



Verification Report

Former Sony Facility
Southwater
Horsham
RH13 9YT

June 2026

000440032.0002.0001

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Quality Control

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1.0 Introduction

1.1 Purpose

TRC was commissioned by Chancerygate Horsham Limited (the 'Client') to provide a verification report following the remediation for the development located at the Former Sony Facility, Southwater, Horsham, RH13 9YT (hereafter referred to as the 'Site').

This report covers the following aspects of remediation:

- Construction of hardstanding across the entirety of the Site including building footprints, paved roadways and footpaths;
- Placement of engineered capping across any areas of proposed landscaping including a clean cover of 300mm (150mm topsoil and 150mm subsoil) overlying a geotextile membrane;
- Installation of ground gas mitigation measures i.e. floor design and / or ground gas membrane in areas classed as CS2 (see Section 5.8), subject to on-going ground gas monitoring;
- Use of appropriate materials for buried services in accordance with statutory provider requirements; and,
- Appropriate sealed drainage design to prevent potential infiltration of contaminants.

A Site location plan is presented as Figure 1 in Annex A.

The purpose of the remediation is to support the discharge of Condition 4 of planning reference DC/23/1843 as presented below.

'The development hereby permitted shall not be occupied or brought into use until a verification report has been submitted to and approved by the Local Planning Authority following the completion of remediation works. The verification report to be submitted to the Authority shall contain, but not be limited to, the information recommended to be included at Section 6.3 of the approved Remediation Strategy and Verification Plan (TRC Companies Limited, ref. 440032.0002.0000, version 2.0, dated: 0.6.09.2023).'

1.2 Proposed Development

The proposed development comprises the construction of seven units with associated loading bays, car and cycle parking areas and some areas of soft landscaping.

A proposed development plan is presented as Figure 2 in Annex A.

The Site is currently in the final stages of construction.

1.3 Scope of Services

This report aims to confirm that the verification works have been undertaken in accordance with the TRC Remediation Strategy and Verification Plan (RSVP) (report ref. 440032.0002.0000, dated September 2023) or appropriate variation.

1.4 Previous Reports

This report should be read in conjunction with the following documents:

- TRC Companies Limited, Desk Based Geoenvironmental and Geotechnical Site Assessment, report ref. 440032.0000.0000, dated April 2023;
- TRC Companies Limited, Preliminary Phase II Geo-environmental and Geotechnical Site Assessment, report ref. 440032.0000.0000, dated May 2023;

- TRC Companies Limited, Addendum Report, report ref. 440032.0001.0000, dated August 2023;
- TRC Companies Limited, Remediation Strategy and Verification Plan, report ref. 440032.0002.0000, dated September 2023;
- TRC Companies Limited, Addendum Report, report ref. 440032.0002.0000, dated October 2023; and,
- TRC Companies Limited, Letter Response to Environmental Health Officer, ref. 440032.0001.0000, dated 20th March 2024.

1.5 Significant Assumptions

This report presents TRC's observations, findings, and conclusions as they existed on the date that this report was issued. This report is subject to modification if TRC becomes aware of additional information after the date of this report that is material to its findings and conclusions.

The reliability of information provided by others to TRC cannot be guaranteed to be accurate or complete. Performance of this Verification Report is intended to reduce, but not eliminate, uncertainty of environmental conditions associated with the subject Site; therefore, the findings and conclusions made in this report should not be construed to warrant or guarantee the subject Site, or express or imply, including without limitation, warranties as to its marketability for a particular use. TRC found no reason to question the validity of information received unless explicitly noted elsewhere in this report.

1.6 User Reliance

This report has been prepared for Chancerygate Horsham Limited. Reliance on the Report by any other third party is subject to requesting and fully executing a reliance letter between TRC and the third party that acknowledges the TRC Standard Terms and Conditions with the Client, to the same extent as if they were the Client thereunder.

TRC has been provided with information from third parties for information purposes only and without representation or warranty, express or implied as to its accuracy or completeness and without any liability on such third parties part to revise or update the information. Where reliance has been provided by third parties to potential purchasers this is noted in our report.

2.0 Remediation and Verification Requirements

2.1 Remediation Requirements

Based on the TRC RSVP, the following remediation and mitigation measures were required:

- Removal of potential underground storage tanks (UST) and associated infrastructure located in the northern half of the Site, to remove potential contaminant sources and potential for contamination that may impact the soil and groundwater conditions at the Site;
- Construction of hardstanding across the entirety of the Site including building footprints, paved roadways and footpaths;
- Placement of engineered capping across any areas of proposed landscaping including a clean cover of 300mm (150mm topsoil and 150mm subsoil) overlying a geotextile membrane;
- Installation of ground gas mitigation measures i.e. floor design and / or ground gas membrane in areas classed as CS2 (see Section 5.8), subject to on-going ground gas monitoring;
- Use of appropriate materials for buried services in accordance with statutory provider requirements; and,
- Appropriate sealed drainage design to prevent potential infiltration of contaminants.

2.2 Verification Requirements

Verification of remediation actions required by the TRC RSVP are as follows:

- Verification sampling and testing around UST following decommissioning and removal;
- Verification of ground gas protection measures;
- Confirmation of materials used for buried services;
- Confirmation of capping thickness and presence of geotextile marker layer;
- Sampling and testing of material used as capping in areas of soft landscaping; and,
- Verification sampling and testing as required by the discovery strategy.

2.3 Variations

Previous investigations and reports for the Site referenced USTs at the Site, including effluent and fuel tanks. Information in some of the reports indicated that some of the USTs had been decommissioned. TRC's Tier 1 report dated April 2023 indicated the presence of a potential UST in the northeastern part of the Site located inside a barn and chemical store; however, access into this building was restricted and therefore TRC were unable to confirm its presence.

During groundworks at the Site, the Principal Contractor was made aware of the potential presence of USTs at the Site, however, they have confirmed that no USTs were identified and therefore no removal was required. It is considered that the USTs referenced were either never present or had been decommissioned and removed historically. It is considered unlikely that any USTs remain undiscovered due to disturbance of the ground as part of the construction.

The existing boreholes at the Site could not be located for decommissioning. Further discussion regarding this is presented in Section 3.5.

Soft landscaped areas were completed in accordance with the design by the landscape architect which did not include installation of a geotextile marker layer. This is discussed in more detail in Section 3.4.

3.0 Remediation Verification

3.1 Underground Storage Tank (UST) Decommissioning

Although the presence of USTs were indicated in previous assessments and reports undertaken for the Site, no USTs were identified by the Principal Contractor during the development of the Site. The Principal Contractor excavated foundations or drains up to 1.5m bgl in the suspected locations of the UST. The locations of foundations and drainage runs are shown in third party drawing 140-CIV-D01 Proposed Drainage Plan_C4, Annex A, and includes annotations showing the suspected locations of the USTs.

As mentioned previously, it is considered that the USTs referenced were either never present or had been decommissioned and removed historically. It is considered unlikely that any USTs remain undiscovered due to disturbance of the ground as part of the construction.

3.2 Ground Gas Protection Measures

The Site was classified as Characteristic Situation CS2 (low risk) and ground gas protection measures were recommended.

The design included the use of a combination of the floor design and installation of the ground gas membrane to achieve a solution score of 1.5 for a Type D building, with a score of 2.5 in ground floor offices as required for a Type C building.

The as built drawings are presented in Annex A.

UK Membranes was appointed to install the gas membrane at the development. The membrane was installed by a NVQ Level 2 qualified installers.

Following installation, Harmonix engaged MEC Environmental Ltd to provide independent verification of the membrane installation. These works were overseen and managed by Adam McDermott (TGPV). Evidence of qualification has been provided in Annex D.

The membrane installed was inspected to ensure there was appropriate sealing and that that any damage (if present) of the membrane was repaired. The inspection comprised visual, probe and pick testing. The inspection identified that the sealing was done to the appropriate standard. TRC have reviewed the report and consider that it is satisfactory.

The full ground gas verification report is presented in Annex D.

3.3 Buried Services

Harmonix have confirmed that barrier water supply pipes have been installed at the development.

The specification is presented in Annex E.

3.4 Soft Landscaped Areas

3.4.1 Site Inspection and Sampling

A TRC engineer visited the site on 30th September 2025 to confirm the thickness of capping soils in areas of soft landscaping and to take verification samples of imported capping soils via hand pitting in the soft landscaped areas as required by the Remediation Strategy and Verification Plan. The areas of landscaping are shown in Figure 2 of Annex A.

TRC understands that approximately 169m³ of subsoil and 429m³ of topsoil was imported and placed at the Site. Certificates of the topsoil and material transfer notes are presented in Annex F. One set of results indicated that the topsoil was suitable for general landscaping purposes, although the second set of results indicates the material is not compliant with British Standard BS3882:2015. This is due to low organic matter, nitrogen, phosphorus and potassium, and a high C:N ratio. While the material may not contain sufficient nutrients to support plant growth the deficiencies do not represent a risk to human health and may still be suitable for use in general landscaping with appropriate amelioration.

TRC undertook verification testing at eight locations to confirm that the material was chemically suitable.

TRC understands that a geotextile marker membrane was not installed as this was not included in the landscaping drawings.

At the time of TRC attendance the majority of the soft landscaping had been completed across the Site.

Topsoil was found from surface to between 0.10m and 0.32m bgl in all locations. Subsoil was encountered below the Topsoil in six of the eight locations to between 0.33m and 0.50m bgl. No geotextile membrane was encountered in any of the eight locations. The imported soils were observed to be visually clean and free from contamination and anthropogenic waste. The Topsoil/Subsoil was found to be greater than 300mm deep in all locations except HP07, where the Topsoil was 0.17m thick with no subsoil. HP07 is located in the northwestern part of the Site between the boundary and the building; although no subsoil was present, the material underlying Topsoil did not have concentrations exceeding the GAC and no asbestos was identified.

The hand pit logs are presented in Annex G.

Made Ground was encountered in six of eight locations underlying the imported material, the other two locations were underlain by the Weald Clay Formation (HP06 and HP08). The underlying soils were observed to be visually clean and free from contamination.

A total of fourteen samples of imported capping soil were obtained from eight locations (HP01 to HP08) and eight samples were taken of the underlying natural and Made Ground.

A selection of photographs taken during the Site inspection is presented in Annex B.

A verification sample location plan is presented as Figure 3 in Annex A.

A geotextile marker membrane was not installed and this represents a deviation from the approved TRC Remediation Strategy. The purpose of the membrane is to act as a visual marker layer or anti dig indicator to warn of the potential presence of contamination below and to prevent mixing of clean and contaminated soil. TRC note that the thickness of capping exceeds the minimum thickness across all areas of landscaping providing additional protection. In addition, we note that widespread and significant contamination was not identified in Made Ground during the ground investigation works, with only two soil sample identified with asbestos fibres or suspected asbestos fragments. These samples were located in areas now beneath buildings or hardstanding and are not coincident with any areas of soft landscaping.

Due to the limited sampling undertaken beneath the areas of landscaping, additional sampling and testing was undertaken retrospectively and eight samples were obtained from the original Made Ground beneath the capping in the landscaping area. The results indicate that there are no exceedances of GAC for commercial end use and the presence of asbestos fibres in soil in four samples at less than the laboratory limit of quantification. The risk assessment concludes that there is not a significant risk to human health from contamination in Made Ground beneath the area of soft landscaping and the omission of the geotextile marker layer is therefore not considered to represent a significant risk to end users of the Site. Furthermore, due to the commercial nature of the Site it is considered unlikely that site users would excavate soils to any significant depth and that any disturbances of soils would be limited to general maintenance of the installed landscaping by a groundskeeper. On this basis, TRC does not consider the omission of the geotextile membrane to represent a significant risk to human health receptors.

For completeness, TRC recommends that a statement is included in the health and safety file that care should be taken if excavating soils at the Site due to the potential for contamination to be present.

3.4.2 Imported Materials

The remediation strategy required the testing of any imported materials placed in areas of proposed soft landscaping. The areas of landscaping are shown in Figure 2 of Annex A.

The imported material used comprised 169m³ of subsoil and 429m³ of certified topsoil sourced from Bury Hill Horsham Yard/Bury Hill Landscape Supplies.

The material comprised very dark greyish brown, slightly moist, friable, slightly calcareous LOAMY SAND with weakly developed, very fine to fine, granular structure. Certification confirming compliance with BS3883:2015 provided by Harmonix is presented in Annex F and confirms the topsoil would be considered suitable for general landscape purposes.

3.4.3 Laboratory Chemical Testing

Verification soil samples were submitted for chemical laboratory testing by i2 Analytical Limited. Verification testing was for heavy metals, PAH, TPH CWG and asbestos. The certificates of analysis are presented in Annex C.

The results of the chemical laboratory testing confirmed that the capping soil placed in the areas of soft landscaping were free from chemical contamination with measured concentrations of all determinants less than the verification criteria.

3.5 Borehole Decommissioning

The Principal Contractor confirmed that they were not able to locate the installed ground gas and groundwater monitoring wells in order to decommission them. A review of the borehole logs for the Site indicate that the geology comprised Made Ground overlying the bedrock comprising the Weald Clay Formation which is generally described as a laminated Clay and is classified by the Environment Agency (EA) as an Unproductive Strata.

As the underlying geology being of low permeability, it is considered that although the boreholes haven't been decommissioned, there is no preferential pathway created between the Made Ground and Weald Clay Formation that would pose a risk to human health or controlled waters.

3.6 Discovery Strategy

Harmonix have confirmed that no visual or olfactory evidence of contamination was identified during construction.

4.0 Conclusions

Based on the results of the site inspections, sampling and testing undertaken, and the information provided by the Client, TRC considers that the remediation actions undertaken to date have been satisfactorily completed in accordance with the TRC RSVP and the variations described in Section 2.3.

The following work has been completed at the Site:

- Installation and verification of ground gas protection measures;
- Installation of Barrier pipe used for water supply pipes; and,
- Testing of imported capping soil used areas of soft landscaping.

TRC considers that the Site complies with the requirements and aims of the approved TRC RSVP. TRC acknowledges the variations to the approved RSVP, with the omission of UST removal (due to no USTs being located), omission of borehole decommissioning (due to the installed monitoring wells not being located) and the omission of the geotextile marker layer within landscaped areas. However, these omissions are not considered to present a risk significant risk to human health or controlled waters receptors at the Site. Notwithstanding, regarding the soft landscaping, it is recommended that a statement is included in the health and safety file that care should be taken if excavating soils at the Site due to the potential for contamination to be present.

TRC consider that the work undertaken and reported within this Verification Report is sufficient to support the discharge of Condition 4 of planning reference DC/23/1843.

This report concludes verification of remediation at the Site.

Annex A: Figures



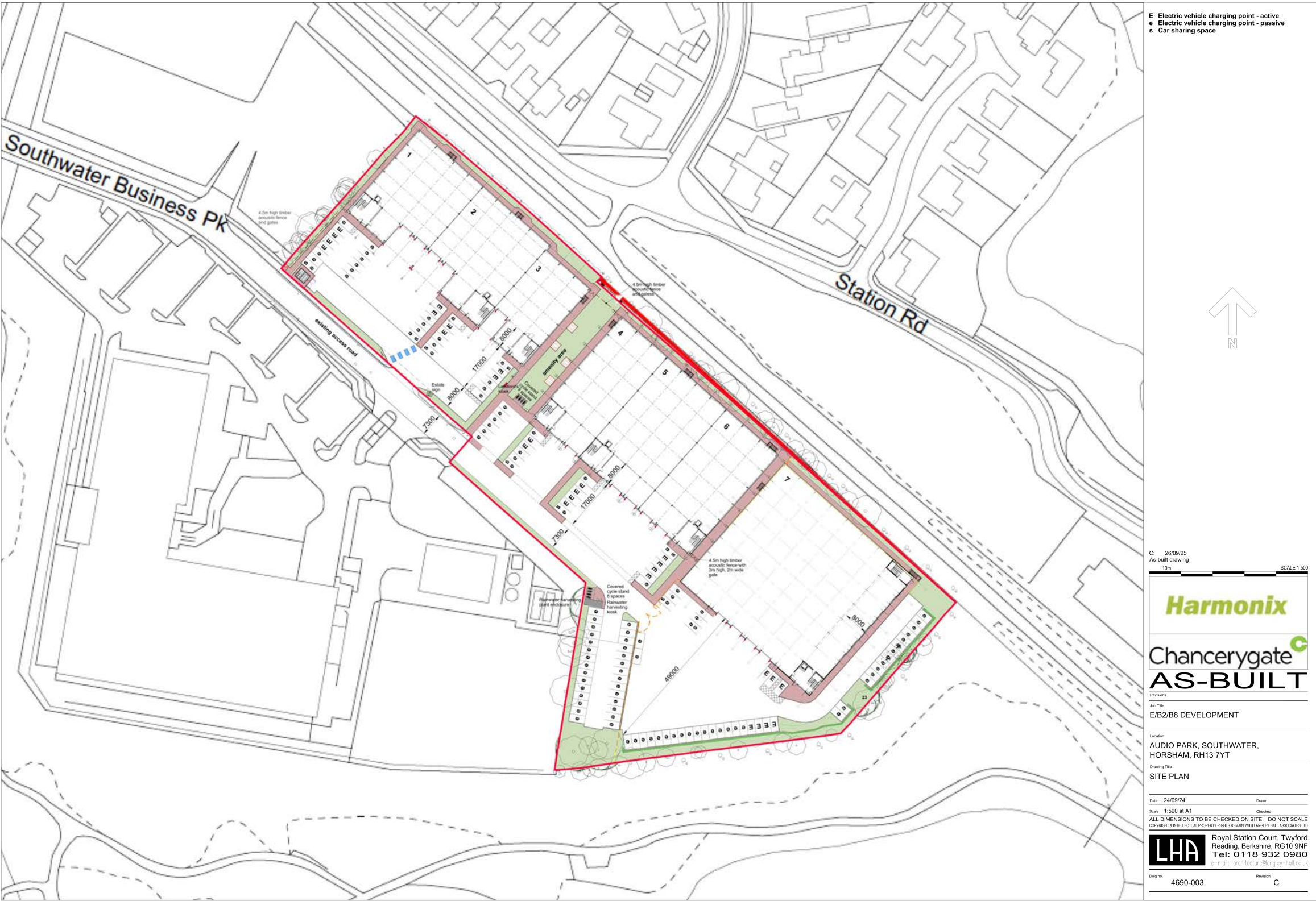
LEGEND

 Site Boundary

0 10 20 m




NOTES Site boundary is approximated.	COPYRIGHT NOTES Google imagery June 2018. © OpenStreetMap contributors- data is available under the Open Database License. Cartography licensed as CC BY-SA.	REVISIONS				Work.Life 20 Red Lion Street London WC1R 4PQ	TITLE Site Location Plan		
							TRC PROJECT NO. 000698727.0000.0000	SCALE 1:1500 @ A3	
		P01	FIRST ISSUE				CLIENT Chancerygate Horsham Limited	PURPOSE OF ISSUE SUITABLE FOR INFORMATION	STATUS
			Initials	JGH	22/10/25				
		REV.	REVISION NOTES/COMMENTS				PROJECT Southwater, Horsham	DRAWING NO FIGURE 01	REVISION NO PO1
Initials									



NOTES	COPYRIGHT NOTES Proposed plan provided by Client.			REVISIONS			TRC Work.Life 20 Red Lion Street London WC1R 4PQ		TITLE Site Proposed Plan			
									TRC PROJECT NO. 000698727.0000.0000	SCALE N/A		
				P01	FIRST ISSUE			CLIENT Chancerygate Horsham Limited		PURPOSE OF ISSUE SUITABLE FOR INFORMATION		STATUS
					Initials	JGH	22/10/24					
							REV.	REVISION NOTES/COMMENTS			PROJECT Southwater, Horsham	
Initials												

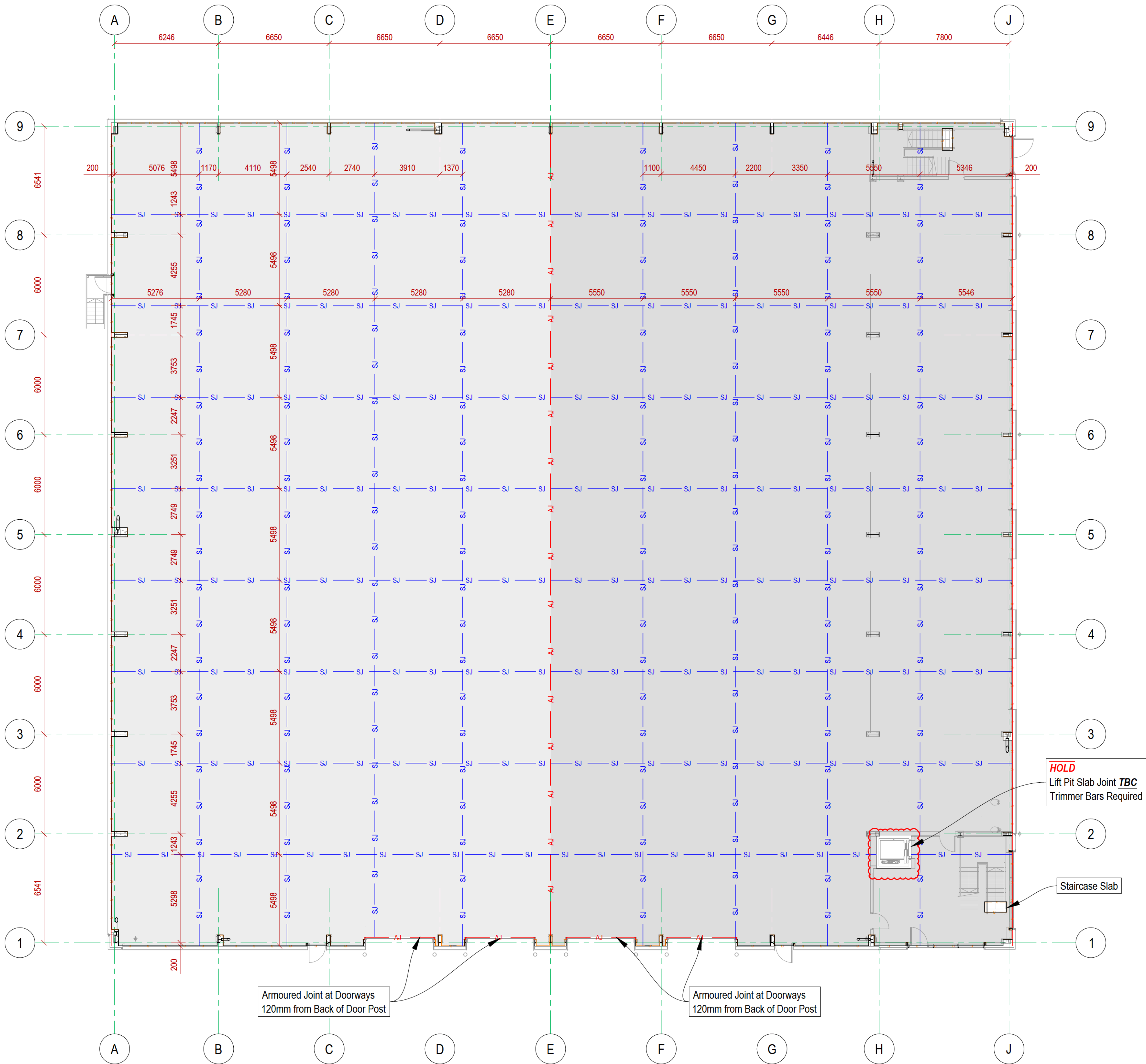


Verification Pits
Site Boundary

NOTES	COPYRIGHT NOTES Proposed plan provided by Client.	REVISIONS			 Work.Life 20 Red Lion Street London WC1R 4PQ	TITLE Exploratory Hole Location Plan		
						TRC PROJECT NO. 000698727.0000.0000	SCALE 1:1500	
		P01	FIRST ISSUE			CLIENT Chancerygate Horsham Limited	PURPOSE OF ISSUE SUITABLE FOR INFORMATION	STATUS
			Initials	JGH	22/10/24			
		REV.	REVISION NOTES/COMMENTS			PROJECT Southwater, Horsham	DRAWING NO FIGURE 03	REVISION PO1
Initials								

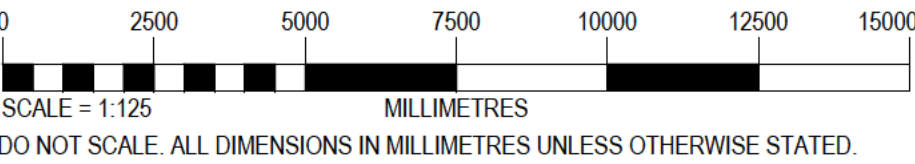
SERVICE POP-UP NOTE:

POSITIONS AND SIZES OF INCOMING SERVICE
POP-UPS, MANHOLES AND DUCTS TO BE CONFIRMED ON
SITE PRIOR TO SLAB CONSTRUCTION.



LEGEND

- Armoured Joint
- Saw Cut Joint
- Isolation Joint



This drawing is to be read in conjunction with all relevant Architect's, Engineer's & Specialist's details.

Slab Details:

Concrete Slab is to be 175mm thick C32/40 in accordance with BS8500 and B.S. EN:206-1, with A193 reinforcement 40mm Minimum cover to bottom of slab. Concrete shall have a dry shrinkage rate of less than 0.045%.

Slab penetrations to be isolated with 20mm of Miothene, or similar. Re-entrant Corners into Slab to be reinforced with a single layer of B785 crack control mesh (800mm x 400mm) with minimum cover of 50mm from top of slab level.

Following the final power floating operation the floor is to be applied with Obex S curing, sealing and hardening agent (or similar approved curing agent).

Following floor casting, the top 20mm of Miothene at isolation joints is to be removed and sealed with a suitable approved sealant. All joints left unsealed.

Slab is to be laid on a single layer of Gas Membrane, lapped 300mm - **by others**, laid in a "just in time basis".

Sub-Base design by others:

Sub-Base to be well-closed at surface and non-degradable. No soft material, e.g. sandstone and chalk.

Sub-Base finished finished surface tolerance = 0mm/-10mm.

Construction Notes:

ALL LEVELS AND SETTING-OUT TO BE AGREED ON SITE PRIOR TO CONSTRUCTION. SETTING-OUT AND DIMENSIONS TO BE CONFIRMED BY THE ARCHITECT. ALL SERVICE POP-UP POSITIONS TO BE CONFIRMED.

Concrete to be compacted throughout entire profile by use of a poker-type vibrator operated in an overlapping pattern and vibrated against any additional, chair-supported, reinforcement bars without positional movement.

The finish tolerance is to be FM2 to comply with Tenant requirements and in accordance with the Concrete Society Technical Report No. 34, 4th Edition (2013). The surface finish of the slab to be agreed on site prior to construction.

Finished floor slab is to achieve Abrasion Resistance of AR1 in accordance with BS8204 Part 2.

Traffic Loading:

First 7 Days: Traffic must be kept to a bare minimum. After 14 Days: Slab can be subjected to light trafficking. After 28 days: Slab may be loaded to full design capacity. Conformation of what is to be allowed on the slab needs to be confirmed by design engineer.

Sealant to trafficked joints to be inspected annually by the building owner and replaced as required as part of the continued routine maintenance of the building. Guidance to inspect and carry out sealant works can be found and should be in accordance with the Concrete Society Technical Report No.34.

C01	10/04/25	Issued for Construction	CJ	SE
P01	27/02/25	Issued for Review	CJ	-
Rev	Date	Description	Drawn	Approved

R.O. ENGINEERIA



Project: SOUTHWATER 24 HORSHAM

Title: PROPOSED JOINT LAYOUT
GROUND FLOOR SLAB - UNIT 7

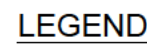
Designed: SE	Drawn: CJ	Checked: SE
Scale: 1:10 @A1	Date: 10/04/2025	Approved: SE
Drawing No.: S24-U7-XX-00-DR-X-0001	Revision: C01	

**POSITIONS AND SIZES OF INCOMING SERVICE
POP-UPS, MANHOLES AND DUCTS TO BE CONFIRMED ON
SITE PRIOR TO SLAB CONSTRUCTION.**



Project:	SOUTHWATER 24 HORSHAM		
Title:	PROPOSED JOINT LAYOUT GROUND FLOOR SLAB - UNITS 1-3		
Designed: SE	Drawn: CJ	Checked: SE	
Scale: 1:125 @A1	Date: 10/04/2025	Approved: SE	
Drawing No.: S24-U13-XX-00-DR-X-0001		Revision: C01	

**POSITIONS AND SIZES OF INCOMING SERVICE
POP-UPS, MANHOLES AND DUCTS TO BE CONFIRMED ON
SITE PRIOR TO SLAB CONSTRUCTION.**



- Armoured Joint
- Saw Cut Joint
- Isolation Joint

Slab Details:

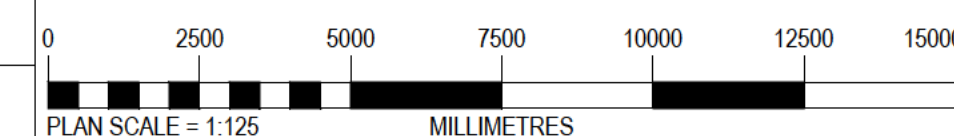
Slab is to be laid on a single layer of Gas Membrane, lapped 300mm - **by others, laid in a "just in time basis"**.

Finished floor slab is to achieve Abrasion Resistance of AR1 in accordance with BS8204

C01	10/04/2025	Issued for Construction	CJ	SE
P01	27/02/25	Initial Draft	CJ	--
Rev	Date	Description	Drawn	Approved

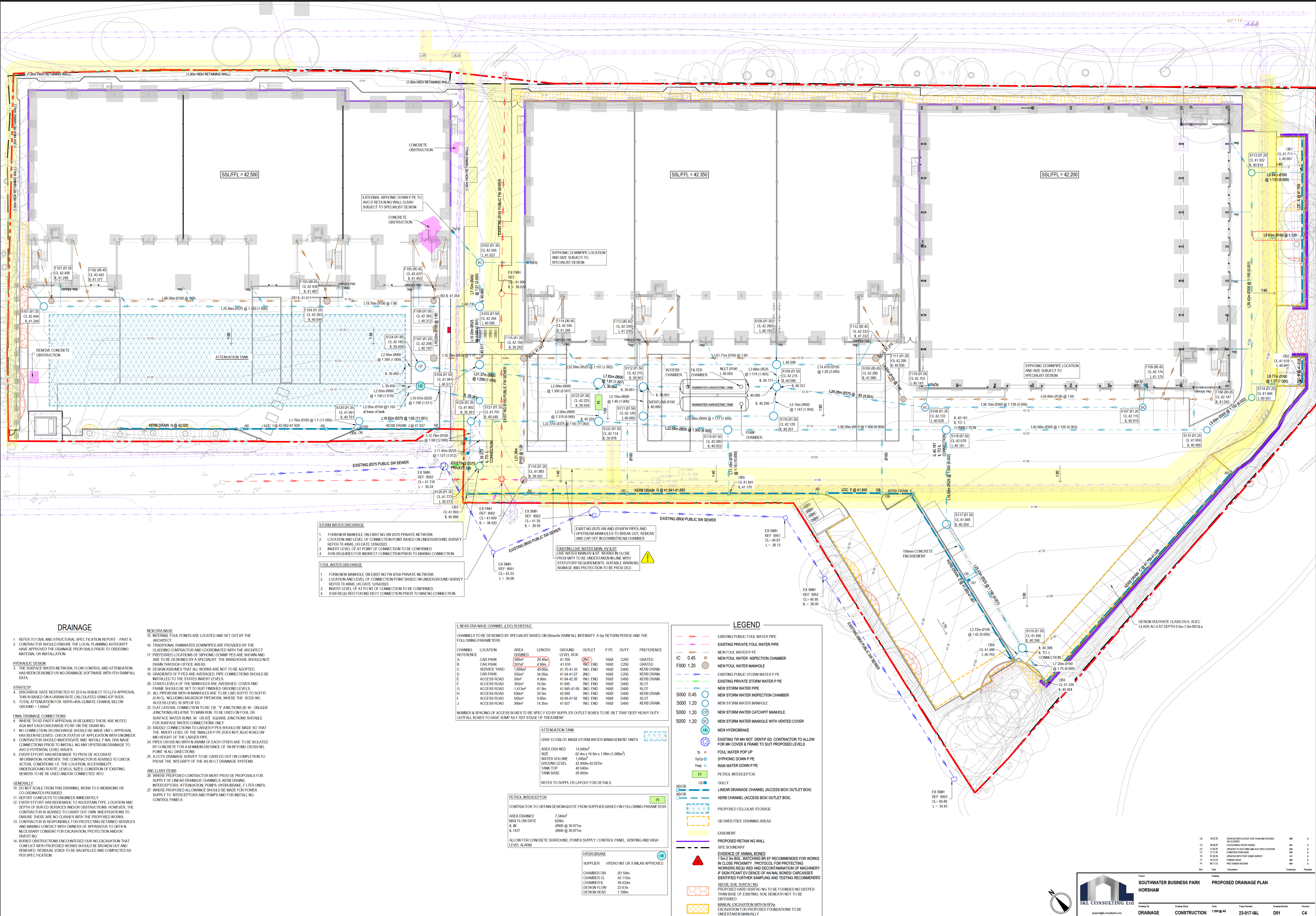


CHESHAM
CONSULTING ENGINEERS



DO NOT SCALE. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.

Drawing No.:	Revision:
S24-U46-XX-00-DR-X-0001	C01



DRAINAGE

- 1. REFER TO CIVIL AND STRUCTURAL SPECIFICATION REPORT - PART R
- 2. CONTRACTOR SHOULD ENSURE THE LOCAL PLANNING AUTHORITY HAVE APPROVED THE DRAINAGE PROPOSALS PRIOR TO ORDERING MATERIAL OR INSTALLATION
- 3. THE SURFACE WATER NETWORK, FLOW CONTROL AND ATTENUATION HAS BEEN DESIGNED USING DRAINAGE SOFTWARE WITH FEH RAINFALL DATA
- 4. DISCHARGE RATE RESTRICTED AT 23.6 L/S SUBJECT TO LFA APPROVAL
- 5. THIS IS BASED ON AN URBAN RATE CALCULATED USING IOP SUDS
- 6. TOTAL ATTENUATION FOR 100YR-45% CLIMATE CHANGE BELOW GROUND = 1.04m³
- 7. FINAL DRAINAGE CONNECTIONS
- 8. WHERE THIRD PARTY APPROVAL IS REQUIRED THESE ARE NOTED AGAINST EACH DISCHARGE POINT ON THE DRAWING
- 9. NO CONNECTION OR DISCHARGE SHOULD BE MADE UNTIL APPROVAL HAS BEEN RECEIVED. CHECK STATUS OF APPLICATION WITH ENGINEER
- 10. CONTRACTOR SHOULD INVESTIGATE AND INSTALL FINAL DRAINAGE CONNECTIONS PRIOR TO INSTALLING ANY UPSTREAM DRAINAGE TO AVOID POTENTIAL LEVEL ISSUES
- 11. EVERY EFFORT HAS BEEN MADE TO PROVIDE ACCURATE INFORMATION. HOWEVER, THE CONTRACTOR IS ADVISED TO CHECK ACTUAL CONDITIONS I.E. THE LOCATION, ACCESSIBILITY, UNDERGROUND ROUTE, LEVELS, SIZES, CONDITION OF EXISTING SEWERS TO BE RE-USED AND/OR CONNECTED INTO
- 12. GENERAL
- 13. DO NOT SCALE FROM THIS DRAWING. WORK TO DIMENSIONS OR CO-ORDINATES PROVIDED
- 14. REPORT CONFLICTS TO ENGINEER IMMEDIATELY
- 15. EVERY EFFORT HAS BEEN MADE TO ASCERTAIN TYPE, LOCATION AND DEPTH OF BURIED SERVICES AND/OR OBSTRUCTIONS. HOWEVER, THE CONTRACTOR IS ADVISED TO CARRY OUT OWN INVESTIGATIONS TO ENSURE THERE ARE NO CLASHES WITH THE PROPOSED WORKS
- 16. CONTRACTOR IS RESPONSIBLE FOR PROTECTING RETAINED SERVICES AND MAKING CONTACT WITH OWNERS OF APPARATUS TO OBTAIN NECESSARY CONSENT FOR EXCAVATION, PROTECTION AND/OR DIVERTING
- 17. BURIED OBSTRUCTIONS ENCOUNTERED DURING EXCAVATION THAT CONFLICT WITH PROPOSED WORKS SHOULD BE BROKEN OUT AND REMOVED. RESIDUAL VOIDS TO BE BACKFILLED AND COMPACTED AS PER SPECIFICATION

- 15. INTERNAL FLOW POINTS ARE LOCATED AND SET OUT BY THE ARCHITECT
- 16. TRADITIONAL RAINWATER DOWNPIPES ARE PROVIDED BY THE CLADDING CONTRACTOR AND COORDINATED WITH THE ARCHITECT
- 17. PREFERRED LOCATIONS OF SEWING DOWNPIPES ARE SHOWN AND ARE TO BE DESIGNED BY A SPECIALIST. THE WAREHOUSE SHOULD NOT DRAIN THROUGH OFFICE AREAS
- 18. DESIGN ASSUMES THAT ALL WORKS ARE NOT TO BE ADOPTED
- 19. GRADIENTS OF PIPES ARE AVERAGED. PIPE CONNECTIONS SHOULD BE INSTALLED TO THE STATED INVERT LEVELS
- 20. COVER LEVELS OF THE MANHOLES ARE AVERAGED. COVER AND FRAME SHOULD BE SET TO SUIT FINISHED GROUND LEVELS
- 21. ALL PIPEWORK WITH MANHOLES ARE TO BE LAID SLOTTED TO SOFFIT (UNLESS OTHERWISE NOTED). INCLUDING BACKDROP PIPEWORK WHERE THE ROAD NO ACCESS LEVEL IS SPECIFIED
- 22. FLAT LATERAL CONNECTION TO BE 135° JUNCTIONS (IE 45° OR 90° JUNCTIONS) RELATIVE TO MAIN RUN. TO BE USED ON FOUL OR SURFACE WATER RUNS 90° OR 80° SQUARE JUNCTIONS SUITABLE FOR SURFACE WATER CONNECTIONS ONLY
- 23. SLOPE CONNECTIONS TO LARGER PIPES SHOULD BE MADE SO THAT THE INVERT LEVEL OF THE SMALLER PIPE DOES NOT ADD TO BELOW MID HEIGHT OF THE LARGER PIPE
- 24. PIPES CROSSING WITHIN 200MM OF EACH OTHER ARE TO BE ISOLATED BY CONCRETE FOR A MINIMUM DISTANCE OF 1M BEYOND CROSSING POINT IN ALL DIRECTIONS
- 25. A CITY DRAINAGE SURVEY TO BE CARRIED OUT ON COMPLETION TO PROVE THE INTEGRITY OF THE AS-BUILT DRAINAGE SYSTEMS
- 26. WHERE PROPOSED CONTRACTOR MUST PROVIDE PROPOSALS FOR SUPPLY OF LINEAR DRAINAGE CHANNELS, KERB DRAINS, INTERCEPTORS, ATTENUATION, PUMPS, HYDROBRAKE, FILTER UNITS
- 27. WHERE PROPOSED ALLOWANCE SHOULD BE MADE FOR POWER SUPPLY TO INTERCEPTORS AND PUMPS AND FOR INSTALLING CONTROL PANELS

- STORM WATER DISCHARGE
- 1. FORM NEW MANHOLE ON EXISTING SW 0375 PRIVATE NETWORK
- 2. LOCATION AND LEVEL OF CONNECTION POINT BASED ON UNDERGROUND SURVEY REFER TO 48845_UG DATE 12/04/2023
- 3. INVERT LEVEL OF AT POINT OF CONNECTION TO BE CONFIRMED
- 4. S108 REQUIRED FOR INDIRECT CONNECTION PRIOR TO MAKING CONNECTION
- FOUL WATER DISCHARGE
- 1. FORM NEW MANHOLE ON EXISTING FW 0150 PRIVATE NETWORK
- 2. LOCATION AND LEVEL OF CONNECTION POINT BASED ON UNDERGROUND SURVEY REFER TO 48845_UG DATE 12/04/2023
- 3. INVERT LEVEL OF AT POINT OF CONNECTION TO BE CONFIRMED
- 4. S108 REQUIRED FOR INDIRECT CONNECTION PRIOR TO MAKING CONNECTION

LINEAR DRAINAGE CHANNEL (LDC) SCHEDULE									
CHANNELS TO BE DESIGNED BY SPECIALIST BASED ON 50mm/hr RAINFALL INTENSITY, A 5yr RETURN PERIOD AND THE FOLLOWING PARAMETERS:									
CHANNEL REFERENCE	LOCATION	AREA DRAINED	LENGTH	GROUND LEVEL BOX	OUTLET	P.P.E.	DUTY	PREFERENCE	
A	CAR PARK	388m ²	29.00m	41.700	200	1900	C250	GRATED	
B	CAR PARK	207m ²	4.90m	41.618	1900	C250		GRATED	
C	SERVICE YARD	1.350m ²	40.00m	41.75-41.33	1900	D400		KERB DRAIN	
D	CAR PARK	555m ²	34.05m	41.84-41.57	200	1900	C250	KERB DRAIN	
E	ACCESS ROAD	50m ²	4.90m	41.84-42.20	1900	D400		KERB DRAIN	
F	ACCESS ROAD	355m ²	10.00m	41.845	1900	D400		SLOT	
G	ACCESS ROAD	1.413m ²	61.8m	41.845-41.89	300	1900	D400	SLOT	
H	ACCESS ROAD	930m ²	20.5m	42.000	1900	D400		KERB DRAIN	
I	ACCESS ROAD	565m ²	9.85m	42.00-41.92	1900	D400		SLOT	
J	ACCESS ROAD	14.35m	41.927	1900	D400			KERB DRAIN	

NUMBER & SPACING OF ACCESS BOXES TO BE SPECIFIED BY SUPPLIER. OUTLET BOXES TO BE SLOTTED TRAP DEEP HEAVY DUTY. OUTLET BOXES TO HAVE SUMP AS FIRST STAGE OF TREATMENT

ATTENUATION TANK

AREA DRAINED: 14,940m²

SIZE: 62.4m x 16.0m x 1.08m (1,088m³)

WATER VOLUME: 1,045m³

GROUND LEVEL: 42.400-42.027m

TANK TOP: 40.540m

TANK BASE: 39.450m

REFER TO SUPPLIER LAYOUT FOR DETAILS

PETROL INTERCEPTOR			
CONTRACTOR TO OBTAIN DESIGN QUOTE FROM SUPPLIER BASED ON FOLLOWING PARAMETERS:			
AREA DRAINED	7,340m ²		
MAX FLOW RATE	625m ³		
IL IN	0900 @ 39.97m		
IL OUT	0900 @ 39.97m		

ALLOW FOR CONCRETE SURROUND, POWER SUPPLY, CONTROL PANEL, VENTING AND HIGH LEVEL ALARM

HYDROBRAKE	
SUPPLIER	HYDRO INT OR SIMILAR APPROVED
CHAMBER DIA	Ø150m
CHAMBER CL	42.115m
CHAMBER IL	39.420m
DESIGN FLOW	23.6 L/S
DESIGN HEAD	1.08m

LEGEND

- EXISTING PUBLIC FOUL WATER PIPE
- EXISTING PRIVATE FOUL WATER PIPE
- NEW FOUL WATER PIPE
- NEW FOUL WATER INSPECTION CHAMBER
- NEW FOUL WATER MANHOLE
- EXISTING PUBLIC STORM WATER PIPE
- EXISTING PRIVATE STORM WATER PIPE
- NEW STORM WATER PIPE
- NEW STORM WATER INSPECTION CHAMBER
- NEW STORM WATER MANHOLE
- NEW STORM WATER CATCHMENT MANHOLE
- NEW STORM WATER MANHOLE WITH VENTED COVER
- NEW HYDROBRAKE
- EXISTING TWMH NOT IDENTIFIED. CONTRACTOR TO ALLOW FOR MH COVER FRAME TO SUIT PROPOSED LEVELS
- FOUL WATER POP UP
- SYPHONIC DOWN PIPE
- RAIN WATER DOWN PIPE
- PETROL INTERCEPTOR
- GULLY
- LINEAR DRAINAGE CHANNEL (ACCESS BOX/OUTLET BOX)
- KERB CHANNEL (ACCESS BOX/OUTLET BOX)
- PROPOSED CELLULAR STORAGE
- GEOWEB FREE DRAINING AREAS
- EASEMENT
- PROPOSED RETAINING WALL
- SITE BOUNDARY
- EVIDENCE OF ANIMAL BONES
- 15m x 2m BENCH WATCHING BRIF RECOMMENDED FOR WORKS IN CLOSE PROXIMITY. PROTOCOL FOR PROTECTING WORKERS REQUIRED AND DECONTAMINATION OF MACHINERY. IF SIGNIFICANT EVIDENCE OF ANIMAL BONES CARCASSES IDENTIFIED FURTHER SAMPLING AND TESTING RECOMMENDED
- ABOVE SOIL SURFACE SIGNS
- PROPOSED HARD SURFACE NOT TO BE FOUND NO DEEPER THAN BASE OF EXISTING SOIL. BENEATH NOT TO BE DISTURBED
- MANUAL EXCAVATION WITH MTPA
- EXCAVATION FOR PROPOSED FOUNDATIONS TO BE UNDERTAKEN MANUALLY

Annex B: Photographs

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No.	Date	
1	30/09/25	
Description HP01 pit		

Photo No.	Date	
2	30/09/25	
Description HP01 arisings		

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No.	Date	
3	30/09/25	
Description HP02 pit		

Photo No.	Date	
4	30/09/25	
Description HP02 arisings		

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No. 5	Date 30/09/25	
Description HP03 pit		

Photo No. 6	Date 30/09/25	
Description HP03 arisings		

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No. 7	Date 30/09/25	
Description HP04 pit		

Photo No. 8	Date 30/09/25	
Description HP04 arisings		

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No.	Date	
9	30/09/25	
Description HP05 pit		

Photo No.	Date	
10	30/09/25	
Description HP05 arisings		

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No. 11	Date 30/09/25	
Description HP06 pit		

Photo No. 12	Date 30/09/25	
Description HP06 arisings		

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No. 13	Date 30/09/25	
Description HP07 pit		

Photo No. 14	Date 30/09/25	
Description HP07 arisings		

Client: Chancerygate Horsham Limited	Site Location: Southwater, Horsham, RH139JJ	Project No.: 698727
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Photo No. 15	Date 30/09/25	
Description HP08 arisings		

Photo No. 16	Date 30/09/25	
Description HP08 arisings		

Annex C: Laboratory Test Results

TRC Companies Ltd
20 Red Lion Street, London
WC1R 4PQ

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t:

t: 01923 225404

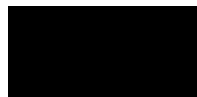
e: Jgooding-hurst@trccompanies.com

f: 01923 237404

e: info-i2analytical@normecgroup.com

Analytical Report Number : 25-053197

Project / Site name:	Southwater - Topsoil Validation	Samples received on:	01/10/2025
Your job number:	698727	Samples instructed on/ Analysis started on:	02/10/2025
Your order number:	698727	Analysis completed by:	13/10/2025
Report Issue Number:	1	Report issued on:	13/10/2025
Samples Analysed:	22 soil samples		



Signed:

Tuhina Mukerjee
Senior Customer Services Advisor
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702772	702773	702774	702775	702776
Sample Reference	HP01	HP01	HP02	HP02	HP02
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.10	0.35	0.10	0.20	0.35
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	18.7	< 0.1	< 0.1	54.6
Moisture Content	%	0.01	NONE	17	12	14	11	8.9
Total mass of sample received	kg	0.1	NONE	0.8	0.1	0.8	0.9	0.8

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ	SSZ	SSZ
Analysis completed	N/A	N/A	N/A	09/10/2025	09/10/2025	09/10/2025	09/10/2025	09/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	< 0.001	-	-	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	-	-	-
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.6	8.1	8.3	9	11.8
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.28
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.09
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.26
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.22	< 0.05	0.16	2.1
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.65
Fluoranthene	mg/kg	0.05	MCERTS	0.12	0.54	0.08	0.14	3.1
Pyrene	mg/kg	0.05	MCERTS	0.11	0.52	0.07	0.11	2.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.34	0.06	0.08	2
Chrysene	mg/kg	0.05	MCERTS	0.09	0.39	0.06	0.05	1.7
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.12	0.53	< 0.05	< 0.05	2.3
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.23	< 0.05	< 0.05	0.97
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.07	0.44	0.06	< 0.05	1.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.25	< 0.05	< 0.05	0.85
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.06	< 0.05	< 0.05	0.27
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.32	< 0.05	< 0.05	0.92

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	3.84	< 0.80	< 0.80	20.1
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Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702772	702773	702774	702775	702776
Sample Reference	HP01	HP01	HP02	HP02	HP02
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.10	0.35	0.10	0.20	0.35
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.5	16	6.5	10	12
Boron (water soluble)	mg/kg	0.2	MCERTS	2.3	1.5	0.9	0.5	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S ^{+U/S g}	U/S ^{+U/S g}	U/S ^{+U/S g}	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	U/S ^{+U/S g}	U/S ^{+U/S g}	U/S ^{+U/S g}	21	20
Chromium (VI) by IC	mg/kg	1.8	NONE	< 1.80	< 1.80	< 1.80	-	-
Chromium (III) by IC	mg/kg	1	NONE	15	22	12	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15	22	12	21	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	32	15	3.9	31
Lead (aqua regia extractable)	mg/kg	1	MCERTS	17	34	16	4	33
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.5	20	6.1	18	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	80	42	26	64

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_ID_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_ID_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_ID_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_ID_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	18
TPHCWG - Aliphatic >EC35 - EC40 _{EH_CU_ID_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_ID_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	18
TPHCWG - Aliphatic >EC5 - EC40 _{EH_CU+HS_ID_AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	18

TPHCWG - Aromatic >EC5 - EC7 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_ID_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_ID_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_ID_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_ID_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	6.9
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	22
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_ID_AR}	mg/kg	10	MCERTS	< 10	19	< 10	< 10	73
TPHCWG - Aromatic >EC35 - EC40 _{EH_CU_ID_AR}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	25
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_ID_AR}	mg/kg	10	NONE	< 10	19	< 10	< 10	100
TPHCWG - Aromatic >EC5 - EC40 _{EH_CU+HS_ID_AR}	mg/kg	10	NONE	< 10	19	< 10	< 10	130

TPH Total >EC5 - EC40 _{EH_CU+HS_ID_TOTAL}	mg/kg	10	NONE	< 10	19	< 10	< 10	150
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Analytical Report Number: 25-053197
 Project / Site name: Southwater - Topsoil Validation
 Your Order No: 698727

Lab Sample Number	702772	702773	702774	702775	702776
Sample Reference	HP01	HP01	HP02	HP02	HP02
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.10	0.35	0.10	0.20	0.35
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702777	702778	702779	702780	702781
Sample Reference	HP03	HP03	HP03	HP04	HP04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.10	0.30	0.50	0.05	0.15
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	13	13	17	11
Total mass of sample received	kg	0.1	NONE	0.9	0.8	0.9	0.8	0.9

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	SSZ	SSZ	SSZ
Analysis completed	N/A	N/A	N/A	09/10/2025	09/10/2025	09/10/2025	09/10/2025	09/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	Detected	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	Not-detected	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	< 0.001	-	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	Loose Fibres	-	-
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.7	9.5	9.6	8.6	8.7
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.43	< 0.05	0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.13	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.07	0.11	1.1	0.08	0.14
Pyrene	mg/kg	0.05	MCERTS	0.06	0.1	1	0.07	0.13
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.06	0.07	0.54	0.05	0.09
Chrysene	mg/kg	0.05	MCERTS	0.06	0.06	0.59	0.05	0.08
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.09	0.73	0.1	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	0.38	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.64	0.05	0.07
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.33	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.07	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.32	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	6.24	< 0.80	< 0.80
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Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702777	702778	702779	702780	702781
Sample Reference	HP03	HP03	HP03	HP04	HP04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.10	0.30	0.50	0.05	0.15
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	10	9.4	8	10
Boron (water soluble)	mg/kg	0.2	MCERTS	2.8	0.3	2.2	2.2	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S ^{u/s g}	< 1.8	< 1.8	U/S ^{u/s g}	< 1.8
Chromium (III)	mg/kg	1	NONE	U/S ^{u/s g}	25	21	U/S ^{u/s g}	25
Chromium (VI) by IC	mg/kg	1.8	NONE	< 1.80	-	-	< 1.80	-
Chromium (III) by IC	mg/kg	1	NONE	16	-	-	16	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	16	25	21	16	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	7.4	17	14	4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	6.8	26	13	6.7
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.9	19	15	9.9	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	45	31	59	39	30

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	16	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	16	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC40 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	16	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	22	< 10	< 10
TPHCWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	< 10	< 10	19	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	22	< 10	< 10
TPHCWG - Aromatic >EC5 - EC40 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	41	< 10	< 10

TPH Total >EC5 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	< 10	< 10	57	< 10	< 10
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Analytical Report Number: 25-053197
 Project / Site name: Southwater - Topsoil Validation
 Your Order No: 698727

Lab Sample Number	702777	702778	702779	702780	702781
Sample Reference	HP03	HP03	HP03	HP04	HP04
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.10	0.30	0.50	0.05	0.15
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702782	702783	702784	702785	702786
Sample Reference	HP04	HP05	HP05	HP05	HP06
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.40	0.10	0.20	0.40	0.10
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	11	19	17	10	16
Total mass of sample received	kg	0.1	NONE	0.8	0.9	0.8	0.9	0.8

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSO	DSO	DSO	DSO	MMI
Analysis completed	N/A	N/A	N/A	09/10/2025	09/10/2025	09/10/2025	09/10/2025	09/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	Not-detected	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	< 0.001	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	Loose Fibres	-
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	10.1	8.6	8.7	10.5	8.7
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.24	< 0.05	0.2	0.2	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	0.06	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.37	0.06	0.17	0.42	0.11
Pyrene	mg/kg	0.05	MCERTS	0.33	0.06	0.15	0.41	0.09
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.16	< 0.05	0.08	0.24	0.08
Chrysene	mg/kg	0.05	MCERTS	0.19	< 0.05	0.08	0.25	0.08
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.22	0.07	0.07	0.33	0.11
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.07	< 0.05	< 0.05	0.09	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.16	< 0.05	0.06	0.23	0.06
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.09	< 0.05	< 0.05	0.13	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.1	< 0.05	< 0.05	0.15	0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	2.01	< 0.80	0.81	2.52	< 0.80
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Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702782	702783	702784	702785	702786
Sample Reference	HP04	HP05	HP05	HP05	HP06
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.40	0.10	0.20	0.40	0.10
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	10	7.5	14	18	8.2
Boron (water soluble)	mg/kg	0.2	MCERTS	1.3	1	0.3	2.8	2.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	< 0.2	< 0.2	0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	U/S ^{u/s g}	< 1.8	< 1.8	U/S ^{u/s g}
Chromium (III)	mg/kg	1	NONE	23	U/S ^{u/s g}	30	29	U/S ^{u/s g}
Chromium (VI) by IC	mg/kg	1.8	NONE	-	< 1.80	-	-	< 1.80
Chromium (III) by IC	mg/kg	1	NONE	-	15	-	-	16
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	15	30	29	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	15	4.9	28	28
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	16	8.6	38	17
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	6.2	21	25	7.7
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	49	42	38	83	48

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	9.9	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC40 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	11	< 10	< 10	13
TPHCWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	11	< 10	< 10	13
TPHCWG - Aromatic >EC5 - EC40 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	11	< 10	< 10	13

TPH Total >EC5 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	< 10	20	< 10	< 10	13
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Analytical Report Number: 25-053197
 Project / Site name: Southwater - Topsoil Validation
 Your Order No: 698727

Lab Sample Number	702782	702783	702784	702785	702786
Sample Reference	HP04	HP05	HP05	HP05	HP06
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.40	0.10	0.20	0.40	0.10
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702787	702788	702789	702790	702791
Sample Reference	HP06	HP06	HP07	HP07	HP08
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.50	0.10	0.20	0.10
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	43	< 0.1
Moisture Content	%	0.01	NONE	9.7	17	15	12	13
Total mass of sample received	kg	0.1	NONE	0.9	0.8	0.9	0.8	0.9

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MMI	MMI	MMI	SSZ	MMI
Analysis completed	N/A	N/A	N/A	09/10/2025	09/10/2025	09/10/2025	10/10/2025	09/10/2025
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1	7.2	8.5	8.8	8.8
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.06	< 0.05	0.58	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.16	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.11	0.09	1.2	0.08
Pyrene	mg/kg	0.05	MCERTS	0.05	0.1	0.08	1.1	0.07
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.07	< 0.05	0.7	0.06
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.81	0.07
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	0.09	0.05	1	0.09
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	0.43	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.07	< 0.05	0.85	0.06
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.48	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.13	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.57	0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	8.1	< 0.80
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Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702787	702788	702789	702790	702791
Sample Reference	HP06	HP06	HP07	HP07	HP08
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.50	0.10	0.20	0.10
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	23	4.6	7.7	8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	1.2	1.8	3.2	1.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	U/S ^{u/s g}	U/S ^{u/s g}	U/S ^{u/s g}
Chromium (III)	mg/kg	1	NONE	38	35	U/S ^{u/s g}	U/S ^{u/s g}	U/S ^{u/s g}
Chromium (VI) by IC	mg/kg	1.8	NONE	-	-	< 1.80	< 1.80	< 1.80
Chromium (III) by IC	mg/kg	1	NONE	-	-	11	13	14
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38	35	11	13	14
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8	26	13	26	15
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.9	22	14	21	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	22	4.4	9.9	7.7
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	42	77	36	51	39

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 EH_CU_1D_AL	mg/kg	2	MCERTS	< 2.0	< 2.0	2.8	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	11	< 8.0	9.2
TPHCWG - Aliphatic >EC35 - EC40 EH_CU_1D_AL	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC35 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	13	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC40 EH_CU+HS_1D_AL	mg/kg	10	NONE	< 10	< 10	13	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.01	MCERTS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.02	MCERTS	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 EH_CU_1D_AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	12	< 10
TPHCWG - Aromatic >EC35 - EC40 EH_CU_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	12	< 10
TPHCWG - Aromatic >EC5 - EC40 EH_CU+HS_1D_AR	mg/kg	10	NONE	< 10	< 10	< 10	12	< 10

TPH Total >EC5 - EC40 EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	< 10	< 10	13	12	< 10
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Analytical Report Number: 25-053197
 Project / Site name: Southwater - Topsoil Validation
 Your Order No: 698727

Lab Sample Number	702787	702788	702789	702790	702791
Sample Reference	HP06	HP06	HP07	HP07	HP08
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.50	0.10	0.20	0.10
Date Sampled	30/09/2025	30/09/2025	30/09/2025	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702792	702793
Sample Reference	HP08	HP08
Sample Number	None Supplied	None Supplied
Water Matrix	N/A	N/A
Depth (m)	0.40	0.70
Date Sampled	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	8.4	14
Total mass of sample received	kg	0.1	NONE	0.8	0.9

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MMI	MMI
Analysis completed	N/A	N/A	N/A	09/10/2025	09/10/2025
Actinolite detected	Type	N/A	ISO 17025	Not-detected	-
Amosite detected	Type	N/A	ISO 17025	Not-detected	-
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	-
Chrysotile detected	Type	N/A	ISO 17025	Detected	-
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	-
Tremolite detected	Type	N/A	ISO 17025	Not-detected	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	< 0.001	-
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Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Loose Fibres	-
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General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.2	8
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.15
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.11
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.11
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	1.1
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.41
Fluoranthene	mg/kg	0.05	MCERTS	0.14	2.8
Pyrene	mg/kg	0.05	MCERTS	0.14	2.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.1	1.5
Chrysene	mg/kg	0.05	MCERTS	0.11	1.6
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.18	2.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.06	1.1
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.14	2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.1	1.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.11	1.2

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	1.07	18.2
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Analytical Report Number: 25-053197
Project / Site name: Southwater - Topsoil Validation
Your Order No: 698727

Lab Sample Number	702792	702793
Sample Reference	HP08	HP08
Sample Number	None Supplied	None Supplied
Water Matrix	N/A	N/A
Depth (m)	0.40	0.70
Date Sampled	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.6	17
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	23	37
Chromium (VI) by IC	mg/kg	1.8	NONE	-	-
Chromium (III) by IC	mg/kg	1	NONE	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	37
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.5	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	5.4	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	10	15
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	18	55

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aliphatic >EC5 - EC40 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	< 10	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	11	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	35	25
TPHCWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	< 10	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	46	25
TPHCWG - Aromatic >EC5 - EC40 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	46	25

TPH Total >EC5 - EC40 _{EH_CU+HS_1D_TOTAL}	mg/kg	10	NONE	46	25
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Analytical Report Number: 25-053197

Project / Site name: Southwater - Topsoil Validation

Your Order No: 698727

Lab Sample Number	702792	702793
Sample Reference	HP08	HP08
Sample Number	None Supplied	None Supplied
Water Matrix	N/A	N/A
Depth (m)	0.40	0.70
Date Sampled	30/09/2025	30/09/2025
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
		Test Accreditation Status

VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number: **25-053197**
Project / Site name: **Southwater - Topsoil Validation**
Your Order No: **698727**

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006 based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample	Analysis completed	Analyst ID
702773	HP01	0.35-	234	Loose Fibres	Amosite & Chrysotile	< 0.001	< 0.001	09/10/2025	SSZ
702779	HP03	0.50-	254	Loose Fibres	Chrysotile	< 0.001	< 0.001	09/10/2025	SSZ
702785	HP05	0.40-	184	Loose Fibres	Chrysotile	< 0.001	< 0.001	09/10/2025	DSO
702792	HP08	0.40-	238	Loose Fibres	Chrysotile	< 0.001	< 0.001	09/10/2025	MMI

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 25-053197

Project / Site name: Southwater - Topsoil Validation

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
702772	HP01	None Supplied	0.1	Brown loam with gravel and vegetation
702773	HP01	None Supplied	0.35	Brown loam and sand with vegetation and stones
702774	HP02	None Supplied	0.1	Brown loam with gravel and vegetation
702775	HP02	None Supplied	0.2	Brown clay and sand with gravel
702776	HP02	None Supplied	0.35	Brown clay and sand with gravel and stones
702777	HP03	None Supplied	0.1	Brown loam with gravel and vegetation
702778	HP03	None Supplied	0.3	Brown sandy clay with gravel
702779	HP03	None Supplied	0.5	Brown clay and sand with gravel and vegetation
702780	HP04	None Supplied	0.05	Brown sandy loam with gravel and vegetation
702781	HP04	None Supplied	0.15	Brown sandy clay with gravel
702782	HP04	None Supplied	0.4	Brown sandy clay with gravel
702783	HP05	None Supplied	0.1	Brown loam with gravel and vegetation
702784	HP05	None Supplied	0.2	Brown sandy clay with gravel
702785	HP05	None Supplied	0.4	Brown clay and sand with gravel
702786	HP06	None Supplied	0.1	Black loam with gravel and vegetation
702787	HP06	None Supplied	0.2	Brown sandy loam with gravel and vegetation
702788	HP06	None Supplied	0.5	Brown sandy clay with gravel
702789	HP07	None Supplied	0.1	Black loam with gravel and vegetation
702790	HP07	None Supplied	0.2	Brown clay and sand with gravel and stones
702791	HP08	None Supplied	0.1	Black loam with gravel and vegetation
702792	HP08	None Supplied	0.4	Light brown sandy clay with gravel
702793	HP08	None Supplied	0.7	Light brown clay and sand with gravel

Analytical Report Number : 25-053197

Project / Site name: Southwater - Topsoil Validation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Moisture Content	Moisture content, determined gravimetrically (up to 30°C)	In-house method	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Cr(VI) in soils by Ion chromatography	Determination of hexavalent chromium in alkaline soil extract by use of ion chromatography with spectrophotometric detection	In-house method	L130B	W	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Chromium III in soil	In-house method by calculation from total Cr and Cr VI	In-house method by calculation	L080-PL/L130B	W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

Analytical Report Number : 25-053197

Project / Site name: Southwater - Topsoil Validation

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

*U/S g- Unsuitable for analysis due to high colour intensity.

Analytical Report Number : 25-053197

Project / Site name: Southwater - Topsoil Validation

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
HP07	N/A	S	702790	b	Asbestos identification in Soil	A001B	b

Annex D: Ground Gas Protection



Gas Membrane Installation
Validation Report
Harmonix
Southwater Business Park
Horsham
RH13 7YT



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1. INTRODUCTION

1.1 Purpose

UK Membranes are installing a gas protection membrane to the aforementioned site. MEC Environmental Ltd (MEC) has been appointed by UK Membranes to carry out independent validation of the installation of the membrane on the site as per our terms of engagement. The frequency of independent inspections has been determined by the client, comprehensive CQA should be forwarded by the installer to cover any data gaps for areas that have not been subjected to independent inspections.

The **SOLE** purpose of the works undertaken by MEC Environmental is to provide independent inspections and a factual report as and when requested to assist the client in gaining regulatory approval with regards to the gas membrane installation. This is as per the scope of work section within our term's engagement.

1.2 Limitations

This report is limited to providing lines of evidence to the regulatory authority for the areas components inspected by MEC only in support of the discharging of the relevant planning conditions only and cannot be used or relied upon for any other purpose. No professional liability shall be extended to any other parties by MEC, the report should explicitly not be relied on by any future vendor or tenant as proof that the gas protection measures are sufficient for the site and functioning at the time of purchase or start of any tenancy. Gas protection systems are not solely reliant on the gas membrane as points are scored under BS8485 for the floor slab, membrane and venting, these components work collaboratively to provide a gas protection system. This is as per the conditions within our term's engagement.

The report has been provided on the assumption that no damage or works that may have compromised the components and integrity of the gas membrane have been made after our inspections, failure to report any such occurrences will invalidate any liability and render the report and contents invalid. This is as per the conditions within our term's engagement.

This report has been prepared in accordance with the best available practice and the relevant guidance documents listed below of which the author of the report was a contributor and member of the steering committees:

Mallett H, Wilson S, Corban M (2014) "Good practice on the testing and verification of protection systems for buildings against hazardous ground gases". CIRIA Report C735

1.3 Compliance with Regulation 7 of Building Regulations

Regulation 7 of the building regulations requires that building work shall be carried out in a workmanlike manner. Approved document 7 suggests installation can comply with the regulation if workmanship is such that, where relevant, materials are adequately mixed or prepared and applied, used or fixed so as to perform adequately the functions for which they are intended.

A reasonable standard may be demonstrated by:

Compliance with a standard and independent certification - The relevant standard for gas protection measures is BS8485:2015 +A1:2019, Table 7 of the standard requires that gas membranes are verified as per CIRIA C735.

Past experience – The installers qualifications are checked by MEC Environmental to ensure that the installation supervisor holds the NVQ Level 2 in gas membrane installations.

Integrity Testing methods. – are carried out as prescribed in CIRIA C735, unless stated elsewhere
Frequency of Visits – MEC have not been employed to prepare a validation plan for this project, the frequency of visits is as per the instructions of the client, in essence MEC inspected the available membrane that could be inspected each time an inspection visit was requested. The area inspected on each visit is noted on the survey sheets in appendix 1. This report should be read in conjunction with the installers CQA report.

1.4 Method of Inspection (Per Visit)

All seams and non-seam areas of the available gas membrane were inspected/tested by the Validation Surveyor for identification of defects, protruding and penetrating objects, lack of subgrade support, overheating, holes, blisters, undispersed raw materials, scratches and gouges, and any sign of contamination by foreign matter.

Any portion of the gas membrane exhibiting a flaw or failing a visual inspection/testing was repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure was agreed upon between the Validation Consultant and the Installer at the time of the repair and is noted in the survey sheets.

Major repairs are visually inspected/tested, repairs passing the inspection/testing were considered acceptable. In some cases minor repairs may be carried out under contractor CQA and photographic evidence supplied to the verifier for inclusion in the report.

1.5 MEC Staff Competency

All site inspections have been carried out by suitably qualified staff as defined in CIRIA C735, the qualification held by all MEC inspection surveyors is either the NVQ Level 4 in gas protection verification or the NVQ Level 2 in gas membrane installation

The author of this report is also a CL:AIRE accredited Specialist in Gas Protection Verification (SGPV) and holds both the NVQ Level 2 in gas membrane installation and the NVQ Level 4 in gas protection verification.

1.6 Conclusion

During our inspections to the areas denoted in Appendix 1 (Site Surveys Sheets) we witnessed the installer carrying out the installation in a workmanlike manner, the materials were adequately prepared and applied, used and fixed so as to perform adequately the functions for which they are intended as per Regulation 7 of the building regulations. In instances where 100% of the installation has not been independently inspected/tested then this report should be read in conjunction with the gas membrane installers CQA records.

The installers all hold the NVQ Level 2 "Gas membrane Installations" qualification and as such are classed as a qualified and experienced installer. MEC Environmental have checked the CSCS Trade Cards of the installers, which confirms the holder has attained the qualification.

Signed



Date: 14/07/2025

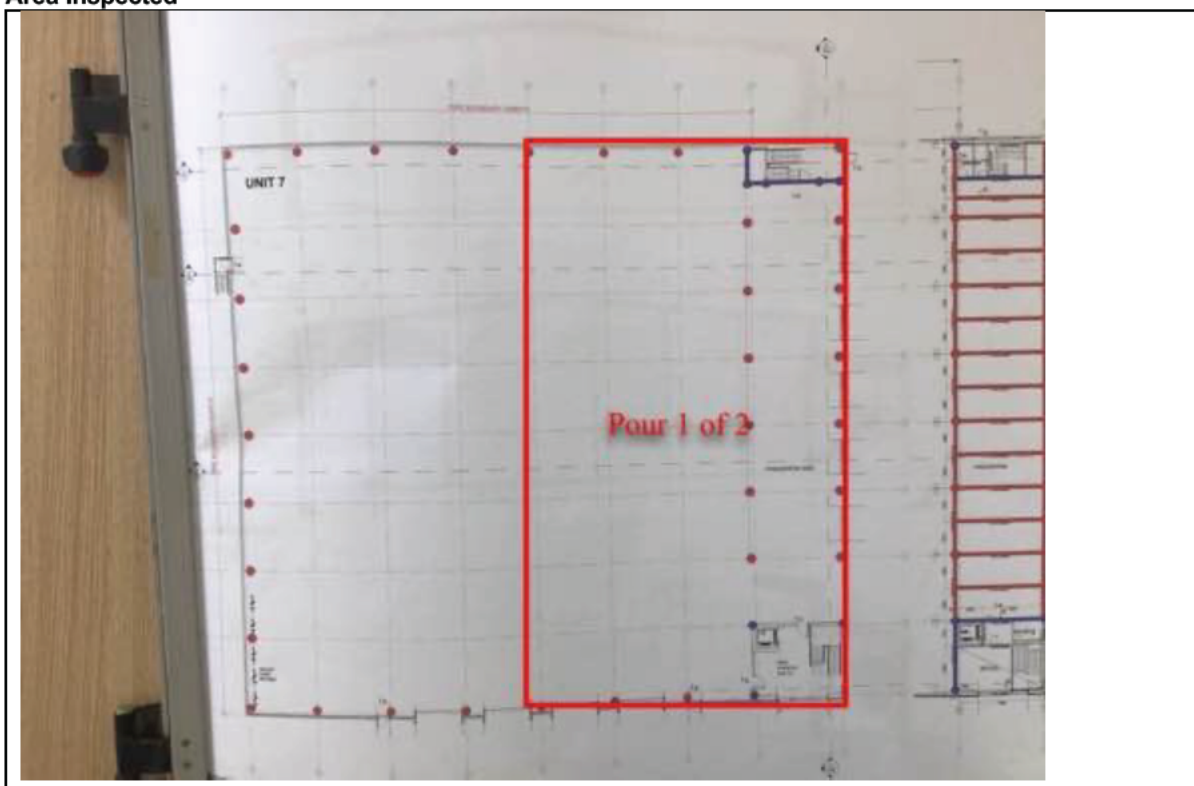
Michael Corban S.G.P.V.
Director
MEC Environmental Ltd

Appendix 1 – Site Survey Sheets

Main Contractor Name: Harmonix.		Date: 13/05/2025
Site Name: Southwater Business Park, Horsham.		Temp: 21 °C
		Installer: UK Membranes.
Postcode: RG13 7YT	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Unit 7.	
Area Inspected:	Full line out installation, pour 1 of 2, GL E-J / 1-9. (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions, pipe penetrations and the retro fit detailing to the perimeter concrete curb stone took place in unit 7 due to miothene being in place at the time of our visit. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 gas membrane & Juta GP1 SAM.		
Other Products Used: N/A.		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Staircase and lift pit detailing. CQA repairs.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	

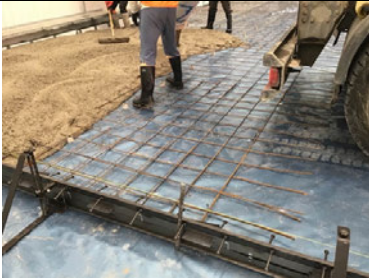
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	
(Section 3, Defects List)		Action Required
UK Membranes carried out there own CQA repairs at the time of our inspection and as the pour progresses.		No Action Required all Defects rectified at time of inspection

Area Inspected



Gas Membrane Overview

		
Overview of the installed membrane prior to the laser pour progressing.	Overview of the Juta GP5 being installed prior to the pour progressing.	Overview of the office area installation.



Overview of the concrete being poured on the membrane.

Subgrade Photos



Evidence of the well rolled fine aggregate substrate that the membrane is being laid upon during the installation.



Evidence of the well rolled substrate prior to the membrane being installed.

Materials Used



Evidence of the Juta GP5 gas membrane that has been installed on this project.

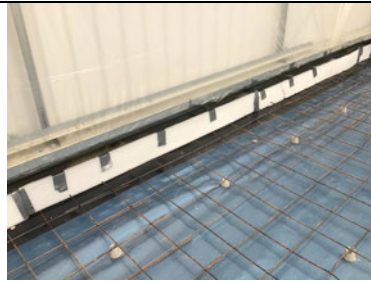


Evidence of the Juta GP1 SAM a that has been used for the detailing works on this project.

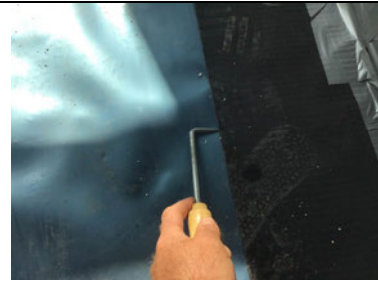
Perimeter Detail



The perimeter retro fit detailing has been covered with miothene at the time of our inspection.



A restricted inspection took place to the perimeter retro fit detailing due to miothene being in place.



Probe testing the visible retro fit detailing around the perimeter.

Pipe and Duct Seals



Probe testing a pipe penetration detail.



Probe testing a pipe penetration detail.



Pipe penetration detailing that has been boxed off.

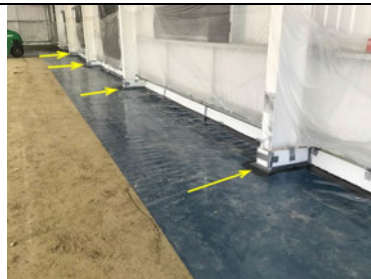


Pipe penetration detailing.

Stanchions and Columns Seals



Probe testing the the detailing work to the inner web of the steel stanchion.



Restricted inspection to the steel stanchions that have been covered in miothene at the time of our inspection.

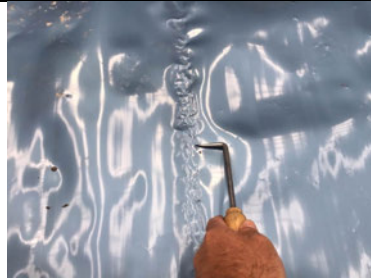


Steel stanchion covered with miothene at the time of our inspection.

Testing of Joints



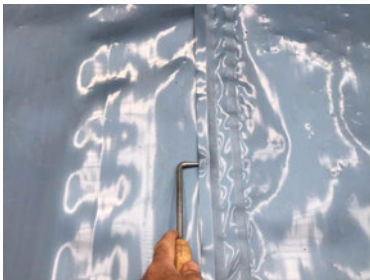
Overview of a typical hand welded membrane lap.



Probe testing a hand welded membrane lap.

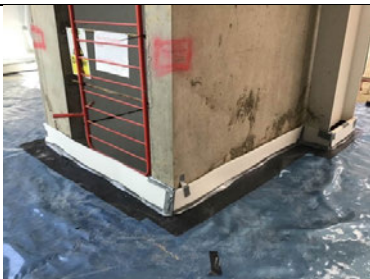


Overview of a auto welded membrane lap.



Probe testing all auto welded membrane laps.

Additional Photos



Miothene was placed around the lift pit at the time of our inspection.



Miothene was placed around the base of the stairs at the time of our inspection.



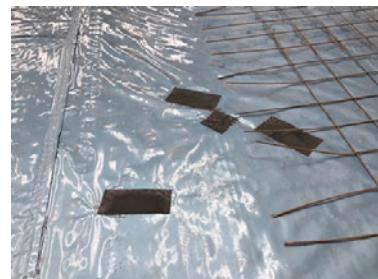
Damage found in the membrane at the time of our inspection.



Repaired damaged membrane using Juta GP1 SAM.



Damage found in the membrane at the time of our inspection.

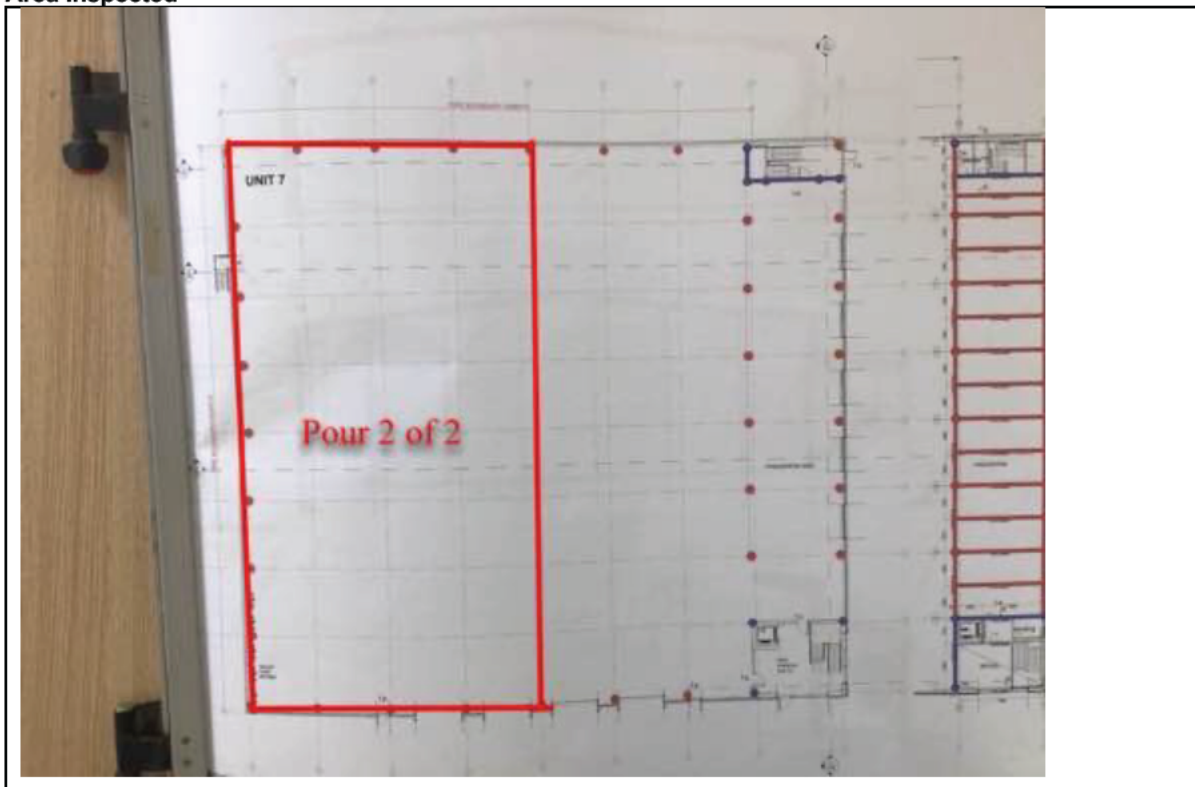


Repaired damaged membrane using Juta GP1 SAM.

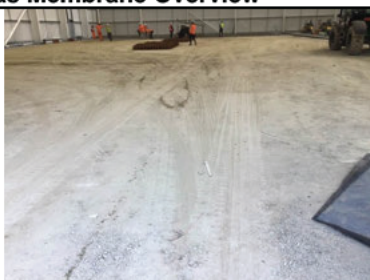
Main Contractor Name: Harmonix.		Date: 14/05/2025
Site Name: Southwater Business Park, Horsham.		Temp: 23 °C
		Installer: UK Membranes.
Postcode: RG13 7YT	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Unit 7.	
Area Inspected:	Full line out installation, pour 2 of 2, GL A-E / 1-9. (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions, pipe penetrations and the retro fit detailing to the perimeter concrete curb stone took place in unit 7 due to miothene being in place at the time of our visit. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 gas membrane & Juta GP1 SAM.		
Other Products Used: N/A.		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: CQA repairs.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	

(Section 3, Defects List)	Action Required
UK Membranes carried out there own CQA repairs at the time of our inspection and as the pour progresses.	No Action Required all Defects rectified at time of inspection

Area Inspected



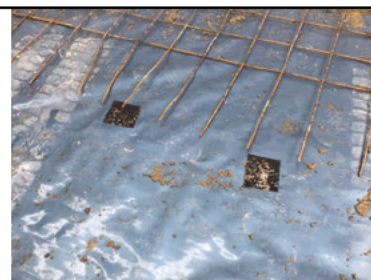
Gas Membrane Overview



A general overview of unit 7 pour 2 of 2.



Overview of the membrane installation as the pour progresses.



CQA repairs using Juta GP1 SAM, completed by UK Membranes as the pour progresses.



Overview of the pour progressing.



Overview of the membrane being installed on a just in time basis.



Overview of the Juta GP5 gas membrane being installed.

Subgrade Photos



Evidence of the well rolled fine aggregate prior to the membrane being laid.

Materials Used



Evidence of the Juta GP1 SAM a that has been used for the detailing works on this project.



Evidence of the Juta GP5 gas membrane that has been installed on this project.

Perimeter Detail



The perimeter retro fit detailing



Miothene covering the perimeter detailing.

has been covered with miothene prior to our inspection.

Pipe and Duct Seals



Probe testing a pipe penetration detail.



Pipe penetration detailing inside of a boxed off area.

Stanchions and Columns Seals



Steel stanchion covered with miothene at the time of our inspection.



Probe testing the inner web of the steel stanchion detailing.

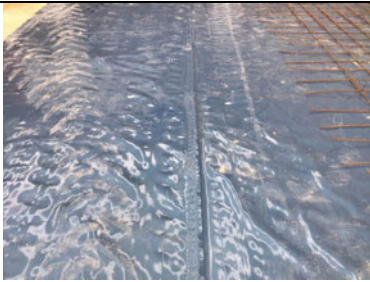


Steel stanchion covered with miothene at the time of our inspection.



Probe testing a steel stanchion detail.

Testing of Joints



A typical auto welded membrane lap.



Probe testing an auto welded membrane lap.



A typical hand welded membrane lap.



Probe testing all hand welded membrane laps.

Additional Photos

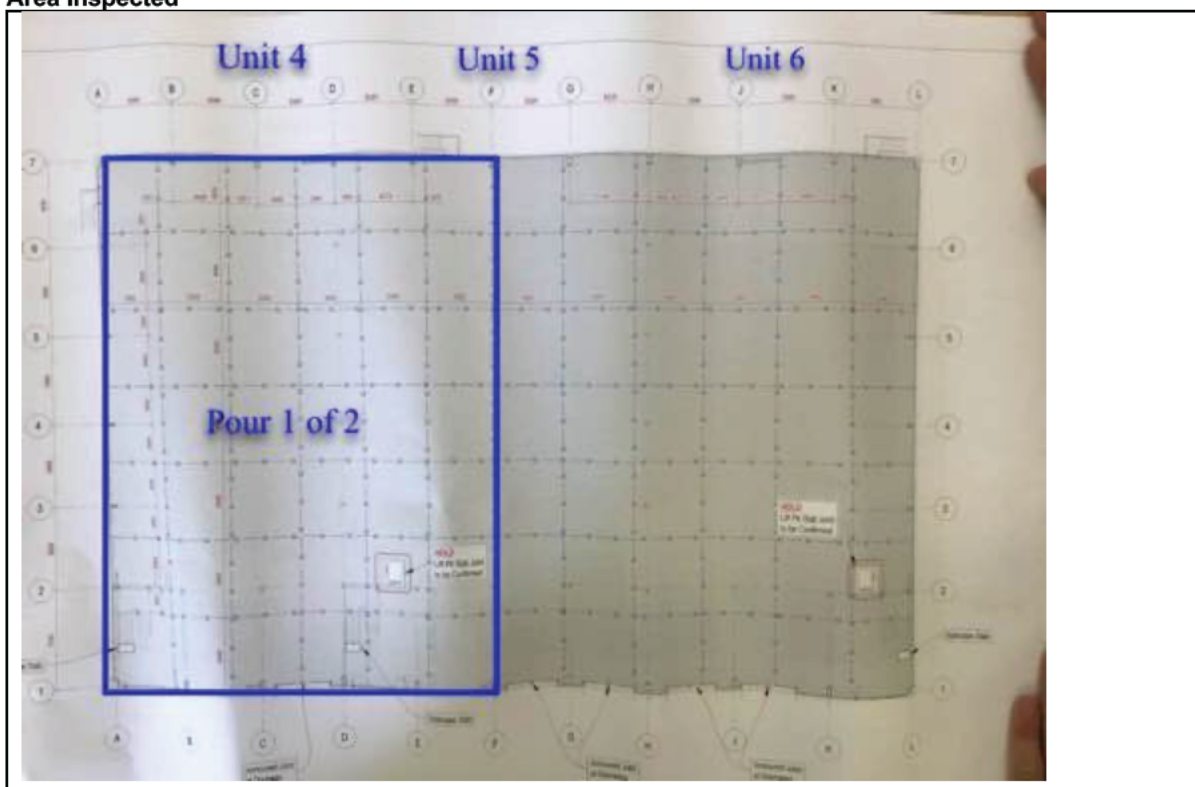


CQA repairs using Juta GP1 SAM to the pin hole damage along the armoured joint.

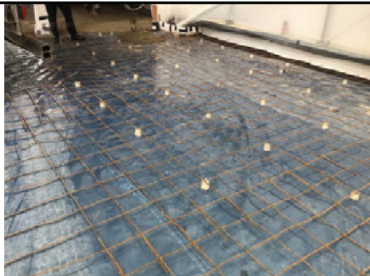
Main Contractor Name: Harmonix		Date: 17/06/2025
Site Name: Southwater Business Park, Horsham.		Temp: 22 °C
		Installer: UK Membranes.
Postcode: RH13 7YT.	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Units 4-6.	
Area Inspected:	Full line out installation to GL A-F / 1-7, pour 1 of 2. See Marked Up Plan	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled, fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions took place in the pour 1 of 2 area, due to miothene being in place at the time of our visit. All pipe penetrations, retro fit detailing to the perimeter concrete curb stone, detailing to the base of concrete stairs and detailing to the base of the lift pit have been completed using Juta GP1 SAM. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of sand blinding that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No defects recorded and therefore no action required	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP1 Gas Membrane & Juta GP1 SAM.		
Other Products Used: Juta GP bitumen primer.		
Perimeter Seal Method: The membrane has been sealed to the perimeter concrete/blockwork with SAGM that has been heat sealed		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Base of concrete stair detailing and concrete lift pit base detailing.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the	

	membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like
(Section 3, Defects List)	Action Required
UK Membranes carried out there own CQA repairs as the pour progresses.	No defects recorded and therefore no action required

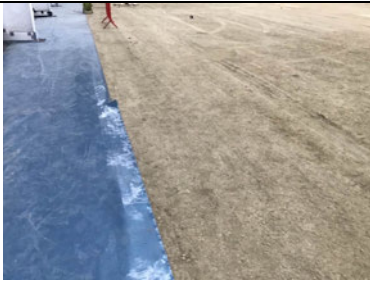
Area Inspected



Gas Membrane Overview

		
Overview of the Juta GP5 gas membrane installed prior to the pour processing.	Overview of the Juta GP5 gas membrane installed prior to the pour processing.	Installation of the Juta GP5 Gas Membrane as the pour is progressing.

Subgrade Photos



Evidence of a the well rolled sand blinded substrate that the membrane has been laid upon.



Evidence of the rolling machine used on the sand blinded substrate prior to the install of the gas membrane.

Materials Used



Evidence of the Juta GP Bitumen Primer that has been applied to the concrete prior to the detailing.

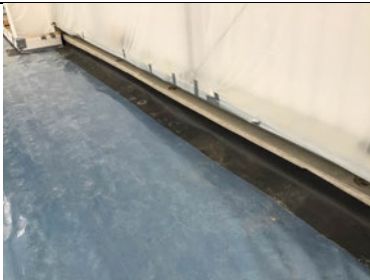


Evidence of the Juta GP5 Gas Membrane that has been used on this project.

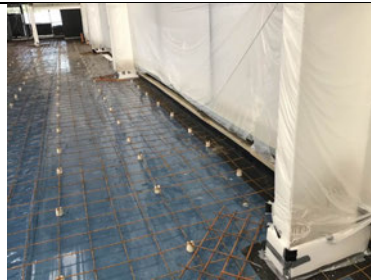


Evidence of the Juta GP1 SAM that has been used for the detailing work on this project.

Perimeter Detail



Overview of the perimeter retro fit detailing.

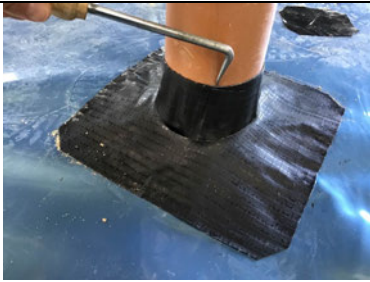


Overview of the perimeter retro fit detailing.



Probe testing the heat sealed perimeter curb stone detailing.

Pipe and Duct Seals



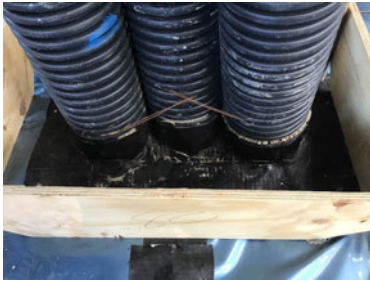
Probe testing a typical pipe penetration detail.



Typical pipe penetration detailing.

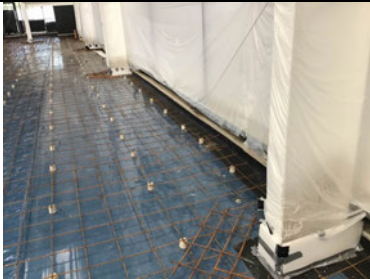


Typical double pipe penetration detailing.



Pipe penetration detailing.

Stanchions and Columns Seals



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



Probe testing the inner web of the steel stanchion.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



All steel stanchions were covered with miothene at the time of our visit therefore a restricted inspection took place.

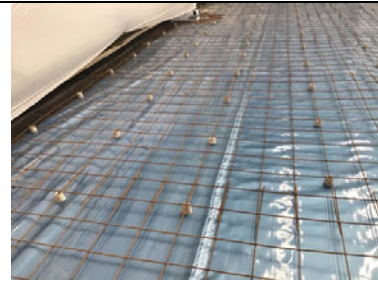
Testing of Joints



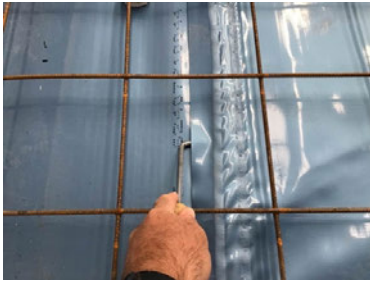
Probe testing a hand welded membrane lap.



Overview of a hand welded membrane lap.



Overview of an auto welded membrane lap.



Probe testing an auto welded membrane lap.

Additional Photos



Retro fit detailing to the base of the concrete lift pit.



Overview of the detailing to the base of the concrete stair core.

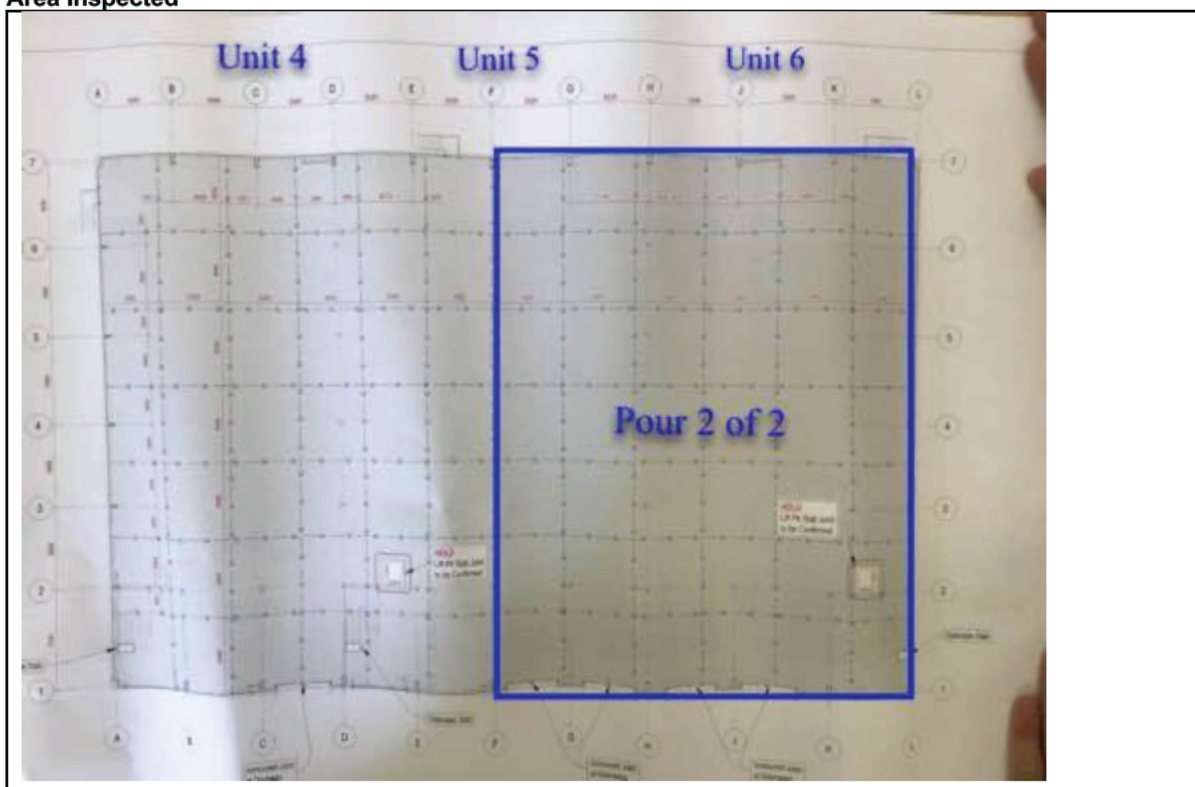


Probe testing all retro fit detailing.

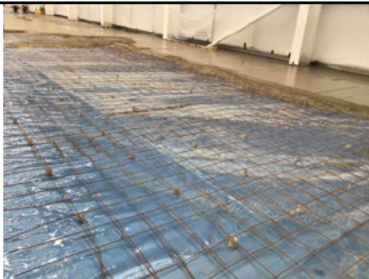
Main Contractor Name: Harmonix		Date: 18/06/2025
Site Name: Southwater Business Park, Horsham.		Temp: 25 °C
		Installer: UK Membranes.
Postcode: RH13 7YT.	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Units 4-6.	
Area Inspected:	Full line out installation to GL F-L / 1-7, pour 2 of 2. (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled, fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions took place in the pour 2 of 2 area, due to miothene being in place at the time of our visit. All pipe penetrations, retro fit detailing to the perimeter concrete curb stone, detailing to the base of concrete stairs and detailing to the base of the lift pit have been completed using Juta GP1 SAM. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of sand blinding that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No defects recorded and therefore no action required	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP1 Gas Membrane & Juta GP1 SAM.		
Other Products Used: Juta GP bitumen primer.		
Perimeter Seal Method: The membrane has been sealed to the perimeter concrete/blockwork with SAGM that has been heat sealed		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Base of the concrete stair detailing, concrete lift pit base detailing & CQA repairs.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the	

	membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like
(Section 3, Defects List)	Action Required
UK Membranes carried out there own CQA repairs as the pour progresses.	No defects recorded and therefore no action required

Area Inspected



Gas Membrane Overview

 Overview of the Juta GP5 gas membrane installed prior to the pour processing.	 Installation of the Juta GP5 Gas Membrane as the pour is progressing.
--	--

Subgrade Photos



Evidence of the rolling machine used on the sand blinded substrate prior to the install of the gas membrane.

Materials Used



Evidence of the Juta GP1 SAM that has been used for the detailing work on this project.

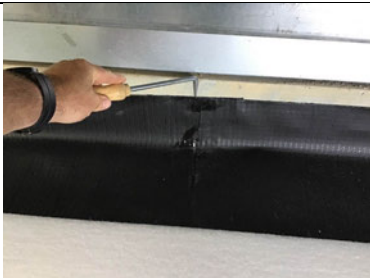


Evidence of the Juta GP Bitumen Primer that has been applied to the concrete prior to the detailing.



Evidence of the Juta GP5 Gas Membrane that has been used on this project.

Perimeter Detail

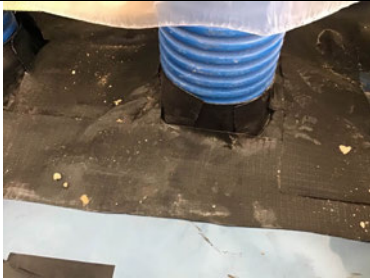


Probe testing the perimeter termination detailing.



Overview of the perimeter termination detailing to the concrete curb stone.

Pipe and Duct Seals



Typical pipe penetration detailing.



Probe testing a typical pipe penetration detail.

Stanchions and Columns Seals



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



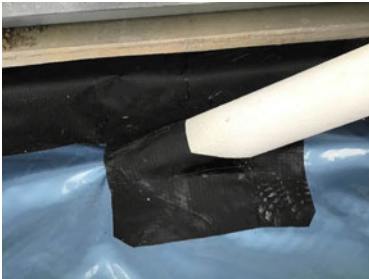
Probe testing the inner web of the steel stanchion.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



Probe testing the inner web of the steel stanchion.



Steel stanchion detailing.

Testing of Joints



A typical auto welded membrane lap.



Probe testing the auto welded membrane lap.

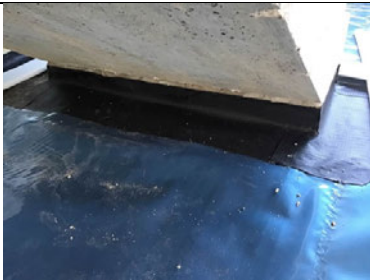


Probe testing a typical hand welded membrane lap.



Overview of a hand welded membrane lap.

Additional Photos



Base of concrete stair detailing.



Probe testing the retro fit detailing to the base of the concrete stairs.



UK Membranes carried out their own CQA repairs as the pour progressed.



The lift pit detailing had been covered with miothene at the time of our inspection.

Main Contractor Name: Harmonix		Date: 10/07/2025
Site Name: Southwater Business Park, Horsham.		Temp: 23 °C
		Installer: UK Membranes.
Postcode: RH13 7YT.	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Units 1-3	
Area Inspected:	Perimeter and undercroft installation (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on top of insulation boards and a well rolled sand blinded substrate hand welding all membrane laps, around the perimeter of units 1-3 and the undercroft areas to units 1,2 & 3. The perimeter concrete has been primed and Juta GP1 SAM has been used to join the membrane to the concrete as a retro fit detail. A restricted inspection of the steel stanchions, perimeter retro fit detailing, stair core base detailing and lift pit concrete surround detailing took place to these areas due to miothene being in place at the time of our visit. All stanchions and pipe penetration detailing has been completed using Juta GP1 SAM. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of sand blinding that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No defects recorded and therefore no action required	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP1 Gas Membrane & Juta GP1 SAM.		
Other Products Used: Juta GP bitumen primer.		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area, The stanchions have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Base of the concrete stair detailing & concrete lift pit base detailing.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	

Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	
(Section 3, Defects List)		Action Required
UK Membranes carried out there own CQA repairs as the pour progresses.		No defects recorded and therefore no action required

Area Inspected



Gas Membrane Overview

		
Overview of the installed Juta GP5 gas membrane that has been	Overview of the Juta GP5 gas membrane installed around the perimeter of units 1-3.	Overview of the installed Juta GP5 gas membrane that has been

installed across the full footprint to the communal area in unit 1.



Overview of the installed Juta GP5 gas membrane that has been installed across the full footprint to the communal area in unit 3.

installed across the full footprint to the communal area in unit 2.

Subgrade Photos



Evidence of the insulation boards that the membrane has been laid upon around the perimeter of units 1-3.



Evidence of the rolling machine used on the sand blinded substrate prior to the install of the gas membrane.

Materials Used



Evidence of the Juta GP1 SAM that has been used for the detailing work on this project.

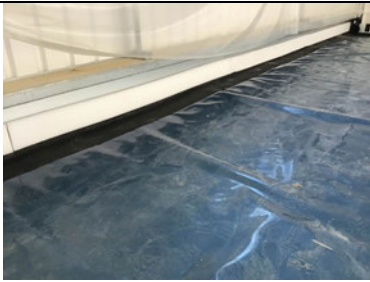


Evidence of the Juta GP Bitumen Primer that has been applied to the concrete prior to the retro fit detailing.



Evidence of the Juta GP5 Gas Membrane that has been used on this project.

Perimeter Detail



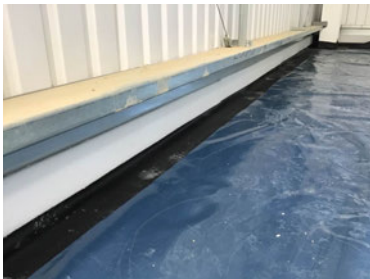
A restricted inspection took place to the detailing around the perimeter of units 1-3 due to the miothene being in place at the time of our visit.



Miothene in place prior to our inspection.



A restricted inspection took place to the detailing around the perimeter of units 1-3 due to the miothene being in place at the time of our visit.



A restricted inspection took place to the detailing around the perimeter of units 1-3 due to the miothene being in place at the time of our visit.

Pipe and Duct Seals



Typical pipe penetration detailing in unit 1 communal area.



Probe testing a typical pipe penetration in unit 1.



Typical pipe penetration detailing in unit 1 communal area.



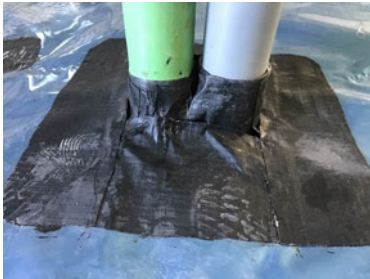
Typical pipe penetration detailing in unit 2 communal area.



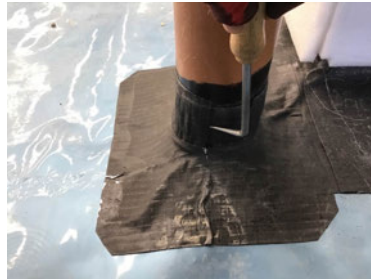
Probe testing all pipe penetration detailing in unit 2.



Typical pipe penetration detailing in the communal area in unit 2.

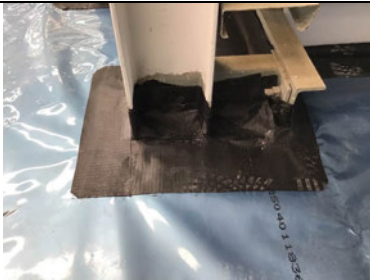


Pipe penetration detailing in unit 3 communal area.



Probe testing a typical pipe penetration detail in unit 3.

Stanchions and Columns Seals



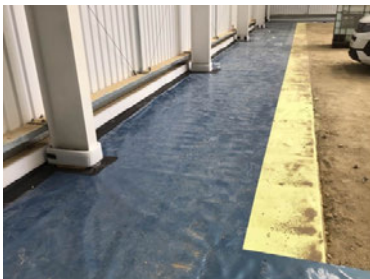
Typical steel stanchion detailing in unit 1.



Probe testing a steel stanchion detail in unit 1.



Typical steel stanchion detail in unit 1.



Restricted inspection of the steel stanchions across units 1-3 during our visit.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.

Testing of Joints



Prob testing all hand welded membrane lap's across units 1-3.



Overview of a typical hand welded membrane lap.



Probe testing a typical hand welded membrane lap.

Additional Photos



The lift pit detailing had been covered with miothene at the time of our inspection in unit 1.



Miothene was in place around the bases of the concrete stairs in units 1-3.

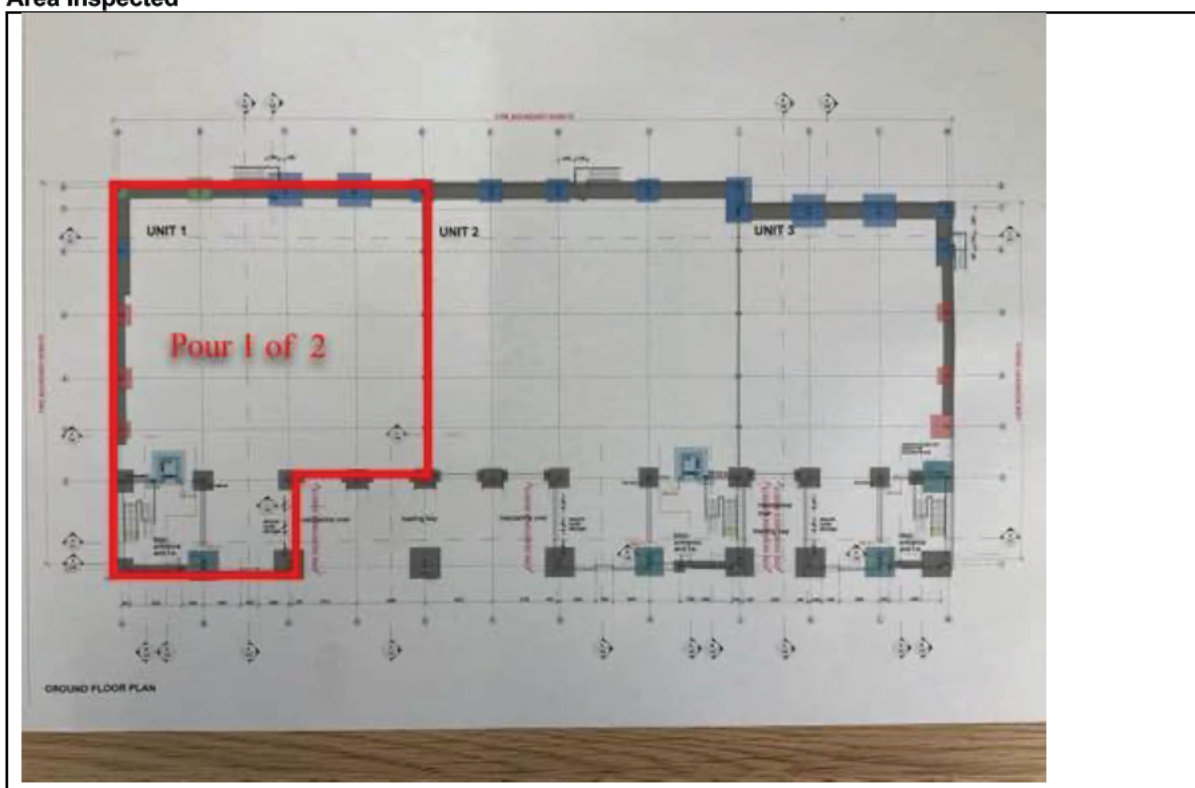


The lift pit detailing had been covered with miothene at the time of our inspection in unit 2.

Main Contractor Name: Harmonix		Date: 11/07/2025
Site Name: Southwater Business Park, Horsham.		Temp: 24 °C
		Installer: UK Membranes
Postcode: RH13 7YT	Surveyor: James Hall (TGPV)	
Building Reference/Unit No:	Units 1-3	
Area Inspected:	Unit 1 - Laser Screed Pour 1 of 2 - Gridlines: A-E/1-8. - See Marked Up Plan	
Description of Works:	MEC Environmental carried out a thorough inspection of the gas membrane. The installation team have installed Juta GP5 Gas Barrier to the full line out as the pour progressed using 4 & 6 meter prefabricated panels, these were laid upon graded coarse aggregate substrate that was continuously rolled. All laps between adjacent sheets of membrane were auto welded or alternatively hand welded with rolled pressure applied creating the seal between. Steel stanchions, pipe penetration's and retrofit termination detailing to the perimeter cladding rail was completed using Juta GP1 SAM with adequate heat and pressure applied. However the steel stanchions and the perimeter edge cladding rail termination detailing was a restricted inspection due to site having installed miothene strips surrounding all detailing works. All perimeter and core areas were inspected on the previous inspection visit on 10/07/2025. During our inspection we witnessed the installer carrying out their own CQA repairs as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 Gas Barrier		
Other Products Used: Juta GP1 SAM & GP Primer		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: Not Applicable		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: N/A		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	

Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	
(Section 3, Defects List)		Action Required
4x recorded defects were identified during inspection, these were patched repaired by installer during inspection using Juta GP1 SAM and adequate heat applied.		No Action Required all Defects rectified at time of inspection

Area Inspected



Gas Membrane Overview



Subgrade Photos



Substrate base being continuously rolled prior to gas barrier installation.

Materials Used



Evidence of the JUTA GP5 gas barrier labelling.



Evidence of the JUTA GP1 SAM packaging label.



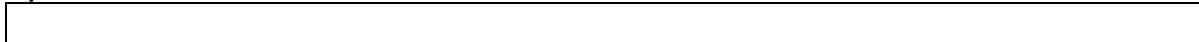
Evidence of the JUTA GP Primer.

Perimeter Detail

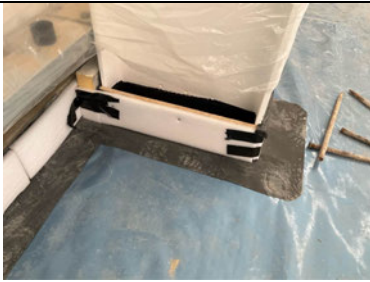


Restricted inspection of the termination detailing along the perimeter cladding rail.

Pipe and Duct Seals



Stanchions and Columns Seals



Restricted inspection to steel stanchion details.



Restricted inspection to steel stanchions.

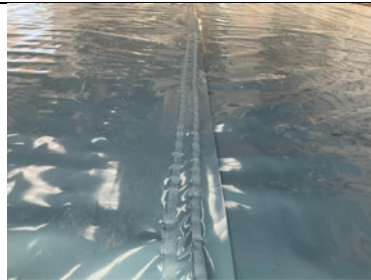


Probe testing to steel stanchion were possible.

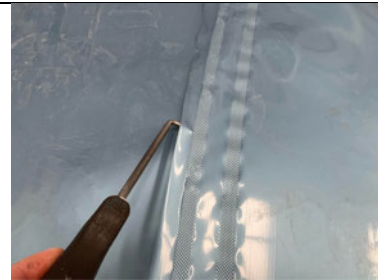
Testing of Joints



Probe testing along hand welded membrane lap joints.



Overview along an auto welded membrane lap joint.

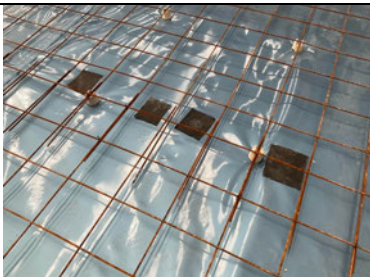


Probe testing along auto welded membrane lap joints.



Probe testing along hand welded membrane lap joints.

Additional Photos



Installers own CQA patch repairs using Juta GP1 SAM.



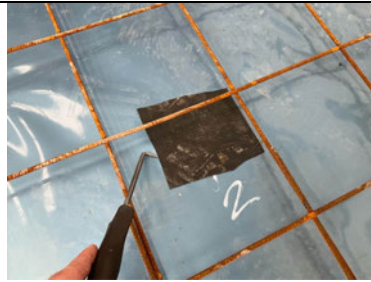
1. Recorded defect.



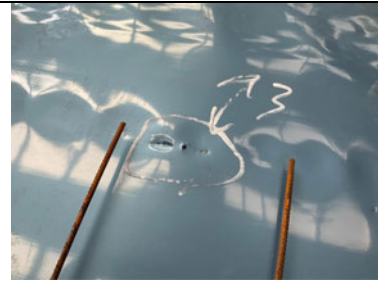
1. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.



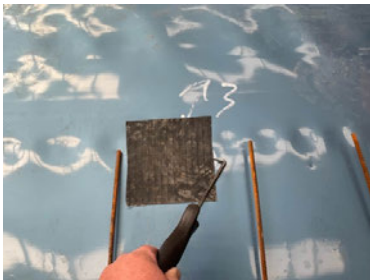
2. Recorded defect.



2. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.



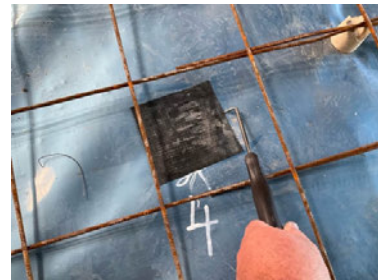
3. Recorded defect.



3. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.



4. Recorded defect.

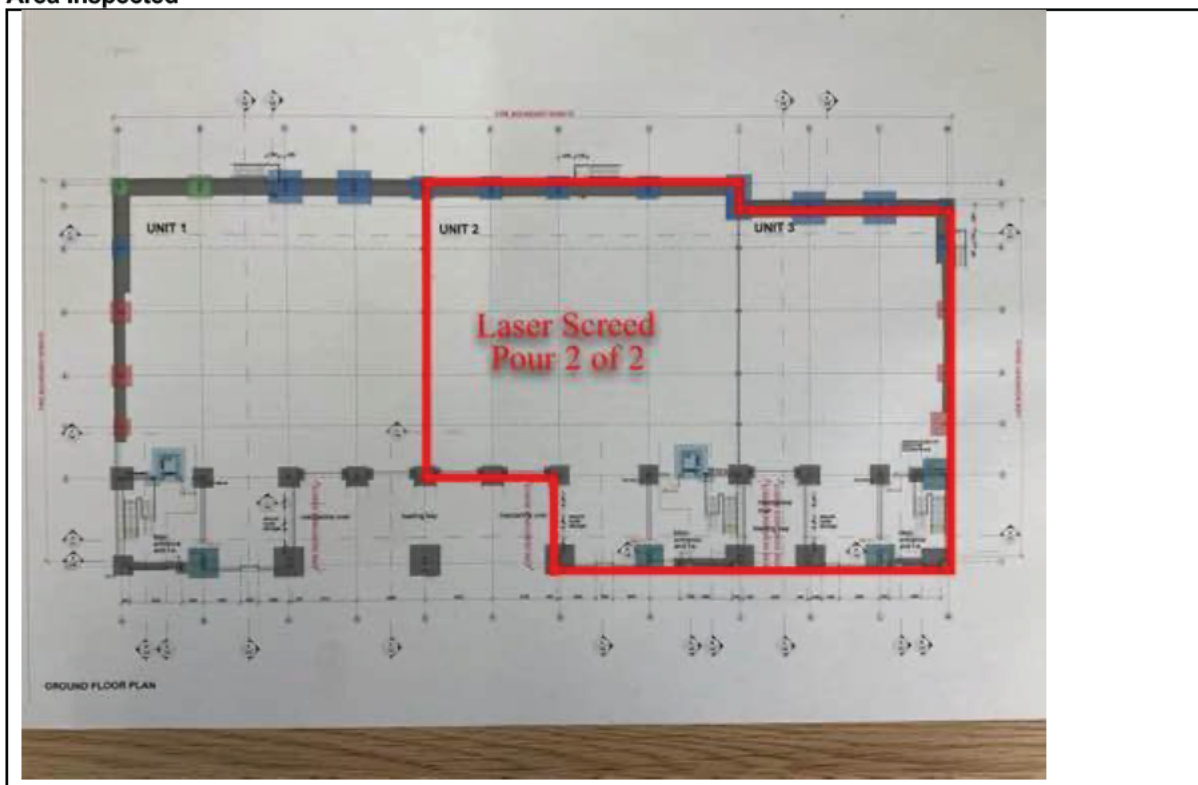


4. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.

Main Contractor Name: Harmonix		Date: 14/07/2025
Site Name: Southwater Business Park, Horsham.		Temp: 20 °C
		Installer: UK Membranes
Postcode: RH13 7YT	Surveyor: James Hall (TGPV)	
Building Reference/Unit No:	Units 1-3	
Area Inspected:	Units 2-3 - Laser Screed Pour 2 of 2 - Gridlines: E-M/1-8. - See Marked Up Plan	
Description of Works:	MEC Environmental carried out a thorough inspection of the gas membrane. Installers have installed Juta GP5 Gas Barrier to the full line out as the pour progressed using 4 & 6 meter prefabricated panels and welded into place, these were laid upon graded coarse aggregate substrate that was continuously rolled. All laps between adjacent sheets of membrane were auto welded or alternatively hand welded with rolled pressure applied creating the seal between. Steel stanchions, pipe penetration's and retrofit termination detailing to the perimeter cladding rail was completed using Juta GP1 SAM with adequate heat and pressure applied. However the steel stanchions and the perimeter edge cladding rail termination detailing was a restricted inspection due to site having installed miothene strips surrounding all detailing works. All perimeter and core areas were previously inspected on the 10/07/2025. Armoured joint pin hole were patched repaired using Juta GP1 SAM and heat applied. During our inspection we witnessed the installer carrying out their own CQA repairs as the pour progressed. Note: MEC were unable to gather photographic evidence of the materials packaging used (Juta GP1 SAM) during today's inspection. However evidence of these materials have been recorded on previous inspection's.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 Gas Barrier		
Other Products Used: Juta GP1 SAM & Juta GP Primer		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: Not Applicable		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		

Others Please List: Armoured joint pin holes were patched repaired using Juta GP1 SAM & heat applied	
(Section 2, Testing and Inspection Method)	
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like
(Section 3, Defects List)	
7x defects were recorded during inspection, these were patched repaired by the installer during inspection using Juta GP1 SAM with adequate heat and rolled pressure applied.	No Action Required all Defects rectified at time of inspection

Area Inspected



Gas Membrane Overview



Overview of the Juta GP5 Gas Barrier installation.

Subgrade Photos

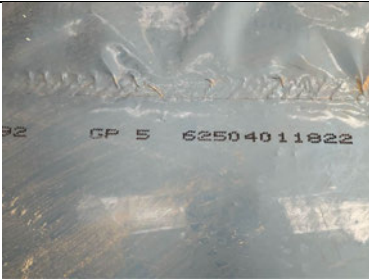


Substrate base being continuously rolled prior to gas barrier installation.



Substrate being rolled in preparation of gas barrier.

Materials Used



Evidence of the Juta GP5 gas barrier labelling.

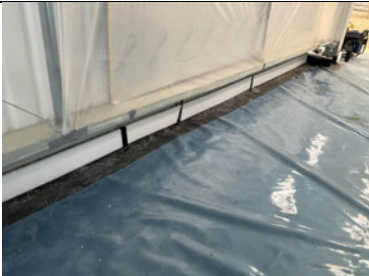


Evidence of the Juta GP Primer.

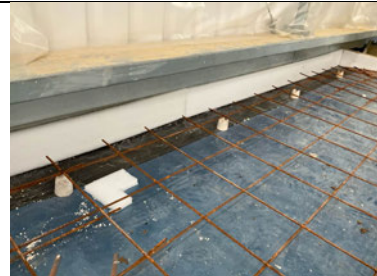
Perimeter Detail



Restricted inspection of the retrofit termination detailing to the perimeter cladding rail.



Overview of the restricted inspection to the retrofit

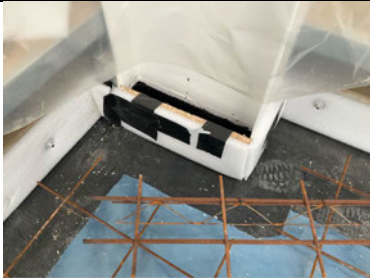


Restricted inspection along termination to perimeter cladding rail.

termination along perimeter
cladding rail.

Pipe and Duct Seals

Stanchions and Columns Seals



Restricted inspection to steel
stanchion details.



Restricted inspection to steel
stanchion detailing.

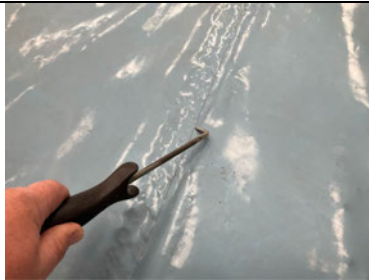


Probe testing to restricted steel
stanchion.

Testing of Joints



Probe testing along hand welded
membrane lap joints.



Probe testing along hand welded
membrane lap joints.



Probe testing along hand welded
membrane lap joints.

Additional Photos



Recorded defects.



Recorded defects were patched
repaired by installer using Juta
GP1 SAM and probe tested.



Recorded defects.



Recorded defects were patched repaired by installer using Juta GP1 SAM and probe tested.



Recorded defect.



Recorded defects were patched repaired by installer using Juta GP1 SAM and probe tested.



Armoured joint pin holes were patched repaired by installer using Juta GP1 SAM.



Probe testing to patched repaired armoured joint pin holes.



Probe testing to installers own CQA patch repair.



Gas Membrane Installation
Validation Report
Harmonix
Southwater Business Park
Horsham
RH13 7YT



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1. INTRODUCTION

1.1 Purpose

UK Membranes are installing a gas protection membrane to the aforementioned site. MEC Environmental Ltd (MEC) has been appointed by UK Membranes to carry out independent validation of the installation of the membrane on the site as per our terms of engagement. The frequency of independent inspections has been determined by the client, comprehensive CQA should be forwarded by the installer to cover any data gaps for areas that have not been subjected to independent inspections.

The **SOLE** purpose of the works undertaken by MEC Environmental is to provide independent inspections and a factual report as and when requested to assist the client in gaining regulatory approval with regards to the gas membrane installation. This is as per the scope of work section within our term's engagement.

1.2 Limitations

This report is limited to providing lines of evidence to the regulatory authority for the areas components inspected by MEC only in support of the discharging of the relevant planning conditions only and cannot be used or relied upon for any other purpose. No professional liability shall be extended to any other parties by MEC, the report should explicitly not be relied on by any future vendor or tenant as proof that the gas protection measures are sufficient for the site and functioning at the time of purchase or start of any tenancy. Gas protection systems are not solely reliant on the gas membrane as points are scored under BS8485 for the floor slab, membrane and venting, these components work collaboratively to provide a gas protection system. This is as per the conditions within our term's engagement.

The report has been provided on the assumption that no damage or works that may have compromised the components and integrity of the gas membrane have been made after our inspections, failure to report any such occurrences will invalidate any liability and render the report and contents invalid. This is as per the conditions within our term's engagement.

This report has been prepared in accordance with the best available practice and the relevant guidance documents listed below of which the author of the report was a contributor and member of the steering committees:

Mallett H, Wilson S, Corban M (2014) "Good practice on the testing and verification of protection systems for buildings against hazardous ground gases". CIRIA Report C735

1.3 Compliance with Regulation 7 of Building Regulations

Regulation 7 of the building regulations requires that building work shall be carried out in a workmanlike manner. Approved document 7 suggests installation can comply with the regulation if workmanship is such that, where relevant, materials are adequately mixed or prepared and applied, used or fixed so as to perform adequately the functions for which they are intended.

A reasonable standard may be demonstrated by:

Compliance with a standard and independent certification - The relevant standard for gas protection measures is BS8485:2015 +A1:2019, Table 7 of the standard requires that gas membranes are verified as per CIRIA C735.

Past experience – The installers qualifications are checked by MEC Environmental to ensure that the installation supervisor holds the NVQ Level 2 in gas membrane installations.

Integrity Testing methods. – are carried out as prescribed in CIRIA C735, unless stated elsewhere
Frequency of Visits – MEC have not been employed to prepare a validation plan for this project, the frequency of visits is as per the instructions of the client, in essence MEC inspected the available membrane that could be inspected each time an inspection visit was requested. The area inspected on each visit is noted on the survey sheets in appendix 1. This report should be read in conjunction with the installers CQA report.

1.4 Method of Inspection (Per Visit)

All seams and non-seam areas of the available gas membrane were inspected/tested by the Validation Surveyor for identification of defects, protruding and penetrating objects, lack of subgrade support, overheating, holes, blisters, undispersed raw materials, scratches and gouges, and any sign of contamination by foreign matter.

Any portion of the gas membrane exhibiting a flaw or failing a visual inspection/testing was repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure was agreed upon between the Validation Consultant and the Installer at the time of the repair and is noted in the survey sheets.

Major repairs are visually inspected/tested, repairs passing the inspection/testing were considered acceptable. In some cases minor repairs may be carried out under contractor CQA and photographic evidence supplied to the verifier for inclusion in the report.

1.5 MEC Staff Competency

All site inspections have been carried out by suitably qualified staff as defined in CIRIA C735, the qualification held by all MEC inspection surveyors is either the NVQ Level 4 in gas protection verification or the NVQ Level 2 in gas membrane installation

The author of this report is also a CL:AIRE accredited Specialist in Gas Protection Verification (SGPV) and holds both the NVQ Level 2 in gas membrane installation and the NVQ Level 4 in gas protection verification.

1.6 Conclusion

During our inspections to the areas denoted in Appendix 1 (Site Surveys Sheets) we witnessed the installer carrying out the installation in a workmanlike manner, the materials were adequately prepared and applied, used and fixed so as to perform adequately the functions for which they are intended as per Regulation 7 of the building regulations. In instances where 100% of the installation has not been independently inspected/tested then this report should be read in conjunction with the gas membrane installers CQA records.

The installers all hold the NVQ Level 2 "Gas membrane Installations" qualification and as such are classed as a qualified and experienced installer. MEC Environmental have checked the CSCS Trade Cards of the installers, which confirms the holder has attained the qualification.

Signed



Date: 14/07/2025

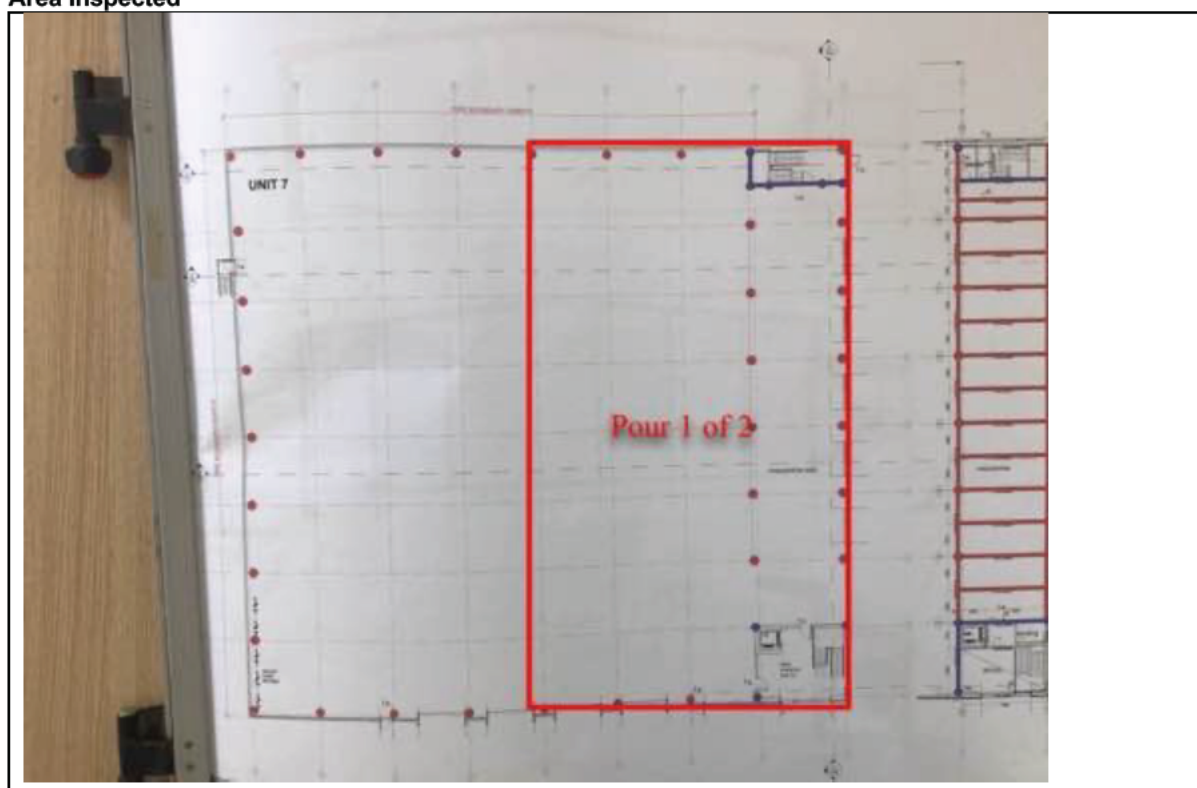
Michael Corban S.G.P.V.
Director
MEC Environmental Ltd

Appendix 1 – Site Survey Sheets

Main Contractor Name: Harmonix.		Date: 13/05/2025
Site Name: Southwater Business Park, Horsham.		Temp: 21 °C
		Installer: UK Membranes.
Postcode: RG13 7YT	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Unit 7.	
Area Inspected:	Full line out installation, pour 1 of 2, GL E-J / 1-9. (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions, pipe penetrations and the retro fit detailing to the perimeter concrete curb stone took place in unit 7 due to miothene being in place at the time of our visit. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 gas membrane & Juta GP1 SAM.		
Other Products Used: N/A.		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Staircase and lift pit detailing. CQA repairs.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	

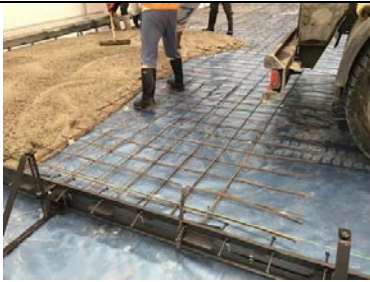
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	
(Section 3, Defects List)		Action Required
UK Membranes carried out there own CQA repairs at the time of our inspection and as the pour progresses.		No Action Required all Defects rectified at time of inspection

Area Inspected



Gas Membrane Overview

		
Overview of the installed membrane prior to the laser pour progressing.	Overview of the Juta GP5 being installed prior to the pour progressing.	Overview of the office area installation.



Overview of the concrete being poured on the membrane.

Subgrade Photos



Evidence of the well rolled fine aggregate substrate that the membrane is being laid upon during the installation.



Evidence of the well rolled substrate prior to the membrane being installed.

Materials Used



Evidence of the Juta GP5 gas membrane that has been installed on this project.

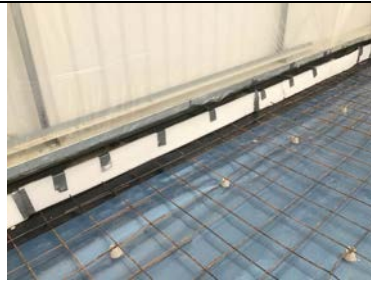


Evidence of the Juta GP1 SAM a that has been used for the detailing works on this project.

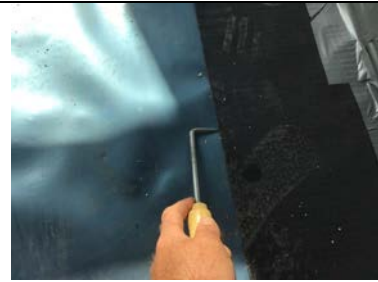
Perimeter Detail



The perimeter retro fit detailing has been covered with miothene at the time of our inspection.



A restricted inspection took place to the perimeter retro fit detailing due to miothene being in place.



Probe testing the visible retro fit detailing around the perimeter.

Pipe and Duct Seals



Probe testing a pipe penetration detail.



Probe testing a pipe penetration detail.



Pipe penetration detailing that has been boxed off.

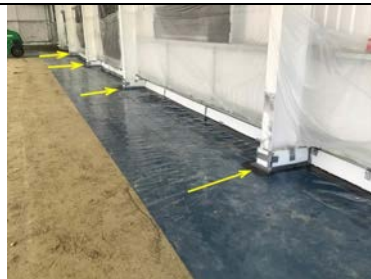


Pipe penetration detailing.

Stanchions and Columns Seals



Probe testing the the detailing work to the inner web of the steel stanchion.



Restricted inspection to the steel stanchions that have been covered in miothene at the time of our inspection.



Steel stanchion covered with miothene at the time of our inspection.

Testing of Joints



Overview of a typical hand welded membrane lap.



Probe testing a hand welded membrane lap.



Overview of a auto welded membrane lap.



Probe testing all auto welded membrane laps.

Additional Photos



Miothene was placed around the lift pit at the time of our inspection.



Miothene was placed around the base of the stairs at the time of our inspection.



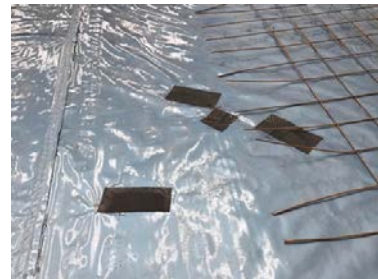
Damage found in the membrane at the time of our inspection.



Repaired damaged membrane using Juta GP1 SAM.



Damage found in the membrane at the time of our inspection.

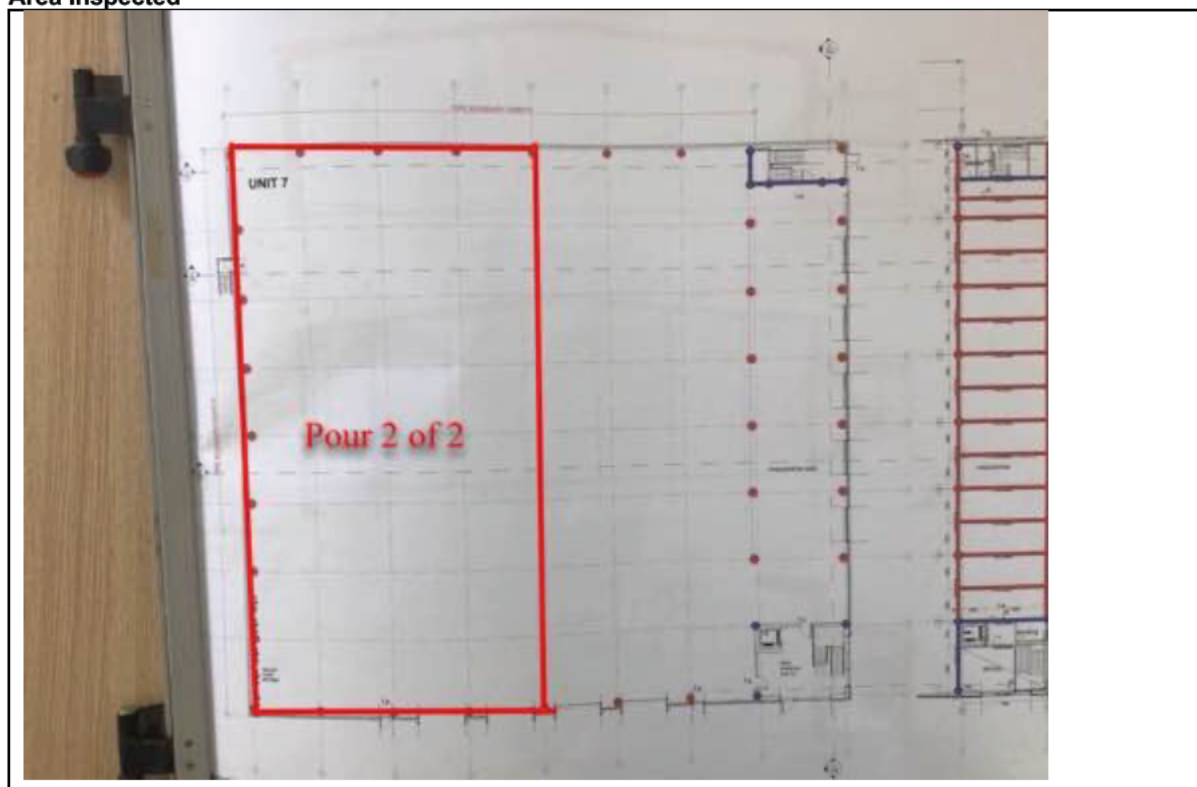


Repaired damaged membrane using Juta GP1 SAM.

Main Contractor Name: Harmonix.		Date: 14/05/2025
Site Name: Southwater Business Park, Horsham.		Temp: 23 °C
		Installer: UK Membranes.
Postcode: RG13 7YT	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Unit 7.	
Area Inspected:	Full line out installation, pour 2 of 2, GL A-E / 1-9. (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions, pipe penetrations and the retro fit detailing to the perimeter concrete curb stone took place in unit 7 due to miothene being in place at the time of our visit. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 gas membrane & Juta GP1 SAM.		
Other Products Used: N/A.		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: CQA repairs.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	

(Section 3, Defects List)	Action Required
UK Membranes carried out there own CQA repairs at the time of our inspection and as the pour progresses.	No Action Required all Defects rectified at time of inspection

Area Inspected



Gas Membrane Overview

		
A general overview of unit 7 pour 2 of 2.	Overview of the membrane installation as the pour progresses.	CQA repairs using Juta GP1 SAM, completed by UK Membranes as the pour progresses.



Overview of the pour progressing.



Overview of the membrane being installed on a just in time basis.



Overview of the Juta GP5 gas membrane being installed.

Subgrade Photos



Evidence of the well rolled fine aggregate prior to the membrane being laid.

Materials Used



Evidence of the Juta GP1 SAM a that has been used for the detailing works on this project.



Evidence of the Juta GP5 gas membrane that has been installed on this project.

Perimeter Detail



The perimeter retro fit detailing



Miothene covering the perimeter detailing.

has been covered with miothene prior to our inspection.

Pipe and Duct Seals



Probe testing a pipe penetration detail.



Pipe penetration detailing inside of a boxed off area.

Stanchions and Columns Seals



Steel stanchion covered with miothene at the time of our inspection.



Probe testing the inner web of the steel stanchion detailing.



Steel stanchion covered with miothene at the time of our inspection.



Probe testing a steel stanchion detail.

Testing of Joints



A typical auto welded membrane lap.



Probe testing an auto welded membrane lap.



A typical hand welded membrane lap.



Probe testing all hand welded membrane laps.

Additional Photos

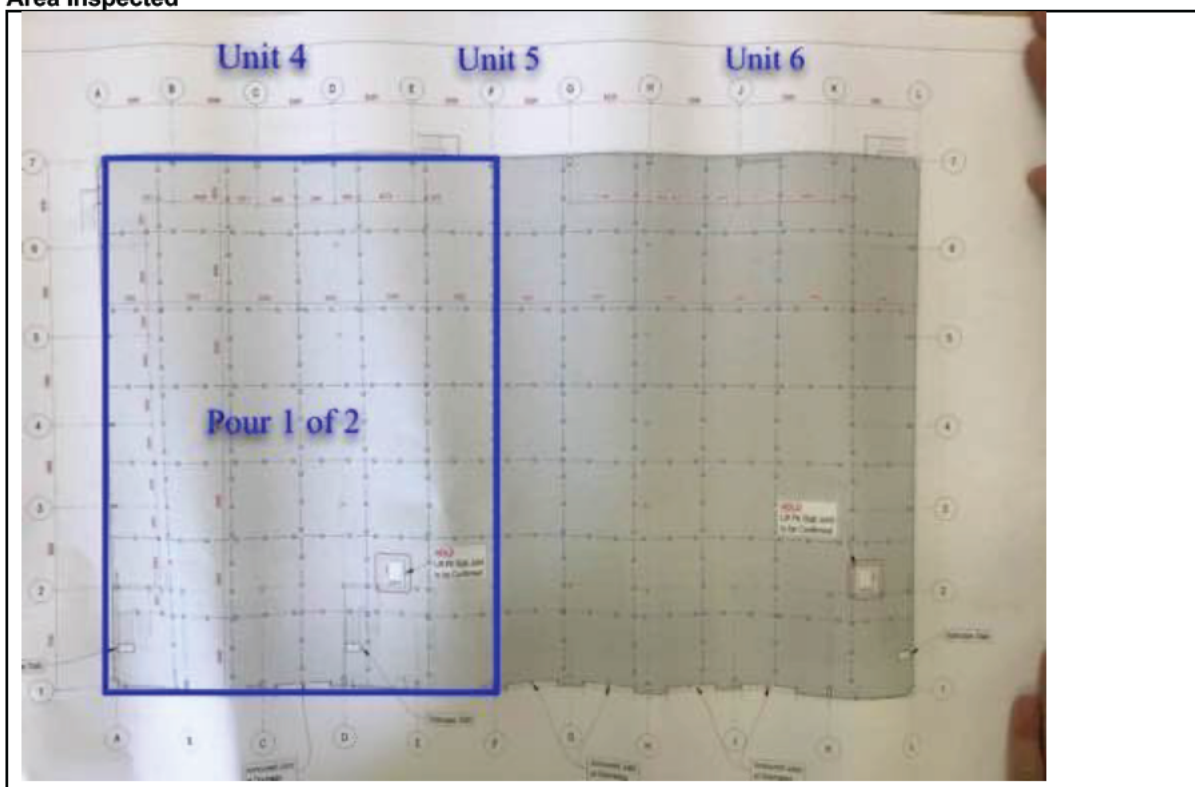


CQA repairs using Juta GP1 SAM to the pin hole damage along the armoured joint.

Main Contractor Name: Harmonix		Date: 17/06/2025
Site Name: Southwater Business Park, Horsham.		Temp: 22 °C
		Installer: UK Membranes.
Postcode: RH13 7YT.	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Units 4-6.	
Area Inspected:	Full line out installation to GL A-F / 1-7, pour 1 of 2. See Marked Up Plan	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled, fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions took place in the pour 1 of 2 area, due to miothene being in place at the time of our visit. All pipe penetrations, retro fit detailing to the perimeter concrete curb stone, detailing to the base of concrete stairs and detailing to the base of the lift pit have been completed using Juta GP1 SAM. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of sand blinding that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No defects recorded and therefore no action required	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP1 Gas Membrane & Juta GP1 SAM.		
Other Products Used: Juta GP bitumen primer.		
Perimeter Seal Method: The membrane has been sealed to the perimeter concrete/blockwork with SAGM that has been heat sealed		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Base of concrete stair detailing and concrete lift pit base detailing.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the	

	membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like
(Section 3, Defects List)	Action Required
UK Membranes carried out there own CQA repairs as the pour progresses.	No defects recorded and therefore no action required

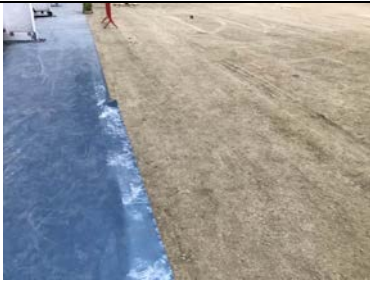
Area Inspected



Gas Membrane Overview

		
Overview of the Juta GP5 gas membrane installed prior to the pour processing.	Overview of the Juta GP5 gas membrane installed prior to the pour processing.	Installation of the Juta GP5 Gas Membrane as the pour is progressing.

Subgrade Photos



Evidence of a the well rolled sand blinded substrate that the membrane has been laid upon.



Evidence of the rolling machine used on the sand blinded substrate prior to the install of the gas membrane.

Materials Used



Evidence of the Juta GP Bitumen Primer that has been applied to the concrete prior to the detailing.

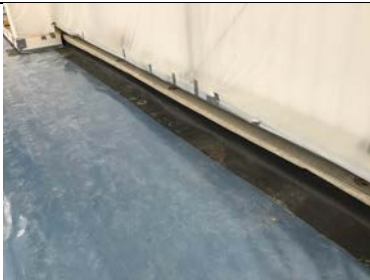


Evidence of the Juta GP5 Gas Membrane that has been used on this project.

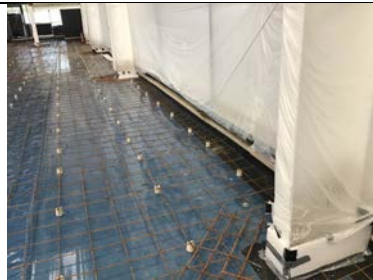


Evidence of the Juta GP1 SAM that has been used for the detailing work on this project.

Perimeter Detail



Overview of the perimeter retro fit detailing.

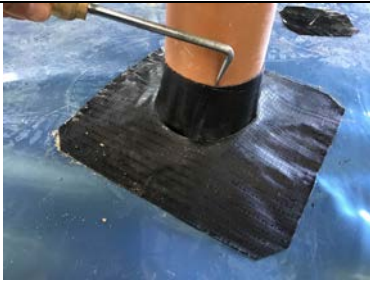


Overview of the perimeter retro fit detailing.



Probe testing the heat sealed perimeter curb stone detailing.

Pipe and Duct Seals



Probe testing a typical pipe penetration detail.



Typical pipe penetration detailing.

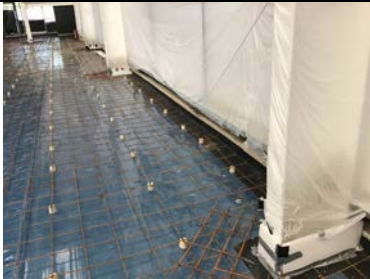


Typical double pipe penetration detailing.

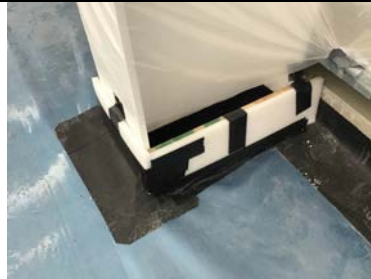


Pipe penetration detailing.

Stanchions and Columns Seals



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



Probe testing the inner web of the steel stanchion.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



All steel stanchions were covered with miothene at the time of our visit therefore a restricted inspection took place.

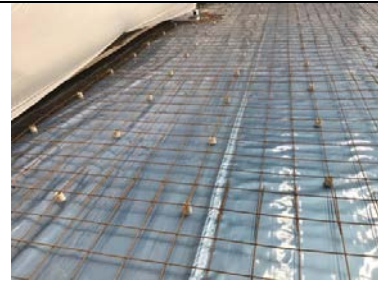
Testing of Joints



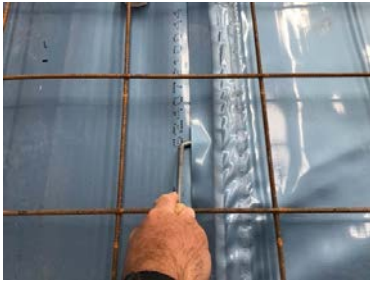
Probe testing a hand welded membrane lap.



Overview of a hand welded membrane lap.



Overview of an auto welded membrane lap.



Probe testing an auto welded membrane lap.

Additional Photos



Retro fit detailing to the base of the concrete lift pit.



Overview of the detailing to the base of the concrete stair core.

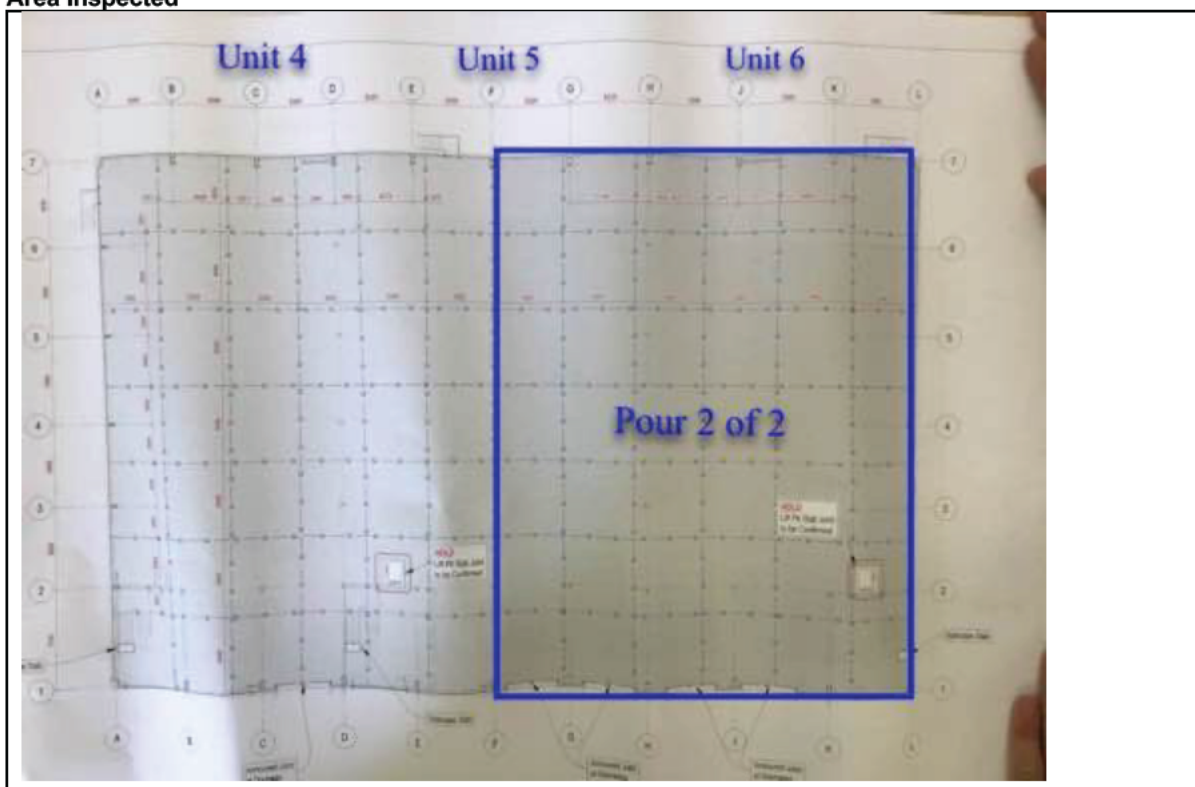


Probe testing all retro fit detailing.

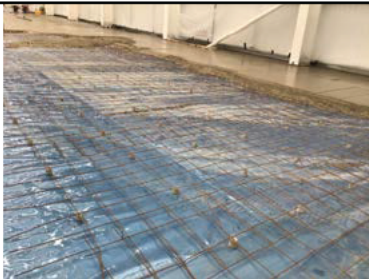
Main Contractor Name: Harmonix		Date: 18/06/2025
Site Name: Southwater Business Park, Horsham.		Temp: 25 °C
		Installer: UK Membranes.
Postcode: RH13 7YT.	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Units 4-6.	
Area Inspected:	Full line out installation to GL F-L / 1-7, pour 2 of 2. (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on a just in time basis as the laser pour progresses. The Juta GP5 gas membrane has been loose laid on top of a well rolled, fine aggregate substrate. All membrane laps between adjacent sheets have been welded together using a auto welder or alternatively hand welded with pressure applied by means of a neoprene roller. A restricted inspection of the steel stanchions took place in the pour 2 of 2 area, due to miothene being in place at the time of our visit. All pipe penetrations, retro fit detailing to the perimeter concrete curb stone, detailing to the base of concrete stairs and detailing to the base of the lift pit have been completed using Juta GP1 SAM. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of sand blinding that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No defects recorded and therefore no action required	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP1 Gas Membrane & Juta GP1 SAM.		
Other Products Used: Juta GP bitumen primer.		
Perimeter Seal Method: The membrane has been sealed to the perimeter concrete/blockwork with SAGM that has been heat sealed		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Base of the concrete stair detailing, concrete lift pit base detailing & CQA repairs.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the	

	membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like
(Section 3, Defects List)	Action Required
UK Membranes carried out there own CQA repairs as the pour progresses.	No defects recorded and therefore no action required

Area Inspected



Gas Membrane Overview

 Overview of the Juta GP5 gas membrane installed prior to the pour processing.	 Installation of the Juta GP5 Gas Membrane as the pour is progressing.
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Subgrade Photos



Evidence of the rolling machine used on the sand blinded substrate prior to the install of the gas membrane.

Materials Used



Evidence of the Juta GP1 SAM that has been used for the detailing work on this project.



Evidence of the Juta GP Bitumen Primer that has been applied to the concrete prior to the detailing.



Evidence of the Juta GP5 Gas Membrane that has been used on this project.

Perimeter Detail



Probe testing the perimeter termination detailing.



Overview of the perimeter termination detailing to the concrete curb stone.

Pipe and Duct Seals



Typical pipe penetration detailing.



Probe testing a typical pipe penetration detail.

Stanchions and Columns Seals



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



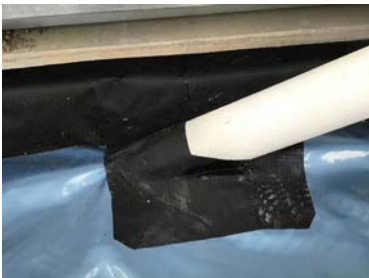
Probe testing the inner web of the steel stanchion.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



Probe testing the inner web of the steel stanchion.



Steel stanchion detailing.

Testing of Joints



A typical auto welded membrane lap.



Probe testing the auto welded membrane lap.



Probe testing a typical hand welded membrane lap.



Overview of a hand welded membrane lap.

Additional Photos



Base of concrete stair detailing.



Probe testing the retro fit detailing to the base of the concrete stairs.



UK Membranes carried out their own CQA repairs as the pour progressed.



The lift pit detailing had been covered with miothene at the time of our inspection.

Main Contractor Name: Harmonix		Date: 10/07/2025
Site Name: Southwater Business Park, Horsham.		Temp: 23 °C
		Installer: UK Membranes.
Postcode: RH13 7YT.	Surveyor: Adam McDermott (TGPV)	
Building Reference/Unit No:	Units 1-3	
Area Inspected:	Perimeter and undercroft installation (See Marked Up Plan).	
Description of Works:	MEC Environmental carried out a thorough inspection of the Juta GP5 gas membrane that has been installed on top of insulation boards and a well rolled sand blinded substrate hand welding all membrane laps, around the perimeter of units 1-3 and the undercroft areas to units 1,2 & 3. The perimeter concrete has been primed and Juta GP1 SAM has been used to join the membrane to the concrete as a retro fit detail. A restricted inspection of the steel stanchions, perimeter retro fit detailing, stair core base detailing and lift pit concrete surround detailing took place to these areas due to miothene being in place at the time of our visit. All stanchions and pipe penetration detailing has been completed using Juta GP1 SAM. CQA repairs were carried out by UK Membranes to any damaged membrane as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of sand blinding that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No defects recorded and therefore no action required	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP1 Gas Membrane & Juta GP1 SAM.		
Other Products Used: Juta GP bitumen primer.		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: The external of the pipe/ducts have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area, The stanchions have been sealed using strips of self-adhesive gas membrane, this is an approved and recognised method in CIRIA C735		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: Base of the concrete stair detailing & concrete lift pit base detailing.		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	

Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	
(Section 3, Defects List)		Action Required
UK Membranes carried out there own CQA repairs as the pour progresses.		No defects recorded and therefore no action required

Area Inspected



Gas Membrane Overview

		
Overview of the installed Juta GP5 gas membrane that has been	Overview of the Juta GP5 gas membrane installed around the perimeter of units 1-3.	Overview of the installed Juta GP5 gas membrane that has been

installed across the full footprint to the communal area in unit 1.



Overview of the installed Juta GP5 gas membrane that has been installed across the full footprint to the communal area in unit 3.

installed across the full footprint to the communal area in unit 2.

Subgrade Photos



Evidence of the insulation boards that the membrane has been laid upon around the perimeter of units 1-3.



Evidence of the rolling machine used on the sand blinded substrate prior to the install of the gas membrane.

Materials Used



Evidence of the Juta GP1 SAM that has been used for the detailing work on this project.

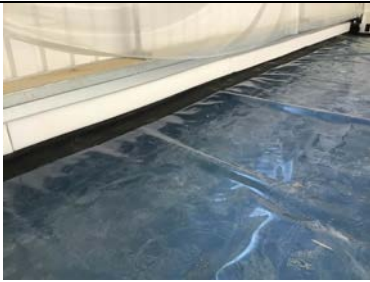


Evidence of the Juta GP Bitumen Primer that has been applied to the concrete prior to the retro fit detailing.



Evidence of the Juta GP5 Gas Membrane that has been used on this project.

Perimeter Detail



A restricted inspection took place to the detailing around the perimeter of units 1-3 due to the miothene being in place at the time of our visit.



Miothene in place prior to our inspection.



A restricted inspection took place to the detailing around the perimeter of units 1-3 due to the miothene being in place at the time of our visit.



A restricted inspection took place to the detailing around the perimeter of units 1-3 due to the miothene being in place at the time of our visit.

Pipe and Duct Seals



Typical pipe penetration detailing in unit 1 communal area.



Probe testing a typical pipe penetration in unit 1.



Typical pipe penetration detailing in unit 1 communal area.



Typical pipe penetration detailing in unit 2 communal area.



Probe testing all pipe penetration detailing in unit 2.



Typical pipe penetration detailing in the communal area in unit 2.



Pipe penetration detailing in unit 3 communal area.



Probe testing a typical pipe penetration detail in unit 3.

Stanchions and Columns Seals



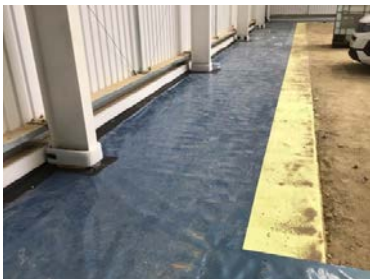
Typical steel stanchion detailing in unit 1.



Probe testing a steel stanchion detail in unit 1.



Typical steel stanchion detail in unit 1.



Restricted inspection of the steel stanchions across units 1-3 during our visit.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.



A restricted inspection took place of the steel stanchions due to miothene being in place at the time of our inspection.

Testing of Joints



Prob testing all hand welded membrane lap's across units 1-3.



Overview of a typical hand welded membrane lap.



Probe testing a typical hand welded membrane lap.

Additional Photos



The lift pit detailing had been covered with miothene at the time of our inspection in unit 1.



Miothene was in place around the bases of the concrete stairs in units 1-3.

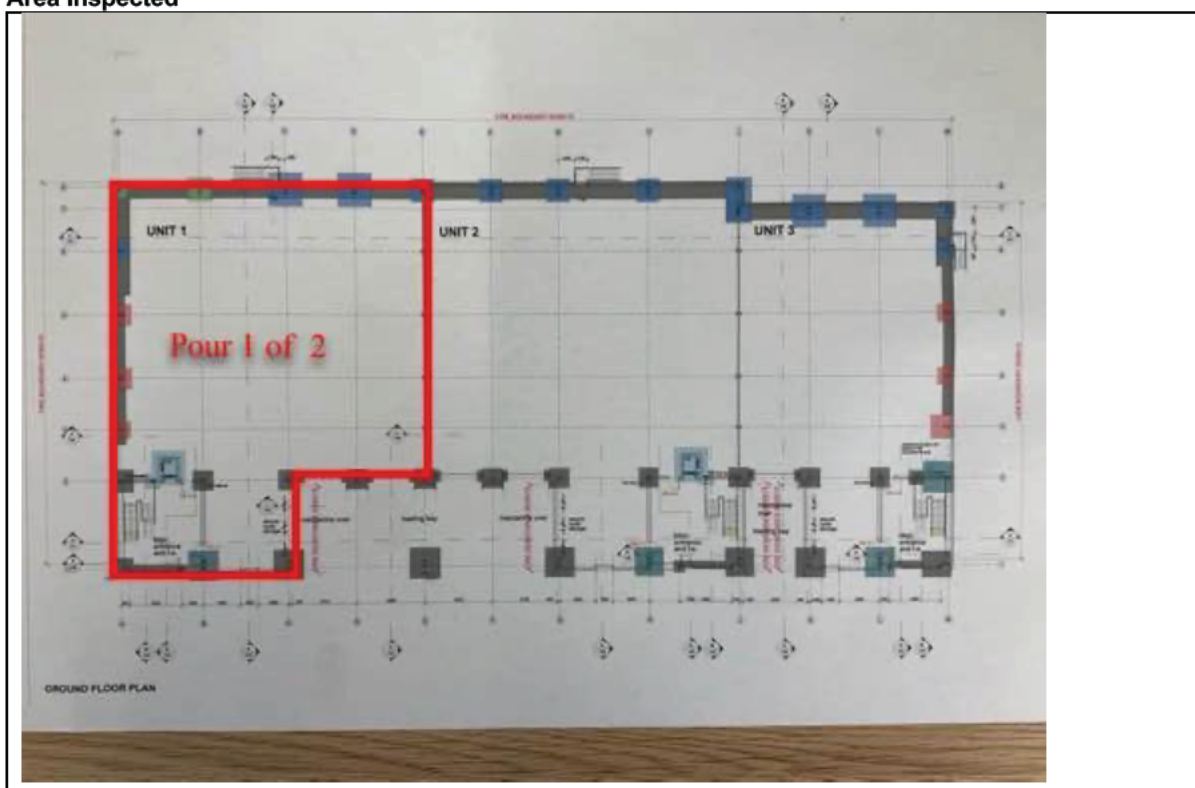


The lift pit detailing had been covered with miothene at the time of our inspection in unit 2.

Main Contractor Name: Harmonix		Date: 11/07/2025
Site Name: Southwater Business Park, Horsham.		Temp: 24 °C
		Installer: UK Membranes
Postcode: RH13 7YT	Surveyor: James Hall (TGPV)	
Building Reference/Unit No:	Units 1-3	
Area Inspected:	Unit 1 - Laser Screed Pour 1 of 2 - Gridlines: A-E/1-8. - See Marked Up Plan	
Description of Works:	MEC Environmental carried out a thorough inspection of the gas membrane. The installation team have installed Juta GP5 Gas Barrier to the full line out as the pour progressed using 4 & 6 meter prefabricated panels, these were laid upon graded coarse aggregate substrate that was continuously rolled. All laps between adjacent sheets of membrane were auto welded or alternatively hand welded with rolled pressure applied creating the seal between. Steel stanchions, pipe penetration's and retrofit termination detailing to the perimeter cladding rail was completed using Juta GP1 SAM with adequate heat and pressure applied. However the steel stanchions and the perimeter edge cladding rail termination detailing was a restricted inspection due to site having installed miothene strips surrounding all detailing works. All perimeter and core areas were inspected on the previous inspection visit on 10/07/2025. During our inspection we witnessed the installer carrying out their own CQA repairs as the pour progressed.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 Gas Barrier		
Other Products Used: Juta GP1 SAM & GP Primer		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: Not Applicable		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		
Others Please List: N/A		
(Section 2, Testing and Inspection Method)		
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection	

Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like	
(Section 3, Defects List)		Action Required
4x recorded defects were identified during inspection, these were patched repaired by installer during inspection using Juta GP1 SAM and adequate heat applied.		No Action Required all Defects rectified at time of inspection

Area Inspected



Gas Membrane Overview



Subgrade Photos



Substrate base being continuously rolled prior to gas barrier installation.

Materials Used



Evidence of the JUTA GP5 gas barrier labelling.



Evidence of the JUTA GP1 SAM packaging label.



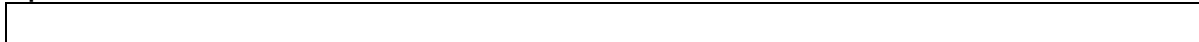
Evidence of the JUTA GP Primer.

Perimeter Detail



Restricted inspection of the termination detailing along the perimeter cladding rail.

Pipe and Duct Seals



Stanchions and Columns Seals



Restricted inspection to steel stanchion details.



Restricted inspection to steel stanchions.

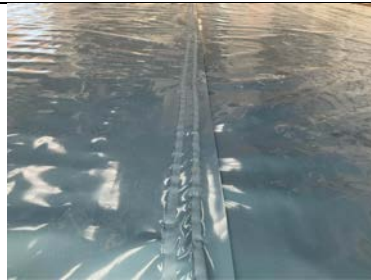


Probe testing to steel stanchion were possible.

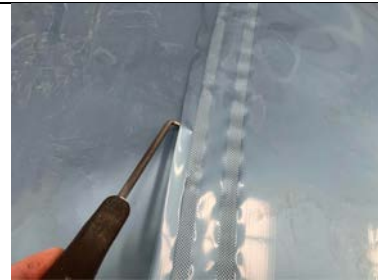
Testing of Joints



Probe testing along hand welded membrane lap joints.



Overview along an auto welded membrane lap joint.



Probe testing along auto welded membrane lap joints.



Probe testing along hand welded membrane lap joints.

Additional Photos



Installers own CQA patch repairs using Juta GP1 SAM.



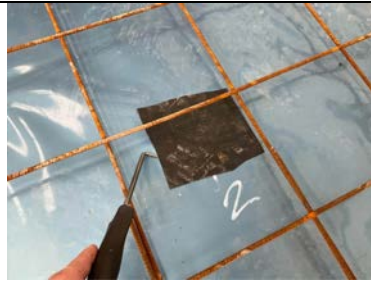
1. Recorded defect.



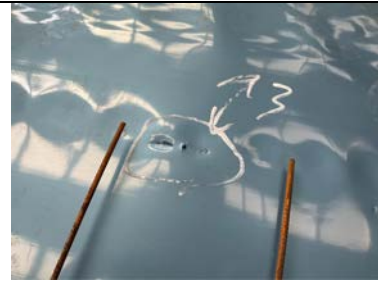
1. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.



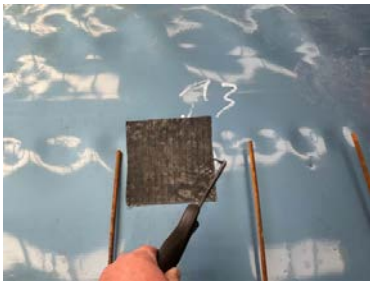
2. Recorded defect.



2. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.



3. Recorded defect.



3. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.



4. Recorded defect.

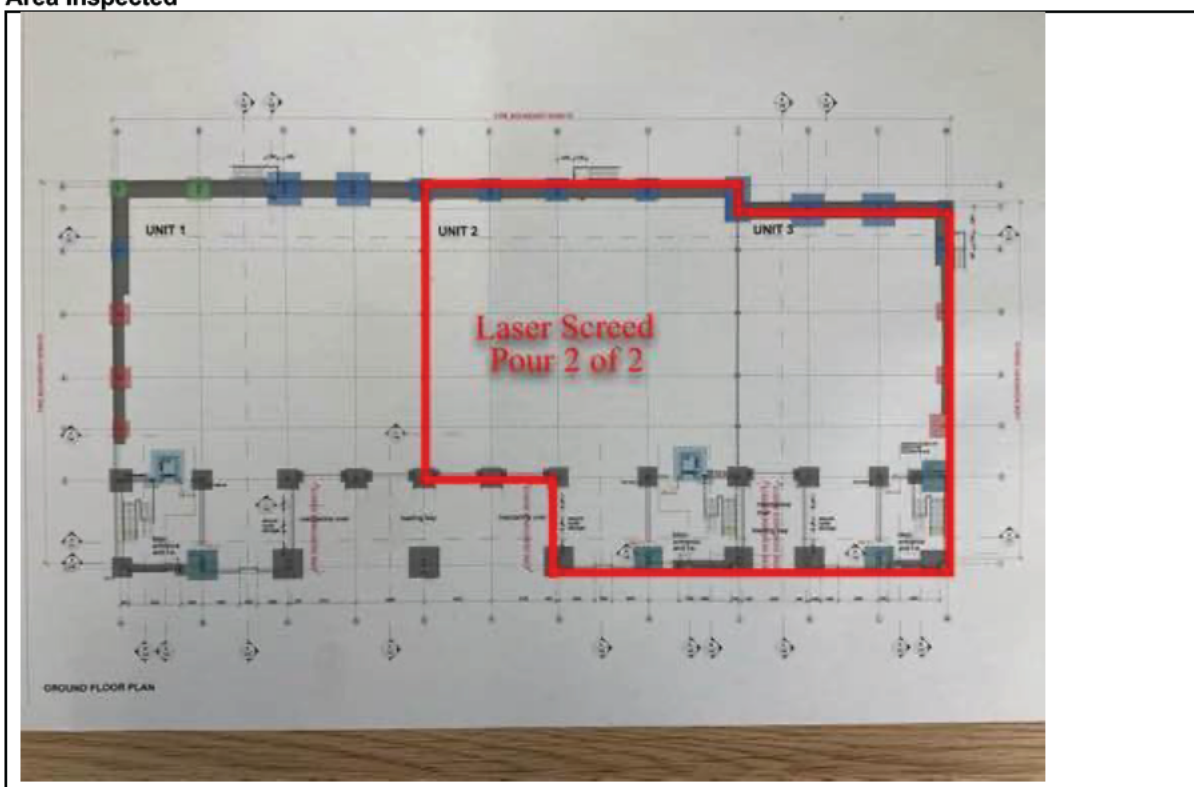


4. Defect was patched repaired by during inspection using Juta GP1 SAM and probe tested.

Main Contractor Name: Harmonix		Date: 14/07/2025
Site Name: Southwater Business Park, Horsham.		Temp: 20 °C
		Installer: UK Membranes
Postcode: RH13 7YT	Surveyor: James Hall (TGPV)	
Building Reference/Unit No:	Units 1-3	
Area Inspected:	Units 2-3 - Laser Screed Pour 2 of 2 - Gridlines: E-M/1-8. - See Marked Up Plan	
Description of Works:	MEC Environmental carried out a thorough inspection of the gas membrane. Installers have installed Juta GP5 Gas Barrier to the full line out as the pour progressed using 4 & 6 meter prefabricated panels and welded into place, these were laid upon graded coarse aggregate substrate that was continuously rolled. All laps between adjacent sheets of membrane were auto welded or alternatively hand welded with rolled pressure applied creating the seal between. Steel stanchions, pipe penetration's and retrofit termination detailing to the perimeter cladding rail was completed using Juta GP1 SAM with adequate heat and pressure applied. However the steel stanchions and the perimeter edge cladding rail termination detailing was a restricted inspection due to site having installed miothene strips surrounding all detailing works. All perimeter and core areas were previously inspected on the 10/07/2025. Armoured joint pin hole were patched repaired using Juta GP1 SAM and heat applied. During our inspection we witnessed the installer carrying out their own CQA repairs as the pour progressed. Note: MEC were unable to gather photographic evidence of the materials packaging used (Juta GP1 SAM) during today's inspection. However evidence of these materials have been recorded on previous inspection's.	
Sub-Grade Preparation:	The subgrade consists of graded coarse aggregate down to dust that has been well rolled and compacted and is acceptable to lay the membrane on	
Result of Inspection:	No Action Required all Defects rectified at time of inspection	
(Section 1, Materials and Method of Seal)		
Gas Membrane Name: Juta GP5 Gas Barrier		
Other Products Used: Juta GP1 SAM & Juta GP Primer		
Perimeter Seal Method: The perimeter membrane has been covered with follow on materials which restricted the inspection to this area		
Service Entry Seal Method: Not Applicable		
Stanchion Seal Method: The stanchions has been wrapped in miothenes which restricted the inspection to this area		
Material Jointing Method: The membrane has been overlapped sufficiently to achieve a sound joint, the joint is clean and dry and has been joined by means of welding with a hot air automatic welding machine, the width of the welded joint is a minimum of 30mm.		

Others Please List: Armoured joint pin holes were patched repaired using Juta GP1 SAM & heat applied	
(Section 2, Testing and Inspection Method)	
Leak/Hole Detection	MEC Environmental Ltd carried out a thorough Visual Inspection to the available area at the time of our inspection
Joint Testing	The surveyor carried out Probe testing as per the method prescribed in ASTM D4437 to all detailing work, detailing work is defined as any part of the installation that includes a joint in the membrane, this includes but is not limited to pipes/ducts, stanchions, wind posts, braces, field seams, masonry abutments, tanking, door thresholds and the like
(Section 3, Defects List)	
7x defects were recorded during inspection, these were patched repaired by the installer during inspection using Juta GP1 SAM with adequate heat and rolled pressure applied.	No Action Required all Defects rectified at time of inspection

Area Inspected



Gas Membrane Overview



Overview of the Juta GP5 Gas Barrier installation.

Subgrade Photos



Substrate base being continuously rolled prior to gas barrier installation.



Substrate being rolled in preparation of gas barrier.

Materials Used



Evidence of the Juta GP5 gas barrier labelling.



Evidence of the Juta GP Primer.

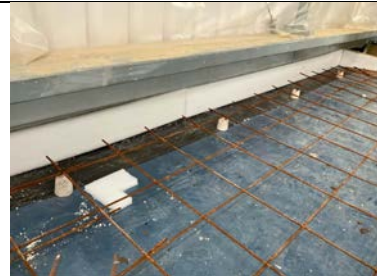
Perimeter Detail



Restricted inspection of the retrofit termination detailing to the perimeter cladding rail.



Overview of the restricted inspection to the retrofit

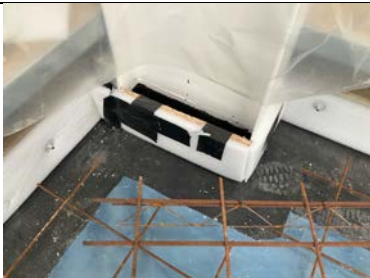


Restricted inspection along termination to perimeter cladding rail.

termination along perimeter
cladding rail.

Pipe and Duct Seals

Stanchions and Columns Seals



Restricted inspection to steel
stanchion details.



Restricted inspection to steel
stanchion detailing.



Probe testing to restricted steel
stanchion.

Testing of Joints



Probe testing along hand welded
membrane lap joints.



Probe testing along hand welded
membrane lap joints.

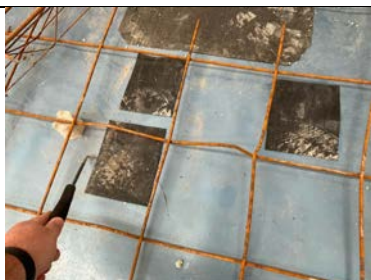


Probe testing along hand welded
membrane lap joints.

Additional Photos



Recorded defects.



Recorded defects were patched
repaired by installer using Juta
GP1 SAM and probe tested.



Recorded defects.



Recorded defects were patched repaired by installer using Juta GP1 SAM and probe tested.



Recorded defect.



Recorded defects were patched repaired by installer using Juta GP1 SAM and probe tested.



Armoured joint pin holes were patched repaired by installer using Juta GP1 SAM.



Probe testing to patched repaired armoured joint pin holes.



Probe testing to installers own CQA patch repair.