

Kiwa CMT



Client: CSJ Construction Ltd.
The Sidings
Duffield Road Industrial Estate
Little Eaton
DE21 5EG

Date: 17th January 2025

Lab Ref: 150125-04

Originator: Garry Taylor

Order Ref: 1437

Site: Twycross Zoo, Burton Road, Atherstone CV9 3PX

Kiwa CMT

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Requirements:

Attend the above site on 15th & 16th January 2025 in order to carry out 7No. Plate bearings for equivalent CBR% tests to evaluate the modulus of sub-grade reaction 'k' and estimate the equivalent CBR percentage in accordance with Interim Advice Note (IAN) 73/06 Revision 1 (2009).

Carry out 3No. Soakaway Tests in accordance with **Documented In-house Procedure SO36** (Test not UKAS accredited).

Results:

The individual result sheets may be viewed on pages 2 to 11 of this report. The results relate only to the locations and items tested.

Kiwa CMT

A handwritten signature in blue ink, appearing to read 'L Anaz'.

Author: L Anaz
Technical Administrator

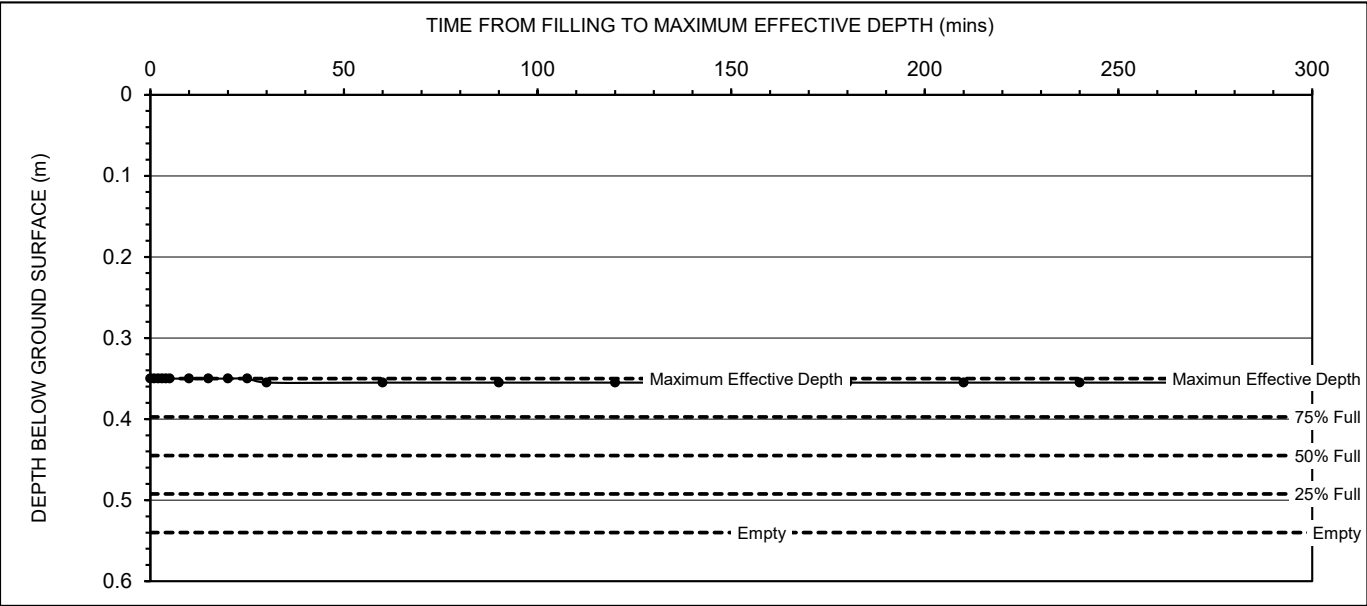
A handwritten signature in blue ink, appearing to read 'R Cartlidge'.

Checked and Approved by: R Cartlidge
Department Head



INFILTRATION TEST REPORT

Client:	CSJ Construction Ltd.	Site:	Twycross Zoo, Burton Road, Atherstone
Lab Ref:	150125-04	Material Description:	GL-0.29m Brown slightly gravelly sandy silty CLAY 0.29-.54 Yellow brown slightly gravelly slightly sandy CLAY
Start Date:	15-Jan-25	Site Number:	Location 1 Run 1
		Location:	Pit No. SA1
Finish Date:	16-Jan-25	Dimensions L x W x D (m):	1.14 x 0.352 x 0.54m



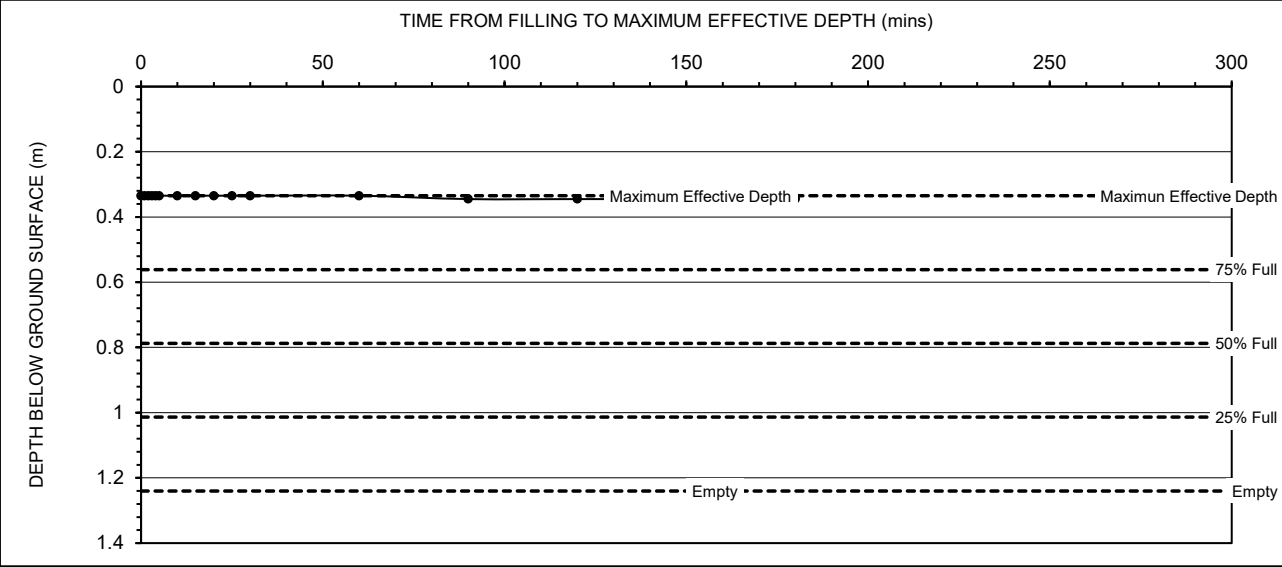
Soil Infiltration Rate (f): **Insufficient infiltration over 5 hours for Permeability to be calculated**

Test Procedure: **BRE Digest 365**
Comments:



INFILTRATION TEST REPORT

Client:	CSJ Construction Ltd.	Site:	Twycross Zoo, Burton Road, Atherstone
Lab Ref:	150125-04	Material Description:	GL-0.16m Yellow gravelly SAND 0.16-0.32m Dark grey CLAY 0.32-1.24m Brown slightly sandy slightly gravelly CLAY
Start Date:	15-Jan-25	Site Number:	Location 2 Run 1
		Location:	Pit No. SA2
Finish Date:	16-Jan-25	Dimensions L x W x D (m):	1.67 x 0.49 x 1.24m



Soil Infiltration Rate (f): **Insufficient infiltration over 3 hours for Permeability to be calculated**

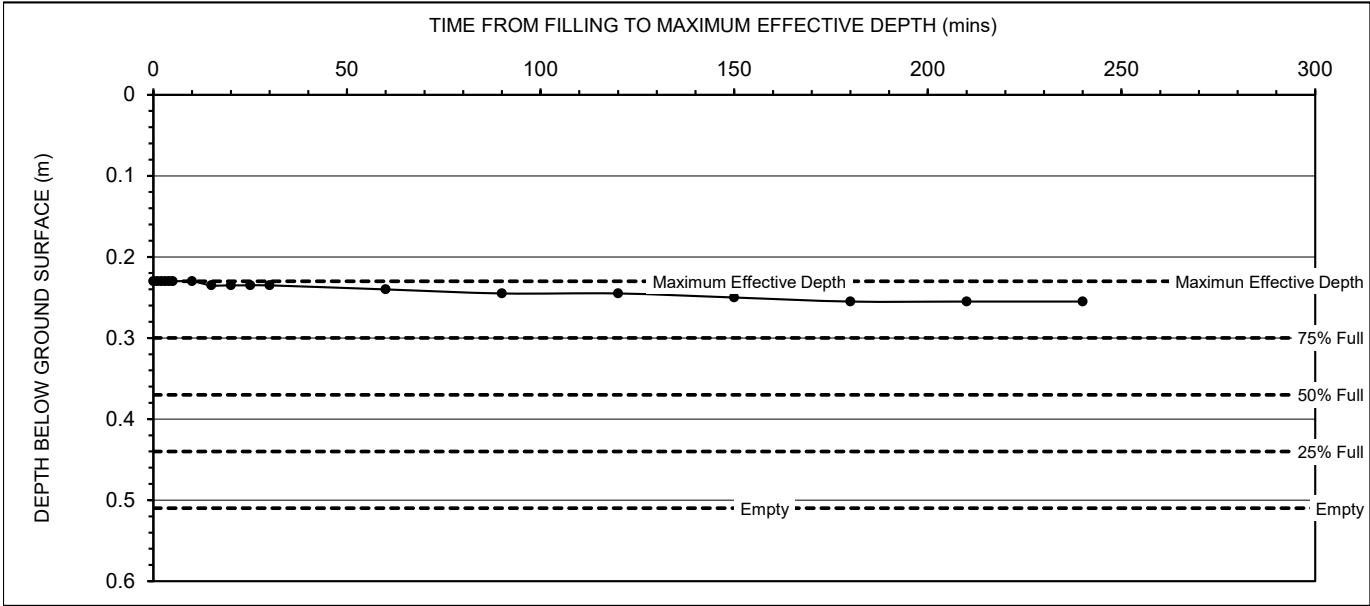
Test Procedure: **BRE Digest 365**

Comments:



INFILTRATION TEST REPORT

Client:	CSJ Construction Ltd.	Site:	Twycross Zoo, Burton Road, Atherstone
Lab Ref:	150125-04	Material Description:	GL-0.24m Brown slightly gravelly sandy silty CLAY 0.24-0.51m Yellow brown sandy gravelly CLAY
Start Date:	15-Jan-25	Site Number:	Location 3 Run 1
		Location:	Pit No. SA3
Finish Date:	16-Jan-25	Dimensions L x W x D (m):	1.02 x 0.35 x 0.51m



Soil Infiltration Rate (f): **Insufficient infiltration over 4 hours for Permeability to be calculated**

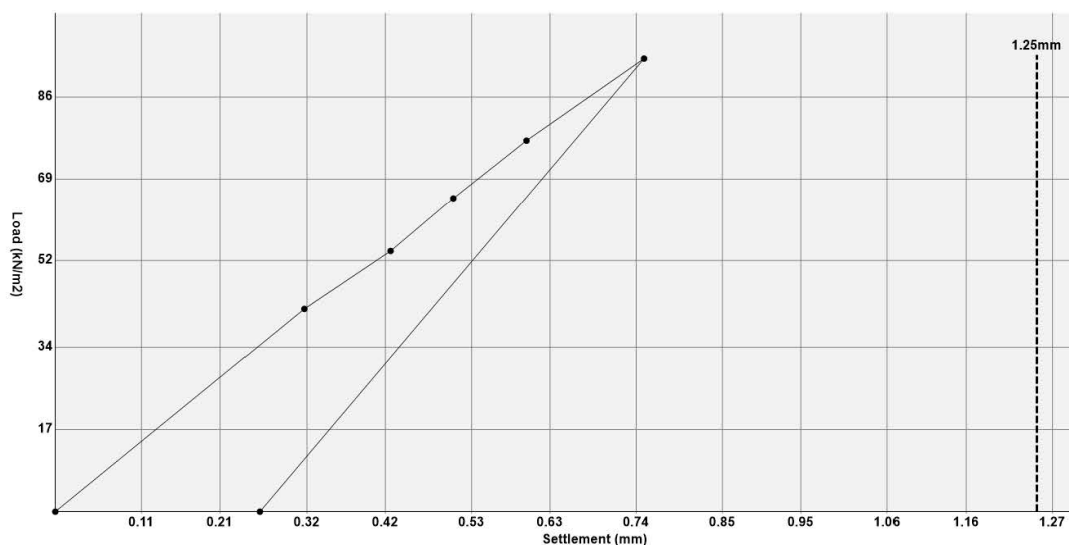
Test Procedure: **BRE Digest 365**

Comments:

600mm Diameter Plate Test

Client:	CSJ Construction Ltd	Material Type:	Brown sandy gravelly CLAY
Site:	Twycross Zoo Burton Road Atherstone	Test No:	CBR Test 1
Lab Ref.:	150125-04	^ Test Location:	-Loc 1
Kentledge:	6 Ton Dumper	Layer:	Formation
Conditions:	Dry	^ Road No:	^ Chainage:
		Date of Test:	15/01/2025

Pressure (kN/m ²)	Settlement (mm)
0	0.00
42	0.32
54	0.43
65	0.51
77	0.60
94	0.75
0	0.26



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

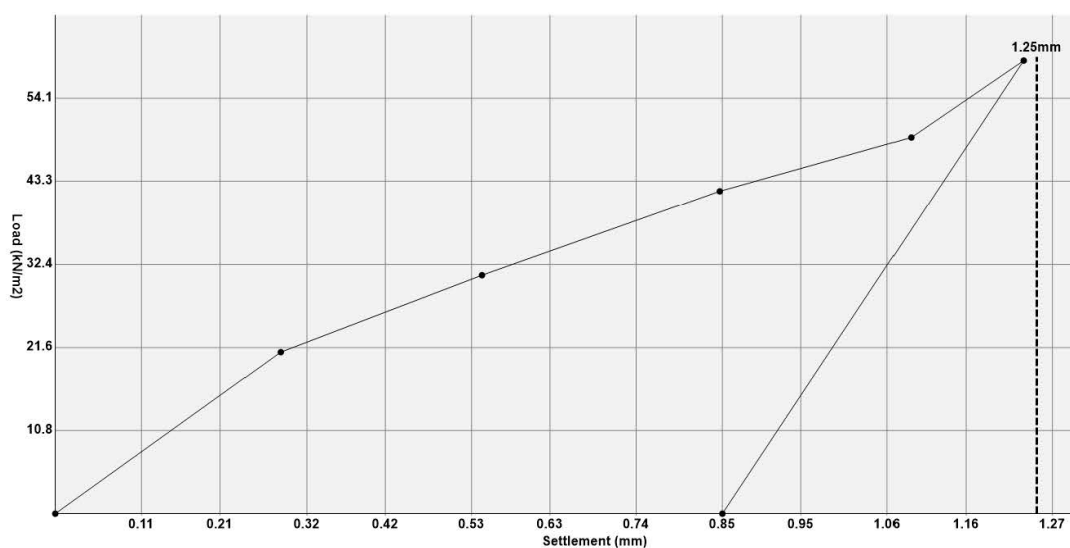
Result: Modulus of Sub grade Reaction k_{762} = **>61127 kN/m²/m**
 Equivalent CBR = **>12 %**

Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.

600mm Diameter Plate Test

Client:	CSJ Construction Ltd	Material Type:	Brown sandy gravelly CLAY
Site:	Twycross Zoo Burton Road Atherstone	Test No:	CBR Test 2
Lab Ref.:	150125-04	^ Test Location:	-Loc 2
Kentledge:	6 Ton Dumper	Layer:	Formation
Conditions:	Dry	^ Road No:	^ Chainage:
		Date of Test:	16/01/2025

Pressure (kN/m ²)	Settlement (mm)
0	0.00
21	0.29
31	0.54
42	0.85
49	1.09
59	1.23
0	0.85



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

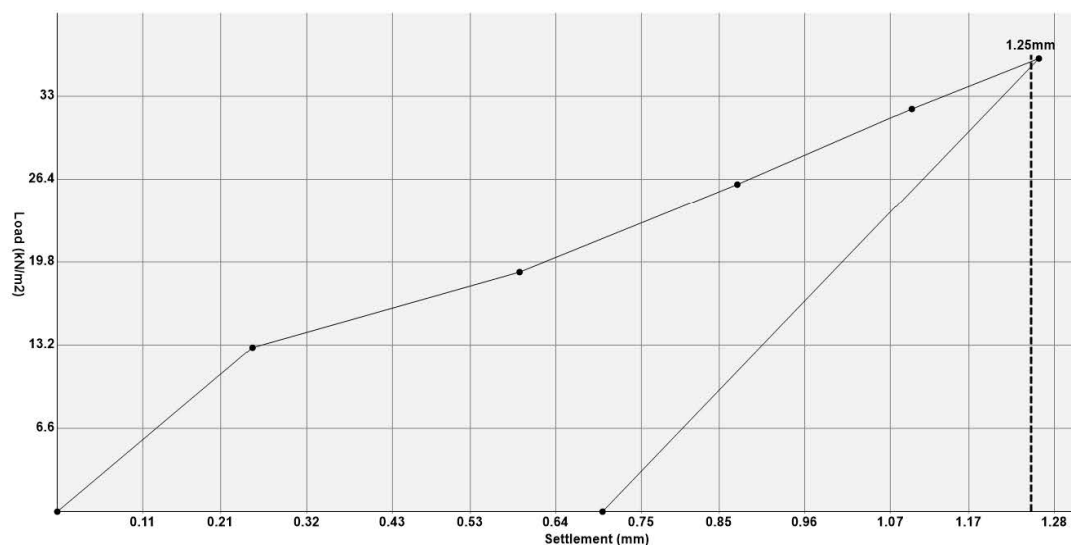
Result: Modulus of Sub grade Reaction k_{762} = >38367 kN/m²/m
Equivalent CBR = >5.4 %

Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.

600mm Diameter Plate Test

Client:	CSJ Construction Ltd	Material Type:	Brown sandy gravelly CLAY
Site:	Twycross Zoo Burton Road Atherstone	Test No:	CBR Test 3
Lab Ref.:	150125-04	^ Test Location:	-Loc 3
Kentledge:	6 Ton dumper	Layer:	Formation
Conditions:	Dry	^ Road No:	^ Chainage:
		Date of Test:	15/01/2025

Pressure (kN/m ²)	Settlement (mm)
0	0.00
13	0.25
19	0.59
26	0.87
32	1.10
36	1.26
0	0.70



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

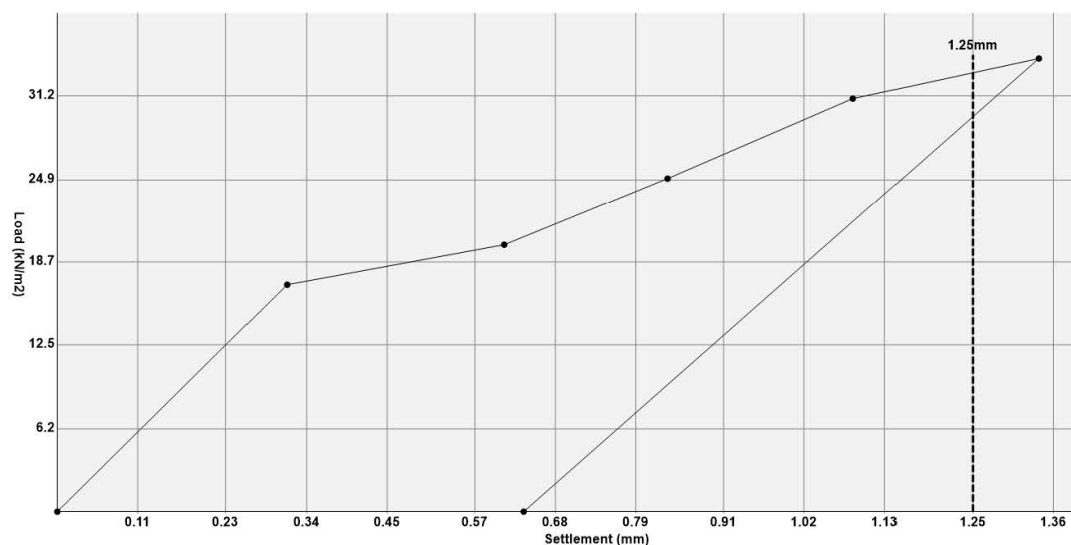
Result: Modulus of Sub grade Reaction k_{762} = 23410 kN/m²/m
Equivalent CBR = 2.3 %

Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.

600mm Diameter Plate Test

Client:	CSJ Construction Ltd	Material Type:	Brown sandy gravelly CLAY
Site:	Twycross Zoo Burton Road Atherstone	Test No:	CBR Test 4
Lab Ref.:	150125-04	^ Test Location:	Loc 4
Kentledge:	6 Ton Dumper	Layer:	Formation
Conditions:	Dry	^ Road No:	^ Chainage:
		Date of Test:	15/01/2025

Pressure (kN/m ²)	Settlement (mm)
0	0.00
17	0.31
20	0.61
25	0.83
31	1.09
34	1.34
0	0.64



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

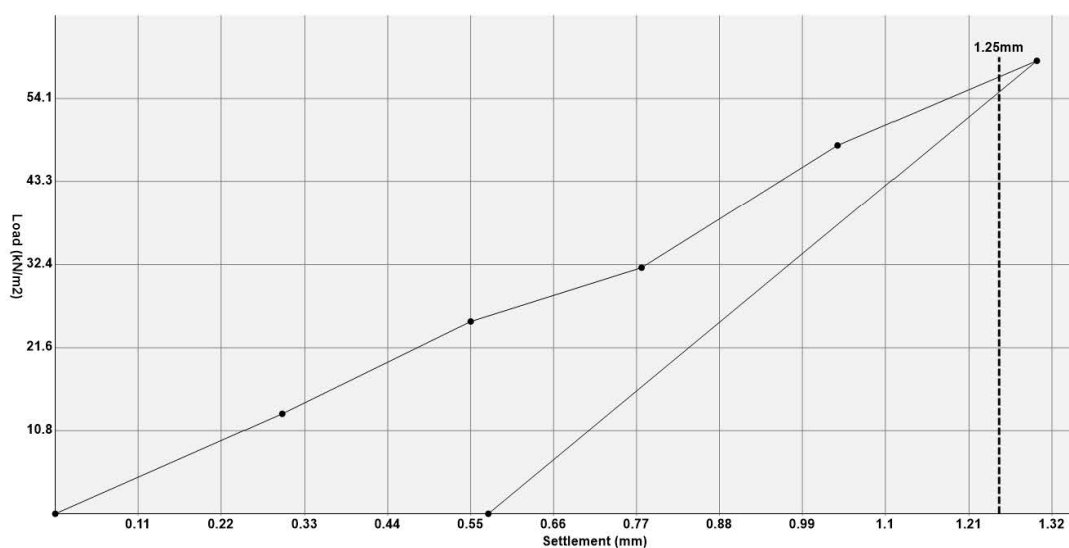
Result: Modulus of Sub grade Reaction k_{762} = 21460 kN/m²/m
Equivalent CBR = 2 %

Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.

600mm Diameter Plate Test

Client:	CSJ Construction Ltd	Material Type:	Brown sandy gravelly CLAY
Site:	Twycross Zoo Burton Road Atherstone	Test No:	CBR Test 5
Lab Ref.:	150125-04	^ Test Location:	-Loc 5
Kentledge:	6 Ton Dumper	Layer:	Formation
Conditions:	Dry	^ Road No:	^ Chainage:
		Date of Test:	16/01/2025

Pressure (kN/m ²)	Settlement (mm)
0	0.00
13	0.30
25	0.55
32	0.78
48	1.04
59	1.30
0	0.57



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

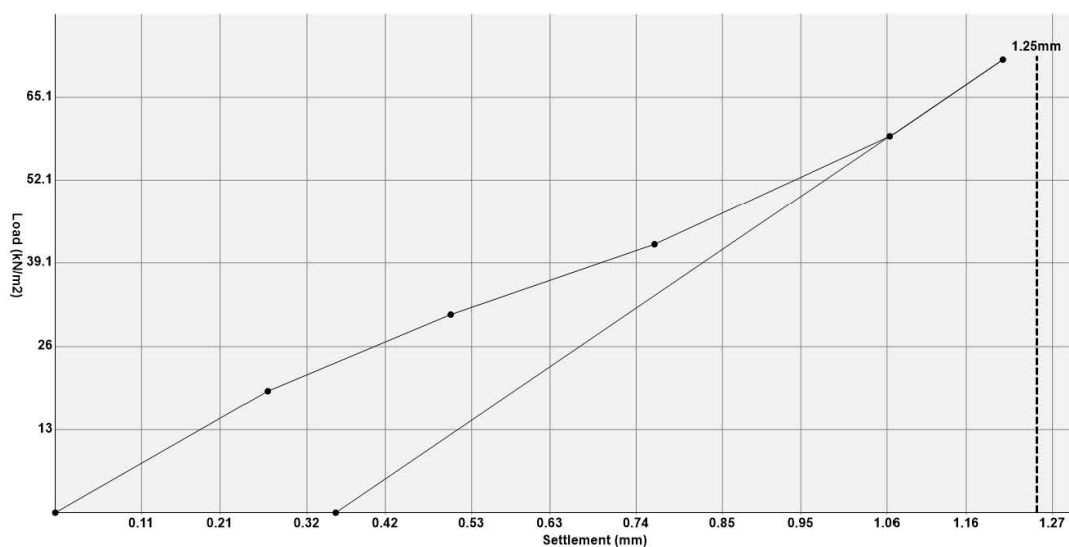
Result: Modulus of Sub grade Reaction k_{762} = 37067 kN/m²/m
 Equivalent CBR = 5.1 %

Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.

600mm Diameter Plate Test

Client:	CSJ Construction Ltd	Material Type:	Brown sandy gravelly CLAY
Site:	Twycross Zoo Burton Road Atherstone	Test No:	CBR Test 6
Lab Ref.:	150125-04	^ Test Location:	-Loc 6
Kentledge:	6 Ton Dumper	Layer:	Formation
Conditions:	Dry	^ Road No:	^ Chainage:
		Date of Test:	16/01/2025

Pressure (kN/m ²)	Settlement (mm)
0	0.00
19	0.27
31	0.50
42	0.76
59	1.06
71	1.21
0	0.36



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

Result: Modulus of Sub grade Reaction k762 = >46171 kN/m²/m
Equivalent CBR = >7.4 %

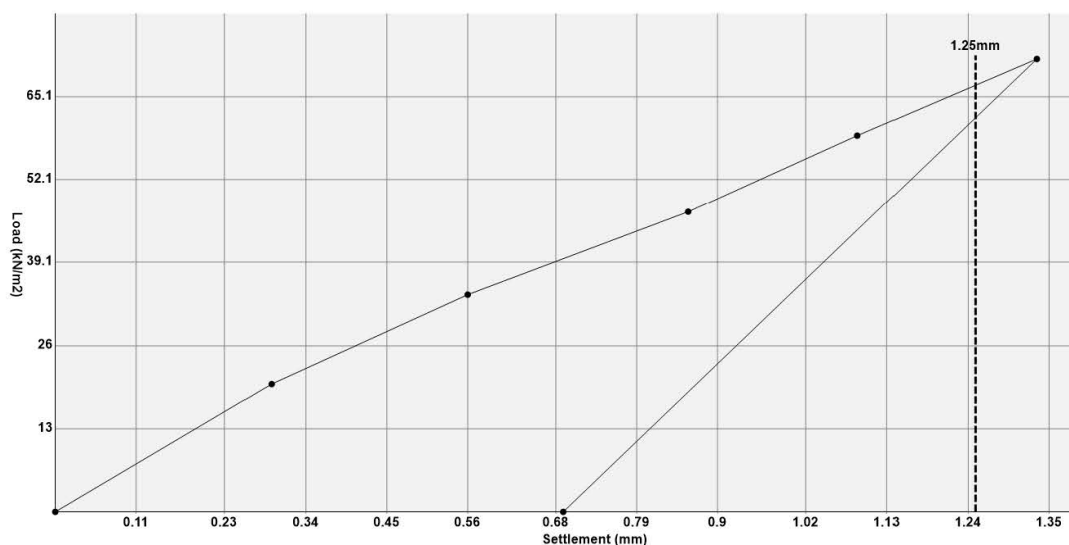
Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.

600mm Diameter Plate Test

Client: CSJ Construction Ltd
Site: Twycross Zoo
 Burton Road
 Atherstone
Lab Ref.: 150125-04
Kentledge: 6 Ton Dumper
Conditions: Dry

Material Type: Brown sandy gravelly CLAY
Test No: CBR Test 7
^ Test Location: -Loc 7
Layer: Formation
^ Road No: **^ Chainage:**
Date of Test: 16/01/2025

Pressure (kN/m ²)	Settlement (mm)
0	0.00
20	0.29
34	0.56
47	0.86
59	1.09
71	1.33
0	0.69



Test Method: Interim Advice Note (IAN) 73/06 Revision 1 (2009)

Result: Modulus of Sub grade Reaction k_{762} = 43569 kN/m²/m
 Equivalent CBR = 6.7 %

Comments: Information marked by ^ supplied by the client can affect the validity of the results, these apply only to the locations provided.