIME:	14:00 to 15:15	REPORT NUMBER:	006
DATE:	19/08/2022		
ACCOMPANIED	Gerry Gardiner		

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified area as indicated as follows:-

Substation - red circle. Retaining Wall - red line

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Substation - the verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Alternative overview of the Substation

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview the Retaining Wall

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Substation

NOTES: Substation Perimeter Walls

The substation perimeter walls were sealed with Visqueen Gas Resistant Self Adhesive

Membrane upon a bitumen primed wall.

Photos showing the Mechanical Point Stress Test being undertaken along one of the

lap joints to ensure there were no potential capillary leak issues. Verification confirmed

no issues were identified throughout the inspection.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Overview of an elevation showing the typical completed installation of the Visqueen

Gas Resistant Self Adhesive Membrane to the walls. In addition, the GRSAM also

lapped over the previously installed Visqueen Ultimate Geoseal from beneath the slab.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Substation

NOTES: Substation Toe

The Visqueen Gas Resistant Self Adhesive Membrane had been profiled to the concrete toe. The previously installed Visqueen Ultimate Geoseal beneath the concrete slab had been lapped, pinned into position before the Visqueen Gas Resistant

Self Adhesive Membrane was lapped providing a continuous seal against any ground gasses. Photos showing the Mechanical Point Stress Test being undertaken along the lap edges. No faults were identified during the verification process.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview of the Visqueen Gas Resistant Self Adhesive Membrane following it's installation to the substation toe.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Gridline 1

NOTES: Retaining Wall

The Visqueen Gas Resistant Self Adhesive Membrane had been installed along the retaining wall which had been previously primed using bitumen primer identified with a red arrow on photo 1.

Photo 2 showing the Mechanical Point Stress Test being undertaken along the edge of the vertical lap joints. The purpose being to ensure there were capillary leak risk and no issues were identified during the verification.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

Overview of the completed small section of retaining wall where the Visqueen Gas Resistant Self Adhesive Membrane had been applied. Note also the bitumen primer which had been applied to aid adhesion of the GRSAM.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View of a land drain at the base of the retaining wall.

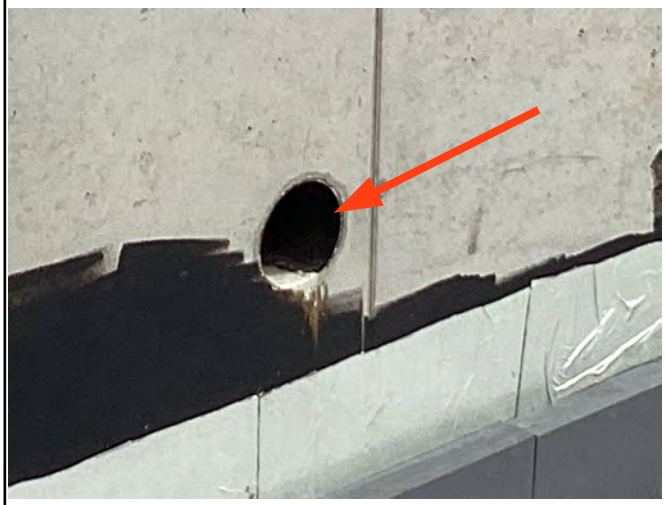
View showing both the bitumen primer and applied GRSAM

View showing both the land drain and insulation protecting the GRSAM

View of backfill against the insulation

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS



View of a duct through the retaining wall - this will be sealed in the future.

View showing the positions of the ducts requiring sealing

View of one of two areas of GRSAM where the substation wall incomplete

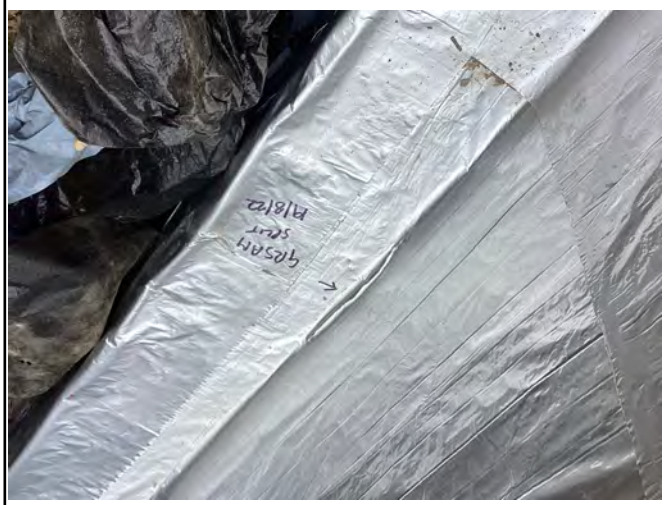
View of one of two sections of wall which will be completed later.

GEOSHIELD Verification Report

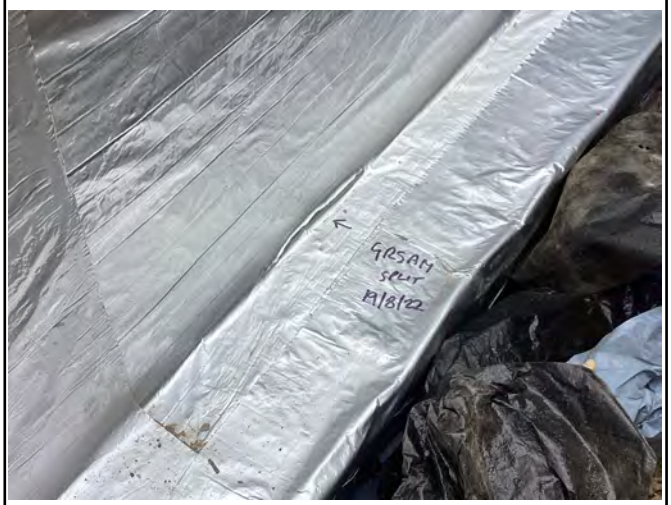
ADDITIONAL PHOTOGRAPHS

Area of damage (1) where the GRSAM has split requiring a repair

Area of damage (1) following a patch repair during verification



Detailing to toe using GRSAM being checked for seal issues.



Butyl Tape being installed during installation of Protect and Drain

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

Protect and Drain being installed

to the substation perimeter walls.

Protect and Drain being installed

to the substation perimeter walls.

Butyl tape (red arrows) securing the

Protect and Drain during installation

Product - Visqueen Protect and Drain

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔
27/07/2022	002	Some small areas of damage to previous Liquid Gas Membrane	
		installation to Retaining Wall Kicker - remediated during visit.	✔
02/08/2022	003	One potential capillary leak via lap joint crease remediated during	
		verification visit.	✔
11/08/2022	004	Ten areas of slight damage identified and requires remediation.	✔
		Various edges of the Visqueen Gas Resistant Self-Adhesive	✔
		Evidence of insulation being used to protect the Gas Resistant	
		Self Adhesive Membrane to the retaining wall.	✔
12/08/2022	005	This was a CQA report and after viewing the photos provided by	
		Galliford Try, no faults were identified.	✔
19/08/2022	006	Substation - one area of GRSAM split near concrete toe but	✔
		remediated during verification 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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Lift Pit Kicker	✔
Gridline/Plot Sign off	Underside of Stairwell Number Four	✔
Gridline/Plot Sign off	Lift Pit - external Wall to Ground Level	✔
Gridline/Plot Sign off	Lift Pit - internal base installation	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0 m only) B to H/1	✔
Gridline/Plot Sign off	Substation Base	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0m only) A to B/1	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		
Gridline/Plot Sign off		

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		
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GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was verification visit 005 and was accompanied by Gerry Gardiner of Shanco Contracting. The substation and the remaining lower part of the retaining wall required verification. The substation base had been completed via Contractors Quality Assurance (CQA) and the remaining perimeter walls completed this report.

The retaining wall up to approximately 2.0m high was also verified this report.

Both areas used Visqueen Gas Resistant Self Adhesive Membrane to complete the respective installation. The Mechanical Point Stress Test was used to check all available lap joints and both areas were visually checked for any damage. There was only one area of damaged GRSAM which was remediated during the visit.

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

GEOSHIELD SIGNATURE:

DATE:	19/08/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848
REPORT NUMBER:	007
REPORT DATE:	24/08/2022
PROJECT:	Galiford Try Building
PROJECT ADDRESS:	Greenhead College

Huddersfield

HD1 4ES

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Aubrey Machin

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER: 07393 626664

EMAIL ADDRESS: Amachin@geoshield.co.uk

ORDER NUMBER:

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

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

CLIENT CONTACT:	Will McKaig
CONTACTS ROLE:	Site Manager
MOBILE PHONE:	07536 167603
EMAIL ADDRESS	will.mckaig2@gallifordtry.co.uk
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	Michael Carty
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

APPLICATOR NAME:	Chad Tinkler
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

NOTES:	Both Michael and Chad have had some experience with Gas Membrane
NOTES:	installation but don’t hold an NVQ L 2 in Gas Membrane Installation.
NOTES:	Gerry Gardiner - Site Manager Shanco - manages the team of installers.
NOTES:	

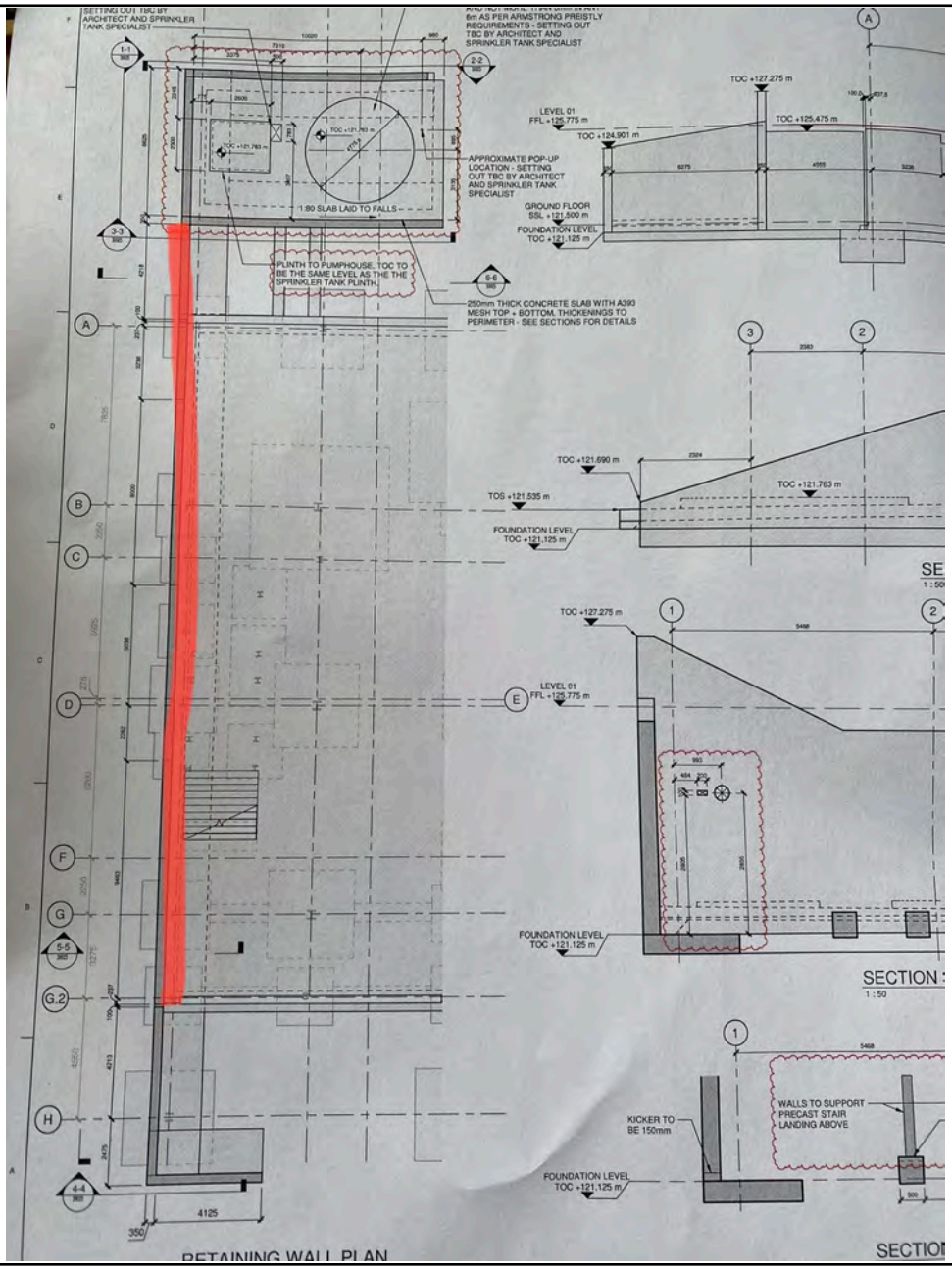
GEOSHIELD Verification Report

AREA SURVEYED:	Retaining Wall
Retaining Walls - Gridline A-G2	
SITE CONDITIONS:	
# WEATHER:	Sunshine
# TEMPERATURE:	24C
# MEMBRANE TEMPERATURE:	N/A
# RELATIVE HUMIDITY:	N/A

TIME:	14:00 to 15:15	REPORT NUMBER:	007
DATE:	24/08/2022		
ACCOMPANIED	Gerry Gardiner		

GEOSHIELD Verification Report

VERIFICATION LAYOUT



Overview of verified area as indicated as follows:-

Retaining Wall - red line

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Retaining Wall - the verified area

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Retaining Wall Grid A1 to G2

NOTES: Perimeter Walls

The retaining perimeter wall were sealed with Visqueen Gas Resistant Self Adhesive

Membrane upon a bitumen primed wall.

Photos showing the Mechanical Point Stress Test being undertaken along one of the

Edge joints to ensure there were no potential capillary leak issues. Verification confirmed

no issues were identified throughout the inspection.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Overview of an elevation showing the typical completed installation of the Visqueen

Gas Resistant Self Adhesive Membrane to the walls. The photo also shows a more

Than 150mm lap over the membrane.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Retaining Wall

NOTES: The photos below show the main area of the retaianing

Wall with Visqueen Gas Resistant Self Adhesive Membrane a good seal had been

Made to the wall with the correct use of the primer. Generous laps had also been

Created ensuring a good install.

No faults were identified during the verification process.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔
27/07/2022	002	Some small areas of damage to previous Liquid Gas Membrane	
		installation to Retaining Wall Kicker - remediated during visit.	✔
02/08/2022	003	One potential capillary leak via lap joint crease remediated during	
		verification visit.	✔
11/08/2022	004	Ten areas of slight damage identified and requires remediation.	✔
		Various edges of the Visqueen Gas Resistant Self-Adhesive	✔
		Evidence of insulation being used to protect the Gas Resistant	
		Self Adhesive Membrane to the retaining wall.	✔
12/08/2022	005	This was a CQA report and after viewing the photos provided by	
		Galliford Try, no faults were identified.	✔
19/08/2022	006	Substation - one area of GRSAM split near concrete toe but	
		remediated during verification visit.	✔
24/08/2022	007	No areas requiring remediation	✔

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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Lift Pit Kicker	✔
Gridline/Plot Sign off	Underside of Stairwell Number Four	✔
Gridline/Plot Sign off	Lift Pit - external Wall to Ground Level	✔
Gridline/Plot Sign off	Lift Pit - internal base installation	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0 m only) B to H/1	✔
Gridline/Plot Sign off	Substation	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0m only) A to B/1	✔
Gridline/Plot Sign off	Retaining Wall (phase 2 Grid A 1 to G2	✔
Gridline/Plot Sign off		
Gridline/Plot Sign off		

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		
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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

This was verification visit 007 and was accompanied by Gerry Gardiner of Shanco

Contracting. The main area of the retaining wall from grid line A! To G2

required verification. Visqueen Gas Resistant Self Adhesive Membrane had been

Used and installed in accordance with manufacturers recommendations.

Mechanical point stress test was used to check a good seal on all laps.

No faults were found during this verification visit.

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

GEOSHIELD SIGNATURE:

DATE: 24/08/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848
REPORT NUMBER:	008
REPORT DATE:	09/09/2022
PROJECT:	Galiford Try Building
PROJECT ADDRESS:	Greenhead College

Huddersfield

HD1 4ES

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Michael Dodd

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

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:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

CLIENT CONTACT:	Will McKaig
CONTACTS ROLE:	Site Manager
MOBILE PHONE:	07536 167603
EMAIL ADDRESS	will.mckaig2@gallifordtry.co.uk
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	Michael Carty
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

APPLICATOR NAME:	Chad Tinkler
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

NOTES:	Both Michael and Chad have had some experience with Gas Membrane
NOTES:	installation but don’t hold an NVQ L 2 in Gas Membrane Installation.
NOTES:	Gerry Gardiner - Site Manager Shanco - manages the team of installers.
NOTES:	

GEOSHIELD Verification Report

AREA SURVEYED: Perimeter Stanchion Bases

Stairwell Number Four

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 21.5C

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

TIME: 08:15 to 10:00 REPORT NUMBER: 008

DATE: 09/09/2022

ACCOMPANIED Gerry Gardiner

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Perimeter Stanchions - the verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Perimeter Stanchions - the verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Perimeter Stanchions - the verified area

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of the Site - the verified area

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Stairwell Number Four

RESTRICTIONS AND LIMITATIONS: Installation of Visqueen GRSAM

The installation of Visqueen Gas Resistant Self Adhesive Membrane had been completed to the base of ‘Stairwell Number Four’ as per Verification Item Two this report.

Photos are showing two small areas (within the yellow circles) where concrete had been poured to the corners restricting verification.

GEOSHIELD Verification Report

LIMITATIONS

SURVEY AREA: Stairwell Number Four

RESTRICTIONS AND LIMITATIONS: Installation of Visqueen GRSAM

Overview showing the two areas identified with yellow circles where concrete had been poured against the corners of the Stairwell Number Four and restricted the verification of these areas.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

LOCATION/GRID LINE: Perimeter Stanchions

NOTES: Application of Visqueen Liquid Gas Membrane

Photo 1 showing the extent of the typical application of a minimum of two coats of the

Visqueen Liquid Gas Membrane to the whole of the Stanchion Base Plate and

surrounding concrete pad foundation. Upon close inspection, it was evident that the

whole area was completely covered. Photo 2 showing the position of a pipe penetration

which is positioned outside the proposed formwork and will be sealed with GRSAM later.

GEOSHIELD Verification Report

VERIFICATION ITEM ONE

Overview showing the extent of the Visqueen Liquid Gas Membrane extending pass the formwork. The pipe penetration will be sealed during the installation of the Visqueen Gas Barrier using Visqueen Gas Resistant Self Adhesive Membrane.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

LOCATION/GRID LINE: Stairwell Number Four

NOTES: Installation of Visqueen GR Self Adhesive Membrane

Photo 1 showing the Mechanical Point Stress Test was undertaken along the edges of the installed Visqueen Gas Resistant Self Adhesive Membrane (see yellow arrows).

Upon inspection, there were no signs of any potential capillary leaks during the verification.

The Visqueen Gas Resistant Self Adhesive Membrane was well adhered to both the previously applied Visqueen Liquid Membrane and the base of the concrete stairwell.

GEOSHIELD Verification Report

VERIFICATION ITEM TWO

Overview showing the verification of the three areas where the Mechanical Point Stress

Test was undertaken.

No faults were identified during verification.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

LOCATION/GRID LINE: Whole Building Area

NOTES: Substrate Preparation

Photo 1 showing where there were areas where further preparation is required prior to any installation of the planned Visqueen Gas Barrier membrane.

Photo 2 showing the sand blinded substrate being placed in readiness of the planned installation of the Visqueen Gas Barrier membrane.

GEOSHIELD Verification Report

VERIFICATION ITEM THREE

Overview showing the sand blinding being placed and rolled throughout the process.

The correct sand blinding preparation is essential and will reduce any risk of

punctures to the Visqueen Gas Barrier during its installation.

GEOSHIELD Verification Report

ADDITIONAL PHOTOGRAPHS

View showing where the concrete slab thickens.

View of a concrete base requiring priming prior to sealing with GRSAM

View of incomplete substrate

View showing pipe penetration which may prove difficult to seal.

GEOSHIELD Verification Report

REMEDIATION LOG

Date	Nr	Remediation Description	Y/N
20/07/2022	001	Some small pinholes found, remediated on site	✔
27/07/2022	002	Some small areas of damage to previous Liquid Gas Membrane	
		installation to Retaining Wall Kicker - remediated during visit.	✔
02/08/2022	003	One potential capillary leak via lap joint crease remediated during	
		verification visit.	✔
11/08/2022	004	Ten areas of slight damage identified and requires remediation.	✔
		Various edges of the Visqueen Gas Resistant Self-Adhesive	✔
		Evidence of insulation being used to protect the Gas Resistant	
		Self Adhesive Membrane to the retaining wall.	✔
12/08/2022	005	This was a CQA report and after viewing the photos provided by	
		Galliford Try, no faults were identified.	✔
19/08/2022	006	Substation - one area of GRSAM split near concrete toe but	
		remediated during verification visit.	✔
24/08/2022	007	No areas requiring remediation	✔
09/09/2032	008	No faults identified during the verification 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	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Retaining Wall Kicker (highlighted area)	✔
Gridline/Plot Sign off	Lift Pit Kicker	✔
Gridline/Plot Sign off	Underside of Stairwell Number Four	✔
Gridline/Plot Sign off	Lift Pit - external Wall to Ground Level	✔
Gridline/Plot Sign off	Lift Pit - internal base installation	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0 m only) B to H/1	✔
Gridline/Plot Sign off	Substation	✔
Gridline/Plot Sign off	Retaining Wall (Phase 1 - height 2.0m only) A to B/1	✔
Gridline/Plot Sign off	Retaining Wall (phase 2 Grid A 1 to G2	✔
Gridline/Plot Sign off	Liquid Gas Membrane to Perimeter stanchion bases	✔
Gridline/Plot Sign off	Stairwell number four	✔

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

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GEOSHIELD Verification Report

VERIFICATION SUMMARY

This was verification visit 008 and was accompanied by Gerry Gardiner of Shanco Contracting. Verification was of the application of the Visqueen Liquid Gas Membrane to the perimeter Stanchion bases and a close visual inspection proved the application provided complete coverage to all areas.

In addition, the Mechanical Point Stress Test was undertaken along all edges of the installed Visqueen Gas Resistant Self Adhesive Membrane to Stairwell 4.

During the verification visit, it was noted that the substrate was being prepared in readiness for the installation of the Visqueen Gas Barrier required under the Concrete Slab.

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

GEOSHIELD SIGNATURE:	

DATE:	09/09/2022

GEOSHIELD Verification Report

PROJECT REFERENCE:	GEO102848		
REPORT NUMBER:	009	REPORT DATE:	20/09/2022
PROJECT:	Galiford Try Building		
PROJECT ADDRESS:	Greenhead College		

Huddersfield

HD1 4ES

MEMBRANE SPECIFICATION: Gas membrane to specification BS8485 2015

Verified in accordance with CIRIA 735.

Visqueen Standard Gas Barrier Visqueen Liquid Gas Barrier

Visqueen HP Primer

Visqueen Gas Resistant Self Adhesive Membrane

Visqueen Ultimate Geoseal

Visqueen Double Sided Butyl Tape

Visuqeen GR DPC

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CDL-ZZ-XX-RP-GE-60200 Phase 2 Assessment Rev A (1)

NE8659-CCS-XX-XX-DR-S-30023 - RETAINING WALL

_External Envelope Section Detail - Typical Brickwork Base at Ground Bearing Slab

Edge Column Location_A5 Construction_C1_0

GB-26_concrete_slab_edge_gas_waterproofing

GB-51 service pipe top hat

GB-52_steel_column_sealing

NE8659-CCS-XX-ZZ-DR-S-86001

NE8659-RYD-01-00-DR-A-4005-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4012-S3-P1-External Envelope Plan Detail -

NE8659-RYD-01-00-DR-A-4104_External Envelope Section Detail - Typical

GEOSHIELD Verification Report

MEMBRANE SPECIFICATION:

DESIGN DETAILS:

NE8659-RYD-01-00-DR-A-4107-A-C2-External Envelope Section Detail - Lift Pit and Shaft Base Gr 1

NE8659-RYD-01-00-DR-A-4108_External Envelope Section Detail - Typical Pipe Pipe Penetration Through Ground Bearing Slab_A5 Construction_C1_0

NE8659-RYD-01-00-DR-A-4110-A-C1-External Envelope Section Detail - Typical Retaining Wall Base

NE8659-RYD-01-00-DR-A-4111-A-C1-External Envelope Section Detail - Typical Retaining Wall Head

NE8659-RYD-01-00-DR-A-4117 - Siphonic Details Main Build

GEOSHIELD Verification Report

VERIFICATION OFFICER: Sam Bolton

VERIFICATION COMPANY: GeoShield Limited

Icon Business Centre

4100 Park Approach

Thorpe Park

Leeds

CONTACT NUMBER: 07555 214679

EMAIL ADDRESS: Sbolton@geoshield.co.uk

ORDER NUMBER:

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

GEOSHIELD Verification Report

CLIENT DETAILS

CLIENT CONTACT:	Jack Broomhead
CONTACTS ROLE:	Senior Project Manager
MOBILE PHONE:	07719 954 286
EMAIL ADDRESS:	Jack.broomhead@gallifordtry.co.uk

CLIENT CONTACT:	Will McKaig
CONTACTS ROLE:	Site Manager
MOBILE PHONE:	07536 167603
EMAIL ADDRESS	will.mckaig2@gallifordtry.co.uk
NOTES:	
NOTES:	
NOTES:	

GEOSHIELD Verification Report

APPLICATION TEAM LEADERS

APPLICATOR NAME:	Michael Carty
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

APPLICATOR NAME:	Chad Tinkler
COMPANY:	Shanco Contracting
APPLICATOR TEL:	0800 024 8714
APPLICATOR EMAIL:	

NOTES:	Both Michael and Chad have had some experience with Gas Membrane
NOTES:	installation but don’t hold an NVQ L 2 in Gas Membrane Installation.
NOTES:	Gerry Gardiner - Site Manager Shanco - manages the team of installers.
NOTES:	

GEOSHIELD Verification Report

AREA SURVEYED: Whole site

SITE CONDITIONS:

WEATHER: Overcast

TEMPERATURE: 10

MEMBRANE TEMPERATURE: N/A

RELATIVE HUMIDITY: N/A

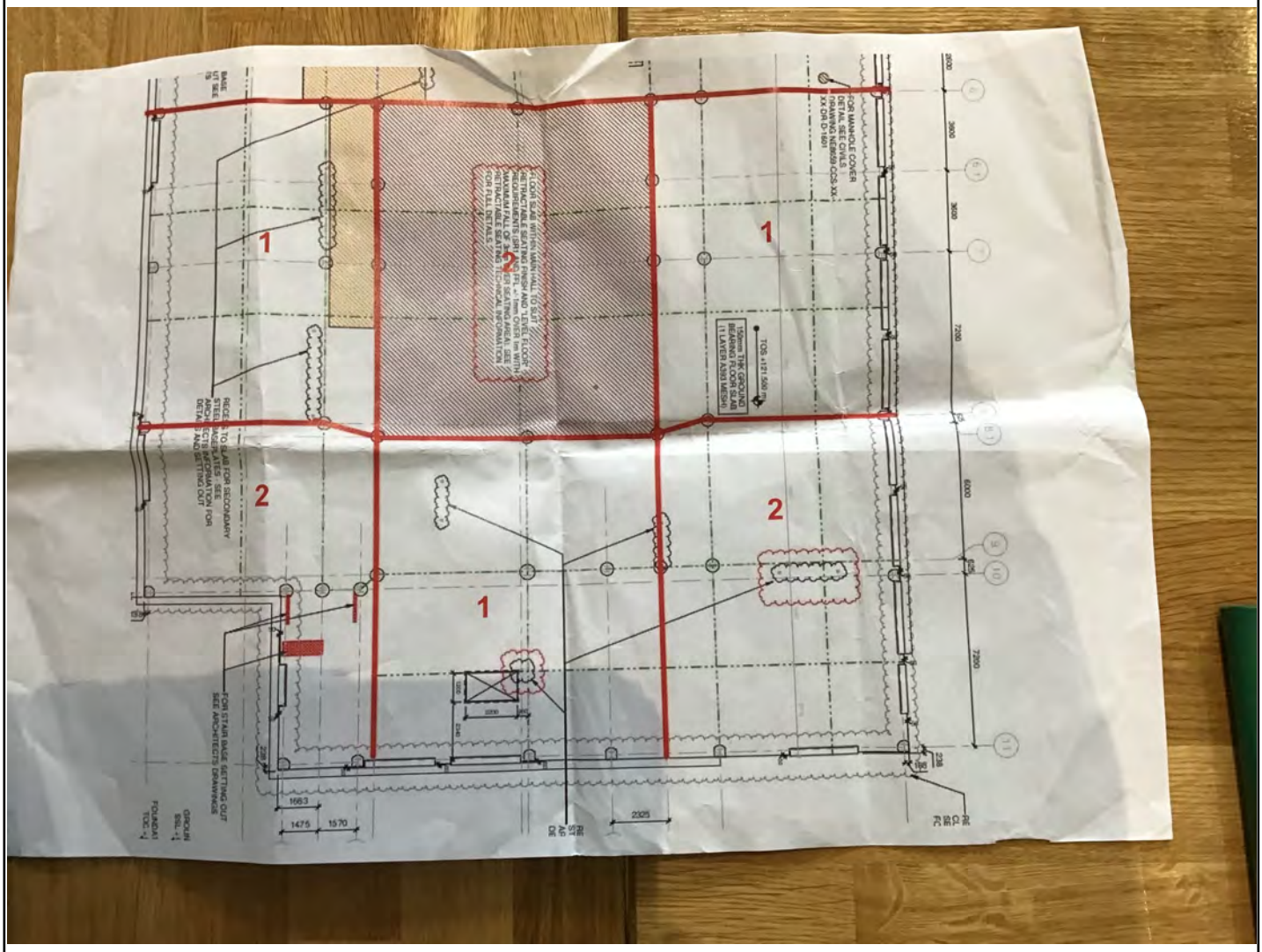
TIME: 0800 to 1000 REPORT NUMBER: 009

DATE: 20/09/2022

ACCOMPANIED Gerry Gardiner

GEOSHIELD Verification Report

VERIFICATION LAYOUT



The above image shows the pour plan for the slab to be completed

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS

Overview of site

The image shows the external shuttering and membrane on site

GEOSHIELD Verification Report

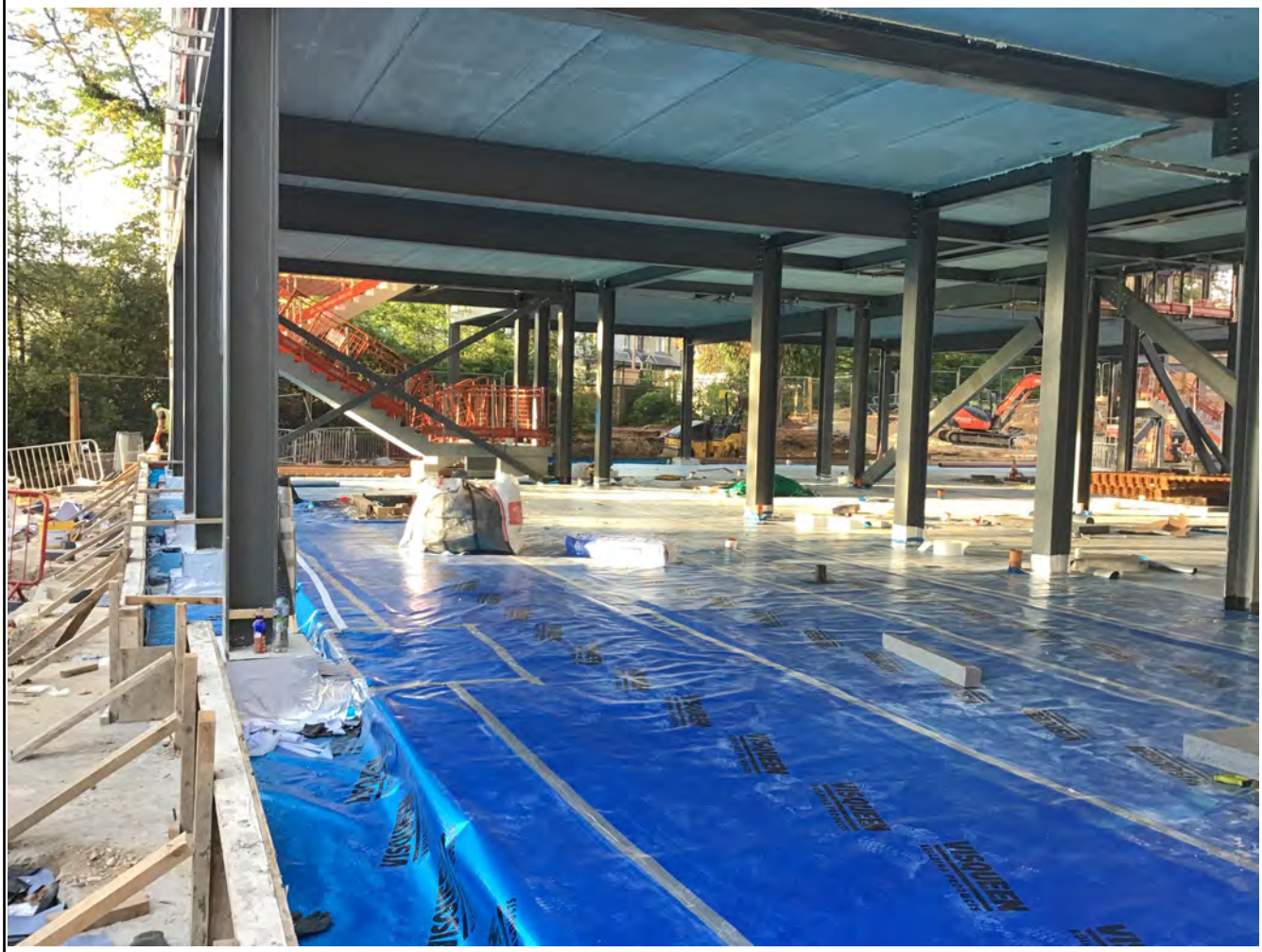
OVERVIEW PHOTOGRAPHS

Overview of site

Image shows the taped seams on the Visqueen Gas Barrier (GB) membrane

GEOSHIELD Verification Report

OVERVIEW PHOTOGRAPHS



Overview of site

Image shows visqueen GB and Stanchion penetrations