

Validation Completion Report

For a site at

Our Lady's RC School, Blackley

Undertaken for

Rosslee Construction Limited

Report Title:	Our Lady's RC School, Blackley Validation Completion Report
Report Reference:	9670G-WML-XX-ZZ-RP-G-0003
Client:	Rosslee Construction Limited
Issue Date:	04th March 2024
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Revision Status / History

Rev	Date	Issue	Prepared	Checked	Authorised
-	04/03/2024	Original Issue	TJS	SCS	SCS

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Our Lady's RC School, Blackley
March 2024

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1.0 INTRODUCTION

Appointment

- 1.1 WML Consulting (WML) has been commissioned by Rosslee Construction Limited to prepare a Completion Report in relation to development of land located within the Our Lady's Roman Catholic School site, off Alworth Road, Blackley, Manchester.

Proposed Development

- 1.2 The development comprises the construction of a new two storey additional learning facilities block at the existing Our Lady's RC School site surrounded by modified landscaping.
- 1.3 The development by Stiwdio Owens referenced 589-STO-00-00-DR-L-0001 is presented in Appendix 01.

Background

- 1.4 The following reports relating to the site were made available for review from the client:
- Geotechnics Ground Investigation and Desk Study reference PN061161, dated August 2006.
 - SKM Preliminary Geoenvironmental Investigation reference EE10253 dated August 2006.
- 1.5 Due to the age of the reports WML were subsequently commissioned to undertake the following reports.
- WML, Geo-Environmental Investigation & Assessment, referenced 9670G-WML-XX-ZZ-RP-G-0002 Rev A, dated April 2021.
 - Remediation Strategy, referenced 9670G-WML-XX-ZZ-RP-G-0002B, dated November 2021.
 - WML, Updated Ground Gas Risk Assessment, referenced 9670G/TPB/PGD, dated April 2022.
- 1.6 It is understood that the reports have been provided to Manchester City Council Planning Division in support of planning application 129587/FO/2021.

Verification

- 1.7 This report presents the compilation of the remediation / validation information obtained during the redevelopment programme associated with the provision of a watching brief for unexpected ground and groundwater contamination, the installation of gas protection measures and the capping of soft landscaping as identified within the Remediation Strategy.

2.0 SUMMARY OF ENVIRONMENTAL CONDITIONS

- 2.1 The following paragraphs summarise the most relevant findings of the Phase 1 and Phase 2 reports.
- 2.2 The site is indicated by the BGS to be underlain by cohesive Glacial Till. The superficial deposits are indicated to be underlain by mudstone of the Manchester Marls Formation.
- 2.3 The property is not in a radon affected area as defined by the UK Health Security Agency, as less than 1% of properties are above the action level of exposure.
- 2.4 The superficial deposits underlying the site are classified as a 'Secondary (Undifferentiated) Aquifer', and the underlying bedrock is classified as a 'Secondary B Aquifer'. The site is not located within an Environment Agency Source Protection Zone (SPZ) and there are no groundwater abstraction licences within 500m of the site.
- 2.5 The Haweswater Aqueduct is the nearest watercourse located around 45m south of the site, piped in two 48inch steel. The previous SKM report indicates that this has a 20m easement.
- 2.6 There are no active landfills within 500m of the site or historic landfills recorded within 250m of the site.
- 2.7 Historical maps indicates the site to have comprised undeveloped land in rural / agricultural use prior to levels being raised to create the landscaped area of the Our Lady's RC School with a storm attenuation tank to the west.

Ground Conditions

- 2.8 Ground conditions encountered during the intrusive investigation generally comprised topsoil underlain by made ground to depths of between 1.70 and 4.00mbgl. This was locally underlain by suspected reworked Glacial Till to 3.80mbgl and in turn Glacial Till to a maximum proven depth of 10.50mbgl.
- 2.9 Perched groundwater was encountered within made ground during the formation of the WS01 and WS04 at depths of 1.50 and 2.00mbgl respectively.
- 2.10 Chemical analysis indicated very limited exceedances of CoC's within the made ground, when compared to the soil screening levels for a residential without homegrown produce end use scenario. These related to elevated concentrations of PAH compounds, namely benzo(b)fluoranthene, benzo(a)pyrene and dibenz(a,h)anthracene within a single sample of made ground.
- 2.11 No asbestos fibres were detected in any of the samples analysed.
- 2.12 Leachability testing recorded the majority of results to be below the respective CoCs, with the exception of slightly elevated concentrations of copper and lead, which appeared to correspond to the presence of localised fragments of ash and clinker within the made ground. Risks to controlled waters were considered to be low, with no environmental remediation considered necessary.

Ground Gas Monitoring

- 2.13 The previous ground investigation by Geotechnics Ltd (Reference PN061161) encountered levels of methane (up to 10.5% by volume in air (v/v)) and carbon dioxide (up to 14.0% v/v) in standpipes remote from the development site on one occasion. Elevated flow rates were detected locally elsewhere but none within the standpipe exhibiting elevated concentrations of methane and carbon dioxide.

- 2.14 Further to this, the elevated concentrations of methane occurred in one standpipe located some 25m to the south of the current development area on one occasion (the initial monitoring visit). No detectable methane concentrations were recorded within any other standpipes on the initial visit or within all the standpipes on 2no subsequent visits.
- 2.15 The maximum carbon dioxide concentration was also recorded within the standpipe located to the south of the current development area on the initial monitoring visit. Subsequent monitoring visits recorded carbon dioxide concentrations of between 0.3 and 0.4% v/v within this standpipe.
- 2.16 Carbon dioxide concentrations in the remaining standpipes were recorded at between 0.0 and 3.2% v/v with the exception of a single elevated carbon dioxide concentration of 11% v/v which was recorded on one occasion within a standpipe located over 125m to the north-west of the subject site area.
- 2.17 Peak flow rates over the monitoring period were recorded ranging between -3.2 and 15.3 l/hr. A peak flow rate of 0.0 l/hr was recorded during the initial monitoring visit for the standpipe where elevated concentrations of methane and carbon dioxide were initially recorded. Steady state flows were not recorded during the gas monitoring programme.
- 2.18 It was concluded therefore that the elevated concentrations of methane and carbon dioxide measured initially in the single standpipe were probably as a result of isolated fragments of organic matter such as root debris within or relict topsoil immediately beneath the made ground. Once penetrated, such organic matter would have released low volumes but initial high concentrations of entrained gas into the borehole space, with this dissipating to atmosphere once the standpipe headworks were removed.
- 2.19 Therefore, it is considered that this is not representative of the long-term gas regime beneath the site with the risk from the new development from ground gas being low. Furthermore, reference to Figure 6 of BS8576:2013, Guidance on investigations for ground gas – Permanent Gases and Volatile Organic Compounds, suggests a Very Low gas generation potential for this source (made ground with low degradable organic content).
- 2.20 Nevertheless, as no further ground gas monitoring could be undertaken by WML due to access restrictions, it was considered prudent adopt a precautionary principal and classify the site as Characteristic Gas Situation (CS) 2 – 'Low' in accordance with BS8485:2015 + A1 2019.

3.0 SUMMARY OF REMEDIATION OBJECTIVES

3.1 The following objectives were outlined in the Remediation Strategy.

Gas Protection Measures

3.2 The report recommended that the development should incorporate gas protection measures within the ground floor construction to satisfy the requirements of CS2 as defined in BS8485, namely:

- Passive sub-floor dispersal (minimum 100mm clear void);
- Sub-slab ventilation at minimum 1,500mm²/m centres to at least opposing sides of the structure;
- Lapped, taped and sealed gas resistant membrane to reasonable levels of workmanship in line with current good practice; and
- Membrane to be sealed around all penetrations and to damp proof course.

Capping Requirements

3.3 The development needed to include the provision of a clean cover over the Made Ground to break the direct contact pollution linkage as set out below.

3.4 Therefore, new landscaped areas were to be capped with a nominal 600mm clean cover over the existing Made Ground to break the direct contact pollution linkage. The make-up of the 600mm cover would be expected to consist of:

- 150mm (minimum) of clean imported Topsoil;
- 450mm of clean imported sub-soil.

3.5 The following were to be provided:

- Results of subsequent chemical analysis of imported Topsoil/sub-soil to confirm compliance with the Site Specific Assessment Criteria.
- Records of the volumes and suitability of all imported fill, Topsoil and sub-soil delivered to site in the form of delivery slips and certificates.
- Photographic evidence of suitable sub-soil/Topsoil cover in soft landscaped areas where underlain by Made Ground.

3.6 The Remediation Strategy identified that the surrounding landscaped areas, outside the development zone, were to remain unmodified and therefore fell outside the scope of the Strategy.

General

3.7 The following additional information was also to be provided.

- Details of any unexpected ground contamination (soil and/or groundwater) and the measures undertaken to deal with this, to include records of excavation, the results of chemical analysis resulting from the removal of contaminated soil and / or groundwater.
- Sample waste management records confirming compliance with Duty of Care regulations.

3.8 On completion of the Remediation Works, a Validation Report including the information as summarised above was to be submitted to the Local Planning Authority for approval.

4.0 VALIDATION

Changes to Development Area

- 4.1 As part of the development process a temporary haul road was constructed to the immediate north of the new building outside the development area. Following the construction of the building the haul road was removed and site-won soils were emplaced on its footprint in order to reinstate the grassed playing field.
- 4.2 Verification of capping soils in this area has been carried out as part of the works summarised within this Validation Report. However, it has since been determined that this area is due to be redeveloped into a new 3G artificial sports pitch under a separate planning application and therefore any residual direct soil contact pathways within this area would be severed following the proposed redevelopment.

Unforeseen Ground Contamination

- 4.3 No evidence of contamination, unusual ground conditions and/or asbestos have been reported to WML during the construction phase of the works.
- 4.4 Furthermore, no evidence of such was reported to, or witnessed by, WML during visits to site.

General Groundworks

- 4.5 Site-derived soils were reused to form the sub soils in soft landscaped areas. The client has indicated that all surplus site-derived soils were retained within a landscaped mound to the west of the site, which falls outside the scope of this report.

Site Won Topsoil / Subsoil

- 4.6 Rosslee has confirmed that 96m³ of site-won topsoil and 2,880m³ of site-won subsoil were excavated from the subject site area. This was then re-used as subsoil to localised soft landscaped areas, the reprofiling of the mound over the adjacent attenuation tank formation, with the residual subsoil placed in a mound outside the current development area.

Imported Soils

- 4.7 The client has confirmed that Topsoil has been imported through a supplier from Landgate Farm, Landgate Lane, Bryn, Wigan, WN4 0EJ. Information regarding the topsoil is included within Appendix 07.
- 4.8 This was supplemented with 2,400kg of certified multi-purpose topsoil from Greengates Builders Merchants where a small shortfall of topsoil was noticed. A delivery note is included within Appendix 03.
- 4.9 An additional 18.90 Tonnes of natural quarried limestone was also imported to site for use as a granular sub base in the raised planters from Finch Aggregates. A delivery note is included within Appendix 03.

WML Site Inspection and Testing

- 4.10 WML initially attended site on 8th December 2022 in order to obtain samples from the site won materials for re-use. At the time of the visit, site won soil was stockpiled to the north-west of the site, close to the north-western boundary of the larger school grounds.
- 4.11 During the inspection, five samples (SPVS 01 to SPVS 05) were obtained. Samples SPVS 01 and SPVS 02 were obtained from soils used to cap the former haul road, with the remainder (SPVS 03 to SPVS 05) from soils within the stockpile for re-use within the current development area. Drawing 9670G-SK02, presented in Appendix 01, shows the locations of SPVS 01 and SPVS 02.

- 4.12 The soils comprised a mixture of organic rich dark brown, slightly clayey, silty sand (topsoil) (SPVS 01, SPVS 03 and SPVS 05) and brown, variably clayey, gravelly sand or sandy gravel subsoil (SPVS 02 and SPVS 04). The subsoil was observed to include occasional gravel to cobble sized fragments of plastic, timber, asphalt and concrete. The samples were submitted for chemical analysis and the test results are presented in Appendix 06.
- 4.13 Comparison of these results with the Assessment Criteria for 'residential without homegrown produce' as provided within Appendix 08 indicated an exceedance of the screening criteria in one sample, as follows:

Contaminant	Number of Exceedances	SL (mg/kg)	Recorded Concentrations (mg/kg)	Samples
Mercury	1	1.2	1.48	SPVS 02

- 4.14 However, during the validation works it has been determined that the capping in the former haul road is to be removed and replaced with a 3G artificial sports pitch as part of a separate planning application. This will sever any residual linkage with the identified elevated mercury outside the subject site area. In addition the elevated mercury is now located outside the subject site area within the area which will be subject to an additional planning application.
- 4.15 As site works were delayed WML then returned to site on 31st January 2024 in order to obtain a further 4no samples of topsoil (VP01 to VP04) following the completion of the soft landscaping. The results were all below the relevant reference values.
- 4.16 In order to further assess the risks in the area of the former haul road for the client to remove the capping soils SPVS 02 ES1 to SPVS 02 ES3, were also obtained around SPVS 02 and tested for mercury. None of these exceeded the reference values indicating that the elevated mercury in the area outside the current development was very localised.
- 4.17 The results of additional chemical analysis are presented in Appendix 06 with sampling locations on drawing 9670G-SK02, in Appendix 01.

Capping Thickness

- 4.18 Subsequently, the capping thicknesses were verified by the formation of hand excavated validation pits on 31st January 2024 by WML.
- 4.19 Selected photographs of the WML validation pits are provided in Appendix 02 with the location drawing referenced 9670G-SK01 in Appendix 01.
- 4.20 The topsoil comprised dark brown, slightly clayey, silty, slightly gravelly sand with rare fine gravel sized fragments of brick.
- 4.21 The subsoil comprised firm, brown, sandy, gravelly, slightly cobbly clay, with gravel and cobble sized fragments including brick, concrete and rare fabric, plastic and glass.
- 4.22 During the February 2024 inspection an insufficient thickness of capping soils was recorded in the southern planting area where thicknesses ranged between 300 and 450mm and topped with bark in lieu of topsoil. Subsequently, in February 2024 Rosslee removed the bark and imported additional topsoil (from Greengates Builders Merchants, refer to information within section 4.8), to bring the thickness up to 600mm by adding a further 300 to 150mm of topsoil to the landscaped areas. Photographs showing the removal of surface bark, emplacement of imported topsoil and replacement of bark (to the top of the topsoil) are presented in Appendix 02.

- 4.23 Type 3 limestone aggregate, was encountered at 0.32mbgl in VP03, immediately underlying the topsoil. This was emplaced as a granular drainage layer beneath the paved and acting as a subsoil to the eastern landscaped areas. The aggregate layer acts as a capillary break layer beneath the imported topsoil and limits the potential for inadvertent hand excavation down to the underlying made ground. A specification drawing referenced 9670-WML-ZZ-XX-DR-C-1005-T02, is presented in Appendix 01, which identifies that the Type 3 sub-base for this area is of a minimum thickness of 350mm in order to accommodate emergency response vehicles. This was too densely compacted to be able to dig through by hand for verification purposes, however the client has confirmed that this was emplaced in accordance with the specification drawing. An example import ticket confirming the imported aggregate from a natural quarried source is provided in Appendix 03.
- 4.24 The final thicknesses of the capping soil within each validation pit is provided in the table below. This includes the additional increased thickness of topsoil in February 2024.

Location	Description	Emplaced Topsoil (mm)	Emplaced Subsoil (mm)	Emplaced Type 3 Gravel Drainage Layer (mm)	Total Capping (mm)	Comments
VP01	Shrub planting	150	450	-	600	-
VP02	Shrub planting	200	300	-	500	Concrete service duct /obstruction present at 500mm preventing further excavation.
VP03	Shrub planting in raised planter on hardstanding	270	-	350mm**	≥620	**Topsoil directly underlain by compacted limestone – thickness of layer not determined during hand pit due to density but confirmed to be a minimum of 350mm in design drawings.
VP04	Grassed soft landscaping at edge of playing field	100	500	-	600	-
VP05	Grassed soft landscaping at edge of playing field	70	530	-	600	-

- 4.25 The capping thicknesses all achieved 600mm with the exception of the pit underlain by a concrete obstruction which is likely to represent a service duct such as a sewer.
- 4.26 The volume of emplaced site won subsoil equates to approximately 195m³ and the volume of topsoil (site won and imported) equates to approximately 69m³, with a total volume of approximately 264m³. This is equivalent to 1no sample per 17m³ of topsoil and 1no sample per 39m³ of subsoil, both of which fall within the 1 in 50 required by the Remediation Strategy for soils of 'Brownfield/unknown' source.

Gas Protection Measures

- 4.27 Details of the gas protection measures installed, including edge details, are presented on drawings 5697-POZ-01-ZZ-DR-A-6200, 5697-POZ-01-00-DR-A-6205, 5697-POZ-01-00-DR-A-6206 and 5443-PAL-XX-00-DR-A-6200 in Appendix 04.

- 4.28 The gas protection measures were installed by the groundworkers under supervision by Rosslee. Gas protection measures comprised the construction of a ventilated subfloor void (minimum 150mm void) with an allowance for cross ventilation to the underfloor space. The subfloor is connected to periscopic vents at approximate 1.8m centres to at least two opposing walls, namely the eastern and western elevations.
- 4.29 It is understood from Rosslee that a suitable lapped and taped Alderprufe GRA gas barrier was installed to the full footprint of the structure which was lapped and bonded using Alderseal Gastite Tape.
- 4.30 The membrane was lapped and taped to a Aldercourse GRA damp proof course which extended through the external wall with an additional seal to a DPC between the suspended floor and the substructure brickwork.
- 4.31 It is understood from Rosslee that all service entries were suitably sealed and double taped to ensure an appropriate seal was achieved.
- 4.32 Specifications for Alderprufe GRA, Aldercourse GRA and Alderseal Gastight Tape are included within Appendix 04.
- 4.33 Information provided by Rosslee including delivery documentation and photographs during various stages of construction are presented in Appendix 05.

5.0 CONCLUSIONS

Capping Requirements for Landscaped Areas

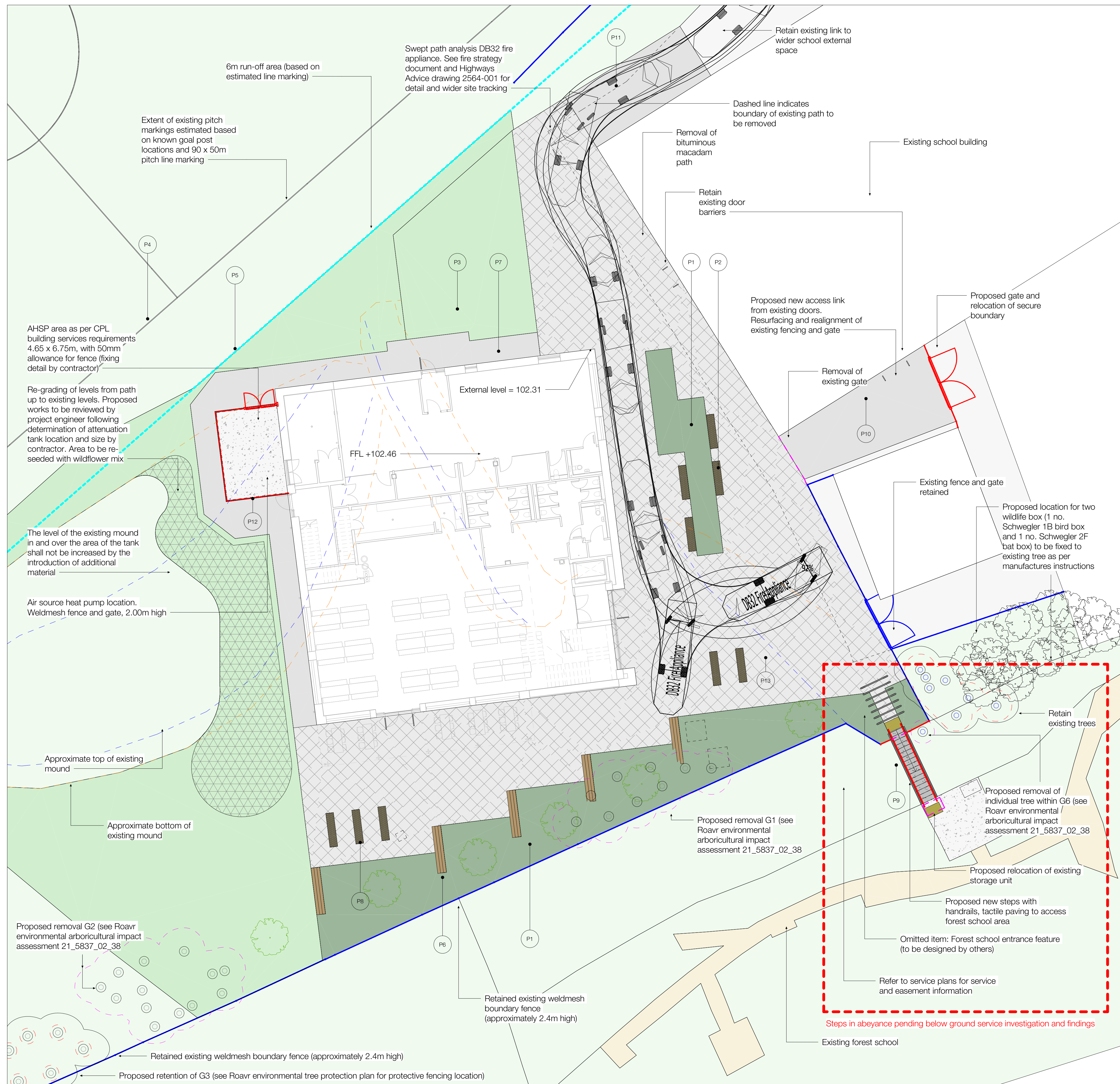
- 5.1 Therefore, as far as can be established the pre-occupation works required in relation to the relevant Planning Conditions have been undertaken to a reasonable standard of workmanship and appropriately validated.

Post-Remediation Requirements

- 5.2 During site inspection in January 2024, it was noted that the capping soils, primarily the subsoil, included fragments of materials including brick and stone. These materials could potentially migrate to the surface over time. As such, it is recommended that if /where this occurs periodic maintenance of the soft landscaped soils is undertaken via hand-picking of all stone fragments >20mm in size.

APPENDIX 01

Drawings



Code	Description
P1	Proposed A/B planting
P2	Proposed trees with timber slats
P3	Omitted item: Proposed reinforced plastic grid with topsoil and grass seed. Item omitted by client
P4	Extent of existing plant markings estimated based on known goal post locations and 90 x 60m plant marking
P5	6m run-off area based on estimated line marking
P6	Proposed timber feature planting breaks extending into soft landscape
P7	Proposed 1.6m wide path across building
P8	Proposed trees seating with timber slats
P9	Proposed steps to access forest school
P10	Creation of new access link from existing doors
P11	Widening of existing path by 4.5m wide
P12	Proposed wilderness fence
P13	Proposed block paving



OUR LADY'S RC HIGH
SCHOOL

Alworth road, Manchester M9 0RP

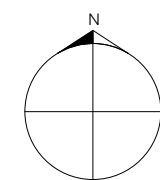
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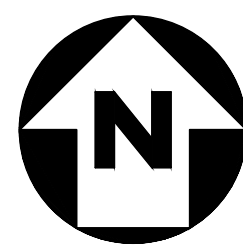
DRAWING NOTES

1. Drawing copyright of Stewdo Owen Limited.
2. All information to be read in conjunction with relevant landscape drawings and specifications.
3. Only the dimensions shown on drawings are to be used.
4. All dimensions in millimetres unless otherwise noted.
5. The Landscape Architect is to be notified of any discrepancies before proceeding.
6. No liability for any errors or omissions in drawings or advice given.
7. Utilities - A scale system of work to HSE IGGT Avoiding danger from underground services and Contractors to be used to identify and mark services and employ safe excavation site digging practices prior to works commencing.
8. Proposed planting details to be reviewed following detail design of infrastructure.
9. Proposed planting details to be reviewed following detail design of infrastructure, overhead power lines, highway safety and visibility signs and other infrastructure provisions such as substations, refuse stores, lighting, signage and CCTV requirements.
10. Drawings to be provided to the Health and Safety Executive (Safety Signs and Signage Regulations 1996).
11. Drawings to include, but not be limited to, the following:
 - a) Foundations, walls, pillars, culverts and other elements of structure intended to retain, stop or guide people to specified detail design and to meet the appropriate loading requirements of BS EN 1991-1-1, p.10 paragraph 6.11 and BS EN 610.
12. Drawings to be for the purpose of obtaining planning permission for construction.
13. For underground services and any diversions/ alterations see associated service plans and engineer's drawings.
14. Works to be engineer's detail design and specification.

KEY

	Existing tarmac/cad		Proposed tarmac/cad
	Existing grass		Proposed grass
	Proposed shrub		Proposed willow
	Existing tree		Reinforced plastic grid (Girofix G50) build-up by engineers design (omitted)
	Proposed tree		Existing bark mulch
	Existing feature to be removed		Proposed paving surface
	Existing fence		Proposed fence
	Root protection area		Approximate bottom of existing mound
			Approximate top of existing mound





GENERAL NOTES

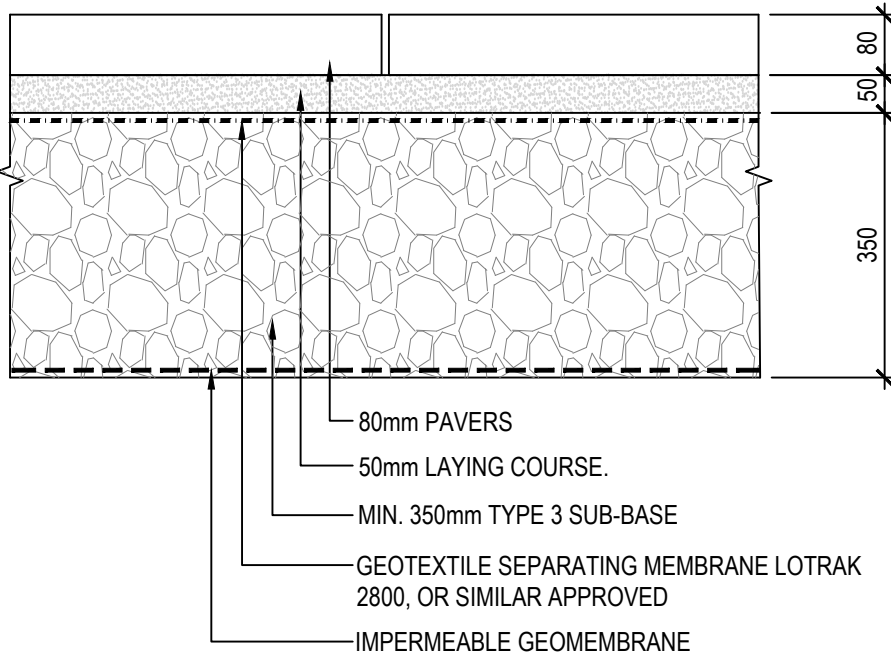
DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.

NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.

ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.

THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH AND SAFETY PLAN.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH WML DRAINAGE DETAIL DRAWINGS FOR DETAILS OF MATERIALS AND WORKMANSHIP REFER TO THE SPECIFICATION.



ALL WORKS TO BE IN ACCORDANCE WITH BS7533-3 GENERALLY.

PAVER: THICKNESS 80mm.

MATERIAL: AS SPECIFIED BY ARCHITECT

LAYING COURSE: THICKNESS 50mm.

MATERIAL: IN ACCORDANCE WITH Q24/455A

ROADBASE: NON REQUIRED.

MATERIAL: NA

GRANULAR SUB-BASE AS SECTION Q20 OF WML SPECIFICATION THICKNESS 350 mm (SHW803 TYPE 3 GSB - MINIMUM 30% VOID RATIO).

JOINTING: NARROW JOINTS TO ARCHITECTS DETAIL

MATERIAL: IN ACCORDANCE WITH Q24/510A

LAYING PATTERN: AS SPECIFIED BY ARCHITECT.

ASSUMED CBR: 3% (SUBJECT TO CONFIRMATION OF CBR TESTS BY SITE INVESTIGATION SPECIALIST AFTER SITE STRIP)

ADDITIONAL FILLING REQUIRED TO RAISE SURFACE LEVEL FOLLOWING SITE STRIP TO BE IN ACCORDANCE WITH Q20. (SHW803 TYPE 1 GSB)

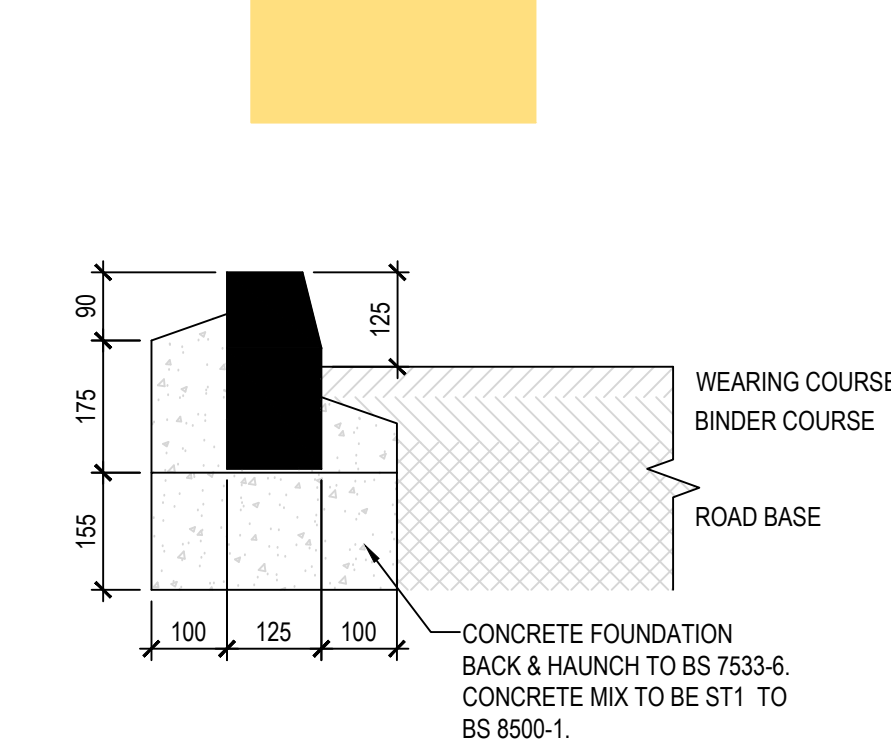
ALL MATERIAL WITHIN 450mm OF SURFACE LEVEL TO BE NON-FROST SUSCEPTIBLE. IF ENCOUNTERED NOTIFY WML REPLACEMENT FILL TO BE GRADE #F2 OR #F5 UNLESS AGREED OTHERWISE.

(NBS SPEC. Q24/111WM)

TYPICAL DETAIL

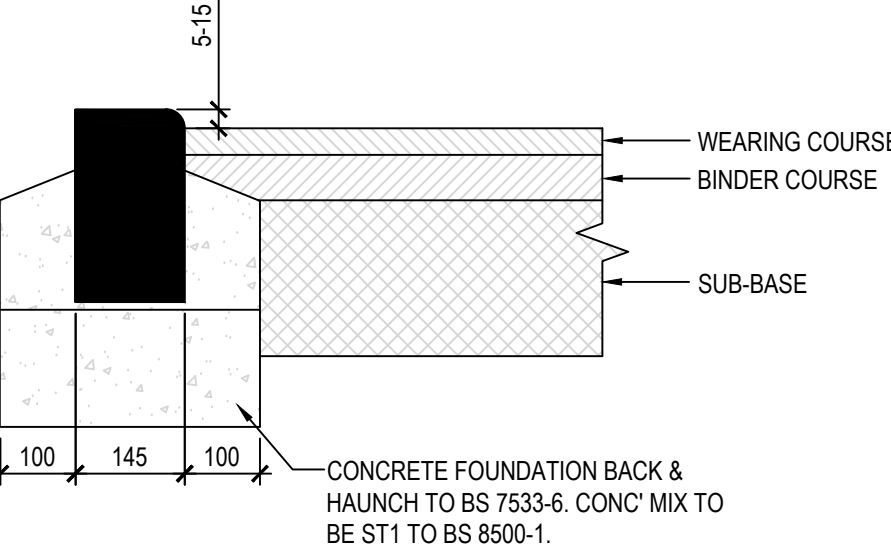
BRICK / BLOCK PAVING TO FOOTPATHS

(SCALE 1:10)



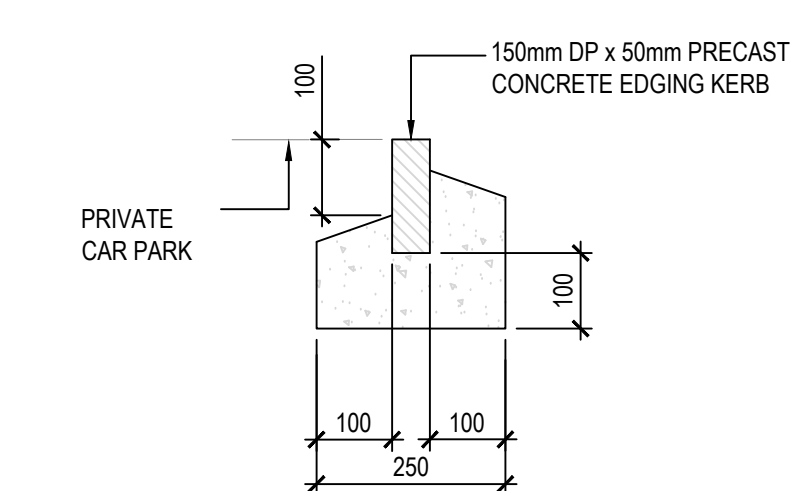
TYPICAL KERB DETAIL

(SCALE 1:10)



TYPICAL DROP KERB

(SCALE 1:10)

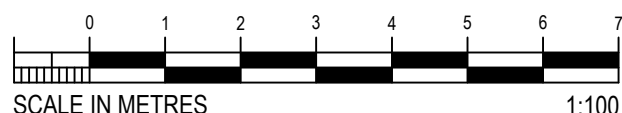


TYPICAL EDGING DROP KERB

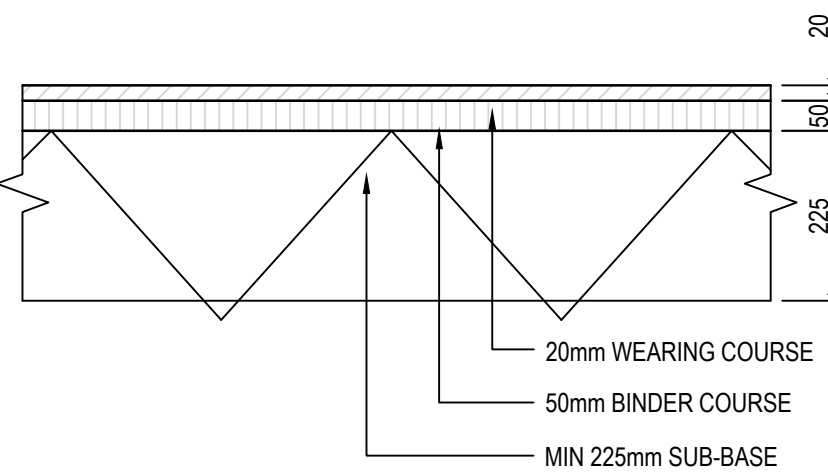
(SCALE 1:10)

NOTES:

1. CONCRETE BEDDING AND BACKING SHALL BE TYPE ST1 TO BS 8500-1.
2. KERBS SHALL COMPLY WITH BS EN 1340.
3. CEMENT SHALL BE ORDINARY PORTLAND CEMENT TO BS EN 197-1.
4. JOINTS TO KERBS SHALL BE POINTED WITH CLASS (ii) MORTAR.
5. CUT LENGTHS OF KERBS ARE TO BE CUT USING A DISC CUTTER MIN. LENGTH 450mm.
6. IN THE CASE OF NEW CARRIAGEWAY CONSTRUCTION THE SUB BASE LAYER IS EXTENDED 300mm BEYOND THE BACK OF KERB FOUNDATION THE CONTRACTOR SHALL ALLOW FOR FILLING IN BETWEEN THE ROAD SUB BASE AND THE FOOTWAY FORMATION WITH SUB BASE MATERIAL IN THE RATE FOR KERBING.
7. RECONSTRUCTION OF EXISTING CARRIAGEWAY CHANNEL MEASURED SEPARATELY.
8. KERBS LAID IN EXISTING CARRIAGEWAY FORMATION RATE TO INCLUDE INFILL OF OVERBREAK IN FRONT OF KERB WITH CONCRETE TYPE ST.1 TO BINDER COURSE FINISH LEVEL.



RESIDUAL RISK REGISTER -	
REFER TO WML CIVIL / STRUCTURAL DESIGN RISK REGISTER IN ADDITION TO THE HAZARDOUS RISKS NORMALLY ASSOCIATED WITH THE TYPE OF WORKS INDICATED ON THIS DRAWING. NOTE THE FOLLOWING:-	
1. CONSTRUCTION OPERATIONS WITHIN SURROUNDING RESIDENTIAL SITE - POTENTIAL CONFLICT BETWEEN CONSTRUCTION TRAFFIC AND RESIDENTIAL VEHICLES.	
2. REPORTS OF UNEXPLODED ORDNANCE.	
3. EXISTING UNDERGROUND SERVICES AND DRAINAGE.	
4. CONNECTION TO EXISTING LIVE DRAINAGE SYSTEMS.	
5. DEEP EXCAVATIONS, TEMPORARY WORKS, RISK OF FALLING, GROUND STABILITY.	
EXISTING BELOW GROUND ATTENUATION TANK.	
TEMPORARY WORKS AND CONSTRUCTION STAGE	
RISK OF DAMAGE TO TANK/RISK OF COLLAPSE OF TANK ROOF	
AVOID STORAGE OF EXCAVATED MATERIALS OR CONSTRUCTION MATERIALS OVER FOOTPRINT OF TANK AND FOR A 3m PERIMETER	
AROUND THE TANK. AVOID RUNNING CONSTRUCTION AND/OR DELIVERY VEHICLES OVER THE AREA OF THE TANK AND 3m PERIMETER	
AVOID THE STANDING OF CRANES AND/OR HIGH LEVEL ACCESS PLANT IN THE AREA OF THE TANK AND 3m PERIMETER.	
PERMANENT WORKS	
RISK OF DAMAGE TO TANK/RISK OF COLLAPSE OF TANK ROOF	
LANDSCAPING PROPOSALS INVOLVING THE POTENTIAL RE-USE OF SITE WON MATERIALS TO FORM BLINDS AND/OR OTHER LANDSCAPING FEATURES. THE LEVEL OF THE EXISTING EARTH MOUND IN AND OVER THE AREA OF THE TANK SHALL NOT BE INCREASED BY THE INTRODUCTION OF ADDITIONAL MATERIAL.	



ASPHALT CONCRETE PAVING - FOOTPATHS (SUBJECT TO OCCASIONAL HEAVY LOADING)

ALL WORKS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF BS94987:2010 GENERALLY.

WEARING COURSE

MATERIAL: 20mm AC6 DENSE SURF

BINDER COURSE

MATERIAL: 50mm AC20 DENSE/HDMA/HB BIN

GRANULAR SUBBASE AS SECTION Q20 OF WML

SPECIFICATION MIN 225mm (SHW803 TYPE 1 GSB)

ASSUMED CBR

2% (SUBJECT TO CONFIRMATION OF CBR TESTS BY SITE INVESTIGATION SPECIALIST AFTER SITE STRIP)

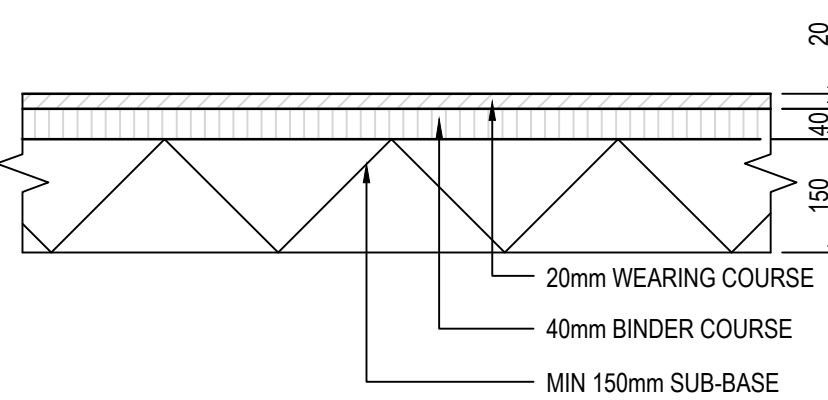
ADDITIONAL FILLING REQUIRED TO RAISE SURFACE LEVEL FOLLOWING SITE STRIP TO BE IN ACCORDANCE WITH Q20. (SHW803 TYPE 1 GSB)

NOTE:

ALL MATERIAL WITHIN 450mm OF SURFACE LEVEL TO BE NON-FROST SUSCEPTIBLE. IF ENCOUNTERED NOTIFY WML REPLACEMENT FILL TO BE GRADE #F2 OR #F5 UNLESS AGREED OTHERWISE.

(SPEC. Q22/114B WM)
ASPHALT CONCRETE PAVING TO
FOOTPATHS (SUBJECT TO
OCCASIONAL HEAVY LOADING)

(SCALE 1:10)



ASPHALT CONCRETE PAVING - FOOTPATHS

ALL WORKS TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF BS94987:2010 GENERALLY.

WEARING COURSE

MATERIAL: 20mm AC6 DENSE SURF

BINDER COURSE

MATERIAL: 40mm AC14 DENSE BIN

GRANULAR SUBBASE AS SECTION Q20 OF WML

SPECIFICATION MIN 150mm (SHW803 TYPE 1 GSB)

ASSUMED CBR

2% (SUBJECT TO CONFIRMATION OF CBR TESTS BY SITE INVESTIGATION SPECIALIST AFTER SITE STRIP)

ADDITIONAL FILLING REQUIRED TO RAISE SURFACE LEVEL FOLLOWING SITE STRIP TO BE IN ACCORDANCE WITH Q20. (SHW803 TYPE 1 GSB)

NOTE:

ALL MATERIAL WITHIN 450mm OF SURFACE LEVEL TO BE NON-FROST SUSCEPTIBLE. IF ENCOUNTERED NOTIFY WML REPLACEMENT FILL TO BE GRADE #F2 OR #F5 UNLESS AGREED OTHERWISE.

(SPEC. Q22/114A WM)
ASPHALT CONCRETE PAVING TO
FOOTPATHS

(SCALE 1:10)



T02	PAVING CONSTRUCTION THICKNESS REVISED.	12.10.21	DB	CM
T01	TENDER ISSUE.	14.05.21	DB	CM

Rev. Amendment Date By Chkd

Project

OUR LADY'S RC HIGH SCHOOL,
MANCHESTER

ARCH/CLIENT

POZZONI

Title
EXTERNAL WORKS GA & DETAILS

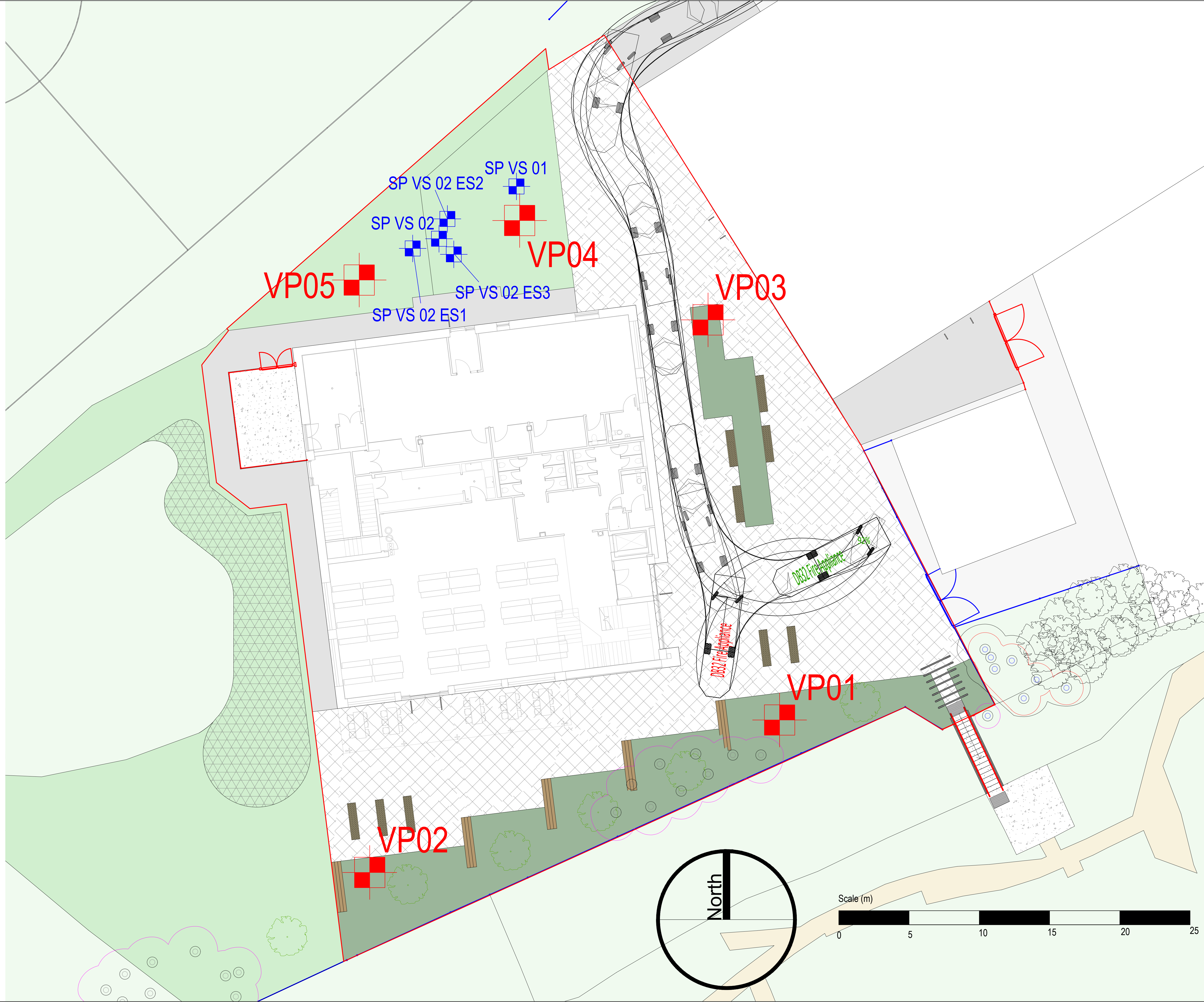
WML Job No.	Drawn	Checked	Date	Scale
9670	DB	CM	MAY 2021	1:100 @ A0

WML CONSULTING
Civil, Structural & Geotechnical Engineers

No 8 Oak Green
East Road
Barnley Green Business Park
Cheshire SK8 6DL
Tel: 0161 486 9200
Fax: 0161 486 9210
e-mail: info@wmlconsulting.com
www.wmlconsulting.com

Drawing No.

Project Originator Volume Level Type Role Number Rev
9670 - WML - ZZ - XX - DR - C - 1005 T02



GENERAL NOTES

- 1. DO NOT SCALE FROM THIS DRAWING WORK TO FIGURED DIMENSIONS ONLY.
- 2. NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS ALLOWED WITHOUT PRIOR PERMISSION IN WRITING.
- 3. ALL DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION.
- 4. THE CONTRACTOR SHALL INCORPORATE ALL THE REQUIREMENTS OF THE PRE-TENDER STAGE HEALTH & SAFETY PLAN.

KEY

- [Red outline] SITE BOUNDARY (APPROXIMATE)
- [Red square with cross] **VP01** VALIDATION PIT
- [Blue square with cross] **VS01** VALIDATION SAMPLE
- [Light green fill] NEW SOFT LANDSCAPED AREA (GRASSED)
- [Dark green fill] NEW SOFT LANDSCAPED AREA (SHRUBS)

NOTE: SITE PLAN TAKEN FROM STIWIDIO OWENS LANDSCAPE ARCHITECTS DRAWING 'LANDSCAPE GENERAL ARRANGEMENT, Ref. 589-STO-00-00-DR-L-0001 Revision C01, 02/02/2021

0	FIRST ISSUE	23/01/24	TJS	SCS
Rev.	Amendment	Date	By	Chkd
Project OUR LADY'S RC, BLACKLEY				
Client Rosslee Ltd				
Title VALIDATION SAMPLING LOCATION PLAN				
Drawn TJS	Checked SCS	Date 23/01/24	Scale 1:125@A1	
WML CONSULTING Chartered Civil and Structural Engineers Third Floor South Metropolitan House Station Road Cheadle Hulme Cheshire SK8 7AZ Tel 0161 482 0600 Fax 0161 486 9210 e-mail info@wmlconsulting.com www.wmlconsulting.com				
Job No. 9670G		Drawing No. SK02		

APPENDIX 02

Photographs



Photograph 1
Site won topsoil sampled as SP VS 01 (08/12/2022).



Photograph 2
Site won subsoil sampled as SP VS 02 (08/12/2022).



Photograph 3
Placement of cover system soils to north of new building (08/12/2022).



Photograph 4
Raised planter to east of structure before additional topsoil capping.



Photograph 5
Soft landscaping to south of new structure.



Photograph 6
Grassed attenuation tank to the west of the structure.



**Photograph 7
VP01.**



**Photograph 8
VP01 showing thickness of cover system.**



Photograph 9
VP01 location (marked by spade).



Photograph 10
VP02 – concrete obstruction in upper half of pit.



Photograph 11
VP02 showing thickness of cover system.



Photograph 12
VP02 location (marked by spade).



Photograph 13
VP03. Compacted gravel visible at base of pit.



Photograph 14
VP03 showing thickness of cover system.



Photograph 15
VP03 location.



Photograph 16
VP03 cover system topsoil.



**Photograph 17
VP04.**



**Photograph 18
VP04 showing thickness of cover system.**



Photograph 19
VP04 location.



Photograph 20
VP04 showing subsoil comprising cover system.



**Photograph 21
VP05.**



**Photograph 22
VP05 showing thickness of cover system.**



Photograph 23
Subsoil from VP05.



Photograph 24
VP05 location.



Photograph 25
Western face of new building.



Photograph 26
Eastern elevation with periscope vents visible.



Photograph 27
Vents at 1.8m centres to eastern elevation.

Additional Topsoil Placement in Southern Shrub Planting Area

























APPENDIX 03

Imported Materials Information



INVOICE

237189

6 Trident Park
Trident Way
Blackburn, BB1 3NU

Tel: 01254 311146

Fax: 01254 696558

Email : accounts@finchaggregates.co.uk

Invoice Address:

R Developments Limited
T / as Ross Lee Contruction
30 Black Abbey Street
Accrington
Lancashire
BB5 1HT

R Developments Limited
OUR LADIES RC SCHOOL
Alworth Road
BLACKLEY
M9 0RP

Date	Our Order No	Your Order Number	
31/03/2023	211123	ST135679	Page: 1

Description	Quantity	Price £	Net £
GSB3LS Type 3 Limestone Granular Sub Base	18.90	24.25	458.33
27/03/2023 212657 18.90			

Please Pay to :

Finch Aggregates Ltd

Account No	75109964	Net £	458.33
Sort Code	60-24-02	VAT £	91.67
Terms	NETT MONTHLY	Total £	550.00
VAT Reg No	GB 171 6422 20		



GREENGATES BUILDERS MERCHANT

1 Whinney Hill Road
Altham, Accrington
Lancashire
BB5 5FT
Telephone: 01254 872061
Fax: 01254 388404
Email: info@greengates.co.uk
www.greengates.co.uk

DELIVERY NOTE

DELIVERY DATE	DOC NUMBER	ACCOUNT
22Feb24	01A69077	ROS001

Invoice to:

ROSS LEE CONSTRUCTION LTD
30 BLACK ABBEY STREET
ACCRINGTON
LANCASHIRE
BB5 1HT

Deliver to:

01254 393225 M:07879 474686

DELIVERY METHOD

Delivered

SALESPERSON

lr 10:34

ORDER REFERENCE

st139622



Quantity	Description	Price	Value ex. VAT	VAT Rate
3	BULK BAG SCREENED TOPSOIL RS3982			

Approximate weight 2400 kg

GOODS SHOULD BE CHECKED AND SIGNED FOR COMPLETENESS AND CONDITION UPON DELIVERY AND REMAIN THE PROPERTY OF GREENGATE BUILDERS MERCHANTS LTD UNTIL SUCH TIME AS PAYMENT IS RECEIVED IN FULL, SUBJECT TO TERMS AND CONDITIONS AVAILABLE ON REQUEST. ALL DIMENSIONS ARE APPROXIMATE E.O.&E. ALL DELIVERIES ARE MADE TO KERBSIDE OR IF ONTO PRIVATE PROPERTY ARE SUBJECT TO CUSTOMER SIGNING BELOW TO ACCEPT FULL RESPONSIBILITY FOR ANY DAMAGE RESULTING HOWEVER INCURRED.

SIGNATURE

PRINT

Registered in England No. 4252840 VAT Reg. No. 458 0200 71



**GREENGATES
BUILDERS
MERCHANT**

1 Whinney Hill Road
Altham, Accrington
Lancashire
BB5 5FT
Telephone: 01254 872061
Fax: 01254 388404
Email: info@greengates.co.uk
www.greengates.co.uk

COLLECTION NOTE

COLLECTION DATE	DOC NUMBER	ACCOUNT
22Feb24	01A69047	ROS001

Invoice to:
ROSS LEC CONSTRUCTION LTD
30 BLACK ABBEY STREET
ACCRINGTON
LANCASHIRE
BB5 1HT

Deliver to:

01254 393225 M:07879 474666

DELIVERY METHOD

Collected

SALESPERSON

jcp 07:47

ORDER REFERENCE

sl139577



Quantity	Description	Price	Value ex. VAT	VAT Rate
5	BULK BAG SCREENED TOPSOIL BS3882			

Approximate weight 2400 kg

Goods should be checked and signed for completeness and condition upon collection and remain the property of Greengates Builders Merchant Ltd until such time as payment is received in full subject to terms and conditions available upon request. All dimensions are approximate E.O & E.

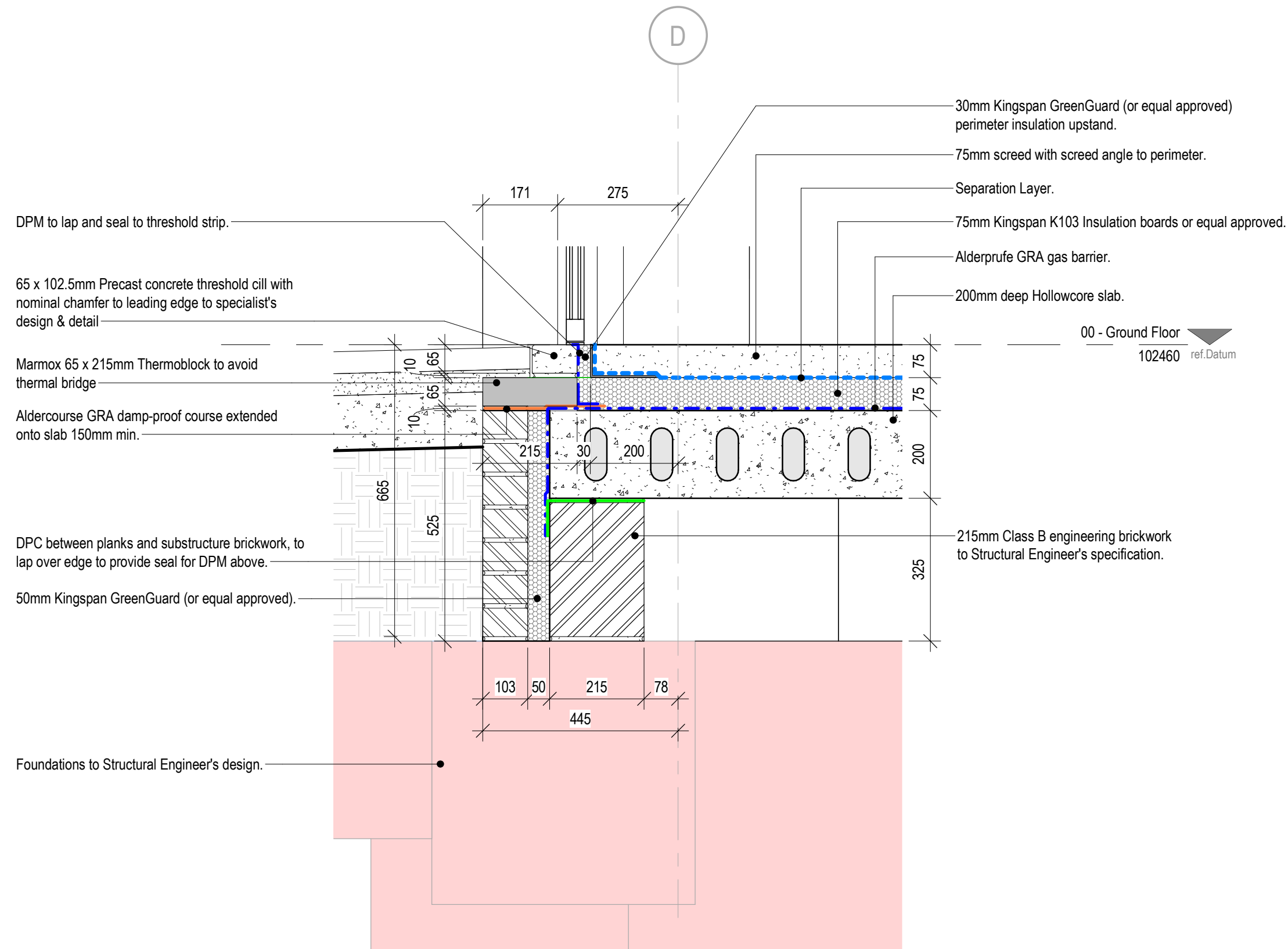
SIGNATURE

PRINT

STEVE

APPENDIX 04

Gas Measures Specifications



Notes

The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.
This drawing remains the copyright of POZZONI Architecture Ltd.

Scale Bars		TO BE USED ONLY AS GUIDANCE		
1:5	mm	50	150	250
1:10	mm	100	300	500
1:20	mm	500	800	
1:50	mm	500	1500	2500

C02	Marmox block note added.	PC	13.01.22
C01	CONSTRUCTION ISSUE.	SWG	25.10.21
Rev	Description	By	Date

Client	Our Lady's RC High School		
Job	New Education Block		
Drawing	Section Detail - Ground Floor - Door Threshold		
BSRef	POZ Ref	Rev	C02
5697-POZ-01-00-DR-A-6205			
Date	11/12/21	Scale	1 : 10 @ A3
3D CoOrd	TC	2D CoOrd	DY
Project Status	Planning	Tender	Construction
	Design	Contract	As Built

pozzoni

10-12 Emerald Street
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WC1N 3QA

Woodville House
2 Woodville Road
Altrincham
WA14 2FH

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www.pozzoni.co.uk

Notes

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Scale Bars

TO BE USED ONLY AS GUIDANCE

1:5	mm		50		150		250
1:10	mm		100		300		500
1:20	mm		500		800		
1:50	mm		500		1500		2500

C02	Dimensions added.	PC	13.01.22
C01	CONSTRUCTION ISSUE (1ST ISSUE)	PC	13.01.22
Rev	Description	By	Date

Client

Our Lady's RC High School

Job

New Education Block

Drawing

Section Detail - Ground Floor - Door Threshold - Main Entrance

BSRef

POZ Ref

5697_6206

Rev

C02

BSRef

5697-POZ-01-00-DR-A-6206

Date

23/12/21

Scale

1 : 10

@ A3

3D CoOrd

TC

2D CoOrd

DY

Approved

SWG

Project Status

Planning

Tender

Construction

Design

Contract

As Built

pozzoni

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London
WC1N 3QA

Woodville House
2 Woodville Road
Altrincham
WA14 2FH

+44 20 7078 0079
architects@pozzoni.co.uk

+44 161 928 7848
www.pozzoni.co.uk

Nom. 490 x 6mm thick window support plate fixed to SFS and structure as required to specialist's design and detail. Wrap edge of plate with Alreflex 2L2 (FR) 6mm foil bubble to prevent cold bridging.

Note:
Top of plate level with top of brickwork height. SFS height reduced by plate thickness to suit.

300mm SFS Framing System to specialist's design and detail.

12.5mm OSB Sheathing Board (Glasroc X or equal approved)

60 minutes fire rated insulated cavity closer

EPDM seal between VCL & window (red)

102.5mm Buff facing brickwork.

Cavity tray.

Proprietary weephole at 900mm max centres.

50mm air cavity

1000 gauge VCL (dashed green) fixed between board & insulation to lap over cavity closer to back of brickwork (air tightness line)

Proprietary Telescopic vent

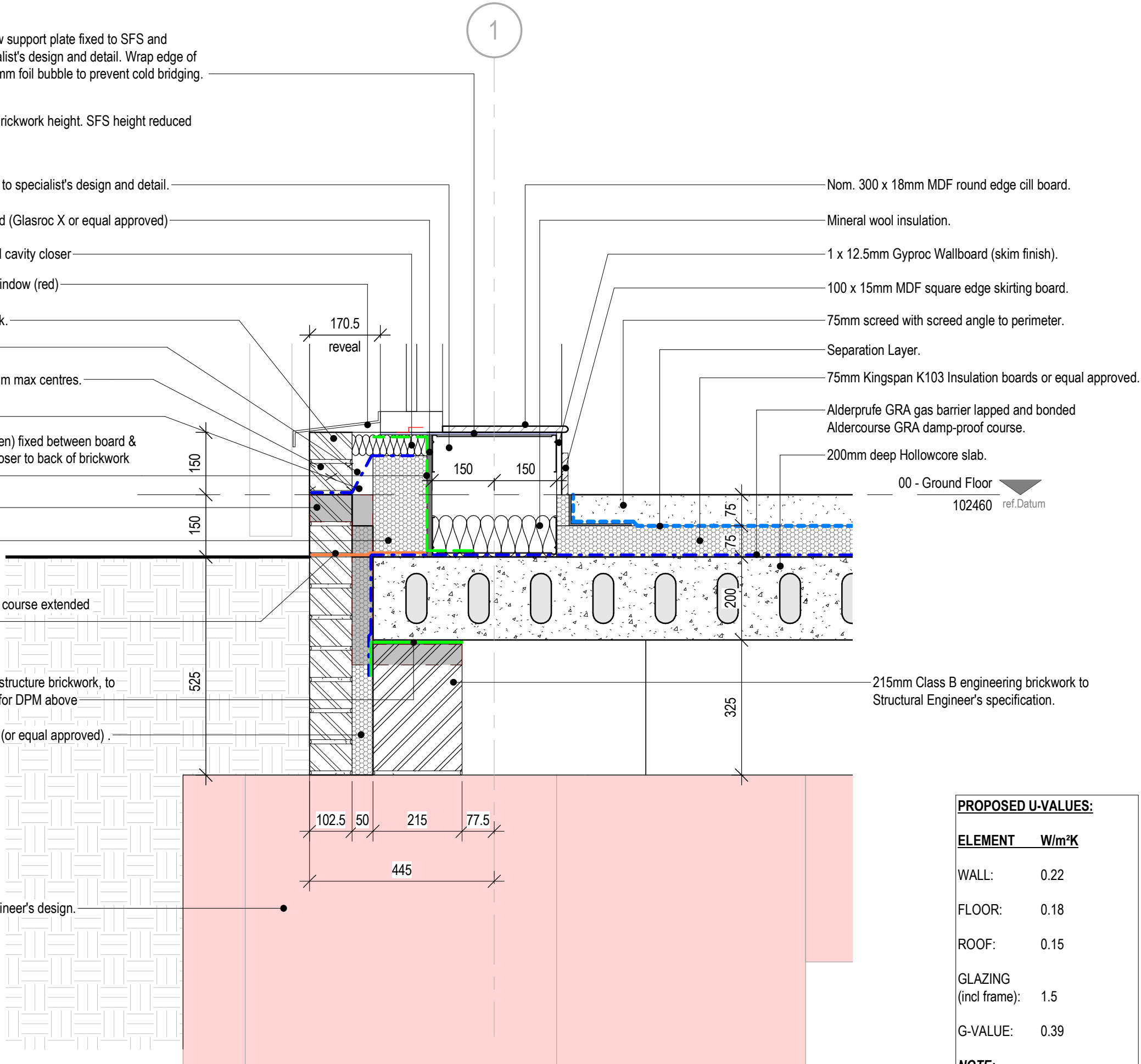
130mm Kingspan K-ROC

Aldercourse GRA damp-proof course extended onto slab 150mm min.

DPC between planks and substructure brickwork, to lap over edge to provide seal for DPM above

50mm Kingspan GreenGuard (or equal approved) .

Foundations to Structural Engineer's design.



PROPOSED U-VALUES:

ELEMENT W/m²K

WALL:	0.22
FLOOR:	0.18
ROOF:	0.15
GLAZING (incl frame):	1.5
G-VALUE:	0.39

NOTE:
REFER TO MEP PART L
COMPLIANCE DOCUMENT

Notes

The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.
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Scale Bars TO BE USED ONLY AS GUIDANCE

1:5	mm	50	150	250
1:10	mm	100	300	500
1:20	mm	500	800	
1:50	mm	500	1500	2500

C01	CONSTRUCTION ISSUE.	SWG	25.10.21
Rev	Description	By	Date

Client Our Lady's RC High School

Job New Education Block

Drawing Section Detail - Ground Floor - SFS Wall Upstand

BSRef POZ Ref 5697_6200 Rev C01

5697-POZ-01-ZZ-DR-A-6200

Date 10/12/21 Scale As indicated @ A3

3D CoOrd TC 2D CoOrd DY Approved SWG

Project Status	Planning	Tender	Construction
	Design	Contract	As Built

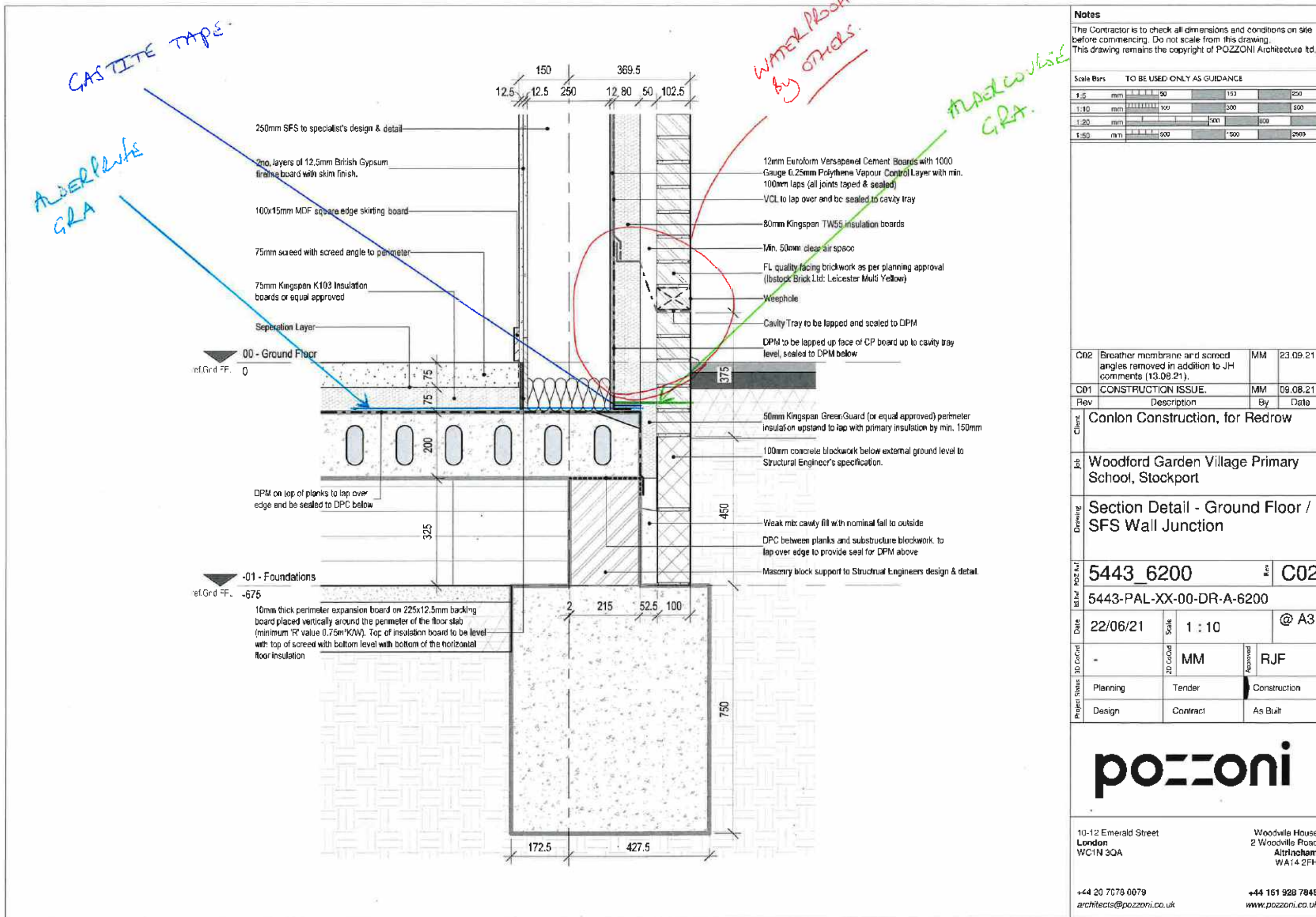
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+44 161 928 7848
www.pozzoni.co.uk



ALDERCOURSE GRA

Aldercourse GRA is an aluminium cored high performance damp-proof course, to maintain the integrity of the gas barrier system in load-bearing locations. Used combination with all Alderprufe gas barriers it provides a continuous “through the wall to floor” junction.

Aldercourse GRA is a laminate of aluminium, high quality oxidised bitumen and hessian, surfaced with a light sand finish, and is compliant with **BS8485:2015** and **BS6398**. The aluminium layer provides an effective barrier to VOC as noted in **Ciria C748**. **Aldercourse GRA** can be heat-bonded to masonry, and in addition to gas barrier applications, it can also be used in cavity tray applications including parapet walls and beneath copings and cappings.



Priming

Any surface to which **Aldercourse GRA** will be heat bonded must be primed with one coat of **Tac Primer** at a rate of 0.1 to 0.3 litres per m2 dependent on the porosity of the surface. The primer must be allowed to dry thoroughly before applying **Aldercourse GRA**.

Application

Aldercourse GRA Damp-proof course should be laid on a wet mortar bed in accordance with British Standards Codes of Practice. All laps of Aldercourse to Aldercourse must be secured by heat bonding, and should be a minimum of 150mm. Laps between Alderprufe gas barriers and **Aldercourse GRA** should be secured as follows:

- A ‘tail’ of **Aldercourse GRA** dpc should extend onto the slab by a minimum of 150mm; the top surface of the **Aldercourse GRA** should be softened by use of a gas torch to allow the bitumen to become viscous; Gastite Tape should be applied to the exposed surface. **Alderprufe gas barrier** should then be applied Gastite Tape, and the joint rolled well for good adhesion.

ALDERCOURSE GRA GAS DPC

Characteristic	Test Method	Unit	Aldercourse GRA
Physical Properties			
Thickness	EN 1849-2	mm	3.2
Width (400mm, 500mm, 600mm, 1000mm are standard widths)	EN 1849-2	m	various
Length	EN 1849-2	m	8
Weight	EN 1849-2	g/m2	4000
Gas Permeability			
Methane	EN ISO 15105 - 1	ml/m2/day/atm	0.98
Carbon Dioxide	EN ISO 15105 - 1	ml/m2/day/atm	0.28
Radon	K12/05/95	m2/s	1.5 x 10-14
Complies with:- BS8485:2015, CIRIA 665, NHBC (Green Amber 1, Amber 2, Red), CIRIA C748 (*vapours - impermeable aluminium core)			

Use with: Alderprufe GRA* Alderprufe MR50 * Alderprufe Ultra VOCM * Alderprufe HC * Alderprufe GRM * Super Yellow Gas Barrier * Alderprufe Tuflex * Alderprufe LGM Liquid Gas Membrane

Alderprufe GRA Gas Barrier is a multilayer, low-density polyethylene membrane, reinforced with a polypropylene reinforcing grid with an integral aluminium foil (BBA 16/5368) for use above or below a concrete ground floors that are not subject to hydrostatic pressure, to protect buildings against gas penetration from the ground.

General Description

Alderprufe GRA is a proprietary gas barrier that is compliant with **BS8485:2015**, **Ciria 665** and is suitable for **Amber 1 & 2** applications. It provides an effective barrier to methane, carbon dioxide, radon, and hydrocarbon vapours; as **Ciria C748** notes, aluminium simply does not allow any permeation of almost any common organic pollutant.

It can be installed above or below a slab, above or below insulation or beneath a screed.

The methods of jointing provide an effective barrier to the passage of gases, hydrocarbon vapours, liquid water and water vapour from the ground.

Alderprufe GRA is suitable for use in accordance with the relevant clauses of CP102:1973 Code of Practice for protection of buildings against water from the ground (as amended), in concrete floors not subject to a hydrostatic pressure, and will meet Requirement of Building Regulations Approved Document C (England and Wales), in that sheet thickness is at least 1000 gauge.

Alderprufe GRA has a high resistance to puncture. On smooth or blinded surfaces it will not be damaged by normal on-site foot traffic but care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screed since it can be punctured by sharp objects.

Alderprufe GRA may be installed under all conditions normal to the construction of ground floor slabs.

The membranes remain flexible and do not soften at the extreme temperatures likely to occur in practice. When used in accordance with the manufacturer's instructions there will be no adverse effect on the membranes from underfloor heating under normal conditions of use, **Alderprufe GRA** will provide an effective barrier to the transmission of gases, liquid water and water vapour for the life of the concrete slab in which it is installed.



ALDERPRUFE GRA GAS BARRIER

Characteristic	Test Method	Unit	Alderprufe GRA
Physical Properties			
Thickness	EN 1849-2	mm	0.60
Width	EN 1849-2	m	2
Length	EN 1849-2	m	50 / 25
Weight	EN 1849-2	g/m ²	350
Gas Permeability			
Methane	EN ISO 15105 - 1	ml/m ² /day/atm	0.09
Carbon Dioxide	EN ISO 15105 - 1	ml/m ² /day/atm	0.09
Radon	K124/02/95	m ² /s	8.00
Water Vapour Transmission	EN 1931	g/m ² /day	0.10
Complies with: BS8485:2015, CIRIA C664, CIRIA C748, NHBC (Green Amber 1, Amber 2, Red),			

Installation

Unless the base is smooth, a surface blinding of soft sand or **Geotex 300PP** protection should be used to avoid puncturing the membrane during installation or when the concrete or screed is being placed.

Before jointing, sheets must be clean and free from dirt and grease. Adjacent sheets should be overlapped by at least 100mm wide and bonded with 100mm wide double-sided **Gastite Tape**.

Perforation or puncture of the sheets should be patched with sheets of identical thickness lapped at least 150mm beyond the limit of the puncture and sealed with 100mm wide **Gastite Tape**.

Continuity with DPC: **Alderprufe GRA** membrane must be continuous with damp-proof course in the surrounding walls; lapped and bonded to **Aldercourse GRA** gas dpc for continuation through load-bearing walls. Where necessary **Alderprufe MR50** should be used as a vertical course to link the two (refer to typical details and separate data sheets.)

Placing Concrete or Screed: **Alderprufe GRA** must be covered by a screed or other protective layer as soon as possible after installation. Care should be taken to ensure that the membrane is not stretched or displaced when placing the concrete or screed.

Best practice is to use pre-formed collars and cloaks at penetrations to the gas barrier, for example at columns, pipes or piles. If gas ventilation is needed, refer to **Aldervent Gas Ventilation** brochure.

Use with: Aldercourse GRA gas dpc * Gastite Tape * Preformed pipe collars, column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50

Alderseal Gastite Tape

Description

A modified polymer adhesive in sheet form with a silicone release paper, for sealing laps on all Alderprufe Gas Barrier systems, to themselves and each other, eg, Preformed Corners and Profiles, Protection Boards, both vertical and horizontally, Fillet Sections.

Roll sizes: 100mm x 15m, 50mm x 15m.

Application

Prepare surface to be adhered to. Concrete and masonry must first be allowed to dry and for best results primed using **Alderprufe TAC Primer**. Membrane surfaces must be clean and dry.

Roll well to ensure good adhesion. Warming tape by storing indoors before use will aid adhesion. Once in place the profile or product is firmly fixed and becomes an integral part of the gas protection system.

Alderprufe Membrane Holdfast

Description

Holdfast is a tying system for fixing the membrane to the underside of concrete slabs when future subsidence of the prepared ground is anticipated.

Holdfast are square cellular pads which are fixed to the membrane at pre-determined centres. When concrete is poured, it enters in to the Holdfast cells and so bonds the membrane to the slab; this simple, cost effective system can be used in conjunction with any Alderprufe membrane.

Holdfast can be applied by heat-welding or using **Gastite Tape** (as appropriate)

Dimensions: 100mm x 100mm cells on a membrane background.

Preformed Pipe Collars (Top Hats)

The Preformed Pipe Collar is easily installed wherever penetration of the Gas barrier membrane is necessary for ducting or other services. Seal to the Alderprufe gas barrier membrane using **Gastite Tape**, or heat-bonding as appropriate; seal the collar to the pipe using **Gastite Tape** or **Alderprufe MR50**. Available in 110mm, 123mm, 135mm or 160mm as standard diameter; special sizes can easily be made to order.

Preformed Column Cloaks

Description

Factory formed column cloaks designed to eliminate all risk in applications of membranes at the weakest point. Eliminates any risk of error by applicator guaranteeing a complete waterproof and gastite detail.

Manufactured in the factory with fully tested joints.

The profiles are supplied to the exact size of the stanchions or the profile they are sealing. Heat bonded to the steel and either welded or adhered using **Gastite Tape** to the membrane, the profiles guarantee total security against ingress at the most difficult point to seal – these are always installed as part of our guaranteed systems.

Column Cloaks are made to suit the Alderprufe membrane they are to be used with to form a totally compatible system.

Preformed Corner Cloaks

Description

Factory formed corner cloaks designed to eliminate all risk in applications of membranes at the weakest point. Eliminates any risk of error by applicator guaranteeing a complete waterproof and gastite detail.

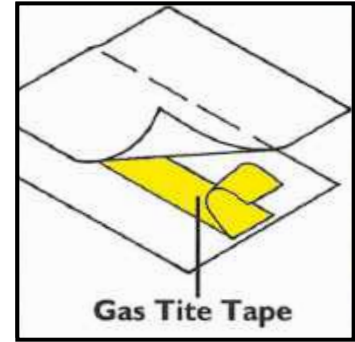
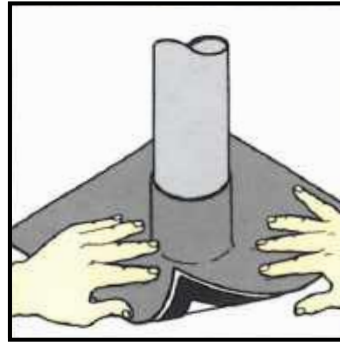
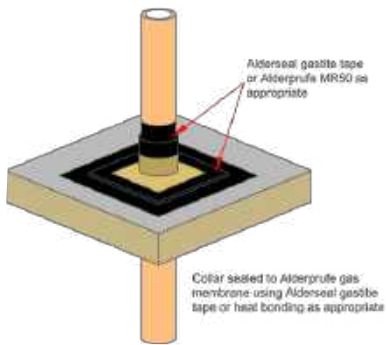
Manufactured in the factory with fully tested joints.

The profiles are supplied to the exact size to suit site requirements and adhered to the membrane or gas dpc using **Gastite Tape** or heat welding as appropriate.

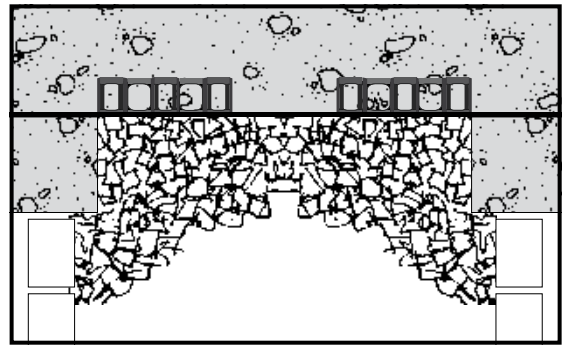
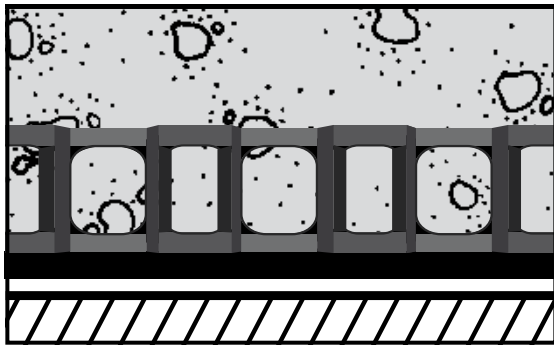
Corner Cloaks are made to suit the Alderprufe membrane they are to be used with to form a totally compatible system.

Use with: Alderprufe GRA* Alderprufe GRM * Alderprufe Ultra VOCM * Super Yellow Gas Barrier * Alderprufe Tuflex * Alderprufe LGM Liquid Gas Membrane * Aldercourse GRA gas dpc * HC Dpc * Tuflex Dpc.

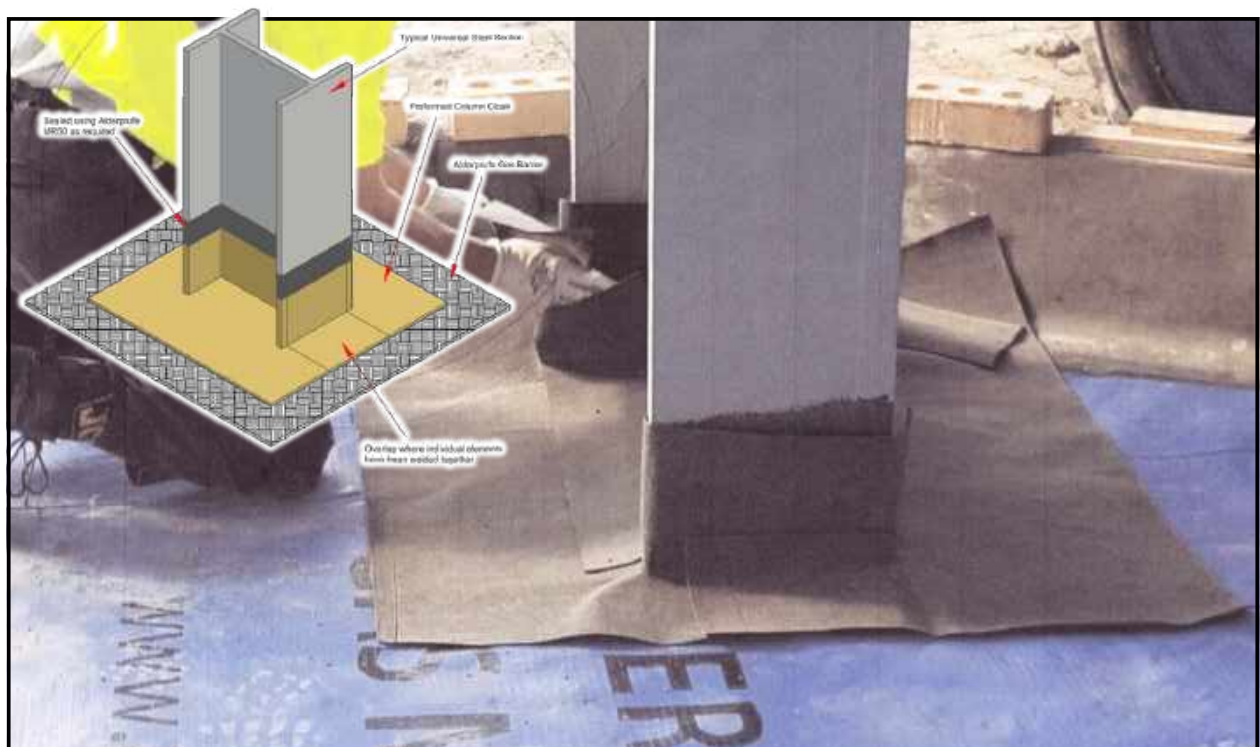
ALDERBURGH Service Pipe Cloak



Alderprufe Membrane Holdfast



ALDERBURGH Column Cloak



APPENDIX 05

Gas Measures Installation Information



Solutions House, Dane Street, Rochdale, OL11 4EZ
Tel: 01706 374416 Fax 01706 376785
VAT Registration No. 306 3068 85

DESPATCH NO: 70475

Page 1

Invoice

R DEVELOPMENTS LTD
T/A ROSSLEE CONSTRUCTION
30 BLACKABBEY STREET
ACCRINGTON
BB5 1HT

Invoice No.	88487
Invoice/Tax Date	24/11/2021
Cust. Order No.	ST128634
Account No.	RDEV01

Quantity	Product Description	Unit Price	DIS %	Net Amount	VC
7.00	roll 2m x 50m ALDERPRUFE GRA	250.00	0.00	1,750.00	T1
7.00	roll GASTITE TAPE 100mm x 15m	12.00	0.00	84.00	T1
24.00	COLUMN CLOAK TUFLEX JC REF ML1911-1	25.00	0.00	600.00	T1
12.00	110mm STANDARD PIPE COLLAR	8.50	0.00	102.00	T1
41.60	m2 400mm x 8m ALDERCOURSE GRA 13 ROLLS	7.65	0.00	318.24	T1

OUR LADYS HGH SCHOOL
BOOTHROYDEN ROAD
BLACKLEY
M9 0SJ
RUSSELL HAWKINS 07399 184627

Net Amount £	2,854.24
VAT Amount @ 20% £	570.85
Carriage £	0.00
Invoice Total £	3,425.09

All goods on this document remain the property of Alderburgh Ltd., until payment is received in full. All risks pass on to the Purchaser upon receipt, and are accepted subject to our terms and conditions.



Photograph 1
Installation of steel frame and suspended floor 04/04/2022 (photograph supplied by client).



Photograph 2
Installation of steel frame and suspended floor 04/04/2022 (photograph supplied by client).



Photograph 3
Detail of membrane beneath suspended floor 04/04/2022 (photograph supplied by client).



Photograph 4
External cladding of new building 23/06/2022 (photograph supplied by client).



Photograph 5
External cladding of new building 20/07/2022 (photograph supplied by client).

APPENDIX 06

Chemical Analyses from Site

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/12170
Issue Number: 1

Date: 19 December, 2022

Client: WML Construction
No 8 Oak Green
Earl Road
Stanley Green Business Park
Cheadle Hulme
Cheshire
SK8 6QL

Project Manager: Thomas Sheen
Project Name: Our Lady's RC School, Blackley
Project Ref: 9670G
Order No: 9670G
Date Samples Received: 12/12/22
Date Instructions Received: 12/12/22
Date Analysis Completed: 19/12/22

Approved by:



Gemma Berrisford
Client Manager

Envirolab Job Number: 22/12170

Client Project Name: Our Lady's RC School, Blackley

Client Project Ref: 9670G

Lab Sample ID	22/12170/1	22/12170/2	22/12170/3	22/12170/4	22/12170/5			Units	Limit of Detection	Method ref
Client Sample No	1	2	3	4	5					
Client Sample ID	SP VS 01	SP VS 02	SP VS 03	SP VS 04	SP VS 05					
Depth to Top										
Depth To Bottom										
Date Sampled	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4AE	4A	4A	4AE	4AE					
% Stones >10mm _A	<0.1	<0.1	<0.1	<0.1	<0.1			% w/w	0.1	A-T-044
pH _D ^{M#}	7.63	10.74	7.39	7.76	7.29			pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.04	0.09	0.06	0.13	0.04			g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	510	1700	670	1100	600			mg/kg	200	A-T-028s
Sulphur (total) _D	549	1040	531	2490	454			mg/kg	50	A-T-024s
Cyanide (total) _A ^{M#}	<1	<1	<1	<1	<1			mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2	<0.2	<0.2	<0.2	<0.2			mg/kg	0.2	A-T-050s
Organic Matter _D ^{M#}	5.8	2.2	5.7	5.4	6.2			% w/w	0.1	A-T-032 OM
Arsenic _D ^{M#}	5	2	5	11	4			mg/kg	1	A-T-024s
Boron (water soluble) _D	<1.0	<1.0	<1.0	<1.0	<1.0			mg/kg	1	A-T-027s
Cadmium _D ^{M#}	0.8	0.8	0.9	0.7	0.9			mg/kg	0.5	A-T-024s
Copper _D ^{M#}	33	25	32	26	30			mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1	<1			mg/kg	1	A-T-040s
Lead _D ^{M#}	54	28	57	44	48			mg/kg	1	A-T-024s
Mercury _D	<0.17	1.48	<0.17	0.56	<0.17			mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	18	17	18	18	18			mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	<1	<1			mg/kg	1	A-T-024s
Vanadium _D ^{M#}	30	30	24	24	24			mg/kg	1	A-T-024s
Zinc _D ^{M#}	66	52	68	64	61			mg/kg	5	A-T-024s

Envirolab Job Number: 22/12170

Client Project Name: Our Lady's RC School, Blackley

Client Project Ref: 9670G

Lab Sample ID	22/12170/1	22/12170/2	22/12170/3	22/12170/4	22/12170/5			Units	Limit of Detection	Method ref
Client Sample No	1	2	3	4	5					
Client Sample ID	SP VS 01	SP VS 02	SP VS 03	SP VS 04	SP VS 05					
Depth to Top										
Depth To Bottom										
Date Sampled	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4AE	4A	4A	4AE	4AE					
Asbestos in Soil (inc. matrix)										
Asbestos in soil _D [#]	NAD	NAD	NAD	NAD	NAD					A-T-045
Asbestos Matrix (visual) _D	-	-	-	-	-					A-T-045
Asbestos Matrix (microscope) _D	-	-	-	-	-					A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A	N/A	N/A					A-T-045

Envirolab Job Number: 22/12170

Client Project Name: Our Lady's RC School, Blackley

Client Project Ref: 9670G

Lab Sample ID	22/12170/1	22/12170/2	22/12170/3	22/12170/4	22/12170/5			Units	Limit of Detection	Method ref
Client Sample No	1	2	3	4	5					
Client Sample ID	SP VS 01	SP VS 02	SP VS 03	SP VS 04	SP VS 05					
Depth to Top										
Depth To Bottom										
Date Sampled	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22	08-Dec-22					
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES					
Sample Matrix Code	4AE	4A	4A	4AE	4AE					
PAH-16MS										
Acenaphthene _A ^{M#}	0.04	0.40	0.03	0.82	0.14			mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	0.01	0.02	<0.01	<0.01	0.03			mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	0.09	0.74	0.05	0.50	0.25			mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	0.45	1.50	0.22	0.47	1.14			mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	0.59	1.17	0.18	0.28	1.20			mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	0.75	1.28	0.24	0.36	1.40			mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	0.38	0.64	0.13	0.14	0.78			mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	0.22	0.47	<0.07	0.12	0.40			mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	0.57	1.47	0.27	0.53	1.24			mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A ^{M#}	0.07	0.12	<0.04	<0.04	0.13			mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	0.96	3.83	0.46	1.53	2.52			mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	0.03	0.39	0.03	0.56	0.09			mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	0.39	0.69	0.11	0.15	0.81			mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	0.21	<0.03	0.67	<0.03			mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.39	2.60	0.24	2.32	0.93			mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	0.96	3.22	0.44	1.30	2.24			mg/kg	0.07	A-T-019s
Total PAH-16MS _A ^{M#}	5.90	18.8	2.40	9.75	13.3			mg/kg	0.01	A-T-019s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.

The results reported herein relate only to the material supplied to the laboratory.

The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.

Analytical results reflect the quality of the sample at the time of analysis only.

Opinions and interpretations expressed are outside the scope of our accreditation.

If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts

All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.

Stones etc. are not removed from the sample prior to analysis.

Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.

Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,

E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.

US indicates Unsuitable Sample for analysis.

NDP indicates No Determination Possible.

NAD indicates No Asbestos Detected.

N/A indicates Not Applicable.

Superscript # indicates method accredited to ISO 17025.

Superscript "M" indicates method accredited to MCERTS.

Subscript "A" indicates analysis performed on the sample as received.

Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Subscript "A" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.

EPH CWG results have humics mathematically subtracted through instrument calculation

TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these

humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client:	WML Construction , No 8 Oak Green, Earl Road, Stanley Green Business Park, Cheadle Hulme, Cheshire, SK8 6QL	Project No:	22/12170
Project:	Our Lady's RC School, Blackley	Date Received:	12/12/2022 (am)
Clients Project No:	9670G	Cool Box Temperatures (°C):	3.2

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/12170/1	22/12170/2	22/12170/3	22/12170/4	22/12170/5
Client Sample No	1	2	3	4	5
Client Sample ID/Depth	SP VS 01	SP VS 02	SP VS 03	SP VS 04	SP VS 05
Date Sampled	08/12/22	08/12/22	08/12/22	08/12/22	08/12/22
A-T-019s	15/12/2022	15/12/2022	15/12/2022	15/12/2022	15/12/2022
A-T-024s	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
A-T-026s	15/12/2022	15/12/2022	15/12/2022	15/12/2022	15/12/2022
A-T-027s	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
A-T-028s	16/12/2022	16/12/2022	16/12/2022	16/12/2022	16/12/2022
A-T-031s	15/12/2022	15/12/2022	15/12/2022	15/12/2022	15/12/2022
A-T-032 OM	15/12/2022	15/12/2022	15/12/2022	15/12/2022	16/12/2022
A-T-040s	15/12/2022	15/12/2022	15/12/2022	15/12/2022	15/12/2022
A-T-042sTCN	19/12/2022	19/12/2022	19/12/2022	19/12/2022	19/12/2022
A-T-044	15/12/2022	15/12/2022	15/12/2022	15/12/2022	15/12/2022
A-T-045	13/12/2022	13/12/2022	13/12/2022	13/12/2022	13/12/2022
A-T-050s	15/12/2022	15/12/2022	15/12/2022	15/12/2022	15/12/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 24/01096
Issue Number: 1

Date: 15 February, 2024

Client: WML Consulting Ltd
Third Floor South
Metropolitan House
Station Rd
Cheadle Hulme
Cheshire
SK8 7AZ

Project Manager: Thomas Sheen
Project Name: Our Lady's RC School
Project Ref: 9670G
Order No: 9670G
Date Samples Received: 01/02/24
Date Instructions Received: 05/02/24
Date Analysis Completed: 15/02/24

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 24/01096

Client Project Name: Our Lady's RC School

Client Project Ref: 9670G

Lab Sample ID	24/01096/1	24/01096/3	24/01096/5	24/01096/7	24/01096/11	24/01096/12	24/01096/13	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	2	1	2	3			
Client Sample ID	VP01	VP02	VP03	VP04	SP VS 02	SP VS 02	SP VS 02			
Depth to Top	0.20	0.20	0.10	0.20	0.20	0.20	0.20			
Depth To Bottom	0.30	0.30	0.20	0.30	0.30	0.30	0.30			
Date Sampled	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	3	3	4AE	3	3	3	3			
% Stones >10mm _A	8.6	<0.1	4.8	<0.1	6.0	<0.1	15.1	% w/w	0.1	A-T-044
pH _D ^{M#}	8.55	8.37	7.38	8.07	-	-	-	pH	0.01	A-T-031s
Sulphate (water sol 2:1) _D ^{M#}	0.10	0.15	<0.01	0.07	-	-	-	g/l	0.01	A-T-026s
Sulphate (acid soluble) _D ^{M#}	620	600	500	450	-	-	-	mg/kg	200	A-T-028s
Sulphur (total) _D	600	526	404	472	-	-	-	mg/kg	50	A-T-024s
Cyanide (total) _A ^{M#}	<1	<1	<1	<1	-	-	-	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC _A	<0.2	<0.2	<0.2	<0.2	-	-	-	mg/kg	0.2	A-T-050s
Organic Matter _D ^{M#}	2.4	2.3	5.7	3.0	-	-	-	% w/w	0.1	A-T-032s
Arsenic _D ^{M#}	5	5	7	7	-	-	-	mg/kg	1	A-T-024s
Boron (water soluble) _D ^{M#}	<1.0	<1.0	<1.0	<1.0	-	-	-	mg/kg	1	A-T-027s
Cadmium _D ^{M#}	0.7	0.7	<0.5	0.8	-	-	-	mg/kg	0.5	A-T-024s
Copper _D ^{M#}	27	31	28	35	-	-	-	mg/kg	1	A-T-024s
Chromium (hexavalent) _D	<1	<1	<1	<1	-	-	-	mg/kg	1	A-T-040s
Lead _D ^{M#}	32	30	48	40	-	-	-	mg/kg	1	A-T-024s
Mercury _D	1.15	0.76	<0.17	0.51	0.63	<0.17	0.69	mg/kg	0.17	A-T-024s
Nickel _D ^{M#}	24	28	15	26	-	-	-	mg/kg	1	A-T-024s
Selenium _D ^{M#}	<1	<1	<1	<1	-	-	-	mg/kg	1	A-T-024s
Vanadium _D ^{M#}	24	31	22	28	-	-	-	mg/kg	1	A-T-024s
Zinc _D ^{M#}	62	65	62	71	-	-	-	mg/kg	5	A-T-024s

Envirolab Job Number: 24/01096

Client Project Name: Our Lady's RC School

Client Project Ref: 9670G

Lab Sample ID	24/01096/1	24/01096/3	24/01096/5	24/01096/7	24/01096/11	24/01096/12	24/01096/13	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	2	1	2	3			
Client Sample ID	VP01	VP02	VP03	VP04	SP VS 02	SP VS 02	SP VS 02			
Depth to Top	0.20	0.20	0.10	0.20	0.20	0.20	0.20			
Depth To Bottom	0.30	0.30	0.20	0.30	0.30	0.30	0.30			
Date Sampled	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	3	3	4AE	3	3	3	3			
Asbestos in Soil (inc. matrix)										
Asbestos in soil _D [#]	NAD	NAD	NAD	NAD	-	-	-			A-T-045
Asbestos Matrix (visual) _D	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope) _D	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test? _D	N/A	N/A	N/A	N/A	-	-	-			A-T-045

Envirolab Job Number: 24/01096

Client Project Name: Our Lady's RC School

Client Project Ref: 9670G

Lab Sample ID	24/01096/1	24/01096/3	24/01096/5	24/01096/7	24/01096/11	24/01096/12	24/01096/13	Units	Limit of Detection	Method ref
Client Sample No	1	1	1	2	1	2	3			
Client Sample ID	VP01	VP02	VP03	VP04	SP VS 02	SP VS 02	SP VS 02			
Depth to Top	0.20	0.20	0.10	0.20	0.20	0.20	0.20			
Depth To Bottom	0.30	0.30	0.20	0.30	0.30	0.30	0.30			
Date Sampled	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24	31-Jan-24			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	3	3	4AE	3	3	3	3			
PAH-16MS										
Acenaphthene _A ^{M#}	0.01	0.06	0.01	<0.01	-	-	-	mg/kg	0.01	A-T-019s
Acenaphthylene _A ^{M#}	<0.01	<0.01	<0.01	<0.01	-	-	-	mg/kg	0.01	A-T-019s
Anthracene _A ^{M#}	<0.02	0.10	<0.02	<0.02	-	-	-	mg/kg	0.02	A-T-019s
Benzo(a)anthracene _A ^{M#}	<0.04	0.30	0.10	<0.04	-	-	-	mg/kg	0.04	A-T-019s
Benzo(a)pyrene _A ^{M#}	<0.04	0.28	0.11	<0.04	-	-	-	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene _A ^{M#}	<0.05	0.32	0.12	<0.05	-	-	-	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene _A ^{M#}	<0.05	0.13	<0.05	<0.05	-	-	-	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene _A ^{M#}	<0.07	0.12	<0.07	<0.07	-	-	-	mg/kg	0.07	A-T-019s
Chrysene _A ^{M#}	<0.06	0.34	0.14	<0.06	-	-	-	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene _A	<0.04	<0.04	<0.04	<0.04	-	-	-	mg/kg	0.04	A-T-019s
Fluoranthene _A ^{M#}	0.12	0.72	0.27	<0.08	-	-	-	mg/kg	0.08	A-T-019s
Fluorene _A ^{M#}	0.01	0.05	<0.01	<0.01	-	-	-	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene _A ^{M#}	<0.03	0.15	0.05	<0.03	-	-	-	mg/kg	0.03	A-T-019s
Naphthalene _A ^{M#}	<0.03	0.06	<0.03	<0.03	-	-	-	mg/kg	0.03	A-T-019s
Phenanthrene _A ^{M#}	0.09	0.38	0.14	<0.03	-	-	-	mg/kg	0.03	A-T-019s
Pyrene _A ^{M#}	0.11	0.67	0.27	<0.07	-	-	-	mg/kg	0.07	A-T-019s
Total PAH-16MS _A	0.34	3.68	1.21	<0.08	-	-	-	mg/kg	0.01	A-T-019s

Report Notes

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
 The results reported herein relate only to the material supplied to the laboratory.
 The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
 Analytical results reflect the quality of the sample at the time of analysis only.
 Opinions and Interpretations expressed are outside our scope of accreditation.
 The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
 A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "A"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
 Stones etc. are not removed from the sample prior to analysis
 Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs

Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.

Soil Chemical Analysis:

All results are reported as dry weight (<40°C).
 For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
 For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
 All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:

For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
 Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:

EPH CWG results have humics mathematically subtracted through instrument calculation.
 Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: WML Consulting Ltd, Third Floor South, Metropolitan House, Station Rd,
Cheadle Hulme, Cheshire, SK8 7AZ

Project: Our Lady's RC School

Clients Project No: 9670G

Project No: 24/01096

Date Received: 05/02/2024 (am)

Cool Box Temperatures (°C): 13.2 & 13.5

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	24/01096/1	24/01096/3	24/01096/5	24/01096/7	24/01096/11	24/01096/12	24/01096/13
Client Sample No	1	1	1	2	1	2	3
Client Sample ID/Depth	VP01 0.20-0.30m	VP02 0.20-0.30m	VP03 0.10-0.20m	VP04 0.20-0.30m	SP VS 02 0.20-0.30m	SP VS 02 0.20-0.30m	SP VS 02 0.20-0.30m
Date Sampled	31/01/24	31/01/24	31/01/24	31/01/24	31/01/24	31/01/24	31/01/24
A-T-019s	09/02/2024	09/02/2024	09/02/2024	09/02/2024			
A-T-024s	15/02/2024	15/02/2024	15/02/2024	15/02/2024	15/02/2024	15/02/2024	15/02/2024
A-T-026s	12/02/2024	12/02/2024	13/02/2024	12/02/2024			
A-T-027s	12/02/2024	12/02/2024	14/02/2024	12/02/2024			
A-T-028s	13/02/2024	13/02/2024	14/02/2024	13/02/2024			
A-T-031s	12/02/2024	12/02/2024	13/02/2024	12/02/2024			
A-T-032s	13/02/2024	13/02/2024	13/02/2024	13/02/2024			
A-T-040s	12/02/2024	12/02/2024	13/02/2024	12/02/2024			
A-T-042sTCN	09/02/2024	09/02/2024	09/02/2024	09/02/2024			
A-T-044	09/02/2024	09/02/2024	12/02/2024	09/02/2024	09/02/2024	09/02/2024	09/02/2024
A-T-045	07/02/2024	07/02/2024	08/02/2024	07/02/2024			
A-T-050s	13/02/2024	13/02/2024	14/02/2024	13/02/2024			

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

APPENDIX 07

Chemical Analysis from Supplier



Certificate of Analysis

Client: STUART BALDWIN
(T283) SED SERVICES LTD
LANDGATE FARM
LANDGATE LANE
BRYN
WIGAN WN4 0EJ

Originator: TOPSOIL
SOIL

Lab ID: 23669 - 568518
Sample ID: TOPSOIL
Sample Weight: 2150g

Date Received: 30/06/2022
Date Reported: 12/07/2022

BS 3882 : 2015 SPECIFICATION FOR TOPSOIL Multipurpose Grade

				Compliant with range (Y/N)					
		Unit	Result	Multi-P	Acid	Calc	Low-F	Low-F Acid	Low-F Calc
Texture:	Clay	% w/w	9						
	Silt	% w/w	7						
	Sand	% w/w	84						
	Textural Class		Loamy Sand	Y	Y	Y	Y	Y	Y
<i>See area of permitted soil textural classes in Fig. 1.</i>									
Organic Matter:		% w/w	5.0	Y	Y	Y	Y	Y	Y
Coarse	>2 mm	% w/w	9.1	Y	Y	Y	Y	Y	Y
Fragment	>20 mm	% w/w	0.0	Y	Y	Y	Y	Y	Y
Content:	>50 mm	% w/w	0.0	Y	Y	Y	Y	Y	Y
Soil pH:		N	8.1	Y	Y	Y	N	N	Y
Carbonate:		% w/w	2.8			Y			Y
Available	Nitrogen	% w/w	0.243	Y	Y	Y			
Plant	Phosphorus	mg/l	54.4 (4)*	Y	Y	Y	N	N	N
Nutrients:	Potassium	mg/l	812.1 (5)*	Y	Y	Y			
	Magnesium	mg/l	122.8 (3)*	Y	Y	Y			
Carbon:Nitrogen Ratio:		-1	11.9	Y	Y	Y	Y	Y	Y
Exchangeable Sodium Percentage:		%	6.3						
Phytotoxic	Total Zinc	mg/kg	51.9	Y	Y	Y	Y	Y	Y
Contaminants:	Total Copper	mg/kg	14.8	Y	Y	Y	Y	Y	Y
	Total Nickel	mg/kg	<10	Y	Y	Y	Y	Y	Y
Visible	> 2mm	% w/w	0.00	Y	Y	Y	Y	Y	Y
Contaminants:	Plastics	% w/w	0.00	Y	Y	Y	Y	Y	Y
	Number of Sharps		0	Y	Y	Y	Y	Y	Y
Additional	Available Sodium	mg/l	133.5						
Analysis:	Available Calcium	mg/l	1115.0						
	Conductivity	uS/cm	2920	Y					
Compliance:				Y	N	N	N	N	N

Results are expressed on a dry matter basis.

* Soil indices from RB209

Released by:

Myles Nicholson

Date: 12/07/2022

DECLARATION:

I certify that this sample has been analysed by NRM in accordance with BS 3882 Specification for Topsoil (2015).

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS

Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com **www:** www.nrm.uk.com



Analytical Report

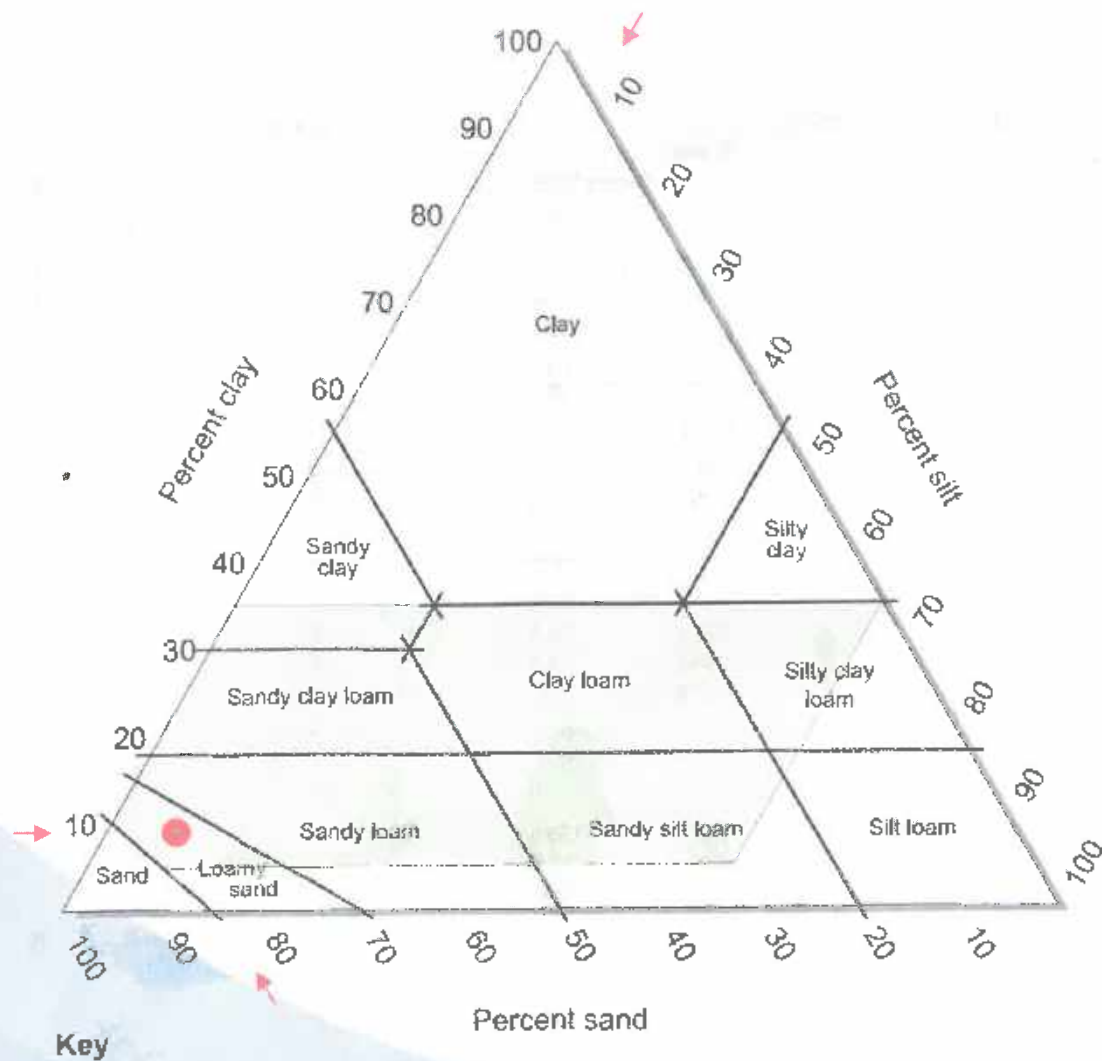
Client: STUART BALDWIN
(T283) SED SERVICES LTD
LANDGATE FARM
LANDGATE LANE
BRYN
WIGAN WN4 0EJ

Originator: TOPSOIL
SOIL

Lab ID: 23689 - 568518
Sample ID: TOPSOIL
Sample Weight: 2150g

Date Received: 30/06/2022
Date Reported: 12/07/2022

Fig. 1. Textural Class: Loamy Sand (compliant)



NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS

Tel: +44 (0) 1344 886338 **Fax:** +44 (0) 1344 890972 **Email:** enquiries@nrm.uk.com www.nrm.uk.com

NRM Laboratories is a division of Coward Scientific Ltd, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS. Registered Number: 25393394

APPENDIX 08

Soil Assessment Criteria

Site Specific Assessment Criteria for Residential (without homegrown produce) assuming a 1% SOM for hydrocarbons

Contaminant	Assessment Criteria for Residential (without homegrown produce) (mg/kg)
Metals	
Arsenic	40
Boron	11,000
Cadmium	85
Chromium III	910
Chromium VI	6
Copper	7,100
Lead*	310
Mercury	1.2
Nickel	180
Selenium	430
Vanadium	1,200
Zinc	40,000
Non – Metals	
Phenol	440 ^{dir} (460)
Polyaromatic Hydrocarbons (PAH)	
Benzo[a]anthracene	11
Benzo[a]pyrene	3.2
Benzo[b]fluoranthene	3.9
Benzo[ghi]perylene	360
Benzo[k]fluoranthene	110
Chrysene	30
Dibenz[ah]anthracene	0.31
Fluoranthene	1,500
Indeno[123-cd]pyrene	45
Naphthalene	2.3
Pyrene	3,700

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* Where not included in the S4UL's criteria for a limited number of contaminants, namely lead, have been derived by DEFRA in their document entitled SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination, April 2014.

Contaminant	Criteria (mg/kg)
Volatile Organic Compounds – (VOCs) 1% SOM	
Benzene	0.38
Ethylbenzene	83
Toluene	880 ^{vap} (869)
Xylene	79
1,2-Dichloroethane	0.0092
1,1,1-Trichloroethane	9.0
Tetrachloroethane	3.9
Tetrachloroethene (PCE)	0.18
Tetrachloromethane	0.026
Trichloroethene (TCE)	0.017
Trichloromethane	1.2
Vinyl Chloride	0.00077
Semi-Volatile Organic Compounds (SVOCs) 1% SOM	
1,2-Dichlorobenzene	24
1,4-Dichlorobenzene	61
1,2,4-Trichlorobenzene	2.6
Hexachlorobenzene	4.1(0.2) ^{vap}
Total Petroleum Hydrocarbons – TPH	
Aliphatic C5-6	42
Aliphatic C6-8	100
Aliphatic C8-10	27
Aliphatic C10-12	130(48) ^{vap}
Aliphatic C12-16	1,100(24) ^{sol}
Aliphatic C16-35	65,000(8.48) ^{sol}
Aliphatic C35 - 44	65,000(8.84) ^{sol}
Aromatic C5 – 7 (benzene)	370
Aromatic C7 – 8 (toluene)	860
Aromatic C8-10	47
Aromatic C10-12	250
Aromatic C12-16	1,800
Aromatic C16-21	1,900
Aromatic C21-35	1,900
Aromatic C35 - 44	1,900

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