

The site plan illustrates the proposed extension of the footway and cycle lane. The plan shows a large building with a 'Service Bay' and 'Shaded Delivery Bay'. A 'Proposed Extension of Footway' is shown in red, and a 'Proposed Cycle Lane' is shown in pink. The plan includes parking areas with '12 Car Spaces' and '28 Car Spaces', and various traffic signs and markings. The plan also shows the 'A66 DUEL CARRIAGE-WAY' and 'CHURCH CRESCENT'.

Issued by: Swan Environmental Services Ltd
Cedars Business Centre
Barnsley Road
Hemsworth
WF9 4PU

Client: EuroGarages

Contact: Natalie Ternent

This report has been prepared by Swan Environmental Limited with all reasonable skill, care and diligence, and taking account of the manpower and resources devoted to it by agreement with the client.

This report has been prepared for the sole use of EuroGarages and Swan Environmental. The report may not be relied on by any other party without written agreement from Swan Environmental Limited. Any such party relies upon the report at their risk.

Unless stated the report assumes that the facility will continue to operate for its current purpose without significant change.

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Revision history			
Issue No.	Date	Revision detail	By
01	18 th December 2019	Original	S Harrison
02	9 th January 2020	Revised with complete information set	S Harrison

Quality Assurance		
Date	Checked by	Position
9 th January 2020	J Devlin	Project Manager

Table of Contents

EXECUTIVE SUMMARY	4
1. INTRODUCTION	5
1.1 CONTEXT	5
1.2 SITE SETTING	5
1.3 BACKGROUND INFORMATION	5
1.4 SCOPE OF WORKS	5
2. VALIDATION	6
2.1 VALIDATION OBJECTIVES	6
2.2 ASBESTOS IN SOILS	6
2.2.1 Outline	6
2.2.2 Validation	7
2.3 GROUND GAS	7
2.3.1 Outline	7
2.3.2 Validation	7
2.4 UNEXPECTED CONTAMINATION	8
3. ANALYTICAL RESULTS	9
3.1 SOIL SAMPLING AND CERTIFICATION	9
3.2 COMPARISON TO HUMAN HEALTH LEVELS	9
4. CONCLUSIONS AND RECOMMENDATIONS	10

Tables

Table 1	Executive Summary
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Appendices

Appendix 1	Site Plans
Appendix 2	Slab Details
Appendix 3	Membrane Validation
Appendix 4	Soils Certificates
Appendix 5	Soils Pictures

EXECUTIVE SUMMARY

Overview	Swan Environmental Limited (Swan) undertook Validation at the Neath PFS and KFC construction project on behalf of EuroGarages. A location layout is presented in Appendix A.
Site Setting	The site comprised an area of open land, which has now been developed into the Petrol Filling Station and KFC units, with associated parking. The site had previously been investigated by Geo2, with recommendations made on validation measures regarding ground gas and asbestos, contained within their remediation strategy.
Field Observations	No significant visual or olfactory evidence of contamination was observed during the sampling activities, there was no visual identification of asbestos.
Human Health Results	All levels of the soils sampled are within human health criteria, no risks are present. No asbestos detected.
Gas protection	The slab and membrane designs are present, witnessed as correctly installed by Butler and Young.
Asbestos	Asbestos samples were taken from 3 key locations on site. All samples returned No Asbestos Detected. Levels were built up over areas with asbestos identified or hard standing was installed.
Recommendation	Following the works undertaken and evidence provided, the remediation has been completed and the site is suitable for occupation.

1. INTRODUCTION

1.1 Context

Swan Environmental Limited was retained by EuroGarages to validate the remediation measures, as per the Remediation Strategy prepared by Geo2 – ref: 19/0776

The objective of the works was to break linkages with regard to potential gas generation and potential contact with asbestos.

1.2 Site Setting

The site is situated in a rural area located approximately 14km north-east of the city of Neath, South Wales. Figures 1 and 2 in Appendix A show the location of the site. The site was open land surrounded by roads, with development taking place of a petrol filling station and food outlet.

The site is accessed via the High Street (an access road leading to a roundabout and A465 dual carriageway), located to the east of the village of Cwmgwrach.

1.3 Background Information

Swan Environmental were requested to undertake validation of the Eurogarages Neath site in line with the reports from Geo2. Geo2 had identified some areas of suspected asbestos, along with a requirement for gas monitoring.

A gas monitoring report was produced, with the classification of the site given as CS1. However, the report identified some anomalous results so moved the classification of the site to CS2 as a precautionary measure.

Reports that have informed this report are:

- Geo2 Phase 1 and Phase 2 Report January 2019
- Geo2 Gas Report January 2019
- Geo2 remediation Strategy January 2019

1.4 Scope of works

The scope of the work comprised:

- Collection of confirmatory samples from stone and topsoil in landscaping areas
- Review of supplied soils certification from the suppliers
- Confirmation of gas protection measures
- Report submission of findings

2. VALIDATION

2.1 Validation Objectives

The objectives of this report are to:

1. Confirm a clean capping layer was installed
2. Confirm no asbestos risks are present
3. Confirm gas protection measures
4. Review any unexpected contamination
5. Confirm the site is safe for occupation

The design of this process has been based on an assessment of the ground conditions from previous reports and the investigations previously carried out, along with suggestions contained within the remediation strategy.

2.2 Asbestos in Soils

2.2.1 Outline

The specification within the remediation strategy is:

To ensure this linkage is severed in all landscaped areas, the capping should consist of 400mm of clean topsoil overlying a 150mm layer of crushed stone / brick or other no mixing layer to prevent exposure to the underlying soils.

Should a reduced level dig be undertaken in any areas of the site, a capping layer of this thickness should be retained, with the exception of when ground level has been reduced to below the base of the Made Ground. In this instance, risks have been removed and thicknesses of imported material adjusted to suit the requirements of the development.

The site levels have been generally raised, with stone base and topsoil imported for the landscaping areas, therefore the second paragraph does not apply to the validation.

Locations of suspected asbestos were:

- V1: Under the main entrance and exit road for the site
- V2: Under hard standing at the site crossover
- TP1: Under the drive through lane
- TP3: Under the restaurant slab

The sample plan from the Geo2 report is reproduced in Appendix 1.

2.2.2 Validation

Given that the locations of suspected asbestos are virtually all under hard standing, or in built up areas, this report has reviewed the information provided for the landscaping areas nearby.

Swan Environmental attended site on 19th December to conduct a visual inspection of the landscape fill. We witnessed the contractor digging in the landscaping and exposing the soils that had been placed.

Photographs are at Appendix 5. All locations were observed to have the required depths of 400mm minimum topsoil, with 150mm minimum of clean stone beneath. Levels to the PFS kiosk end of the site had been significantly raised with clean material.

Chemical analysis has been provided for the soils and is presented in Appendix 4, along with further chemical samples taken by Swan Environmental, discussed in section 3 of this report.

2.3 Ground Gas

2.3.1 Outline

The specification for ground gas protection is:

A minimum 1200-gauge polyethylene membrane (DPM2). resistant to CO₂ and CH₄ should be used for each building. The membrane should be lapped at any joints and pass beneath internal walls. The gas membrane must be installed on smooth surfaces to prevent any tearing and sealed to the Damp Proof Coursing (DPC), which is taken through the blockwork, up the wall and incorporated below the DPC on the outer leaf. There will need to be a minimum of 200mm overlap to be bonded with double-sided tape and then secured with jointing tape. The membrane should be covered by a screed immediately after installation to protect it.

Details of the specification of the membrane will need to be agreed with NPTCBC prior to purchase and installation. The membrane should be installed by a suitable experienced and competent person and details of the installation will need to be independently verified.

2.3.2 Validation

The membrane was installed by the main contractor, TSG.

The membrane type is 1200g 300MU DPM, laps sealed with double sided tape then sealed with 75mm tape across top of lap and all penetrations.

The membrane installation was witnessed by Butler and Young as an independent specialist and the specialist building control consultants. A copy of their inspection report is contained within Appendix 3.

2.4 Unexpected Contamination

On consultation with the contractor that conducted the project works, TSG, there has been no unexpected contamination encountered.

TSG informed us that the site levels had generally been built up. In the locations of the tank farm and foundations we have been informed that the ground conditions were in line with those from the borehole and trial pitting exercises conducted by Geo2.

3. ANALYTICAL RESULTS

3.1 Soil Sampling and Certification

Certification has been provided by the supplier of the soils to confirm the specification of both of the supplied materials. All certification is in order and demonstrates the compliance.

The information provided is contained within Appendix 4.

3.2 Comparison to Human Health levels

All levels in the 3 additional soils samples undertaken by Swan Environmental are below the target levels for Human Health in a commercial end use setting.

Analytical results are contained within Appendix 3.

4. CONCLUSIONS AND RECOMMENDATIONS

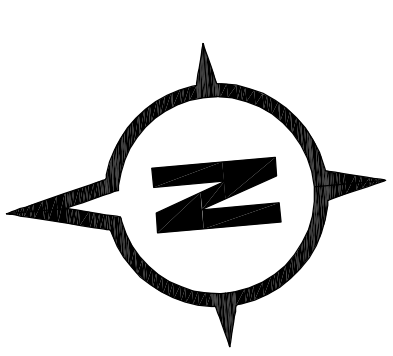
Conclusions

- Site levels have been generally raised, encapsulating the asbestos that was identified within the ground investigation.
- Imported materials consisted of stone and topsoil in the exposed areas of landscaping.
- Depth of material provides a system of clean cover, in accordance with the remediation strategy.
- The gas membrane and slab have been installed as per the requirements of the manufacturer and to the suggested design, in accordance with the CS2 requirement.
- No unexpected contamination was encountered at the site during the development.

Recommendations

- The site is suitable for commercial use.
- No further works are required.

Appendix 1 Site Plans



Key:

Pedestrian Route
Tactile paving and dropped kerbs at all appropriate points along the route to DDA standards

Visibility Splay



L 18.05.18
DRIVE THROUGH
TRACKING ADDED

K 14.05.18
DRIVE THROUGH
BUILDING AMENDED

J 12.05.17
BUILDING AMENDED
FOLLOWING PLANNING

I 05.05.17
PLANTING ADDED TO
EAST BOUNDARY.
FENCE TYPE AMENDED
FOLLOWING PLANNING

H 31.03.17
REDUNE BOUNDARY
UPDATED

G 16.03.17
PEDESTRIAN ROUTE
EXTENDED FOLLOWING
COMMENTS FROM PLANNING

F 15.03.17
ONE WAY
CIRCULATION TO
SITE, SHARED
SUSPENDED PPS
PARKING 2.0m BAYS

E 09.03.17
PEDESTRIAN
ACCESS IMPROVED
VISIBILITY SPLAY
ADDED
DELIVERY ZONE
ADDED

D 03.02.17
PARKING NOTE
AMENDED

C 01.02.17
TRANSPORT
CONSULTANT
INFORMATION
ADDED

B 30.01.17
NOTES AMENDED

A 26.01.17
SCALE BAR ADDED.

REVISIONS

CLIENT EURO GARAGES LTD

PROJECT BLAENGWACH
NEATH
SA11 5NZ

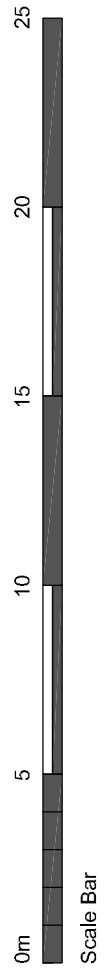
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LAYOUT

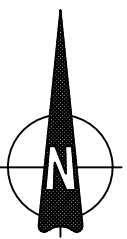
DATE 06.01.17

SCALE 1:200@A1

JOB ID 1429

DWG 3L





LEGEND	
	Foul Drainage
	Surface Drainage
	Combined Drainage
	Electricity
	Electricity High Voltage
	Electricity Low Voltage
	Gas
	Ground Probing Radar
	Water
	Cable Television
	Close Circuit Television
	Communication
	British Telecom
	Compressed Air
	Offset Fill-Line
	Oil Pipe
	Pipe
	Ventilation
	Fuel Line
	Vapour Recovery
	Gauge Line
	Telemetry
	Fibre Optics
	Unknown
	Fence
	Edge of Canopy
	Gully Run
	End Of Trace
	Do Not Drill / No Drill Zone
	Borehole
	Trial Pit Location
	Excavated Area
	Window Sample
	Soil Vapour Sample
	T TANK* - W=Water F=Foam U=Unknown
	P=Product C=Concrete

ABBREVIATIONS	
AR	Assumed Route
BO	Bollard
BOILL	Illuminated Bollard
BH	Borehole
BTB	British Telecom Box
BTIC	British Telecom Cover
CBBOX	Control Box
CB FENCE	Closeboard Fence
CR	Cable Riser
CATV	Cable TV
CP	Catch Pit
Co	Concrete
CON	Conifer
CL	Cover Level
d	Depth (in metres)
D/CHAN	Drainage Channel
DP	Down Pipe
ER	Earth Rod
EIC	Electricity IC
EP	Electricity Pole
EOC	Edge of Canopy
EOT	End of Trace
F/BED	Flower Bed
FH	Fire Hydrant
FS	Fire Switch
GV	Gas Valve
G	Gully
GPR	Ground Probing Radar
G/RUN	Gully Run
HT	Height
H/CHESTNUT	Horse Chestnut
H/HORN	Hawthorn
IC	Inspection Cover
IL	Invert Level
INT	Interceptor
KO	Kerb Outlet
LP	Lamp Post
LC	Lighting Column
LH	Lamp Hole
MH	Manhole Cover
MW	Monitoring Well
NPV	No Pipes Visible
OH	Overhead Service
OSA	Off Survey Area
OSBM	Ordnance Survey Bench Mark
PR	Pipe Riser
P	Post
P&R FENCE	Post & Rail Fence
RET WALL	Retaining Wall
RWP	Rain Water Pipe
RS	Road Sign
RE	Rodding Eye
SIA	Soakaway
S/BIRCH	Silver Birch
SAP	Sapling
SEC FENCE	Security Fence
SL	Spot Light
SP	Soil Pipe
ST	Stop Tap
SV	Sluice Valve
SVP	Soil Vent Pipe
SVS	Soil Vapour Sample
TBM	Temporary Bench Mark
TFR	Taken From Records
TL	Traffic Light
TP	Telegraph Pole
TS	Traffic Sensor
UTL	Unable to Locate
UTR	Unable to Raise
UTS	Unable to Survey
UTT	Unable to Trace
VR	Vapour Recovery
VP	Vent Pipe
WL	Water Level
WM	Water Meter
WFC	Water Filled Chamber
WP	Waste Pipe
WR	Water Riser
WS	Window Sample
Ø	Pipe Diameter

General Notes: Please note ground penetrating radar depths are approximate.



Approx extents of Japanese knotweed



Approx extents of thick vegetation (no access)



Geo² soilbore *without* gas installation



Geo² soilbore *with* gas installation



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Client

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11 The Mending Rooms, Sunny Bank Mills, Town St,
Farsley, Leeds, LS28 5UJ.

Site Location

Blaengwrach (Church Crescent)
Neath
SA11 5NZ

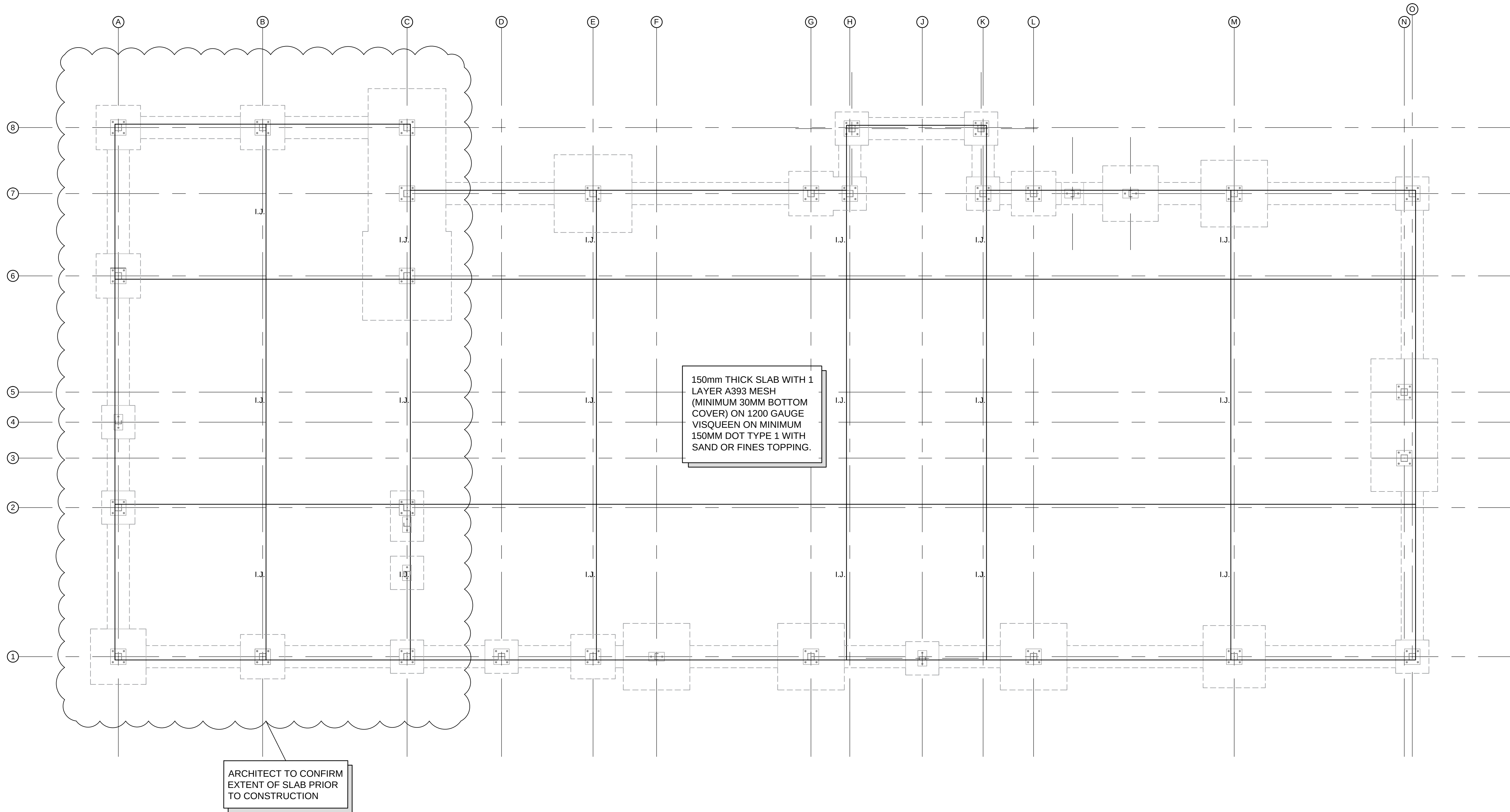
Surveyed by	R.J.	Drawn by	A.B.	Approved by	.
Drawing No.	0518-GEO2-5947	Revision	-		
Scale	1:200@ A1	Date	25-05-18	Sheet No.	1 of 1

DISCLAIMER: The location of under ground services shown on this drawing has been determined using electro-magnetic (and/or ground probing radar, where requested) techniques and visual observations. the limitations of this drawing should be realised and no guarantee can be given that all services have been identified. This drawing may not include the location of all public services that may cross the site and therefore the relevant service drawings should be obtained from the appropriate utility company and used in conjunction with this drawing. Additional services, structures or other below ground obstructions not indicated on this drawing may be present on site. reference should be made to historical plans and as built drawings. Excavations in the vicinity of services should be carried out with due diligence ref: HSG47 document "avoiding dangers from underground services". Location accuracy is determined by referring to manufacturers guidelines for the systems deployed. Reference should be made to the latest version of AMS Ltd site procedures document for utility location surveys. Please note ground penetrating radar depths are approximate only.

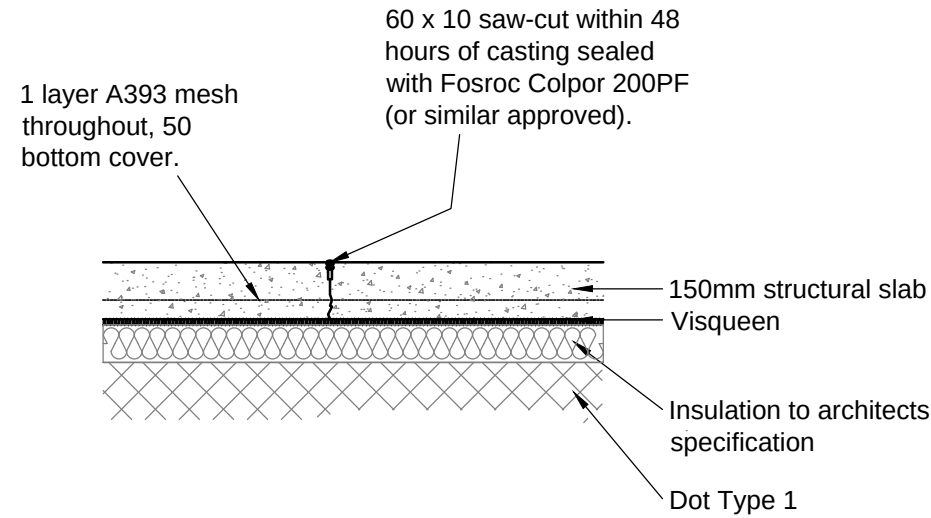


Appendix 2 Slab Drawings

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 mm



PROPOSED GROUND SLAB LAYOUT
1:50



INDUCED TIED JOINT (IJ)
1:20

FOUNDATION NOTES:

1. This drawing must not be scaled; work to figured dimensions only.
2. This drawing is to be read in conjunction with all relevant drawings, documents and specifications.
3. Ground to be stripped back and proof rolled, any soft spots removed and replaced with compacted DoT Type 1.

C1	03/04/2019	YA	Amended to Pad and Strip footing foundation solution to suit column plan REV B	RF	NJS
P1	30/10/2018	YA	Standard Details	RF	NJS
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: CONSTRUCTION

SALDANHA
DESIGN AND MANAGEMENT LIMITED

Amalfi,
6 Parkfield Road,
Shipley
BD18 4EA

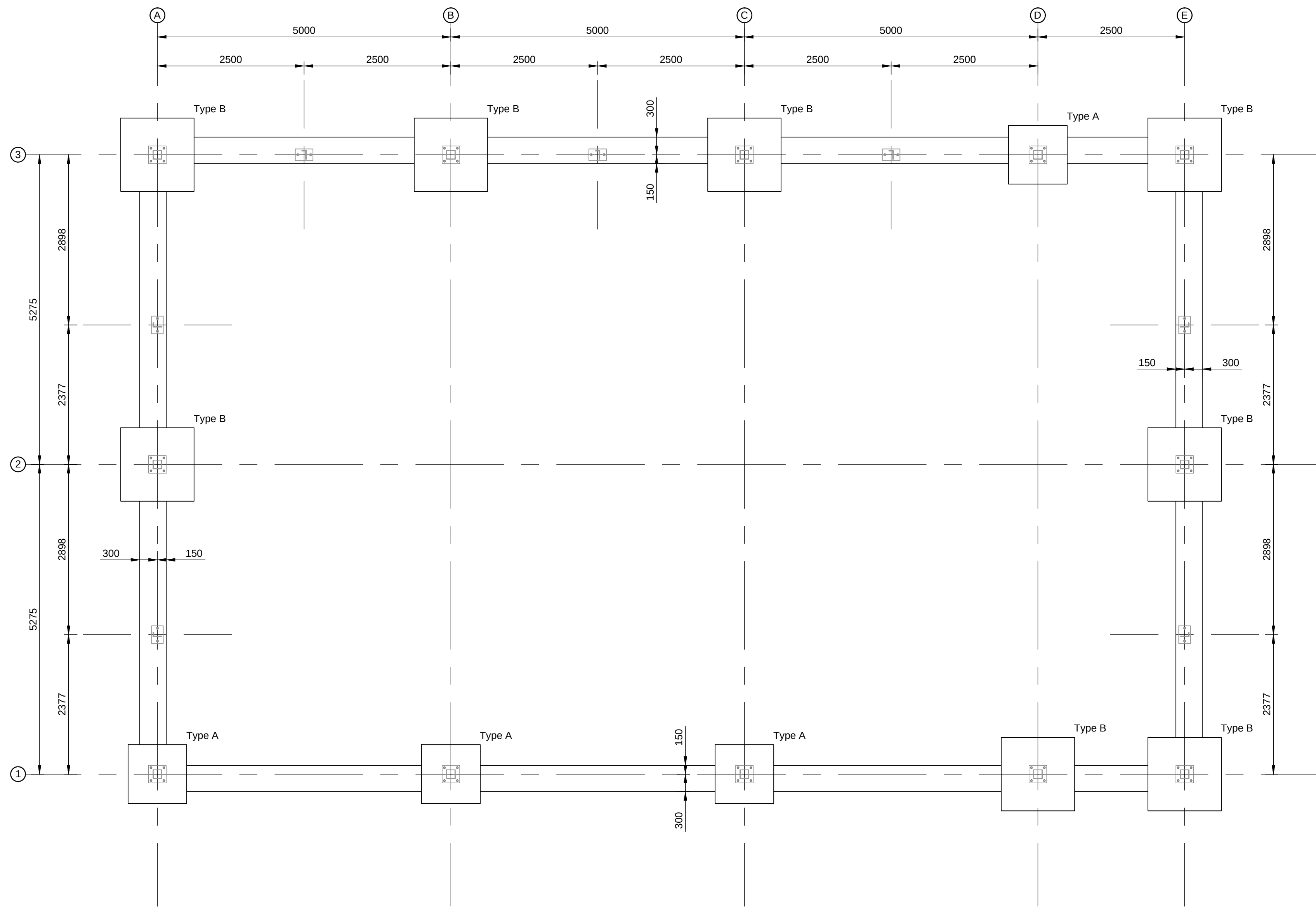
T: (01274) 531929
E: info@saldanha.co.uk
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CLIENT: EURO GARAGES

PROJECT: NEITH KFC

TITLE: GROUND SLAB AND DETAILS

SCALE @ A1: AS-SHOWN		DATE: APRIL_2019
DRAWN: YA	DRAWING CHECK: RF	DESIGN CHECK: NS
PROJECT No: 2189	DRAWING No: 501	REV: C1



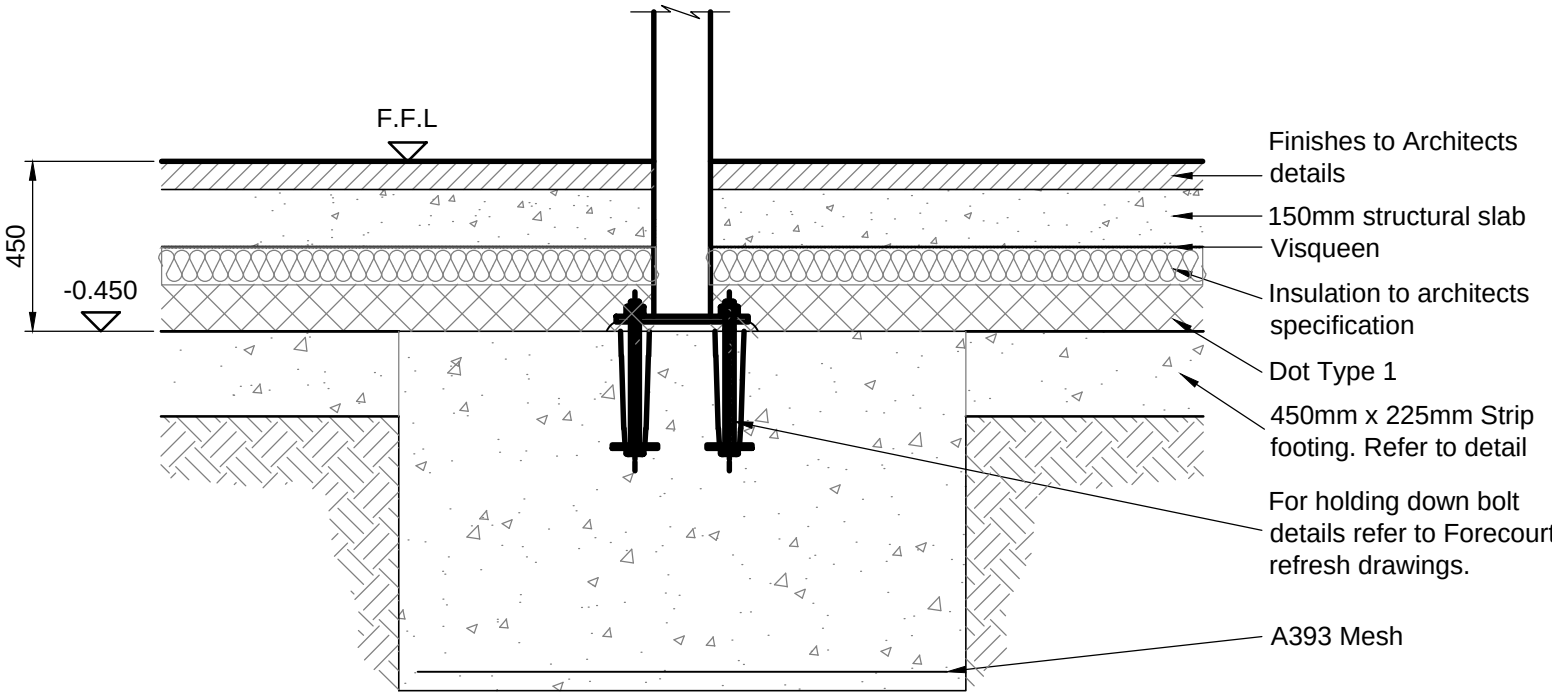
PROPOSED PAD FOUNDATION LAYOUT
1:50

FOUNDATION SCHEDULE	
PAD FOUNDATION REFERENCE	DIMENSIONS (mm)
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TYPE B	1250Lx1250Wx1000DP

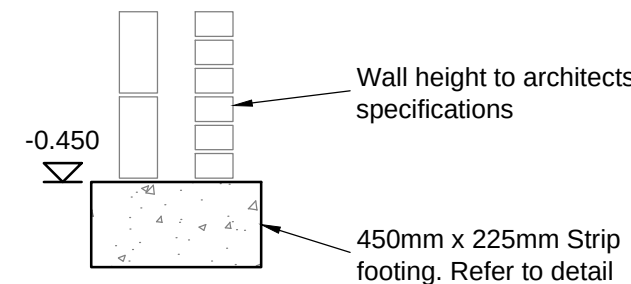
PLEASE NOTE TYPICAL EDGE DETAIL TO BE IN ACCORDANCE WITH FABRICATOR/ ARCHITECT

FOUNDATION AND GRIDLINE SETTING OUT TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK ON SITE

SUPERSTRUCTURE AND STEELWORK AND SETTING OUT BY OTHERS



FOUNDATION DETAIL TYPICAL
1:20



STRIP FOOTING -SECTION Y-Y
1:25

FOUNDATION NOTES:

1. This drawing must not be scaled; work to figured dimensions only.
2. This drawing is to be read in conjunction with all relevant drawings, documents and specifications.
3. Foundations taken down to natural ground, any soft spots removed and replaced with compacted DoT Type 1.
4. Foundations typically centered on grid lines UNO
5. Concrete mix to be C28-35 designated mix

P1	25/09/2019	YA	Standard Details	RF	NJS
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: APPROVAL

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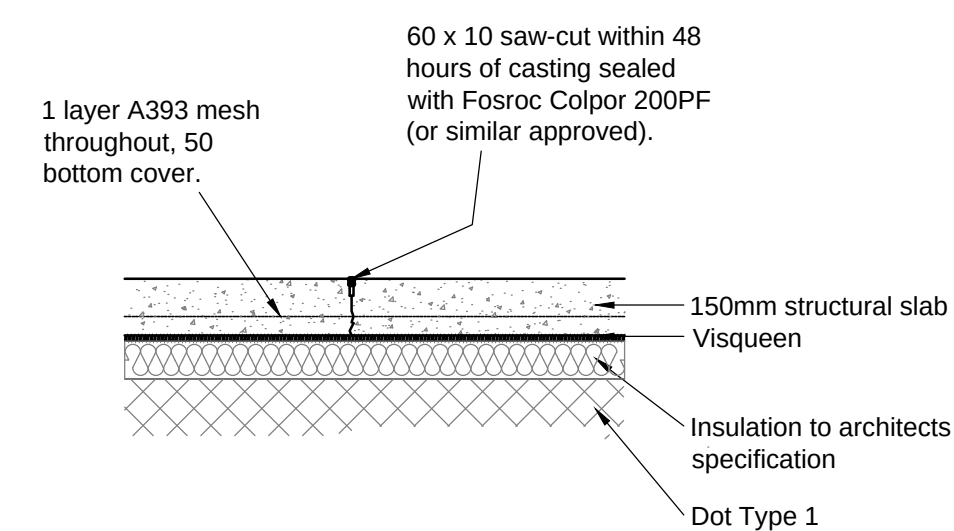
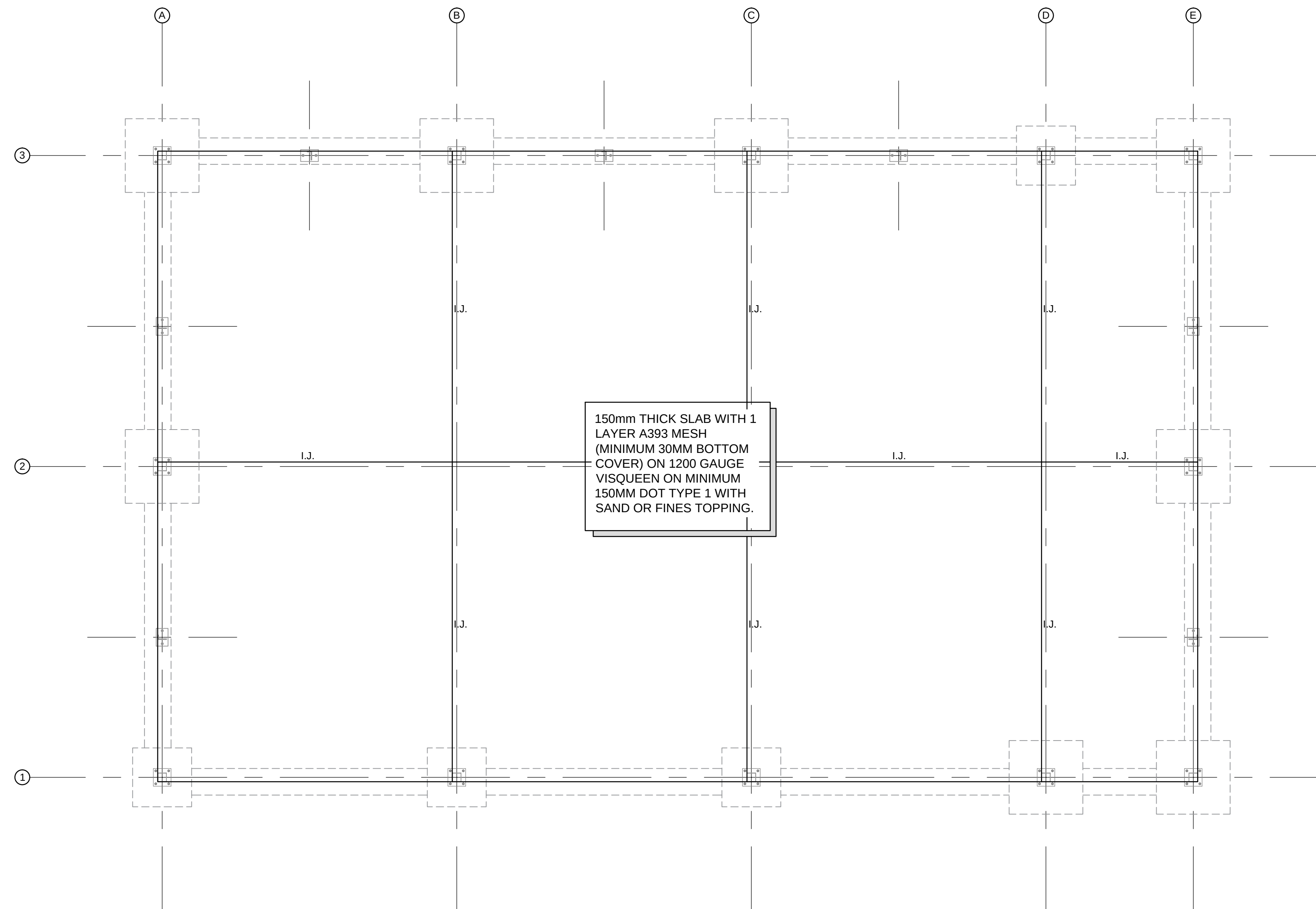


CLIENT: EURO GARAGES

PROJECT: NEATH KIOSK

TITLE: FOUNDATION LAYOUT AND DETAILS

SCALE @ A1: AS-SHOWN	DATE: SEPTEMBER 2019
DRAWN: YA	DRAWING CHECK: RF
DESIGN CHECK: NS	REV: P1



FOUNDATION NOTES:

2. This drawing is to be read in conjunction with all relevant drawings, documents and specifications.

P1	25/09/2019	YA	Standard Details	RF	NJS
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS:	APPROVAL
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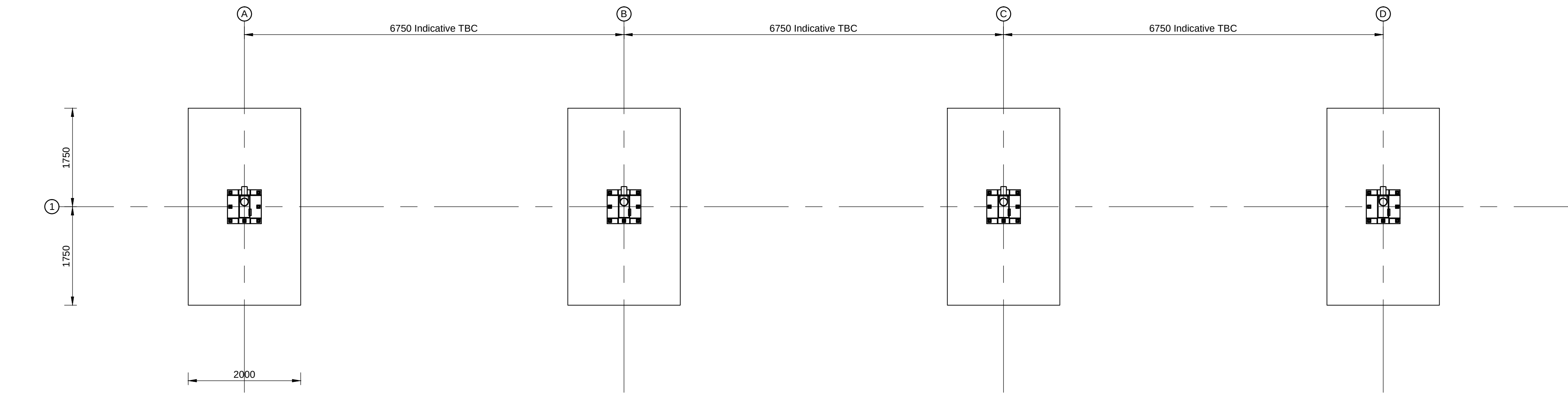


CLIENT: EURO GARAGES

PROJECT: NEATH KIOSK

TITLE:	GROUND SLAB LAYOUT AND DETAILS
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SCALE @ A1: AS-SHOWN		DATE: SEPTEMBER_2019
DRAWN: YA	DRAWING CHECK: RF	DESIGN CHECK: NS
PROJECT No: 2189	DRAWING No: 201	REV: P1



PROPOSED PAD FOUNDATION LAYOUT
1:50

FOUNDATION SCHEDULE	
PAD FOUNDATION REFERENCE	DIMENSIONS (mm)
TYPE A	3500Lx2000Wx800DP

PLEASE NOTE:

TOP OF FOUNDATION TBC BY OTHERS.

FOUNDATIONS DESIGNED BASED ON QR ENGINEERING LOADINGS FOR EURO GARAGES FRONTIER, SITE SPECIFIC FOUNDATION LOADS TO BE PROVIDED BY OTHERS PRIOR TO ENSURE STRUCTURE ADEQUACY PRIOR TO WORKS STARTING ON SITE.

FOUNDATION DESIGN BASED ON 100 Kn/m² GBP, TBC ON SITE OR VIA SITE INVESTIGATION REPORT BY OTHER, PRIOR TO WORK STARTING ON SITE.

FOUNDATION AND GRIDLINE SETTING OUT TO BE CONFIRMED WITH ARCHITECT PRIOR TO COMMENCEMENT OF WORK ON SITE.

SUPERSTRUCTURE AND STEELWORK AND SETTING OUT BY OTHERS.

- FOUNDATION NOTES:
1. This drawing must not be scaled; work to figured dimensions only.
 2. This drawing is to be read in conjunction with all relevant drawings, documents and specifications.
 3. Foundations taken down to natural ground, any soft spots removed and replaced with compacted DoT Type 1.
 4. Foundations typically centered on grid lines UNO
 5. Concrete mix to be C28-35 designated mix

P1	06/08/2018	YA	Standard Details	RF	NJS
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: COSTING_ONLY

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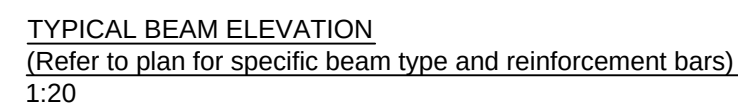
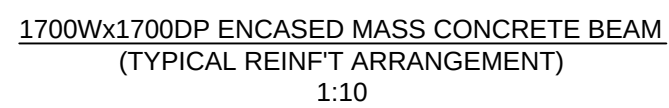
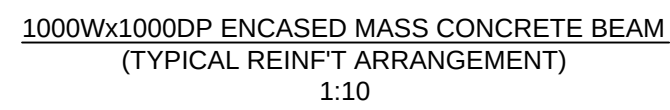
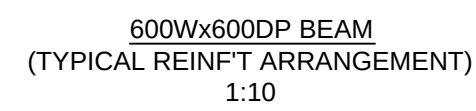
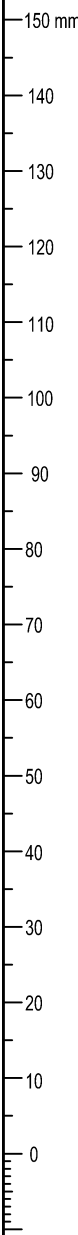
T: (01274) 531929
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CLIENT: EURO GARAGES

PROJECT: BILLINGE CANOPY

TITLE: FOUNDATION LAYOUT AND DETAILS

SCALE @ A1: AS-SHOWN	DATE: AUGUST_2018
DRAWN: YA	DESIGN CHECK: NS
DRAWING CHECK: RF	REV: P1



1. This drawing must not be scaled; work to figured dimensions only.
2. This drawing is to be read in conjunction with all relevant drawings, documents and specifications.
3. Ground to be stripped back and proof rolled, any soft spots removed and replaced with compacted DoT Type 1.

DRAWING STATUS:	APPROVAL
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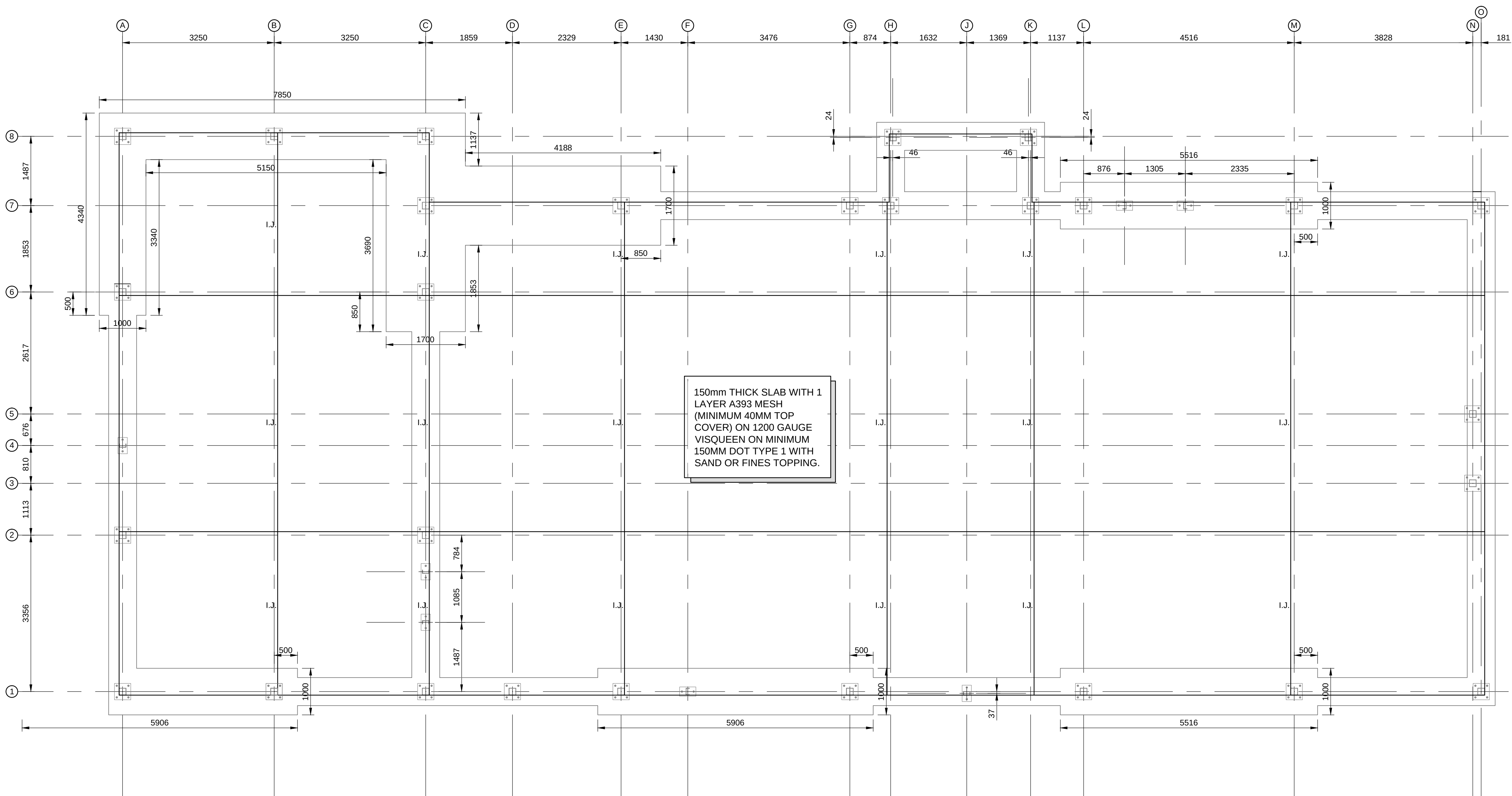
CLIENT: EURO GARAGES

PROJECT: NEATH KFC

TITLE: GROUND BEAM DETAILS

SCALE @ A1: AS-SHOWN		DATE: OCTOBER_2018
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PROJECT No: -	DRAWING No: 102	REV: P1

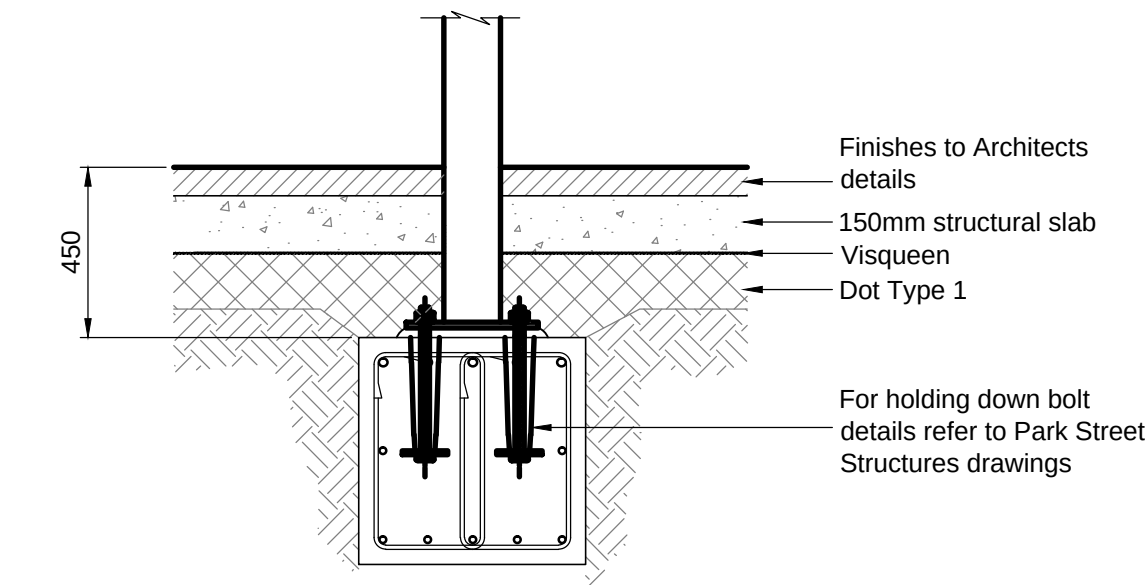
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 mm



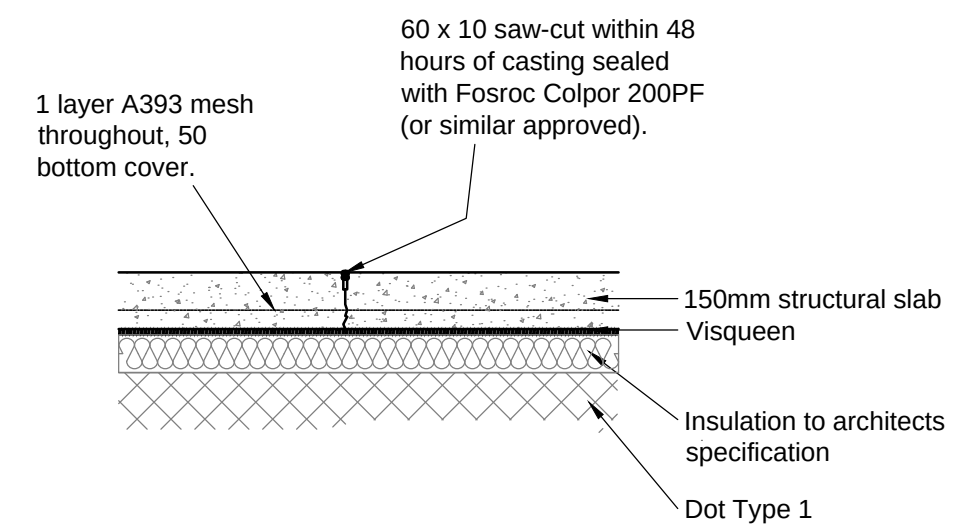
Ground Beam General Arrangement
1:50

FOUNDATION AND GRIDLINE SETTING OUT
TO BE CONFIRMED WITH ARCHITECT PRIOR
TO COMMENCEMENT OF WORK ON SITE

SUPERSTRUCTURE AND STEELWORK AND
SETTING OUT BY OTHERS



FOUNDATION DETAIL TYPICAL
1:20



INDUCED TIED JOINT (IJ)
1:20

FOUNDATION NOTES:

1. This drawing must not be scaled; work to figured dimensions only.
2. This drawing is to be read in conjunction with all relevant drawings, documents and specifications.
3. Foundations taken down to natural ground, any soft spots removed and replaced with compacted DoT Type 1.
4. Foundations typically centered on grid lines UNO
5. Concrete mix to be C28-35 designated mix

P1	30/10/2018	YA	Standard Details	RF	NJS
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: APPROVAL

SALDANHA
DESIGN AND MANAGEMENT LIMITED

Amalfi,
6 Parkfield Road,
Shipleigh
BD18 4EA

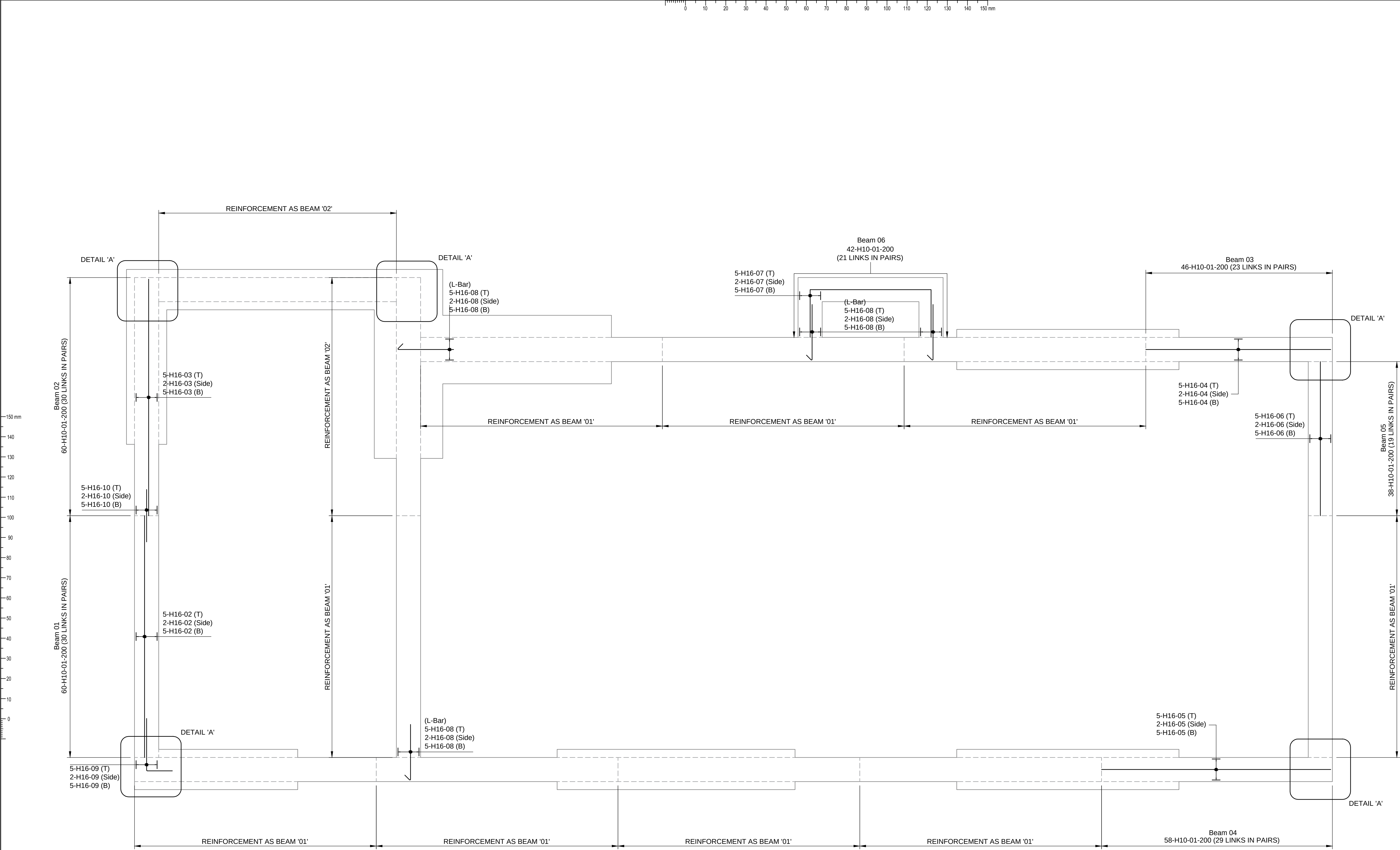
T: (01274) 531929
E: info@saldanha.co.uk
www.saldanha.co.uk

CLIENT: EURO GARAGES

PROJECT: NEATH KFC

TITLE: GROUND BEAM GA

SCALE @ A1: AS-SHOWN		DATE: OCTOBER_2018
DRAWN: YA	DRAWING CHECK: RF	DESIGN CHECK: NS
PROJECT No: -	DRAWING No: 101	REV: P1



Ground Beam Reinforcement Layout
1:50

FOUNDATION NOTES:

1. This drawing must not be scaled; work to figured dimensions only.
2. This drawing is to be read in conjunction with all relevant drawings, documents and specifications.
3. Foundations taken down to natural ground, any soft spots removed and replaced with compacted DoT Type 1.
4. Foundations typically centered on grid lines UNO
5. Concrete mix to be C28-35 designated mix

P1	30/10/2018	YA	Standard Details	RF	NJS
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS: APPROVAL

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CLIENT: EURO GARAGES

PROJECT: NEATH KFC

TITLE: GROUND BEAM REINF'T LAYOUT

SCALE @ A1: AS-SHOWN		DATE: OCTOBER_2018
DRAWN: YA	DRAWING CHECK: RF	DESIGN CHECK: NS
PROJECT No: -	DRAWING No: 100	REV: P1

Appendix 3 Membrane Validation

Butler & Young Approved Inspectors – Site Inspection Record

Project Name	Euro Garages Neath - New KFC
Project No.	126272
Project Address	Site Adjacent to A465 and High Street Blaengwrach, Neath SA11 5NZ
Project Manager	Joshua Thomas
Project Description	New Build KFC and Associated Works

GENERAL DETAILS

Entered On	22 May 2019
Site Inspector	Joshua Thomas

INTRODUCTION

Client	Euro Garages
Contractor	
Contractors Phone Number	
Initial Notice Deposit Date	
Are the site safety procedures ok?	No

CHECKS

Excavations	No
Founds	No
Drainage	No
DPC	Yes
Insulation	Yes
Structure	No
Fire Safety	No
Accessibility	No
Services	No
Progress	Yes
Completion	No
Other (specify)	

NON-COMPLIANCE

Previous non-compliance resolved	
Next Inspection Stage/Date	
If Final Inspection Complete, Certificates to be Provided	No
Comments	

PROJECT MANAGER REVIEW

Site Notes	Floor slab inspection - 75mm insulation base has been placed over type 1 fill - 1200 gauge DPM has then been placed with adequate spacers above to allow for coverage of a393 mesh - DPM has been double taped at joints and lapped over dpc at wall level to provide continuous moisture barrier. No further comments
------------	--

SITE PHOTOS

Photos	
Photo:	Description:
	Floor slab photos

SIGN OFF	
Signature	
Inspectors Name	Joshua Thomas

Appendix 4 Soils Certification



ANALYTICAL TEST REPORT

Contract no: 82512-5
Contract name: Neal Soil Suppliers Ltd
Client reference: NS21299/HM
Clients name: Neal Soil Suppliers
Clients address: Ty-To-Maen Farm
Newton Road
Rumney, Cardiff
CF3 2EJ

Samples received: 18 November 2019

Analysis started: 18 November 2019

Analysis completed: 25 November 2019

Report issued: 25 November 2019

Notes: Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key: U UKAS accredited test
M MCERTS & UKAS accredited test
\$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing
NAD No Asbestos Detected

Approved by:

Dave Bowerbank
Customer Support Hero

Chemtech Environmental Limited

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
82512-5	BS3882 Topsoil	-	Sandy Clay with Roots	-	-	33.9

Chemtech Environmental Limited

SOILS

Lab number			82512-5
Sample id			BS3882 Topsoil
Depth (m)			-
Date sampled			14/11/2019
Test	Method	Units	
Arsenic (total)	CE127 ^M	mg/kg As	3.0
Cadmium (total)	CE127 ^M	mg/kg Cd	<0.2
Chromium (total)	CE127 ^M	mg/kg Cr	10
Chromium (VI)	CE146	mg/kg CrVI	<1
Copper (total)	CE127 ^M	mg/kg Cu	20
Lead (total)	CE127 ^M	mg/kg Pb	28
Mercury (total)	CE127 ^M	mg/kg Hg	<0.5
Nickel (total)	CE127 ^M	mg/kg Ni	4.7
Selenium (total)	CE127 ^M	mg/kg Se	0.3
Zinc (total)	CE127 ^M	mg/kg Zn	44
pH	CE004 ^M	units	8.6
Total Organic Carbon (TOC)	CE072 ^M	% w/w C	8.6
Estimate of OMC (calculated from TOC)	CE072 ^M	% w/w	14.9
PAH			
Naphthalene	CE087 ^M	mg/kg	<0.02
Acenaphthylene	CE087 ^M	mg/kg	<0.02
Acenaphthene	CE087 ^M	mg/kg	<0.02
Fluorene	CE087 ^U	mg/kg	<0.02
Phenanthrene	CE087 ^M	mg/kg	0.06
Anthracene	CE087 ^U	mg/kg	<0.02
Fluoranthene	CE087 ^M	mg/kg	0.10
Pyrene	CE087 ^M	mg/kg	0.07
Benzo(a)anthracene	CE087 ^U	mg/kg	0.05
Chrysene	CE087 ^M	mg/kg	0.07
Benzo(b)fluoranthene	CE087 ^M	mg/kg	0.07
Benzo(k)fluoranthene	CE087 ^M	mg/kg	<0.03
Benzo(a)pyrene	CE087 ^U	mg/kg	0.03
Indeno(123cd)pyrene	CE087 ^M	mg/kg	0.04
Dibenz(ah)anthracene	CE087 ^M	mg/kg	<0.02
Benzo(ghi)perylene	CE087 ^M	mg/kg	0.04
PAH (total of USEPA 16)	CE087	mg/kg	0.52
TPH			
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	3
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	3
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1

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SOILS

Lab number			82512-5
Sample id			BS3882 Topsoil
Depth (m)			-
Date sampled			14/11/2019
Test	Method	Units	
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	17
EPH Aliphatic (>C16-C35)	CE068	mg/kg	161
Total Aliphatic/Aromatic (>C5-C35)	-	mg/kg	183
Subcontracted analysis			
Asbestos (qualitative)	\$	-	NAD

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE004	pH	Based on BS 1377, pH Meter	As received	M	-	units
CE072	Total Organic Carbon (TOC)	Removal of IC by acidification, Carbon Analyser	Dry	M	0.1	% w/w C
CE072	Estimate of OMC (calculated from TOC)	Calculation from Total Organic Carbon	Dry	M	0.1	% w/w
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg
-	Total Aliphatic/Aromatic (>C5-C35)	Solvent extraction, GC-FID	As received		16	mg/kg

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
\$	Asbestos (qualitative)	HSG 248, Microscopy	Dry	U	-	-

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
82512-5	BS3882 Topsoil	-	N	

DECLARATION OF COMPLIANCE (BS3882:2015)



Lab ref 82512-5
Soil source BS3882 Topsoil
OS Grid reference Not supplied
Date sampled 14 November 2019

Date received 18 November 2019
Analysis started 18 November 2019
Analysis completed 25 November 2019
Report issued 25 November 2019

Test	Units	Result	Compliant with Multipurpose? (Y/N)	Compliant with specific purpose? (Y/N)				
				Acidic	Calcareous	Low Fertility	Low F Acidic	Low F Calcareous
Texture								
Clay content	% w/w	19	Y	Y	Y	Y	Y	Y
Silt content	% w/w	28	Y	Y	Y	Y	Y	Y
Sand content	% w/w	53	Y	Y	Y	Y	Y	Y
Soil texture	class	SANDY CLAY LOAM						

Stone content								
>2mm	% w/w	27	Y	Y	Y	Y	Y	Y
>20mm	% w/w	0	Y	Y	Y	Y	Y	Y
>50mm	% w/w	0	Y	Y	Y	Y	Y	Y

Mass loss on ignition								
Clay 5-20%	% w/w	19.2	Y	Y	Y	Y	Y	Y
Clay 20-35%	% w/w	-	-	-	-	-	-	-
pH	pH units	8.3	Y	N	Y	Y	N	Y
Carbonate (calcareous only)	% w/w	31.0			Y			Y
Nitrogen (total)	% w/w N	0.52	Y	Y	Y			
Carbon:Nitrogen ratio	-	16.6	Y	Y	Y	Y	Y	Y
Phosphorus (extractable)	mg/l P	122	Y	Y	Y	N	N	N
Potassium (extractable)	mg/l K	1022	Y	N	N			
Magnesium (extractable)	mg/l Mg	546	Y	N	N			
Electrical conductivity	µS/cm	1586	Y					

Phytotoxic contaminants (by soil pH)								
Copper (Nitric acid extract)	mg/kg Cu	31	Y	Y	Y	Y	Y	Y
Nickel (Nitric acid extract)	mg/kg Ni	6.8	Y	Y	Y	Y	Y	Y
Zinc (Nitric acid extract)	mg/kg Zn	64	Y	Y	Y	Y	Y	Y

VISIBLE CONTAMINANTS								
(air-dried soil)	% w/w	0	Y	Y	Y	Y	Y	Y
...of which plastics	% w/w	0	Y	Y	Y	Y	Y	Y
Sharps	% w/w	0	Y	Y	Y	Y	Y	Y

DECLARATION

I certify that this sample has been analysed in accordance with BS3882:2015.

Signature

Name

Dave Bowerbank

Position

Customer Support Hero

Test Report: Determination of the Particle Size Distribution

**Sieving Method by Washing and Sieving
BS EN 933-1**

Client: Neal Soil Suppliers Ltd
Client ref: NS22201/HM
Location: Neal Soil Suppliers Ltd
Contract Number: 46648
Date Sampled: 02/12/19
Date Tested: 04/12/19
Type: 6F5
Method of Sampling: By Client
Tested By: Paul Evans

BS Sieve Size (mm)	Percentage Passing	Grading Requirement (%)	Result
125	100	100	PASS
80	99	75-99	PASS
40	78	50-90	PASS
20	35	30-75	PASS
10	18	15-60	PASS
2	8	0-35	PASS
0.063	1	0-12	PASS

Remarks:

The material submitted for testing COMPLIES with the grading tolerance for **SHW Series 600**, Nov 2009, Table 6/5 for class **6F5**.

For and behalf of GEO Site & Testing Services Limited

Paul Evans - Technical/Quality Manager
Emma Williams - Laboratory Office Manager

Date Approved: 10.12.19





GEO-AGG12



Test Report: Determination of the Particle Size Distribution**Sieving Method by Washing and Sieving
BS EN 933-1**

Client: Neal Soils
Client ref: NS22202/HM
Location: Neal Soils
Contract Number: 46642
Date Sampled: 04/12/19
Date Tested: 06/12/19
Type: Type 1 Sub-Base
Method of Sampling: By Client
Tested By: Paul Evans

BS Sieve Size (mm)	Percentage Passing	Grading Requirement (%)	Result
63	100	100	PASS
31.5	84	75-99	PASS
16	69	43-81	PASS
8	47	23-66	PASS
4	31	12-53	PASS
2	23	6-42	PASS
1	18	3-32	PASS
0.063	1	0-9	PASS
Grading of individual batches – difference in values passing selected sieves			
Retained sieve sizes, mm	Passing sieve sizes, mm	Percentage by mass passing	
		No less than	No more than
8	16	7	30
4	8	7	30

Remarks:

The material submitted for testing **COMPLIES** with the grading tolerance for **SHW Series 800**, Nov 2009, Table 8/5 for class **Type 1**.

For and behalf of GEO Site & Testing Services Limited



Paul Evans - Technical/Quality Manager
Emma Williams - Laboratory Office Manager

Date Approved:

12.12.19

DP Gans





ANALYTICAL TEST REPORT

Contract no: 83381
Contract name: Neath
Client reference: -
Clients name: Swan Environmental Services
Clients address: Cedars Business Centre
Barnsley Road, Hemsworth
Pontefract
WF9 4PU

Samples received: 23 December 2019

Analysis started: 23 December 2019

Analysis completed: 08 January 2020

Report issued: 08 January 2020

Notes: Opinions and interpretations expressed herein are outside the UKAS accreditation scope.
Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.
All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.
Methods, procedures and performance data are available on request.
Results reported herein relate only to the material supplied to the laboratory.
This report shall not be reproduced except in full, without prior written approval.
Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

Key: U UKAS accredited test
M MCERTS & UKAS accredited test
\$ Test carried out by an approved subcontractor
I/S Insufficient sample to carry out test
N/S Sample not suitable for testing
NAD No Asbestos Detected

Approved by:

Dave Bowerbank
Customer Support Hero

Chemtech Environmental Limited

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

All results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones.

Lab ref	Sample id	Depth (m)	Sample description	Material removed	% Removed	% Moisture
83381-1	TS1	-	Sandy Clay with Gravel & Roots	-	-	43.2
83381-2	TP2	-	Sand with Gravel	-	-	9.8
83381-3	TP3	-	Sand with Gravel	-	-	11.1

Chemtech Environmental Limited

SOILS

Lab number Sample id Depth (m) Date sampled			83381-1 TS1 - 18/12/2019	83381-2 TP2 - 18/12/2019	83381-3 TP3 - 18/12/2019
Test	Method	Units			
Arsenic (total)	CE127 ^M	mg/kg As	8.3	8.2	6.3
Cadmium (total)	CE127 ^M	mg/kg Cd	0.5	1.4	1.6
Chromium (total)	CE127 ^M	mg/kg Cr	52	46	36
Chromium (III)	CE208	mg/kg CrIII	52	46	34
Chromium (VI)	CE146	mg/kg CrVI	<1	<1	1.4
Copper (total)	CE127 ^M	mg/kg Cu	32	20	24
Lead (total)	CE127 ^M	mg/kg Pb	58	46	47
Mercury (total)	CE127 ^M	mg/kg Hg	<0.5	<0.5	<0.5
Nickel (total)	CE127 ^M	mg/kg Ni	17	10	9.5
Selenium (total)	CE127 ^M	mg/kg Se	1.0	0.6	0.6
Zinc (total)	CE127 ^M	mg/kg Zn	121	91	107
pH	CE004 ^M	units	8.2	9.9	10.3
Organic matter content (OMC)	CE005	% w/w	21.7	3.1	3.0
Estimate of TOC (calculated from OMC)	CE005	% w/w C	12.6	1.8	1.7
PAH					
Naphthalene	CE087 ^M	mg/kg	0.03	0.43	0.51
Acenaphthylene	CE087 ^M	mg/kg	<0.02	<0.02	<0.02
Acenaphthene	CE087 ^M	mg/kg	0.13	0.36	0.11
Fluorene	CE087 ^U	mg/kg	0.11	0.33	0.11
Phenanthrene	CE087 ^M	mg/kg	1.01	2.30	0.79
Anthracene	CE087 ^U	mg/kg	0.26	0.49	0.20
Fluoranthene	CE087 ^M	mg/kg	1.31	3.34	0.87
Pyrene	CE087 ^M	mg/kg	0.90	2.42	0.65
Benzo(a)anthracene	CE087 ^U	mg/kg	0.59	1.35	0.42
Chrysene	CE087 ^M	mg/kg	0.76	1.72	0.57
Benzo(b)fluoranthene	CE087 ^M	mg/kg	0.75	1.92	0.57
Benzo(k)fluoranthene	CE087 ^M	mg/kg	0.25	0.65	0.19
Benzo(a)pyrene	CE087 ^U	mg/kg	0.46	1.34	0.40
Indeno(123cd)pyrene	CE087 ^M	mg/kg	0.34	1.16	0.30
Dibenz(ah)anthracene	CE087 ^M	mg/kg	0.05	0.22	0.05
Benzo(ghi)perylene	CE087 ^M	mg/kg	0.28	1.01	0.25
PAH (total of USEPA 16)	CE087	mg/kg	7.25	19.0	5.99
TPH					
VPH Aromatic (>EC5-EC7)	CE067	mg/kg	<0.01	<0.01	<0.01
VPH Aromatic (>EC7-EC8)	CE067	mg/kg	<0.01	<0.01	<0.01
VPH Aromatic (>EC8-EC10)	CE067	mg/kg	<0.01	0.01	0.01
EPH Aromatic (>EC10-EC12)	CE068	mg/kg	<1	<1	<1
EPH Aromatic (>EC12-EC16)	CE068	mg/kg	<1	<1	1
EPH Aromatic (>EC16-EC21)	CE068	mg/kg	5	10	4
EPH Aromatic (>EC21-EC35)	CE068	mg/kg	4	9	4
EPH Aromatic (>EC35-EC44)	CE068	mg/kg	<1	2	<1

Chemtech Environmental Limited

SOILS

Lab number			83381-1	83381-2	83381-3
Sample id			TS1	TP2	TP3
Depth (m)			-	-	-
Date sampled			18/12/2019	18/12/2019	18/12/2019
Test	Method	Units			
VPH Aliphatic (>C5-C6)	CE067	mg/kg	<0.1	<0.1	<0.1
VPH Aliphatic (>C6-C8)	CE067	mg/kg	<0.1	<0.1	<0.1
VPH Aliphatic (>C8-C10)	CE067	mg/kg	<0.1	<0.1	<0.1
EPH Aliphatic (>C10-C12)	CE068	mg/kg	<4	<4	<4
EPH Aliphatic (>C12-C16)	CE068	mg/kg	25	15	<4
EPH Aliphatic (>C16-C35)	CE068	mg/kg	855	295	166
EPH Aliphatic (>C35-C44)	CE068	mg/kg	193	264	145
Subcontracted analysis					
Asbestos (qualitative)	\$	-	NAD	NAD	NAD

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE127	Arsenic (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg As
CE127	Cadmium (total)	Aqua regia digest, ICP-MS	Dry	M	0.2	mg/kg Cd
CE127	Chromium (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cr
CE208	Chromium (III)	Calculation: Cr (total) - Cr (VI)	Dry		1	mg/kg CrIII
CE146	Chromium (VI)	Acid extraction, Colorimetry	Dry		1	mg/kg CrVI
CE127	Copper (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Cu
CE127	Lead (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Pb
CE127	Mercury (total)	Aqua regia digest, ICP-MS	Dry	M	0.5	mg/kg Hg
CE127	Nickel (total)	Aqua regia digest, ICP-MS	Dry	M	1	mg/kg Ni
CE127	Selenium (total)	Aqua regia digest, ICP-MS	Dry	M	0.3	mg/kg Se
CE127	Zinc (total)	Aqua regia digest, ICP-MS	Dry	M	5	mg/kg Zn
CE004	pH	Based on BS 1377, pH Meter	As received	M	-	units
CE005	Organic matter content (OMC)	Based on BS 1377, Colorimetry	Dry		0.1	% w/w
CE005	Estimate of TOC (calculated from OMC)	Calculation from Organic Matter Content	Dry		0.1	% w/w C
CE087	Naphthalene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Acenaphthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Fluorene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Phenanthrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(a)anthracene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Chrysene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(b)fluoranthene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(k)fluoranthene	Solvent extraction, GC-MS	As received	M	0.03	mg/kg
CE087	Benzo(a)pyrene	Solvent extraction, GC-MS	As received	U	0.02	mg/kg
CE087	Indeno(123cd)pyrene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Dibenz(ah)anthracene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	Benzo(ghi)perylene	Solvent extraction, GC-MS	As received	M	0.02	mg/kg
CE087	PAH (total of USEPA 16)	Solvent extraction, GC-MS	As received		0.34	mg/kg
CE067	VPH Aromatic (>EC5-EC7)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC7-EC8)	Headspace GC-FID	As received		0.01	mg/kg
CE067	VPH Aromatic (>EC8-EC10)	Headspace GC-FID	As received		0.01	mg/kg
CE068	EPH Aromatic (>EC10-EC12)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC12-EC16)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC16-EC21)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC21-EC35)	Solvent extraction, GC-FID	As received		1	mg/kg
CE068	EPH Aromatic (>EC35-EC44)	Solvent extraction, GC-FID	As received		1	mg/kg
CE067	VPH Aliphatic (>C5-C6)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C6-C8)	Headspace GC-FID	As received		0.1	mg/kg
CE067	VPH Aliphatic (>C8-C10)	Headspace GC-FID	As received		0.1	mg/kg
CE068	EPH Aliphatic (>C10-C12)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C12-C16)	Solvent extraction, GC-FID	As received		4	mg/kg

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METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE068	EPH Aliphatic (>C16-C35)	Solvent extraction, GC-FID	As received		4	mg/kg
CE068	EPH Aliphatic (>C35-C44)	Solvent extraction, GC-FID	As received		10	mg/kg
\$	Asbestos (qualitative)	HSG 248, Microscopy	Dry	U	-	-

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DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
83381-1	TS1	-	N	
83381-2	TP2	-	N	
83381-3	TP3	-	N	

Appendix 4 Soils Certification



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