Clevedon Properties

GEOTECHNICAL COMPLETION REPORT

Clevedon Meadows (Stage 2), 62-80 Papakura-Clevedon Road, Clevedon

Project Reference: J00721
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DOCUMENT CONTROL

Version	Prepared By	Reviewed By	Authorised By
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This report presents all supporting geotechnical data and our Suitability Statement in relation to land development works undertaken at the above location.

It has been prepared in accordance with instructions received from Clevedon Properties Limited and forms part of the documentation required by Auckland Council to achieve certification under Section 224(c) of the Resource Management Act.

If you have any queries or you require any further clarification on any aspects of this report, please do not hesitate to contact the engineers listed above.

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1 INTRODUCTION

This Geotechnical Completion Report (GCR) has been prepared for Clevedon Properties Limited as part of the documentation required to be submitted to the Auckland Council following residential subdivisional development.

It contains our Suitability Statement, relevant test data and the Maven Associates Limited as-built plan set relating to Stage 2 of the Clevedon Meadows Residential Subdivision as follows:

Table 1: Maven Associates Limited As Built Plans

Title	Reference No.	Date
Final Contour and Earthworks As-Built Plans	Project No. 194006. Drawing no. STG_1 C911 and STG_2 C911 to STG_2 C912	January 2025
Stormwater Drainage As-Built	Project No. 194006. Drawing no. STG_2 C900 to STG_2 C906	January 2025
Wastewater Drainage As-Built	Project No. 194006. Drawing no. STG_2 C920 to STG_2 C925	January 2025

This report covers the construction period January 2023 to August 2024. It is intended to be used for certification purposes as follows:

- 64 residential lots numbered 118 to 160, 212 to 228,
- 4 superlots numbered 1001 to 1004.
- Six new roads named as Meadows Drive (part), Arahi Road (part), Takarangi Road, Mahere Road, Tamariki Road, and Croppers Road.
- 1 drainage reserve numbered as Lot 4000. This lot contains a permanent stormwater pond (wetland).

This stage of the subdivision is located at as shown on the attached Maven Associates Limited as-built drawings. As can be seen on the earthworks as-built drawing (C912), all lots have been partly or totally affected by filling, to a maximum depth of 1.8m, however, are generally only 1m high or less. Cuts of up to approximately 3.8m are also present within the base of the stormwater pond in Lot 4000, with cuts outside this area generally being less than 0.5m high.

2 RELATED REPORTS

In the preparation of this GCR, LDE Limited (formerly trading as Lander Geotechnical Consultants Limited) have reviewed the following geotechnical reports for the land encompassed by Stage 2 of the Clevedon Meadows residential development.

Table 2. Related Geotechnical Reports

Report Title	Reference No.	Issue Date
Geotechnical Investigation Report for 62 – 80 Papakura Clevedon Road, Clevedon (Lander Geotechnical)	J00571	3 August 2022
Geotechnical Completion Report for Stage 1, 62 – 80 Papakura Clevedon Road, Clevedon	J00571	7 November 2024

3 EARTHWORKS OPERATIONS

3.1 Plant

The main items of plant used by the Contractor, Dempsey Wood Civil Limited were:

- 5x excavators
- 2x motorscrapers
- 2x sheepsfoot compactors
- 5x moxy dump trucks
- 2x bulldozer and scoops
- 2x bulldozer
- 2x Tractors with discs

3.2 Construction Programme

Earthworks construction for Clevedon Meadows Stage 2 were encompassed by the overarching earthworks programme for Clevedon Meadows Stages 1 to 3. For completeness, the following construction programme includes relevant works for the Stages 1 to 3 Earthworks programme which were occurring concurrently:

- Earthworks operations across Stages 1 to 3 commenced in January 2023 with stripping of topsoil, installation of silt control measures, including the excavation of several sediment retention ponds in Stages 1, 2 and 3. Several areas of wet and sensitive clay were encountered at this time, and the soil demonstrated pumping/weaving throughout these areas. These areas were conditioned via discing and air drying prior to bulk earthwork fill placement.

- In April 2023, pre-existing tiled stormwater drains were out letting significant water in the central portion of the site. These drains were subsequently undercut where encountered to expose the underlying natural soils. The undercuts were reinstated with engineered fill.

- In January 2024, the unsuitable stockpile (comprising of organic soil, clay intermixed topsoil, and topsoil) located in the western portion was respread as topsoil across the finished subgrade.

- Between February to August 2024, several areas of topsoil placement began where finished subgrade level was achieved.

- In the meantime, topsoil placement began within the areas that had achieved finished height in this stage. Civil works including roading, wastewater and stormwater services install, and power connections commenced over time period.

4 QUALITY ASSURANCE AND CONTROLS

4.1 Inspections

During the earthworks engineering inspections were undertaken on a regular basis to assess compliance with NZS 4431:2022 and our project specific recommendations and specifications. Project specific inspections were required on this stage of the development for:

- Undercutting and reinstatement of sensitive and/or disturbed soils where encountered during earthworks operations.
- Decommissioning and backfilling of temporary silt ponds.
- Fill placement and plant performance upon the subgrade periodically throughout the bulk filling works.

4.2 Quality Control Criteria

Due to the varying soil types being used as filling, the compaction control criteria of minimum allowable shear strength and maximum allowable air voids were mainly used for quality assurance purposes. Specification details were as follows for general fills:

Clay Fill Compaction Testing Criteria

(a) **Air Voids Percentage** (As defined in NZS 4402)
Maximum single value 10%

(b) **Undrained Shear Strength** (Measured by Pilcon shear vane - calibrated using NZGS 2001 method)
Minimum single value 150 kPa

Hardfill Compaction Testing Criteria

(c) **Minimum Clegg Impact Hammer Value**
Minimum single value CIV $\geq$ 25

4.3 Quality Assurance Testing

(i) In-situ density monitoring was carried out as for the general fill areas and a series of hand auger boreholes were also drilled at selected locations as an added check on quality control.

(ii) Regular in-situ density, strength and water content tests were carried out on all areas of the filling at or in excess of the frequency recommended by NZS 4431:2022.

(iii) Control tests carried out on the filling showed that on some a few occasions the required compaction standards were not being achieved within Stage 2.

(iv) Results of the test failures were relayed to the site foreman and/or his staff, and the affected areas of fill were re-worked as necessary. In each case, further testing was carried out until compliance with the standards was achieved.

5 PROJECT EVALUATION

5.1 Bearing Capacity and Settlement of Building Foundations

Following the completion of earthworks operations, we returned to the site on 9 and 11 September 2024 and undertook additional field investigation at or near final subgrade level as stages were completed in order to determine representative finished ground conditions and hence evaluate likely foundation options for future building development. Our borehole records are appended, and our resulting bearing capacity recommendations are presented in the appended Suitability Statement.

At current subgrade levels all filled and undisturbed natural ground has a geotechnical ultimate bearing capacity of 300 kPa within the influence of conventional shallow residential building foundation loads.

Where any building platforms have been rutted by heavy machinery subsequent to this report, or softened due to ponded rainwater, engineering advice should be sought with a view affected areas be trimmed back to competent ground and reinstated with compacted hardfill to design subgrade level prior to the commencement of building construction.

Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.

It should be noted that NZS 3604 only allows a maximum backfill depth of 600mm over the building platform of a dwelling unless an engineering design solution or endorsement is proposed, on account of the risk of induced consolidation of the subsoils caused by the weight of the backfill.

5.2 Expansive Soils

Two sets of Shrink-Swell Index expansive soil tests (from Lots 123 and 215) and one Atterberg Limit test (from Lot 116) were carried out on samples selected from around the site and within the zone of likely influence of shallow building foundations to inform the expansive Site Class for this stage of the subdivision.

The Shrink-Swell Index test was carried out in accordance with AS 1289, "Methods of Testing Soils for Engineering Purposes" test method 7.1.1 and the Atterberg Limit tests were carried out in accordance with NZS 4402, "Methods of Testing Soils for Civil Engineering Purposes" test section 2. These tests were primarily intended to assess the Expansive Classes of the site materials as defined in AS 2870, "Residential Slabs and Footings – Construction" and MBIE Acceptable Solutions and Verification Methods amendment 19[1].

Based on the laboratory testing and visual tactile assessments of the soils observed in our post-construction boreholes, the AS2870:2011 Expansive Site Class for Stage 2 of the subdivision is H1 (high) with a characteristic ground surface movement of up to 60mm (based on a 300-year drought event*).

**Note: if the foundation designer needs to design the foundations for 500-yr and 1,000-yr drought return level events, then the y_s of 60mm should be factored by 1.11 and 1.21 respectively in accordance with Table 22 of BRANZ Addendum Study Report No. 120A (2008).*

Specific design alternatives for this Site Class are presented in the Suitability Statement. These classifications may be re-addressed by end users during building consent if site specific laboratory shrink-swell testing is undertaken by end users, as recommended by MBIE.

If slab on-grade floor slab construction takes place during a long dry summer, exposed building platform soils may dry put and become highly desiccated. Over time the rehydration of the soils below the floor slab can cause swelling and floor slab uplift. Floor slab uplift can cause distress of tile floors and in garages where cracks are more apparent. It may also rack upper storeys and/or rooflines if non-load bearing ground floor walls are lifted and act as struts. It is prudent to place hardfill immediately upon completion of subgrade trimming, followed by thorough soaking of the hardfill prior to concrete placement (e.g. for slab on-grade construction), all of which can help to limit the problem.

5.3 Lot Gradients

The appended as built contours plan shows areas having gradients steeper than 1(v) in 4(h) or being immediately adjacent to land having such gradients. Slope gradients of up to 1(v) in 4(h) are also shown to be present within drainage reserve Lot 4000 only, where a permanent stormwater detention pond has been formed. Elsewhere, there may be localised areas having such gradients that have not been shown on the plans.

We are satisfied that the residential lots are not subject to the hazard described in section 71(3) of the Building Act.

[1] Ministry of Business, Innovation and Employment. Verification Methods and Acceptable Solutions Amendment 21 for NZ Building Code B1/AS1, Section 3 (as relevant to expansive soils and good ground). Effective 2 November 2023.

Details of resulting building and earthworks restrictions within the vicinity of these lots are presented in the Suitability Statement.

5.4 Fill Induced Settlement

As a result of our subgrade inspections, the installation of subsoil drainage, quality control testing, and the elapsed time since the placement of the majority of the filling (i.e. in excess of 12 months), we are of the opinion that induced differential settlements beneath or within the certified filling due to its imposed weight should be insignificant with respect to conventional NZS 3604 residential building development.

5.5 Vegetation Cover

Wherever practical on sloping land beyond building platform areas, all existing bush and grass cover should be maintained and even supplemented with new plantings. Any vegetation cleared beyond the immediate area of building platforms for temporary construction purposes should be replanted as soon as possible.

The contribution of appropriate vegetation cover to overall site stability and erosion control should not be underestimated.

5.6 Stormwater Controls

It is important on all sloping lots that due care is paid to the design and construction of appropriate stormwater disposal systems. These systems should serve to collect all runoff from roofs, decks and paved areas, together with discharges from retaining wall drains and other subsoil drains and should connect directly into the public stormwater drainage network.

Uncontrolled stormwater discharges onto the ground surface or into soakage pits can cause erosion, scour and/or instability on sloping land and should not be permitted under any circumstances where stability could be compromised.

5.7 Service Trenches

As is normal on all subdivisions, building developments involving foundations within a 45 degree zone of influence from pipe inverts will require Engineering input.

5.8 Road Subgrades

Penetration resistance tests were undertaken at regular intervals on the road subgrades and the results were subsequently forwarded to Maven Associates for pavement design purposes.

5.9 Stormwater Detention Pond

A new wet stormwater detention pond has been constructed in drainage reserve Lot 4000.

The base of this pond encountered high plasticity silty clays (cohesive soil) which was considered to be geotechnically suitable for the base of the pond due to the typical low permeability rates associated with such materials. As such, no clay liner was deemed necessary for the pond.

5.10 Topsoil

Topsoil depths in likely building platform areas were checked by the drilling of a borehole in the approximate centre of each of the lots. Our findings, which are indicative only and subject to variation at other locations, show that likely topsoil depths range between 50 mm and 650mm.

Lots 112, 135, 137 to 140, 145 to 149, 214, 215, 224, 225, 227, 228 and 1003 have topsoil depths of between 50mm to 300mm.

The remaining lots had deeper topsoil depths that ranged from 310mm to 650mm.

It should be noted that the topsoil generally comprises a mixture of topsoil and clay materials and has been described as ‘clayey topsoil’ in our post-construction boreholes (refer Appendix D). Due to the consistency and depth of the topsoil materials, foundation excavations within the residential lots should be subject to engineering inspection during construction to ensure all remnants of the topsoil are removed satisfactorily.

Site specific findings are presented on the appended in the Suitability Statement Summary.

5.11 Contractor’s Work

We have relied on the Contractor’s work practices and assume that the works have been carried out in accordance with:

i) The approved Contract drawings and design details,
ii) The approved Contract specifications,
iii) Authorised Variations to (i) and (ii) during the execution of the works,
iv) The conditions of Resource, Earthworks and Building Consents where applicable,
v) The relevant LDE Limited reports, recommendations and site instructions,

and that all as-built information and other details provided to the Client and/or LDE Limited are accurate and correct in all respects

6 STATEMENT OF PROFESSIONAL OPINION AS TO THE SUITABILITY OF LAND FOR BUILDING DEVELOPMENT

I, C.J. Edwards, of LDE Consultants Limited, Auckland, hereby confirm that:

i) I am a Professional Engineering Geologist (CMEngNZ (PEngGeol)) experienced in the field of geotechnical engineering as defined in section 1.2.2 of NZS 4404 and was retained by the Owner/Developer as the Geotechnical Engineer on Stage 1 of the Clevedon Meadows Residential Subdivision.

ii) The extent of preliminary investigations carried out to date are described in geotechnical reports summarised in Table 2, and the conclusions and recommendations of that document have been re-evaluated in the preparation of this report. Details of inspections during construction, together with the results of all tests carried out are also appended.

iii) In my professional opinion, not to be construed as a guarantee, I consider that:

a. The earth fills shown on the appended fill as-built plan have been placed in compliance with NZS 4431:2022, Auckland Council's Code of Practice for Land Development and Subdivision, Section 2 Earthworks and Geotechnical Requirements (version 2.0) and related documents.

b. The completed earthworks give due regard to land slope and foundation stability considerations within the residential lots.

c. A geotechnical ultimate bearing capacity of 300 kPa may be assumed for foundation design on all residential lots.

Where a geotechnical bearing capacity greater than 300 kPa is required, (i.e. outside the limits of NZS 3604, such as when piling is undertaken), further specific site investigation and design of foundations should be carried out prior to building consent application.

d. No building development should take place within the 45-degree zone of influence of public drain inverts unless endorsed by specific site investigations, foundation designs and by construction inspections undertaken by a Chartered Professional Engineer experienced in geomechanics to ensure that lateral stability and differential settlement issues are addressed and that building loads are transferred beyond the influence of the pipe and beyond the extent of the trench backfill.

e. The assessed AS2870:2011 Expansive Site Class for all residential lots is Class H1 (High – the characteristic ground movement (y_s) is up to 60mm (based on a 300-year drought event*)

**Note: if the foundation designer needs to design the foundations for 500-yr and 1,000-yr drought return level events, then the y_s of 60mm should be factored by 1.11 and 1.21 respectively in accordance with Table 22 of BRANZ Addendum Study Report No. 120A (2008).*

Site specific laboratory Shrink-Swell testing and calculation of specific characteristic ground movement values (y_s) may be undertaken by end-users to re-assess this during building consent stage.

f. Subject to the geotechnical limitations, restrictions, recommendations and expansive soil assessments associated with 3(b) to 3(e) above:

1. The filled and undisturbed original ground within residential lot boundaries is generally suitable for residential buildings constructed in accordance with NZS 3604 and related documents.

2. On all residential lots foundation design may be carried out in accordance with one of the following methods:

- Class H1 in terms of AS2870:2011; with characteristic ground surface movement of up to 60mm.
- A specific foundation and structural design may be undertaken by a Chartered Professional Engineer who should allow for expansive soil effects referenced above in the design.

iv) Road subgrades have been formed having due regard for slope stability and settlement, although available subgrade strengths are dependent on-site conditions and on construction trafficking and variable results should be expected.

v) Reserve areas have been formed to standards appropriate for their intended use.

The professional opinion contained within this report is furnished to the Auckland Council and Clevedon Properties Limited for their purposes alone on the express condition that it will not be relied upon by any other person. Prospective purchasers should still satisfy themselves as to any specific conditions pertaining to their particular land interest.

It does not remove the necessity for the normal inspection of ground conditions and the design of foundations as would be made under all normal circumstances, especially in cases where settlement sensitive buildings are sited partly on fill and partly on natural ground, or where they are entirely sited on filling whose depth changes significantly across the building platform.

The appended table summarises the status of each residential lot covered by this Suitability Statement.

7 LIMITATIONS

This report should be read and reproduced in its entirety including the limitations to understand the context of the opinions and recommendations given.

This report has been prepared exclusively for Clevedon Properties in accordance with the brief given to us or the agreed scope and they will be deemed the exclusive owner on full and final payment of the invoice. Information, opinions, and recommendations contained within this report can only be used for the purposes with which it was intended. LDE accepts no liability or responsibility whatsoever for any use or reliance on the report by any party other than the owner or parties working for or on behalf of the owner, such as local authorities, and for purposes beyond those for which it was intended.

This report was prepared in general accordance with current standards, codes and best practice at the time of this report. These may be subject to change.

Opinions given in this report are based on visual methods and subsurface investigations at discrete locations designed to the constraints of the project scope to provide the best assessment of the environment. It must be appreciated that the nature and continuity of the subsurface materials between these locations are inferred and that actual conditions could vary from that described herein. We should be contacted immediately if the conditions are found to differ from those described in this report.

Table 3: Suitability Statement Summary

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
118	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 650mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	650	300	H1
119	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 530mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	530	300	H1
120	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 500mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	500	300	H1
121	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 500mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	500	300	H1
122	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
123	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design.	650	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 650mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
124	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 550mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	550	300	H1
125	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 650mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	650	300	H1
126	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 550mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	550	300	H1
127	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 450mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	450	300	H1
128	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design.	450	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 450mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
129	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 405mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	405	300	H1
130	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	350	300	H1
131	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	350	300	H1
132	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 410mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	410	300	H1
132	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design.	415	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 415mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
133	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
134	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
135	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
136	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	350	300	H1
137	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
138	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	250	300	H1
139	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	250	300	H1
140	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
141	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
142	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	350	300	H1
143	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
144	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design.	350	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
145	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	280	300	H1
146	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
147	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	200	300	H1
148	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
149	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
150	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 310mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	310	300	H1
151	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design.	360	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 360mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
152	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
153	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 420mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	420	300	H1
154	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 410mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	410	300	H1
155	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
156	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design.	450	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 450mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
157	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	350	300	H1
158	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	350	300	H1
159	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
160	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 380mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	380	300	H1
212	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design.	370	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 370mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
213	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 310mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	310	300	H1
214	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	180	300	H1
215	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	250	300	H1
216	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 430mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	430	300	H1
217	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 320mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	320	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
218	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 340mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	340	300	H1
219	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 320mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	320	300	H1
220	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 340mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	340	300	H1
221	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 350mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	350	300	H1
222	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 360mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	360	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
223	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
224	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
225	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
226	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 390mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	390	300	H1
227	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	260	300	H1
228	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	300	300	H1
1001	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	450	300	H1

Lot No.	Comments	Topsoil Depth (mm)	Ultimate Bearing (kPa)	AS2870 :2011 Class
	Construction inspections required on account of topsoil depths up to 450mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.			
1002	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 400mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	400	300	H1
1003	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application.	50	300	H1
1004	Foundation design in accordance with AS2870:2011 or engineer approved alternative foundation design. Where cuts and /or fills greater than 600mm are proposed, further specific site investigation and design of foundations and/or geotechnical endorsement should be carried out prior to building consent application. Construction inspections required on account of topsoil depths up to 450mm to ensure that all topsoil is adequately removed from building platform areas as part of foundation and subgrade preparation.	450	300	H1

APPENDIX A

MAVEN ASSOCIATES DRAWINGS



ASBUILT

Notes

1. Co-Ordinates are in terms of Mt Eden 2000.
2. Levels in terms of the Auckland Vertical Datum NZVD 2016.
3. Works carried out by Dempsey Wood Civils
4. Constructed in accordance with Auckland Council standards.
5. Approval Number ENG60407601.
6. Origin of Levels
   RM 5846 SO 58211 (BB2R)
   RL 10.31m

Legend

- EX BDY
- AB BDY
- STAGING BDY
- AB MAJOR CONTOUR
- AB MINOR CONTOUR

Rev	Description	By	Date
A	AS-BUILT	ML	03/2025

	By	Date
Survey	DEMPSEY WOOD	09/2024
Design	ML	09/2024
Drawn	ML	09/2024
Checked	JD	09/2024

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5 Owens Road, Epsom
Auckland 1023

Project

62, 78 & 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

CLEVEDON MEADOWS FINISHED GROUND LEVEL ASBUILT (NZVD 2016)

Project no.	194006		
Scale	1:1500 @ A3		
Cad file	CLEVEDON MEADOWS STG 2 - FINISHED GROUND AS-BUILT (NZVD1946 & 2016).DWG		
Drawing no.	STG_1 C911	Rev	A

DATE: 3/6/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\CAD\ASBUILT\SSTAGE 1\CLEVEDON MEADOWS STG 2 - FINISHED GROUND AS-BUILT (NZVD1946 & 2016).DWG



Notes

1. Co-Ordinates are in terms of Mt Eden 2000.
2. Levels in terms of the Auckland Vertical Datum NZVD 2016.
3. Works carried out by Dempsey Wood Civils
4. Constructed in accordance with Auckland Council standards.
5. Approval Number ENG60407601.
6. Origin of Levels
   RM 5846 SO 58211 (BB2R)
   RL 10.31m

Legend

- EX BDY
- AB BDY
- STAGING BDY
- AB MAJOR CONTOUR
- AB MINOR CONTOUR
- ≥ 1(V):4(H) SLOPES

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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Project

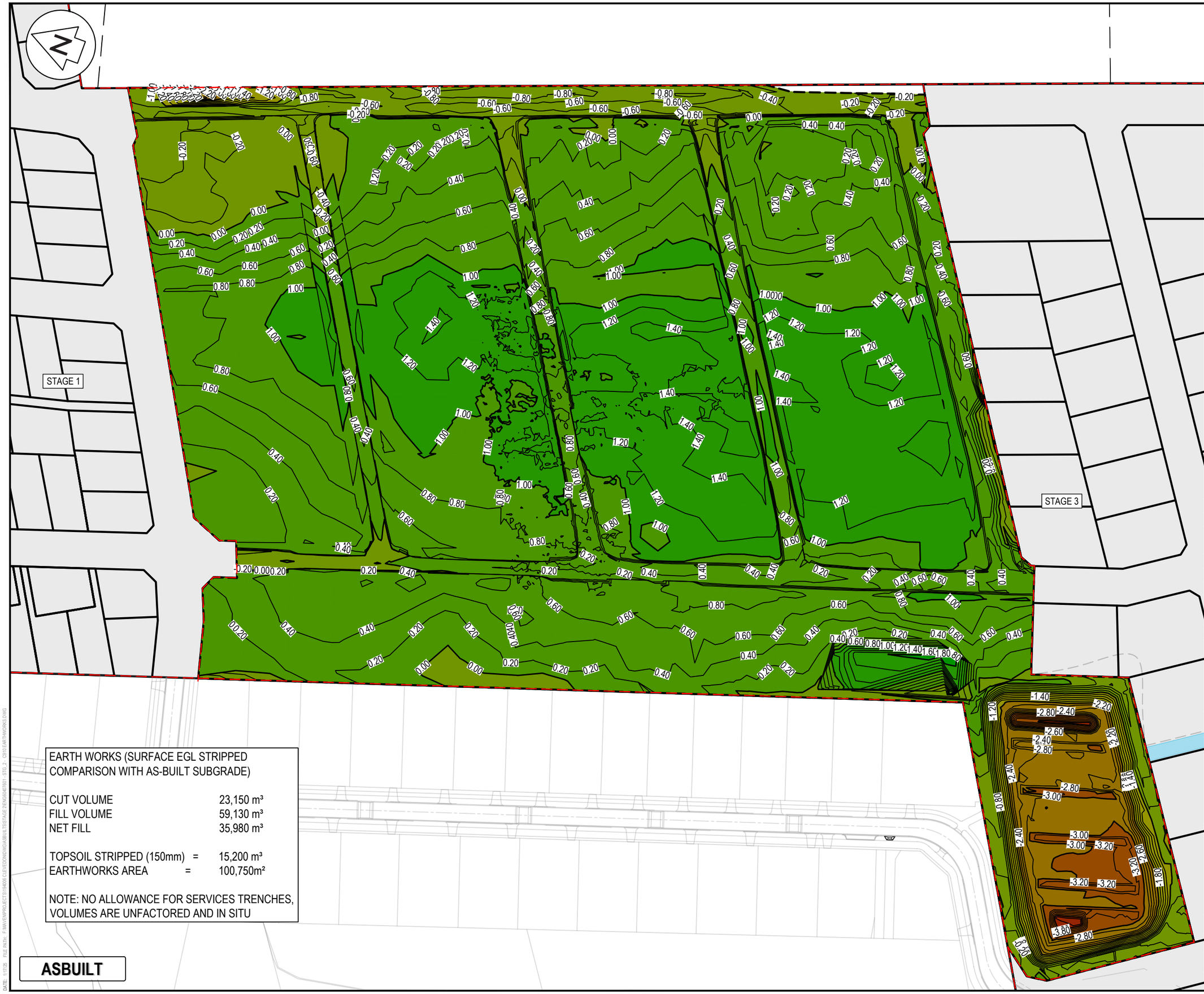
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 EARTHWORK ASBUILT BATTER SLOPE PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 - STG_2 - C910 EARTHWORKS.DWG
Drawing no.	STG_2 C911 Rev A

DATE: 17/25 FILE PATH: P:\MAVEN\PROJECTS\194006 CLEVEDON\WORK\ASBUILTS\STAGE 2\ENG60407601 - STG_2 - C910 EARTHWORKS.DWG



EARTH WORKS (SURFACE EGL STRIPPED COMPARISON WITH AS-BUILT SUBGRADE)

CUT VOLUME		23,150 m³
FILL VOLUME		59,130 m³
NET FILL		35,980 m³
TOPSOIL STRIPPED (150mm)	=	15,200 m³
EARTHWORKS AREA	=	100,750m²

NOTE: NO ALLOWANCE FOR SERVICES TRENCHES, VOLUMES ARE UNFACTORED AND IN SITU

ASBUILT

Notes
1. Co-Ordinates are in terms of Mt Eden 2000.
2. Levels in terms of the Auckland Vertical Datum NZVD 2016.
3. Works carried out by Dempsey Wood Civils
4. Constructed in accordance with Auckland Council standards.
5. Approval Number ENG60407601.
6. Origin of Levels
   RM 5846 SO 58211 (BB2R)
   RL 10.31m

Cut/Fill Table

Number #	Minimum Elevation	Maximum Elevation	Color
1	-5.000	-4.000	
2	-4.000	-3.000	
3	-3.000	-2.000	
4	-2.000	-1.000	
5	-1.000	0.000	
6	0.000	1.000	
7	1.000	2.000	
8	2.000	3.000	

Legend
- EX BDY
- AB BDY
- STAGING BDY

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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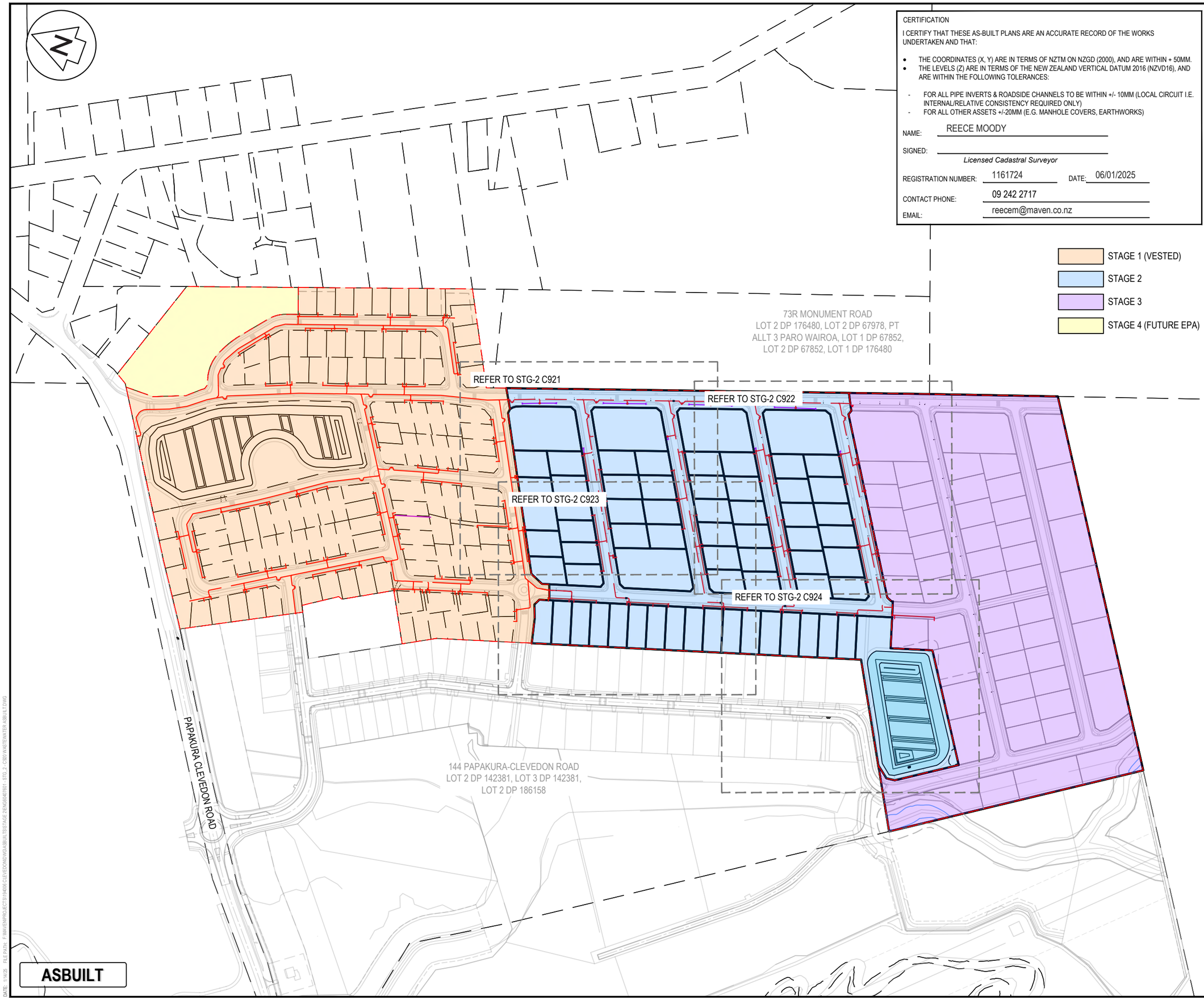
Project
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title
ENG60407601 STAGE 2 EARTHWORK ASBUILT CUT/FILL PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 - STG_2 - C910 EARTHWORKS.DWG
Drawing no.	STG_2 C912 Rev A

DATE: 17/25 FILE PATH: P:\MAVEN\PROJECTS\194006 CLEVEDON\04 WORKS\ASBUILTS\STAGE 2\ENG60407601 - STG_2 - C910 EARTHWORKS.DWG



CERTIFICATION

I CERTIFY THAT THESE AS-BUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X, Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN + 50MM.
- THE LEVELS (Z) ARE IN TERMS OF THE NEW ZEALAND VERTICAL DATUM 2016 (NZVD16), AND ARE WITHIN THE FOLLOWING TOLERANCES:

  - FOR ALL PIPE INVERTS & ROADSIDE CHANNELS TO BE WITHIN +/- 10MM (LOCAL CIRCUIT I.E. INTERNAL/RELATIVE CONSISTENCY REQUIRED ONLY)
  - FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED: _____

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 06/01/2025

CONTACT PHONE: 09 242 2717

EMAIL: reecem@maven.co.nz

NOTES

1. COORDINATES ARE IN TERMS OF NZTM.
2. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 2016.
4. ORIGIN OF LEVELS = RM 5846 SO 58211(BB2R)
5. PUBLISHED RL=10.31m, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
6. GAP20 USED FOR BEDDING, GAP65 USED FOR HARDFILL BACKFILL BENEATH HARDSTAND SURFACES.
7. ALL CONCRETE PRODUCTS MANUFACTURED BY HYNDS.
8. LENGTH OF PIPE SHOWN IN BRACKETS.
9. WORKS CARRIED OUT BY DEMPSEY WOOD.
10. WORKS COMPLETED IN AUGUST 2024.
11. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS
12. ALL MANHOLES ARE SIZE 1050MM UNLESS SHOWN OTHERWISE.
13. ALL PUBLIC CESSPITS ARE STG 675MM x 450MM x 1650MM TYPE 2 CESSPITS UNLESS SHOWN OTHERWISE.
14. ALL PUBLIC CESSPIT LEADS ARE 225MM RCRRJ UNLESS SHOWN OTHERWISE.
15. ALL CONNECTIONS ARE 150MM UPVC SN16 UNLESS NOTED OTHERWISE.
16. EPA NO. ENG60407601.
17. STORMWATER ASBUILT DATA PROVIDED BY DEMPSEY WOOD.
18. STORMWATER AS-BUILTS CAD FILE NAME: "NZTM 20240913 SW ASB REV2.DWG" RECEIVED ON 16/09/2024.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- EX RISING MAIN
- EX VACUUM LINE
- AB VACUUM LINE
- AB GRAVITY 150MM FOR FUTURE DEVELOPMENT
- AB GRAVITY 150MM UPVC LINE
- AB VALVE PIT
- AB DIVISION VALVE
- AB REDUCER
- AB END CAP

Rev	Description	By	Date
B	ASBUILT DRAFT	HL	01/2025
A	ASBUILT DRAFT	ML	12/2024

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

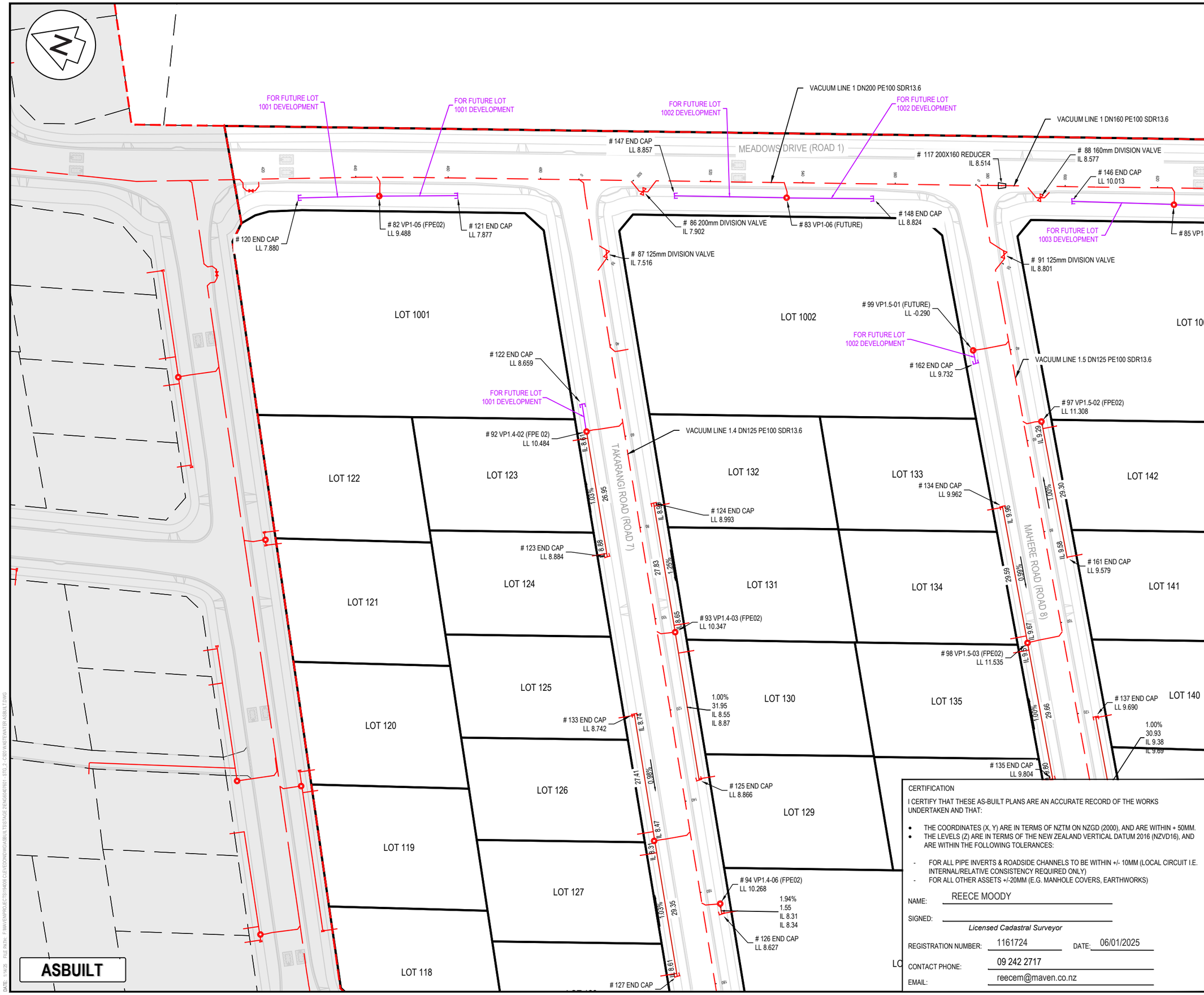
Title

STAGE 2 WASTEWATER FLOVAC ASBUILT OVERVIEW PLAN

Project no.	194006
Scale	1:3500 @ A3
Cad file	ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG
Drawing no.	STG_2 C920 Rev A

ASBUILT

DATE: 1/14/25 FILE PATH: F:\MAVEN\PROJECTS\194000 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG



NOTES

1. COORDINATES ARE IN TERMS OF NZTM.
2. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 2016.
4. ORIGIN OF LEVELS = RM 5846 SO 58211(BB2R)
5. PUBLISHED RL=10.31m, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
6. GAP20 USED FOR BEDDING, GAP65 USED FOR HARDFILL BACKFILL BENEATH HARDSTAND SURFACES.
7. ALL CONCRETE PRODUCTS MANUFACTURED BY HYNDS.
8. LENGTH OF PIPE SHOWN IN BRACKETS.
9. WORKS CARRIED OUT BY DEMPSEY WOOD.
10. WORKS COMPLETED IN AUGUST 2024.
11. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS
12. ALL MANHOLES ARE SIZE 1050MM UNLESS SHOWN OTHERWISE.
13. ALL PUBLIC CESSPITS ARE STG 675MM x 450MM x 1650MM TYPE 2 CESSPITS UNLESS SHOWN OTHERWISE.
14. ALL PUBLIC CESSPIT LEADS ARE 225MM RCRRJ UNLESS SHOWN OTHERWISE.
15. ALL CONNECTIONS ARE 150MM UPVC SN16 UNLESS NOTED OTHERWISE.
16. EPA NO. ENG60407601.
17. STORMWATER ASBUILT DATA PROVIDED BY DEMPSEY WOOD.
18. STORMWATER AS-BUILTS CAD FILE NAME: "NZTM 20240913 SW ASB REV2.DWG" RECEIVED ON 16/09/2024.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- EX RISING MAIN
- EX VACUUM LINE
- AB VACUUM LINE
- AB GRAVITY 150MM FOR FUTURE DEVELOPMENT
- AB GRAVITY 150MM UPVC LINE
- AB VALVE PIT
- AB DIVISION VALVE
- AB REDUCER
- AB END CAP

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  - FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED: _____

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REGISTRATION NUMBER: 1161724 DATE: 06/01/2025

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EMAIL: reecem@maven.co.nz

Rev	Description	By	Date
B	ASBUILT DRAFT	HL	01/2025
A	ASBUILT DRAFT	ML	12/2024

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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Project

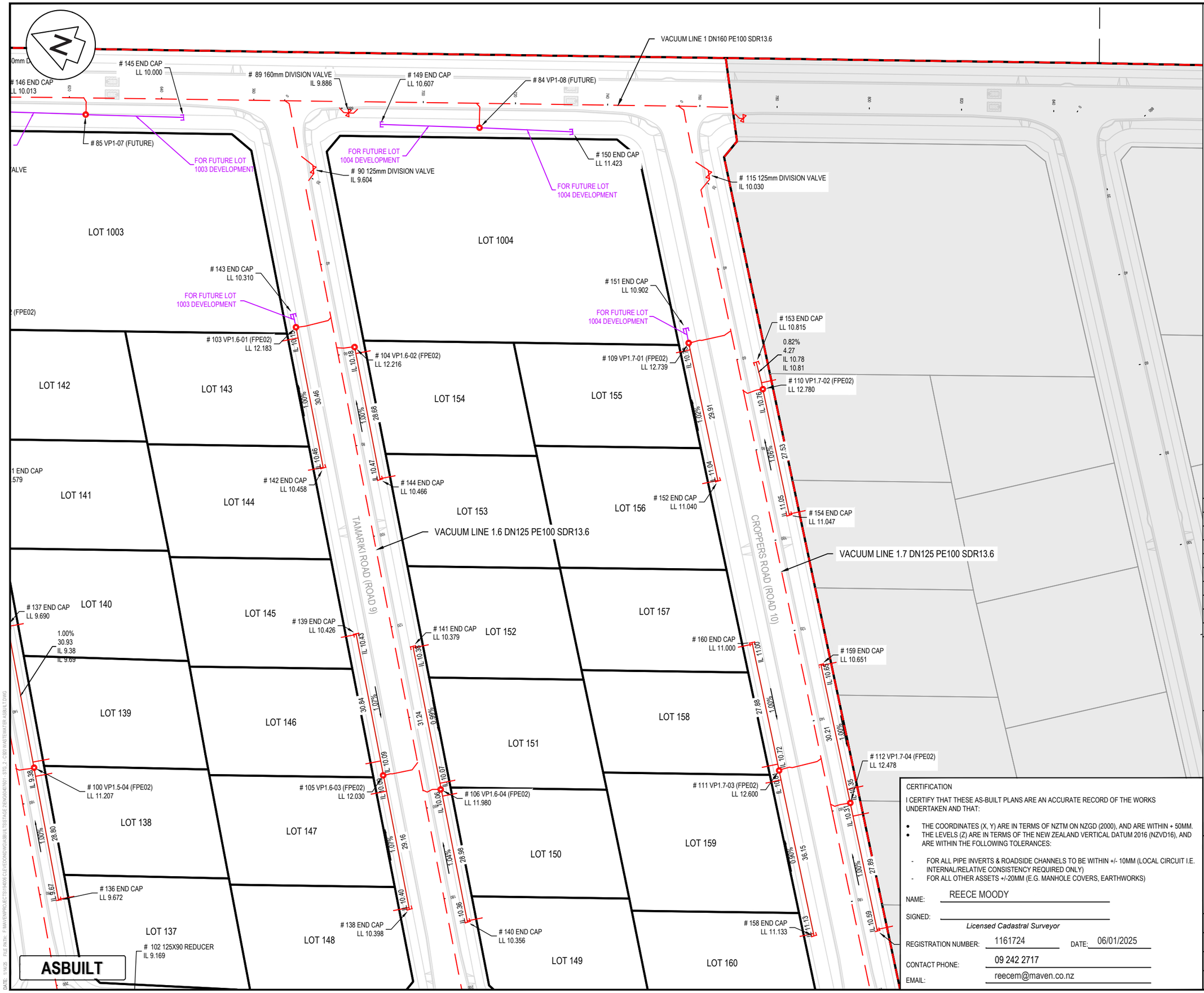
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

STAGE 2 WASTEWATER FLOVAC ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG
Drawing no.	STG_2 C921 Rev A

DATE: 1/14/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\WORK\ASBUILTS\STAGE 2\ENG60407601 STG_2 - C920 WASTEWATER ASBUILT.DWG



NOTES

1. COORDINATES ARE IN TERMS OF NZTM.
2. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 2016.
4. ORIGIN OF LEVELS = RM 5846 SO 58211(BB2R)
5. PUBLISHED RL=10.31m, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
6. GAP20 USED FOR BEDDING, GAP65 USED FOR HARDFILL BACKFILL BENEATH HARDSTAND SURFACES.
7. ALL CONCRETE PRODUCTS MANUFACTURED BY HYNDS.
8. LENGTH OF PIPE SHOWN IN BRACKETS.
9. WORKS CARRIED OUT BY DEMPSEY WOOD.
10. WORKS COMPLETED IN AUGUST 2024.
11. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS
12. ALL MANHOLES ARE SIZE 1050MM UNLESS SHOWN OTHERWISE.
13. ALL PUBLIC CESSPITS ARE STG 675MM x 450MM x 1650MM TYPE 2 CESSPITS UNLESS SHOWN OTHERWISE.
14. ALL PUBLIC CESSPIT LEADS ARE 225MM RCRRJ UNLESS SHOWN OTHERWISE.
15. ALL CONNECTIONS ARE 150MM UPVC SN16 UNLESS NOTED OTHERWISE.
16. EPA NO. ENG60407601.
17. STORMWATER ASBUILT DATA PROVIDED BY DEMPSEY WOOD.
18. STORMWATER AS-BUILTS CAD FILE NAME: "NZTM 20240913 SW ASB REV2.DWG" RECEIVED ON 16/09/2024.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- EX RISING MAIN
- EX VACUUM LINE
- AB VACUUM LINE
- AB GRAVITY 150MM FOR FUTURE DEVELOPMENT
- AB GRAVITY 150MM UPVC LINE
- AB VALVE PIT
- AB DIVISION VALVE
- AB REDUCER
- AB END CAP

Rev	Description	By	Date
B	ASBUILT DRAFT	HL	01/2025
A	ASBUILT DRAFT	ML	12/2024

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

STAGE 2 WASTEWATER FLOVAC ASBUILT PLAN

CERTIFICATION

I CERTIFY THAT THESE AS-BUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

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- FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED: _____

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 06/01/2025

CONTACT PHONE: 09 242 2717

EMAIL: reecem@maven.co.nz

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG
Drawing no.	STG_2 C922 Rev A

DATE: 1/14/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG

LOT 121
LOT 124
LOT 120
LOT 125
LOT 126
LOT 119
LOT 127
LOT 118
LOT 128
LOT 131
LOT 134
LOT 130
LOT 135
LOT 129
LOT 136
LOT 5000
LOT 141
LOT 144
LOT 140
LOT 145
LOT 139
LOT 138
LOT 137
LOT 228
LOT 227
LOT 226
LOT 225
LOT 224
LOT 223
LOT 222
LOT 221
LOT 220
LOT 219
LOT 218
LOT 217

STAGE 4

TAKARANGI ROAD (ROAD 7)

MAHERE ROAD (ROAD 8)

93 VP1.4-03 (FPE02)
LL 10.347

98 VP1.5-03 (FPE02)
LL 11.535

133 END CAP
LL 8.742

1.00%
31.95
IL 8.55
IL 8.87

125 END CAP
LL 8.866

135 END CAP
LL 9.804

137 END CAP
LL 9.690

1.00%
30.93
IL 9.38
IL 9.69

94 VP1.4-06 (FPE02)
LL 10.268

1.94%
1.55
IL 8.31
IL 8.34

126 END CAP
LL 8.627

100 VP1.5-04 (FPE02)
LL 11.207

VACUUM LINE 1.4 DN125 PE100 SDR13.6

VACUUM LINE 1.5 DN125 PE100 SDR13.6

127 END CAP
LL 8.609

136 END CAP
LL 9.672

95 125X90 REDUCER
IL 8.463

VACUUM LINE 1 DN90 PE100 SDR13.6

102 125X90 REDUCER
IL 9.169

96 VP1.4-05 (FPE01)
LL 10.305

128 END CAP
LL 8.968

1.28%
1.61
IL 8.95
IL 8.97

39.51
1.02%

129 END CAP
LL 9.354

130 END CAP
LL 9.403

1.00%
20.46
IL 9.20
IL 9.40

24.08
1.03%

101 VP1.5-05 (FPE02)
LL 11.067

ASBUILT

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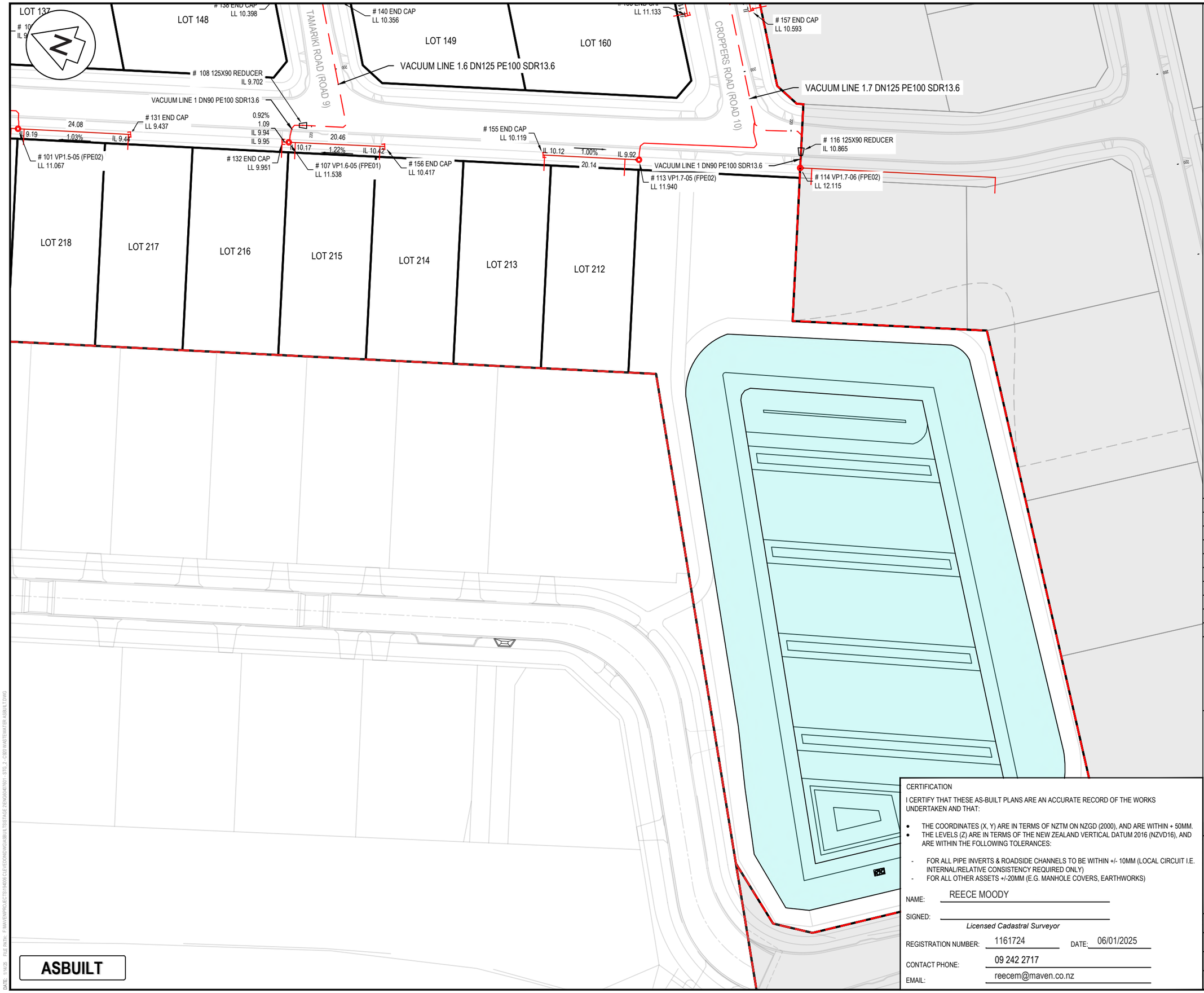
Auckland 1023

Project
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title
STAGE 2 WASTEWATER FLOVAC ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG
Drawing no.	STG_2 C923 Rev A

DATE: 1/10/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG



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B	ASBUILT DRAFT	HL	01/2025
A	ASBUILT DRAFT	ML	12/2024

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Survey	DEMPSEY WOOD	12/2024
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Maven Associates
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Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

STAGE 2 WASTEWATER FLOVAC ASBUILT PLAN

Project no.	194006		
Scale	1:750 @ A3		
Cad file	ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG		
Drawing no.	STG_2 C924	Rev	A

DATE: 1/14/25 FILE PATH: P:\MAVEN\PROJECTS\194006 CLEVEDON\WIO\ASBUILTS\STAGE 2\ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG

TABLE OF CO-ORDINATES (NZTM)

Name	Northing	Easting
# 82 VP1-05 (FPE02)	5903045.49mN	1781229.68mE
# 83 VP1-06 (FUTURE)	5902962.52mN	1781259.51mE
# 84 VP1-08 (FUTURE)	5902802.04mN	1781313.39mE
# 85 VP1-07 (FUTURE)	5902883.27mN	1781286.83mE
# 86 200mm DIVISION VALVE	5902992.17mN	1781250.20mE
# 87 125mm DIVISION VALVE	5902994.99mN	1781234.77mE
# 88 160mm DIVISION VALVE	5902910.95mN	1781278.33mE
# 89 160mm DIVISION VALVE	5902829.83mN	1781306.68mE
# 90 125mm DIVISION VALVE	5902832.80mN	1781292.51mE
# 91 125mm DIVISION VALVE	5902914.11mN	1781264.08mE
# 92 VP1.4-02 (FPE 02)	5902985.89mN	1781197.19mE
# 93 VP1.4-03 (FPE02)	5902953.02mN	1781163.00mE
# 94 VP1.4-06 (FPE02)	5902923.76mN	1781111.16mE
# 95 125X90 REDUCER	5902896.63mN	1781075.69mE
# 96 VP1.4-05 (FPE01)	5902892.82mN	1781072.87mE
# 97 VP1.5-02 (FPE02)	5902894.14mN	1781232.94mE
# 98 VP1.5-03 (FPE02)	5902880.60mN	1781186.93mE
# 99 VP1.5-01 (FUTURE)	5902913.32mN	1781242.33mE
# 100 VP1.5-04 (FPE02)	5902845.32mN	1781150.02mE
# 101 VP1.5-05 (FPE02)	5902801.99mN	1781100.93mE

TABLE OF CO-ORDINATES (NZTM)

Name	Northing	Easting
# 102 125X90 REDUCER	5902805.73mN	1781103.81mE
# 103 VP1.6-01 (FPE02)	5902824.65mN	1781259.14mE
# 104 VP1.6-02 (FPE02)	5902811.22mN	1781259.46mE
# 105 VP1.6-03 (FPE02)	5902773.62mN	1781174.37mE
# 106 VP1.6-04 (FPE02)	5902760.85mN	1781175.78mE
# 107 VP1.6-05 (FPE01)	5902745.80mN	1781118.29mE
# 108 125X90 REDUCER	5902744.19mN	1781122.79mE
# 109 VP1.7-01 (FPE02)	5902743.44mN	1781285.11mE
# 110 VP1.7-02 (FPE02)	5902724.90mN	1781281.21mE
# 111 VP1.7-03 (FPE02)	5902693.28mN	1781204.77mE
# 112 VP1.7-04 (FPE02)	5902676.36mN	1781203.47mE
# 113 VP1.7-05 (FPE02)	5902673.13mN	1781140.73mE
# 114 VP1.7-06 (FPE02)	5902639.68mN	1781151.07mE
# 115 125mm DIVISION VALVE	5902751.81mN	1781320.87mE
# 116 125X90 REDUCER	5902640.73mN	1781154.46mE
# 117 200X160 REDUCER	5902919.71mN	1781277.95mE
# 120 END CAP	5903061.80mN	1781223.30mE
# 121 END CAP	5903029.60mN	1781235.58mE
# 122 END CAP	5902988.85mN	1781202.45mE
# 123 END CAP	5902972.41mN	1781173.27mE

TABLE OF CO-ORDINATES (NZTM)

Name	Northing	Easting
# 124 END CAP	5902966.97mN	1781187.63mE
# 125 END CAP	5902937.20mN	1781134.71mE
# 126 END CAP	5902922.67mN	1781109.17mE
# 127 END CAP	5902927.12mN	1781093.21mE
# 128 END CAP	5902894.77mN	1781072.15mE
# 129 END CAP	5902854.58mN	1781084.66mE
# 130 END CAP	5902821.94mN	1781094.79mE
# 131 END CAP	5902778.60mN	1781108.13mE
# 132 END CAP	5902747.21mN	1781117.87mE
# 133 END CAP	5902955.30mN	1781143.36mE
# 134 END CAP	5902895.81mN	1781212.81mE
# 135 END CAP	5902865.32mN	1781161.01mE
# 136 END CAP	5902830.51mN	1781124.83mE
# 137 END CAP	5902861.29mN	1781176.99mE
# 138 END CAP	5902758.34mN	1781149.03mE
# 139 END CAP	5902789.65mN	1781201.20mE
# 140 END CAP	5902745.55mN	1781150.75mE
# 141 END CAP	5902777.13mN	1781202.86mE
# 142 END CAP	5902808.64mN	1781232.51mE
# 143 END CAP	5902826.23mN	1781261.59mE

TABLE OF CO-ORDINATES (NZTM)

Name	Northing	Easting
# 144 END CAP	5902796.19mN	1781234.35mE
# 145 END CAP	5902863.12mN	1781293.51mE
# 146 END CAP	5902904.28mN	1781279.95mE
# 147 END CAP	5902985.45mN	1781251.64mE
# 148 END CAP	5902944.81mN	1781265.80mE
# 149 END CAP	5902822.52mN	1781306.70mE
# 150 END CAP	5902782.77mN	1781319.47mE
# 151 END CAP	5902745.13mN	1781287.86mE
# 152 END CAP	5902727.22mN	1781259.17mE
# 153 END CAP	5902728.22mN	1781286.18mE
# 154 END CAP	5902710.15mN	1781257.51mE
# 155 END CAP	5902693.04mN	1781134.58mE
# 156 END CAP	5902725.93mN	1781124.54mE
# 157 END CAP	5902661.38mN	1781179.42mE
# 158 END CAP	5902673.91mN	1781173.69mE
# 159 END CAP	5902692.62mN	1781229.44mE
# 160 END CAP	5902708.29mN	1781228.81mE
# 161 END CAP	5902878.83mN	1781207.13mE
# 162 END CAP	5902911.78mN	1781239.89mE

ASBUILT

NOTES

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Project

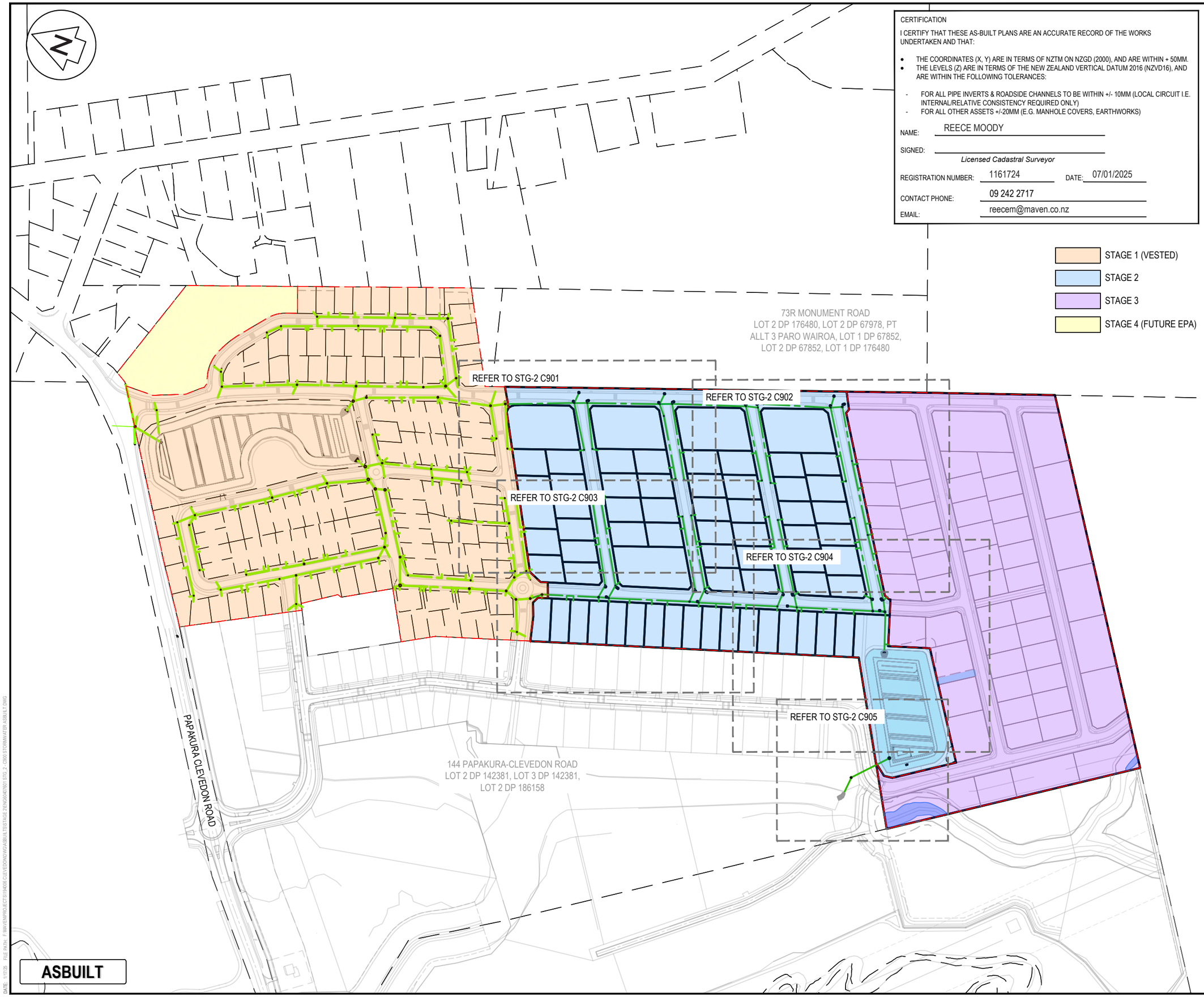
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

STAGE 2 WASTEWATER FLOVAC ASBUILT PLAN

Project no.	194006
Scale	NA
Cad file	ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG
Drawing no.	STG_2 C925 Rev A

DATE: 1/14/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 - STG_2 - C920 WASTEWATER ASBUILT.DWG



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- STAGE 1 (VESTED)
- STAGE 2
- STAGE 3
- STAGE 4 (FUTURE EPA)

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15. ALL CONNECTIONS ARE 150MM UPVC SN16 UNLESS NOTED OTHERWISE.
16. EPA NO. ENG60407601.
17. STORMWATER ASBUILT DATA PROVIDED BY DEMPSEY WOOD.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- AB SW PIPES
- AB LOT CONNECTION
- AB SWMH
- EX SWMH
- AB SWCP
- AB SW OUTLET
- AB SW DCP

Rev	Description	By	Date
A	DRAFT AS-BUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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5 Owens Road, Epsom
Auckland 1023

Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 STORMWATER ASBUILT PLAN

Project no.	194006		
Scale	1:3500 @ A3		
Cad file	ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG		
Drawing no.	STG_2 C900	Rev	A

DATE: 1/17/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG

AB CP 1-6A
LL 9.82
AB 225mm RCRRJ @ 1.04% (10.53m)
IL 8.37
IL 8.48
AB 600mm RCRRJ @ 1.19% (11.72m)
IL 7.68
IL 7.82
AB CP 1-6B
LL 9.72
AB 225mm RCRRJ @ 4.68% (0.72m)
IL 8.41
IL 8.38
AB MH 1-6 (1500mm)
LL 9.90
AB 225mm RCRRJ @ 0.74% (67.62m)
IL 7.56
IL 7.06
AB CP 1-7A
LL 9.83
AB 225mm RCRRJ @ 2.11% (1.36m)
IL 8.48
IL 8.51
AB MH 1-7 (1200mm)
LL 9.99
AB 600mm RCRRJ @ 1.27% (71.45m)
IL 7.85
IL 8.76
AB 225mm RCRRJ @ 1.14% (45.19m)
IL 8.15
IL 8.66
AB 225mm RCRRJ @ 1.29% (46.85m)
IL 8.59
IL 7.99
AB MH 1-6-1
LL 10.40
AB MH 1-7-1
LL 10.40
AB CP 1-8A
LL 10.94
AB 450mm RCRRJ @ 1.46% (11.22m)
IL 8.87
IL 9.04
AB 225mm RCRRJ @ 0.62% (10.73m)
IL 9.59
IL 9.66
AB 225mm RCRRJ @ 13.46% (0.87m)
IL 9.60
IL 9.48
AB CP 1-8B
LL 10.81
AB MH 1-8 (1200mm)
LL 10.98
AB 225mm RCRRJ @ 0.91% (11.51m)
IL 9.21
IL 9.11
AB MH 1-8-1
LL 11.09
AB 225mm RCRRJ @ 0.93% (63.13m)
IL 9.83
IL 9.25
AB CP 1-9A
LL 10.92
AB 450mm RCRRJ @ 0.98%
AB 225mm R
AB 225mm RCRRJ @ 7.49% (
IL 9.60
IL 9.69
AB MH 1-9 (1200mm)
LL 11.05
AB 300mm RCRRJ @ 0.90% (76.17m)
IL 9.20
IL 9.89
AB MH 1-9-1
LL 11.42
AB MH 1-8-2
LL 11.41
AB MH 2-15-2
LL 10.52
AB MH 2-15-2
LL 10.58
AB 450mm RCRRJ @ 0.50% (88.92m)
IL 8.43
IL 8.87
AB MH 2-17-2
LL 11.41
AB MH 2-18-2
LL 11.41
AB 375mm RCRRJ @ 0.52% (88.61m)
IL 8.22
IL 8.69
AB 225mm RCRRJ @ 3.26% (1.03
IL 8.61
IL 8.58
AB MH 2-16-1
LL 10.10
AB MH 2-15-1

MEADOWS DRIVE (ROAD 1)
KARAHUI STREET (ROAD 6)
TAKARANGI ROAD (ROAD 7)
MAHERE ROAD (ROAD 8)

LOT 1001
LOT 1002
LOT 100
LOT 122
LOT 123
LOT 132
LOT 133
LOT 142
LOT 121
LOT 124
LOT 131
LOT 134
LOT 141
LOT 125
LOT 130
LOT 135
LOT 140
LOT 120
LOT 126
LOT 129
LOT 119
LOT 127
LOT 118

ASBUILT

NOTES
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4. ORIGIN OF LEVELS = RM 5846 SO 58211(BB2R)
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Rev	Description	By	Date
A	DRAFT AS-BUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

CERTIFICATION

I CERTIFY THAT THESE AS-BUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

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  - FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED: _____

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 07/01/2025

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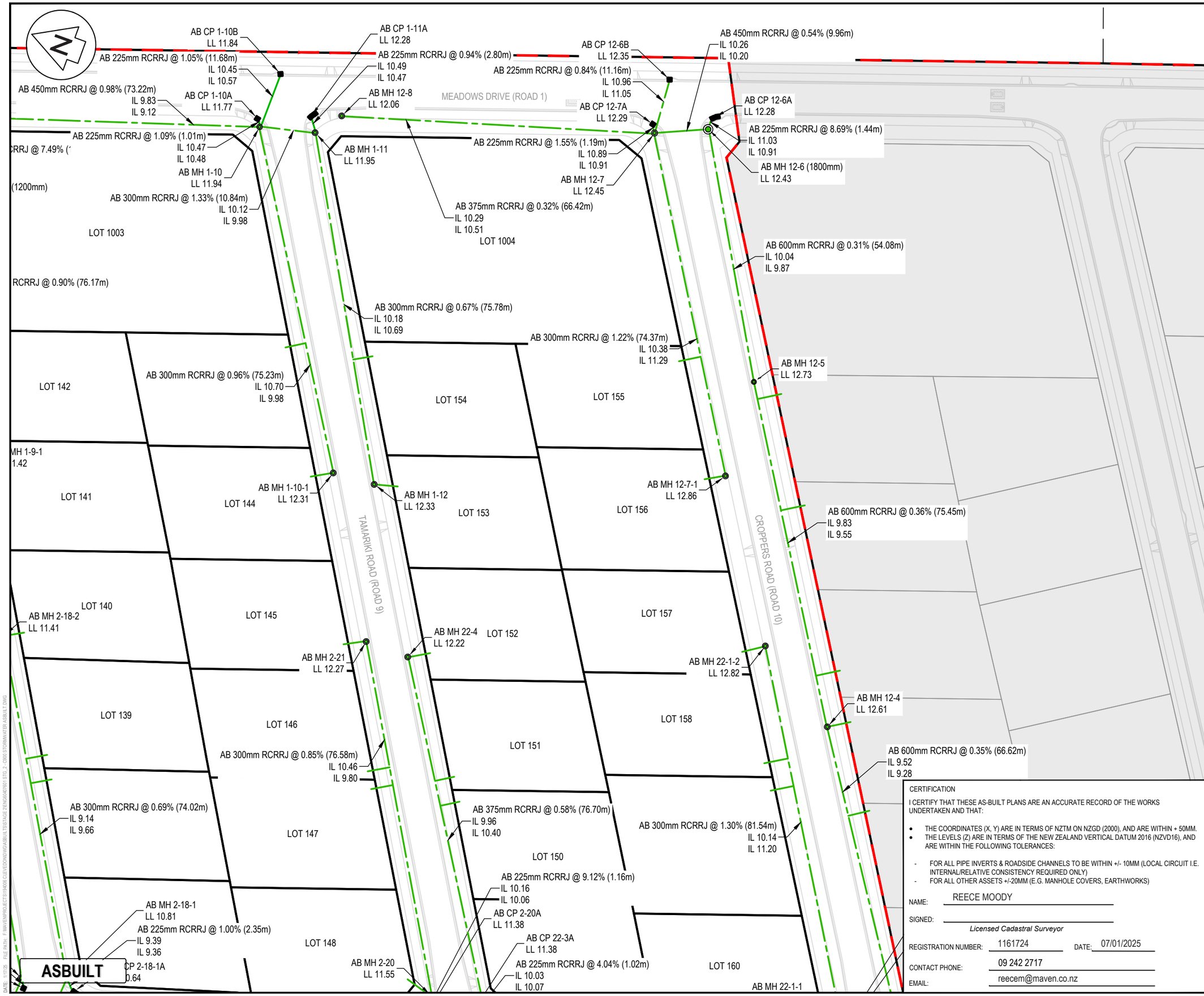
Project
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title
ENG60407601 STAGE 2 STORMWATER ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG
Drawing no.	STG_2 C901 Rev A

DATE: 1/17/25 FILE PATH: F:\MAVENPROJECTS\194006 CLEVEDON\DWG\ASBUILT\STAGE 2\ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG



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Rev	Description	By	Date
A	DRAFT AS-BUILT	AL	01/2025

	By	Date
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Design	ML	12/2024
Drawn	ML	12/2024
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Project

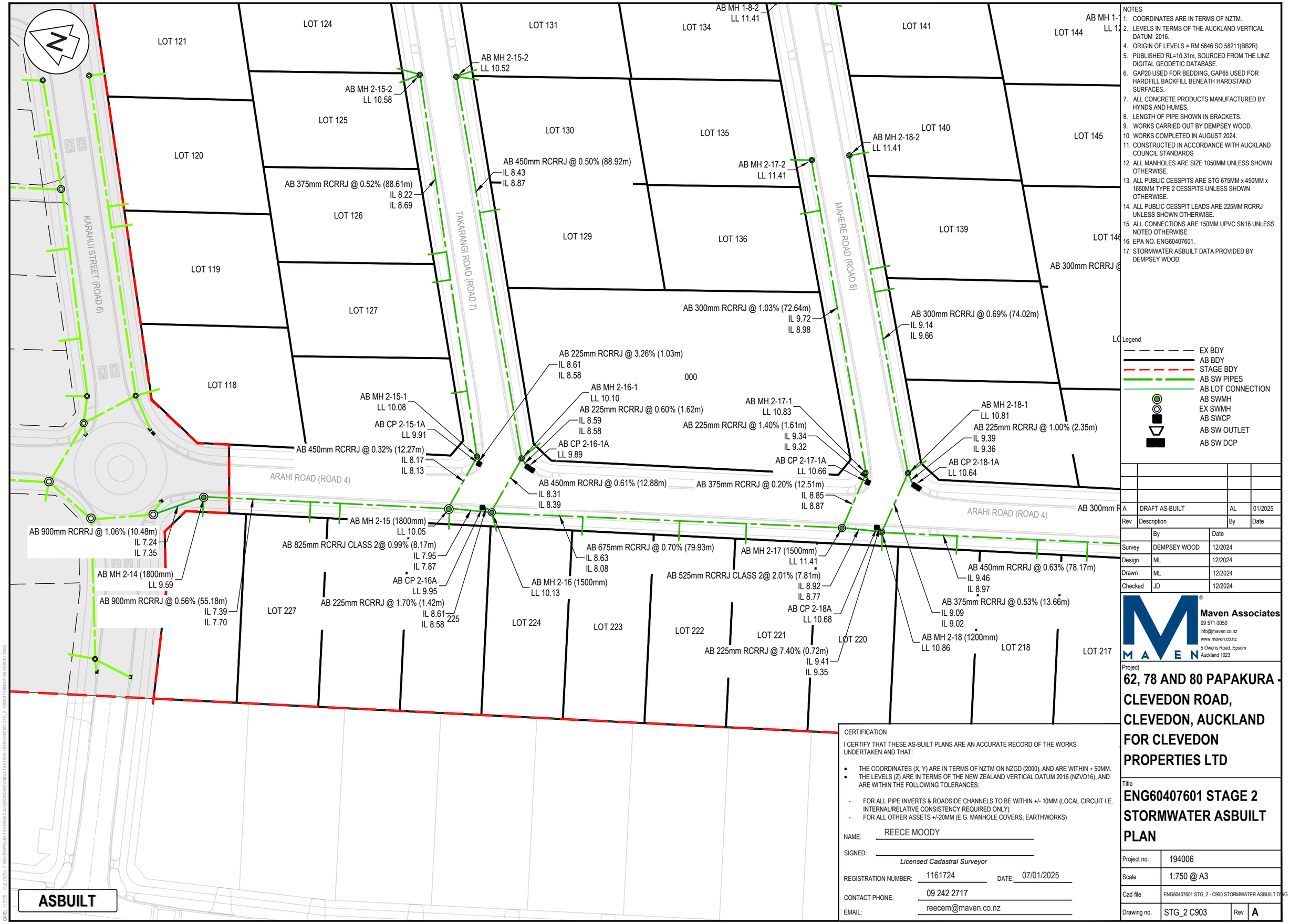
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 STORMWATER ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG
Drawing no.	STG_2 C902 Rev A

DATE: 1/10/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\04\ASBUILT\STAGE 2\ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG



ASBUILT

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Legend
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Rev	Description	By	Date
A	DRAFT AS-BUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
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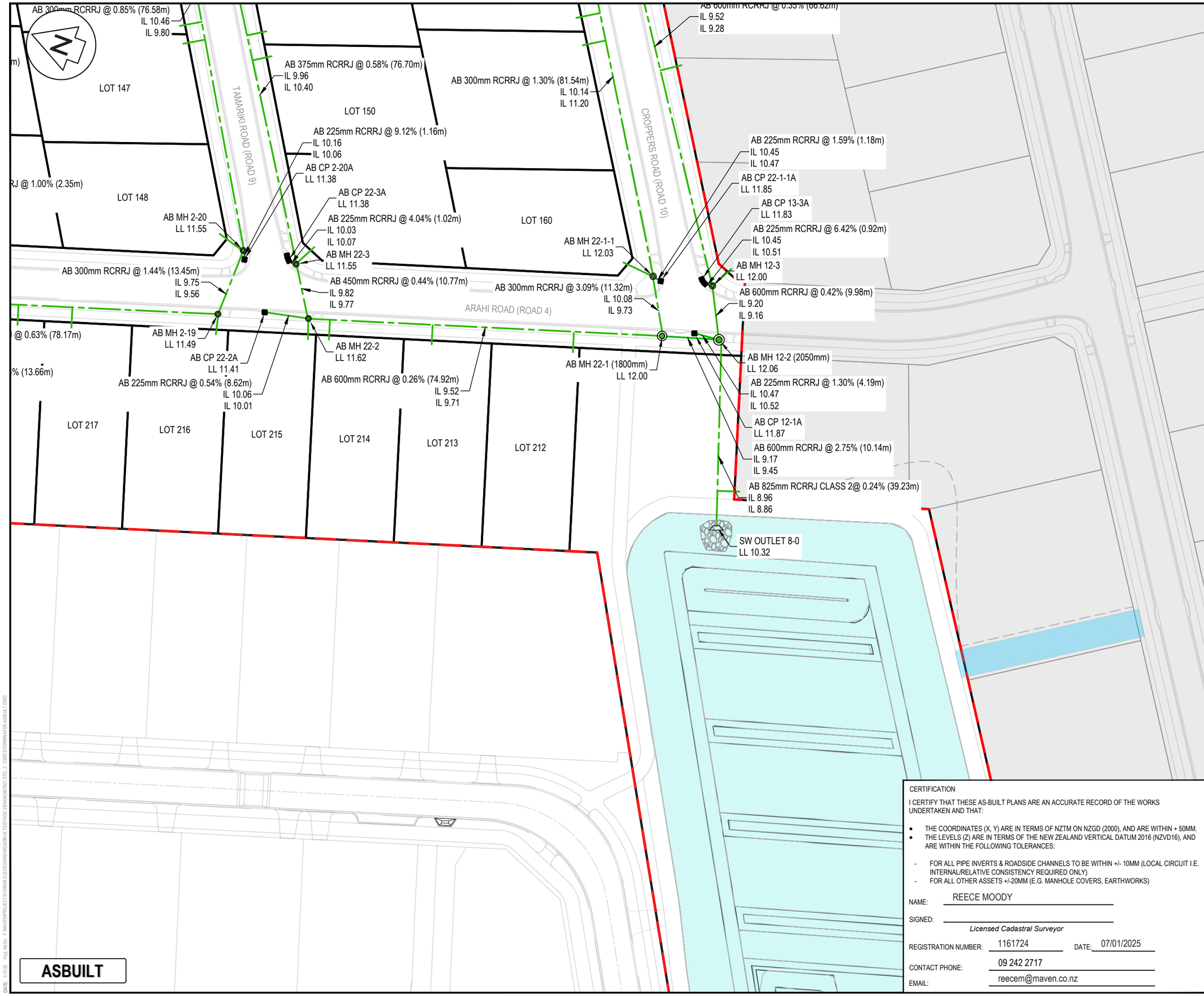
Project
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title
ENG60407601 STAGE 2 STORMWATER ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG
Drawing no.	STG_2 C903 Rev A

DATE: 1/07/25 FILE PATH: P:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG



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Legend

- EX BDY
- AB BDY
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- AB LOT CONNECTION
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Rev	Description	By	Date
A	DRAFT AS-BUILT	AL	01/2025

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Survey	DEMPSEY WOOD	12/2024
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Project

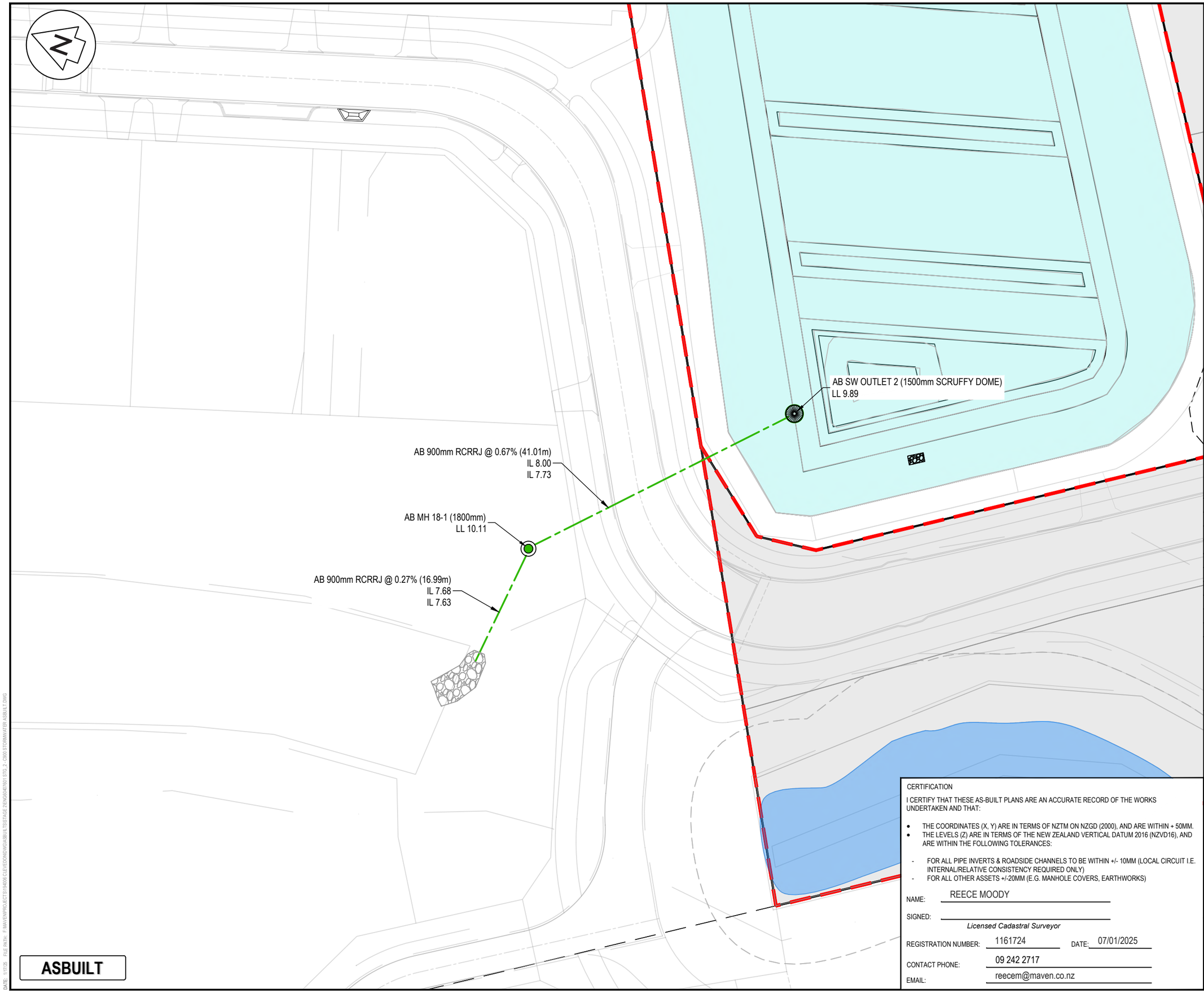
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 STORMWATER ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG
Drawing no.	STG_2 C904 Rev A

DATE: 1/07/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG



ASBUILT

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62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 STORMWATER ASBUILT PLAN

Project no.	194006		
Scale	1:500 @ A3		
Cad file	ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG		
Drawing no.	STG_2 C905	Rev	A

DATE: 1/12/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\CAD\BUILT\STAGE 2\ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG

TABLE OF CO-ORDINATES (NZTM)

Structures ID	Northing	Easting	LEVEL (NZVD2016)
AB CP 1-6A	5903010.18mN	1781252.58mE	9.82
AB CP 1-6B	5903012.37mN	1781242.30mE	9.72
AB CP 1-7A	5902999.37mN	1781247.53mE	9.83
AB CP 1-8A	5902928.67mN	1781281.02mE	10.94
AB CP 1-8B	5902931.10mN	1781270.73mE	10.81
AB CP 1-9A	5902917.25mN	1781276.57mE	10.92
AB CP 1-10A	5902848.17mN	1781298.73mE	11.77
AB CP 1-10B	5902846.80mN	1781309.52mE	11.84
AB CP 1-11A	5902837.51mN	1781303.05mE	12.28
AB CP 2-15-1A	5902917.90mN	1781077.98mE	9.91
AB CP 2-16-1A	5902907.01mN	1781081.11mE	9.89
AB CP 2-16A	5902913.66mN	1781068.65mE	9.95
AB CP 2-17-1A	5902831.38mN	1781104.92mE	10.66
AB CP 2-18-1A	5902820.93mN	1781107.95mE	10.64
AB CP 2-18A	5902825.76mN	1781095.74mE	10.68
AB CP 2-20A	5902747.09mN	1781131.80mE	11.38
AB CP 12-1A	5902650.24mN	1781150.10mE	11.87
AB CP 12-6A	5902755.74mN	1781332.54mE	12.28
AB CP 12-6B	5902767.34mN	1781337.19mE	12.35
AB CP 12-7A	5902767.45mN	1781326.88mE	12.29
AB CP 13-3A	5902652.72mN	1781161.62mE	11.83
AB CP 22-1-1A	5902660.93mN	1781158.24mE	11.85
AB CP 22-2A	5902739.05mN	1781122.57mE	11.41
AB CP 22-3A	5902738.05mN	1781134.85mE	11.38

TABLE OF CO-ORDINATES (NZTM)

Structures ID	Northing	Easting	LEVEL (NZVD2016)
AB MH 1-6-1	5902985.50mN	1781200.14mE	10.40
AB MH 1-6 (1500mm)	5903011.05mN	1781241.18mE	9.90
AB MH 1-7-1	5902977.93mN	1781203.85mE	10.40
AB MH 1-7 (1200mm)	5902998.54mN	1781245.58mE	9.99
AB MH 1-8-1	5902921.71mN	1781259.59mE	11.09
AB MH 1-8-2	5902888.83mN	1781204.24mE	11.41
AB MH 1-8 (1200mm)	5902929.76mN	1781269.59mE	10.98
AB MH 1-9-1	5902880.48mN	1781206.27mE	11.42
AB MH 1-9 (1200mm)	5902917.94mN	1781274.04mE	11.05
AB MH 1-10	5902847.13mN	1781297.26mE	11.94
AB MH 1-10-1	5902806.55mN	1781232.47mE	12.31
AB MH 1-11	5902835.43mN	1781300.19mE	11.95
AB MH 1-12	5902797.40mN	1781233.18mE	12.33
AB MH 2-14 (1800mm)	5902975.44mN	1781048.65mE	9.59
AB MH 2-15-1	5902918.92mN	1781079.40mE	10.08
AB MH 2-15-2	5902961.85mN	1781158.36mE	10.58
AB MH 2-15-2	5902953.72mN	1781160.84mE	10.52
AB MH 2-15 (1800mm)	5902920.88mN	1781065.65mE	10.05
AB MH 2-16-1	5902908.97mN	1781082.57mE	10.10
AB MH 2-16 (1500mm)	5902911.23mN	1781068.36mE	10.13
AB MH 2-17-1	5902832.58mN	1781106.79mE	10.83
AB MH 2-17-2	5902869.28mN	1781170.95mE	11.41
AB MH 2-17 (1500mm)	5902833.36mN	1781092.83mE	11.41
AB MH 2-18-1	5902823.22mN	1781110.12mE	10.81

TABLE OF CO-ORDINATES (NZTM)

Structures ID	Northing	Easting	LEVEL (NZVD2016)
AB MH 2-18-2	5902861.46mN	1781174.97mE	11.41
AB MH 2-18 (1200mm)	5902824.34mN	1781095.14mE	10.86
AB MH 2-19	5902748.43mN	1781118.77mE	11.49
AB MH 2-20	5902748.02mN	1781133.55mE	11.55
AB MH 2-21	5902787.40mN	1781200.68mE	12.27
AB MH 12-2 (2050mm)	5902644.75mN	1781150.63mE	12.06
AB MH 12-3	5902650.04mN	1781161.07mE	12.00
AB MH 12-4	5902687.41mN	1781217.49mE	12.61
AB MH 12-5	5902727.80mN	1781282.13mE	12.73
AB MH 12-6 (1800mm)	5902755.83mN	1781330.04mE	12.43
AB MH 12-7	5902766.42mN	1781325.28mE	12.45
AB MH 12-7-1	5902726.66mN	1781260.90mE	12.86
AB MH 12-8	5902831.26mN	1781305.55mE	12.06
AB MH 18-1 (1800mm)	5902619.48mN	1780982.22mE	10.11
AB MH 22-1-1	5902662.83mN	1781158.61mE	12.03
AB MH 22-1-2	5902705.99mN	1781229.32mE	12.82
AB MH 22-1 (1800mm)	5902656.57mN	1781147.21mE	12.00
AB MH 22-2	5902729.72mN	1781124.56mE	11.62
AB MH 22-3	5902736.21mN	1781134.67mE	11.55
AB MH 22-4	5902777.80mN	1781200.62mE	12.22
AB SW OUTLET 2 (1500mm SCRUFFY DOME)	5902590.07mN	1781013.68mE	9.89
SW OUTLET 8-0	5902631.50mN	1781112.61mE	10.32

NOTES
1. COORDINATES ARE IN TERMS OF NZTM.
2. LEVELS IN TERMS OF THE AUCKLAND VERTICAL DATUM 2016.
4. ORIGIN OF LEVELS = RM 5846 SO 58211(BB2R)
5. PUBLISHED RL=10.31m, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
6. GAP20 USED FOR BEDDING, GAP65 USED FOR HARDFILL BACKFILL BENEATH HARDSTAND SURFACES.
7. ALL CONCRETE PRODUCTS MANUFACTURED BY HYNDS AND HUMES.
8. LENGTH OF PIPE SHOWN IN BRACKETS.
9. WORKS CARRIED OUT BY DEMPSEY WOOD.
10. WORKS COMPLETED IN AUGUST 2024.
11. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS
12. ALL MANHOLES ARE SIZE 1050MM UNLESS SHOWN OTHERWISE.
13. ALL PUBLIC CESSPITS ARE STG 675MM x 450MM x 1650MM TYPE 2 CESSPITS UNLESS SHOWN OTHERWISE.
14. ALL PUBLIC CESSPIT LEADS ARE 225MM RCRRJ UNLESS SHOWN OTHERWISE.
15. ALL CONNECTIONS ARE 150MM UPVC SN16 UNLESS NOTED OTHERWISE.
16. EPA NO. ENG60407601.
17. STORMWATER ASBUILT DATA PROVIDED BY DEMPSEY WOOD.

ASBUILT

CERTIFICATION

I CERTIFY THAT THESE AS-BUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X, Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN + 50MM.
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- FOR ALL PIPE INVERTS & ROADSIDE CHANNELS TO BE WITHIN +/- 10MM (LOCAL CIRCUIT I.E. INTERNAL/RELATIVE CONSISTENCY REQUIRED ONLY)
- FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED: _____

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 07/01/2025

CONTACT PHONE: 09 242 2717

EMAIL: reecem@maven.co.nz

Rev	Description	By	Date
A	DRAFT AS-BUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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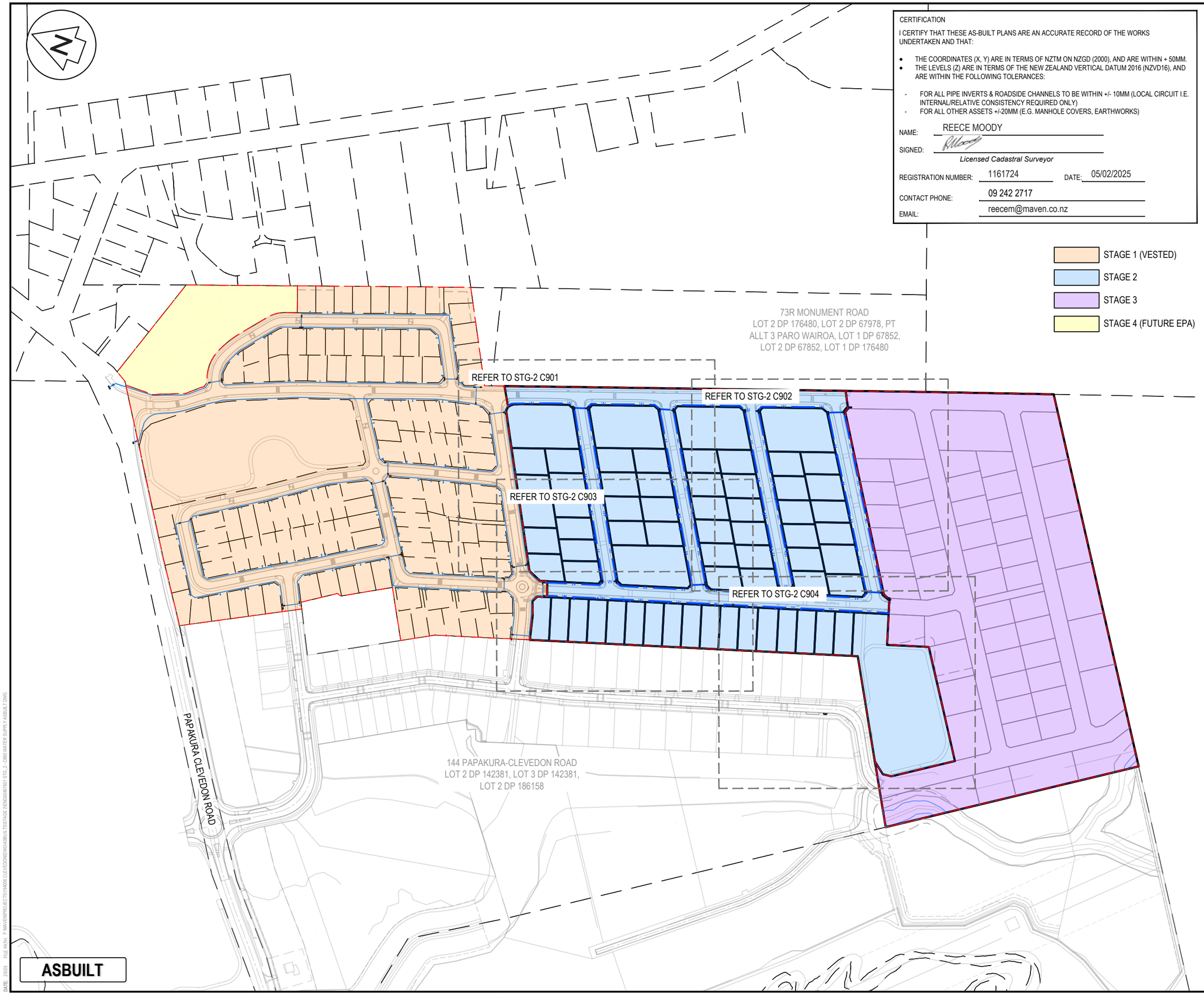
5 Owens Road, Epsom
Auckland 1023

Project
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title
ENG60407601 STAGE 2 STORMWATER ASBUILT TABLE

Project no.	194006
Scale	N/A
Cad file	ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG
Drawing no.	STG_2 C906 Rev A

DATE: 1/7/26 FILEPATH: F:\MAVEN PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG_2 - C900 STORMWATER ASBUILT.DWG



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NAME: REECE MOODY

SIGNED:

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 05/02/2025

CONTACT PHONE: 09 242 2717

EMAIL: reecem@maven.co.nz

NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF THE NEW ZEALAND TRANSVERSE MERACATOR (NZTM).LEVELS IN TERMS OF THE NEW ZEALAND VERTICAL DATUM (NZVD 2016).
4. ORIGIN OF LEVELS = RM 5846 SO 58211 PUBLISHED RL=10.31m, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
5. WORKS CARRIED OUT BY DEMPSEY WOOD.
6. SURVEY DATA PROVIDED BY DEMPSEY WOOD.
7. WORKS COMPLETED IN SEPTEMBER 2024.
8. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
9. ALL ASSETS TO BE CONSIDERED PUBLIC UNLESS SHOWN OTHERWISE.
10. EPA NO. ENG60407601.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- EX WATERMAIN
- EX/AB HYDRANT (FH)
- EX/AB METER (WM)
- EX SLUICE/PEET VALVE
- AB WATERMAIN
- AB SLUICE VALVE
- AB PEET VALVE

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

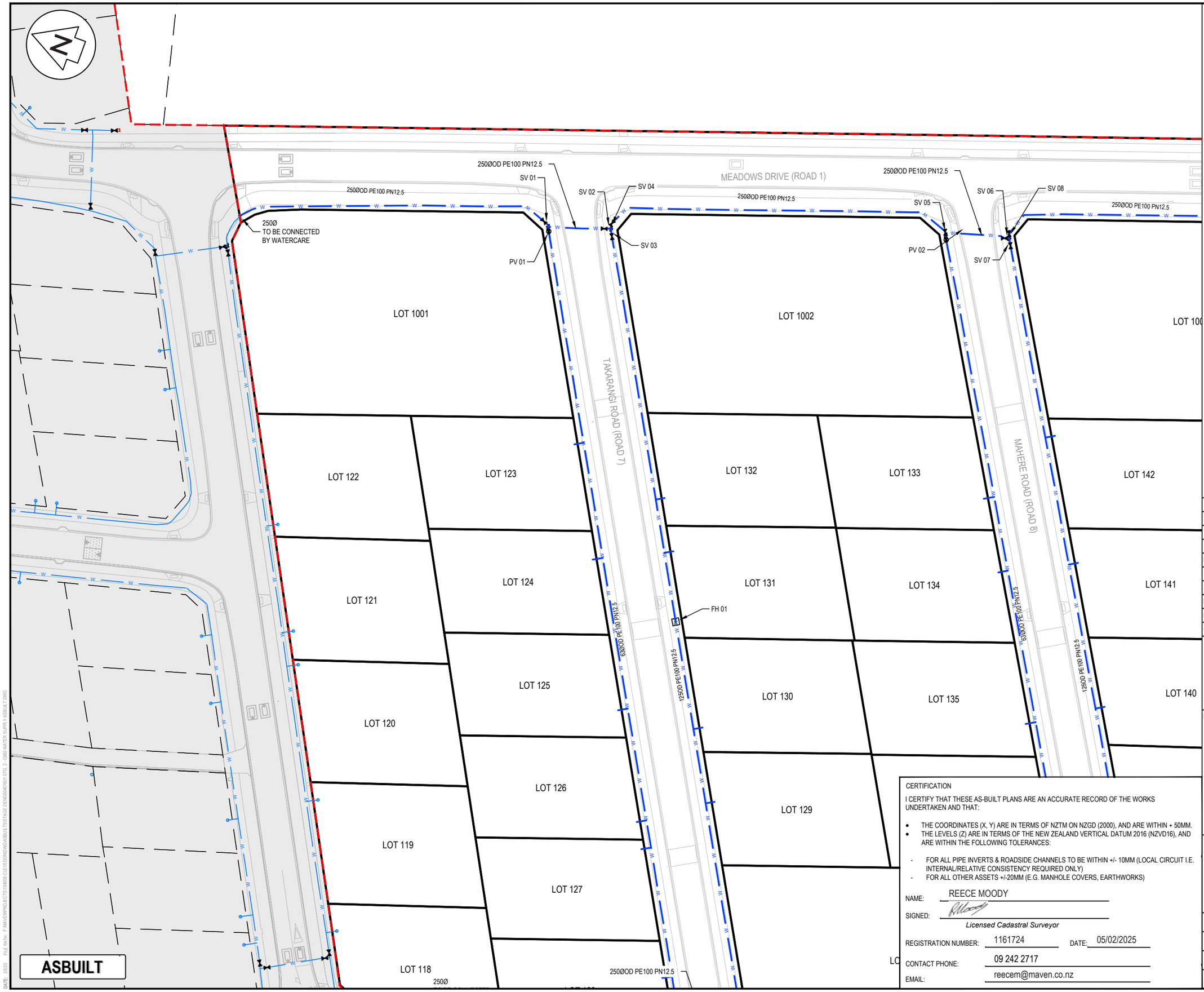
Title

ENG60407601 STAGE 2 SUPPLY ASBUILT OVERVIEW PLAN

Project no.	194006
Scale	1:3500 @ A3
Cad file	ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG
Drawing no.	STG_2 C960 Rev A

ASBUILT

DATE: 28/05 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\OVG\ASBUILT\STAGE 2\ENG60407601 STG 2 - C960 WATER SUPPLY ASBUILT.DWG



NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF THE NEW ZEALAND TRANSVERSE MERACATOR (NZTM).LEVELS IN TERMS OF THE NEW ZEALAND VERTICAL DATUM (NZVD 2016).
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- EX BDY
- AB BDY
- STAGE BDY
- EX WATERMAIN
- EX/AB HYDRANT (FH)
- EX/AB METER (WM)
- EX SLUICE/PEET VALVE
- AB WATERMAIN
- AB SLUICE VALVE
- AB PEET VALVE

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

CERTIFICATION

I CERTIFY THAT THESE AS-BUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

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  - FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED:

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 05/02/2025

CONTACT PHONE: 09 242 2717

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Auckland 1023

Project

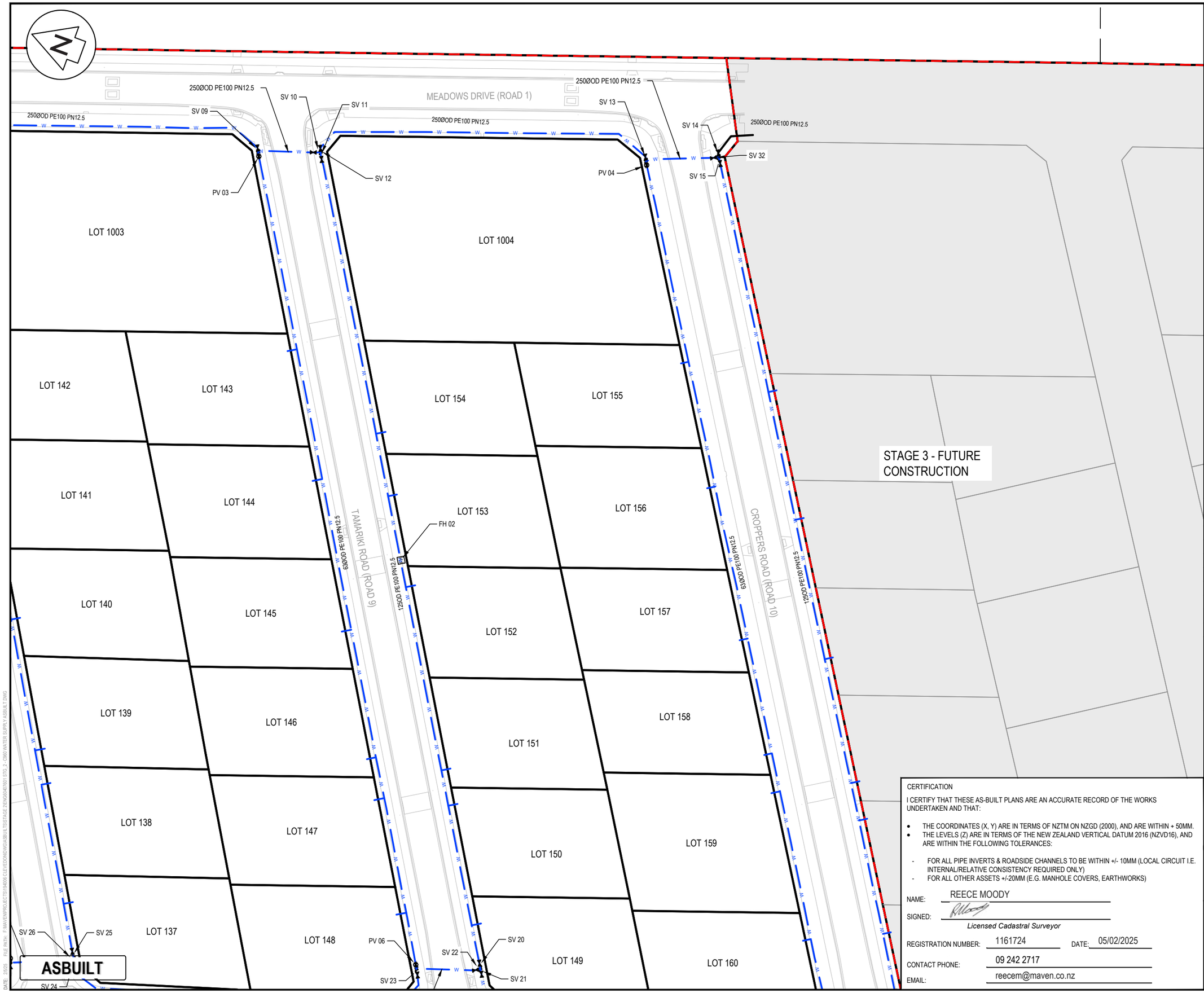
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 SUPPLY ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG
Drawing no.	STG_2 C961 Rev A

DATE: 25/05 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG 2 - C960 WATER SUPPLY ASBUILT.DWG



NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF THE NEW ZEALAND TRANSVERSE MERACATOR (NZTM).LEVELS IN TERMS OF THE NEW ZEALAND VERTICAL DATUM (NZVD 2016).
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5. WORKS CARRIED OUT BY DEMPSEY WOOD.
6. SURVEY DATA PROVIDED BY DEMPSEY WOOD.
7. WORKS COMPLETED IN SEPTEMBER 2024.
8. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
9. ALL ASSETS TO BE CONSIDERED PUBLIC UNLESS SHOWN OTHERWISE.
10. EPA NO. ENG60407601.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- EX WATERMAIN
- EX/AB HYDRANT (FH)
- EX/AB METER (WM)
- EX SLUICE/PEET VALVE
- AB WATERMAIN
- AB SLUICE VALVE
- AB PEET VALVE

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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  - FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED:

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 05/02/2025

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Project

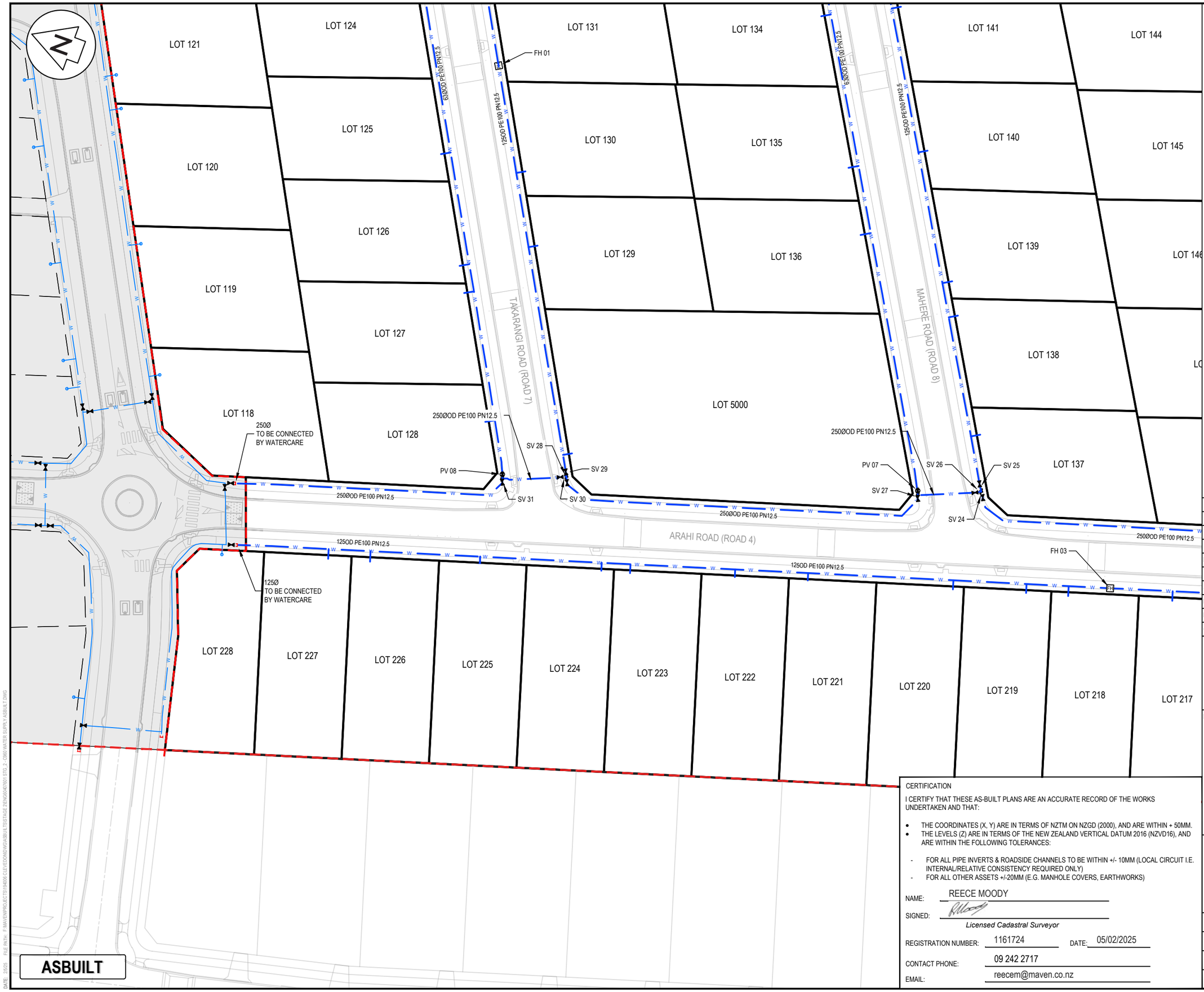
62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 SUPPLY ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG
Drawing no.	STG_2 C962 Rev A

DATE: 2/5/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG



NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF THE NEW ZEALAND TRANSVERSE MERACATOR (NZTM).LEVELS IN TERMS OF THE NEW ZEALAND VERTICAL DATUM (NZVD 2016).
4. ORIGIN OF LEVELS = RM 5846 SO 58211 PUBLISHED RL=10.31m, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
5. WORKS CARRIED OUT BY DEMPSEY WOOD.
6. SURVEY DATA PROVIDED BY DEMPSEY WOOD.
7. WORKS COMPLETED IN SEPTEMBER 2024.
8. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
9. ALL ASSETS TO BE CONSIDERED PUBLIC UNLESS SHOWN OTHERWISE.
10. EPA NO. ENG60407601.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- EX WATERMAIN
- EX/AB HYDRANT
- EX/AB METER
- EX SLUICE/PEET VALVE
- AB WATERMAIN
- AB SLUICE VALVE
- AB PEET VALVE

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

CERTIFICATION

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NAME: REECE MOODY

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REGISTRATION NUMBER: 1161724 DATE: 05/02/2025

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Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

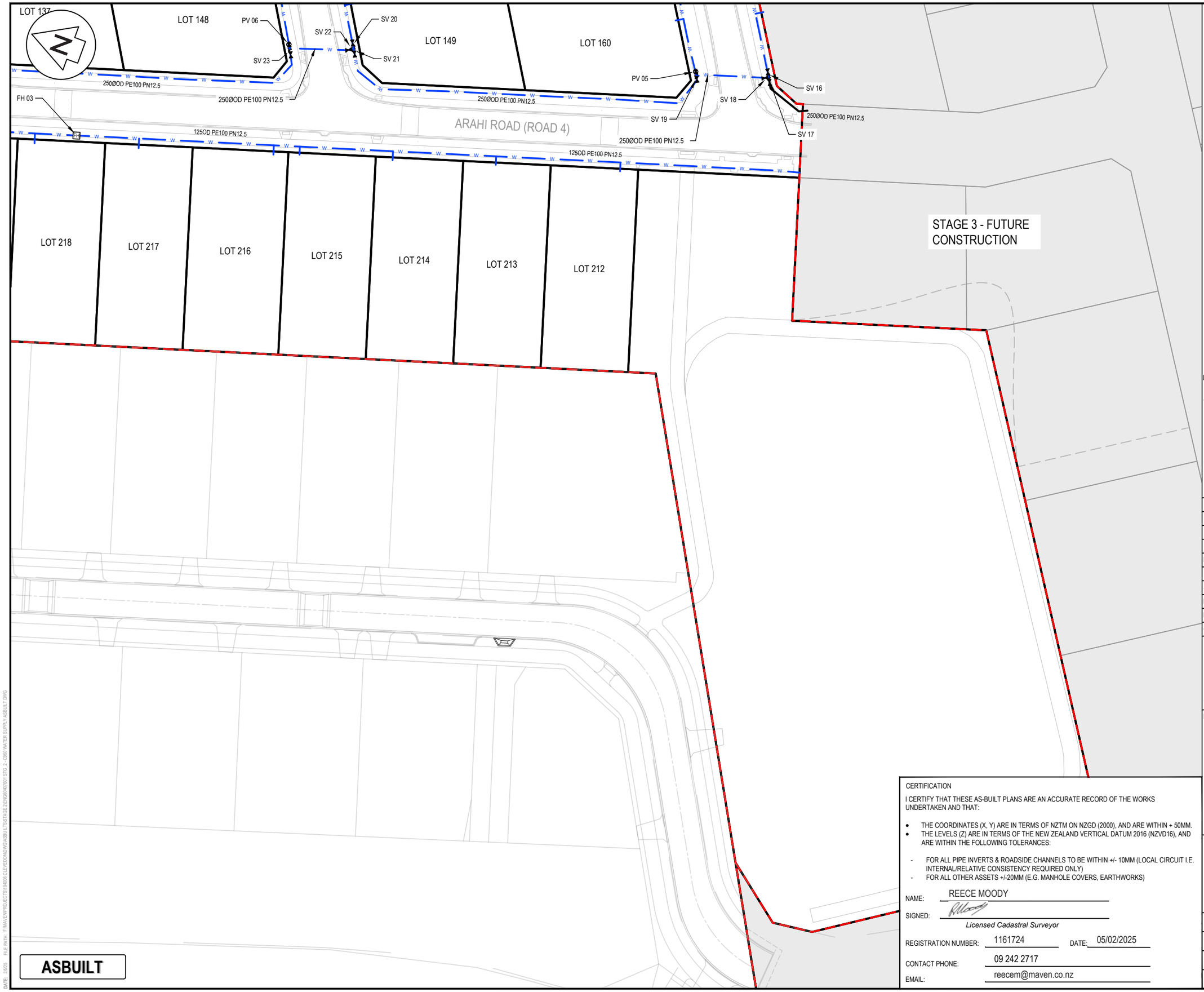
Title

ENG60407601 STAGE 2 SUPPLY ASBUILT PLAN

Project no.	194006
Scale	1:750 @ A3
Cad file	ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG
Drawing no.	STG_2 C963 Rev A

ASBUILT

DATE: 28/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\04WGA\BUILT\SSTAGE 2\ENG60407601 STG 2 - C960 WATER SUPPLY ASBUILT.DWG



NOTES

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10. EPA NO. ENG60407601.

Legend

- EX BDY
- AB BDY
- STAGE BDY
- EX WATERMAIN
- EX/AB HYDRANT (FH)
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- EX SLUICE/PEET VALVE
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REGISTRATION NUMBER: 1161724 DATE: 05/02/2025

CONTACT PHONE: 09 242 2717

EMAIL: reecem@maven.co.nz

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

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Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 SUPPLY ASBUILT PLAN

Project no.	194006		
Scale	1:750 @ A3		
Cad file	ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG		
Drawing no.	STG_2 C964	Rev	A

DATE: 25/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG

TABLE OF CO-ORDINATES (NZTM)

Name	Northing	Easting
FH 01	5902953.15mN	1781164.90mE
FH 02	5902786.09mN	1781219.44mE
FH 03	5902789.60mN	1781103.85mE
PV 01	5903008.04mN	1781235.02mE
PV 02	5902923.32mN	1781266.90mE
PV 03	5902844.97mN	1781291.15mE
PV 04	5902765.33mN	1781318.16mE
PV 05	5902668.04mN	1781162.91mE
PV 06	5902753.03mN	1781138.20mE
PV 07	5902836.09mN	1781109.42mE
PV 08	5902922.03mN	1781081.88mE
SV 01	5903009.02mN	1781236.40mE
SV 02	5902995.92mN	1781240.10mE
SV 03	5902995.28mN	1781239.53mE
SV 04	5902995.70mN	1781240.59mE
SV 05	5902926.92mN	1781264.06mE
SV 06	5902913.97mN	1781267.67mE
SV 07	5902913.26mN	1781267.18mE
SV 08	5902913.79mN	1781268.23mE
SV 09	5902845.68mN	1781292.36mE

TABLE OF CO-ORDINATES (NZTM)

Name	Northing	Easting
SV 10	5902833.10mN	1781296.39mE
SV 11	5902832.41mN	1781295.88mE
SV 12	5902832.90mN	1781296.89mE
SV 13	5902765.94mN	1781319.35mE
SV 14	5902751.42mN	1781325.49mE
SV 15	5902750.88mN	1781324.49mE
SV 16	5902653.12mN	1781167.80mE
SV 17	5902652.54mN	1781166.82mE
SV 18	5902653.07mN	1781166.95mE
SV 19	5902667.40mN	1781161.74mE
SV 20	5902739.98mN	1781142.82mE
SV 21	5902739.38mN	1781141.86mE
SV 22	5902739.90mN	1781141.99mE
SV 23	5902752.37mN	1781137.03mE
SV 24	5902822.94mN	1781113.72mE
SV 25	5902823.57mN	1781114.67mE
SV 26	5902823.44mN	1781113.84mE
SV 27	5902835.58mN	1781108.15mE
SV 28	5902908.65mN	1781085.86mE
SV 29	5902909.21mN	1781086.90mE

TABLE OF CO-ORDINATES (NZTM)

Name	Northing	Easting
SV 30	5902909.21mN	1781086.09mE
SV 31	5902921.57mN	1781080.65mE
SV 32	5902752.27mN	1781324.59mE

NOTES

1. ALL WORKS TO BE IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
2. COORDINATES IN TERMS OF THE NEW ZEALAND TRANSVERSE MERACATOR (NZTM).LEVELS IN TERMS OF THE NEW ZEALAND VERTICAL DATUM (NZVD 2016).
4. ORIGIN OF LEVELS = RM 5846 SO 58211 PUBLISHED RL=10.31m, SOURCED FROM THE LINZ DIGITAL GEODETIC DATABASE.
5. WORKS CARRIED OUT BY DEMPSEY WOOD.
6. SURVEY DATA PROVIDED BY DEMPSEY WOOD.
7. WORKS COMPLETED IN SEPTEMBER 2024.
8. CONSTRUCTED IN ACCORDANCE WITH AUCKLAND COUNCIL STANDARDS.
9. ALL ASSETS TO BE CONSIDERED PUBLIC UNLESS SHOWN OTHERWISE.
10. EPA NO. ENG60407601.

CERTIFICATION

I CERTIFY THAT THESE AS-BUILT PLANS ARE AN ACCURATE RECORD OF THE WORKS UNDERTAKEN AND THAT:

- THE COORDINATES (X, Y) ARE IN TERMS OF NZTM ON NZGD (2000), AND ARE WITHIN + 50MM.
- THE LEVELS (Z) ARE IN TERMS OF THE NEW ZEALAND VERTICAL DATUM 2016 (NZVD16), AND ARE WITHIN THE FOLLOWING TOLERANCES:

- FOR ALL PIPE INVERTS & ROADSIDE CHANNELS TO BE WITHIN +/- 10MM (LOCAL CIRCUIT I.E. INTERNAL/RELATIVE CONSISTENCY REQUIRED ONLY)
- FOR ALL OTHER ASSETS +/-20MM (E.G. MANHOLE COVERS, EARTHWORKS)

NAME: REECE MOODY

SIGNED:

Licensed Cadastral Surveyor

REGISTRATION NUMBER: 1161724 DATE: 05/02/2025

CONTACT PHONE: 09 242 2717

EMAIL: reecem@maven.co.nz

ASBUILT

DATE: 2/2/25 FILE PATH: F:\MAVEN\PROJECTS\194006 CLEVEDON\DWG\ASBUILTS\STAGE 2\ENG60407601 STG 2 - C960 WATER SUPPLY ASBUILT.DWG

Rev	Description	By	Date
A	ASBUILT	AL	01/2025

	By	Date
Survey	DEMPSEY WOOD	12/2024
Design	ML	12/2024
Drawn	ML	12/2024
Checked	JD	12/2024

Maven Associates
09 571 0050
info@maven.co.nz
www.maven.co.nz
5 Owens Road, Epsom
Auckland 1023

Project

62, 78 AND 80 PAPAKURA - CLEVEDON ROAD, CLEVEDON, AUCKLAND FOR CLEVEDON PROPERTIES LTD

Title

ENG60407601 STAGE 2 SUPPLY ASBUILT TABLE

Project no.	194006		
Scale	1:500 @ A3		
Cad file	ENG60407601 STG_2 - C960 WATER SUPPLY ASBUILT.DWG		
Drawing no.	STG_2 C965	Rev	A

APPENDIX B

FIELD DENSITY SUMMARY SHEETS

21 October 2024
Our Ref: 2021000.1080.0.0/Rep1A
Customer Ref: J00721

Land Development & Engineering Ltd
Level 1, Wilson James Centre
77 Peel Street
Gisborne 4040

Attention: Kyle Meffan

Dear Kyle

62-80 Papakura - Clevedon Road, Clevedon

Site Report – Quality Assurance Testing

Introduction

This report supersedes the original report number 2021000.1080.0.0/Rep1 dated 10th of September 2024. Please supersede the original document in your records.

The client has requested the following amendments as per email request on 21st of October 2024.

- Update Pass/Fail of URNs 2.2, 3.7 and 43.1 to Engineer Approved (EA) by Alan (LDE).
- Add comment to URN 48.3 tested on 12/01/2024 advising 'Material removed and to be reworked'

Customer's Instructions

We were instructed to complete:

Nuclear densometer (NDM), shear vane, impact hammer and Scala penetrometer testing when requested by the customer and report the results.

Specifications

No formal specification provided for Scala penetrometer testing; results were passed on for review.

Hardfill:

Specification provided by Kyle (LDE) requires a Clegg Impact Value (CIV) ≥ 25 for impact hammer testing.

Fill Material:

Specification provided by Alan (LDE) requires ≤ 10 % air voids and undrained shear strength ≥ 150 kPa.

Dates of Procedures

Testing was carried out from the 20th of February 2023 to the 7th of August 2024.

Locations

Test locations were determined on site by the Geotechnics technician and the contractor on behalf of the customer. Individual test locations were selected to be representative of the test area.

The attached plans provide indicative locations only and are not to scale. All other information we provide regarding location should be referenced to the asset owner.

Methods

NZS 4402:1988 Test 6.5.2 - Determination of the penetration resistance of a soil (Hand method using a dynamic cone penetrometer) - Scala

NZGS 8:2001 - Test method for determining the vane shear strength of a cohesive soil using a hand held shear vane

NZS 4407:2015 Test 4.2 - Method using a nuclear surface moisture-density gauge (Direct Transmission Mode) – NDM

NZS 4407:2015 Test 3.1 - Determination of water content

ASTM D 5874-16 - Standard test method for determination of the impact value (IV) of a soil – Impact Test

Material Description

Material descriptions are provided in the attached results. All descriptions were provided by the customer.

Results

The following is attached:

- Appendix A – Hardfill Summary & Test Location Plans.
- Appendix B – Earthworks Summary & Test Location Plans.
- Appendix C – Scala Penetrometer Results & Test Location Plans.

Test Remarks

Scala

Scala tests –

- deeper than 1.5 m, or
- for which adapters have been used, or
- that have been carried out at increments of >50 mm,

are not covered under the IANZ endorsement of this report.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". The determination of equivalent CBR is not covered under the IANZ endorsement of this report.

Shear Vane

Shear Vane tests are potentially unsuitable for material described in the Earthworks Summary as 'CLAY w/ gravel' and 'claySILT w/ gravels'. Tests in these materials may not be compliant with the stated test method and results are therefore not covered under the IANZ endorsement of this report.

NDM – Direct Transmission

The test method may not be appropriate for materials containing a nominal maximum particle size of >40 mm.

Nuclear densometers are calibrated for a bulk density range of 1,728 kg/m^3 to 2,756 kg/m^3. Test results outside of these bulk density limits are not covered under the IANZ endorsement of this report.

A solid density value of 2.70 t/m^3 was provided by the customer. We do not take responsibility for misrepresentation or misinterpretation arising from the use of this value to calculate air voids.

Where oven calculated air voids are negatives, these have been reported as zero.

The calculation of air voids is based on wet density (measured by the nuclear densometer), moisture content (measured by oven drying) and solid density (either assumed or measured by laboratory testing). Negative air voids may be caused by incorrect assumed solid density or due to the variability of onsite material when compared to that tested in a laboratory.

Determination of Water Content

Samples used for the determination of the water content were taken in conjunction with NDM testing and disposed of after 24 hours.

Impact Value

Field procedure A was used. The test method is appropriate for materials having a maximum particle size of less than 37.5 mm. Results of tests that were performed on materials containing larger particle sizes, are not covered under the IANZ endorsement of this report.

Pass/Fail Criteria

We accept no liability for any circumstances that may arise due to the inclusion of the pass/fail criteria or the use of this information by third parties. Pass/fail criteria are based solely on numerical values with no consideration given to uncertainty and are not covered under the IANZ endorsement of these results.

General Remarks

This report has been prepared for the benefit of Land Development & Engineering Ltd, with respect to the particular brief given to us and it cannot be relied upon in other contexts or for any other purpose without our prior review and agreement.

The inherent uncertainties of site investigation work, mean the nature and continuity of subsoil away from the test location could vary from the data logged.

Material descriptions are not covered under the IANZ endorsement of this report.

Please reproduce this report in full when transmitting to others or including in internal reports.

If we can be of any further assistance, feel free to get in touch. Contact details are provided at the bottom of the letterhead page.

GEOTECHNICS LTD

Report approved by:



Daniel McKay
Project Manager
Key Technical Person

Authorised for Geotechnics by:



Corey Papu Gread
Project Director

ACCREDITED TESTING LABORATORY

Test results indicated as not accredited are outside the scope of the laboratory's accreditation

21-Oct-24
\\ttgroup.local\corporate\GeotechnicsGroup\Projects\2021000\2021000.1080 - 62-80 Papakura-Clevedon Road, Clevedon\IssuedDocuments\Report 1A\Report 1A – 62-80 Papakura-Clevedon Road.docx

Appendix A Hardfill Summary & Test Location Plans

GEOTECHNICS

1 Hill Street
Onehunga
Auckland 1061
p. +64 9 356 3510

Project Name: 62-80 Papakura-Clevedon Road

Customer: Land Development & Engineering Ltd.

Project Number	2021000.1080.0.0/Rep1
Entered By	OLBU / KELF/ ROSM
Checked By	LUGR
Approved By	DAMC

URN.	Tech.	Date	Material Type	Location	Layer	Chainage	Offset	Nuclear Density (Backscatter)									Degree of Saturation (%)	Impact Value 1	Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Dry Density (t/m³)	Moisture Content (%)	Maximum Dry Density (t/m³)	% Maximum Dry Density	Solid Density (t/m³)	% Solid Density	% Total Voids					(P) Pass (F) Fail	
3.1	ROSM	23/02/2023	SPR	Road Frontage	700 mm Placed	-	-	-	-	-	-	-	-	-	-		32	-	P	Specification provided by Kyle (LDE) requires CIV ≥ 25 for hardfill testing.
3.2						-	-	-	-	-	-	-	-	-	-		27	-	P	
3.3						-	-	-	-	-	-	-	-	-	-		28	-	P	
3.4						-	-	-	-	-	-	-	-	-	-		32	-	P	
7.2	OLBU	6/03/2023	SPR	Gully Fill Area	1st Lift	-	-	-	-	-	-	-	-	-	-	-	35	-	P	
7.3						-	-	-	-	-	-	-	-	-	-	-	25	-	P	
8.1	OLBU	7/03/2023	SPR	Gully Fill Area	2nd Lift	-	-	-	-	-	-	-	-	-	-	-	27	-	P	
8.2						-	-	-	-	-	-	-	-	-	-	-	30	-	P	
8.3						-	-	-	-	-	-	-	-	-	-	-	30	-	P	
8.4						-	-	-	-	-	-	-	-	-	-	-	37	-	P	
11.1	OLBU	10/03/2023	SPR	Gully Fill Area	1st Lift	-	-	-	-	-	-	-	-	-	-	-	10	12.1	F	Area retested on 13/03/2023. Retest = Pass.
11.2						-	-	-	-	-	-	-	-	-	-	-	15	12.2	F	Area retested on 13/03/2023. Retest = Pass.
11.3						-	-	-	-	-	-	-	-	-	-	-	12	12.3	F	Area retested on 13/03/2023. Retest = Pass.
11.4						-	-	-	-	-	-	-	-	-	-	-	25	12.4	F	Area retested on 13/03/2023. Retest = Pass.
12.1	OLBU	13/03/2023	SPR	Gully Fill Area	1st Lift	-	-	-	-	-	-	-	-	-	-	-	30	-	P	Retest of URN 11.1
12.2						-	-	-	-	-	-	-	-	-	-	-	42	-	P	Retest of URN 11.2
12.3						-	-	-	-	-	-	-	-	-	-	-	28	-	P	Retest of URN 11.3
12.4						-	-	-	-	-	-	-	-	-	-	-	26	-	P	Retest of URN 11.4
13.1	OLBU	13/03/2023	SPR	Gully Fill Area	2nd Lift	-	-	-	-	-	-	-	-	-	-	-	17	14.1	F	Area retested on 14/03/2023. Retest = Pass.
13.2						-	-	-	-	-	-	-	-	-	-	-	21	14.2	F	Area retested on 14/03/2023. Retest = Pass.
14.1	OLBU	14/03/2023	SPR	Gully Fill Area	2nd Lift	-	-	-	-	-	-	-	-	-	-	-	30	-	P	Retest of URN 13.1
14.2						-	-	-	-	-	-	-	-	-	-	-	31	-	P	Retest of URN 13.2
14.3						-	-	-	-	-	-	-	-	-	-	-	21	15.1	F	Area retested 15/03/2023. Retest = Pass
14.4						-	-	-	-	-	-	-	-	-	-	-	15	15.2	F	Area retested 15/03/2023. Retest = Pass
15.1	KELF	15/03/2023	SPR	Gully Fill Area	Finished Level RL 5.9	-	-	-	-	-	-	-	-	-	-	-	27	-	P	Retest of URN 14.3
15.2						-	-	-	-	-	-	-	-	-	-	-	28	-	P	Retest of URN 14.4
15.3						-	-	-	-	-	-	-	-	-	-	-	26	-	P	
15.4						-	-	-	-	-	-	-	-	-	-	-	28	-	P	
15.5						-	-	-	-	-	-	-	-	-	-	-	27	-	P	
15.6						-	-	-	-	-	-	-	-	-	-	-	31	-	P	
15.7						-	-	-	-	-	-	-	-	-	-	-	27	-	P	

GEOTECHNICS

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Project Name: 62-80 Papakura-Clevedon Road

Customer: Land Development & Engineering Ltd.

Project Number	2021000.1080.0.0/Rep1
Entered By	OLBU / KELF/ ROSM
Checked By	LUGR
Approved By	DAMC

URN.	Tech.	Date	Material Type	Location	Layer	Chainage	Offset	Nuclear Density (Backscatter)									Impact Value 1	Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Dry Density (t/m³)	Moisture Content (%)	Maximum Dry Density (t/m³)	% Maximum Dry Density	Solid Density (t/m³)	% Solid Density	% Total Voids	Degree of Saturation (%)			(P) Pass (F) Fail	
18.5						-	-	-	-	-	-	-	-	-	-	-	35	-	P	Specification provided by Kyle (LDE) requires CIV ≥ 25 for hardfill testing.
18.6	OLBU	27/03/2023	SPR	Gully Fill Area	Layer 1	-	-	-	-	-	-	-	-	-	-	-	25	-	P	
18.7						-	-	-	-	-	-	-	-	-	-	-	42	-	P	
19.4						-	-	-	-	-	-	-	-	-	-	-	18	20.1	F	Area retested on 04/04/2023. Retest = Pass.
19.5	OLBU	30/03/2023	SPR	Gully Fill Area	Layer 1	-	-	-	-	-	-	-	-	-	-	-	20	20.3	F	Area retested on 04/04/2023. Retest = Pass.
19.6						-	-	-	-	-	-	-	-	-	-	-	22	20.5	F	Area retested on 04/04/2023. Retest = Pass.
20.1						-	-	-	-	-	-	-	-	-	-	-	33	-	P	Retest of URN 19.4
20.2						-	-	-	-	-	-	-	-	-	-	-	27	-	P	
20.3						-	-	-	-	-	-	-	-	-	-	-	26	-	P	Retest of URN 19.5
20.4						-	-	-	-	-	-	-	-	-	-	-	26	-	P	
20.5						-	-	-	-	-	-	-	-	-	-	-	31	-	P	Retest of URN 19.6
20.6						-	-	-	-	-	-	-	-	-	-	-	40	-	P	
20.7						-	-	-	-	-	-	-	-	-	-	-	31	-	P	
20.8	IBSI	4/04/2023	SPR	Gully Fill Area	Layer 1	-	-	-	-	-	-	-	-	-	-	-	25	-	P	
20.9						-	-	-	-	-	-	-	-	-	-	-	30	-	P	
20.10						-	-	-	-	-	-	-	-	-	-	-	26	-	P	
20.11						-	-	-	-	-	-	-	-	-	-	-	26	-	P	
20.12						-	-	-	-	-	-	-	-	-	-	-	37	-	P	
20.13						-	-	-	-	-	-	-	-	-	-	-	33	-	P	
20.14						-	-	-	-	-	-	-	-	-	-	-	31	-	P	
20.15						-	-	-	-	-	-	-	-	-	-	-	28	-	P	
21.1						-	-	-	-	-	-	-	-	-	-	-	14	23.1	F	Area retested on 19/03/2023. Retest = Pass.
21.2						-	-	-	-	-	-	-	-	-	-	-	16	23.2	F	Area retested on 19/03/2023. Retest = Pass.
21.3	ROSM	17/04/2023	SPR	Gully Fill Area	Finish Level	-	-	-	-	-	-	-	-	-	-	-	19	23.3	F	Area retested on 19/03/2023. Retest = Pass.
21.4						-	-	-	-	-	-	-	-	-	-	-	21	23.4	F	Area retested on 19/03/2023. Retest = Pass.
21.5						-	-	-	-	-	-	-	-	-	-	-	20	23.5	F	Area retested on 19/03/2023. Retest = Pass.

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Customer: Land Development & Engineering Ltd.

Project Number	2021000.1080.0.0/Rep1
Entered By	OLBU / KELF/ ROSM
Checked By	LUGR
Approved By	DAMC

URN.	Tech.	Date	Material Type	Location	Layer	Chainage	Offset	Nuclear Density (Backscatter)									Impact Value 1	Retest URN	PASS / FAIL	Comments
								Wet Density (t/m^3)	Dry Density (t/m^3)	Moisture Content (%)	Maximum Dry Density (t/m^3)	% Maximum Dry Density	Solid Density (t/m^3)	% Solid Density	% Total Voids	Degree of Saturation (%)			(P) Pass (F) Fail	
22.1	ROSM	18/04/2023	SPR	Gully Fill Area	Finish Level	-	-	-	-	-	-	-	-	-	-	-	17	23.1	F	Specification provided by Kyle (LDE) requires CIV ≥ 25 for hardfill testing. Area retested on 19/03/2023. Retest = Pass.
22.2						-	-	-	-	-	-	-	-	-	-	-	22	23.2	F	Area retested on 19/03/2023. Retest = Pass.
22.3						-	-	-	-	-	-	-	-	-	-	-	22	23.3	F	Area retested on 19/03/2023. Retest = Pass.
22.4						-	-	-	-	-	-	-	-	-	-	-	16	23.4	F	Area retested on 19/03/2023. Retest = Pass.
22.5						-	-	-	-	-	-	-	-	-	-	-	19	23.5	F	Area retested on 19/03/2023. Retest = Pass.
23.1	OLBU	19/04/2023	SPR	Gully Fill Area	Finish Level	-	-	-	-	-	-	-	-	-	-	-	37	-	P	Retest of URNs 21.1 & 22.1
23.2						-	-	-	-	-	-	-	-	-	-	-	28	-	P	Retest of URNs 21.2 & 22.2
23.3						-	-	-	-	-	-	-	-	-	-	-	26	-	P	Retest of URNs 21.3 & 22.3
23.4						-	-	-	-	-	-	-	-	-	-	-	26	-	P	Retest of URNs 21.4 & 22.4
23.5						-	-	-	-	-	-	-	-	-	-	-	25	-	P	Retest of URNs 21.5 & 22.5
27.1	MIBR	13/11/2023	SPR	Asbestos Hole	500 mm Lift	-	-	-	-	-	-	-	-	-	-	-	23	-	P	Specification provided by Kyle (LDE) requires an average CIV ≥ 25, minimum single value 20.
27.2						-	-	-	-	-	-	-	-	-	-	-	23	-	P	
27.3						-	-	-	-	-	-	-	-	-	-	-	26	-	P	
27.4						-	-	-	-	-	-	-	-	-	-	-	32	-	P	
27.5						-	-	-	-	-	-	-	-	-	-	-	23	-	P	
28.1	ROSM	14/11/2023	SPR	Asbestos Hole	250 mm Lift	-	-	-	-	-	-	-	-	-	-	-	29	-	P	
28.2						-	-	-	-	-	-	-	-	-	-	-	25	-	P	
28.3						-	-	-	-	-	-	-	-	-	-	-	31	-	P	
28.4						-	-	-	-	-	-	-	-	-	-	-	26	-	P	
28.5						-	-	-	-	-	-	-	-	-	-	-	30	-	P	
28.6						-	-	-	-	-	-	-	-	-	-	-	26	-	P	
28.7						-	-	-	-	-	-	-	-	-	-	-	28	-	P	
28.8						-	-	-	-	-	-	-	-	-	-	-	31	-	P	

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Project Number	2021000.1080.0.0/Rep1
Entered By	OLBU / KELF/ ROSM
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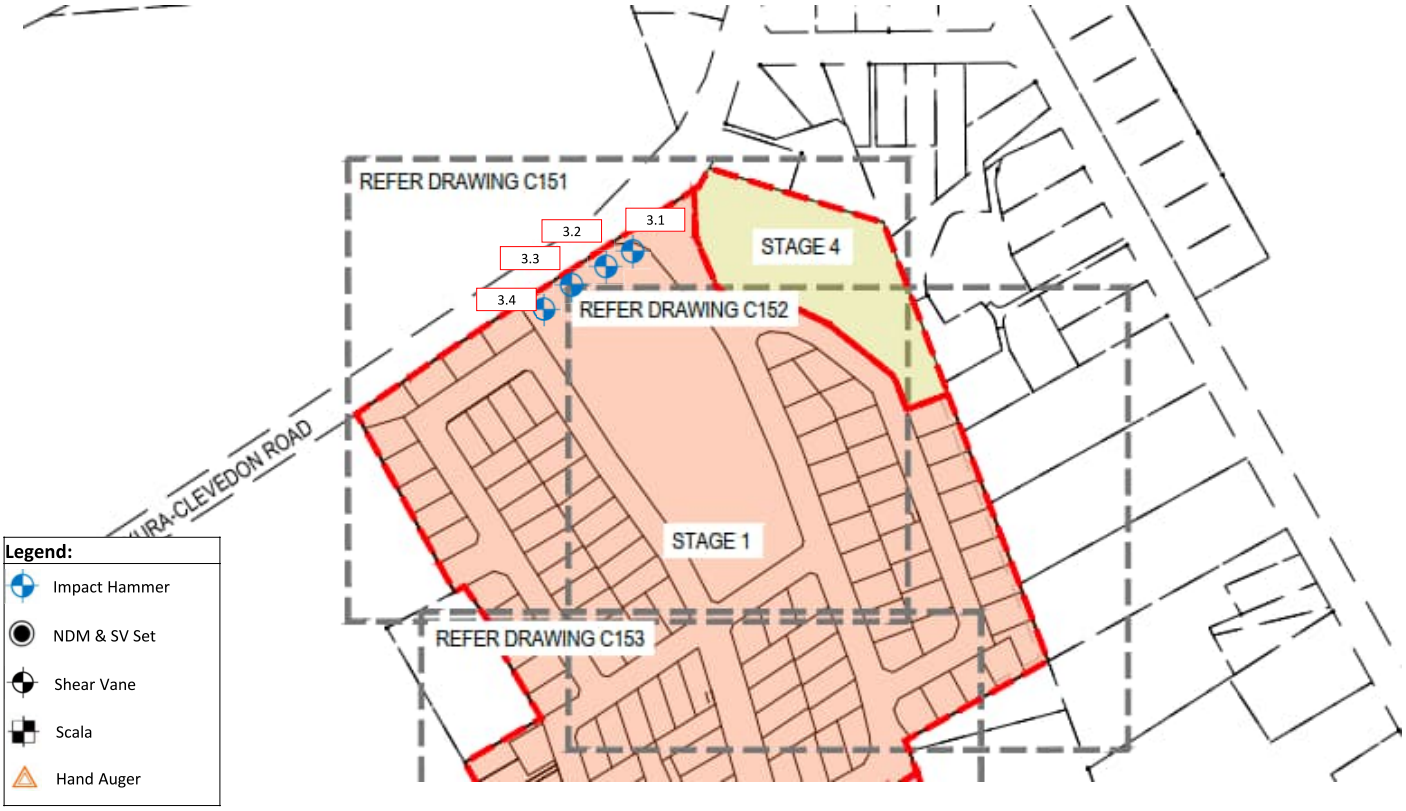
URN.	Tech.	Date	Material Type	Location	Layer	Chainage	Offset	Nuclear Density (Backscatter)									Impact Value 1	Retest URN	PASS / FAIL	Comments
								Wet Density (t/m^3)	Dry Density (t/m^3)	Moisture Content (%)	Maximum Dry Density (t/m^3)	% Maximum Dry Density	Solid Density (t/m^3)	% Solid Density	% Total Voids	Degree of Saturation (%)			(P) Pass (F) Fail	
79.1	LUGR	26/09/2024	GAP65	LOT 140	Subgrade	-	-	-	-	-	-	-	-	-	-	-	31	-	P	Specification provided by Kyle (LDE) requires CIV ≥ 25 for hardfill testing.
79.2						-	-	-	-	-	-	-	-	-	-	-	29	-	P	
79.3						-	-	-	-	-	-	-	-	-	-	-	34	-	P	
79.4						-	-	-	-	-	-	-	-	-	-	-	31	-	P	



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w. www.geotechnics.co.nz

Test Location Plan

Site:	62-80 Papakura-Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	23/02/2023
Location:	Pond Fill Site	Job No.:	2021000.1080.0.0/Rep1	URN:	3.1-.34	Date:	23/02/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	06/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	7	Date:	06/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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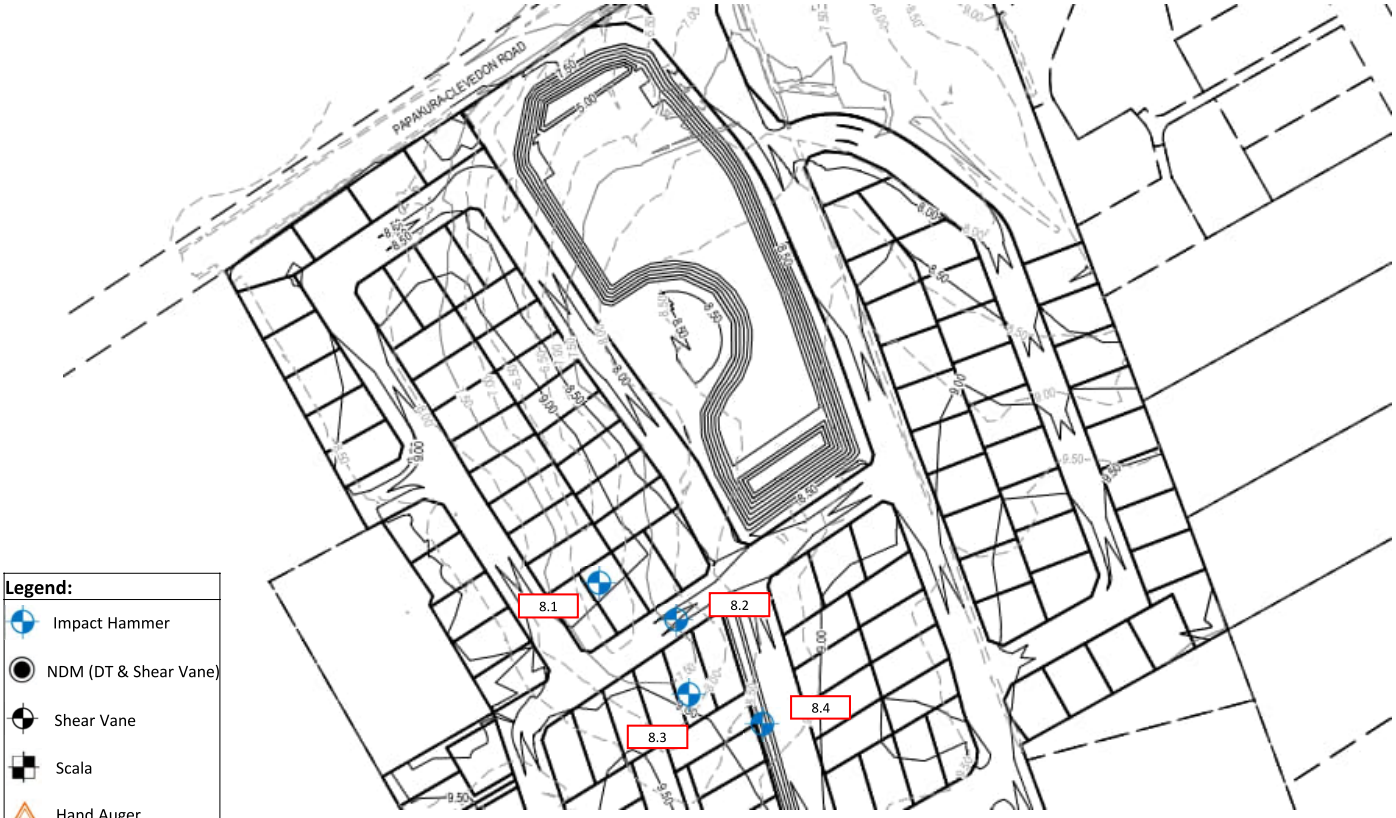

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	07/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	8	Date:	07/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	10/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	11	Date:	10/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	13/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	12	Date:	13/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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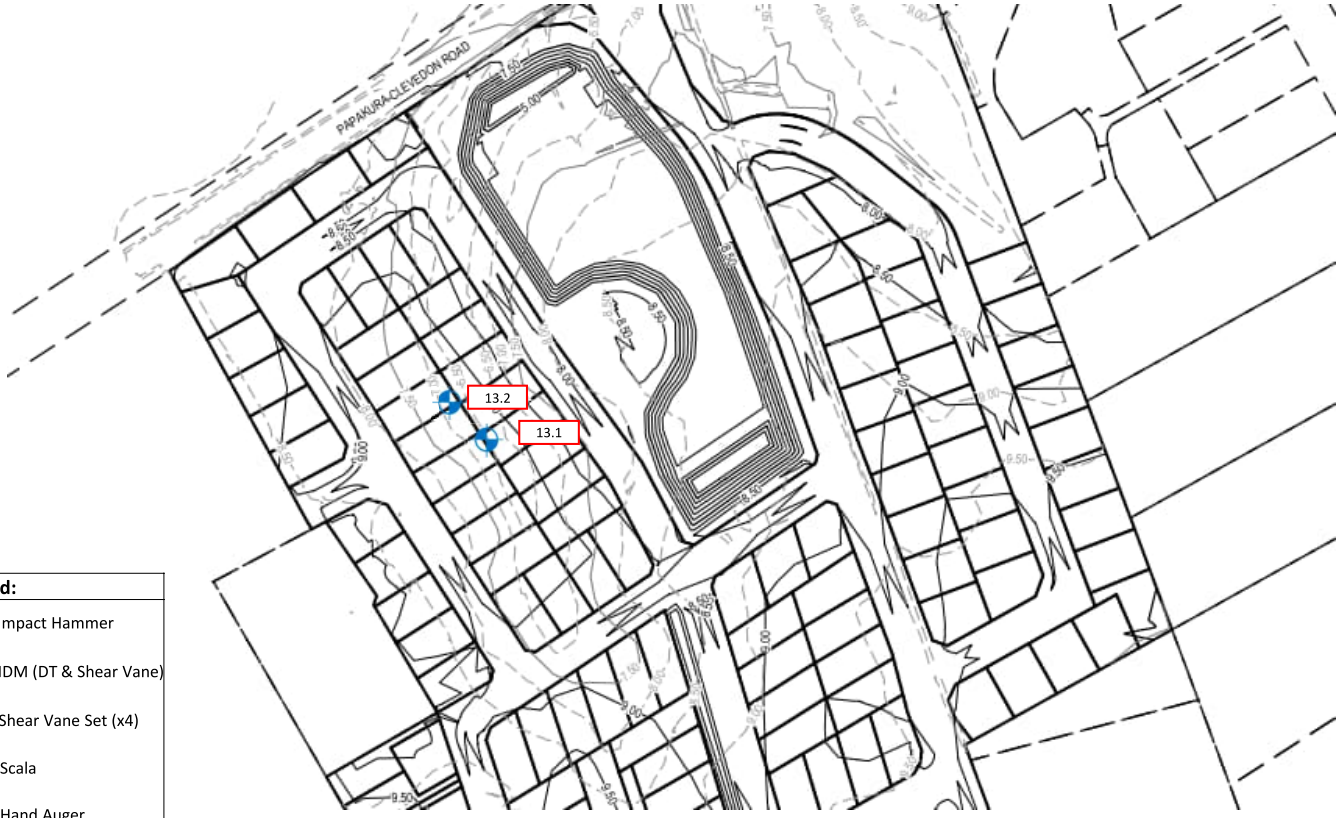

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	13/03/2023
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	13 (1/2)	Date:	13/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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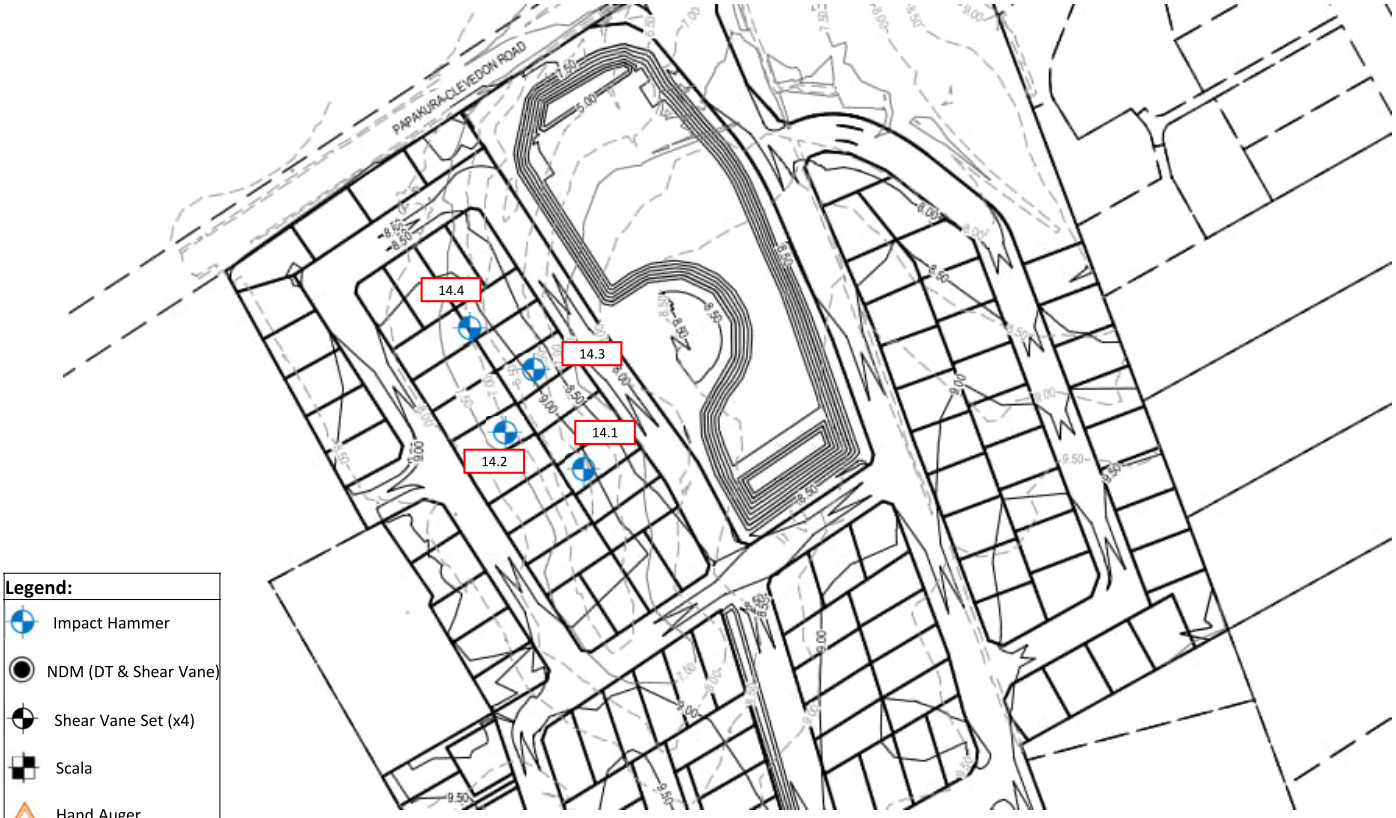

Legend:

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- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	14/03/2023
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	14 (1/2)	Date:	14/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
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- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	KELF	Date:	15/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	15	Date:	15/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	27/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	18	Date:	27/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	30/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	19	Date:	30/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

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- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	IBSI	Date:	04/04/2023
Location:	Gully Fill Area (Layer 1)	Job No.:	2021000.1080.0.0/Rep1	URN:	20	Date:	04/04/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	17/04/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	21	Date:	17/04/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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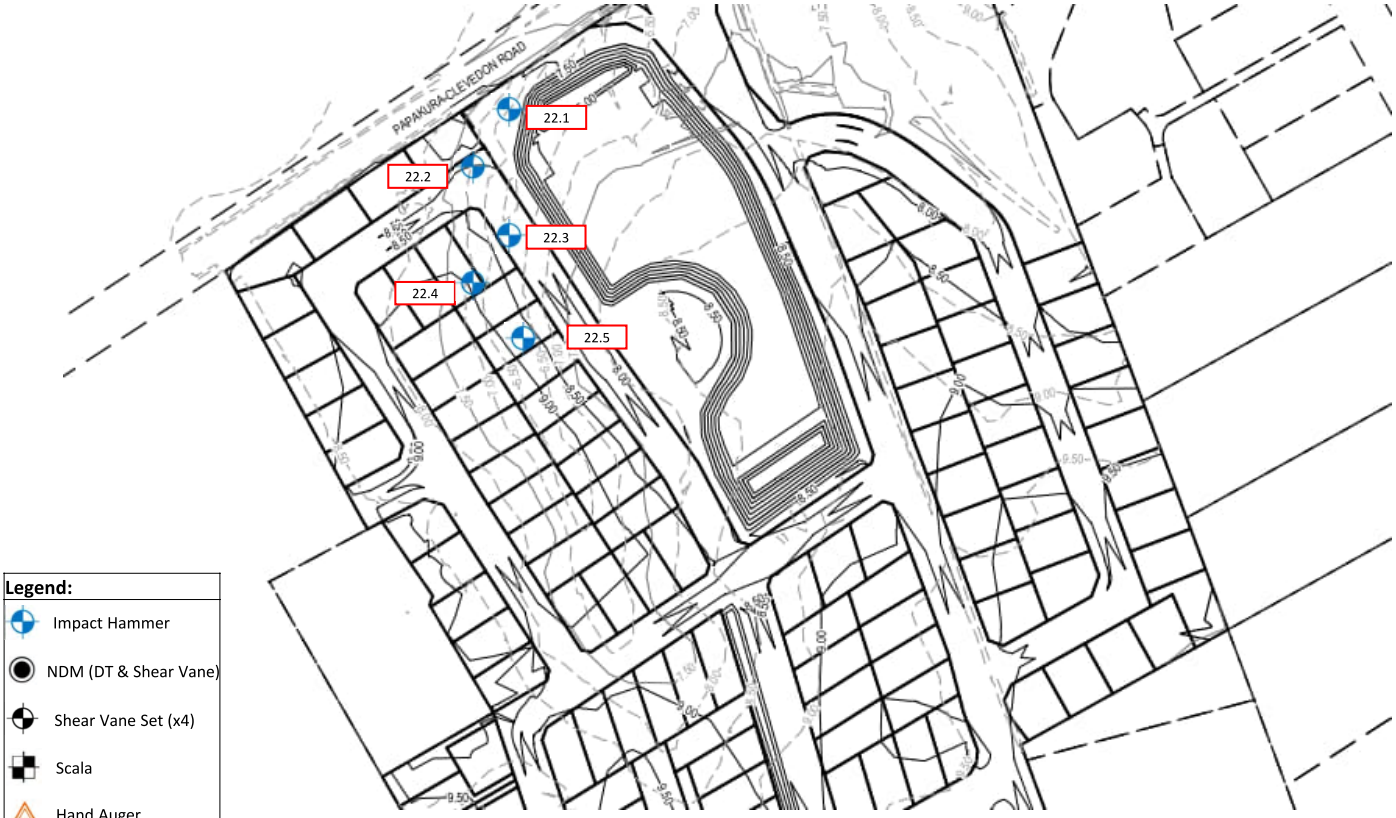

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	18/04/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	22	Date:	18/04/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

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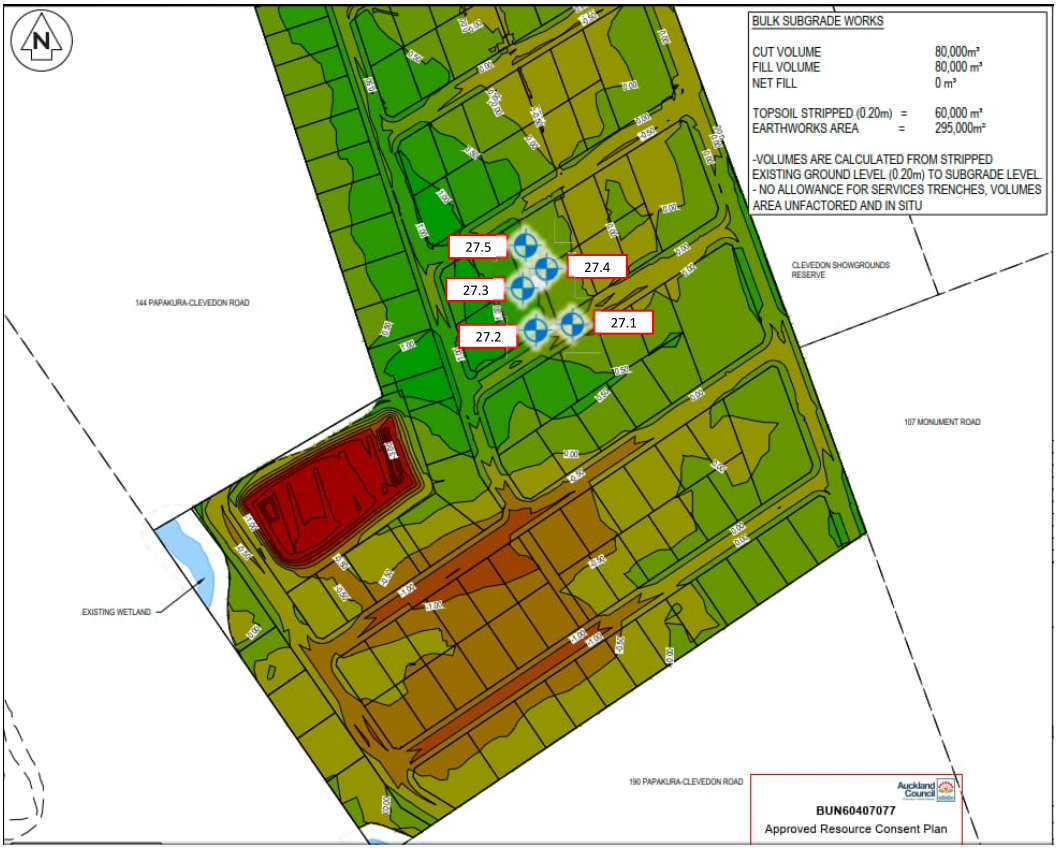
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	19/04/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	23	Date:	19/04/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



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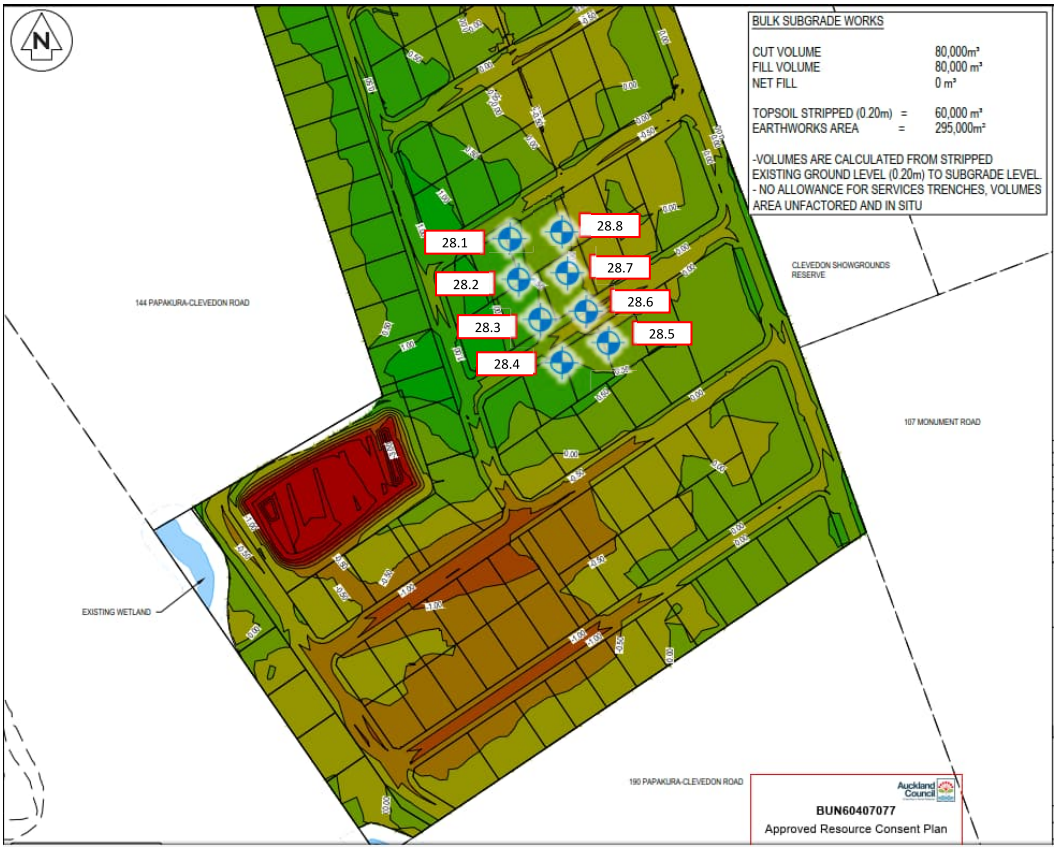
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	13/11/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	27	Date:	13/11/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	14/11/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	28	Date:	14/11/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	LUGR		
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	79	Date:	26/09/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N

Appendix B Earthworks Summary & Test Location Plans

GEOTECHNICS

1 Hill Street
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Job Name : 62-80 Papakura-Clevedon Road

Customer : Land Development & Engineering Ltd

Job #	2021000.1080.0.0/Rep1A
Entered By	OLBU / KELF / MIBR / ROSM
Checked By	DAMC
KTP Approved	DAMC

URN.	Tech.	Date	Location	Layer	Material Type	Test Type	Probe Depth (mm)	NDM 0°			NDM 90°			AVERAGE NDM			Solid Density (t/m³) Assumed	Oven Moisture content (%)	Final Corrected		Shear Vane Reading (kPa)					Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)			Oven Dry Density (t/m³)	Average Air Voids (%)	Reading 1	Reading 2	Reading 3	Reading 4	Average SV (4 x Tests)		(P) Pass / (F) Fail	
1.1	OLBU	20/02/2023	Fill Area 1	1st Lift (500 mm)	ClaySILT	NDM/SV	200	1.79	39.0	2.3	1.80	37.8	2.1	1.79	38.4	2.2	2.70	39.1	1.29	1.8	178	151	192	151	168	-	P	Specification provided by Alan (LDE) requires ≤ 10 % air voids, shear strength ≥ 150 kPa on fill material being used on site.
2.1	OLBU	21/02/2023	Fill Area 1	2nd Lift (500 mm)	ClaySILT	NDM/SV	200	1.78	42.3	0.9	1.77	40.0	2.3	1.78	41.2	1.6	2.70	41.0	1.26	1.7	172	167	151	192	170	-	P	
2.2						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	117	82	96	110	101	-	EA	EA = Engineer Approved by Alan (LDE)
2.3						NDM/SV	200	1.76	35.9	5.4	1.77	40.6	2.3	1.77	38.3	3.8	2.70	36.4	1.29	4.9	UTP	192	192	185	190	-	P	
2.4						NDM/SV	200	1.79	36.7	3.5	1.78	41.7	1.0	1.79	39.2	2.2	2.70	39.0	1.28	2.4	185	192	165	151	173	-	P	
2.5			Fill Area 2	1st Lift (500 mm)	ClaySILT	NDM/SV	200	1.82	38.7	0.5	1.82	36.4	2.0	1.82	37.6	1.3	2.70	32.0	1.38	4.8	192	UTP	192	UTP	192	-	P	
2.6						NDM/SV	200	1.78	43.0	0.1	1.79	41.1	0.6	1.79	42.1	0.4	2.70	39.8	1.28	1.6	151	192	192	UTP	178	-	P	
3.5	ROSM	23/02/2023	Pond Site Fill Area	500 mm placed	Clay SILT	NDM/SV	200	1.83	40.3	0.0	1.83	39.0	0.0	1.83	39.7	0.0	2.70	46.2	1.25	0.0	184	193	>215	>215	>202	-	P	
3.6						NDM/SV	200	1.78	40.9	1.8	1.79	41.7	0.4	1.78	41.3	1.1	2.70	40.5	1.27	1.5	>215	>215	>215	>215	>215	-	P	
3.7						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	77	77	77	77	77	-	EA	EA = Engineer Approved by Alan (LDE)
4.1	OLBU	1/03/2023	Pond batter Road Frontage	1st Lift (500 mm)	ClaySILT w/ gravels	SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	123	137	96	117	118	6.1	F	Area retested on 03/03/2023. Retest = Pass.
4.2						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	96	41	69	84	6.1	F	Area retested on 03/03/2023. Retest = Pass.
4.3						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	121	123	77	117	109	6.2	F	Area retested on 03/03/2023. Retest = Pass.
5.1	OLBU	2/03/2023	Pond batter Road Frontage	1st Lift (500 mm)	ClaySILT w/ gravels	SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	117	130	123	120	6.1	F	Area retested on 03/03/2023. Retest = Pass.
5.2						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	96	89	82	90	6.2	F	Area retested on 03/03/2023. Retest = Pass.
6.1	OLBU	3/03/2023	Pond batter Road Frontage	1st Lift (500 mm)	ClaySILT w/ gravels	NDM/SV	200	1.95	36.1	0.0	1.95	36.0	0.0	1.95	36.1	0.0	2.70	29.4	1.51	0.0	165	192	165	192	178	-	P	Retest of URNs 4.1, 4.2, and 5.1
6.2						NDM/SV	200	2.06	27.5	0.0	2.06	27.8	0.0	2.06	27.7	0.0	2.70	29.7	1.59	0.0	192	185	192	192	190	-	P	Retest of URNs 4.3 and 5.2
7.1	OLBU	6/03/2023	Pond batter Road Frontage	2nd Lift (500 mm)	ClaySILT w/ gravels	NDM/SV	200	1.85	36.1	0.4	1.86	32.7	2.4	1.86	34.4	1.4	2.70	33.7	1.39	1.9	192	192	178	172	184	-	P	
9.1	OLBU	8/03/2023	Gully Fill Area	1st Layer (750 mm)	ClaySILT	NDM/SV	200	1.83	34.7	2.4	1.82	36.4	2.2	1.82	35.6	2.3	2.70	31.7	1.39	4.8	165	178	185	192	180	-	P	
9.2						NDM/SV	200	1.89	34.8	0.0	1.87	44.1	0.0	1.88	39.5	0.0	2.70	33.1	1.41	0.9	178	192	165	192	182	-	P	
10.1	OLBU	9/03/2023	Gully Fill Area	2nd Layer (700 mm)	ClaySILT	NDM/SV	200	1.85	36.2	0.7	1.85	38.1	0.0	1.85	37.2	0.2	2.70	39.5	1.32	0.0	192	178	192	151	178	-	P	
10.2						NDM/SV	200	1.87	34.0	0.8	1.88	33.4	0.9	1.87	33.7	0.9	2.70	28.1	1.46	4.7	192	UTP	192	UTP	192	-	P	
13.3	OLBU	13/03/2023	Gully Fill Area	2nd Layer (700 mm)	Stabilised ClaySILT w/ lime	NDM/SV	200	1.78	42.0	1.1	1.78	40.0	1.8	1.78	41.0	0.0	2.70	28.8	1.38	9.0	192	192	151	165	175	-	P	
13.4						NDM/SV	200	1.81	36.4	2.8	1.79	37.2	2.9	1.80	36.8	2.8	2.70	31.2	1.37	6.4	192	158	165	192	177	-	P	
14.5	OLBU	14/03/2023	Gully Fill Area	1st Lift (500 mm)	Stabilised ClaySILT w/ lime	SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	137	110	103	110	115	15.8	F	Area retested on 15/03/2023. Retest = Pass.

GEOTECHNICS

1 Hill Street
Onehunga
Auckland, NZ
ph. +64 9 356 3510

Job Name : 62-80 Papakura-Clevedon Road

Customer : Land Development & Engineering Ltd

Job #	2021000.1080.0.0/Rep1A
Entered By	OLBU / KELF / MIBR / ROSM
Checked By	DAMC
KTP Approved	DAMC

URN.	Tech.	Date	Location	Layer	Material Type	Test Type	Probe Depth (mm)	NDM 0°			NDM 90°			AVERAGE NDM			Solid Density (t/m³) Assumed	Oven Moisture content (%)	Final Corrected		Shear Vane Reading (kPa)					Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)			Oven Dry Density (t/m³)	Average Air Voids (%)	Reading 1	Reading 2	Reading 3	Reading 4	Average SV (4 x Tests)		(P) Pass / (F) Fail	
15.8	KELF	15/03/2023	Fill Area East of Gully	1st Lift (500 mm)	Stabilised ClaySILT w/ lime	NDM/SV	200	1.78	33.7	5.6	1.79	31.2	6.9	**1.79**	**32.5**	**6.2**	2.70	33.7	1.34	5.4	>235	>235	>235	>235	>235	-	P	Specification provided by Alan (LDE) requires ≤ 10 % air voids, shear strength ≥ 150 kPa on fill material being used on site.
15.9						NDM/SV	200	1.79	44.4	0.0	1.79	42.4	0.1	**1.79**	**43.4**	**0.0**	2.70	31.3	1.36	6.8	>235	188	195	197	>204	-	P	
15.10						NDM/SV	200	1.82	41.6	0.0	1.76	41.6	2.0	**1.79**	**41.6**	**0.6**	2.70	39.7	1.28	1.7	>235	>235	>235	168	>218	-	P	
15.11						NDM/SV	200	1.74	42.9	2.7	1.77	44.2	0.3	**1.75**	**43.6**	**1.5**	2.70	37.5	1.28	4.9	>235	>235	>235	185	>223	-	P	
15.12						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	232	>235	165	230	>215	-	-	Requested on site to perform additional shear vane checks across the area of lime stabilised material. No formal specification provided.
15.13						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	>235	151	176	188	>188	-	-	
15.14						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	>235	>235	>235	210	>229	-	-	
16.1	KELF / ELMO	16/03/2023	Fill Area East of Gully	2nd Lift (500 mm)	Stabilised ClaySILT w/ lime	NDM/SV	200	1.77	45.0	0.0	1.76	43.5	1.3	**1.76**	**44.3**	**0.7**	2.70	30.5	1.35	**8.8**	>235	181	151	>235	>201	-	P	
16.2						NDM/SV	200	1.83	42.4	0.0	1.84	38.6	0.0	**1.84**	**40.5**	**0.0**	2.70	34.7	1.36	**2.2**	185	208	215	>235	>211	-	P	
16.3						NDM/SV	200	1.77	41.6	1.5	1.82	40.3	0.0	**1.80**	**41.0**	**0.7**	2.70	34.2	1.34	**4.7**	168	202	>235	181	>194	-	P	
16.4						NDM/SV	200	1.83	45.4	0.0	1.77	46.2	0.0	**1.80**	**45.8**	**0.0**	2.70	33.4	1.35	**4.9**	205	188	178	153	181	-	P	
16.5						NDM/SV	200	1.76	35.6	5.6	1.72	39.1	5.9	**1.74**	**37.4**	**5.8**	2.70	34.6	1.29	**7.4**	>235	>235	232	227	>232	-	P	
17.1	OLBU	24/03/2023	Gully Fill Area	3rd Lift	Stabilised ClaySILT w/ lime	NDM/SV	200	1.82	43.9	0.0	1.82	45.2	0.0	**1.82**	**44.6**	**0.0**	2.70	41.8	1.28	**0.0**	161	179	161	152	163	-	P	
17.2						NDM/SV	200	1.77	49.7	0.0	1.78	47.7	0.0	**1.78**	**48.7**	**0.0**	2.70	44.7	1.23	**0.0**	214	250	214	214	223	-	P	
17.3						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	54	54	71	63	**18.3**	F	Area retested on 27/03/2023. Retest = Pass
18.1	OLBU	27/03/2023	Gully Fill Area	1st Lift (500 mm)	ClaySILT	NDM/SV	200	1.76	40.3	2.9	1.75	44.4	1.1	**1.76**	**42.4**	**2.0**	2.70	42.3	1.23	**2.0**	170	179	232	161	185	-	P	
18.2						NDM/SV	200	1.79	46.0	0.0	1.74	46.9	0.3	**1.77**	**46.5**	**0.0**	2.70	40.8	1.25	**2.4**	164	205	188	196	188	-	P	
18.3				3rd Lift	Stabilised ClaySILT w/ lime	NDM/SV	200	1.79	40.5	1.3	1.78	41.9	0.9	**1.79**	**41.2**	**1.1**	2.70	44.6	1.23	**0.0**	223	223	250	241	234	-	P	Retest URN 17.3
18.4						NDM/SV	200	1.75	42.7	2.1	1.73	44.2	2.6	**1.74**	**43.5**	**2.4**	2.70	41.8	1.23	**3.2**	241	250	232	250	243	-	P	
19.1	OLBU	30/03/2023	Gully Fill Area	Subgrade	Stabilised ClaySILT w/ lime	NDM/SV	200	1.77	40.7	2.2	1.78	37.1	3.5	**1.78**	**38.9**	**2.8**	2.70	44.3	1.23	**0.0**	250	214	179	179	205	-	P	
19.2						NDM/SV	200	1.77	41.3	1.6	1.77	42.5	0.9	**1.77**	**41.9**	**1.3**	2.70	40.4	1.26	**2.1**	214	214	170	196	199	-	P	
19.3						NDM/SV	200	1.77	44.5	0.3	1.75	41.1	3.0	**1.76**	**42.8**	**1.6**	2.70	45.5	1.21	**0.2**	250	250	241	241	246	-	P	
24.1	OLBU	28/04/2023	Gully Fill Area	First Lift	Stabilised ClaySILT w/ lime	NDM/SV	200	1.80	43.1	0.0	1.79	39.5	1.7	**1.80**	**41.3**	**0.4**	2.70	42.7	1.26	**0.0**	205	196	161	170	183	-	P	
24.2				Second Lift		NDM/SV	200	1.77	42.2	1.2	1.76	39.6	3.2	**1.77**	**40.9**	**2.2**	2.70	39.4	1.27	**3.0**	179	196	170	170	179	-	P	
24.3				Subgrade		NDM/SV	200	1.76	42.0	2.0	1.76	37.2	4.6	**1.76**	**39.6**	**3.3**	2.70	43.1	1.23	**1.3**	196	214	250	161	205	-	P	
24.4						NDM/SV	200	1.75	44.0	1.6	1.73	47.0	0.9	**1.74**	**45.5**	**1.2**	2.70	42.3	1.22	**2.9**	188	188	161	196	183	-	P	
24.5						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	89	89	89	89	89	**29.1**	F	Area retested on 16/11/2023. Retest = Pass
24.6						NDM/SV	200	1.73	47.0	1.1	1.73	44.2	2.6	**1.73**	**45.6**	**1.9**	2.70	44.8	1.19	**2.3**	152	250	214	223	210	-	P	
25.1	OLBU	28/04/2023	Gully Fill Area	Subgrade	Stabilised ClaySILT w/ lime	NDM/SV	200	1.72	42.7	3.6	1.71	45.8	2.9	**1.72**	**44.3**	**3.2**	2.70	48.4	1.16	**1.1**	179	161	188	196	181	-	P	
25.2						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	107	161	71	125	**29.1**	F	Area retested on 16/11/2023. Retest = Pass
26.1	IBSI/ LUSI	14/06/2023	Gully Fill Area	Subgrade	Stabilised ClaySILT w/ lime	NDM/SV	200	1.73	37.5	6.0	1.70	44.4	4.3	**1.72**	**41.0**	**5.1**	2.70	40.7	1.22	**5.2**	>188	>188	>188	>188	>188	-	P	
26.2						NDM/SV	200	1.79	37.4	3.1	1.72	39.1	5.8	**1.75**	**38.3**	**4.5**	2.70	34.6	1.30	**6.6**	>188	>188	>188	>188	>188	-	P	
26.3						NDM/SV	200	1.68	45.0	5.0	1.71	41.3	5.5	**1.69**	**43.2**	**5.2**	2.70	42.0	1.19	**5.8**	172	172	180	172	174	-	P	
26.4						NDM/SV	200	1.74	42.5	3.0	1.70	42.7	4.8	**1.72**	**42.6**	**3.9**	2.70	37.4	1.25	**6.8**	165	165	172	172	169	-	P	
29.1	ROSM	16/11/2023	Gully Fill Area	Subgrade	ClaySILT	NDM/SV	200	1.73	41.9	3.9	1.73	46.5	1.4	**1.73**	**44.2**	**2.6**	2.70	43.1	1.21	**3.2**	168	174	186	189	179	-	P	Retest of URNs 24.5 & 25.2.
29.2						NDM/SV	200	1.72	42.9	3.8	1.74	42.2	3.2	**1.73**	**42.6**	**3.5**	2.70	43.0	1.21	**3.3**	174	174	174	180	176	-	P	

GEOTECHNICS

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Job Name : 62-80 Papakura-Clevedon Road

Customer : Land Development & Engineering Ltd

Job #	2021000.1080.0.0/Rep1A
Entered By	OLBU / KELF / MIBR / ROSM
Checked By	DAMC
KTP Approved	DAMC

URN.	Tech.	Date	Location	Layer	Material Type	Test Type	Probe Depth (mm)	NDM 0°			NDM 90°			AVERAGE NDM			Solid Density (t/m³) Assumed	Oven Moisture content (%)	Final Corrected		Shear Vane Reading (kPa)					Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)			Oven Dry Density (t/m³)	Average Air Voids (%)	Reading 1	Reading 2	Reading 3	Reading 4	Average SV (4 x Tests)		(P) Pass / (F) Fail	
30.1	ROSM	17/11/2023	Asbestos Hole	500 mm placed	ClaySILT	NDM/SV	200	1.76	32.5	7.4	1.77	34.0	6.1	**1.77**	**33.3**	**6.7**	2.70	41.1	1.25	**2.1**	168	174	177	186	176	-	P	Specification provided by Alan (LDE) requires ≤ 10 % air voids, shear strength ≥ 150 kPa on fill material being used on site.
30.2						NDM/SV	200	1.76	39.0	3.9	1.75	37.1	5.2	**1.76**	**38.1**	**4.5**	2.70	37.0	1.28	**5.2**	171	186	189	197	186	-	P	
31.1	MIBR	27/11/2023	Asbestos Hole	500 mm placed	ClaySILT	NDM/SV	200	1.82	25.7	9.1	1.80	25.8	9.9	**1.81**	**25.8**	**9.5**	2.70	37.3	1.32	**1.9**	236	182	240	240	240	-	P	
31.2						NDM/SV	200	1.94	15.7	11.5	1.97	16.0	9.7	**1.96**	**15.9**	**10.6**	2.70	22.2	1.60	**5.1**	UTP	UTP	UTP	UTP	UTP	-	P	
32.1	MIBR	11/12/2023	Stage 2	500 mm placed	CLAY	NDM/SV	200	1.93	31.4	0.0	1.93	32.8	0.0	**1.93**	**32.1**	**0.0**	2.70	28.9	1.50	**1.4**	UTP	UTP	UTP	UTP	UTP	-	P	
32.2						NDM/SV	200	1.98	25.1	1.8	1.98	25.6	1.4	**1.98**	**25.4**	**1.6**	2.70	20.0	1.65	**6.0**	UTP	UTP	UTP	UTP	UTP	-	P	
32.3						NDM/SV	200	1.87	36.4	0.0	1.88	38.9	0.0	**1.88**	**37.7**	**0.0**	2.70	43.3	1.31	**0.0**	153	153	153	UTP	153	-	P	
32.4						NDM/SV	200	1.79	39.4	1.8	1.79	38.3	2.5	**1.79**	**38.9**	**2.2**	2.70	30.2	1.38	**7.5**	189	UTP	UTP	UTP	189	-	P	
32.5						NDM/SV	200	1.86	37.5	0.0	1.87	37.5	0.0	**1.86**	**37.5**	**0.0**	2.70	31.2	1.42	**3.0**	UTP	UTP	UTP	UTP	UTP	-	P	
32.6						NDM/SV	200	1.79	40.0	1.4	1.79	39.0	2.0	**1.79**	**39.5**	**1.7**	2.70	46.2	1.23	**0.0**	160	160	254	UTP	191	-	P	
33.1	ROSM	12/12/2023	Fill Area	500 mm placed	ClaySILT	NDM/SV	200	1.82	47.4	0.0	1.82	46.6	0.0	**1.82**	**47.0**	**0.0**	2.70	42.9	1.27	**0.0**	219	219	219	219	219	-	P	
33.2						NDM/SV	200	1.80	39.8	1.0	1.79	51.4	0.0	**1.80**	**45.6**	**0.0**	2.70	40.7	1.28	**0.7**	219	219	219	219	219	-	P	
34.1	MIBR	12/12/2023	Fill Area	500 mm placed	CLAY	NDM/SV	200	1.83	36.8	1.1	1.82	33.5	3.6	**1.83**	**35.2**	**2.4**	2.70	26.4	1.45	**8.2**	214	164	182	167	182	-	P	
34.2						NDM/SV	200	1.76	31.3	8.6	1.73	30.9	10.1	**1.74**	**31.1**	**9.3**	2.70	36.2	1.28	**6.2**	171	156	182	164	168	-	P	
35.1	ROSM	13/12/2023	Fill Area	500 mm placed	ClaySILT	NDM/SV	200	1.83	40.9	0.0	1.81	44.4	0.0	**1.82**	**42.7**	**0.0**	2.70	42.1	1.28	**0.0**	166	166	172	175	170	-	P	
35.2						NDM/SV	200	1.84	42.0	0.0	1.82	44.3	0.0	**1.83**	**43.2**	**0.0**	2.70	35.5	1.35	**0.0**	188	191	216	216	203	-	P	
36.1	MIBR	13/12/2023	Fill Area	500 mm placed	CLAY	NDM/SV	200	1.79	42.4	0.1	1.79	43.0	0.0	**1.79**	**42.7**	**0.0**	2.70	42.3	1.26	**0.1**	196	178	200	218	198	-	P	
36.2						NDM/SV	200	1.88	33.5	0.8	1.88	31.6	1.9	**1.88**	**32.6**	**1.3**	2.70	36.8	1.37	**0.0**	164	189	UTP	UTP	176	-	P	
37.1	ROSM	14/12/2023	Fill Area	500 mm placed	ClaySILT	NDM/SV	200	1.78	36.3	4.3	1.79	41.1	1.0	**1.78**	**38.7**	**2.6**	2.70	41.9	1.26	**0.0**	169	178	185	185	179	-	P	
37.2						NDM/SV	200	1.83	43.4	0.0	1.82	48.4	0.0	**1.83**	**45.9**	**0.0**	2.70	48.5	1.23	**0.0**	188	191	197	200	194	-	P	
38.1	MIBR	14/12/2023	Fill Area	500 mm placed	CLAY	NDM/SV	200	1.75	43.5	1.9	1.75	43.6	1.9	**1.75**	**43.6**	**1.9**	2.70	46.6	1.19	**0.3**	182	185	236	243	212	-	P	
38.2						NDM/SV	200	1.71	32.6	10.0	1.71	31.4	10.8	**1.71**	**32.0**	**10.4**	2.70	35.5	1.26	**8.3**	UTP	UTP	UTP	UTP	UTP	-	P	
39.1	ROSM	15/12/2023	Fill Area	500 mm placed	ClaySILT	NDM/SV	200	1.80	36.5	3.1	1.82	35.6	2.6	**1.81**	**36.1**	**2.8**	2.70	33.0	1.36	**4.8**	172	178	178	178	177	-	P	
39.2						NDM/SV	200	1.81	39.2	0.9	1.82	35.7	2.3	**1.82**	**37.5**	**1.6**	2.70	34.5	1.35	**3.4**	200	203	219	219	210	-	P	
40.1	JALC	15/12/2023	Fill Area	500 mm placed	ClaySILT	SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101	117	120	110	112	**41.5**	F	Area retested on 18/12/2023. Retest = Pass
40.2						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127	117	133	114	122	**41.6**	F	Area retested on 18/12/2023. Retest = Pass
41.1	ROSM	18/12/2023	Stage 2 Fill Area	500 mm placed	ClaySILT	NDM/SV	200	1.85	35.6	1.2	1.85	34.1	2.1	**1.85**	**34.9**	**1.6**	2.70	37.4	1.34	**0.0**	219	219	219	219	219	-	P	
41.2						NDM/SV	200	1.85	46.9	0.0	1.86	46.1	0.0	**1.86**	**46.5**	**0.0**	2.70	44.9	1.28	**0.0**	219	219	219	219	219	-	P	
41.3						NDM/SV	200	1.84	37.2	0.3	1.83	36.4	1.3	**1.84**	**36.8**	**0.8**	2.70	33.8	1.37	**2.7**	219	219	219	219	219	-	P	
41.4						NDM/SV	200	1.89	27.2	4.6	1.87	30.0	3.4	**1.88**	**28.6**	**3.9**	2.70	29.0	1.46	**3.7**	UTP	UTP	UTP	UTP	219	-	P	
41.5			Fill Area			NDM/SV	200	1.76	38.5	3.9	1.76	35.3	6.1	**1.76**	**36.9**	**5.0**	2.70	34.7	1.31	**6.3**	219	219	219	219	219	-	P	Retest of URN 40.1
41.6						NDM/SV	200	1.83	45.6	0.0	1.81	44.3	0.0	**1.82**	**45.0**	**0.0**	2.70	47.6	1.23	**0.0**	188	200	219	219	206	-	P	Retest of URN 40.2
42.1	MIBR	18/12/2023	Asbestos Hole	500 mm placed	CLAY	NDM/SV	200	1.91	28.4	2.7	1.91	31.4	0.4	**1.91**	**29.9**	**1.5**	2.70	37.6	1.39	**0.0**	251	182	UTP	UTP	216	-	P	
42.2						NDM/SV	200	1.91	30.4	1.0	1.91	31.7	0.2	**1.91**	**31.1**	**0.6**	2.70	33.9	1.43	**0.0**	164	196	156	UTP	172	-	P	

GEOTECHNICS

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Job Name : 62-80 Papakura-Clevedon Road

Customer : Land Development & Engineering Ltd

Job #	2021000.1080.0.0/Rep1A
Entered By	OLBU / KELF / MIBR / ROSM
Checked By	DAMC
KTP Approved	DAMC

URN.	Tech.	Date	Location	Layer	Material Type	Test Type	Probe Depth (mm)	NDM 0°			NDM 90°			AVERAGE NDM			Solid Density (t/m³) Assumed	Oven Moisture content (%)	Final Corrected		Shear Vane Reading (kPa)					Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)			Oven Dry Density (t/m³)	Average Air Voids (%)	Reading 1	Reading 2	Reading 3	Reading 4	Average SV (4 x Tests)		(P) Pass / (F) Fail	
43.1	MIBR	19/12/2023	Fill Area (Front of Project)	500 mm placed	CLAY	NDM/SV	200	1.84	28.9	6.1	1.85	32.1	3.3	**1.84**	**30.5**	**4.7**	2.70	22.1	1.51	**10.8**	167	218	UTP	UTP	193	-	**EA**	Specification provided by Alan (LDE) requires ≤ 10 % air voids, shear strength ≥ 150 kPa on fill material being used on site. EA = Engineer Approved by Alan (LDE)
43.2						NDM/SV	200	1.87	32.9	1.3	1.87	35.2	0.1	**1.87**	**34.1**	**0.7**	2.70	28.5	1.46	**4.5**	218	200	193	164	194	-	**P**	
43.3						NDM/SV	200	1.81	38.8	1.0	1.83	37.8	0.5	**1.82**	**38.3**	**0.7**	2.70	33.3	1.37	**3.9**	171	160	164	174	167	-	**P**	
43.4			Fill Area (Back of Project)			NDM/SV	200	1.73	48.0	0.6	1.75	45.0	1.2	**1.74**	**46.5**	**0.9**	2.70	36.7	1.27	**6.2**	153	254	222	218	212	-	**P**	
43.5						NDM/SV	200	1.83	38.9	0.0	1.83	38.0	0.5	**1.83**	**38.5**	**0.1**	2.70	42.4	1.29	**0.0**	171	196	243	UTP	204	-	**P**	
43.6						NDM/SV	200	1.88	31.7	1.9	1.88	33.6	0.6	**1.88**	**32.7**	**1.3**	2.70	29.6	1.45	**3.3**	204	222	UTP	UTP	213	-	**P**	
44.1	MIBR	20/12/2023	Fill Area (Front of Project)	500 mm placed	CLAY	NDM/SV	200	1.76	44.4	1.0	1.77	44.7	0.0	**1.76**	**44.6**	**0.5**	2.70	47.3	1.20	**0.0**	171	200	225	233	207	-	**P**	
44.2						NDM/SV	200	1.80	42.5	0.0	1.80	41.2	0.2	**1.80**	**41.9**	**0.0**	2.70	45.9	1.24	**0.0**	164	156	254	254	207	-	**P**	
44.3			Fill Area (Back of Project)			NDM/SV	200	1.92	45.7	0.0	1.93	42.3	0.0	**1.93**	**44.0**	**0.0**	2.70	20.6	1.60	**8.0**	UTP	UTP	UTP	UTP	UTP	-	**P**	
44.4						NDM/SV	200	1.73	47.8	0.8	1.73	48.4	0.5	**1.73**	**48.1**	**0.6**	2.70	32.0	1.31	**9.6**	225	UTP	UTP	UTP	225	-	**P**	
44.5						NDM/SV	200	1.88	30.4	2.5	1.87	30.2	3.2	**1.88**	**30.3**	**2.9**	2.70	25.0	1.50	**6.8**	204	251	UTP	UTP	227	-	**P**	
44.6						NDM/SV	200	1.87	45.4	0.0	1.88	49.1	0.0	**1.88**	**47.3**	**0.0**	2.70	33.1	1.41	**1.1**	240	204	UTP	UTP	222	-	**P**	
45.1	MIBR	21/12/2023	Fill Area (Back of Project)	500 mm placed	CLAY	NDM/SV	200	1.83	35.9	1.6	1.83	36.3	1.7	**1.83**	**36.1**	**1.0**	2.70	37.0	1.34	**1.1**	200	UTP	UTP	UTP	UTP	-	**P**	
45.2						NDM/SV	200	1.78	37.8	3.2	1.79	38.5	2.5	**1.78**	**38.2**	**2.0**	2.70	36.6	1.31	**3.8**	251	222	153	182	202	-	**P**	
45.3						NDM/SV	200	1.75	42.4	2.5	1.74	39.4	4.6	**1.74**	**40.9**	**3.0**	2.70	33.1	1.31	**8.1**	243	254	247	254	250	-	**P**	
45.4						NDM/SV	200	1.78	28.8	8.9	1.80	32.1	5.6	**1.79**	**30.5**	**4.0**	2.70	27.9	1.40	**9.0**	UTP	UTP	UTP	UTP	UTP	-	**P**	
46.1	ROSM	9/01/2024	Stage 2 Fill Area	500 mm placed	CLAY	NDM/SV	200	1.77	38.2	3.6	1.77	41.8	1.6	**1.77**	**40.0**	**2.6**	2.70	40.8	1.26	**2.2**	166	172	188	200	181	-	**P**	
46.2						NDM/SV	200	1.89	42.3	0.0	1.89	42.4	0.0	**1.89**	**42.4**	**0.0**	2.70	38.6	1.36	**0.0**	219	219	219	219	219	-	**P**	
46.3						NDM/SV	200	1.91	43.4	0.0	1.91	39.0	0.0	**1.91**	**41.2**	**0.0**	2.70	41.6	1.35	**0.0**	219	219	219	219	219	-	**P**	
46.4						NDM/SV	200	1.76	35.6	6.0	1.76	40.2	3.2	**1.76**	**37.9**	**4.5**	2.70	36.9	1.28	**5.1**	219	219	219	219	219	-	**P**	
46.5						NDM/SV	200	1.83	31.2	5.0	1.84	29.9	5.4	**1.83**	**30.6**	**5.2**	2.70	27.3	1.44	**7.5**	219	219	219	219	219	-	**P**	
46.6						NDM/SV	200	1.86	35.2	0.8	1.84	34.8	1.8	**1.85**	**35.0**	**1.3**	2.70	38.7	1.33	**0.0**	219	219	219	219	219	-	**P**	
46.7			Stage 2 Fill Area			NDM/SV	200	1.86	38.4	0.0	1.85	40.1	0.0	**1.85**	**39.3**	**0.0**	2.70	36.6	1.36	**0.1**	219	219	219	219	219	-	**P**	
46.8						NDM/SV	200	1.84	35.5	1.8	1.83	36.2	1.7	**1.83**	**35.9**	**1.7**	2.70	32.7	1.38	**3.8**	219	219	219	219	219	-	**P**	
46.9						NDM/SV	200	1.86	36.8	0.0	1.85	38.5	0.0	**1.85**	**37.7**	**0.0**	2.70	38.3	1.34	**0.0**	219	219	219	219	219	-	**P**	
46.10						NDM/SV	200	1.86	36.7	0.0	1.85	35.9	0.7	**1.86**	**36.3**	**0.2**	2.70	38.4	1.34	**0.0**	219	219	219	219	219	-	**P**	
47.1	MIBR	11/01/2024	SPR 3 (Back fill)	500 mm Placed	CLAY	NDM/SV	200	1.88	37.8	0.0	1.89	38.0	0.0	**1.88**	**37.9**	**0.0**	2.70	47.0	1.28	**0.0**	200	218	189	200	202	-	**P**	
47.2						NDM/SV	200	1.76	34.5	6.3	1.77	37.5	4.3	**1.76**	**36.0**	**5.3**	2.70	37.4	1.28	**4.5**	160	251	182	254	212	-	**P**	
48.1	MIBR	12/01/2024	SPR 3 (Back fill)	500 mm Placed	CLAY	NDM/SV	200	1.80	41.0	0.6	1.79	39.4	2.0	**1.79**	**40.2**	**1.3**	2.70	40.6	1.27	**1.1**	254	160	200	214	207	-	**P**	
48.2						NDM/SV	200	1.79	37.0	3.0	1.78	37.2	3.4	**1.79**	**37.1**	**3.2**	2.70	28.7	1.39	**8.5**	254	UTP	UTP	UTP	254	-	**P**	
48.3			Stage 3 - Fill Area	500 mm Placed	CLAY	NDM/SV	200	1.86	22.2	9.6	1.88	22.5	8.5	**1.87**	**22.4**	**9.0**	2.70	19.4	1.57	**11.4**	UTP	UTP	UTP	UTP	UTP	-	**F**	Material removed and to be reworked.
48.4						NDM/SV	200	1.82	31.2	5.3	1.83	34.5	2.9	**1.82**	**32.9**	**4.1**	2.70	31.7	1.38	**4.8**	254	UTP	UTP	UTP	254	-	**P**	
49.1	MIBR	23/01/2024	Stage 2 East Fill Area	500 mm Placed	CLAY	NDM/SV	200	1.82	34.2	3.4	1.83	32.4	4.2	**1.82**	**33.3**	**3.8**	2.70	38.1	1.32	**0.7**	243	185	254	UTP	228	-	**P**	
49.2						NDM/SV	200	1.78	29.4	8.5	1.77	30.6	8.1	**1.78**	**30.0**	**8.3**	2.70	30.4	1.36	**8.0**	UTP	UTP	UTP	UTP	UTP	-	**P**	
49.3						NDM/SV	200	1.91	31.2	0.8	1.90	30.1	2.2	**1.90**	**30.7**	**1.5**	2.70	25.6	1.51	**5.2**	254	UTP	UTP	UTP	254	-	**P**	
49.4						NDM/SV	200	1.68	36.9	9.3	1.66	42.0	7.8	**1.67**	**39.5**	**8.5**	2.70	31.0	1.27	**13.4**	254	251	200	UTP	235	**51.1**	**F**	Area retested on 1/02/2024. Retest = Pass

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Job Name : 62-80 Papakura-Clevedon Road

Customer : Land Development & Engineering Ltd

Job #	2021000.1080.0.0/Rep1A
Entered By	OLBU / KELF / MIBR / ROSM
Checked By	DAMC
KTP Approved	DAMC

URN.	Tech.	Date	Location	Layer	Material Type	Test Type	Probe Depth (mm)	NDM 0°			NDM 90°			AVERAGE NDM			Solid Density (t/m³) Assumed	Oven Moisture content (%)	Final Corrected		Shear Vane Reading (kPa)					Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)			Oven Dry Density (t/m³)	Average Air Voids (%)	Reading 1	Reading 2	Reading 3	Reading 4	Average SV (4 x Tests)		(P) Pass / (F) Fail	
50.1	MIBR	25/01/2024	Stage 2 East Fill Area	500 mm Placed	CLAY	NDM/SV	200	1.97	30.4	0.0	1.96	26.9	1.2	**1.97**	**28.7**	**0.0**	2.70	28.7	1.53	**0.0**	UTP	UTP	UTP	UTP	UTP	-	P	Specification provided by Alan (LDE) requires ≤ 10 % air voids, shear strength ≥ 150 kPa on fill material being used on site.
50.2						NDM/SV	200	1.72	44.1	3.4	1.71	45.5	2.8	**1.71**	**44.8**	**3.1**	2.70	44.8	1.18	**3.1**	200	200	160	167	182	-	P	
51.1	MIBR	1/02/2024	Stage 2 East Fill Area	500 mm Placed	CLAY	NDM/SV	200	1.86	38.1	0.0	1.87	33.6	1.0	**1.86**	**35.9**	**0.0**	2.70	31.9	1.41	**2.6**	UTP	UTP	UTP	UTP	UTP	-	P	Retest of URN 49.4
52.1	MIBR	7/02/2024	Stage 2 Fill Area	300 mm Placed	CLAY	NDM/SV	200	1.87	39.2	0.0	1.89	35.9	0.0	**1.88**	**37.6**	**0.0**	2.70	40.4	1.34	**0.0**	214	200	178	218	203	-	P	
52.2						NDM/SV	200	1.82	32.1	4.6	1.82	34.7	2.9	**1.82**	**33.4**	**3.8**	2.70	37.8	1.32	**1.0**	73	73	91	160	99	**54.5**	F	Area retested on 12/02/2024. Retest = Pass
52.3						NDM/SV	200	1.78	38.9	2.7	1.78	39.9	2.3	**1.78**	**39.4**	**2.5**	2.70	41.7	1.25	**1.2**	200	164	254	222	210	-	P	
52.4						NDM/SV	200	1.85	37.4	0.0	1.85	37.6	0.0	**1.85**	**37.5**	**0.0**	2.70	34.3	1.38	**1.8**	222	167	251	200	210	-	P	
52.5						NDM/SV	200	1.75	36.0	6.0	1.75	39.1	4.4	**1.75**	**37.6**	**5.2**	2.70	37.6	1.27	**5.1**	167	167	167	182	171	-	P	
52.6						NDM/SV	200	1.73	37.0	6.3	1.74	35.7	6.8	**1.74**	**36.4**	**6.6**	2.70	36.4	1.27	**6.5**	171	171	185	185	178	-	P	
53.1	MIBR	8/02/2024	Stage 2 Fill Area	300 mm Placed	CLAY	NDM/SV	200	1.87	31.6	2.3	1.89	29.4	3.2	**1.88**	**30.5**	**2.7**	2.70	33.3	1.41	**0.8**	254	236	164	200	213	-	P	
53.2						NDM/SV	200	1.78	37.6	3.5	1.78	36.4	4.2	**1.78**	**37.0**	**3.8**	2.70	43.5	1.24	**0.1**	236	236	236	200	227	-	P	
54.1	MIBR	12/02/2024	Stage 2 Fill Area	300 mm Placed	CLAY w/ minor silt	NDM/SV	200	1.74	49.9	0.0	1.74	45.6	1.2	**1.74**	**47.8**	**0.1**	2.70	52.7	1.14	**0.0**	200	184	196	215	199	-	P	
54.2						NDM/SV	200	1.78	38.1	3.4	1.76	44.7	0.8	**1.77**	**41.4**	**2.1**	2.70	35.1	1.31	**5.7**	154	154	169	UTP	159	-	P	
54.3						NDM/SV	200	1.78	42.6	0.7	1.76	43.6	1.3	**1.77**	**43.1**	**1.0**	2.70	46.3	1.21	**0.0**	154	169	184	200	177	-	P	
54.4						NDM/SV	200	1.74	47.4	0.6	1.74	50.9	0.0	**1.74**	**49.2**	**0.0**	2.70	54.5	1.13	**0.0**	154	157	169	200	170	-	P	
54.5						NDM/SV	200	1.87	34.5	0.5	1.87	33.7	1.0	**1.87**	**34.1**	**0.7**	2.70	32.5	1.41	**1.8**	184	187	UTP	UTP	186	-	P	Retest of URN 52.2
56.38	MIBR	15/02/2024	Stage 2 Fill Area	300 mm Placed	CLAY w/ minor silt	NDM/SV	200	1.85	35.6	0.9	1.86	36.8	0.0	**1.86**	**36.2**	**0.1**	2.70	33.8	1.39	**1.6**	200	UTP	UTP	UTP	200	-	P	
56.39						NDM/SV	200	1.80	39.3	1.4	1.80	37.3	2.5	**1.80**	**38.3**	**2.0**	2.70	30.1	1.38	**7.1**	200	200	200	200	200	-	P	
56.40						NDM/SV	200	1.80	37.3	2.5	1.81	34.8	3.5	**1.81**	**36.1**	**3.0**	2.70	39.2	1.30	**1.1**	UTP	UTP	UTP	UTP	UTP	-	P	
56.41						NDM/SV	200	1.76	41.5	2.4	1.75	42.2	2.3	**1.76**	**41.9**	**2.4**	2.70	44.3	1.22	**1.1**	200	184	UTP	UTP	192	-	P	
58.1	MIBR	21/02/2024	Stage 2 Fill Area	300 mm Placed	CLAY w/ minor silt	NDM/SV	200	1.89	35.5	0.0	1.88	36.2	0.0	**1.89**	**35.9**	**0.0**	2.70	33.9	1.41	**0.1**	200	200	200	200	200	-	P	
58.2						NDM/SV	200	1.89	32.1	1.1	1.89	32.8	0.7	**1.89**	**32.5**	**0.9**	2.70	28.4	1.47	**3.7**	200	UTP	UTP	UTP	200	-	P	
58.3						NDM/SV	200	1.78	43.7	0.1	1.78	43.4	0.3	**1.78**	**43.6**	**0.2**	2.70	42.5	1.25	**0.8**	163	157	160	157	159	-	P	
58.4						NDM/SV	200	1.87	28.4	4.8	1.88	29.9	3.3	**1.87**	**29.2**	**4.0**	2.70	22.8	1.53	**8.8**	UTP	UTP	UTP	UTP	UTP	-	P	
59.1	MIBR	22/02/2024	Stage 2 Fill Area	300 mm Placed	CLAY w/ minor silt	NDM/SV	200	1.81	38.4	1.2	1.81	38.2	1.4	**1.81**	**38.3**	**1.3**	2.70	47.2	1.23	**0.0**	154	200	172	175	175	-	P	
59.2						NDM/SV	200	1.74	43.7	2.5	1.73	43.9	2.7	**1.73**	**43.8**	**2.6**	2.70	41.8	1.22	**3.7**	200	200	200	200	200	-	P	
60.1	MIBR	23/02/2024	Stage 2 Fill Area	300 mm Placed	CLAY w/ minor silt	NDM/SV	200	1.87	27.5	5.5	1.87	27.8	5.0	**1.87**	**27.7**	**5.2**	2.70	25.7	1.49	**6.7**	UTP	UTP	UTP	UTP	UTP	-	P	
60.2						NDM/SV	200	1.81	37.5	1.9	1.91	38.0	0.0	**1.86**	**37.8**	**0.0**	2.70	36.7	1.36	**0.0**	200	200	200	200	200	-	P	
60.3						NDM/SV	200	1.88	33.0	1.1	1.87	32.0	2.1	**1.88**	**32.5**	**1.6**	2.70	32.7	1.41	**1.5**	200	UTP	UTP	UTP	UTP	-	P	
60.4						NDM/SV	200	1.86	35.4	0.4	1.85	35.7	0.7	**1.86**	**35.6**	**0.5**	2.70	33.4	1.39	**2.0**	UTP	UTP	UTP	UTP	UTP	-	P	
61.1	MIBR	18/03/2024	Stage 2 Fill Area	300 mm Placed	CLAY w/ minor silt	NDM/SV	200	1.83	33.5	3.5	1.83	33.3	3.3	**1.83**	**33.4**	**3.4**	2.70	43.8	1.27	**0.0**	178	175	213	192	190	-	P	
61.2						NDM/SV	200	1.91	33.6	0.0	1.91	31.6	0.5	**1.91**	**32.6**	**0.0**	2.70	30.7	1.46	**1.0**	UTP	UTP	UTP	UTP	UTP	-	P	
61.3						NDM/SV	200	1.85	33.1	2.4	1.88	33.7	0.7	**1.87**	**33.4**	**1.5**	2.70	29.0	1.45	**4.5**	UTP	UTP	UTP	UTP	UTP	-	P	
61.4						NDM/SV	200	1.89	28.2	3.7	1.88	28.4	4.4	**1.88**	**28.3**	**4.1**	2.70	25.4	1.50	**6.2**	UTP	UTP	UTP	UTP	UTP	-	P	

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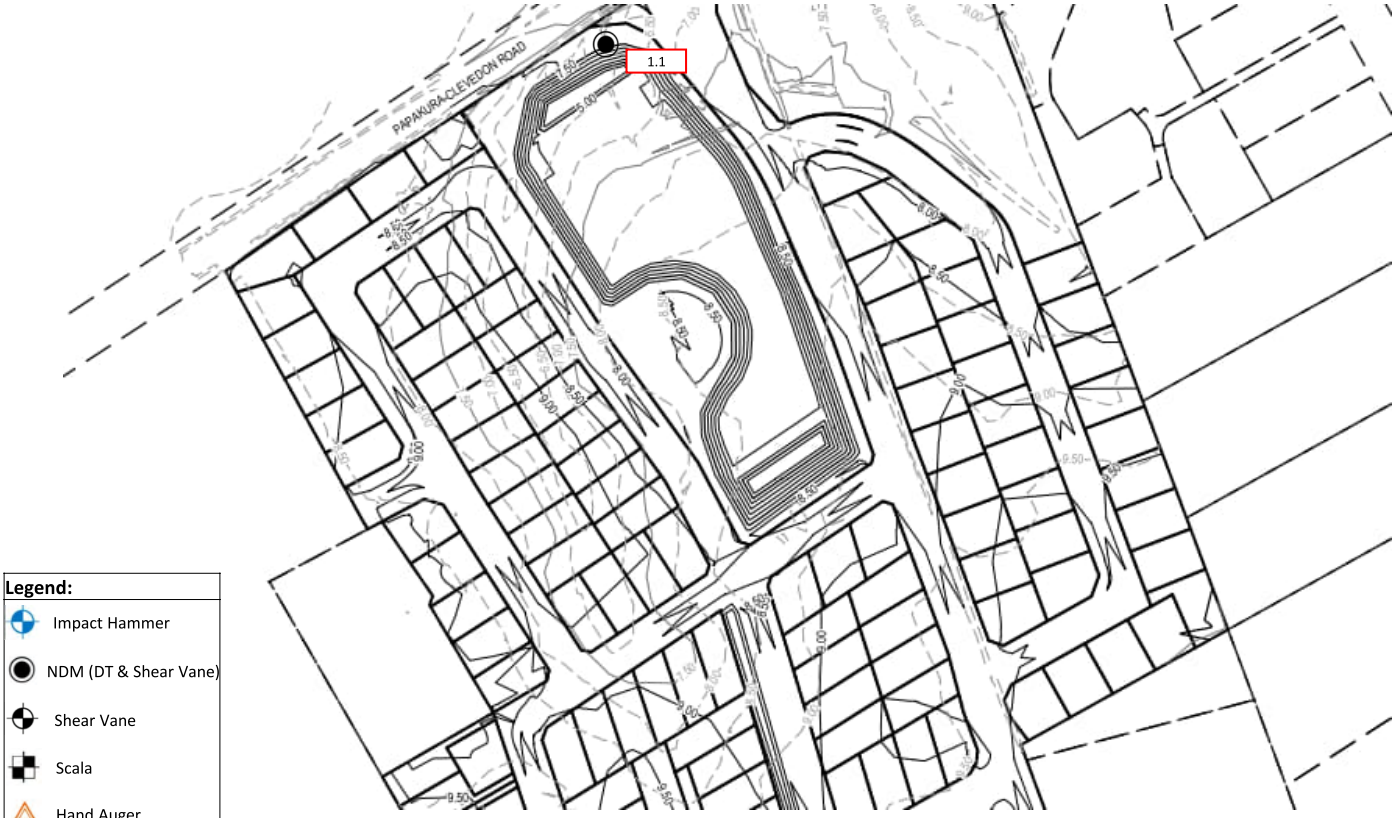
Job Name : 62-80 Papakura-Clevedon Road

Customer : Land Development & Engineering Ltd

Job #	2021000.1080.0.0/Rep1A
Entered By	OLBU / KELF / MIBR / ROSM
Checked By	DAMC
KTP Approved	DAMC

URN.	Tech.	Date	Location	Layer	Material Type	Test Type	Probe Depth (mm)	NDM 0°			NDM 90°			AVERAGE NDM			Solid Density (t/m³) Assumed	Oven Moisture content (%)	Final Corrected		Shear Vane Reading (kPa)					Retest URN	PASS / FAIL	Comments
								Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)	Wet Density (t/m³)	Moisture Content (%)	Air Voids (%)			Oven Dry Density (t/m³)	Average Air Voids (%)	Reading 1	Reading 2	Reading 3	Reading 4	Average SV (4 x Tests)		(P) Pass / (F) Fail	
62.1	MIBR	19/03/2024	Stage 2 Fill Area	500 mm Placed	silty CLAY	NDM/SV	300	1.76	44.9	0.6	1.76	43.2	1.3	**1.76**	**44.1**	**0.9**	2.70	50.6	1.17	**0.0**	161	196	175	213	186	-	P	Specification provided by Alan (LDE) requires ≤ 10 % air voids, shear strength ≥ 150 kPa on fill material being used on site.
62.2						NDM/SV	300	1.88	35.2	0.0	1.87	35.4	0.0	**1.87**	**35.3**	**0.0**	2.70	38.7	1.35	**0.0**	175	189	196	161	180	-	P	
62.3						NDM/SV	300	1.86	38.2	0.0	1.86	39.1	0.0	**1.86**	**38.7**	**0.0**	2.70	41.5	1.32	**0.0**	245	157	UTP	UTP	201	-	P	
62.4						NDM/SV	300	1.86	37.1	0.0	1.86	36.4	0.0	**1.86**	**36.8**	**0.0**	2.70	41.8	1.31	**0.0**	161	161	157	157	159	-	P	
65.20	MIBR	22/03/2024	Stage 2 Fill Area - Pond Back Fill	500 mm Placed	CLAY w/ gravel	NDM/SV	300	1.86	36.6	0.0	1.86	31.2	3.1	**1.86**	**33.9**	**1.3**	2.70	33.9	1.39	**1.3**	UTP	UTP	UTP	UTP	UTP	-	P	
65.21						NDM/SV	300	1.87	26.3	6.4	1.85	28.4	5.8	**1.86**	**27.4**	**6.1**	2.70	25.4	1.48	**7.5**	UTP	UTP	UTP	UTP	UTP	-	P	
65.22			Stage 2 Fill Area			NDM/SV	300	1.79	38.3	2.3	1.80	34.0	4.5	**1.80**	**36.2**	**3.3**	2.70	35.2	1.33	**3.9**	196	227	UTP	UTP	212	-	P	
65.23						NDM/SV	300	1.88	27.2	5.3	1.88	25.3	6.7	**1.88**	**26.3**	**6.0**	2.70	30.2	1.44	**3.2**	UTP	UTP	UTP	UTP	UTP	-	P	
71.1	MIBR	9/04/2024	Stage 2 Fill Area	500 mm Placed	silty CLAY	NDM/SV	300	1.82	32.4	4.3	1.83	31.5	4.8	**1.83**	**32.0**	**4.6**	2.70	29.4	1.41	**6.3**	231	UTP	UTP	UTP	231	-	P	
71.2						NDM/SV	300	1.87	36.0	0.0	1.87	35.1	0.3	**1.87**	**35.6**	**0.0**	2.70	42.4	1.31	**0.0**	210	213	234	217	219	-	P	
71.3						NDM/SV	300	1.79	29.9	7.6	1.79	30.0	7.6	**1.79**	**30.0**	**7.6**	2.70	40.6	1.27	**1.0**	178	192	UTP	UTP	185	-	P	
71.4						NDM/SV	300	1.79	43.5	0.0	1.79	45.3	0.0	**1.79**	**44.4**	**0.0**	2.70	49.5	1.20	**0.0**	161	227	175	UTP	188	-	P	
71.5						NDM/SV	300	1.92	36.6	0.0	1.92	34.8	0.0	**1.92**	**35.7**	**0.0**	2.70	32.9	1.44	**0.0**	192	245	UTP	UTP	219	-	P	
71.6						NDM/SV	300	1.99	33.4	0.0	2.01	31.9	0.0	**2.00**	**32.7**	**0.0**	2.70	29.9	1.54	**0.0**	234	210	196	210	212	-	P	
72.1	MIBR	10/04/2024	Pond at front of Project	500 mm Placed	silty CLAY	NDM/SV	300	1.85	28.9	5.2	1.84	28.6	6.1	**1.85**	**28.8**	**5.6**	2.70	28.5	1.44	**5.8**	192	189	157	192	183	-	P	
72.2						NDM/SV	300	1.87	35.8	0.0	1.86	42.1	0.0	**1.87**	**39.0**	**0.0**	2.70	32.4	1.41	**2.1**	UTP	UTP	UTP	UTP	UTP	-	P	
72.3			Pond at Back of Project			NDM/SV	300	1.85	34.6	1.6	1.84	35.5	1.6	**1.84**	**35.1**	**1.6**	2.70	34.7	1.37	**1.8**	192	206	189	196	196	-	P	
72.4						NDM/SV	300	1.88	27.3	5.2	1.88	27.3	5.1	**1.88**	**27.3**	**5.2**	2.70	25.9	1.49	**6.2**	210	192	175	189	191	-	P	
73.1	MIBR	11/04/2024	Pond at Back of Project	500 mm Placed	silty CLAY	NDM/SV	300	1.89	33.7	0.0	1.91	32.9	0.0	**1.90**	**33.3**	**0.0**	2.70	35.7	1.40	**0.0**	161	157	189	161	167	-	P	
73.2						NDM/SV	300	1.93	22.3	6.3	1.92	22.4	6.6	**1.93**	**22.4**	**6.5**	2.70	18.6	1.62	**9.6**	178	UTP	UTP	UTP	178	-	P	
75.1	MIBR	1/07/2024	Fill Area	500 mm Placed	Lime Stabilised silty CLAY	NDM/SV	300	1.67	41.6	7.4	1.67	42.1	7.2	**1.67**	**41.9**	**7.3**	2.70	38.9	1.20	**8.9**	175	210	245	227	214	-	P	
75.2						NDM/SV	300	1.83	32.9	3.6	1.83	33.6	3.2	**1.83**	**33.3**	**3.4**	2.70	33.7	1.37	**3.1**	199	UTP	UTP	UTP	199	-	P	
76.1	MIBR	4/07/2024	Fill Area	500 mm Placed	Lime Stabilised silty CLAY	NDM/SV	300	1.91	45.0	0.0	1.91	42.4	0.0	**1.91**	**43.7**	**0.0**	2.70	32.5	1.44	**0.0**	175	210	227	192	201	-	P	
76.2						NDM/SV	300	1.84	35.5	1.5	1.84	36.3	0.9	**1.84**	**35.9**	**1.2**	2.70	33.3	1.38	**2.9**	196	192	171	192	188	-	P	
77.1	MIBR	11/07/2024	Fill Area	Finished Level	Lime Stabilised silty CLAY	SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126	52	56	52	72	**78.2**	F	Area retested on 11/07/2024. Retest = Pass
77.2						SV	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	49	122	143	93	**78.1**	F	Area retested on 11/07/2024. Retest = Pass
78.1	MIBR	7/08/2024	Fill Area	Finished Level	Lime Stabilised silty CLAY	NDM/SV	300	1.74	34.7	7.3	1.75	36.5	5.6	**1.75**	**35.6**	**6.5**	2.70	36.7	1.28	**5.8**	192	192	224	227	209	-	P	Retest of URN 76.2
78.2						NDM/SV	300	1.83	40.2	0.0	1.83	35.9	2.0	**1.83**	**38.1**	**0.6**	2.70	36.6	1.34	**1.5**	192	UTP	UTP	UTP	192	-	P	Retest of URN 76.1
78.3						NDM/SV	300	1.83	27.0	7.7	1.84	29.1	5.8	**1.83**	**28.1**	**6.8**	2.70	27.2	1.44	**7.3**	>245	>245	>245	>245	>245	-	P	
78.4						NDM/SV	300	1.82	35.3	2.9	1.85	29.6	5.0	**1.83**	**32.5**	**3.9**	2.70	31.1	1.40	**4.8**	UTP	UTP	UTP	UTP	UTP	-	P	



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	20/02/2023
Location:	Fill Area 1/2	Job No.:	2021000.1080.0.0/Rep1	URN:	1	Date:	21/02/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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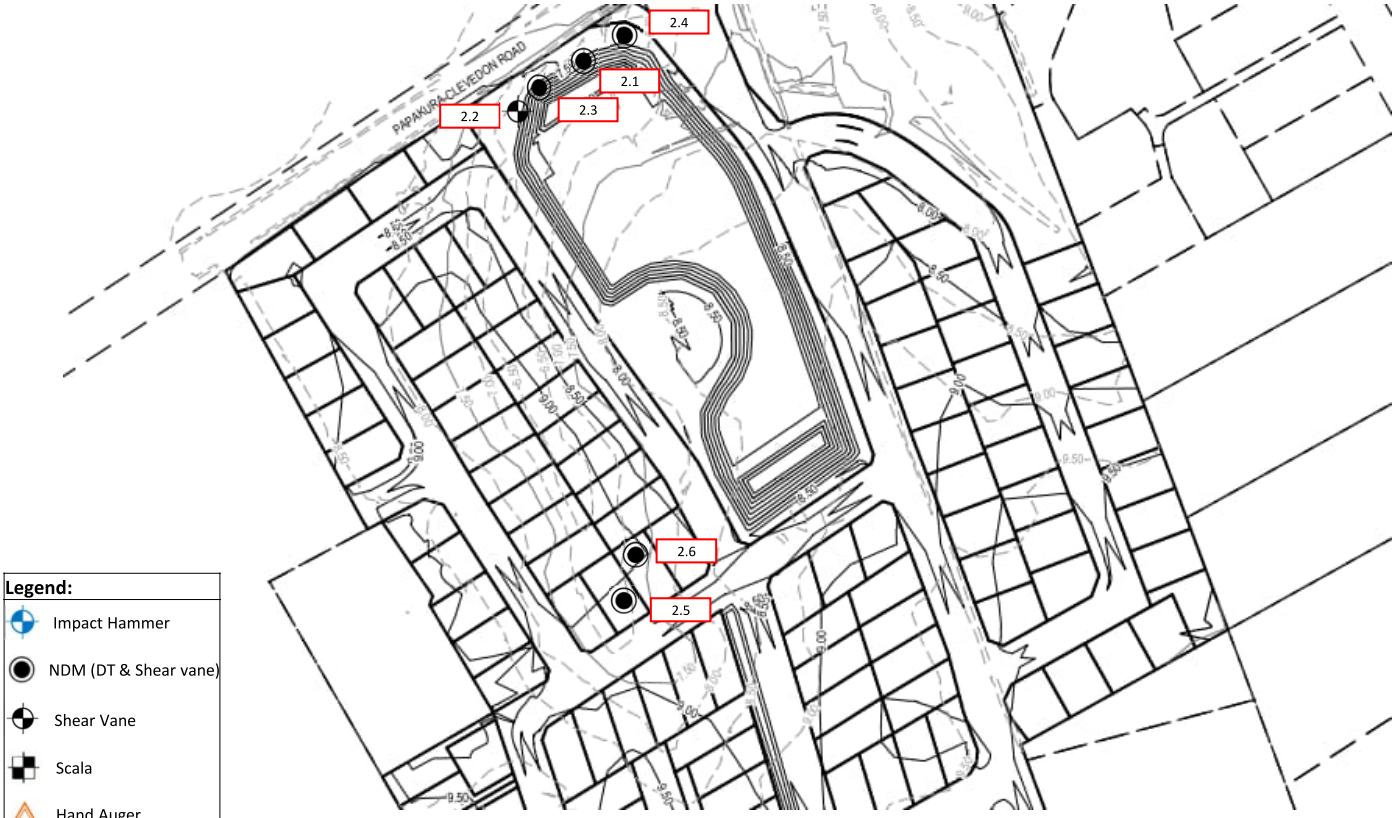

Legend:

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- Shear Vane
- Scala
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Test Location Plan

Site:	62-80 Papakura-Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	21/02/2023
Location:	Fill Area 1/2	Job No.:	2021000.1080.0.0/Rep1	URN:	2	Date:	21/02/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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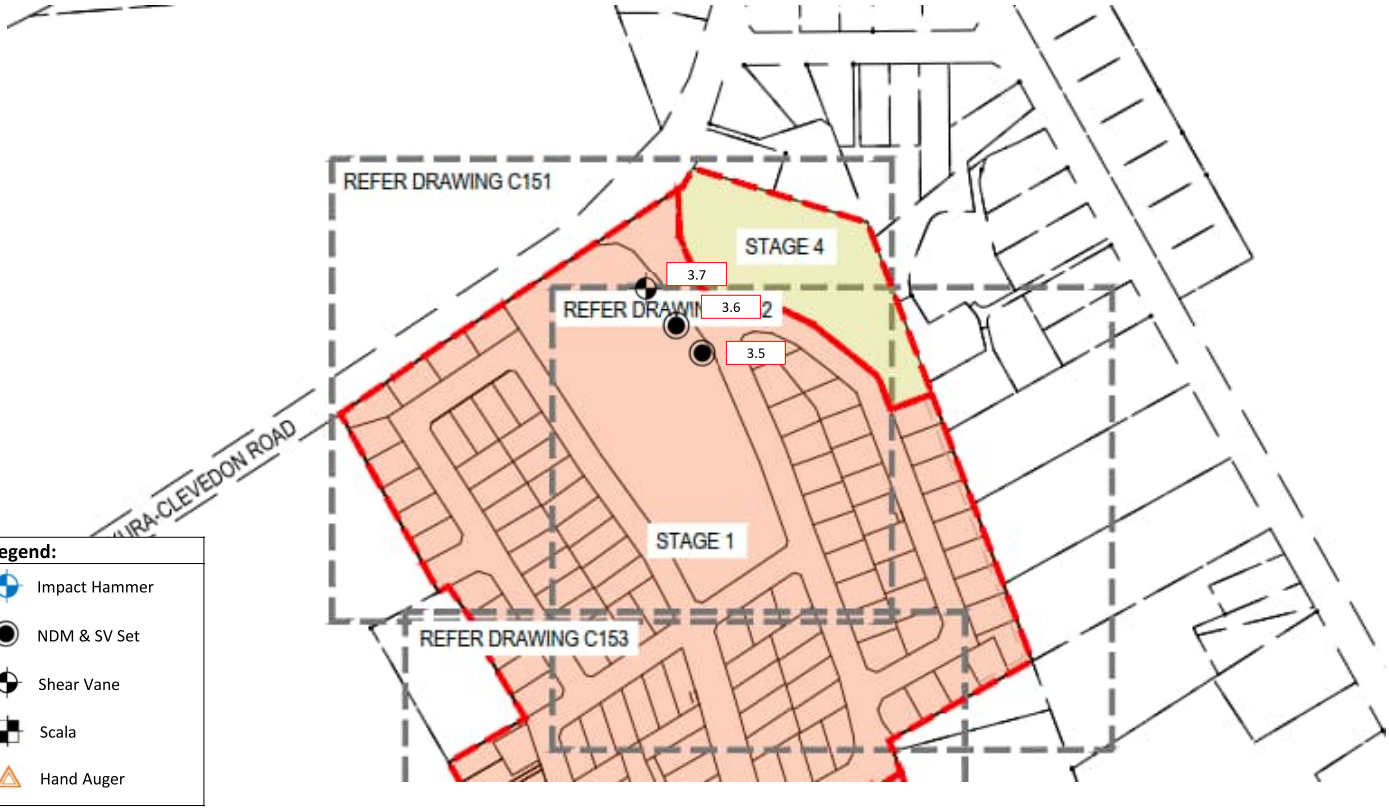

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Test Location Plan

Site:	62-80 Papakura-Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	23/02/2023
Location:	Pond Fill Site	Job No.:	2021000.1080.0.0/Rep1	URN:	3.5-3.7	Date:	23/02/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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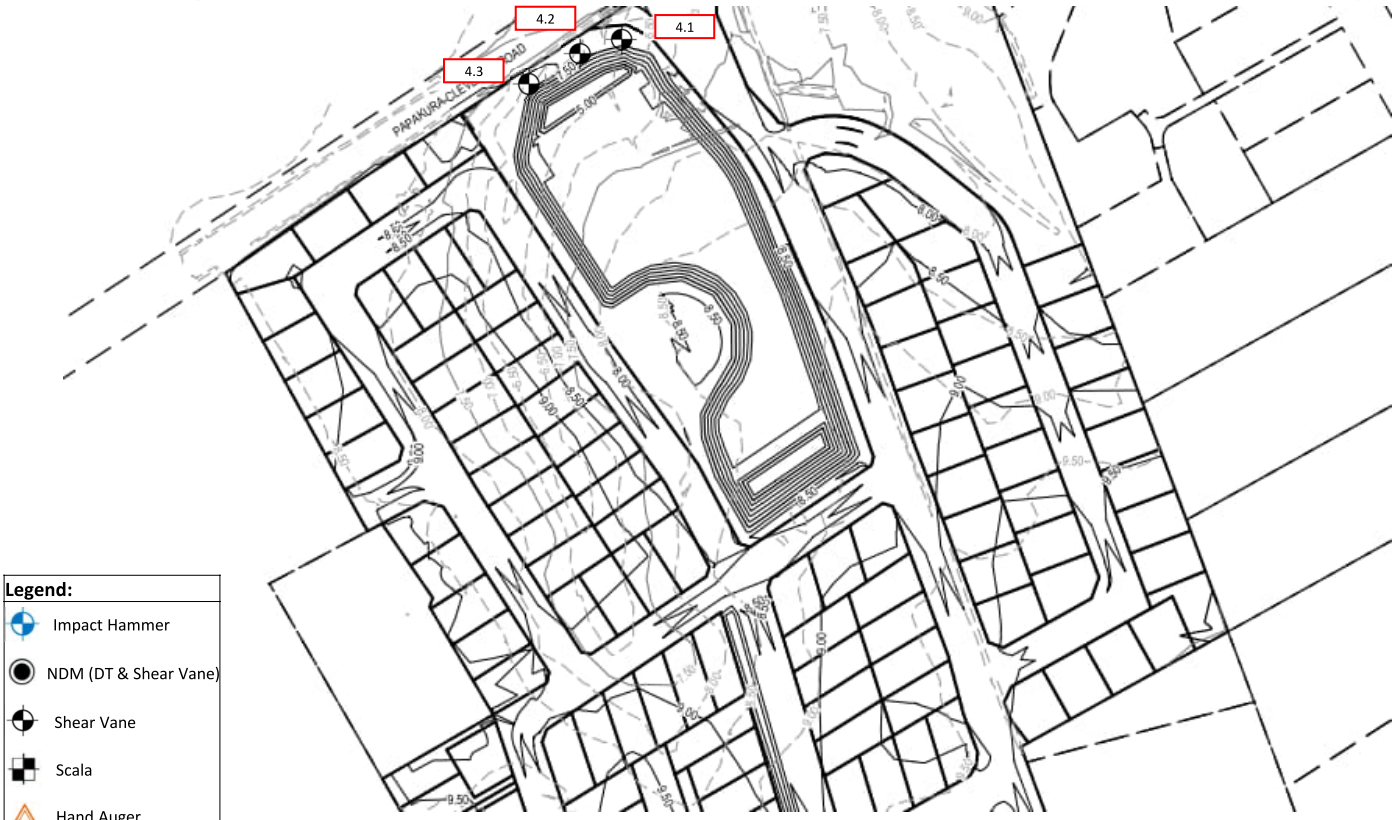

Legend:

- Impact Hammer
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- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	01/03/2023
Location:	Pond batter, Road Frontage	Job No.:	2021000.1080.0.0/Rep1	URN:	4	Date:	01/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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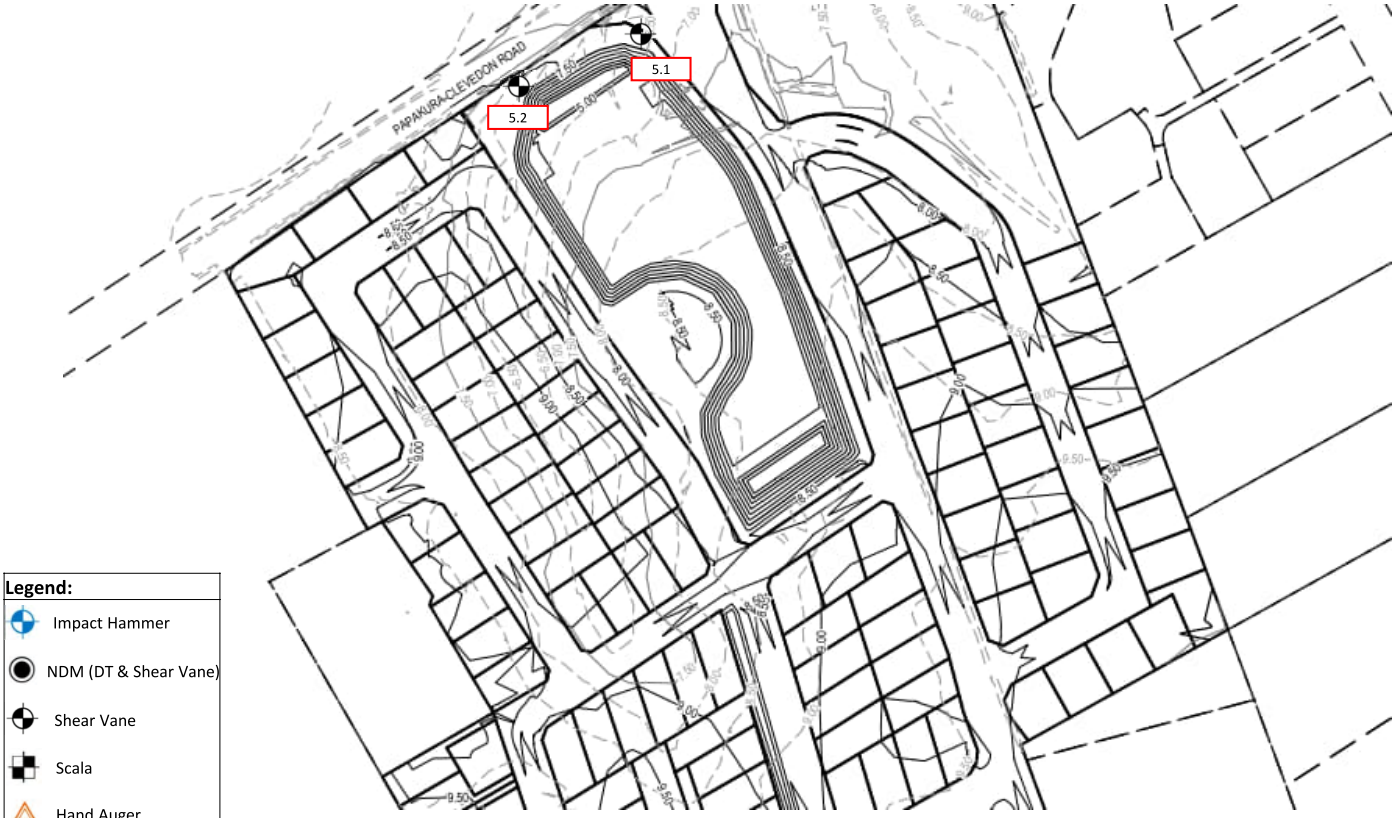

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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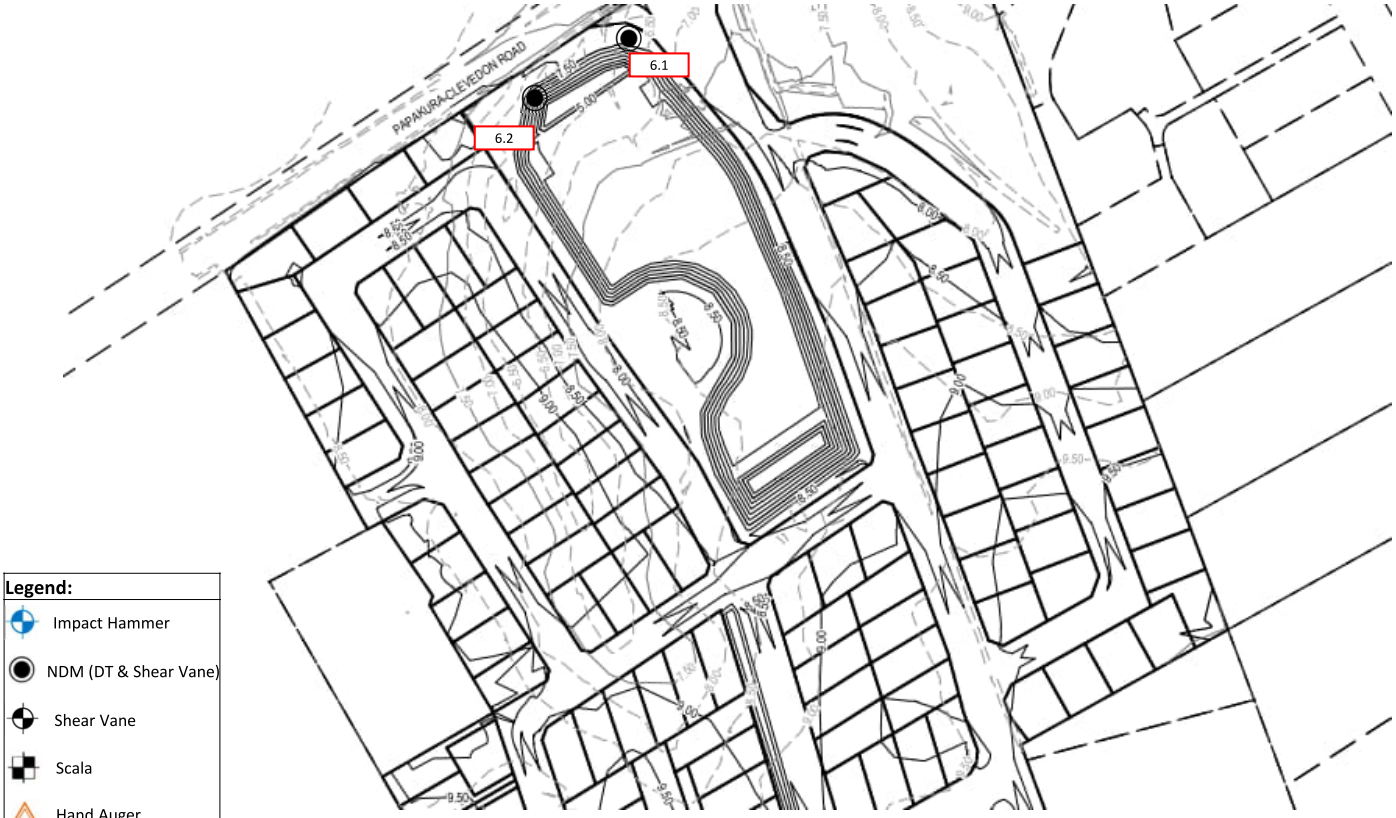
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	02/03/2023
Location:	Pond batter, Road Frontage	Job No.:	2021000.1080.0.0/Rep1	URN:	5	Date:	02/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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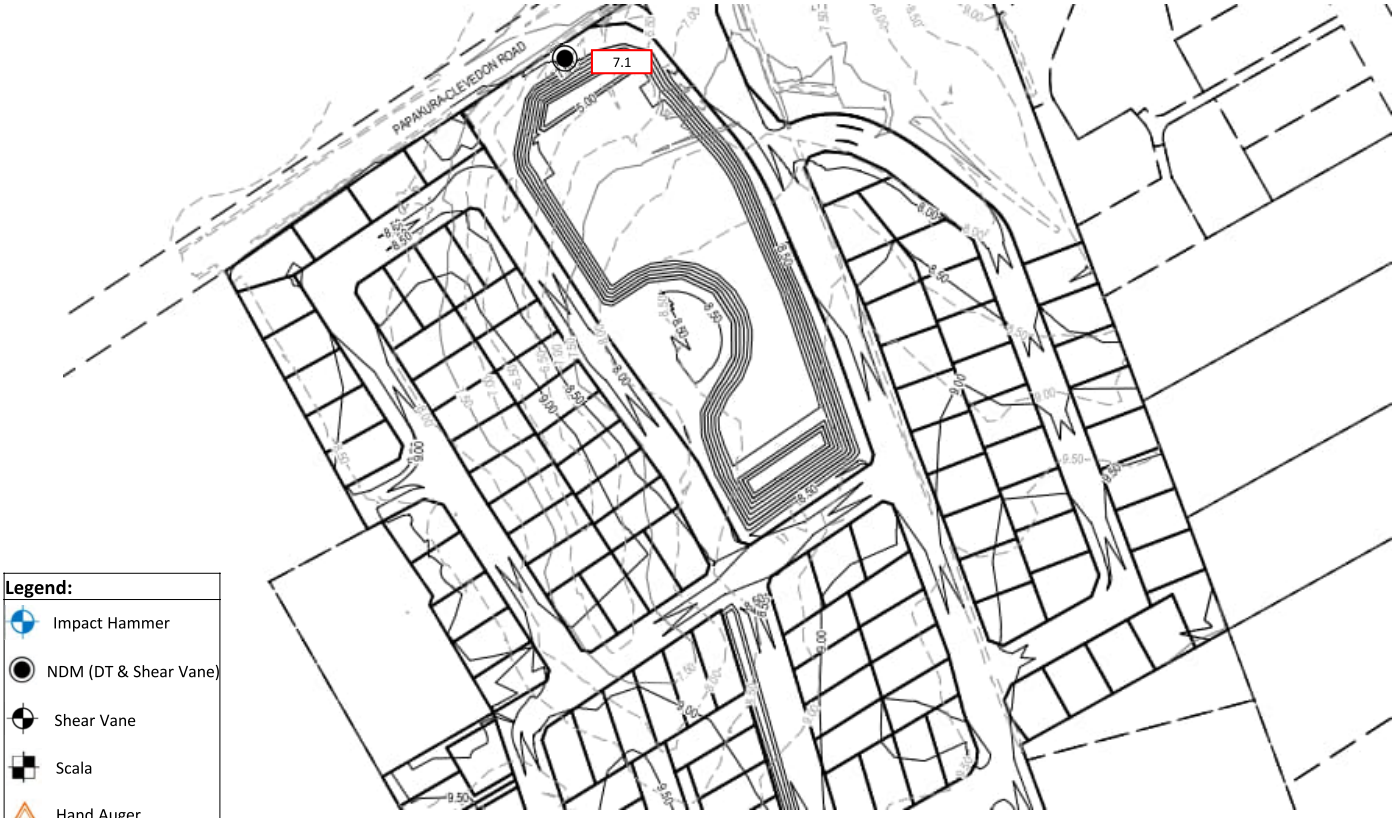
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	03/03/2023
Location:	Pond batter, Road Frontage	Job No.:	2021000.1080.0.0/Rep1	URN:	6	Date:	03/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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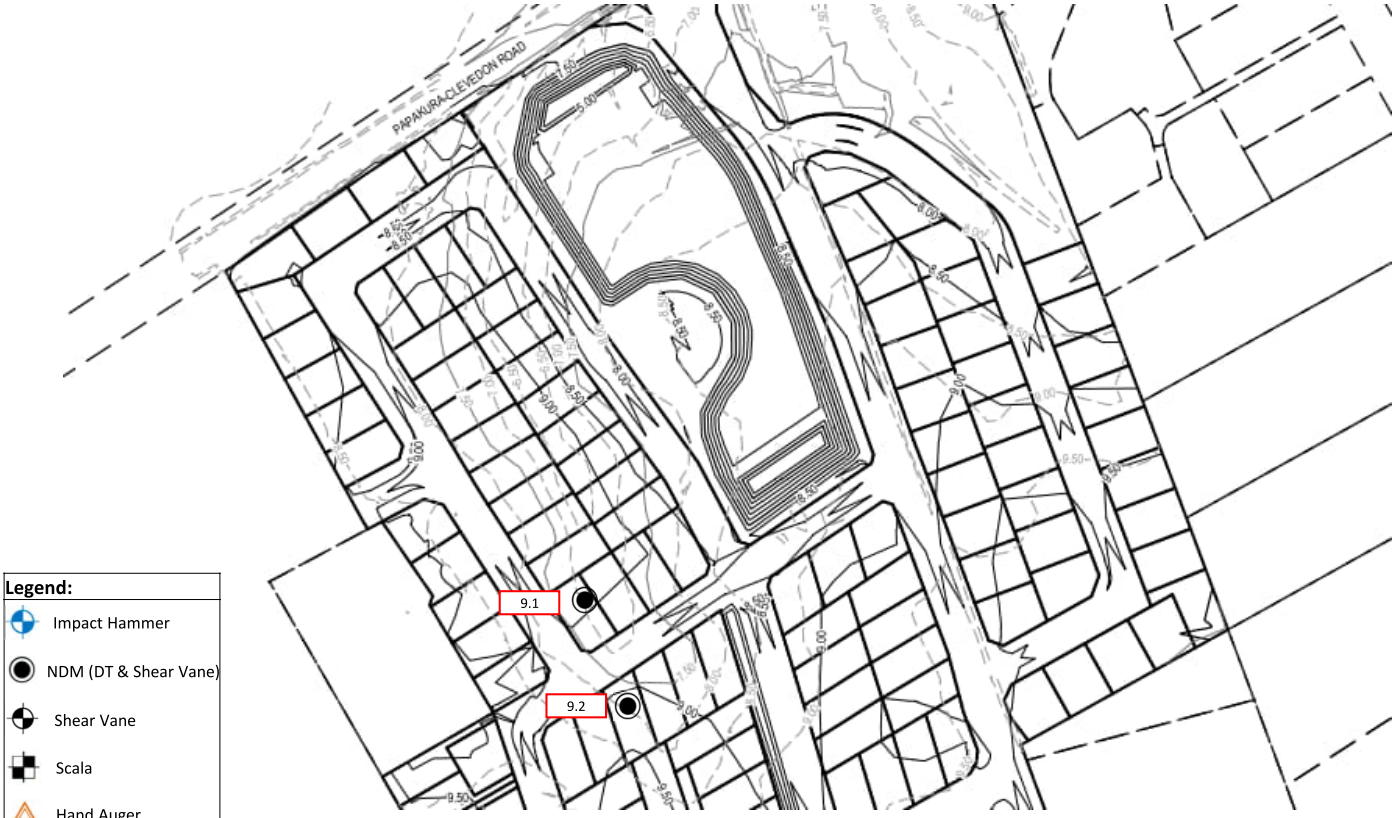
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	06/03/2023
Location:	Pond batter, Road Frontage	Job No.:	2021000.1080.0.0/Rep1	URN:	7	Date:	06/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	08/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	9	Date:	08/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	09/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	10	Date:	09/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	13/03/2023
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	13 (2/2)	Date:	13/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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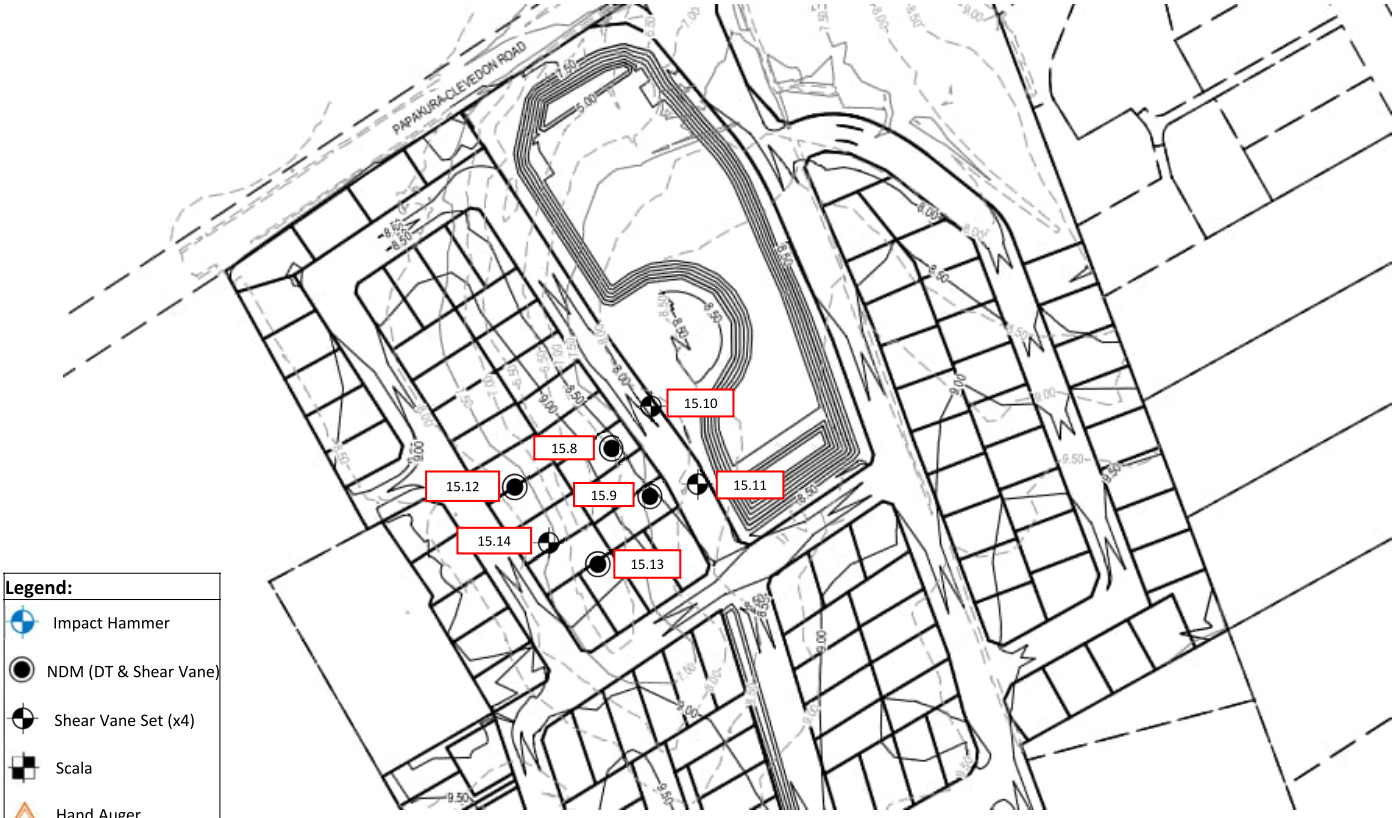

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	KELF	Date:	15/03/2023
Location:	Fill Area East of Gully	Job No.:	2021000.1080.0.0/Rep1	URN:	15	Date:	15/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	KELF	Date:	16/03/2023
Location:	Fill Area East of Gully	Job No.:	2021000.1080.0.0/Rep1	URN:	16	Date:	16/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	24/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	17	Date:	24/03/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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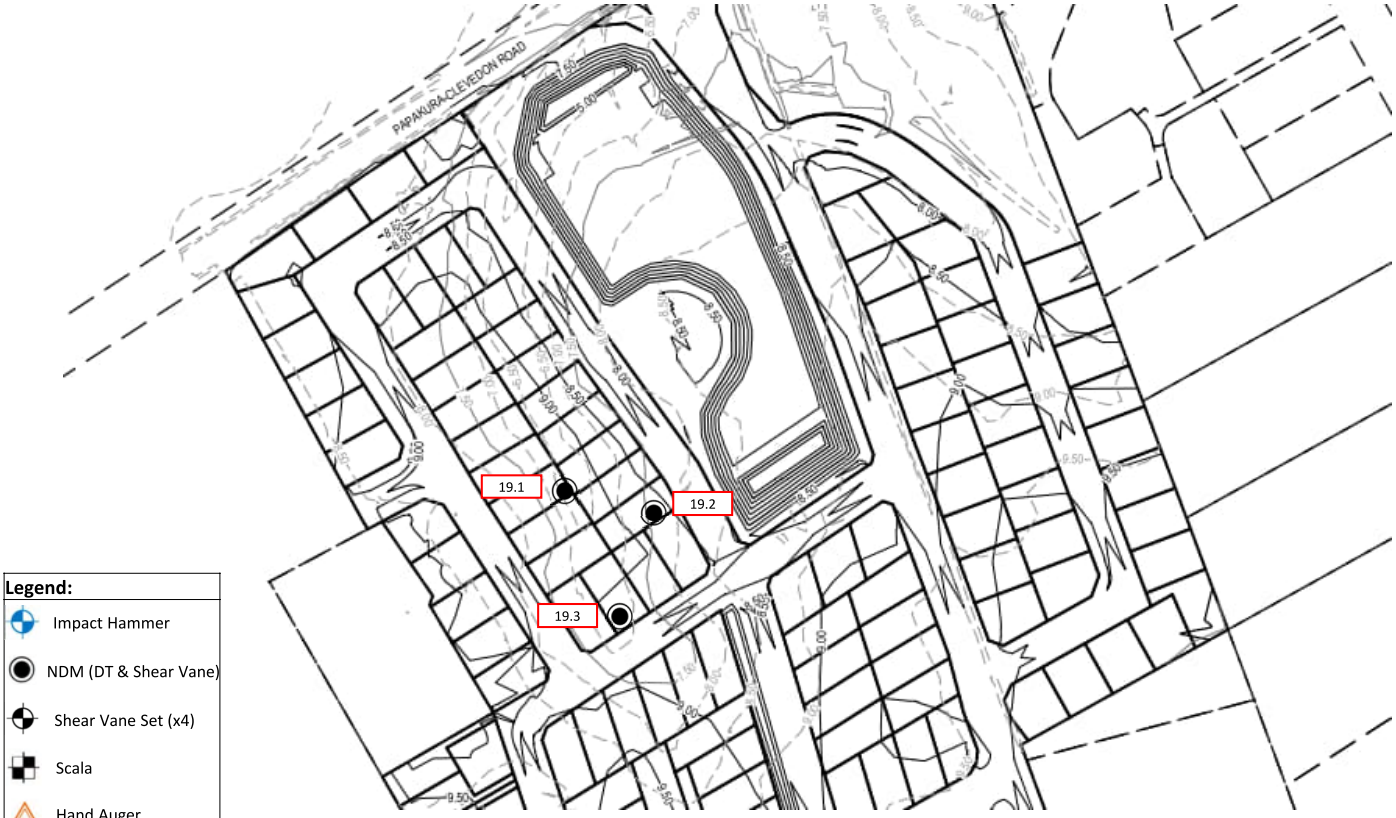

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	30/03/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	19	Date:	30/03/2023
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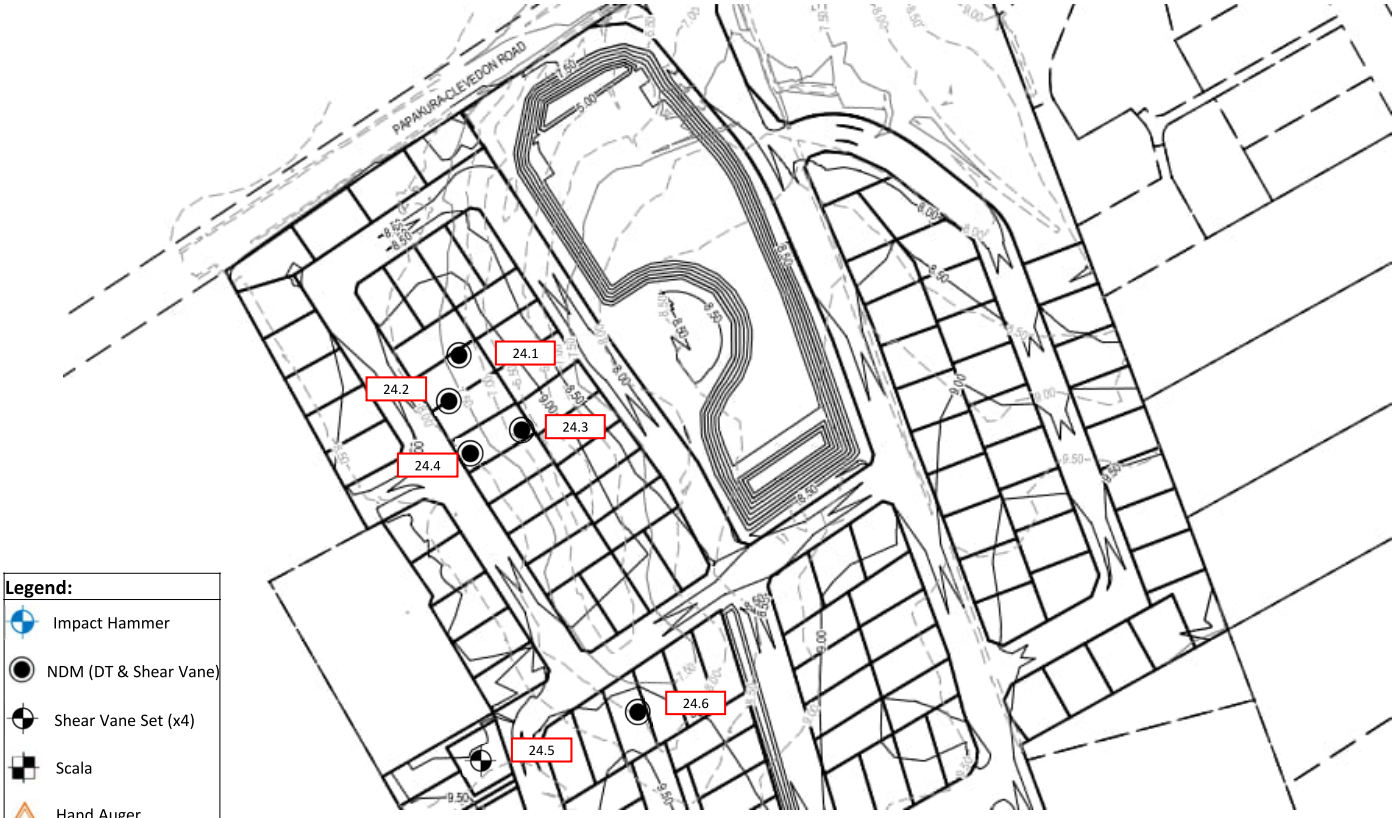

Legend:

- Impact Hammer
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	28/04/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	24	Date:	28/04/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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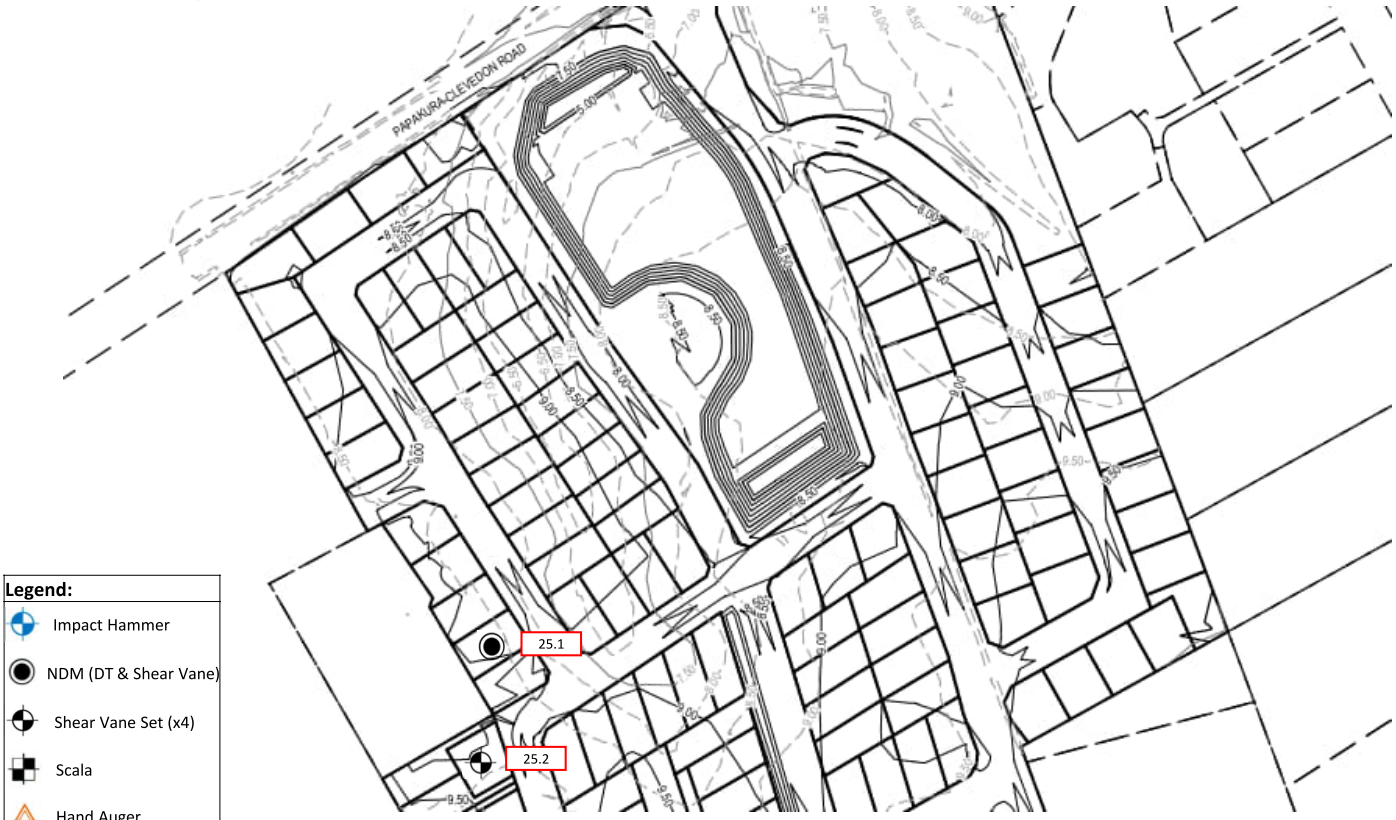

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	OLBU	Date:	28/04/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	25	Date:	28/04/2023
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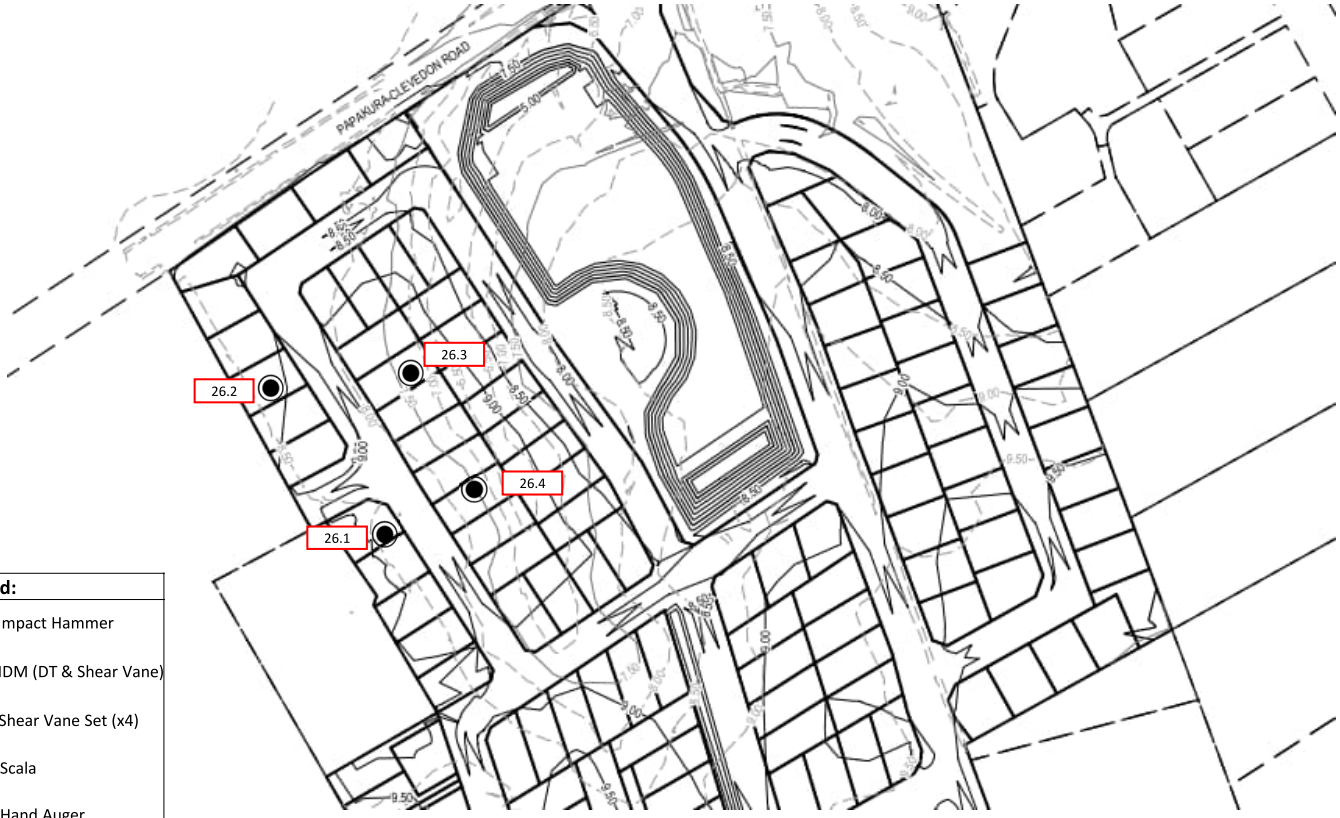

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	IBSI/LUSI	Date:	14/06/2023
Location:	Gully Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	26	Date:	14/06/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	16/11/2023
Location:	Gully Fill	Job No.:	2021000.1080.0.0/Rep1	URN:	29	Date:	16/11/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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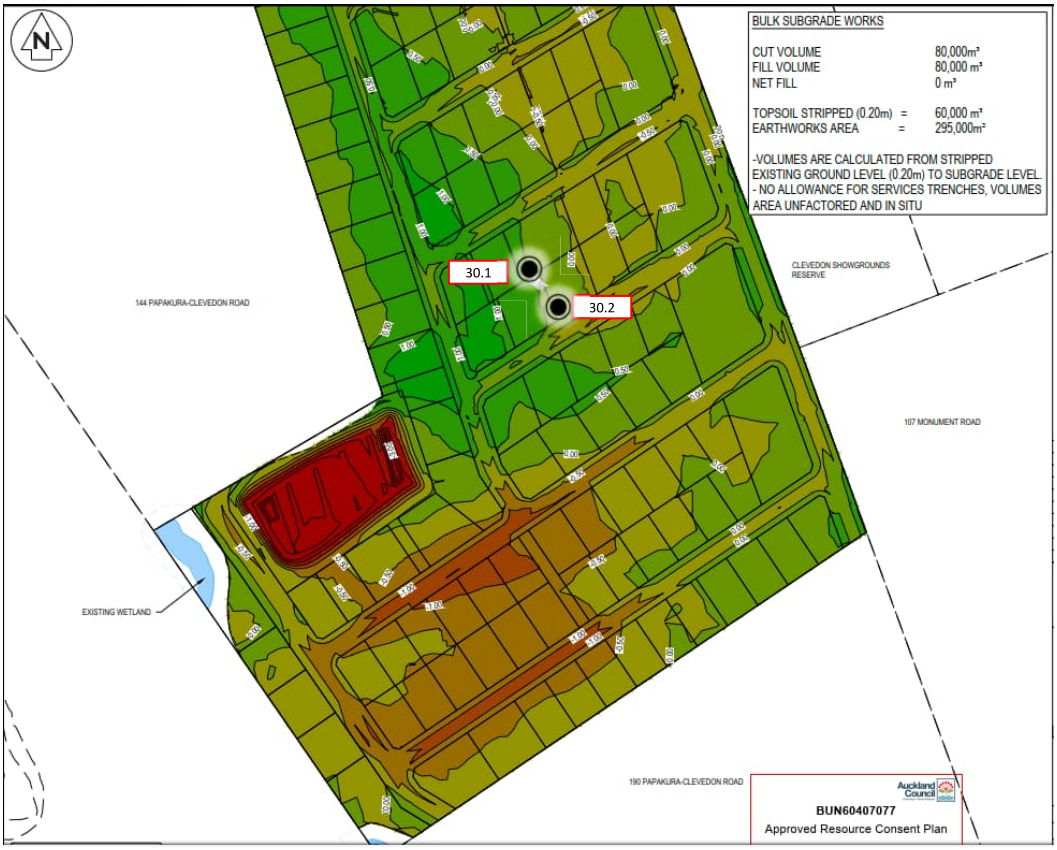

Legend:

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- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	17/11/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	30	Date:	17/11/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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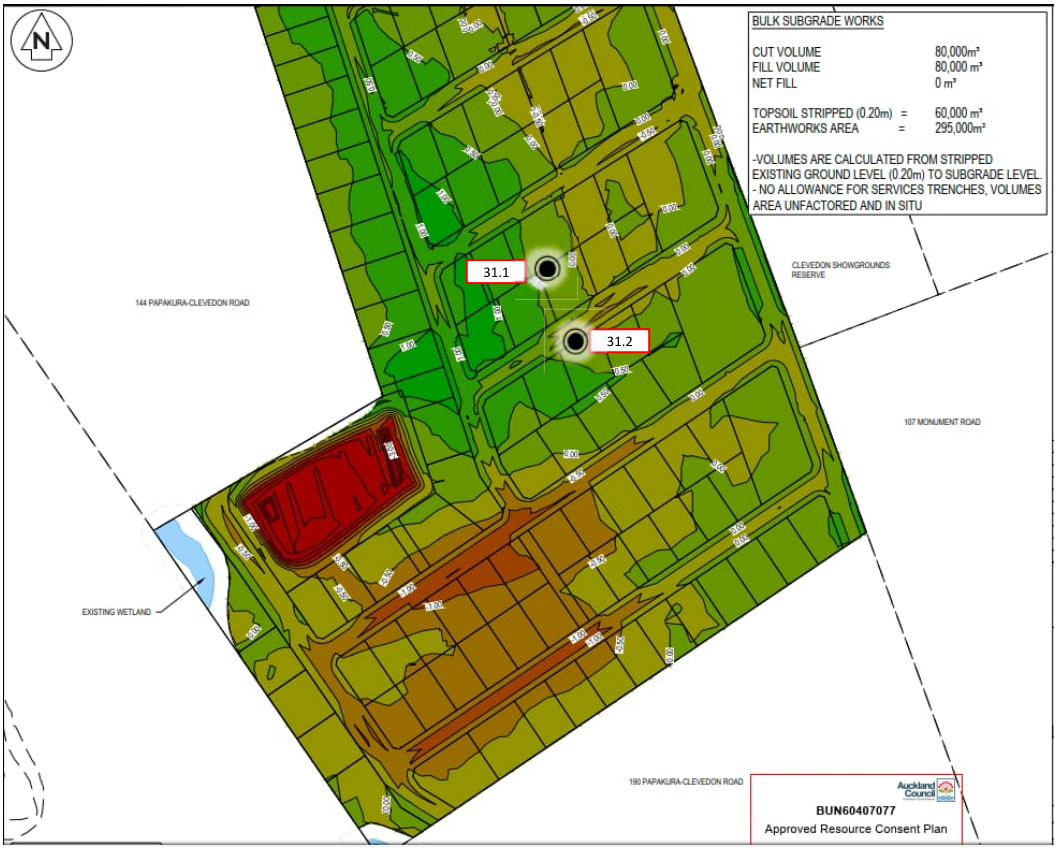

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	27/11/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	31	Date:	27/11/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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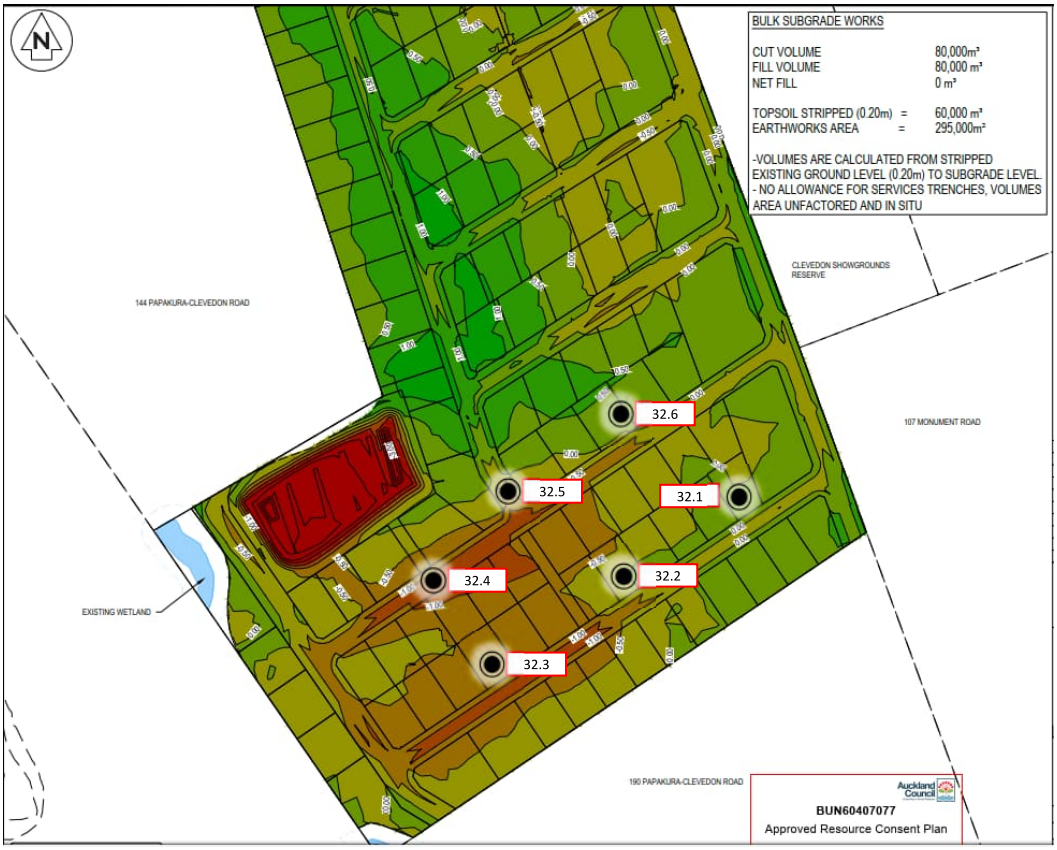

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	11/12/2023
Location:	Stage 2	Job No.:	2021000.1080.0.0/Rep1	URN:	32	Date:	11/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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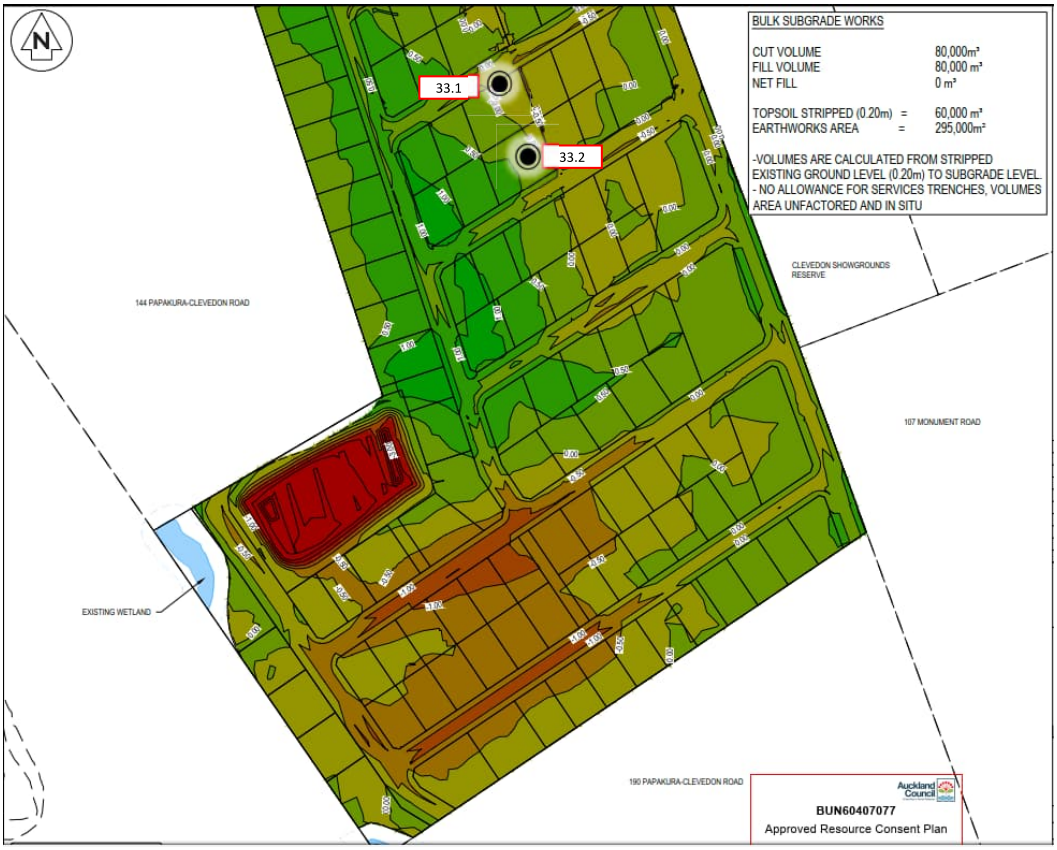

Legend:

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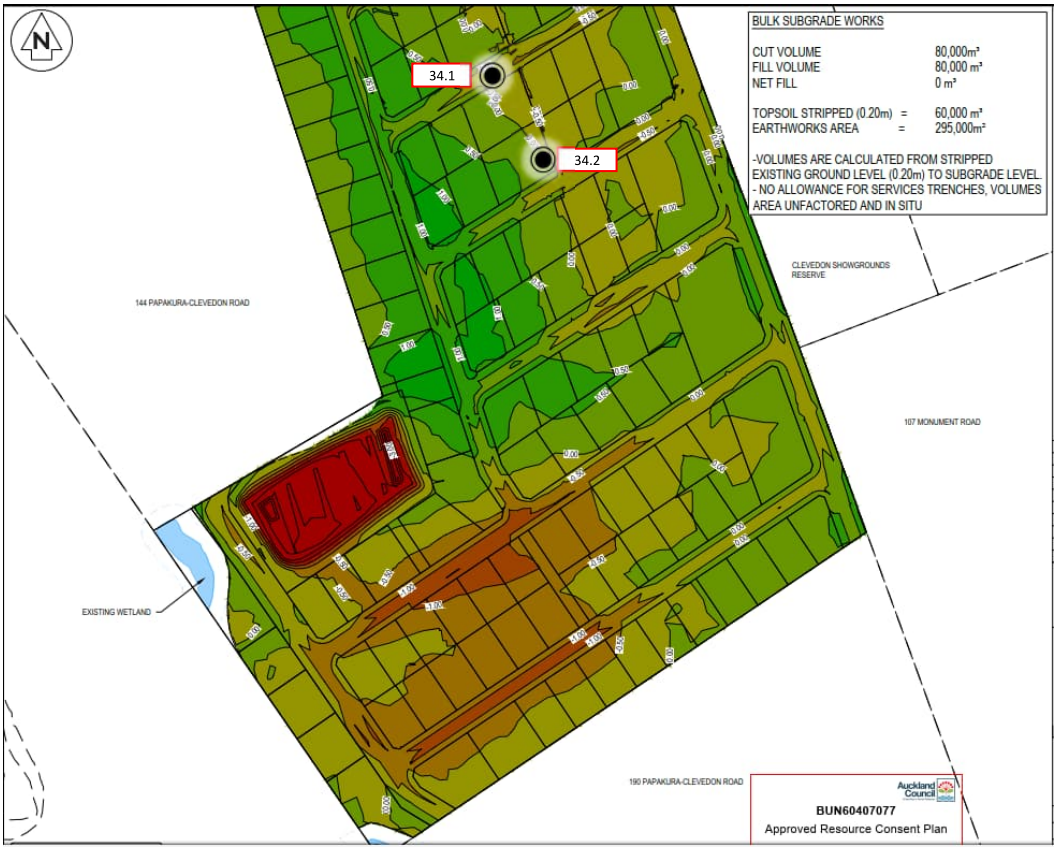
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	12/12/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	33	Date:	12/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	12/12/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	34	Date:	12/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	13/12/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	35	Date:	13/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	13/12/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	36	Date:	13/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	14/12/2023
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	37	Date:	14/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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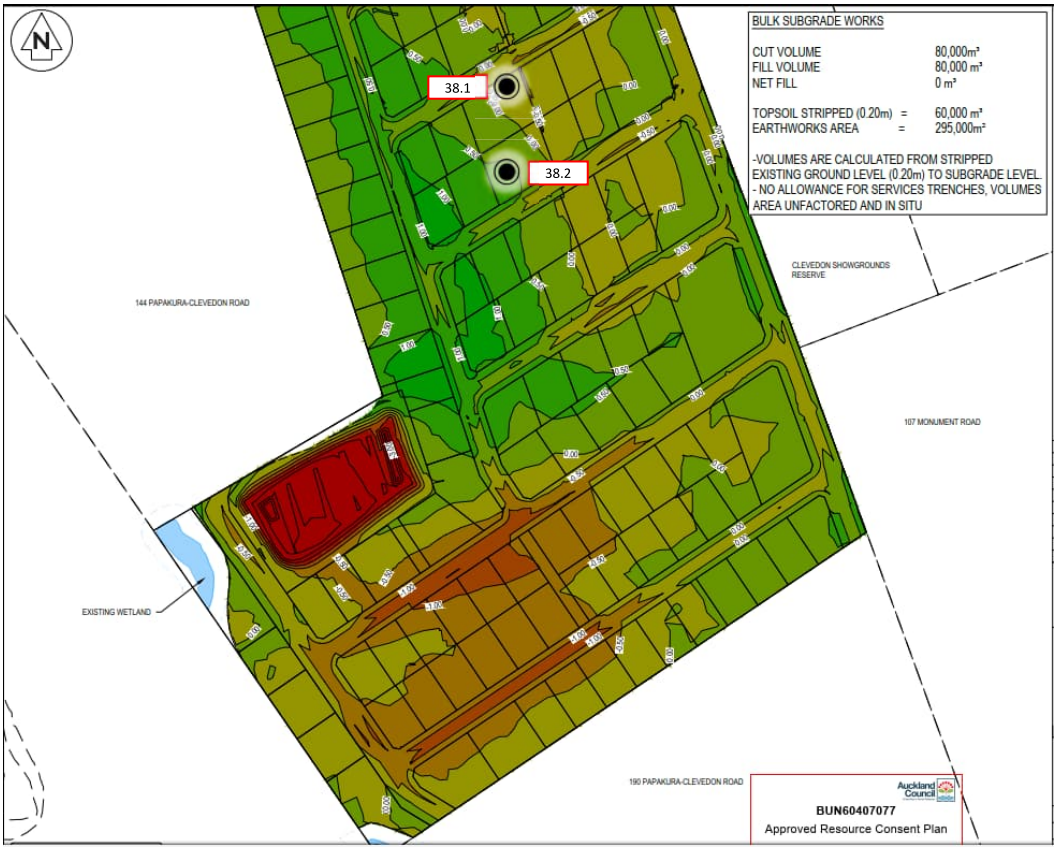

Legend:

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- NDM (DT & Shear Vane)
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	14/12/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	38	Date:	14/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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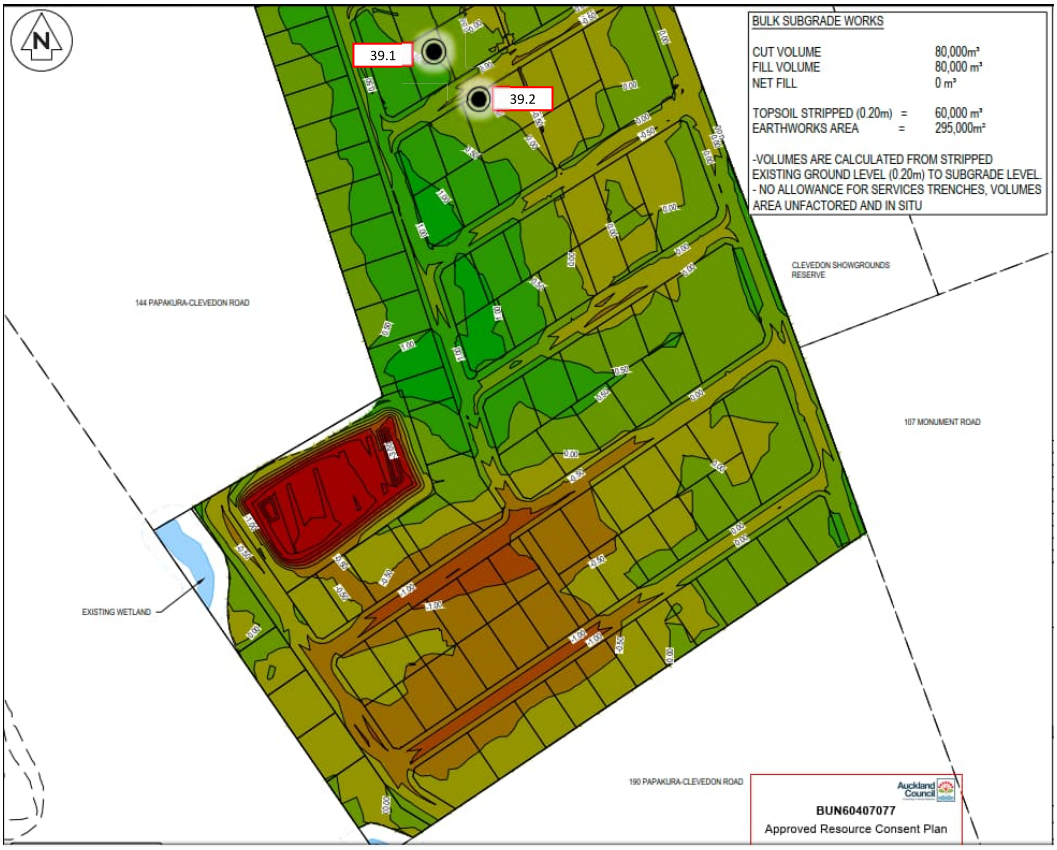

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	15/12/2023
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	39	Date:	15/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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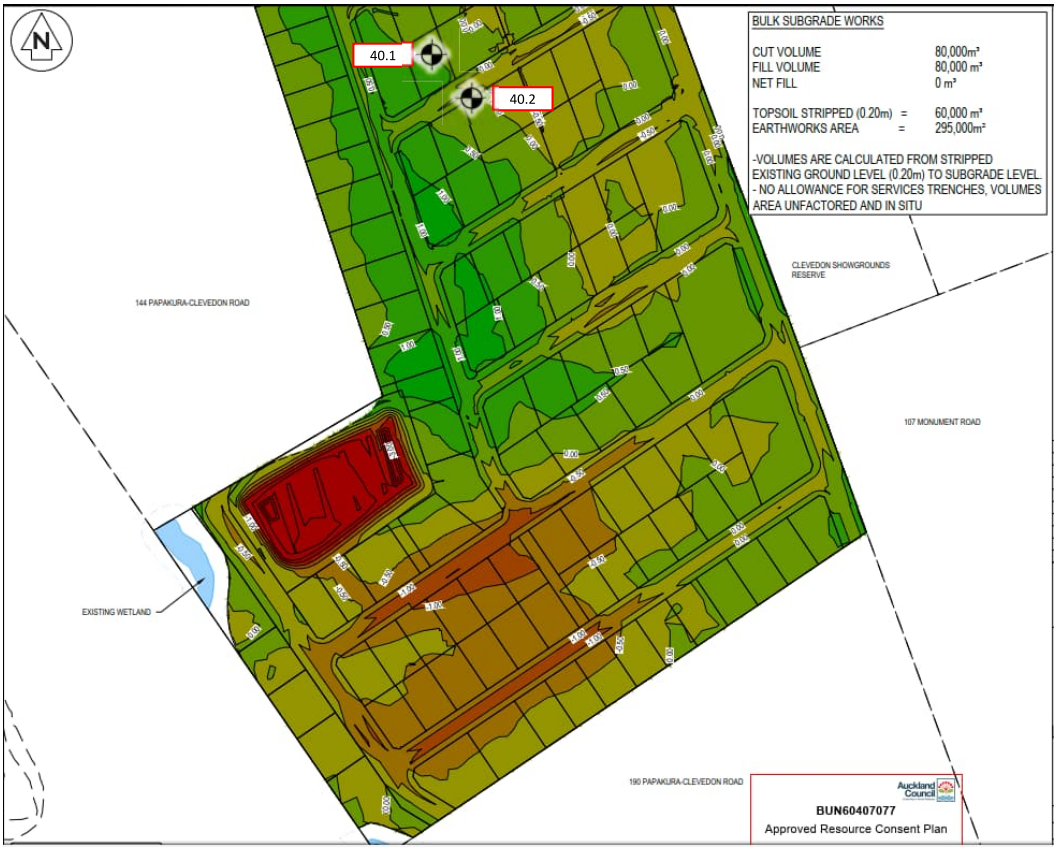

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	JALC	Date:	15/12/2023
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	40	Date:	15/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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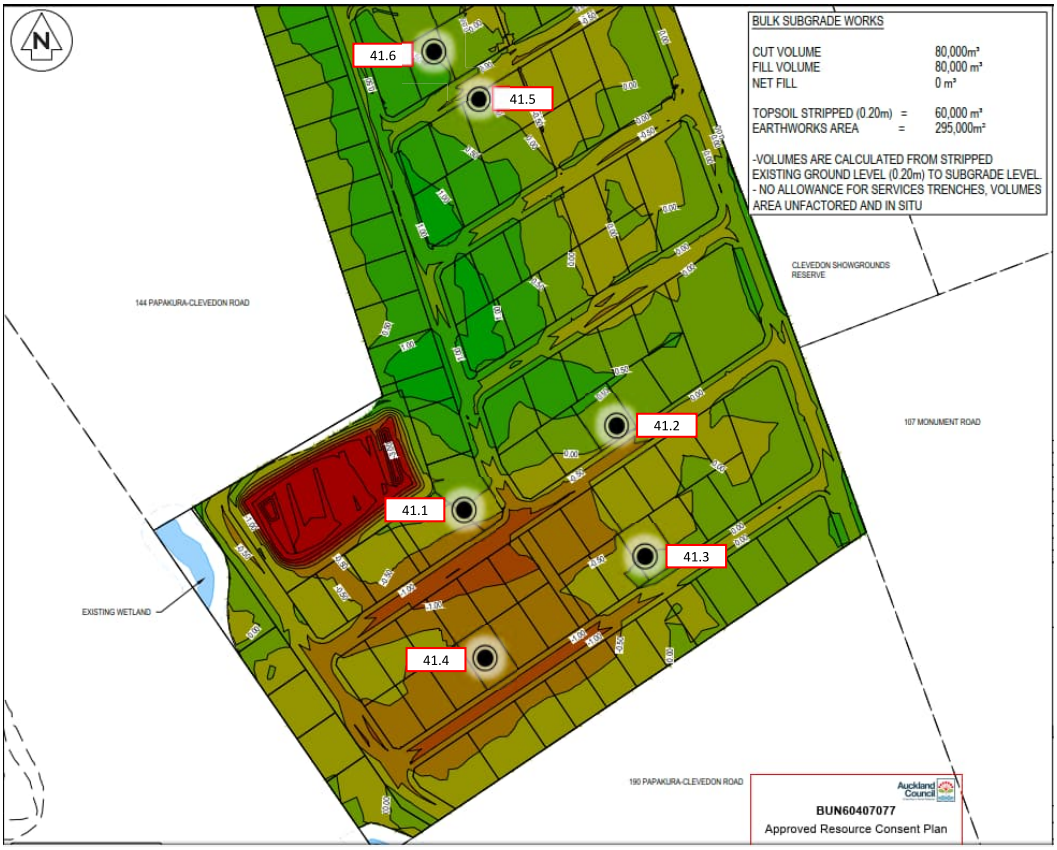

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	15/12/2023
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	41	Date:	15/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	18/12/2023
Location:	Asbestos Hole	Job No.:	2021000.1080.0.0/Rep1	URN:	42	Date:	18/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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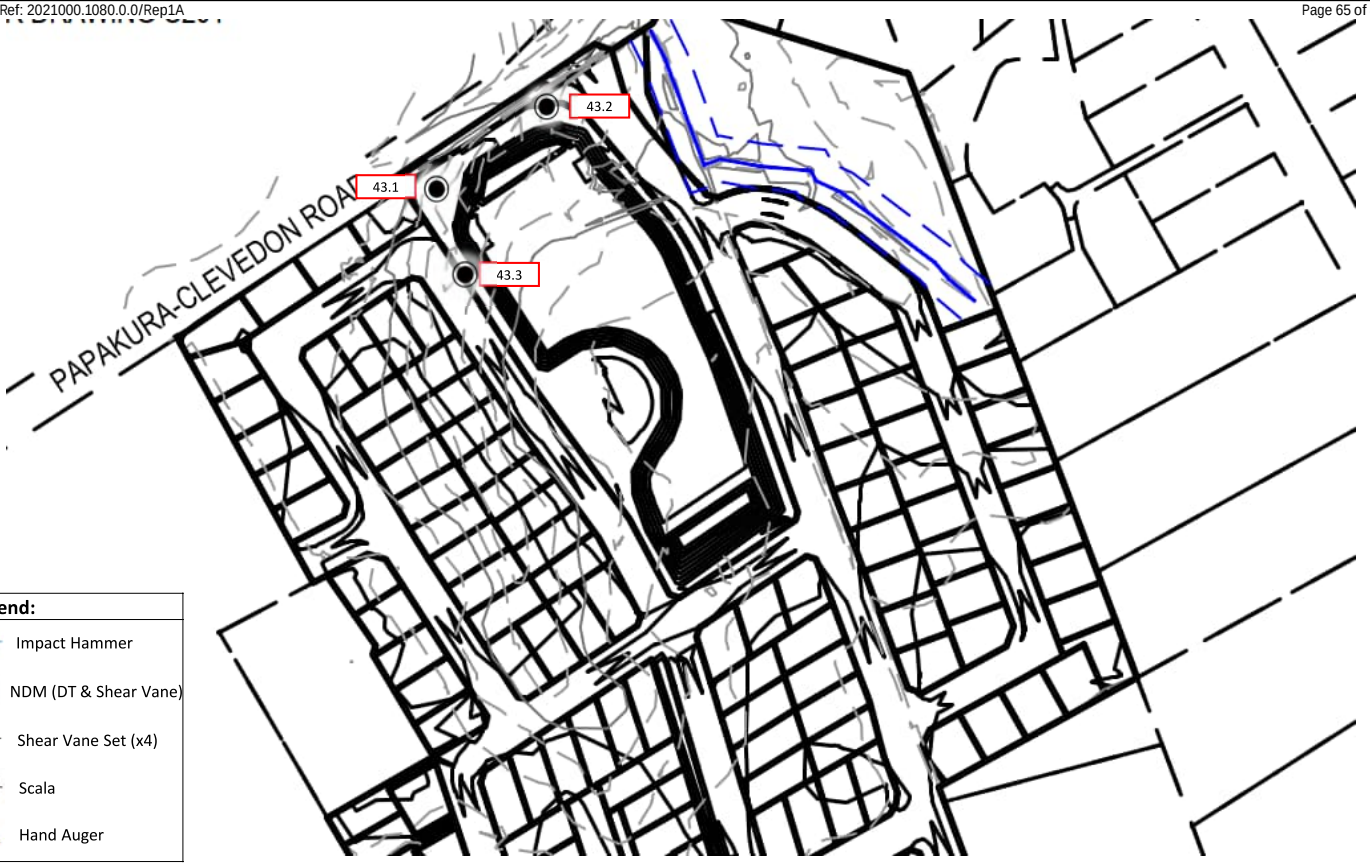

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	19/12/2023
Location:	Front of Project	Job No.:	2021000.1080.0.0/Rep1	URN:	43 (Page 1 of 2)	Date:	19/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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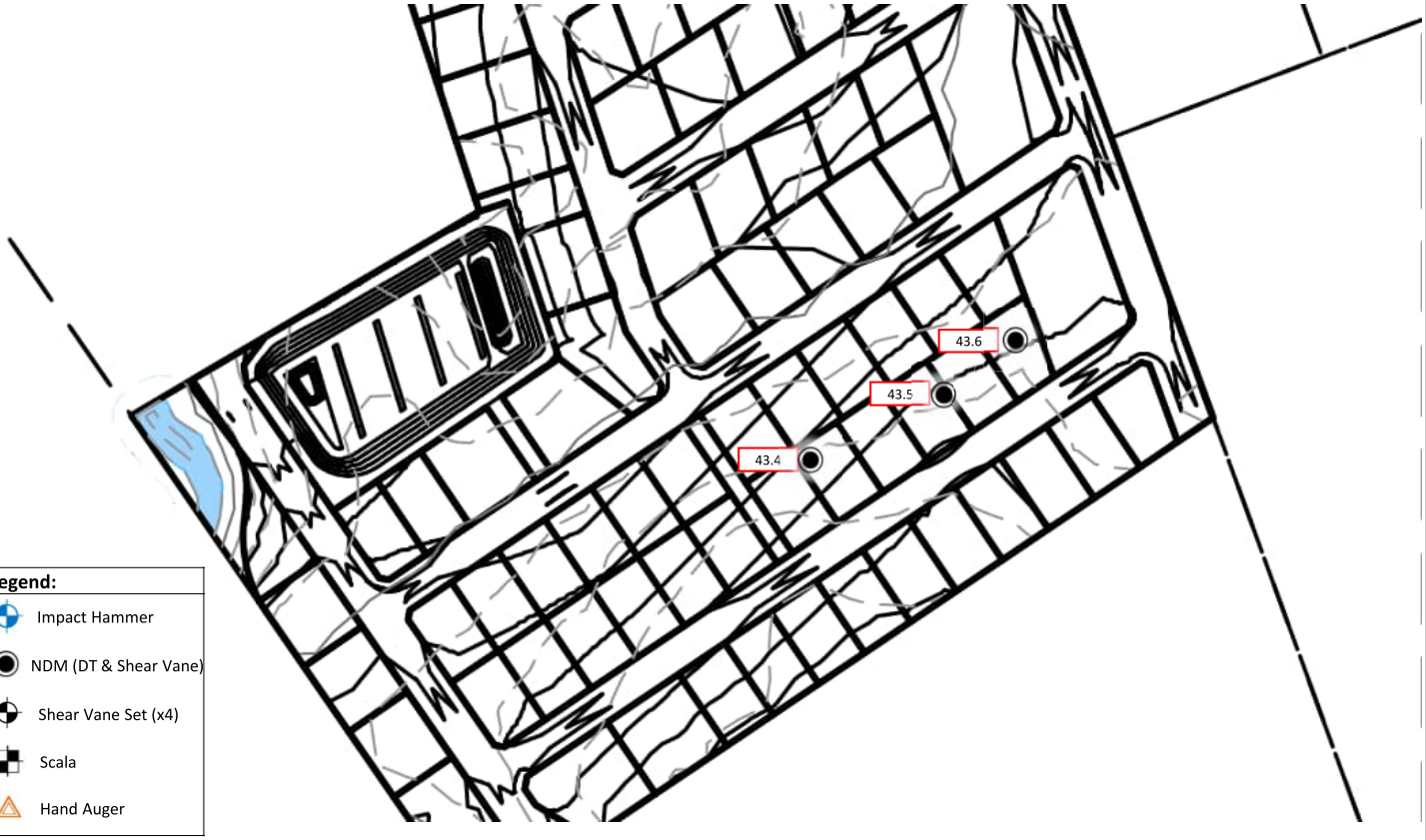

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	19/12/2023
Location:	Back of Project	Job No.:	2021000.1080.0.0/Rep1	URN:	43 (Page 2 of 2)	Date:	19/12/2023
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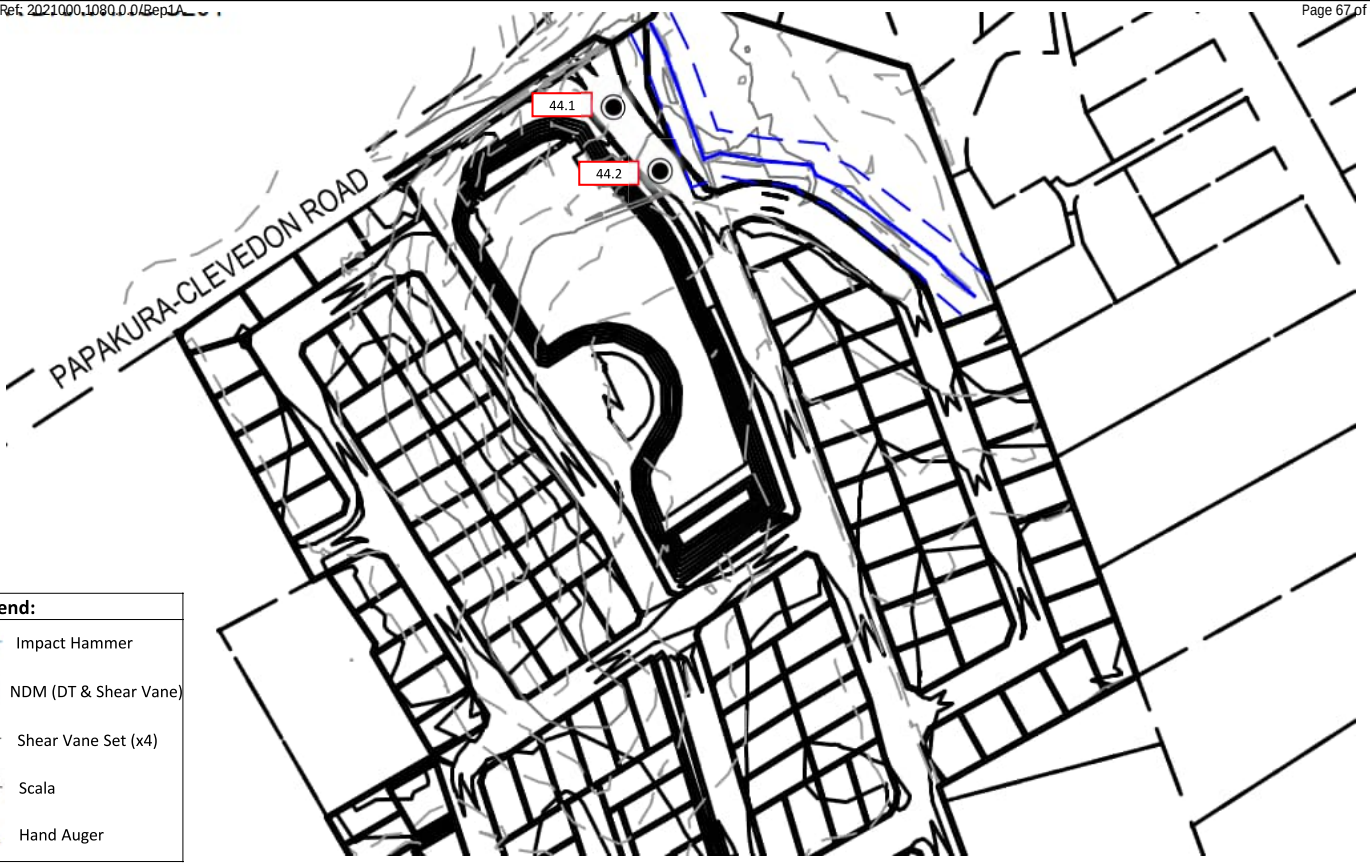

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	20/12/2023
Location:	Front of Project	Job No.:	2021000.1080.0.0/Rep1	URN:	44 (Page 1 of 2)	Date:	20/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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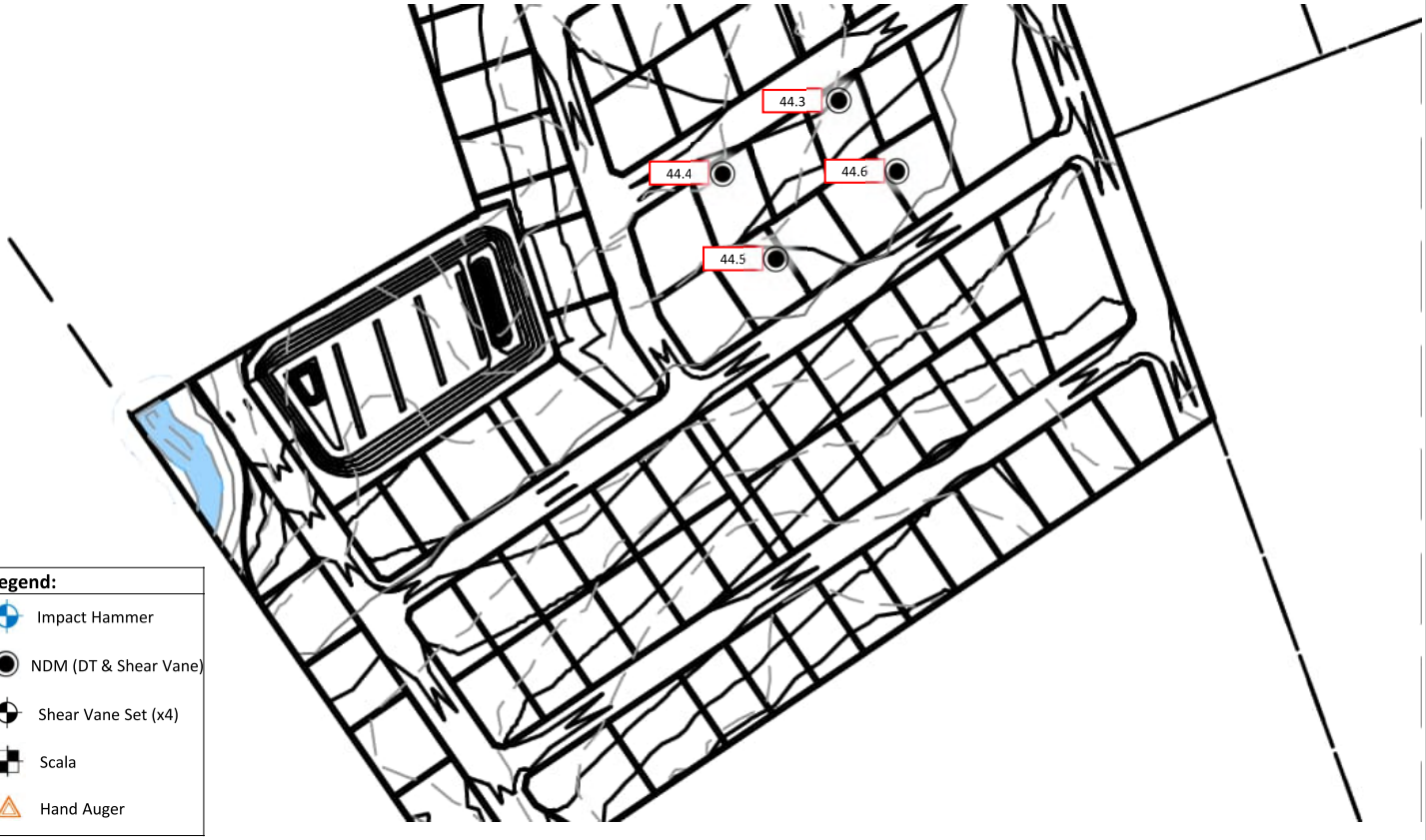

Legend:

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	20/12/2023
Location:	Back of Project	Job No.:	2021000.1080.0.0/Rep1	URN:	44 (Page 2 of 2)	Date:	20/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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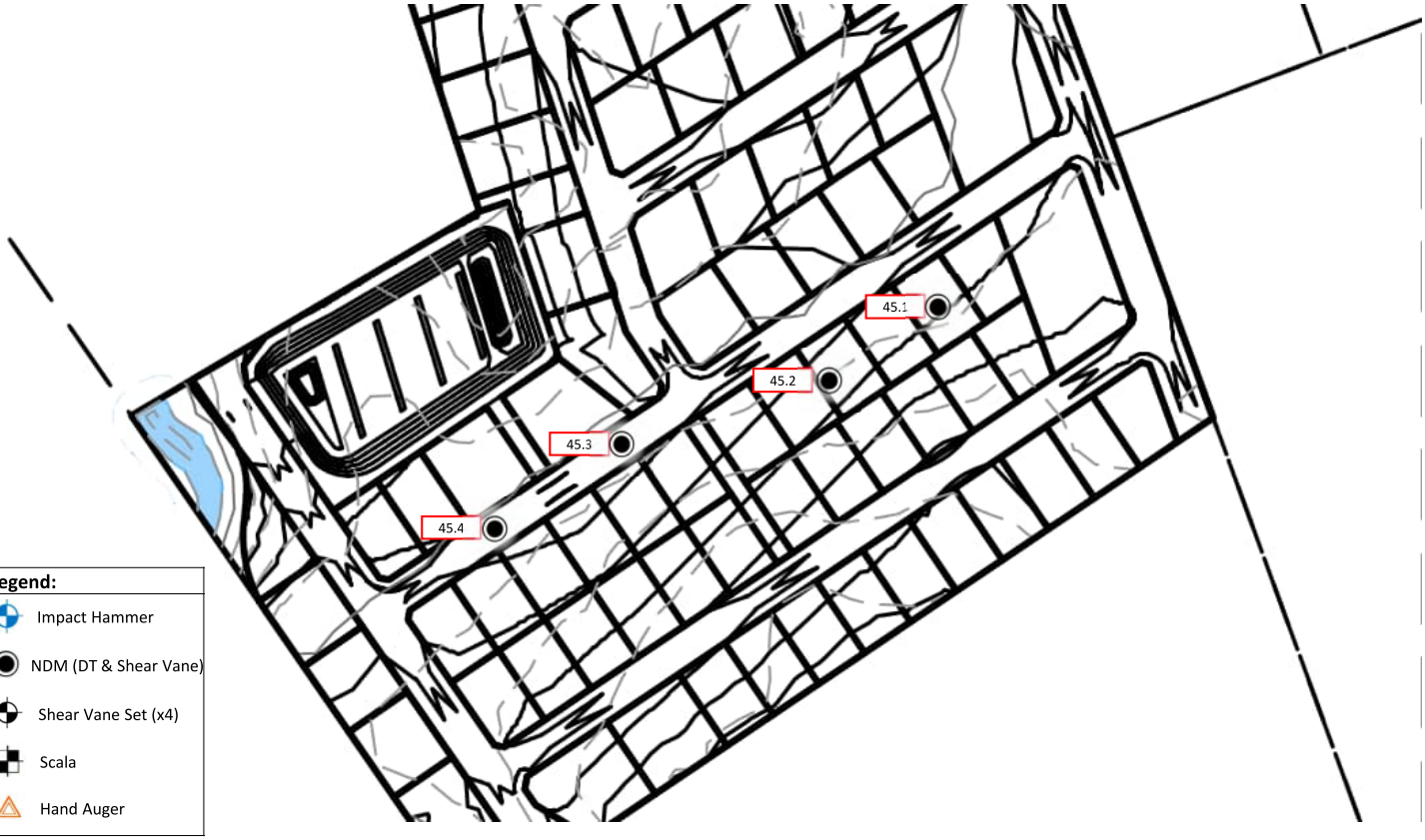

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	20/12/2023
Location:	Back of Project	Job No.:	2021000.1080.0.0/Rep1	URN:	45	Date:	20/12/2023
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM	Date:	9/01/2024
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	46	Date:	9/01/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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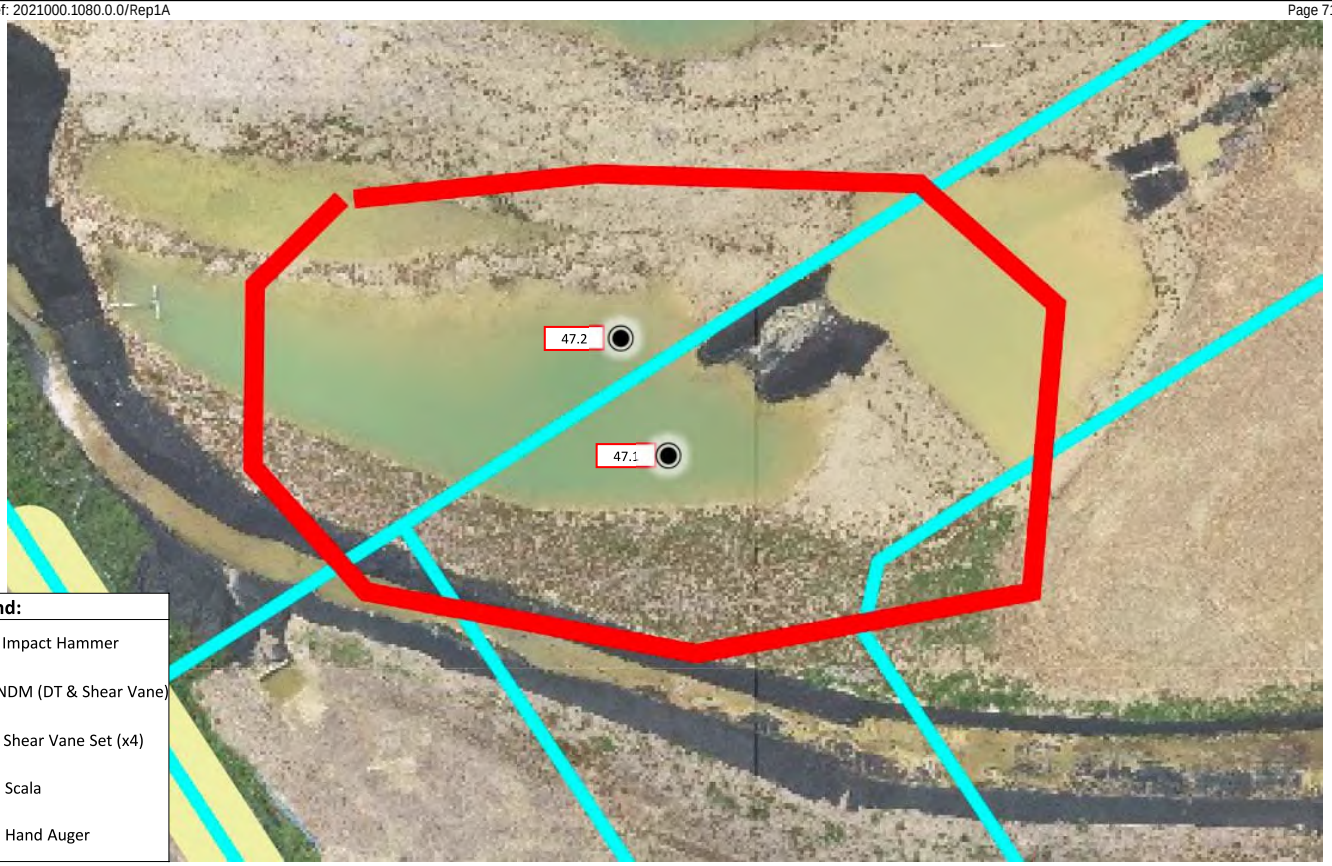

Legend:

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- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	11/01/2024
Location:	SPR 3 Back Fill	Job No.:	2021000.1080.0.0/Rep1	URN:	47	Date:	11/01/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	12/01/2024
Location:	SPR 3 Back Fill and Stage 3 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	48 (Page 1 of 2)	Date:	12/01/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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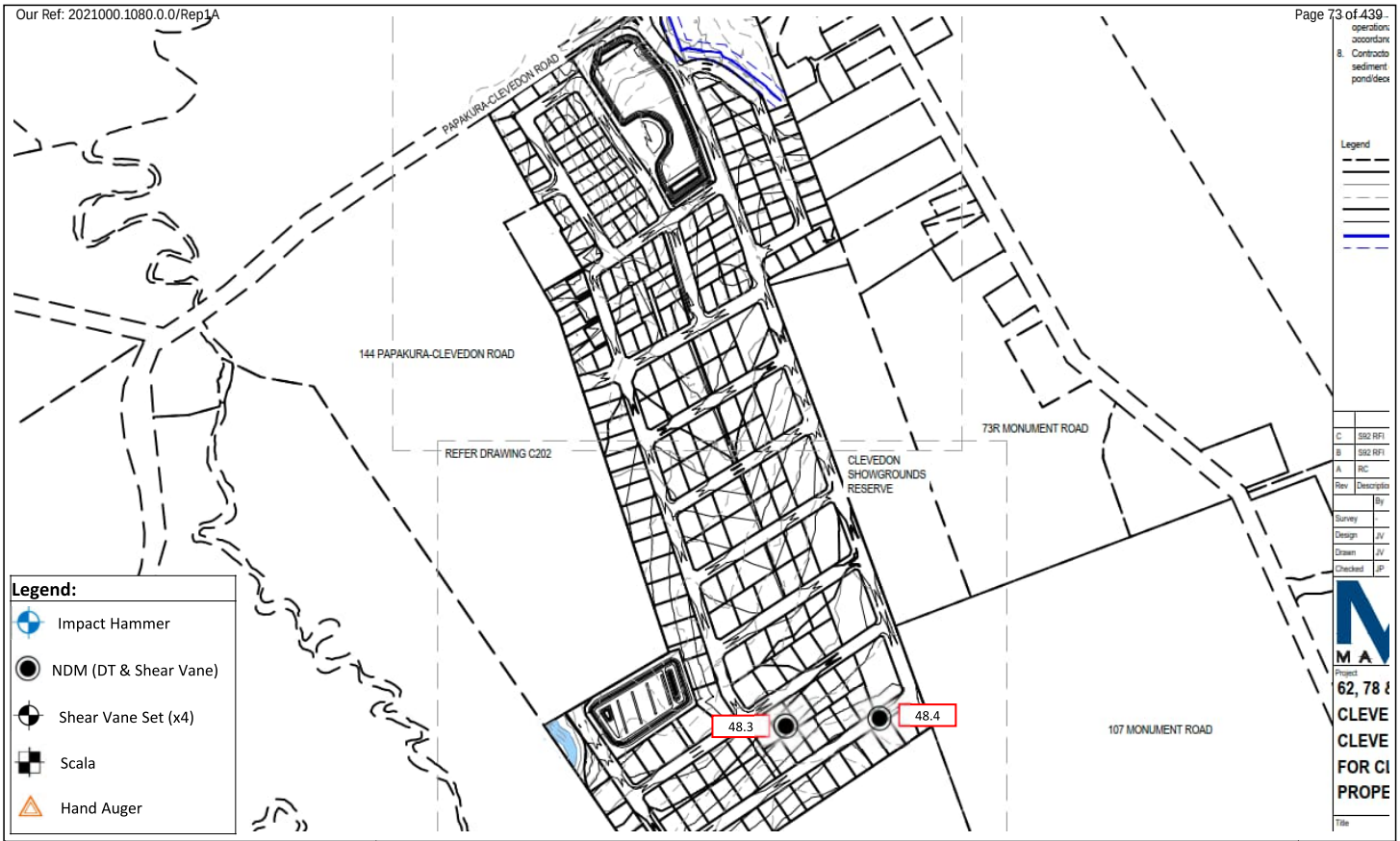

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	12/01/2024
Location:	SPR 3 Back Fill and Stage 3 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	48 (Page 2 of 2)	Date:	12/01/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	23/01/2024
Location:	Stage 2 East Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	49	Date:	23/01/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	26/01/2024
Location:	Stage 2 East Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	50	Date:	26/01/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	01/02/2024
Location:	Stage 2 East Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	51	Date:	01/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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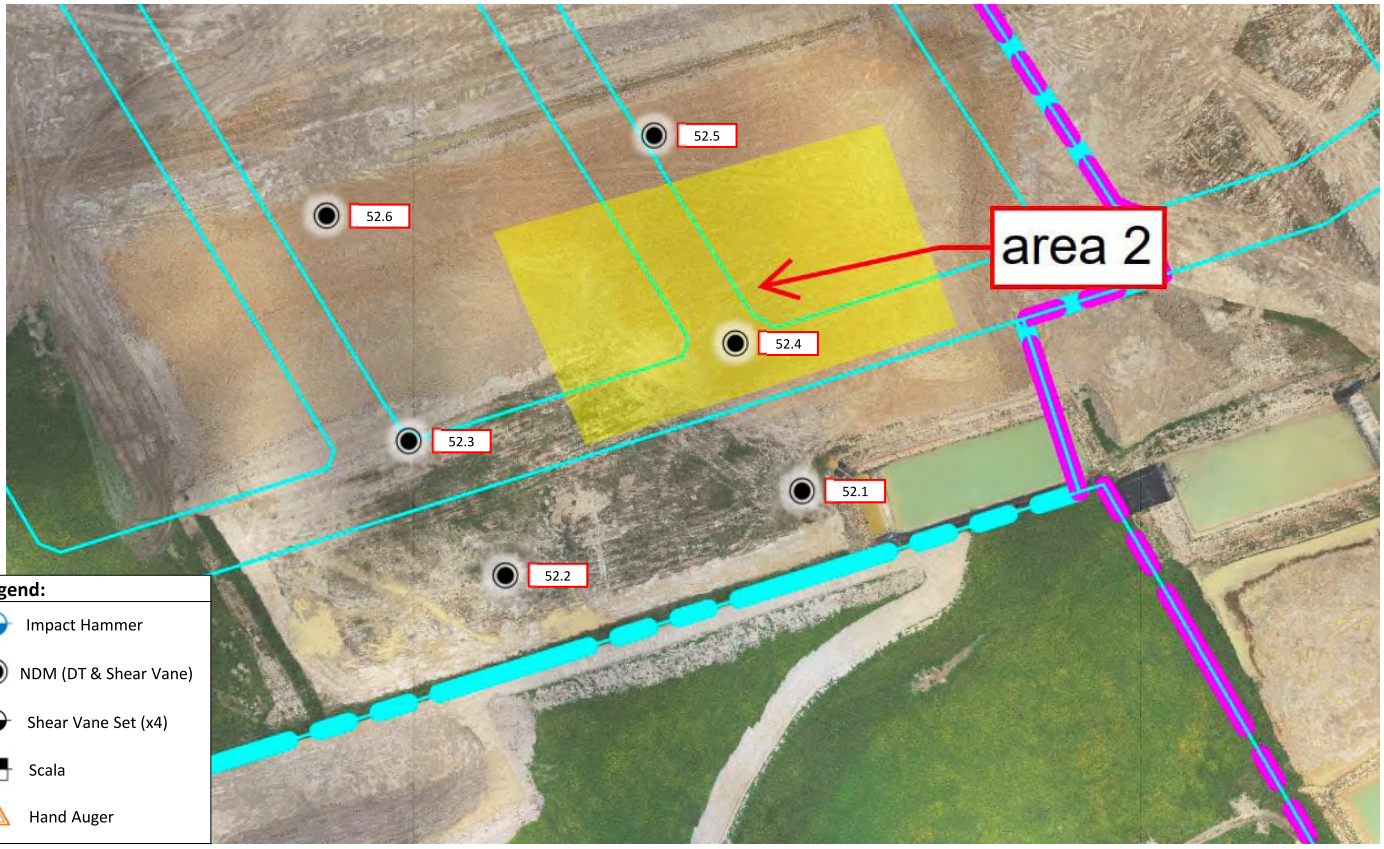

Legend:

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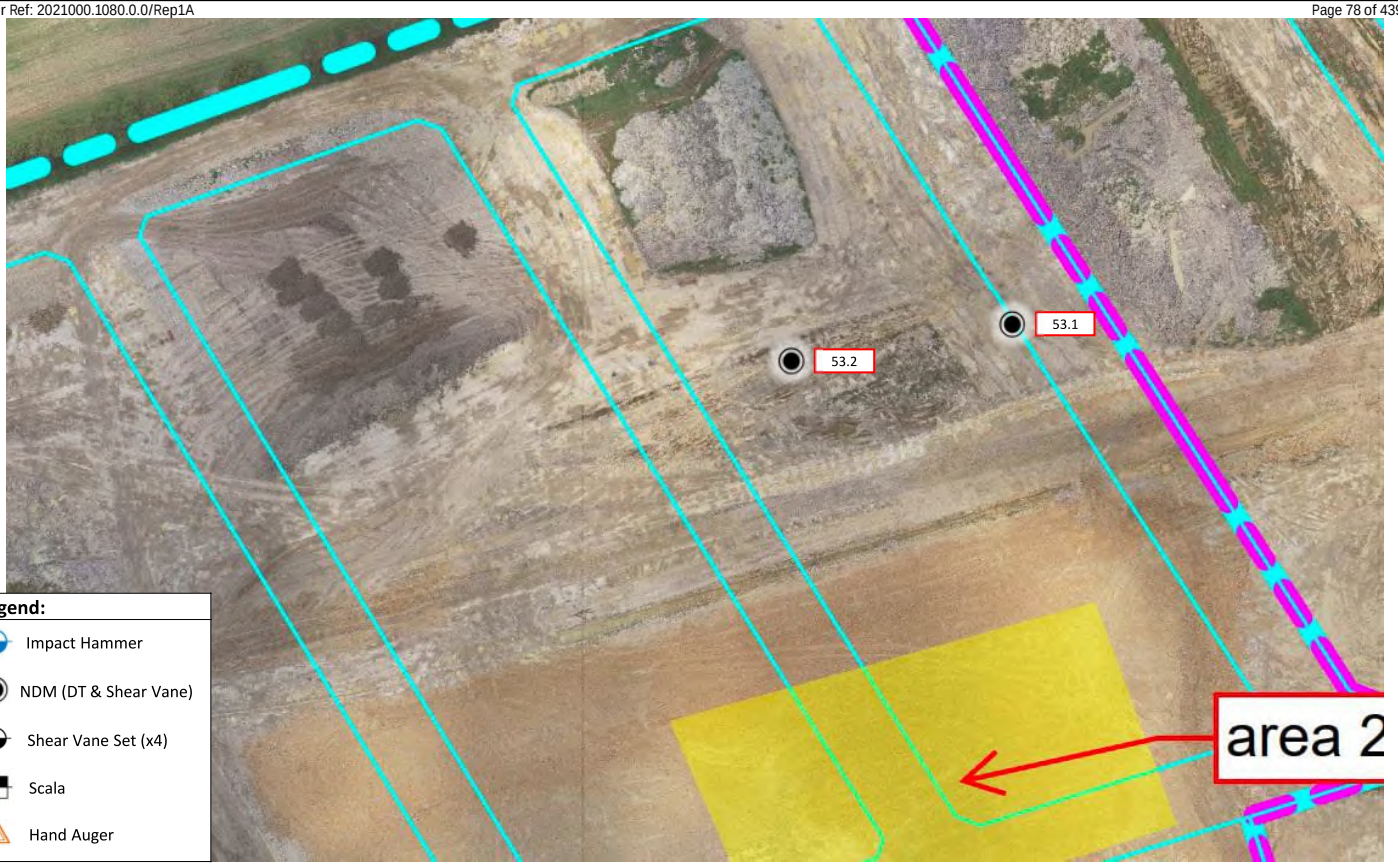
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	07/02/2024
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	52	Date:	07/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



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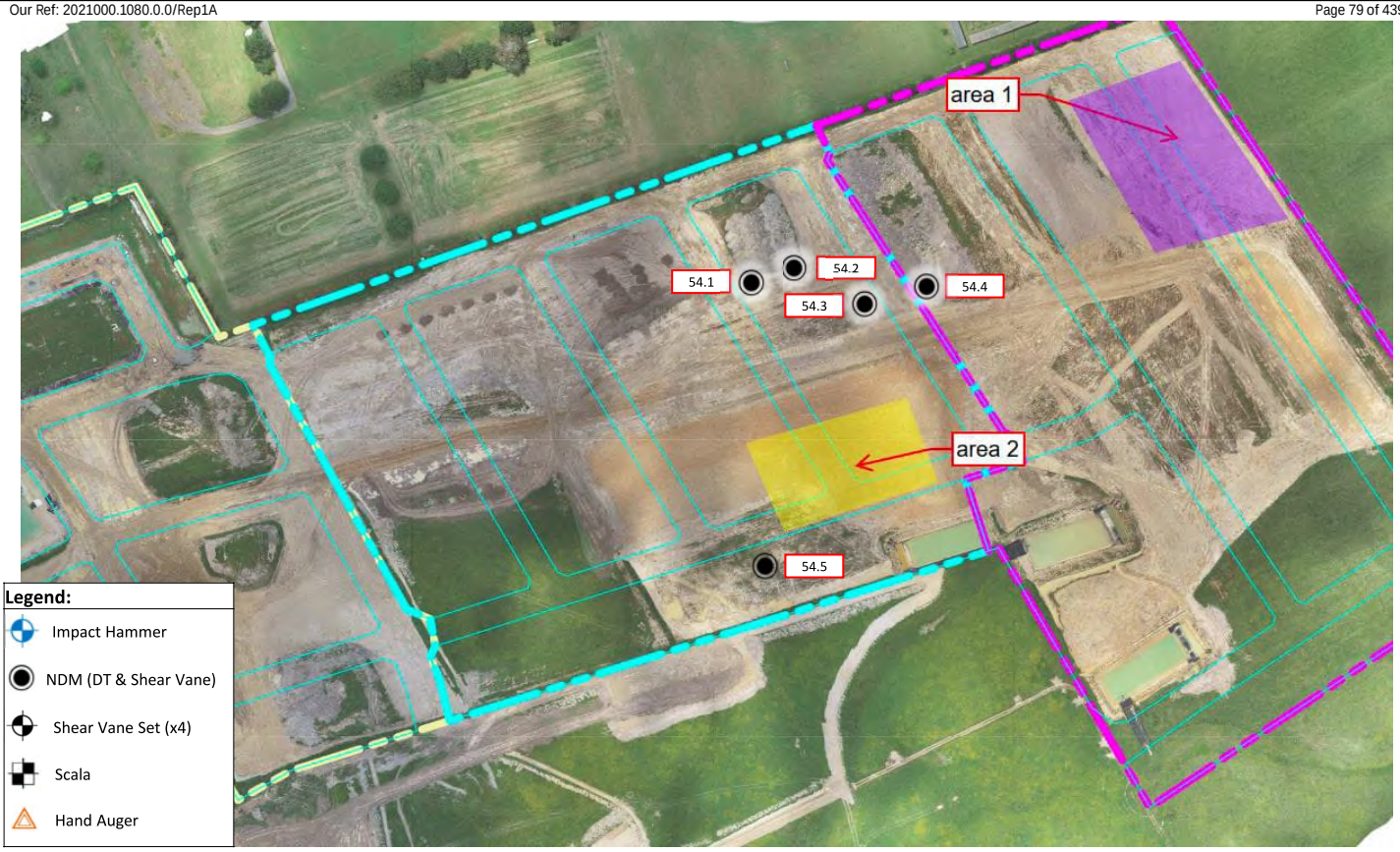
Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	08/02/2024
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	53	Date:	08/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	12/02/2024
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	54	Date:	12/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	15/02/2024
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	56 (Page 5 of 5)	Date:	15/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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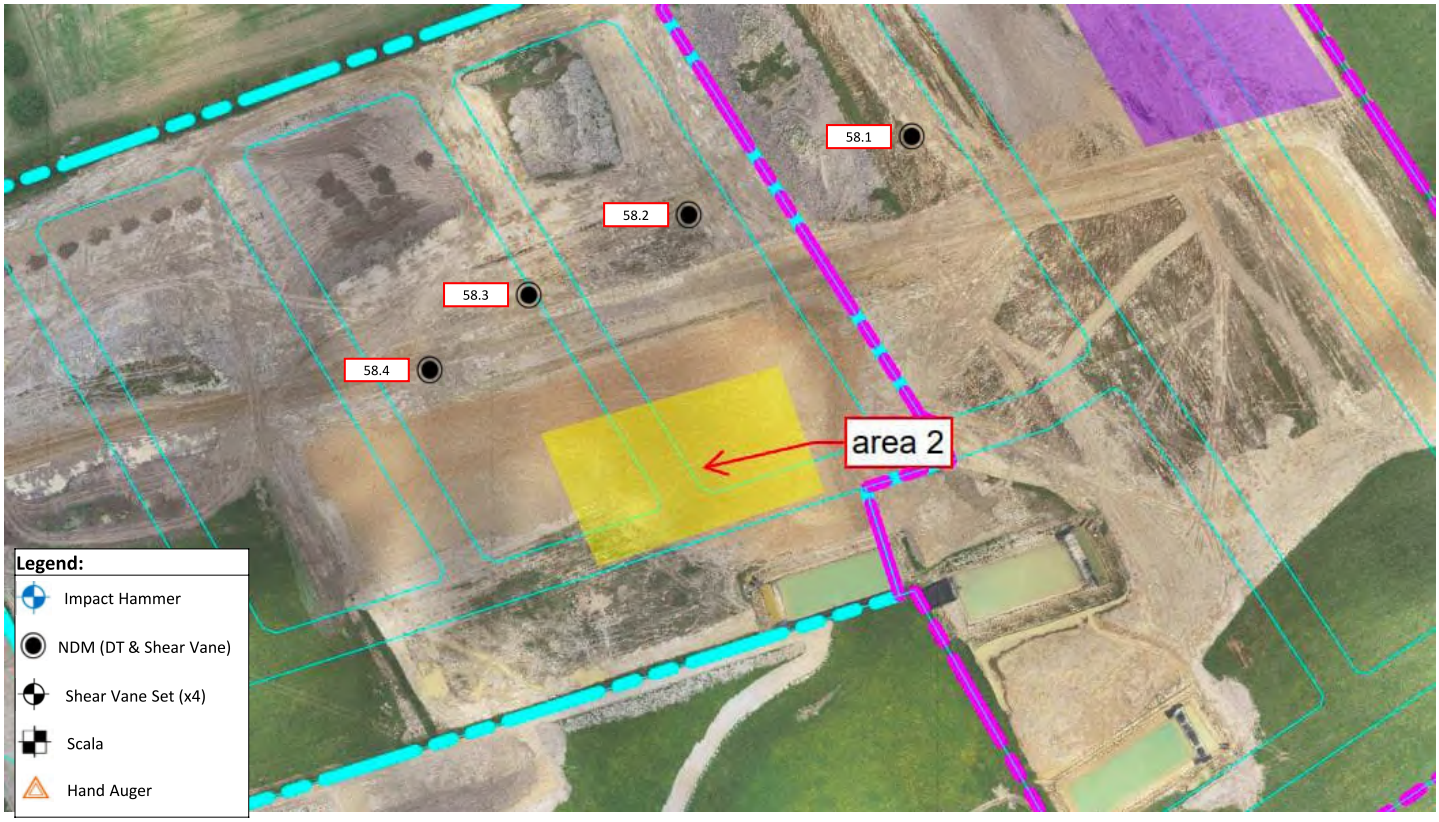

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	58	Date:	21/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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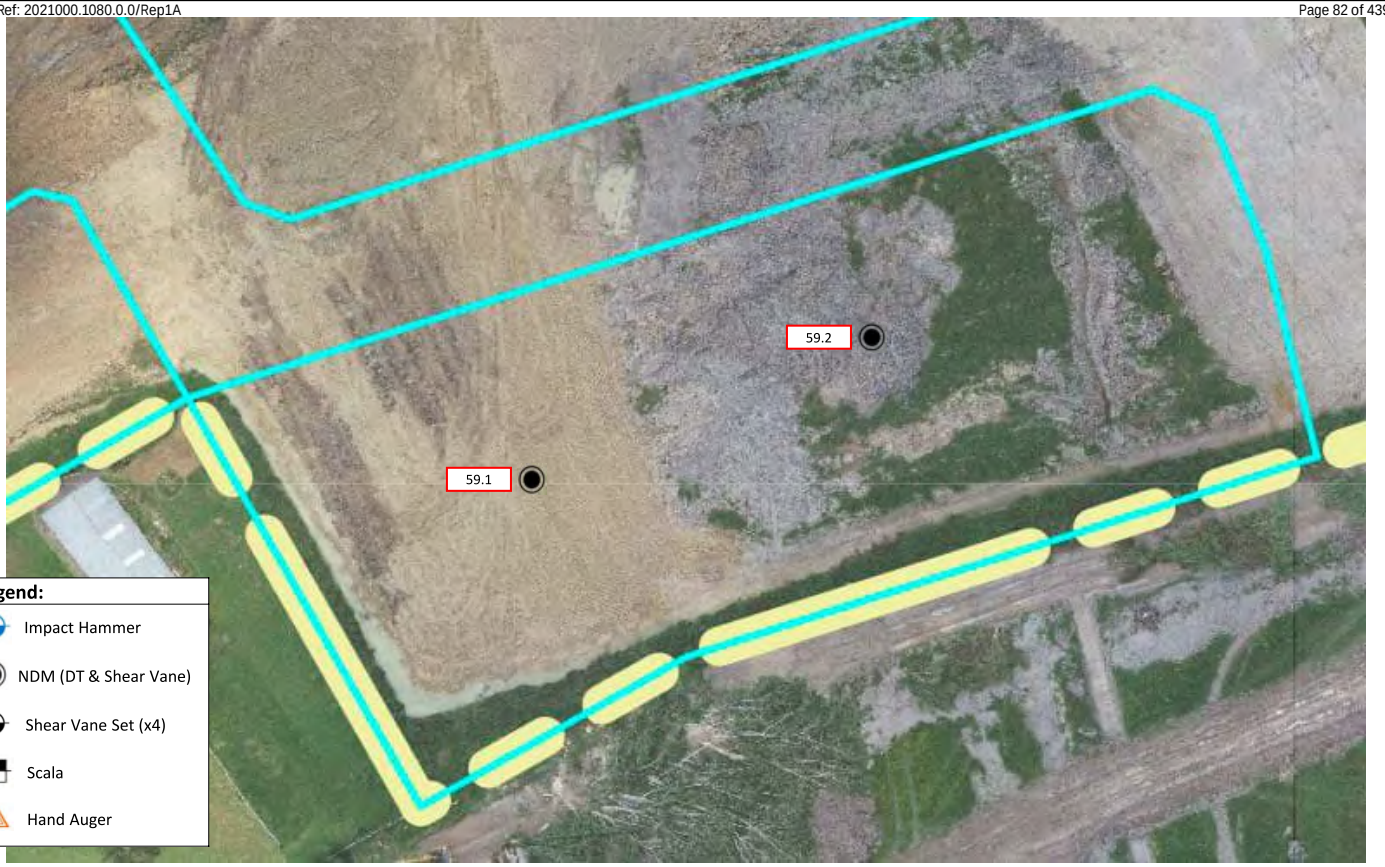

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	59	Date:	22/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	60	Date:	23/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	61	Date:	18/03/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Stage 2 Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	62	Date:	19/03/2024
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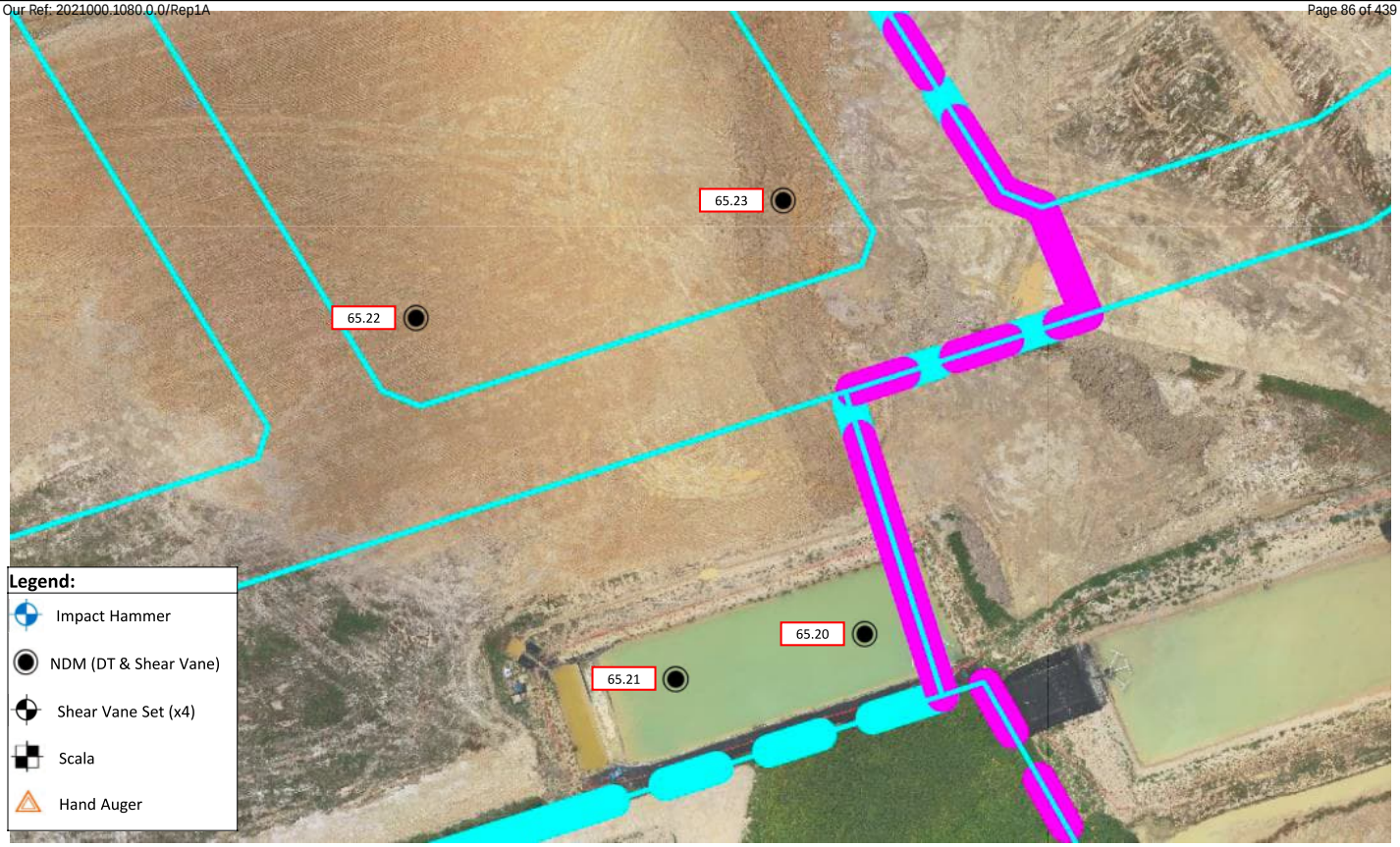

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Stage 2 Fill Area and Pond Backfill	Job No.:	2021000.1080.0.0/Rep1	URN:	65 (Page 3 of 3)	Date:	22/03/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Stage 2 Fill Area and Pond Backfill	Job No.:	2021000.1080.0.0/Rep1	URN:	71 (Page 1 of 2)	Date:	09/04/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N



Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Ponds	Job No.:	2021000.1080.0.0/Rep1	URN:	72	Date:	10/04/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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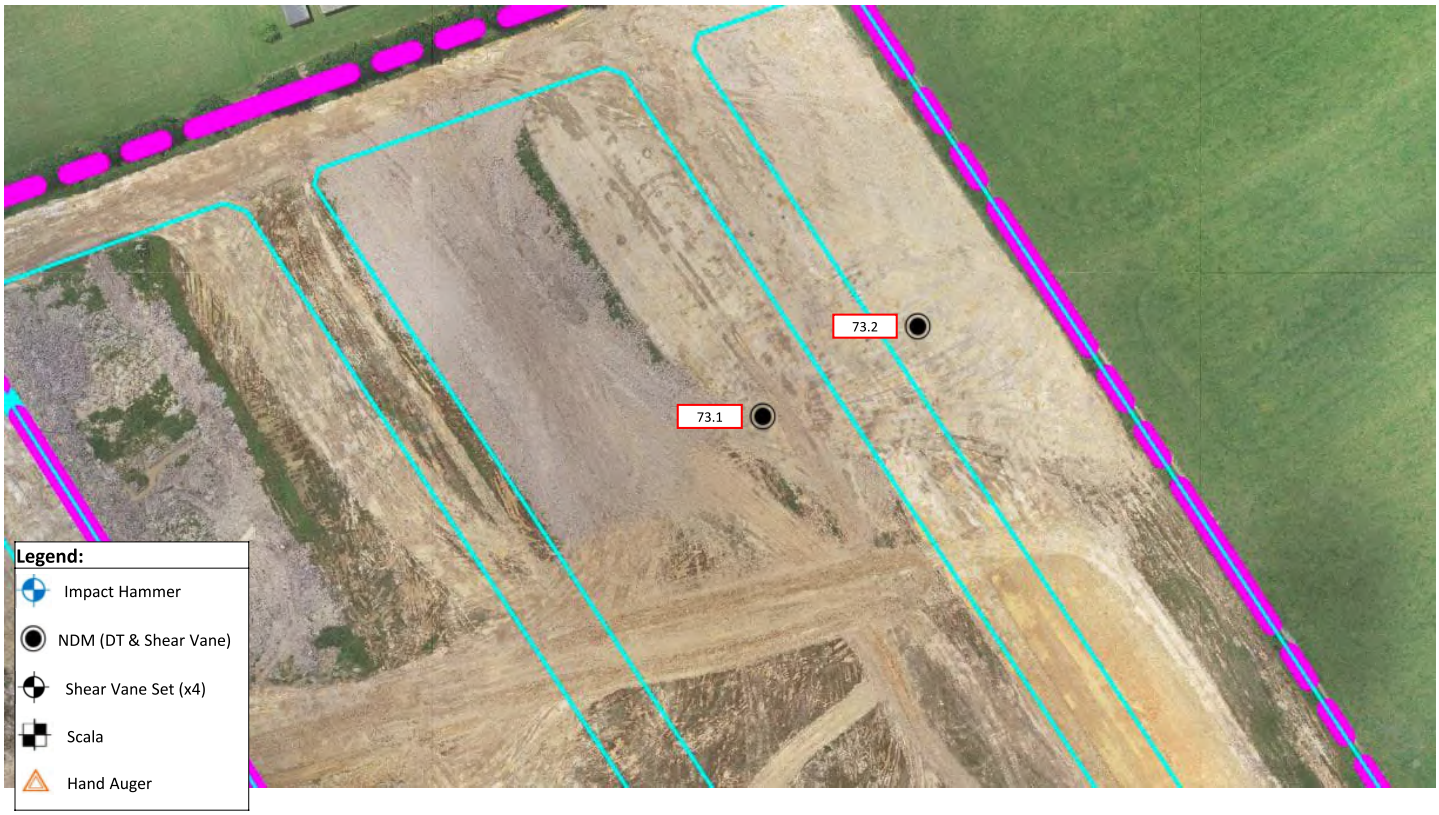

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Pond at back of Project	Job No.:	2021000.1080.0.0/Rep1	URN:	73	Date:	11/04/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	75	Date:	01/07/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	76	Date:	04/07/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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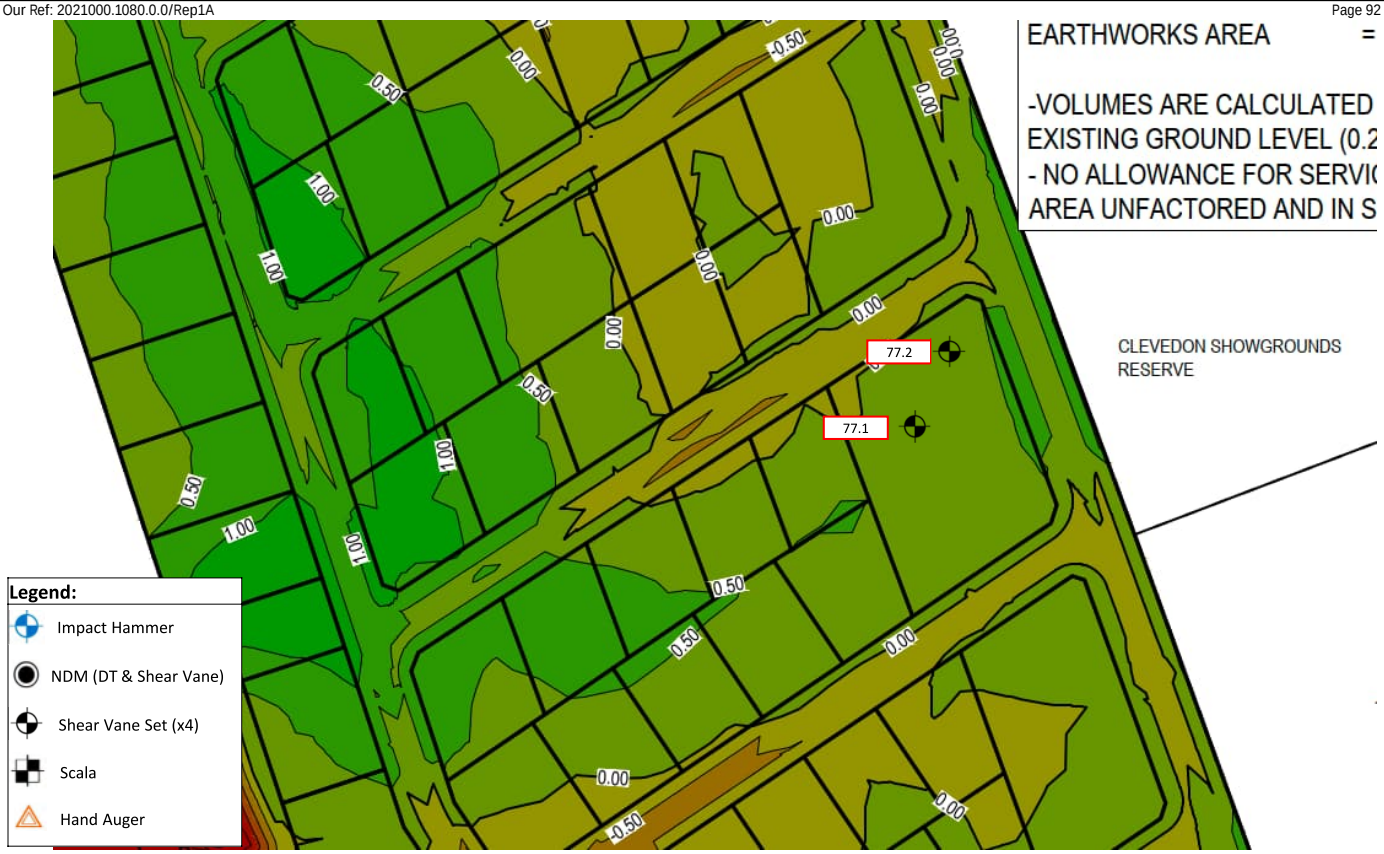

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	77	Date:	12/07/2024
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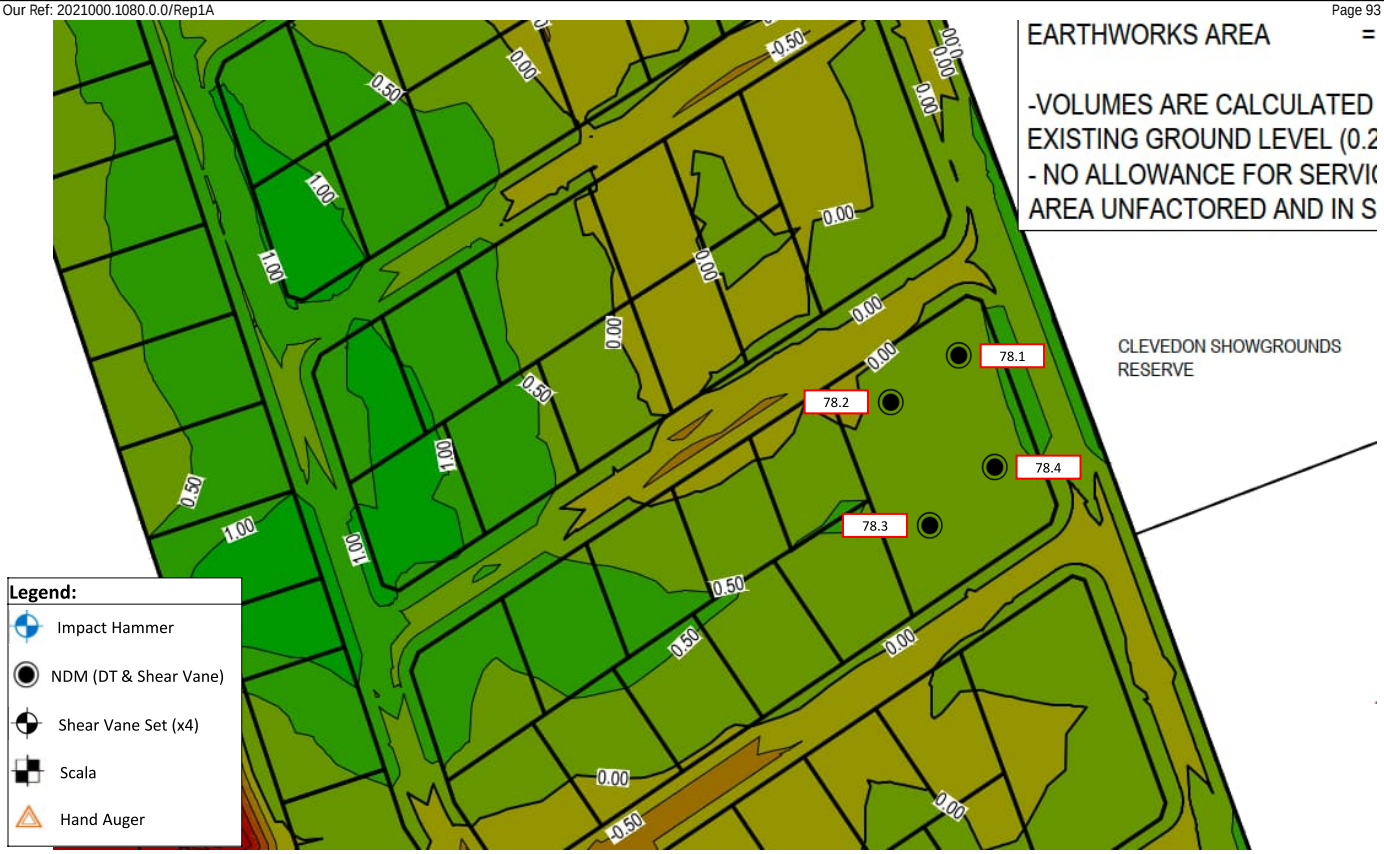

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Test Location Plan

N

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Fill Area	Job No.:	2021000.1080.0.0/Rep1	URN:	78	Date:	07/08/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

Appendix C Scala Penetrometer Results & Test Location Plans

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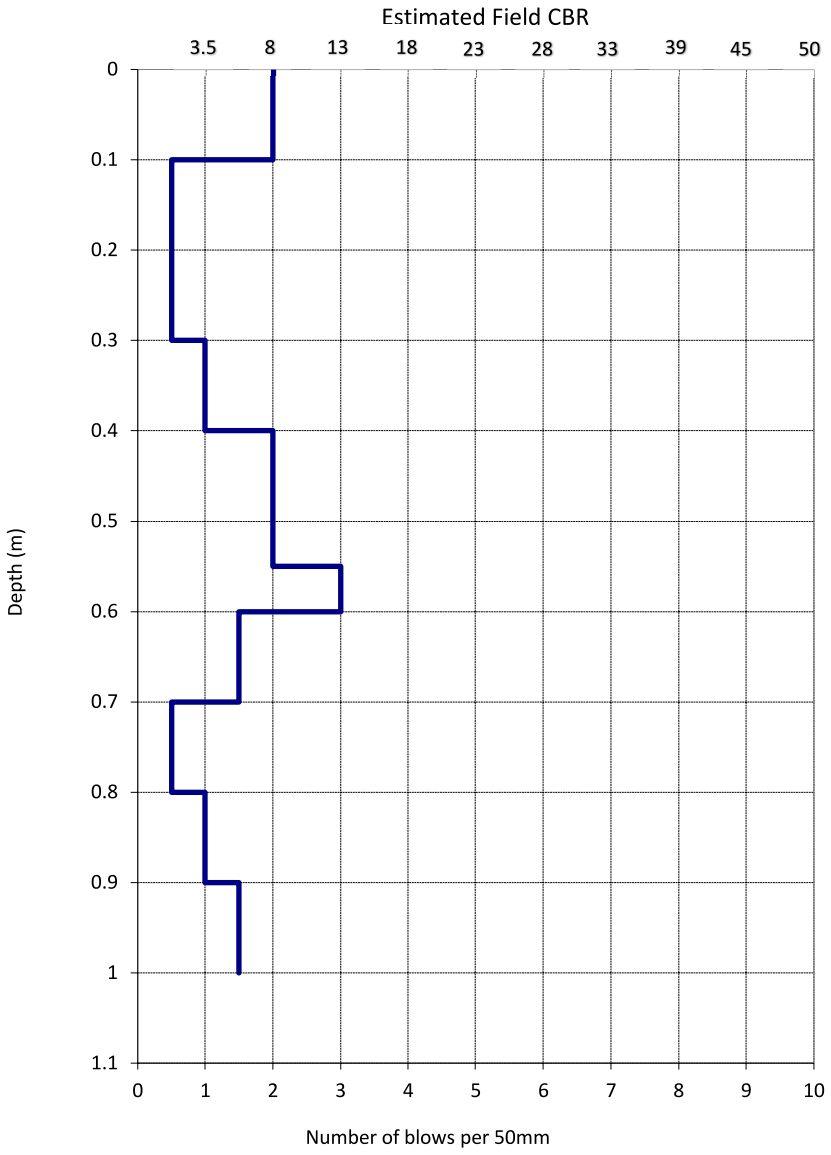
Lab Ref/URN: 55.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	1

Chainage	Offset	Lane
100	-	R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	2
500	500	2
550	550	2
600	600	3
650	650	1.5
700	700	1.5
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1.5
1000	1000	1.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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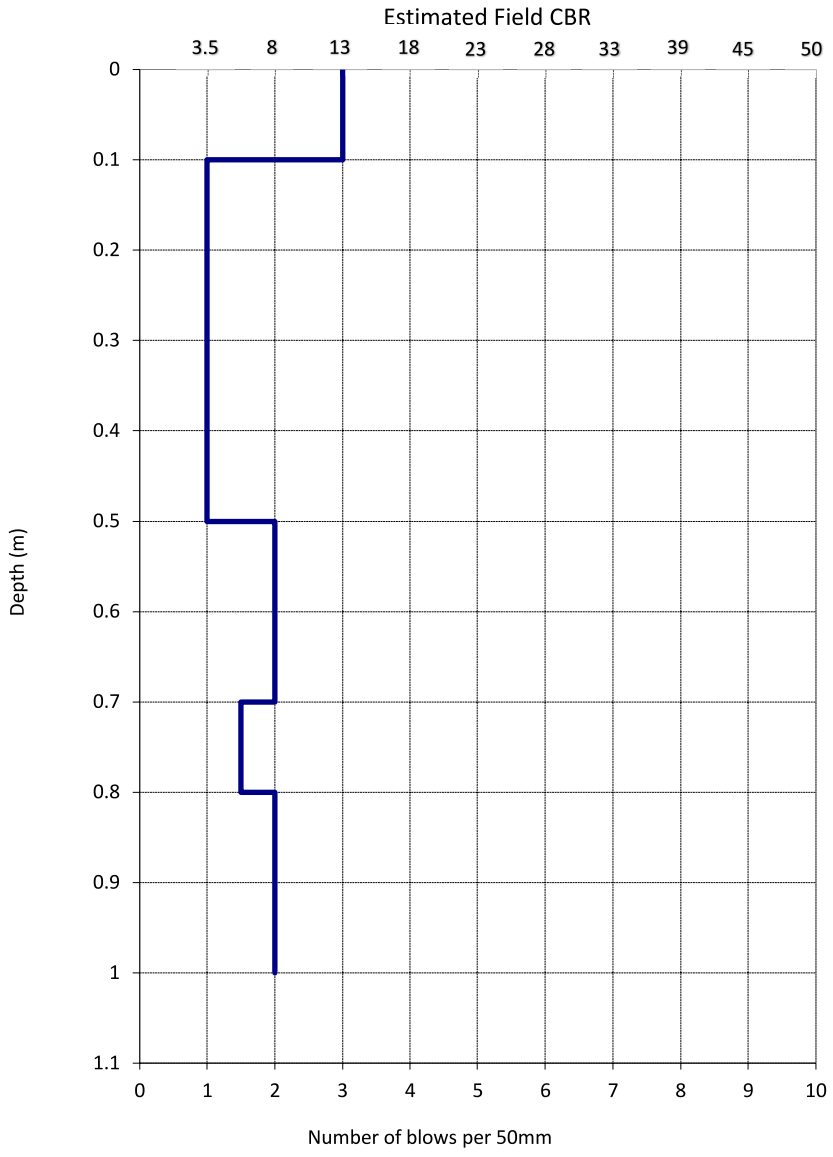
Lab Ref/URN: 55.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
110		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	2
600	600	2
650	650	2
700	700	2
750	750	1.5
800	800	1.5
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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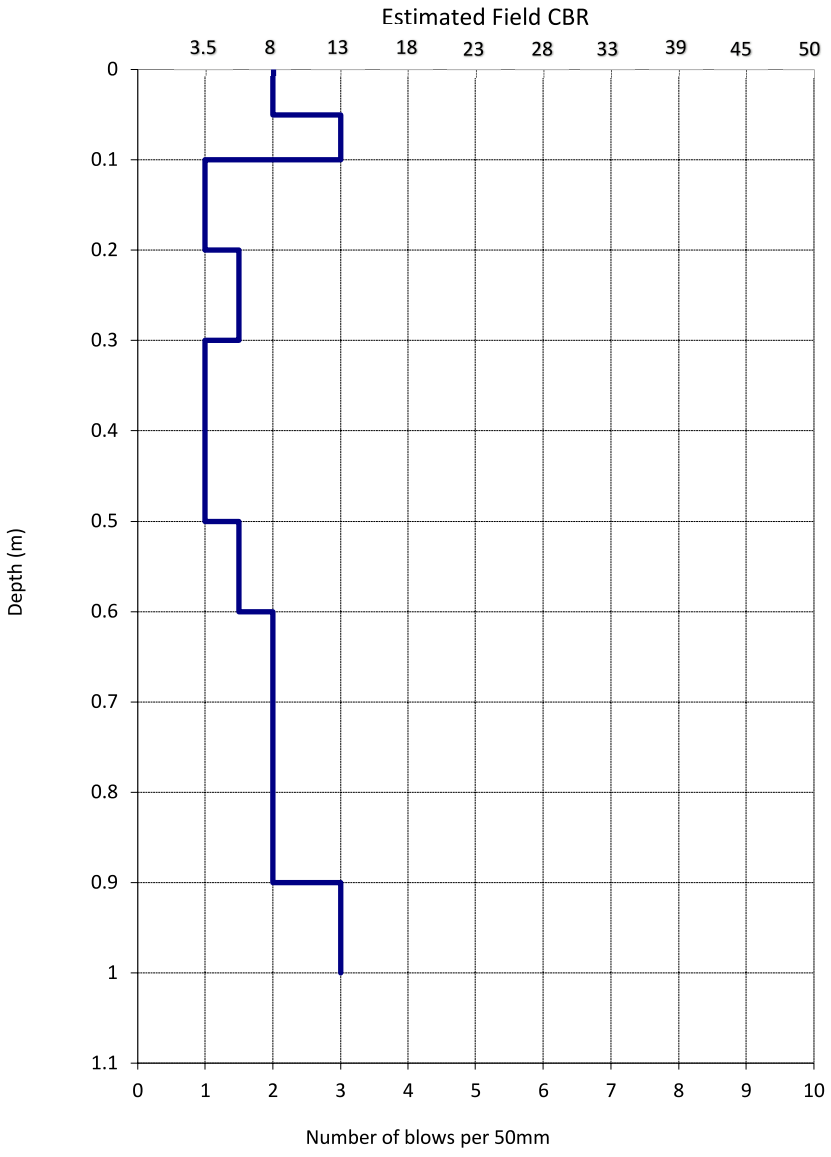
Lab Ref/URN: 55.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
120		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	1
200	200	1
250	250	1.5
300	300	1.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1.5
600	600	1.5
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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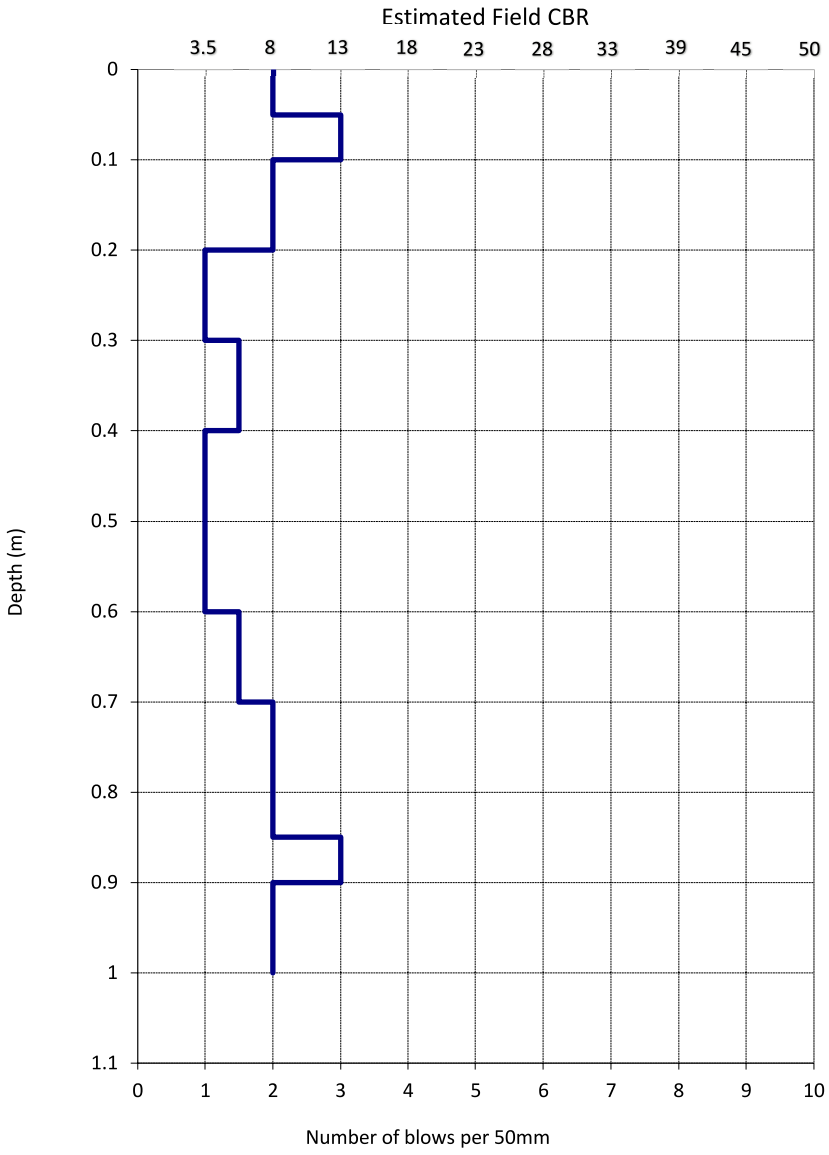
Lab Ref/URN: 55.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
130		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1.5
400	400	1.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1.5
700	700	1.5
750	750	2
800	800	2
850	850	2
900	900	3
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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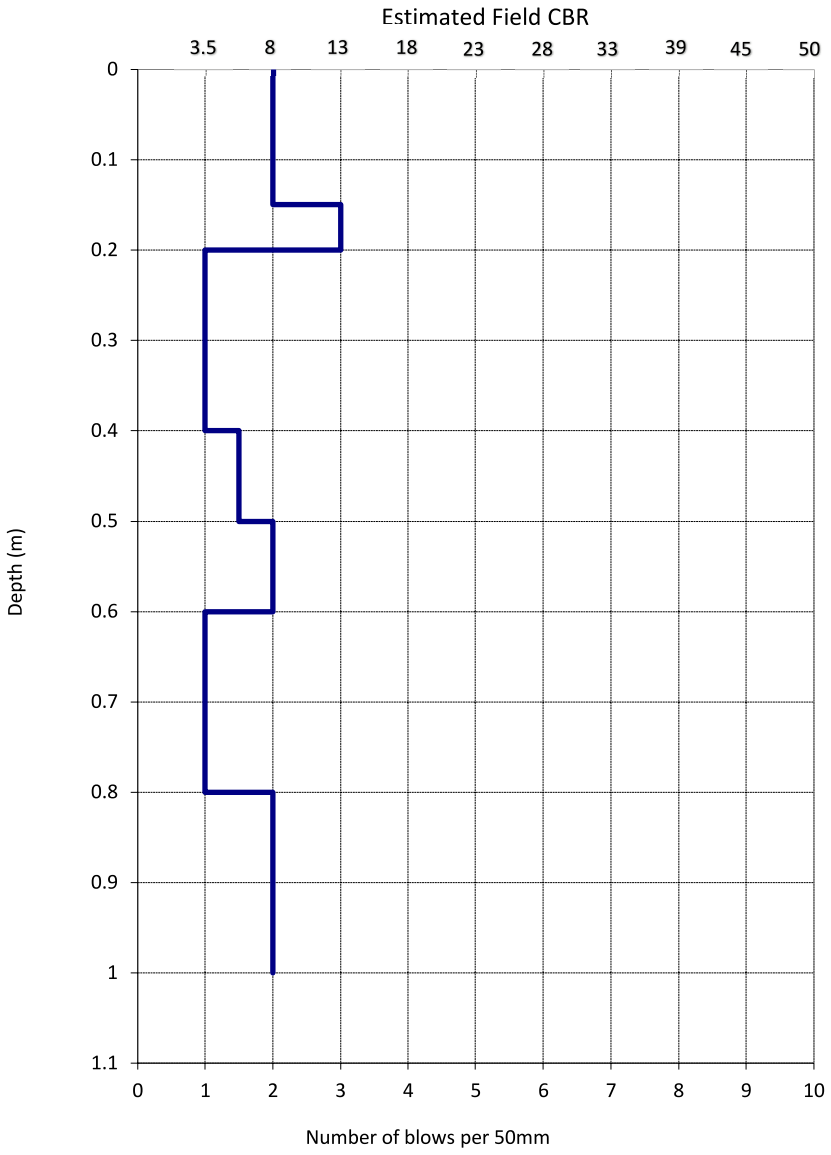
Lab Ref/URN: 55.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
140		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	3
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1.5
500	500	1.5
550	550	2
600	600	2
650	650	1
700	700	1
750	750	1
800	800	1
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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Page 1 of 1

Lab Ref/URN

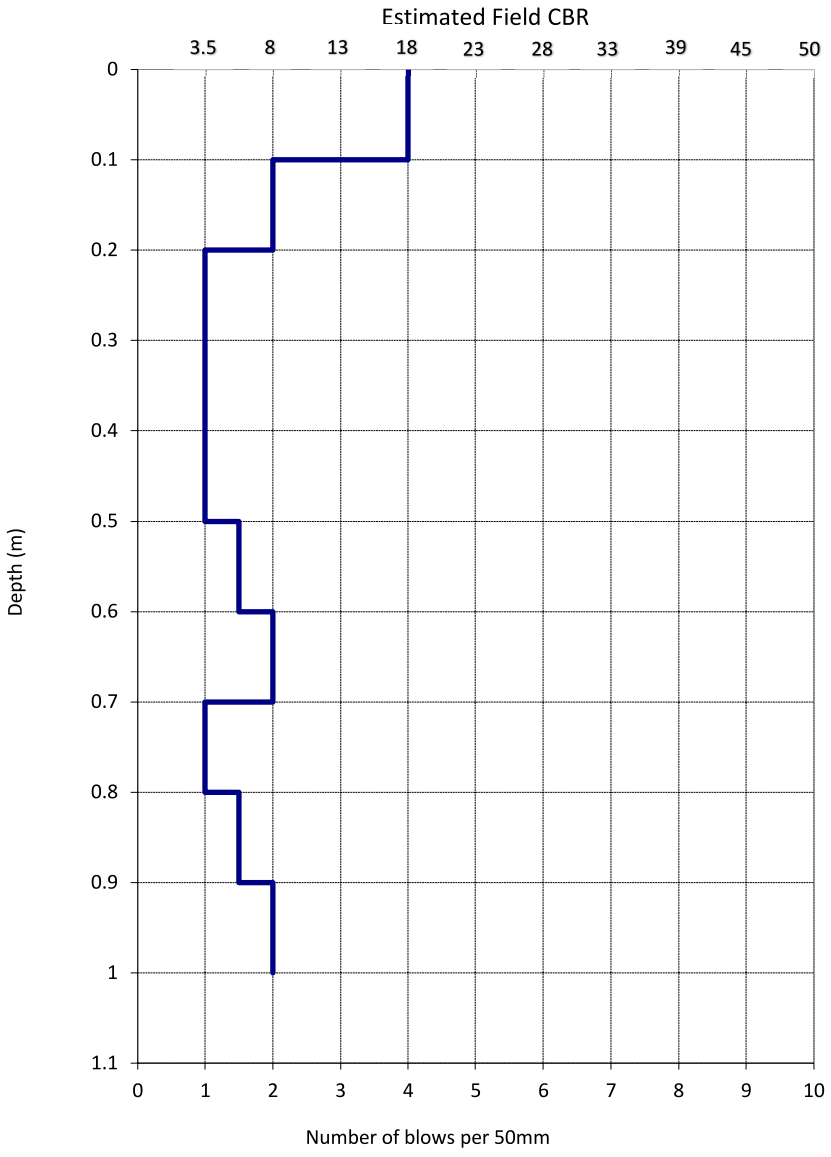
55.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
150		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	4
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1.5
600	600	1.5
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1.5
900	900	1.5
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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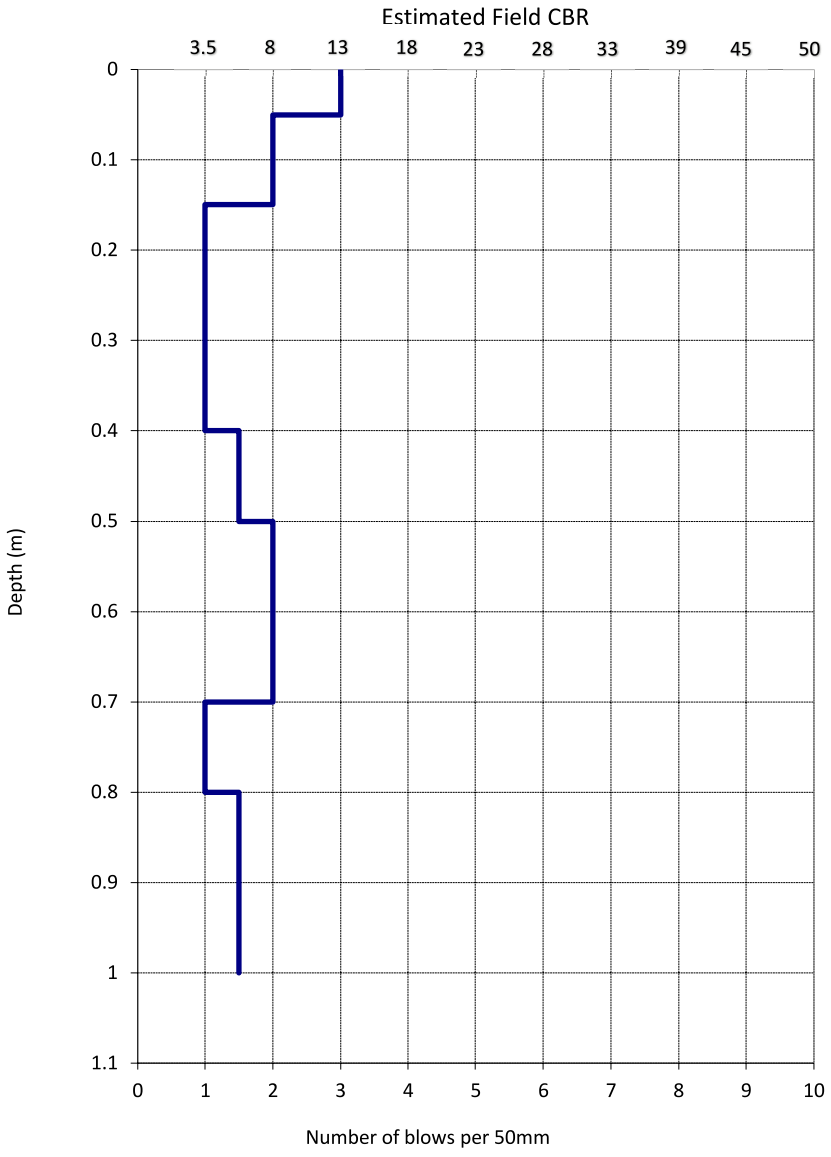
Lab Ref/URN: 55.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
160		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1.5
500	500	1.5
550	550	2
600	600	2
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1.5
900	900	1.5
950	950	1.5
1000	1000	1.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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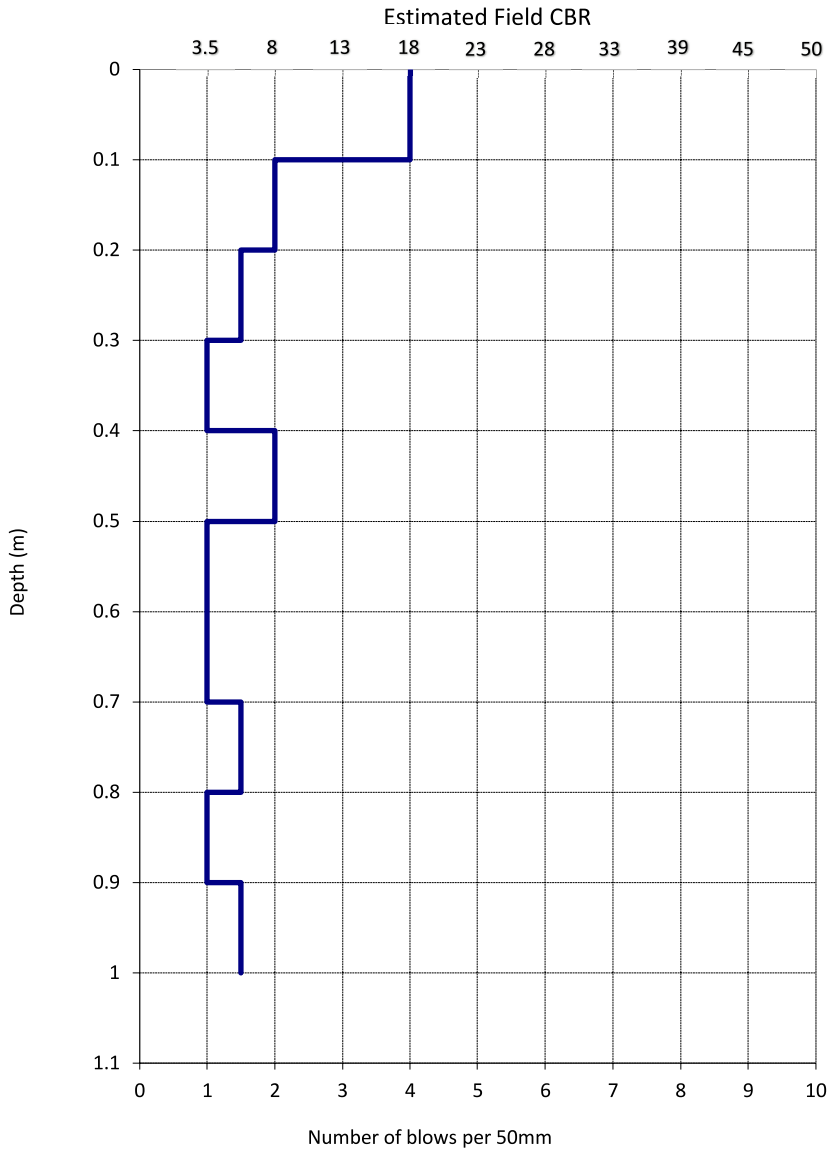
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
170		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	4
150	150	2
200	200	2
250	250	1.5
300	300	1.5
350	350	1
400	400	1
450	450	2
500	500	2
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1.5
800	800	1.5
850	850	1
900	900	1
950	950	1.5
1000	1000	1.5



Test Remarks

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Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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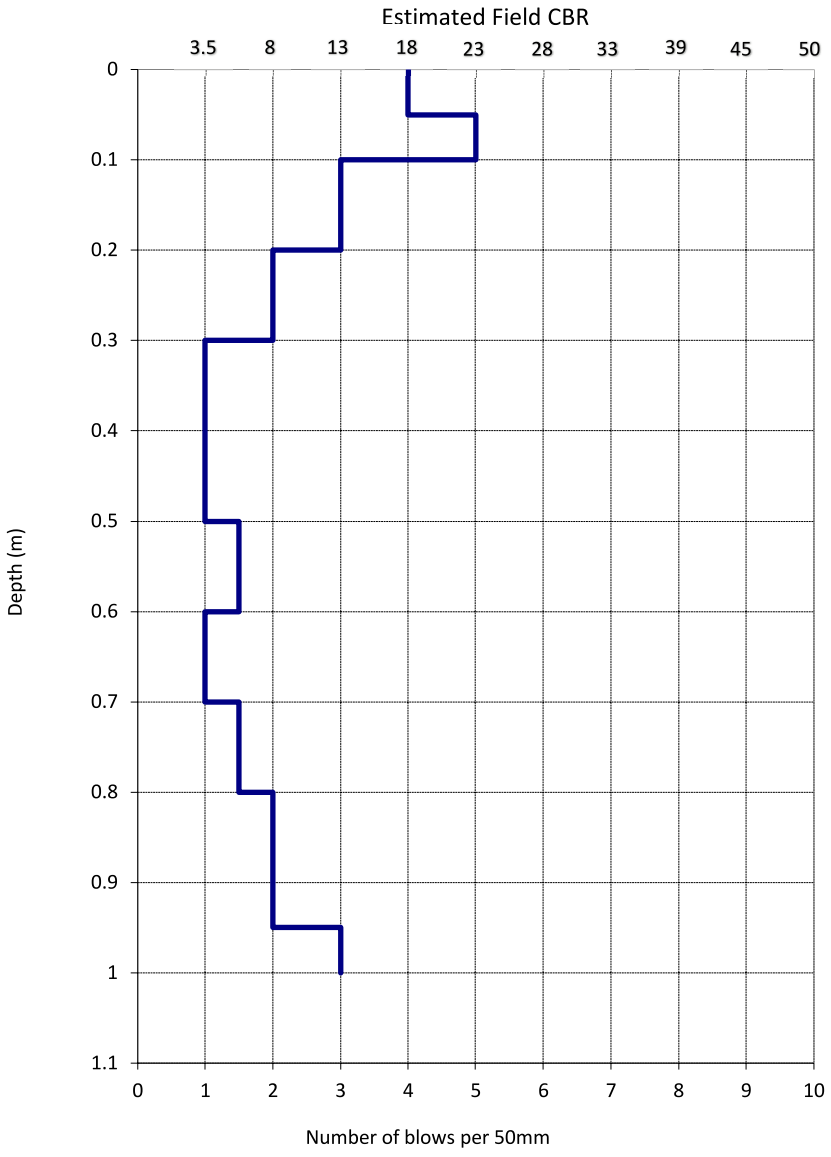
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
180		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	5
150	150	3
200	200	3
250	250	2
300	300	2
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1.5
600	600	1.5
650	650	1
700	700	1
750	750	1.5
800	800	1.5
850	850	2
900	900	2
950	950	2
1000	1000	3



Test Remarks

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Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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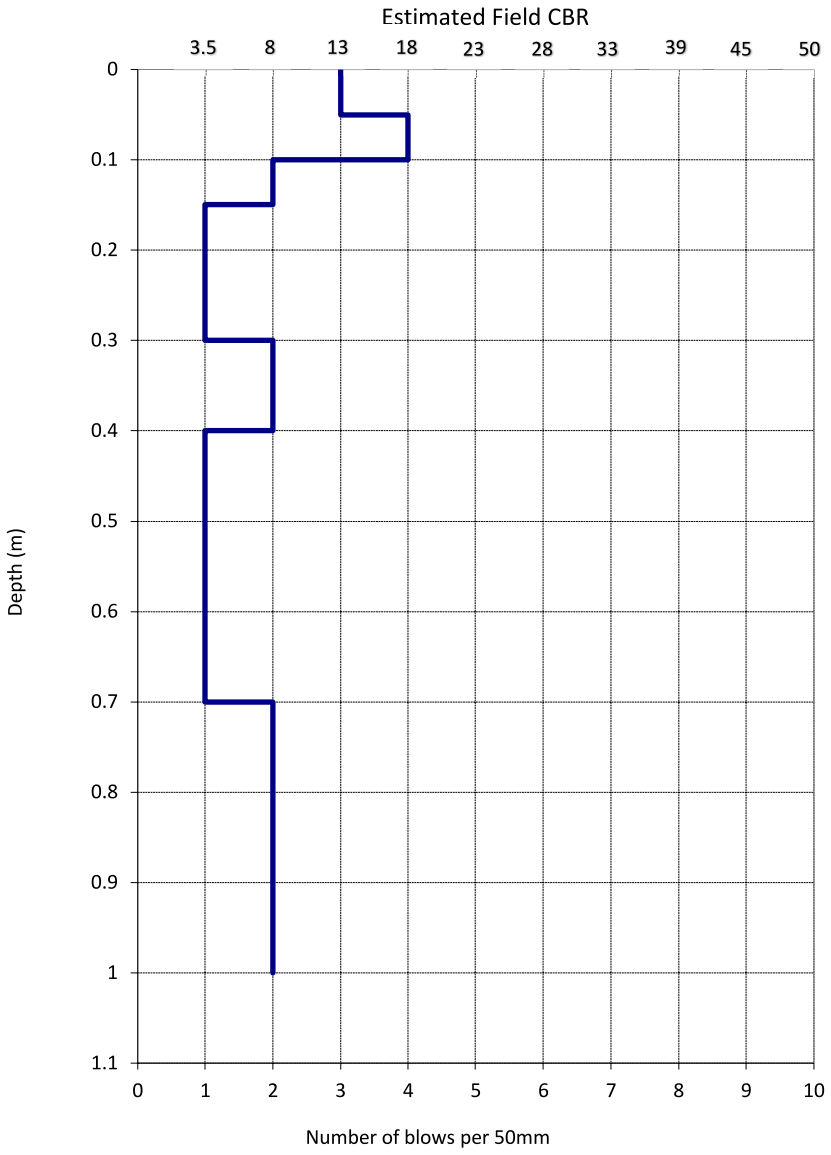
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
190		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	4
150	150	2
200	200	1
250	250	1
300	300	1
350	350	2
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Data Entry By	ROSM	Date	14/02/2024
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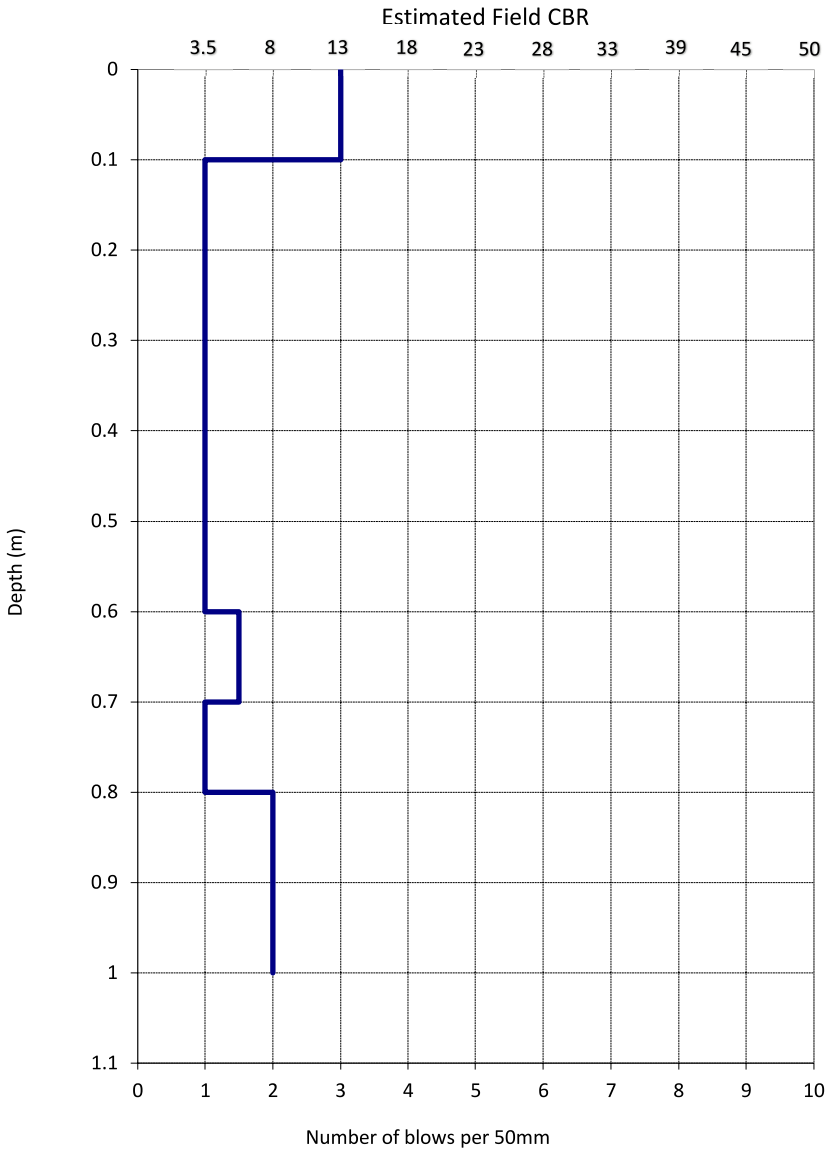
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
200		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1.5
700	700	1.5
750	750	1
800	800	1
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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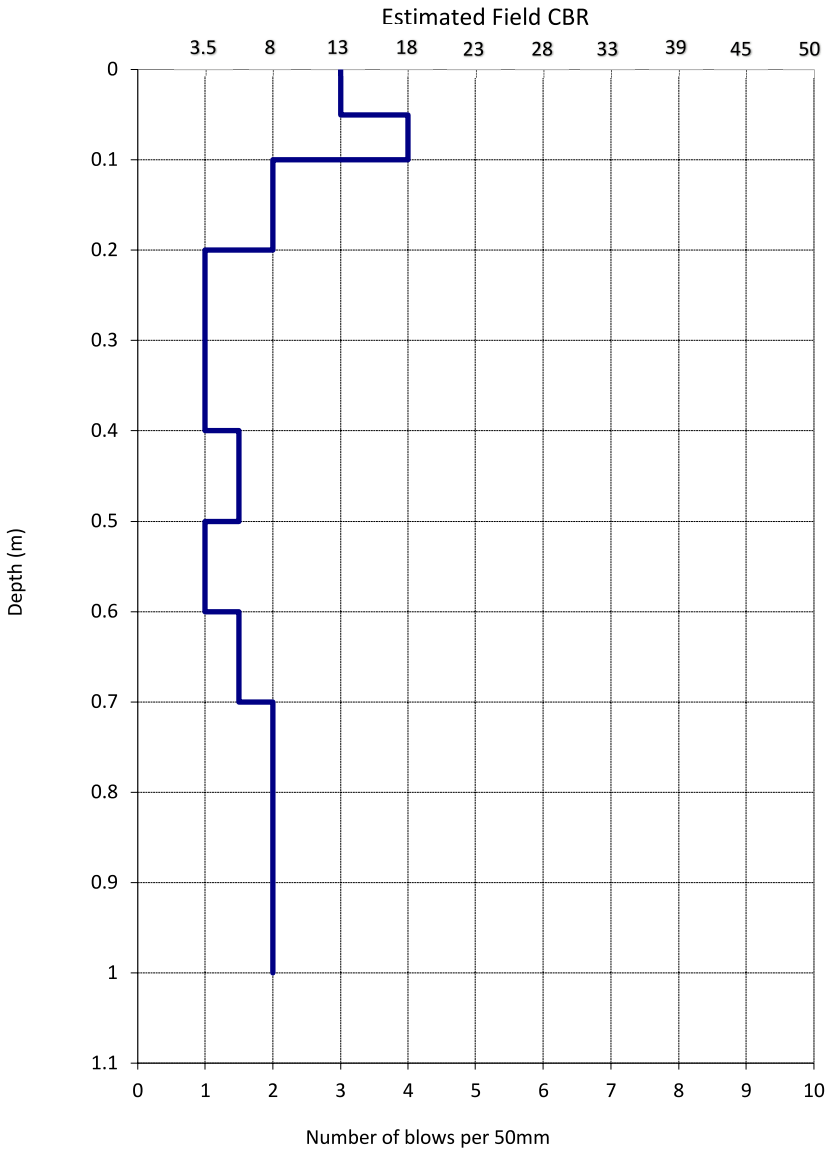
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
210		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	4
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1.5
500	500	1.5
550	550	1
600	600	1
650	650	1.5
700	700	1.5
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Data Entry By	ROSM	Date	14/02/2024
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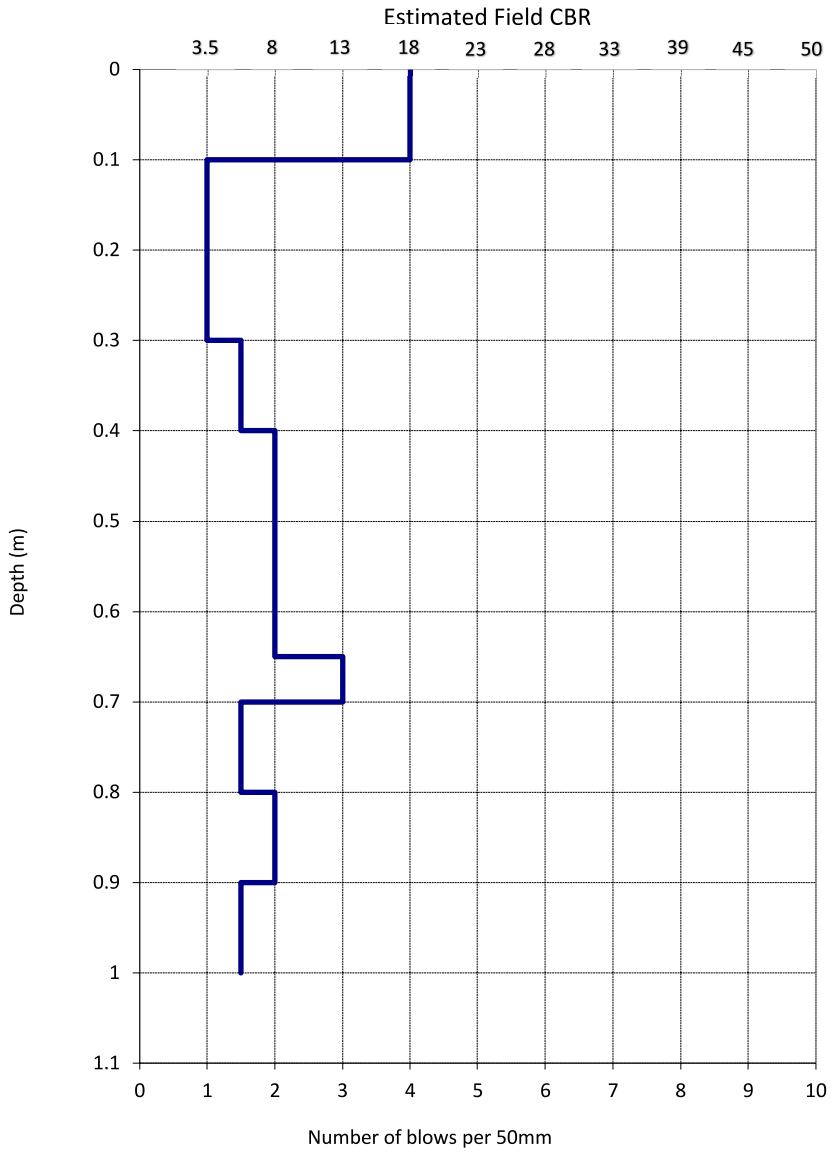
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
220		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	4
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1.5
400	400	1.5
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	3
750	750	1.5
800	800	1.5
850	850	2
900	900	2
950	950	1.5
1000	1000	1.5



Test Remarks

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Data Entry By	ROSM	Date	14/02/2024
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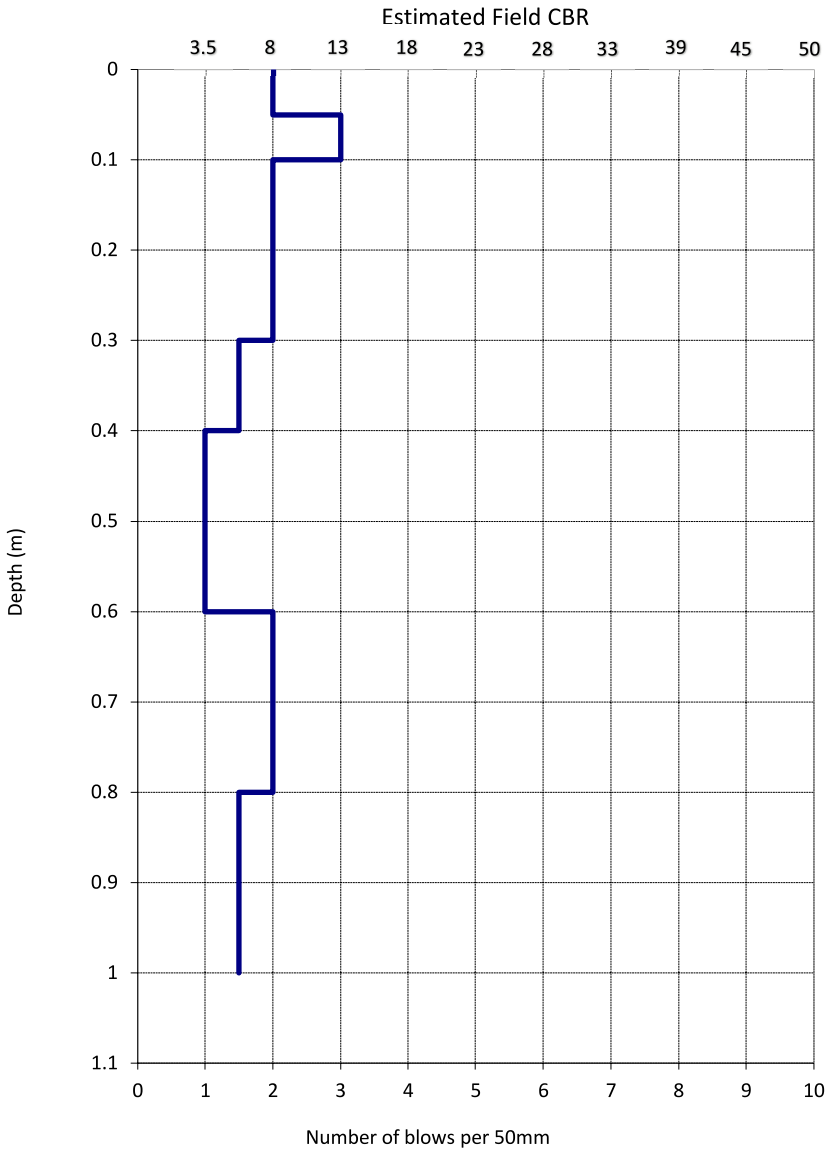
Lab Ref/URN: 55.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
230		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	2
200	200	2
250	250	2
300	300	2
350	350	1.5
400	400	1.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	2
750	750	2
800	800	2
850	850	1.5
900	900	1.5
950	950	1.5
1000	1000	1.5



Test Remarks

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Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
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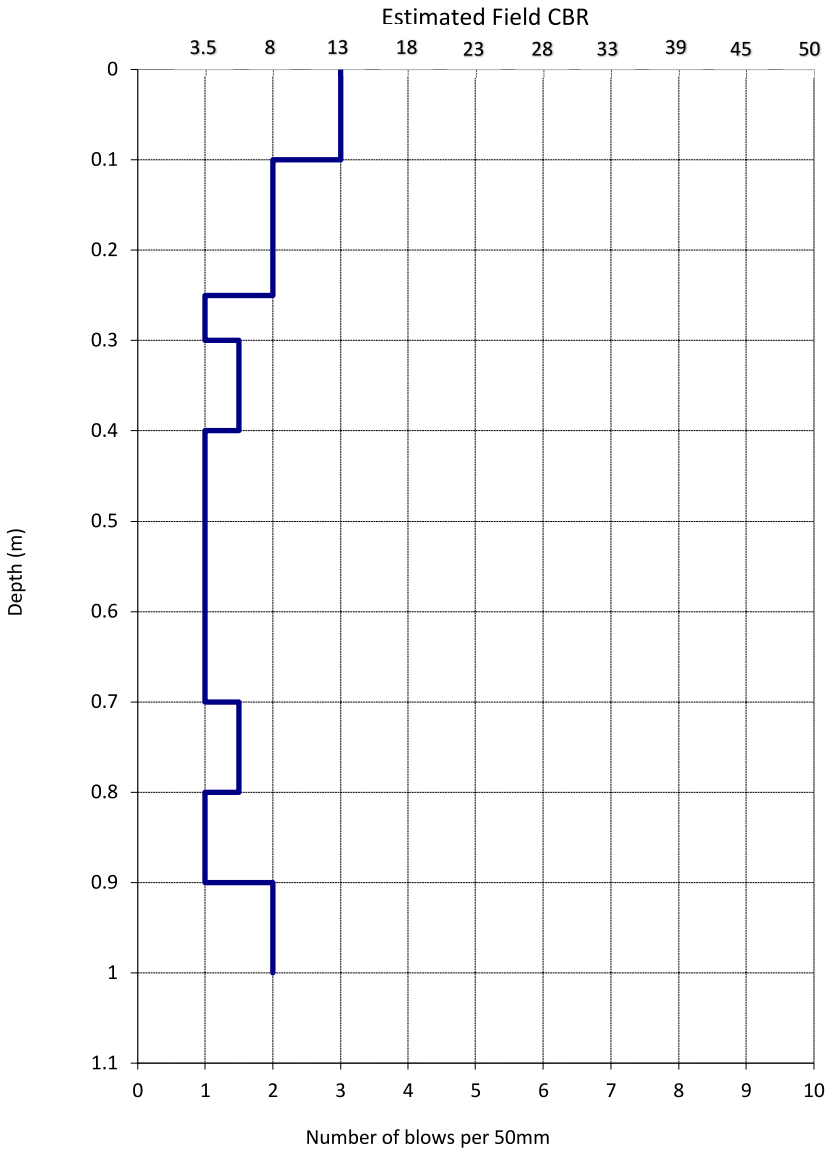
Lab Ref/URN: 55.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
240		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	2
250	250	2
300	300	1
350	350	1.5
400	400	1.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1.5
800	800	1.5
850	850	1
900	900	1
950	950	2
1000	1000	2



Test Remarks

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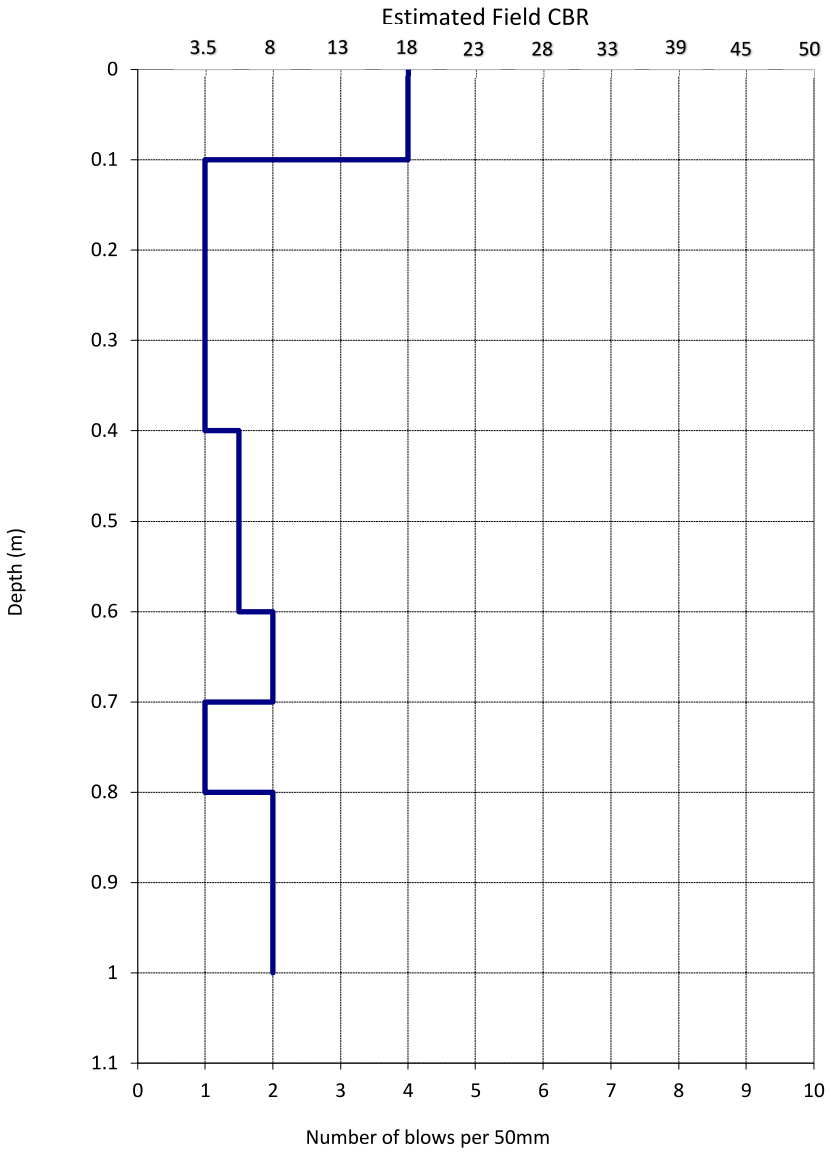
Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	55.16

Chainage	Offset	Lane
250		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	4
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1.5
500	500	1.5
550	550	1.5
600	600	1.5
650	650	2
700	700	2
750	750	1
800	800	1
850	850	2
900	900	2
950	950	2
1000	1000	2



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NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	17

Chainage	Offset	Lane
260		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	5
150	150	3
200	200	2
250	250	2
300	300	2
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1.5
600	600	1.5
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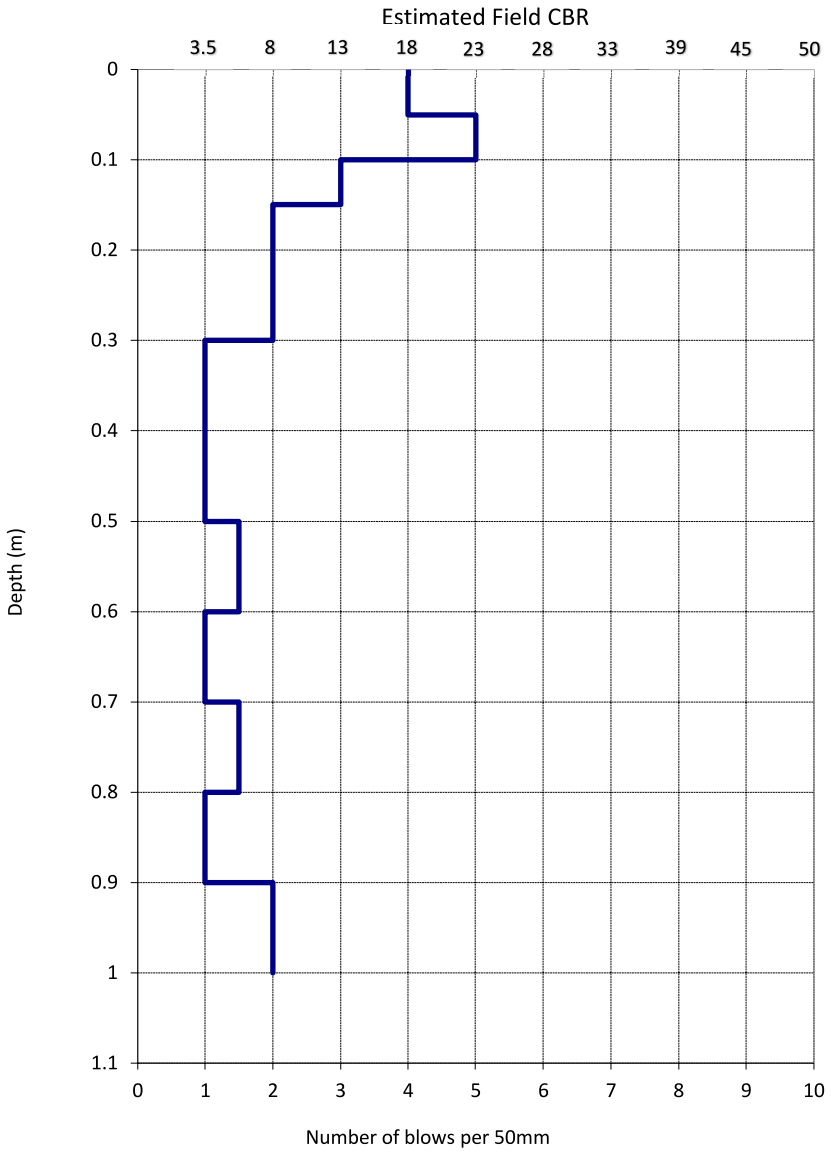
750	750	1.5
800	800	1.5
850	850	1
900	900	1
950	950	2
1000	1000	2



Test Remarks

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Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
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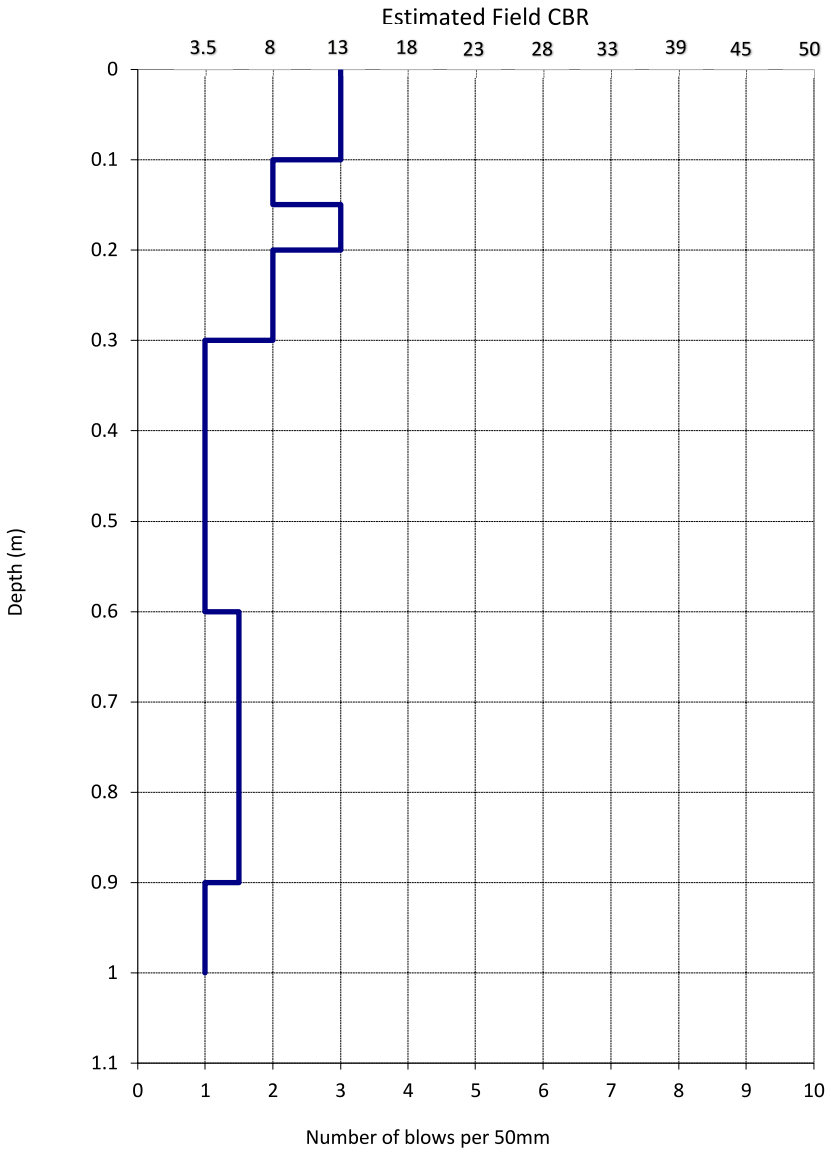
Lab Ref/URN: 55.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	18

Chainage	Offset	Lane
270		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	3
250	250	2
300	300	2
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1.5
700	700	1.5
750	750	1.5
800	800	1.5
850	850	1.5
900	900	1.5
950	950	1
1000	1000	1



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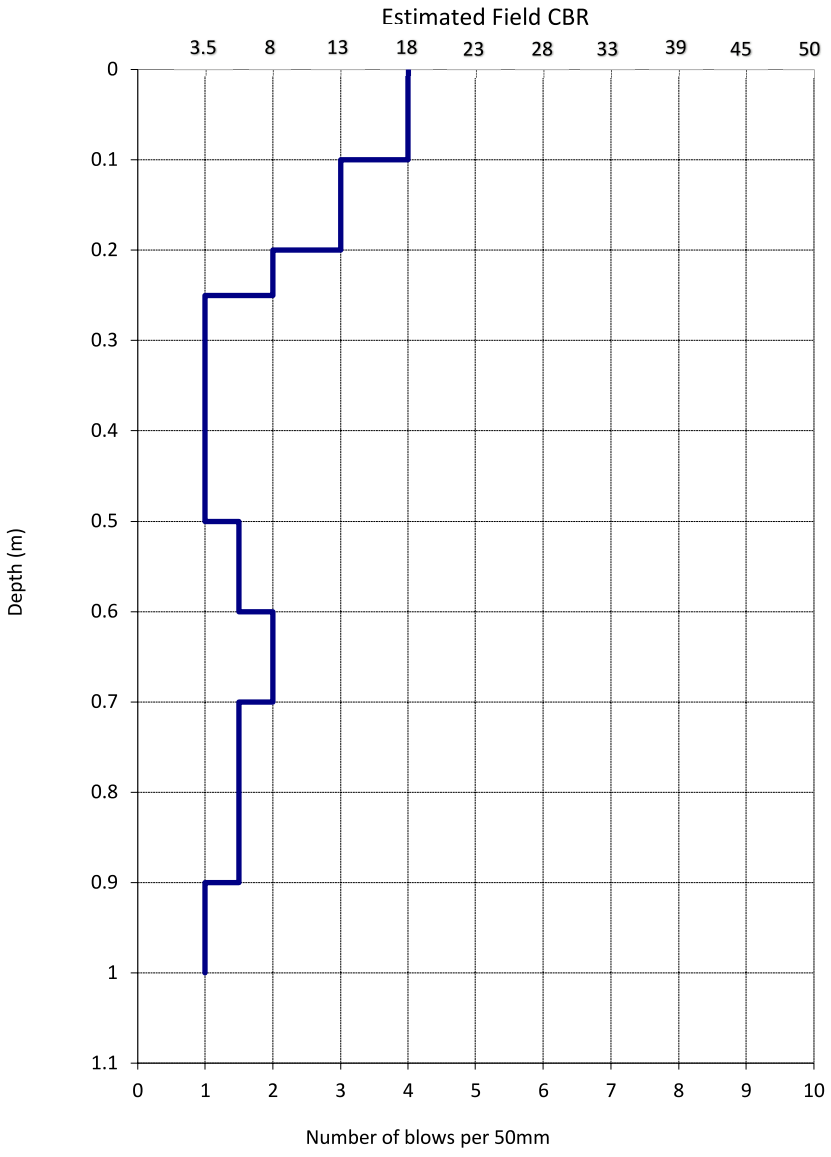
Lab Ref/URN: 55.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	19

Chainage	Offset	Lane
280		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	4
150	150	3
200	200	3
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1.5
600	600	1.5
650	650	2
700	700	2
750	750	1.5
800	800	1.5
850	850	1.5
900	900	1.5
950	950	1
1000	1000	1



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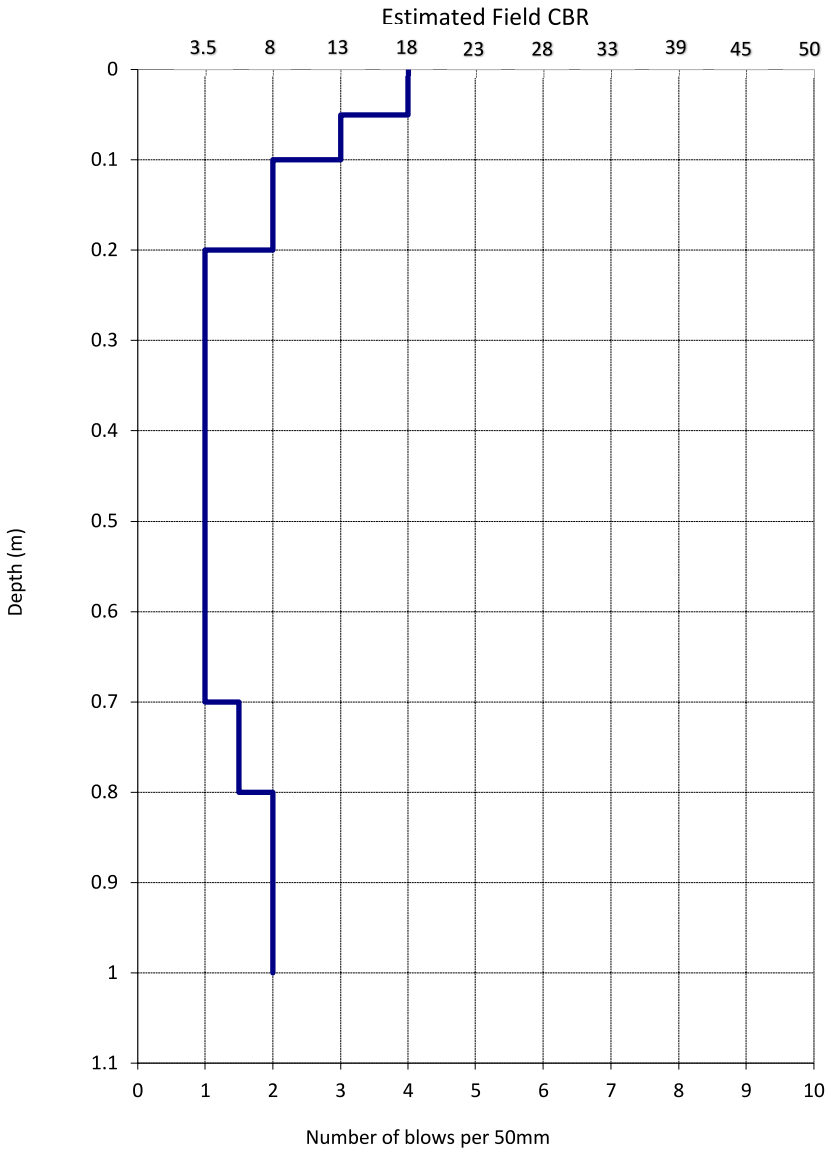
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	20

Chainage	Offset	Lane
290		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	3
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1.5
800	800	1.5
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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Lab Ref/URN

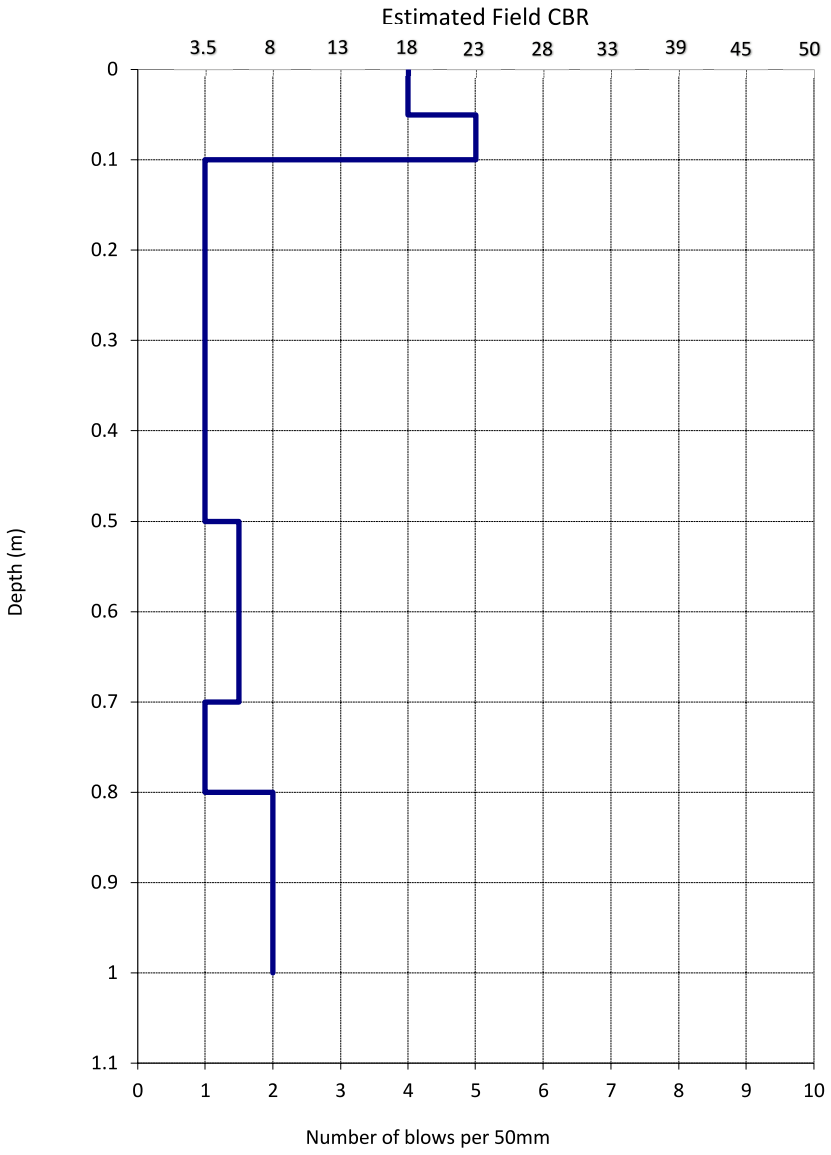
55.21

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	21

Chainage	Offset	Lane
300		R

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1.5
600	600	1.5
650	650	1.5
700	700	1.5
750	750	1
800	800	1
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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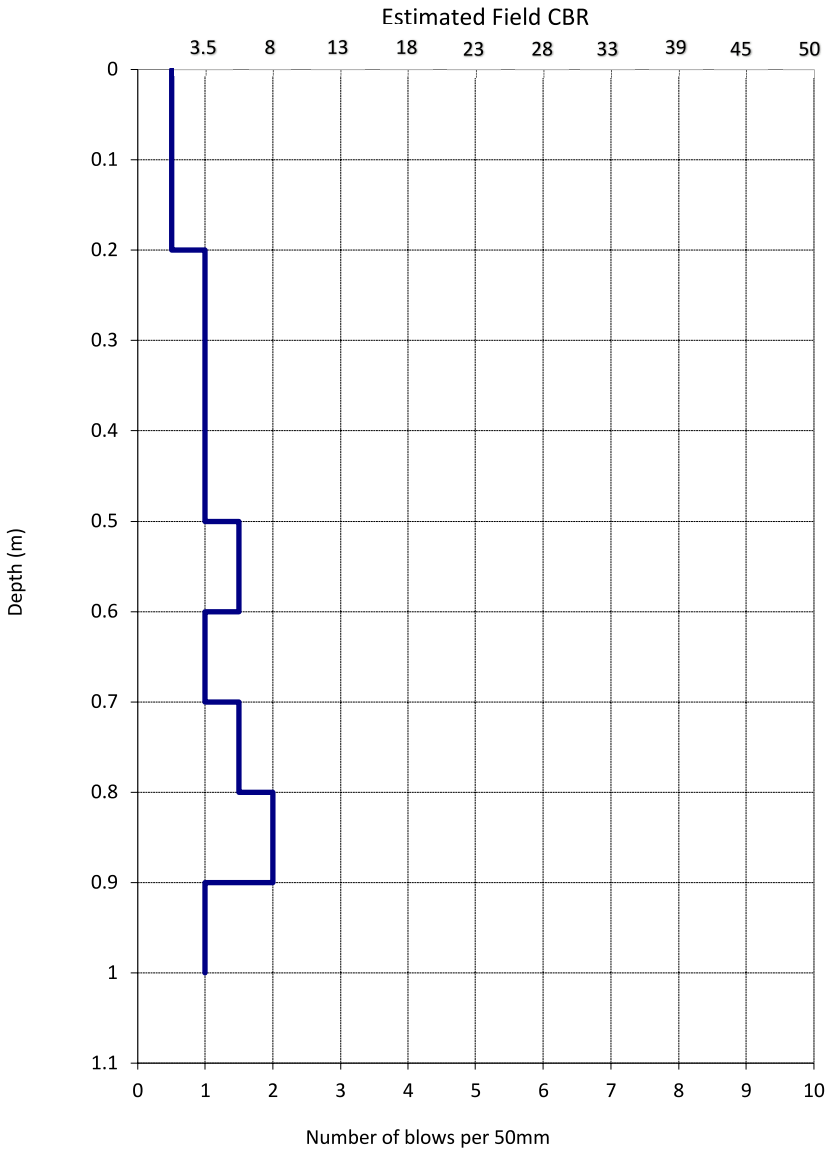
Lab Ref/URN: 55.22

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS0116
Site Location	Road 2 - See Site Plan	Material Source	In Situ
Material Description	Clay SILT	Test Series	DCP1-22
Depth from ground surface to commencement of penetration (m)		Test Number	22

Chainage	Offset	Lane
310		L

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1.5
600	600	1.5
650	650	1
700	700	1
750	750	1.5
800	800	1.5
850	850	2
900	900	2
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	ROSM	Date	14/02/2024
Data Entry By	ROSM	Date	14/02/2024
Checked By	ELRE	Date	10/05/2024

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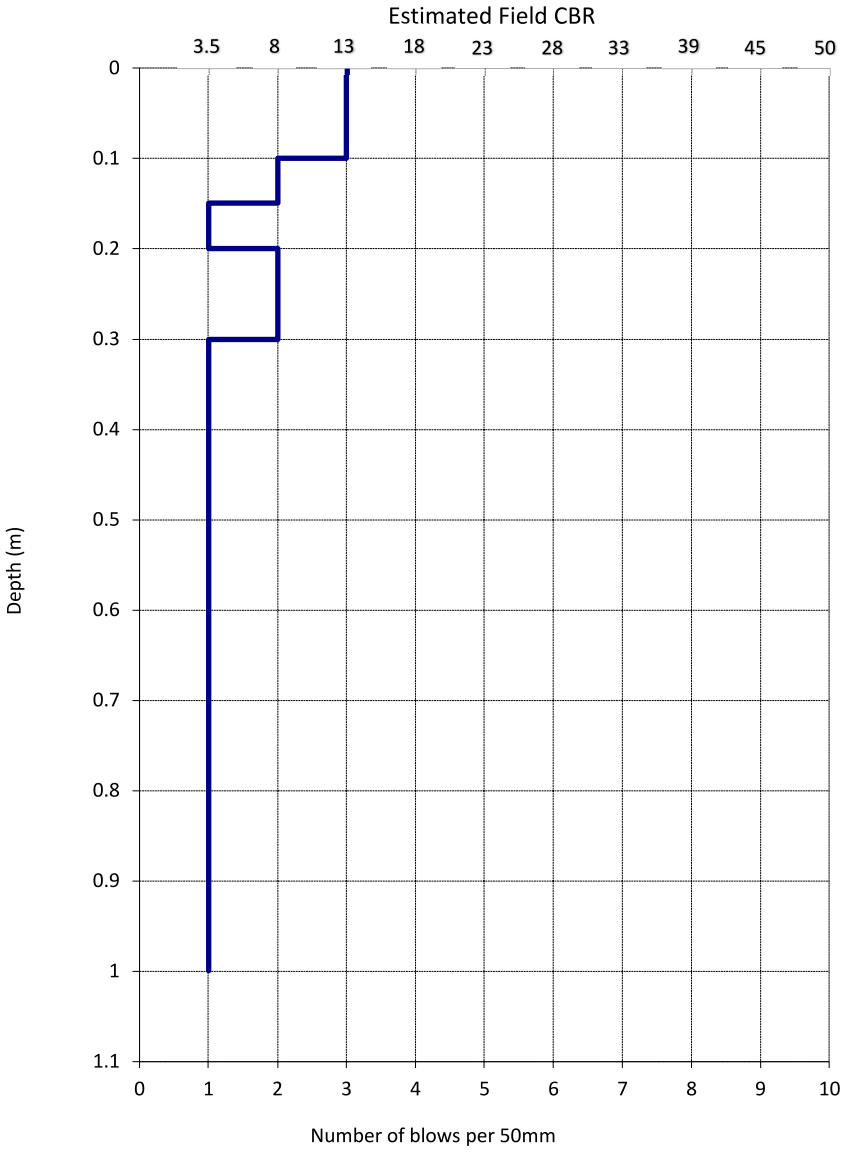
Lab Ref/URN: 56.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	1

Chainage	Offset	Lane
280	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	1
250	250	2
300	300	2
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN

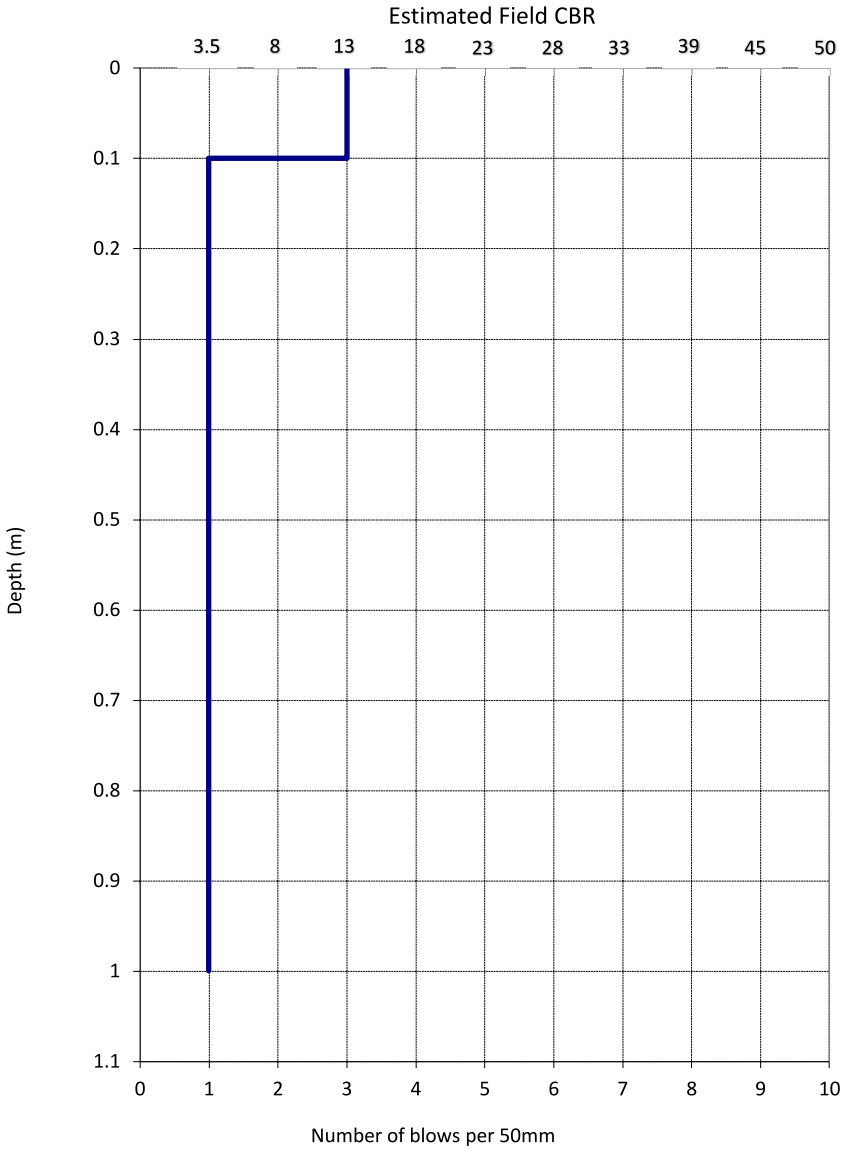
56.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	2

Chainage	Offset	Lane
270	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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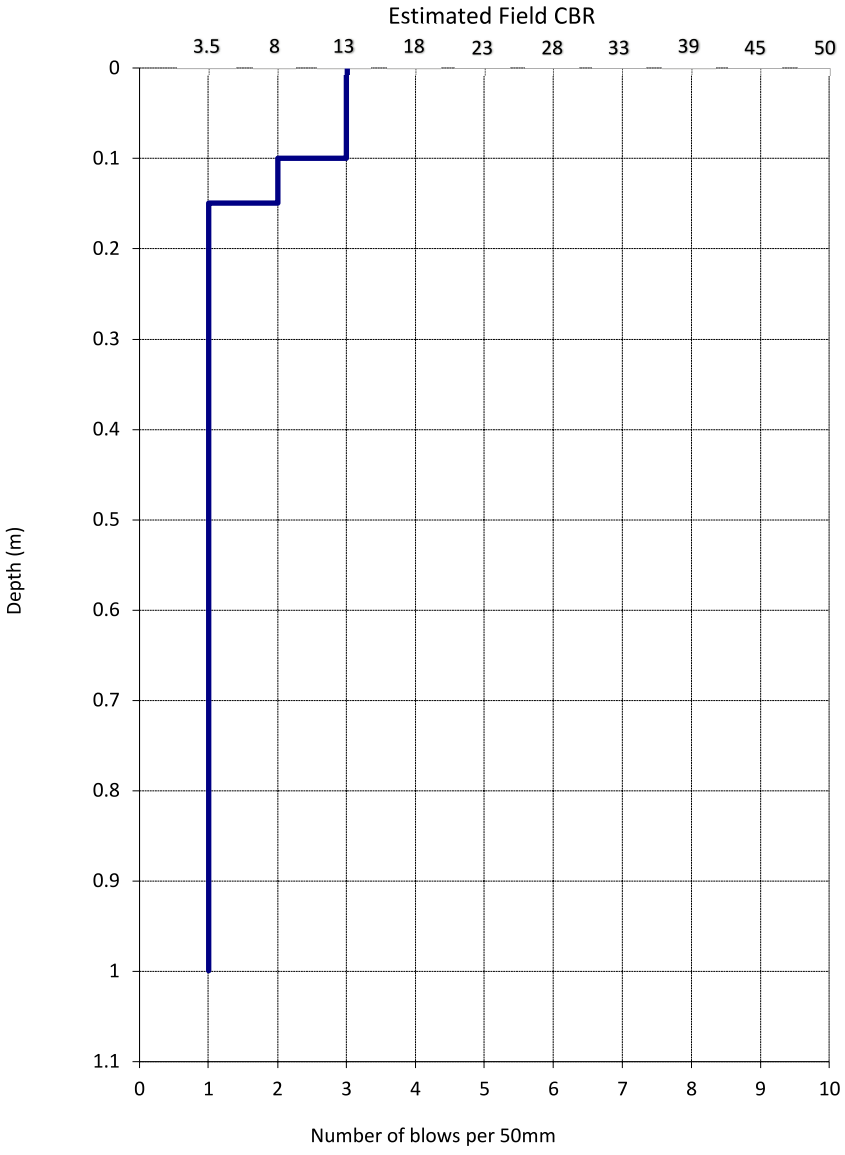
Lab Ref/URN: 56.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	3

Chainage	Offset	Lane
260	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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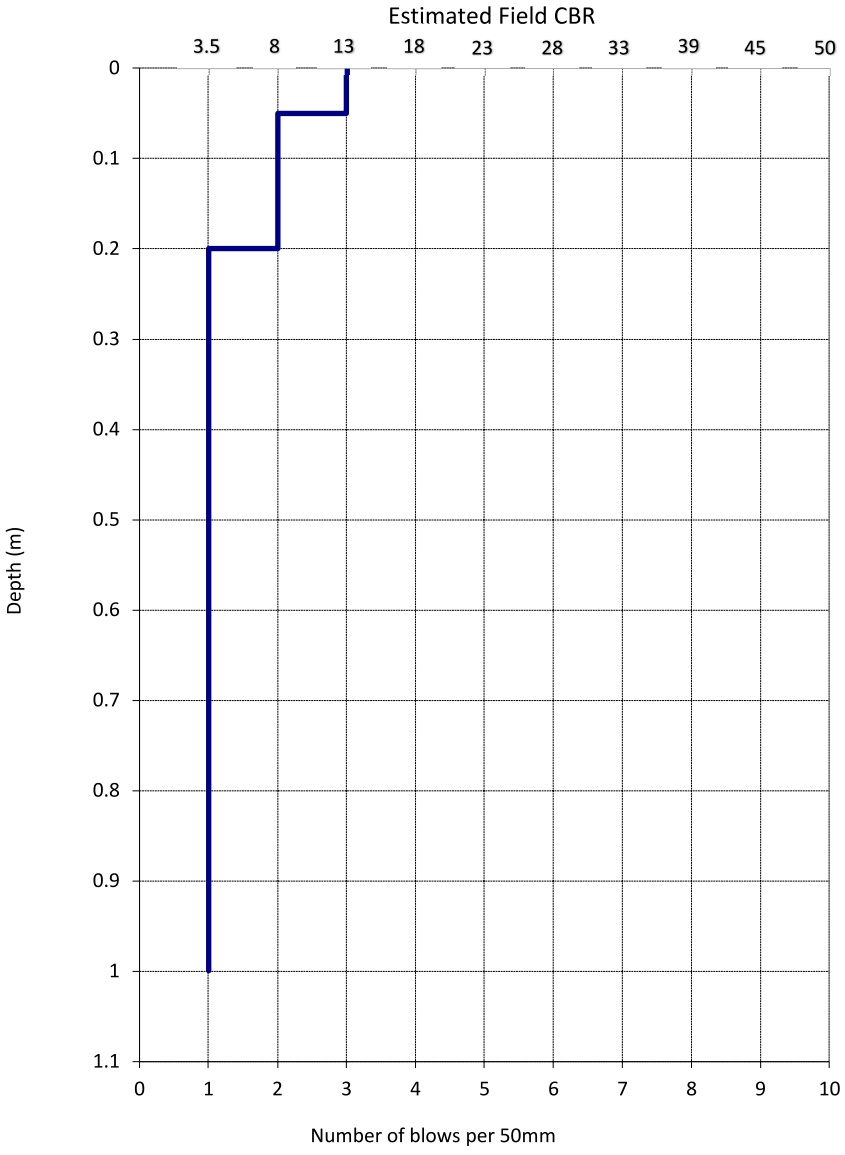
Lab Ref/URN: 56.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	4

Chainage	Offset	Lane
250	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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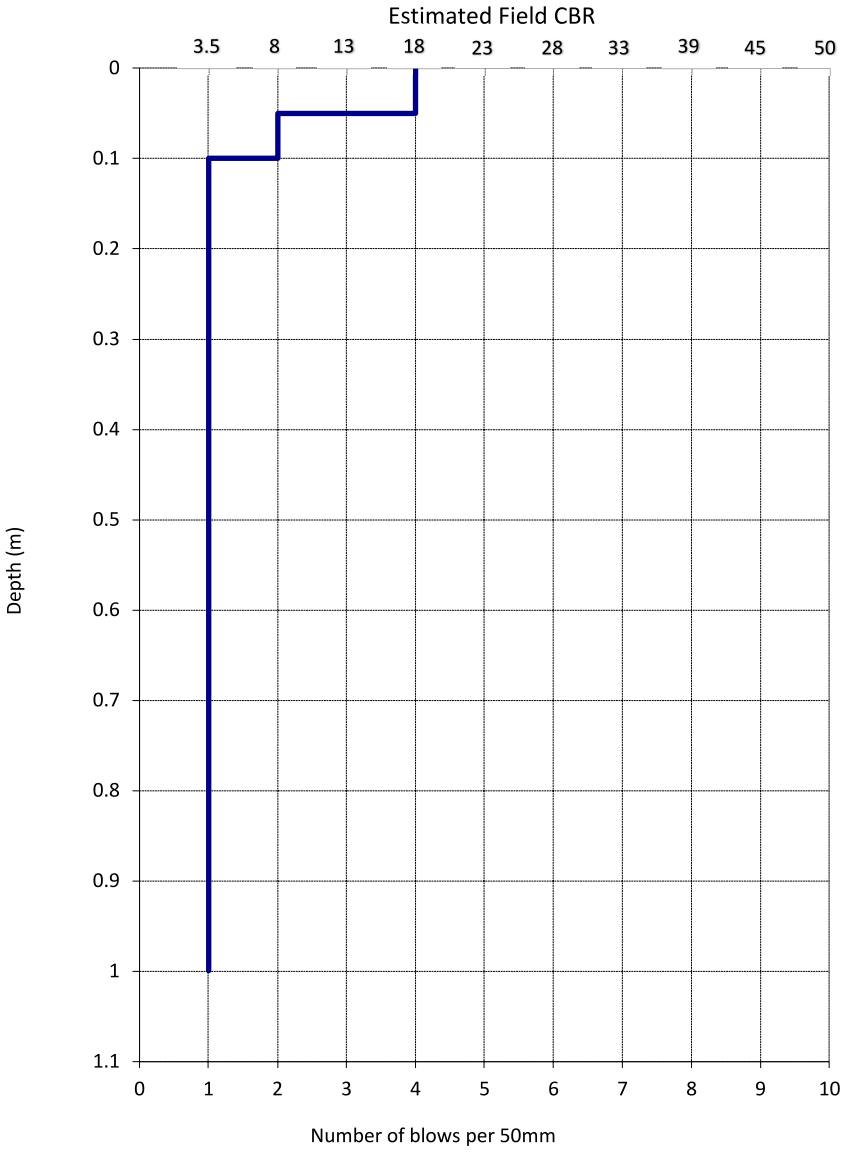
Lab Ref/URN: 56.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	5

Chainage	Offset	Lane
240	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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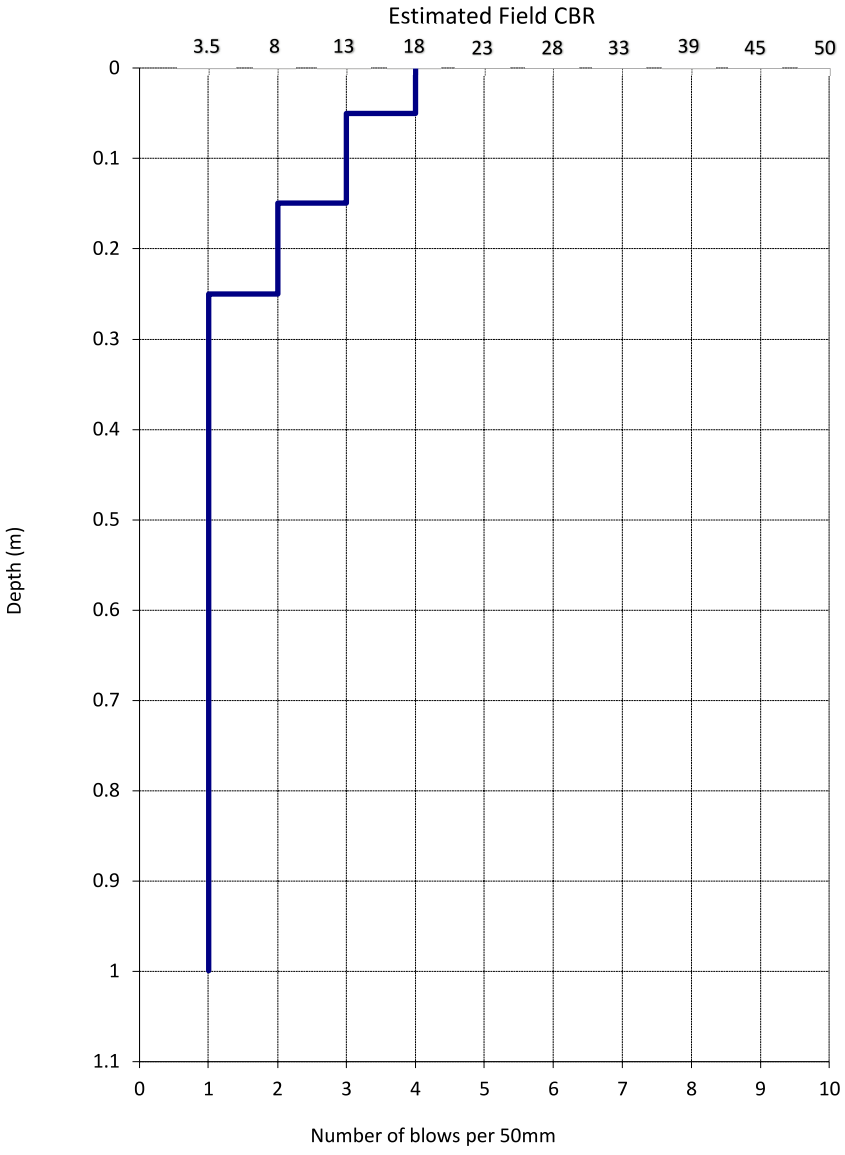
Lab Ref/URN: 56.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	6

Chainage	Offset	Lane
230	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	3
150	150	3
200	200	2
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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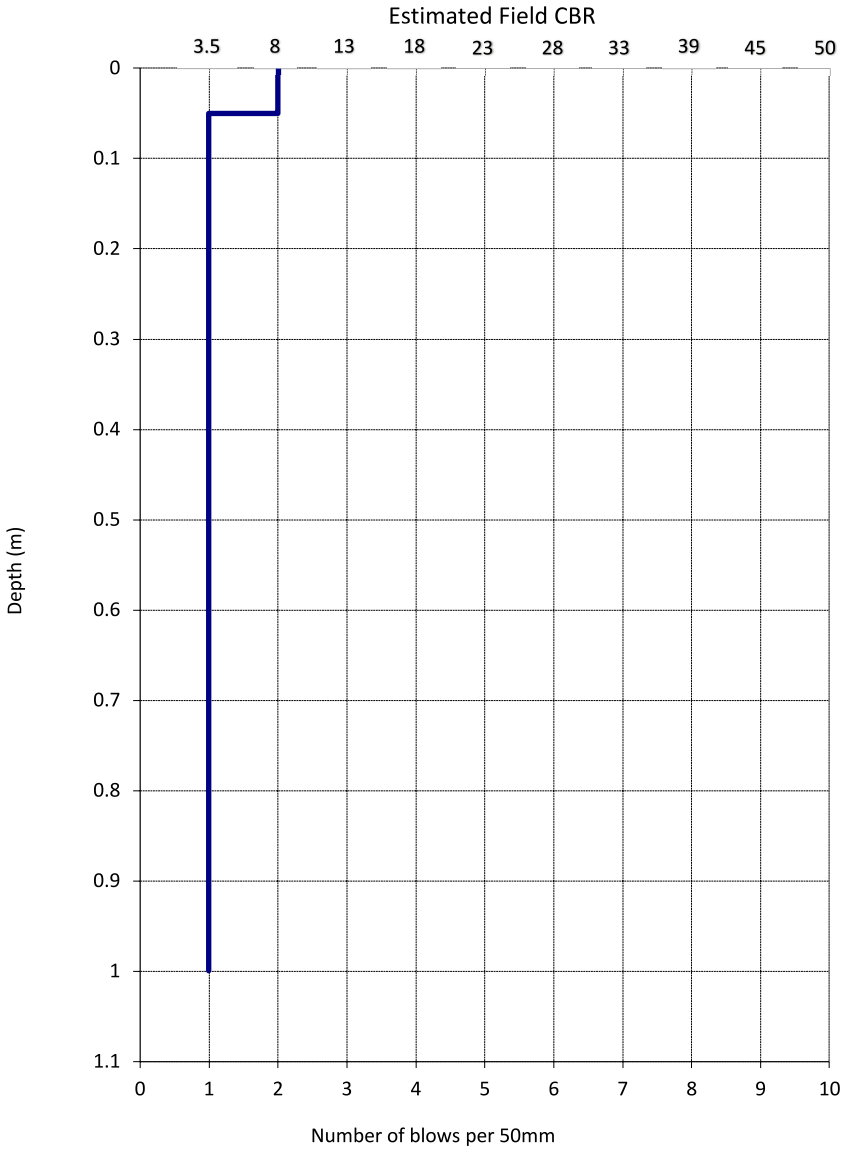
Lab Ref/URN: 56.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	7

Chainage	Offset	Lane
220	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 56.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	8

Chainage	Offset	Lane
210	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
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700	700	1
750	750	1
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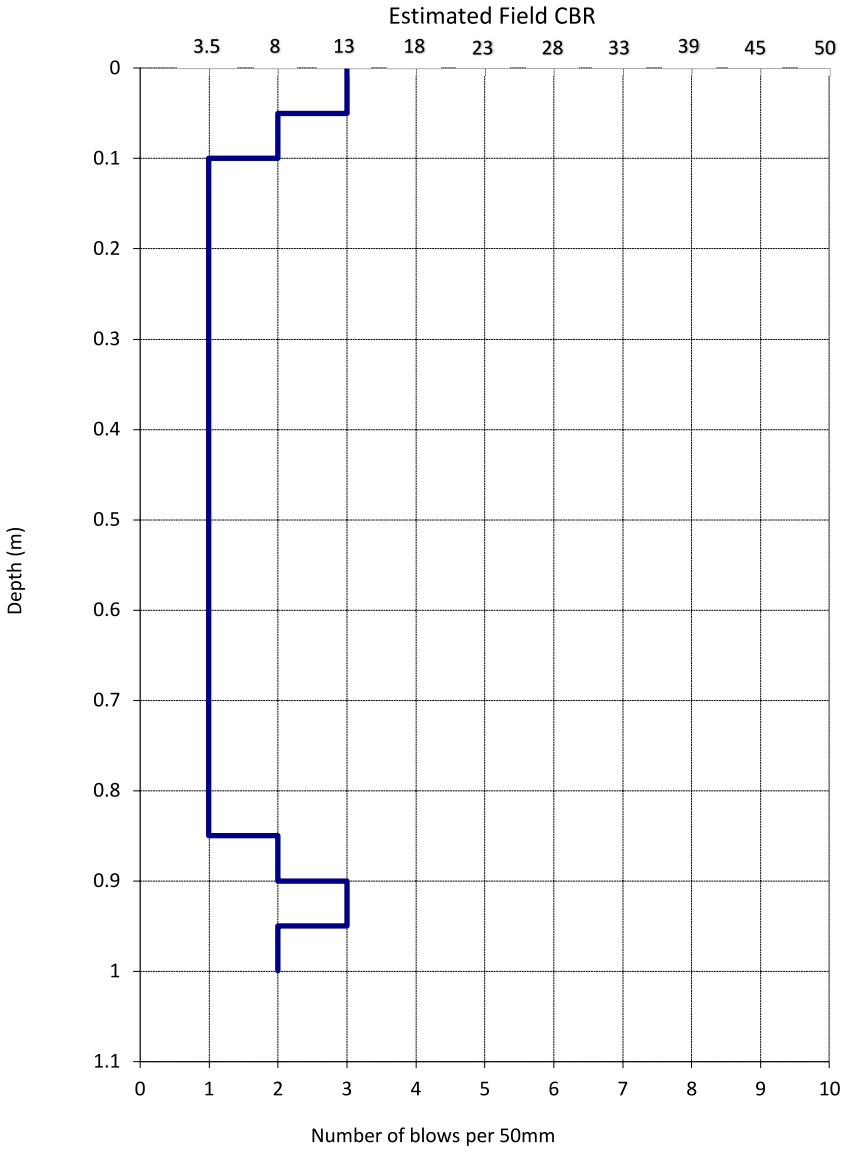
850	850	1
900	900	2
950	950	3
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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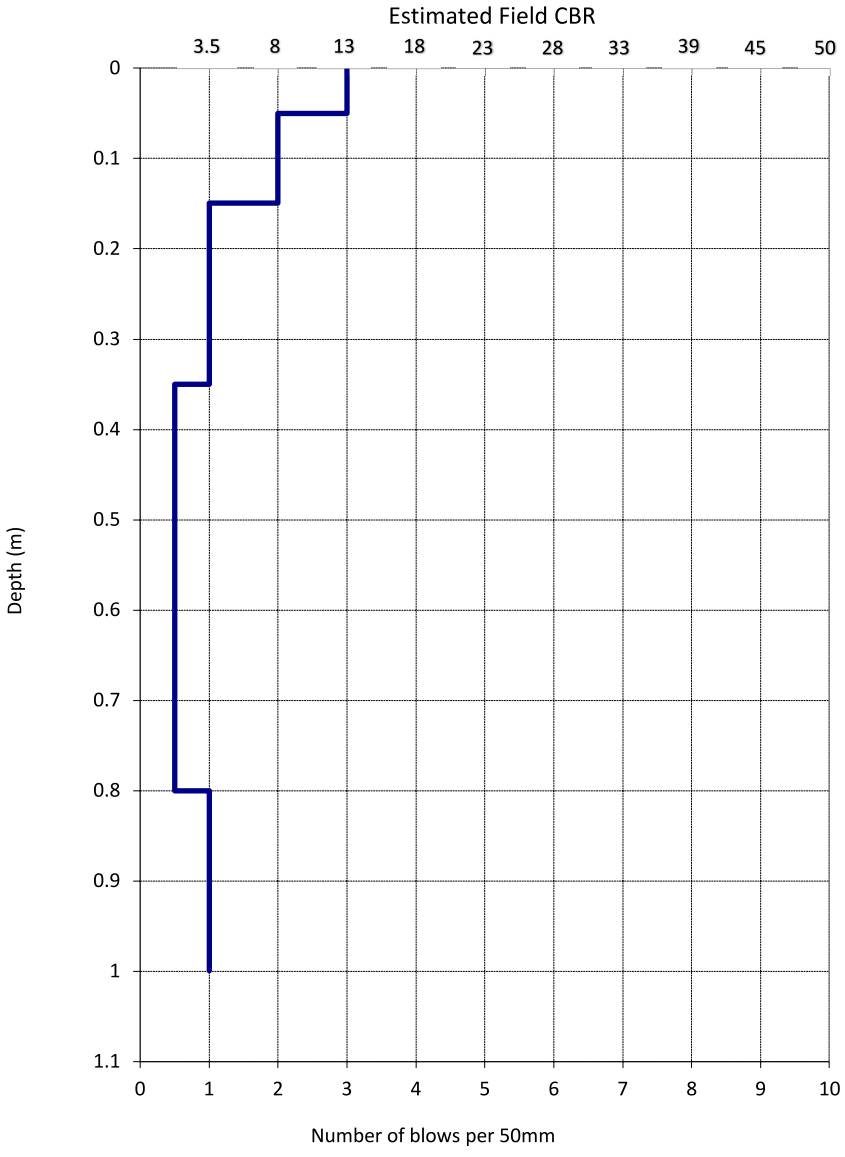
Lab Ref/URN: 56.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	9

Chainage	Offset	Lane
200	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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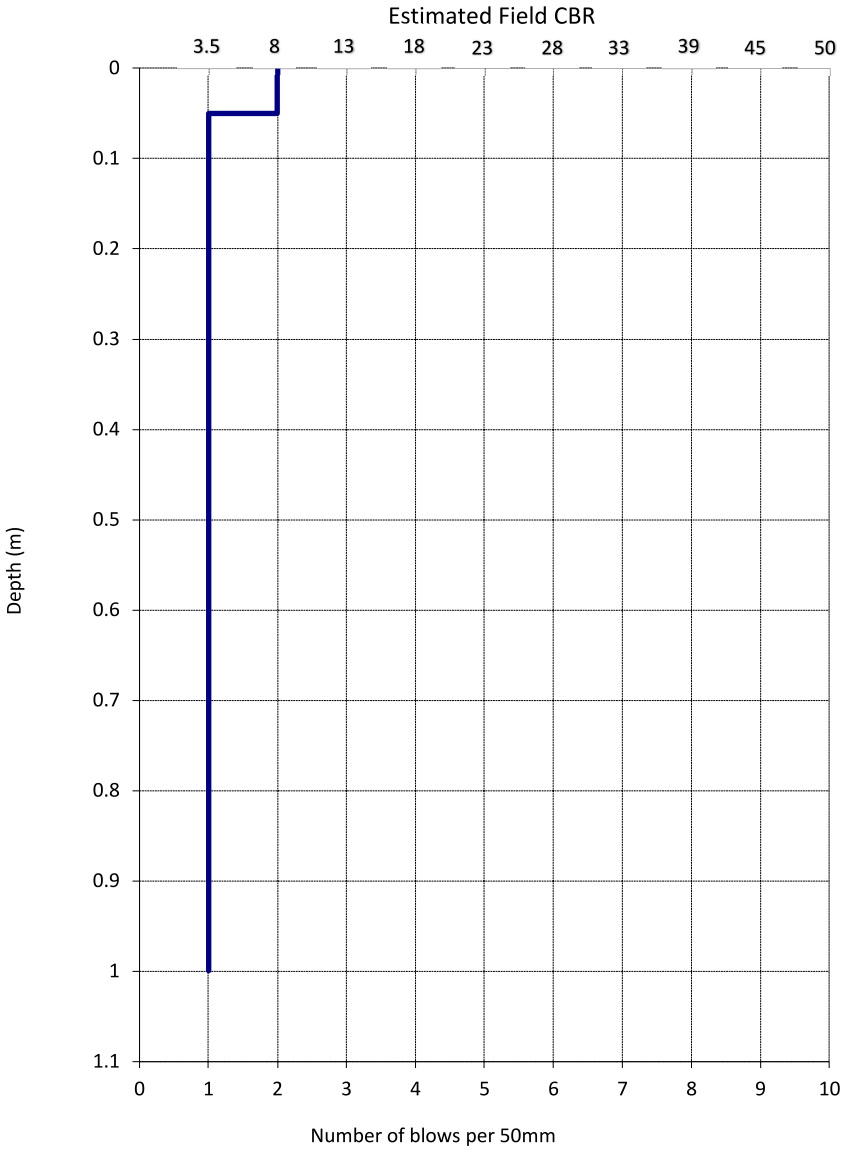
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	10

Chainage	Offset	Lane
0	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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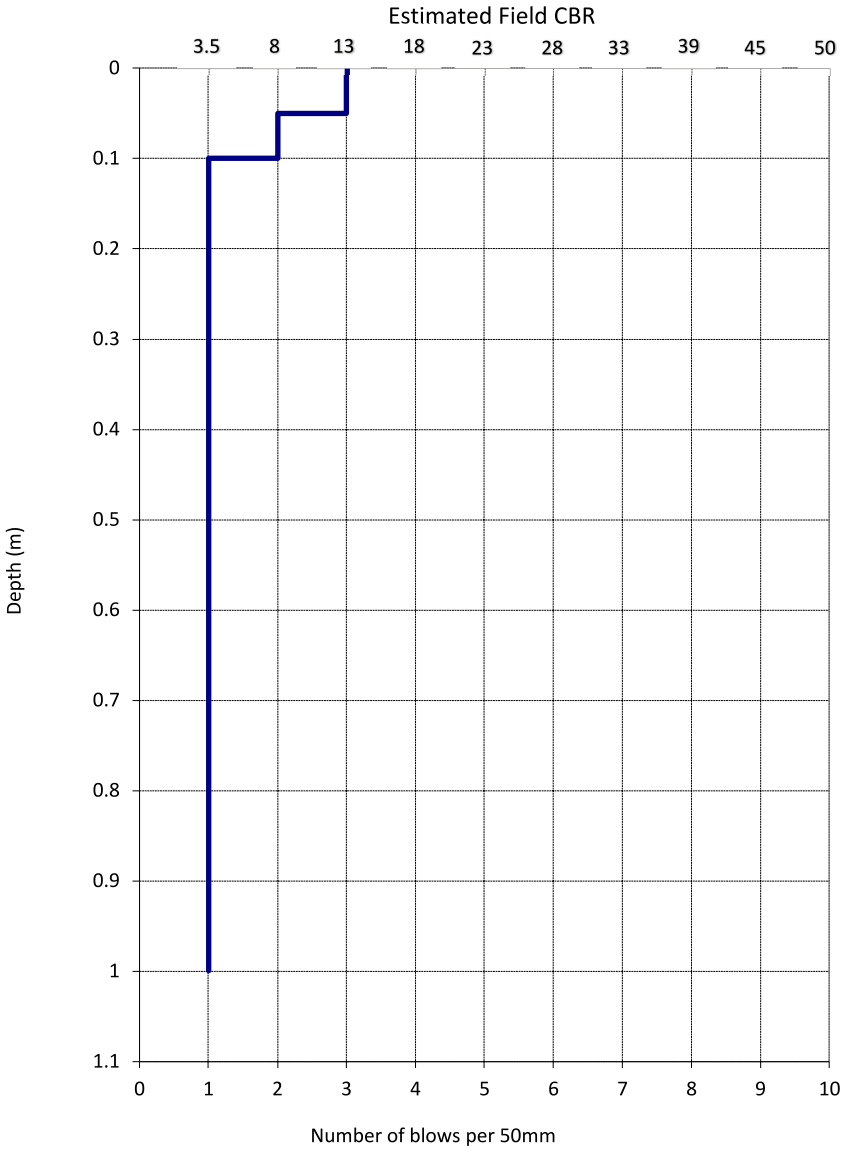
Lab Ref/URN: 56.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	11

Chainage	Offset	Lane
10	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
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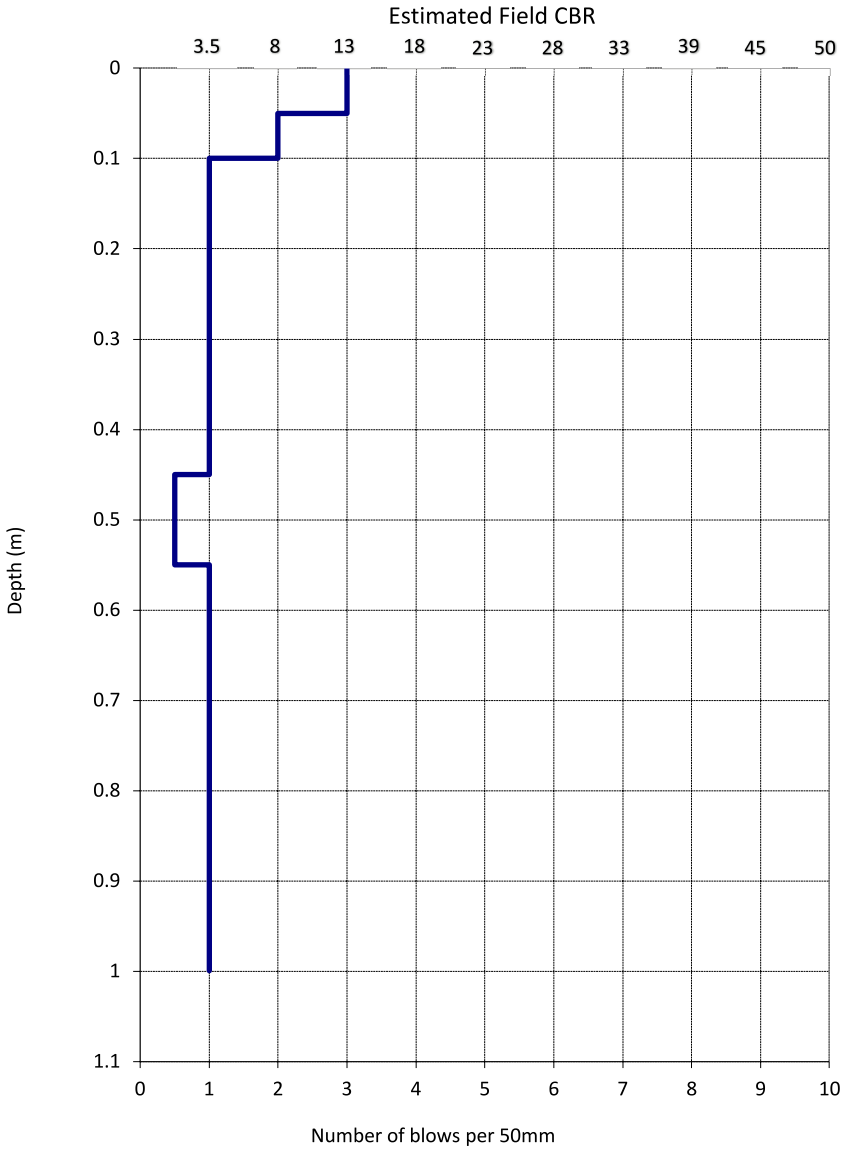
Lab Ref/URN: 56.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	12

Chainage	Offset	Lane
20	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	0.5
550	550	0.5
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 56.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	13

Chainage	Offset	Lane
30	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
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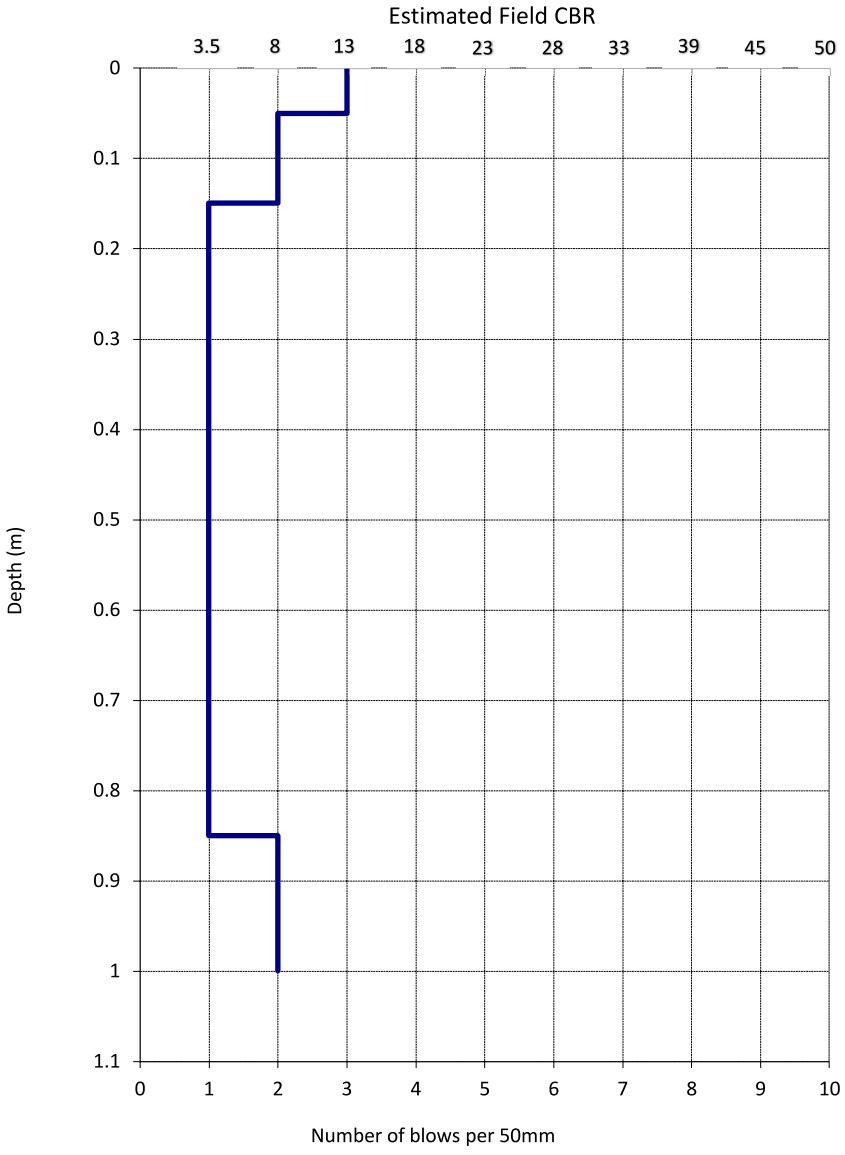
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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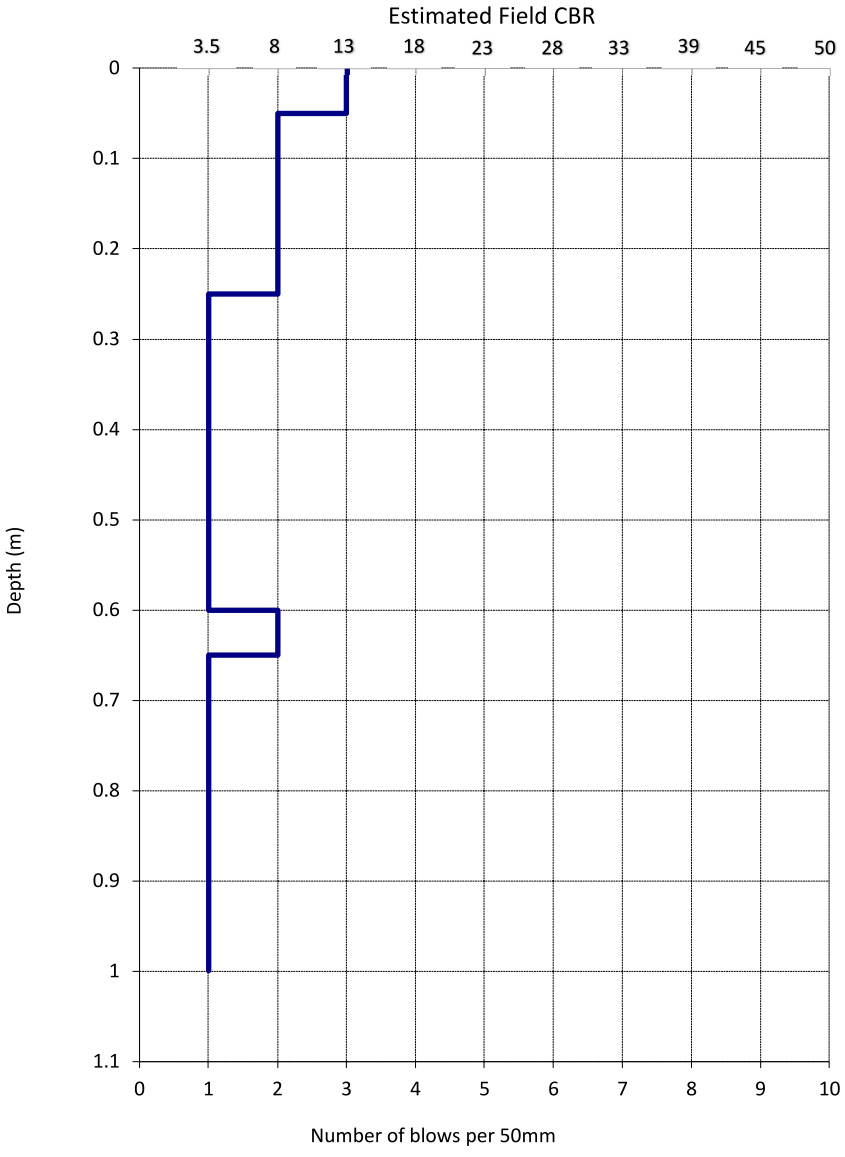
Lab Ref/URN: 56.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	14

Chainage	Offset	Lane
40	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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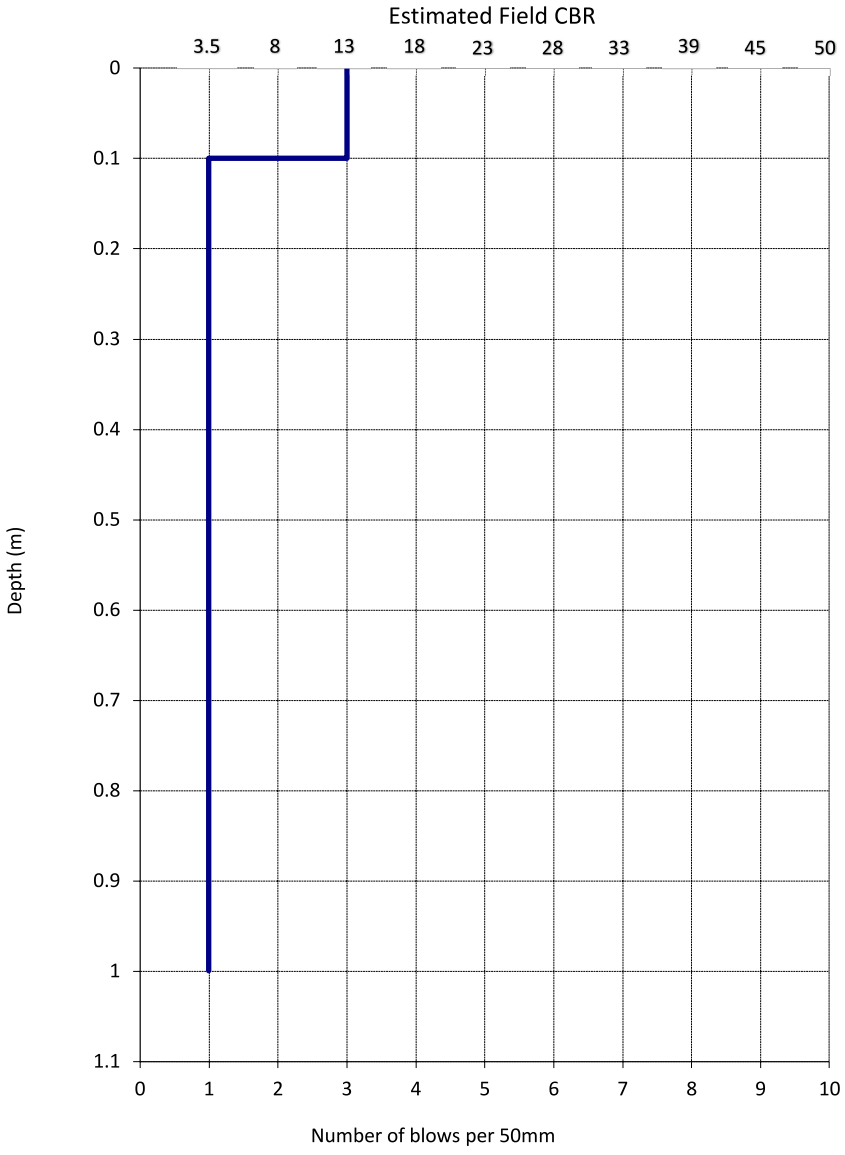
Lab Ref/URN: 56.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	15

Chainage	Offset	Lane
50	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 56.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	16

Chainage	Offset	Lane
60	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
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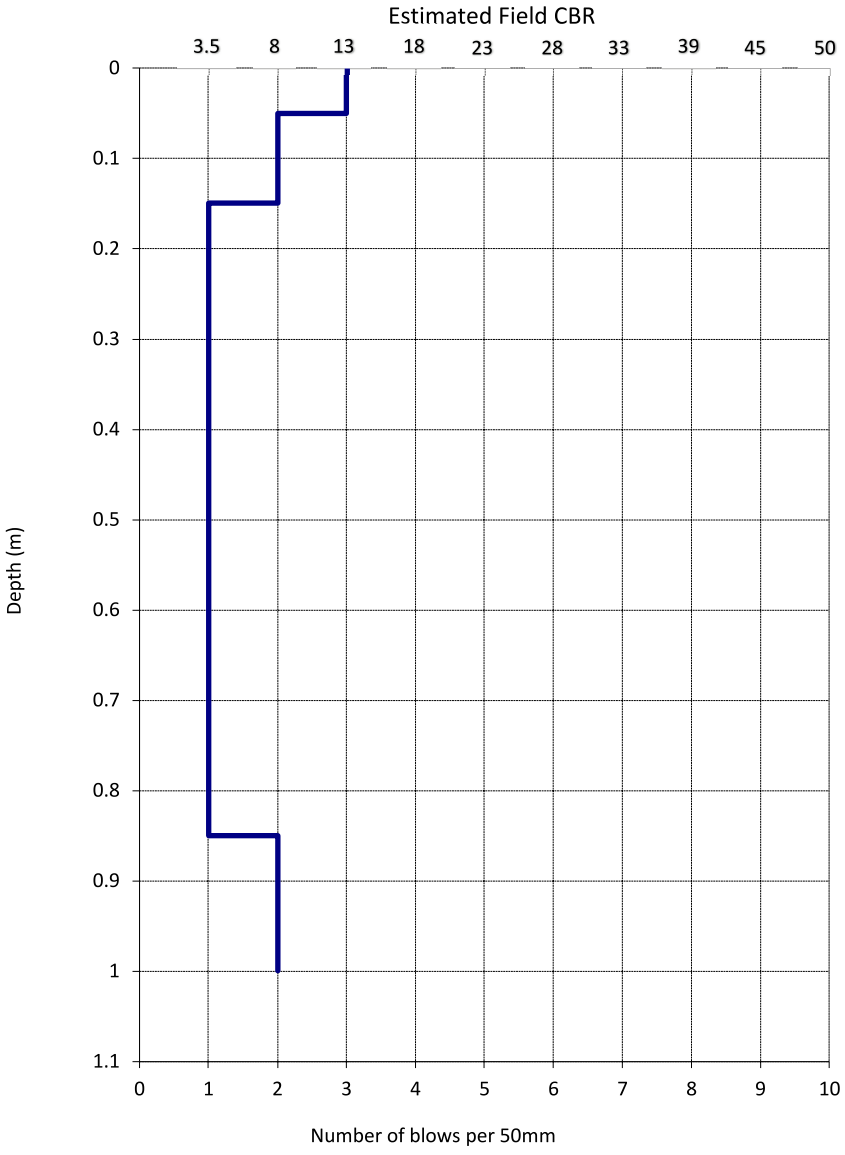
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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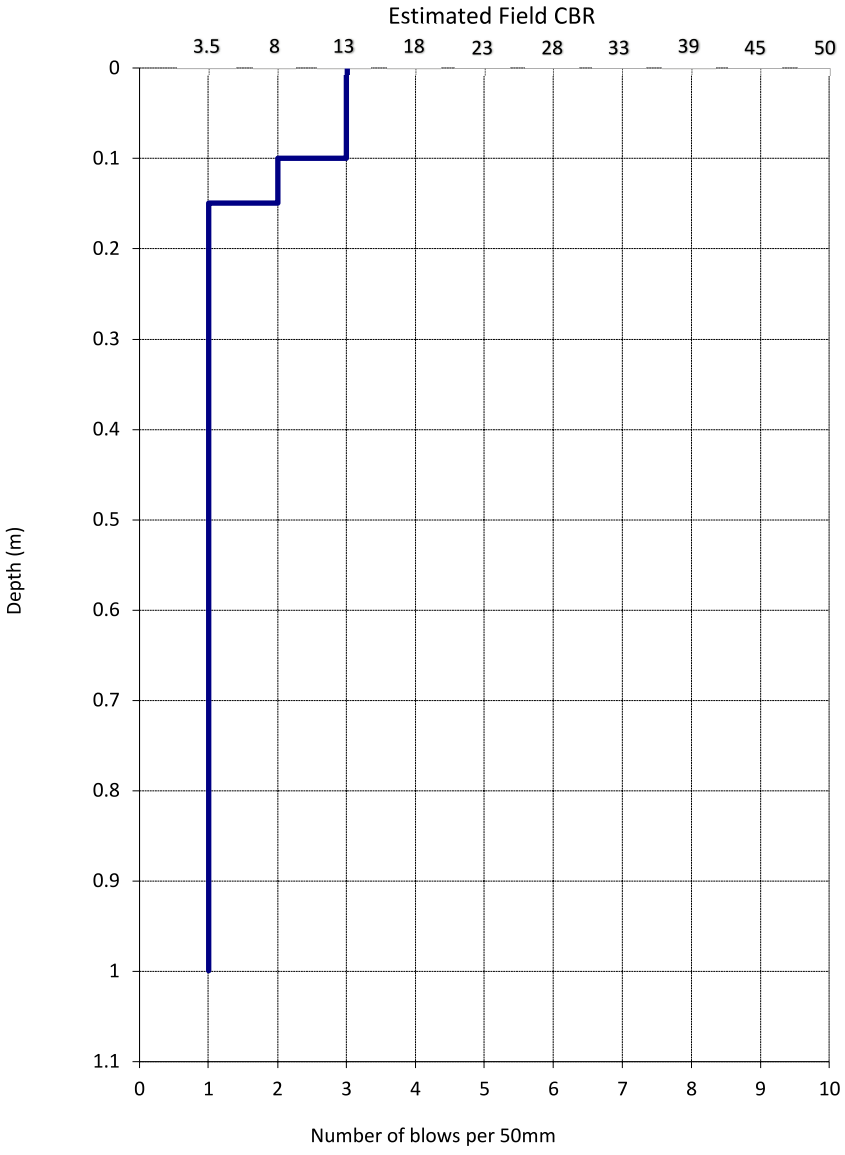
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	17

Chainage	Offset	Lane
70	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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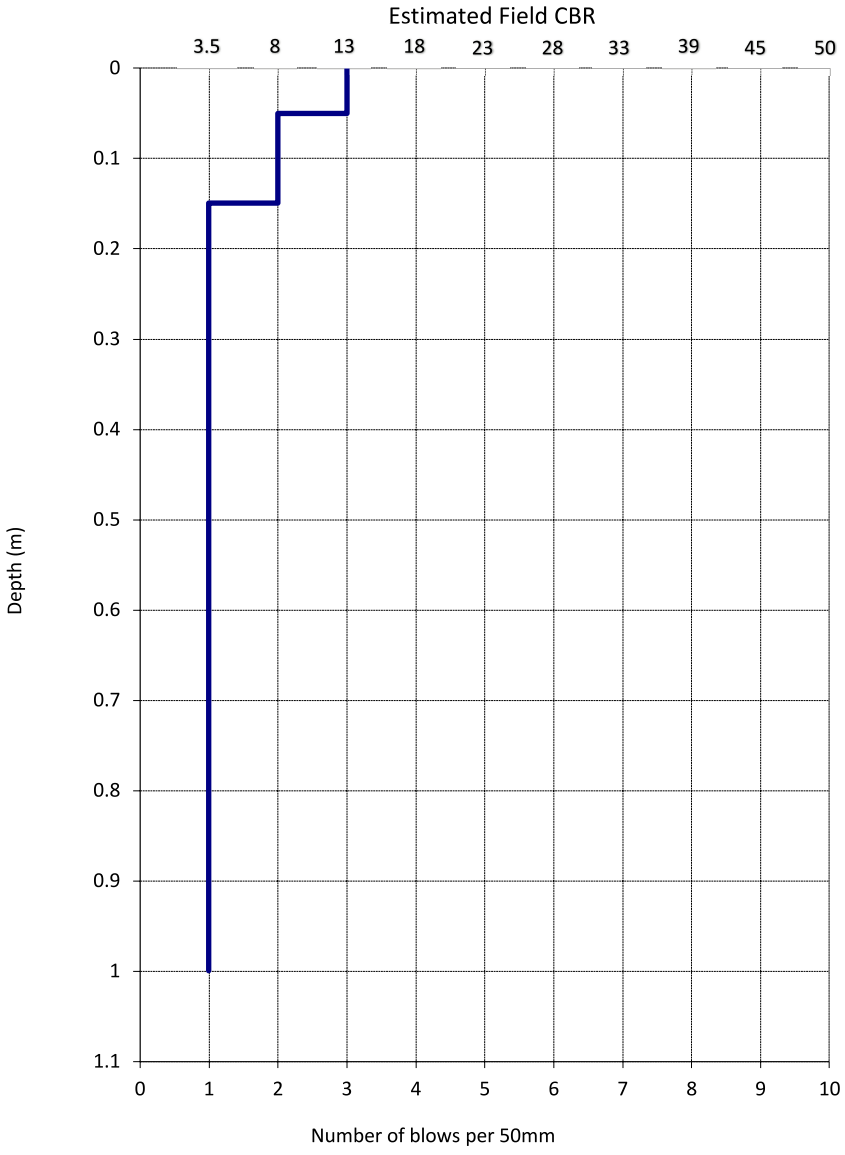
Lab Ref/URN: 56.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	18

Chainage	Offset	Lane
70	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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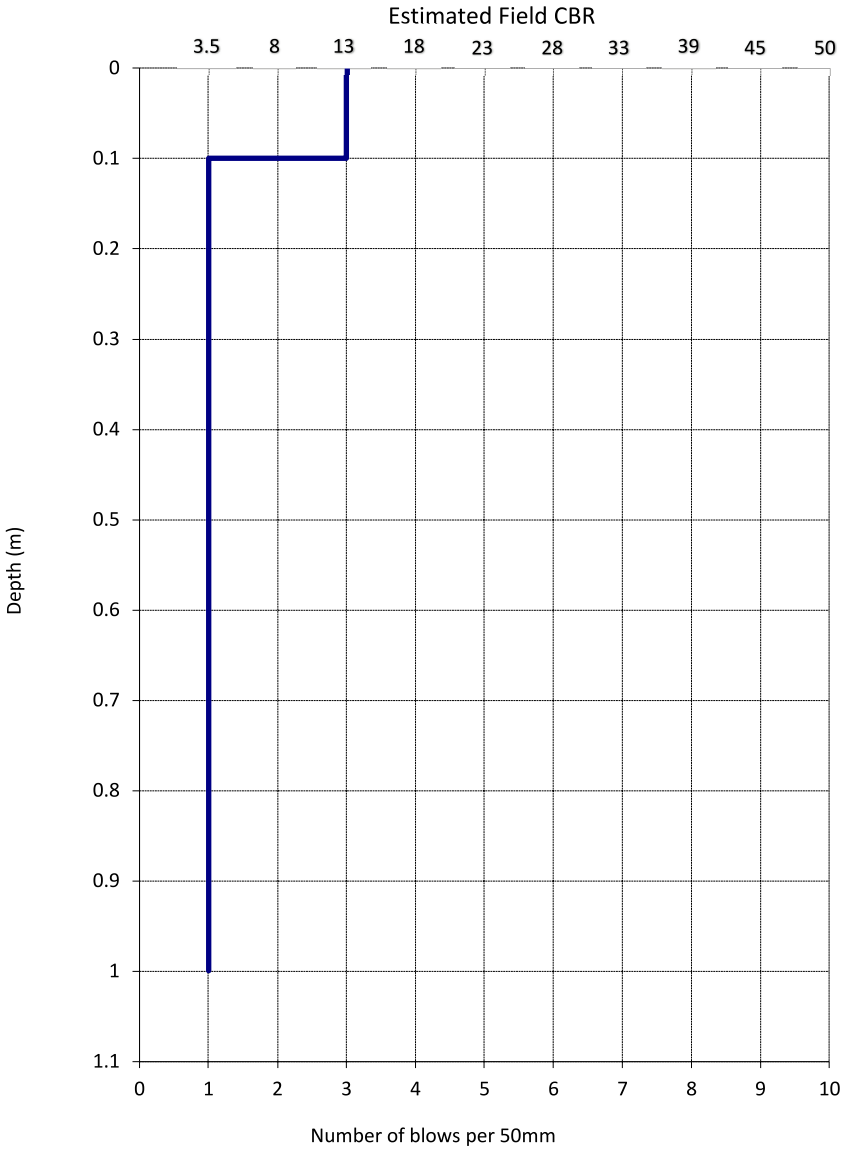
Lab Ref/URN: 56.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	19

Chainage	Offset	Lane
120	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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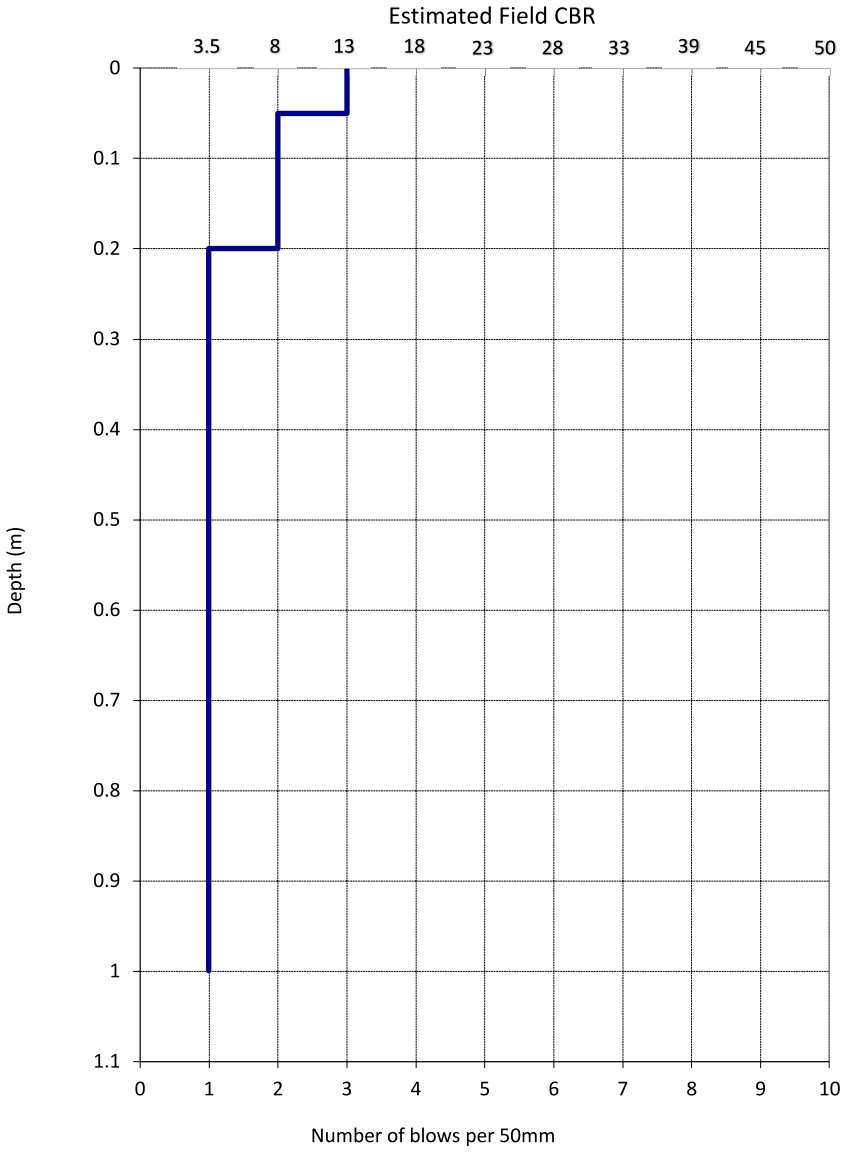
Lab Ref/URN: 56.20

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	20

Chainage	Offset	Lane
110	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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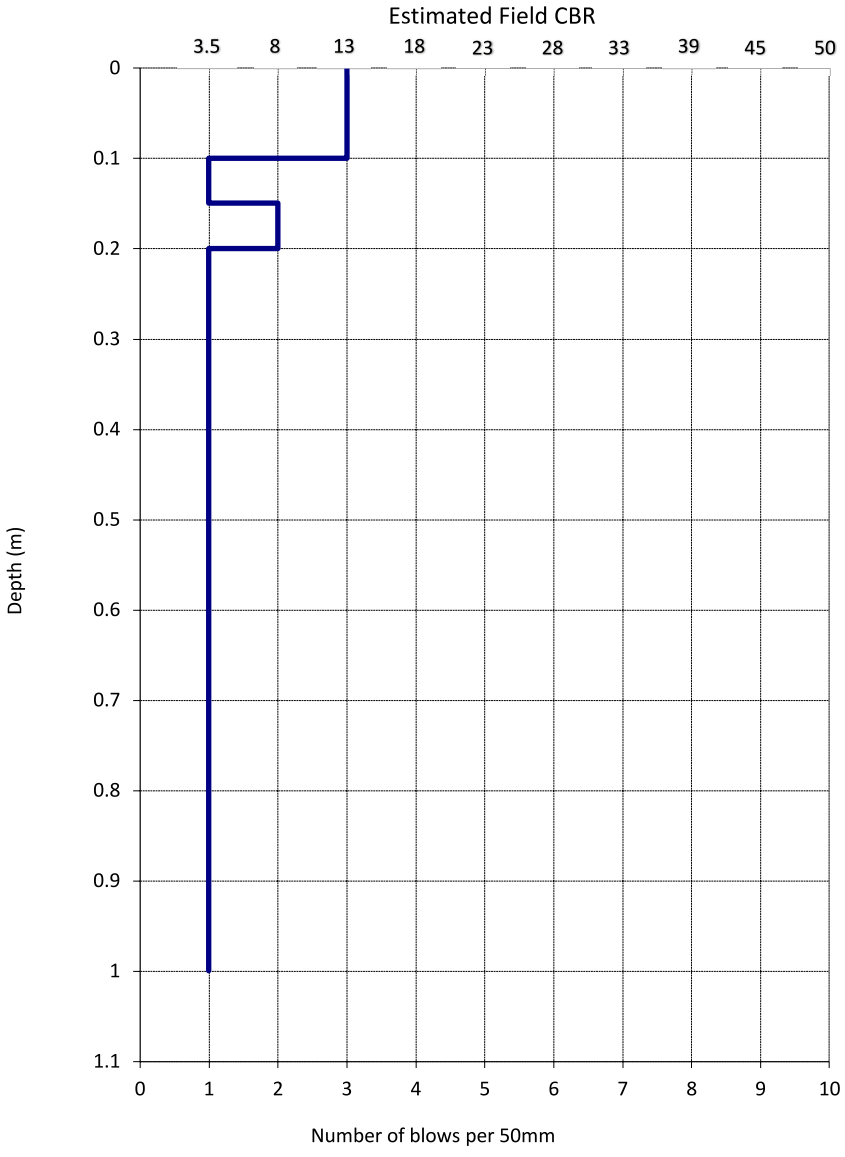
Lab Ref/URN: 56.21

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	21

Chainage	Offset	Lane
100	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	1
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 56.22

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	22

Chainage	Offset	Lane
90	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
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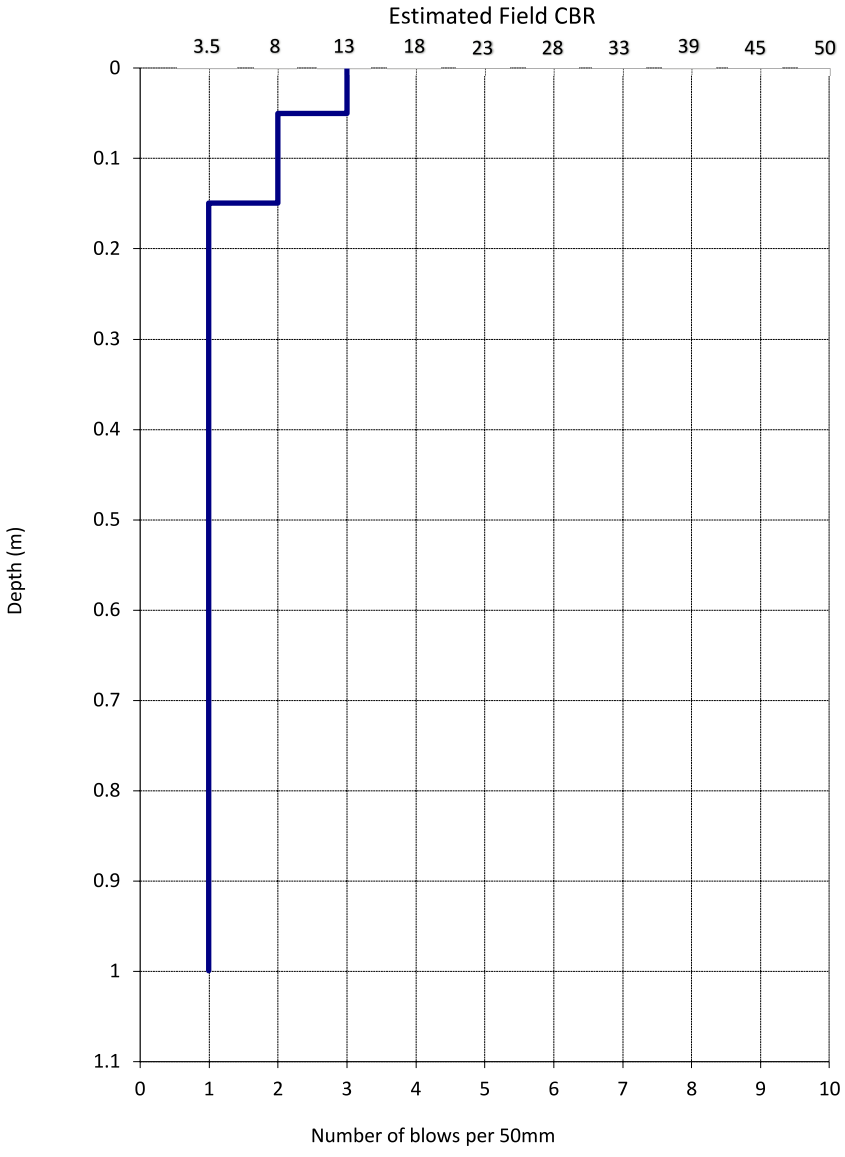
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
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Lab Ref/URN: 56.23

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	23

Chainage	Offset	Lane
80	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
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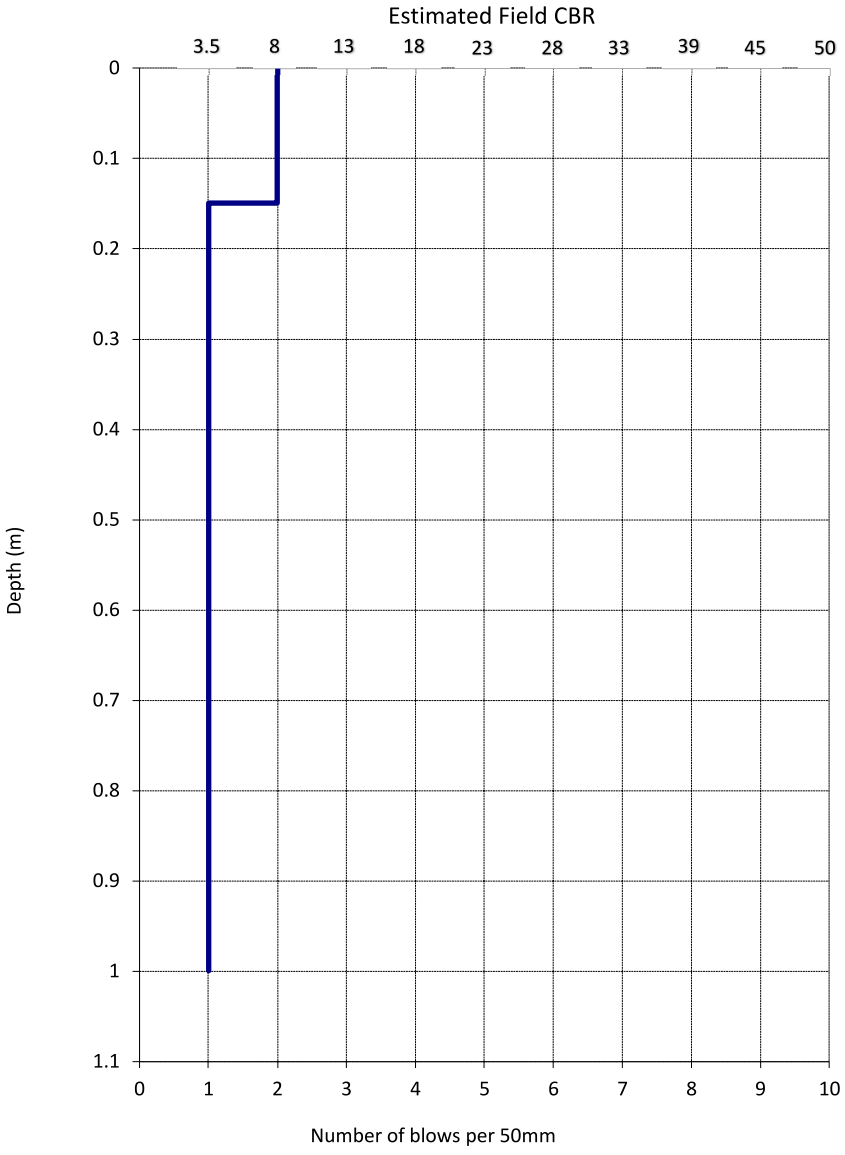
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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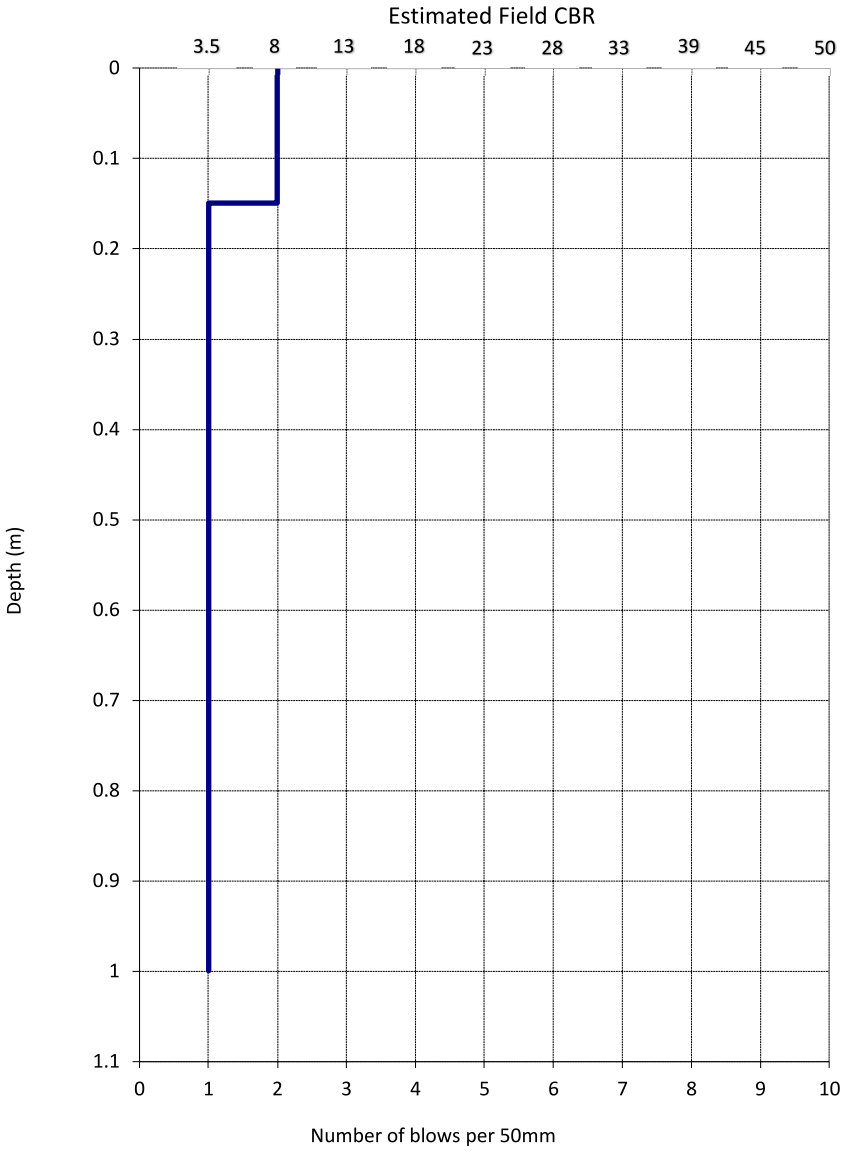
Lab Ref/URN: 56.24

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	24

Chainage	Offset	Lane
70	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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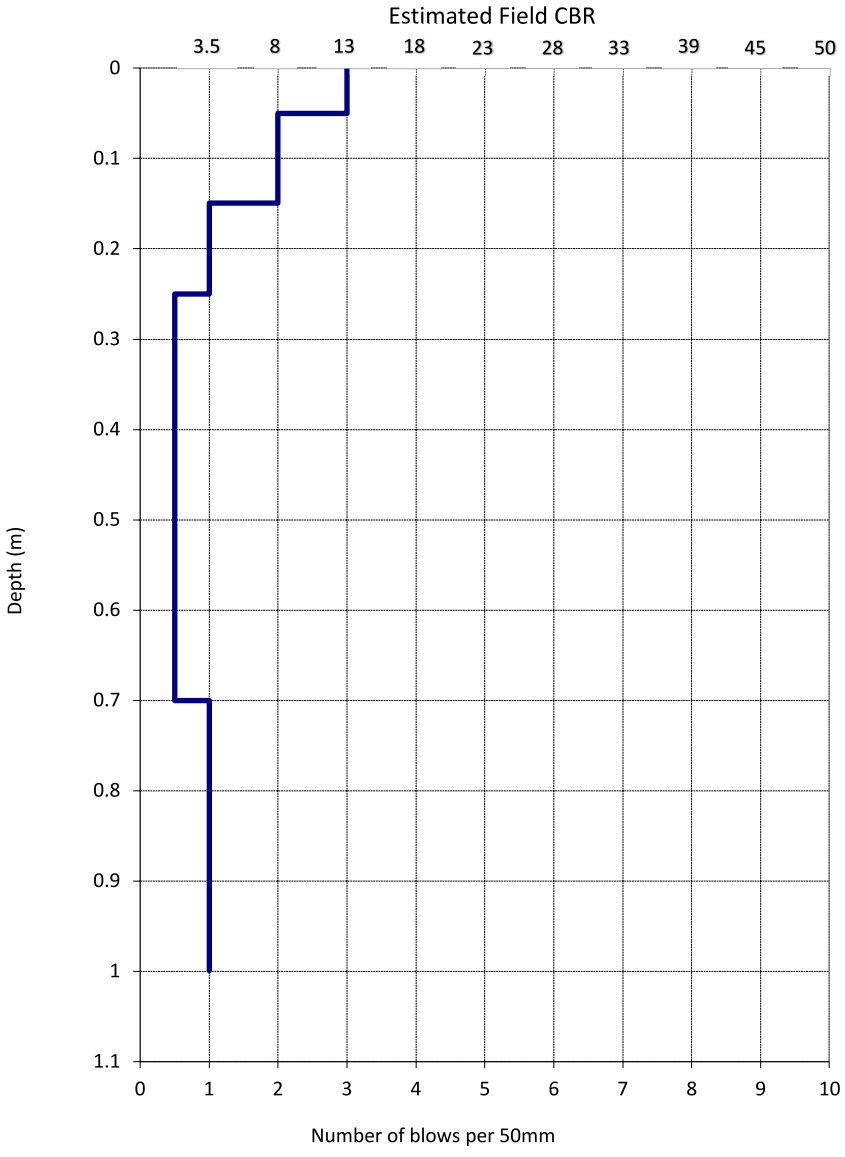
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	25

Chainage	Offset	Lane
60	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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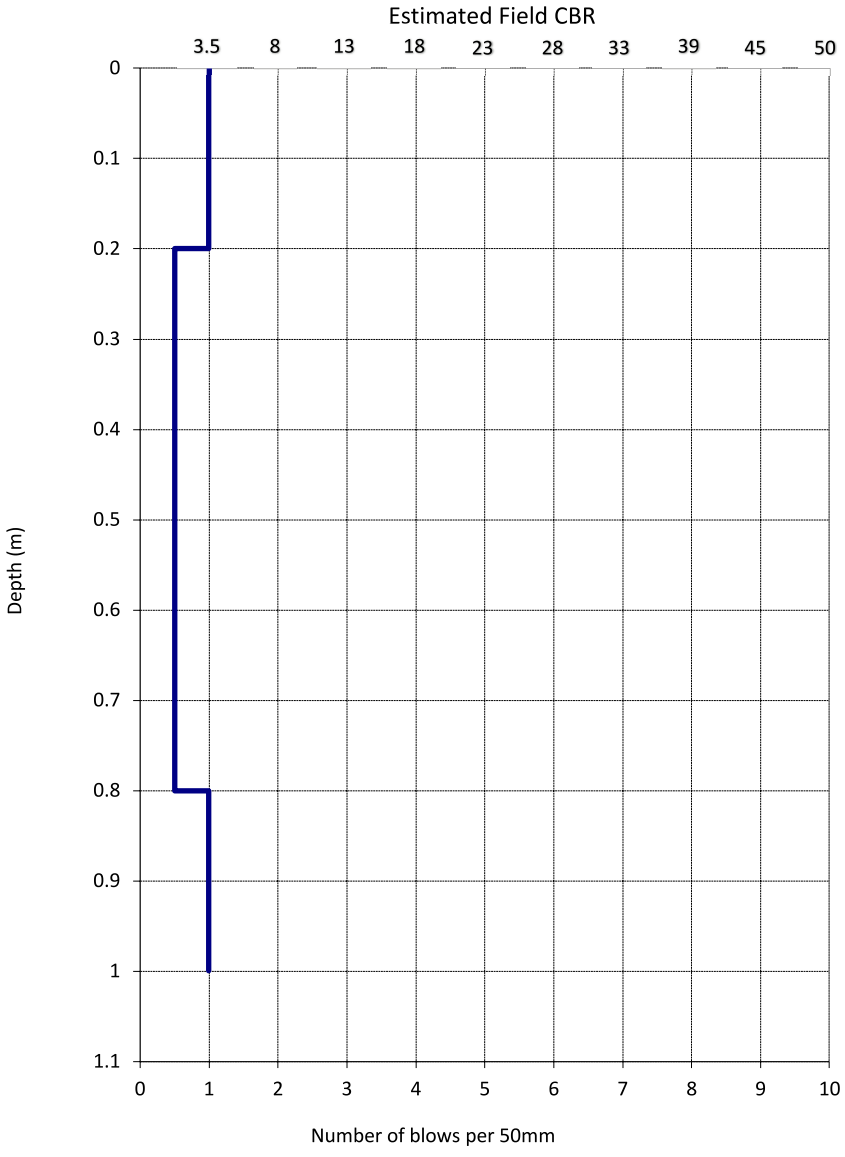
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	26

Chainage	Offset	Lane
50	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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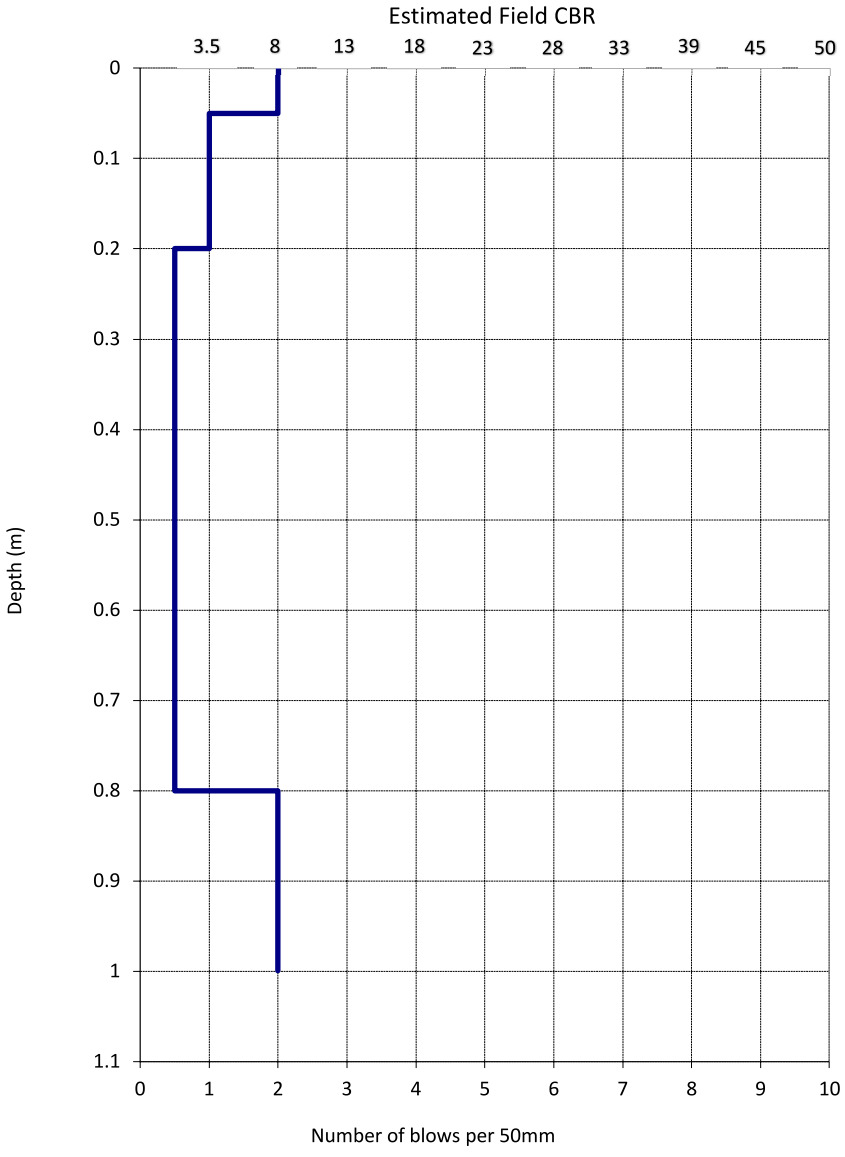
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	27

Chainage	Offset	Lane
40	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	2
900	900	2
950	950	2
1000	1000	2



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Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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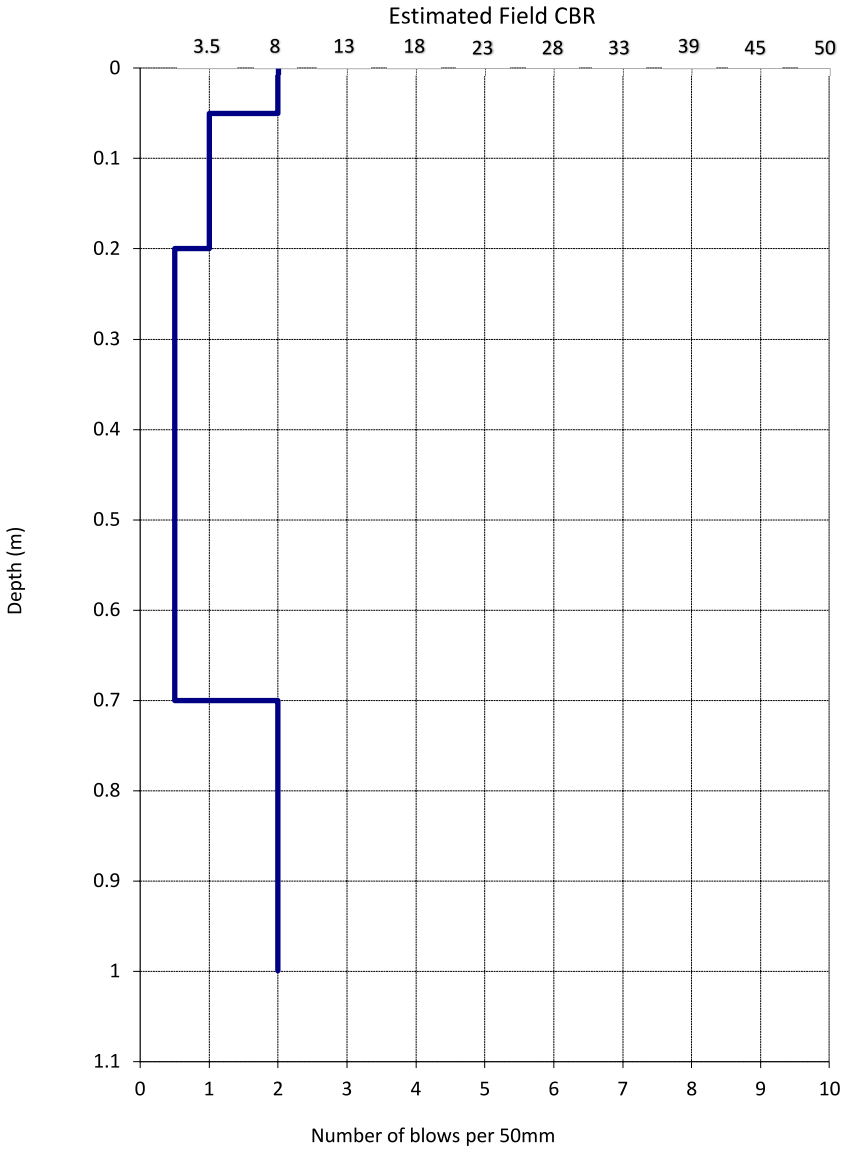
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	28

Chainage	Offset	Lane
30	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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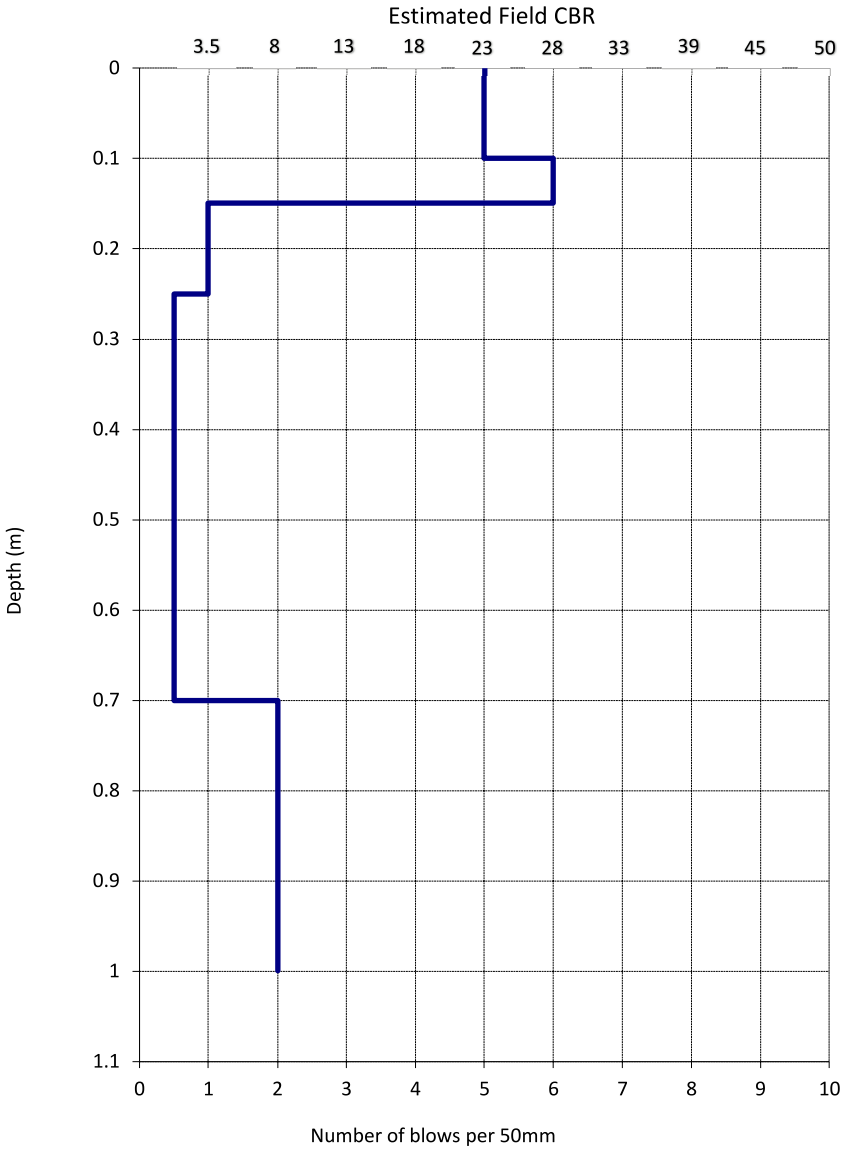
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	29

Chainage	Offset	Lane
20	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	5
100	100	5
150	150	6
200	200	1
250	250	1
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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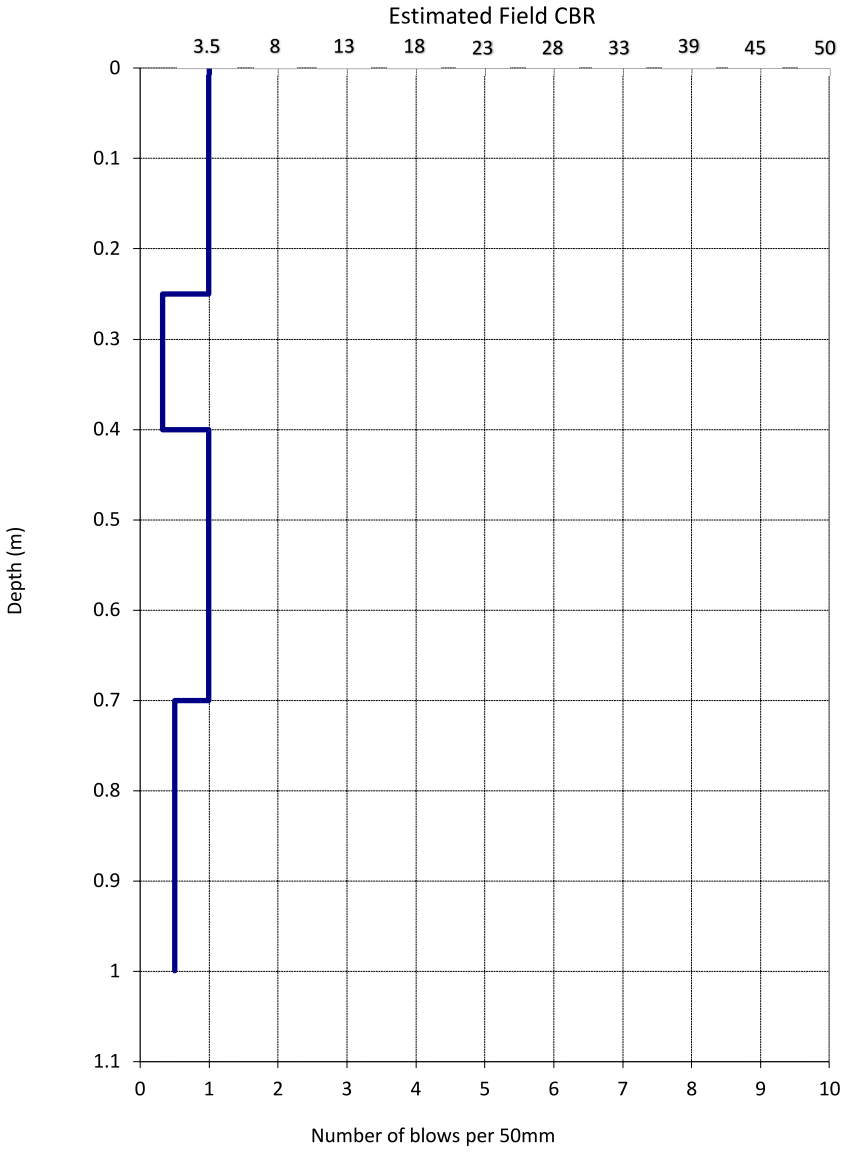
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	30

Chainage	Offset	Lane
80	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	0.33
350	350	0.33
400	400	0.33
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
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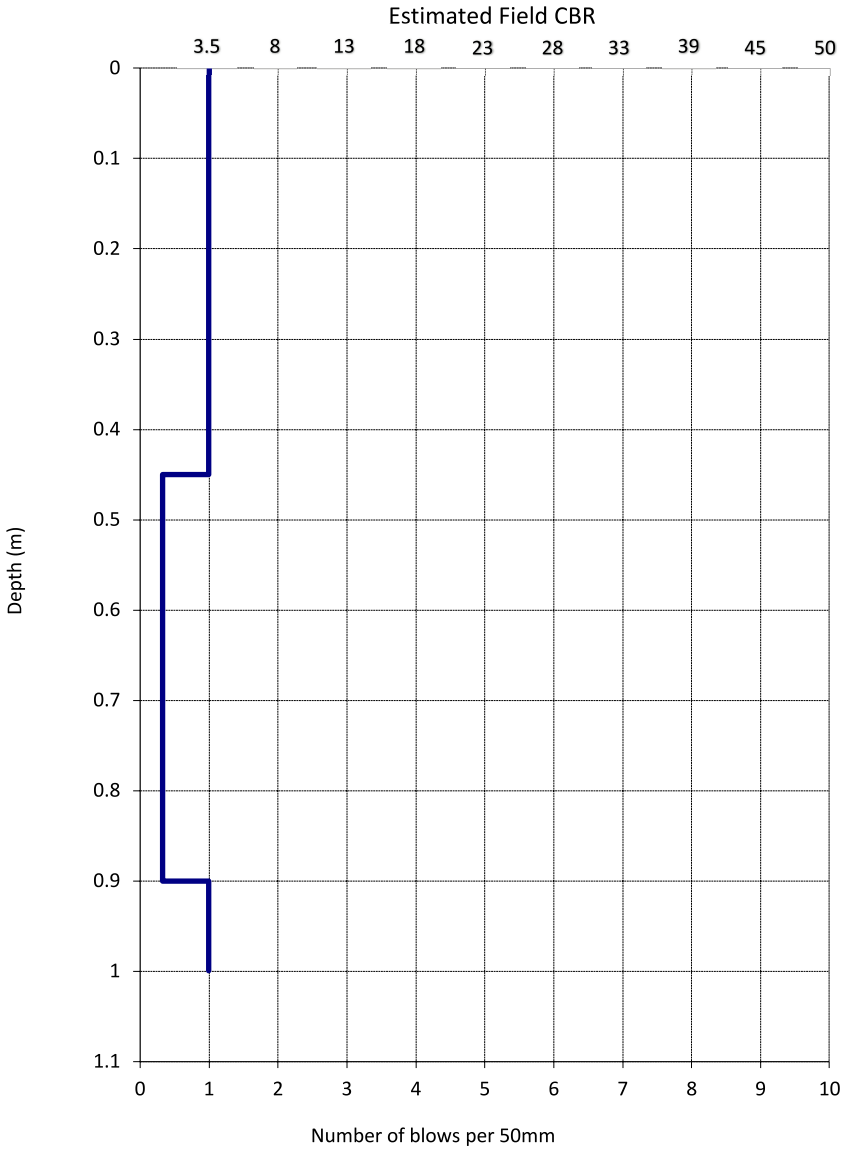
Lab Ref/URN: 56.31

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	31

Chainage	Offset	Lane
70	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	0.33
550	550	0.33
600	600	0.33
650	650	0.33
700	700	0.33
750	750	0.33
800	800	0.33
850	850	0.33
900	900	0.33
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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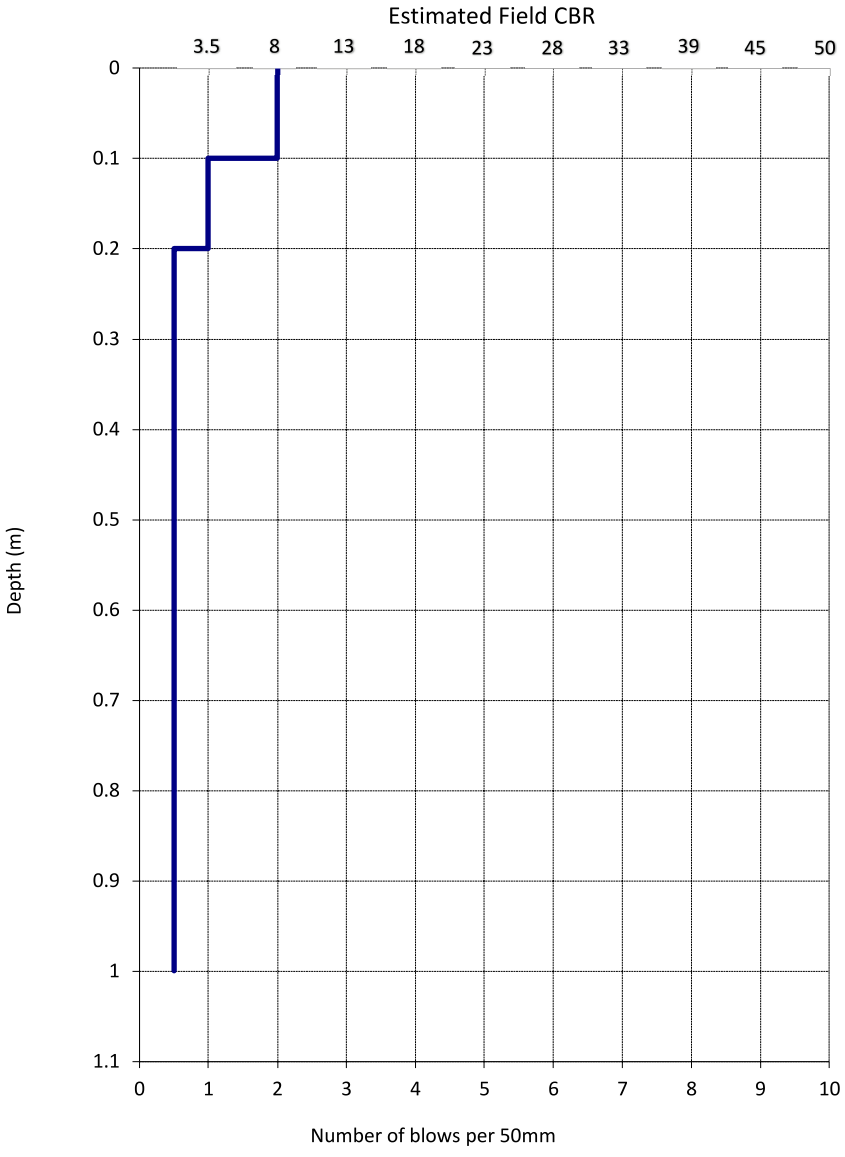
Lab Ref/URN: 56.32

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	32

Chainage	Offset	Lane
60	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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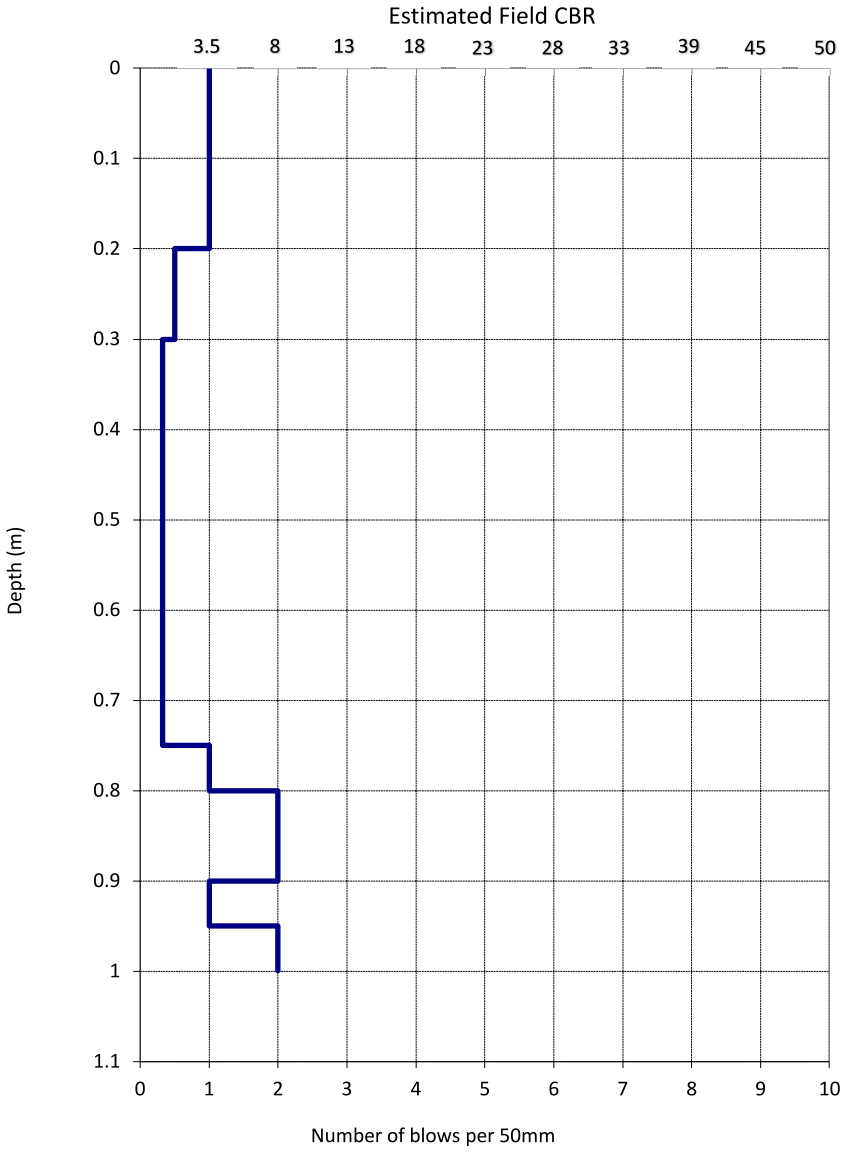
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	33

Chainage	Offset	Lane
50	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	0.33
400	400	0.33
450	450	0.33
500	500	0.33
550	550	0.33
600	600	0.33
650	650	0.33
700	700	0.33
750	750	0.33
800	800	1
850	850	2
900	900	2
950	950	1
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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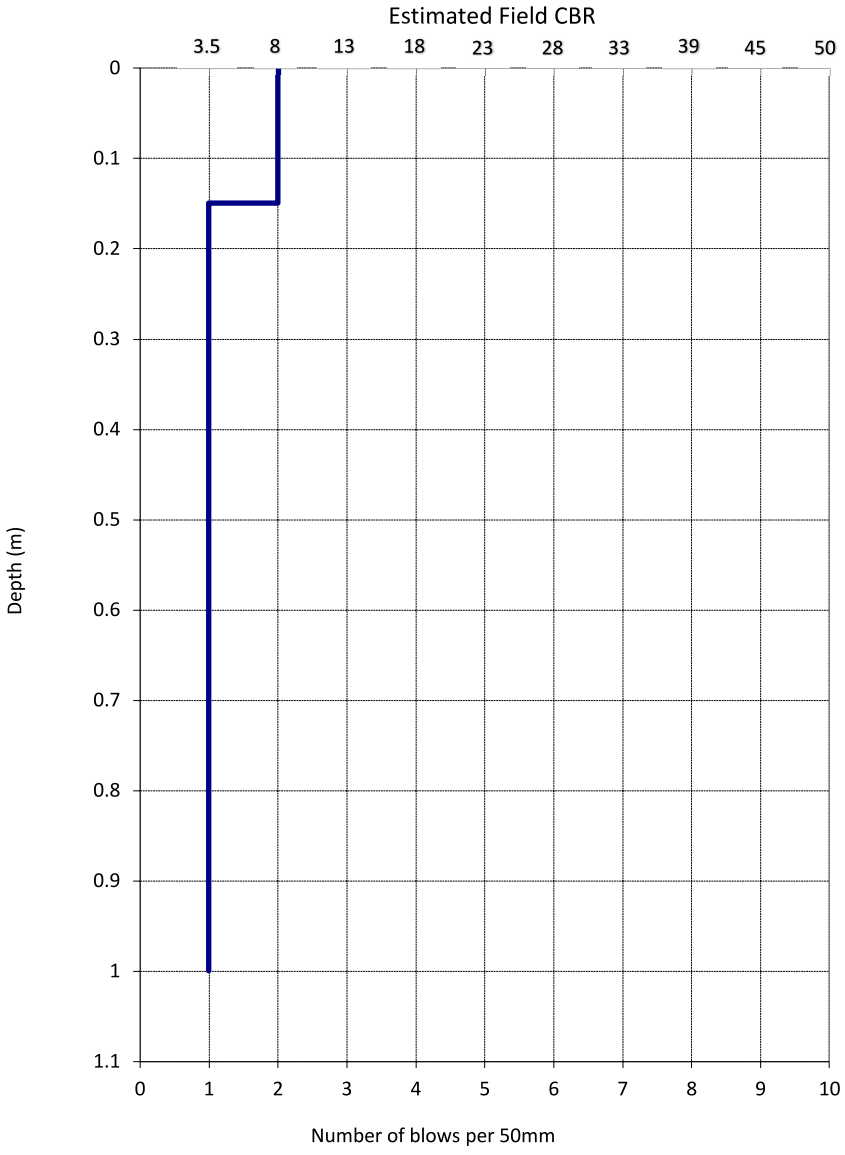
Lab Ref/URN: 56.34

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	34

Chainage	Offset	Lane
40	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



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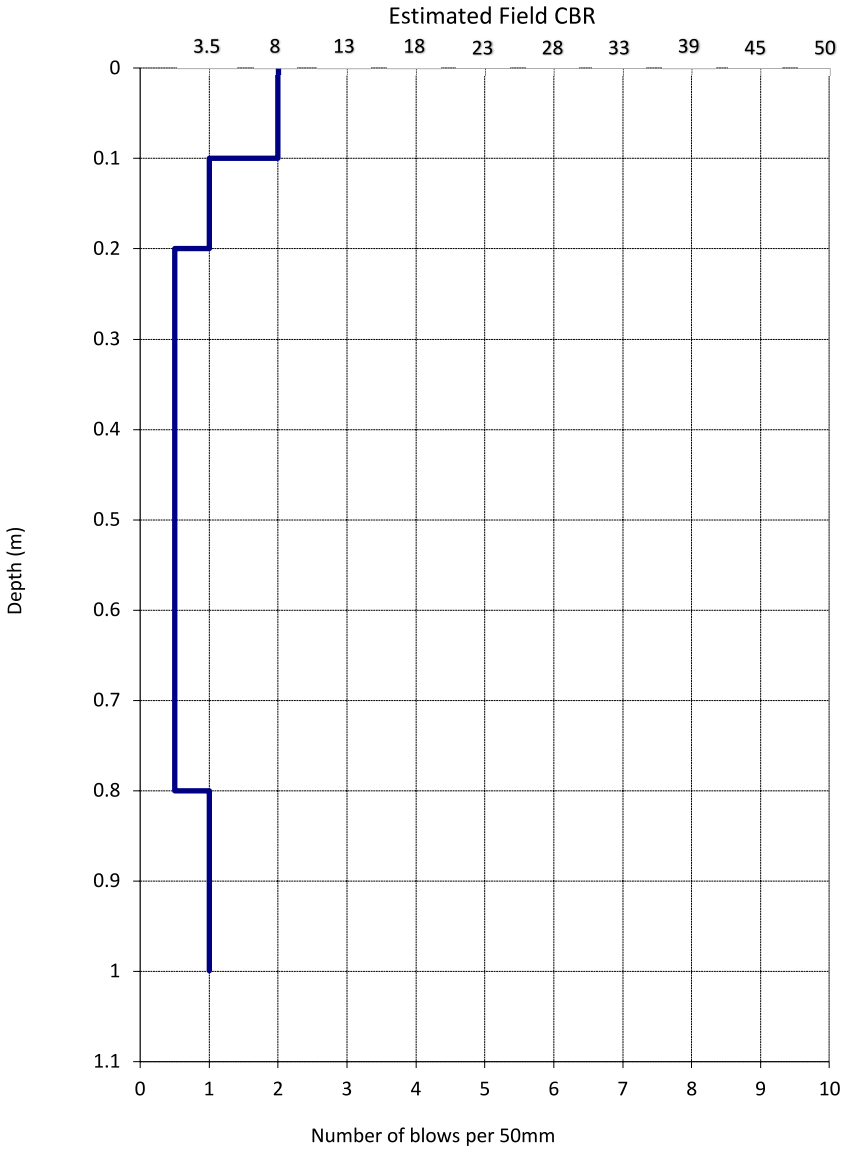
Lab Ref/URN: 56.35

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	35

Chainage	Offset	Lane
30	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
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Lab Ref/URN: 56.36

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	36

Chainage	Offset	Lane
20	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	1
500	500	1
550	550	1
600	600	1
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700	700	1
750	750	1
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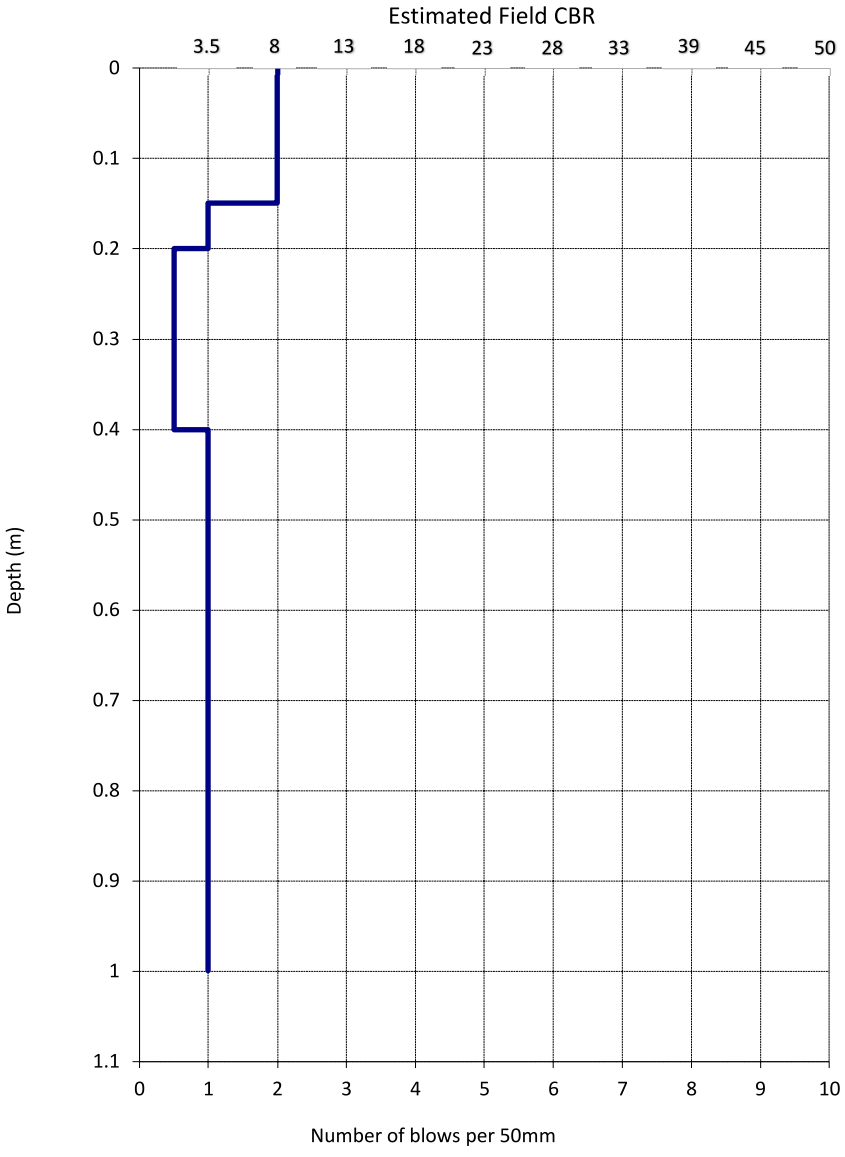
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	15/02/2024
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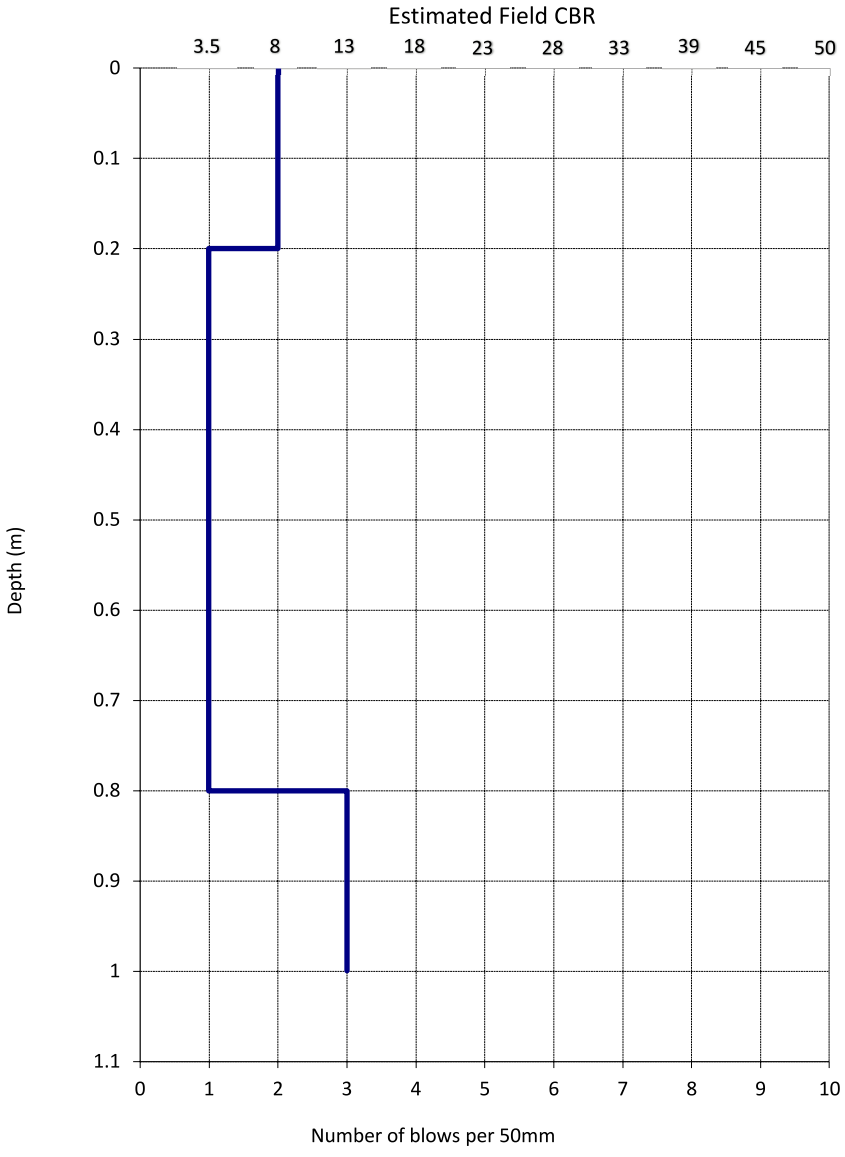
Lab Ref/URN: 56.37

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-37
Depth from ground surface to commencement of penetration (m)	0	Test Number	37

Chainage	Offset	Lane
10	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	15/02/2024
Data Entry By	MIBR	Date	16/02/2024
Checked By	JWAL	Date	29/07/2024

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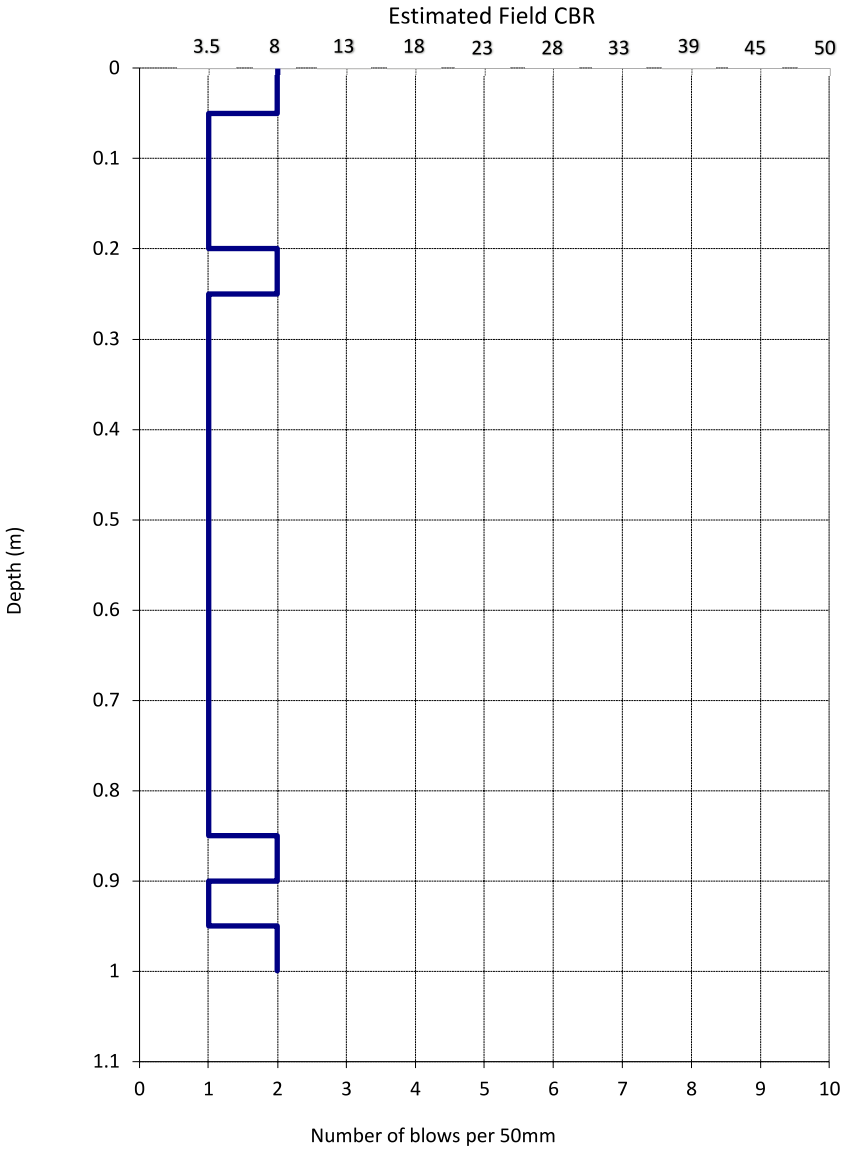
Lab Ref/URN: 57.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	1

Chainage	Offset	Lane
560	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	2
950	950	1
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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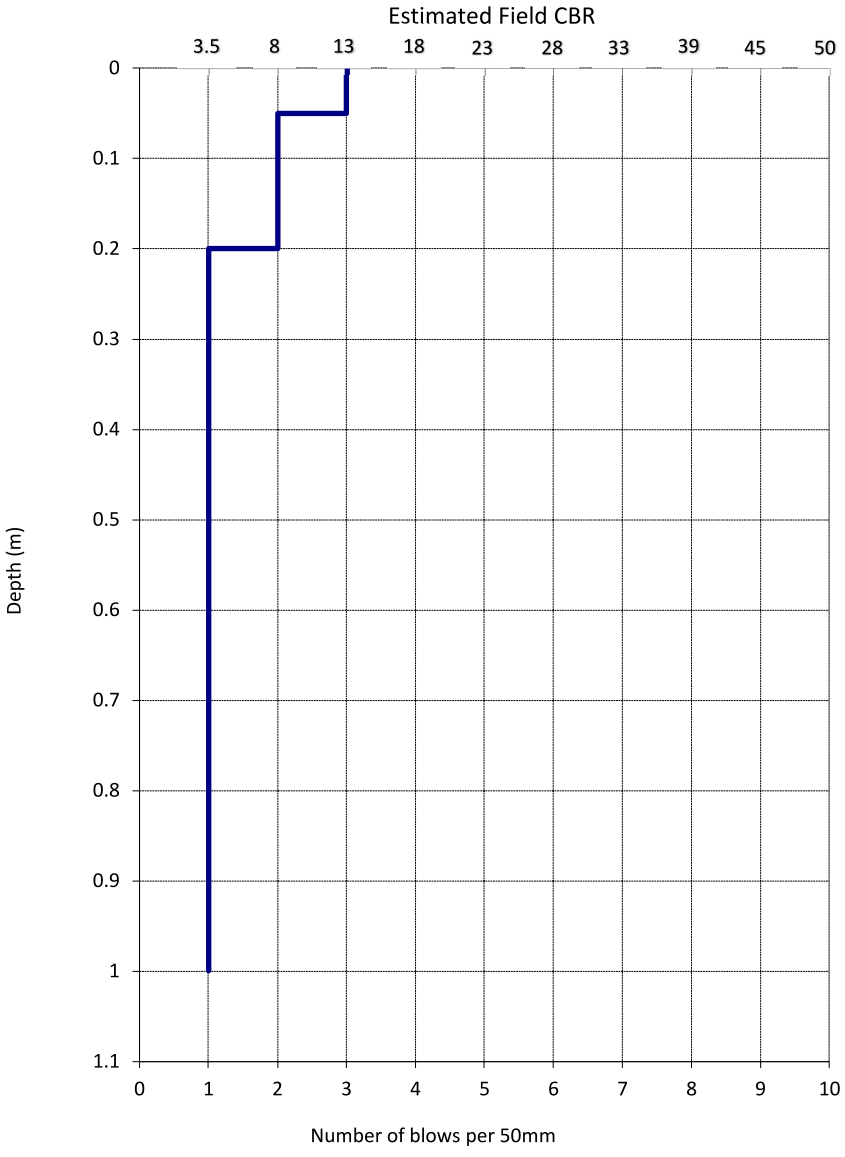
Lab Ref/URN: 57.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	2

Chainage	Offset	Lane
550	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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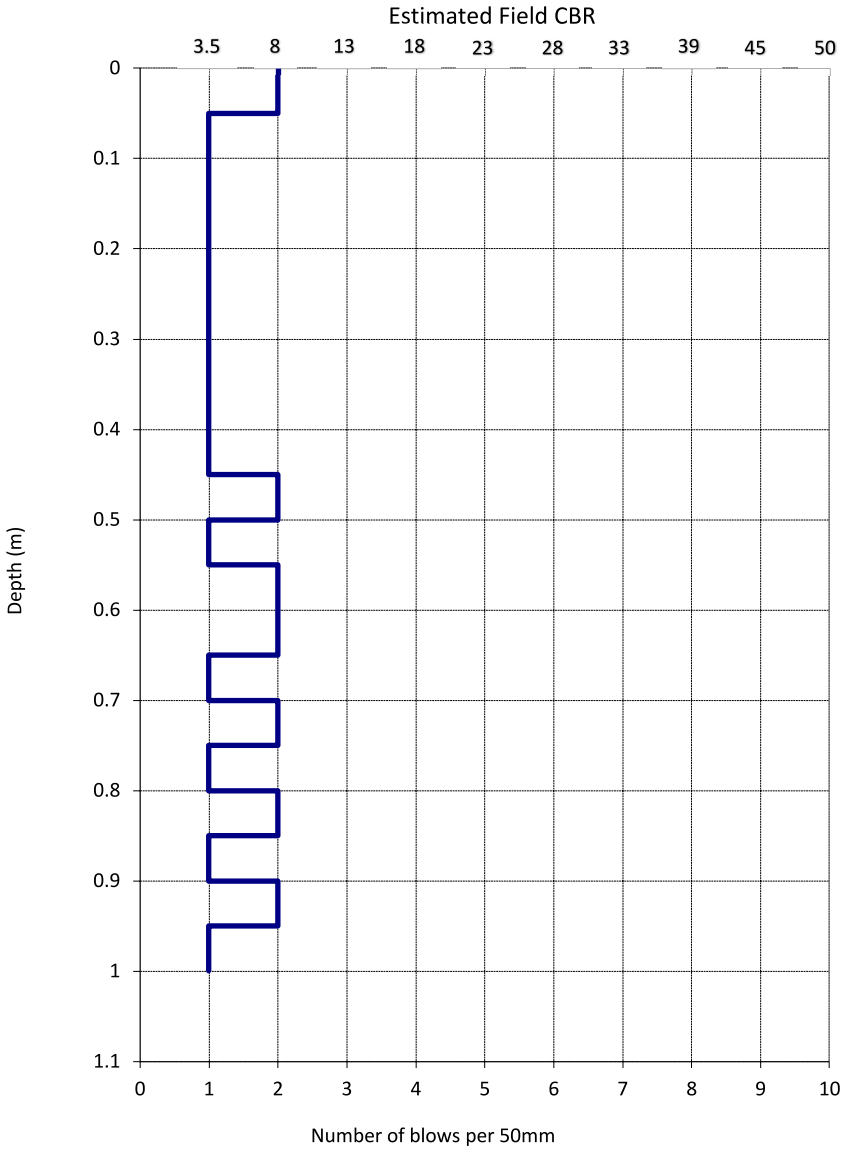
Lab Ref/URN: 57.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	3

Chainage	Offset	Lane
540	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	2
550	550	1
600	600	2
650	650	2
700	700	1
750	750	2
800	800	1
850	850	2
900	900	1
950	950	2
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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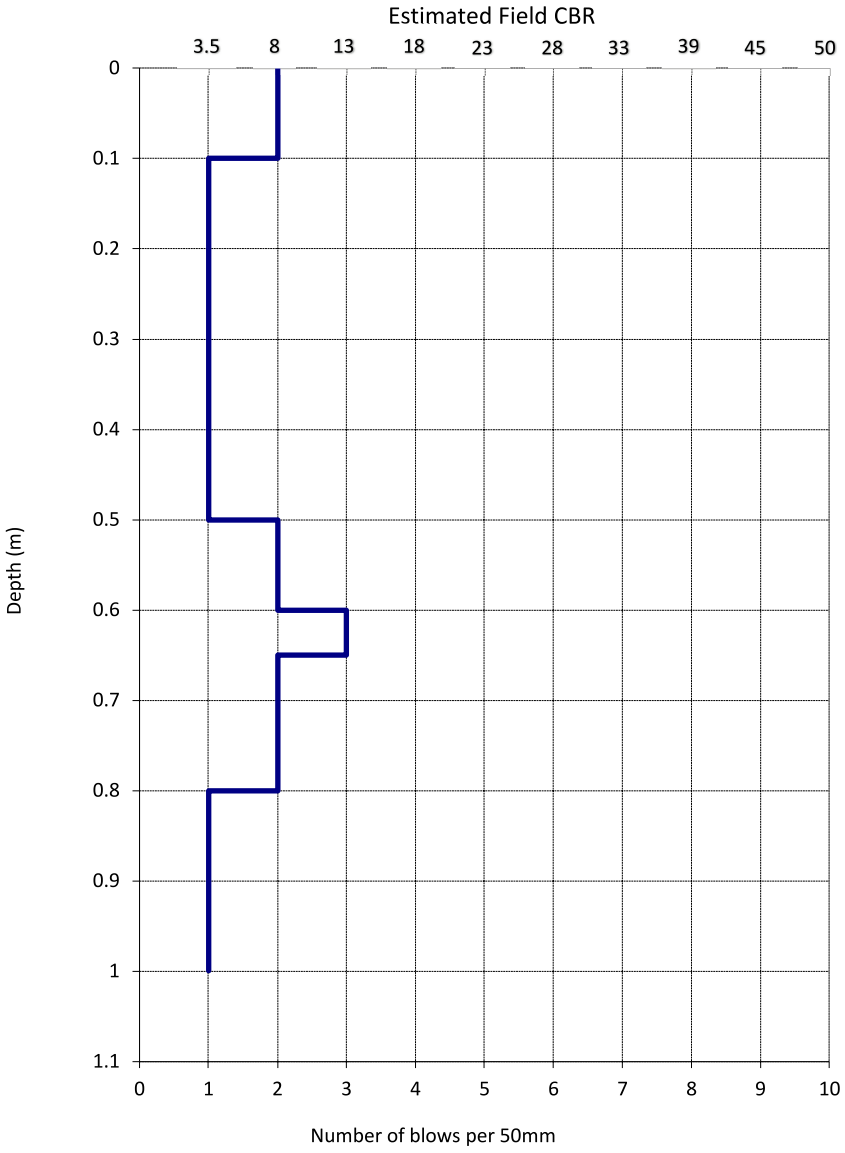
Lab Ref/URN: 57.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	4

Chainage	Offset	Lane
530	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	2
600	600	2
650	650	3
700	700	2
750	750	2
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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Lab Ref/URN: 57.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	5

Chainage	Offset	Lane
520	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	2
250	250	1
300	300	2
350	350	2
400	400	1
450	450	2
500	500	2
550	550	2
600	600	2
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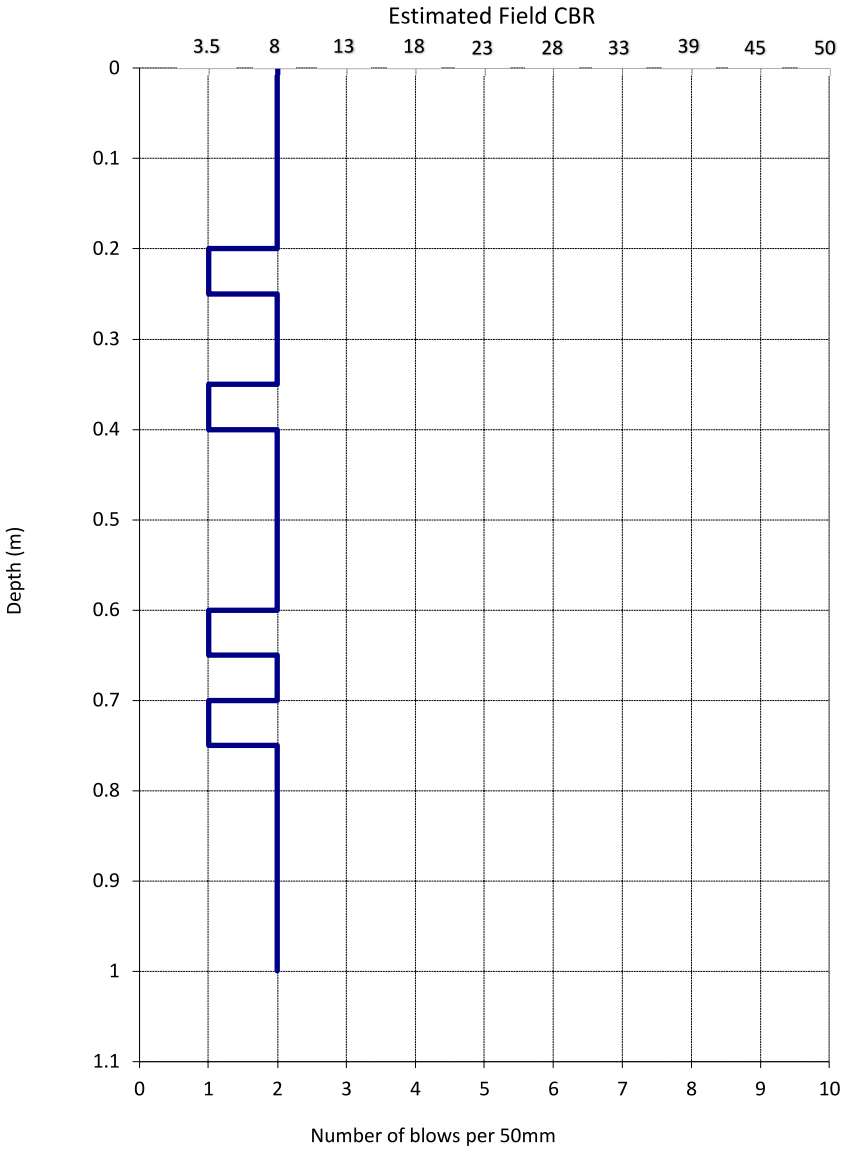
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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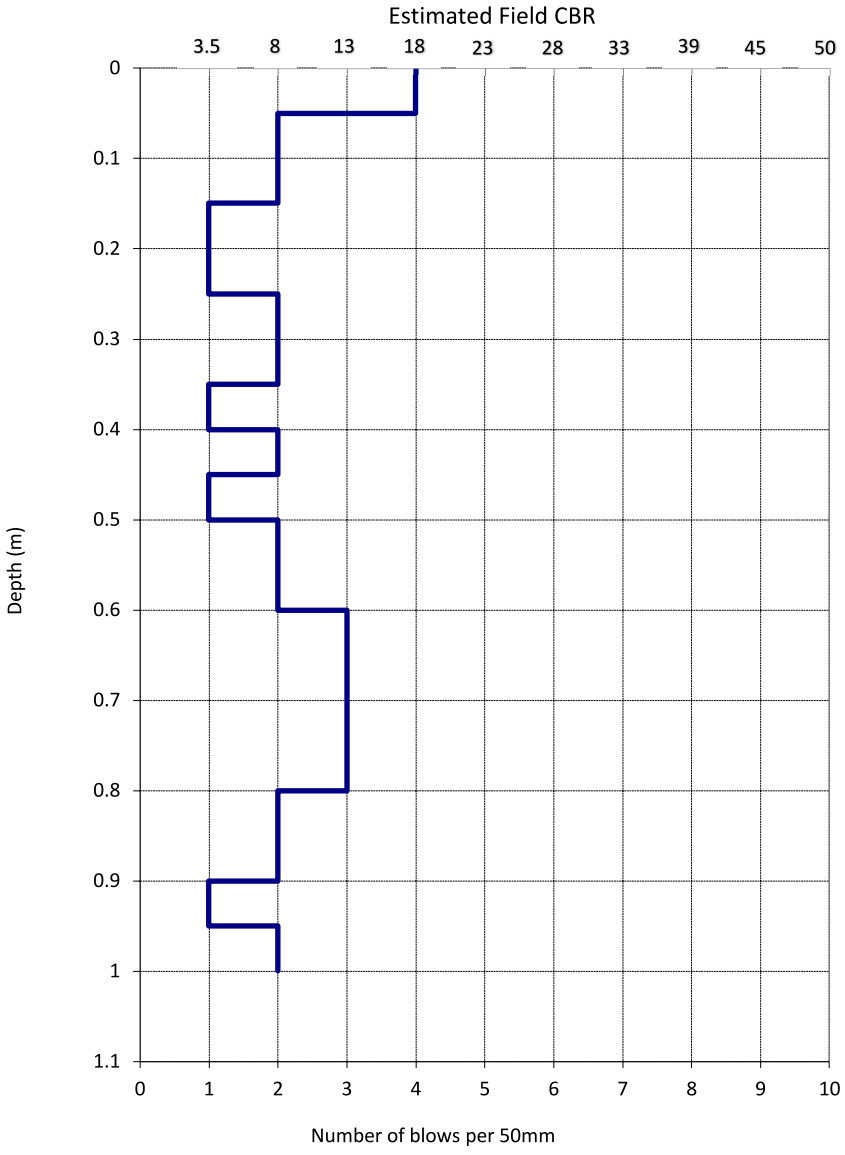
Lab Ref/URN: 57.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	6

Chainage	Offset	Lane
510	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	2
150	150	2
200	200	1
250	250	1
300	300	2
350	350	2
400	400	1
450	450	2
500	500	1
550	550	2
600	600	2
650	650	3
700	700	3
750	750	3
800	800	3
850	850	2
900	900	2
950	950	1
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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Lab Ref/URN: 57.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	7

Chainage	Offset	Lane
500	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	1
450	450	2
500	500	2
550	550	2
600	600	2
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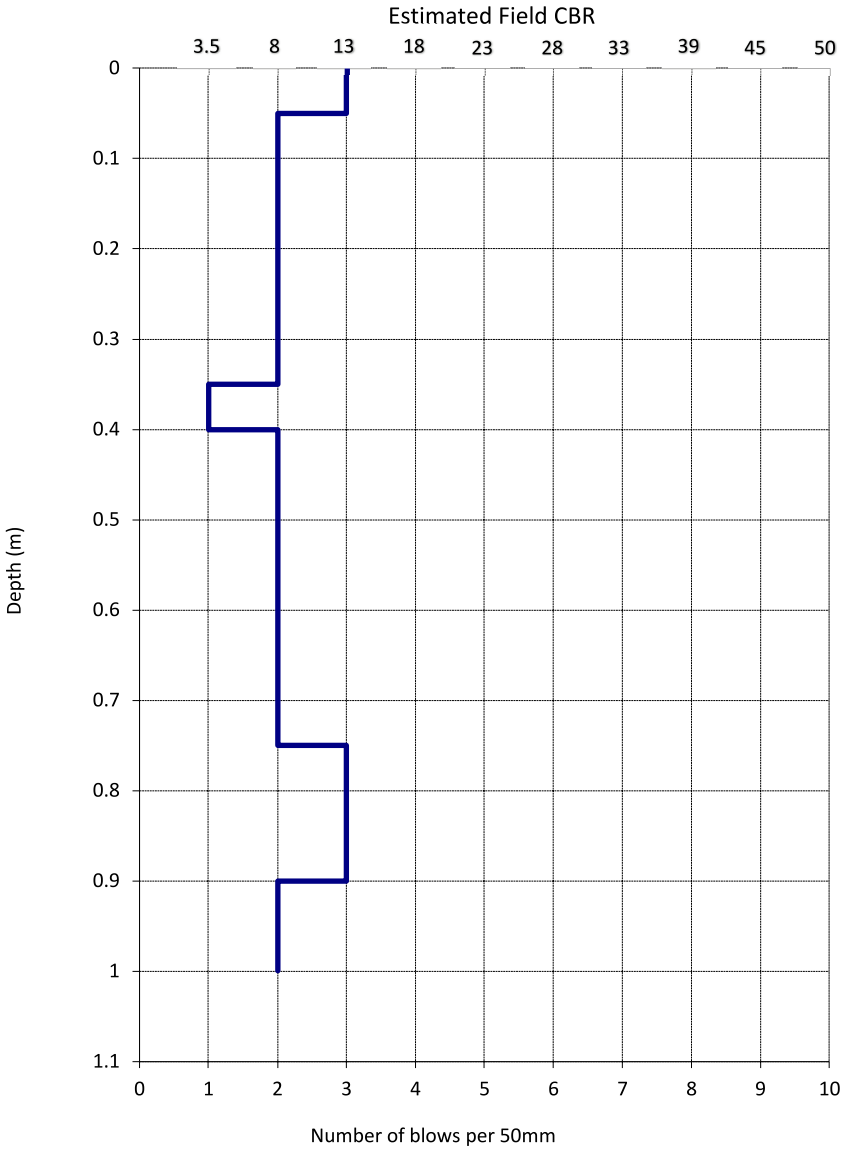
750	750	2
800	800	3
850	850	3
900	900	3
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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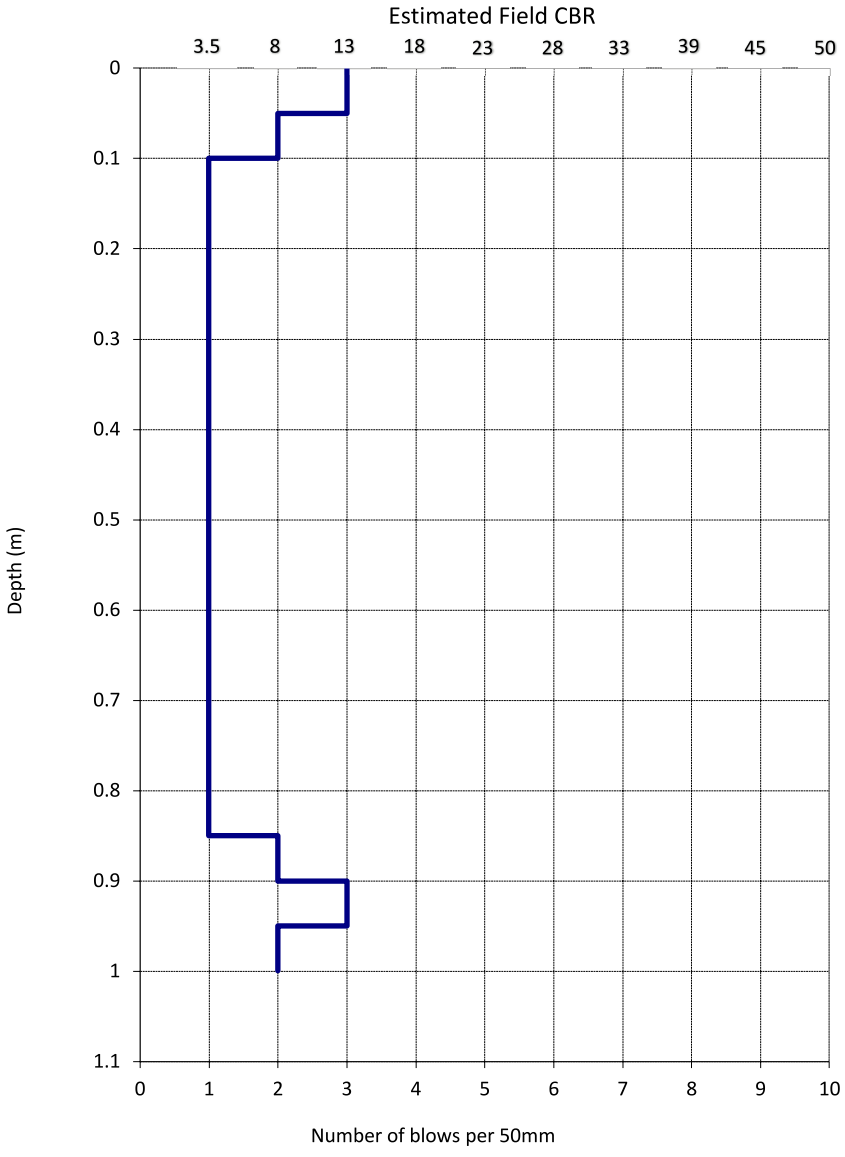
Lab Ref/URN: 57.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	8

Chainage	Offset	Lane
490	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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Lab Ref/URN: 57.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	9

Chainage	Offset	Lane
480	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	2
300	300	1
350	350	1
400	400	2
450	450	1
500	500	2
550	550	1
600	600	2
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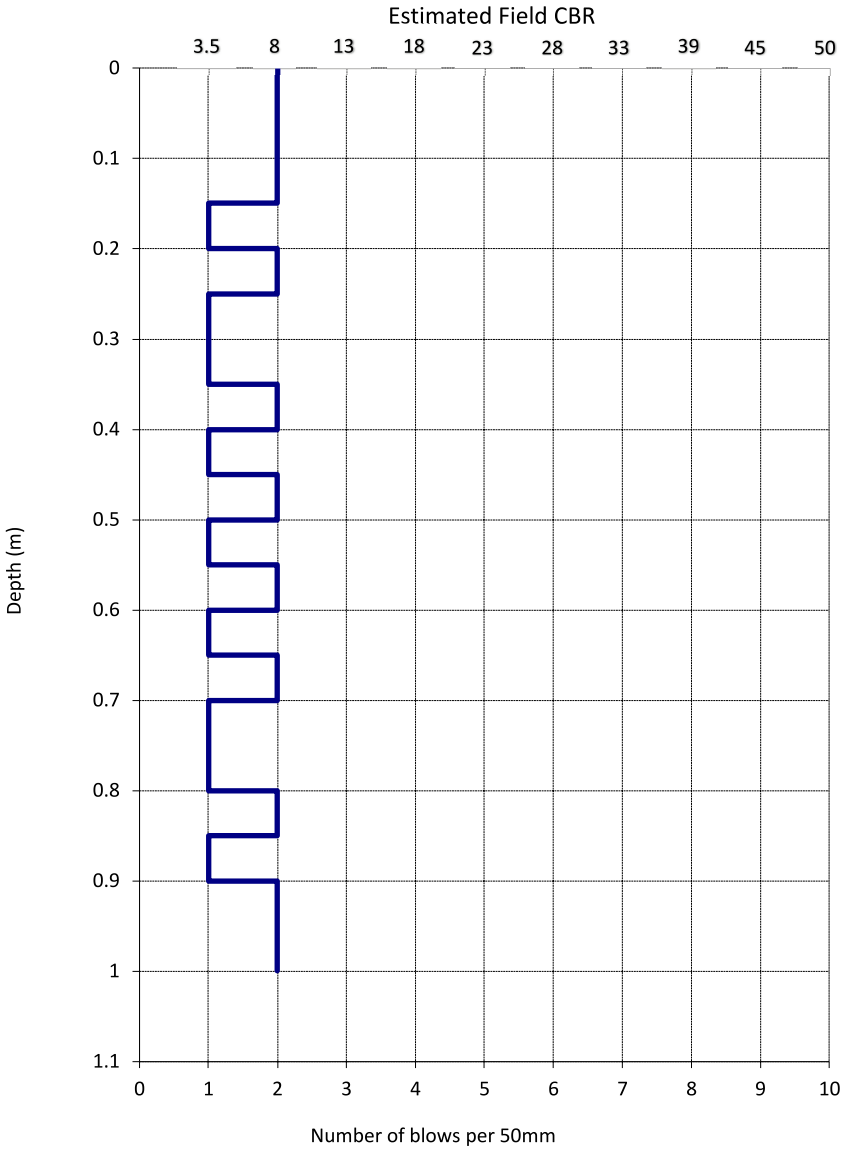
900	900	1
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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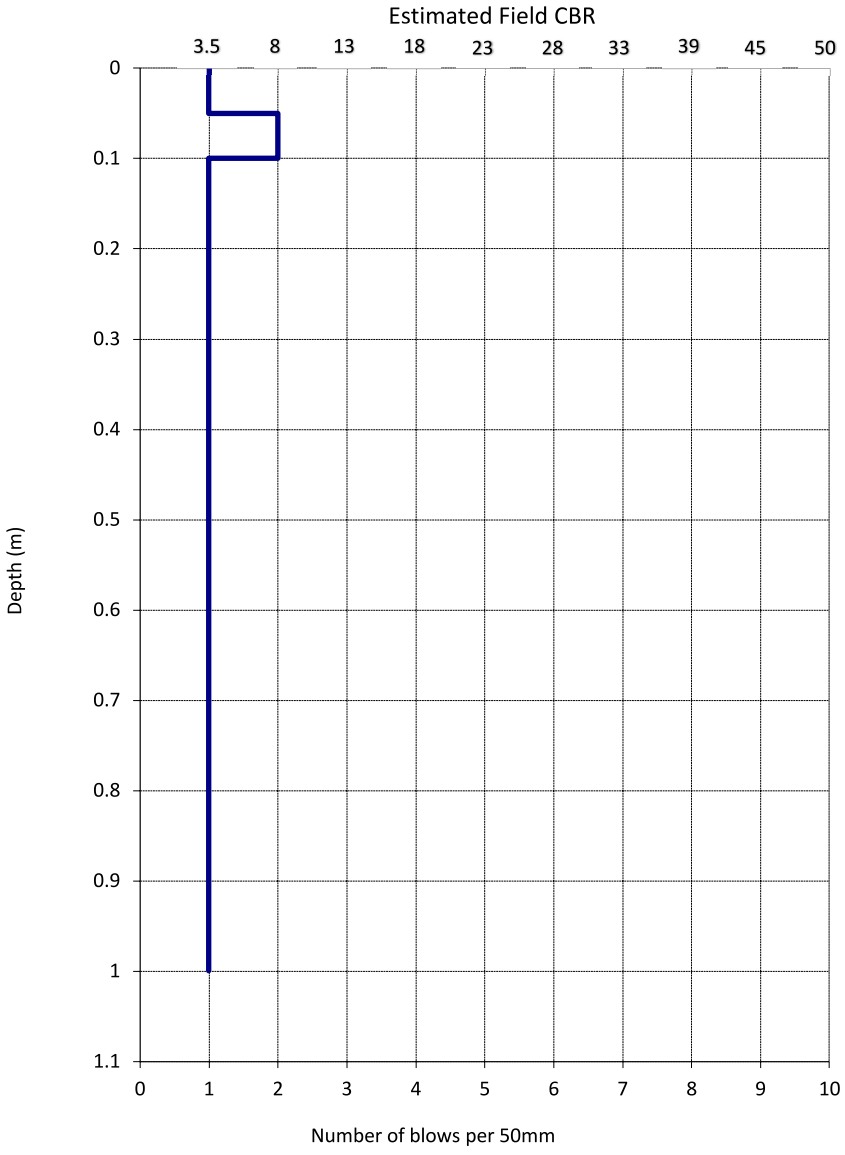
Lab Ref/URN: 57.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	10

Chainage	Offset	Lane
470	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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Lab Ref/URN: 57.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-11
Depth from ground surface to commencement of penetration (m)	0	Test Number	11

Chainage	Offset	Lane
460	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	3
150	150	2
200	200	1
250	250	2
300	300	1
350	350	1
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
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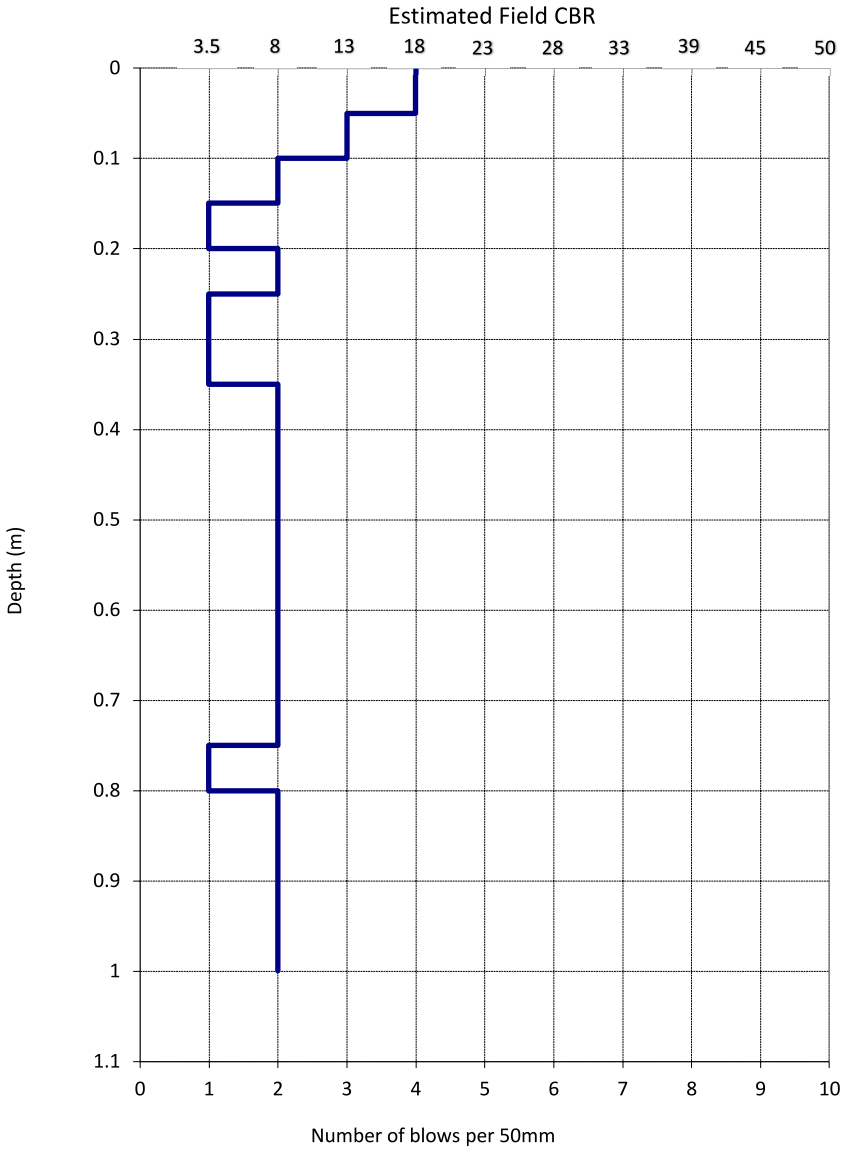
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	19/02/2024
Data Entry By	MIBR	Date	19/02/2024
Checked By	LUGR	Date	30/07/2024

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Lab Ref/URN

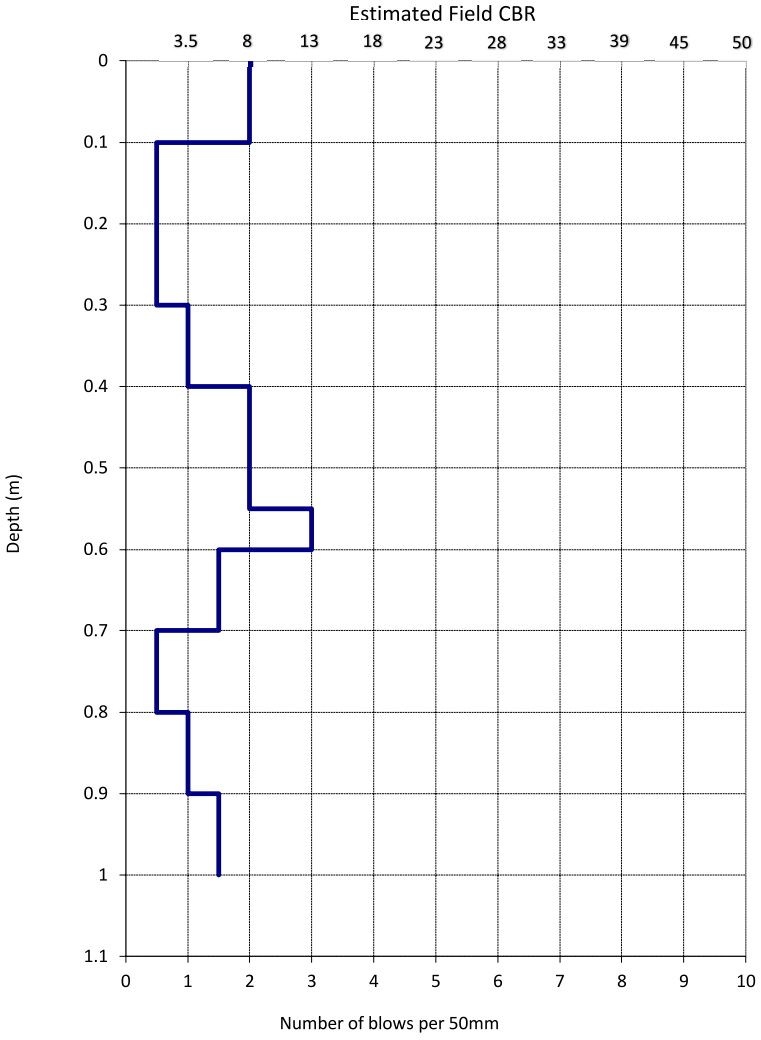
63.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	DCP1

Chainage	Offset	Lane
600	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	3
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN

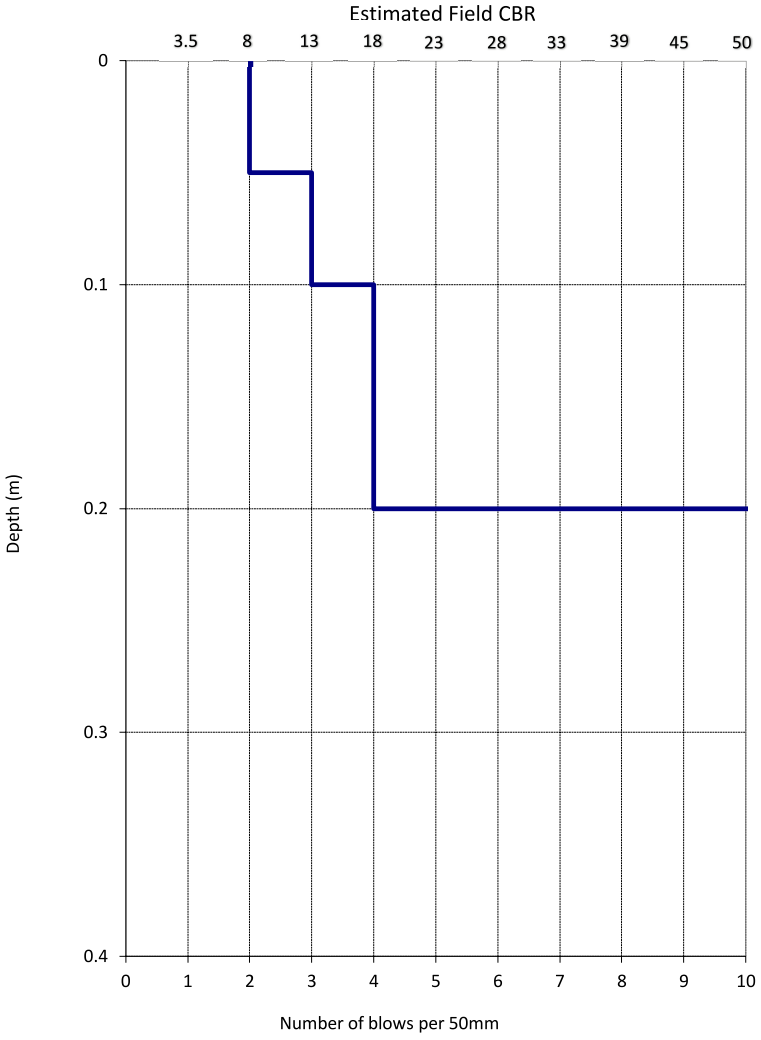
63.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	DCP2

Chainage	Offset	Lane
590	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	4
200	200	4
250	250	12
300	300	UTP
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 300 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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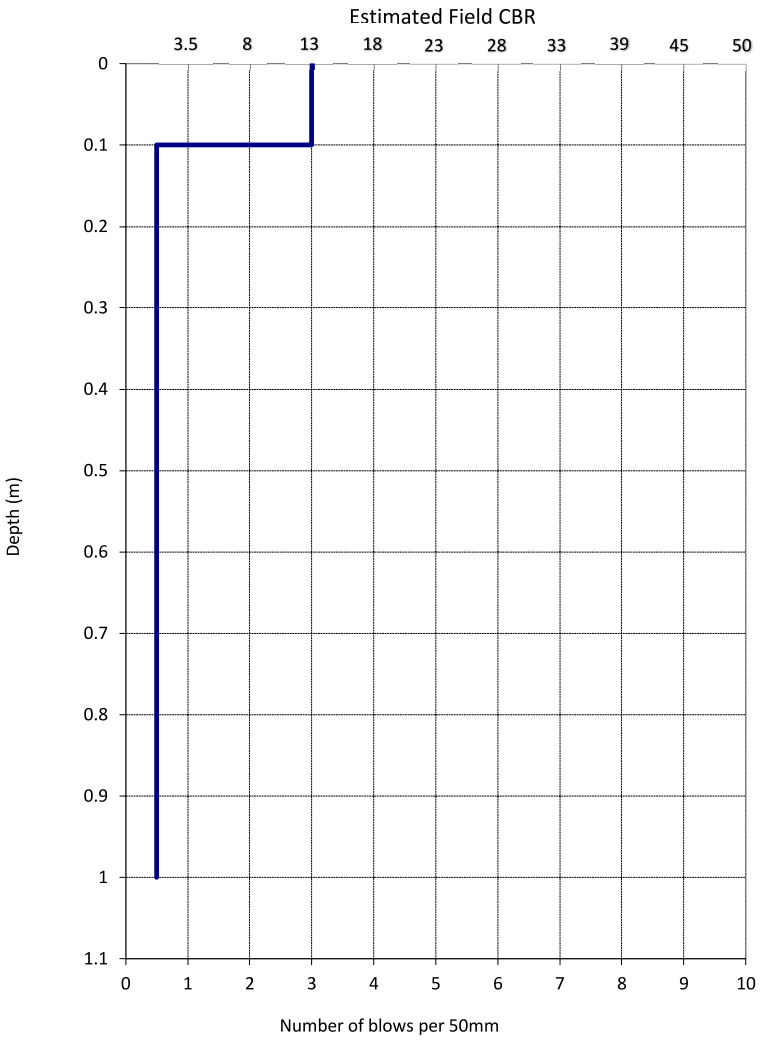
63.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	DCP3

Chainage	Offset	Lane
580	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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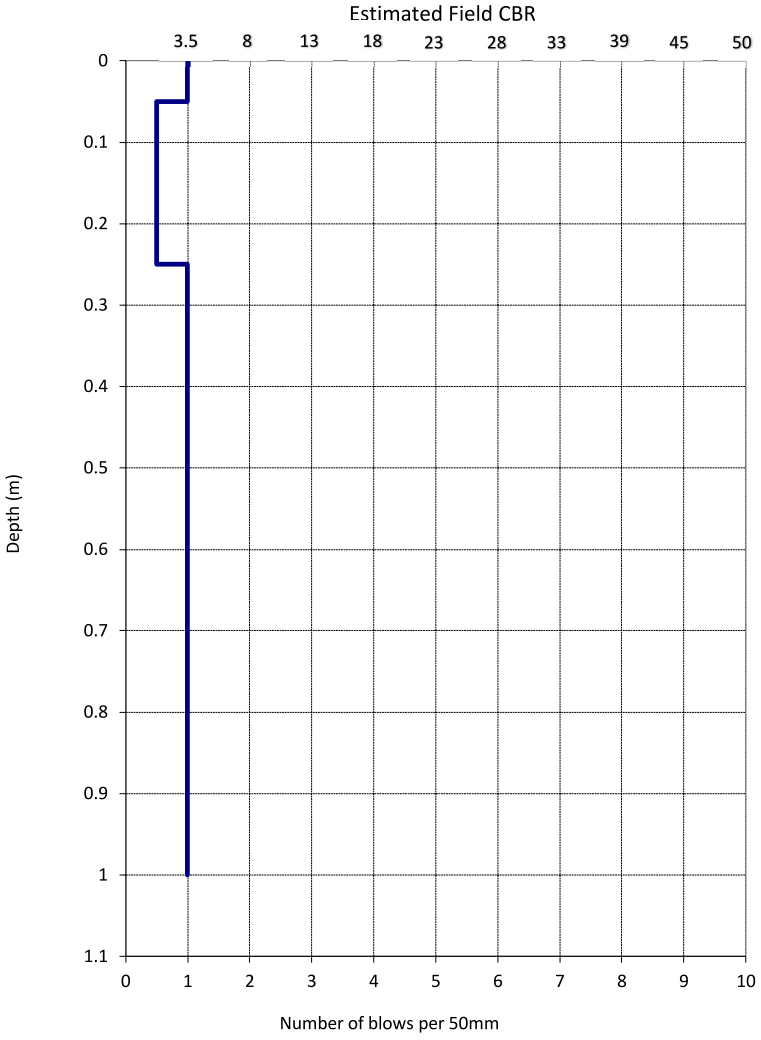
63.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
450	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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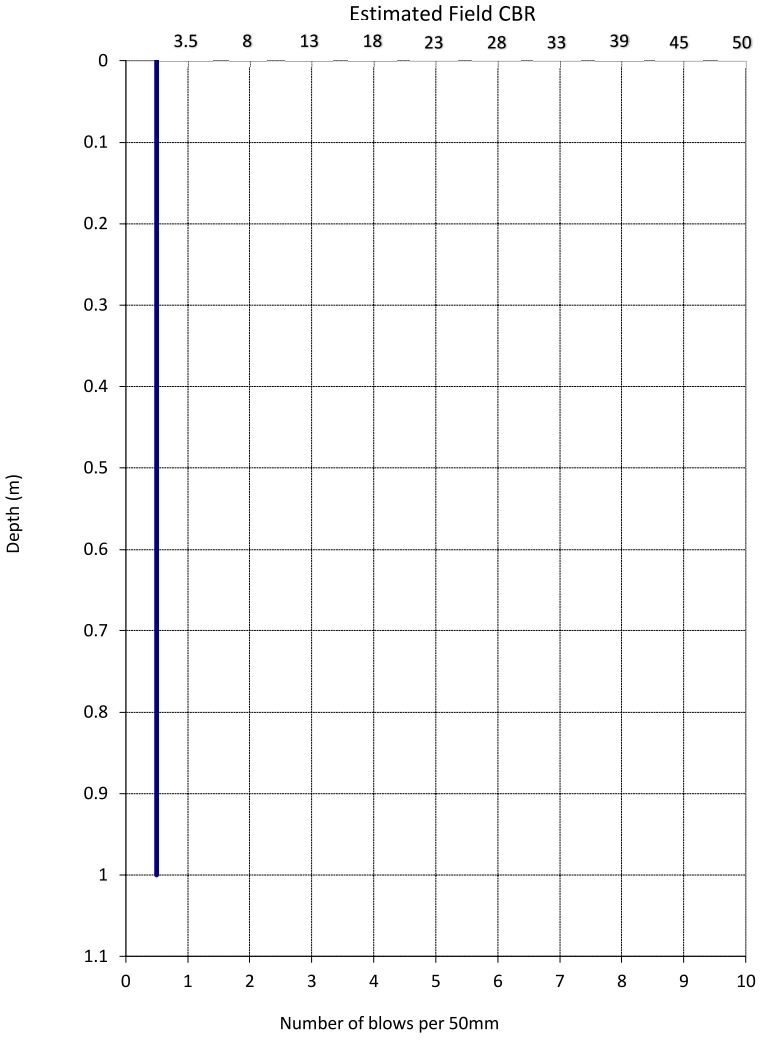
63.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
440	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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63.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
430	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
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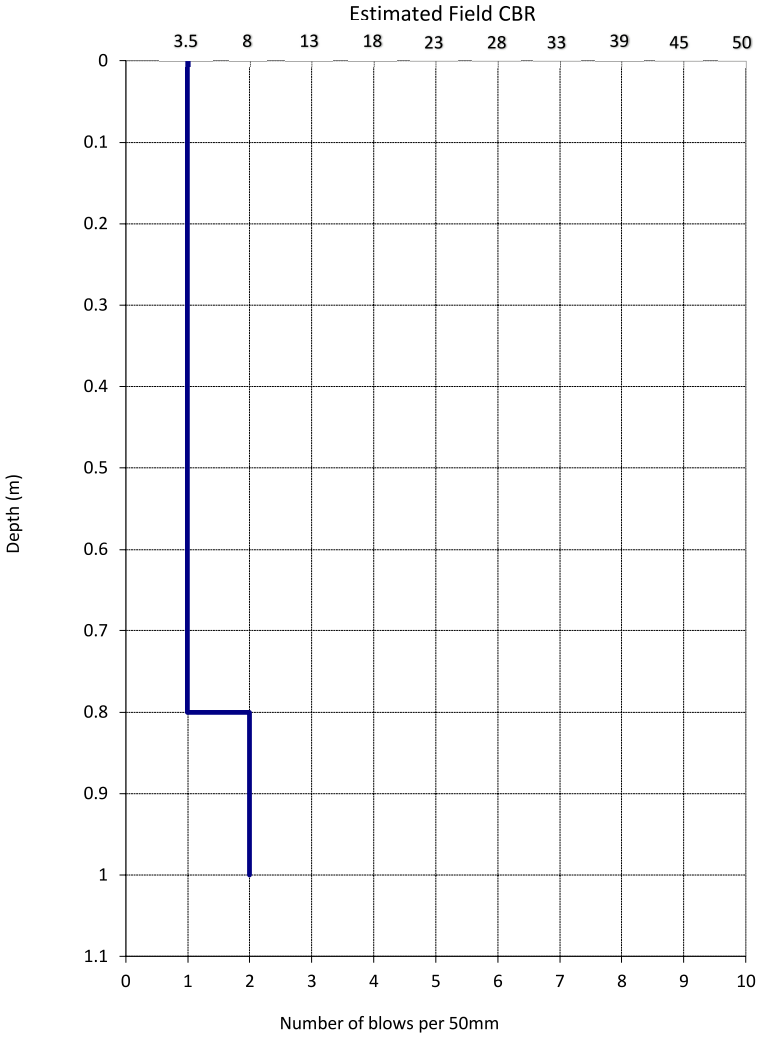
750	750	1
800	800	1
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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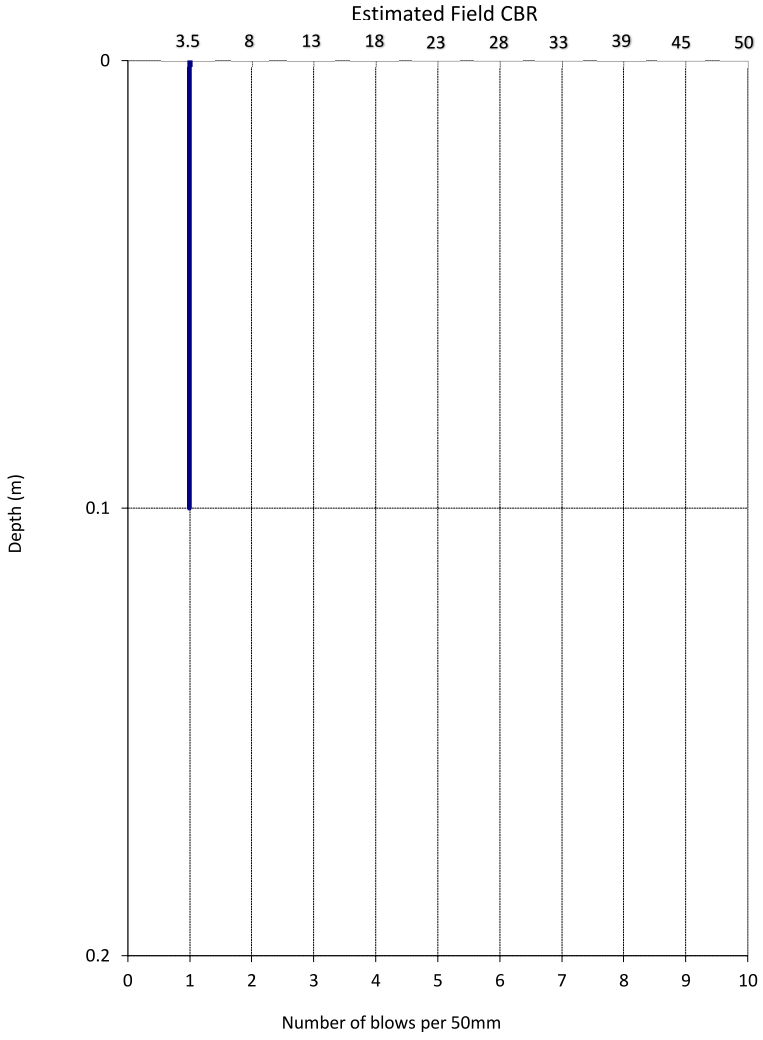
63.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
420	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	UTP
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 150 mm

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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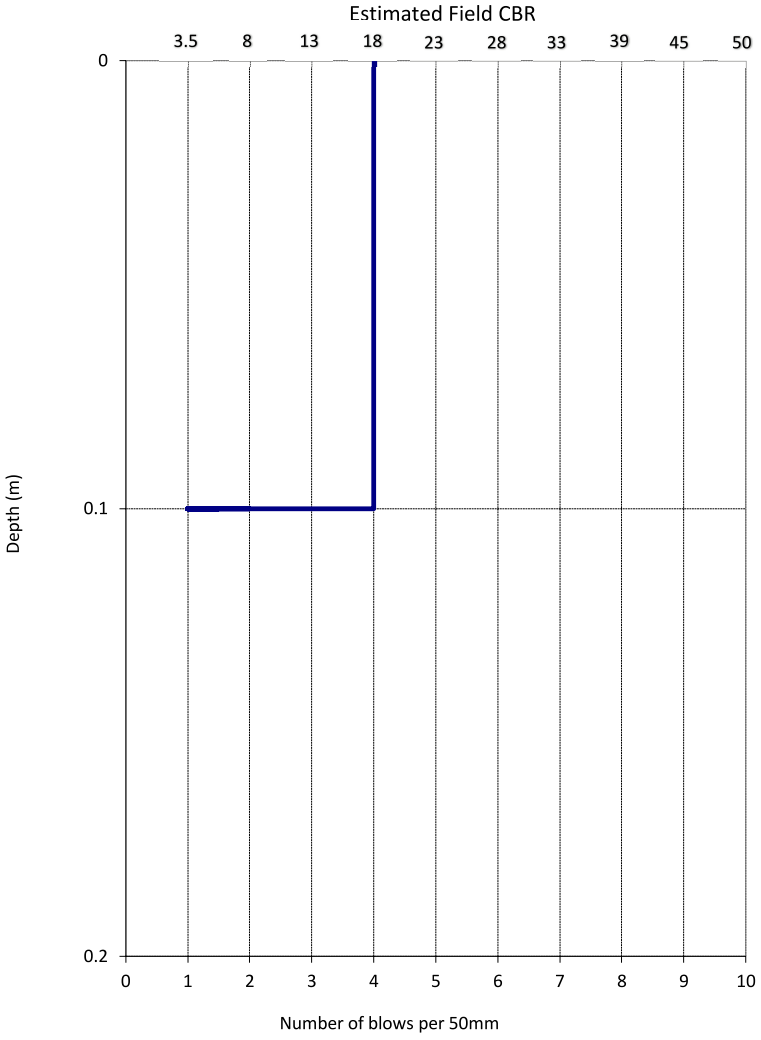
63.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
410	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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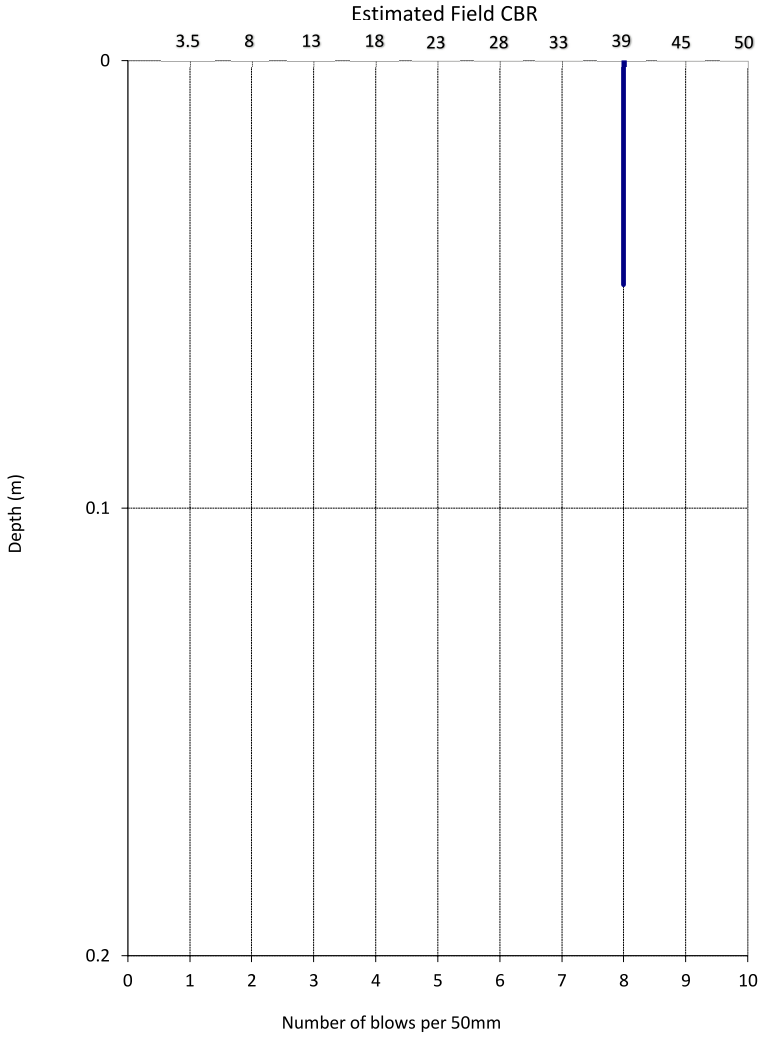
63.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
400	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	8
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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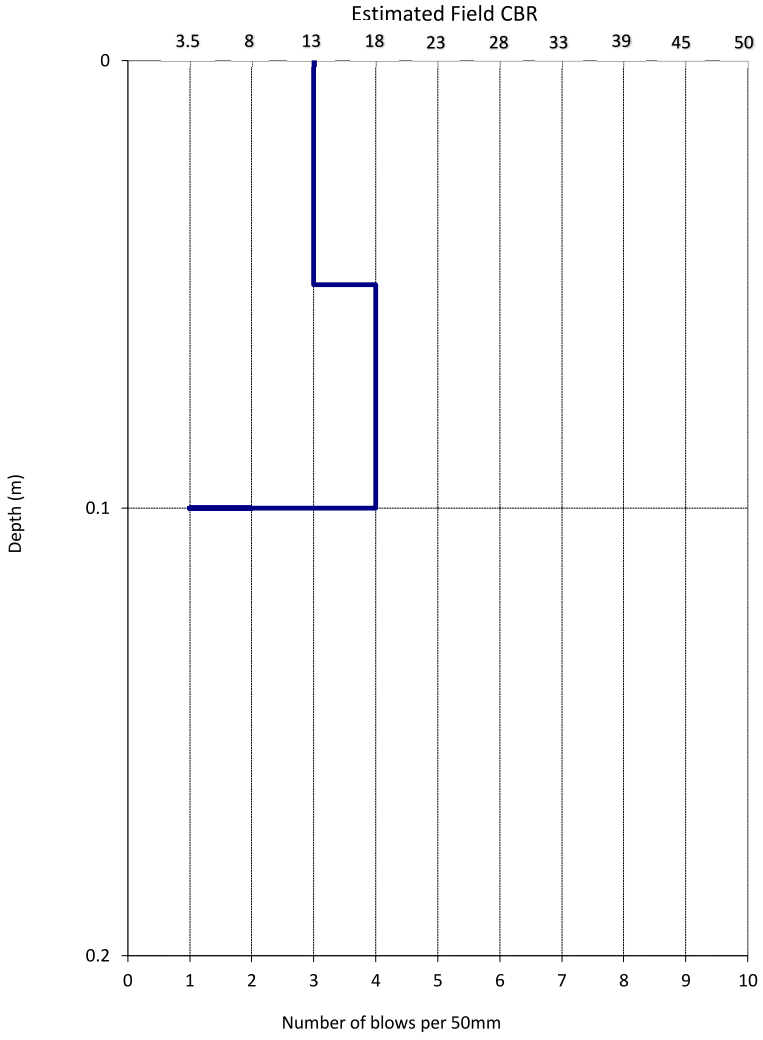
63.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
390	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	12
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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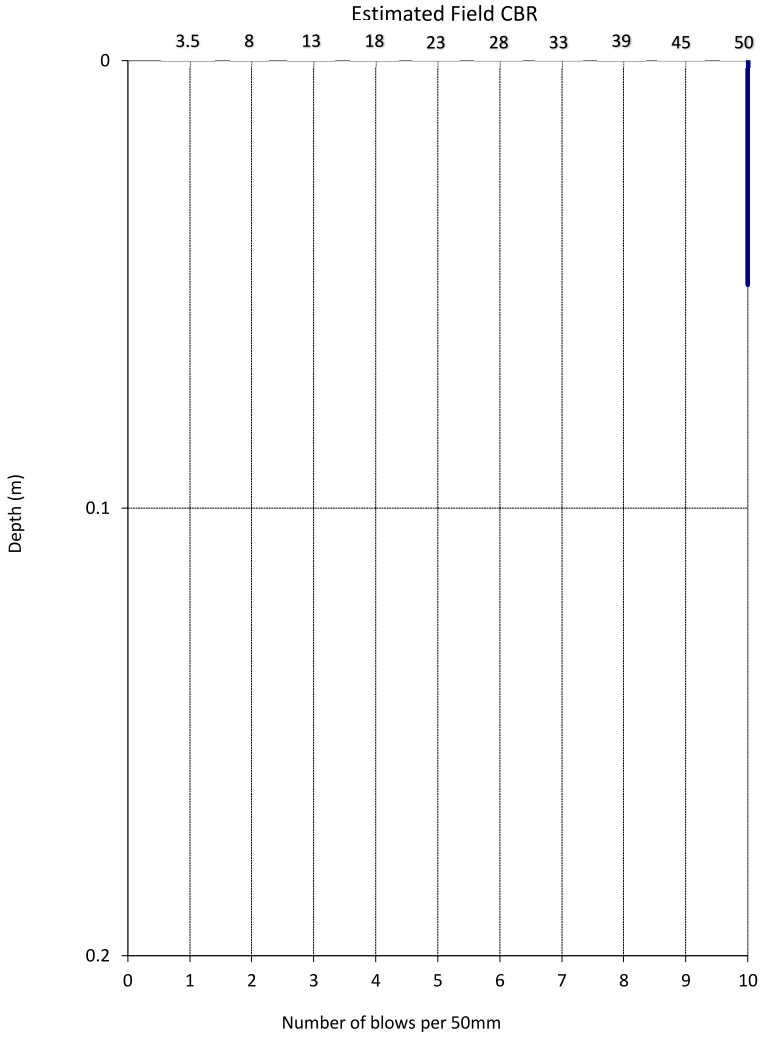
63.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
380	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	10
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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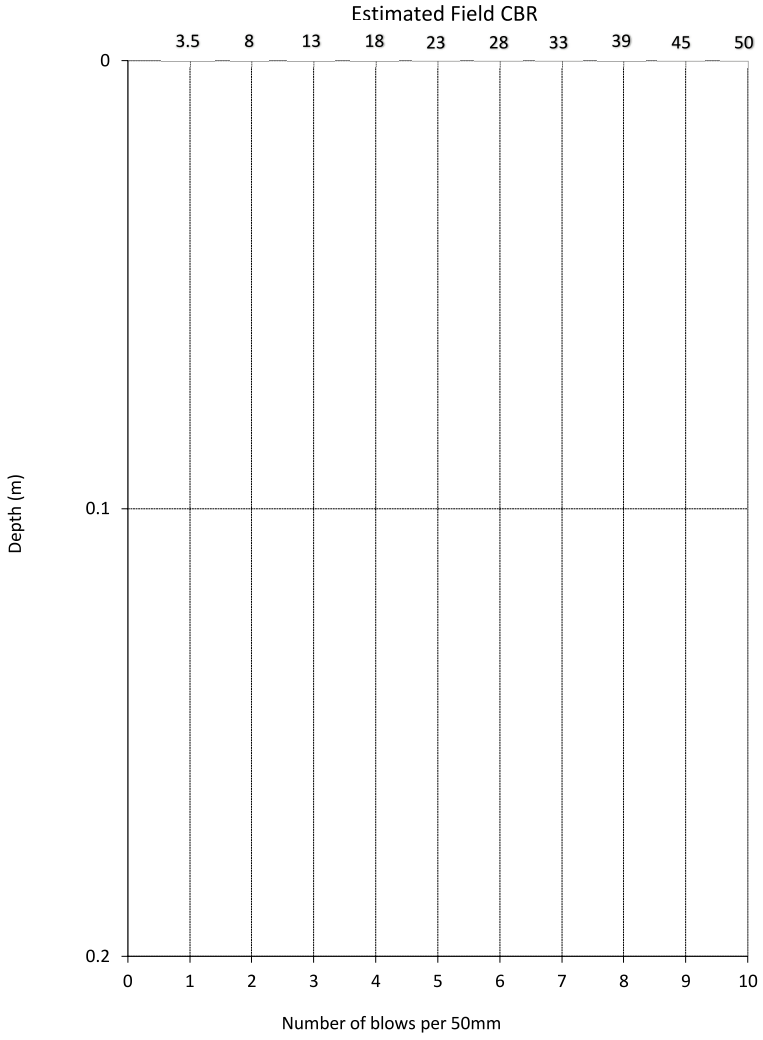
63.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
370	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	12
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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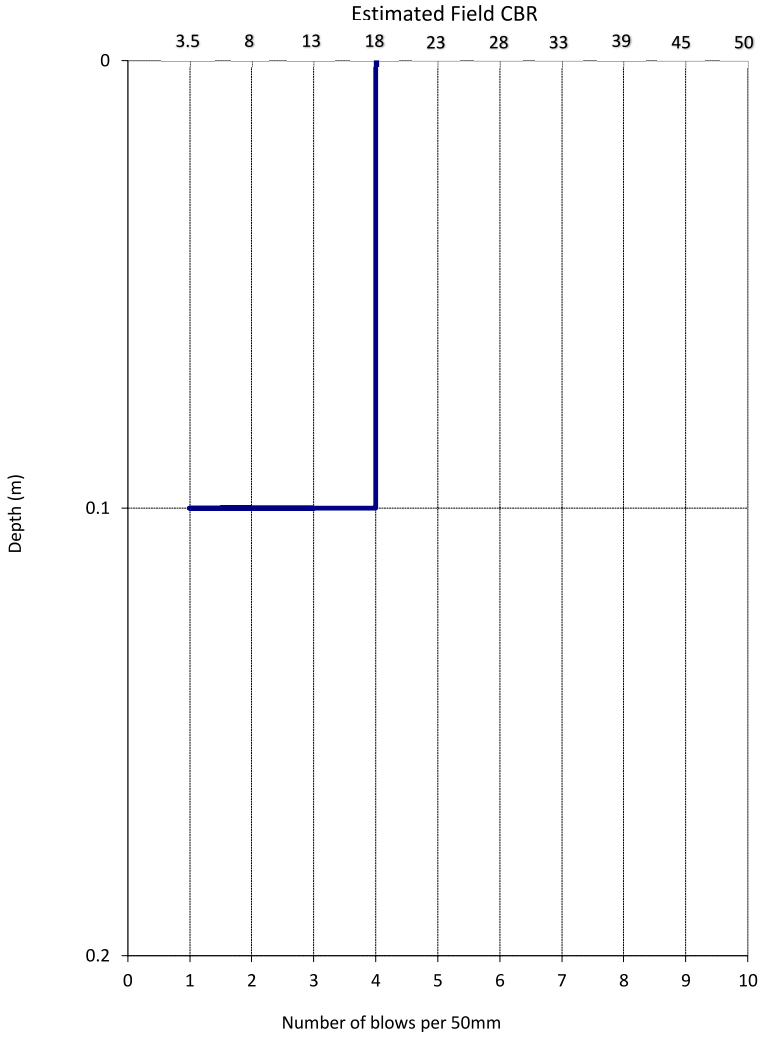
63.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
360	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	12
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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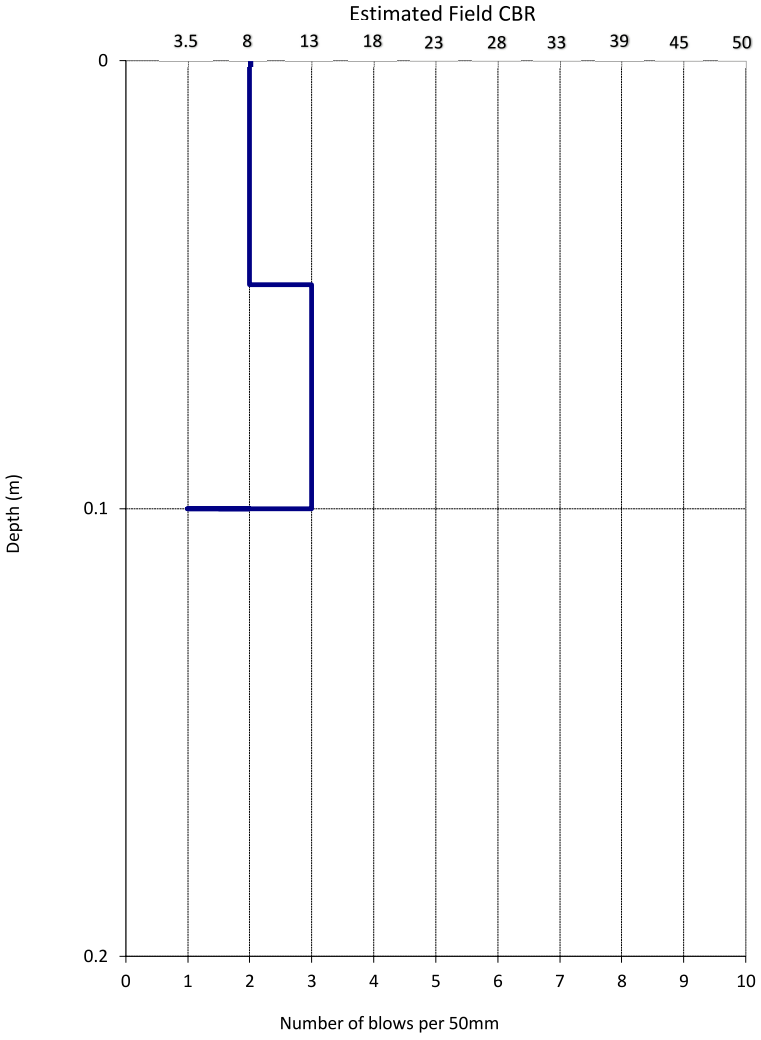
63.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
350	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	6
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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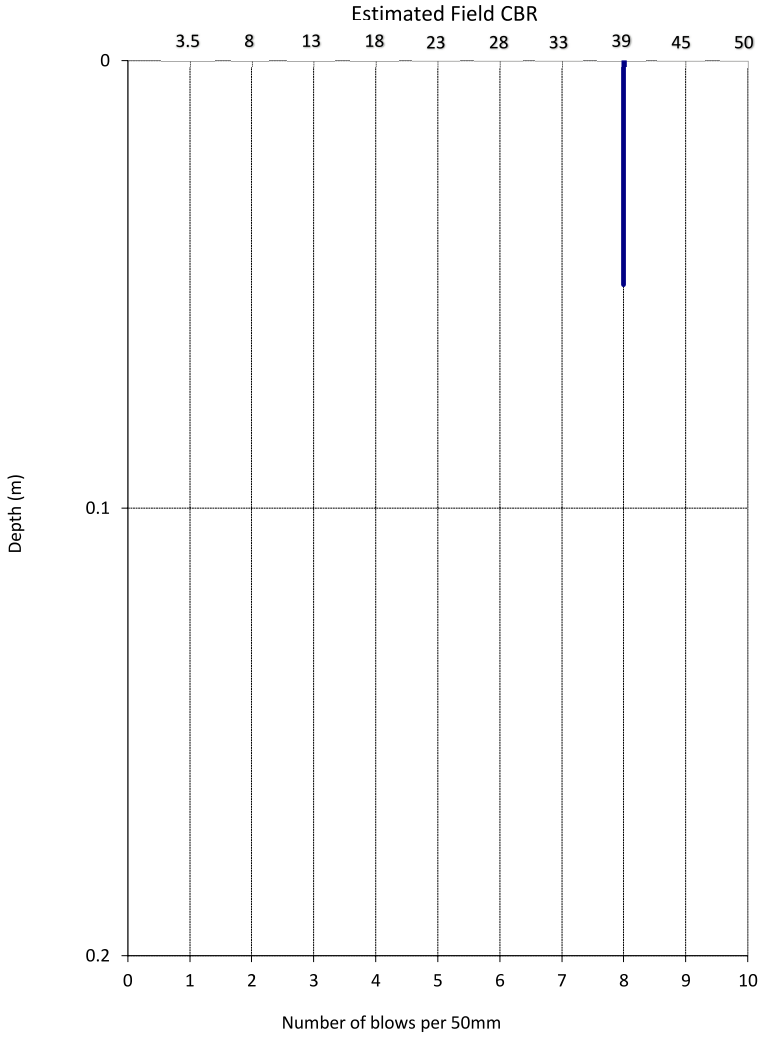
63.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
340	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	8
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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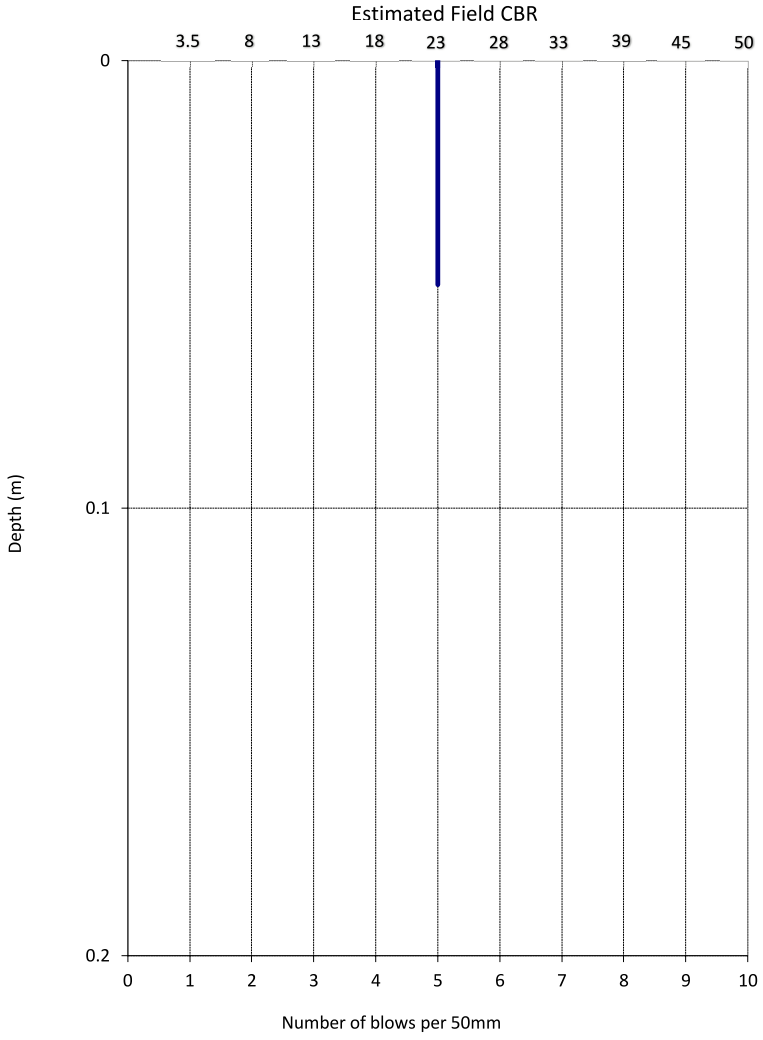
63.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	GAP65	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	16

Chainage	Offset	Lane
330	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	5
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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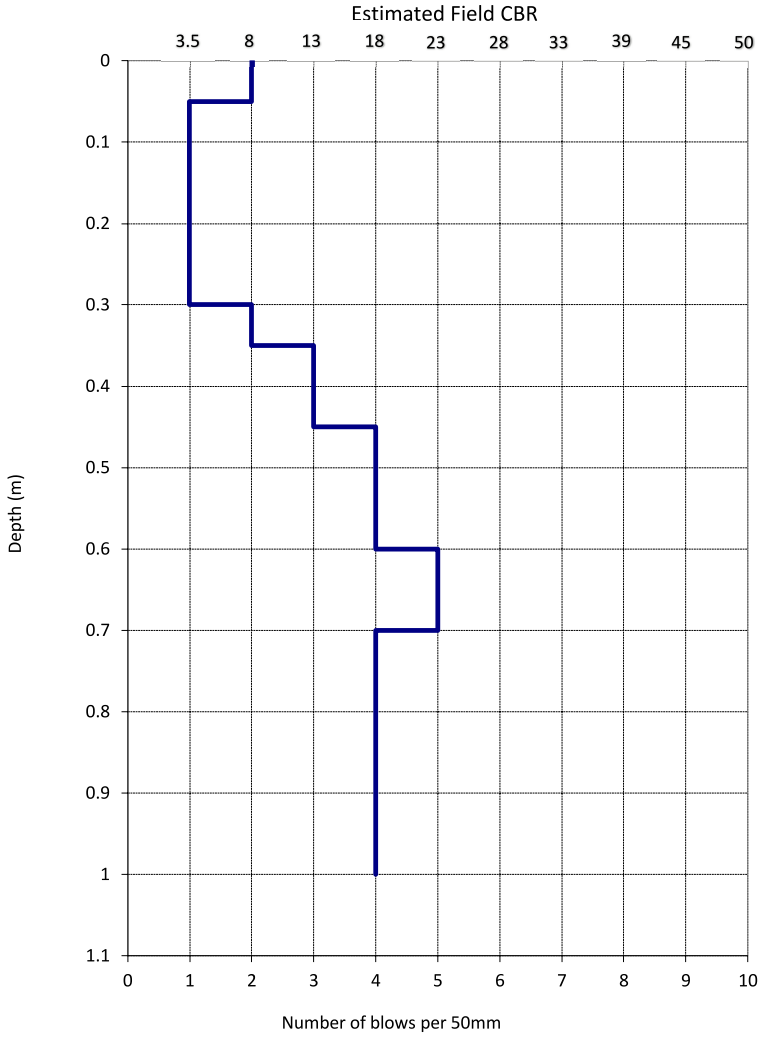
63.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	17

Chainage	Offset	Lane
320	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	2
400	400	3
450	450	3
500	500	4
550	550	4
600	600	4
650	650	5
700	700	5
750	750	4
800	800	4
850	850	4
900	900	4
950	950	4
1000	1000	4



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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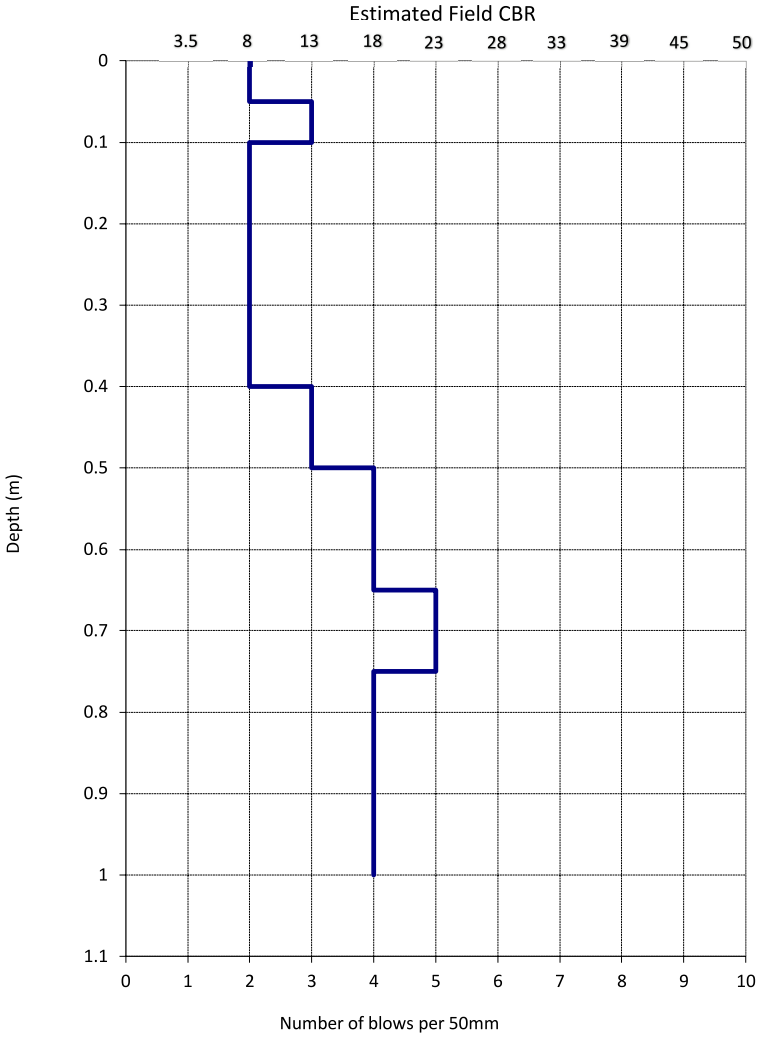
63.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	18

Chainage	Offset	Lane
310	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	3
500	500	3
550	550	4
600	600	4
650	650	4
700	700	5
750	750	5
800	800	4
850	850	4
900	900	4
950	950	4
1000	1000	4



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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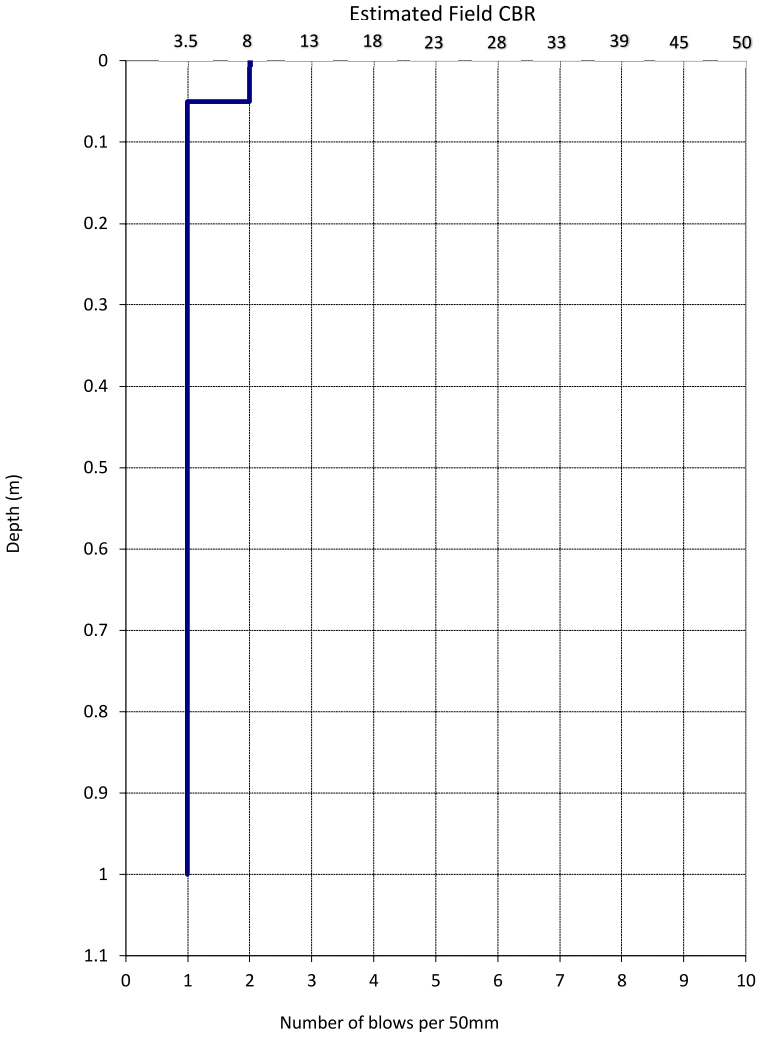
63.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	19

Chainage	Offset	Lane
300	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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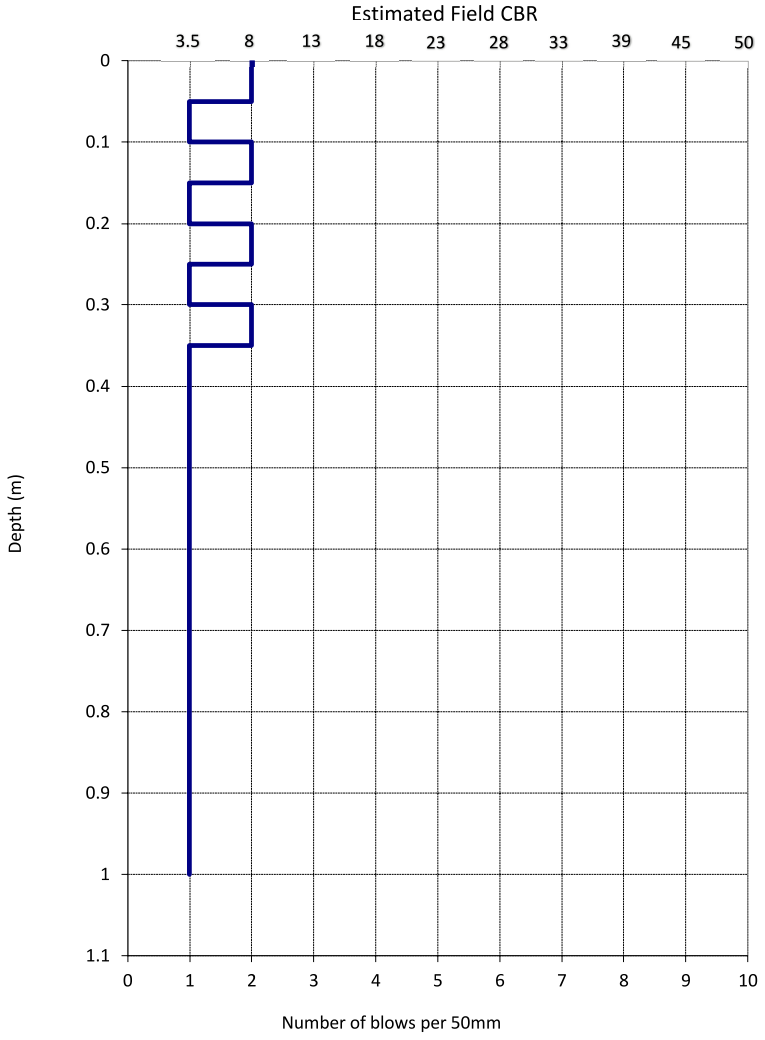
63.20

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 3 - See site plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-20
Depth from ground surface to commencement of penetration (m)		Test Number	20

Chainage	Offset	Lane
290	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	2
300	300	1
350	350	2
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	20/03/2024
Data Entry By	MIBR	Date	20/03/2024
Checked By	JWAL	Date	29/07/2024

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64.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	1

Chainage	Offset	Lane
280	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	3
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	3
550	550	2
600	600	2
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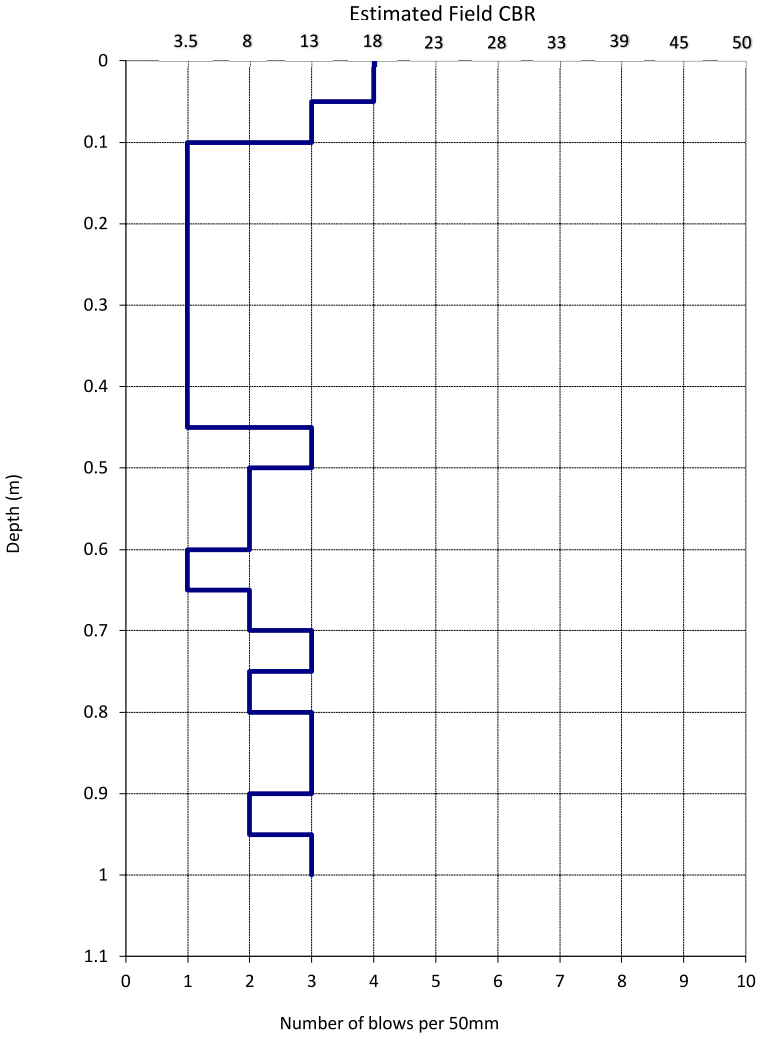
900	900	3
950	950	2
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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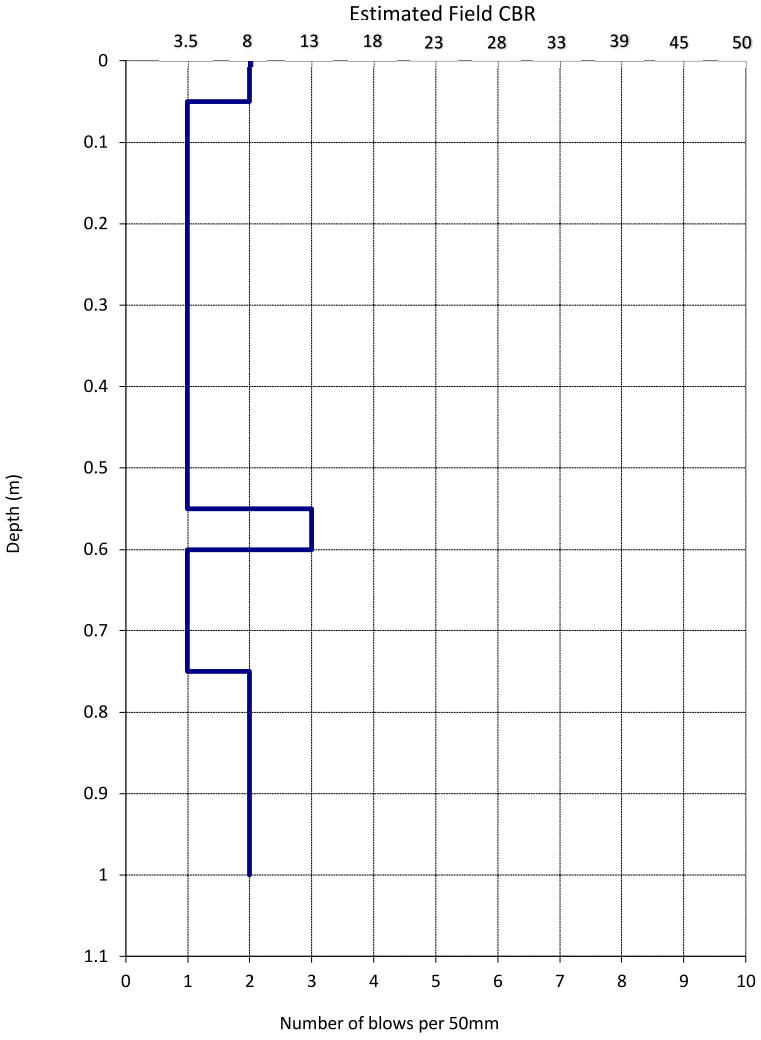
64.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
270	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	3
650	650	1
700	700	1
750	750	1
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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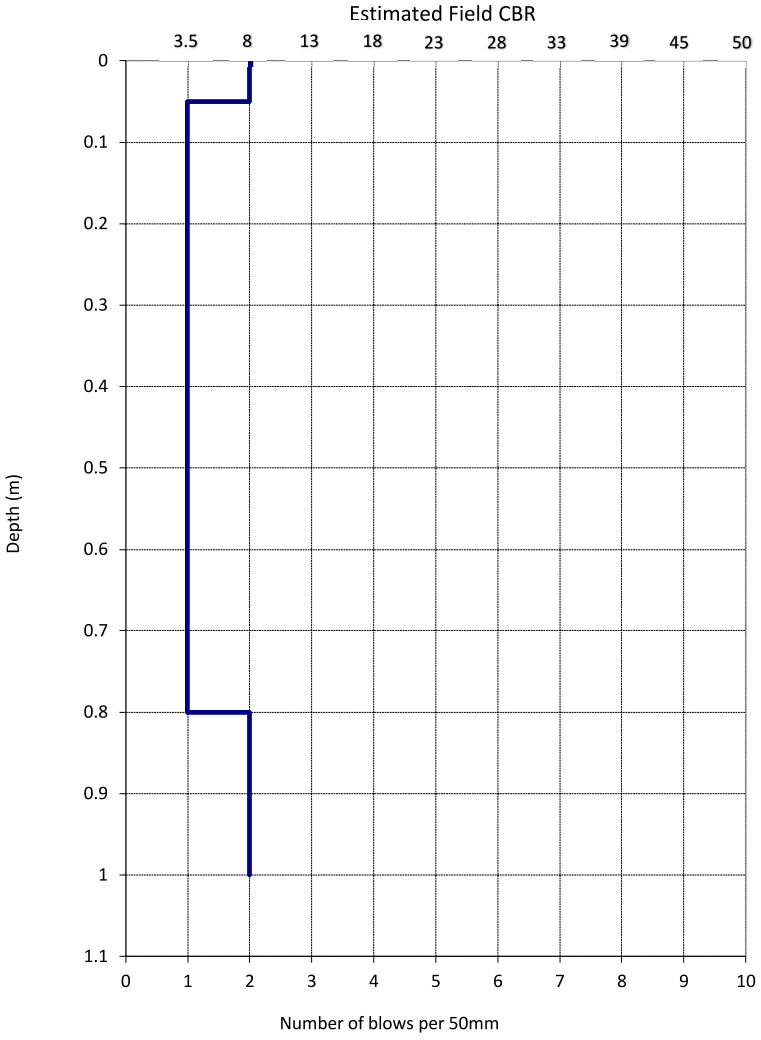
64.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
260	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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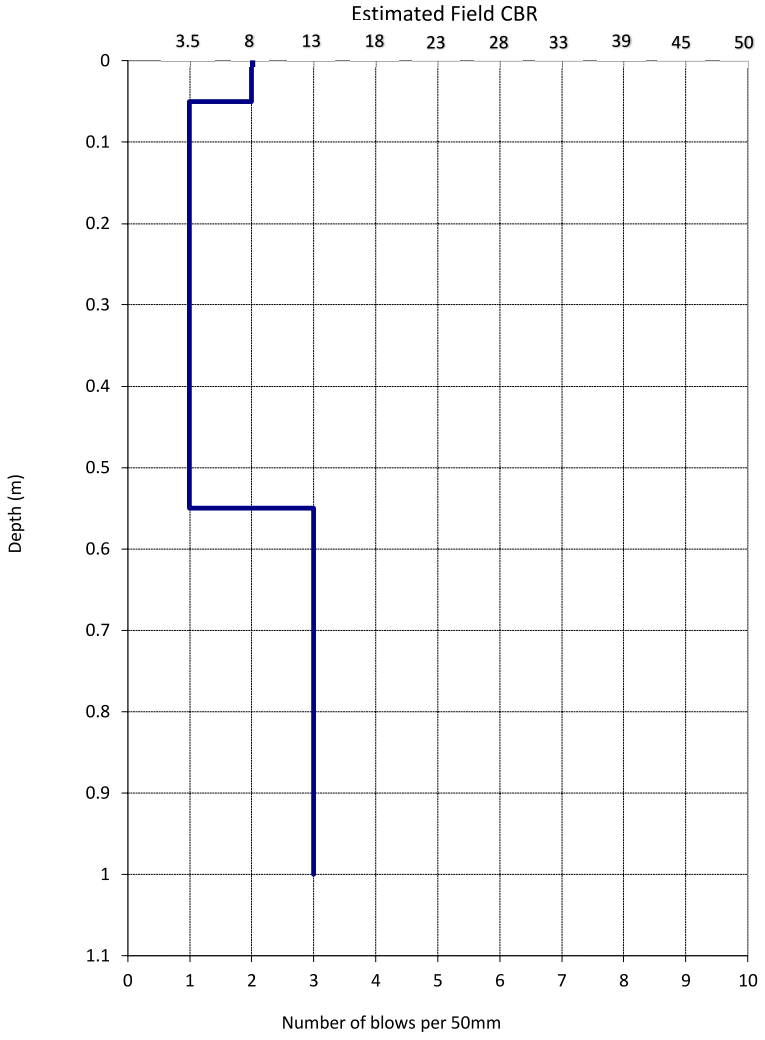
64.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
250	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	3
650	650	3
700	700	3
750	750	3
800	800	3
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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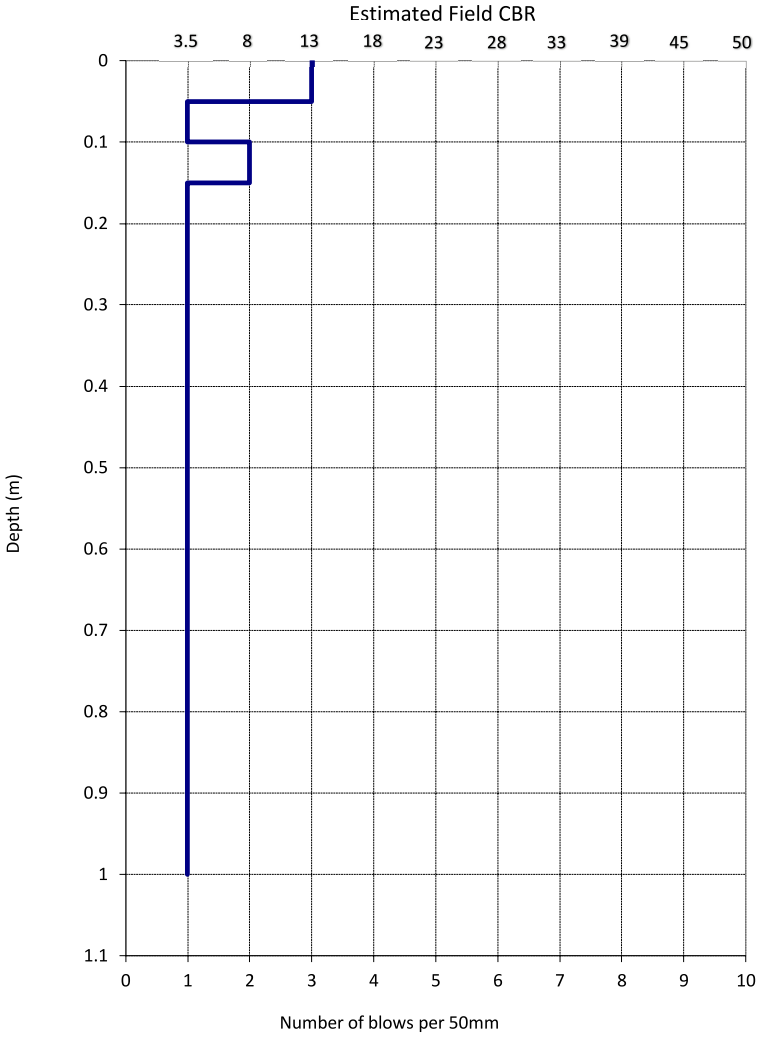
64.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
240	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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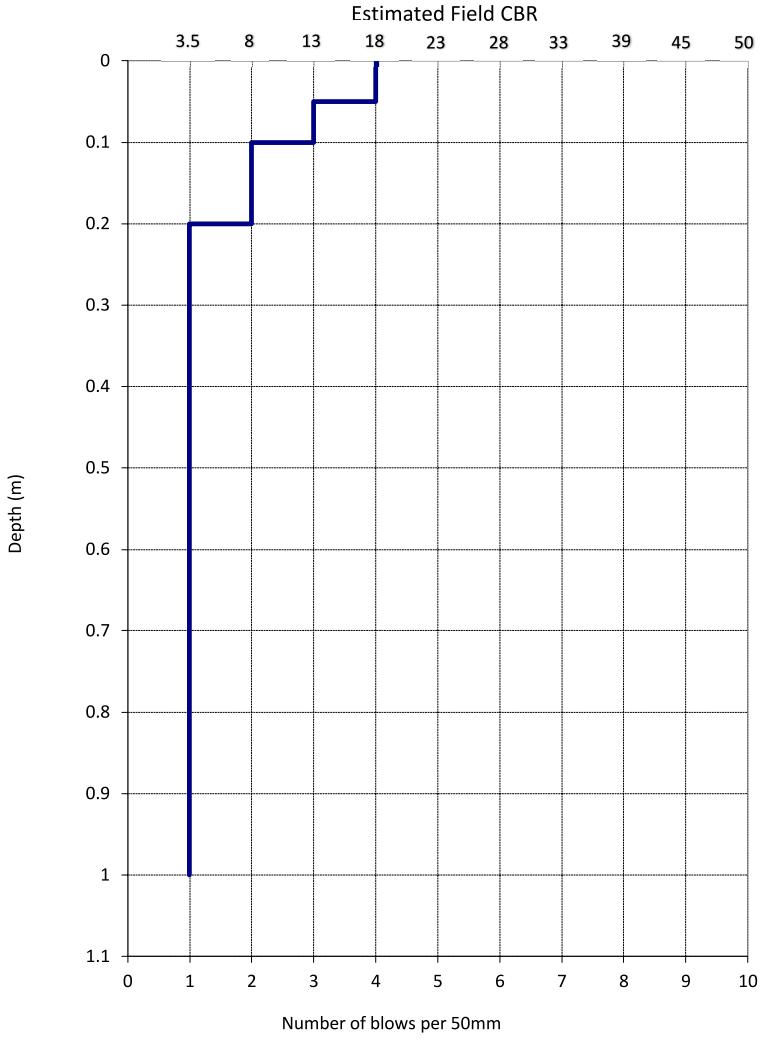
64.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
230	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	3
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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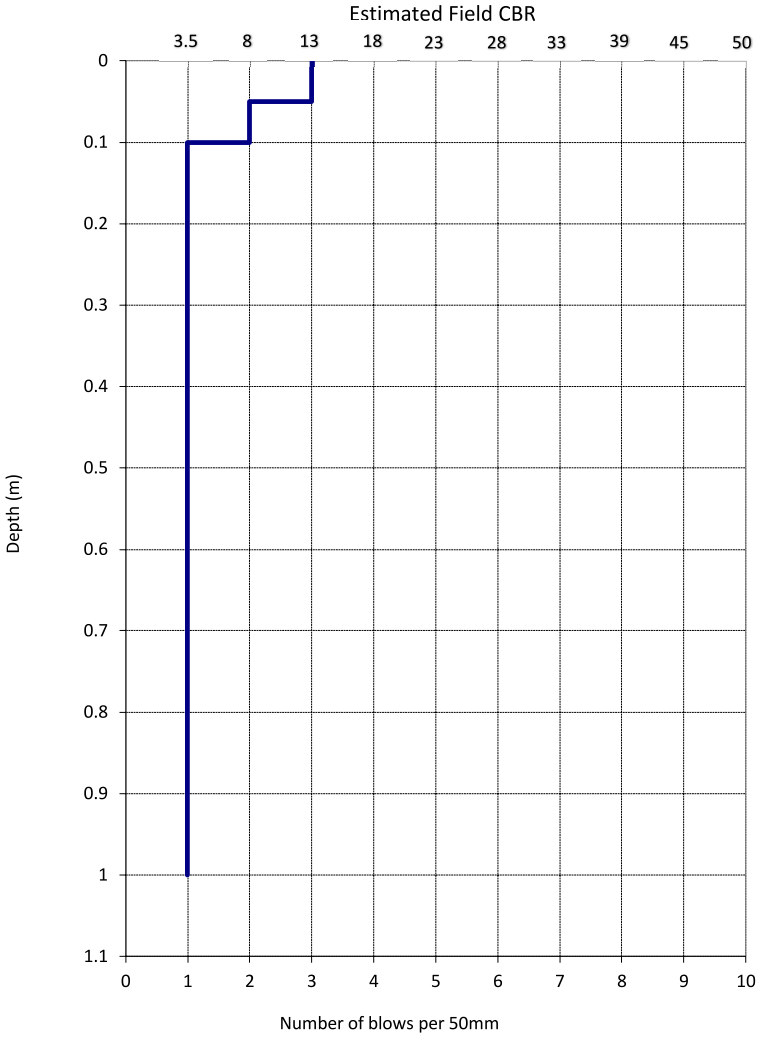
64.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
220	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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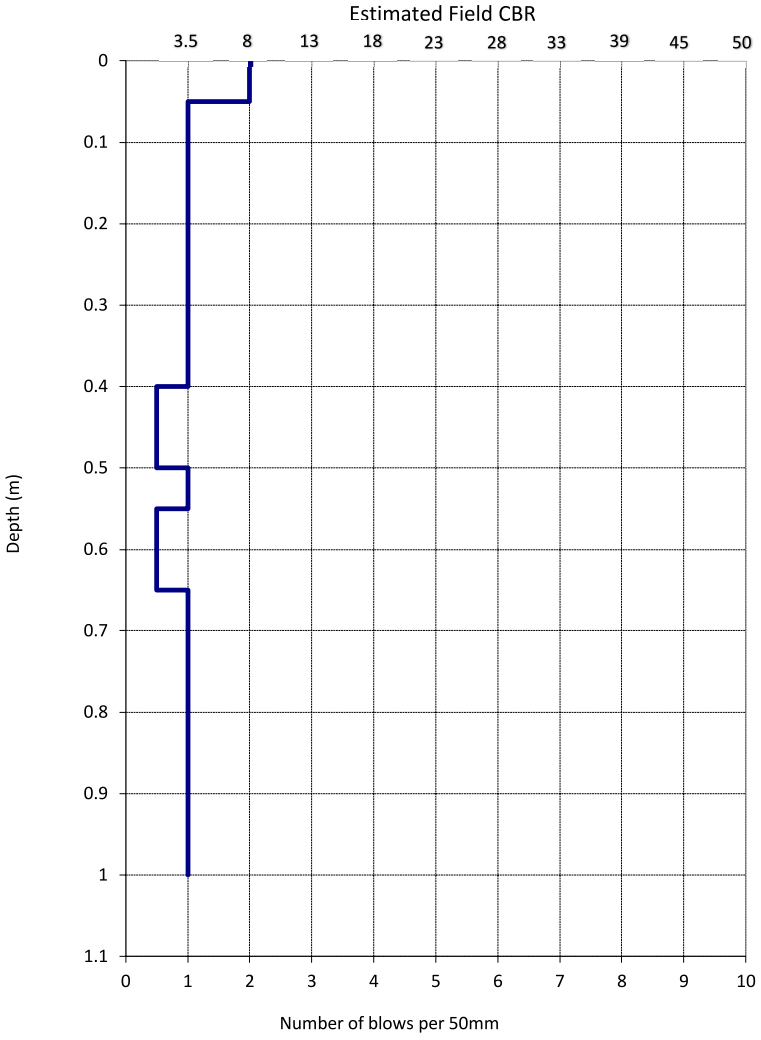
64.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
210	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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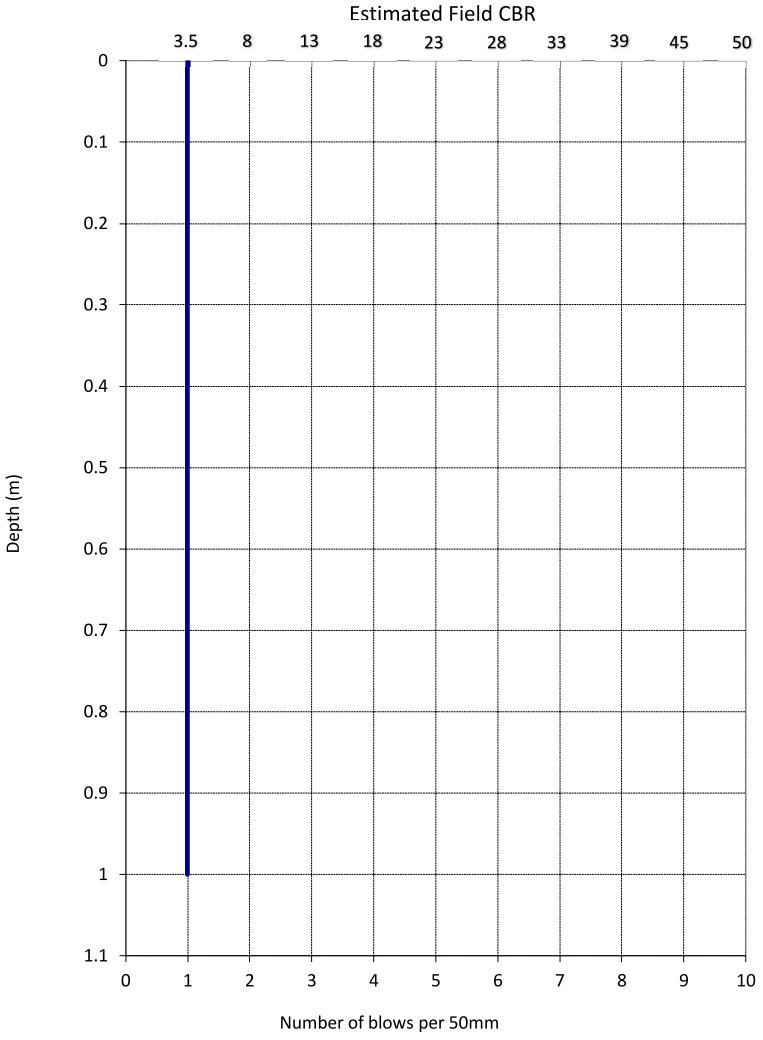
64.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
200	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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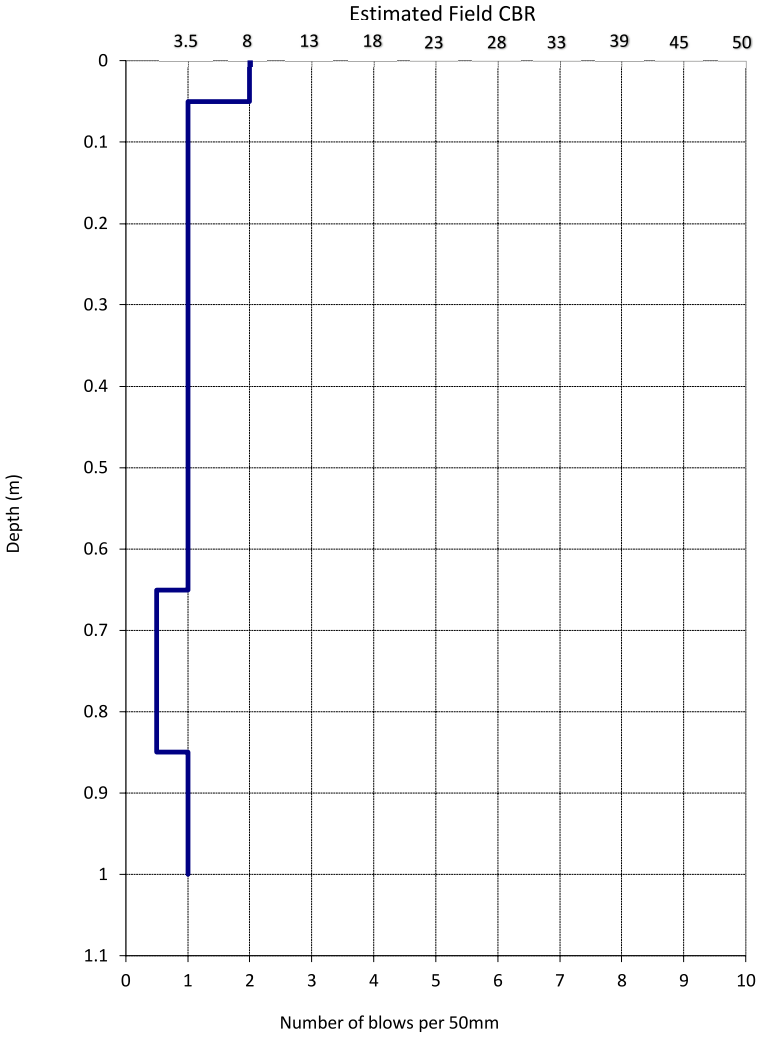
64.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
190	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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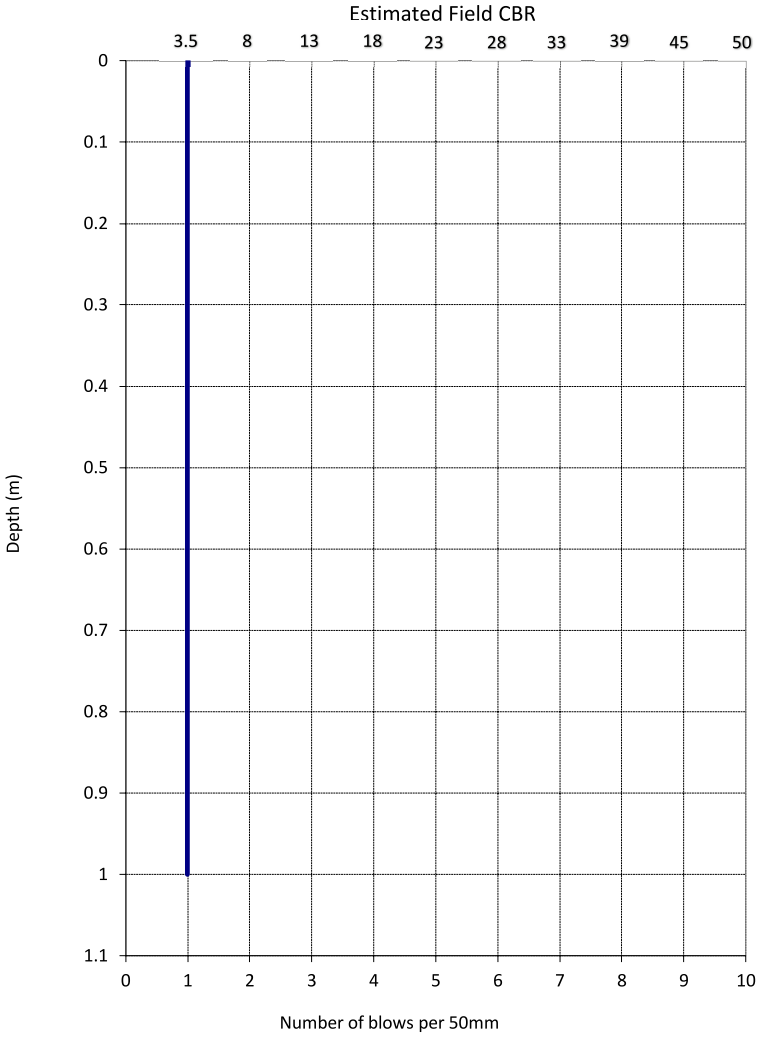
64.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
180	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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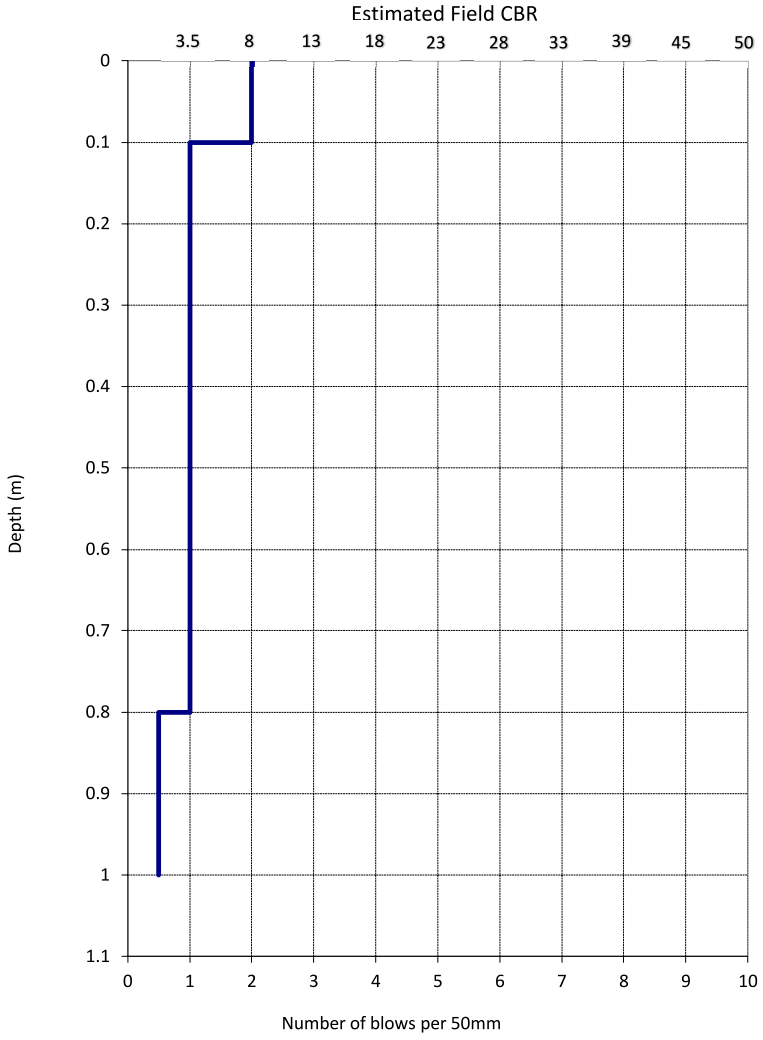
64.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
170	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
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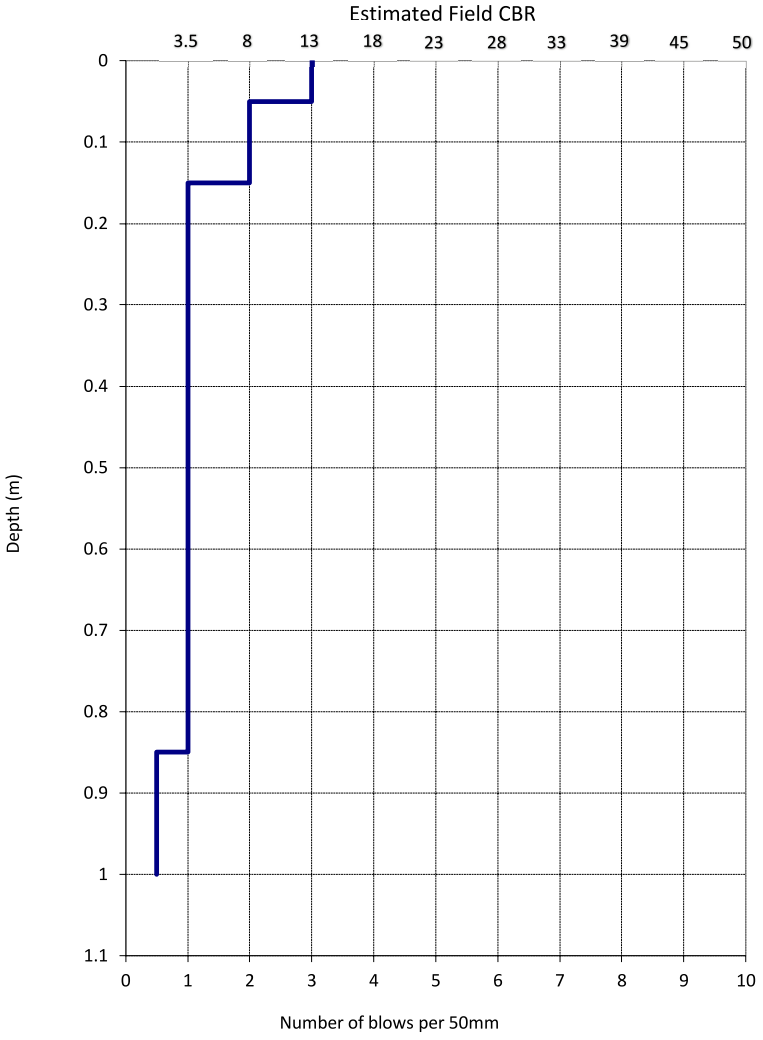
64.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
160	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
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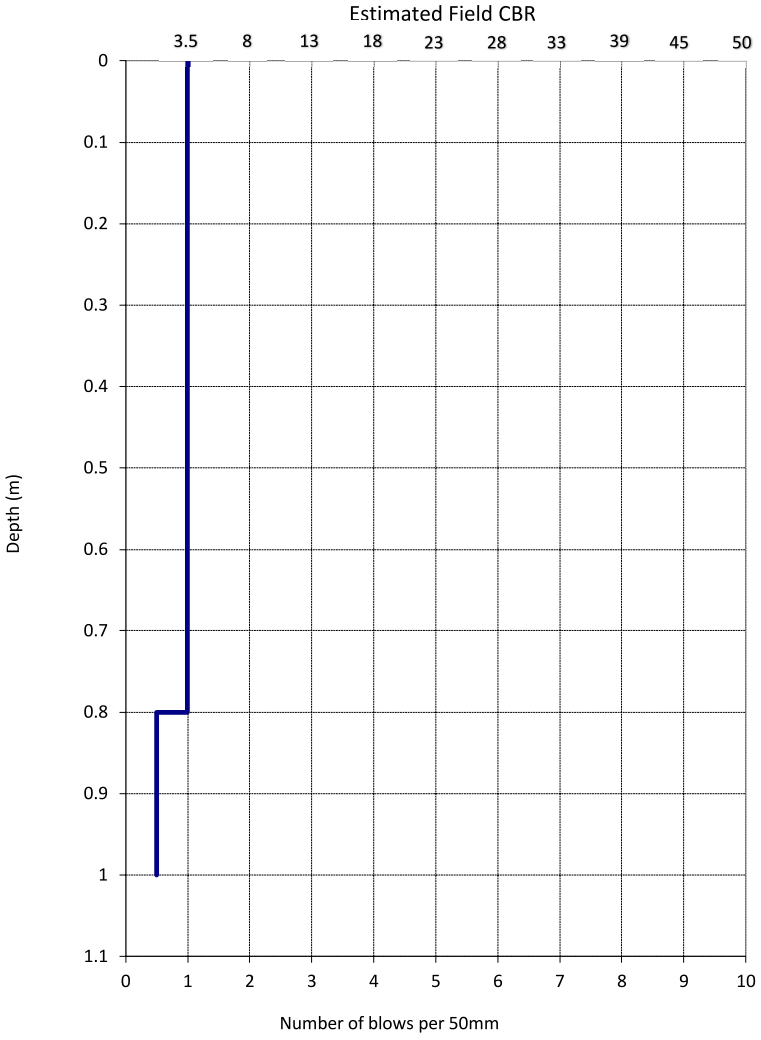
64.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 3	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
150	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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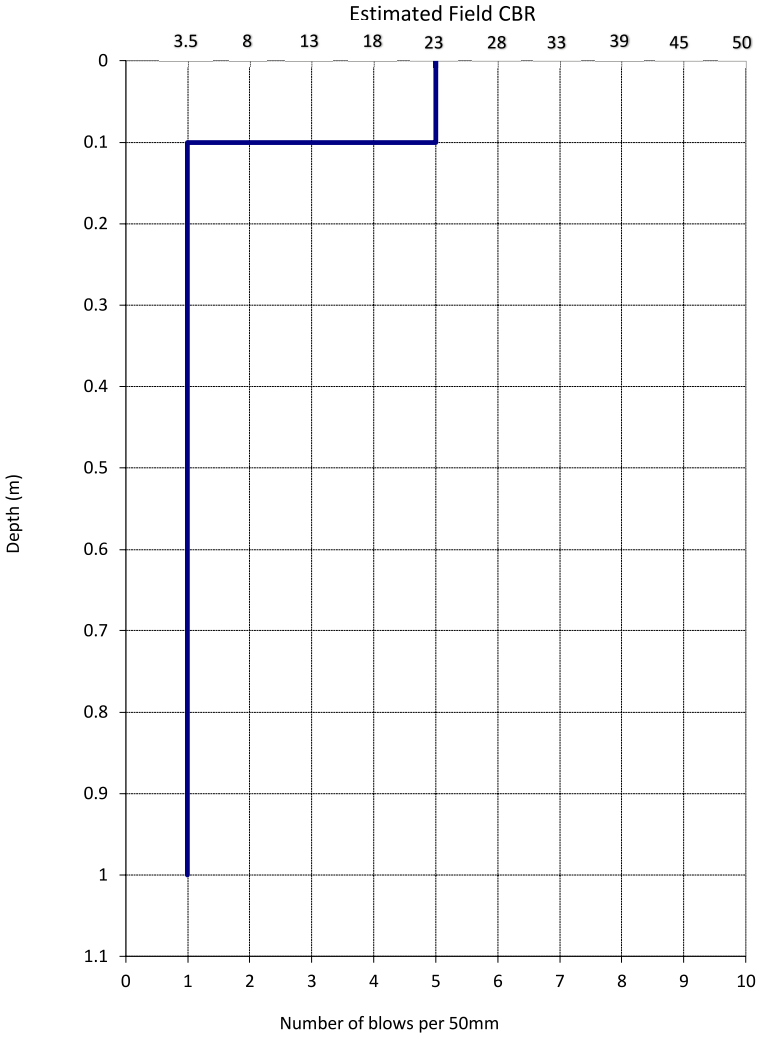
64.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6A	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
246	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	5
100	100	5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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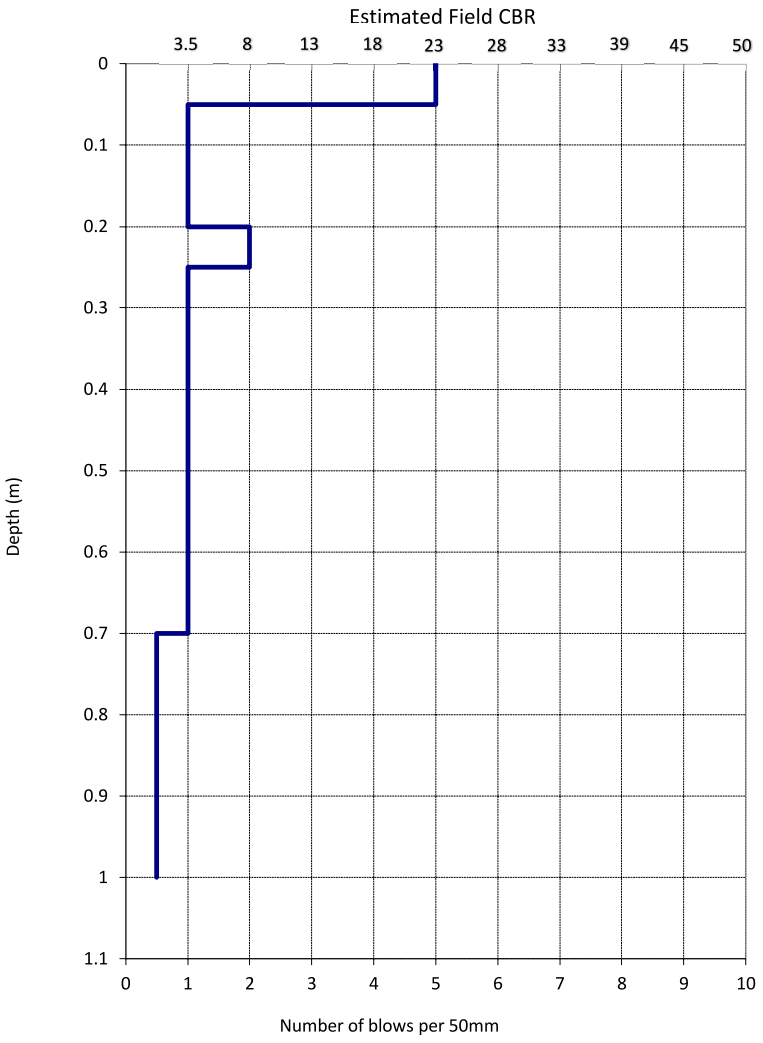
64.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6A	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	16

Chainage	Offset	Lane
240	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	5
100	100	1
150	150	1
200	200	1
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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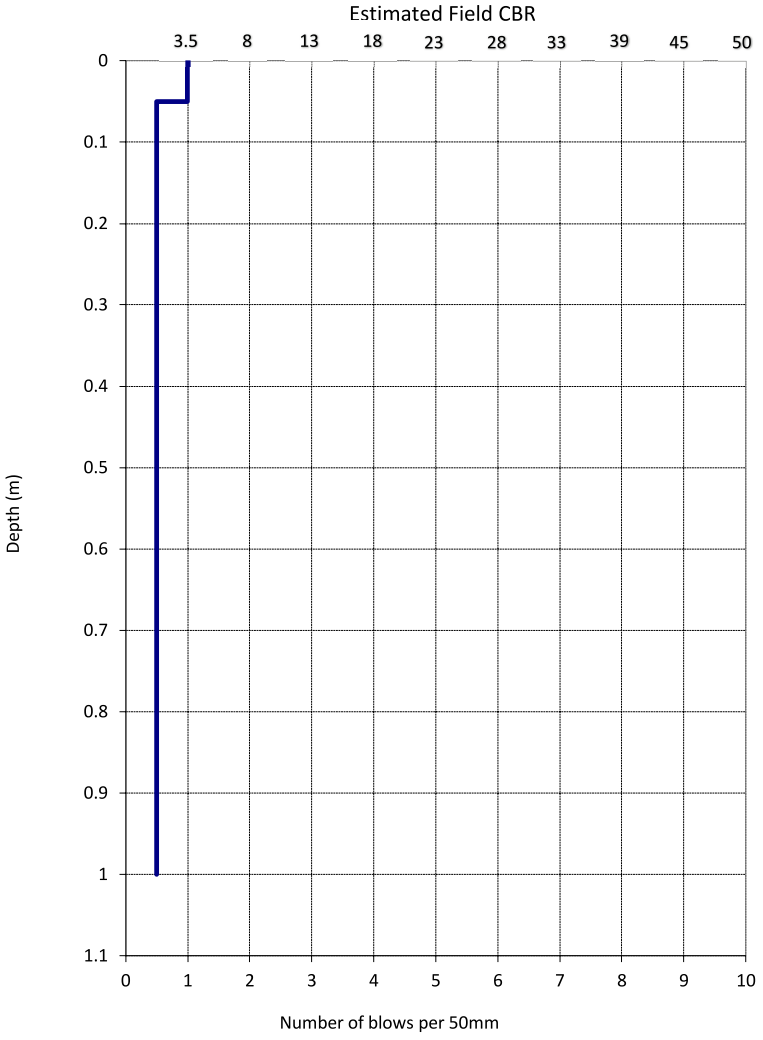
64.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6A	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	17

Chainage	Offset	Lane
230	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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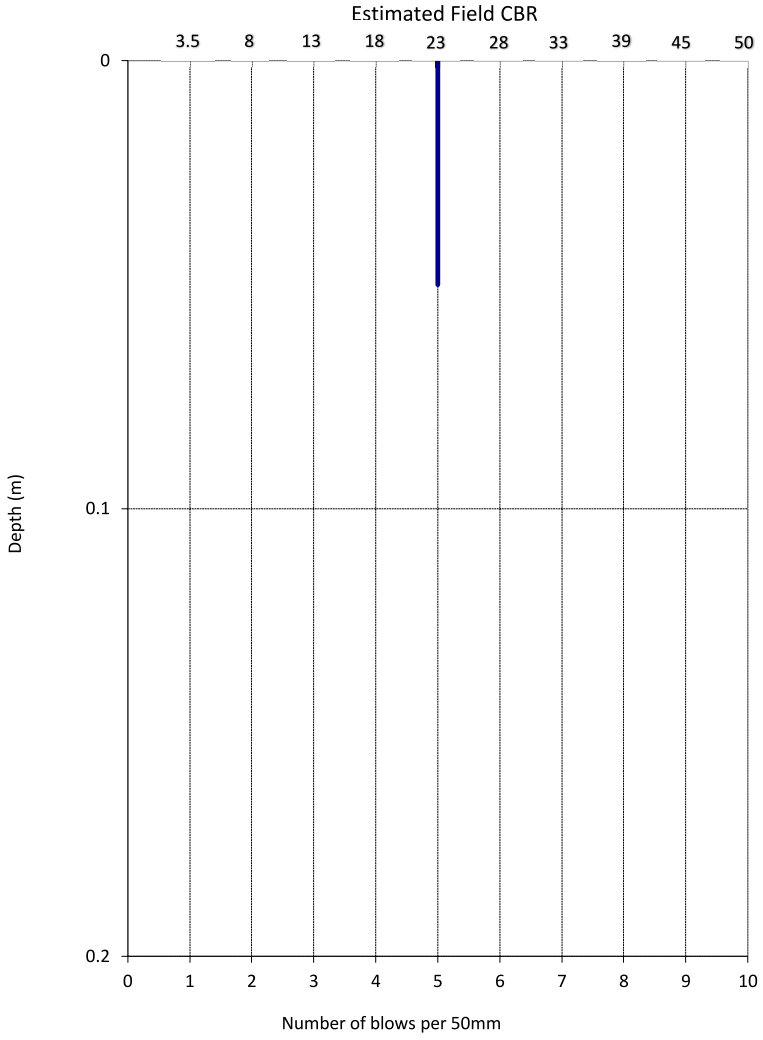
64.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6A	Material Source	In Situ
Material Description	GAP65	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	18

Chainage	Offset	Lane
220	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	5
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
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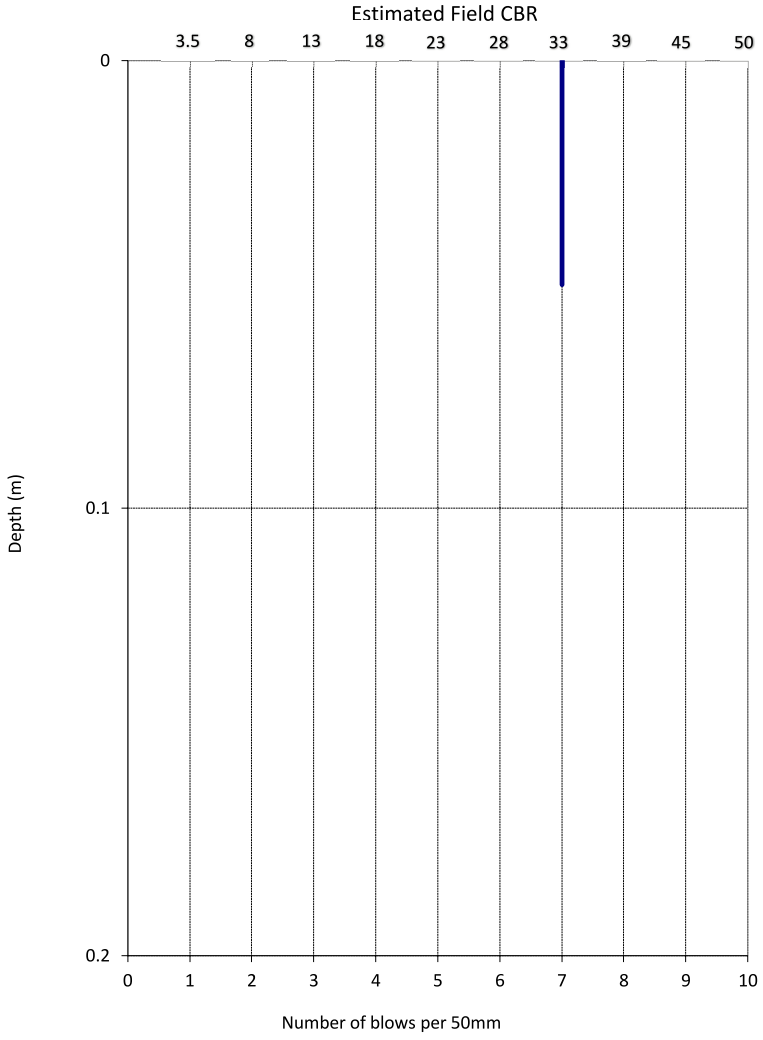
64.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6A	Material Source	In Situ
Material Description	GAP65	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	19

Chainage	Offset	Lane
210	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	7
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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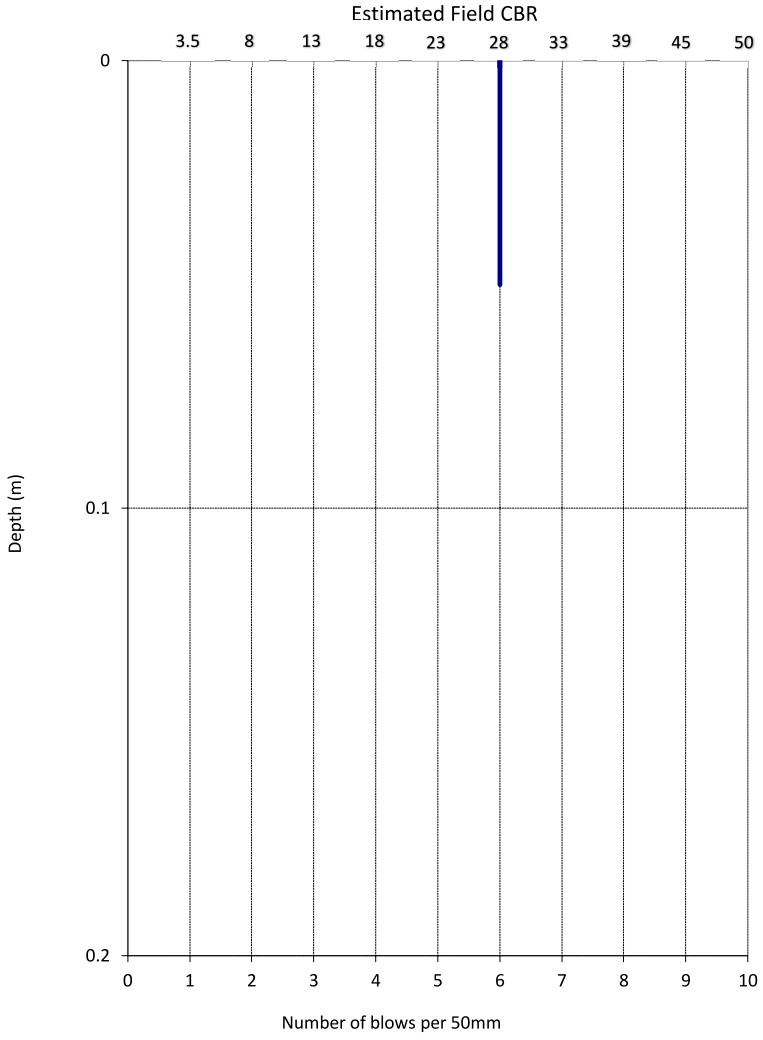
64.20

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6A	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	20

Chainage	Offset	Lane
200	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	6
100	100	UTP
150	150	
200	200	
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 100 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).
Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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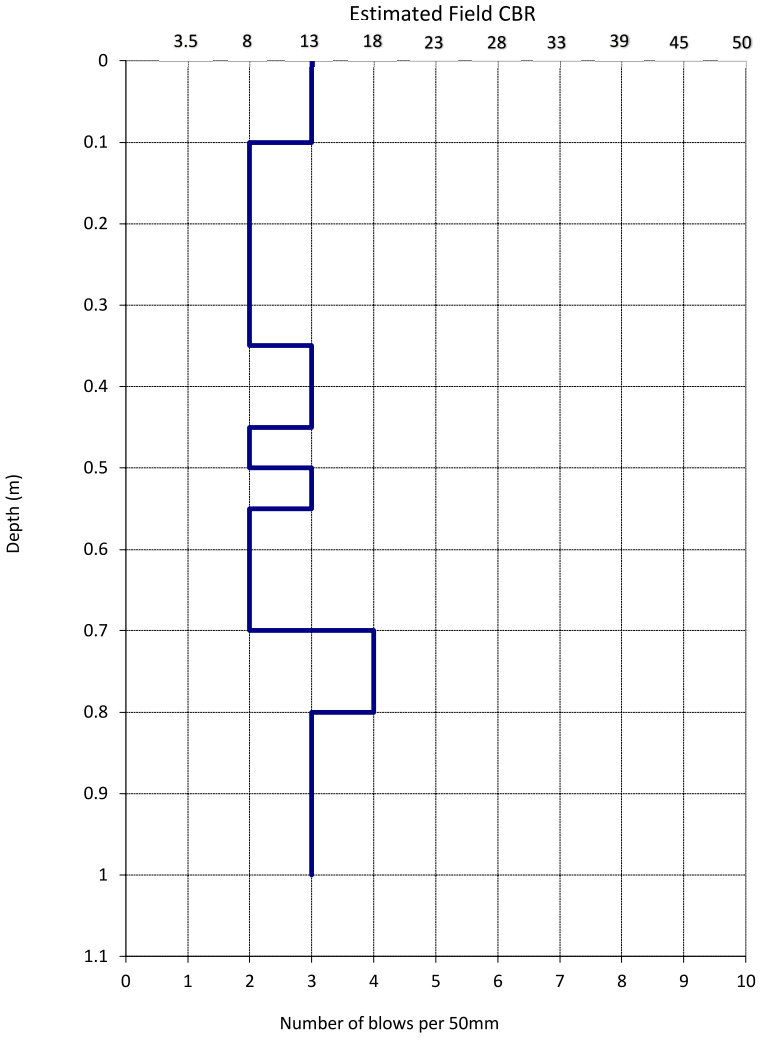
64.21

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	21

Chainage	Offset	Lane
190	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	3
450	450	3
500	500	2
550	550	3
600	600	2
650	650	2
700	700	2
750	750	4
800	800	4
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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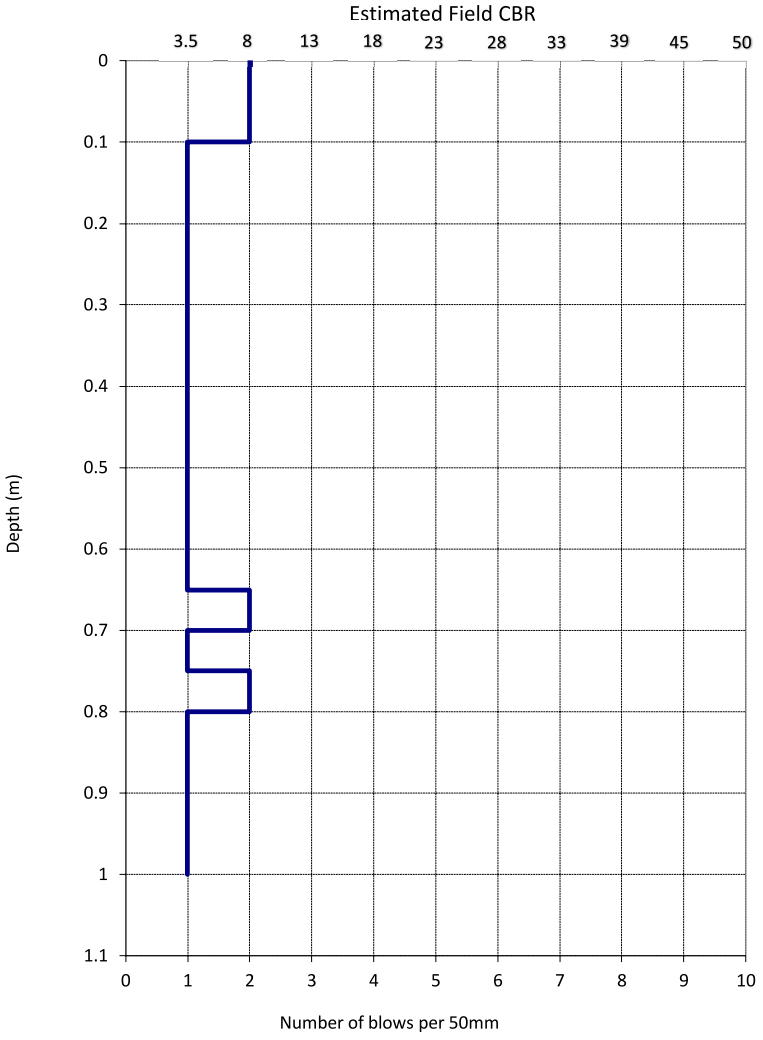
64.22

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	22

Chainage	Offset	Lane
180	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	2
750	750	1
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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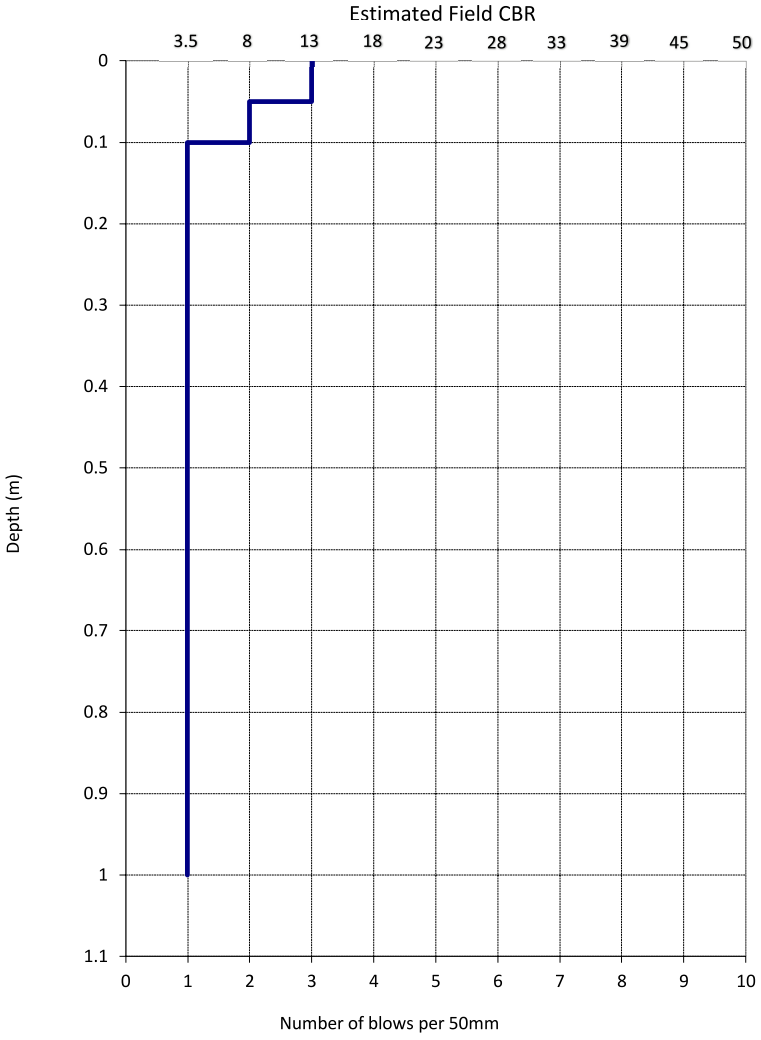
64.23

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	23

Chainage	Offset	Lane
170	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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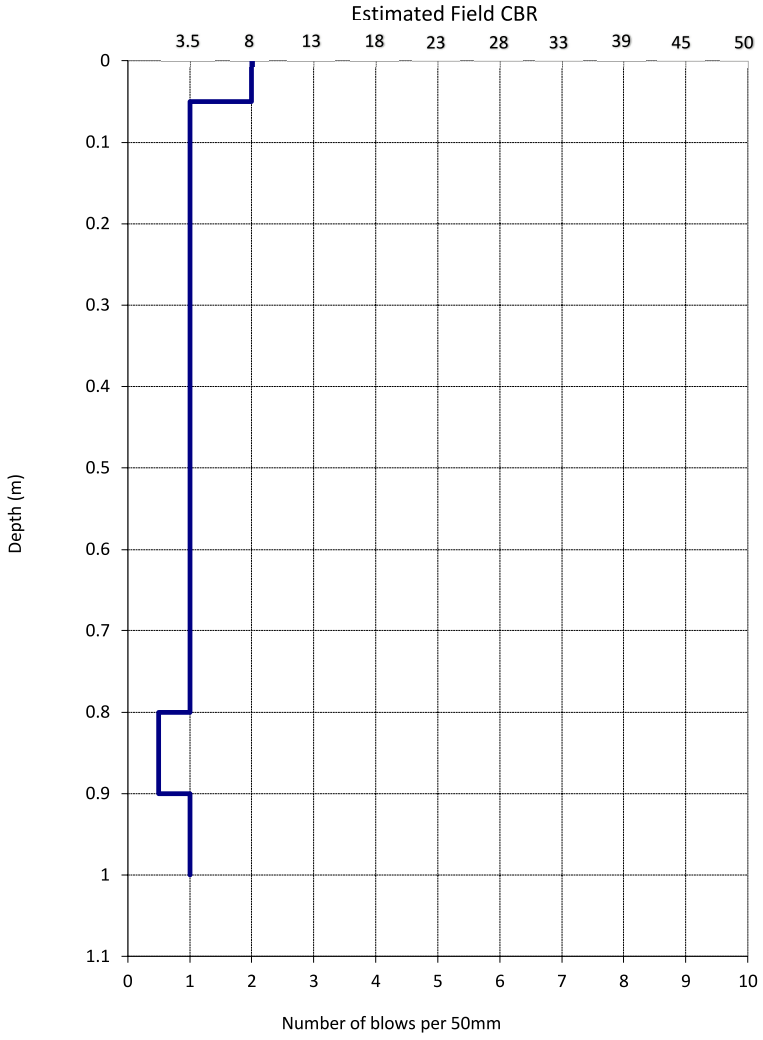
64.24

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	24

Chainage	Offset	Lane
160	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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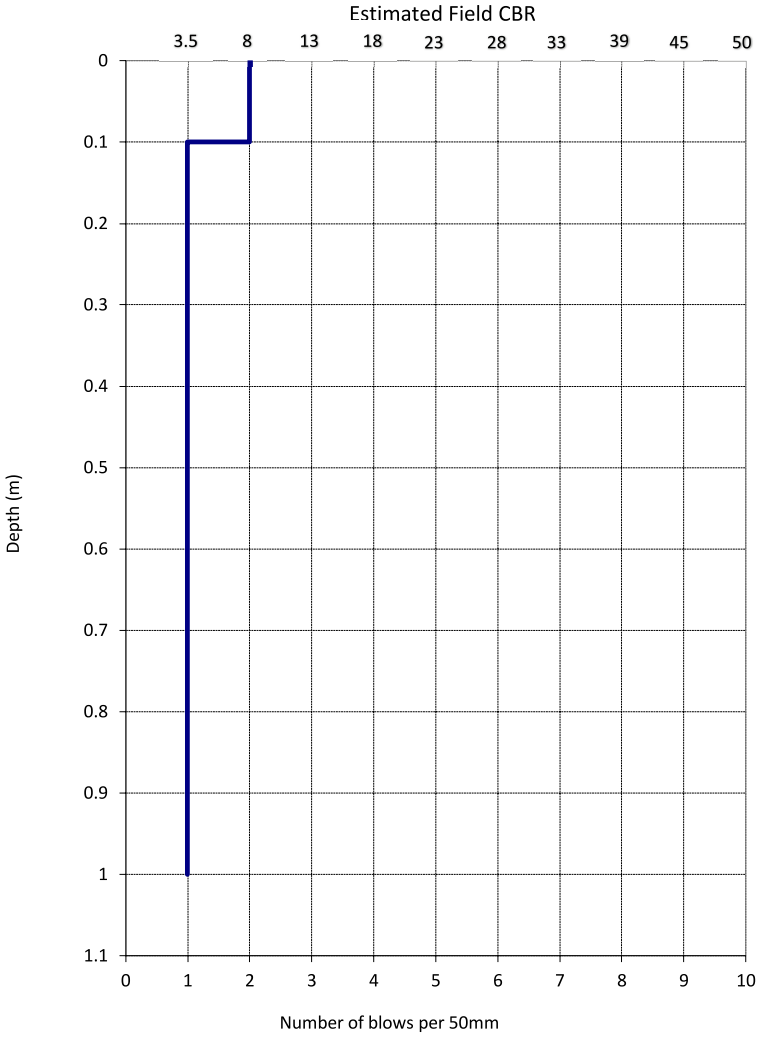
64.25

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	25

Chainage	Offset	Lane
150	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
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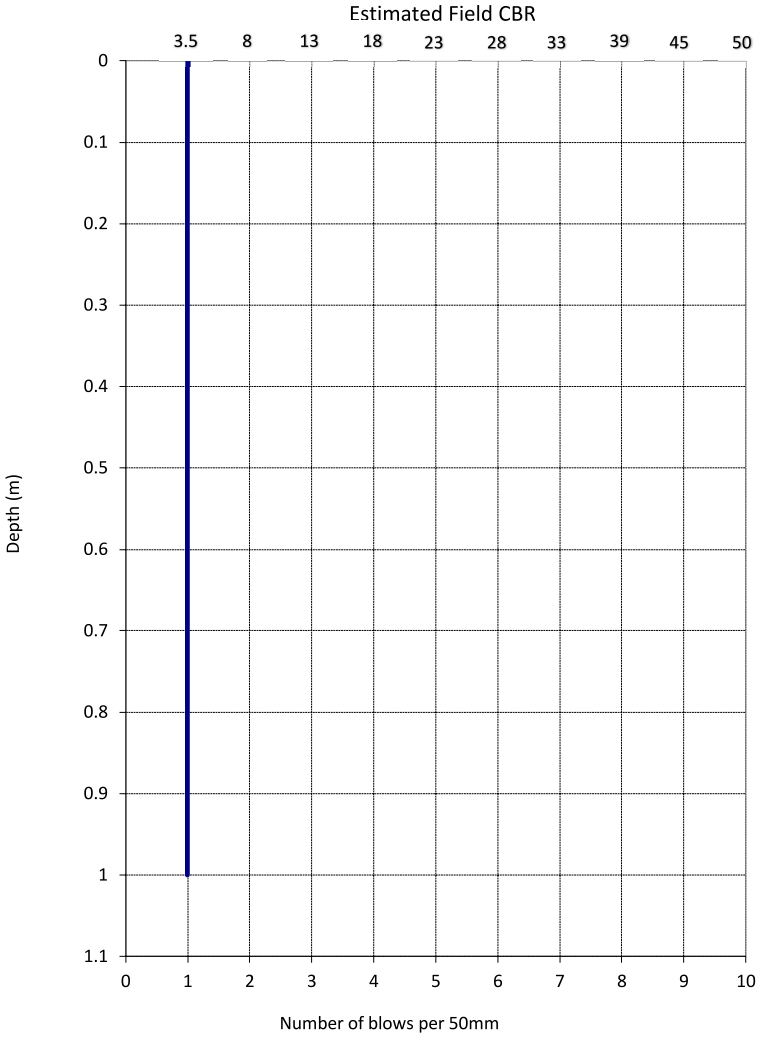
64.26

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	26

Chainage	Offset	Lane
140	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
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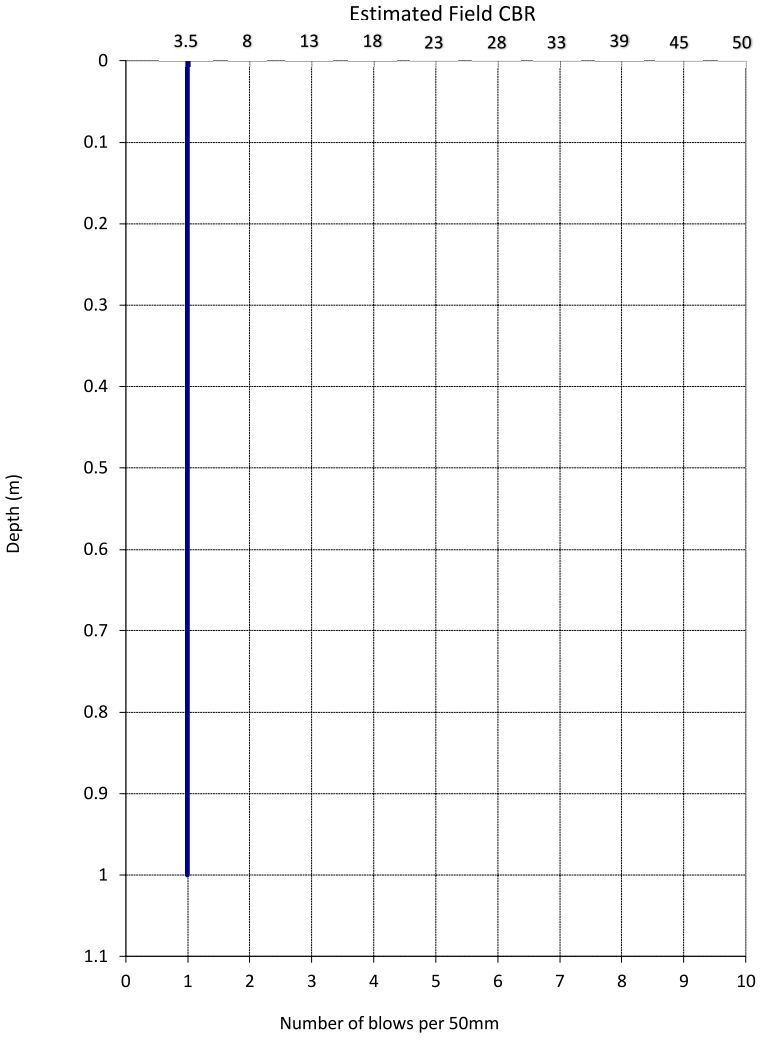
64.27

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	27

Chainage	Offset	Lane
130	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
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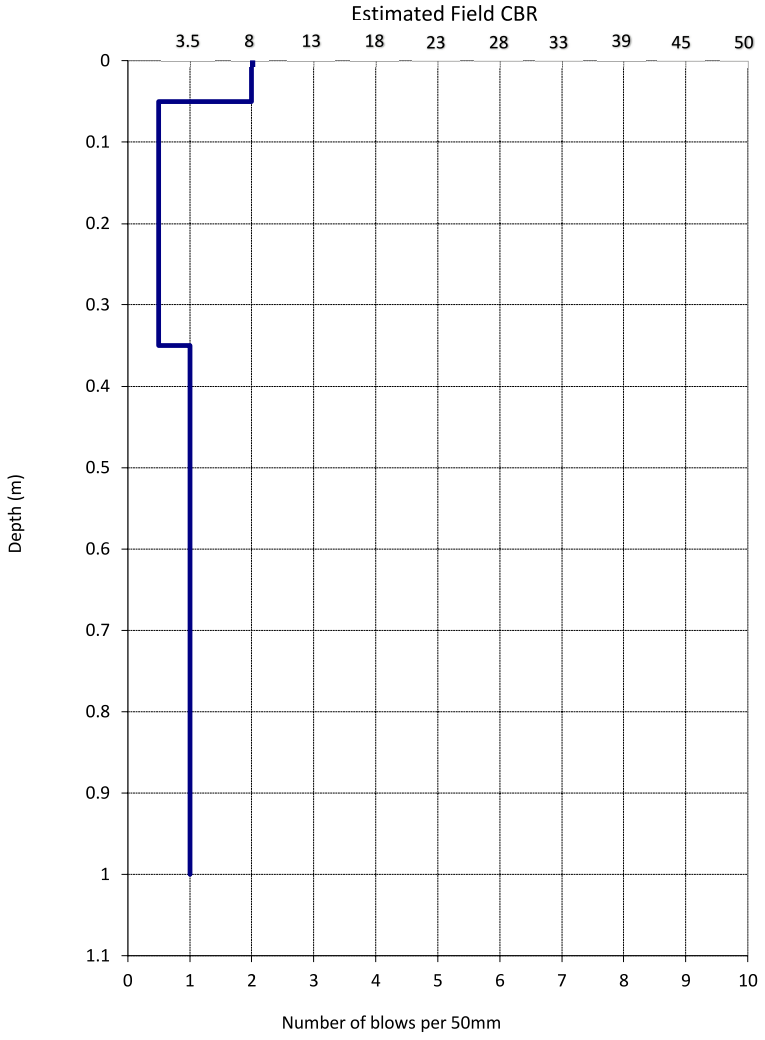
64.28

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	28

Chainage	Offset	Lane
120	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
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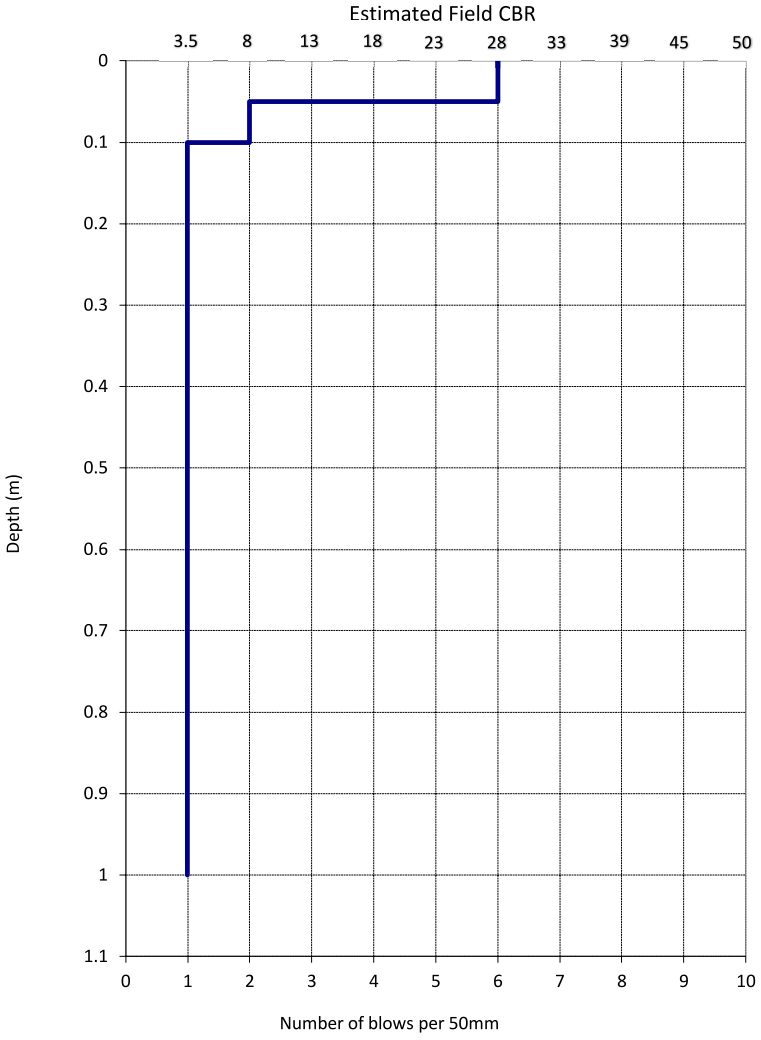
64.29

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	29

Chainage	Offset	Lane
110	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	6
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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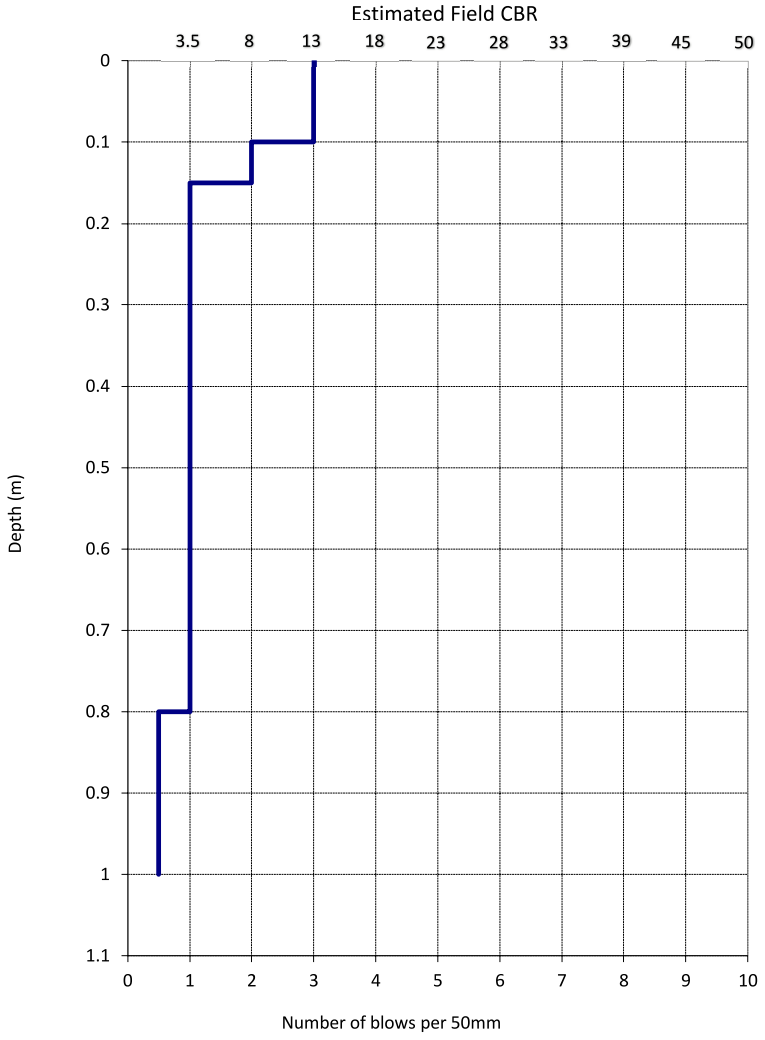
64.30

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	30

Chainage	Offset	Lane
100	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
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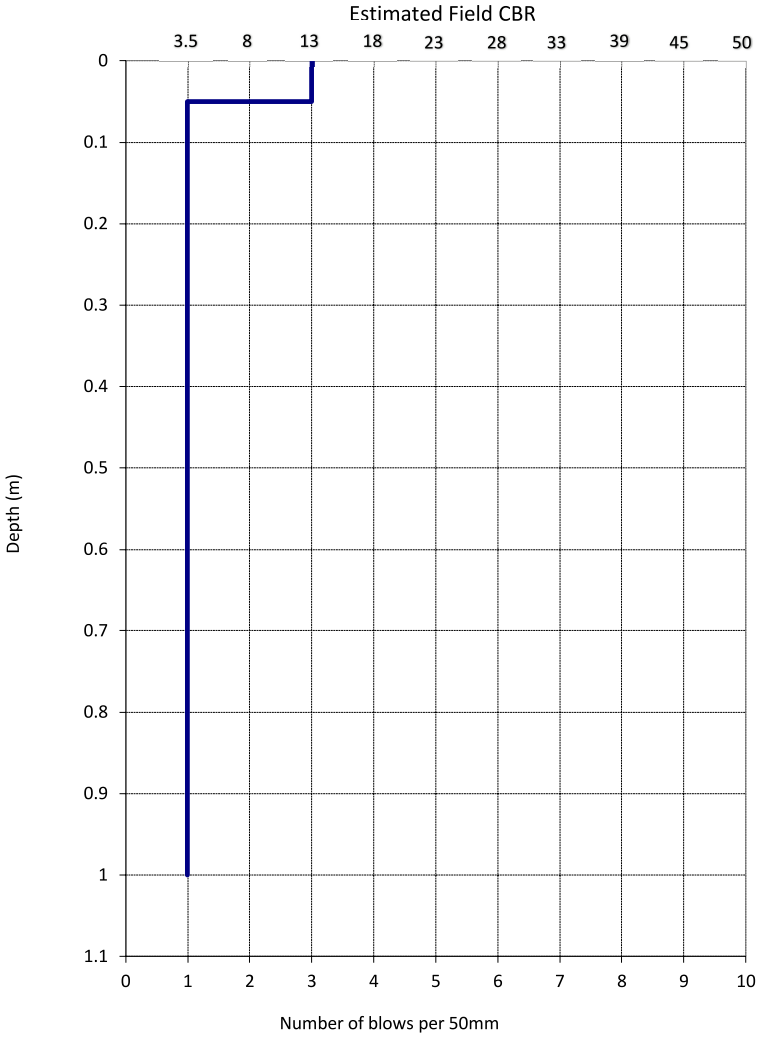
64.31

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	31

Chainage	Offset	Lane
90	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
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64.32

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 6	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-32
Depth from ground surface to commencement of penetration (m)		Test Number	32

Chainage	Offset	Lane
80	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	2
150	150	2
200	200	3
250	250	3
300	300	3
350	350	3
400	400	3
450	450	3
500	500	3
550	550	3
600	600	3
650	650	3
700	700	3
750	750	3
800	800	3
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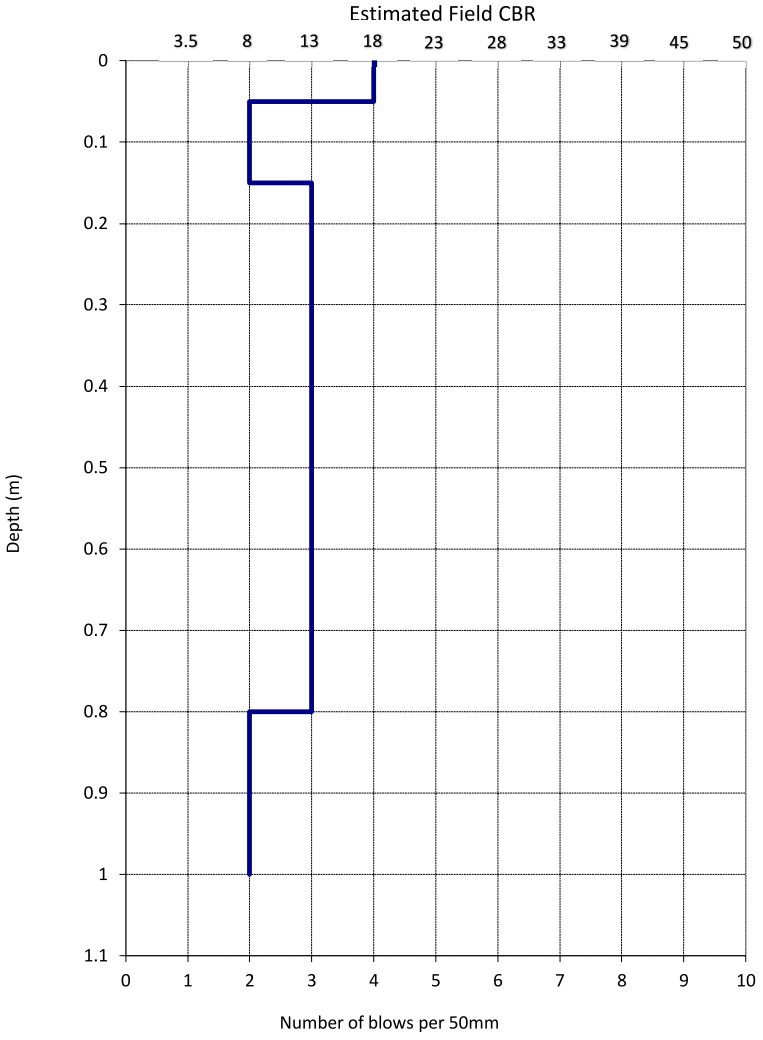
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	21/03/2024
Data Entry By	MIBR	Date	21/03/2024
Checked By	JWAL	Date	29/07/2024

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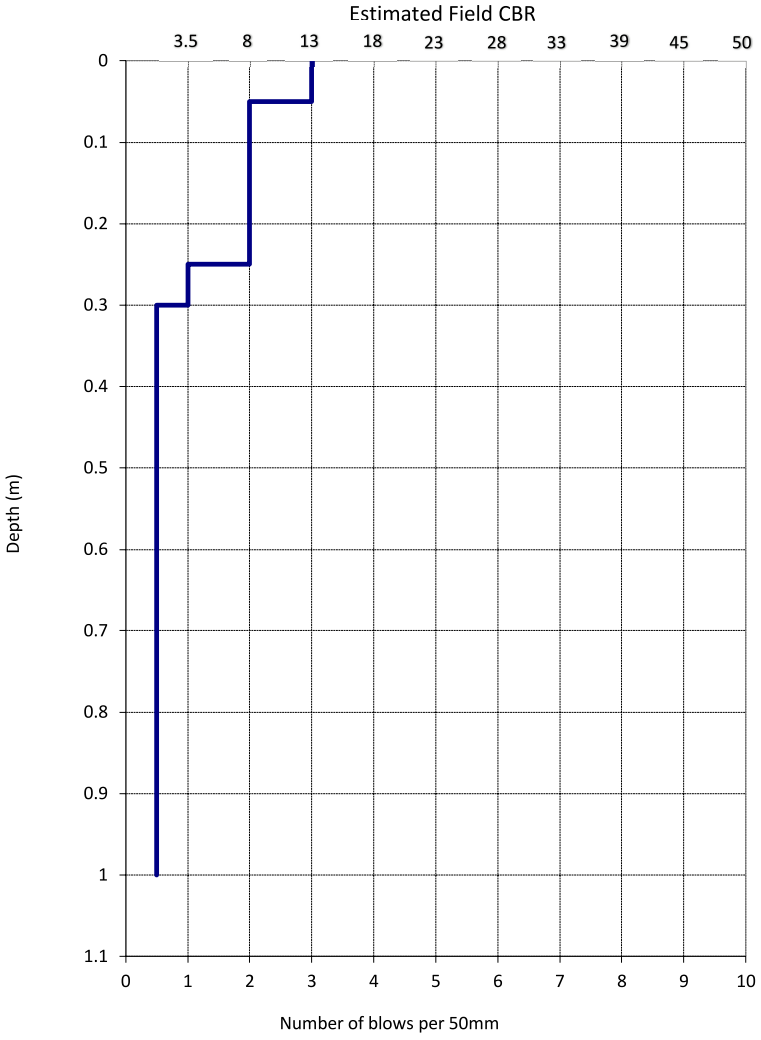
65.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	1

Chainage	Offset	Lane
300	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	2
300	300	1
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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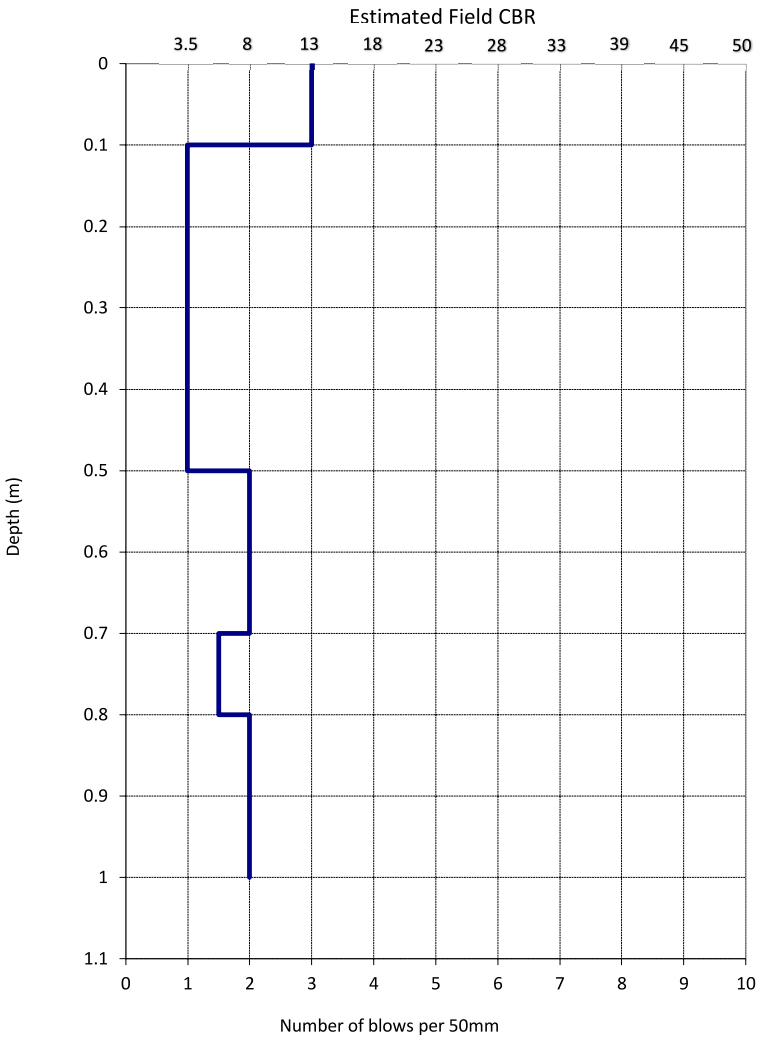
65.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	2

Chainage	Offset	Lane
290	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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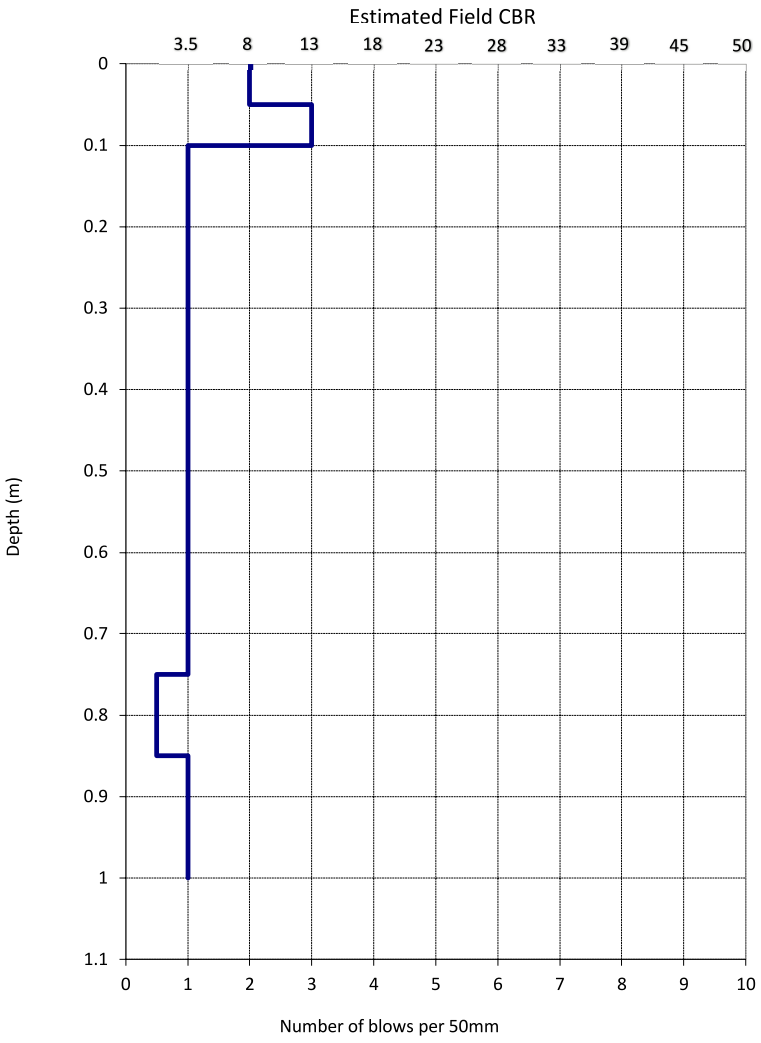
65.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	3

Chainage	Offset	Lane
280	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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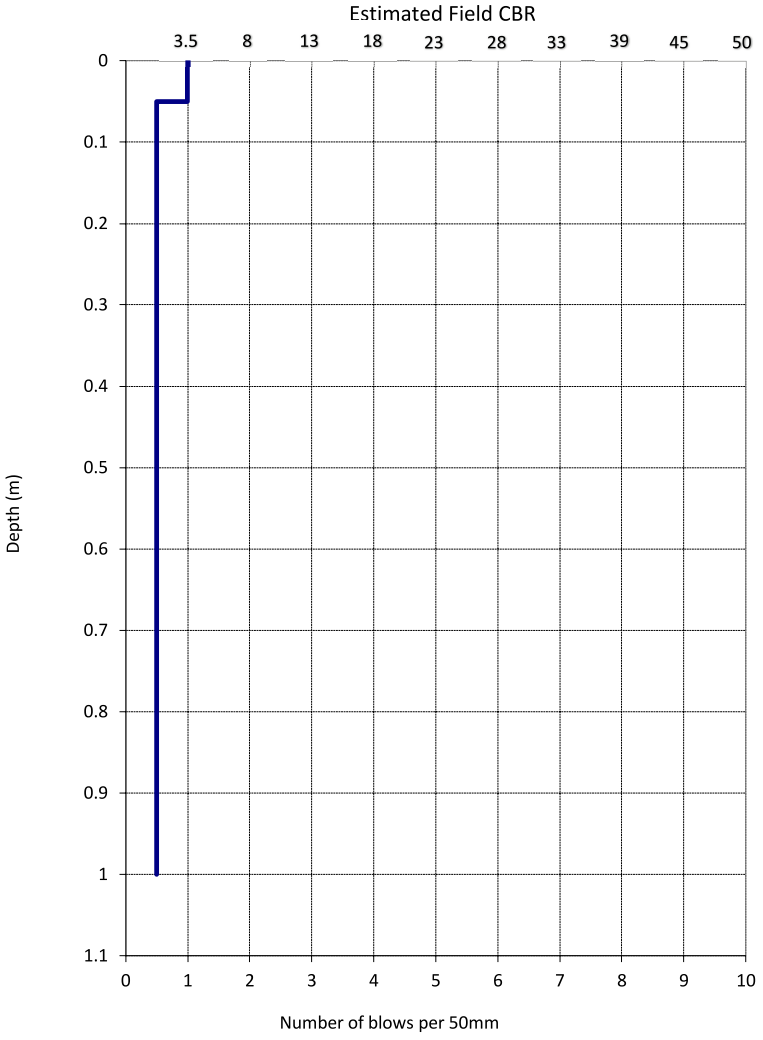
65.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	4

Chainage	Offset	Lane
270	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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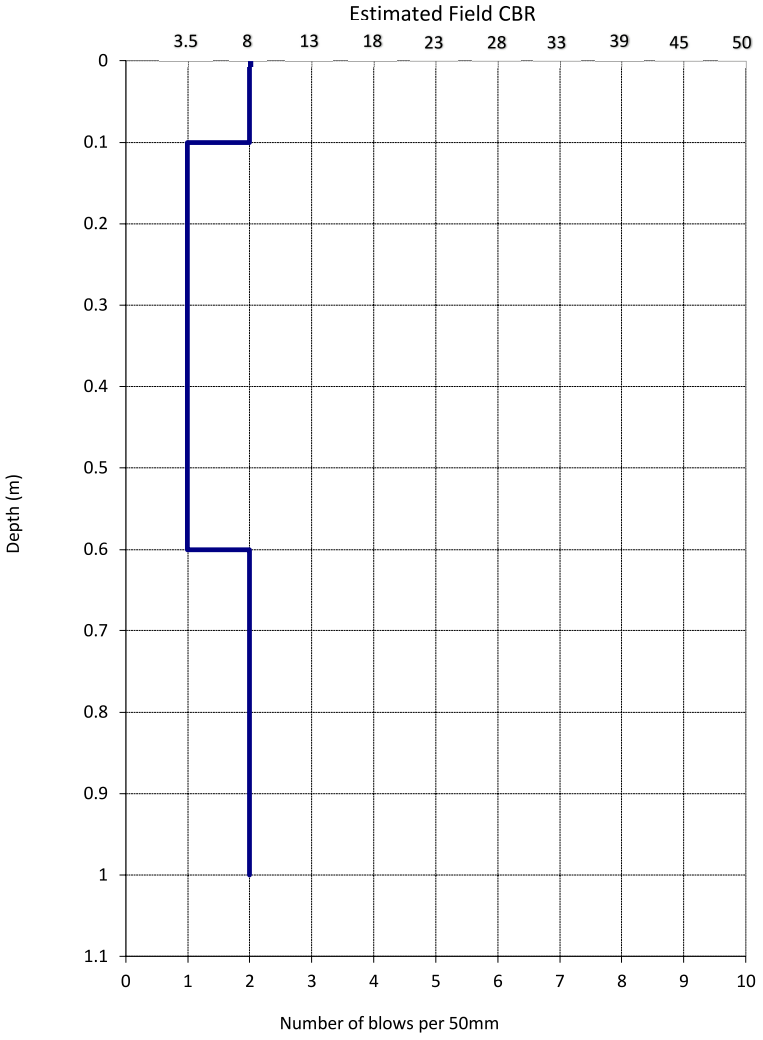
65.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	5

Chainage	Offset	Lane
260	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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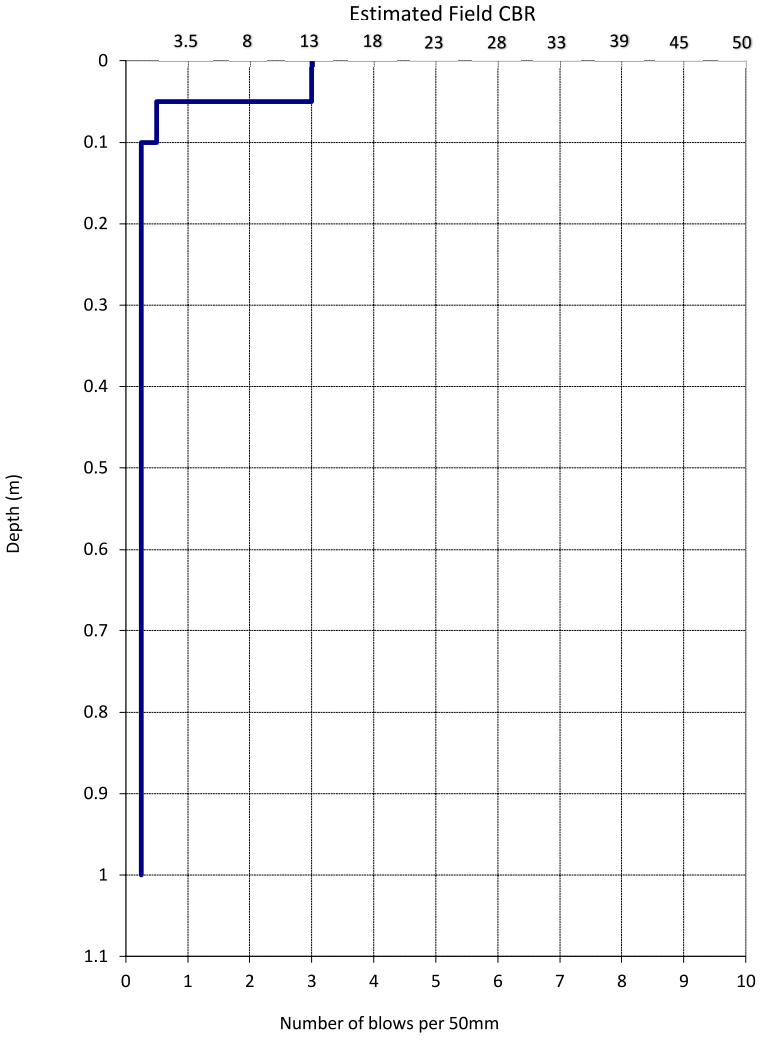
65.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	6

Chainage	Offset	Lane
250	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	0.5
150	150	0.25
200	200	0.25
250	250	0.25
300	300	0.25
350	350	0.25
400	400	0.25
450	450	0.25
500	500	0.25
550	550	0.25
600	600	0.25
650	650	0.25
700	700	0.25
750	750	0.25
800	800	0.25
850	850	0.25
900	900	0.25
950	950	0.25
1000	1000	0.25



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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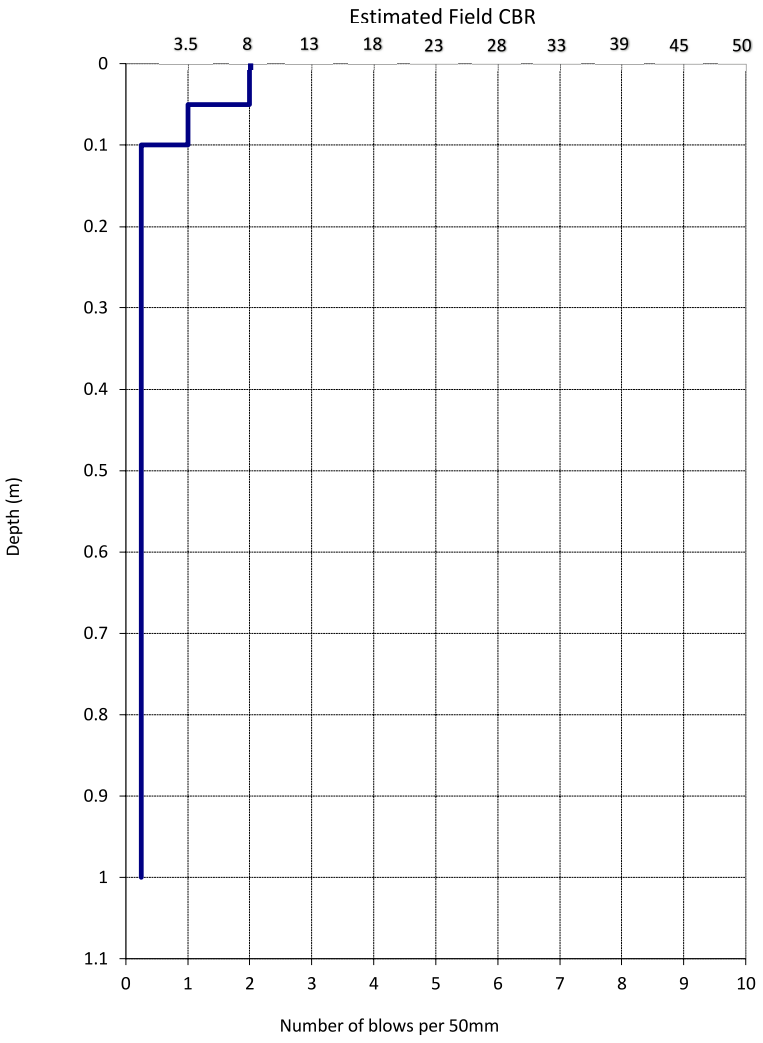
65.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	7

Chainage	Offset	Lane
240	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	0.25
200	200	0.25
250	250	0.25
300	300	0.25
350	350	0.25
400	400	0.25
450	450	0.25
500	500	0.25
550	550	0.25
600	600	0.25
650	650	0.25
700	700	0.25
750	750	0.25
800	800	0.25
850	850	0.25
900	900	0.25
950	950	0.25
1000	1000	0.25



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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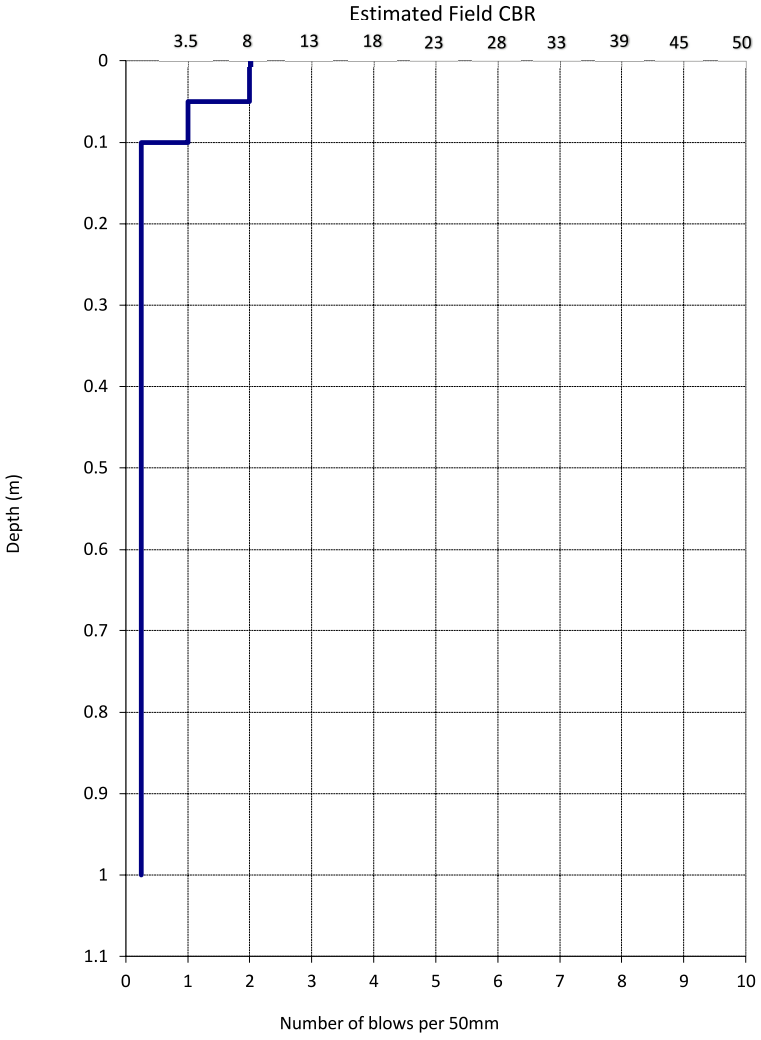
65.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	8

Chainage	Offset	Lane
230	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	0.25
200	200	0.25
250	250	0.25
300	300	0.25
350	350	0.25
400	400	0.25
450	450	0.25
500	500	0.25
550	550	0.25
600	600	0.25
650	650	0.25
700	700	0.25
750	750	0.25
800	800	0.25
850	850	0.25
900	900	0.25
950	950	0.25
1000	1000	0.25



Test Remarks

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Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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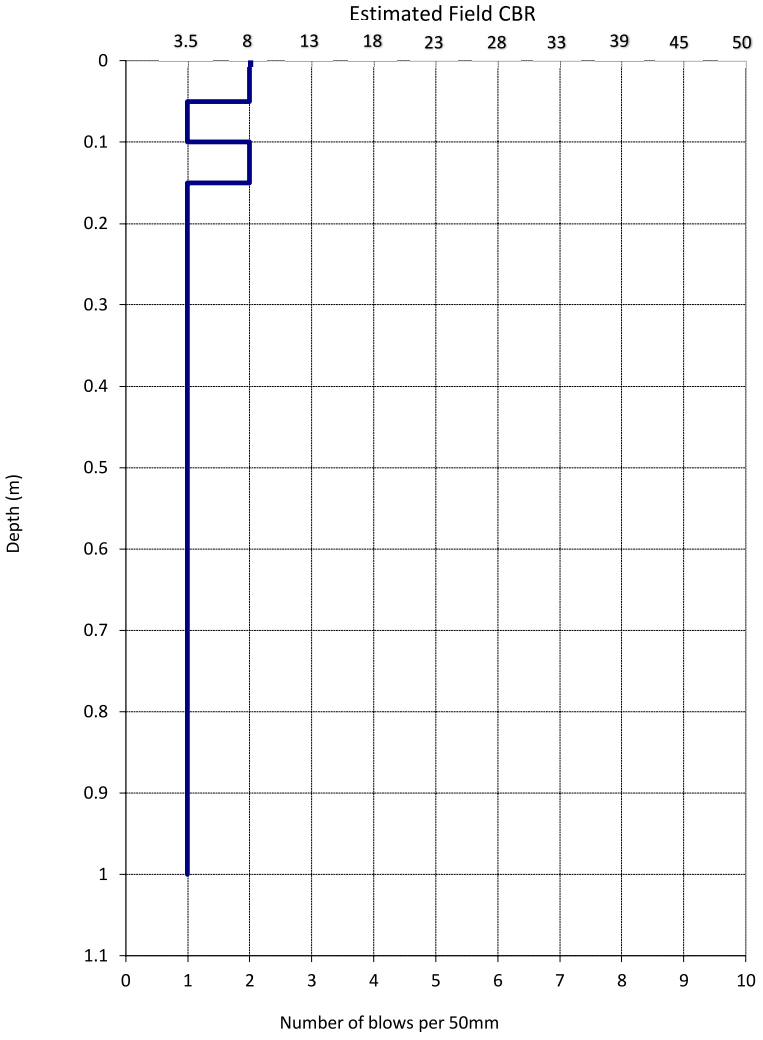
65.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	9

Chainage	Offset	Lane
220	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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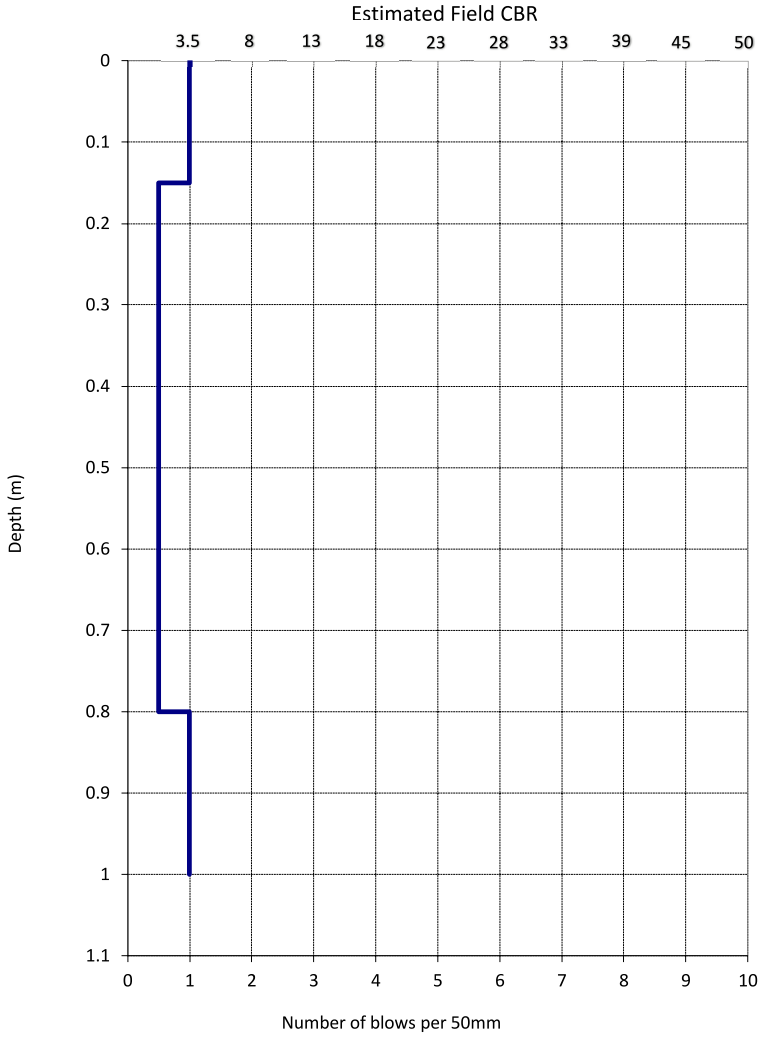
65.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	10

Chainage	Offset	Lane
210	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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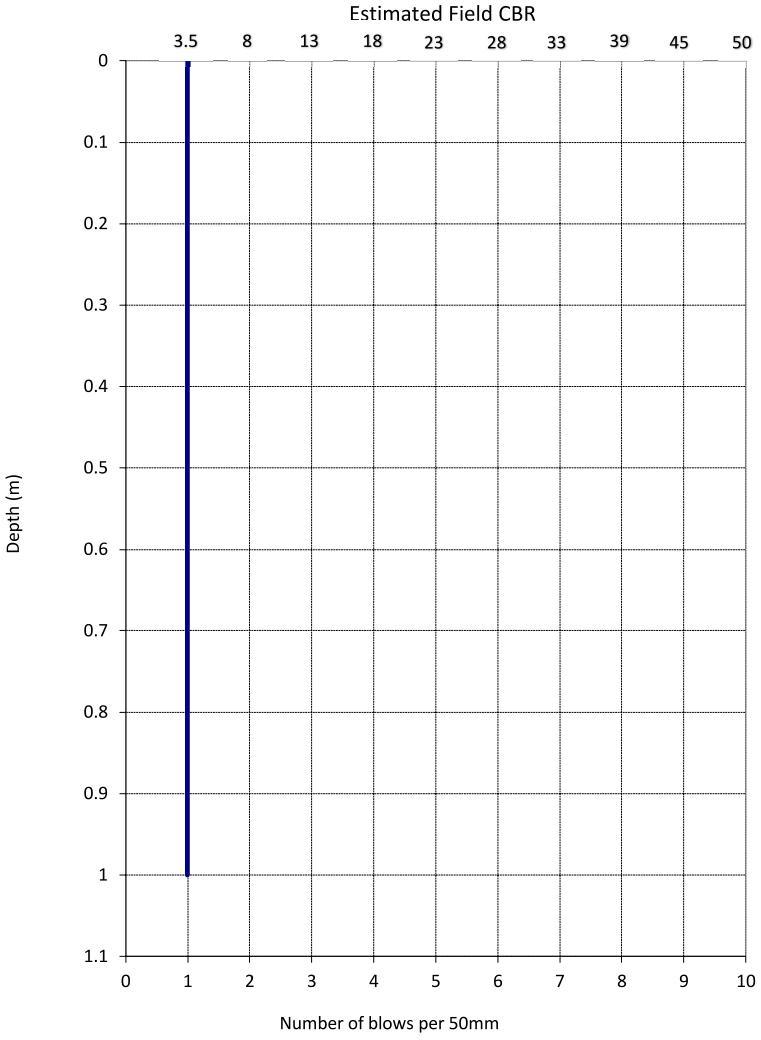
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	11

Chainage	Offset	Lane
200	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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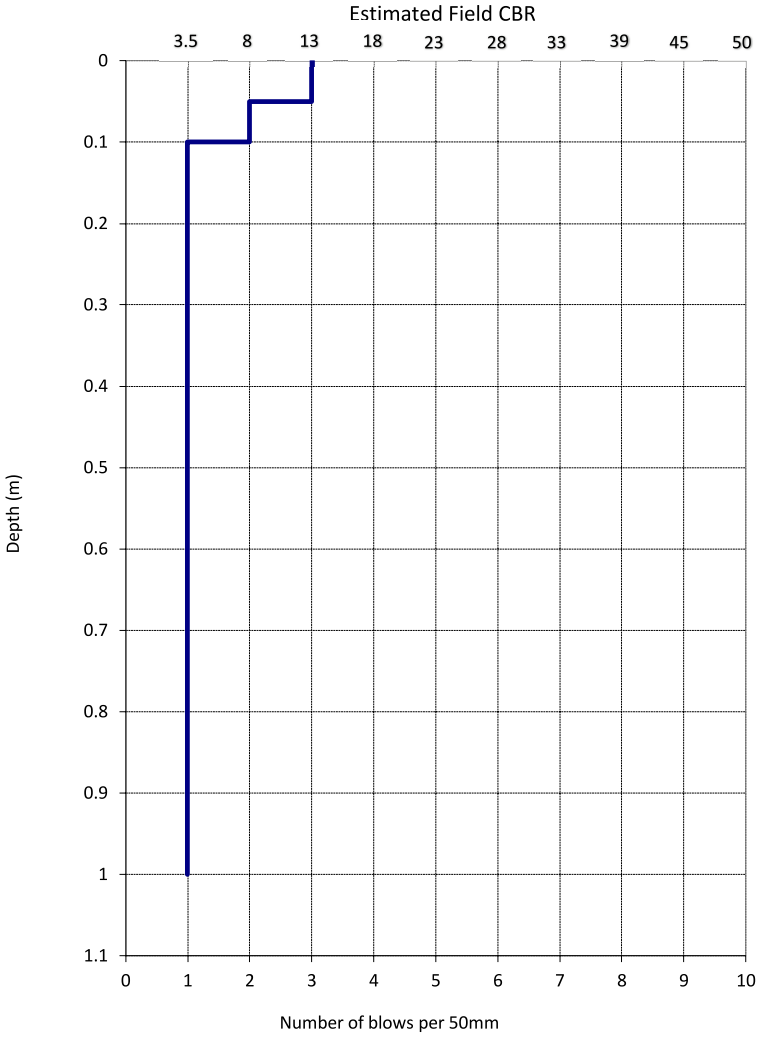
65.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	12

Chainage	Offset	Lane
190	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
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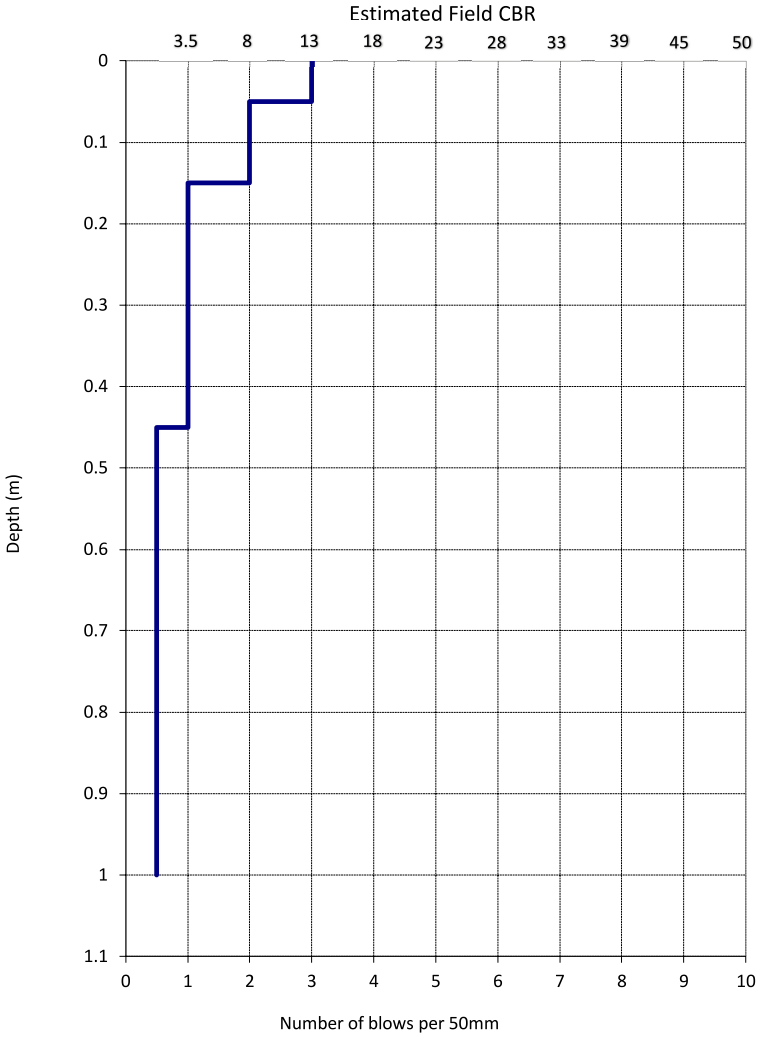
65.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	13

Chainage	Offset	Lane
180	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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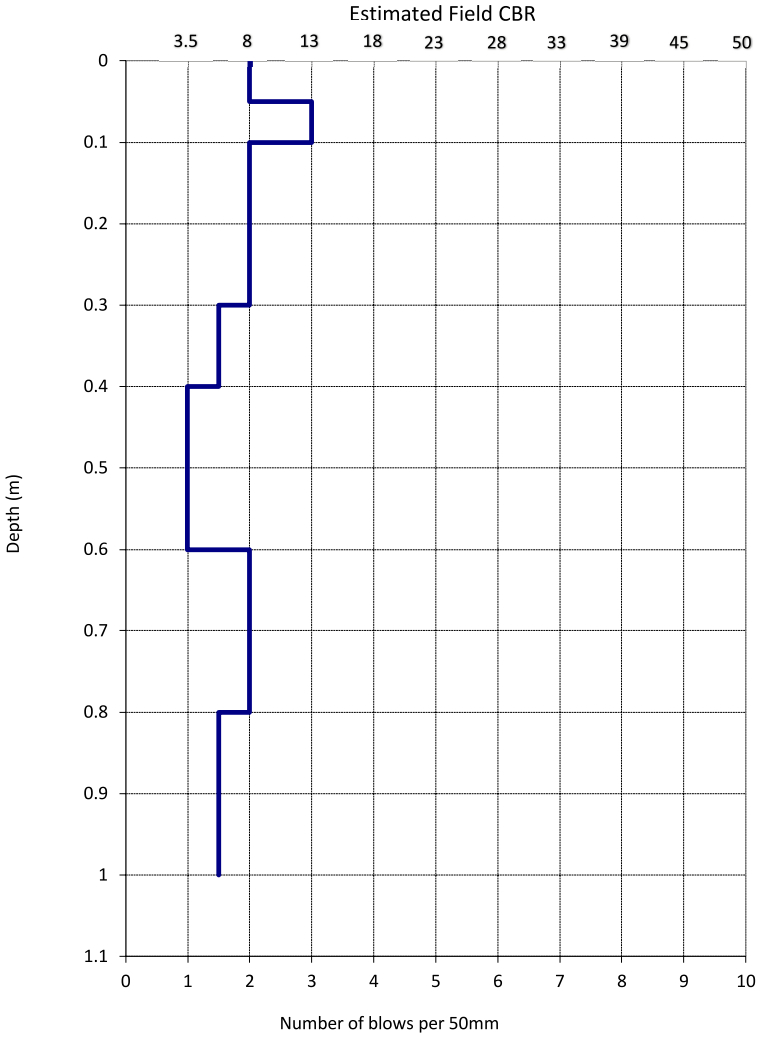
65.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	14

Chainage	Offset	Lane
170	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	2
200	200	2
250	250	2
300	300	2
350	350	1.5
400	400	1.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	2
750	750	2
800	800	2
850	850	1.5
900	900	1.5
950	950	1.5
1000	1000	1.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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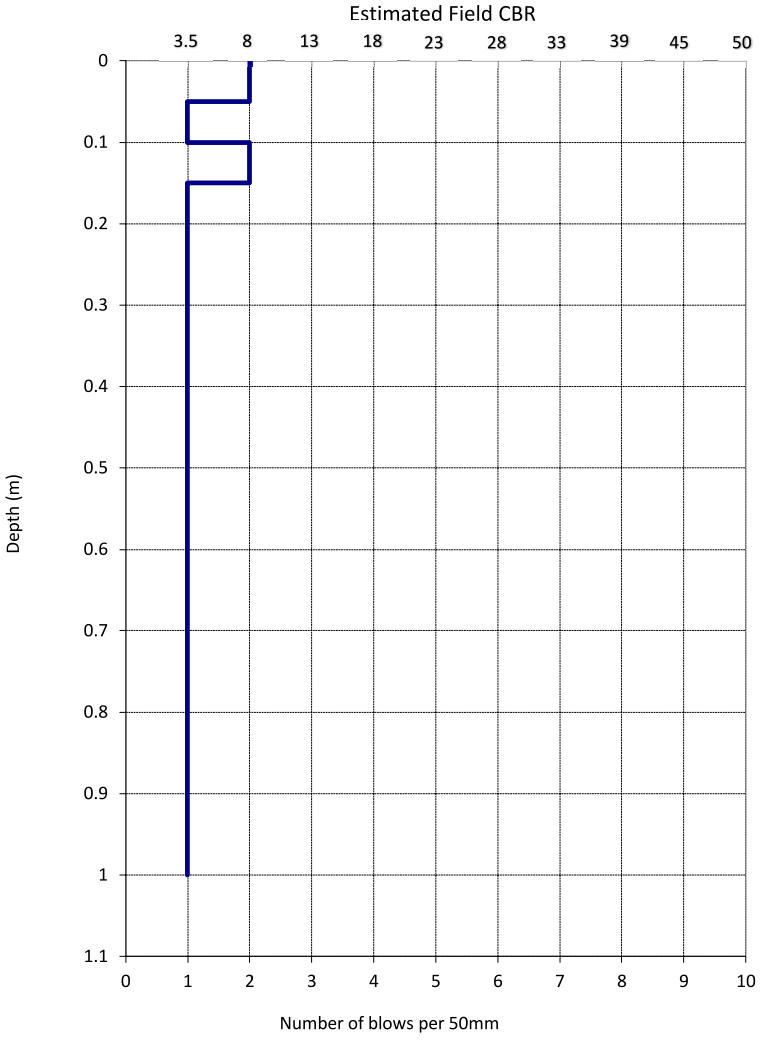
65.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 5	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	15

Chainage	Offset	Lane
0	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
Checked By	JWAL	Date	29/07/2024

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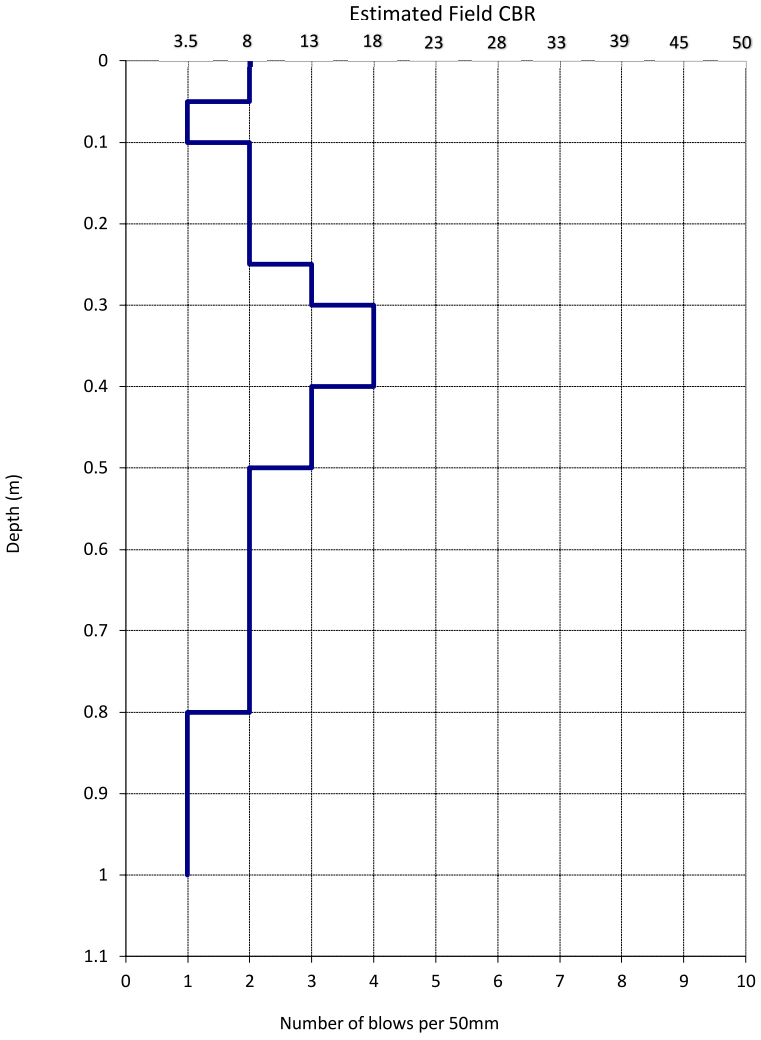
65.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	16

Chainage	Offset	Lane
10	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	2
250	250	2
300	300	3
350	350	4
400	400	4
450	450	3
500	500	3
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Data Entry By	MIBR	Date	22/03/2024
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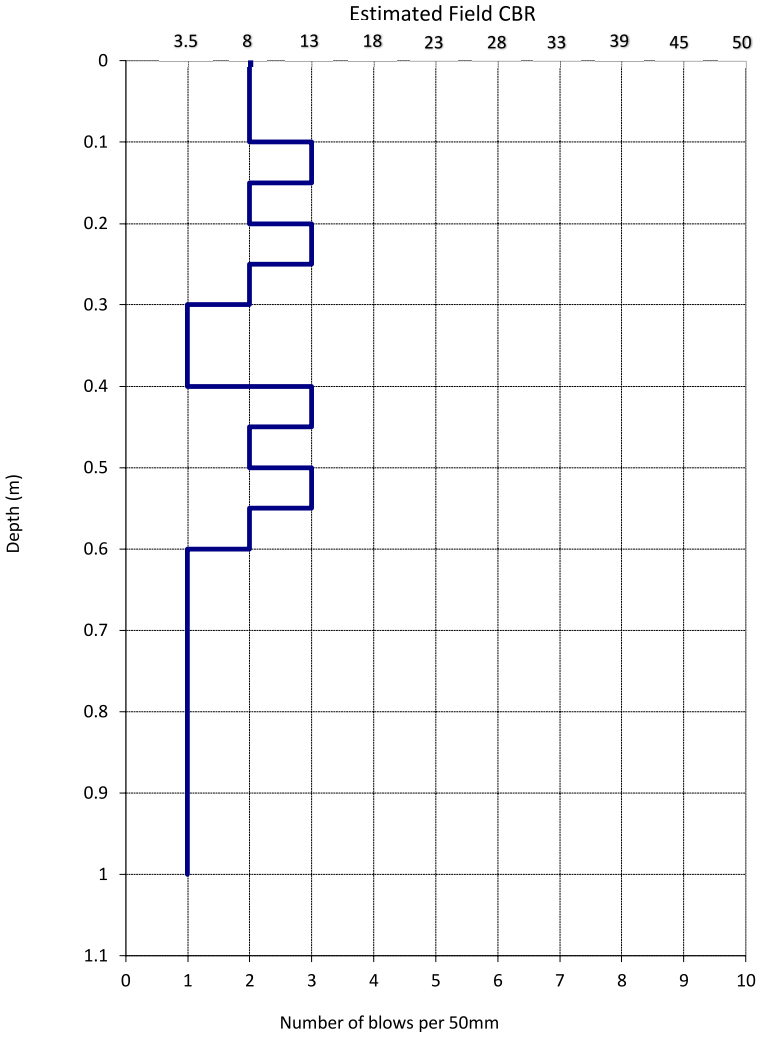
65.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	17

Chainage	Offset	Lane
20	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	3
200	200	2
250	250	3
300	300	2
350	350	1
400	400	1
450	450	3
500	500	2
550	550	3
600	600	2
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

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Data Entry By	MIBR	Date	22/03/2024
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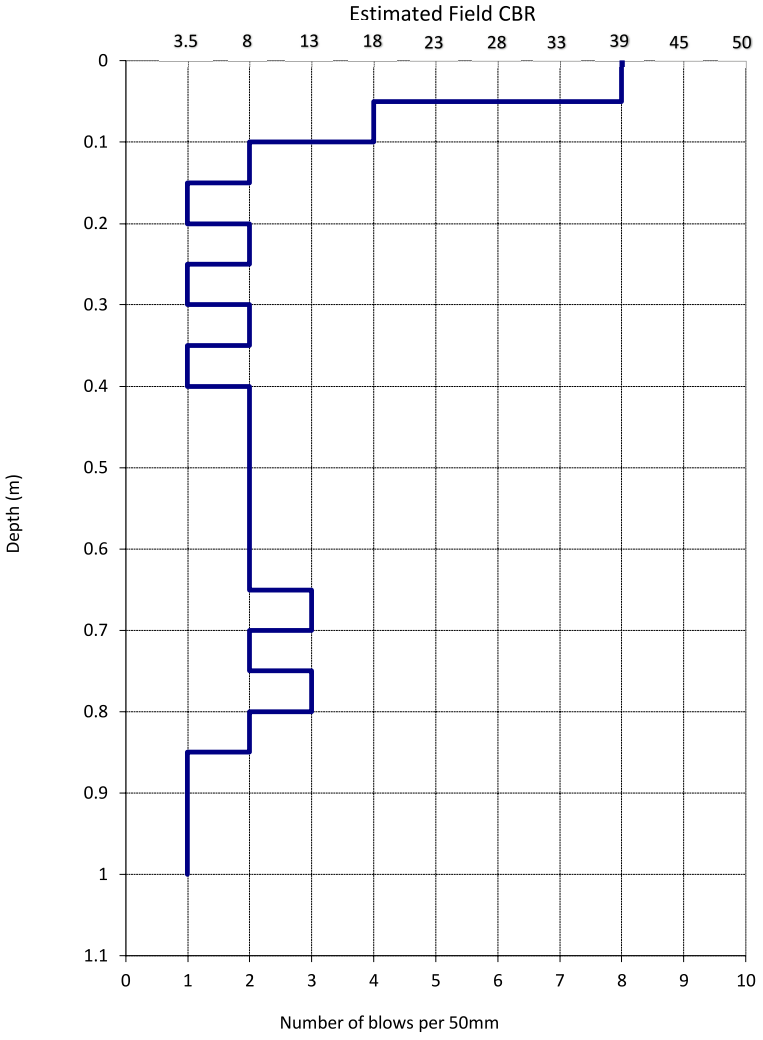
65.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	18

Chainage	Offset	Lane
30	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	8
100	100	4
150	150	2
200	200	1
250	250	2
300	300	1
350	350	2
400	400	1
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	3
750	750	2
800	800	3
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	22/03/2024
Data Entry By	MIBR	Date	22/03/2024
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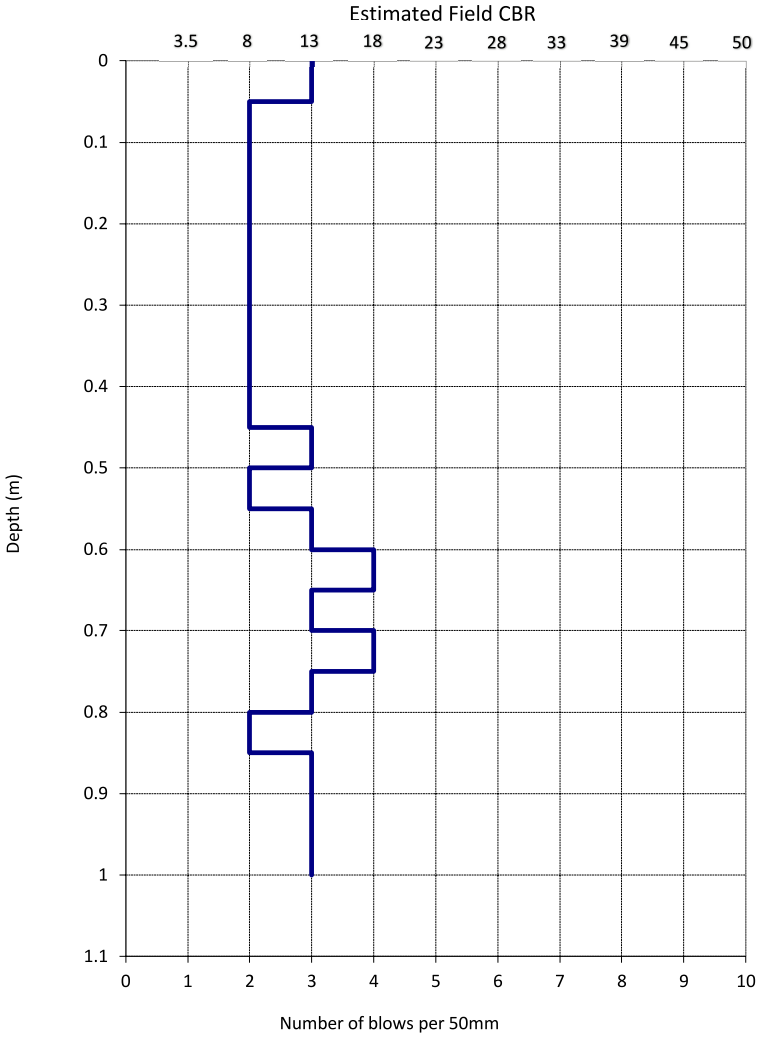
65.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	Clay SILT	Test Series	1-19
Depth from ground surface to commencement of penetration (m)	0	Test Number	19

Chainage	Offset	Lane
40	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	3
550	550	2
600	600	3
650	650	4
700	700	3
750	750	4
800	800	3
850	850	2
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

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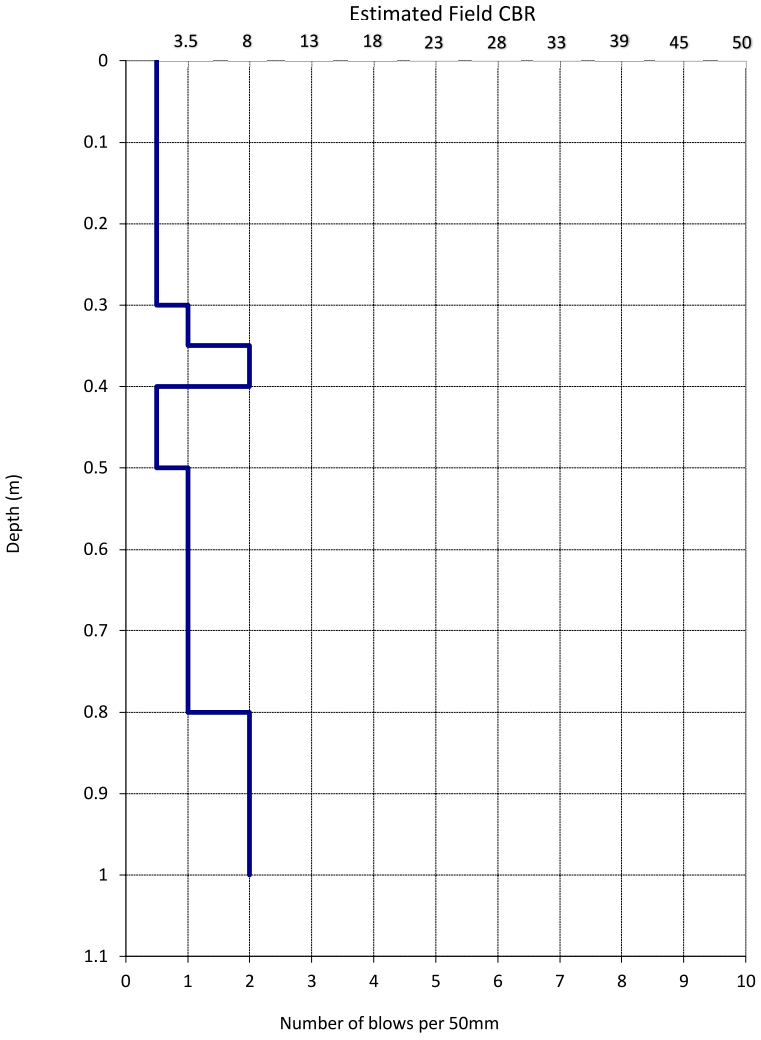
66.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	1

Chainage	Offset	Lane
320	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	1.0
400	400	2.0
450	450	0.5
500	500	0.5
550	550	1.0
600	600	1.0
650	650	1.0
700	700	1.0
750	750	1.0
800	800	1.0
850	850	2.0
900	900	2.0
950	950	2.0
1000	1000	2.0



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
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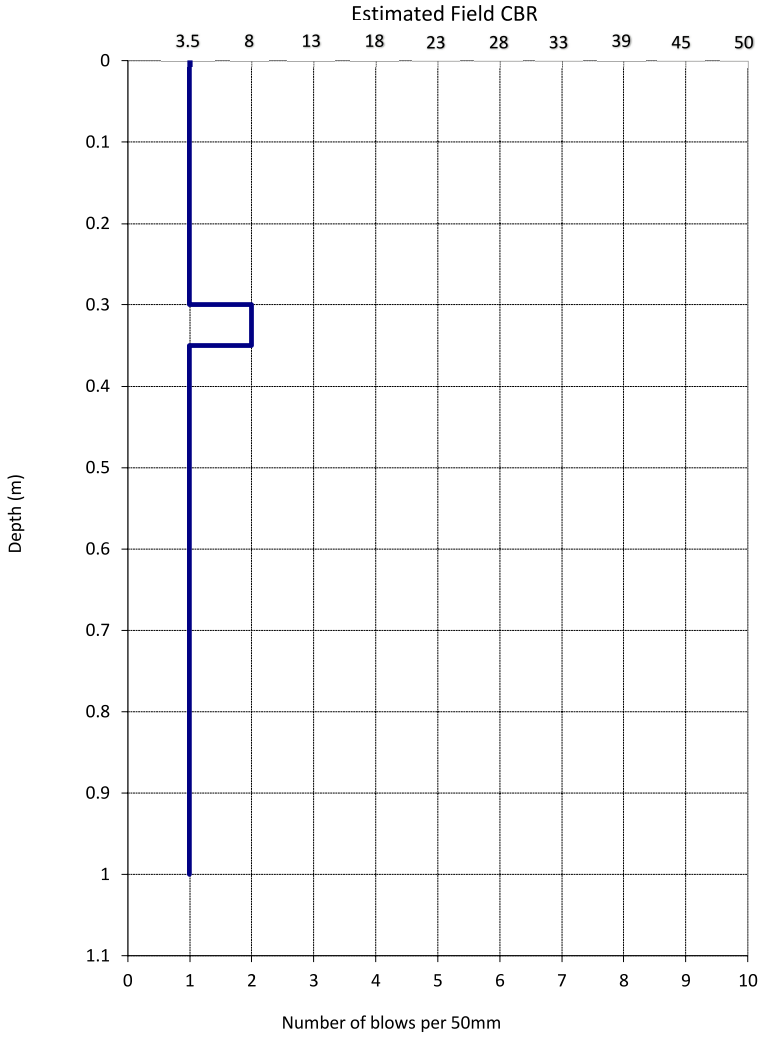
66.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
330	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	2
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
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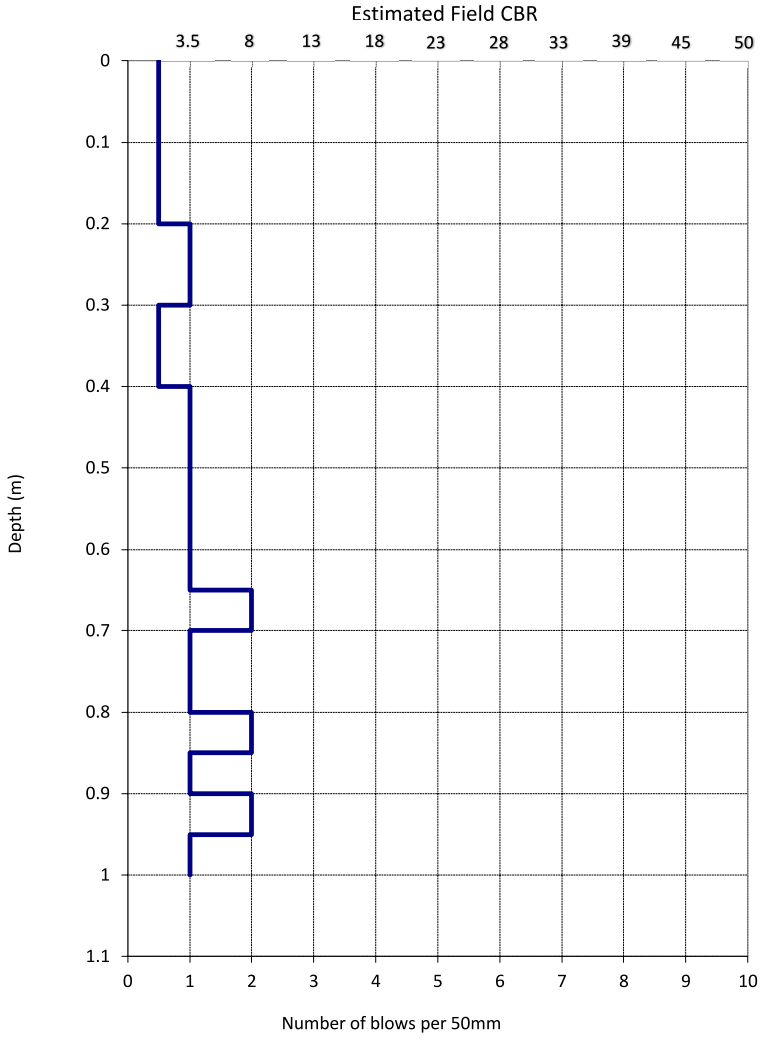
66.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
340	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	1
300	300	1
350	350	0.5
400	400	0.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	2
750	750	1
800	800	1
850	850	2
900	900	1
950	950	2
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
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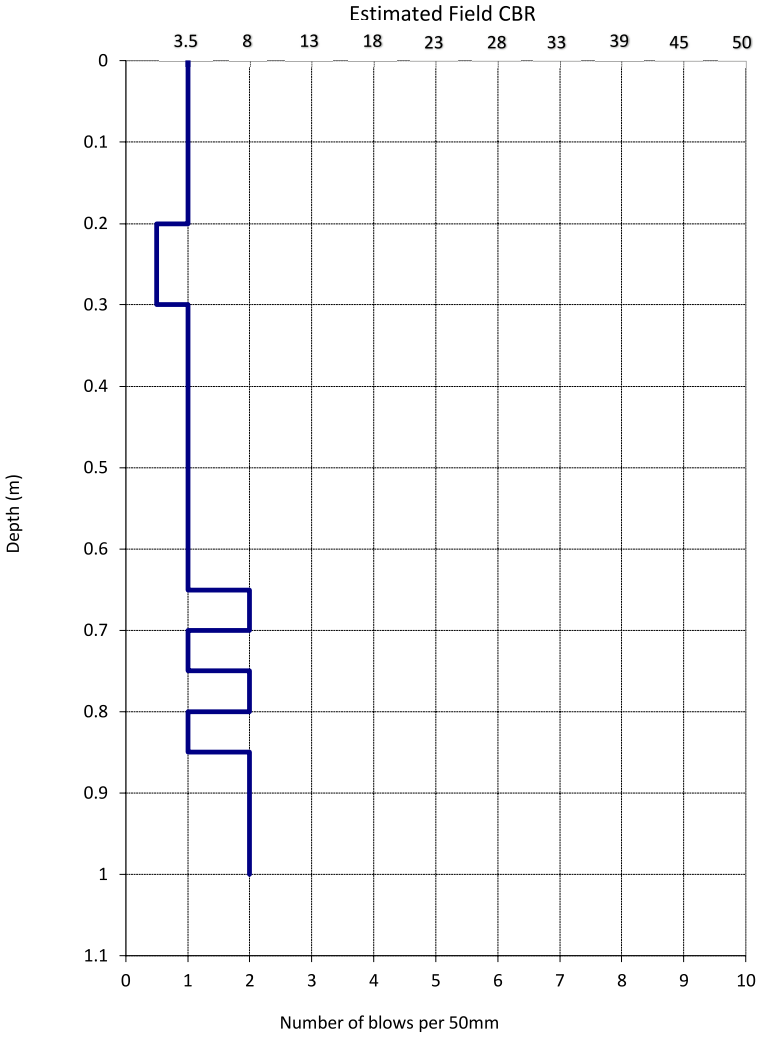
66.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
380	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	2
750	750	1
800	800	2
850	850	1
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
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66.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
370	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	1
200	200	0.5
250	250	0.5
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	1
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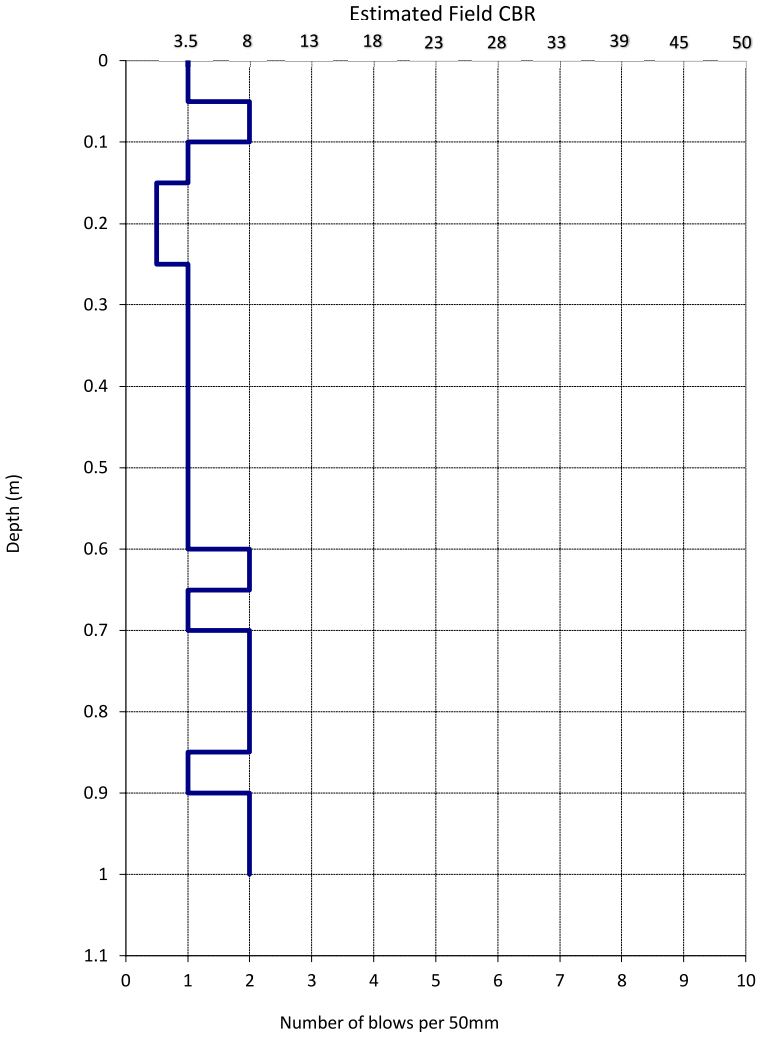
900	900	1
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
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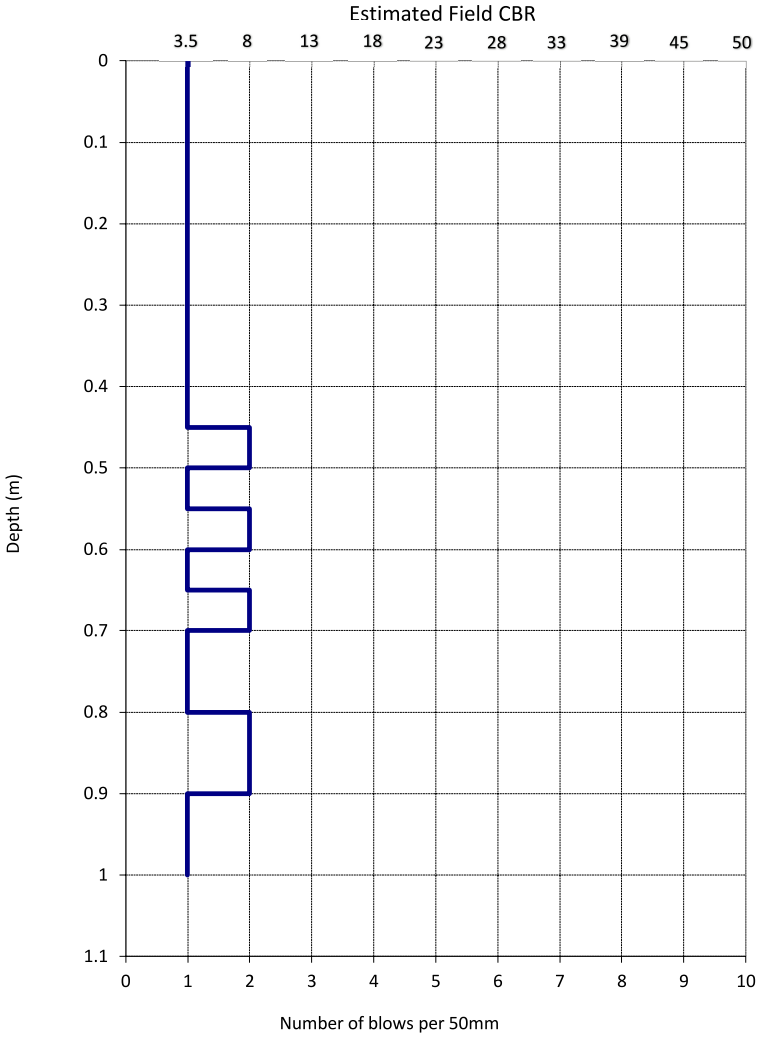
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
360	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	2
550	550	1
600	600	2
650	650	1
700	700	2
750	750	1
800	800	1
850	850	2
900	900	2
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
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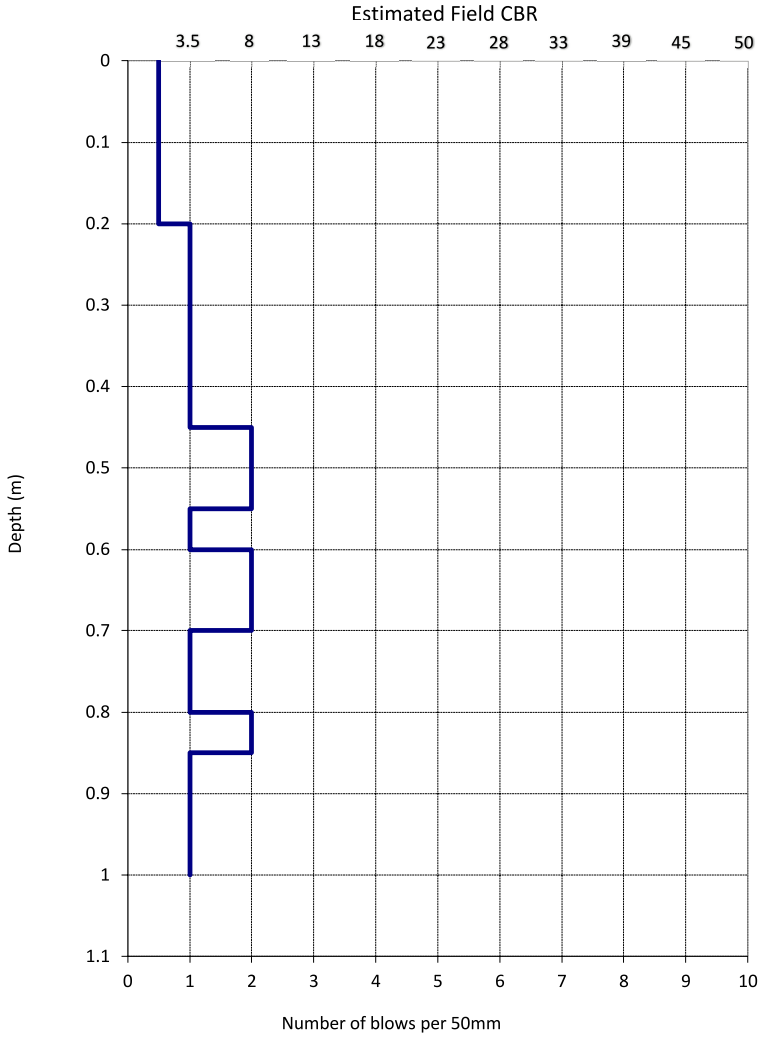
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
350	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	2
550	550	2
600	600	1
650	650	2
700	700	2
750	750	1
800	800	1
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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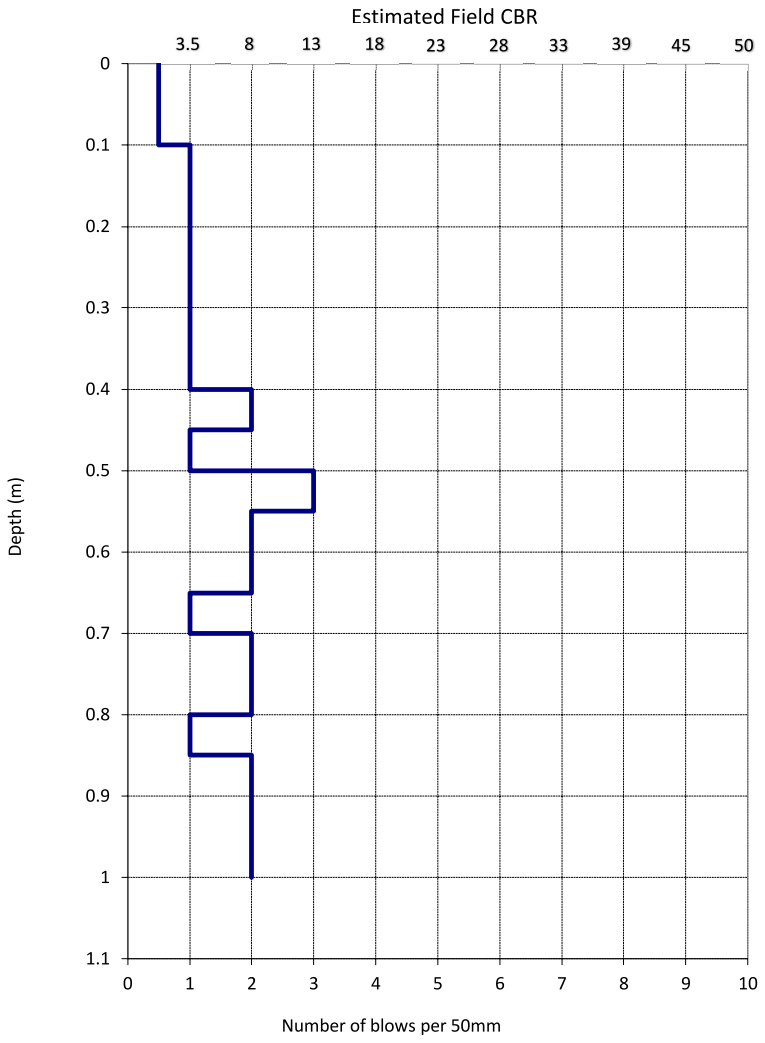
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
340	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	2
500	500	1
550	550	3
600	600	2
650	650	2
700	700	1
750	750	2
800	800	2
850	850	1
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

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Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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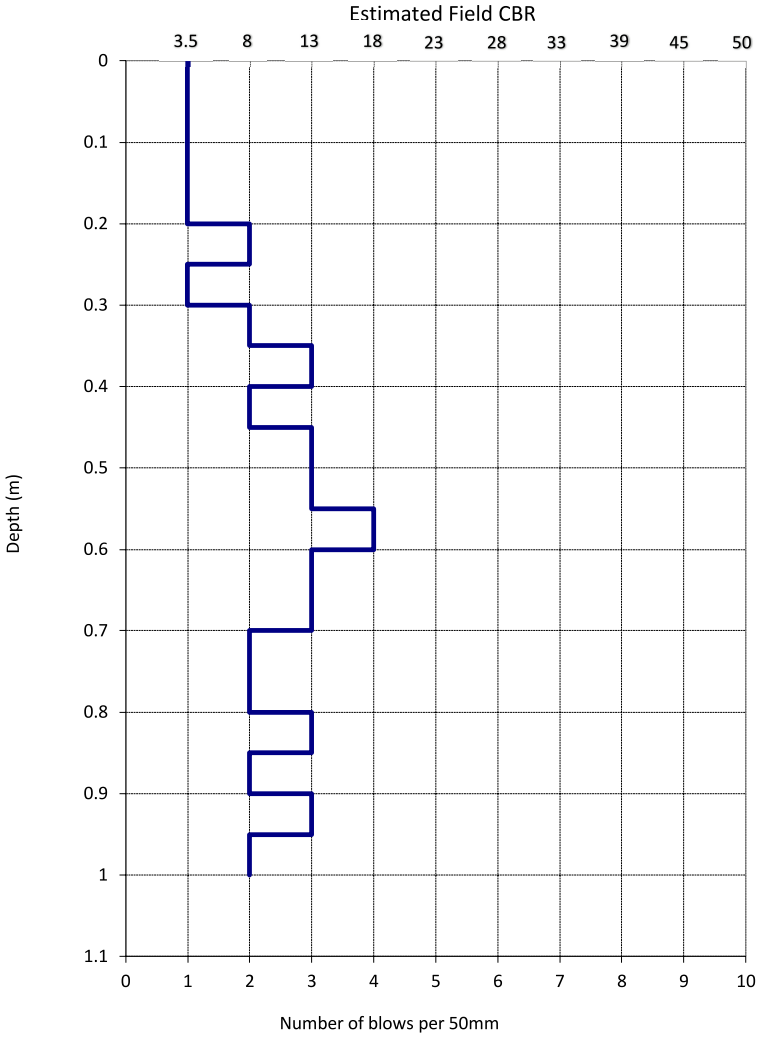
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
330	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	2
300	300	1
350	350	2
400	400	3
450	450	2
500	500	3
550	550	3
600	600	4
650	650	3
700	700	3
750	750	2
800	800	2
850	850	3
900	900	2
950	950	3
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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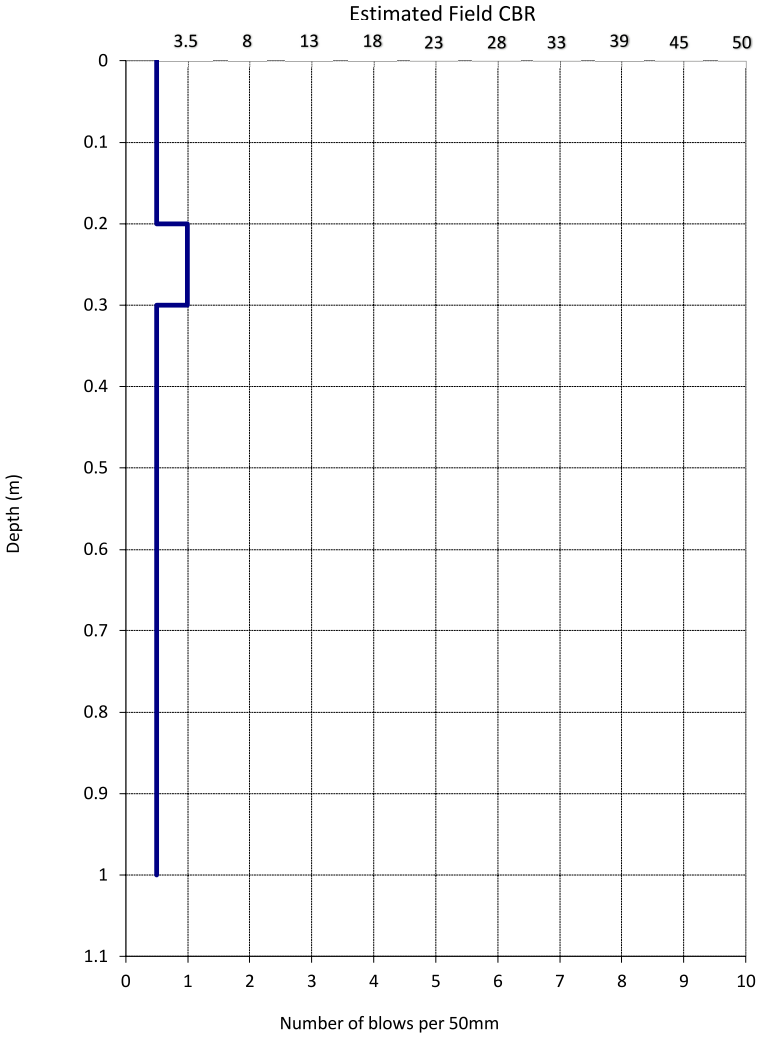
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
320	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	1
300	300	1
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
310	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
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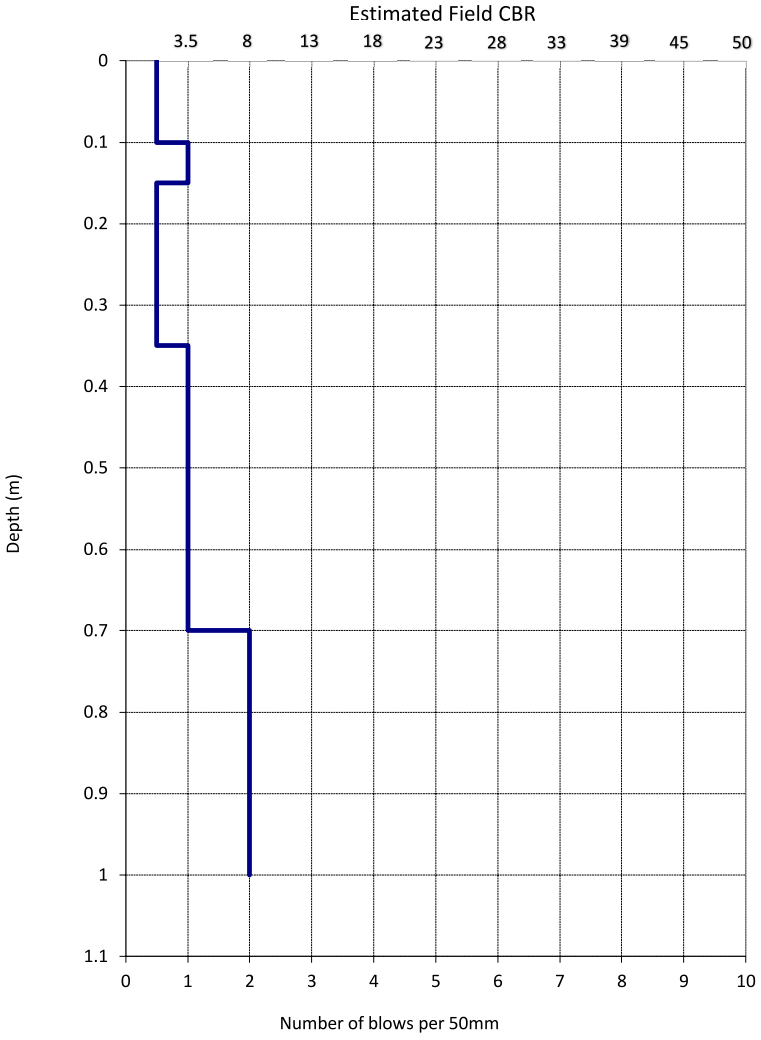
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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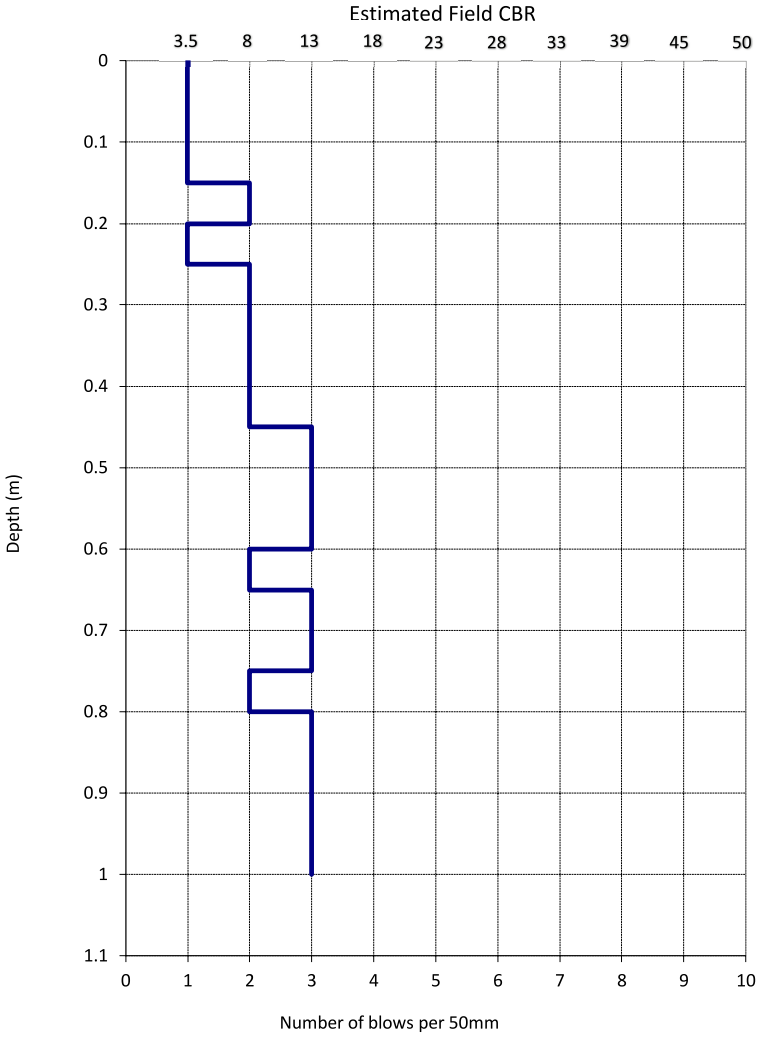
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
300	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	1
300	300	2
350	350	2
400	400	2
450	450	2
500	500	3
550	550	3
600	600	3
650	650	2
700	700	3
750	750	3
800	800	2
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
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NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
290	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	2
550	550	1
600	600	2
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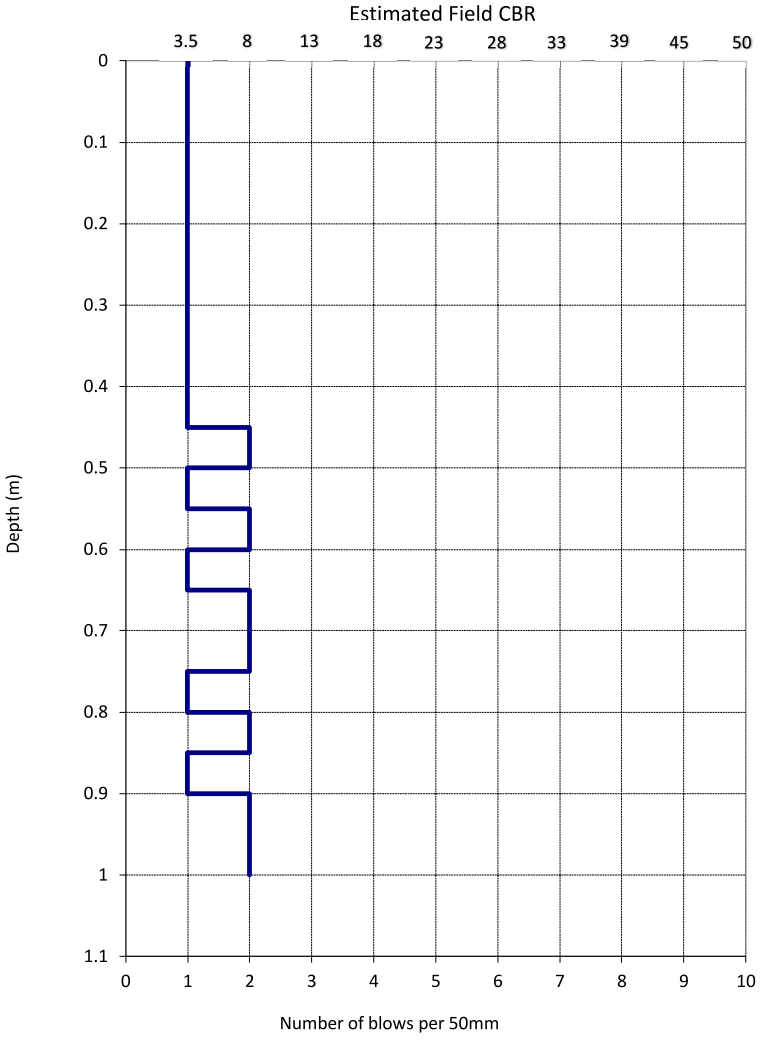
950	950	2
1000	1000	2



Test Remarks

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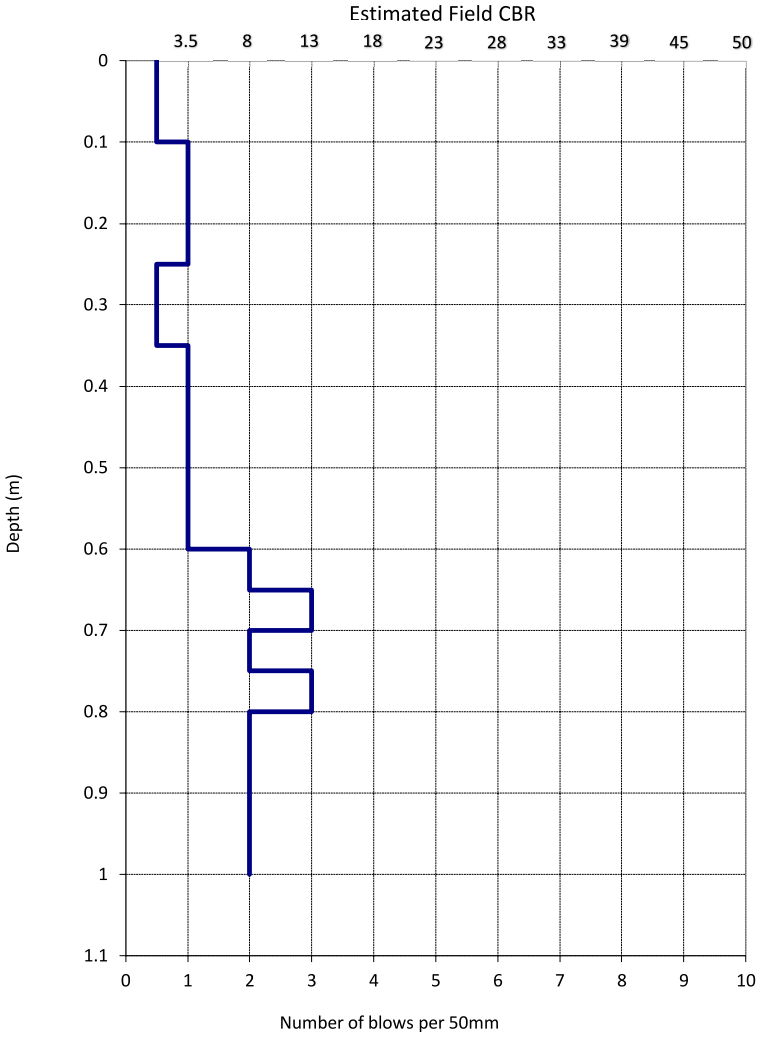
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 1 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
280	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	0.5
350	350	0.5
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	3
750	750	2
800	800	3
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	27/03/2024
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Checked By	JWAL	Date	29/07/2024

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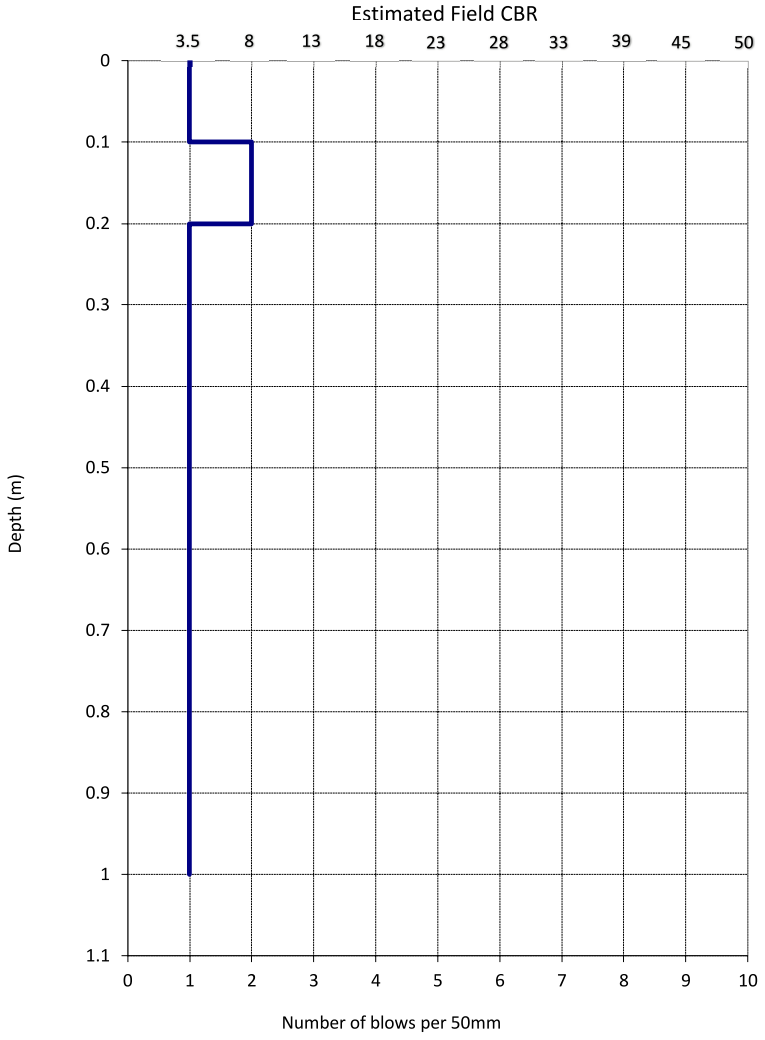
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
90	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	27/03/2024
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Checked By	JWAL	Date	29/07/2024

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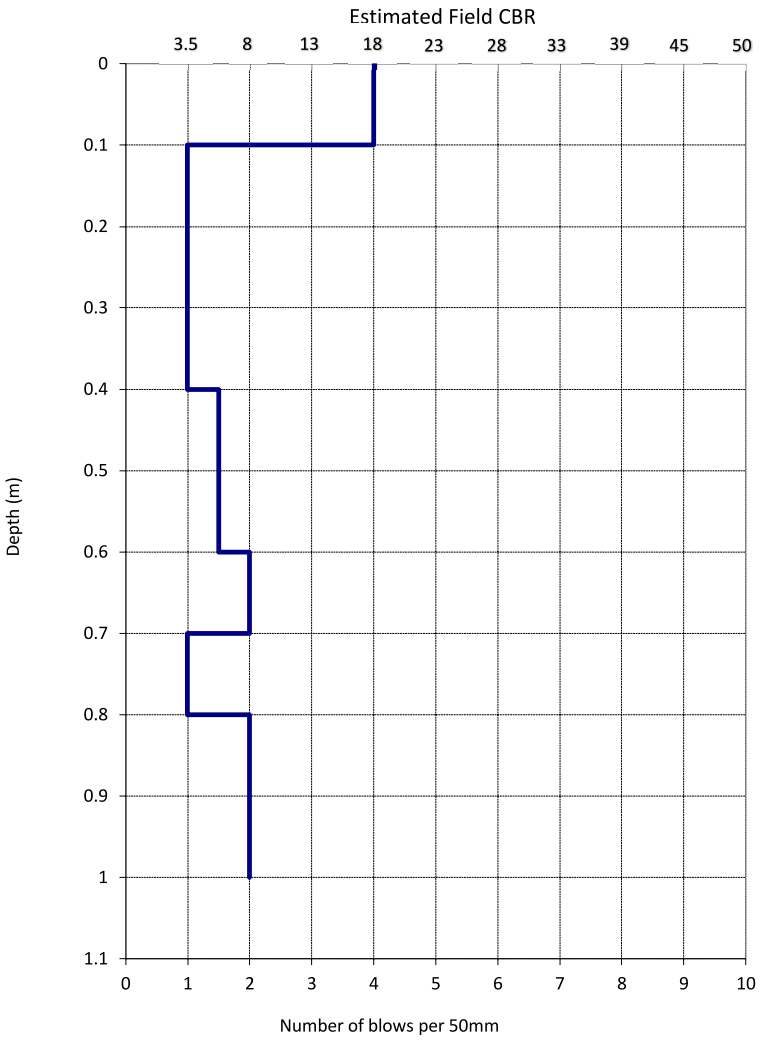
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	16

Chainage	Offset	Lane
80	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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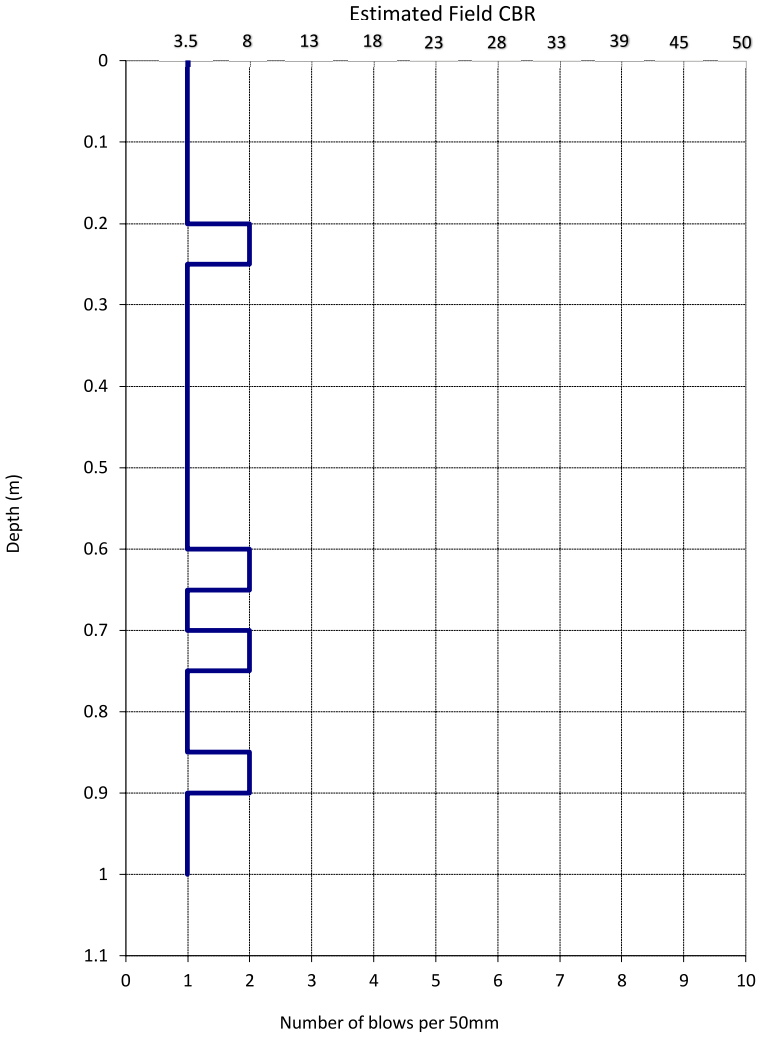
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	17

Chainage	Offset	Lane
70	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	1
750	750	2
800	800	1
850	850	1
900	900	2
950	950	1
1000	1000	1



Test Remarks

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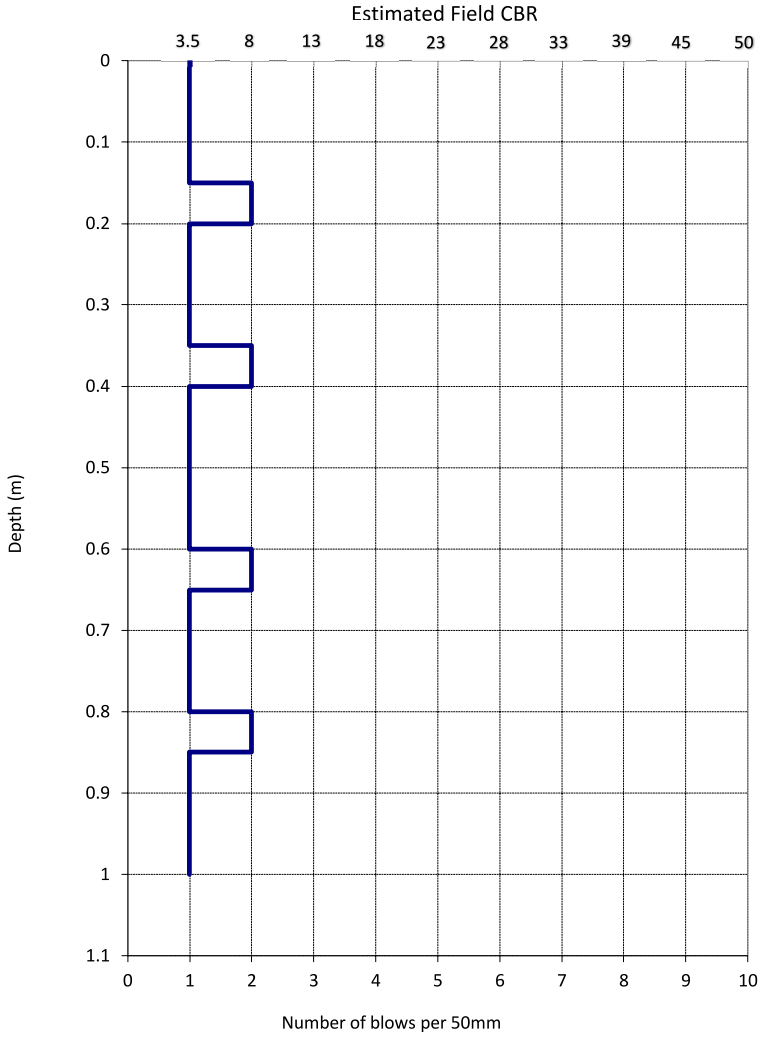
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	18

Chainage	Offset	Lane
60	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	1
300	300	1
350	350	1
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	1
750	750	1
800	800	1
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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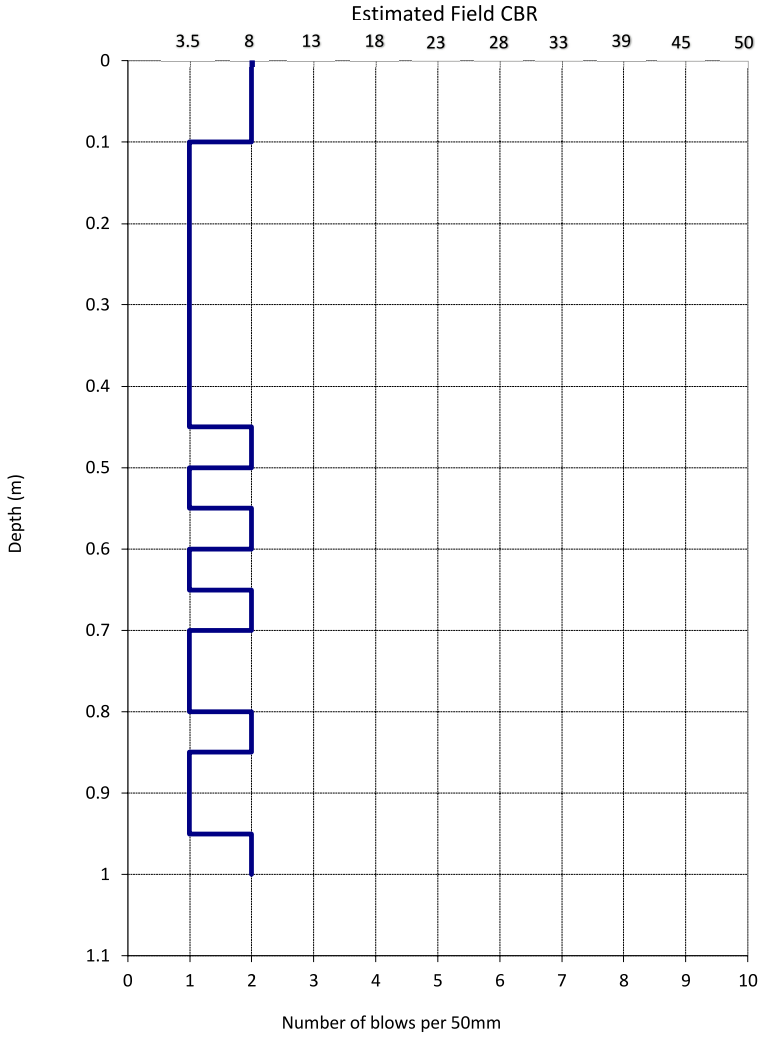
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	19

Chainage	Offset	Lane
50	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	2
550	550	1
600	600	2
650	650	1
700	700	2
750	750	1
800	800	1
850	850	2
900	900	1
950	950	1
1000	1000	2



Test Remarks

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NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	20

Chainage	Offset	Lane
30	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
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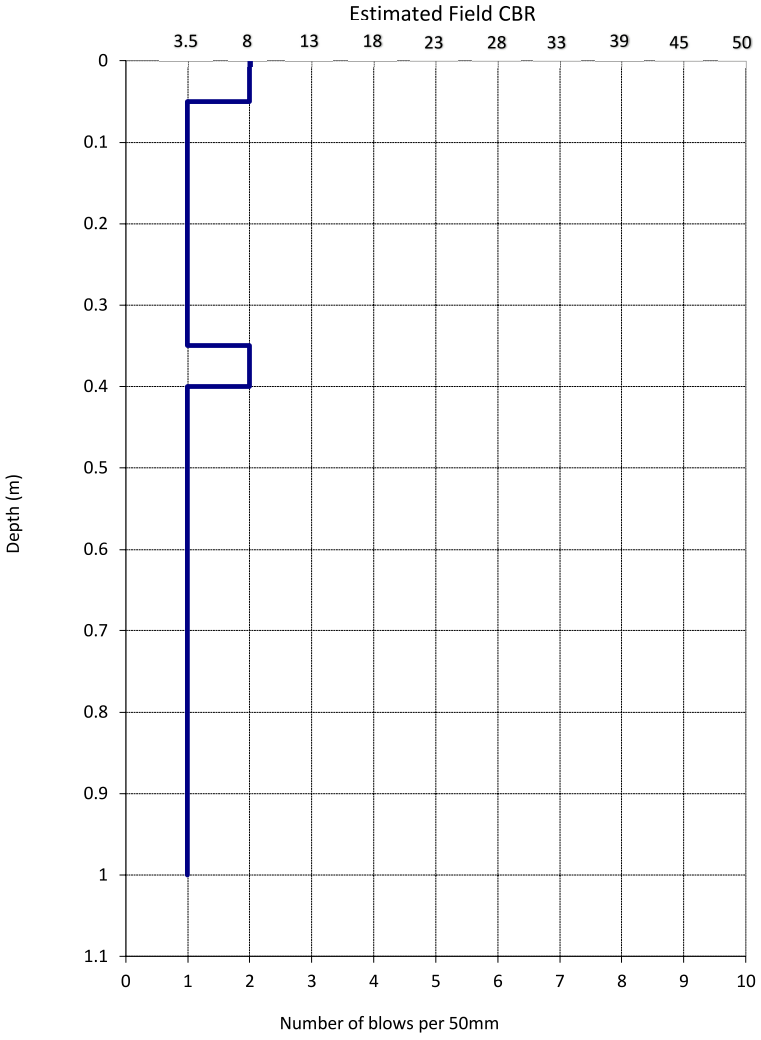
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN

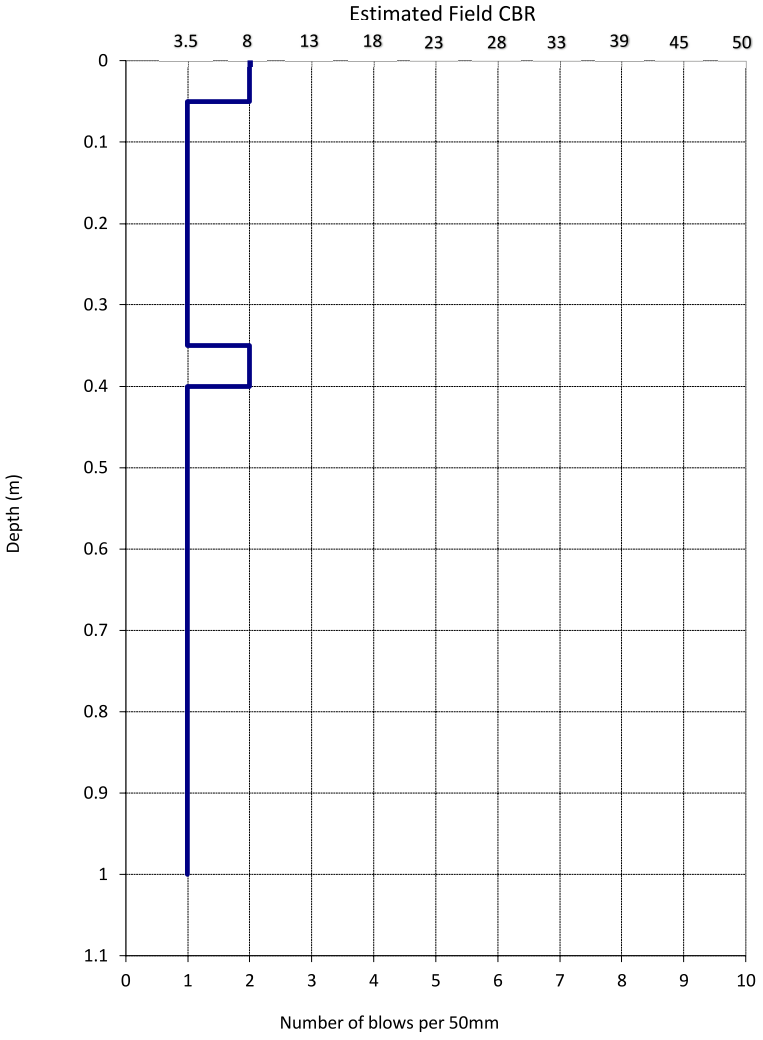
66.21

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	21

Chainage	Offset	Lane
30	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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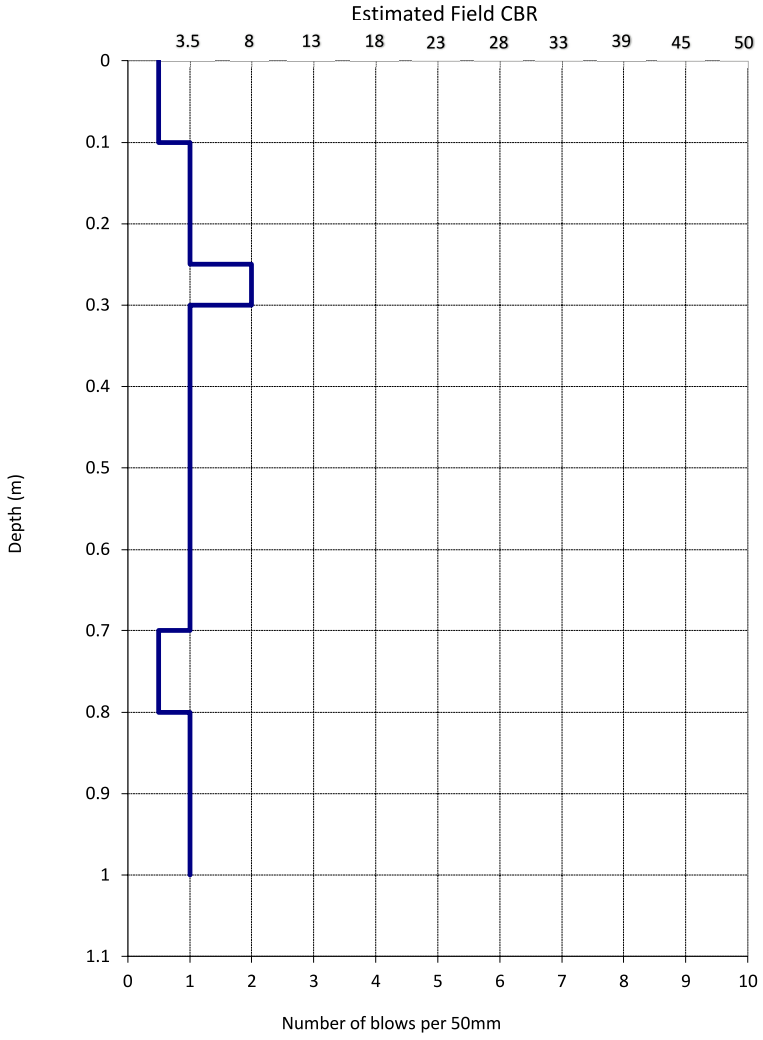
66.22

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty SAND	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	22

Chainage	Offset	Lane
20	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	2
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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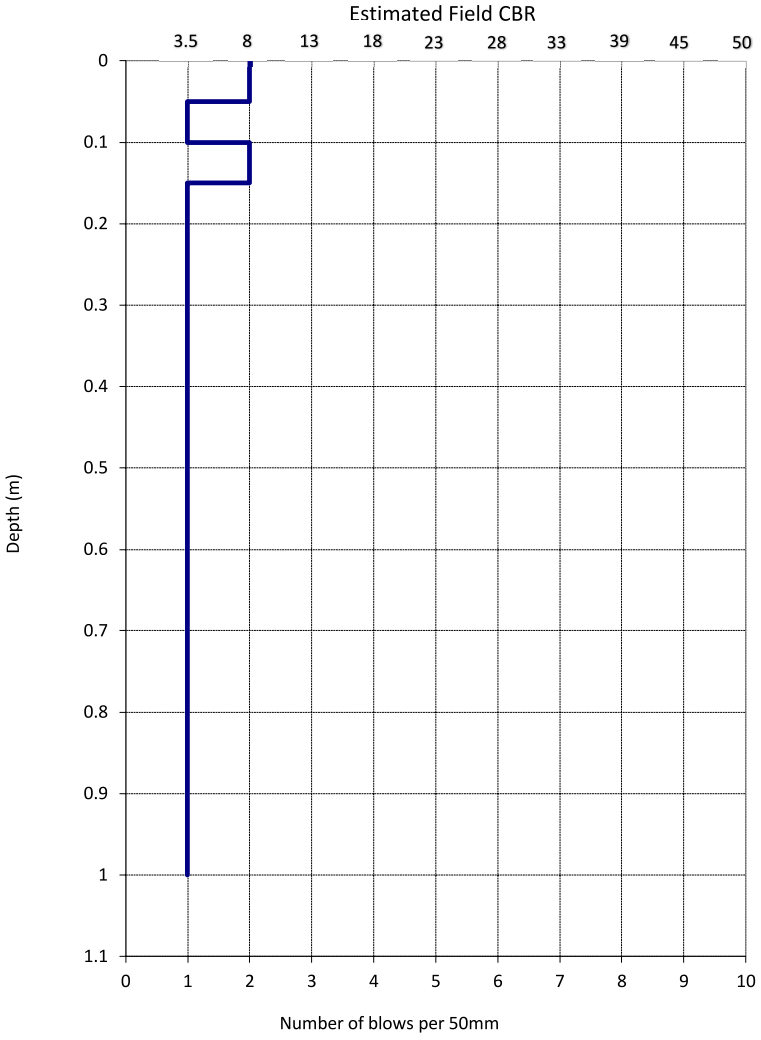
66.23

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	23

Chainage	Offset	Lane
10	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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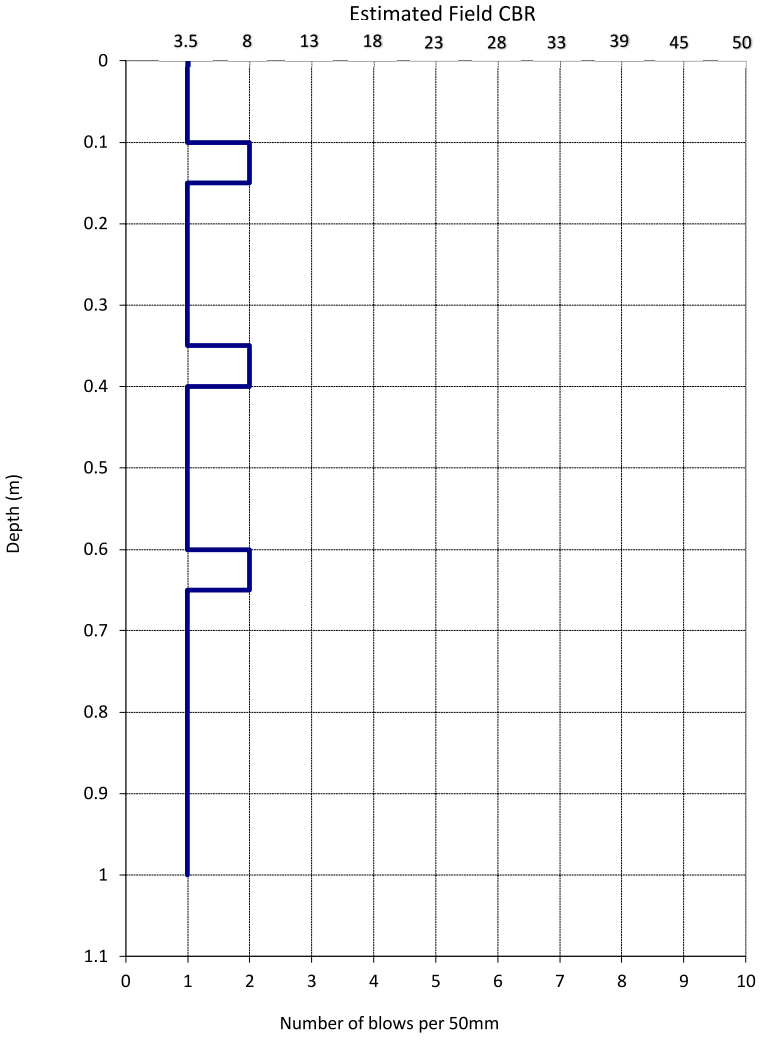
66.24

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura Clevedon Road, Clevedon	Project ID	2021000.1080
Customer Project ID	-	Equipment ID	AKS2033
Site Location	Road 2 - See Plan	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-24
Depth from ground surface to commencement of penetration (m)		Test Number	24

Chainage	Offset	Lane
0	-	See Plan

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blow per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	27/03/2024
Data Entry By	MIBR	Date	27/03/2024
Checked By	JWAL	Date	29/07/2024

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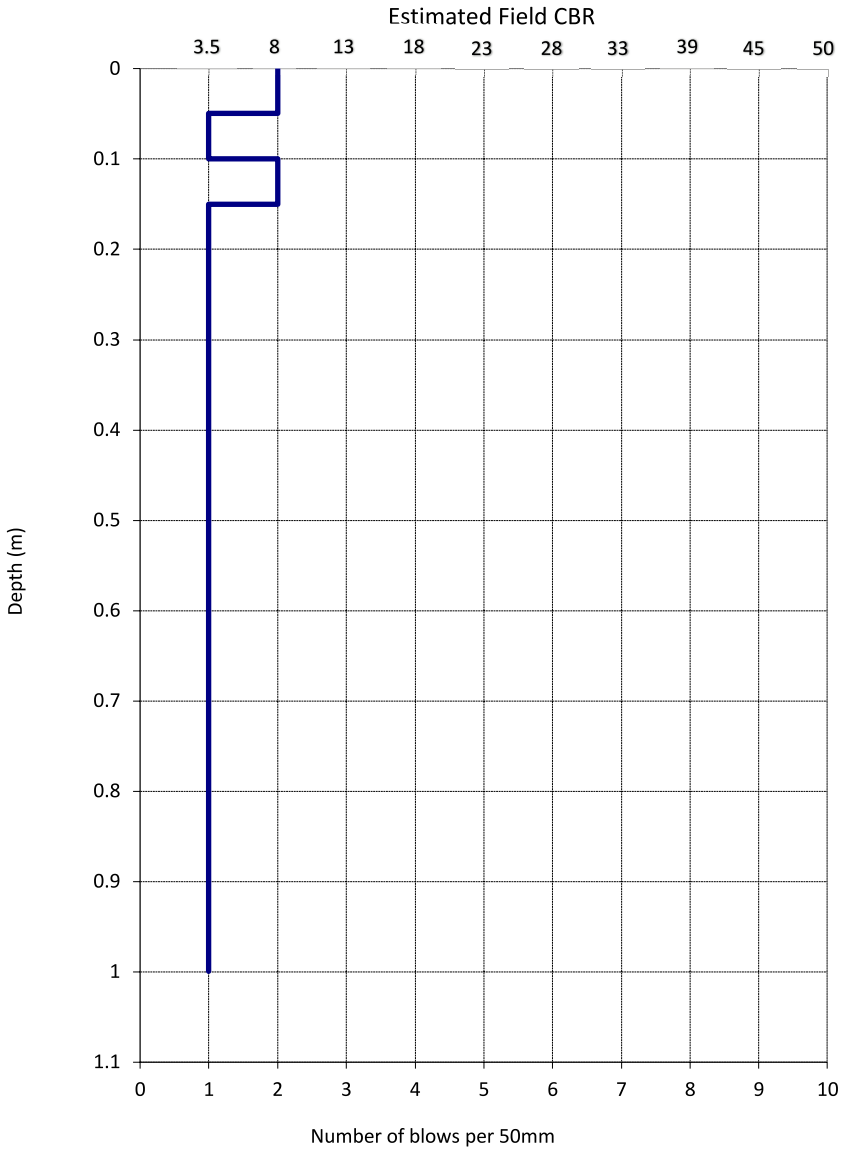
Lab Ref/URN: 67.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	1

Chainage	Offset	Lane
80		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 67.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
90		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	1
650	650	1
700	700	2
750	750	2
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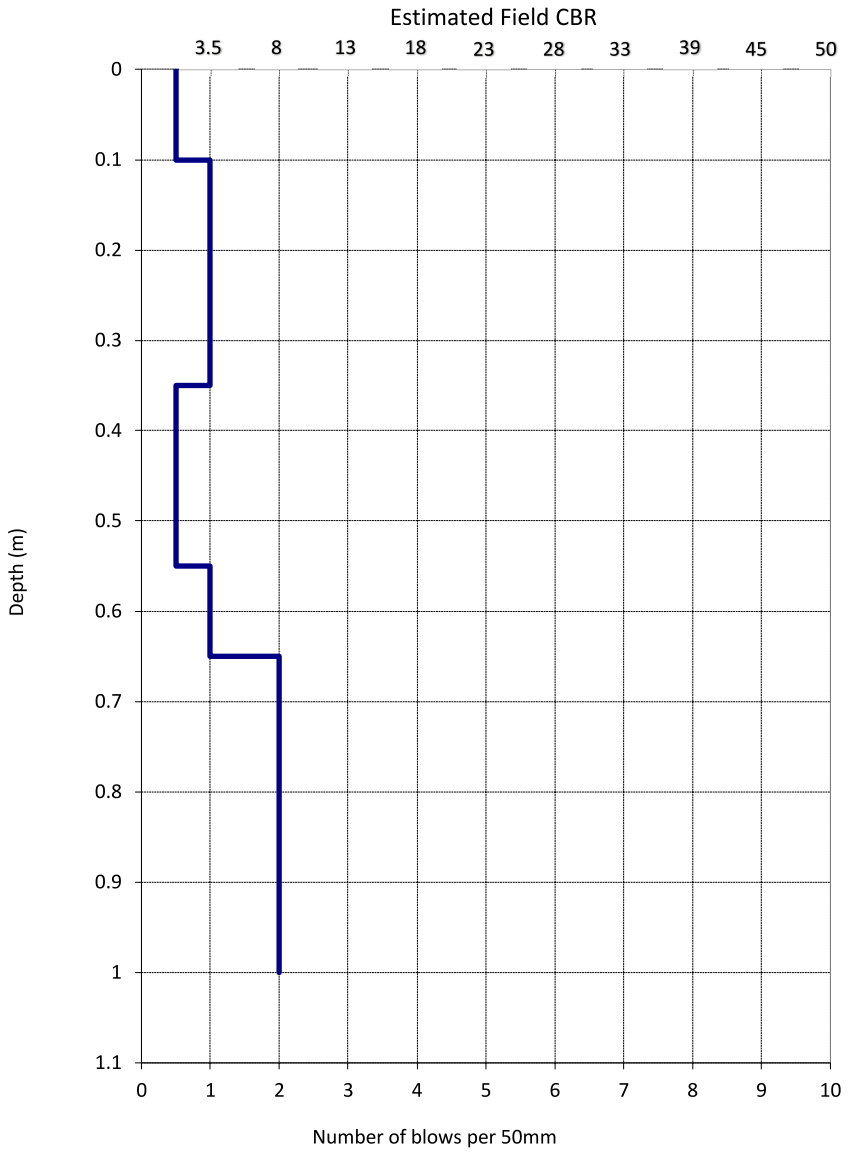
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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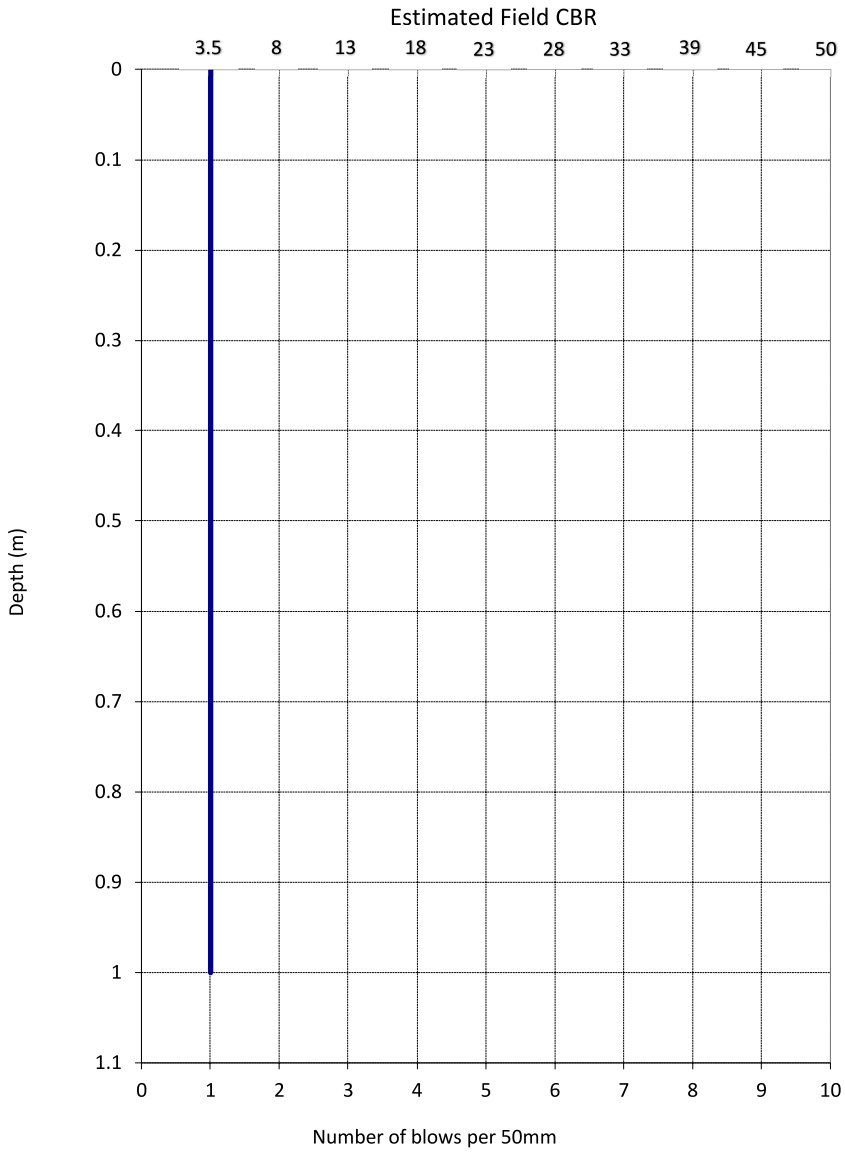
Lab Ref/URN: 67.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
100		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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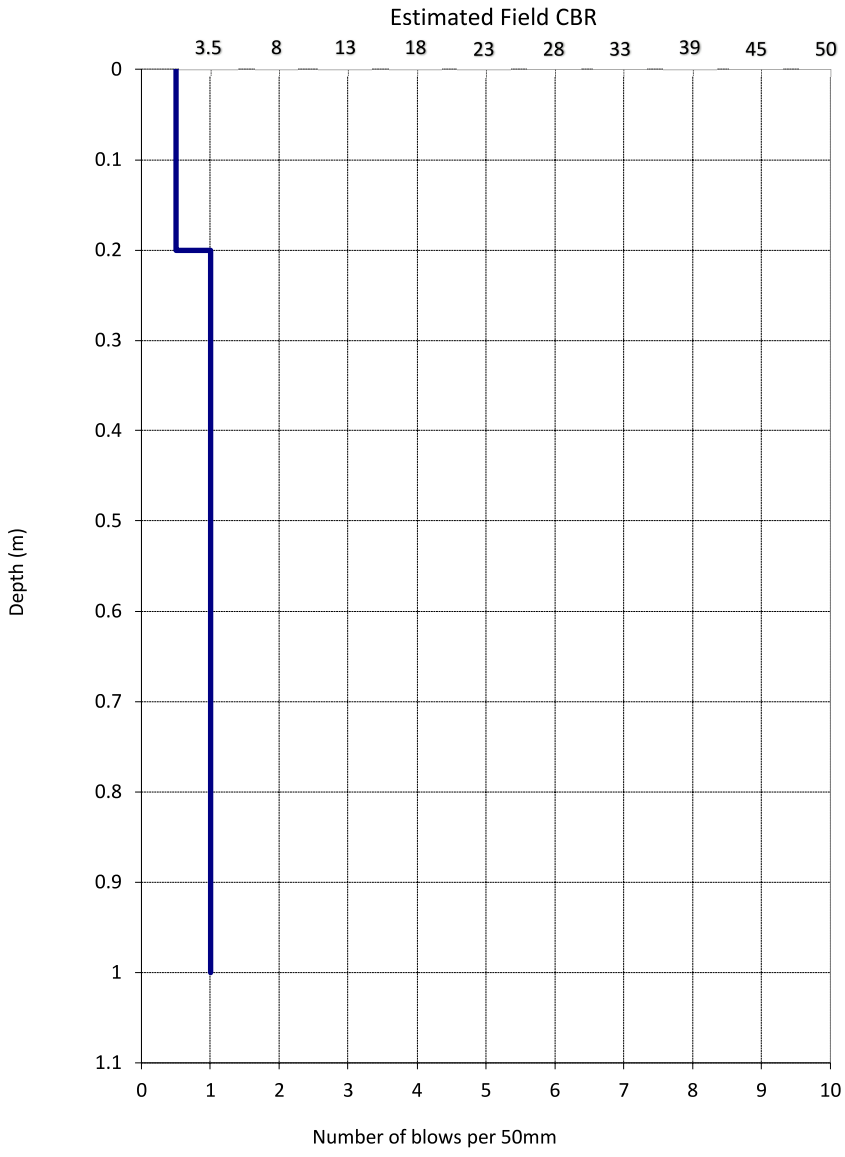
Lab Ref/URN: 67.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
110		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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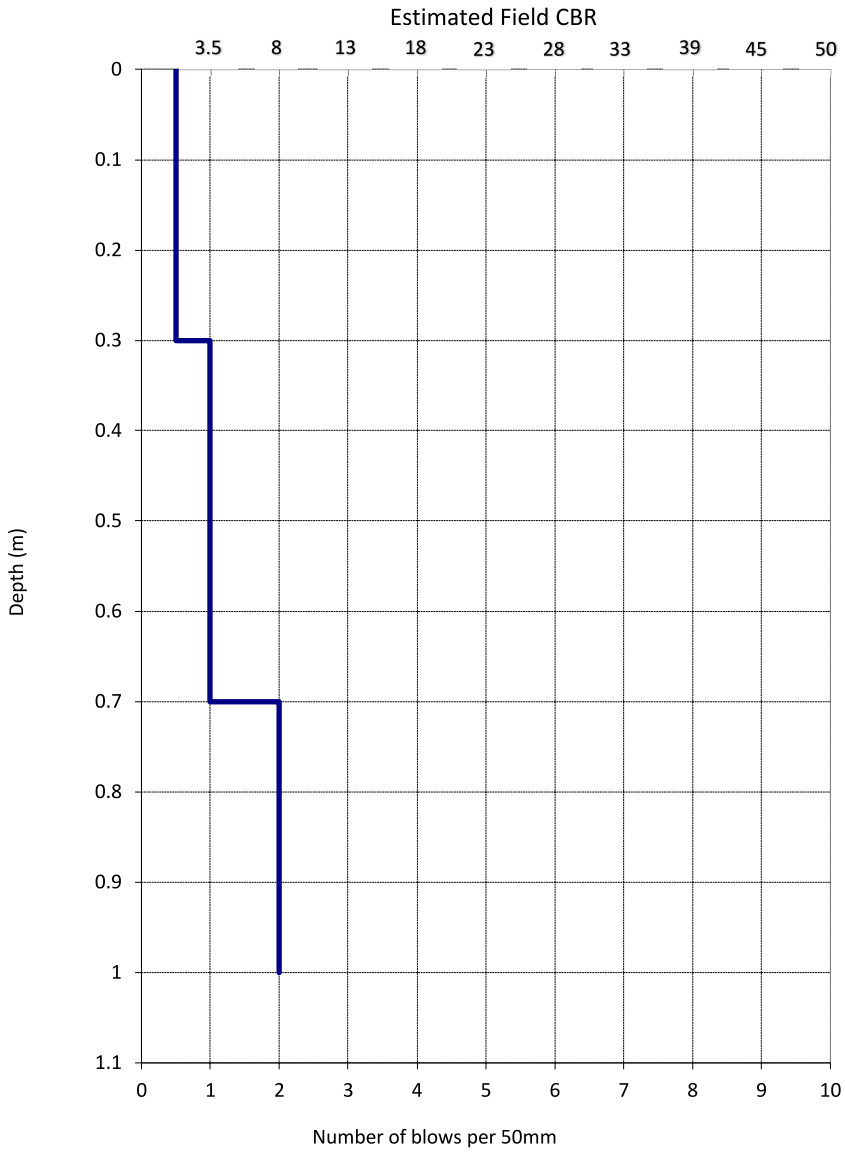
Lab Ref/URN: 67.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	-	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
120		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 67.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	Unknown/In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
130		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
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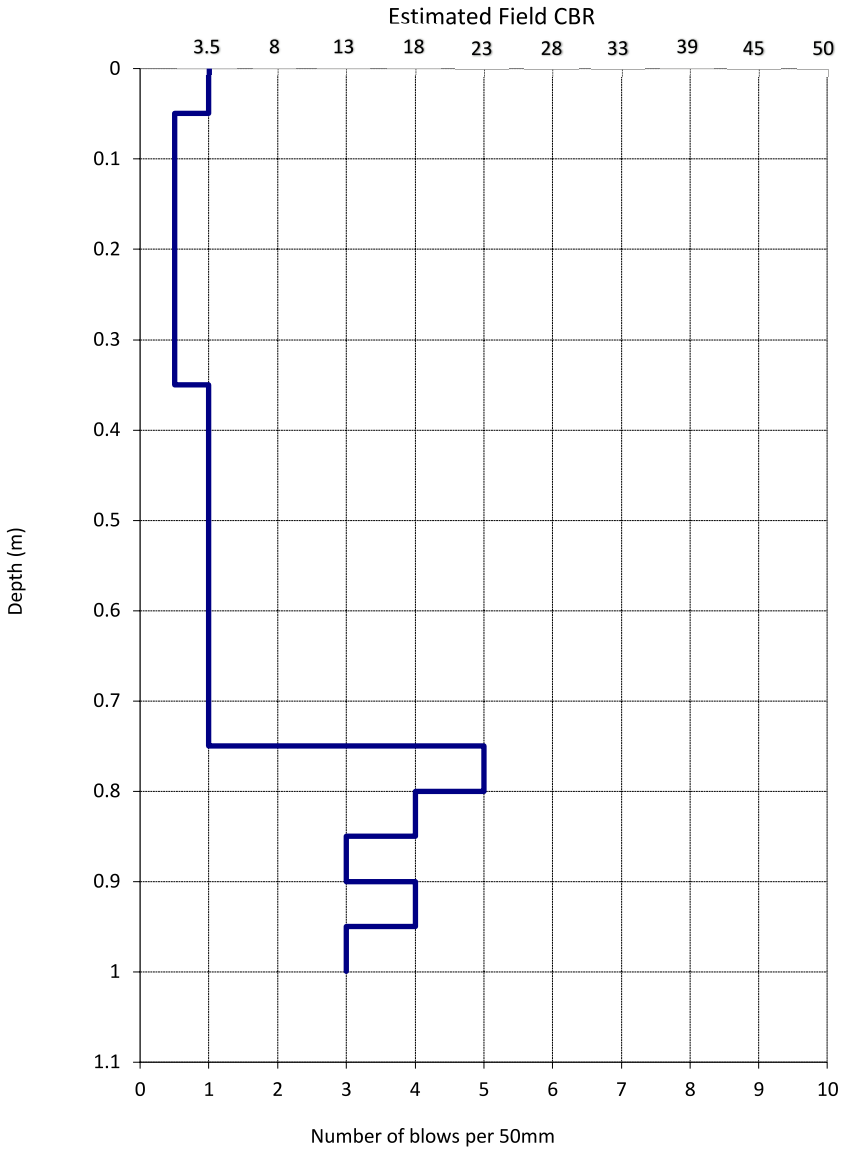
850	850	4
900	900	3
950	950	4
1000	1000	3



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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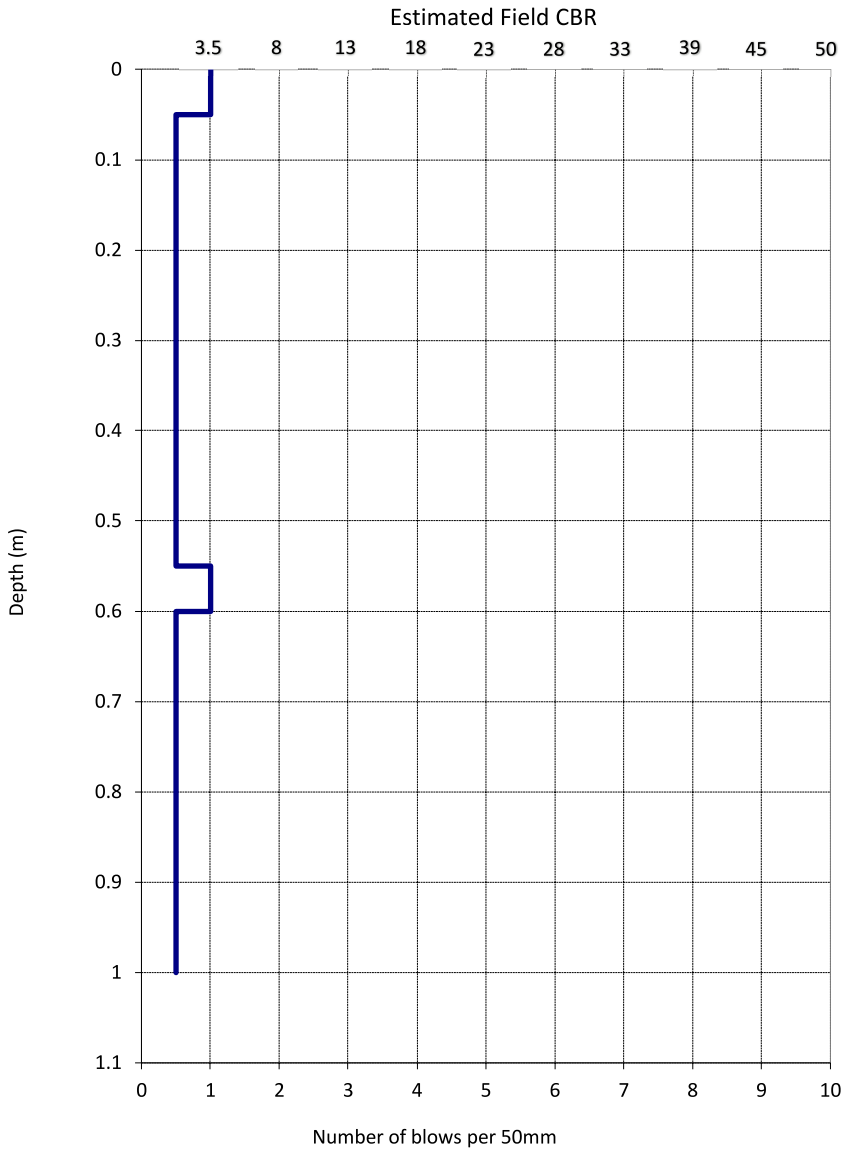
Lab Ref/URN: 67.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
140		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	1
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 67.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
150		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	3
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	3
550	550	4
600	600	5
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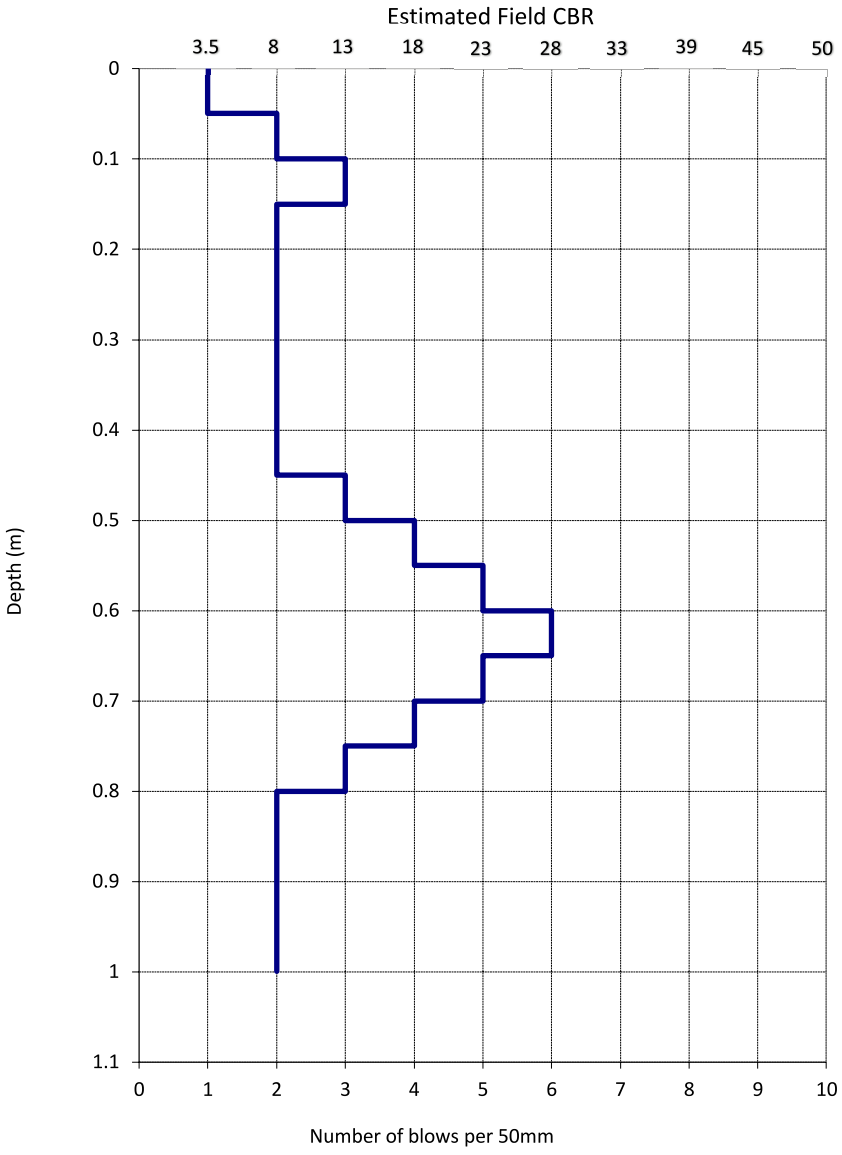
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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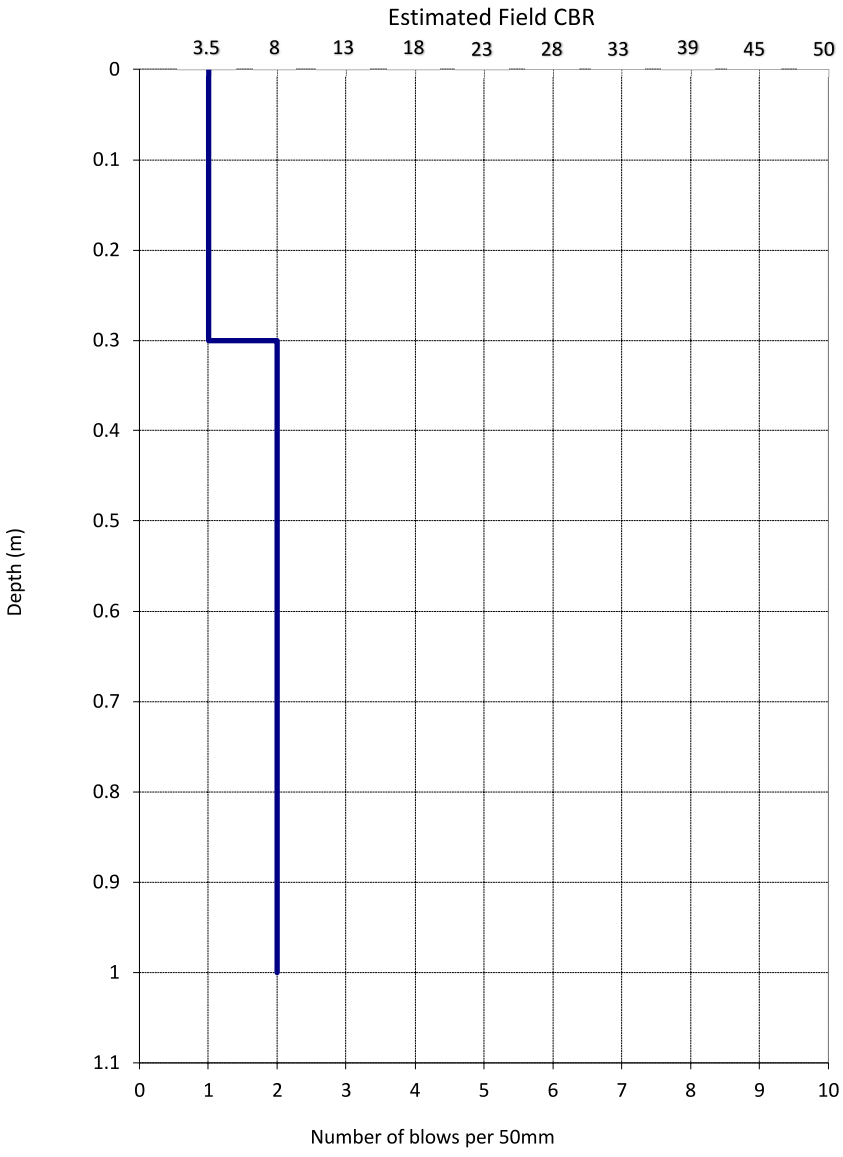
Lab Ref/URN: 67.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
160		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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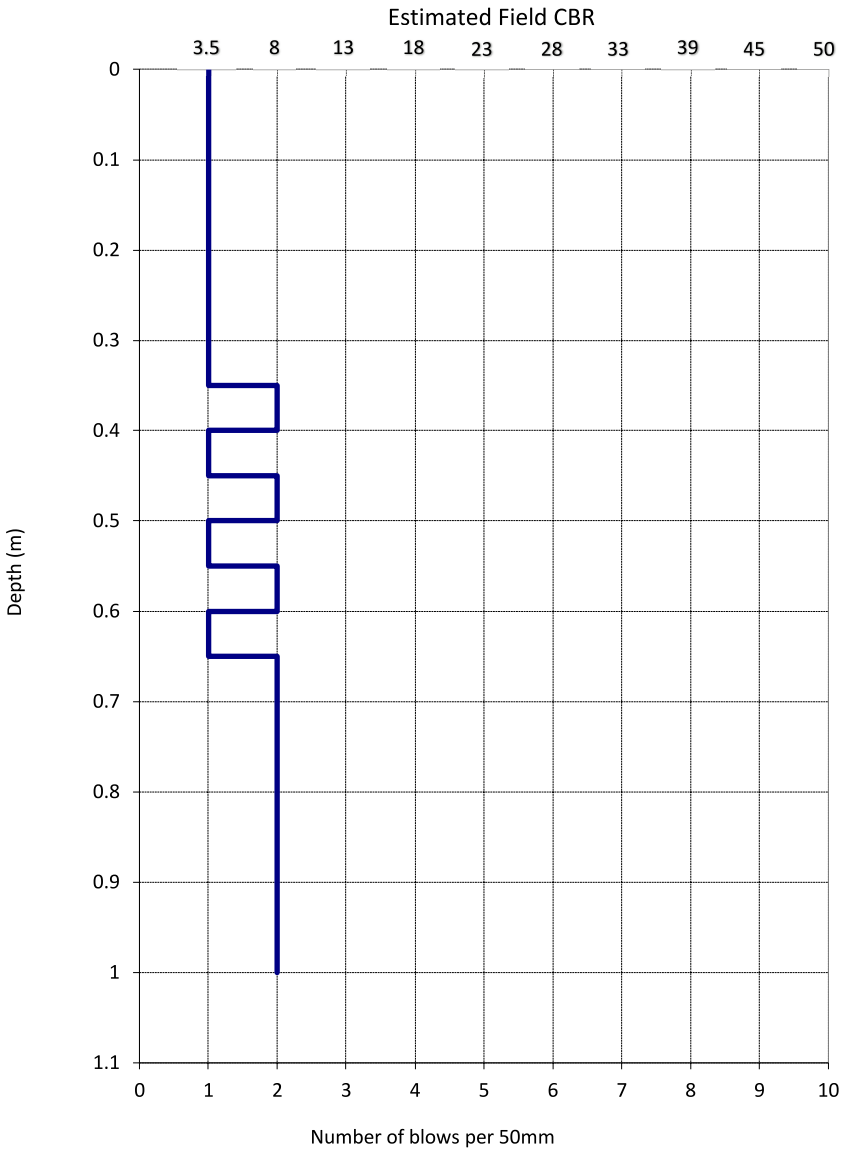
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
170		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	2
450	450	1
500	500	2
550	550	1
600	600	2
650	650	1
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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67.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 3 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
560		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	2
550	550	1
600	600	2
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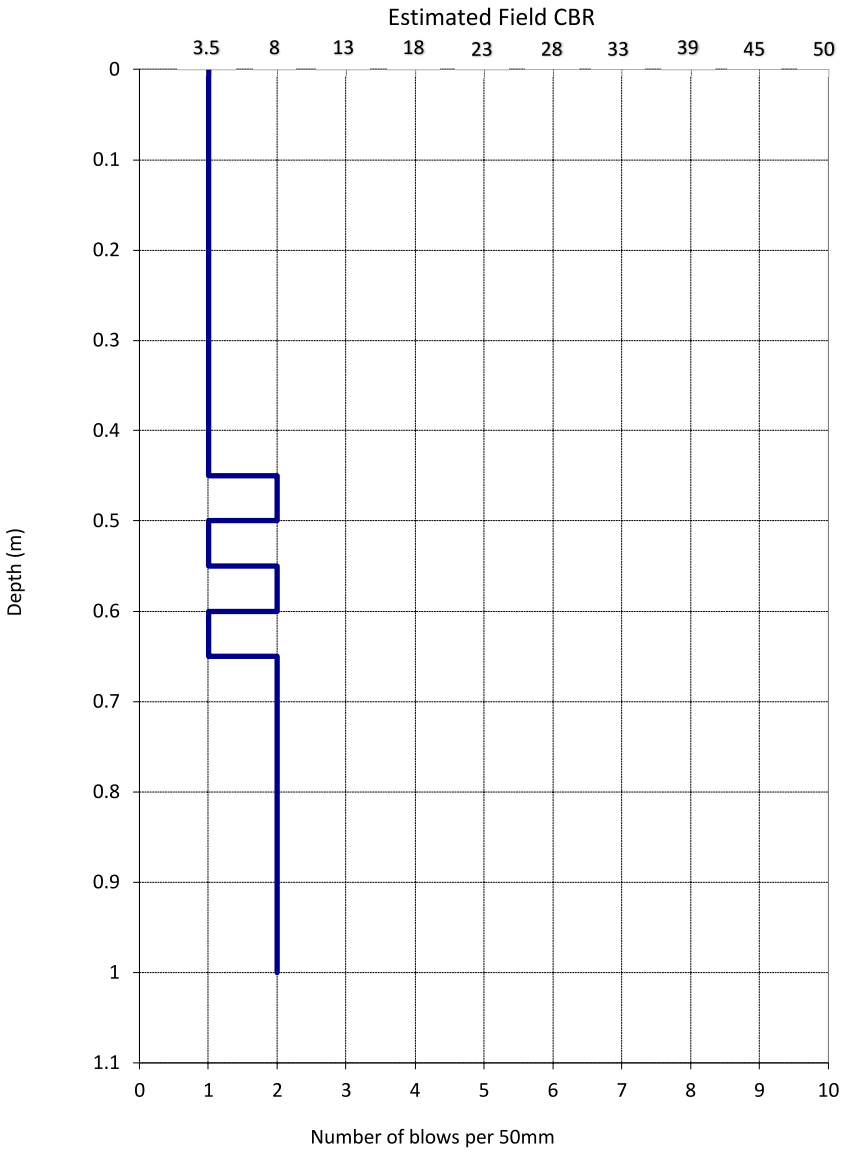
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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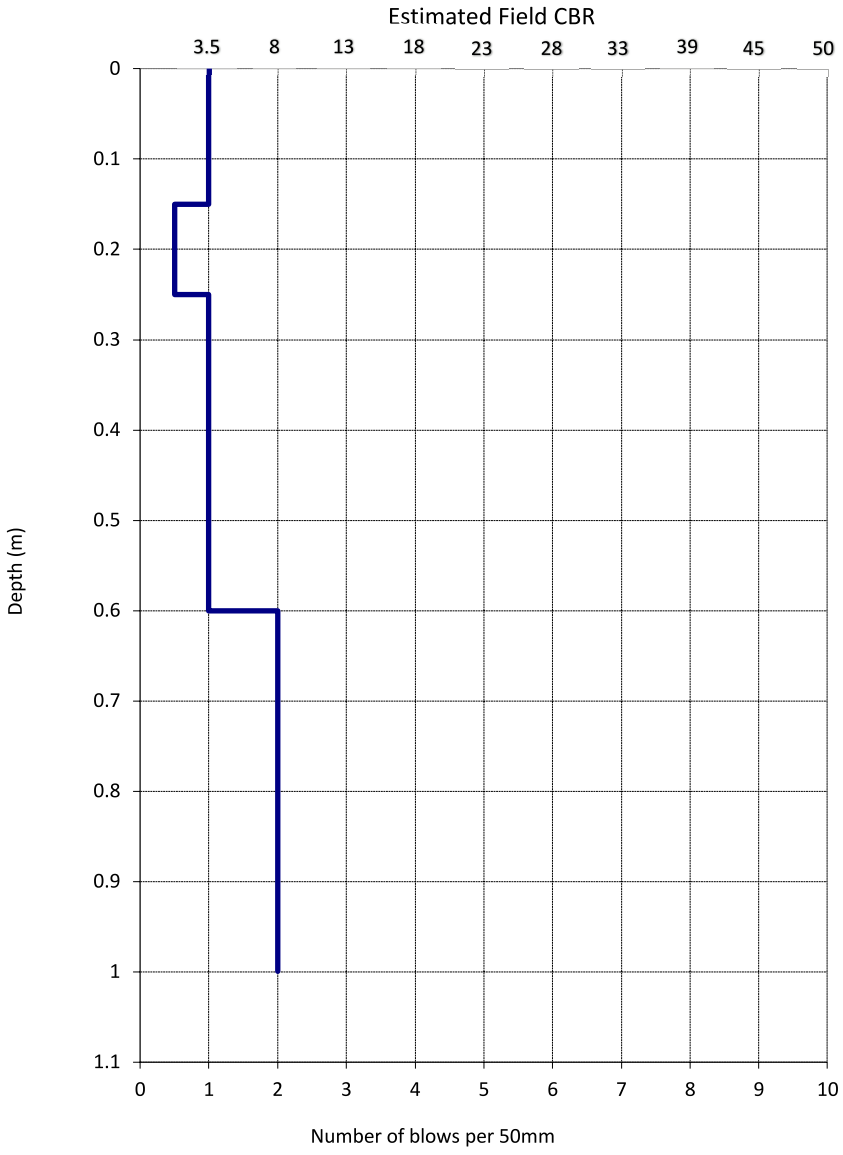
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 3 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
570		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	0.5
250	250	0.5
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 3 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
580		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	1
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
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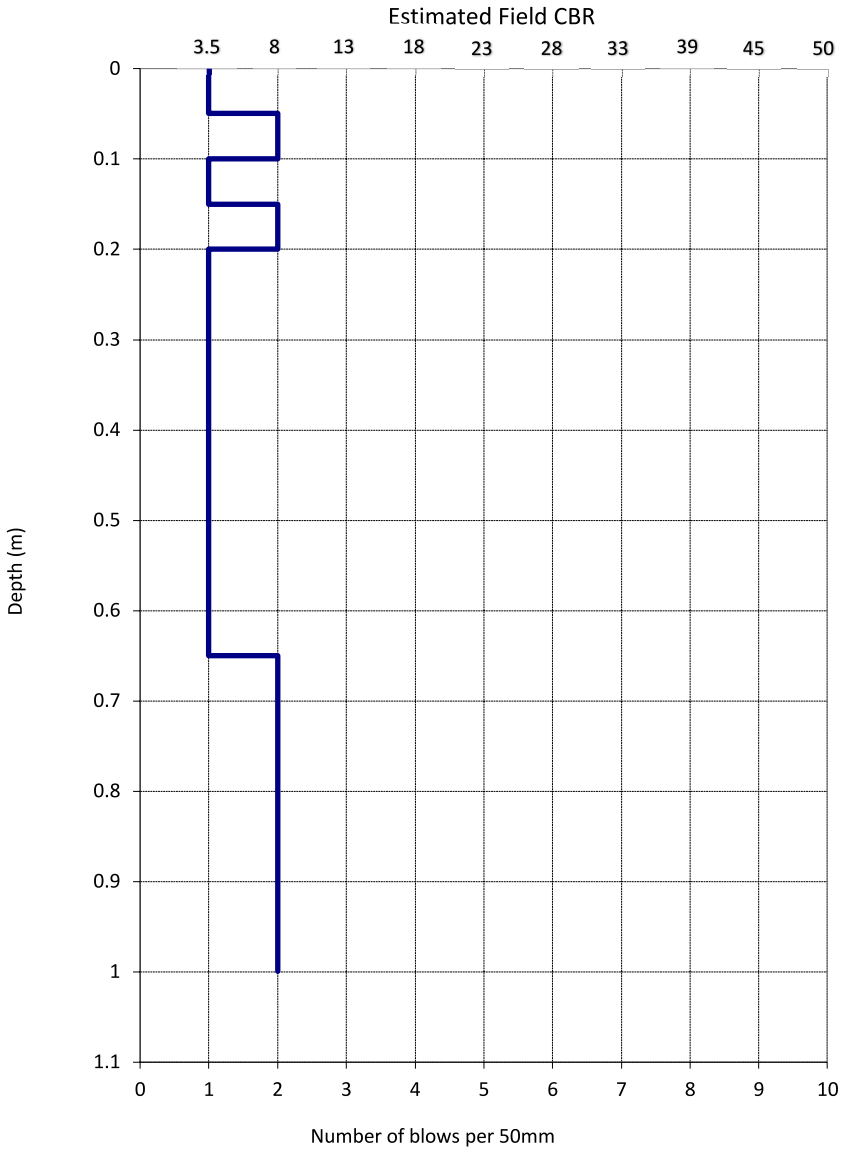
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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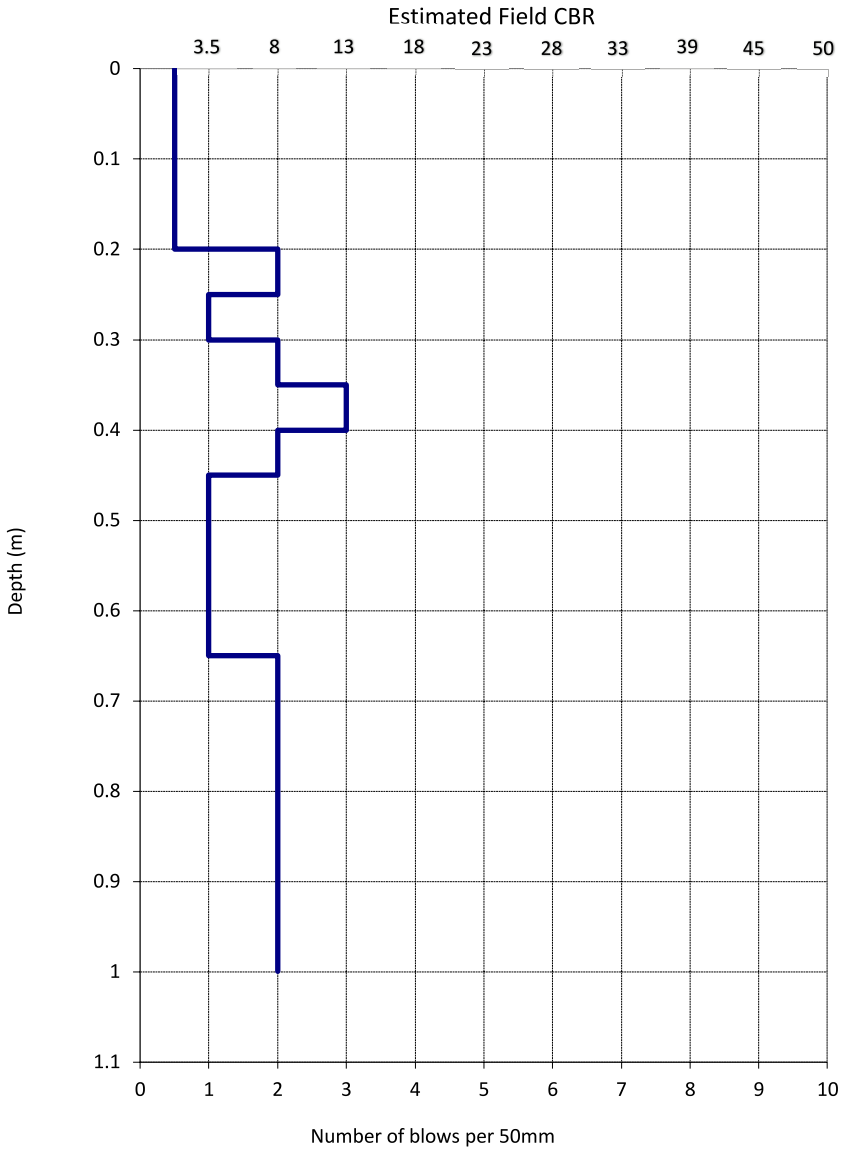
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 3 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
590		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	2
300	300	1
350	350	2
400	400	3
450	450	2
500	500	1
550	550	1
600	600	1
650	650	1
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 67.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 3 Subgrade	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
600		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	2
600	600	1
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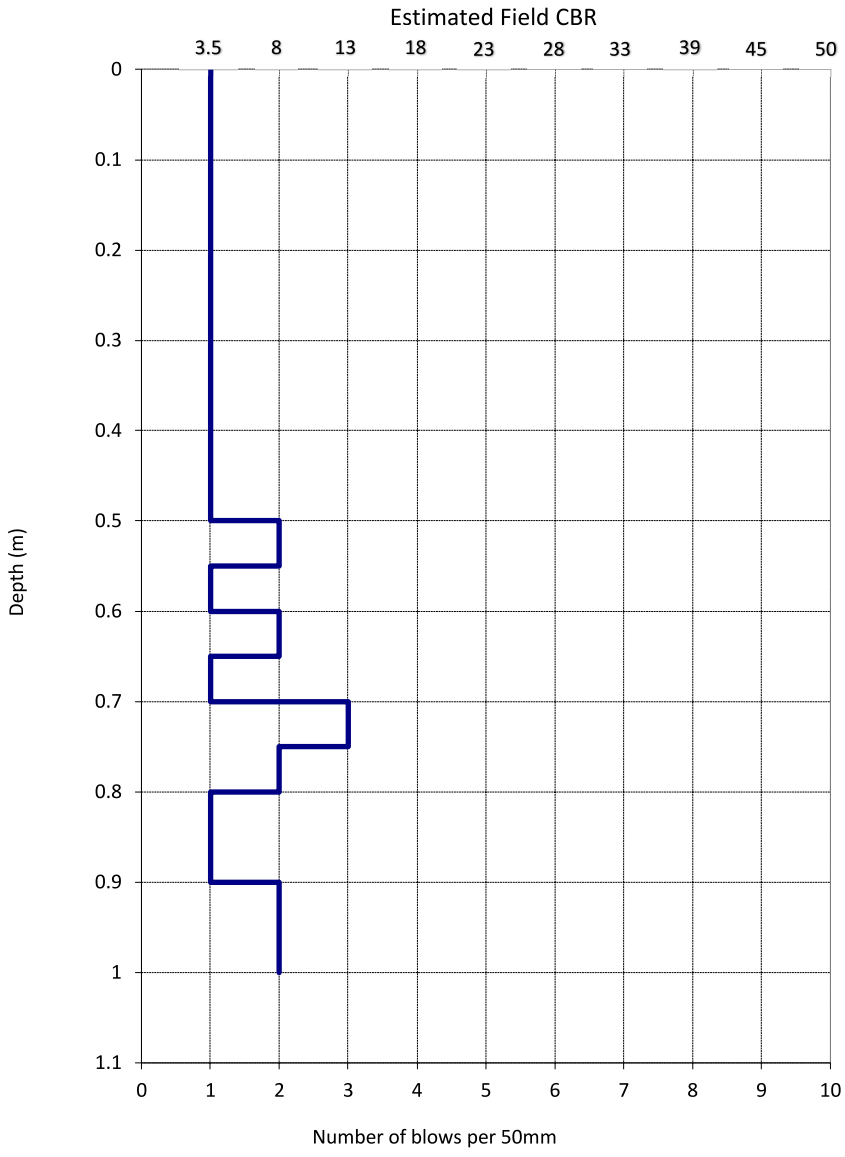
900	900	1
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	28/03/2024
Data Entry By	DAMC	Date	28/03/2024
Checked By	JWAL	Date	29/07/2024

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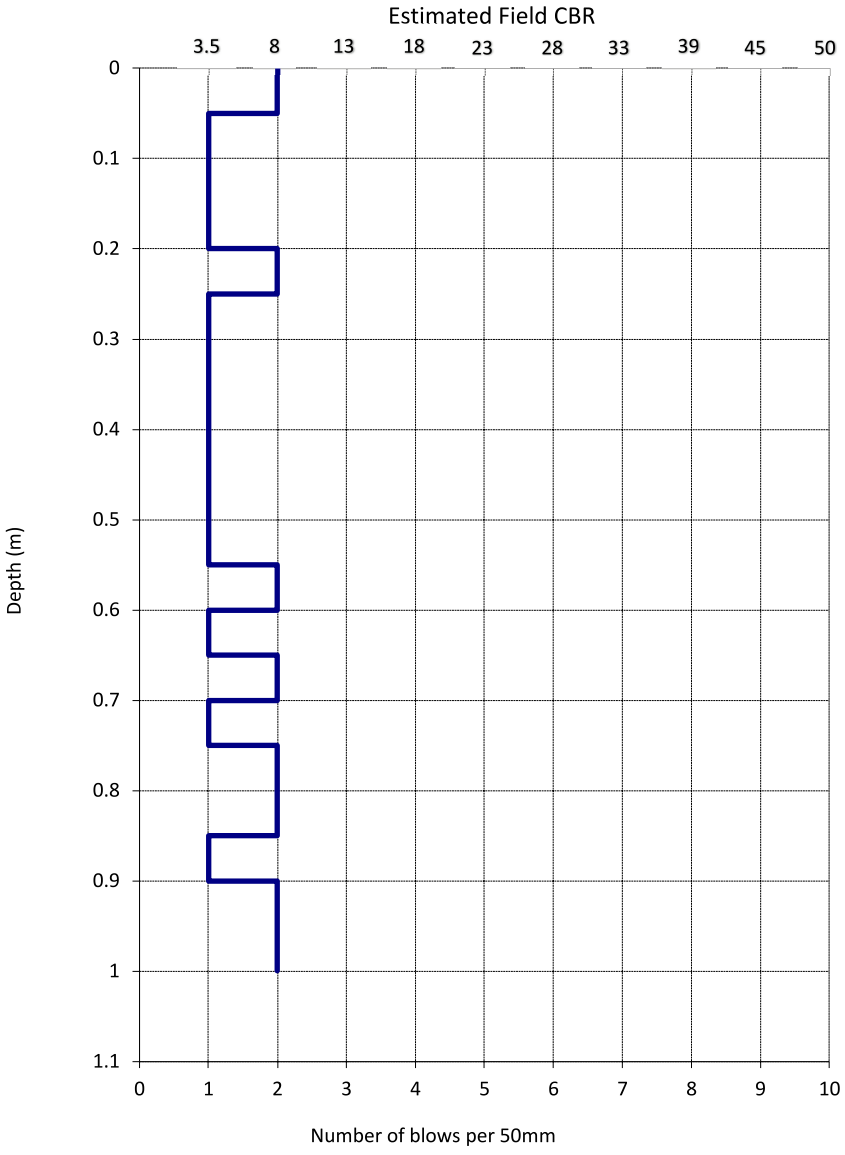
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	1

Chainage	Offset	Lane
10		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	2
650	650	1
700	700	2
750	750	1
800	800	2
850	850	2
900	900	1
950	950	2
1000	1000	2



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 68.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
20		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	1
250	250	2
300	300	1
350	350	2
400	400	1
450	450	2
500	500	2
550	550	1
600	600	1
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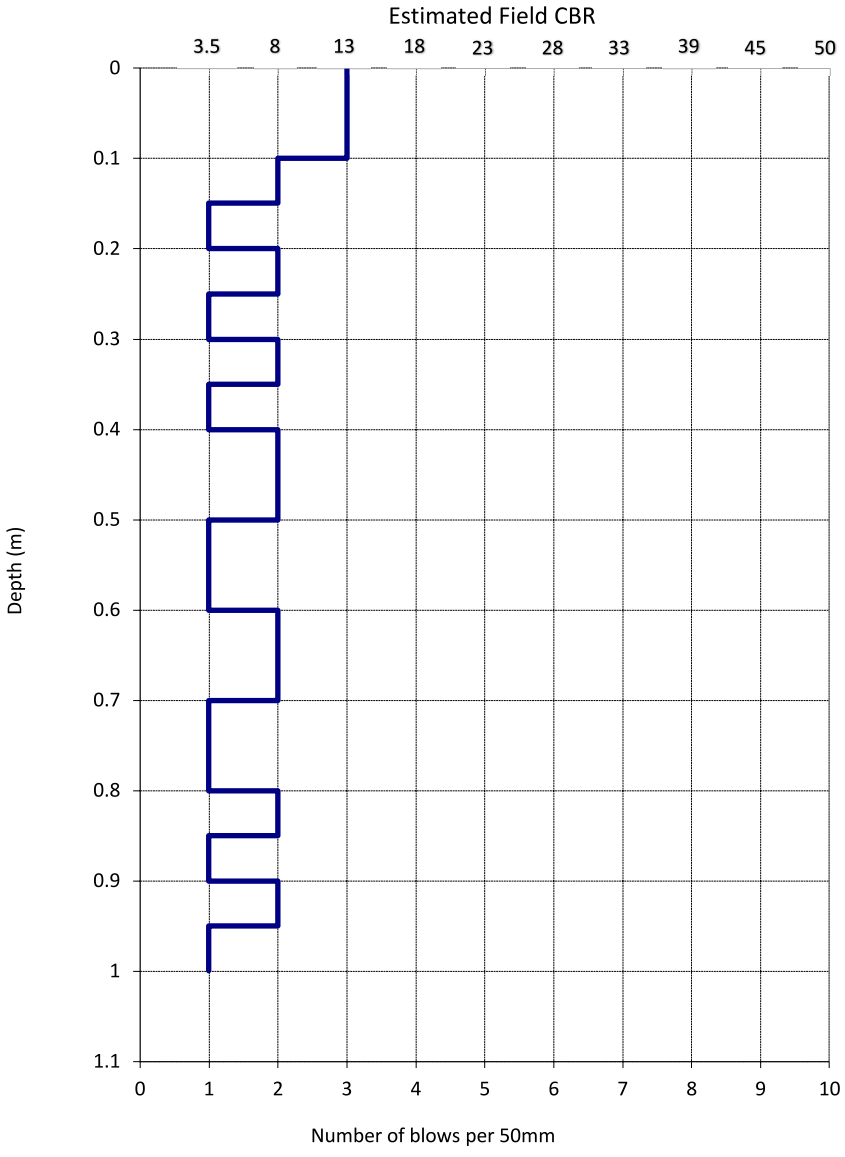
900	900	1
950	950	2
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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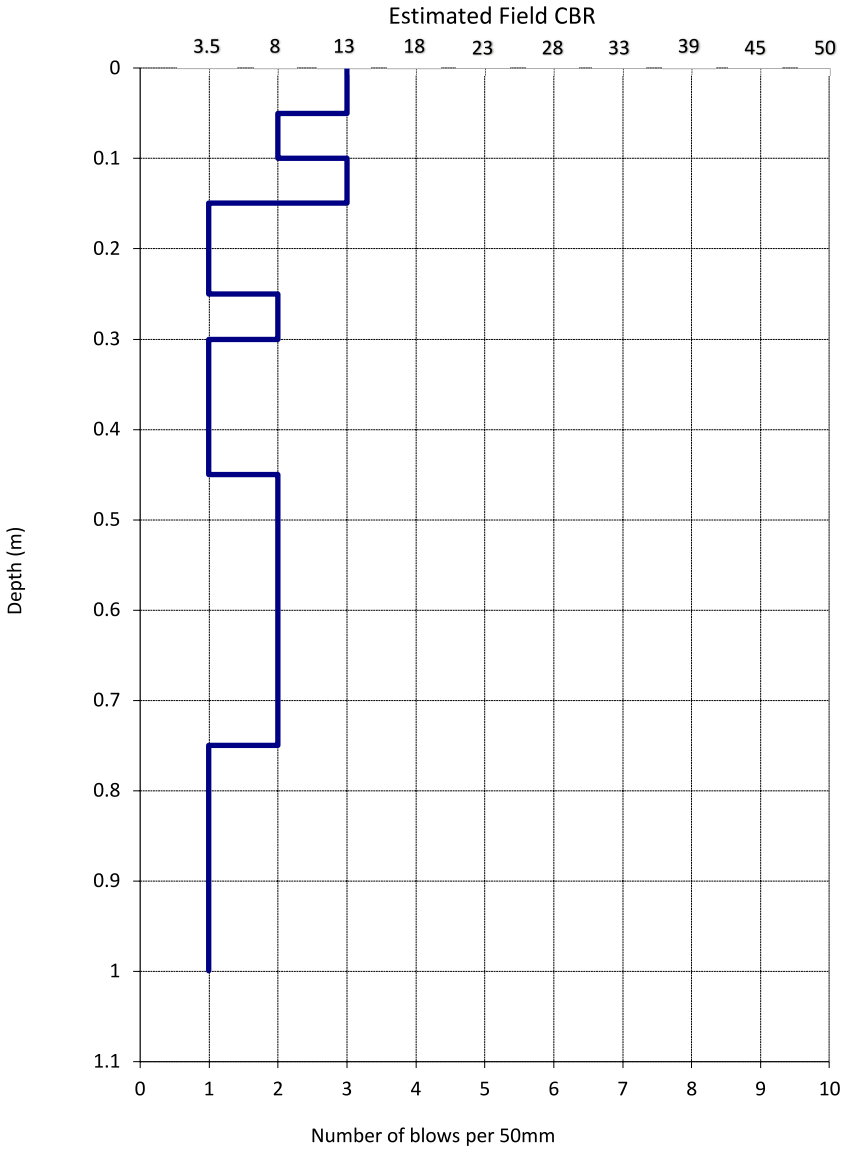
Lab Ref/URN: 68.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
30		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	3
200	200	1
250	250	1
300	300	2
350	350	1
400	400	1
450	450	1
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 68.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
40		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	2
250	250	3
300	300	2
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
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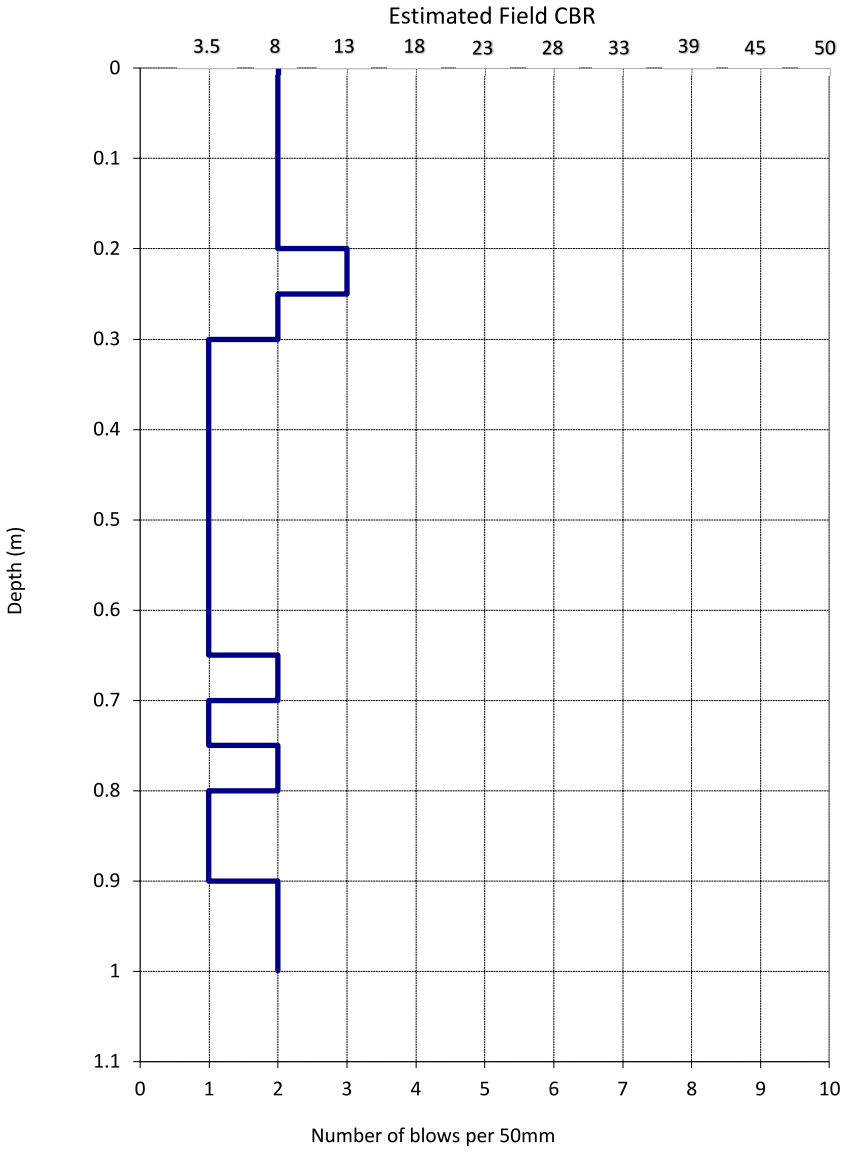
900	900	1
950	950	2
1000	1000	2



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 68.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
50		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	2
300	300	1
350	350	2
400	400	3
450	450	3
500	500	2
550	550	2
600	600	1
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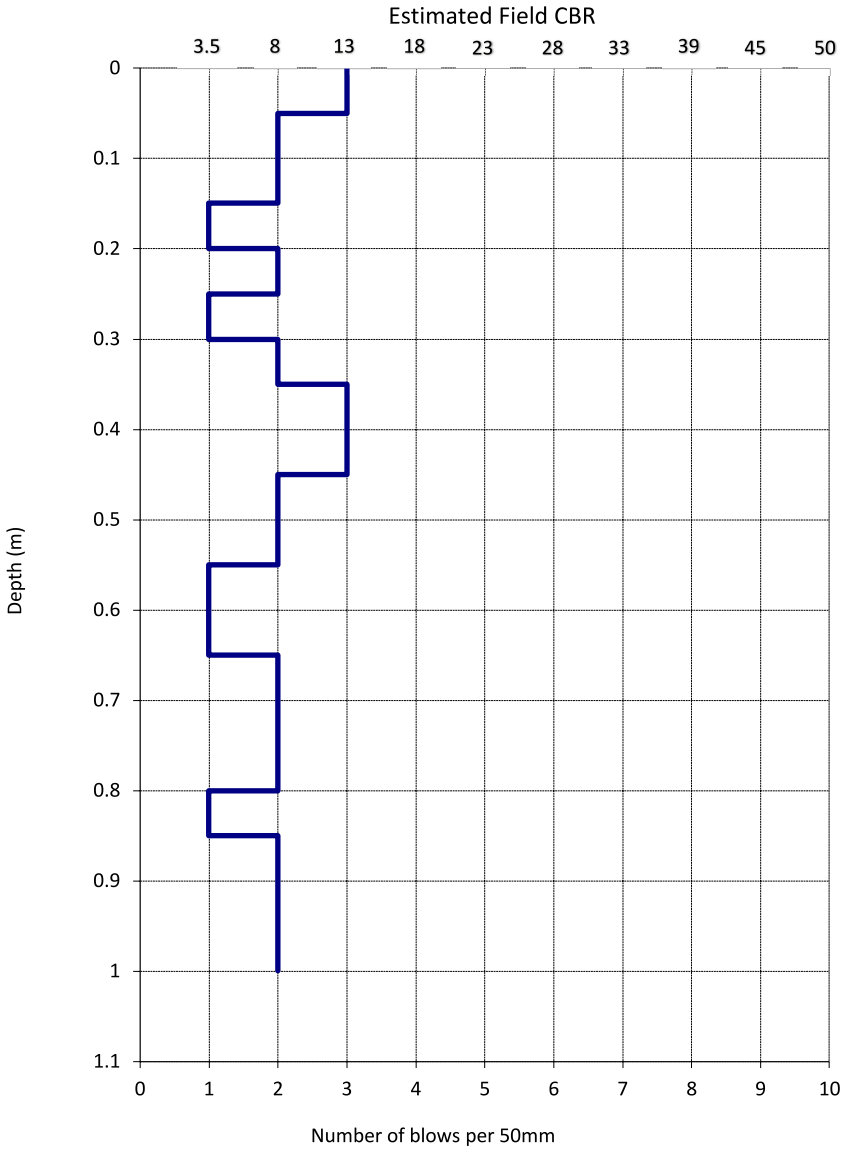
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 68.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
60		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	2
300	300	2
350	350	1
400	400	2
450	450	2
500	500	1
550	550	2
600	600	2
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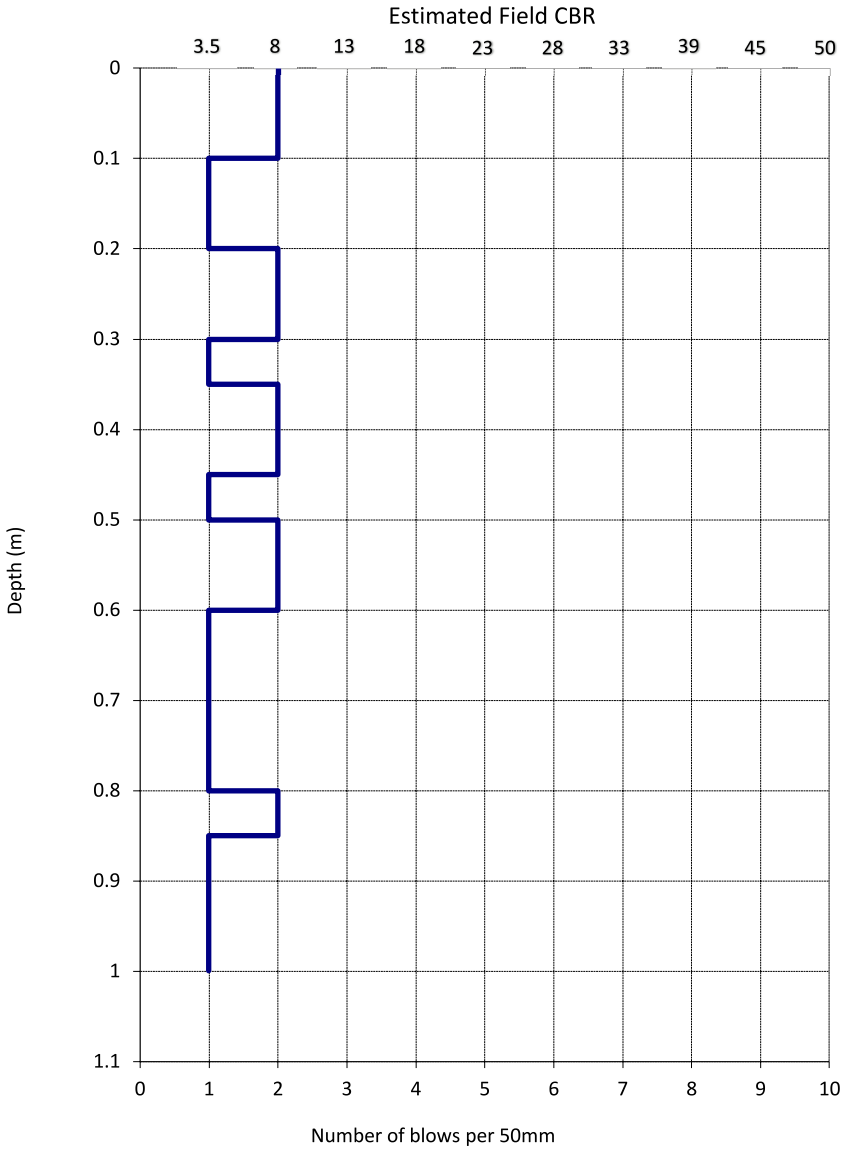
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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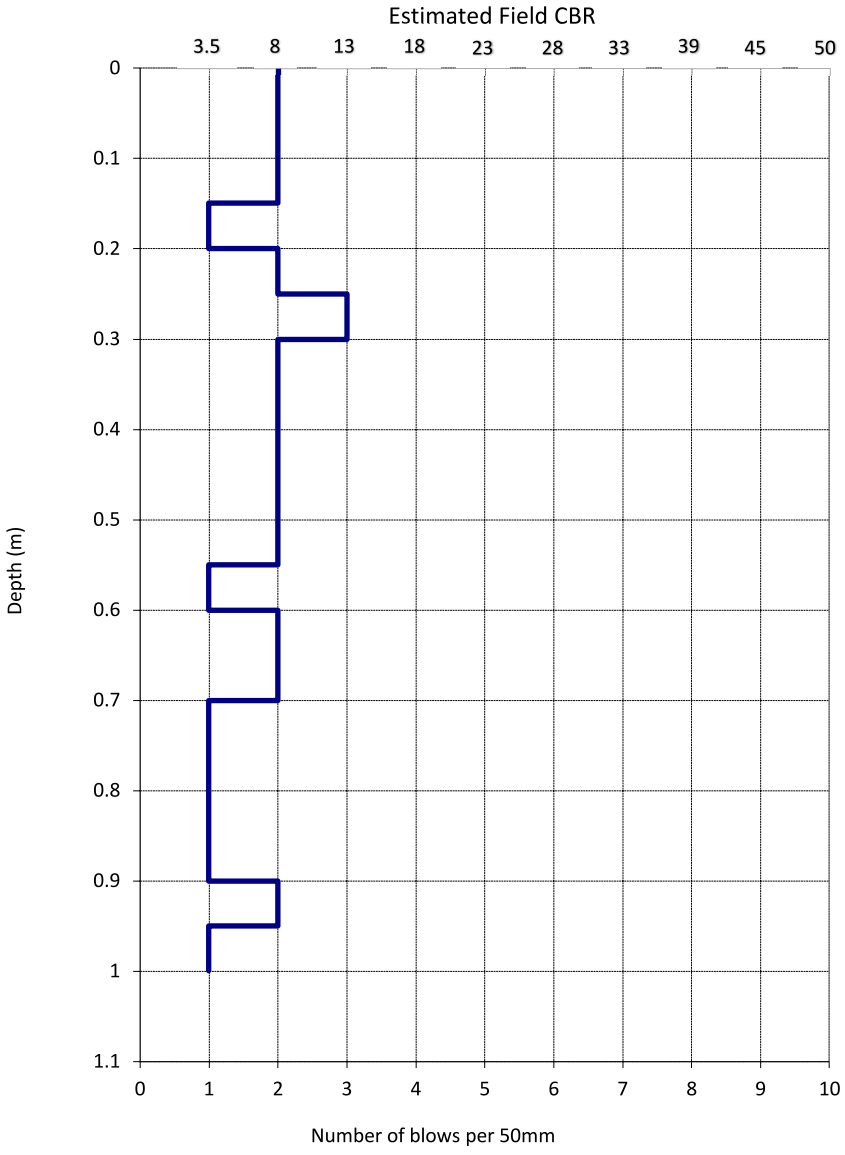
Lab Ref/URN: 68.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
70		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	2
300	300	3
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	1
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1
900	900	1
950	950	2
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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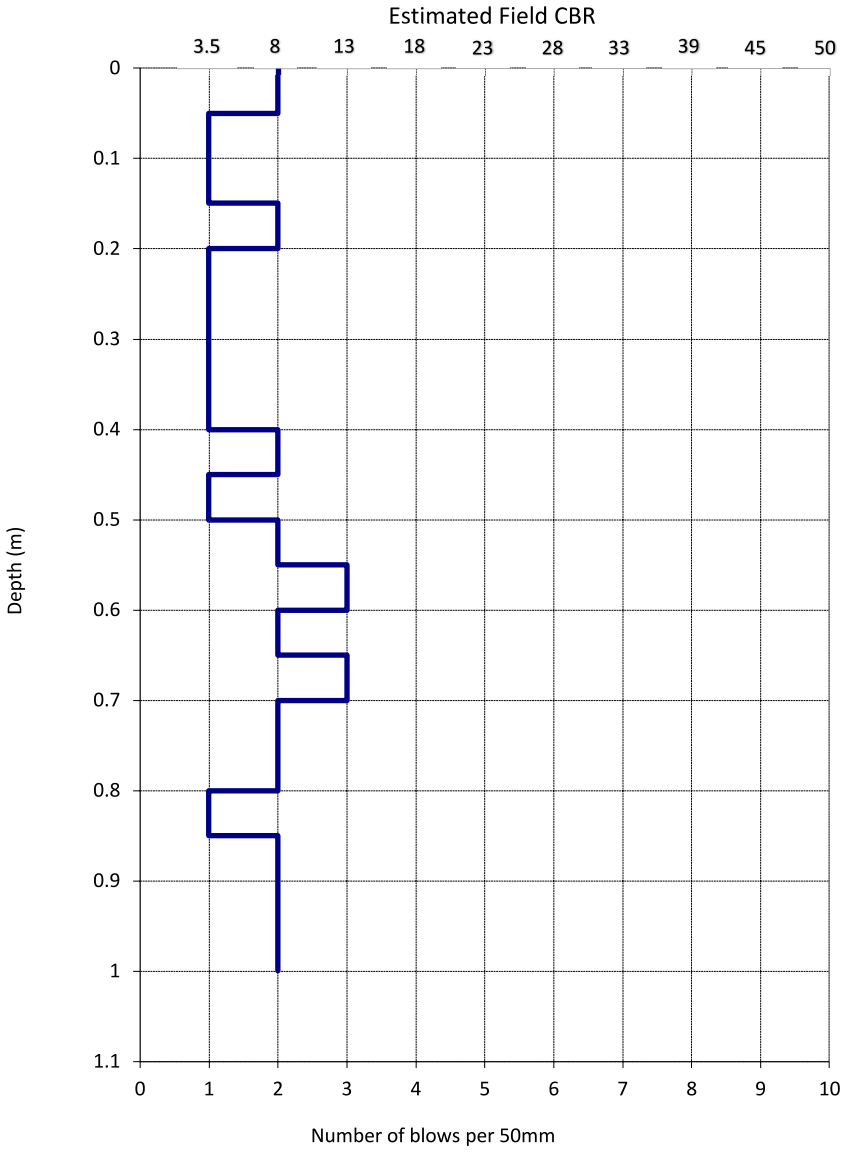
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
80		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	2
500	500	1
550	550	2
600	600	3
650	650	2
700	700	3
750	750	2
800	800	2
850	850	1
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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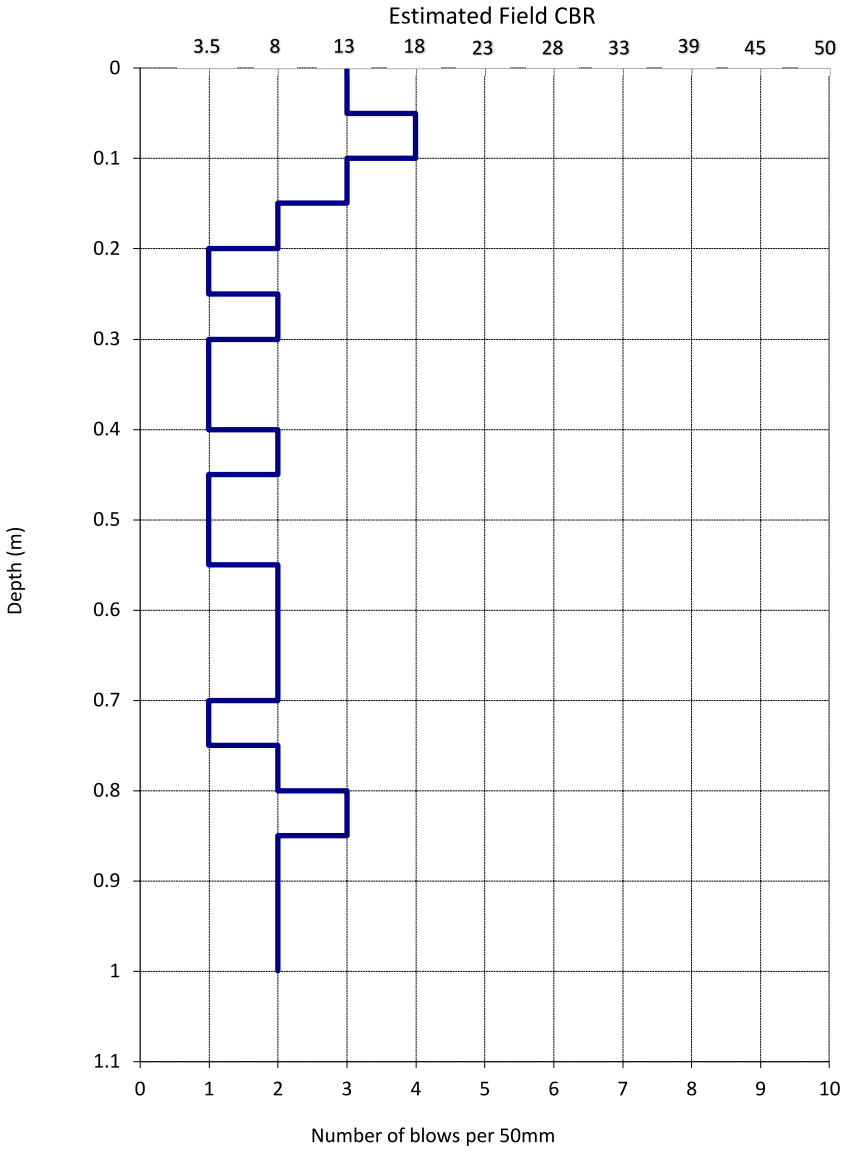
Lab Ref/URN: 68.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
90		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	4
150	150	3
200	200	2
250	250	1
300	300	2
350	350	1
400	400	1
450	450	2
500	500	1
550	550	1
600	600	2
650	650	2
700	700	2
750	750	1
800	800	2
850	850	3
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 68.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
100		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	3
200	200	2
250	250	3
300	300	2
350	350	3
400	400	3
450	450	3
500	500	2
550	550	2
600	600	2
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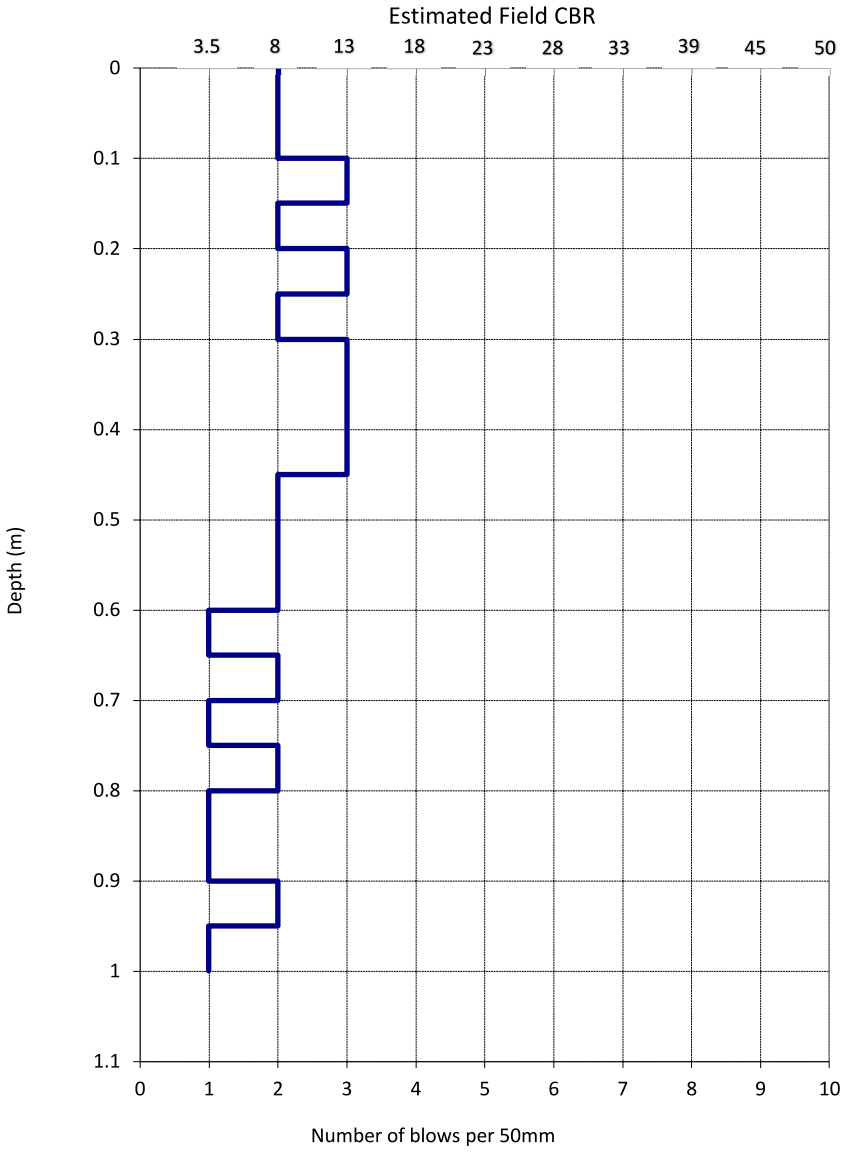
900	900	1
950	950	2
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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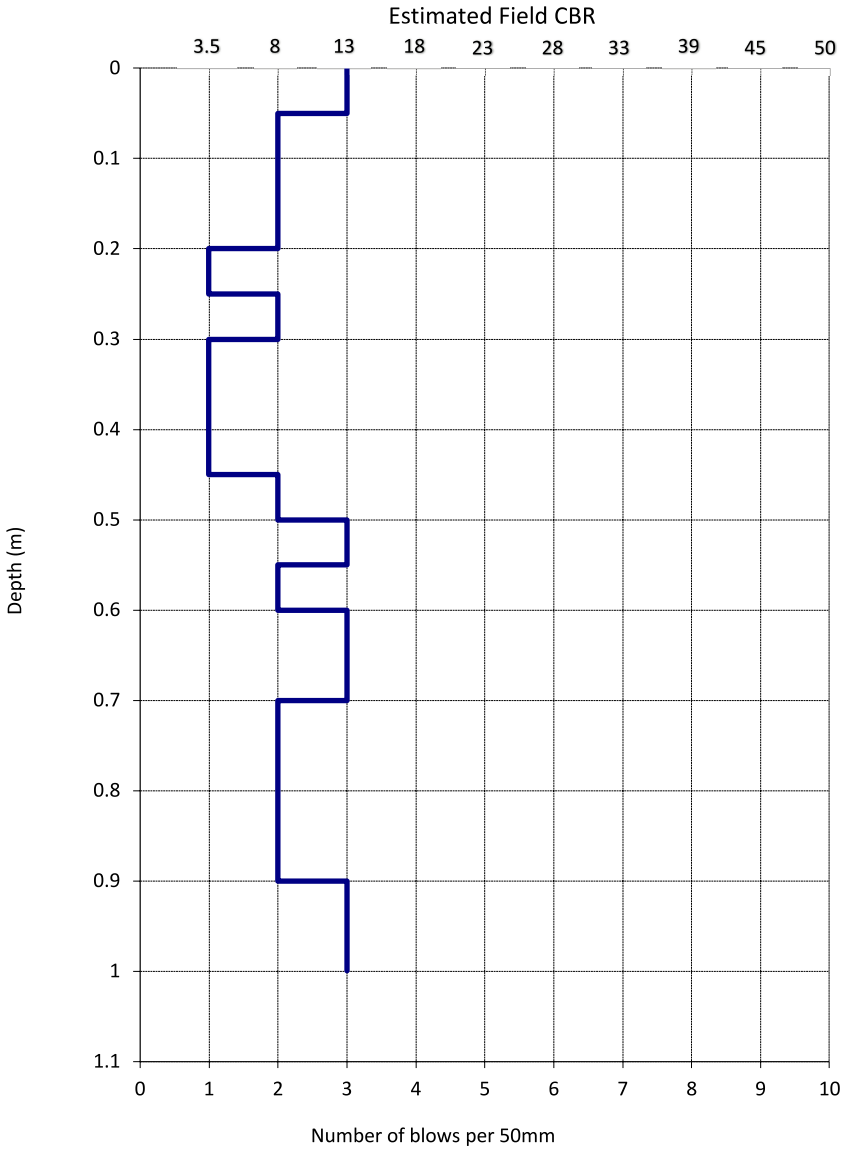
68.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
110		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	2
250	250	1
300	300	2
350	350	1
400	400	1
450	450	1
500	500	2
550	550	3
600	600	2
650	650	3
700	700	3
750	750	2
800	800	2
850	850	2
900	900	2
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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68.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
120		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	2
250	250	1
300	300	2
350	350	2
400	400	1
450	450	2
500	500	1
550	550	2
600	600	1
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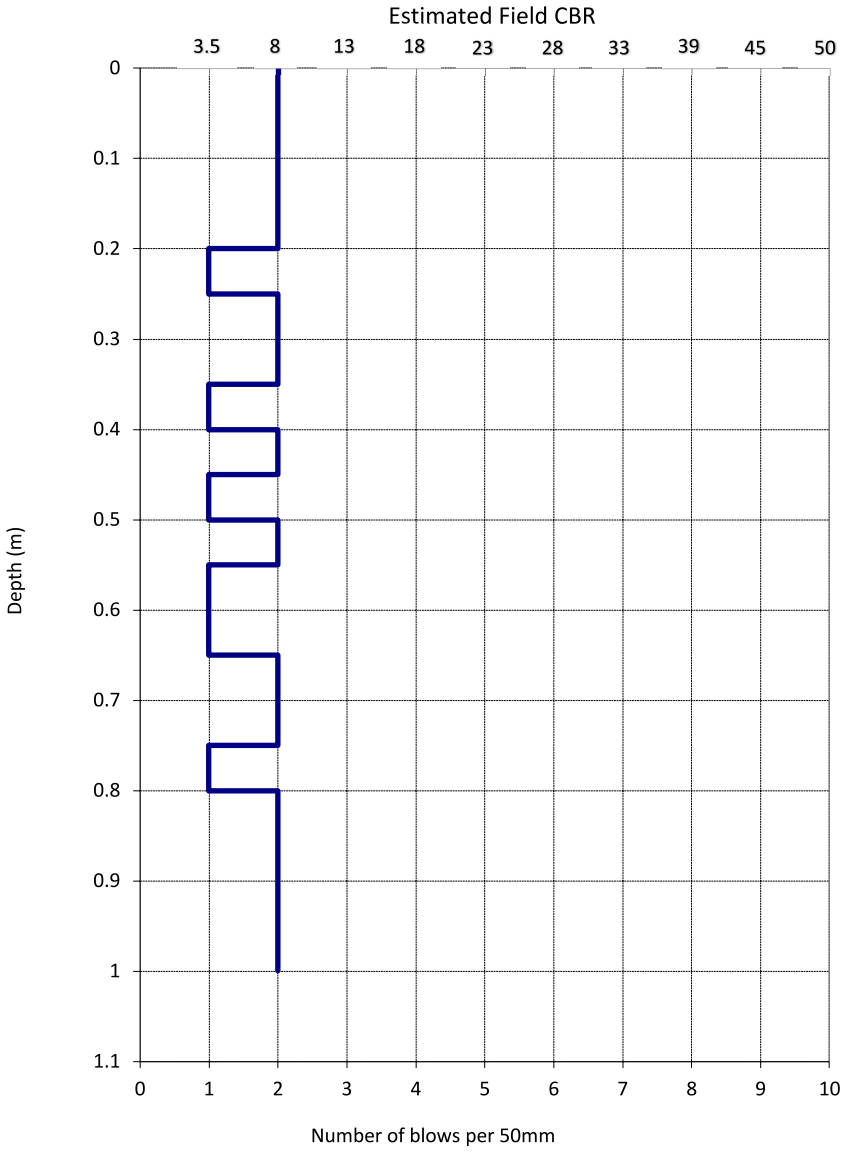
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
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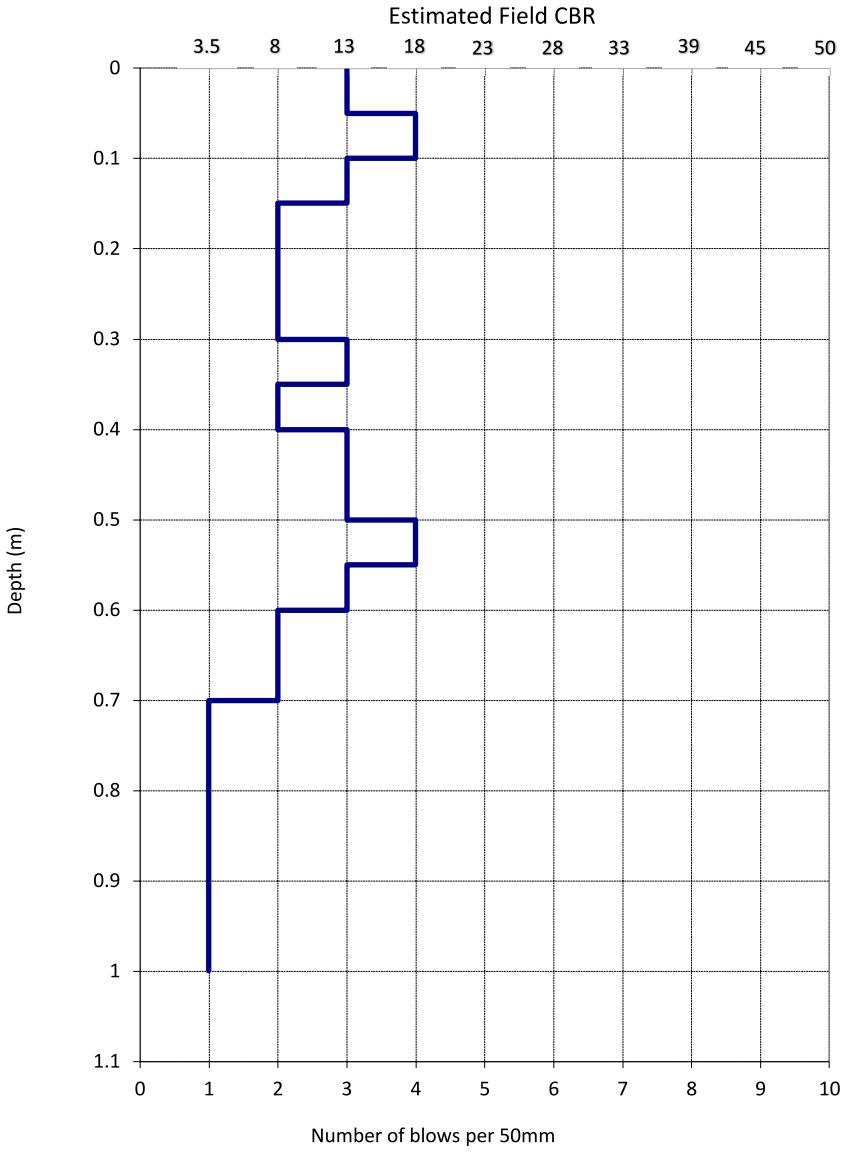
68.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
130		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	4
150	150	3
200	200	2
250	250	2
300	300	2
350	350	3
400	400	2
450	450	3
500	500	3
550	550	4
600	600	3
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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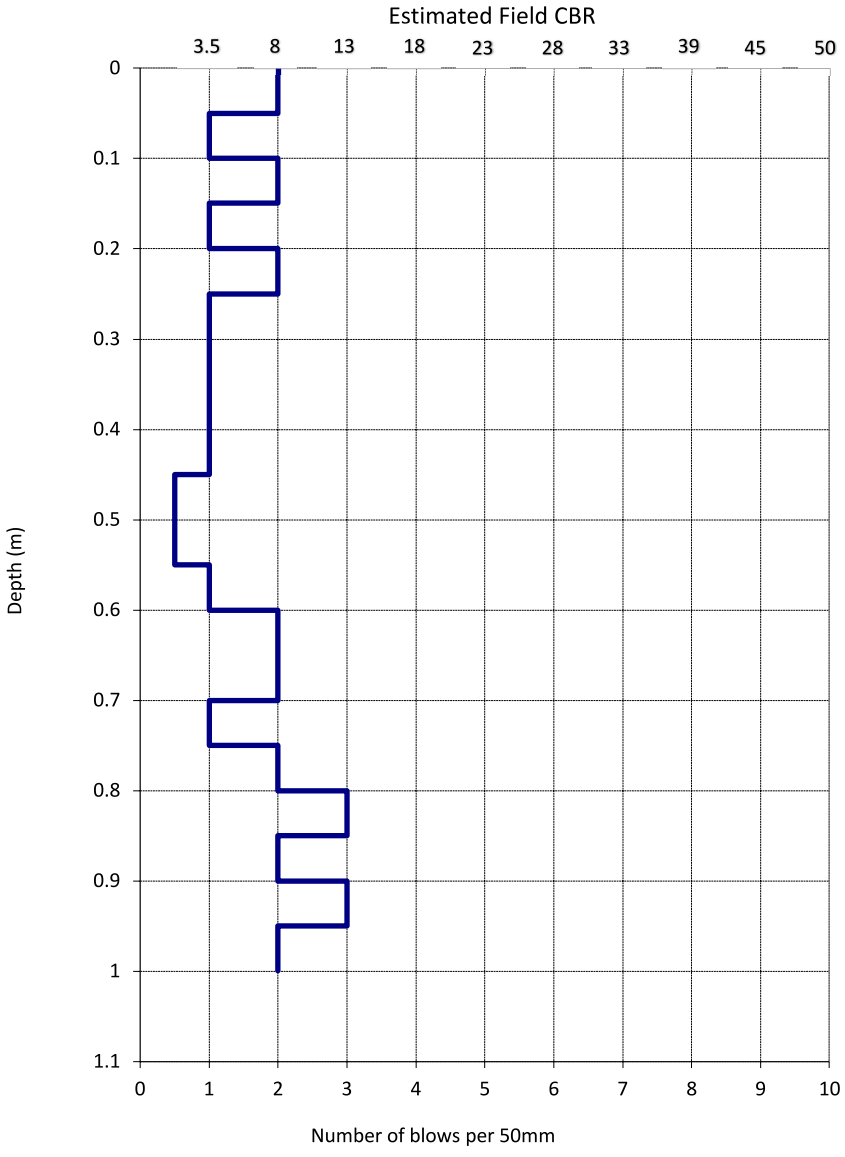
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
140		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	0.5
550	550	0.5
600	600	1
650	650	2
700	700	2
750	750	1
800	800	2
850	850	3
900	900	2
950	950	3
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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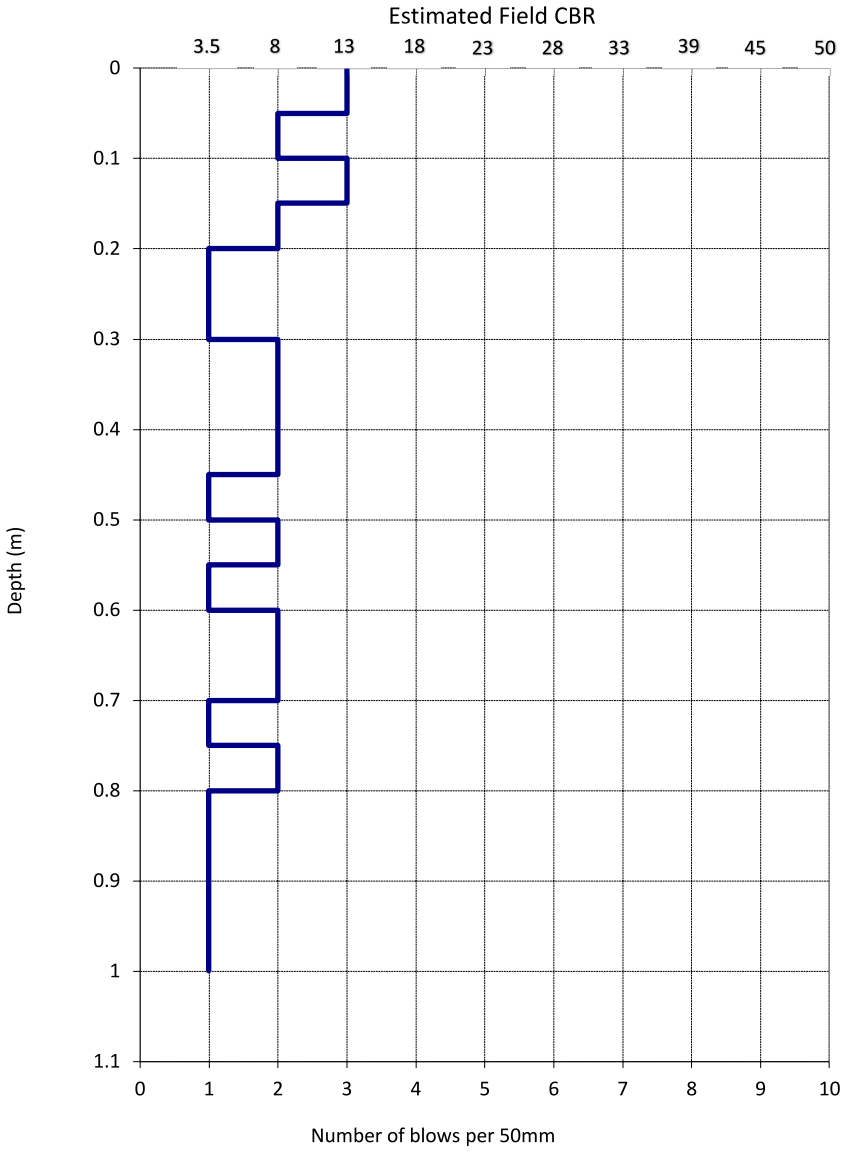
68.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
150		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	3
200	200	2
250	250	1
300	300	1
350	350	2
400	400	2
450	450	2
500	500	1
550	550	2
600	600	1
650	650	2
700	700	2
750	750	1
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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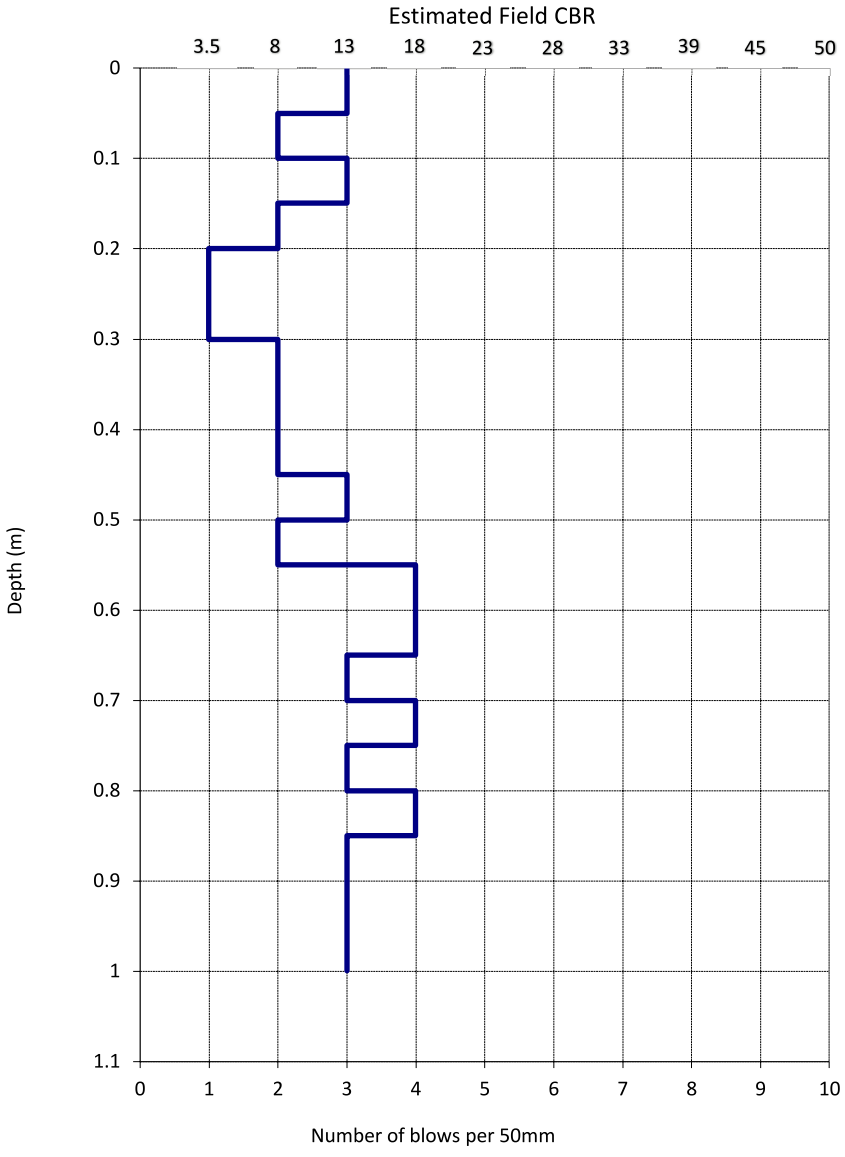
Lab Ref/URN: 68.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	16

Chainage	Offset	Lane
160		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	3
200	200	2
250	250	1
300	300	1
350	350	2
400	400	2
450	450	2
500	500	3
550	550	2
600	600	4
650	650	4
700	700	3
750	750	4
800	800	3
850	850	4
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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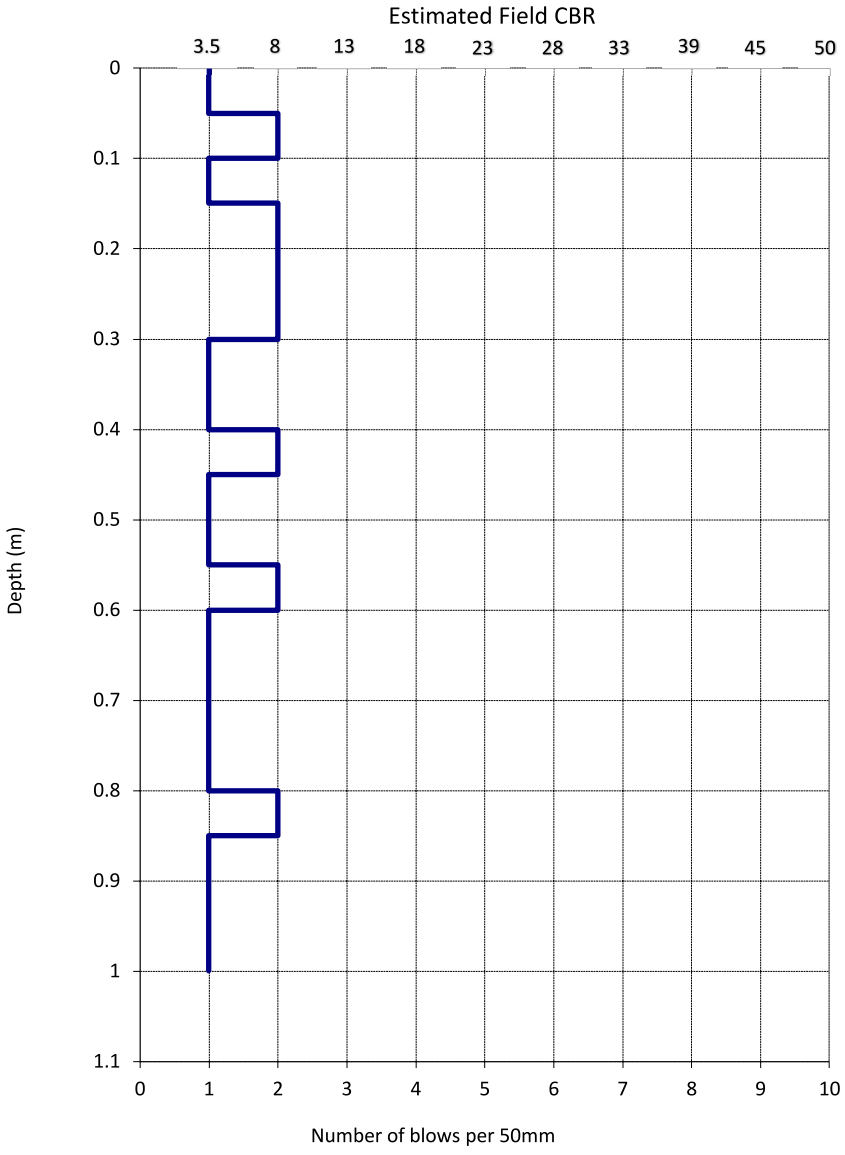
Lab Ref/URN: 68.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	17

Chainage	Offset	Lane
170		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	1
200	200	2
250	250	2
300	300	2
350	350	1
400	400	1
450	450	2
500	500	1
550	550	1
600	600	2
650	650	1
700	700	1
750	750	1
800	800	1
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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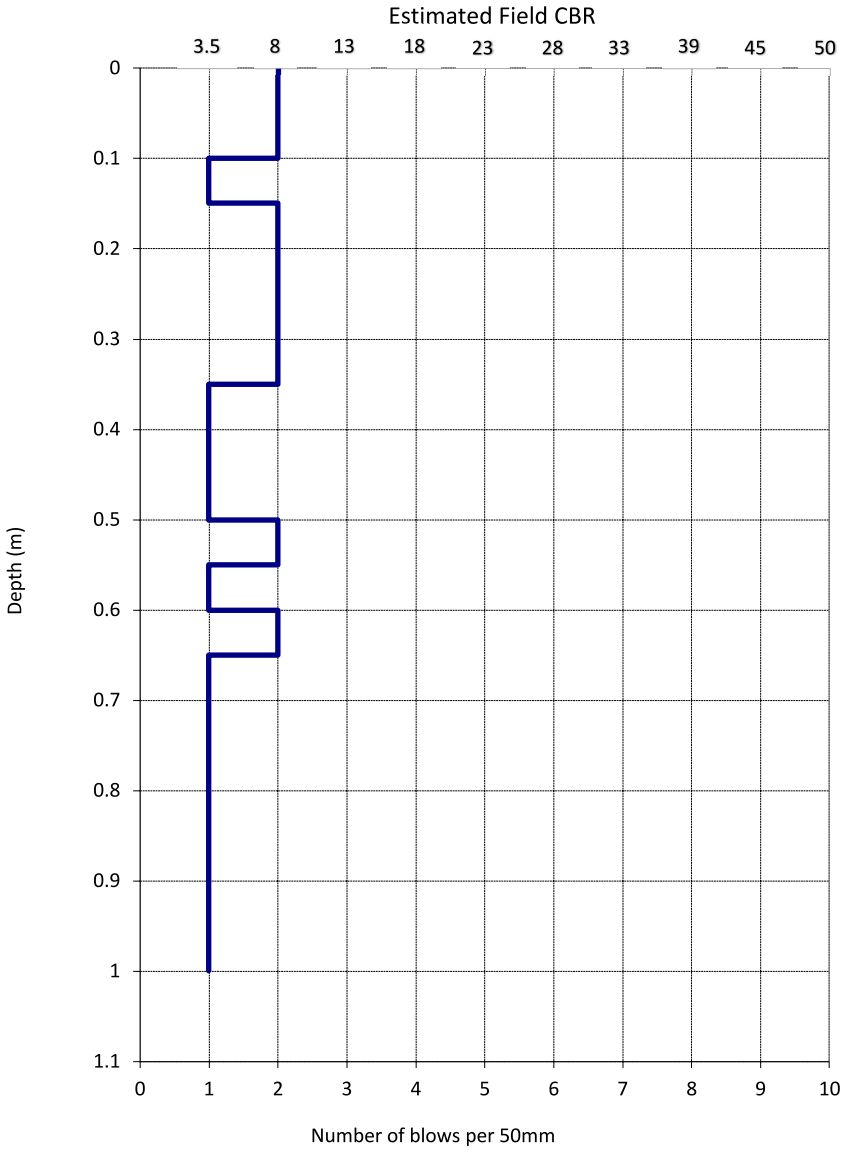
Lab Ref/URN: 68.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	18

Chainage	Offset	Lane
180		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	2
250	250	2
300	300	2
350	350	2
400	400	1
450	450	1
500	500	1
550	550	2
600	600	1
650	650	2
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 68.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 7	Material Source	Unknown
Material Description	clayey SILT	Test Series	DCP 1-19
Depth from ground surface to commencement of penetration (m)		Test Number	19

Chainage	Offset	Lane
190		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	4
200	200	4
250	250	4
300	300	2
350	350	2
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
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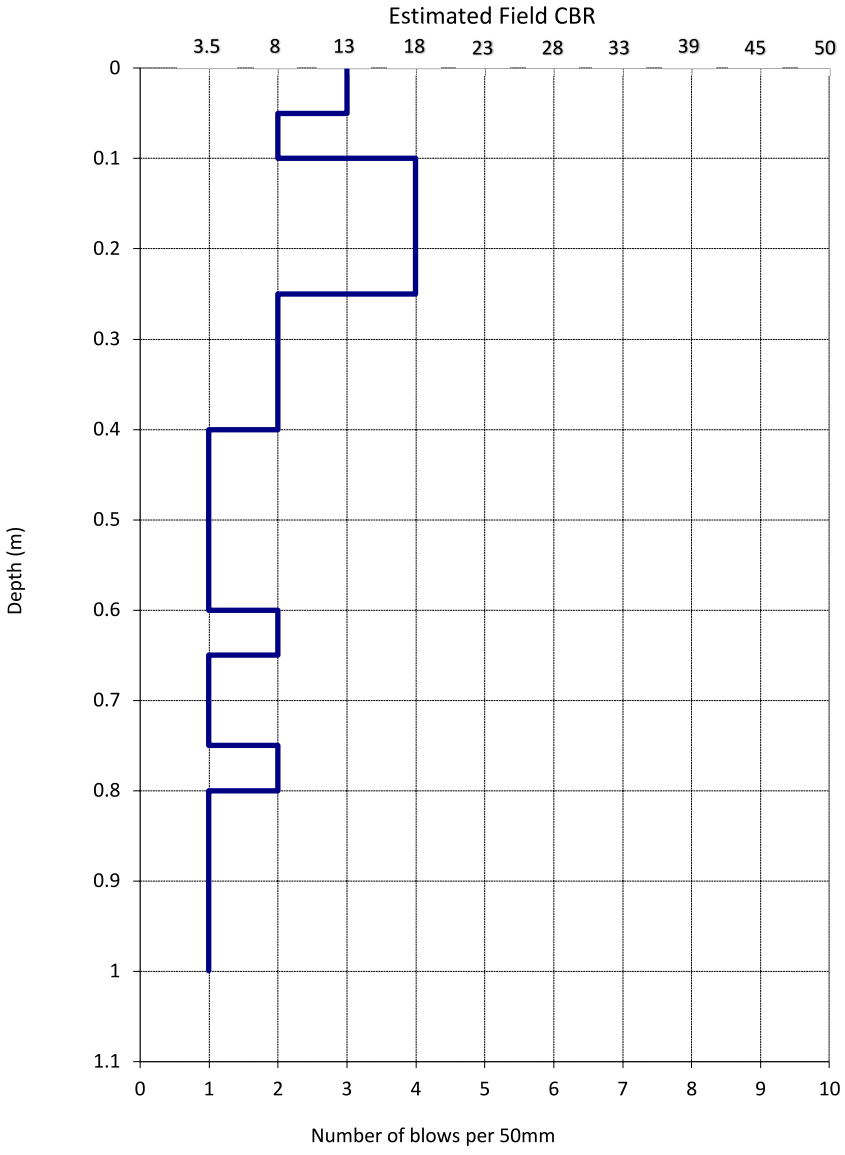
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	4/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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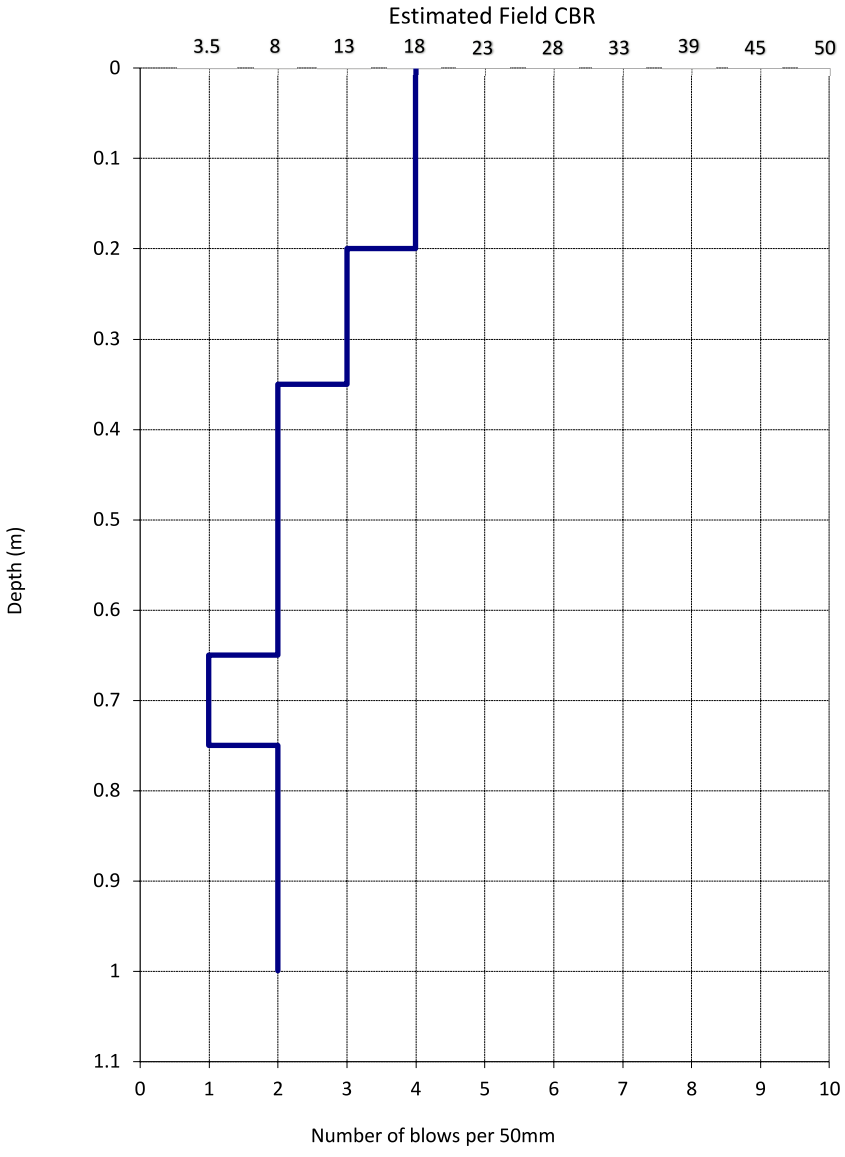
Lab Ref/URN: 69.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	1

Chainage	Offset	Lane
0		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	4
100	100	4
150	150	4
200	200	4
250	250	3
300	300	3
350	350	3
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	1
750	750	1
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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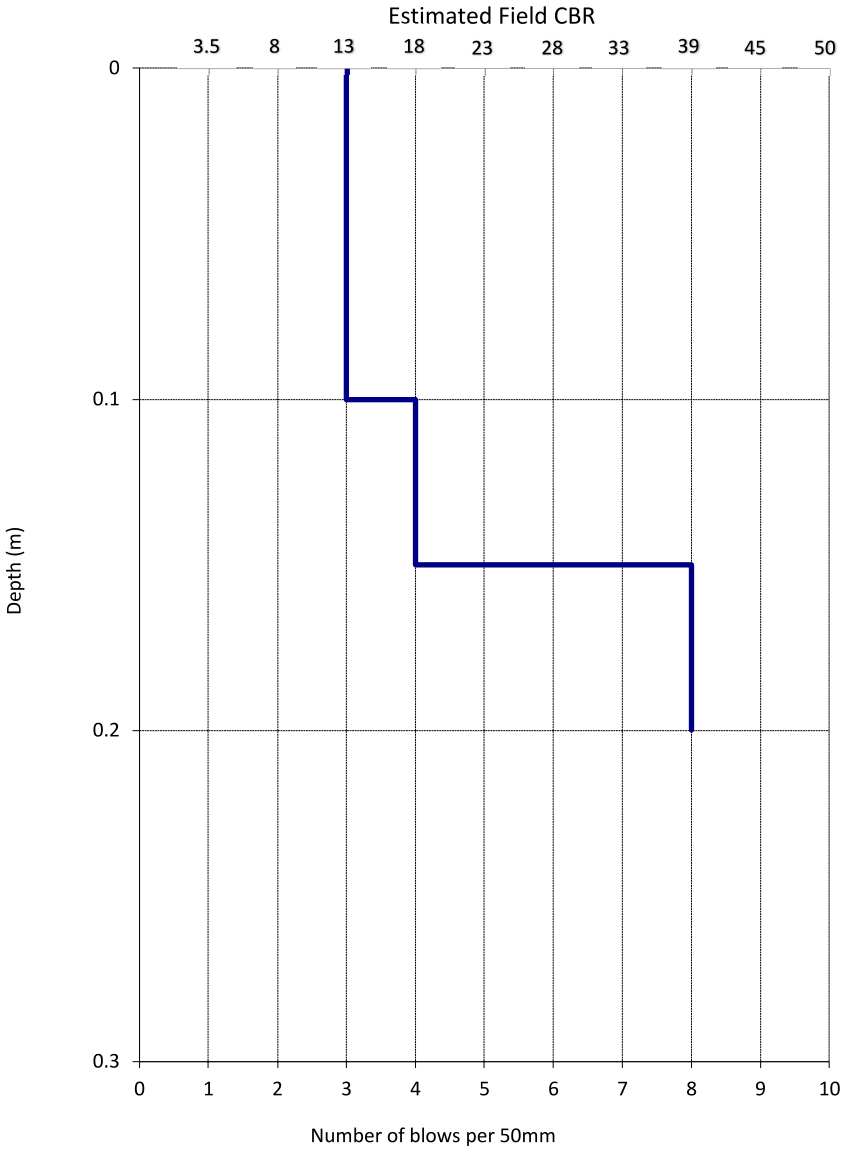
69.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
10	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	4
200	200	8
250	250	UTP
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 250 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS). Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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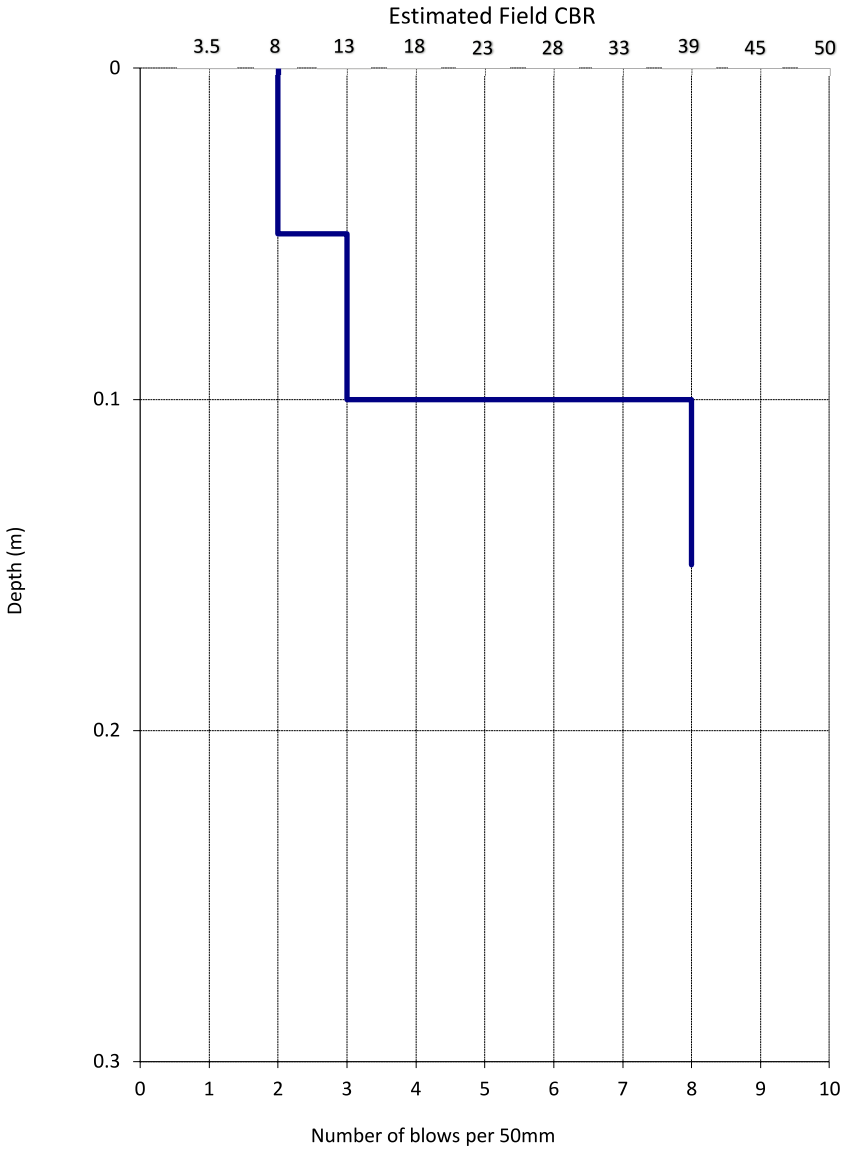
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
20	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	8
200	200	UTP
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 200 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS). Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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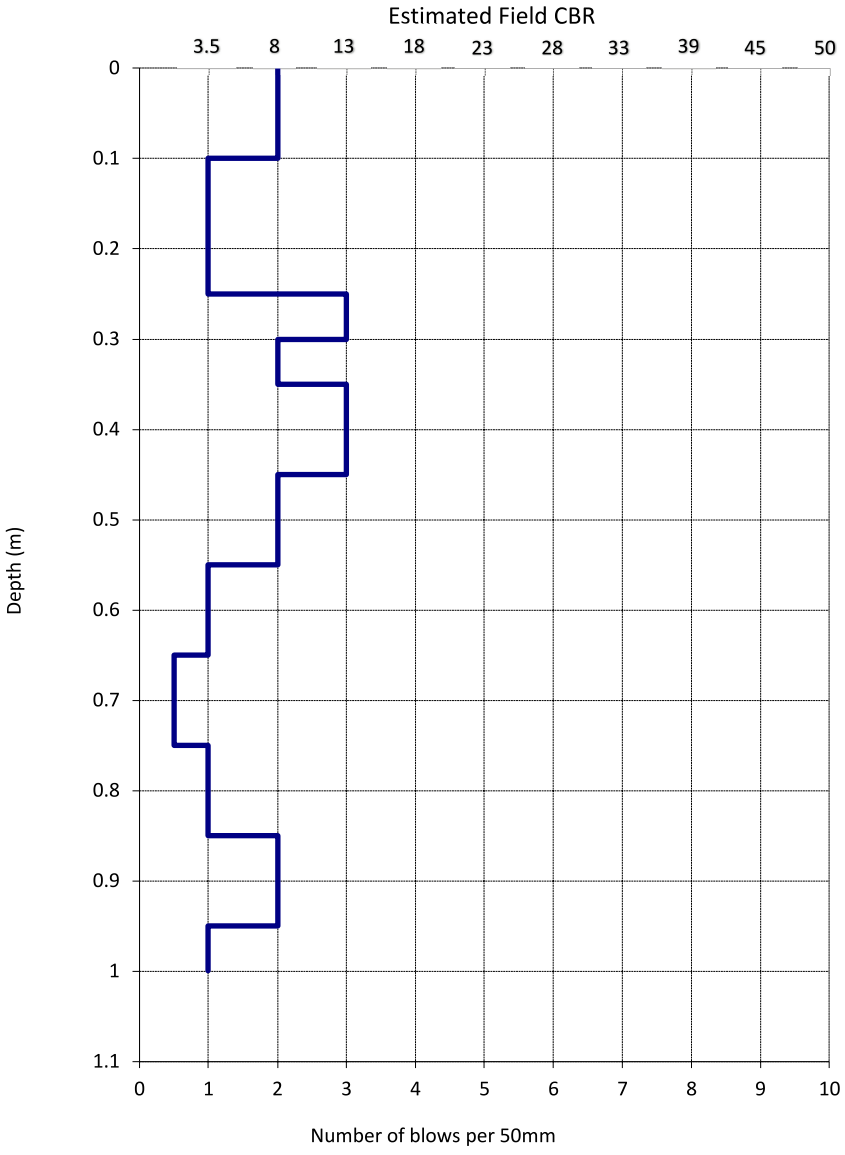
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
30	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	3
350	350	2
400	400	3
450	450	3
500	500	2
550	550	2
600	600	1
650	650	1
700	700	0.5
750	750	0.5
800	800	1
850	850	1
900	900	2
950	950	2
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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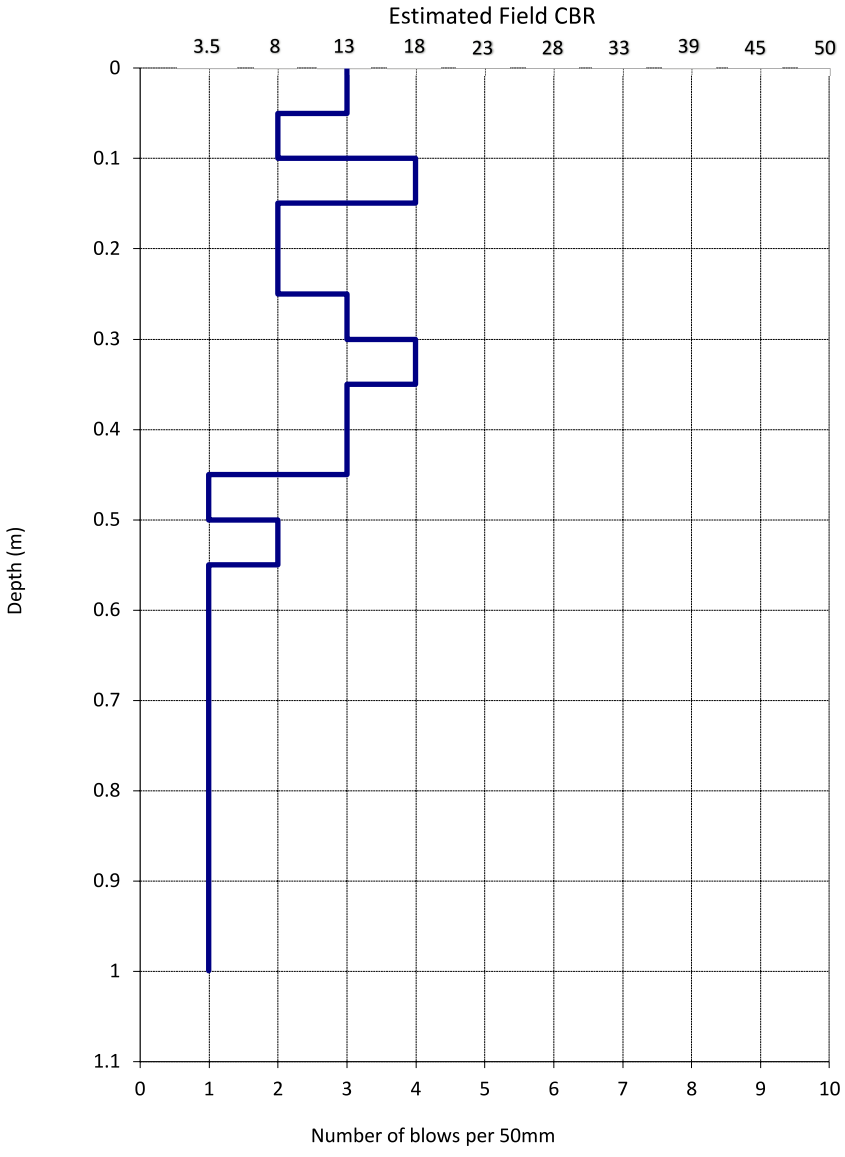
Lab Ref/URN: 69.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
40	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	4
200	200	2
250	250	2
300	300	3
350	350	4
400	400	3
450	450	3
500	500	1
550	550	2
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 69.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
50	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	2
300	300	3
350	350	2
400	400	2
450	450	1
500	500	1
550	550	3
600	600	3
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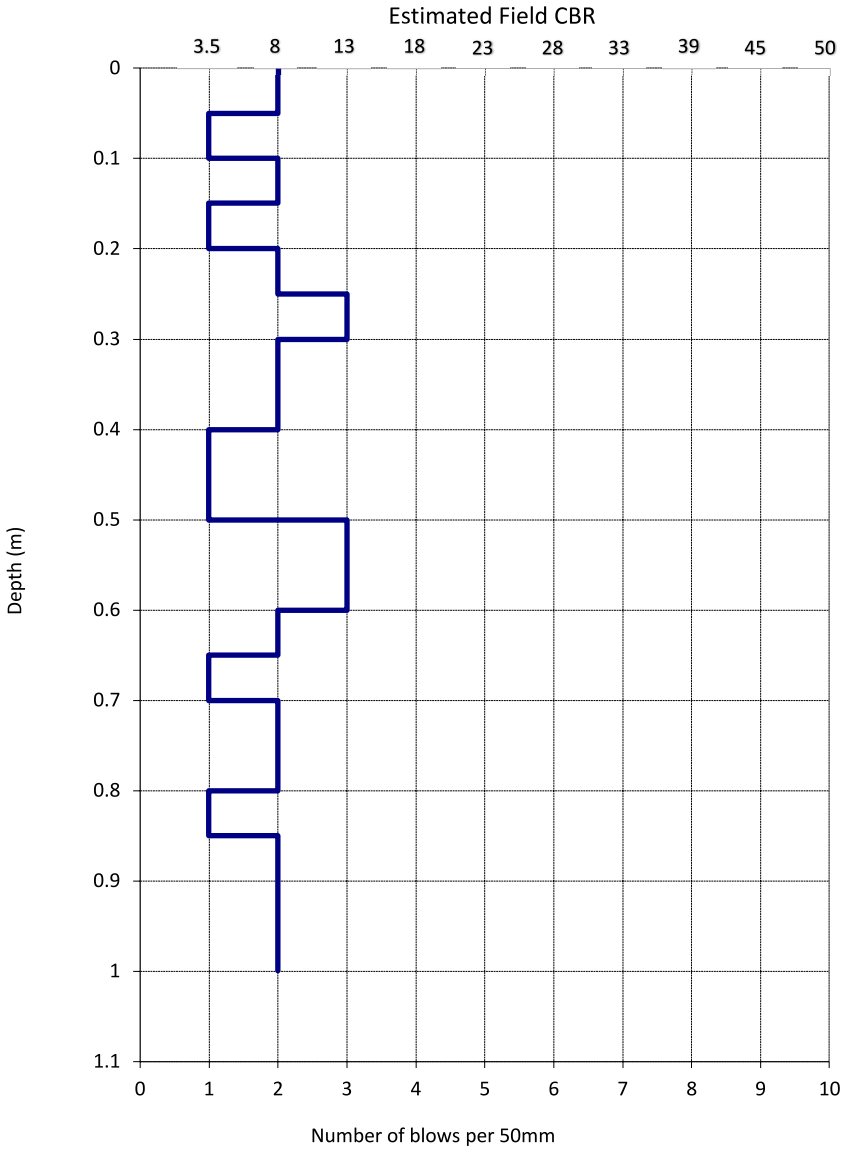
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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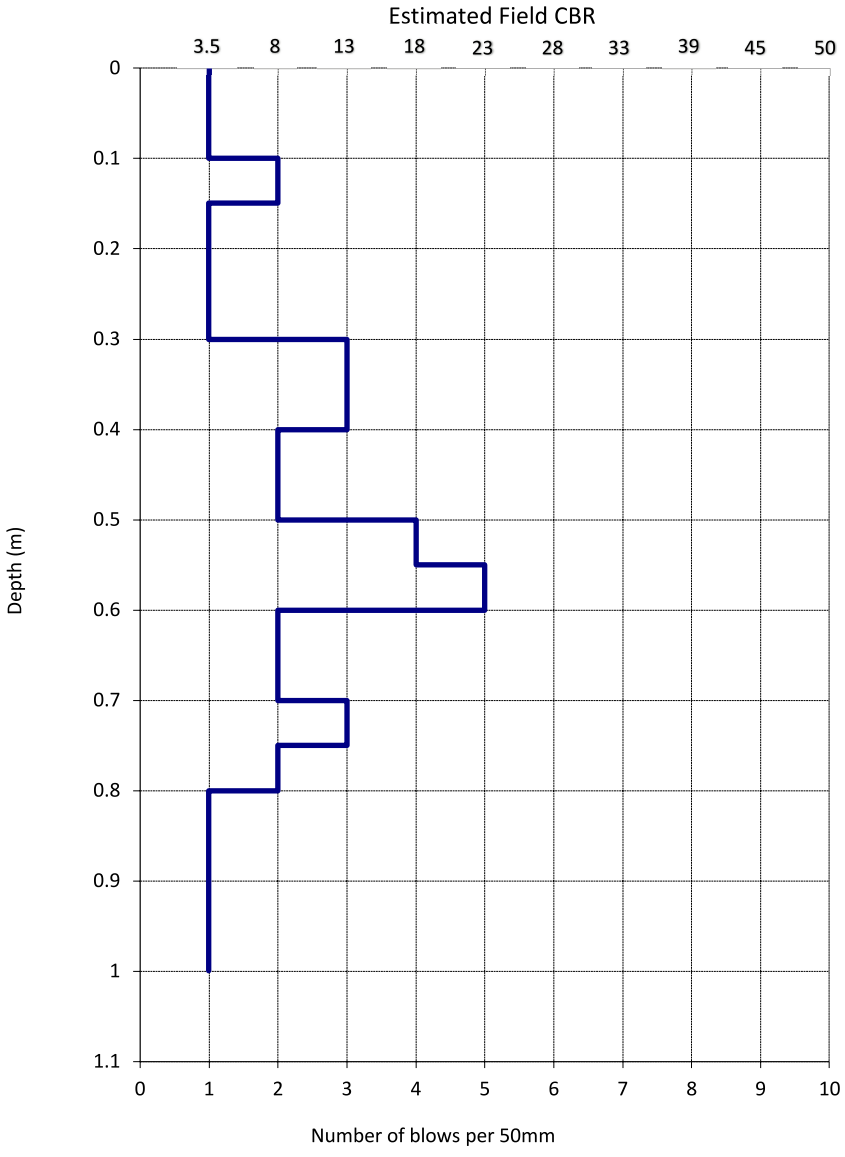
Lab Ref/URN: 69.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
60	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	3
400	400	3
450	450	2
500	500	2
550	550	4
600	600	5
650	650	2
700	700	2
750	750	3
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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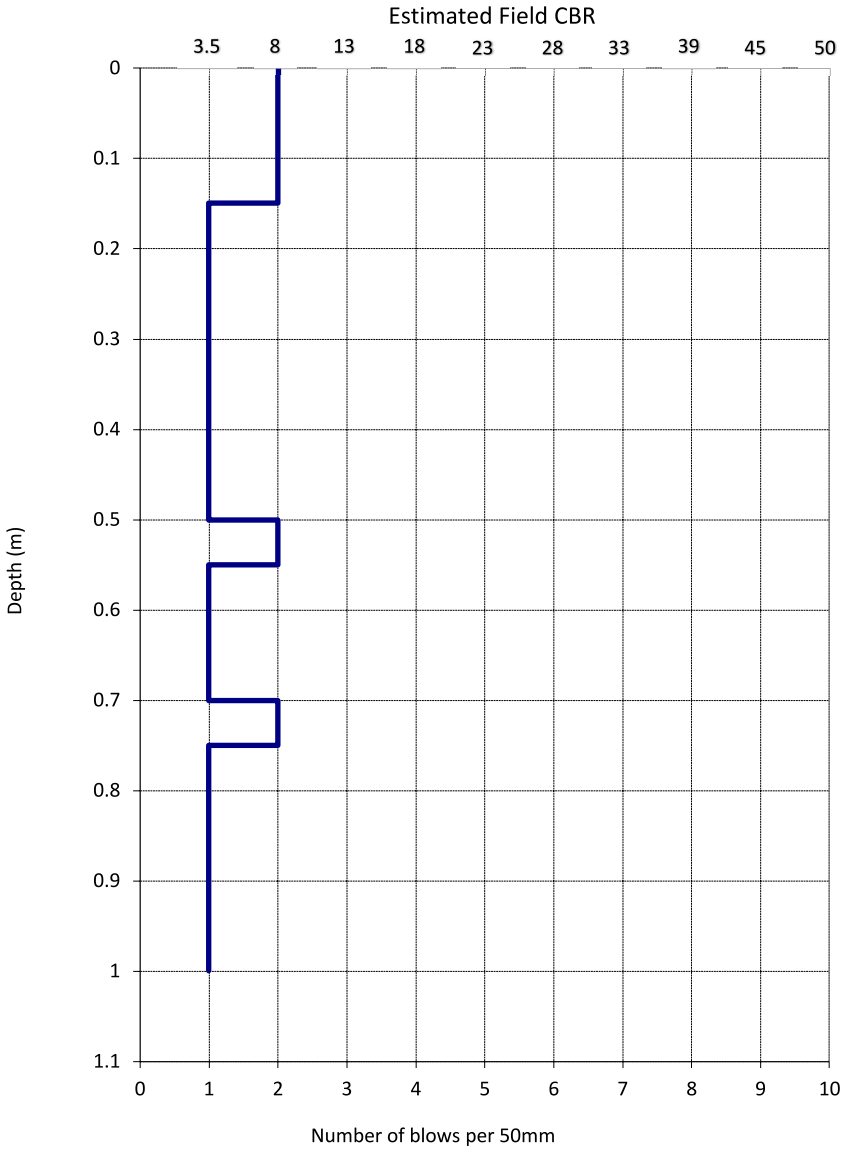
Lab Ref/URN: 69.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
70	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	2
600	600	1
650	650	1
700	700	1
750	750	2
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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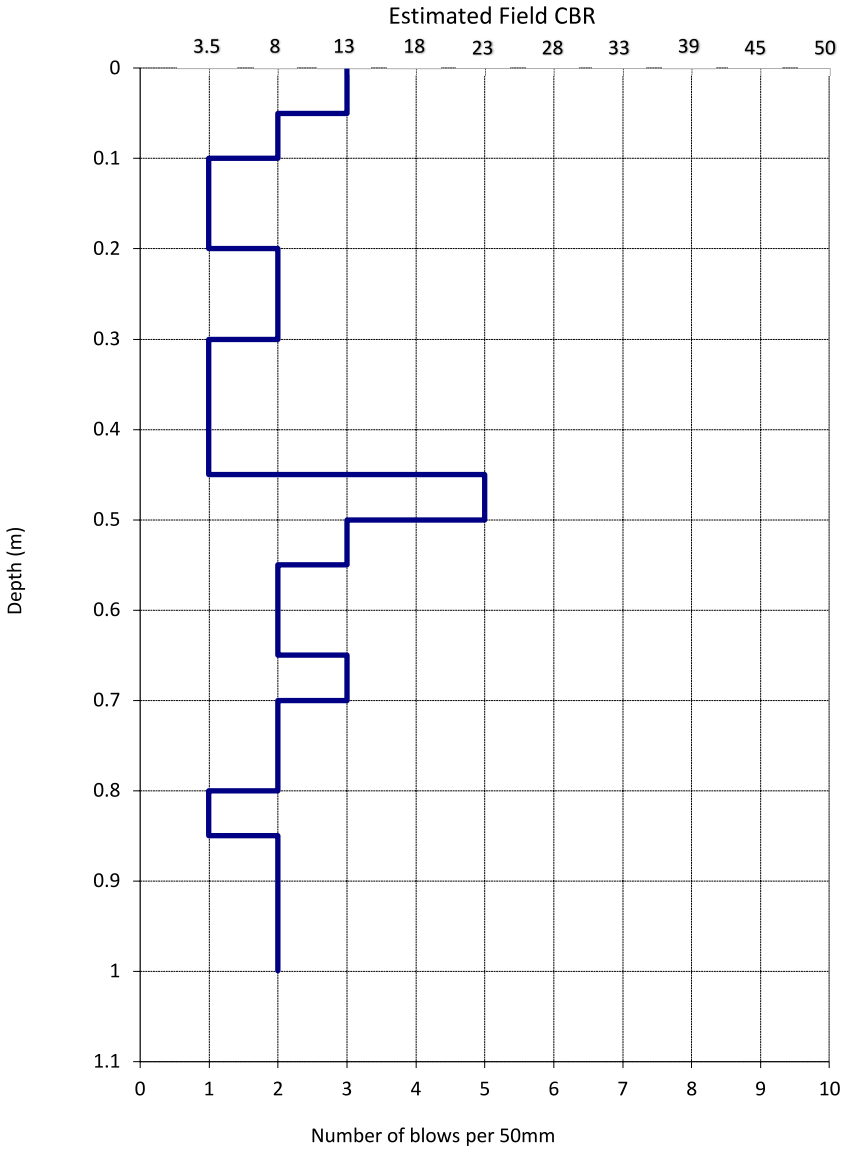
Lab Ref/URN: 69.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
80	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	1
200	200	1
250	250	2
300	300	2
350	350	1
400	400	1
450	450	1
500	500	5
550	550	3
600	600	2
650	650	2
700	700	3
750	750	2
800	800	2
850	850	1
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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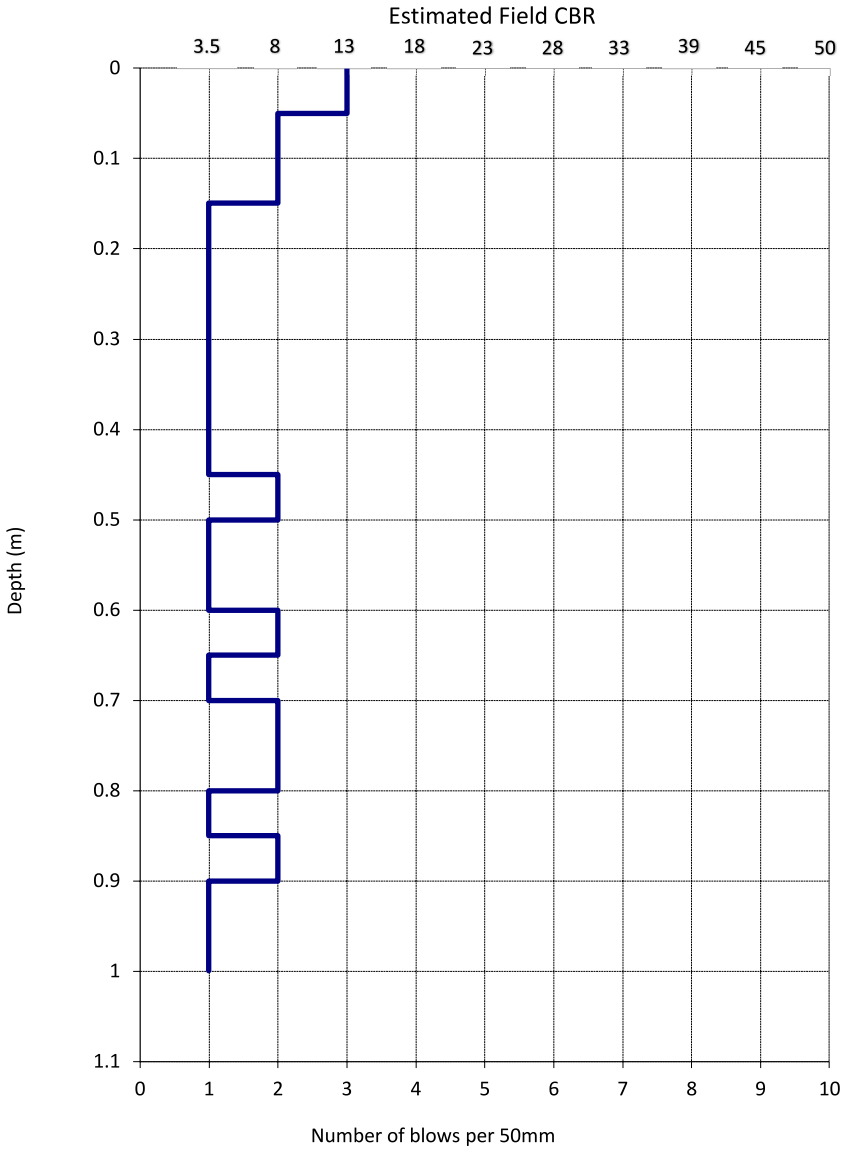
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
90	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	2
550	550	1
600	600	1
650	650	2
700	700	1
750	750	2
800	800	2
850	850	1
900	900	2
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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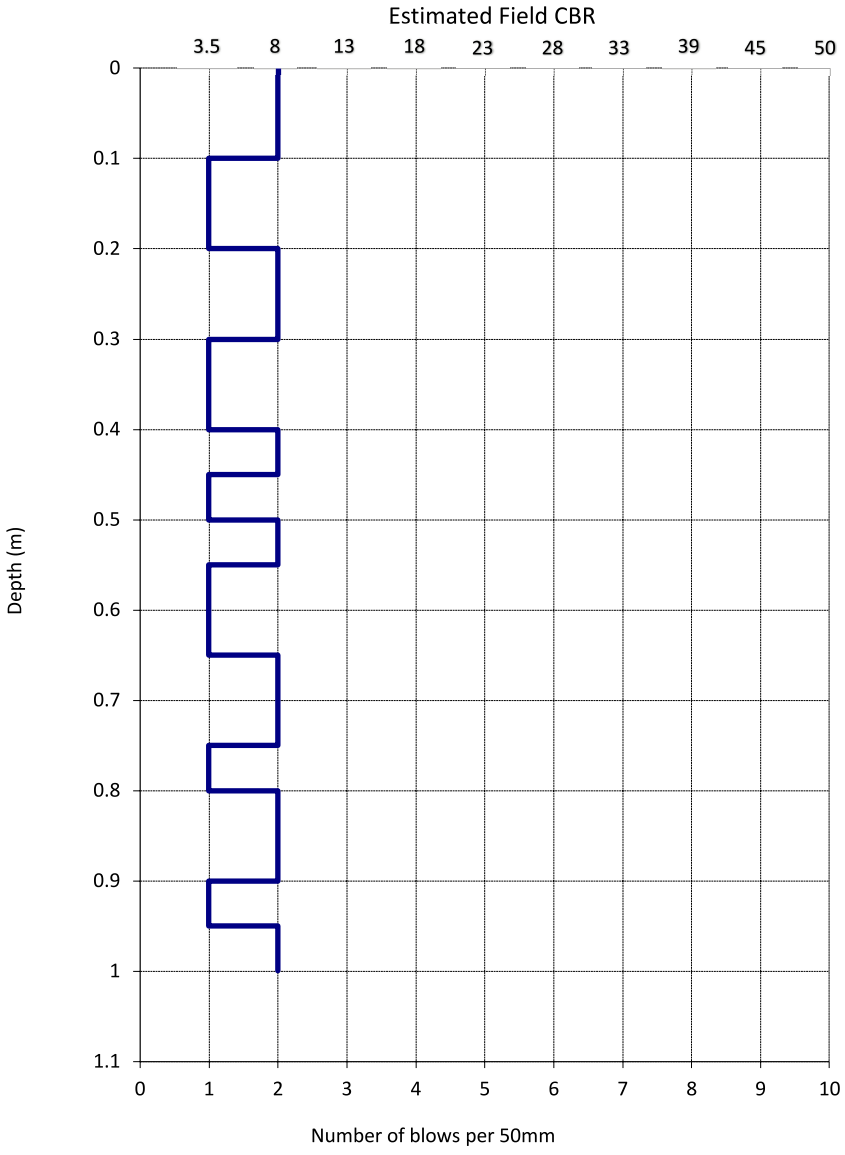
Lab Ref/URN: 69.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
100	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	2
300	300	2
350	350	1
400	400	1
450	450	2
500	500	1
550	550	2
600	600	1
650	650	1
700	700	2
750	750	2
800	800	1
850	850	2
900	900	2
950	950	1
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 69.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
110	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	2
300	300	2
350	350	1
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
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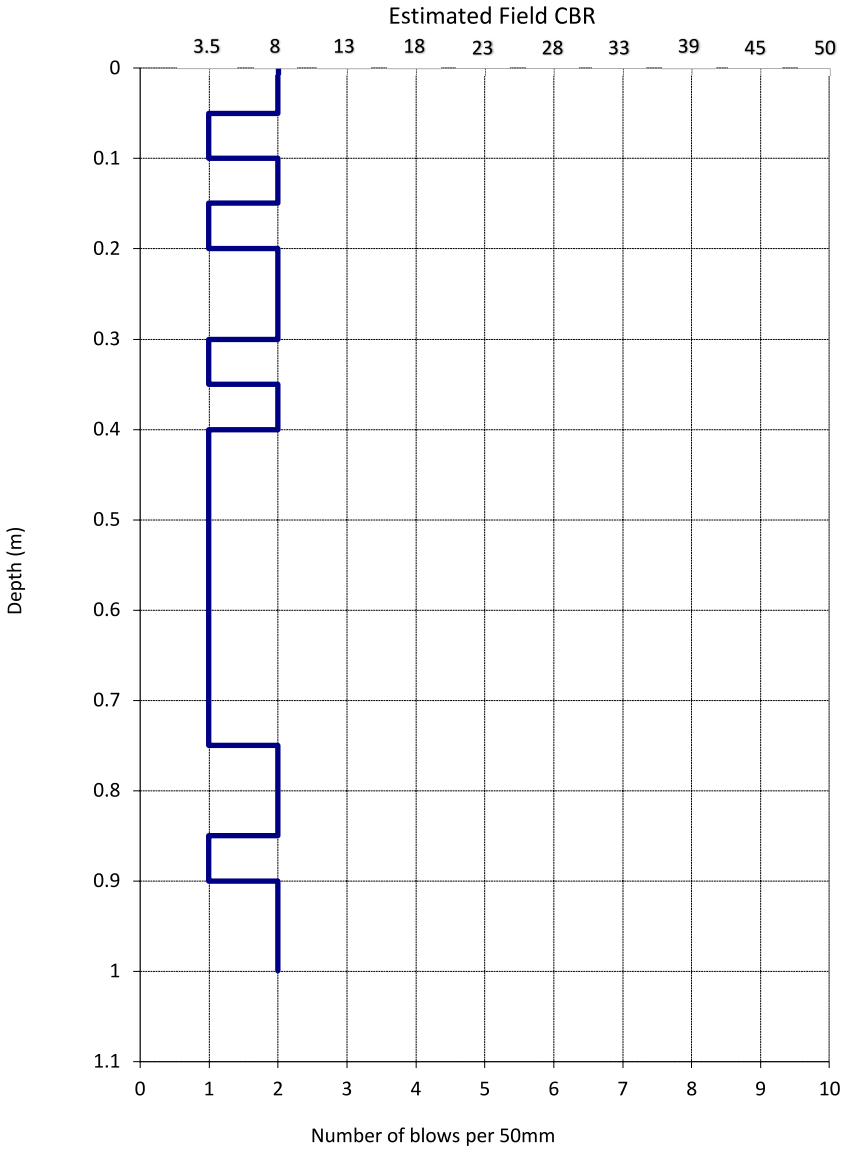
850	850	2
900	900	1
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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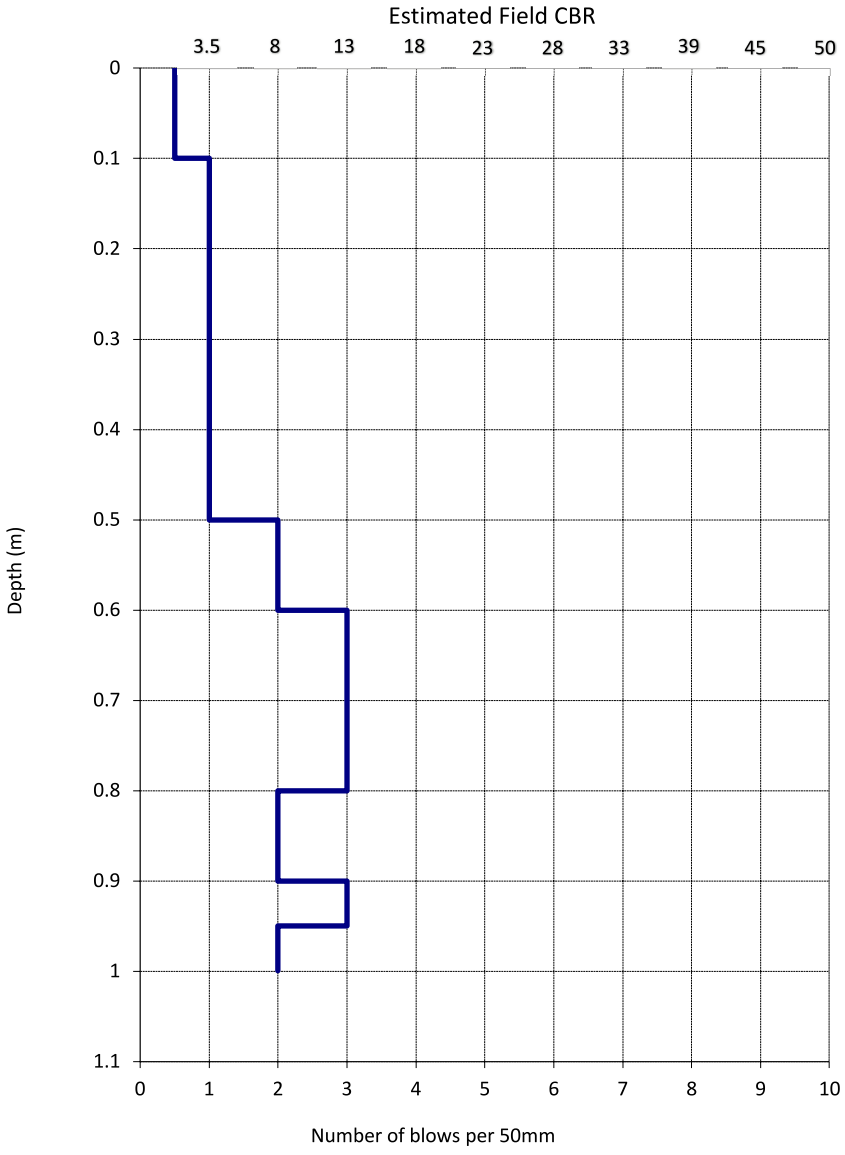
Lab Ref/URN: 69.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
120	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	2
600	600	2
650	650	3
700	700	3
750	750	3
800	800	3
850	850	2
900	900	2
950	950	3
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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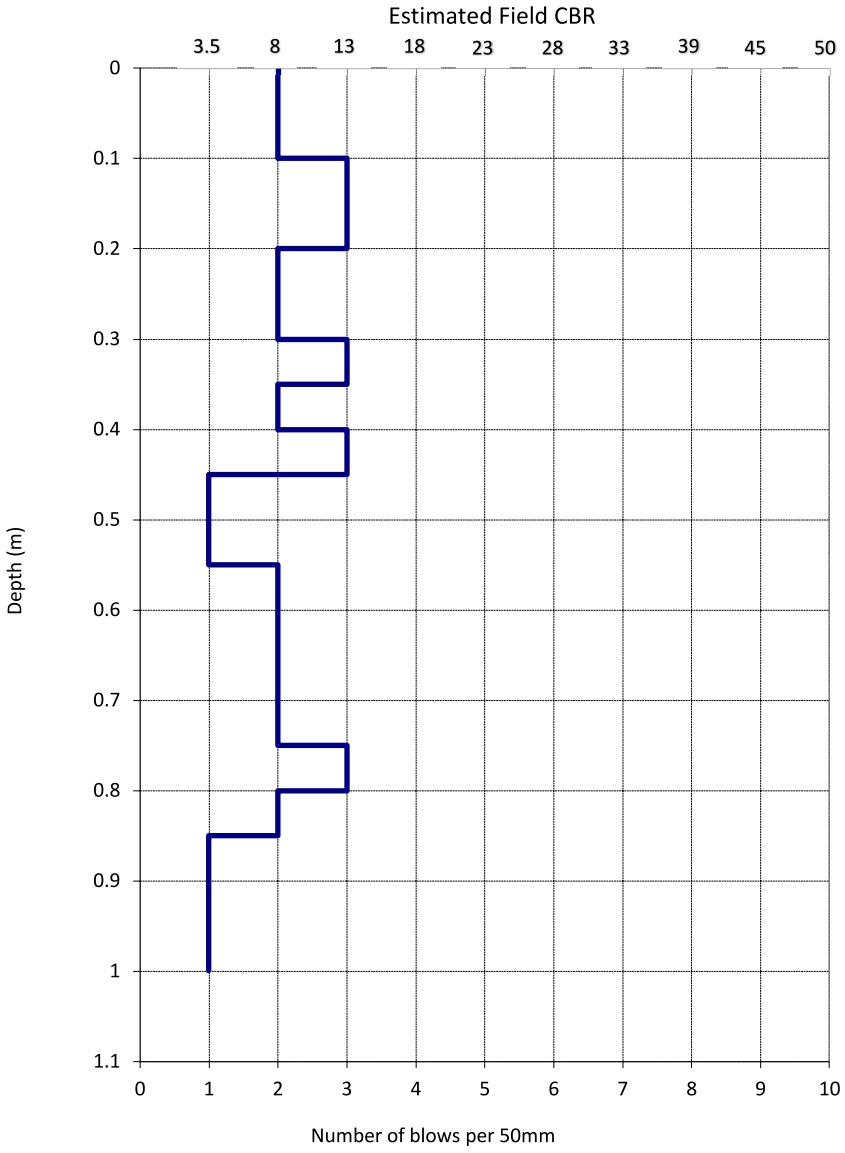
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
130	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	3
200	200	3
250	250	2
300	300	2
350	350	3
400	400	2
450	450	3
500	500	1
550	550	1
600	600	2
650	650	2
700	700	2
750	750	2
800	800	3
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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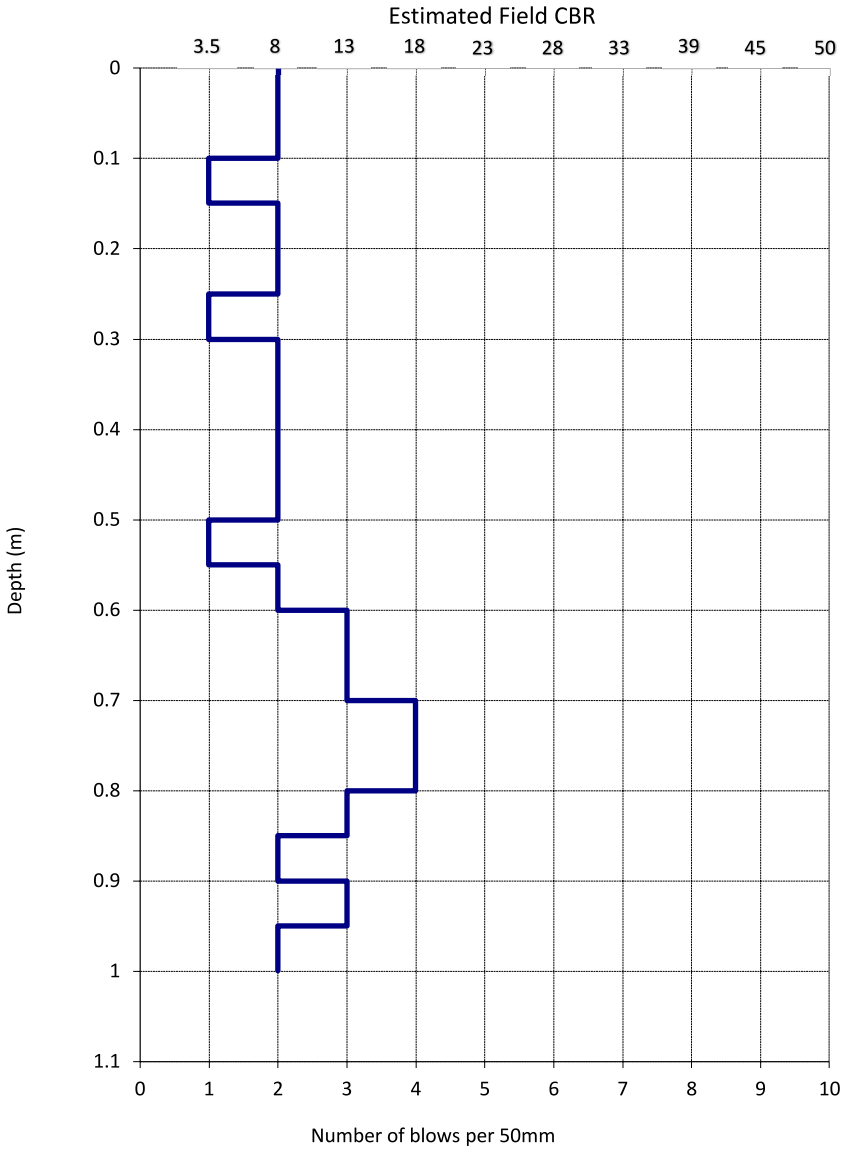
69.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
140	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	2
250	250	2
300	300	1
350	350	2
400	400	2
450	450	2
500	500	2
550	550	1
600	600	2
650	650	3
700	700	3
750	750	4
800	800	4
850	850	3
900	900	2
950	950	3
1000	1000	2



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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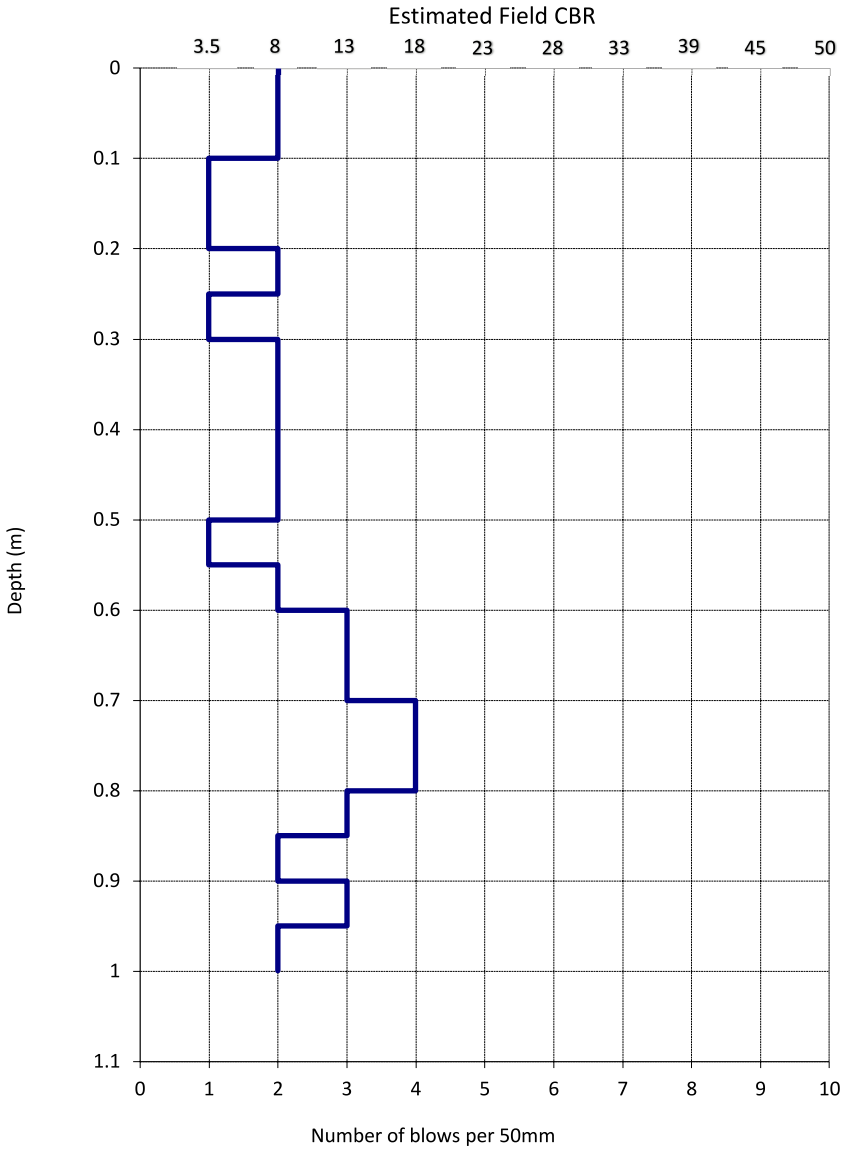
Lab Ref/URN: 69.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	16

Chainage	Offset	Lane
150	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	2
300	300	1
350	350	2
400	400	2
450	450	2
500	500	2
550	550	1
600	600	2
650	650	3
700	700	3
750	750	4
800	800	4
850	850	3
900	900	2
950	950	3
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
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Lab Ref/URN: 69.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	17

Chainage	Offset	Lane
160	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	2
350	350	2
400	400	1
450	450	3
500	500	3
550	550	3
600	600	3
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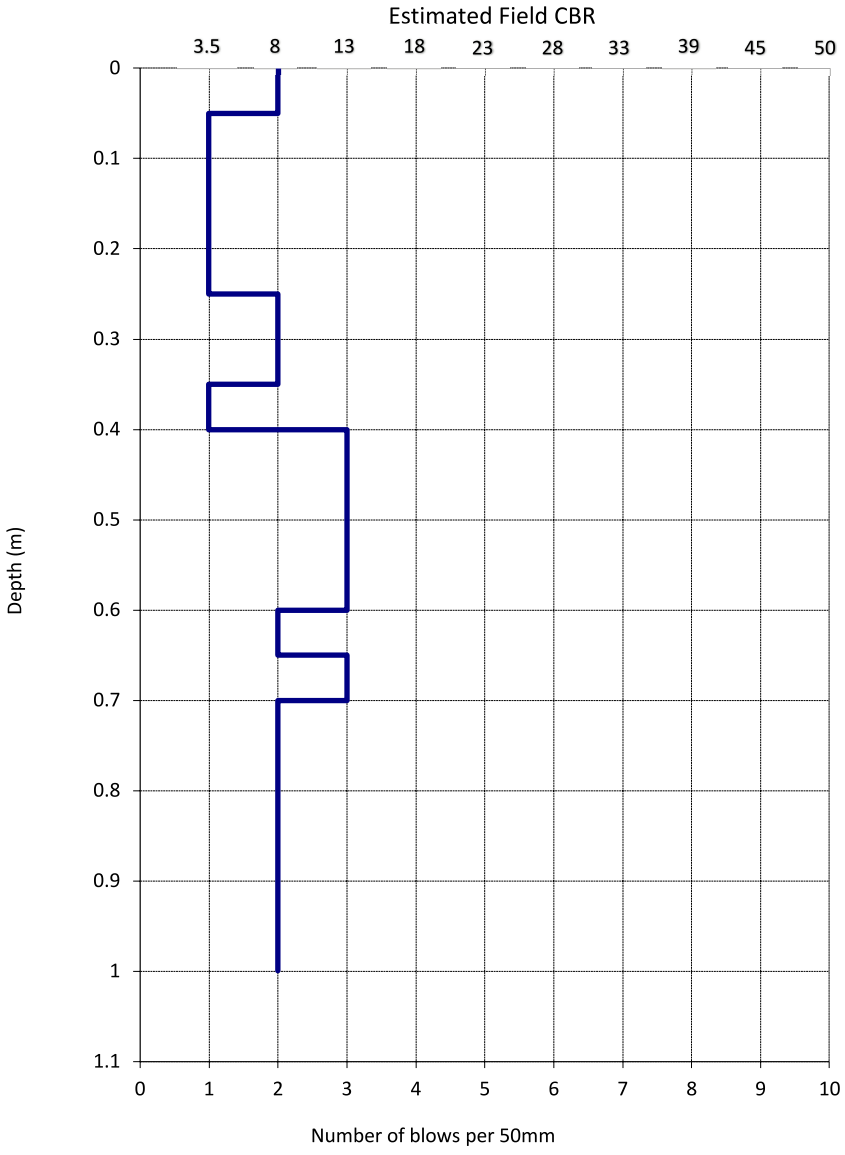
950	950	2
1000	1000	2



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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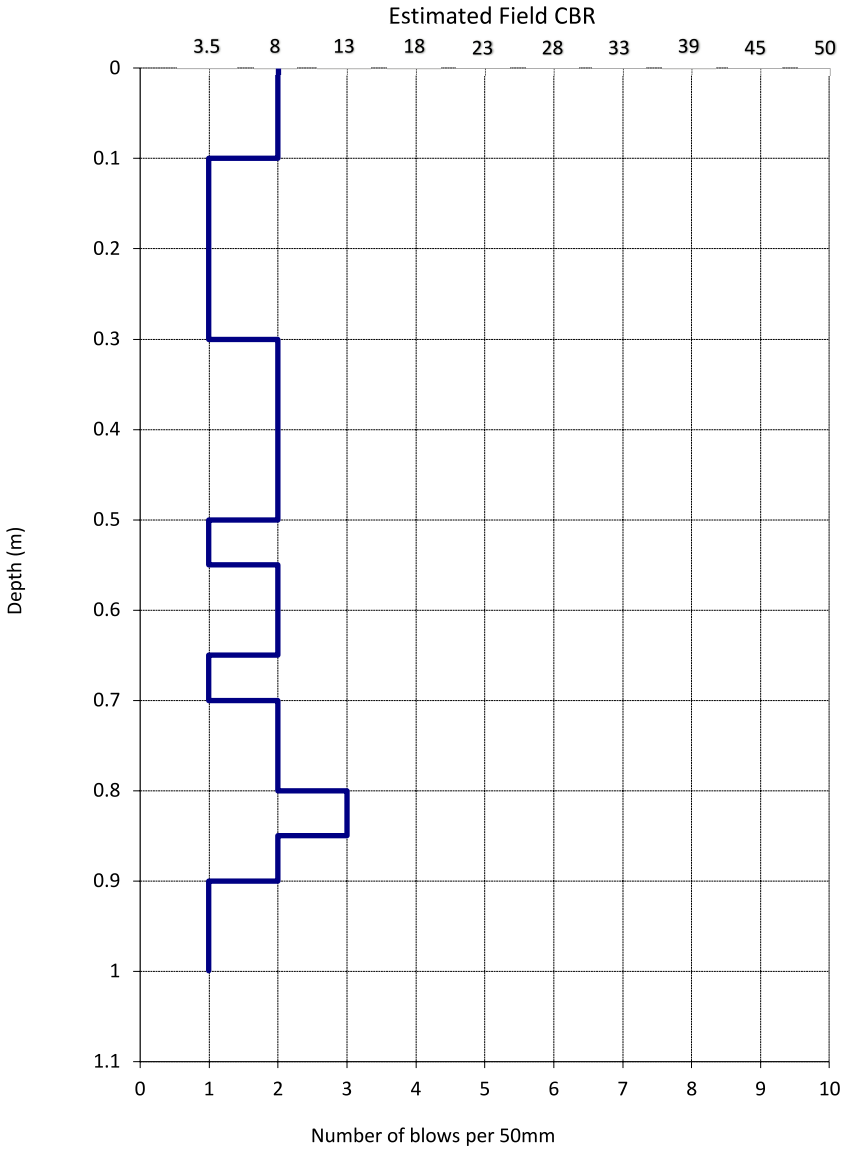
Lab Ref/URN: 69.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	18

Chainage	Offset	Lane
170	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	2
400	400	2
450	450	2
500	500	2
550	550	1
600	600	2
650	650	2
700	700	1
750	750	2
800	800	2
850	850	3
900	900	2
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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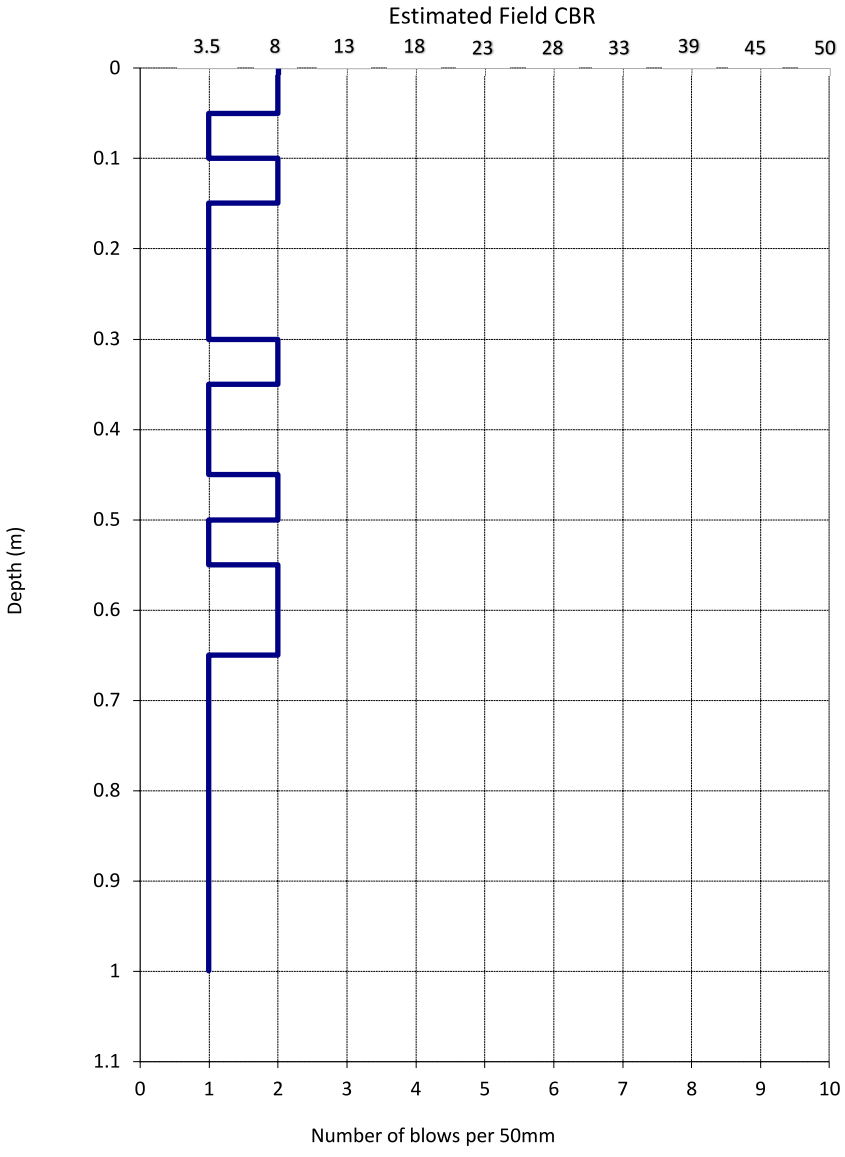
Lab Ref/URN: 69.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	19

Chainage	Offset	Lane
180	R	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	2
400	400	1
450	450	1
500	500	2
550	550	1
600	600	2
650	650	2
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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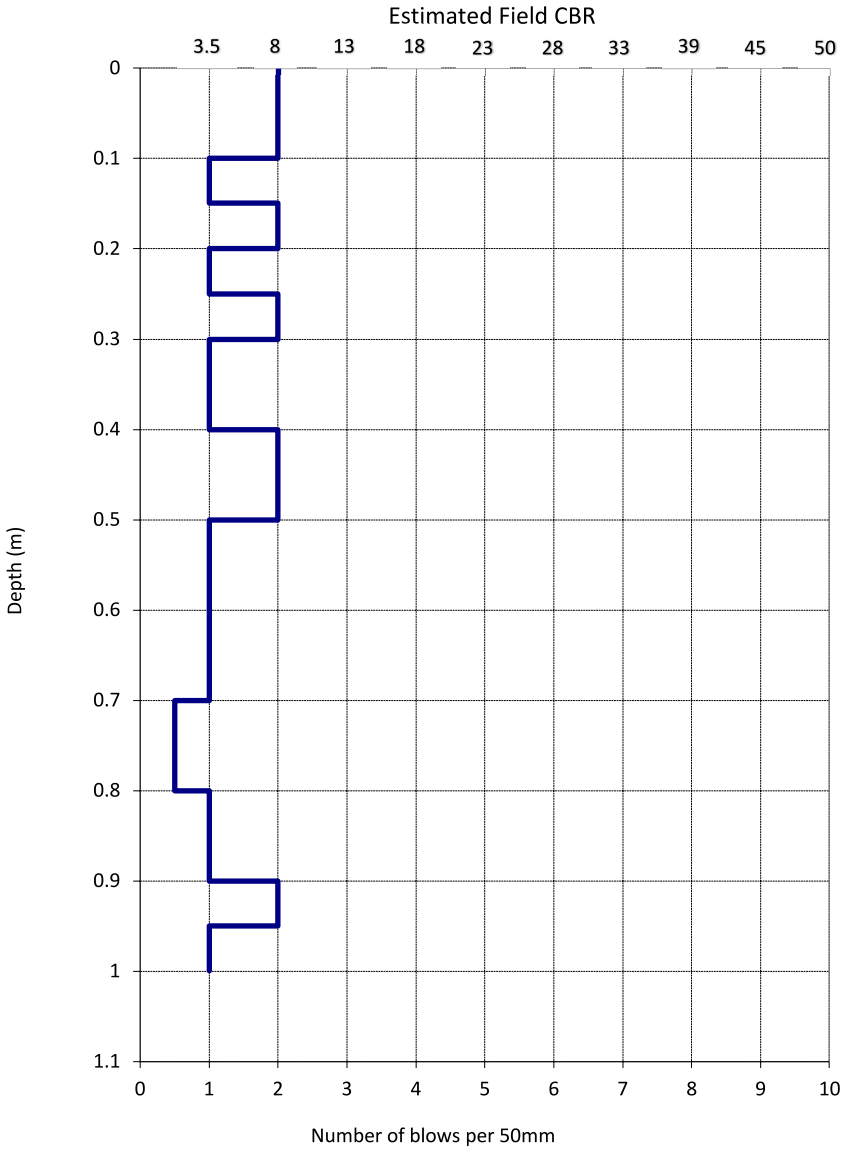
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 9	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	20

Chainage	Offset	Lane
190	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	2
250	250	1
300	300	2
350	350	1
400	400	1
450	450	2
500	500	2
550	550	1
600	600	1
650	650	1
700	700	1
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	2
1000	1000	1



Test Remarks

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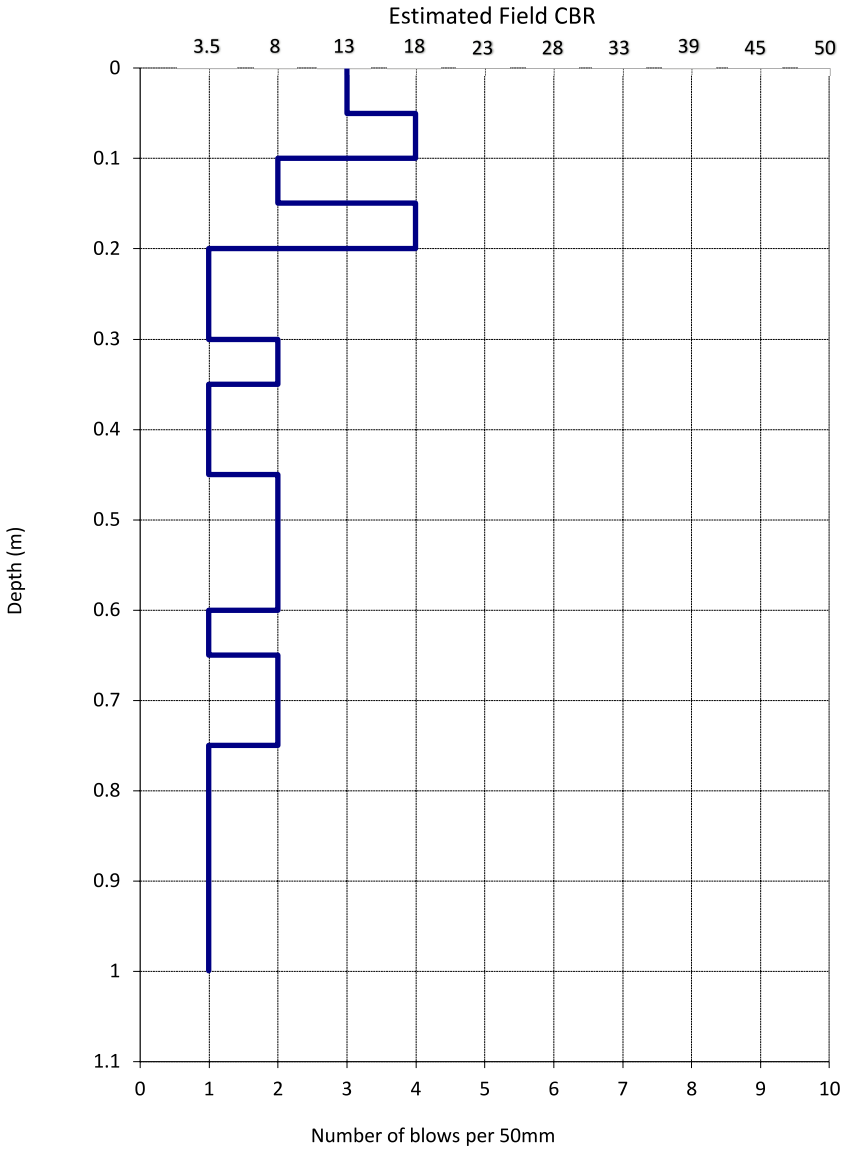
69.21

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	21

Chainage	Offset	Lane
10		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	4
150	150	2
200	200	4
250	250	1
300	300	1
350	350	2
400	400	1
450	450	1
500	500	2
550	550	2
600	600	2
650	650	1
700	700	2
750	750	2
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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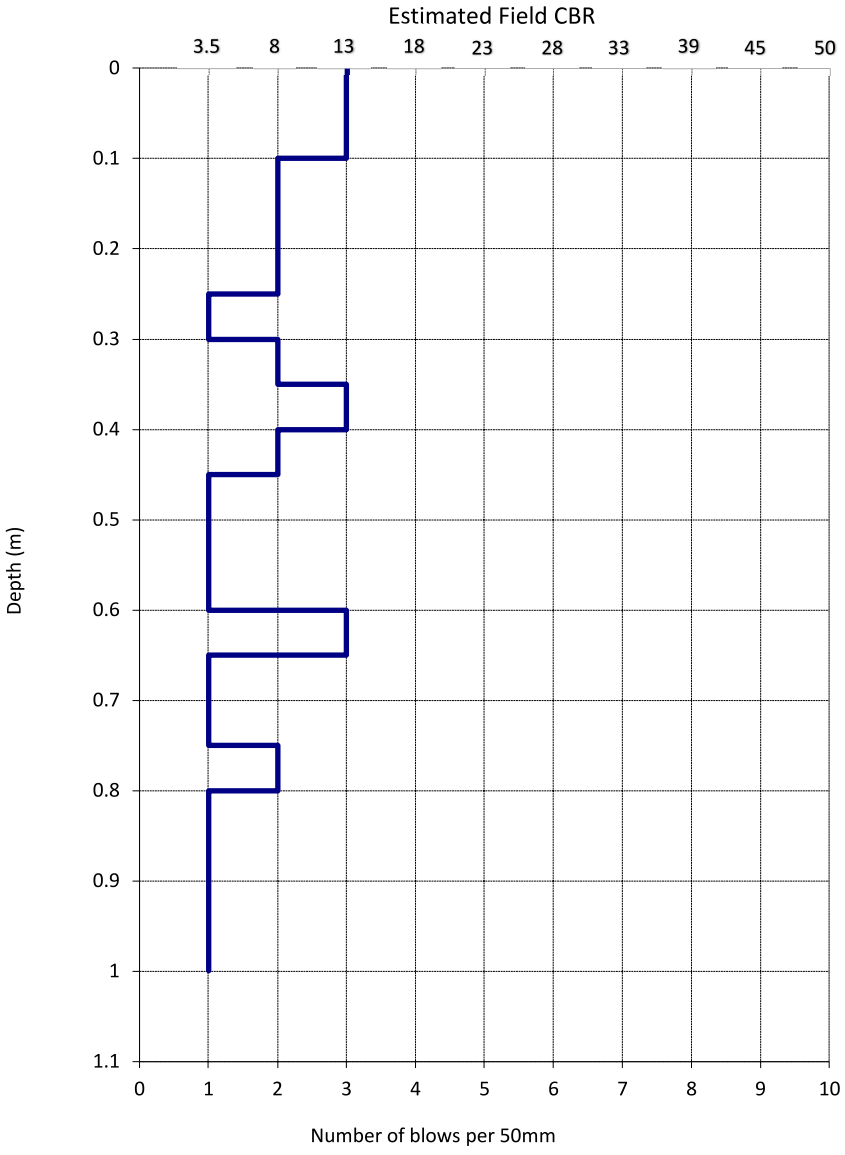
69.22

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	22

Chainage	Offset	Lane
20		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	2
250	250	2
300	300	1
350	350	2
400	400	3
450	450	2
500	500	1
550	550	1
600	600	1
650	650	3
700	700	1
750	750	1
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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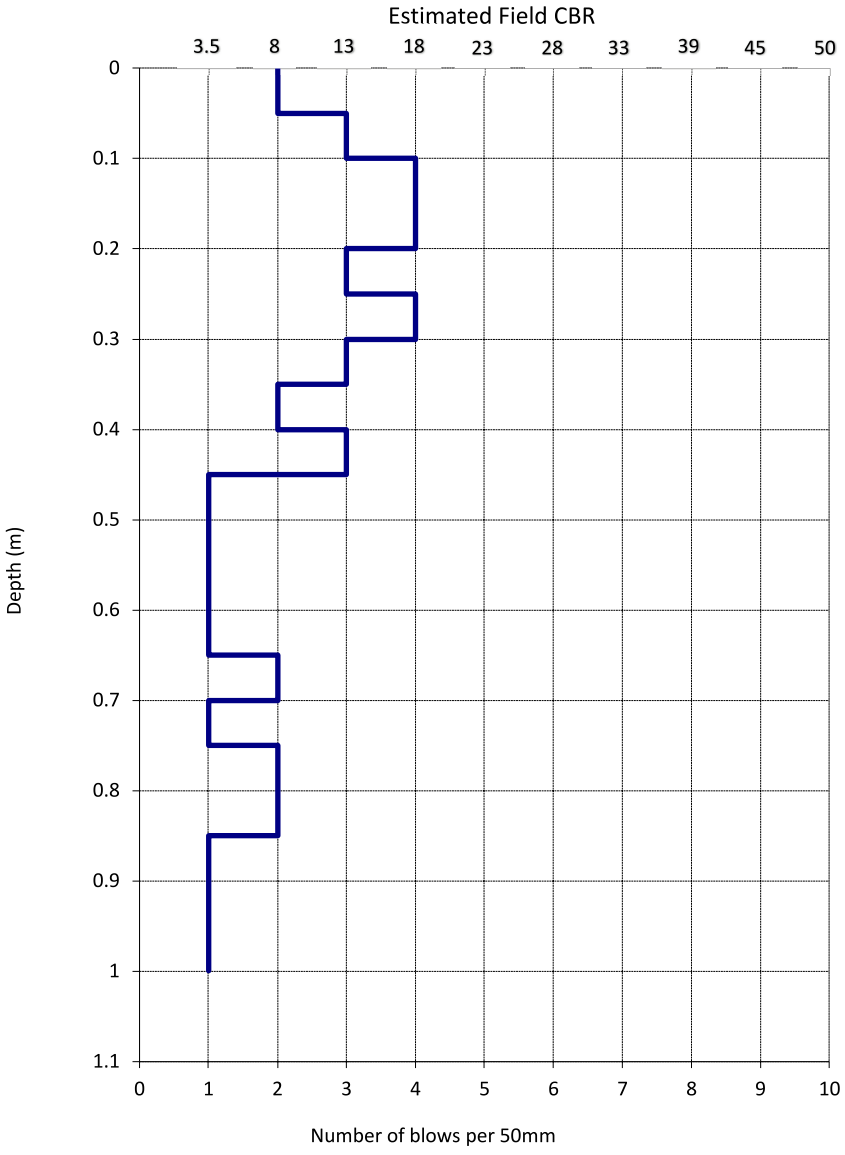
69.23

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	23

Chainage	Offset	Lane
30		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	4
200	200	4
250	250	3
300	300	4
350	350	3
400	400	2
450	450	3
500	500	1
550	550	1
600	600	1
650	650	1
700	700	2
750	750	1
800	800	2
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
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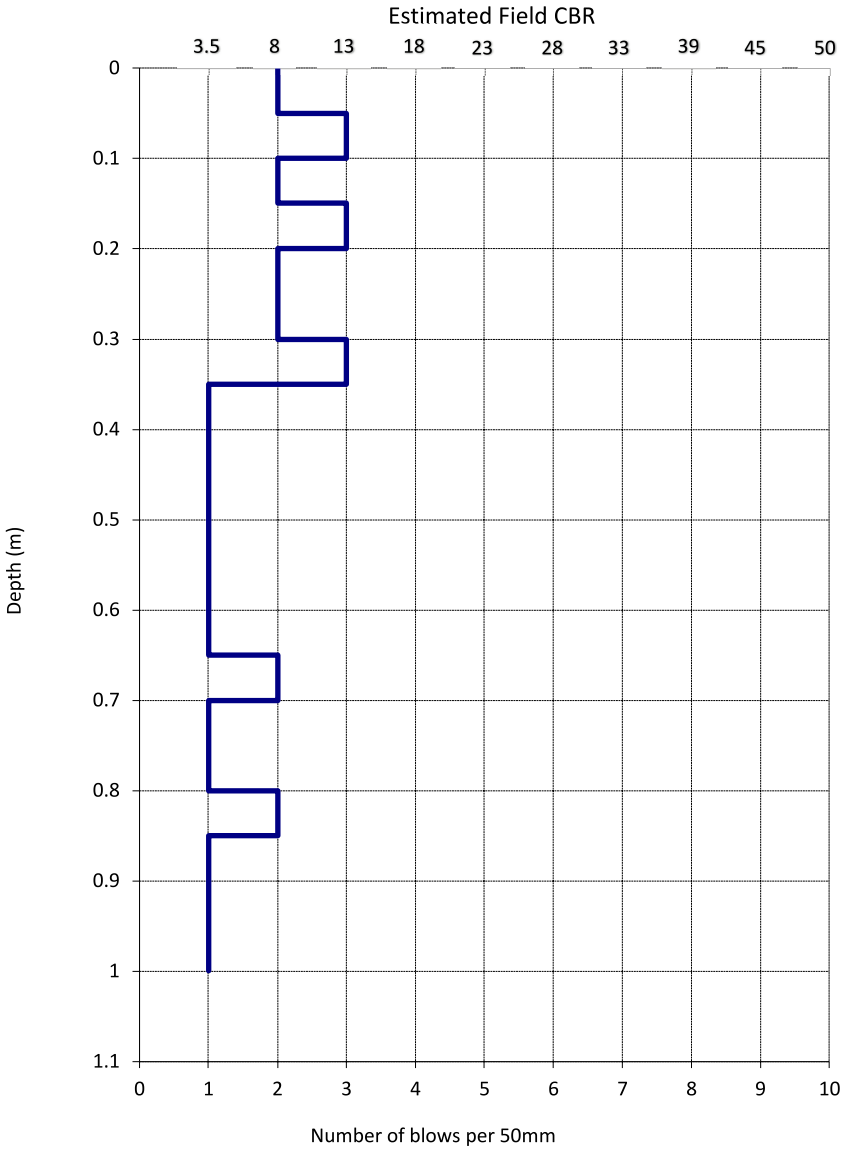
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	24

Chainage	Offset	Lane
40		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	2
200	200	3
250	250	2
300	300	2
350	350	3
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	2
750	750	1
800	800	1
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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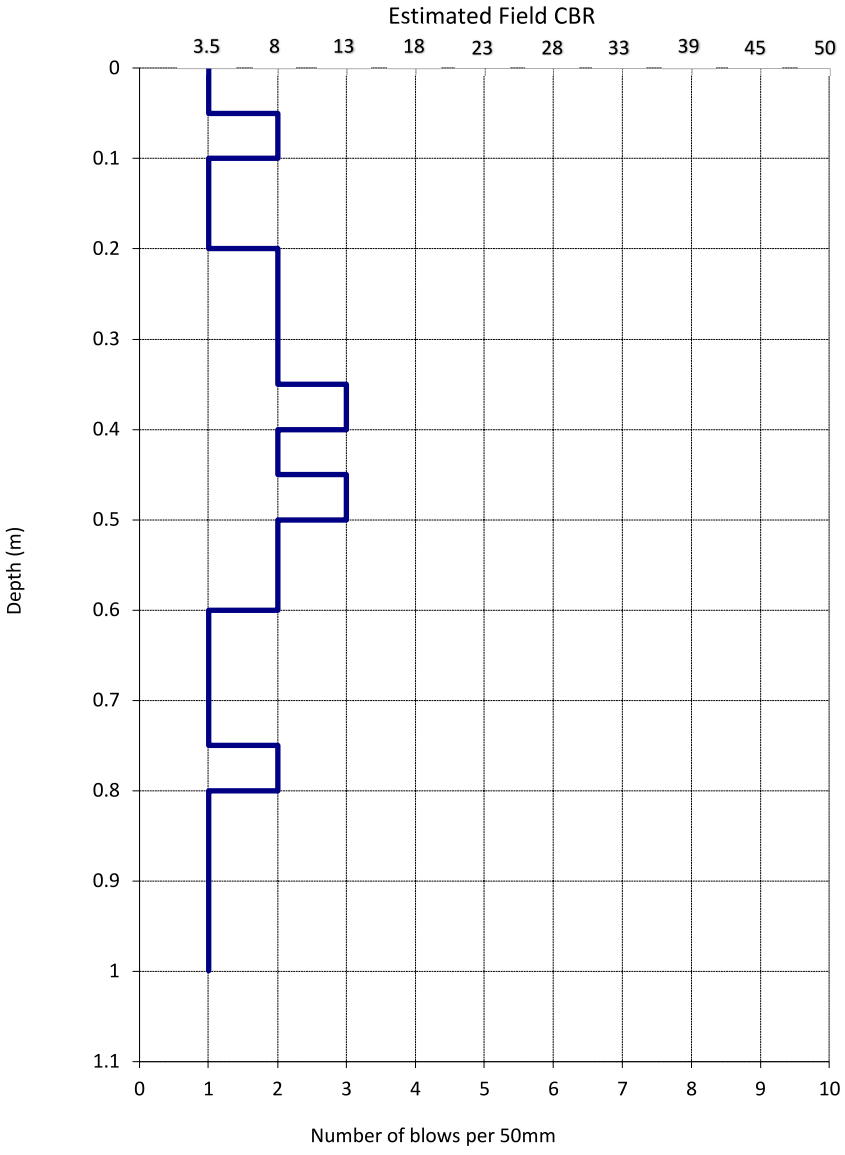
Lab Ref/URN: 69.25

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	25

Chainage	Offset	Lane
50		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	1
200	200	1
250	250	2
300	300	2
350	350	2
400	400	3
450	450	2
500	500	3
550	550	2
600	600	2
650	650	1
700	700	1
750	750	1
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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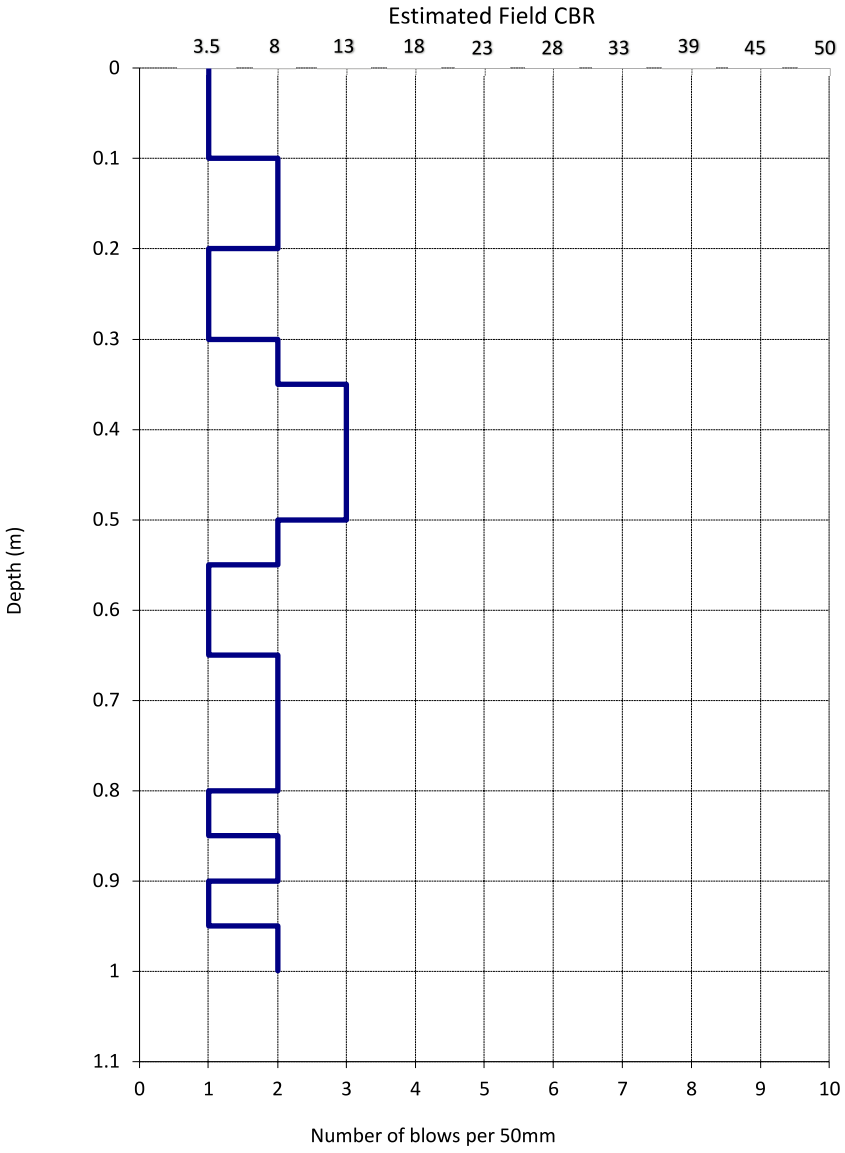
Lab Ref/URN: 69.26

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	26

Chainage	Offset	Lane
60		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	2
250	250	1
300	300	1
350	350	2
400	400	3
450	450	3
500	500	3
550	550	2
600	600	1
650	650	1
700	700	2
750	750	2
800	800	2
850	850	1
900	900	2
950	950	1
1000	1000	2



Test Remarks

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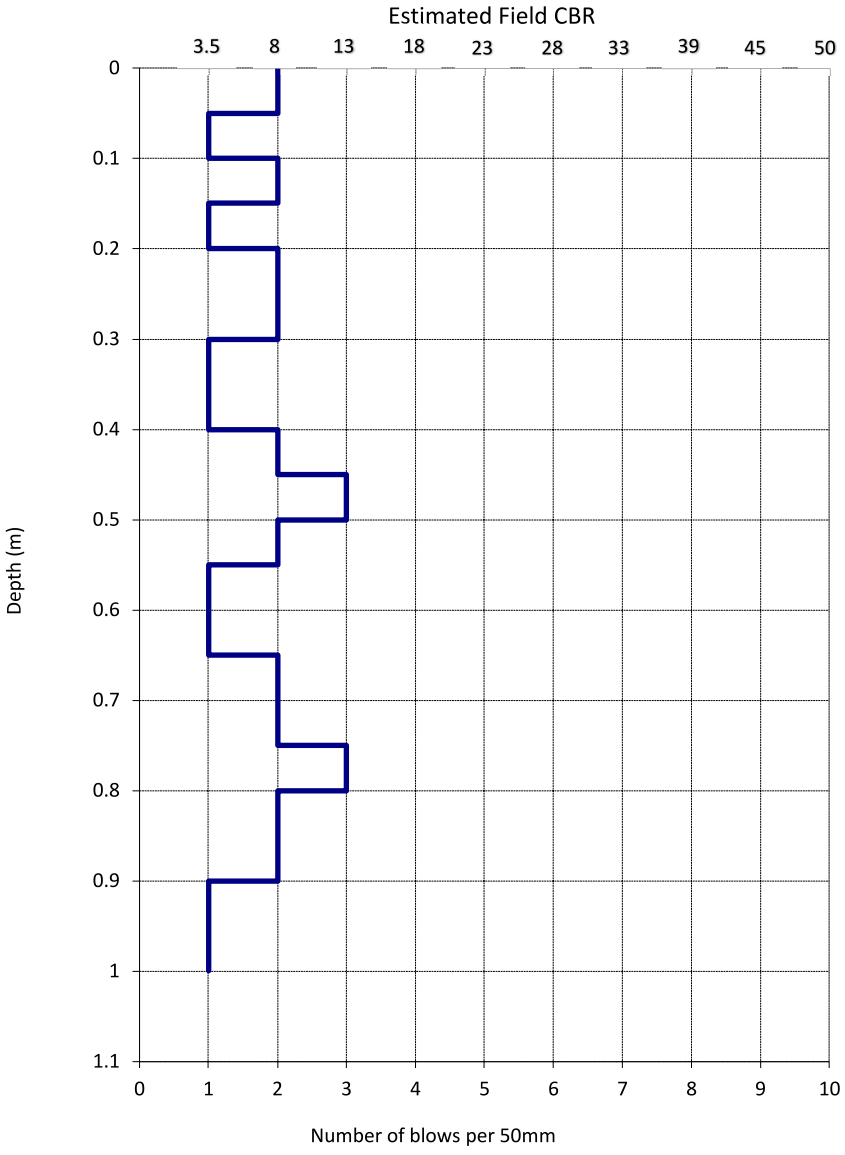
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	27

Chainage	Offset	Lane
80		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	1
250	250	2
300	300	2
350	350	1
400	400	1
450	450	2
500	500	3
550	550	2
600	600	1
650	650	1
700	700	2
750	750	2
800	800	3
850	850	2
900	900	2
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 69.28

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	28

Chainage	Offset	Lane
90		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	2
200	200	1
250	250	1
300	300	2
350	350	1
400	400	1
450	450	2
500	500	2
550	550	3
600	600	2
650	650	3
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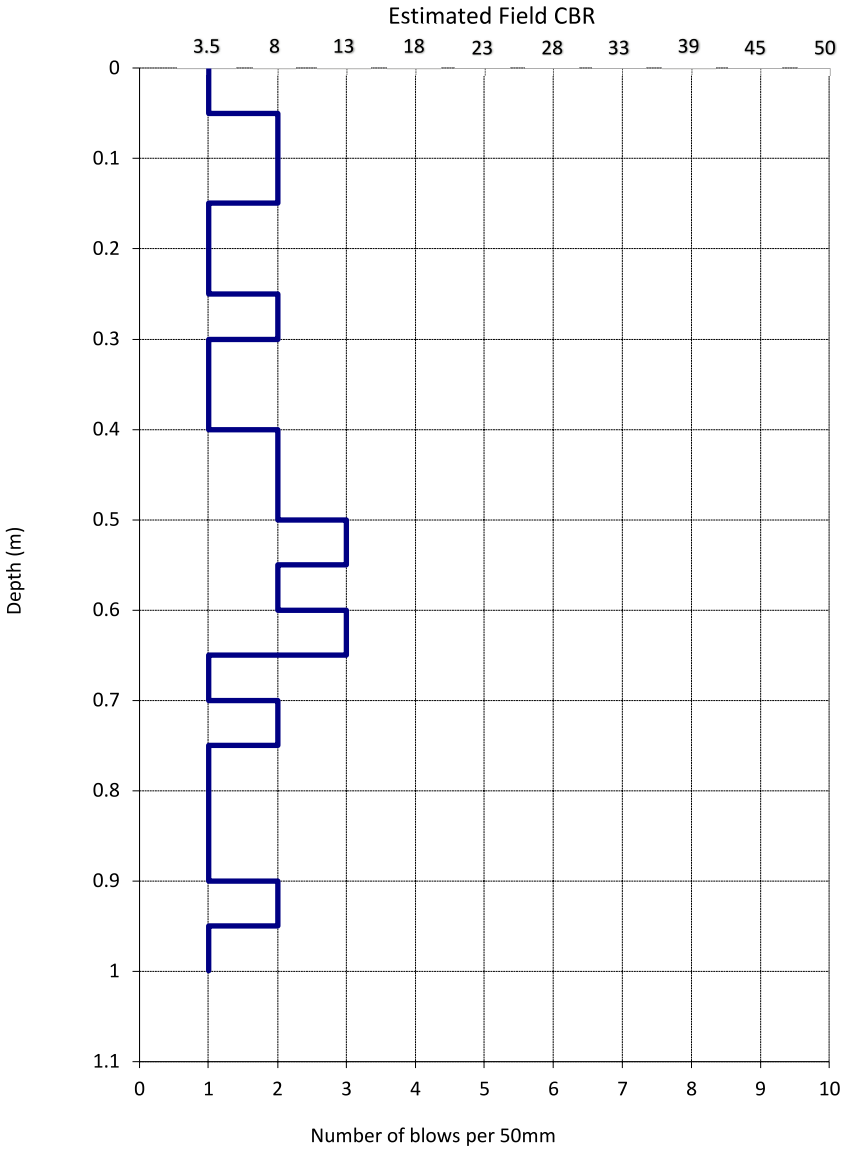
800	800	1
850	850	1
900	900	1
950	950	2
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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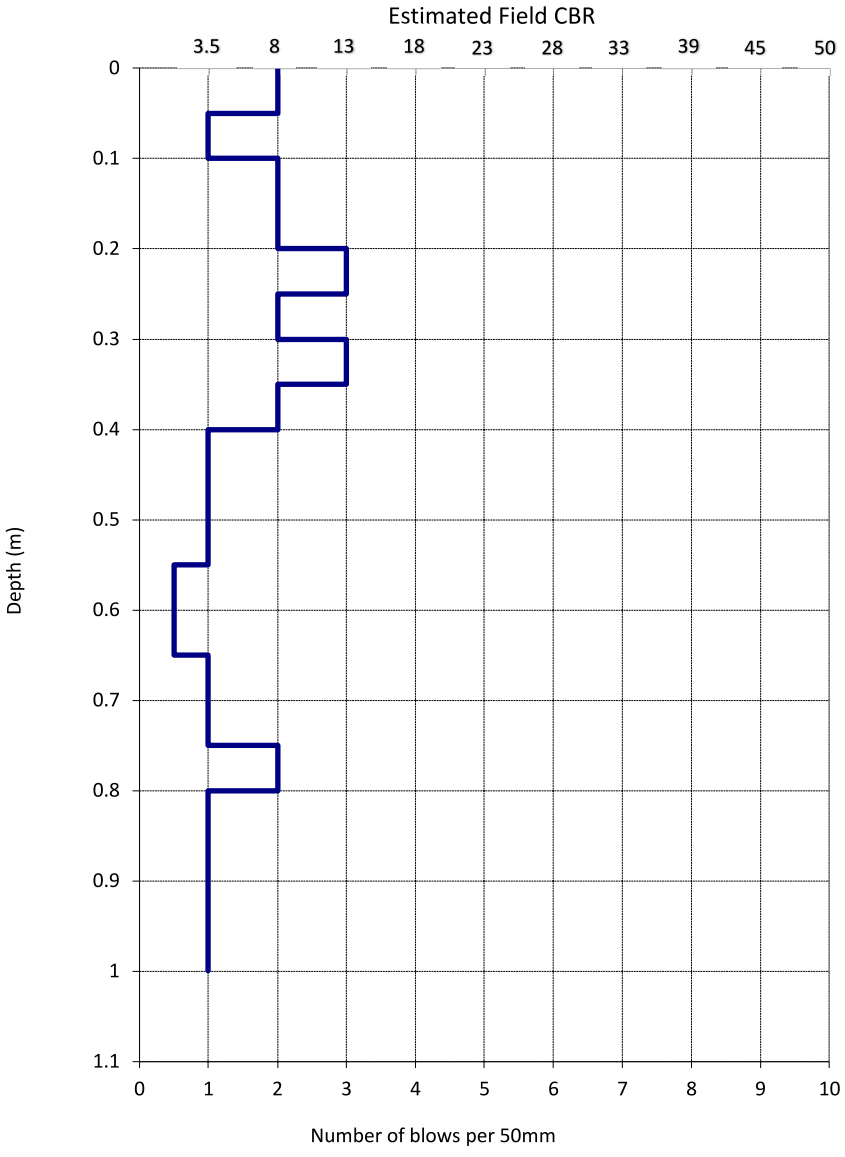
Lab Ref/URN: 69.29

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	29

Chainage	Offset	Lane
100		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	2
250	250	3
300	300	2
350	350	3
400	400	2
450	450	1
500	500	1
550	550	1
600	600	0.5
650	650	0.5
700	700	1
750	750	1
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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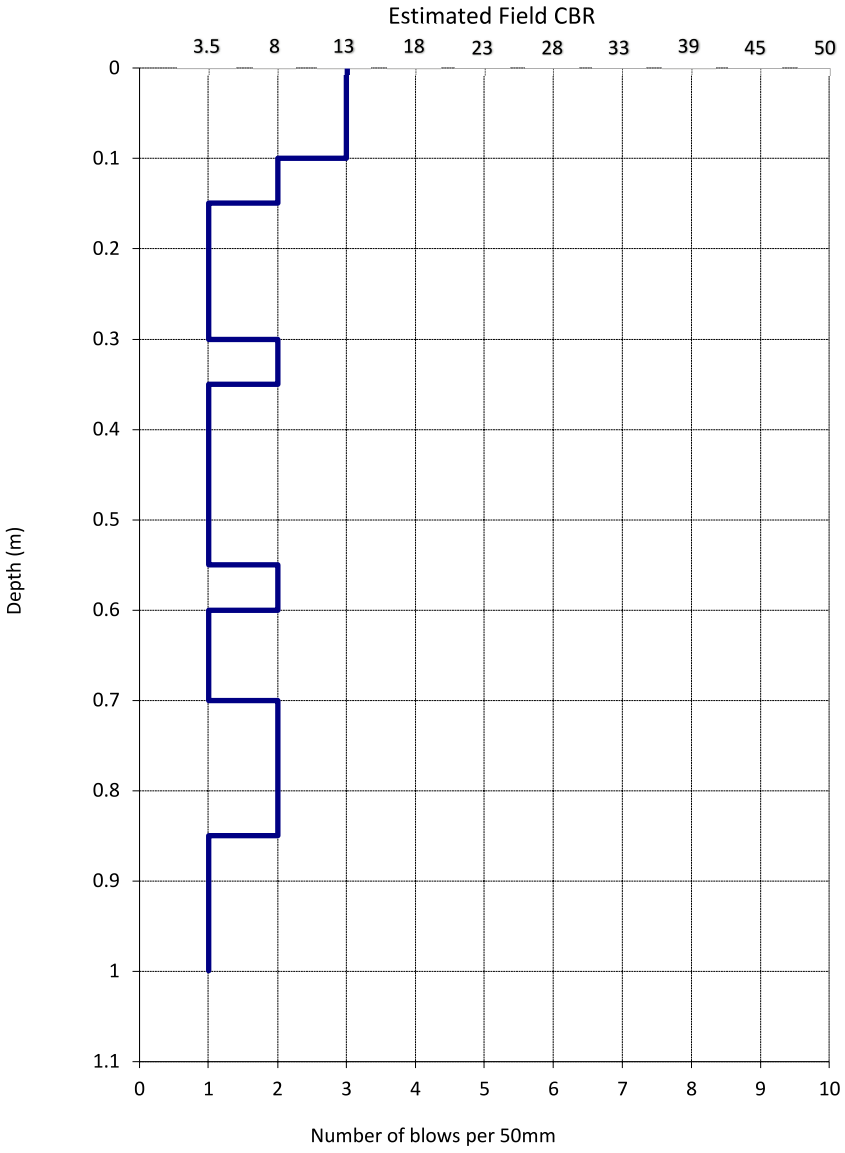
Lab Ref/URN: 69.30

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	30

Chainage	Offset	Lane
110		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	1
250	250	1
300	300	1
350	350	2
400	400	1
450	450	1
500	500	1
550	550	1
600	600	2
650	650	1
700	700	1
750	750	2
800	800	2
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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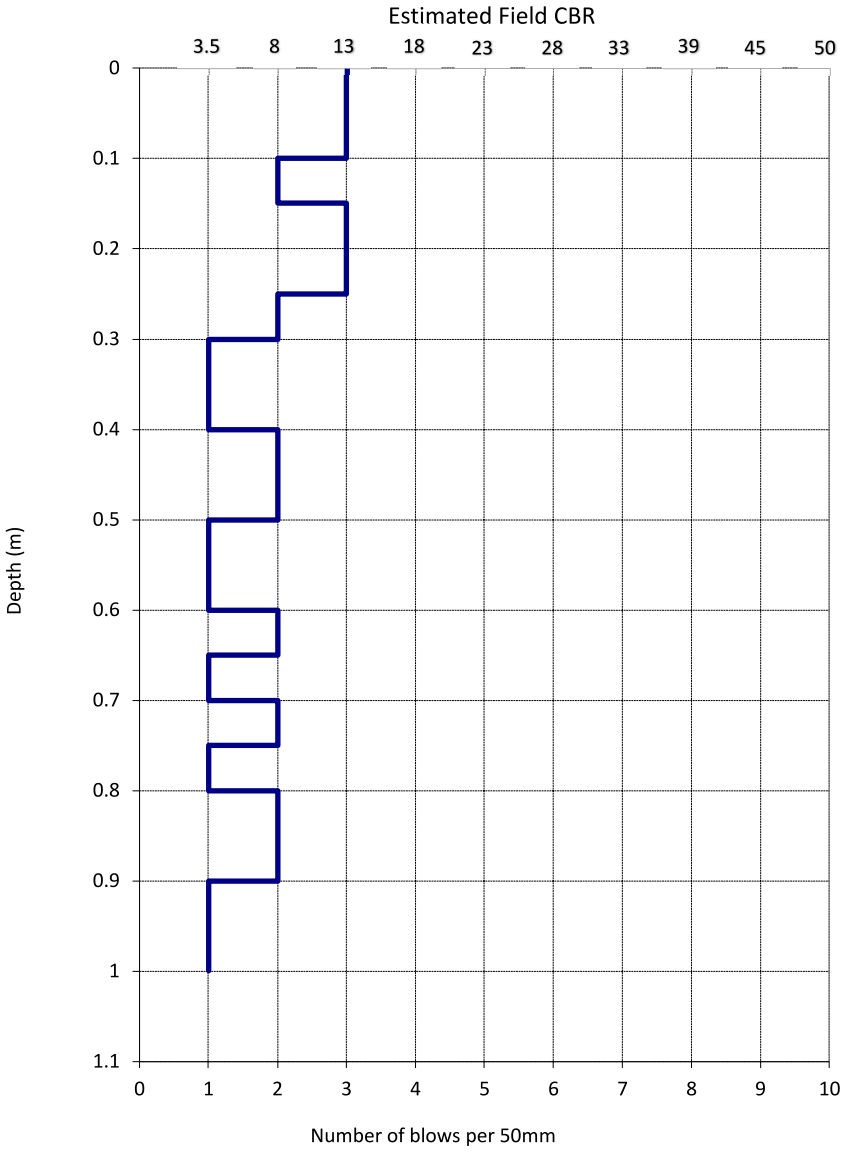
Lab Ref/URN: 69.31

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	31

Chainage	Offset	Lane
120		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	2
200	200	3
250	250	3
300	300	2
350	350	1
400	400	1
450	450	2
500	500	2
550	550	1
600	600	1
650	650	2
700	700	1
750	750	2
800	800	1
850	850	2
900	900	2
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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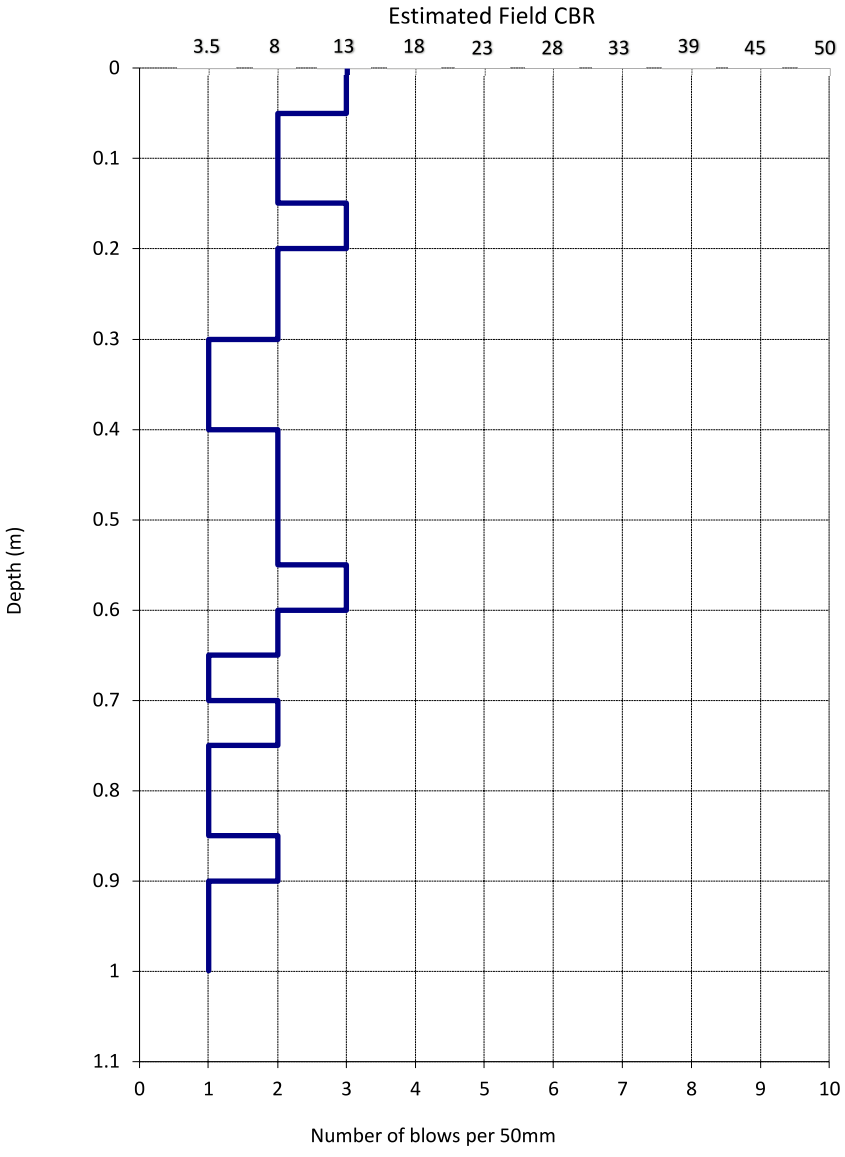
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	32

Chainage	Offset	Lane
140		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	2
150	150	2
200	200	3
250	250	2
300	300	2
350	350	1
400	400	1
450	450	2
500	500	2
550	550	2
600	600	3
650	650	2
700	700	1
750	750	2
800	800	1
850	850	1
900	900	2
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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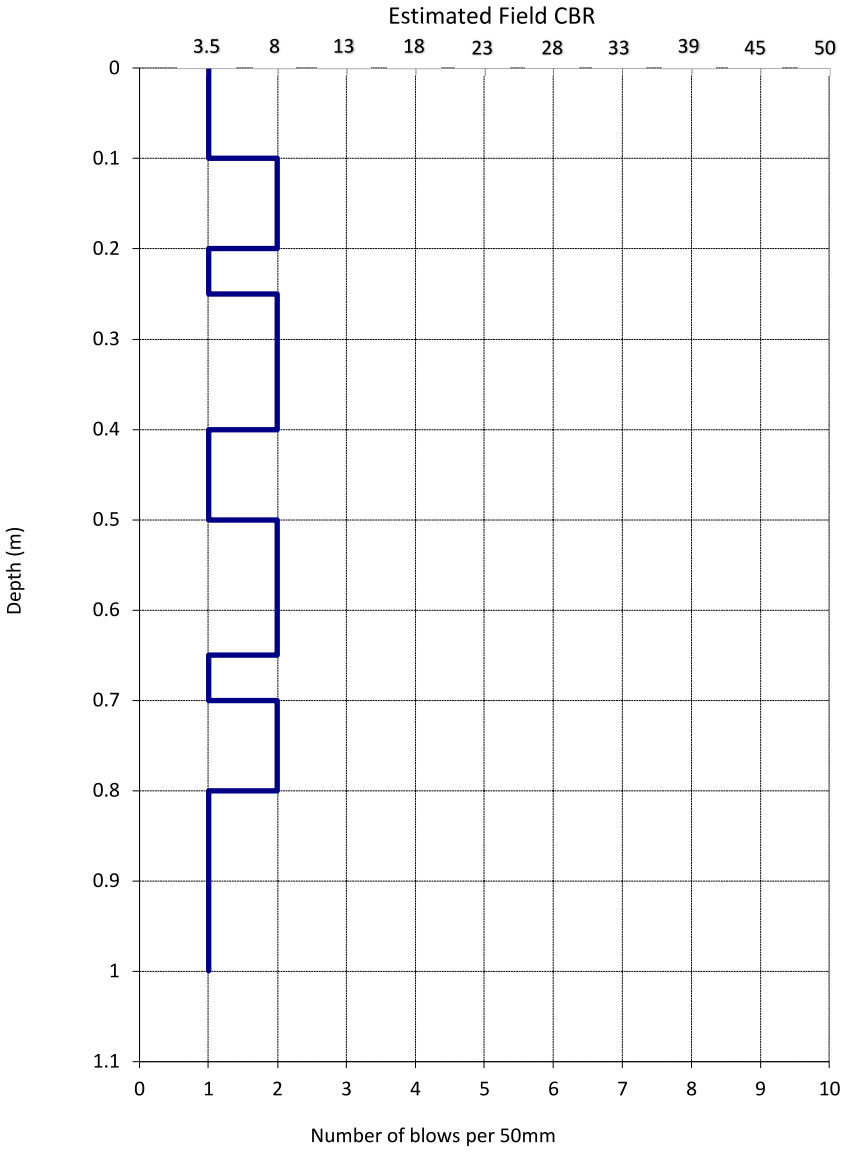
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	33

Chainage	Offset	Lane
150		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	2
250	250	1
300	300	2
350	350	2
400	400	2
450	450	1
500	500	1
550	550	2
600	600	2
650	650	2
700	700	1
750	750	2
800	800	2
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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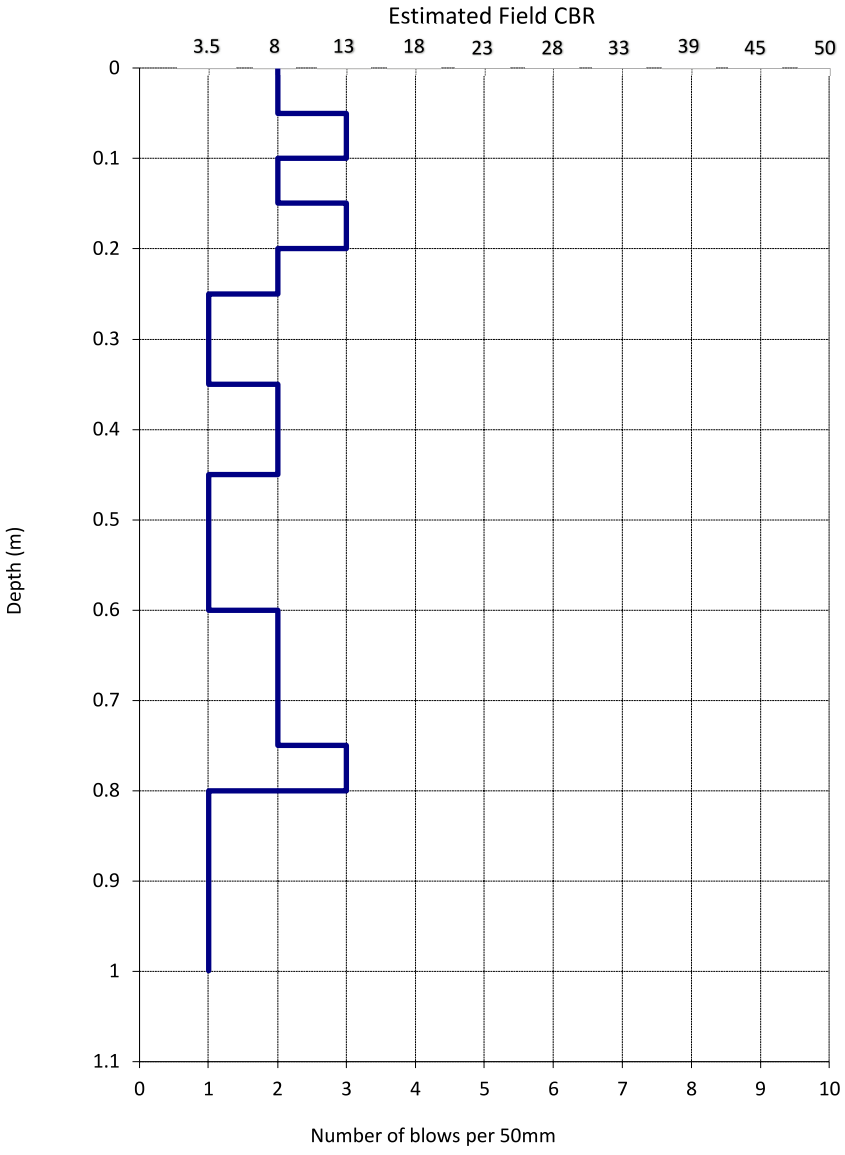
Lab Ref/URN: 69.34

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	34

Chainage	Offset	Lane
160		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	3
150	150	2
200	200	3
250	250	2
300	300	1
350	350	1
400	400	2
450	450	2
500	500	1
550	550	1
600	600	1
650	650	2
700	700	2
750	750	2
800	800	3
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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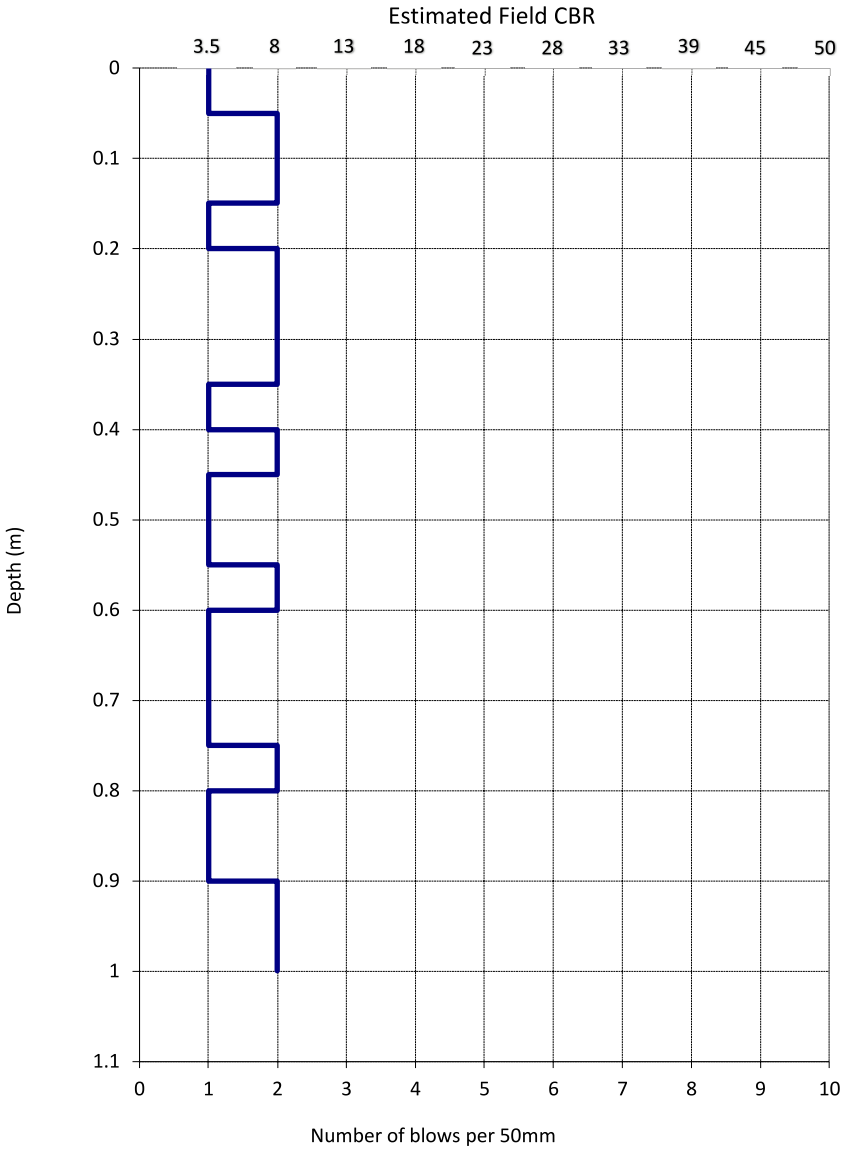
Lab Ref/URN: 69.35

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	35

Chainage	Offset	Lane
170		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	2
200	200	1
250	250	2
300	300	2
350	350	2
400	400	1
450	450	2
500	500	1
550	550	1
600	600	2
650	650	1
700	700	1
750	750	1
800	800	2
850	850	1
900	900	1
950	950	2
1000	1000	2



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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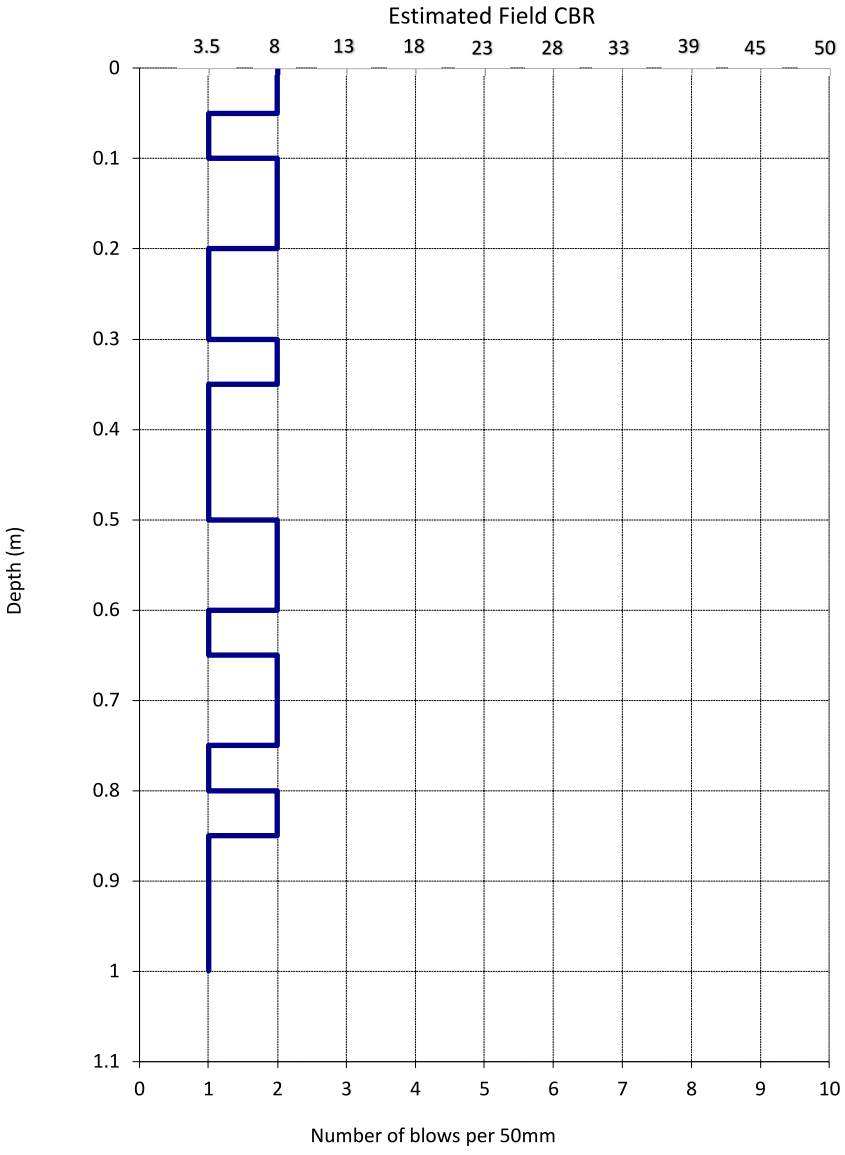
Lab Ref/URN: 69.36

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	36

Chainage	Offset	Lane
180		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	2
200	200	2
250	250	1
300	300	1
350	350	2
400	400	1
450	450	1
500	500	1
550	550	2
600	600	2
650	650	1
700	700	2
750	750	2
800	800	1
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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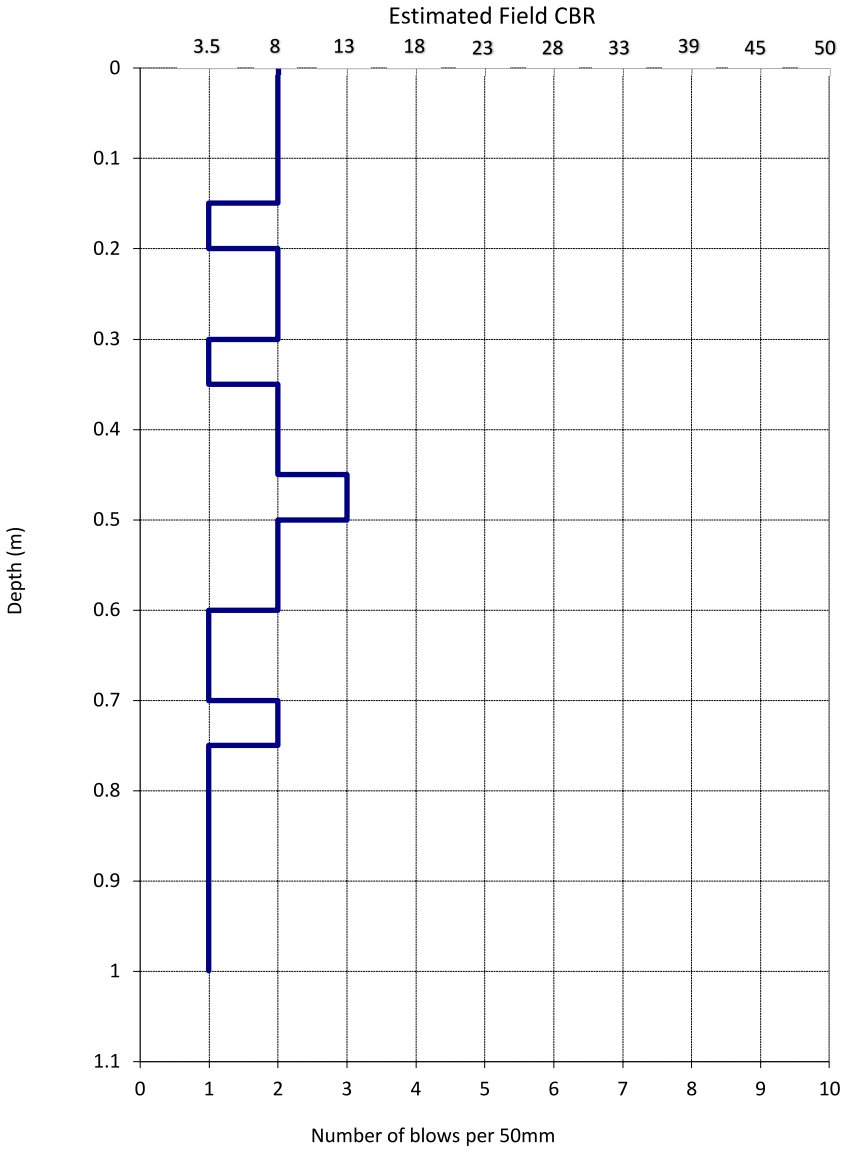
Lab Ref/URN: 69.37

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 8	Material Source	In Situ
Material Description	clayey SILT	Test Series	DCP 1-37
Depth from ground surface to commencement of penetration (m)		Test Number	37

Chainage	Offset	Lane
190		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	2
300	300	2
350	350	1
400	400	2
450	450	2
500	500	3
550	550	2
600	600	2
650	650	1
700	700	1
750	750	2
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



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Tested By	LTB	Date	5/04/2024
Data Entry By	JCHA	Date	9/04/2024
Checked By	JWAL	Date	29/07/2024

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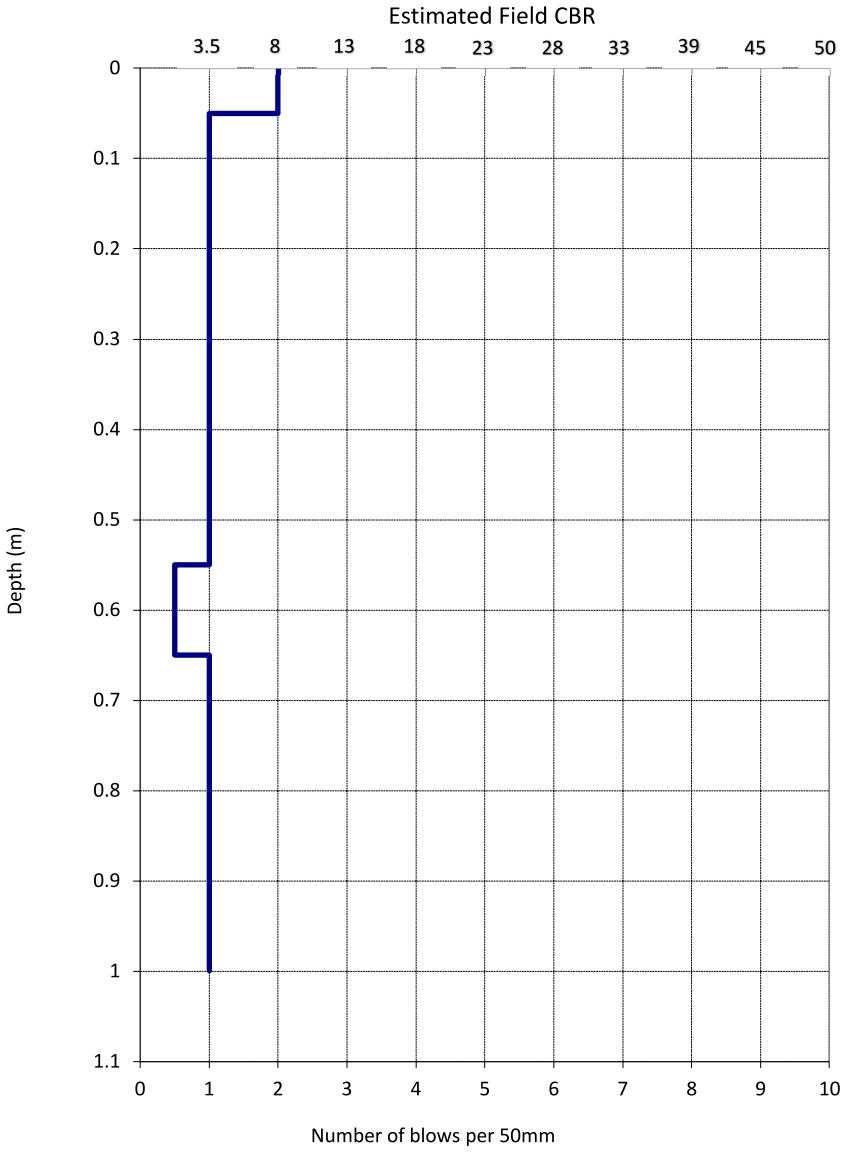
Lab Ref/URN: 70.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	1

Chainage	Offset	Lane
0	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	0.5
650	650	0.5
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN

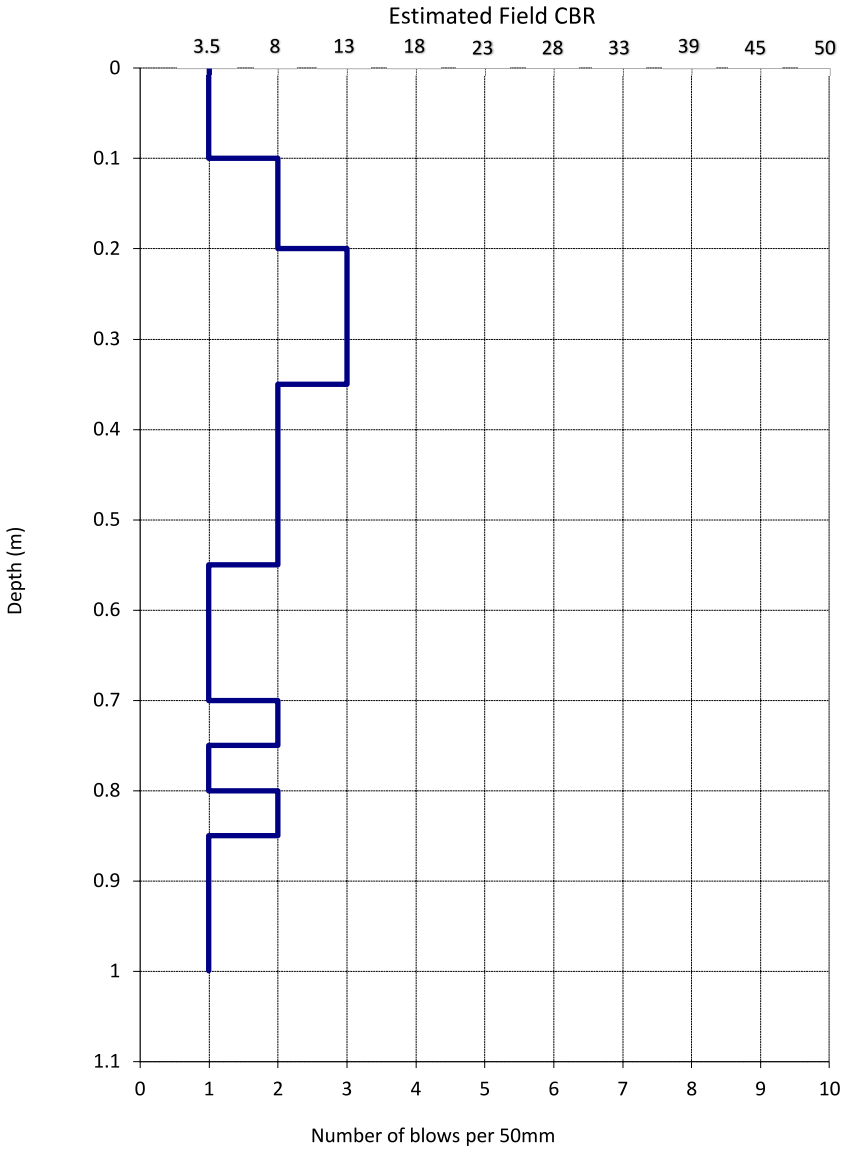
70.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
10	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	2
250	250	3
300	300	3
350	350	3
400	400	2
450	450	2
500	500	2
550	550	2
600	600	1
650	650	1
700	700	1
750	750	2
800	800	1
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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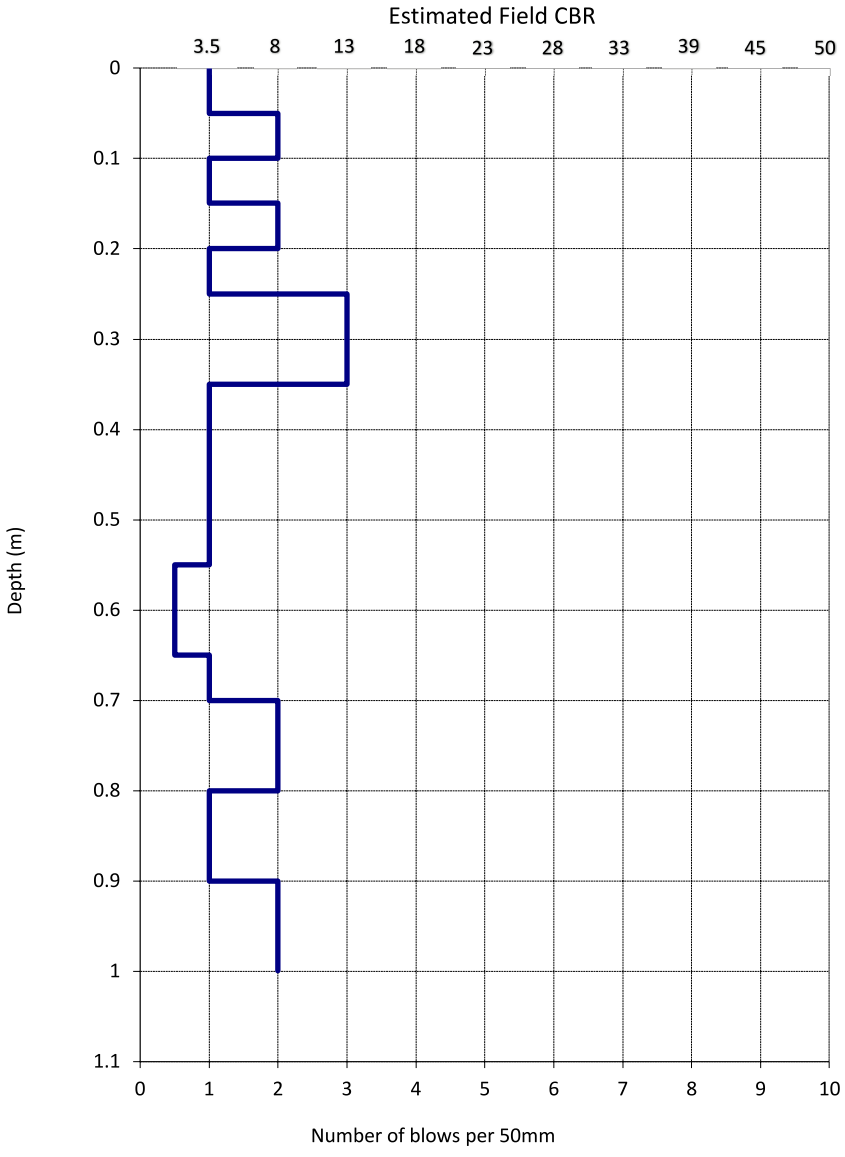
70.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
20	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	1
200	200	2
250	250	1
300	300	3
350	350	3
400	400	1
450	450	1
500	500	1
550	550	1
600	600	0.5
650	650	0.5
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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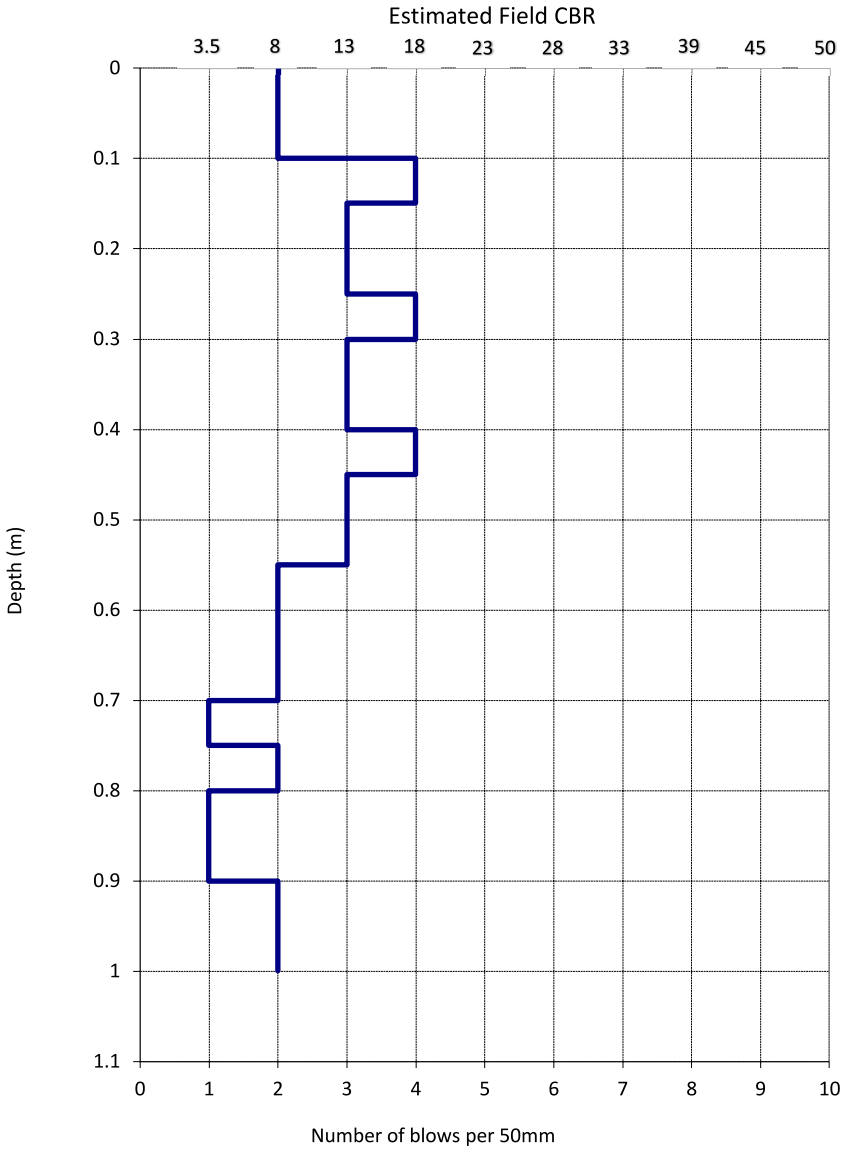
70.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
30	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	4
200	200	3
250	250	3
300	300	4
350	350	3
400	400	3
450	450	4
500	500	3
550	550	3
600	600	2
650	650	2
700	700	2
750	750	1
800	800	2
850	850	1
900	900	1
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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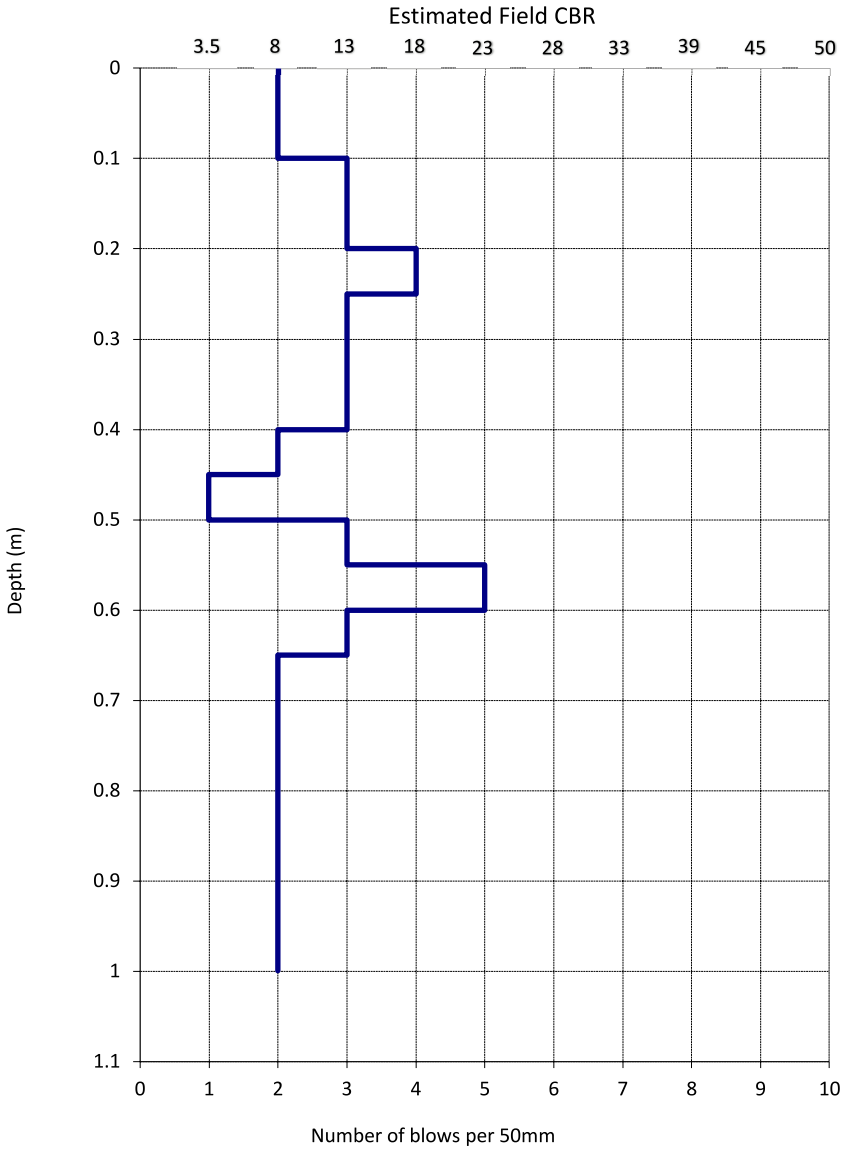
70.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
40	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	3
200	200	3
250	250	4
300	300	3
350	350	3
400	400	3
450	450	2
500	500	1
550	550	3
600	600	5
650	650	3
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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70.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
50	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	3
200	200	3
250	250	4
300	300	4
350	350	4
400	400	5
450	450	2
500	500	2
550	550	3
600	600	3
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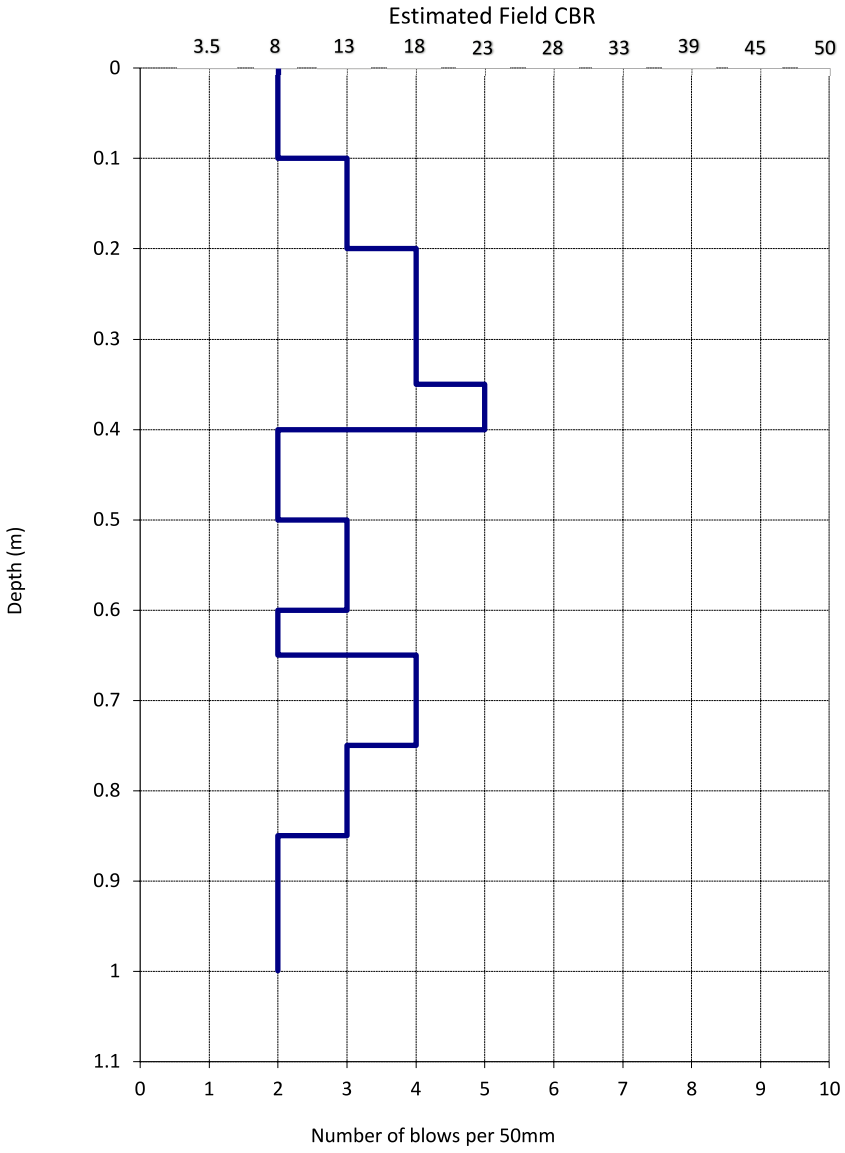
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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70.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
60	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	3
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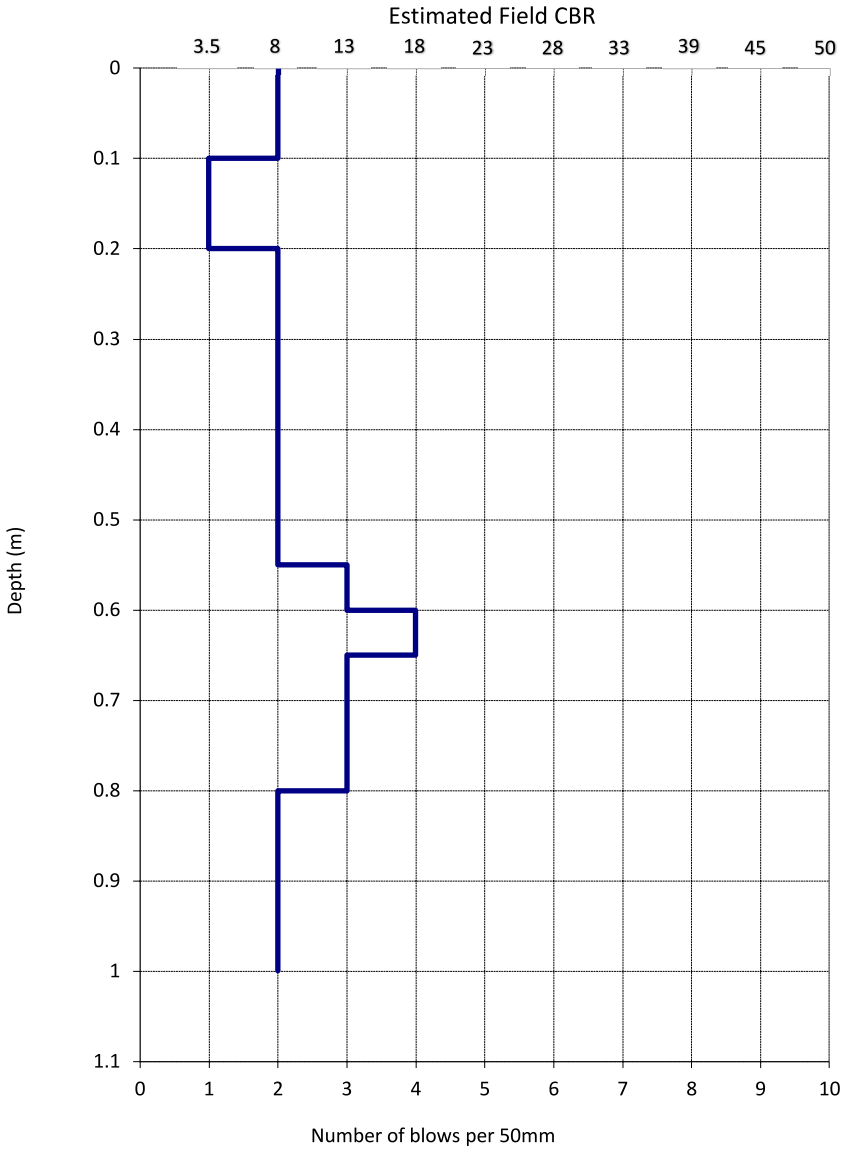
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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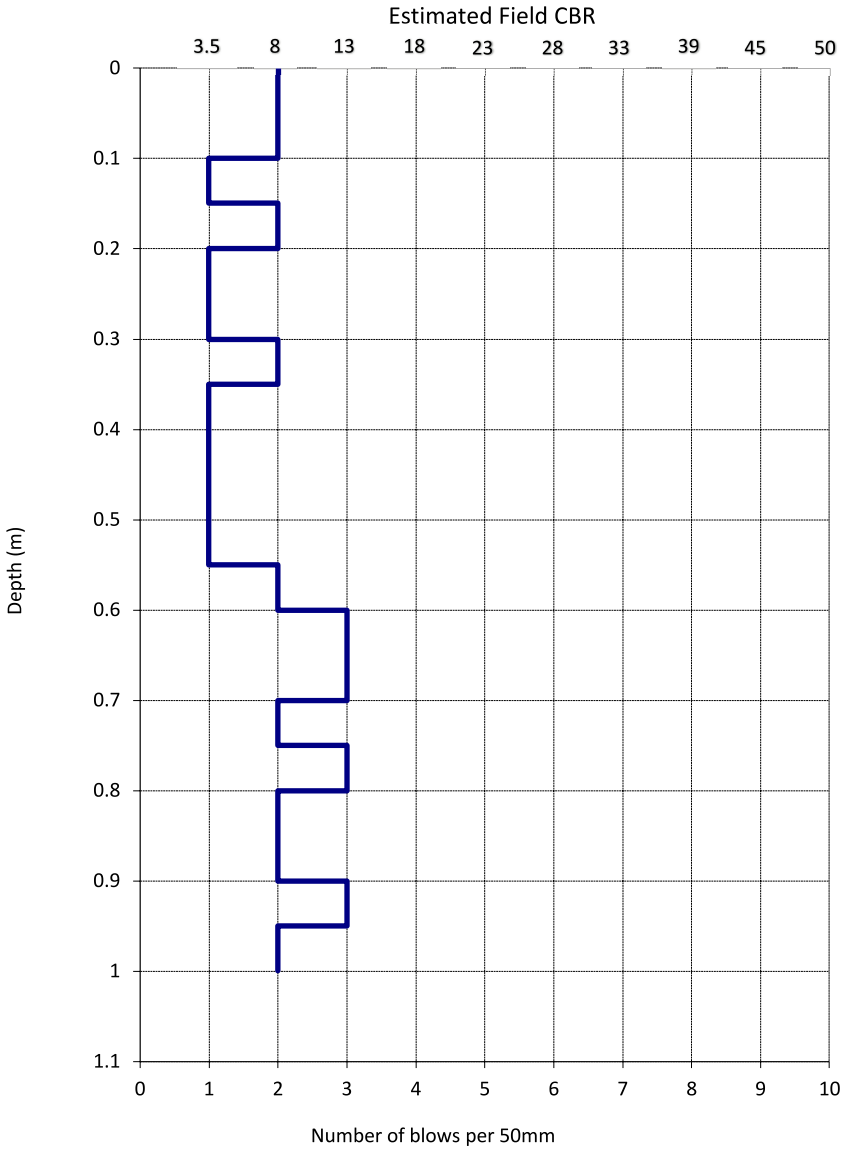
70.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
70	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	2
250	250	1
300	300	1
350	350	2
400	400	1
450	450	1
500	500	1
550	550	1
600	600	2
650	650	3
700	700	3
750	750	2
800	800	3
850	850	2
900	900	2
950	950	3
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
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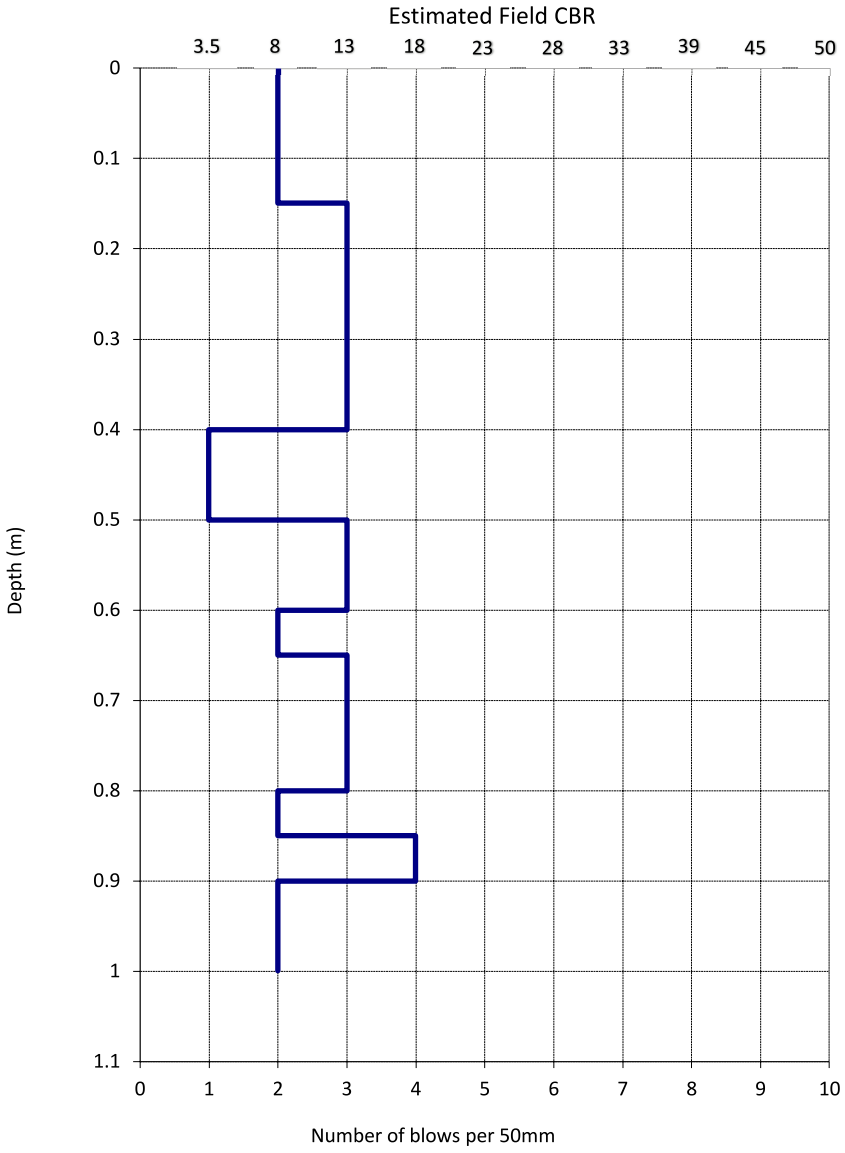
70.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
80	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	3
250	250	3
300	300	3
350	350	3
400	400	3
450	450	1
500	500	1
550	550	3
600	600	3
650	650	2
700	700	3
750	750	3
800	800	3
850	850	2
900	900	4
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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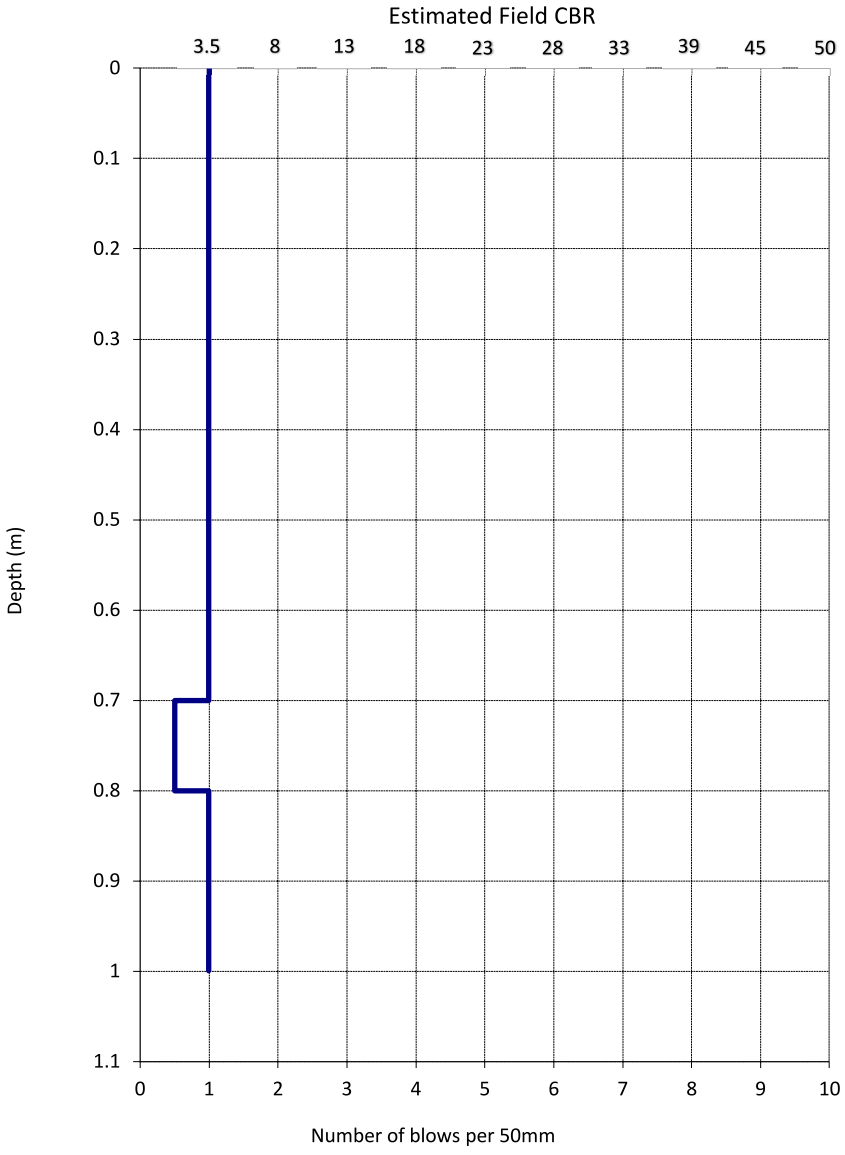
70.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
90	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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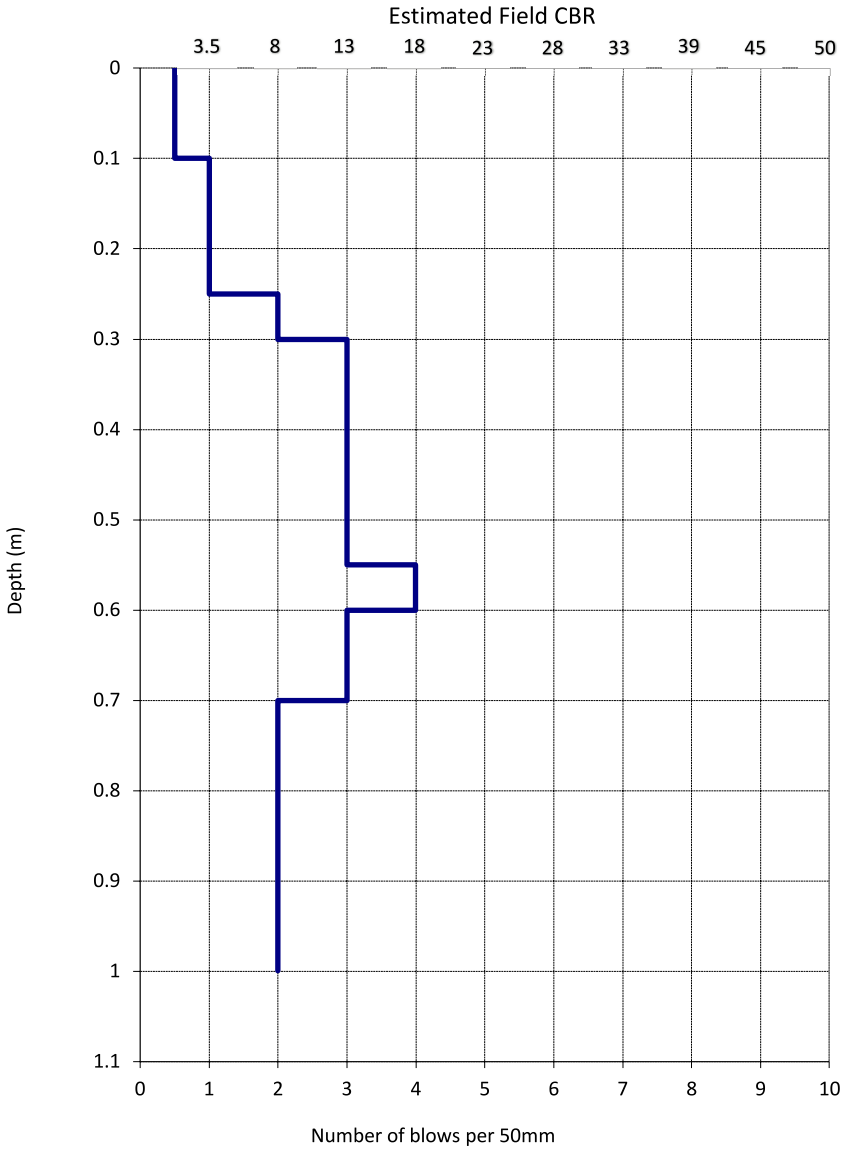
Lab Ref/URN: 70.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
100	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	2
350	350	3
400	400	3
450	450	3
500	500	3
550	550	3
600	600	4
650	650	3
700	700	3
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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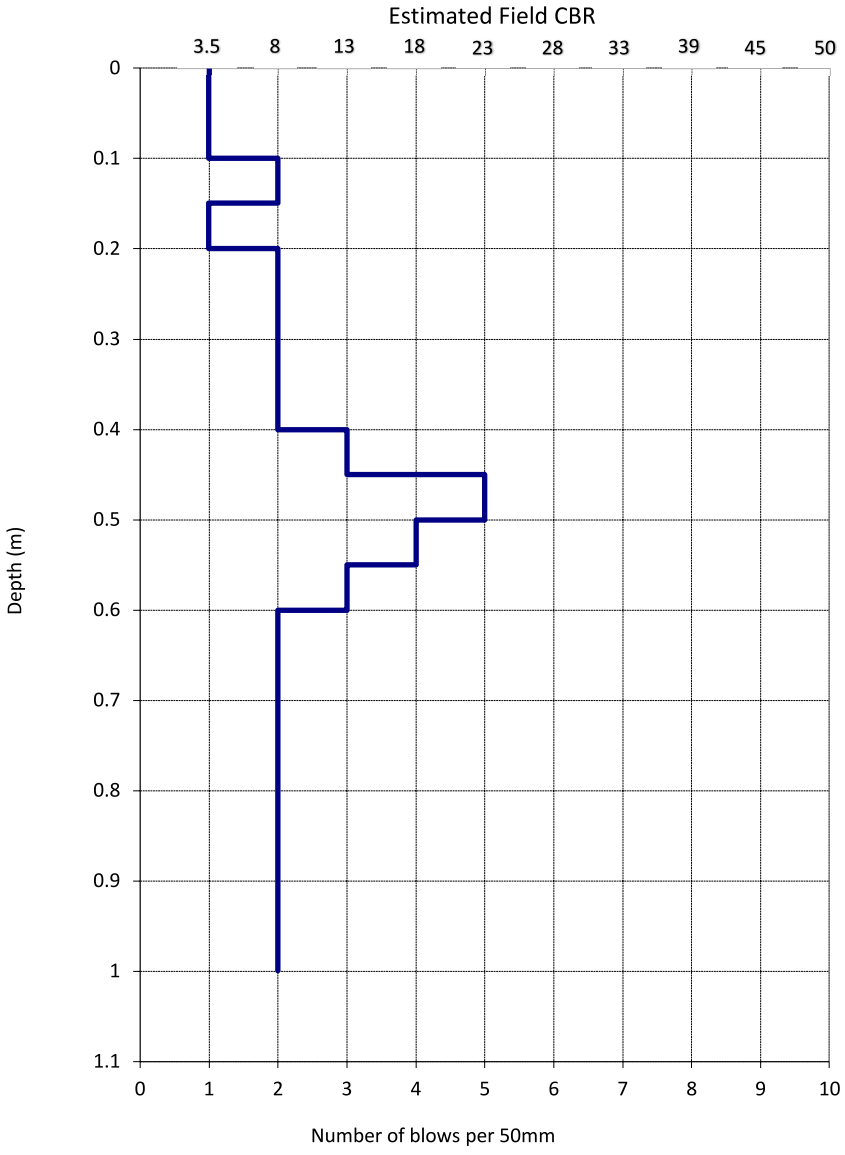
Lab Ref/URN: 70.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
110	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	1
250	250	2
300	300	2
350	350	2
400	400	2
450	450	3
500	500	5
550	550	4
600	600	3
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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70.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
120	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	2
300	300	3
350	350	3
400	400	4
450	450	2
500	500	2
550	550	2
600	600	2
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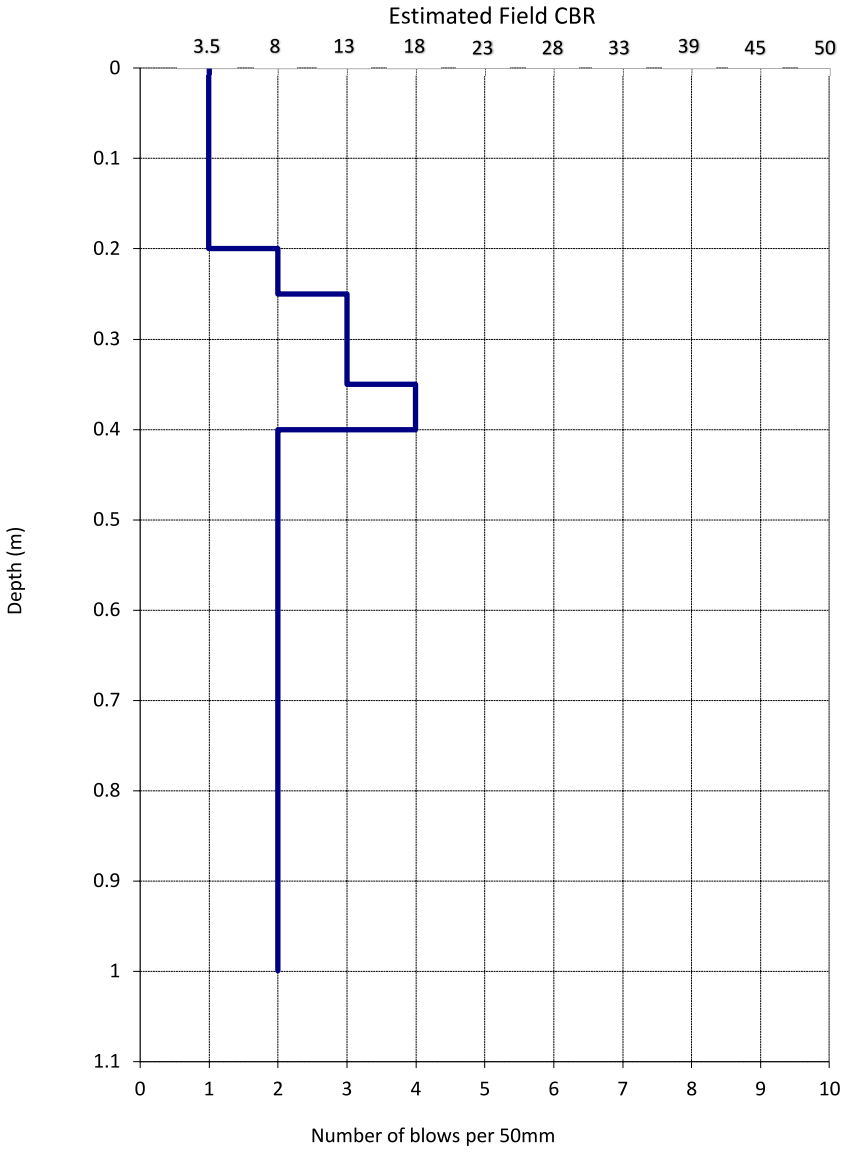
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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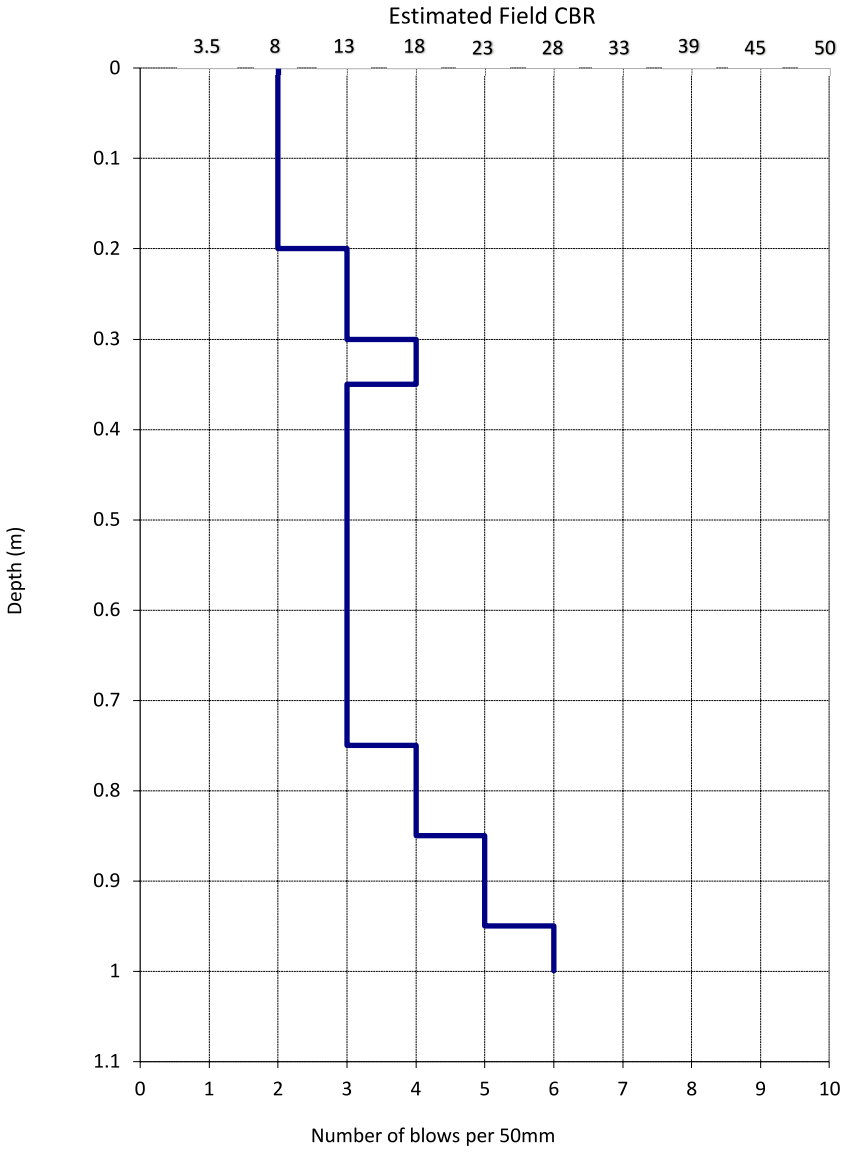
70.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
130	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	2
250	250	3
300	300	3
350	350	4
400	400	3
450	450	3
500	500	3
550	550	3
600	600	3
650	650	3
700	700	3
750	750	3
800	800	4
850	850	4
900	900	5
950	950	5
1000	1000	6



Test Remarks

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Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
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70.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
140	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	3
550	550	3
600	600	3
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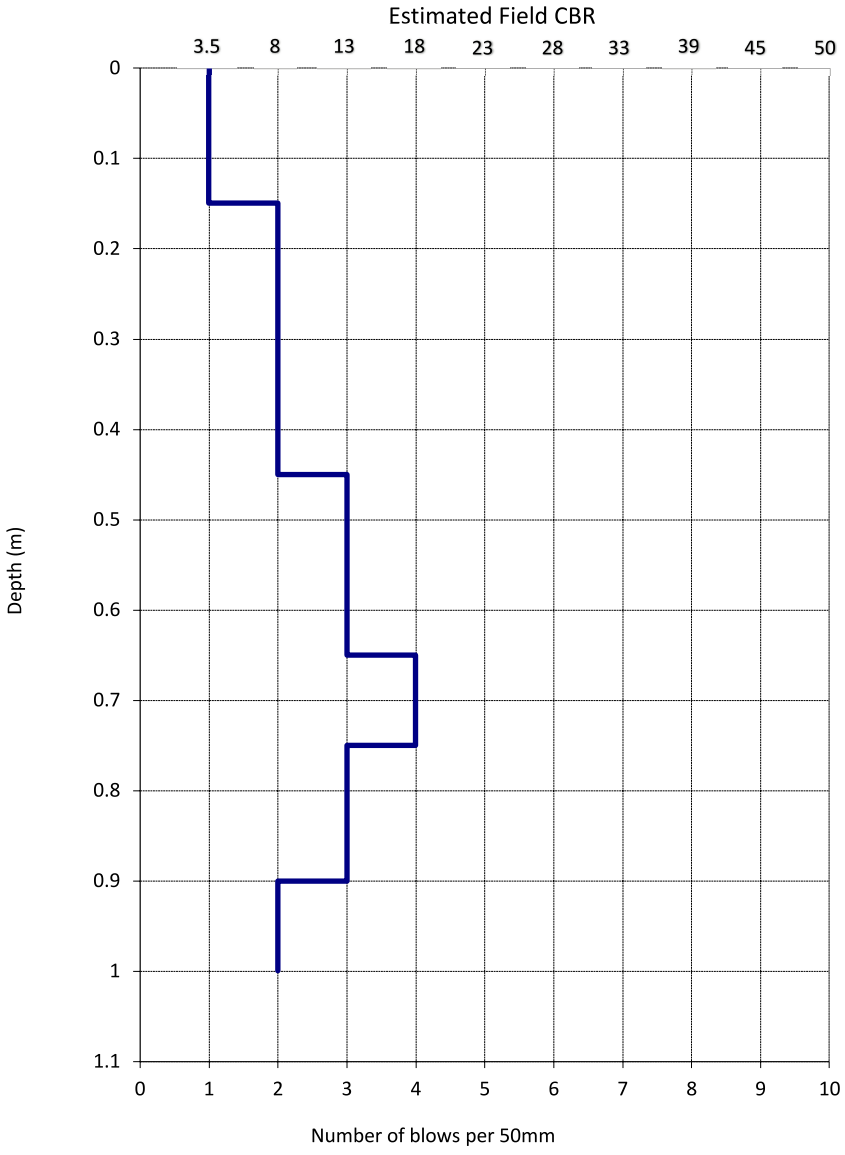
900	900	3
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
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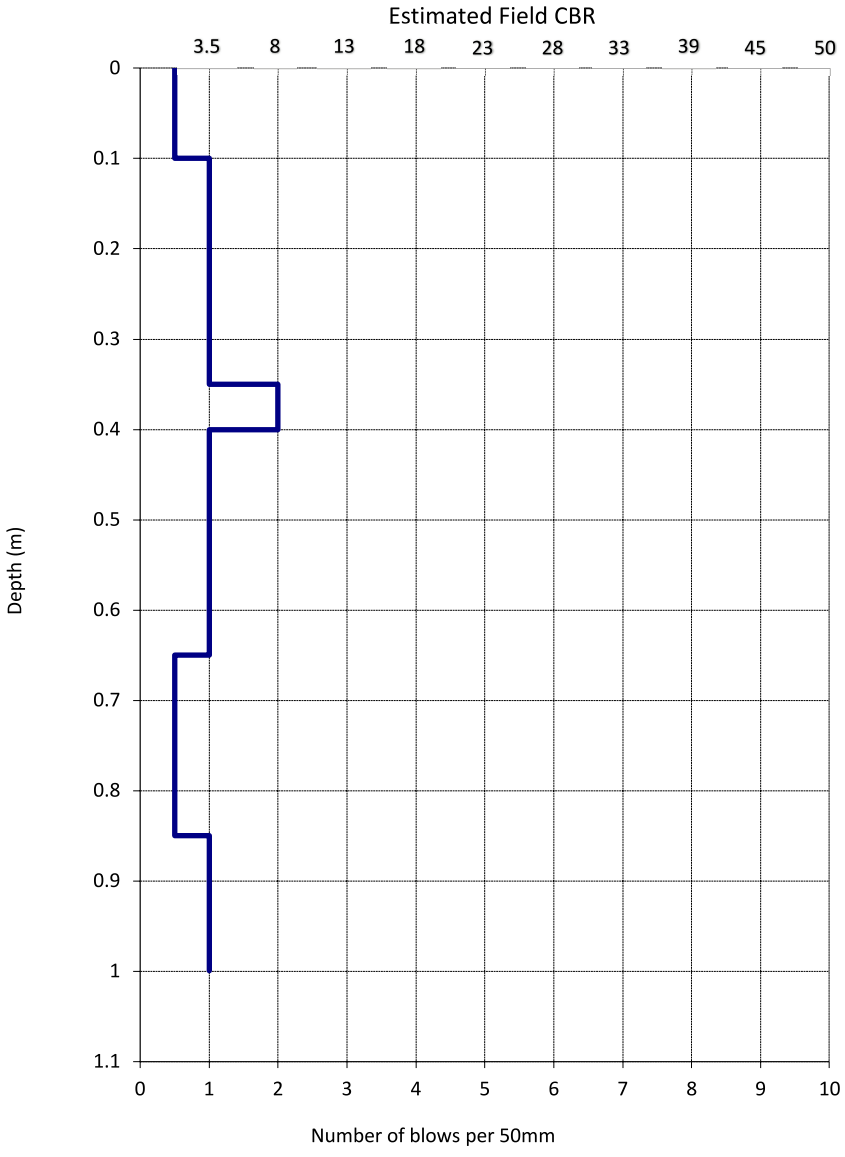
Lab Ref/URN: 70.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	16

Chainage	Offset	Lane
150	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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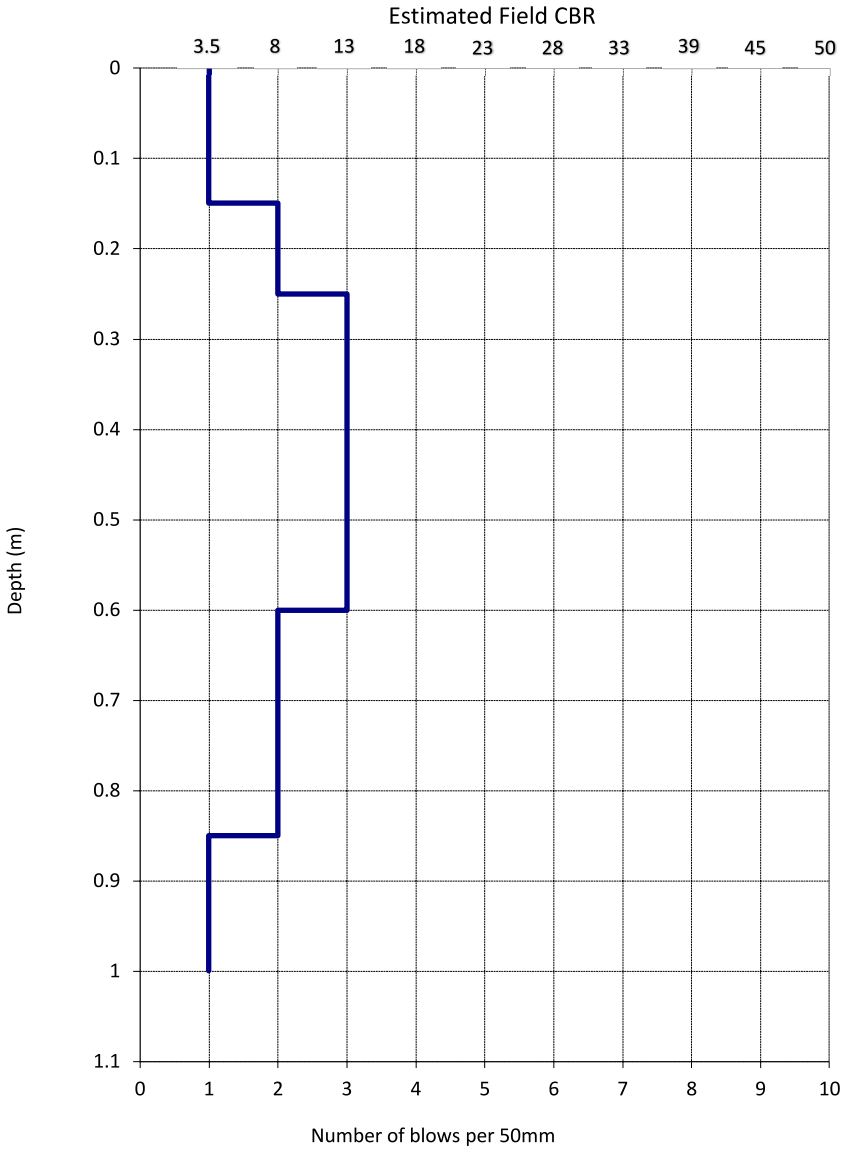
Lab Ref/URN: 70.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	17

Chainage	Offset	Lane
160	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	2
300	300	3
350	350	3
400	400	3
450	450	3
500	500	3
550	550	3
600	600	3
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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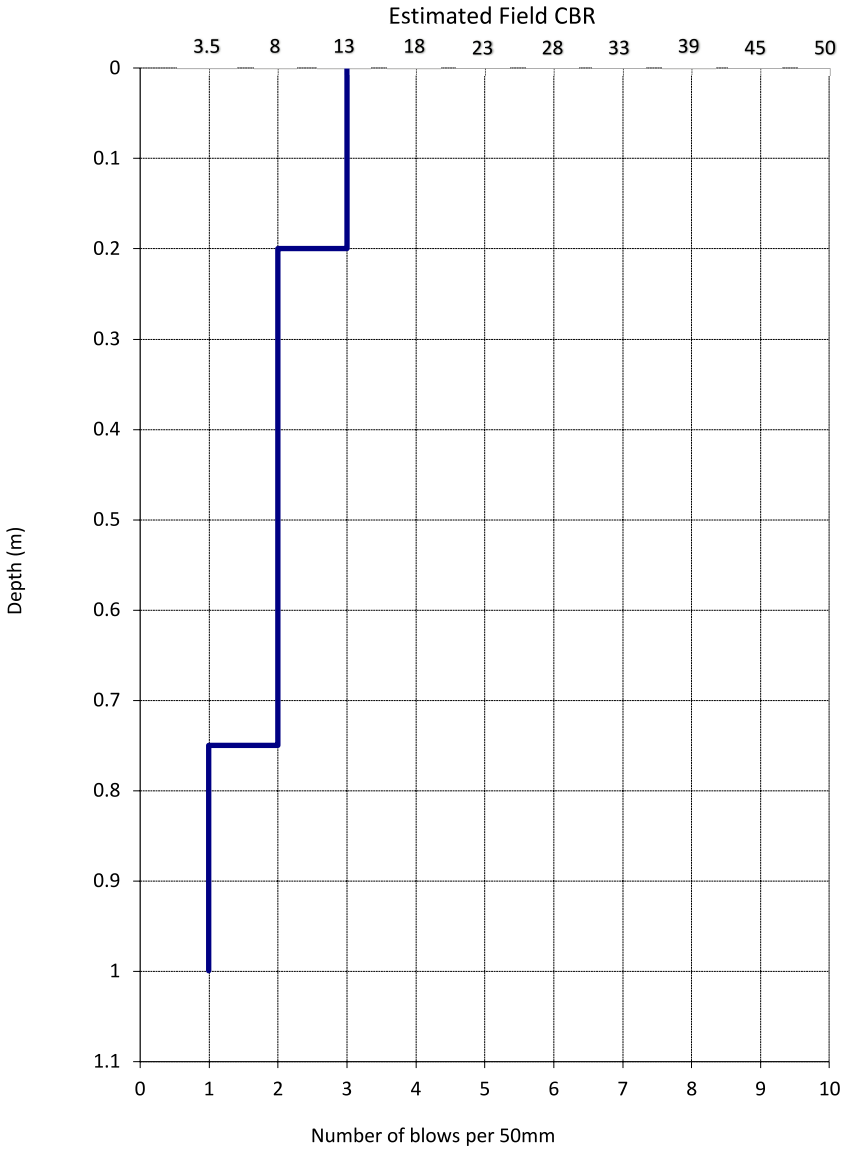
Lab Ref/URN: 70.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	18

Chainage	Offset	Lane
170	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	3
200	200	3
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN

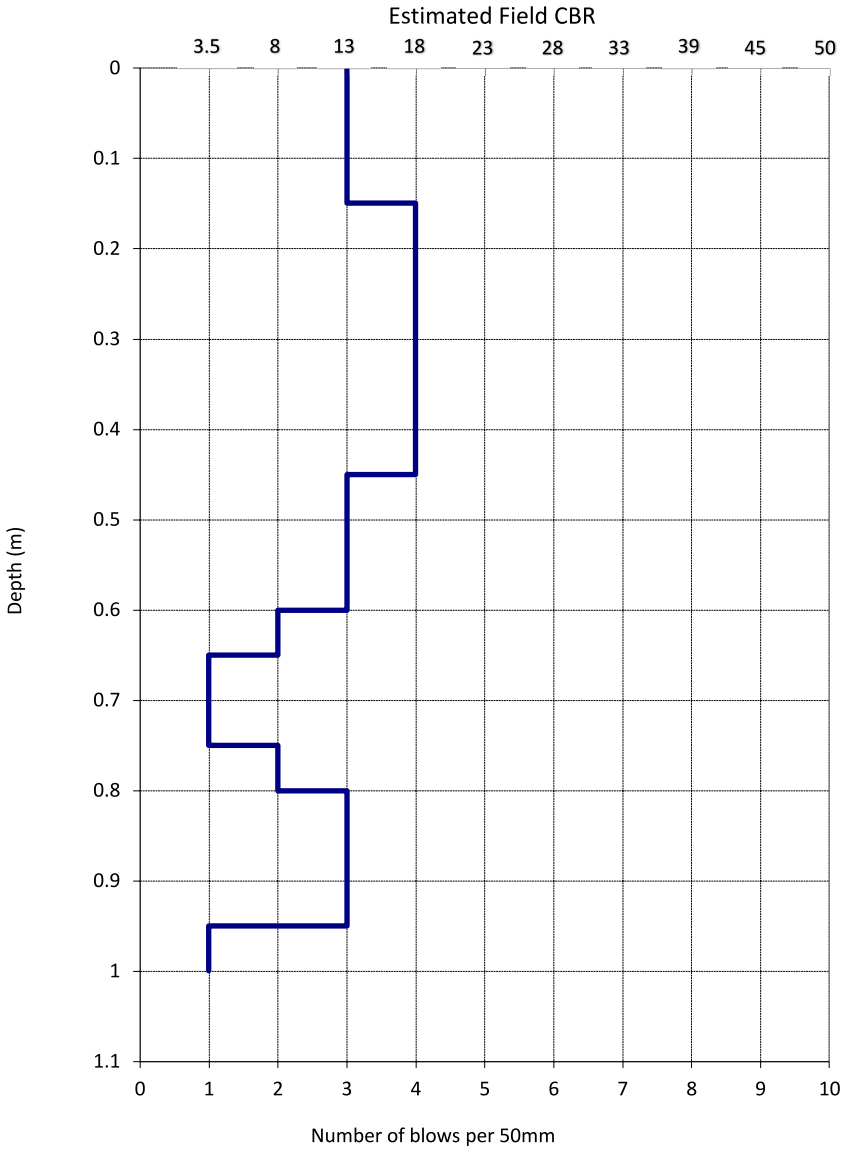
70.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	19

Chainage	Offset	Lane
190	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	3
200	200	4
250	250	4
300	300	4
350	350	4
400	400	4
450	450	4
500	500	3
550	550	3
600	600	3
650	650	2
700	700	1
750	750	1
800	800	2
850	850	3
900	900	3
950	950	3
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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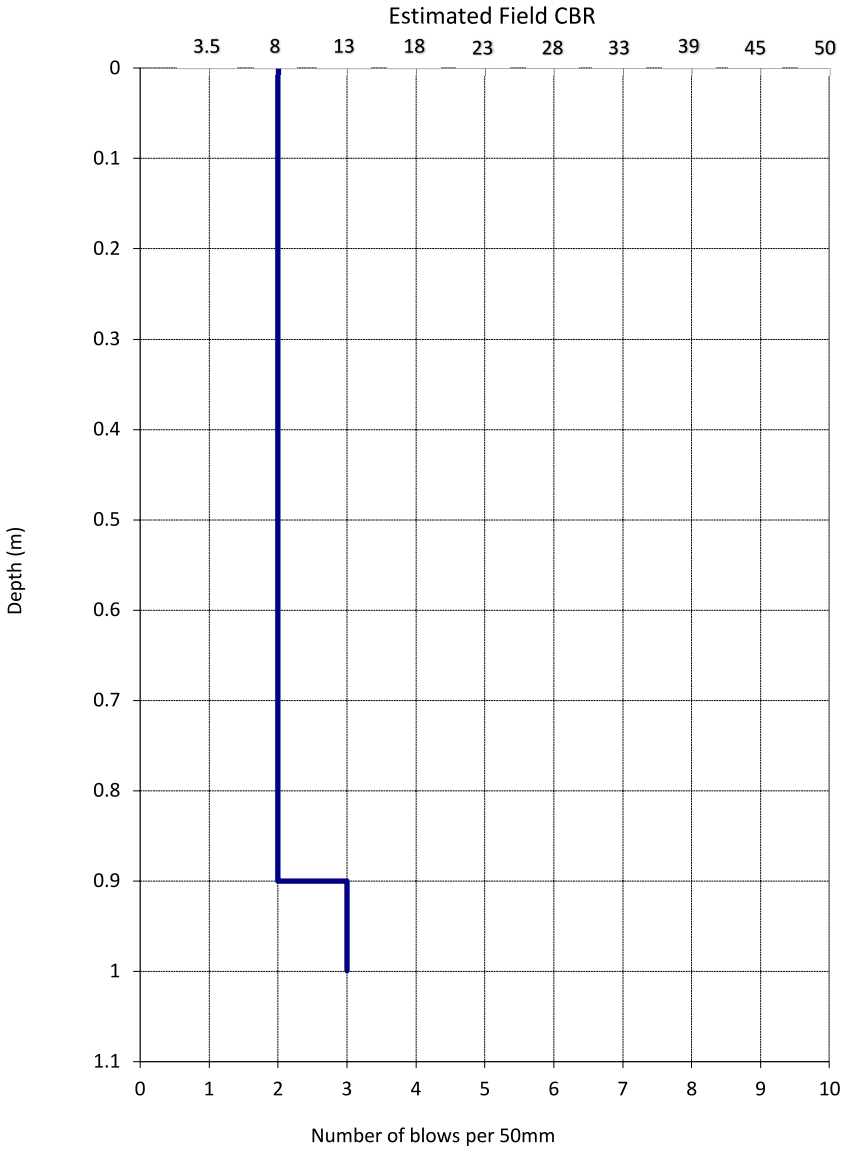
70.20

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura - Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	CAM103
Site Location	Road 10	Material Source	Unknown
Material Description	ClayeySILT	Test Series	DCP 1-20
Depth from ground surface to commencement of penetration (m)		Test Number	20

Chainage	Offset	Lane
200	L	

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	JCHA	Date	8/04/2024
Data Entry By	JCHA	Date	8/04/2024
Checked By	JWAL	Date	29/07/2024

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Lab Ref/URN: 71.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	1-15
Depth from ground surface to commencement of penetration (m)	0	Test Number	1

Chainage	Offset	Lane
440	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.16
100	100	0.16
150	150	0.16
200	200	0.16
250	250	0.16
300	300	0.16
350	350	0.5
400	400	0.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
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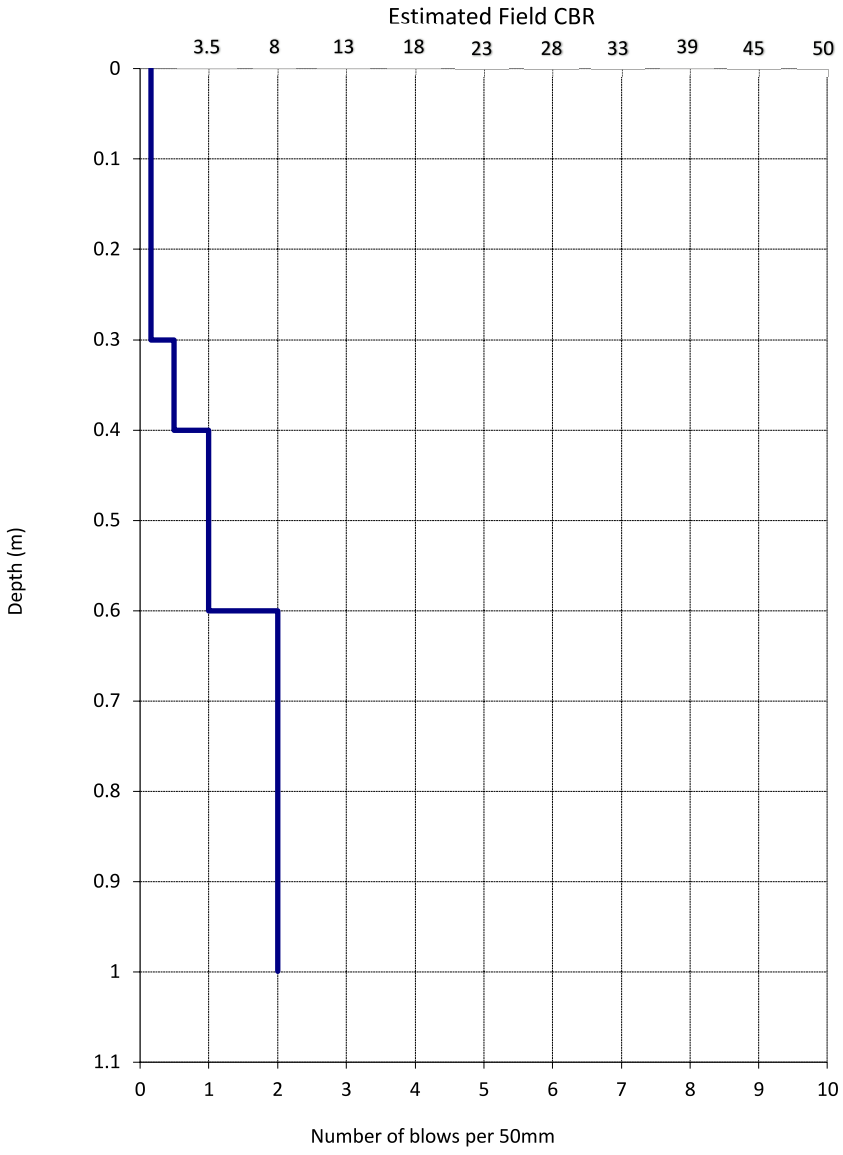
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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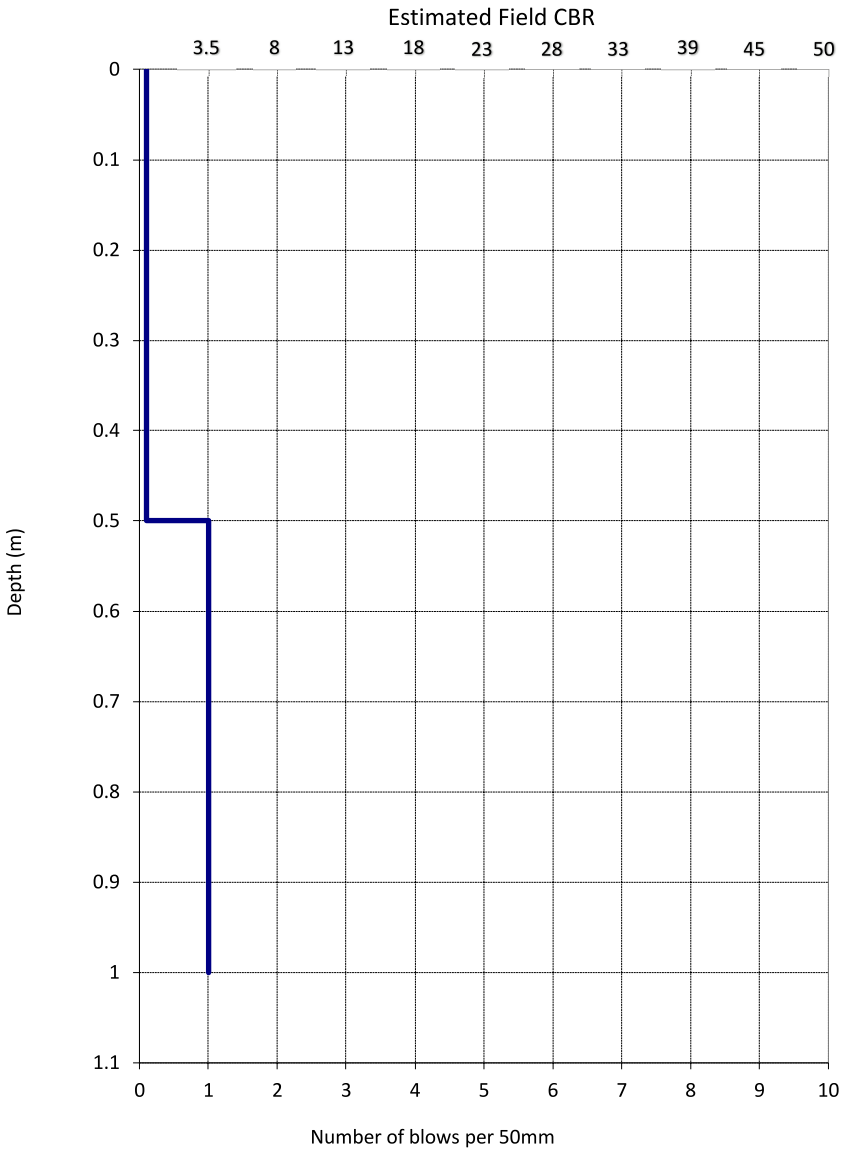
Lab Ref/URN: 71.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	1-15
Depth from ground surface to commencement of penetration (m)		Test Number	2

Chainage	Offset	Lane
450	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.10
100	100	0.10
150	150	0.10
200	200	0.10
250	250	0.10
300	300	0.10
350	350	0.10
400	400	0.10
450	450	0.10
500	500	0.10
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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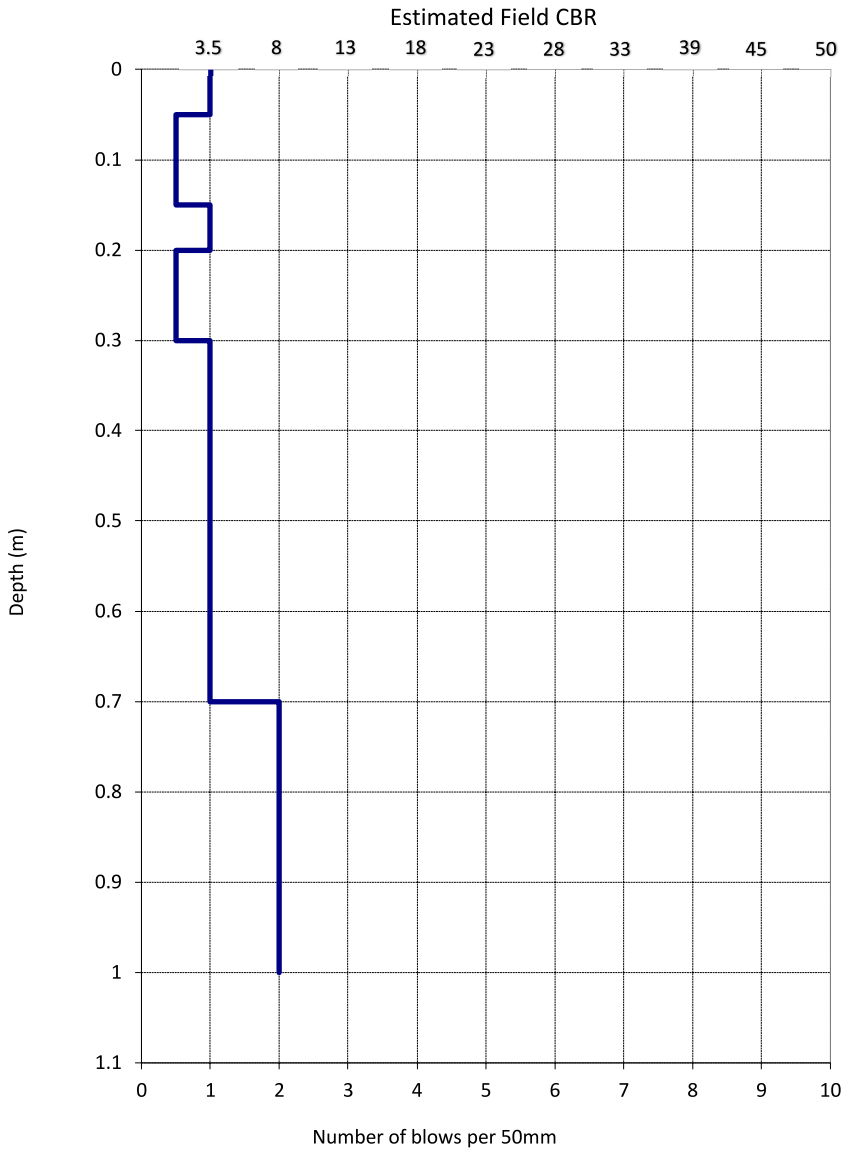
Lab Ref/URN: 71.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	1-15
Depth from ground surface to commencement of penetration (m)		Test Number	3

Chainage	Offset	Lane
460	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	0.5
150	150	0.5
200	200	1
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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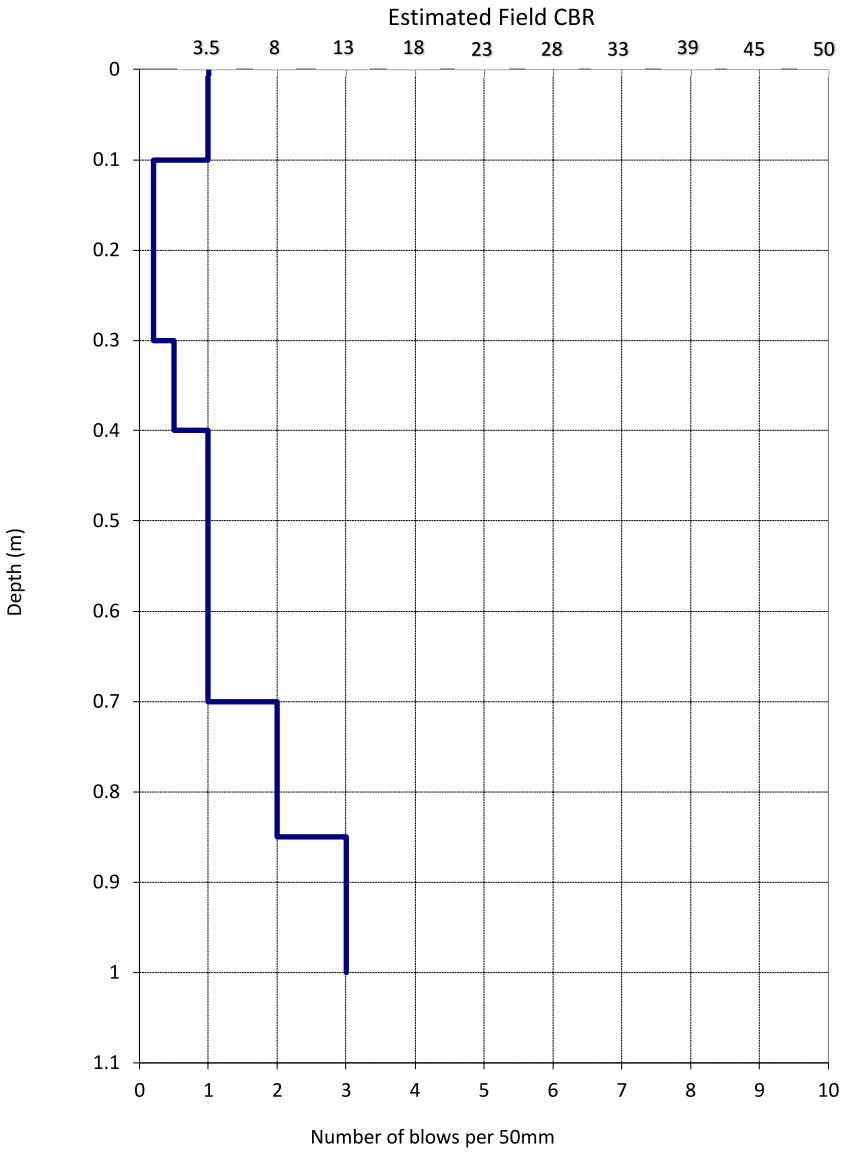
Lab Ref/URN: 71.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	1-15
Depth from ground surface to commencement of penetration (m)		Test Number	4

Chainage	Offset	Lane
470		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	0.25
200	200	0.25
250	250	0.25
300	300	0.25
350	350	0.5
400	400	0.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
800	800	2
850	850	2
900	900	3
950	950	3
1000	1000	3



Test Remarks

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Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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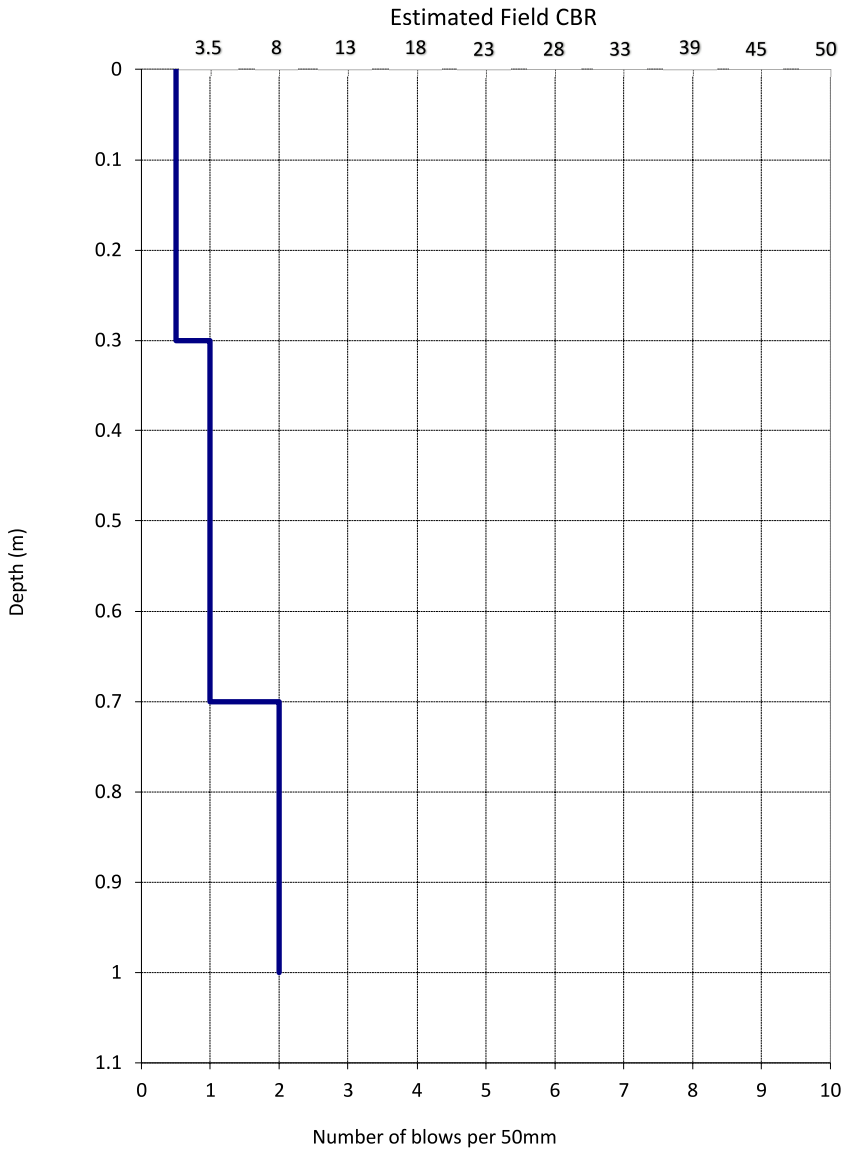
Lab Ref/URN: 71.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	1-15
Depth from ground surface to commencement of penetration (m)		Test Number	5

Chainage	Offset	Lane
480	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.16
100	100	0.16
150	150	0.16
200	200	0.16
250	250	0.16
300	300	0.16
350	350	0.5
400	400	0.5
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
800	800	2
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

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Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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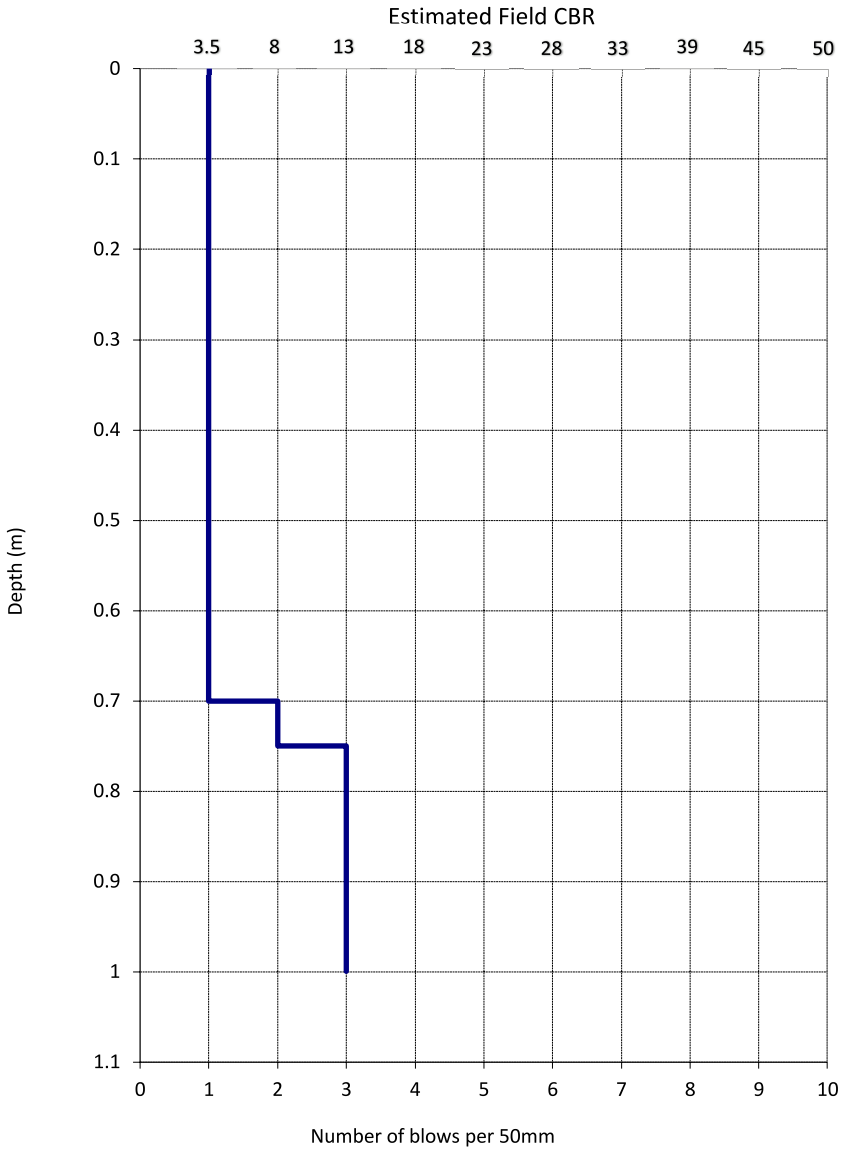
Lab Ref/URN: 71.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	1-15
Depth from ground surface to commencement of penetration (m)		Test Number	6

Chainage	Offset	Lane
490	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	2
800	800	3
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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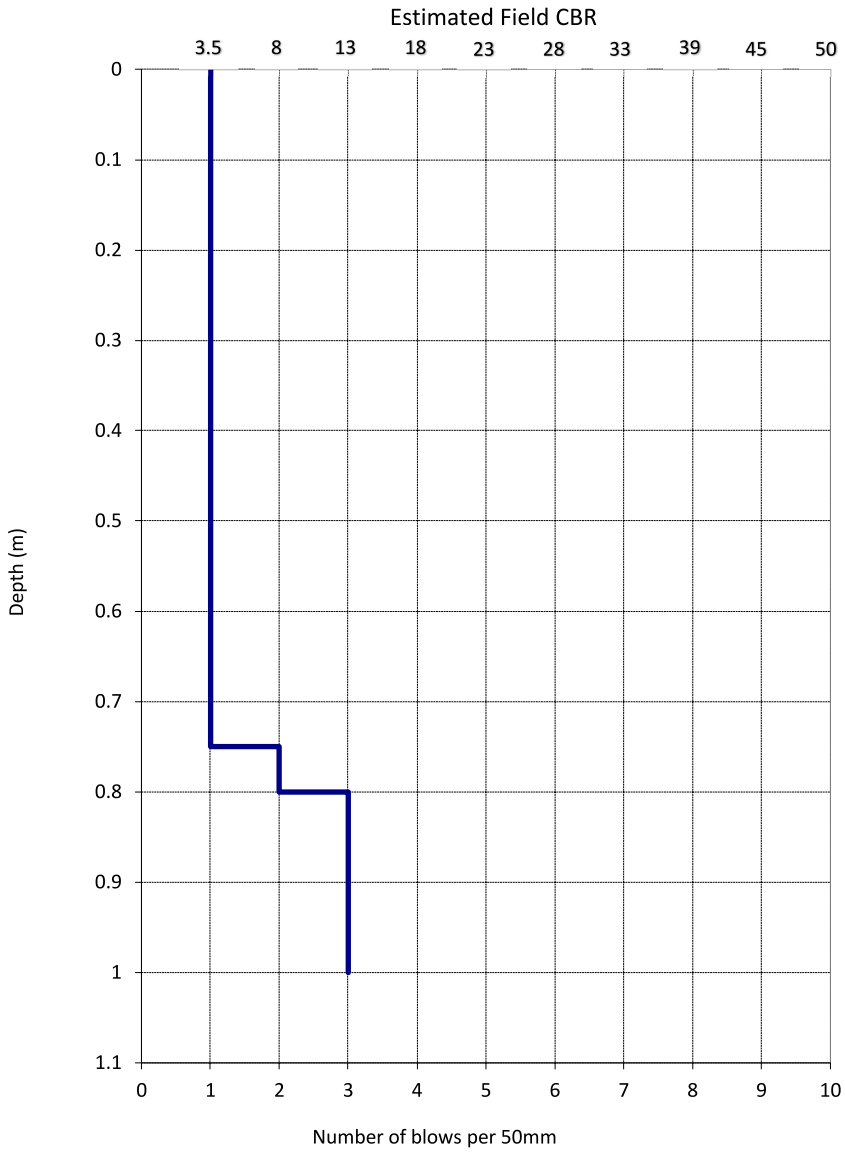
Lab Ref/URN: 71.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP 1-15
Depth from ground surface to commencement of penetration (m)		Test Number	7

Chainage	Offset	Lane
500	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	2
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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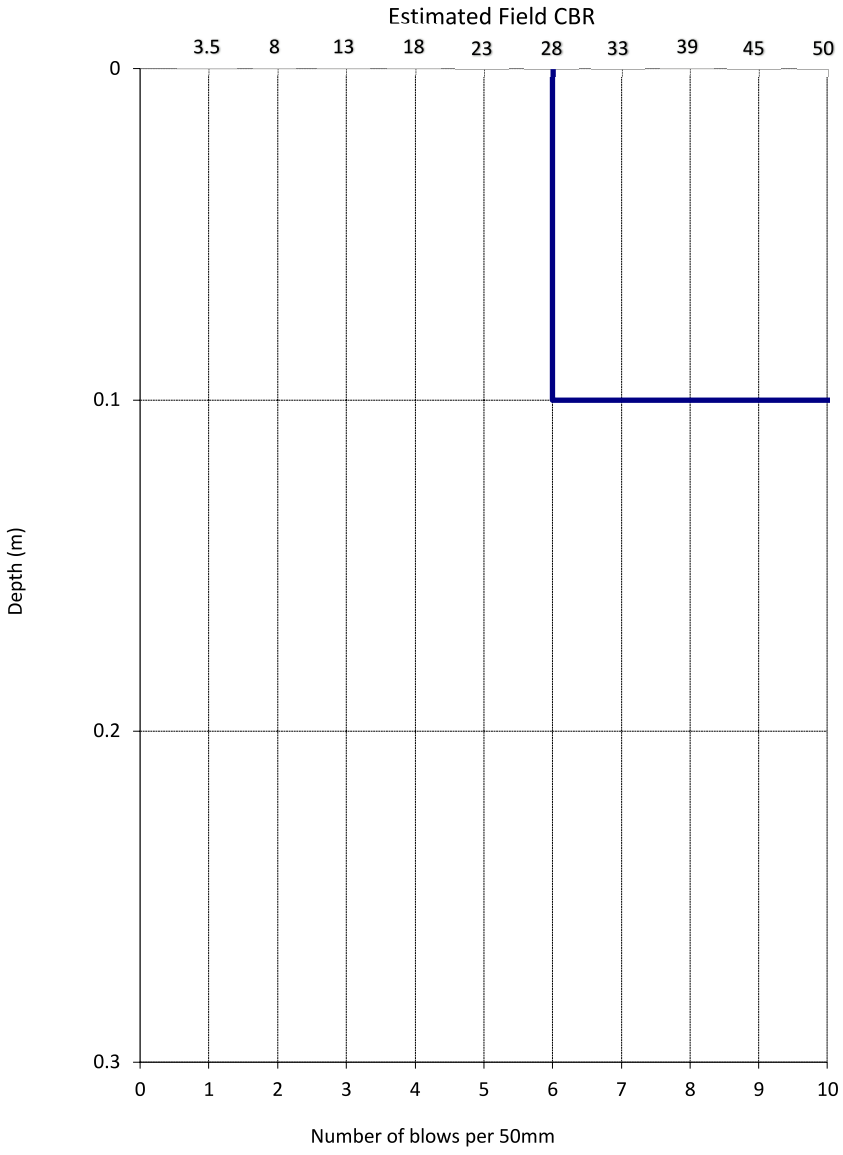
71.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	8

Chainage	Offset	Lane
510		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	6
100	100	6
150	150	12
200	200	UTP
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 200 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS). Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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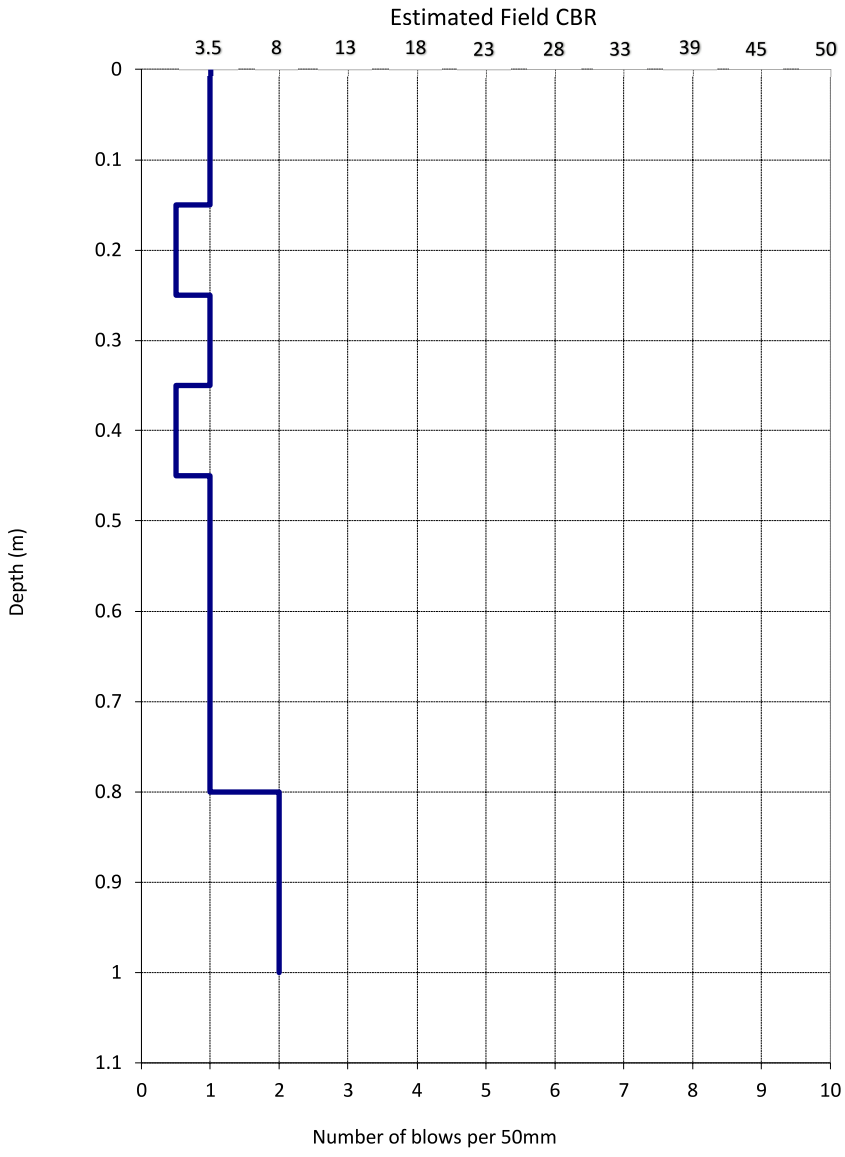
Lab Ref/URN: 71.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	9

Chainage	Offset	Lane
520	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	0.5
250	250	0.5
300	300	1
350	350	1
400	400	0.5
450	450	0.5
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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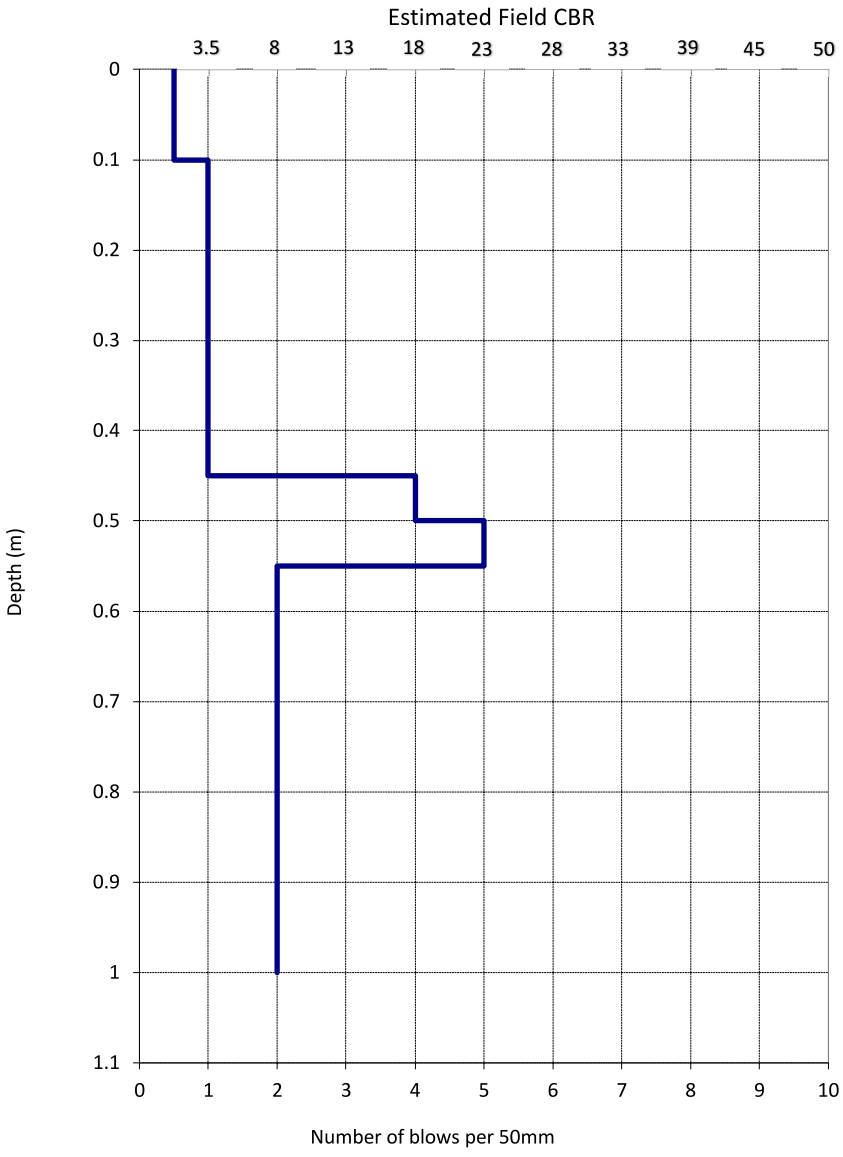
Lab Ref/URN: 71.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	10

Chainage	Offset	Lane
530	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	4
550	550	5
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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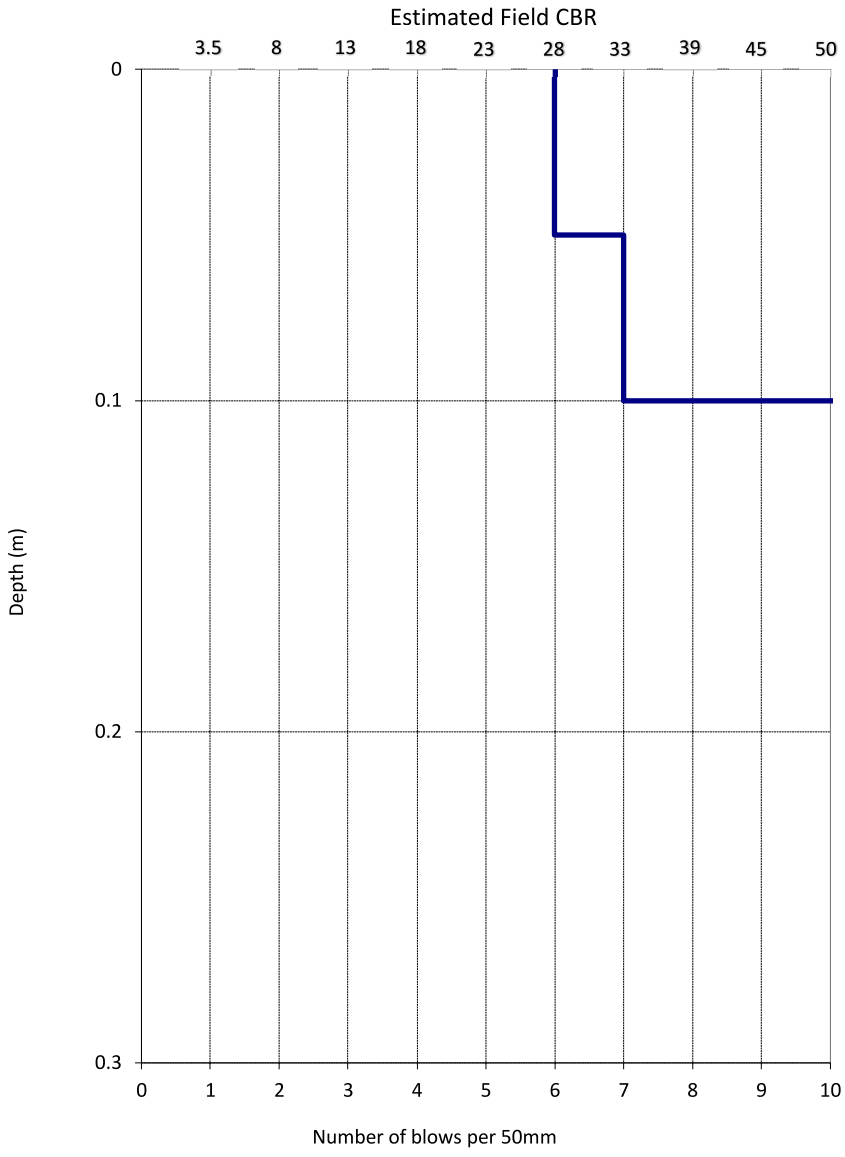
Lab Ref/URN: 71.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	11

Chainage	Offset	Lane
540	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	6
100	100	7
150	150	12
200	200	UTP
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 200 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS). Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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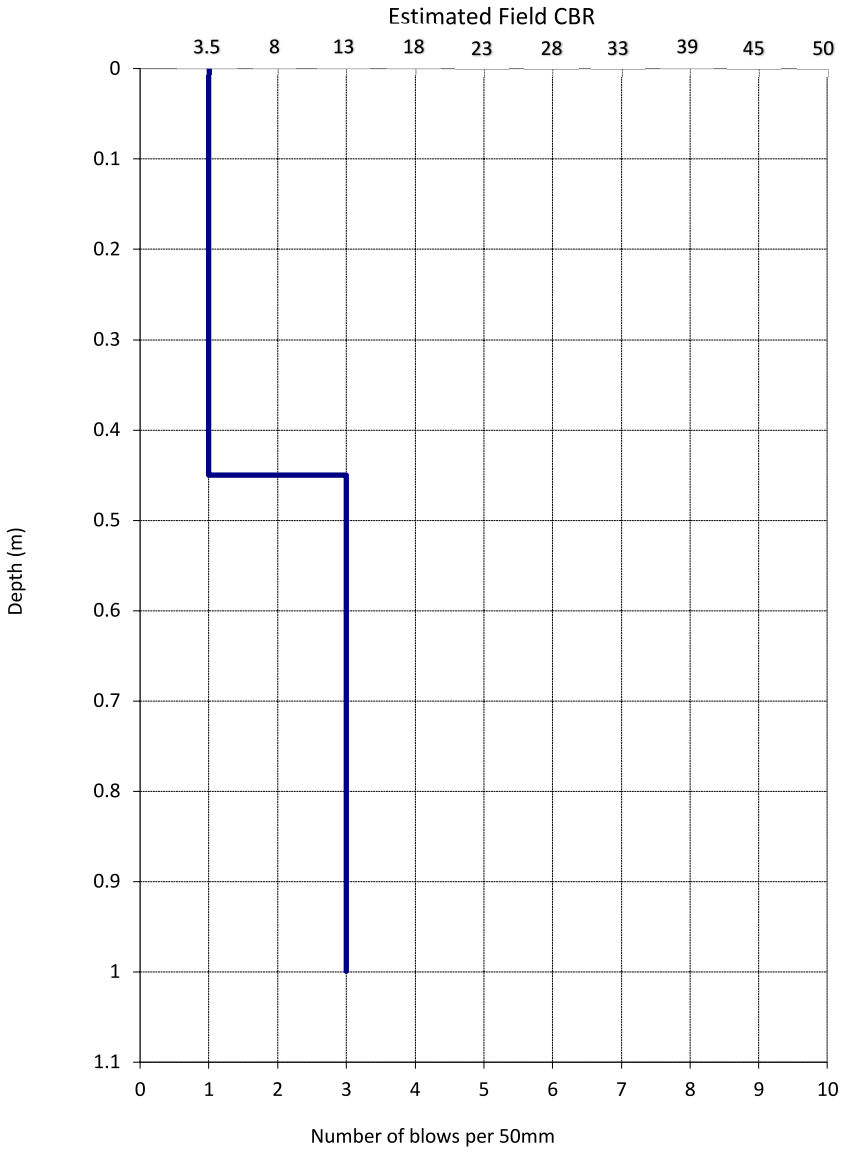
Lab Ref/URN: 71.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	12

Chainage	Offset	Lane
550	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	3
550	550	3
600	600	3
650	650	3
700	700	3
750	750	3
800	800	3
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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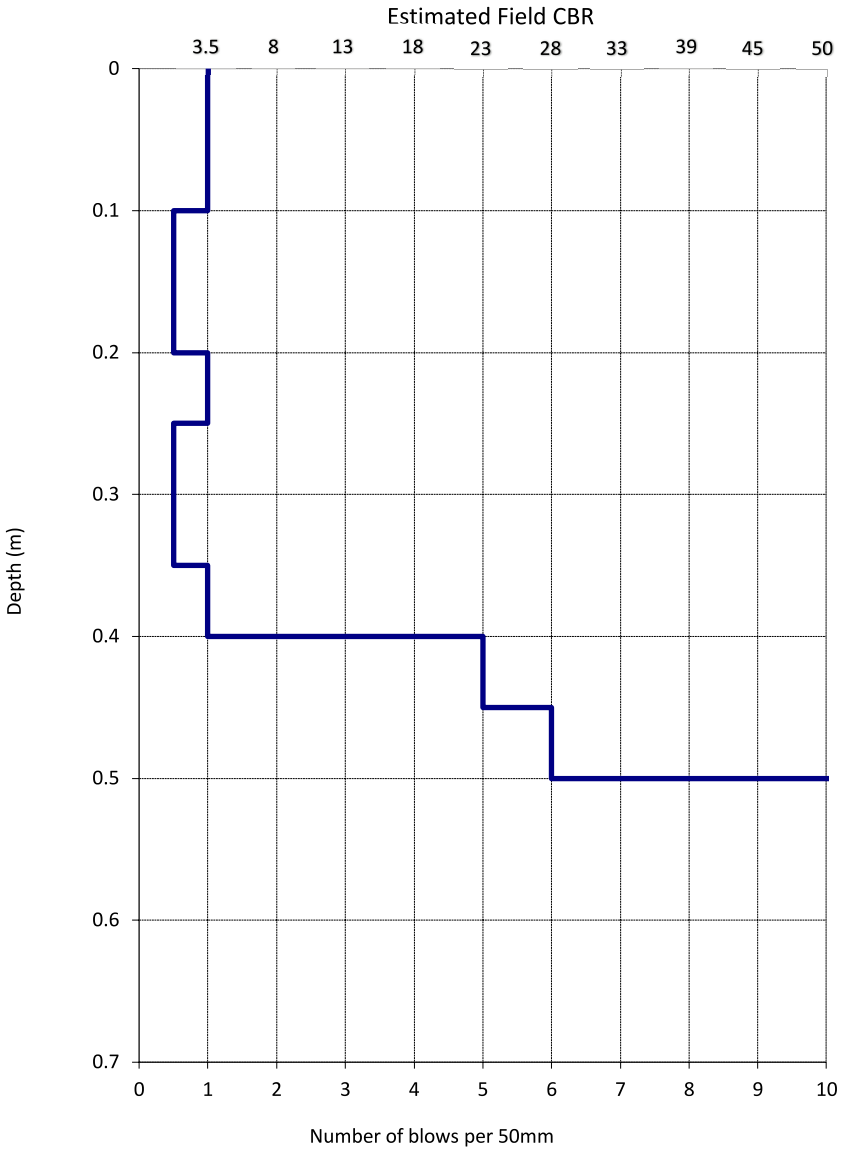
Lab Ref/URN: 71.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	13

Chainage	Offset	Lane
560	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	0.5
200	200	0.5
250	250	1
300	300	0.5
350	350	0.5
400	400	1
450	450	5
500	500	6
550	550	12
600	600	UTP
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 600 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS). Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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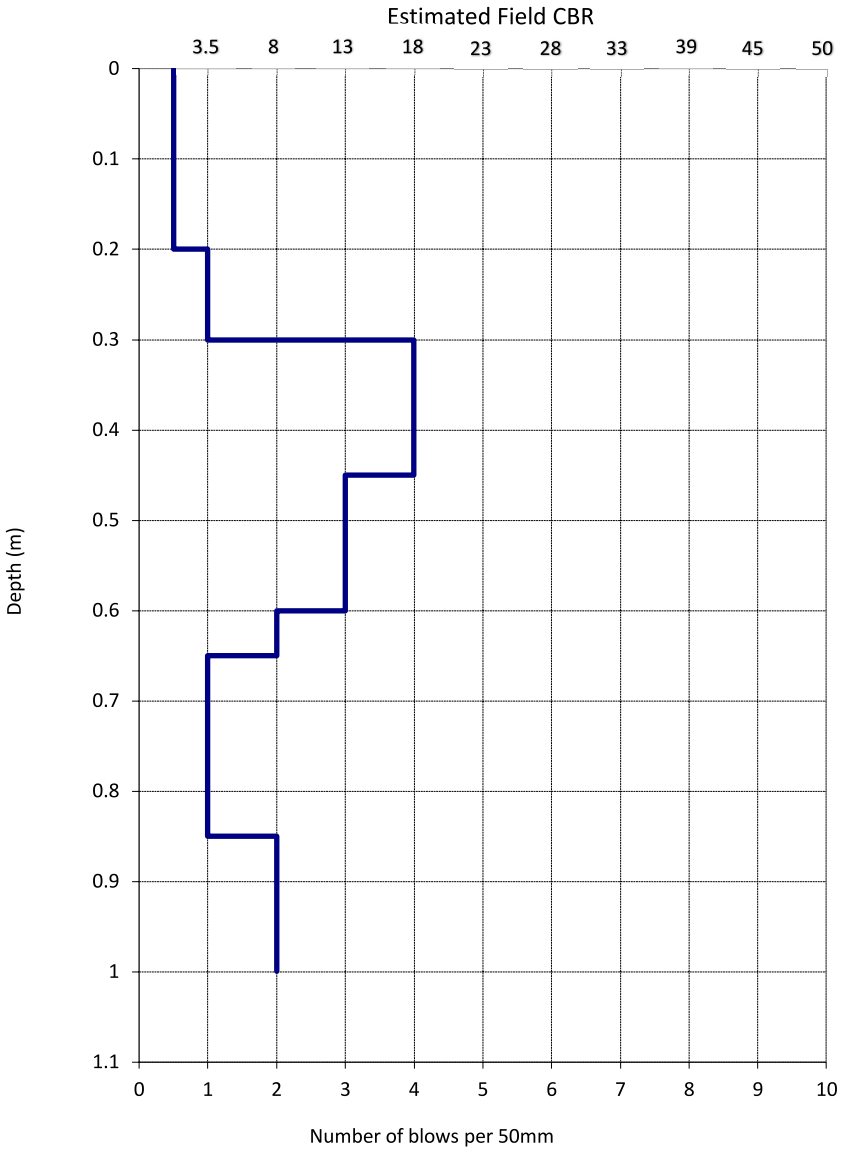
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	14

Chainage	Offset	Lane
570	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	1
300	300	1
350	350	4
400	400	4
450	450	4
500	500	3
550	550	3
600	600	3
650	650	2
700	700	1
750	750	1
800	800	1
850	850	1
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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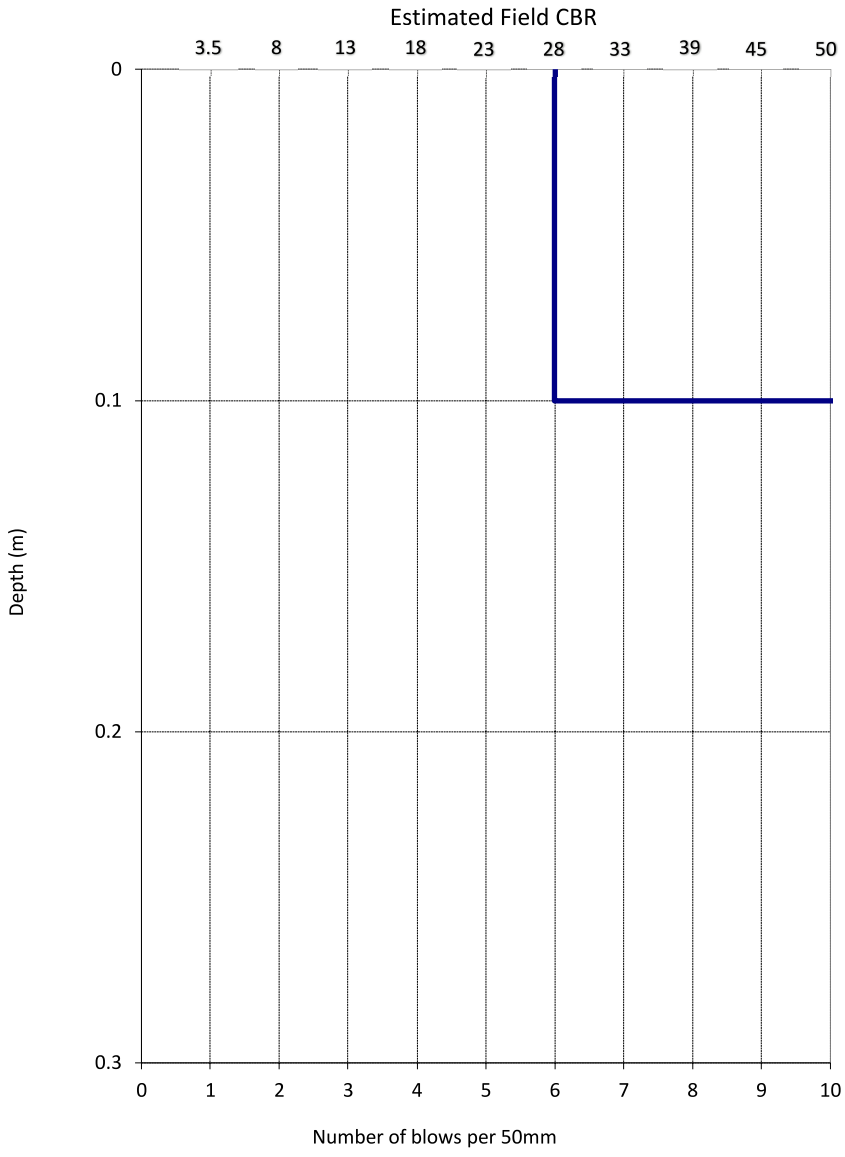
Lab Ref/URN: 71.21

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AKS2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY w/ minor gravel	Test Series	DCP1-15
Depth from ground surface to commencement of penetration (m)		Test Number	15

Chainage	Offset	Lane
580	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	6
100	100	6
150	150	12
200	200	UTP
250	250	
300	300	
350	350	
400	400	
450	450	
500	500	
550	550	
600	600	
650	650	
700	700	
750	750	
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 200 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	9/04/2024
Data Entry By	MIBR	Date	12/04/2024
Checked By	JWAL	Date	29/07/2024

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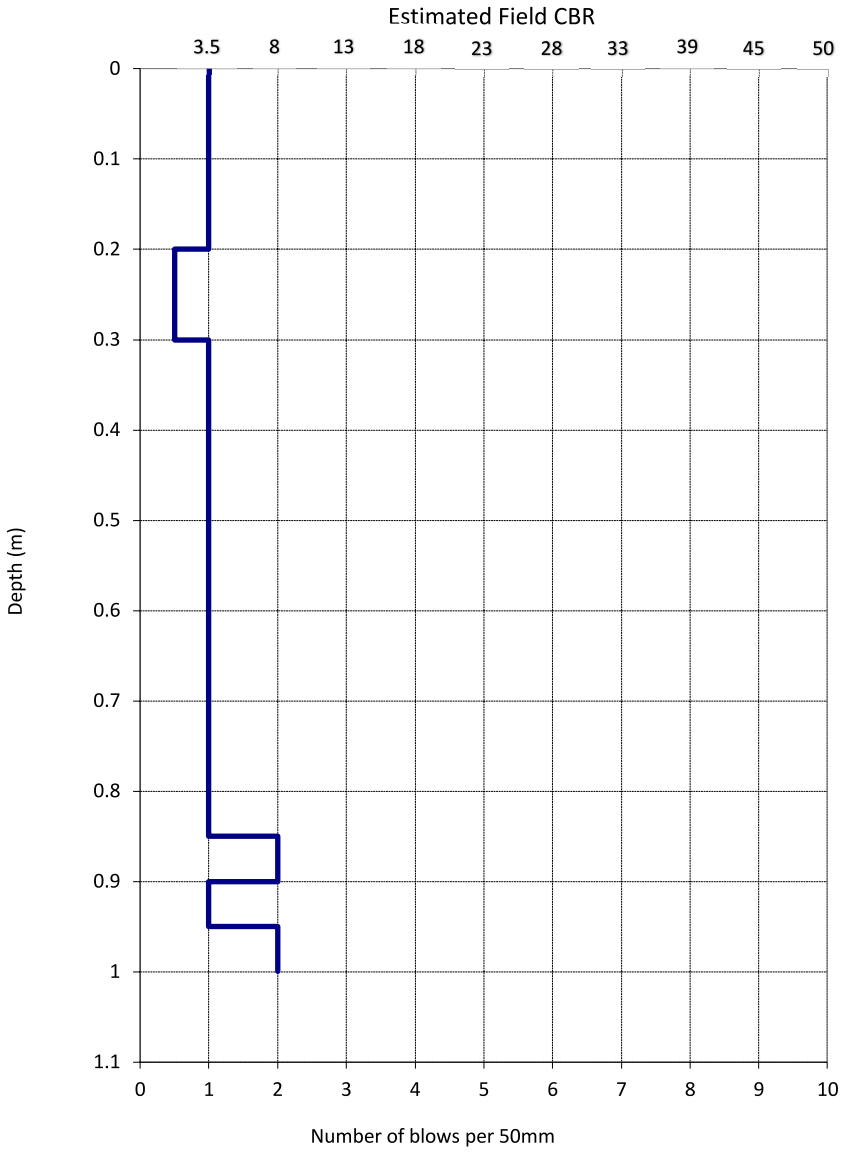
Lab Ref/URN: 74.1

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	1

Chainage	Offset	Lane
400	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	2
950	950	1
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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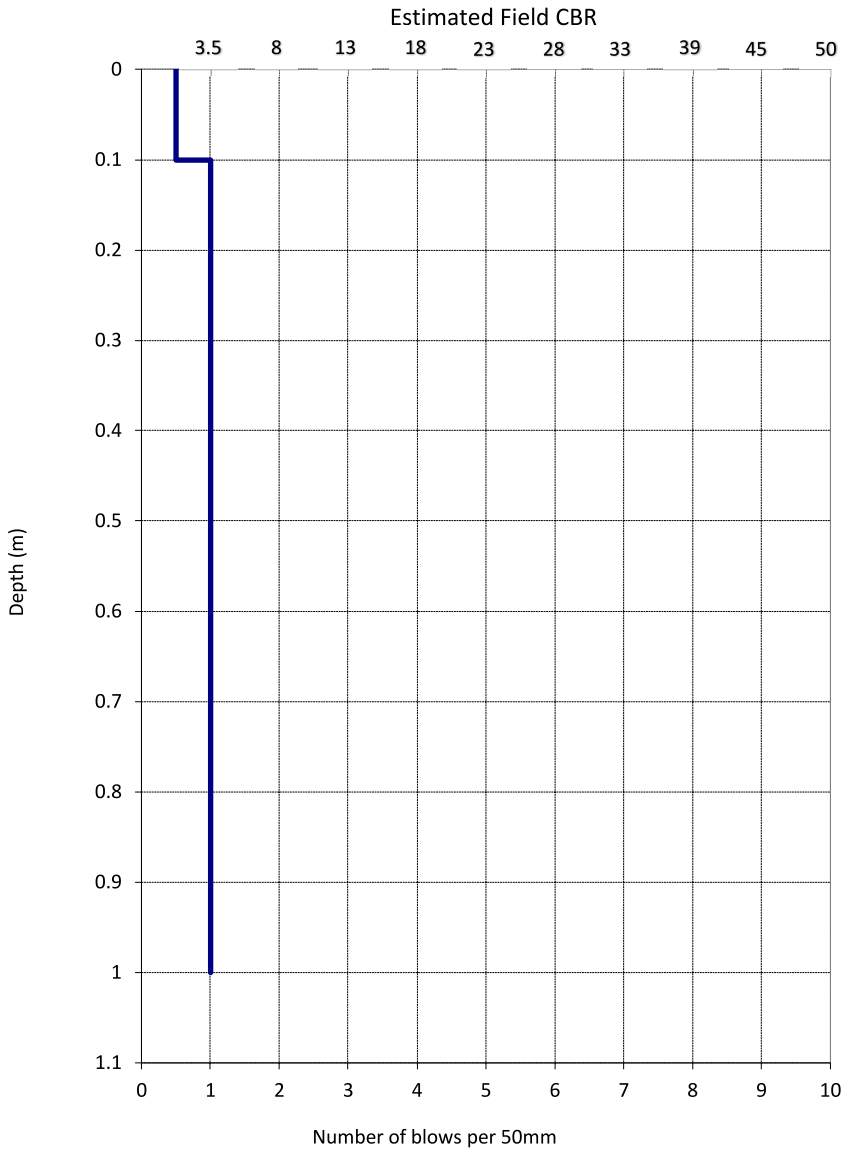
Lab Ref/URN: 74.2

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	2

Chainage	Offset	Lane
410	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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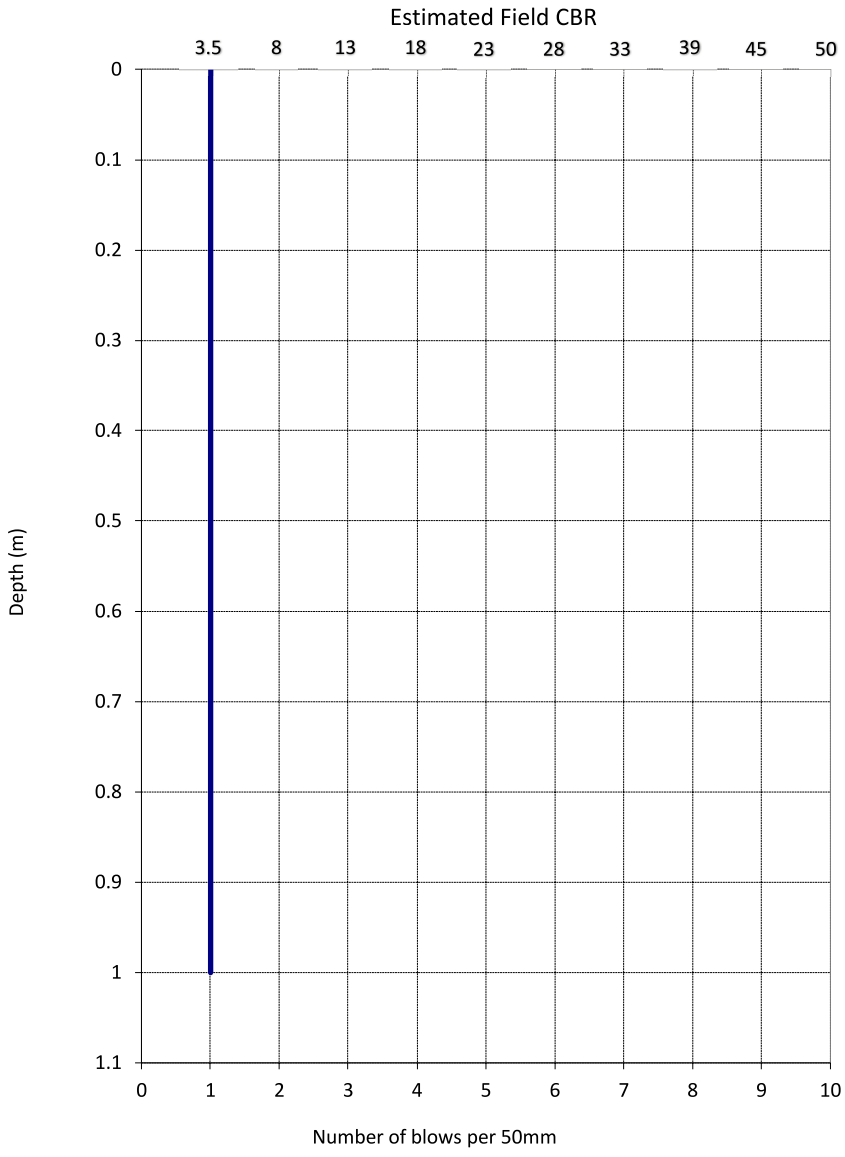
Lab Ref/URN: 74.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	3

Chainage	Offset	Lane
420	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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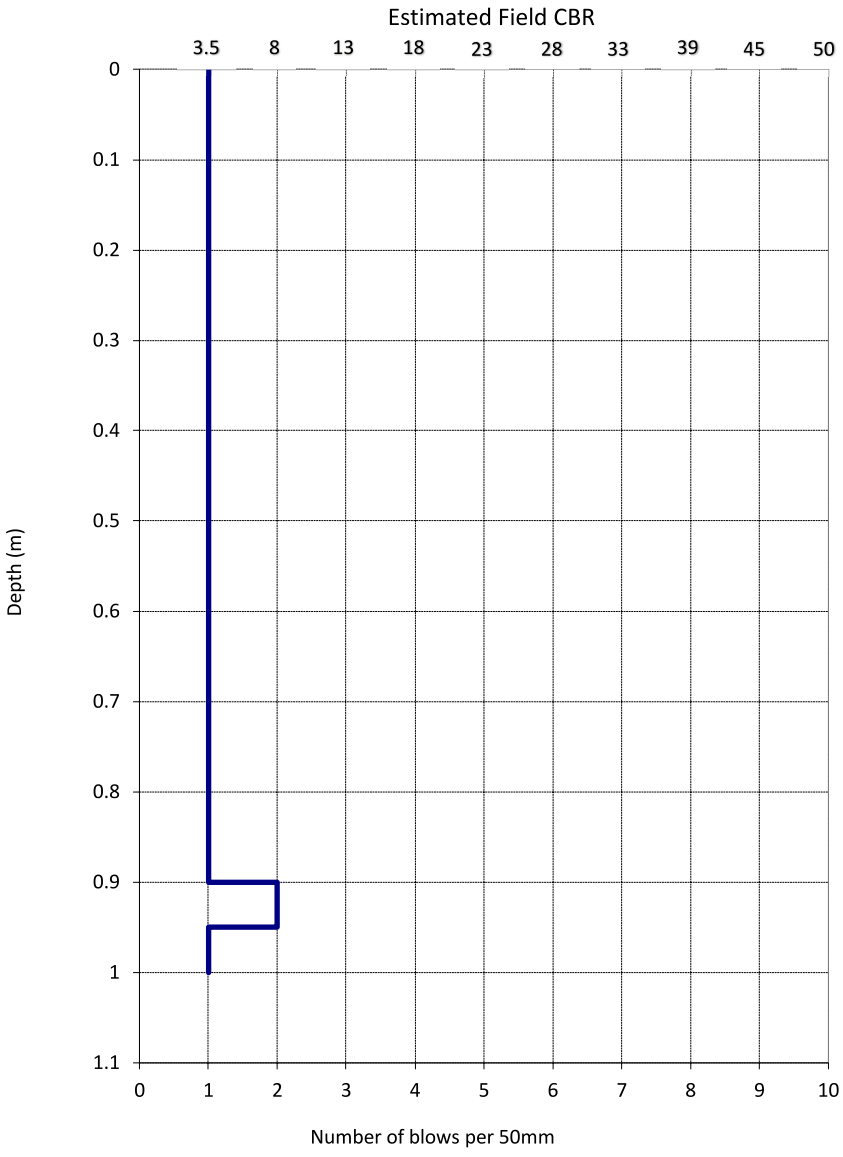
Lab Ref/URN: 74.4

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	4

Chainage	Offset	Lane
430		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	2
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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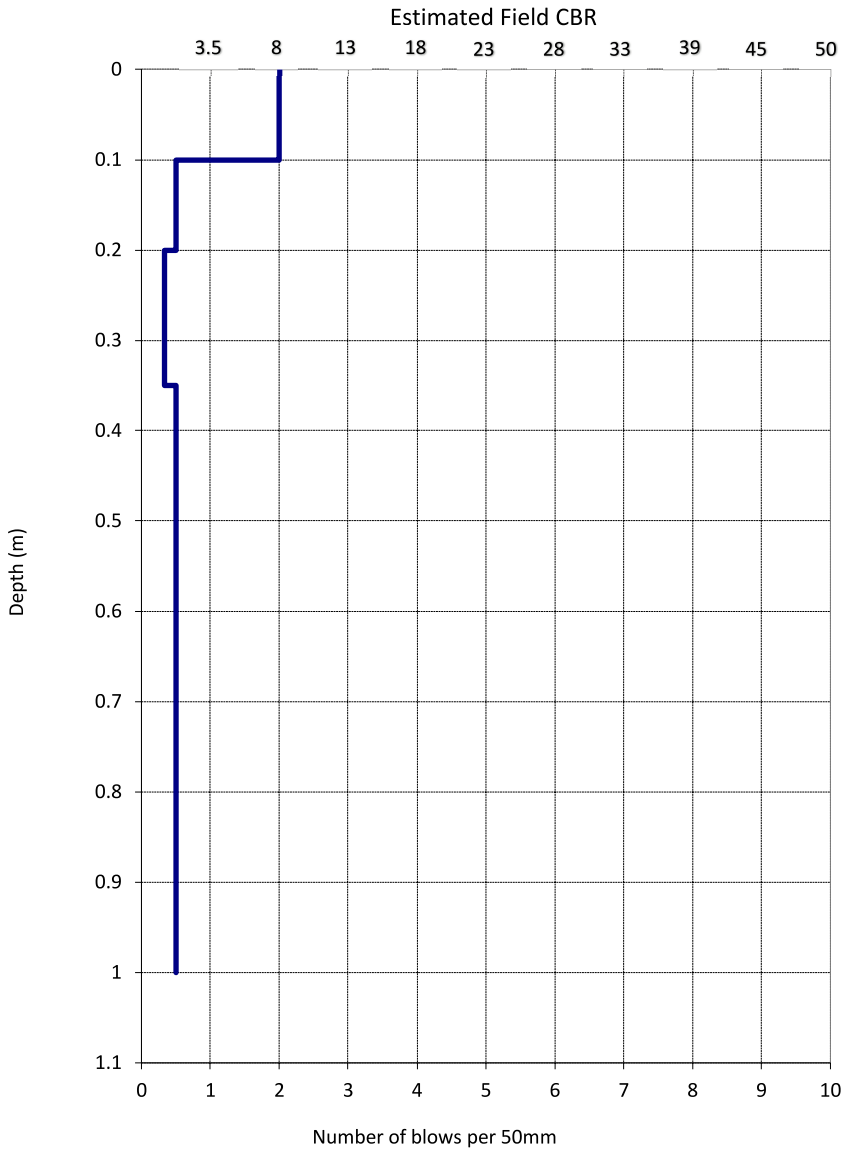
Lab Ref/URN: 74.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	5

Chainage	Offset	Lane
590	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	0.5
200	200	0.5
250	250	0.33
300	300	0.33
350	350	0.33
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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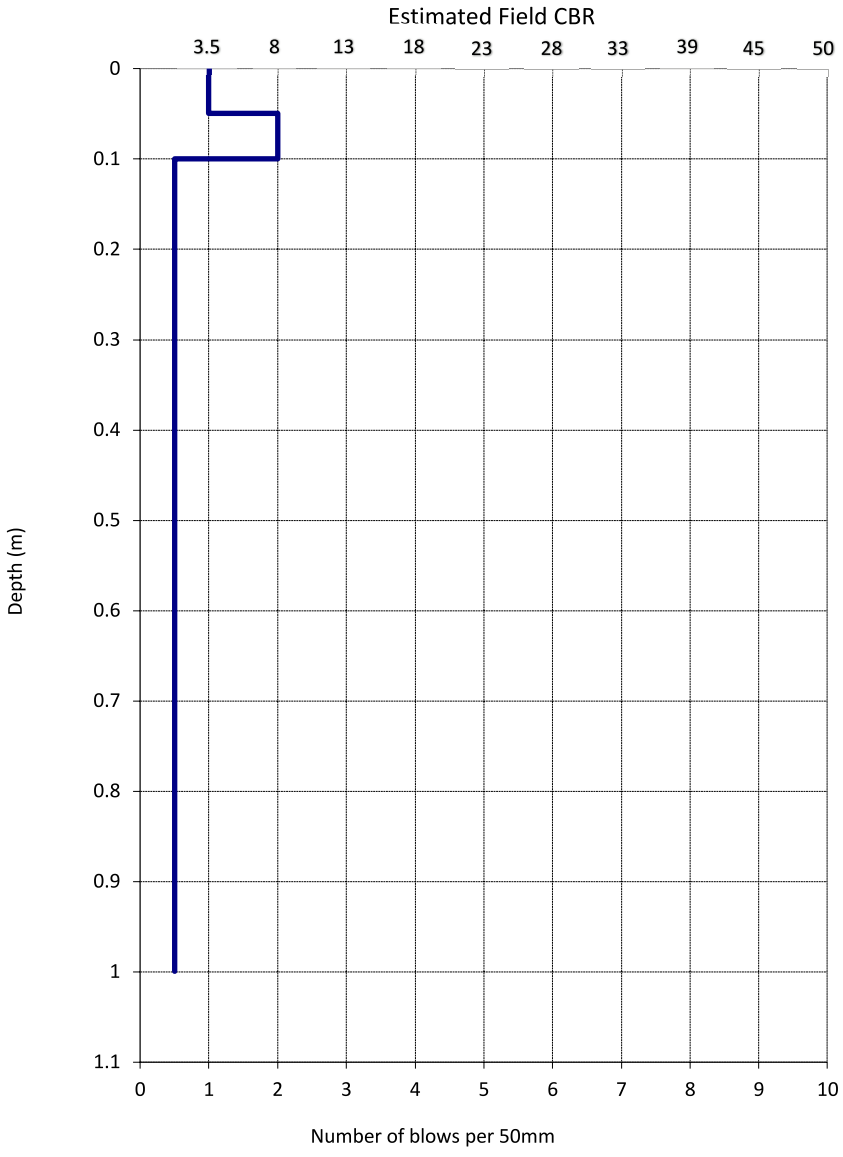
Lab Ref/URN: 74.6

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	6

Chainage	Offset	Lane
600	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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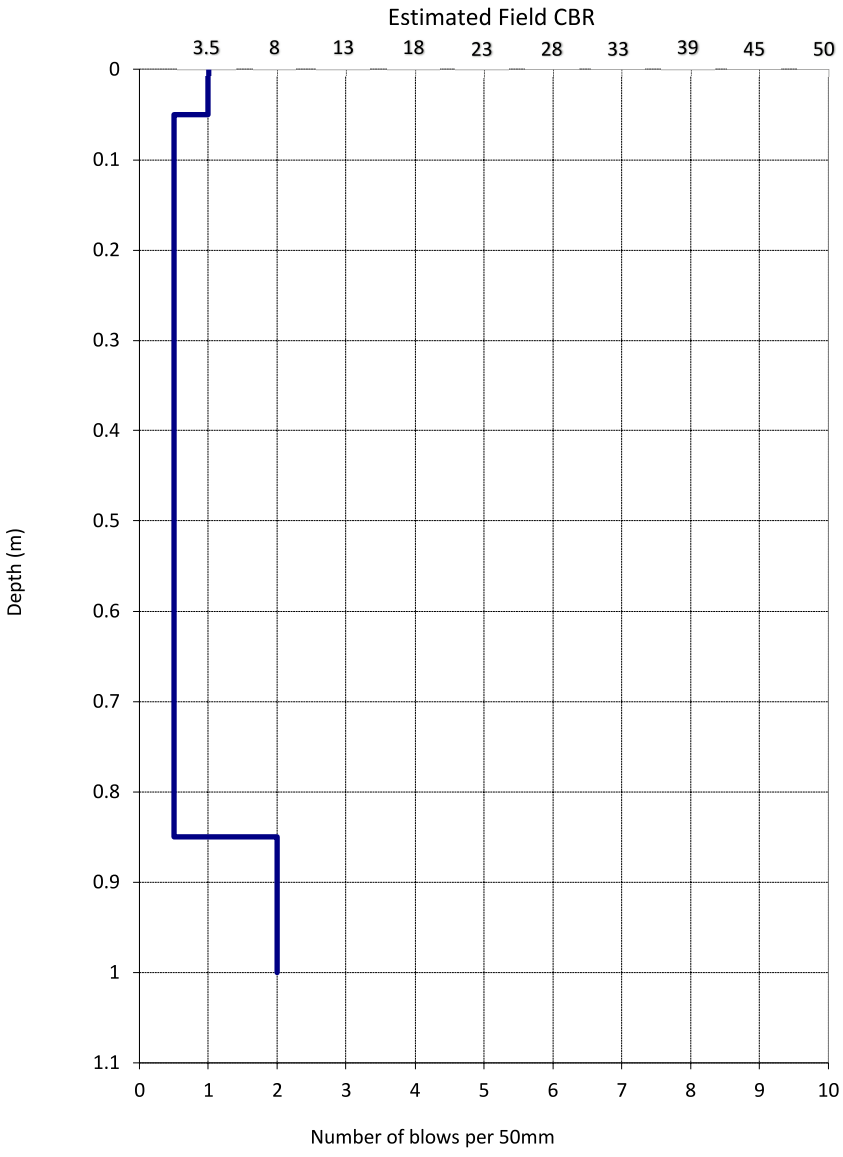
Lab Ref/URN: 74.7

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	7

Chainage	Offset	Lane
610	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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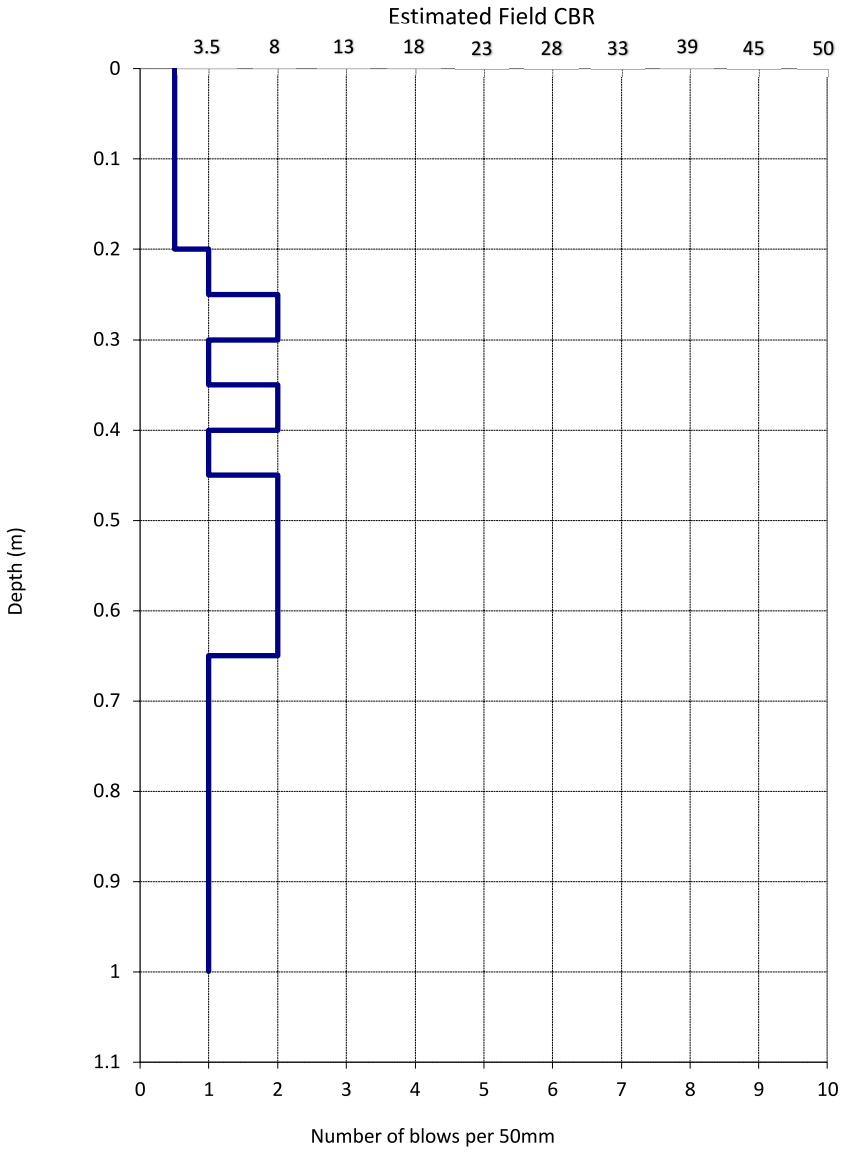
Lab Ref/URN: 74.8

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	8

Chainage	Offset	Lane
620		

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	1
300	300	2
350	350	1
400	400	2
450	450	1
500	500	2
550	550	2
600	600	2
650	650	2
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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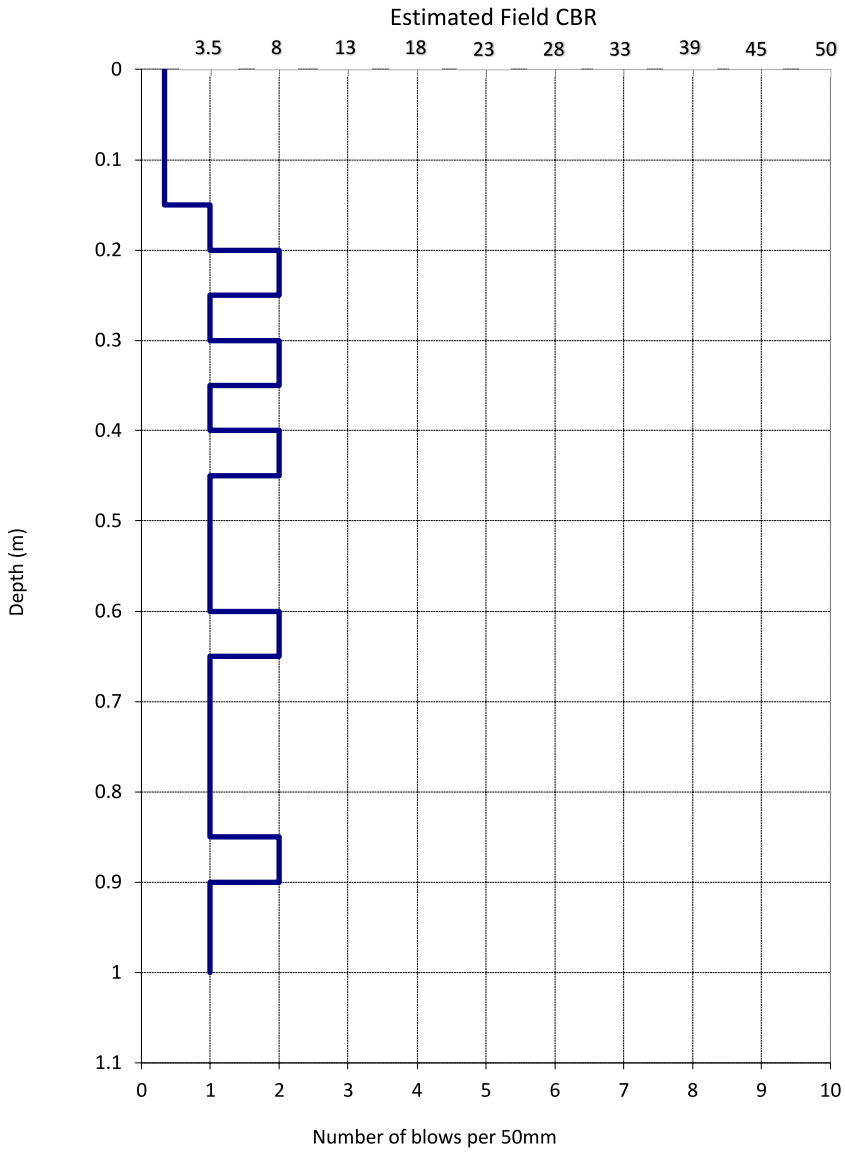
Lab Ref/URN: 74.9

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	9

Chainage	Offset	Lane
630	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.33
100	100	0.33
150	150	0.33
200	200	1
250	250	2
300	300	1
350	350	2
400	400	1
450	450	2
500	500	1
550	550	1
600	600	1
650	650	2
700	700	1
750	750	1
800	800	1
850	850	1
900	900	2
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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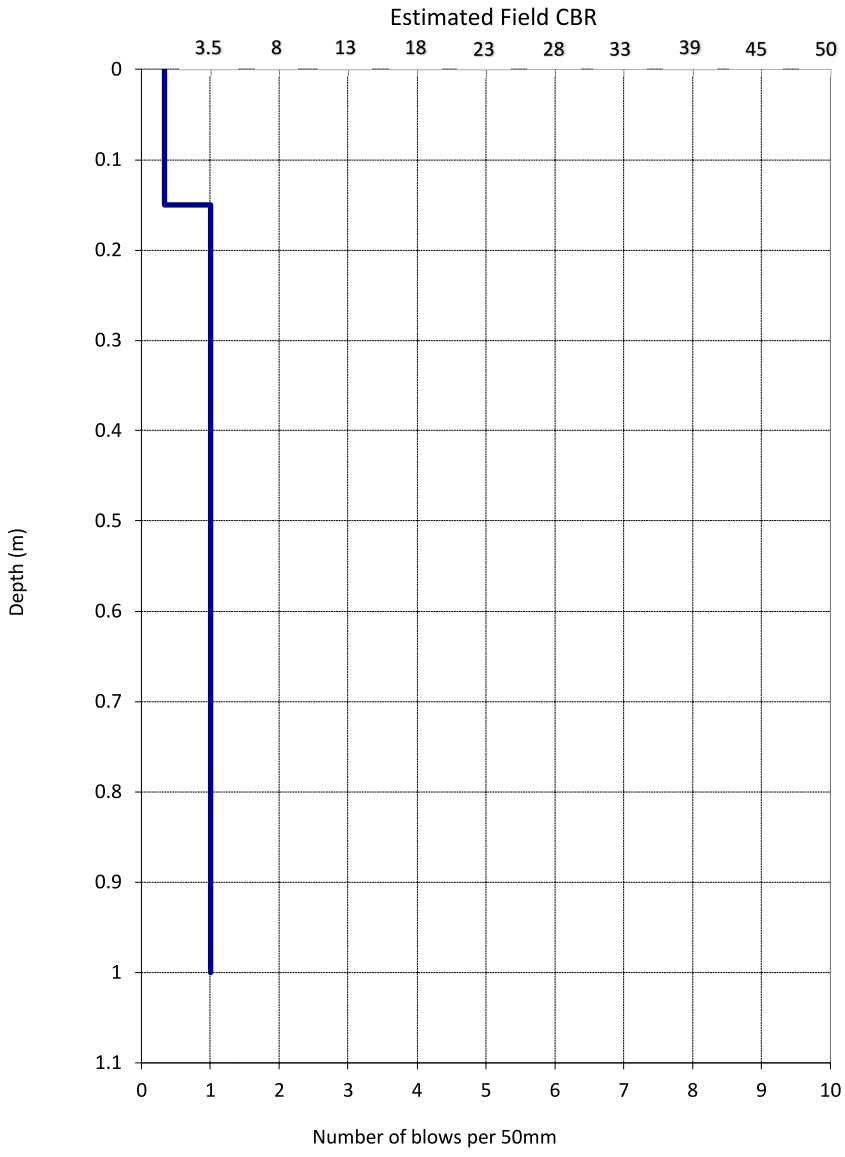
Lab Ref/URN: 74.10

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	10

Chainage	Offset	Lane
640	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.33
100	100	0.33
150	150	0.33
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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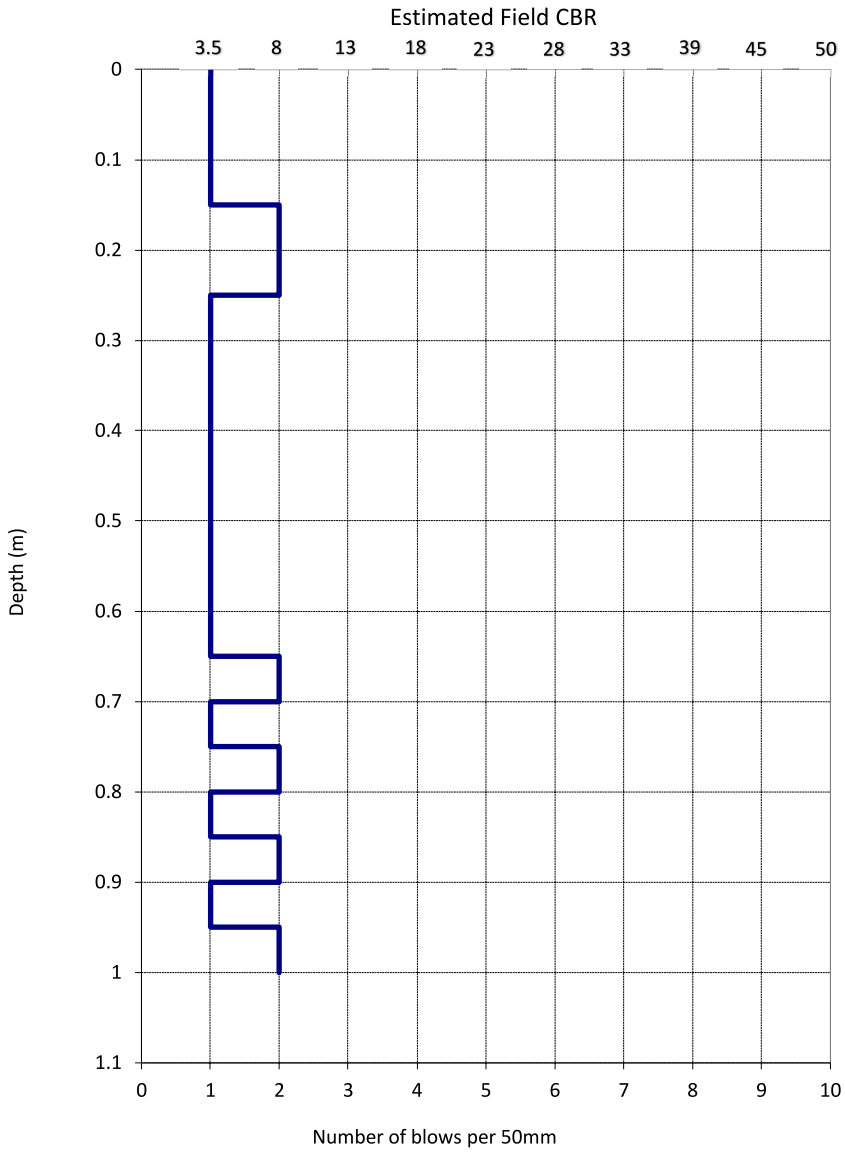
Lab Ref/URN: 74.11

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	11

Chainage	Offset	Lane
650	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	2
750	750	1
800	800	2
850	850	1
900	900	2
950	950	1
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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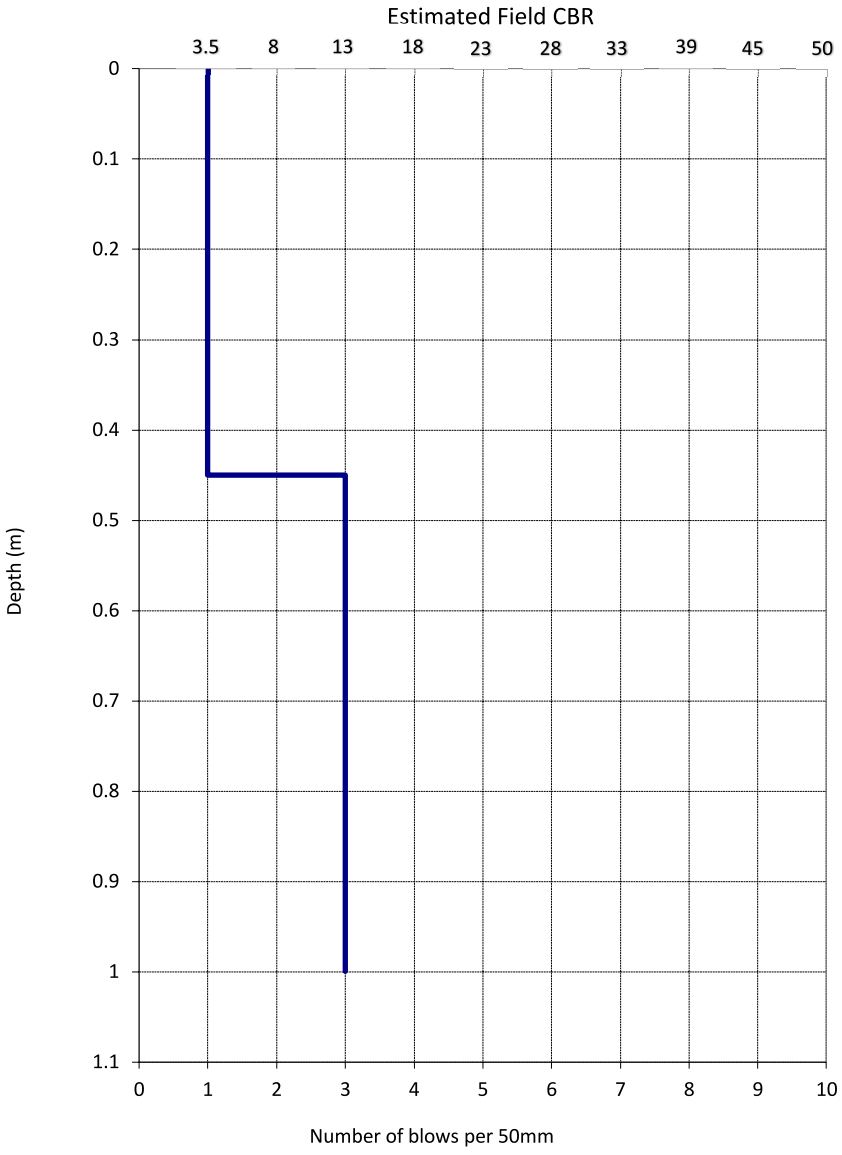
Lab Ref/URN: 74.12

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	12

Chainage	Offset	Lane
660	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	3
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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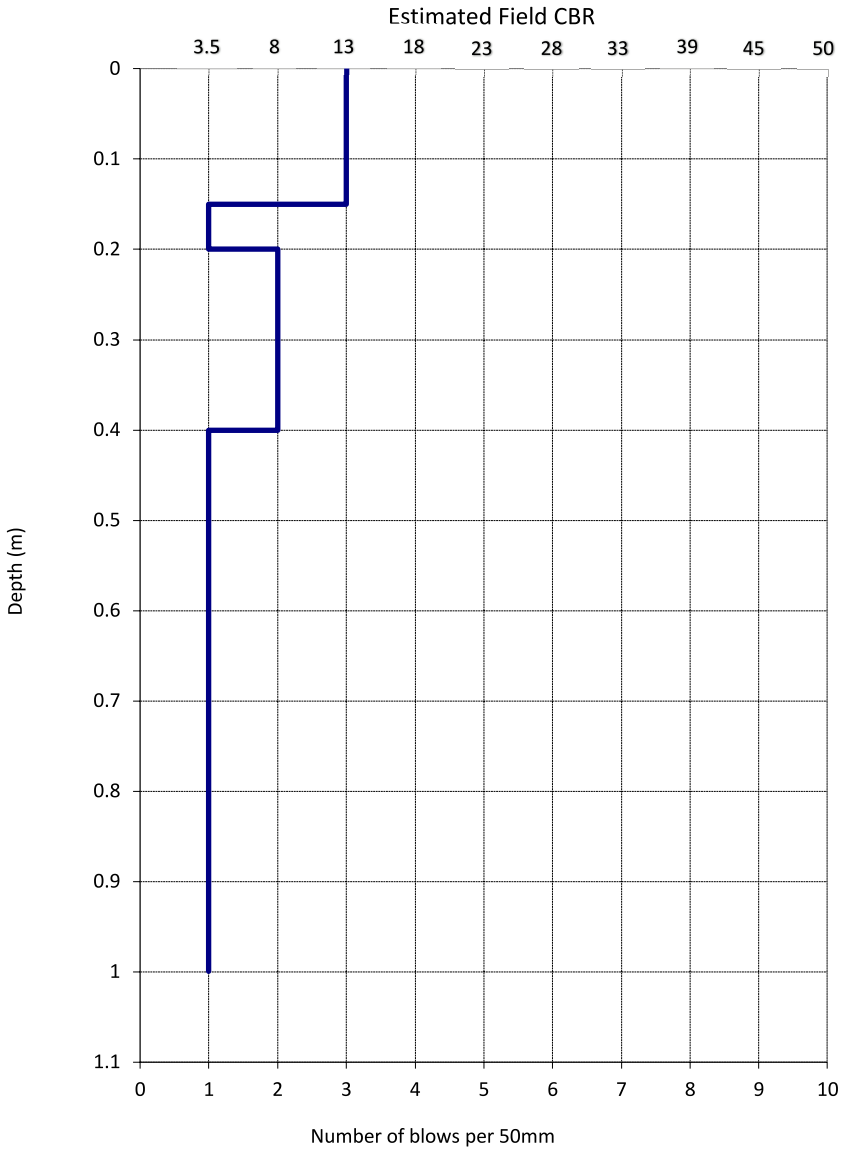
Lab Ref/URN: 74.13

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	13

Chainage	Offset	Lane
670	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	3
150	150	3
200	200	1
250	250	2
300	300	2
350	350	2
400	400	2
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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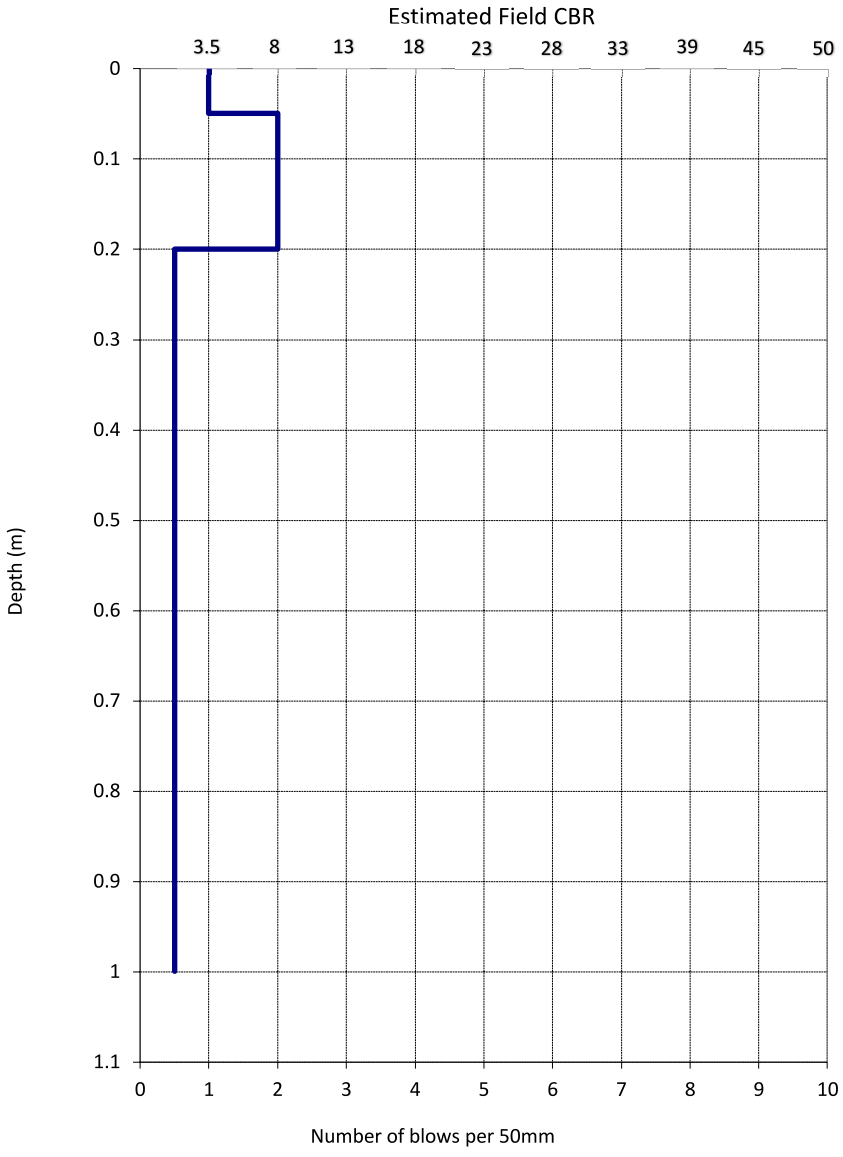
Lab Ref/URN: 74.14

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	14

Chainage	Offset	Lane
680	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	2
200	200	2
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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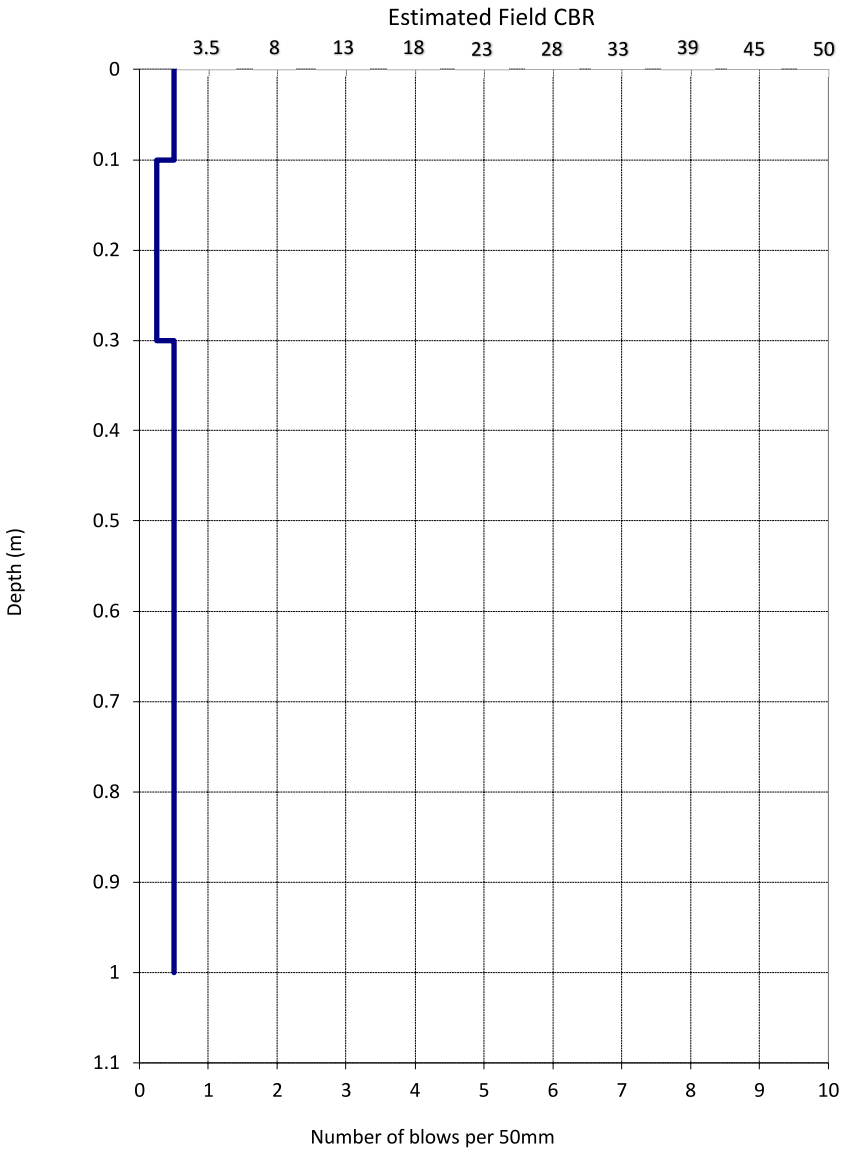
Lab Ref/URN: 74.15

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	15

Chainage	Offset	Lane
690	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.25
200	200	0.25
250	250	0.25
300	300	0.25
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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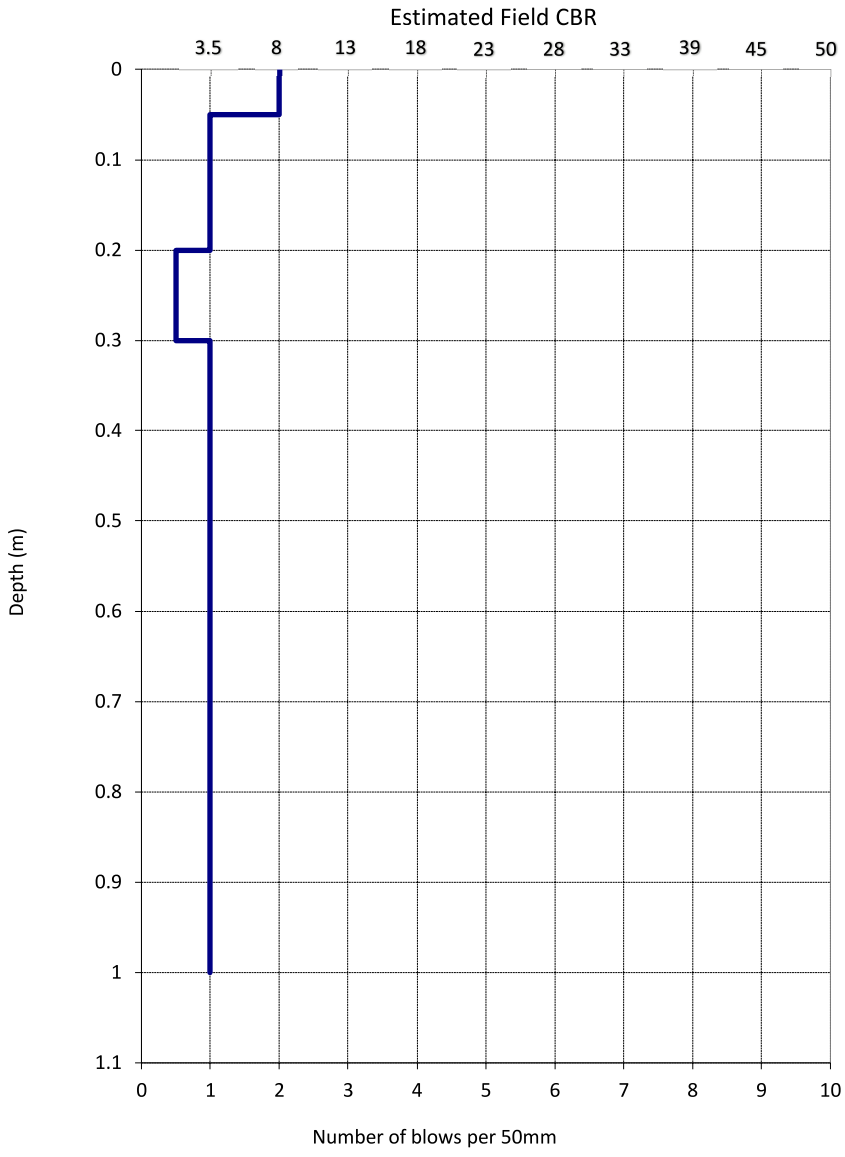
Lab Ref/URN: 74.16

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	16

Chainage	Offset	Lane
700	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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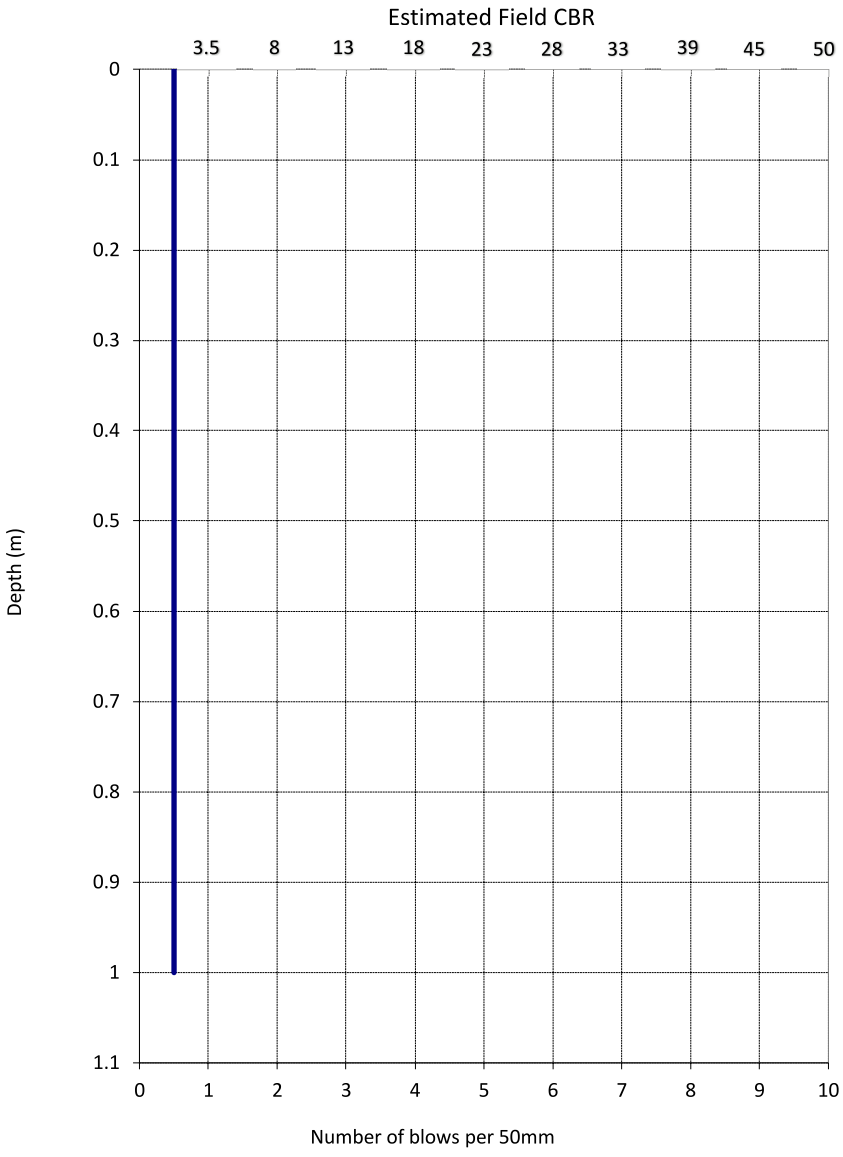
Lab Ref/URN: 74.17

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	17

Chainage	Offset	Lane
710	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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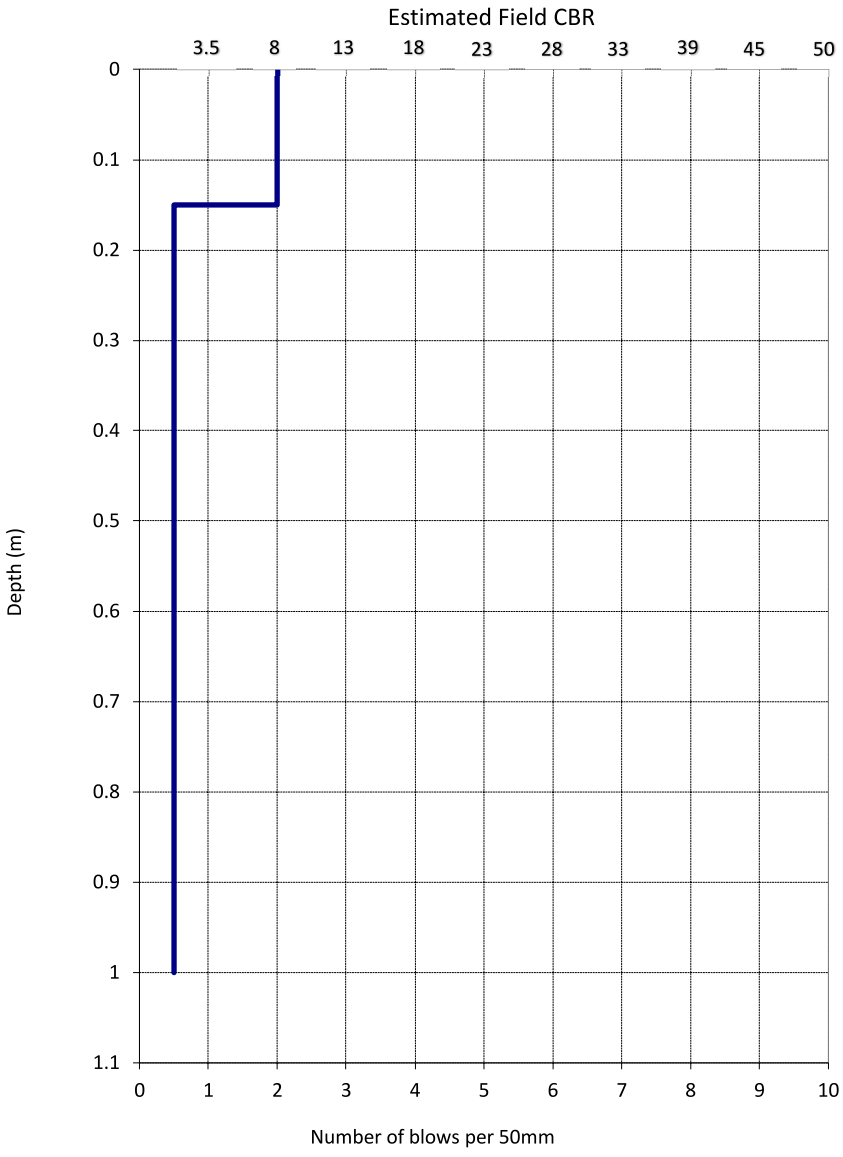
Lab Ref/URN: 74.18

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	18

Chainage	Offset	Lane
720	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	0.5
900	900	0.5
950	950	0.5
1000	1000	0.5



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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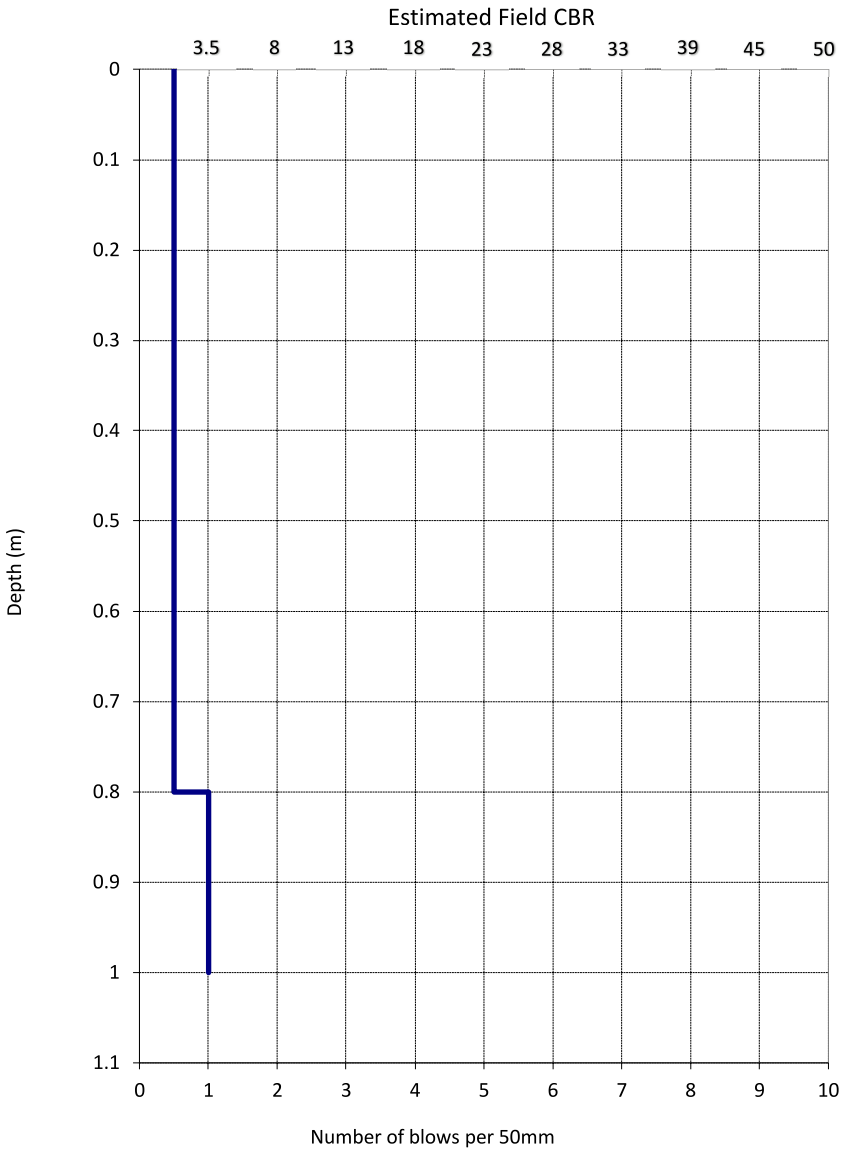
Lab Ref/URN: 74.19

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 1	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	19

Chainage	Offset	Lane
730	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	0.5
200	200	0.5
250	250	0.5
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	0.5
550	550	0.5
600	600	0.5
650	650	0.5
700	700	0.5
750	750	0.5
800	800	0.5
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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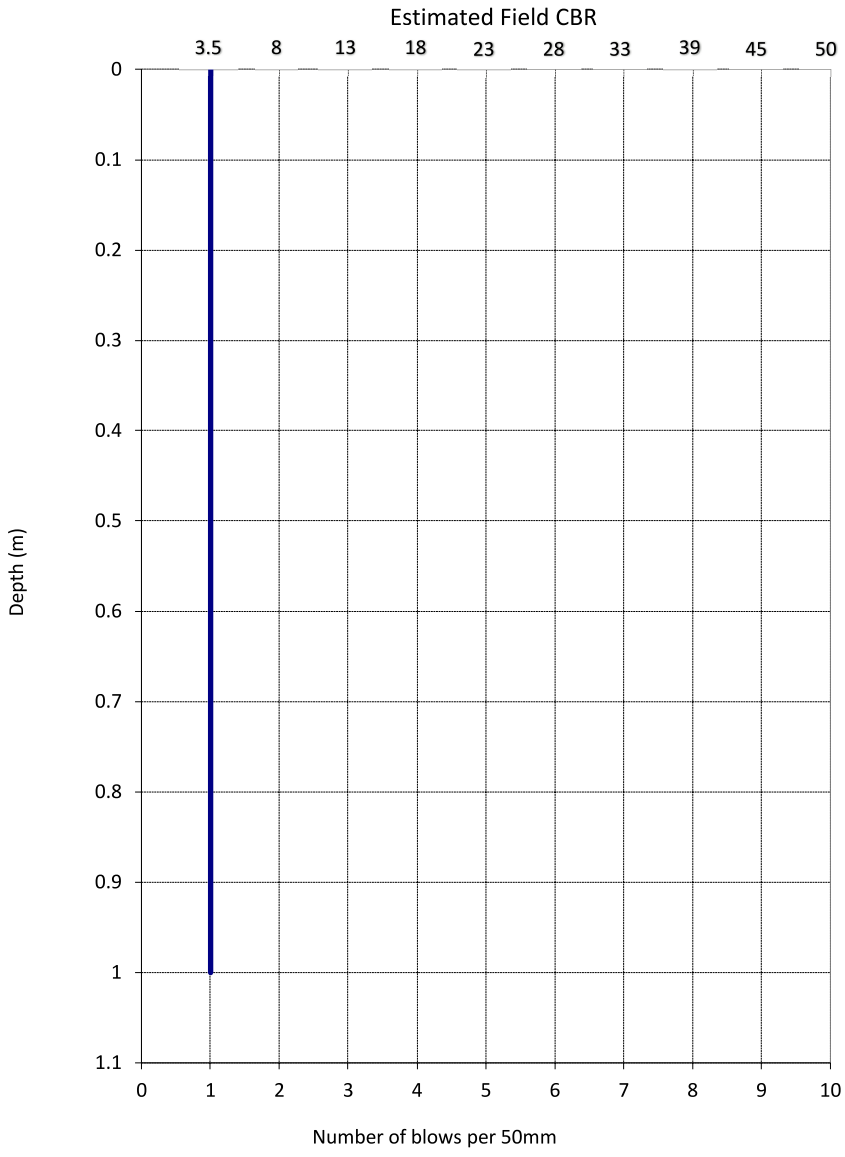
Lab Ref/URN: 74.20

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	20

Chainage	Offset	Lane
300	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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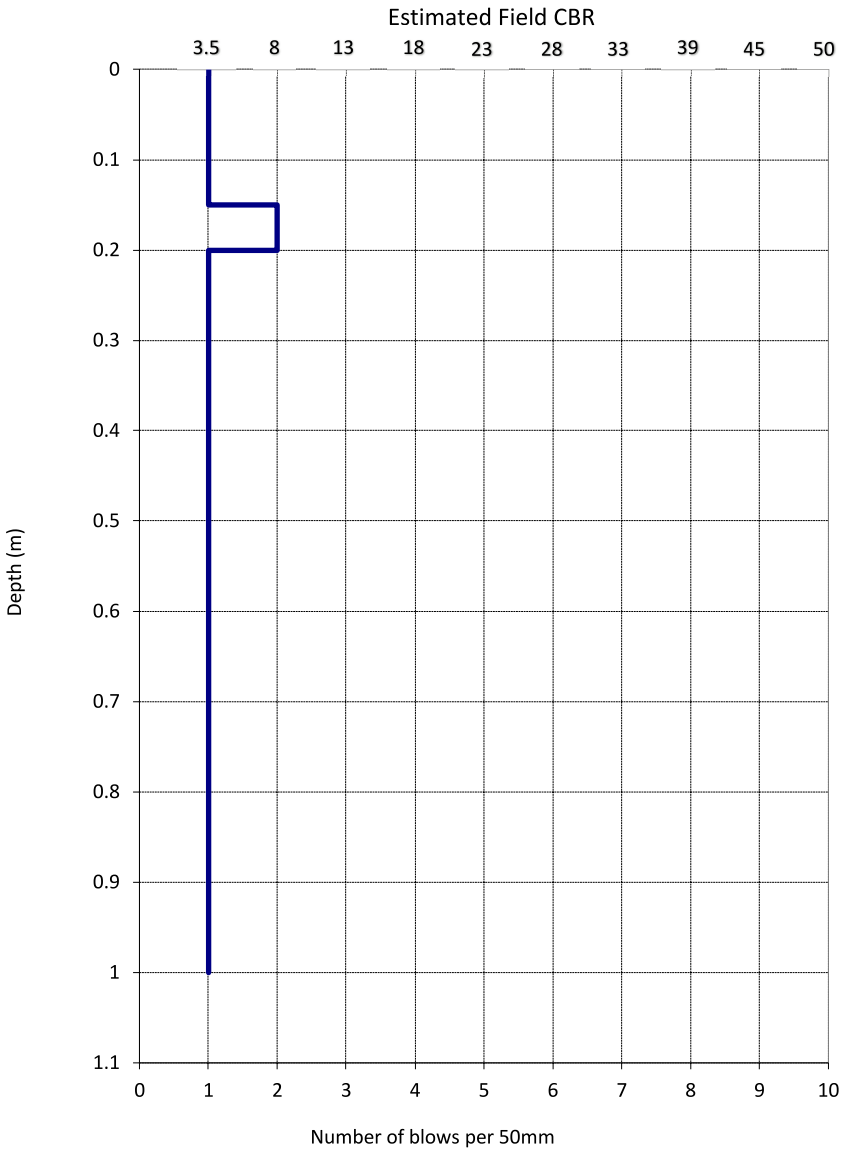
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	21

Chainage	Offset	Lane
310	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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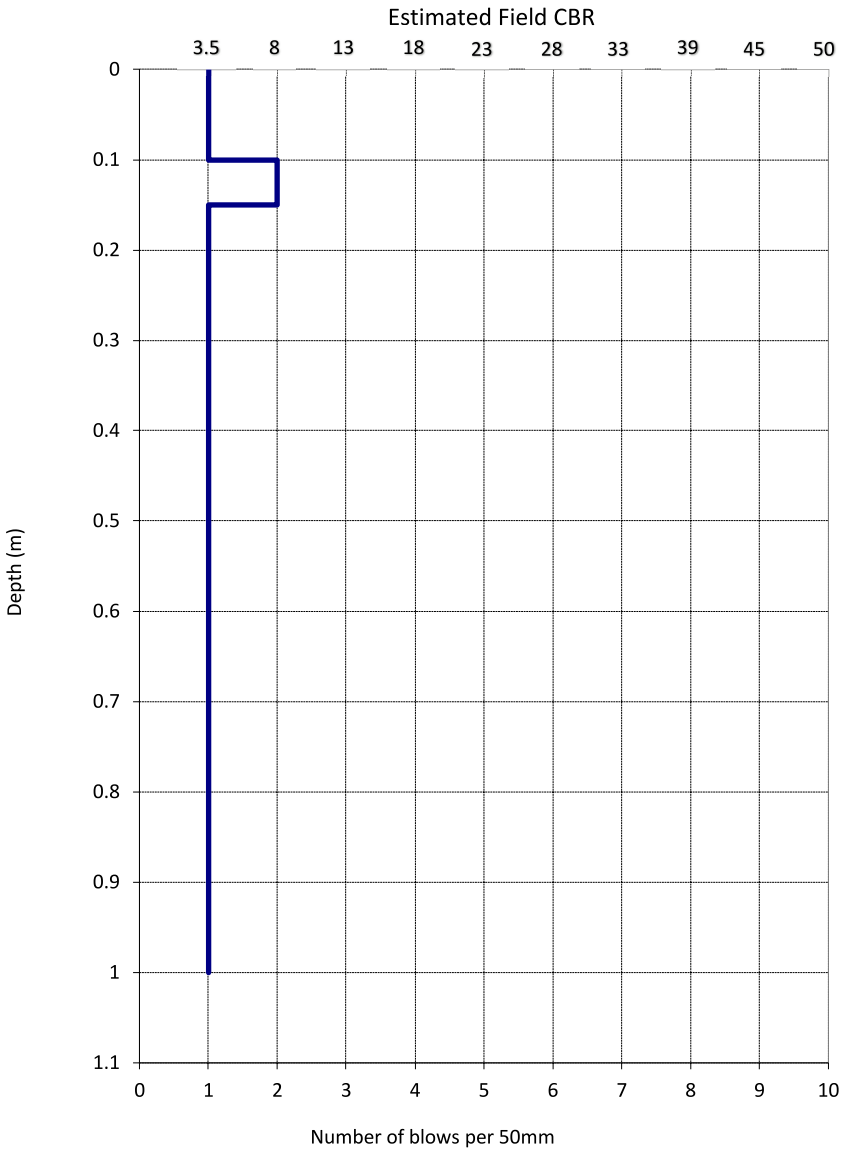
74.22

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	22

Chainage	Offset	Lane
320	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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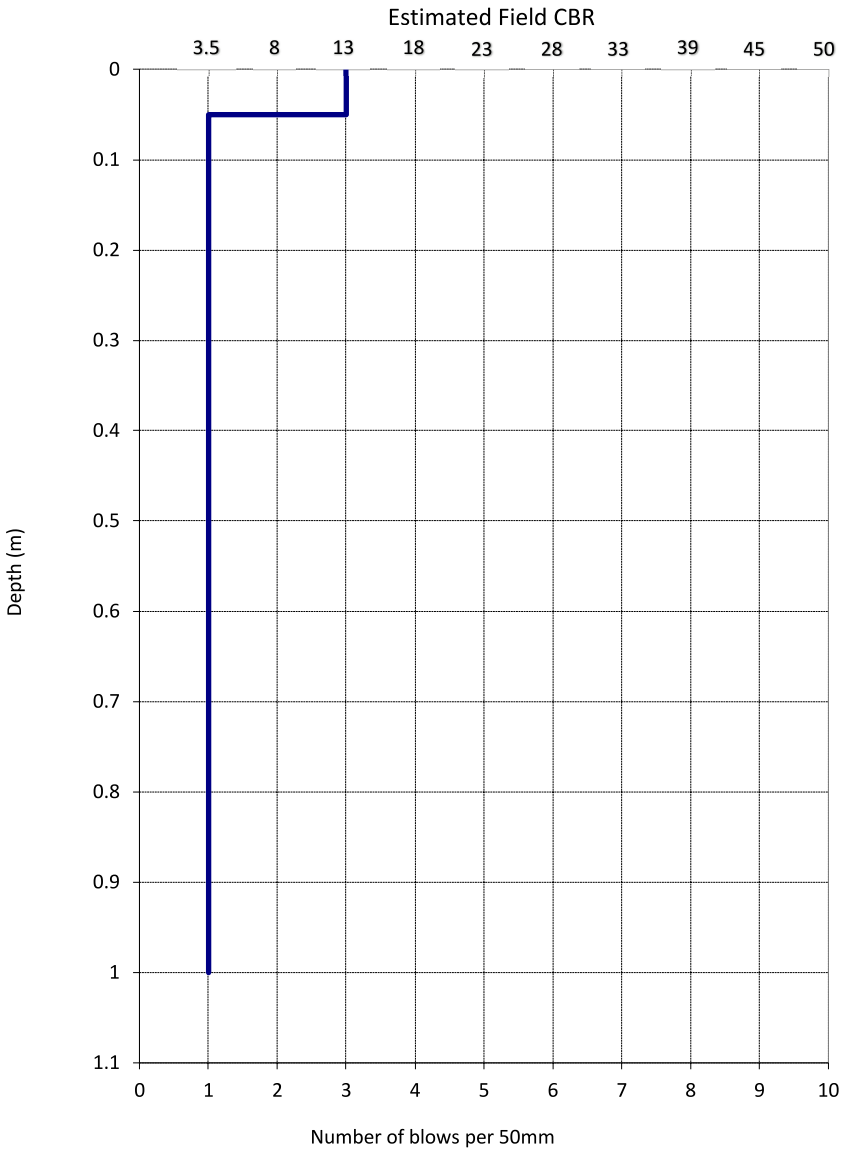
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	23

Chainage	Offset	Lane
330	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	3
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Data Entry By	MIBR	Date	18/04/2024
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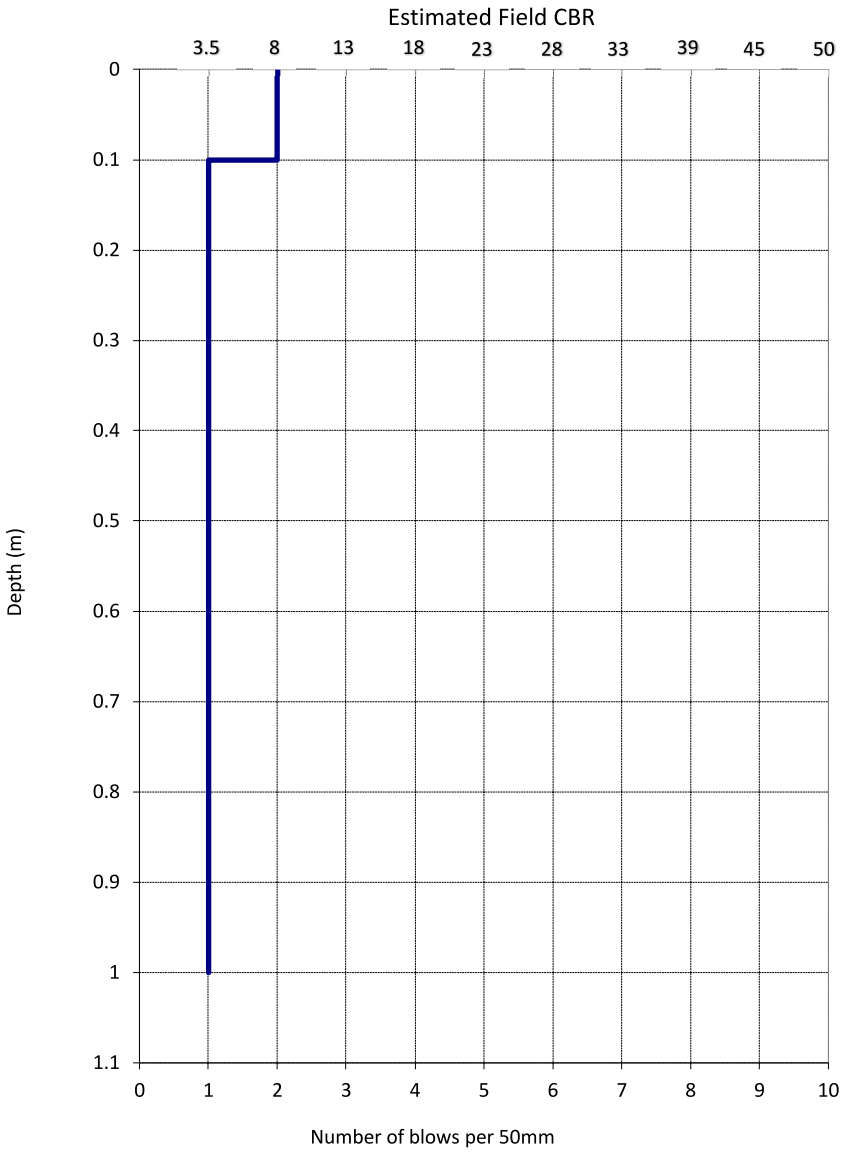
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	24

Chainage	Offset	Lane
340	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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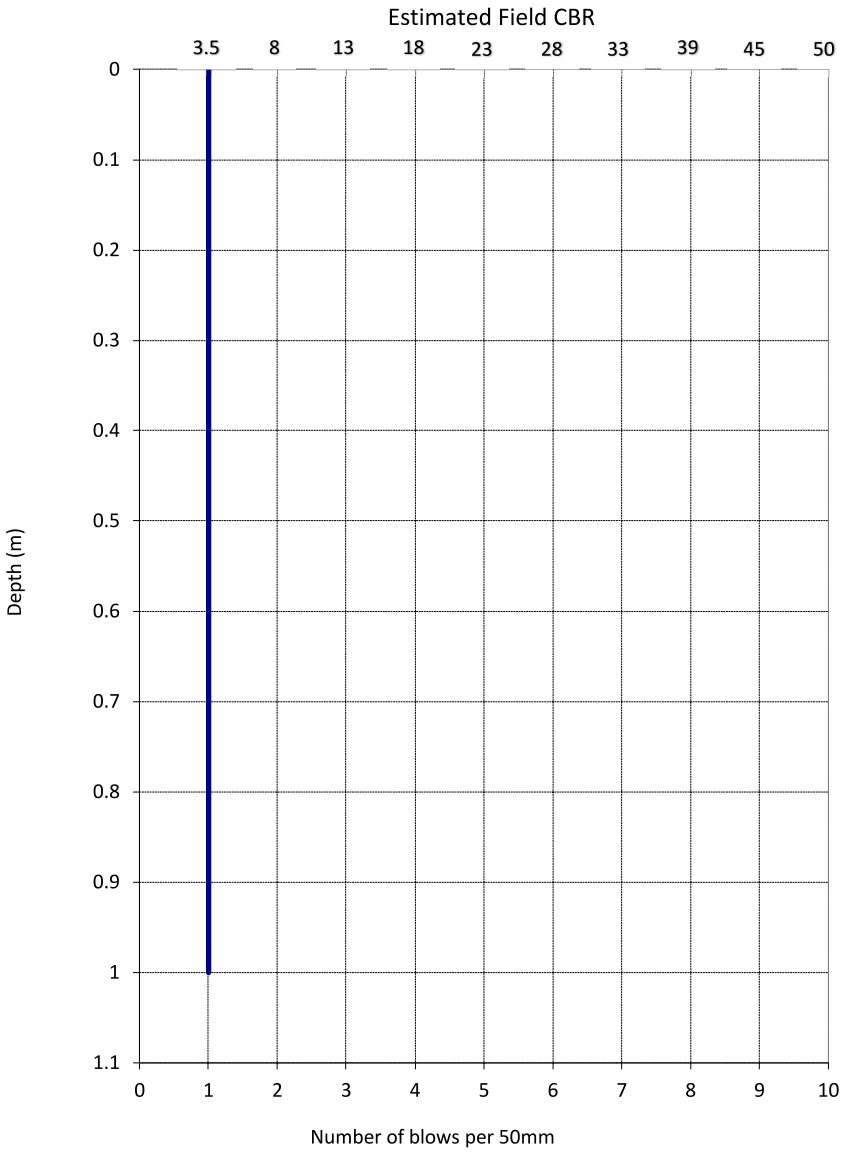
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	25

Chainage	Offset	Lane
350	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
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NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	26

Chainage	Offset	Lane
360	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	2
200	200	2
250	250	2
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
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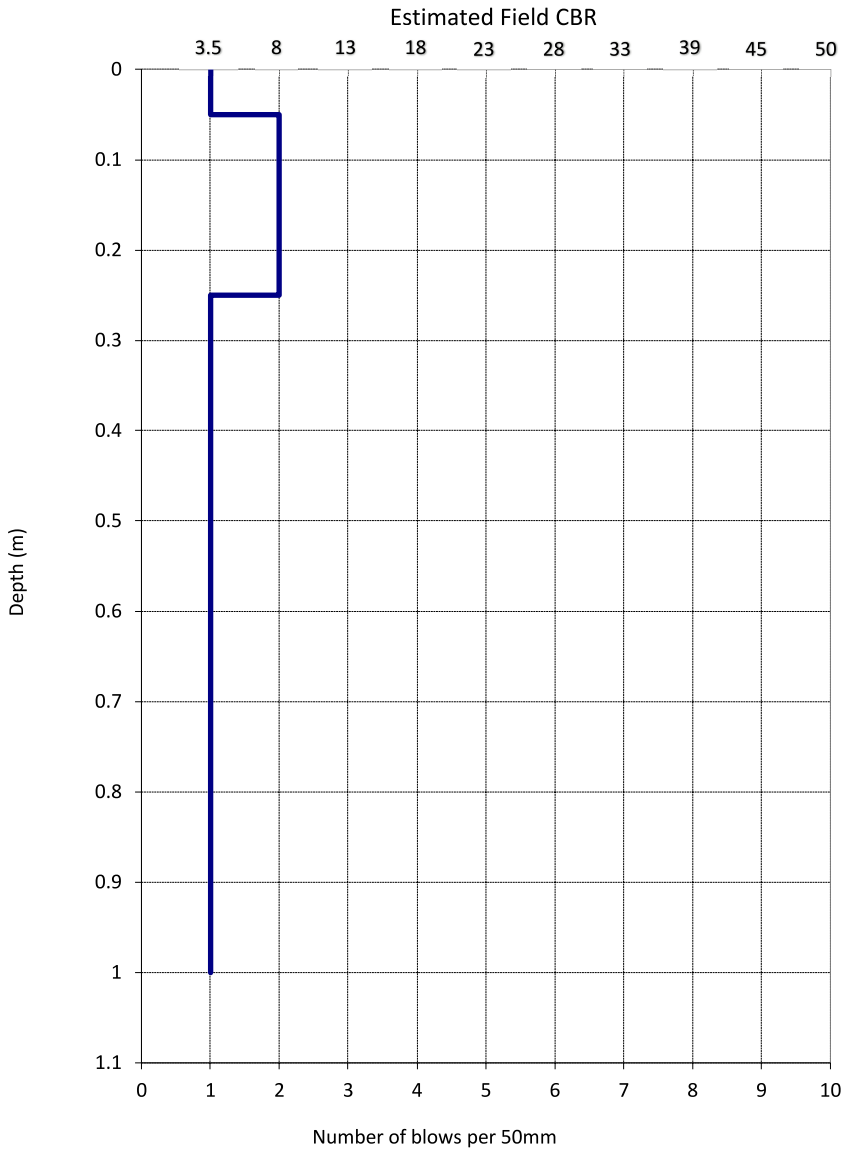
950	950	1
1000	1000	1



Test Remarks

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Checked By	ALEL	Date	30/08/2024

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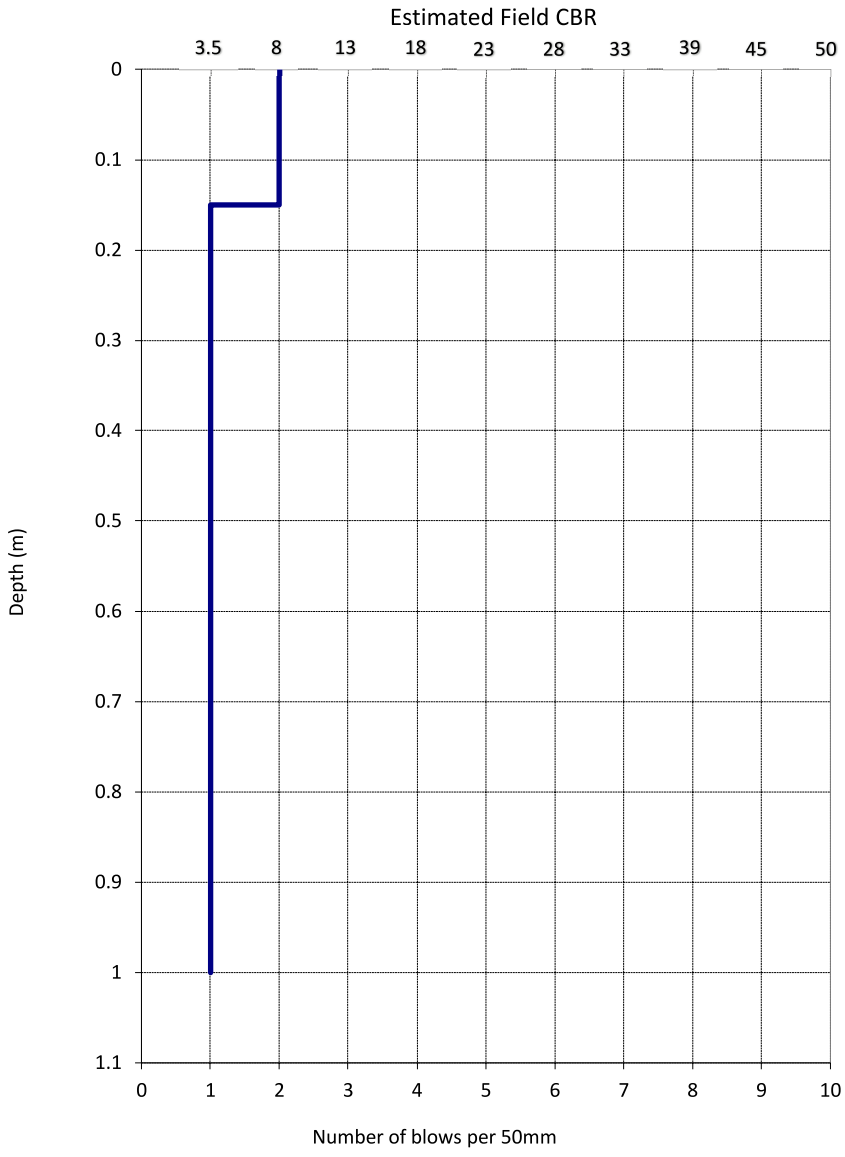
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	27

Chainage	Offset	Lane
370	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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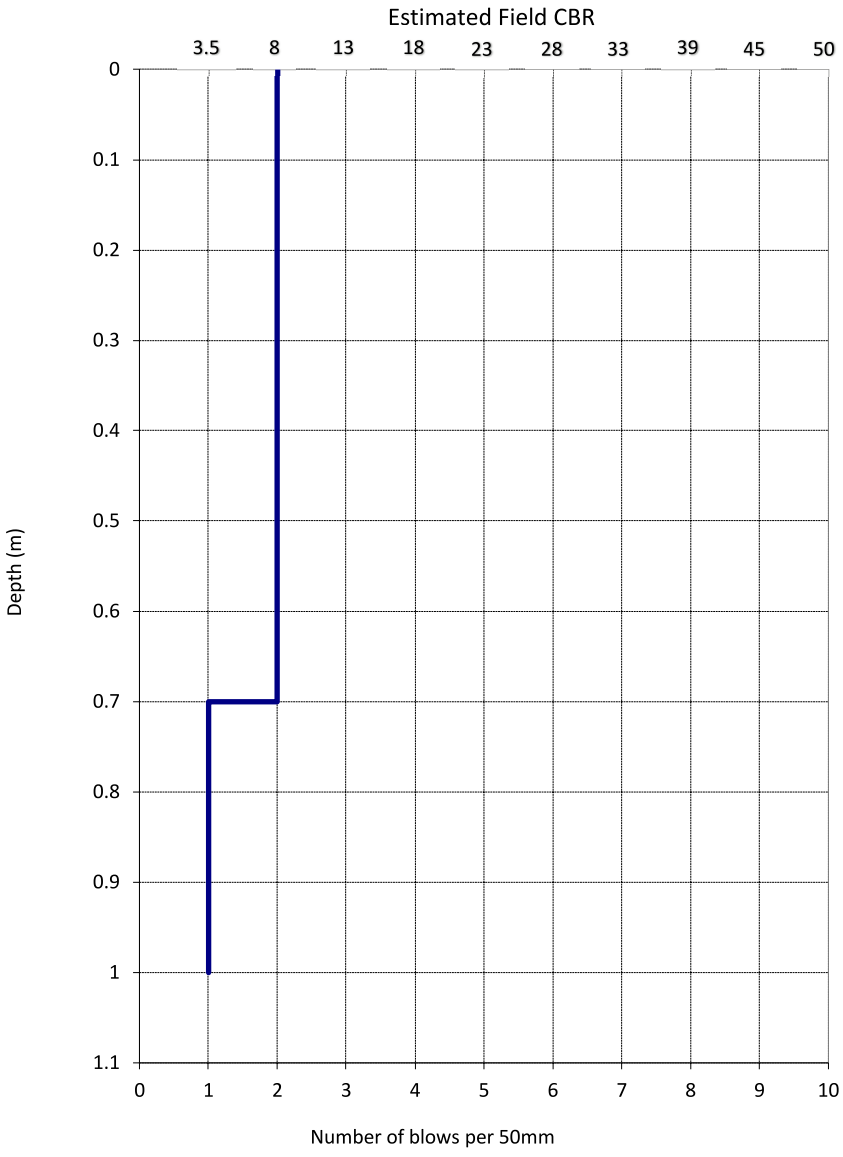
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	28

Chainage	Offset	Lane
380	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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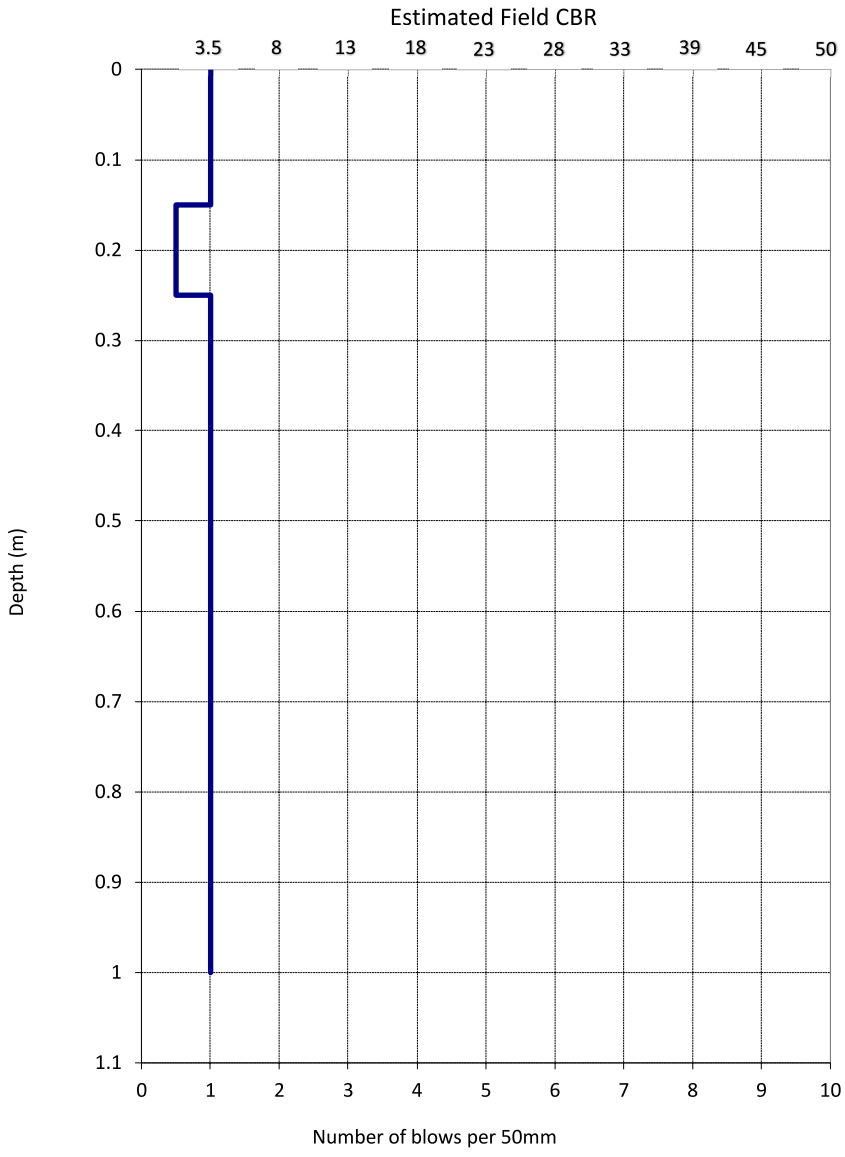
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	29

Chainage	Offset	Lane
390	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	0.5
250	250	0.5
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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Lab Ref/URN: 74.3

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	30

Chainage	Offset	Lane
400	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	1
200	200	1
250	250	0.5
300	300	0.5
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	0.5
850	850	0.5
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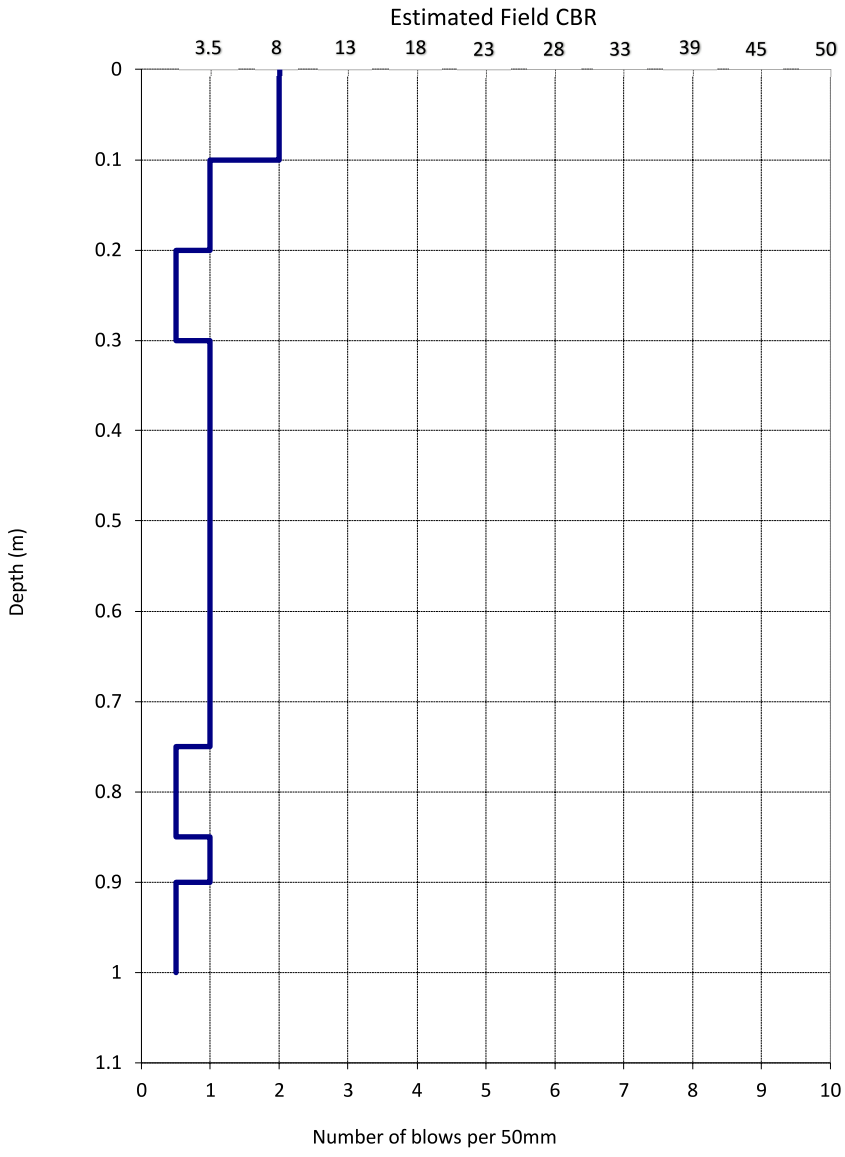
950	950	0.5
1000	1000	0.5



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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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Lab Ref/URN: 74.31

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	31

Chainage	Offset	Lane
410	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	0.5
350	350	0.5
400	400	0.5
450	450	0.5
500	500	1
550	550	1
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700	700	1
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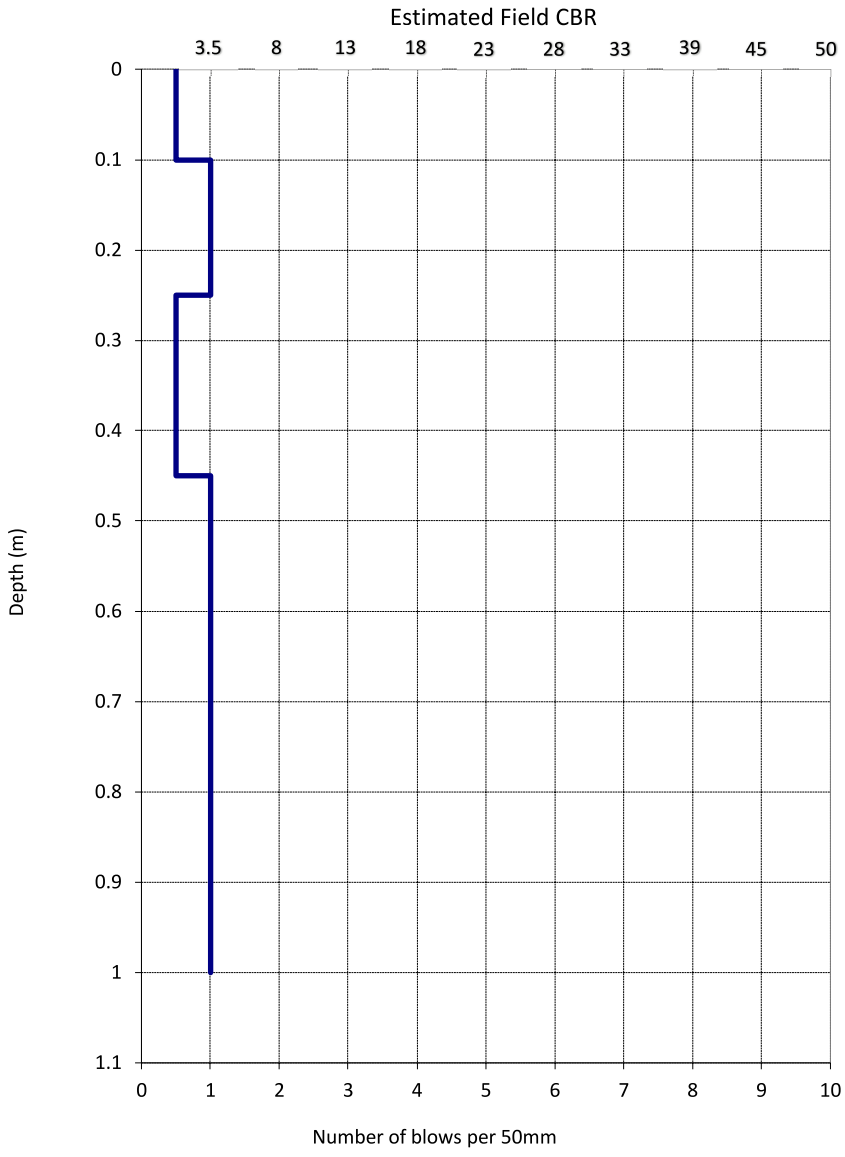
950	950	1
1000	1000	1



Test Remarks

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Data Entry By	MIBR	Date	18/04/2024
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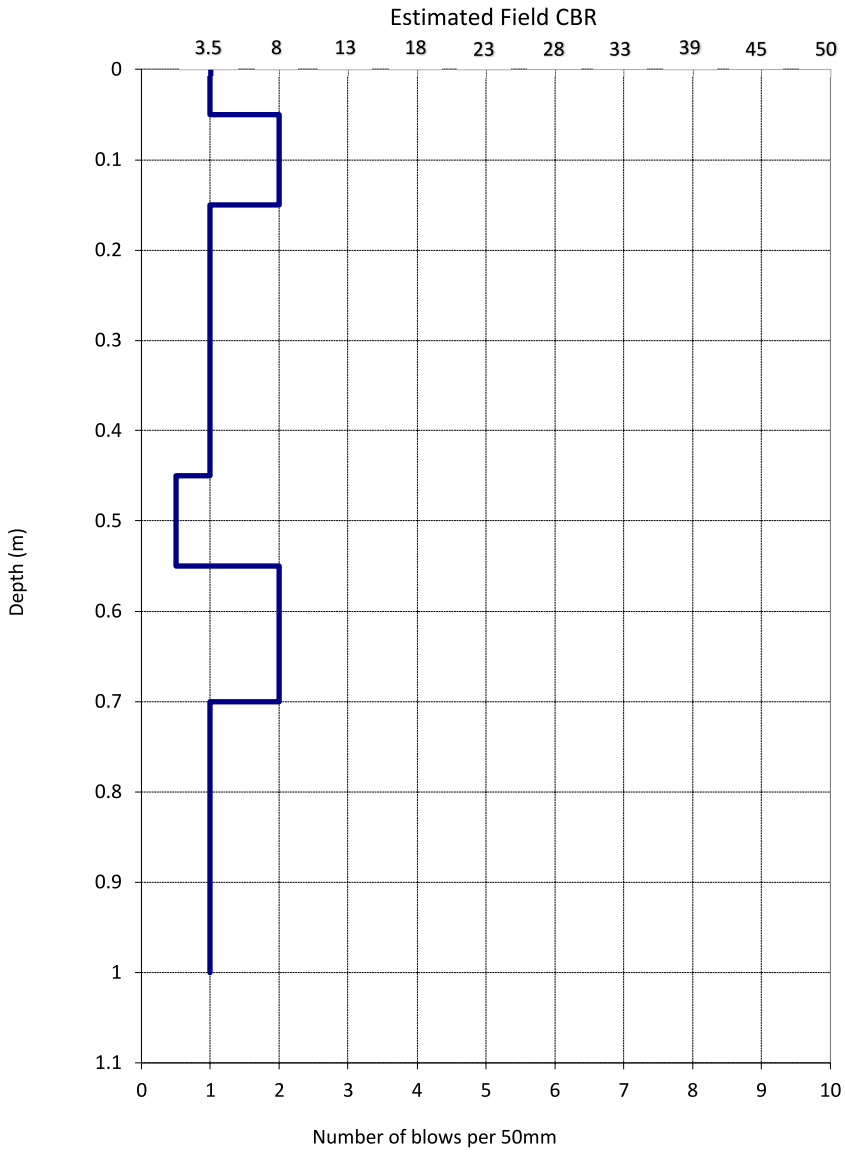
Lab Ref/URN: 74.32

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	32

Chainage	Offset	Lane
420	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	2
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	0.5
550	550	0.5
600	600	2
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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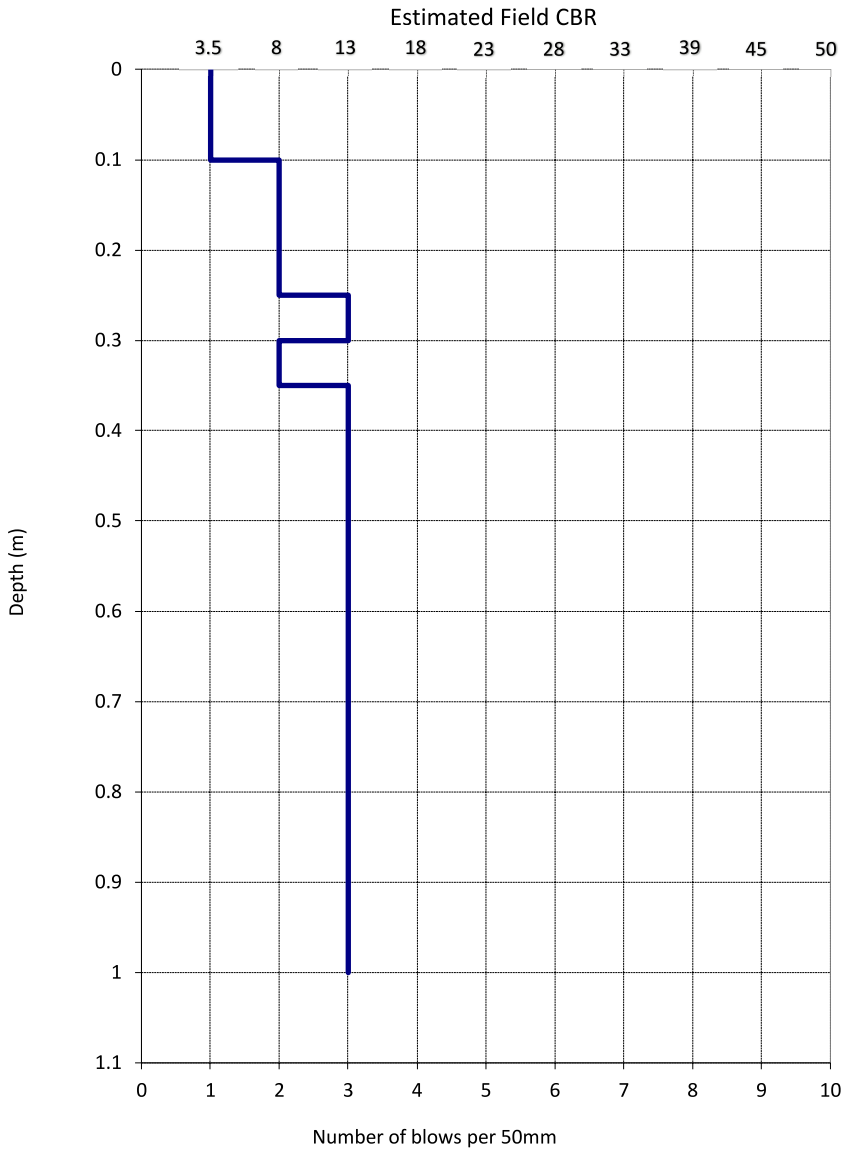
Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	33

Chainage	Offset	Lane
430	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	2
250	250	2
300	300	3
350	350	2
400	400	3
450	450	3
500	500	3
550	550	3
600	600	3
650	650	3
700	700	3
750	750	3
800	800	3
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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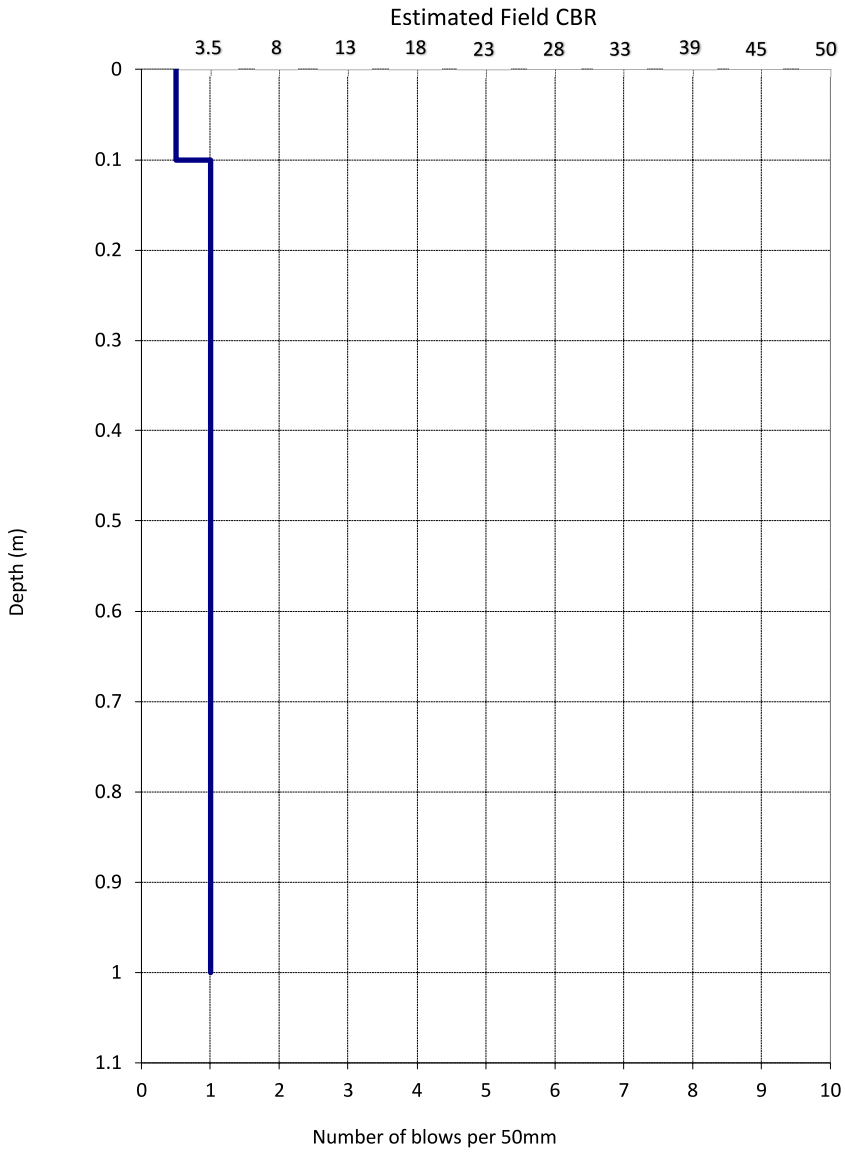
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	34

Chainage	Offset	Lane
440	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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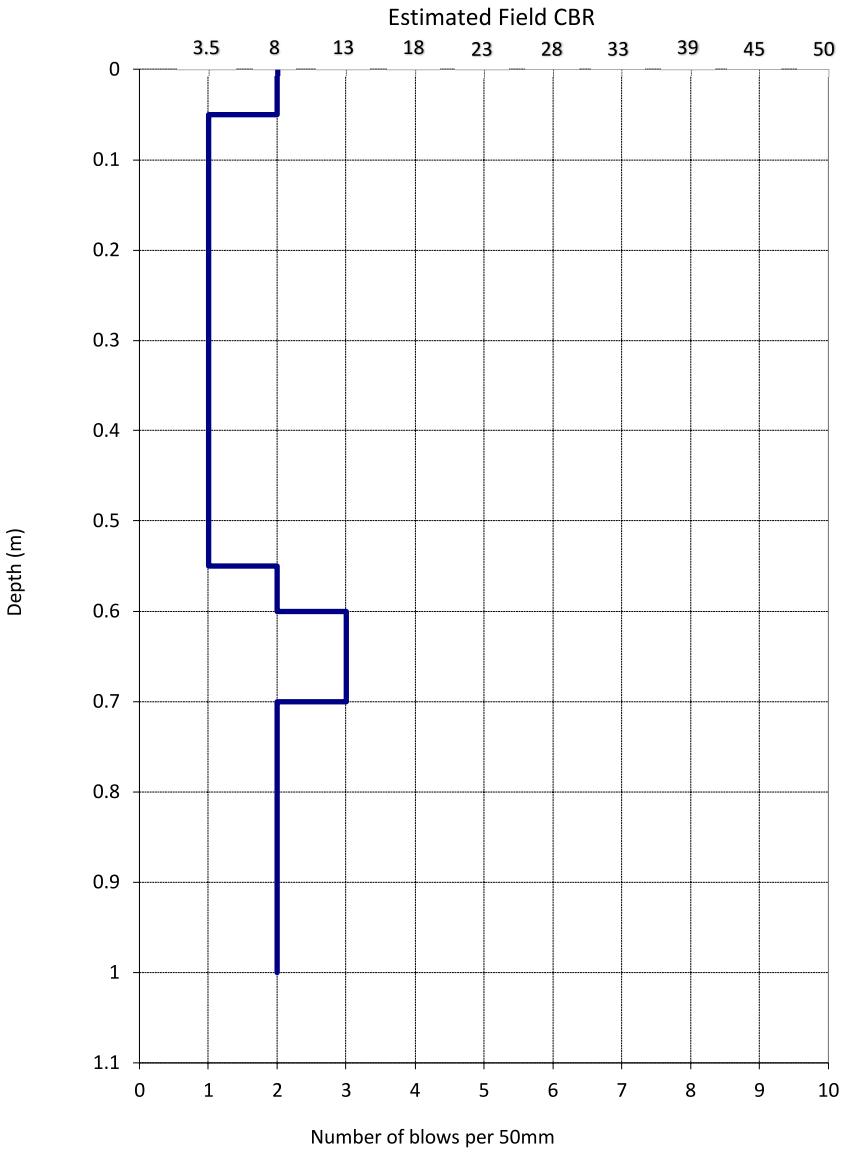
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	35

Chainage	Offset	Lane
450	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	2
650	650	3
700	700	3
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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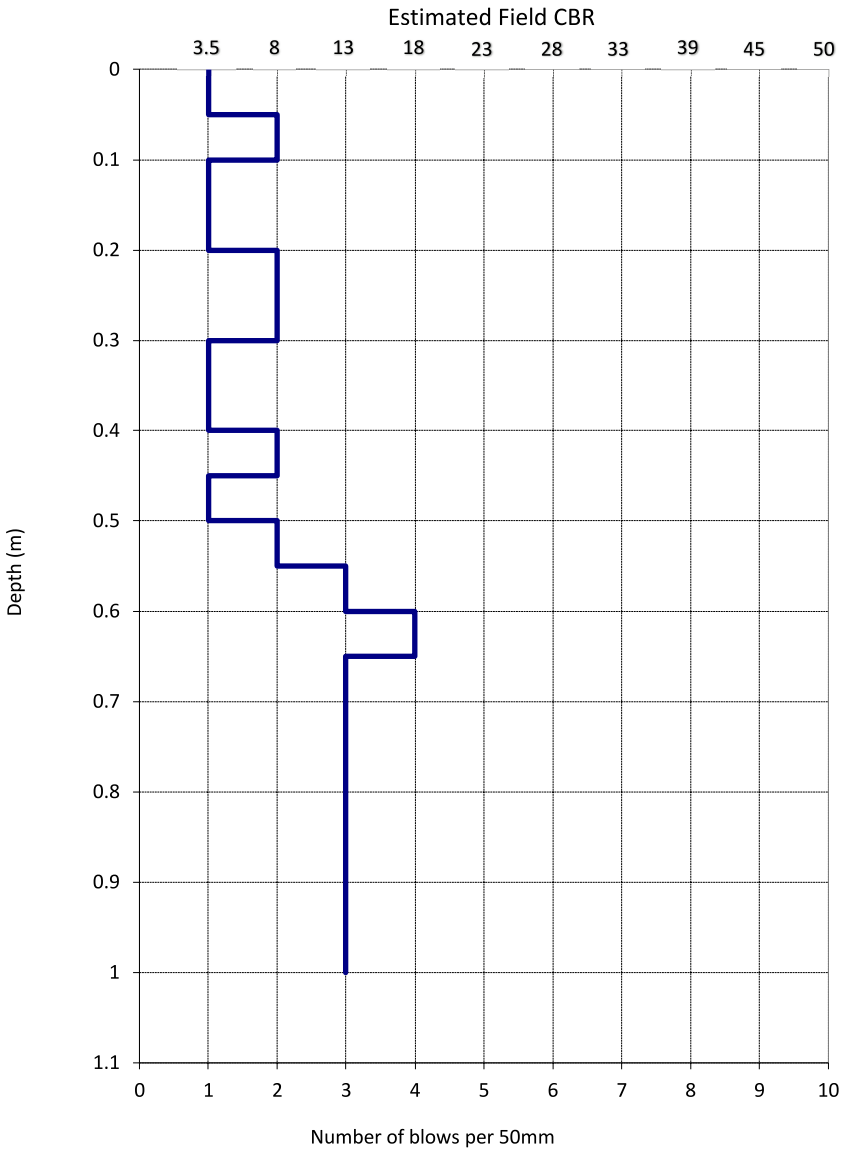
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	36

Chainage	Offset	Lane
460	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	1
200	200	1
250	250	2
300	300	2
350	350	1
400	400	1
450	450	2
500	500	1
550	550	2
600	600	3
650	650	4
700	700	3
750	750	3
800	800	3
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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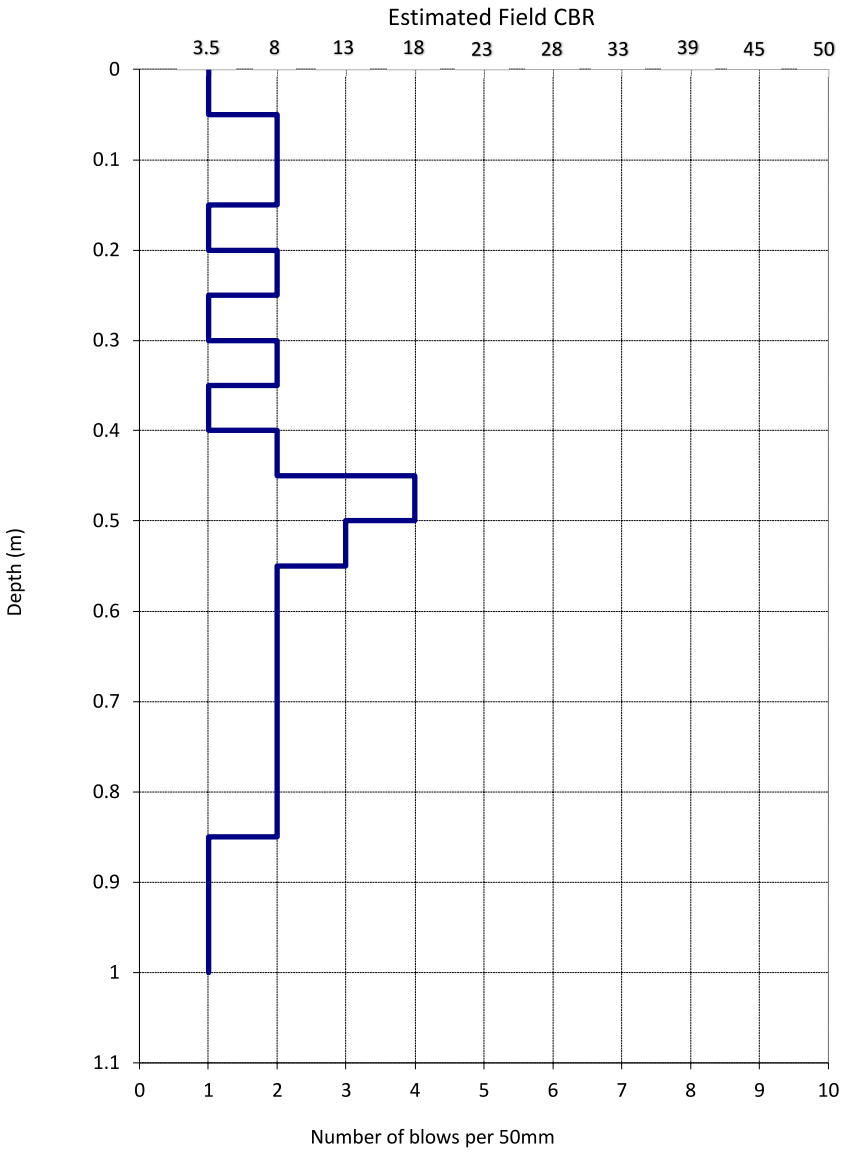
74.37

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	37

Chainage	Offset	Lane
470	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	2
200	200	1
250	250	2
300	300	1
350	350	2
400	400	1
450	450	2
500	500	4
550	550	3
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	1
950	950	1
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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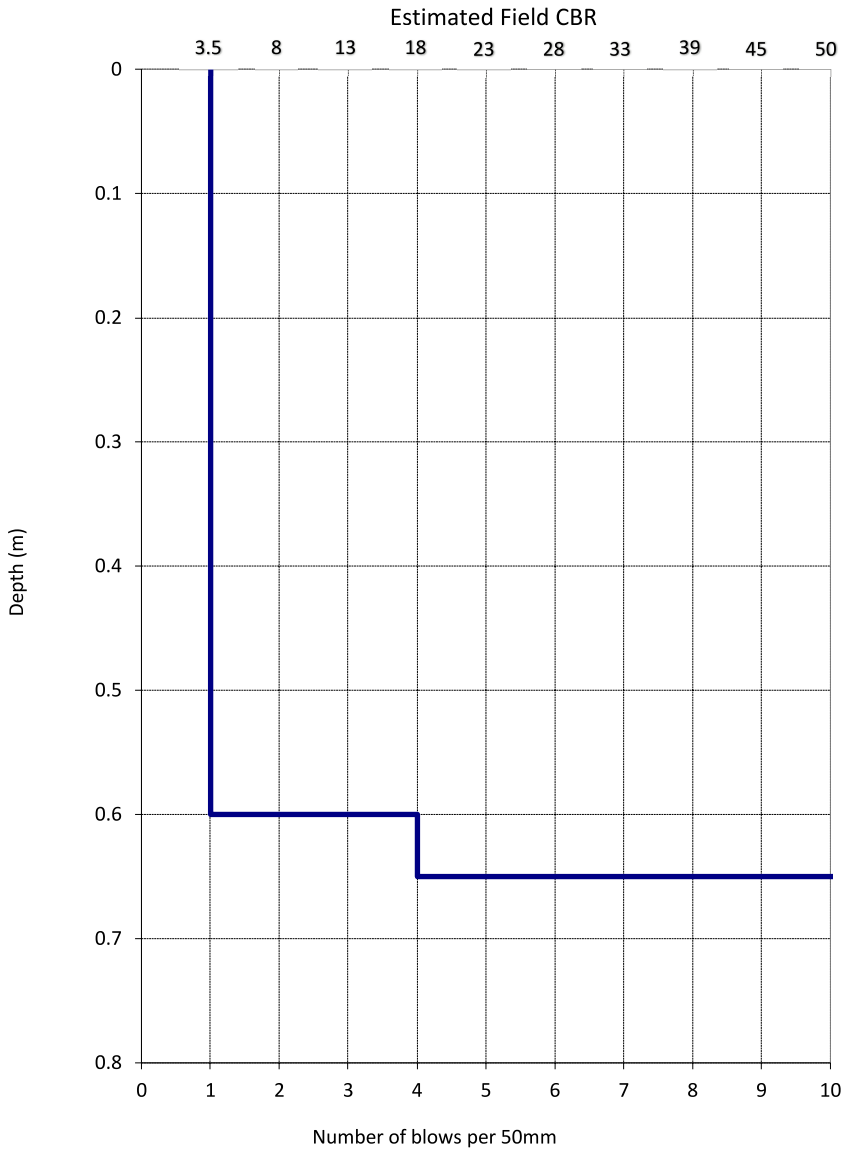
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	38

Chainage	Offset	Lane
480	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	1
350	350	1
400	400	1
450	450	1
500	500	1
550	550	1
600	600	1
650	650	4
700	700	12
750	750	UTP
800	800	
850	850	
900	900	
950	950	
1000	1000	



Test Remarks

Refusal at 750 mm.

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS). Please note Estimated Field CBR cannot be calculated over 10 blows.

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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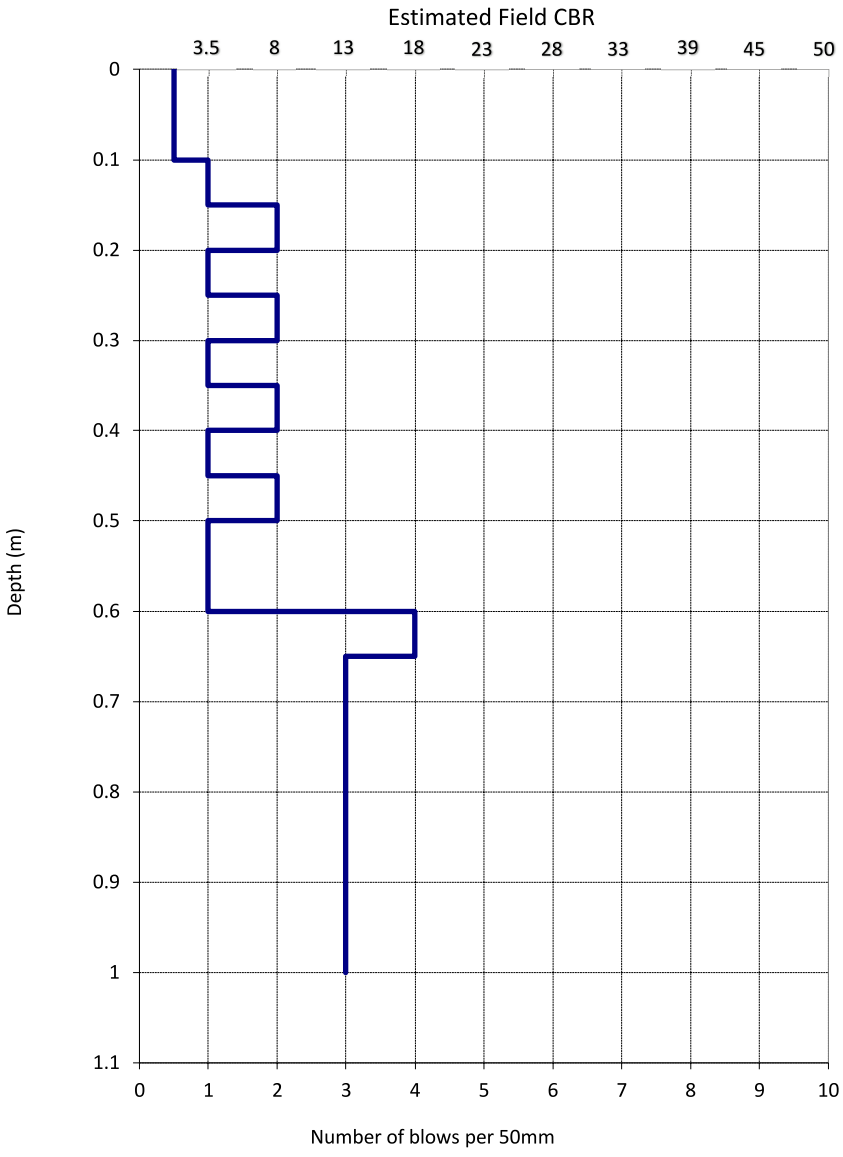
74.39

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	39

Chainage	Offset	Lane
490	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	0.5
100	100	0.5
150	150	1
200	200	2
250	250	1
300	300	2
350	350	1
400	400	2
450	450	1
500	500	2
550	550	1
600	600	1
650	650	4
700	700	3
750	750	3
800	800	3
850	850	3
900	900	3
950	950	3
1000	1000	3



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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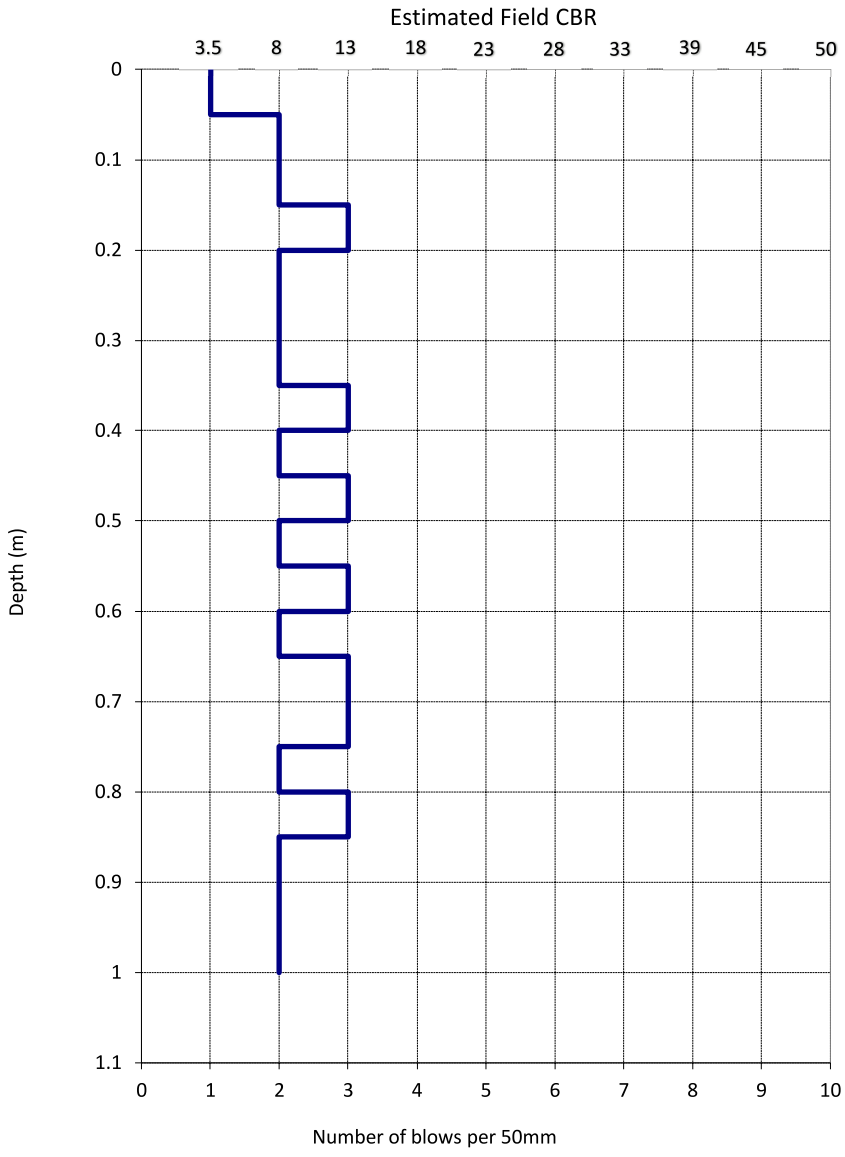
74.40

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	40

Chainage	Offset	Lane
500	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	2
150	150	2
200	200	3
250	250	2
300	300	2
350	350	2
400	400	3
450	450	2
500	500	3
550	550	2
600	600	3
650	650	2
700	700	3
750	750	3
800	800	2
850	850	3
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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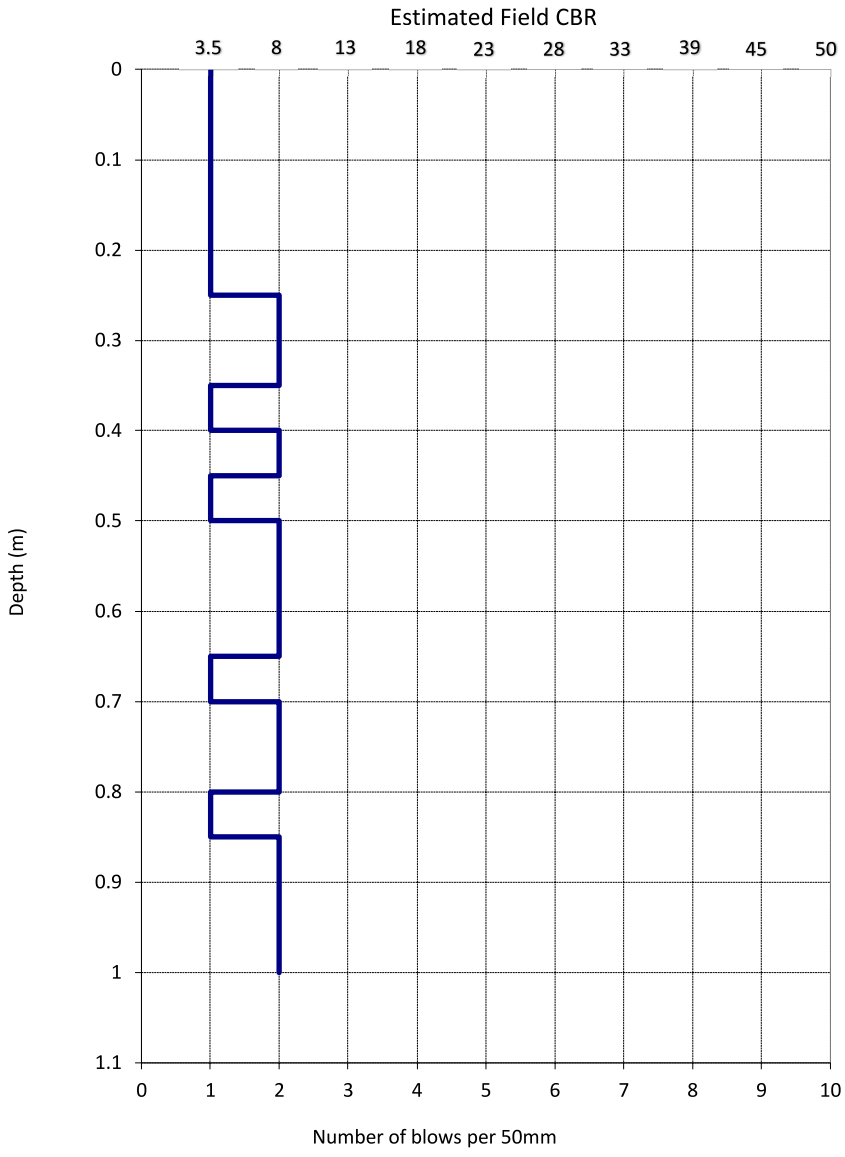
Lab Ref/URN: 74.41

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	41

Chainage	Offset	Lane
510	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	2
350	350	2
400	400	1
450	450	2
500	500	1
550	550	2
600	600	2
650	650	2
700	700	1
750	750	2
800	800	2
850	850	1
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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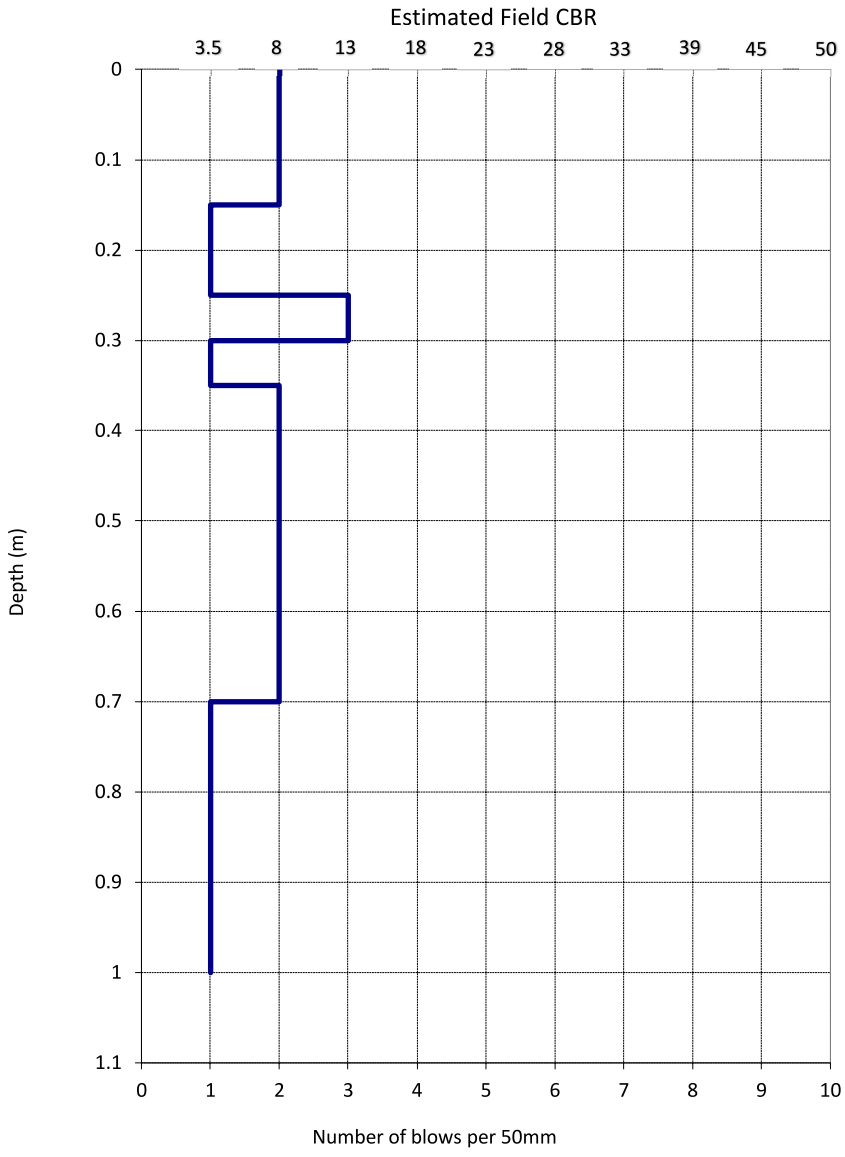
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	42

Chainage	Offset	Lane
520	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	2
150	150	2
200	200	1
250	250	1
300	300	3
350	350	1
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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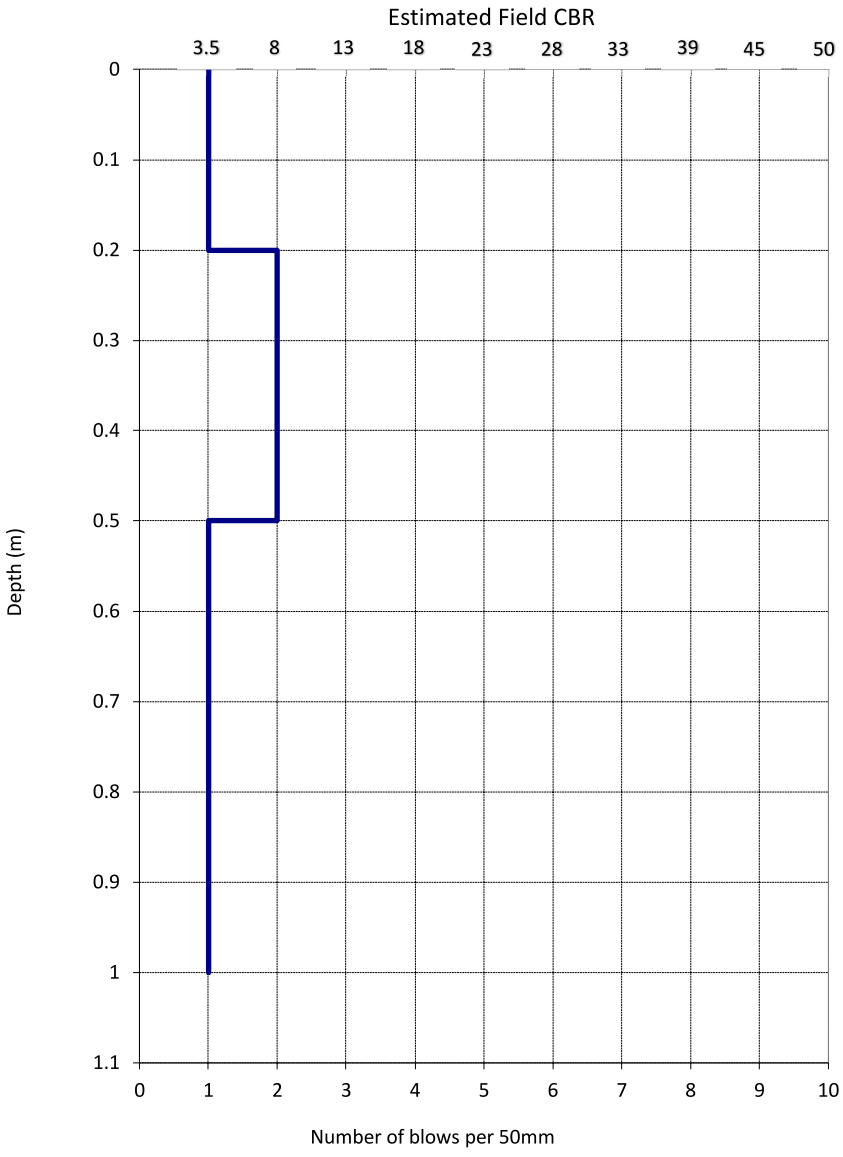
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	43

Chainage	Offset	Lane
530	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	1
600	600	1
650	650	1
700	700	1
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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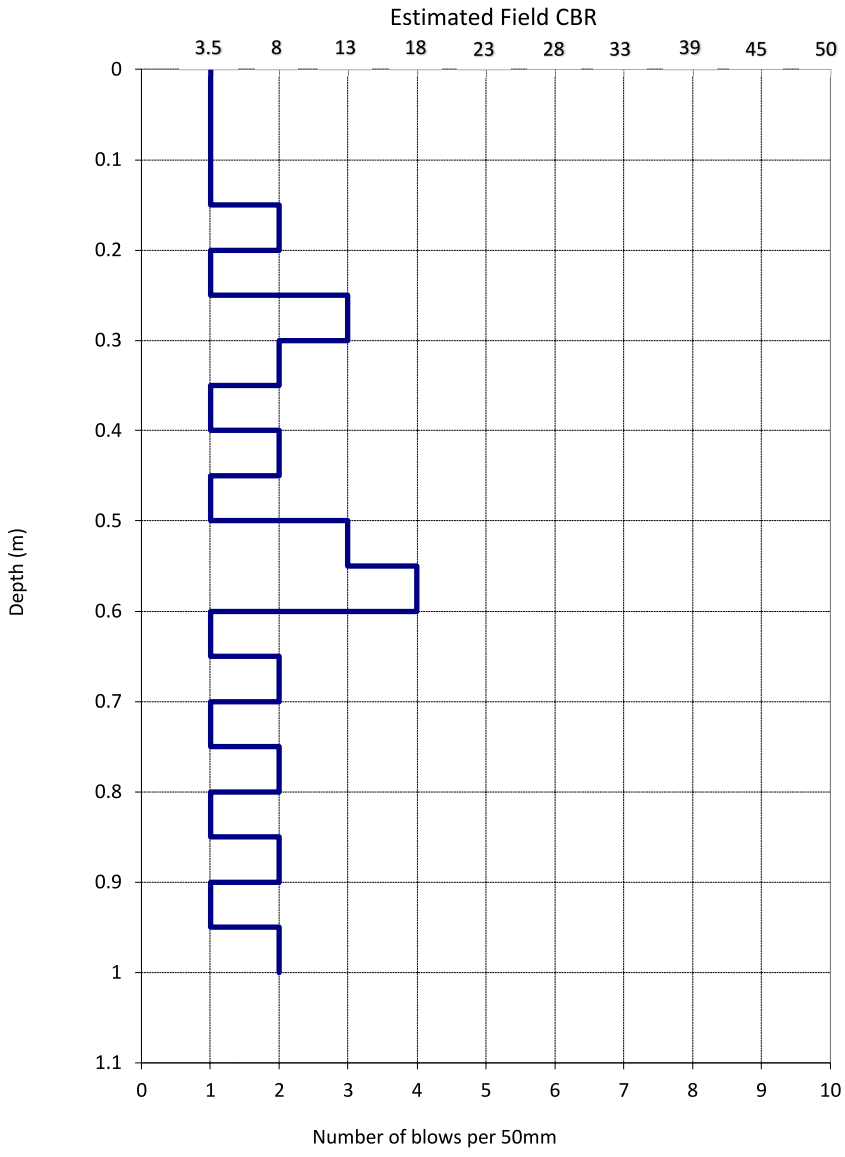
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	44

Chainage	Offset	Lane
540	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	1
300	300	3
350	350	2
400	400	1
450	450	2
500	500	1
550	550	3
600	600	4
650	650	1
700	700	2
750	750	1
800	800	2
850	850	1
900	900	2
950	950	1
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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74.45

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	45

Chainage	Offset	Lane
550	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	2
300	300	1
350	350	3
400	400	2
450	450	1
500	500	2
550	550	3
600	600	5
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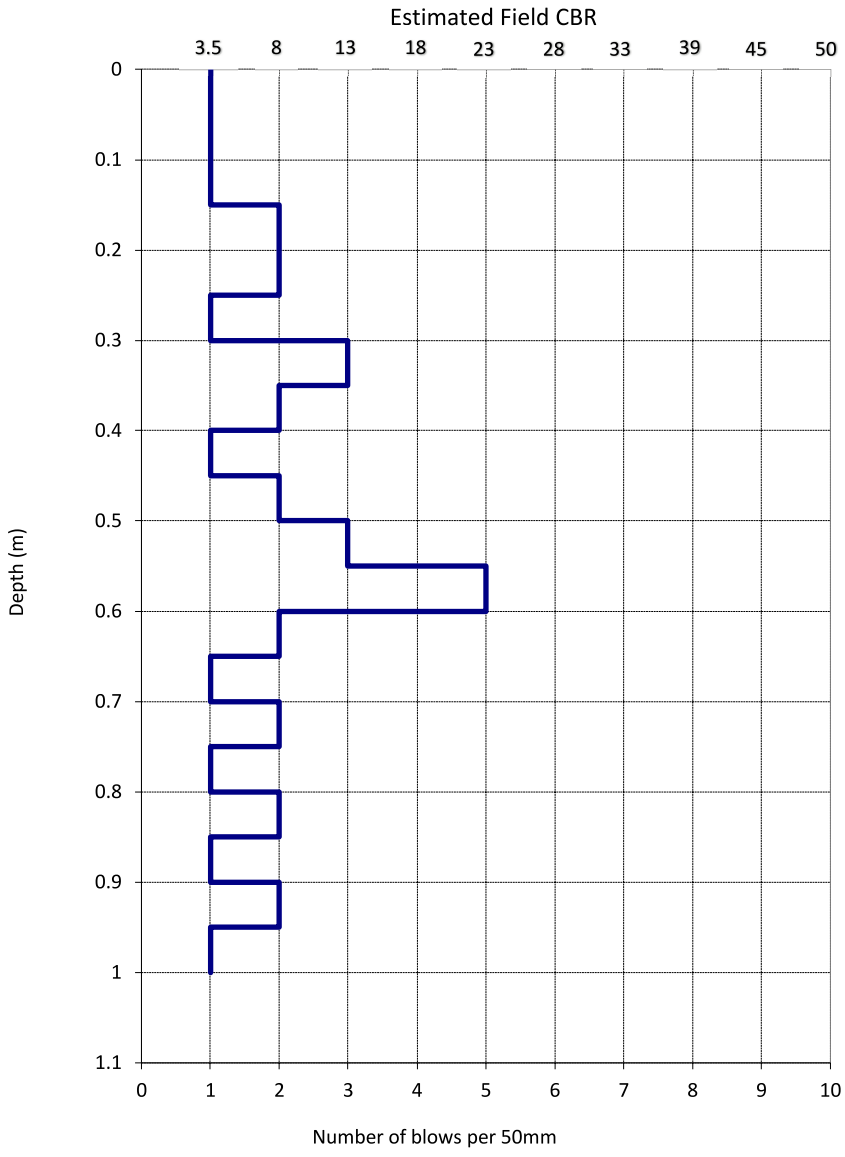
850	850	2
900	900	1
950	950	2
1000	1000	1



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
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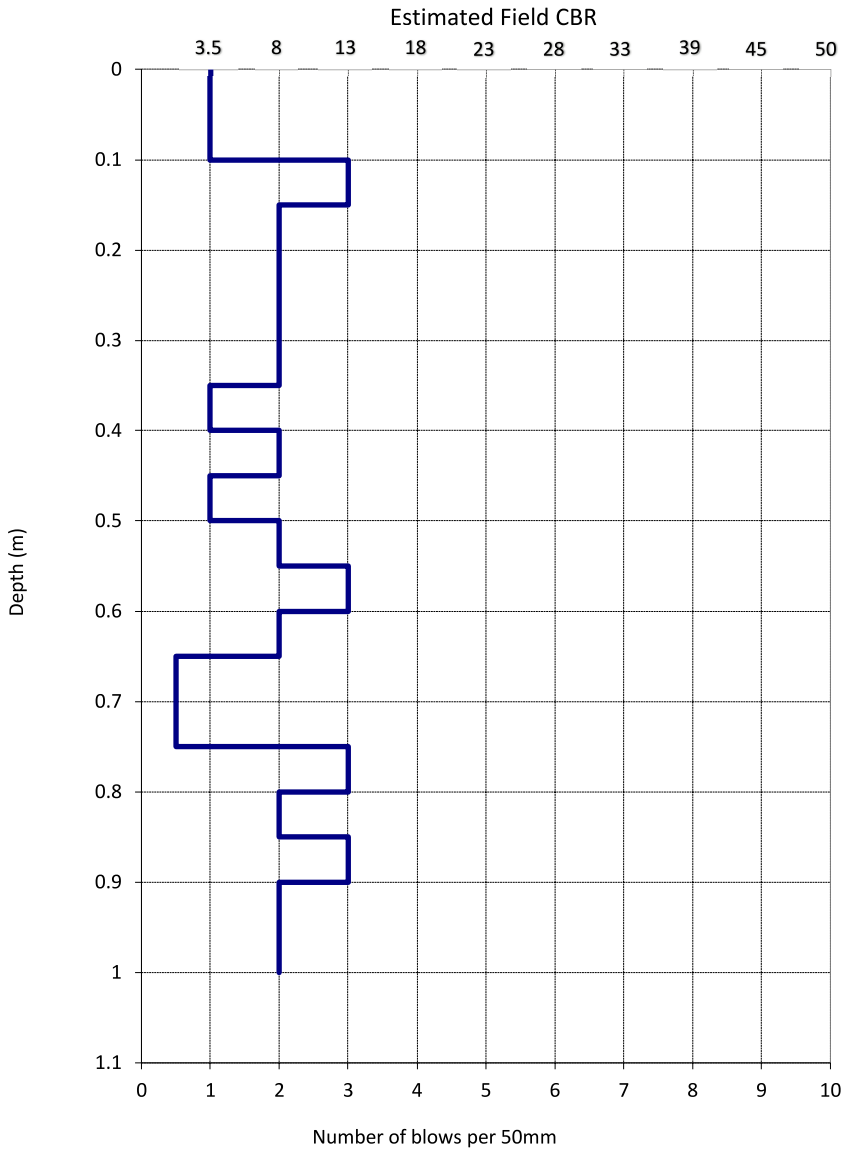
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	46

Chainage	Offset	Lane
560	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	3
200	200	2
250	250	2
300	300	2
350	350	2
400	400	1
450	450	2
500	500	1
550	550	2
600	600	3
650	650	2
700	700	0.5
750	750	0.5
800	800	3
850	850	2
900	900	3
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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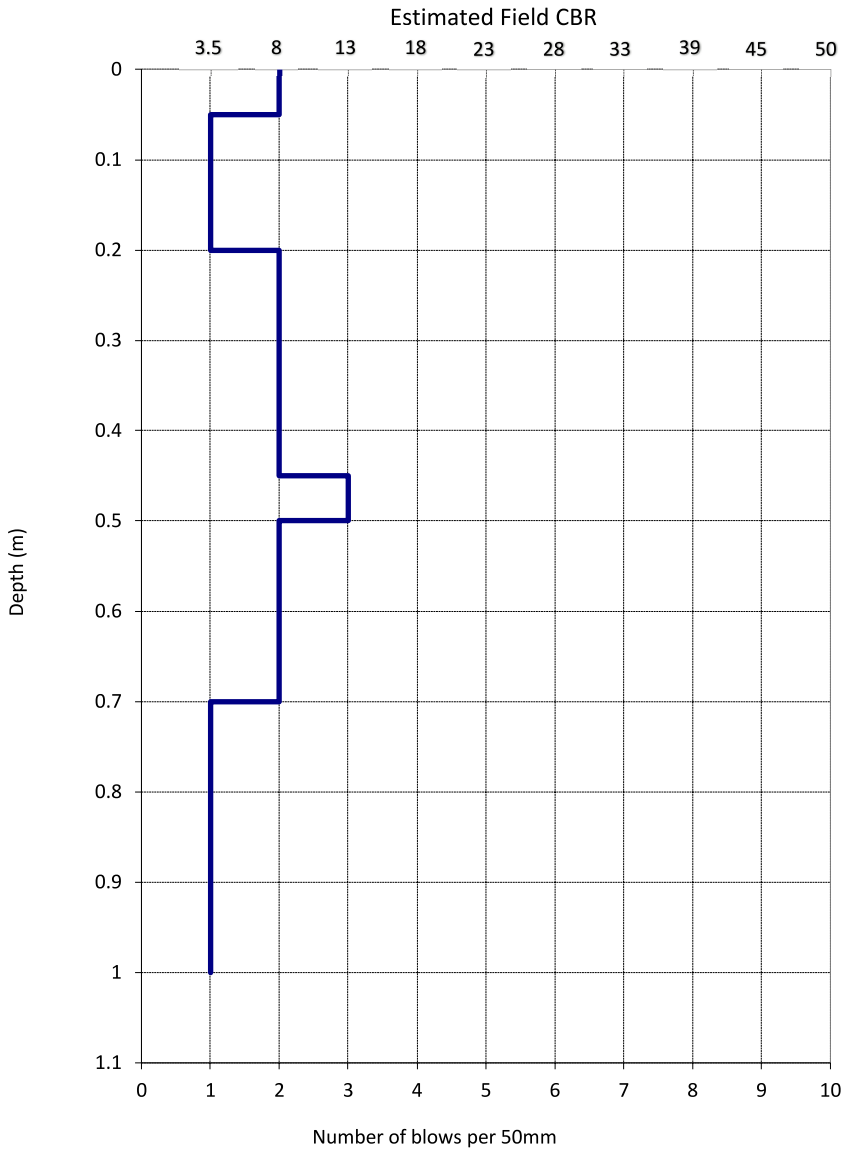
NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	47

Chainage	Offset	Lane
570	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	2
100	100	1
150	150	1
200	200	1
250	250	2
300	300	2
350	350	2
400	400	2
450	450	2
500	500	3
550	550	2
600	600	2
650	650	2
700	700	2
750	750	1
800	800	1
850	850	1
900	900	1
950	950	1
1000	1000	1



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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Lab Ref/URN

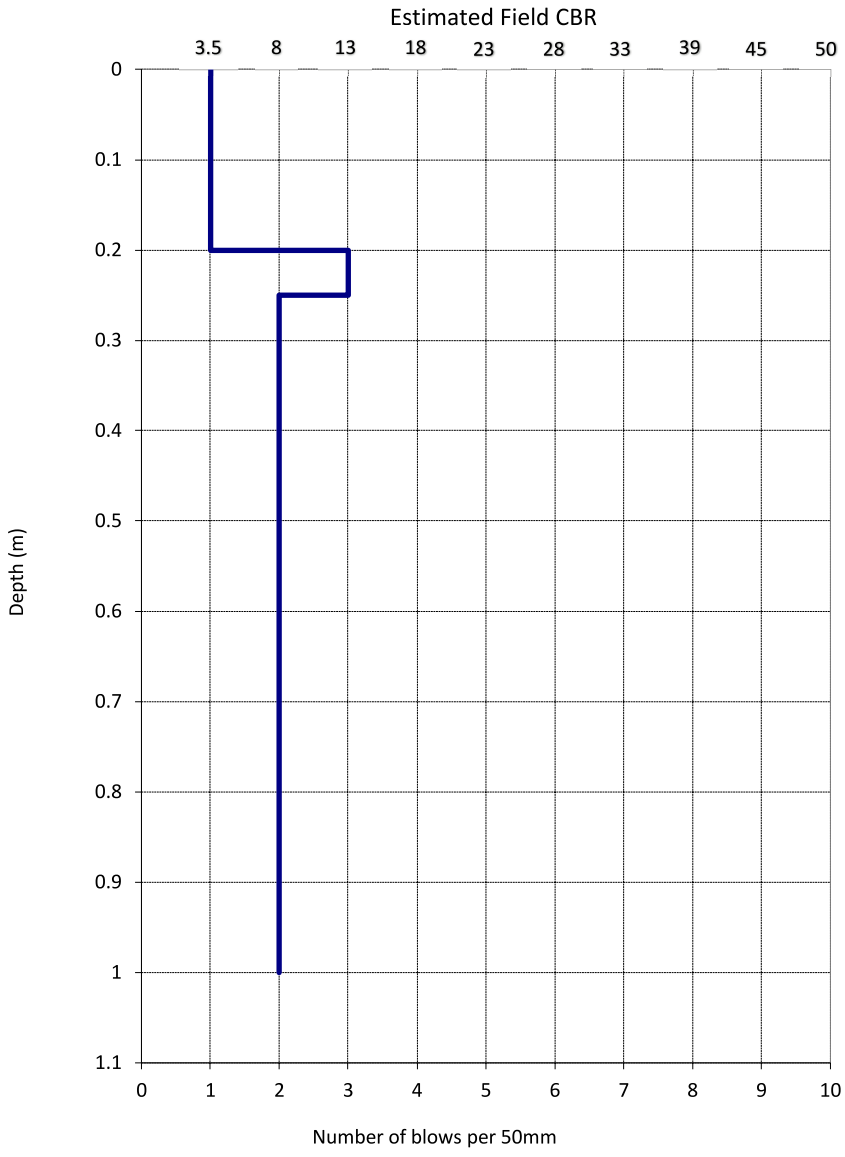
74.48

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	48

Chainage	Offset	Lane
580	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	3
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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Lab Ref/URN

74.49

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	49

Chainage	Offset	Lane
590	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	2
250	250	2
300	300	2
350	350	2
400	400	2
450	450	3
500	500	4
550	550	5
600	600	4
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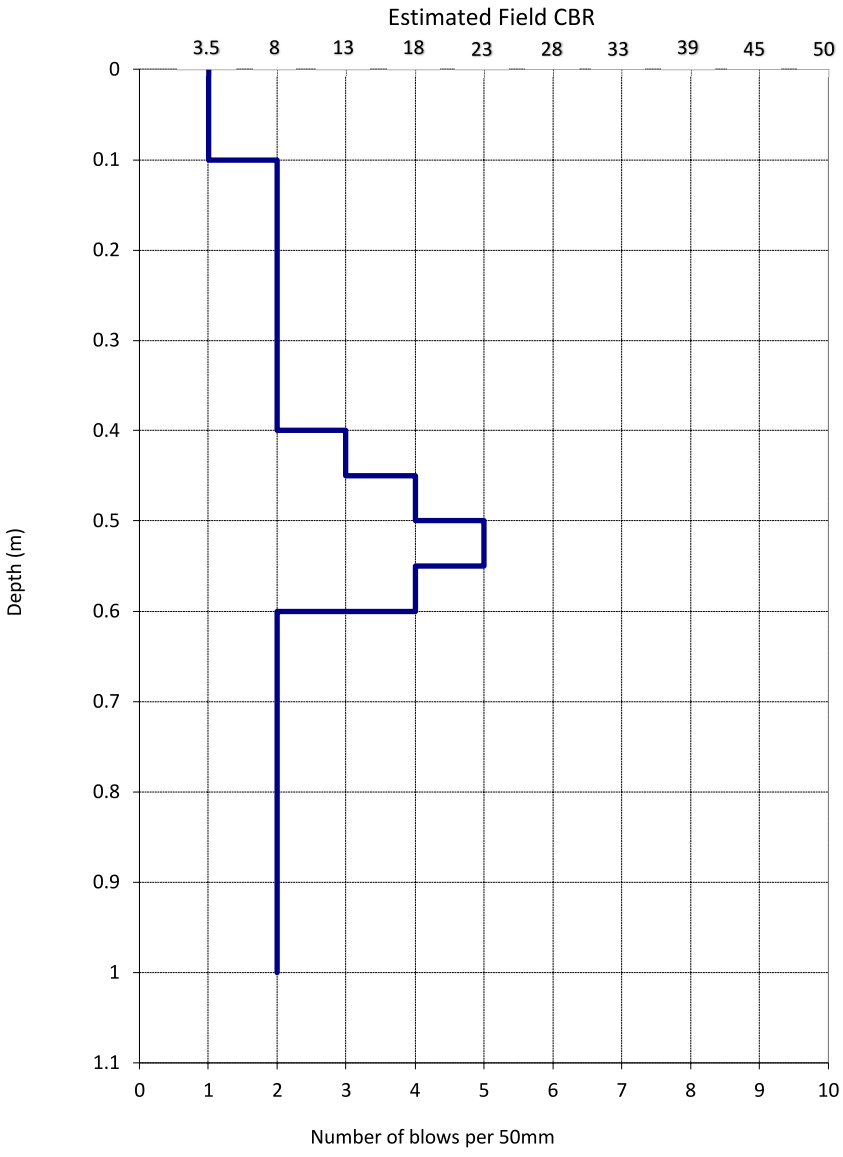
900	900	2
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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74.5

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	50

Chainage	Offset	Lane
600	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	3
200	200	0.5
250	250	0.5
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
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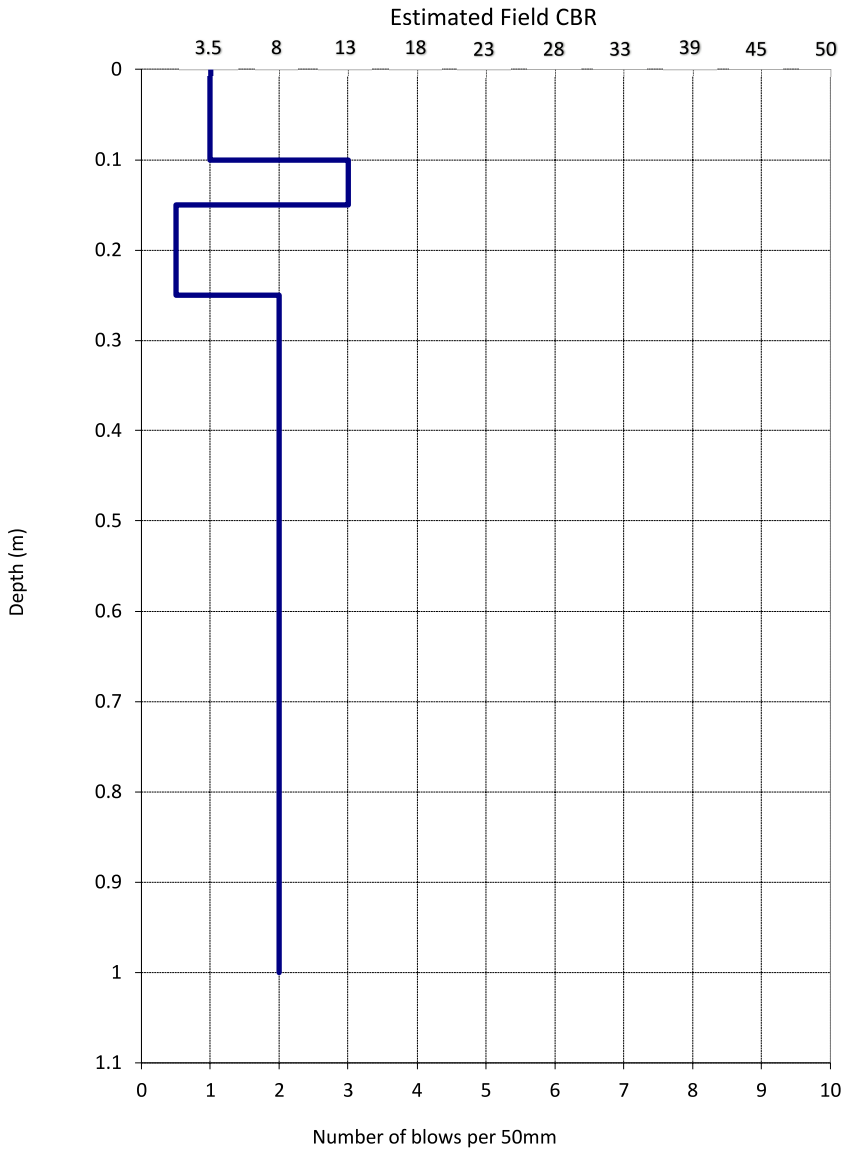
900	900	2
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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Lab Ref/URN: 74.51

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	51

Chainage	Offset	Lane
610	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	1
300	300	2
350	350	2
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
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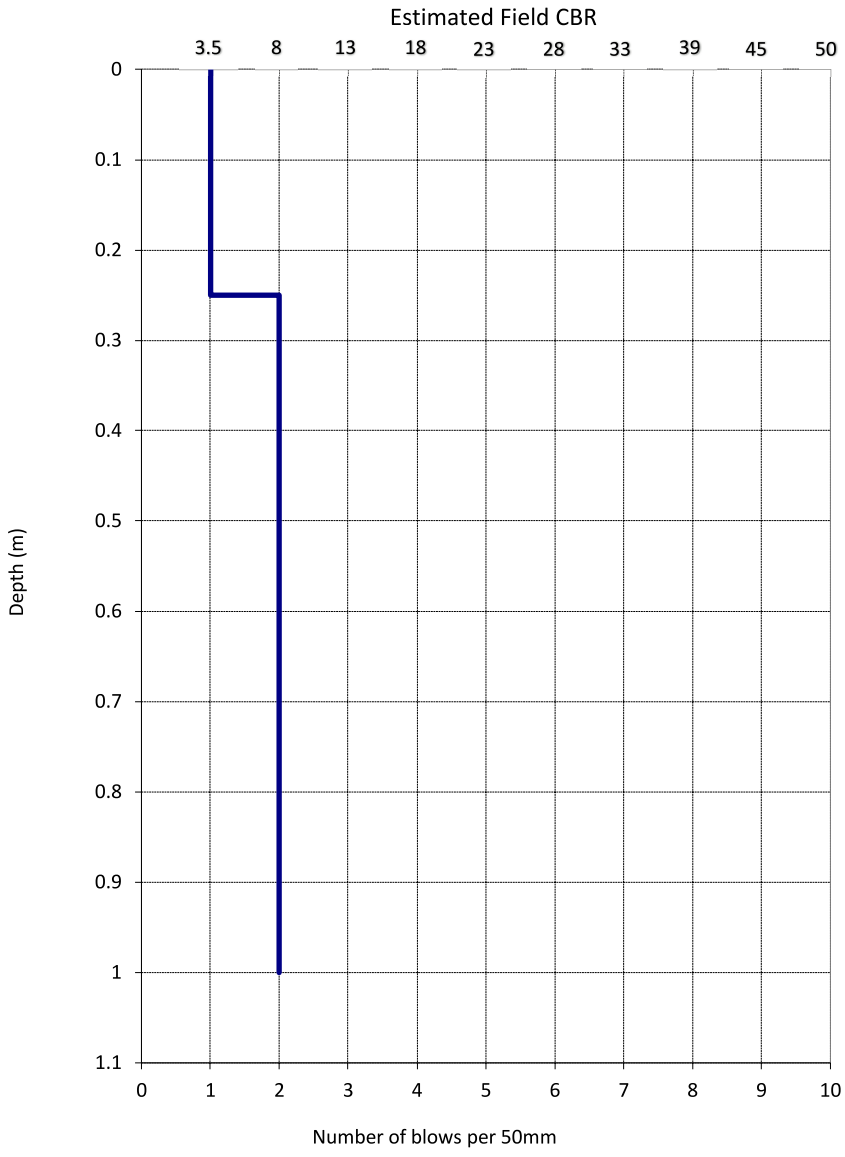
950	950	2
1000	1000	2



Test Remarks

The estimated CBR values are based on Figure 5.5, Correlation of Dynamic Cone Penetration and CBR AUSTROADS (2019) "Pavement Design - A Guide to the Structural Design of Road Pavements". Correlation between blows per 50 mm and estimated field CBR value is only applicable in fine soils (>35% silt/clay - NZGS).

Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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74.52

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	52

Chainage	Offset	Lane
620	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	2
200	200	2
250	250	2
300	300	3
350	350	2
400	400	3
450	450	2
500	500	2
550	550	2
600	600	2
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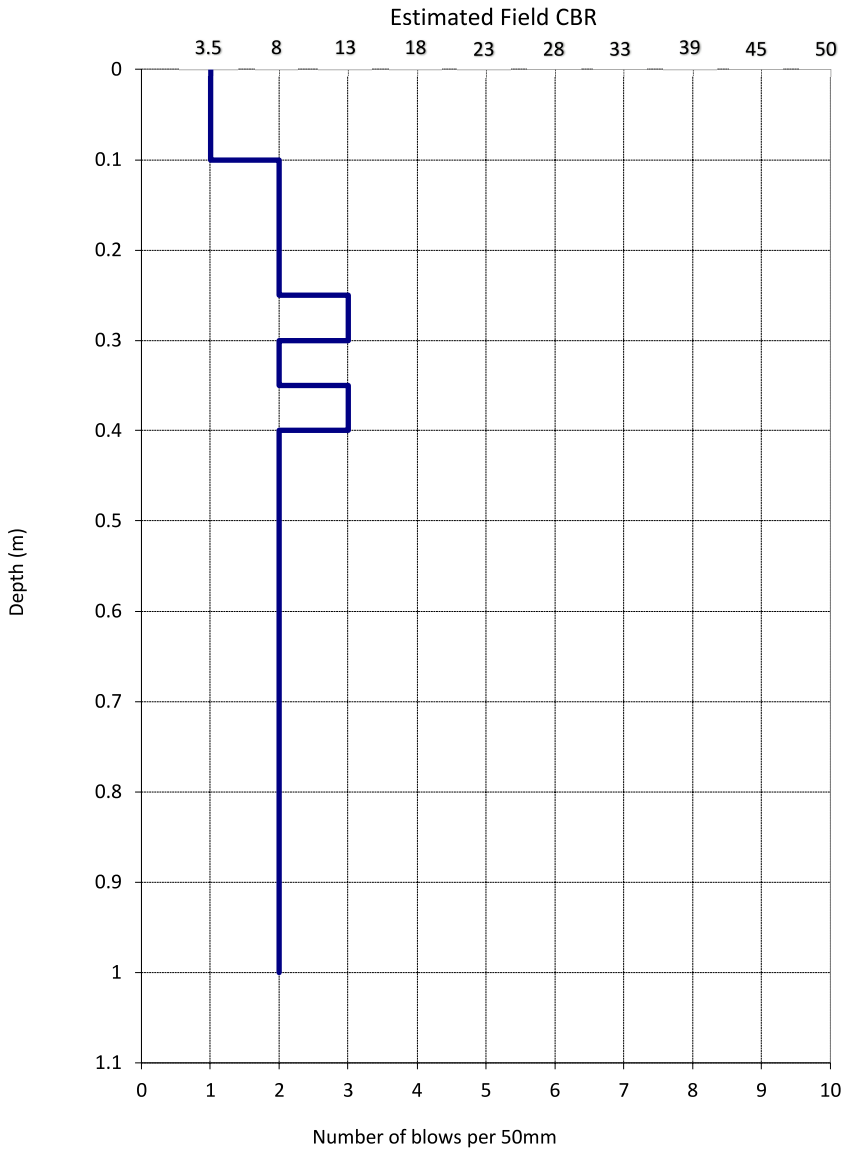
950	950	2
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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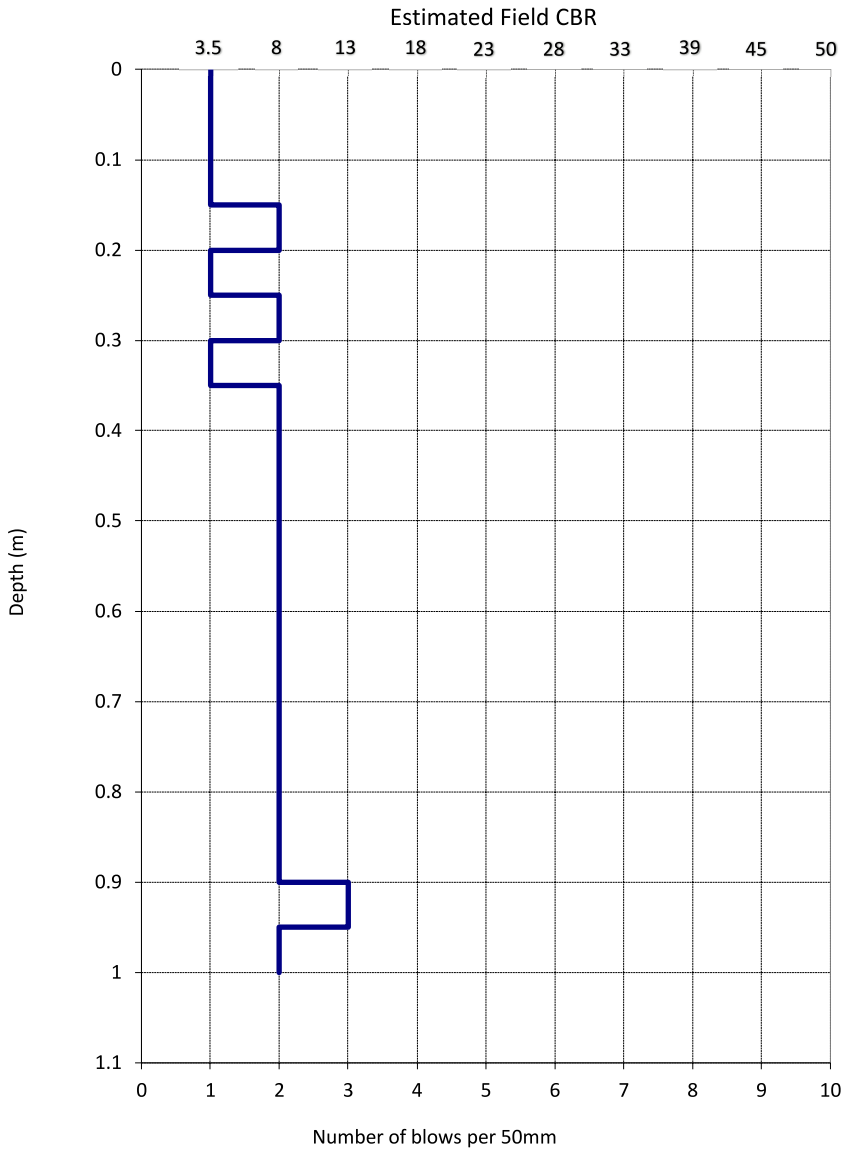
Lab Ref/URN: 74.53

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	53

Chainage	Offset	Lane
630	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	2
250	250	1
300	300	2
350	350	1
400	400	2
450	450	2
500	500	2
550	550	2
600	600	2
650	650	2
700	700	2
750	750	2
800	800	2
850	850	2
900	900	2
950	950	3
1000	1000	2



Test Remarks

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Tested By	MIBR	Date	17/04/2024
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024

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74.54

NZS 4402: 1988 Test 6.5.2 Dynamic Cone Penetrometer - Scala

Project Name	62-80 Papakura-Clevedon Road	Project ID	2021000.1080.0.0/Rep1
Customer Project ID	J00721	Equipment ID	AK2033
Site Location	Road 4	Material Source	In Situ
Material Description	silty CLAY	Test Series	1-54
Depth from ground surface to commencement of penetration (m)	0	Test Number	54

Chainage	Offset	Lane
640	-	-

Vertical distance driven (mm)	Depth (mm)	Number of blows
50	50	1
100	100	1
150	150	1
200	200	1
250	250	2
300	300	1
350	350	2
400	400	1
450	450	2
500	500	2
550	550	2
600	600	2
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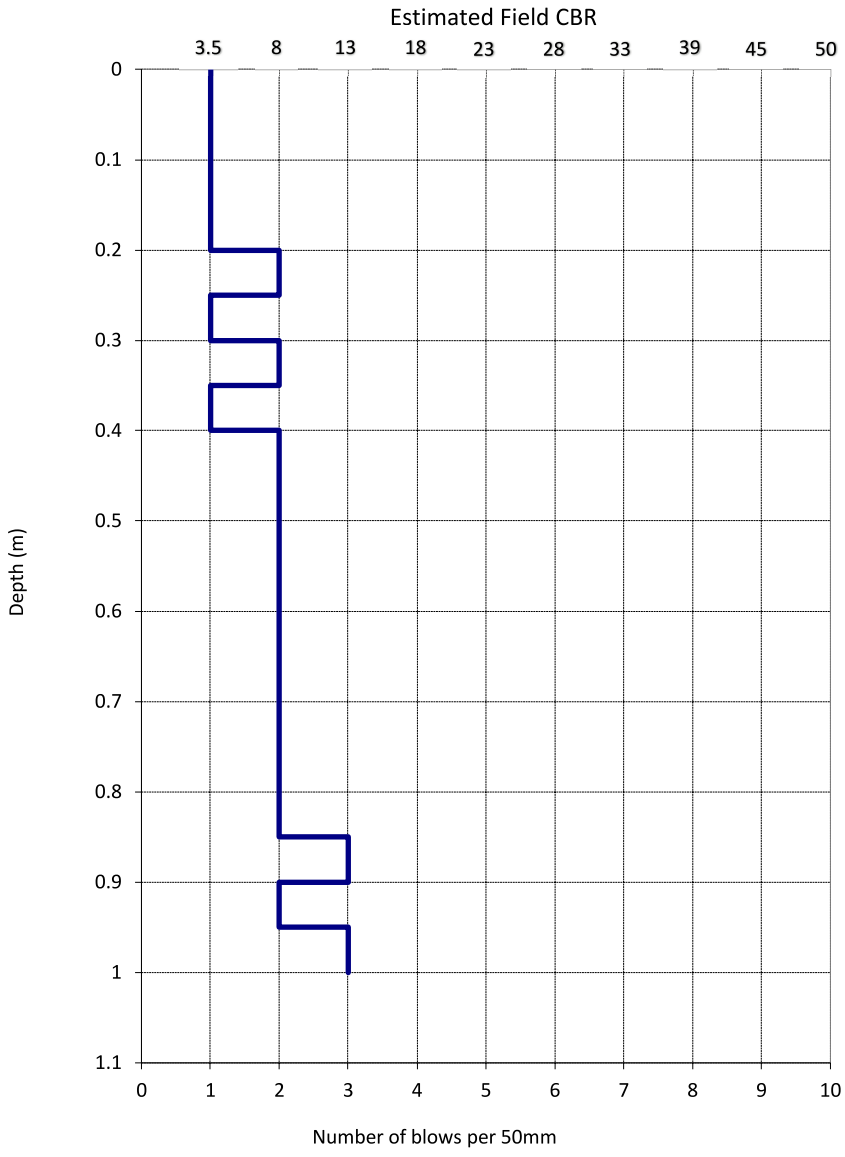
700	700	2
750	750	2
800	800	2
850	850	2
900	900	3
950	950	2
1000	1000	3



Test Remarks

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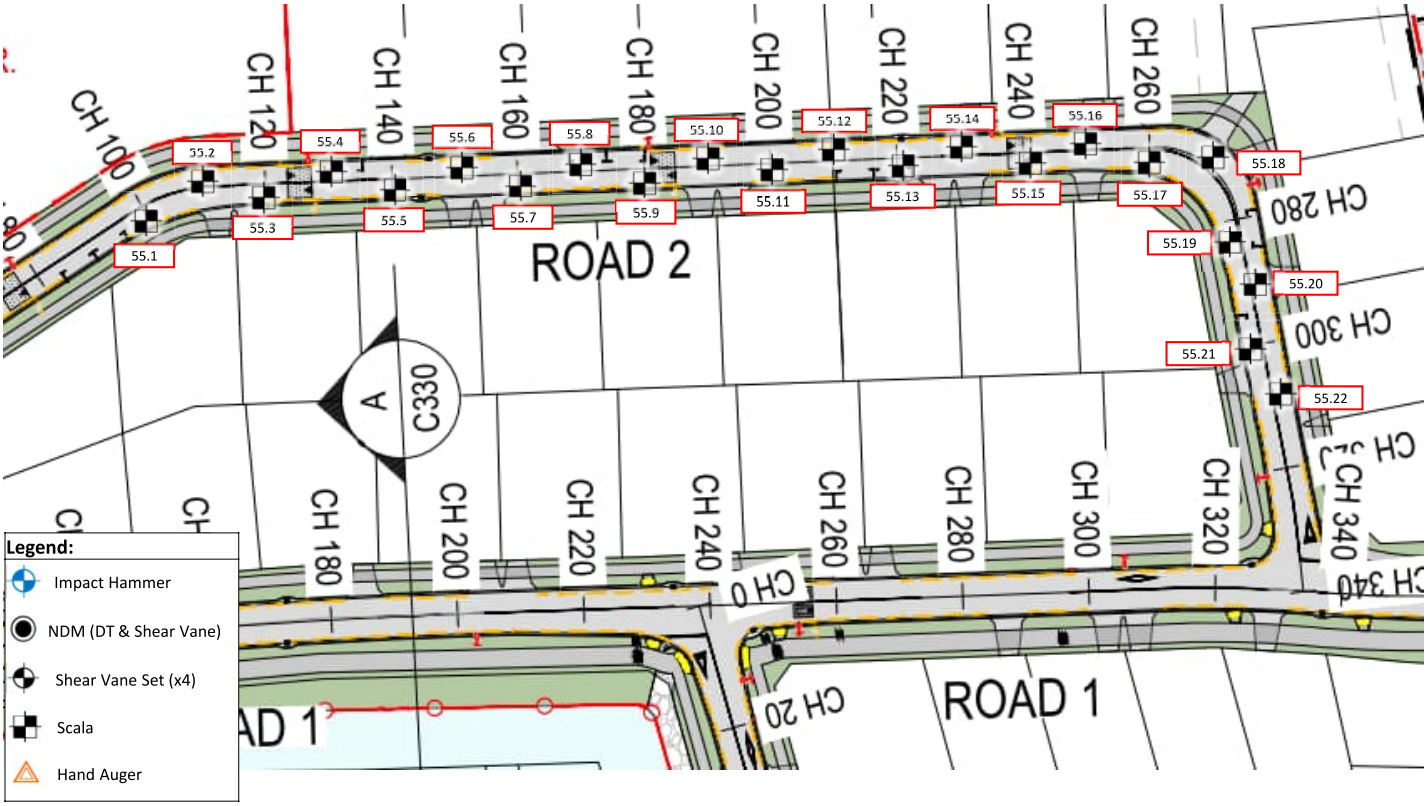
Data Entry By	MIBR	Date	18/04/2024
Checked By	ALEL	Date	30/08/2024



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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	ROSM/MIBR	Date:	14/02/2024
Location:	Road 2	Job No.:	2021000.1080.0.0/Rep1	URN:	55	Date:	14/02/2024
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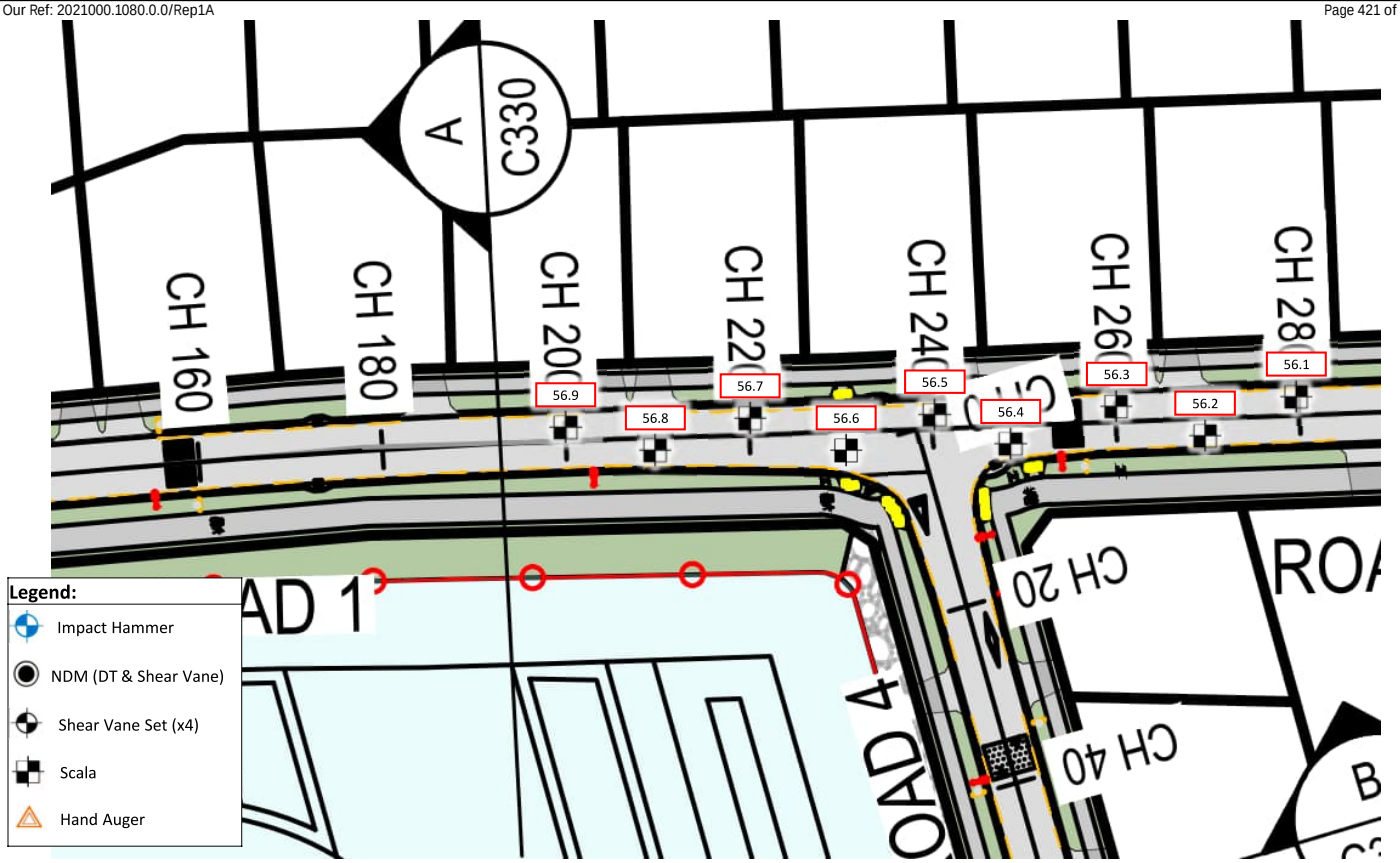

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	15/02/2024
Location:	Road 1	Job No.:	2021000.1080.0.0/Rep1	URN:	56 (Page 1 of 5)	Date:	15/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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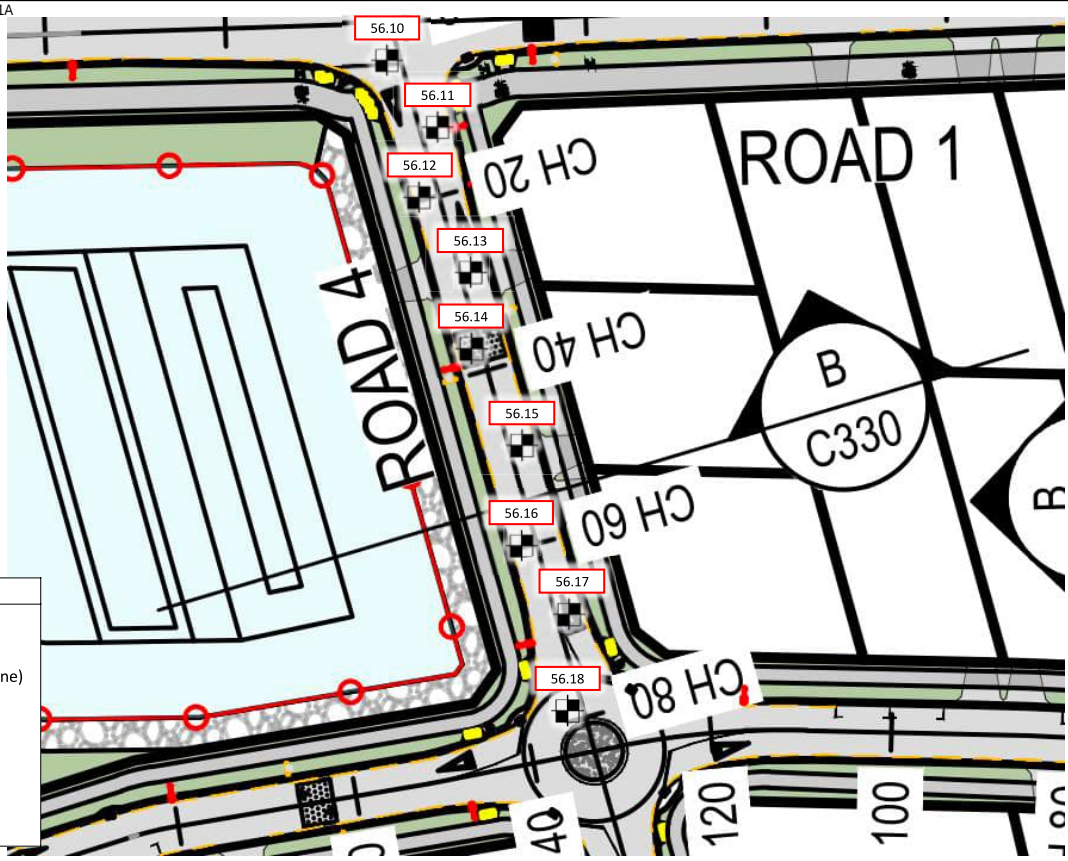

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	15/02/2024
Location:	Road 4	Job No.:	2021000.1080.0.0/Rep1	URN:	56 (Page 2 of 5)	Date:	15/02/2024
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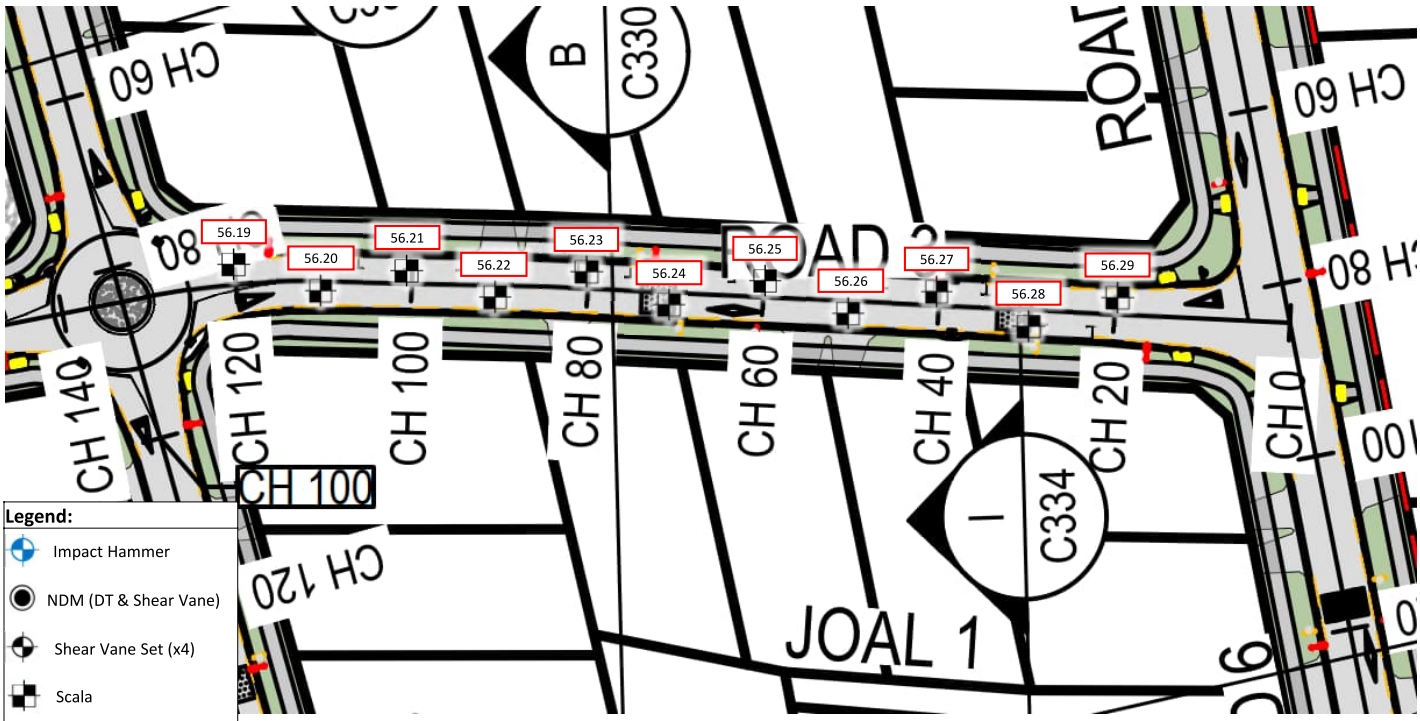

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	15/02/2024
Location:	Road 3	Job No.:	2021000.1080.0.0/Rep1	URN:	56 (Page 3 of 5)	Date:	15/02/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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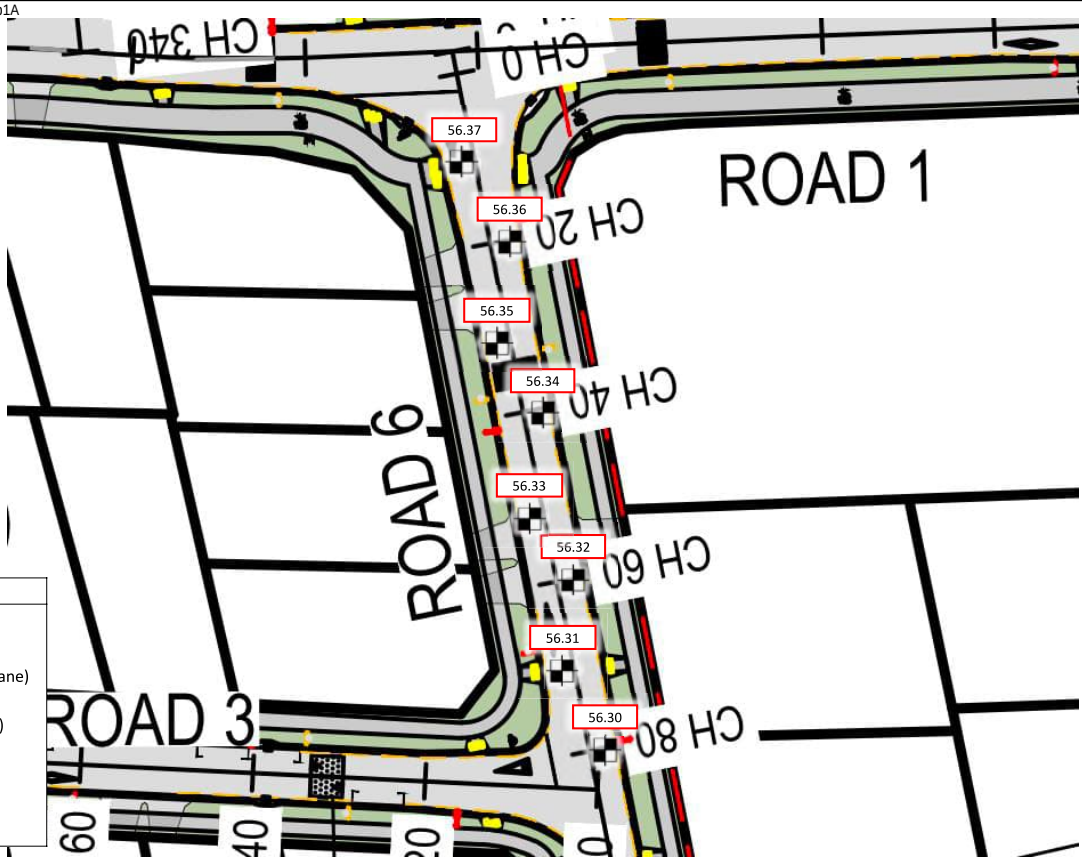

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	15/02/2024
Location:	Road 6	Job No.:	2021000.1080.0.0/Rep1	URN:	56 (Page 4 of 5)	Date:	15/02/2024
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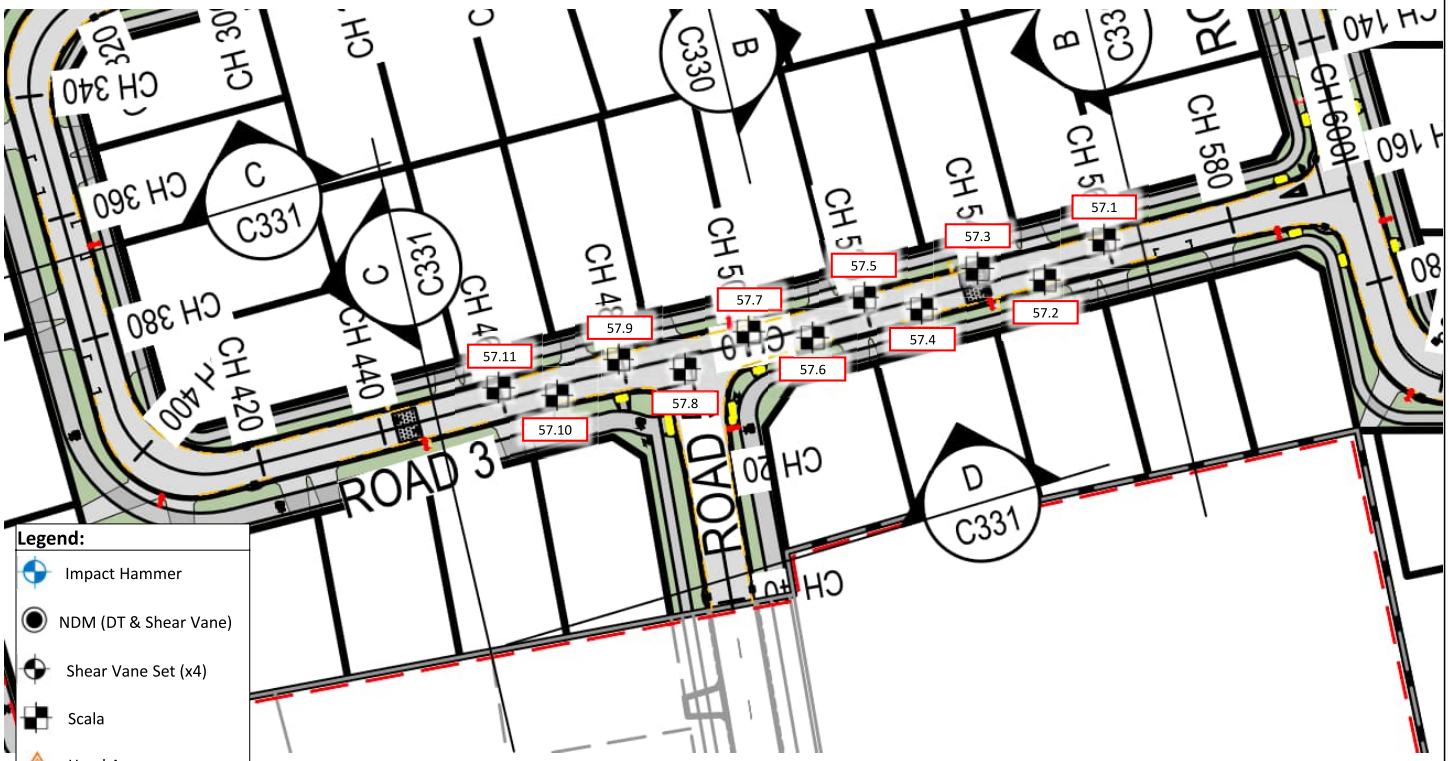

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	19/02/2024
Location:	Road 3	Job No.:	2021000.1080.0.0/Rep1	URN:	57	Date:	19/02/2024
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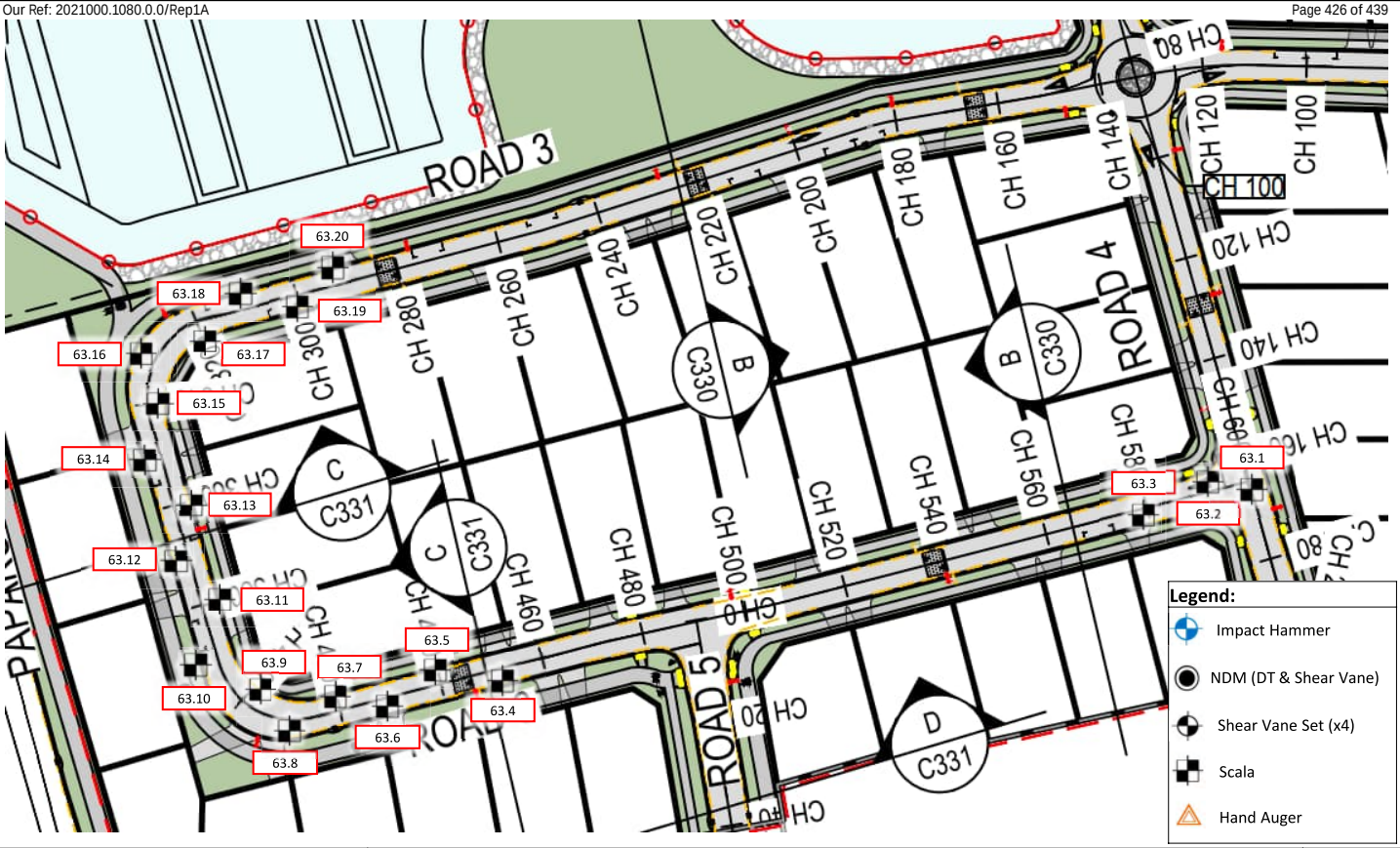

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	20/03/2024
Location:	Road 3	Job No.:	2021000.1080.0.0/Rep1	URN:	63	Date:	20/03/2024
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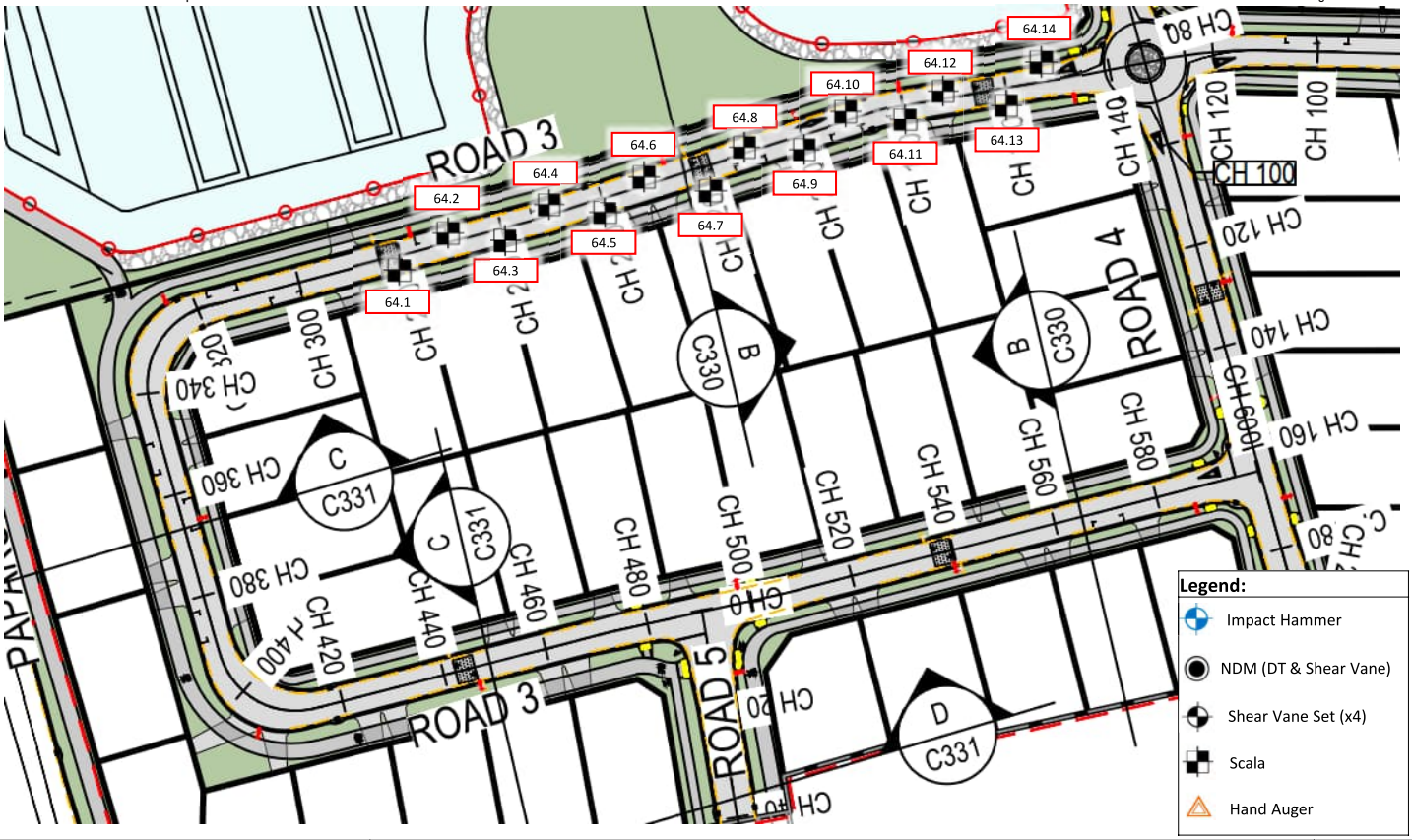

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	21/03/2024
Location:	Road 3	Job No.:	2021000.1080.0.0/Rep1	URN:	64 (Page 1 of 2)	Date:	21/03/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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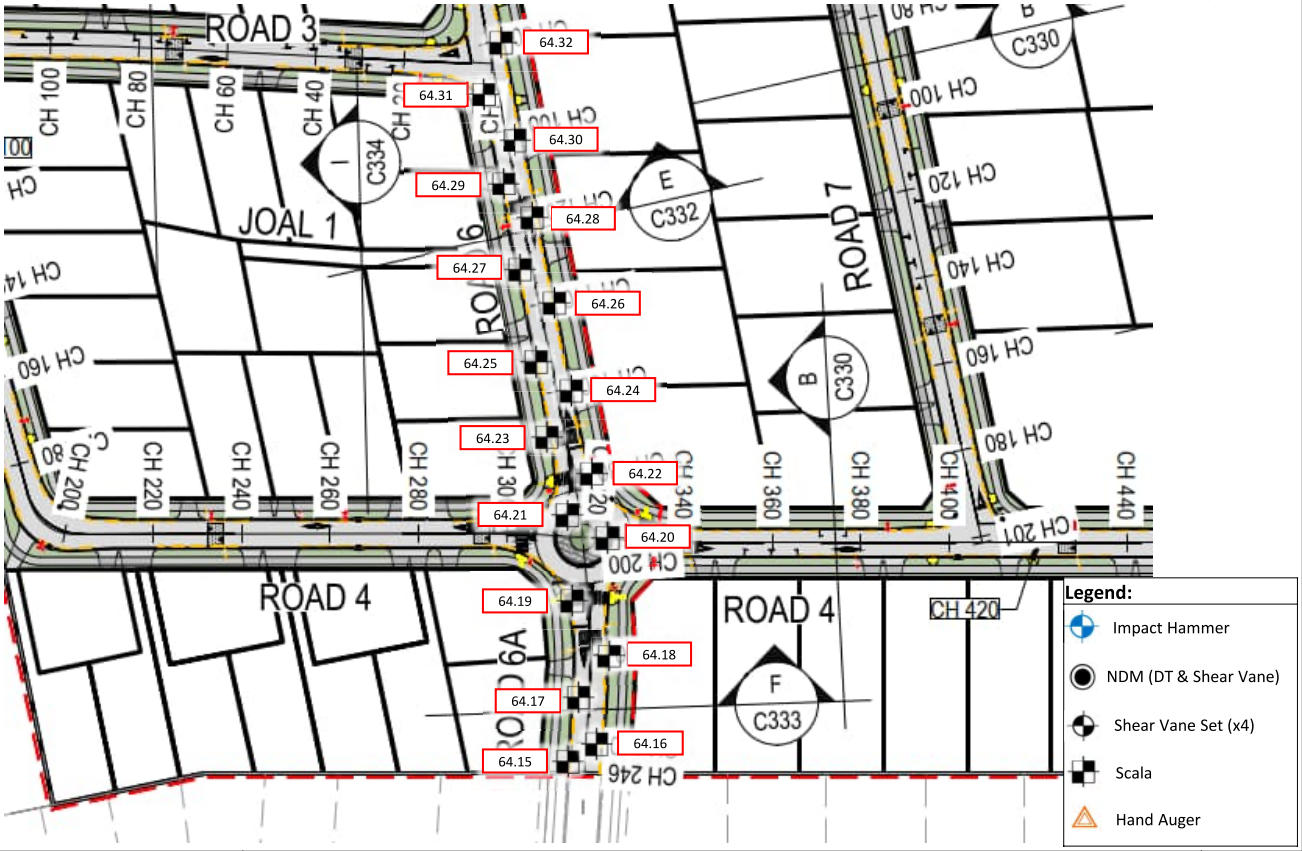

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1 Hill Street, Onehunga
Auckland, New Zealand
ph. +64 (0)9 356 3510
e. enquiry@geotechnics.co.nz
w. www.geotechnics.co.nz

Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	21/03/2024
Location:	Road 6A and Road 6	Job No.:	2021000.1080.0.0/Rep1	URN:	64 (Page 2 of 2)	Date:	21/03/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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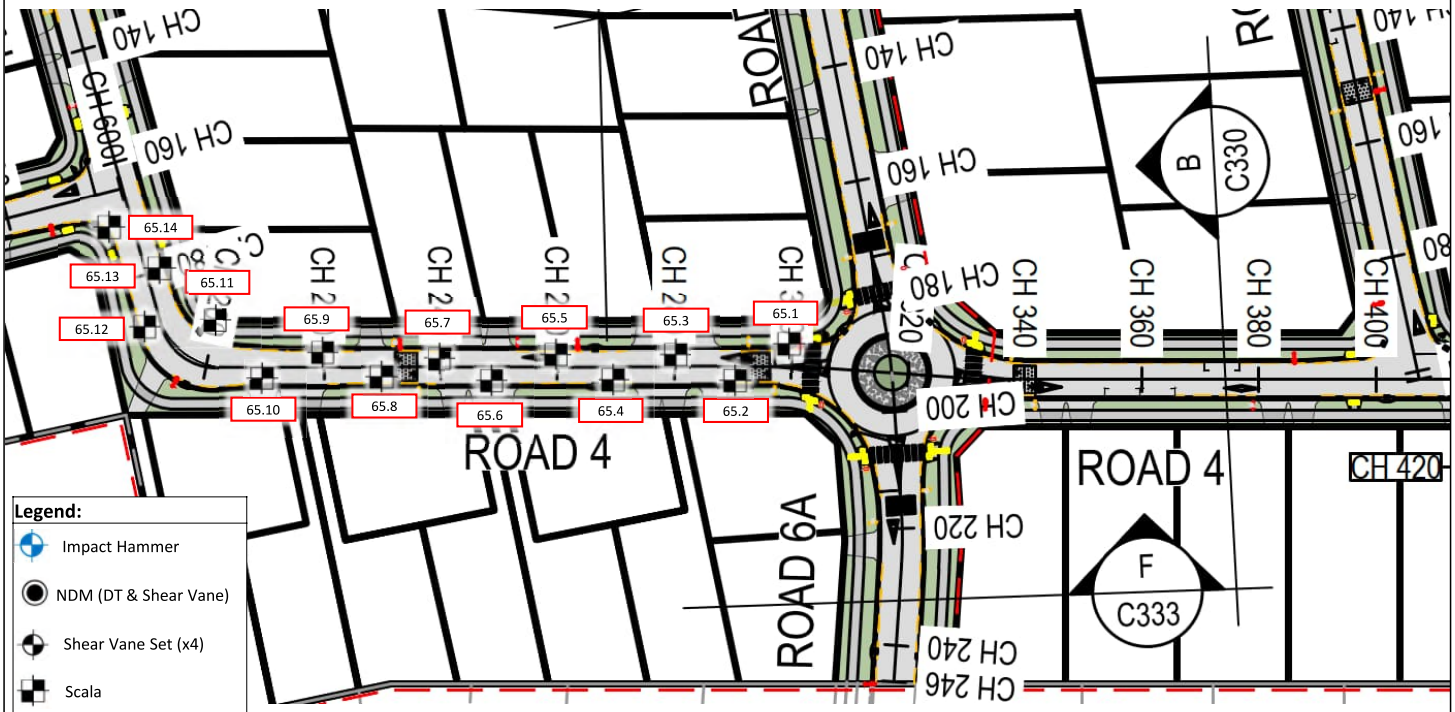

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w. www.geotechnics.co.nz

Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	22/03/2024
Location:	Road 6A and Road 6	Job No.:	2021000.1080.0.0/Rep1	URN:	65 (Page 1 of 3)	Date:	22/03/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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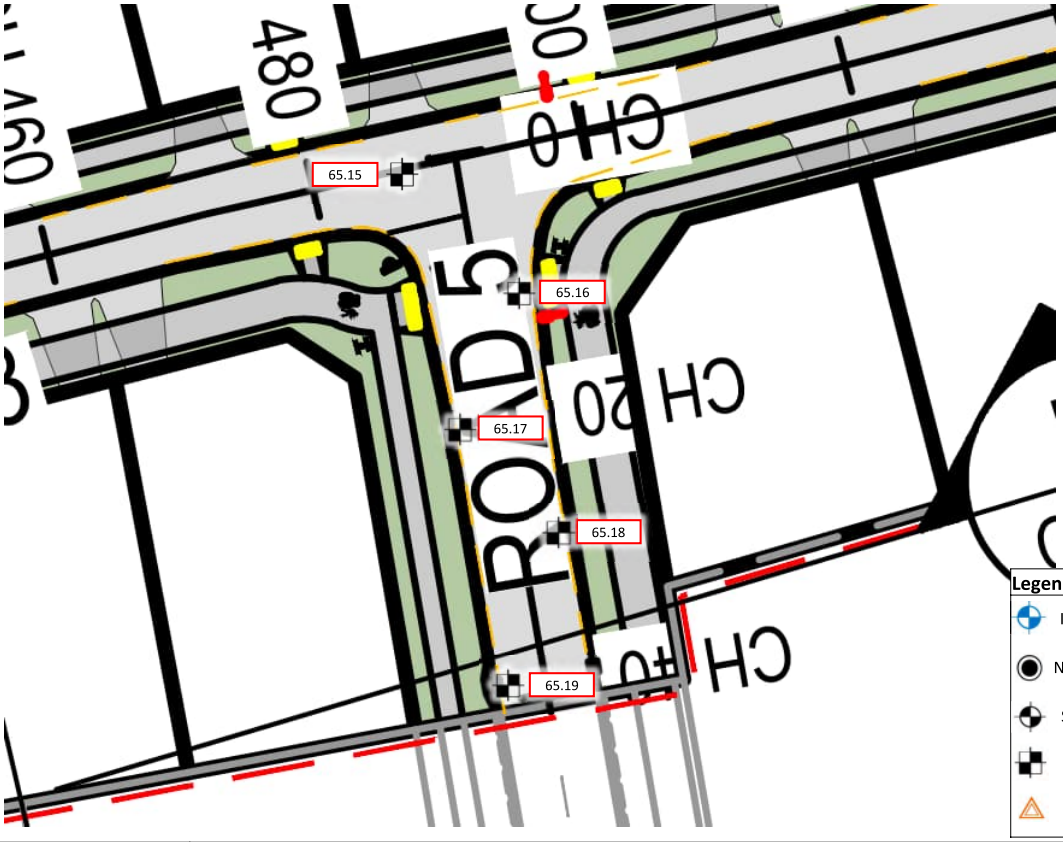

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	22/03/2024
Location:	Road 5	Job No.:	2021000.1080.0.0/Rep1	URN:	65 (Page 2 of 3)	Date:	22/03/2024
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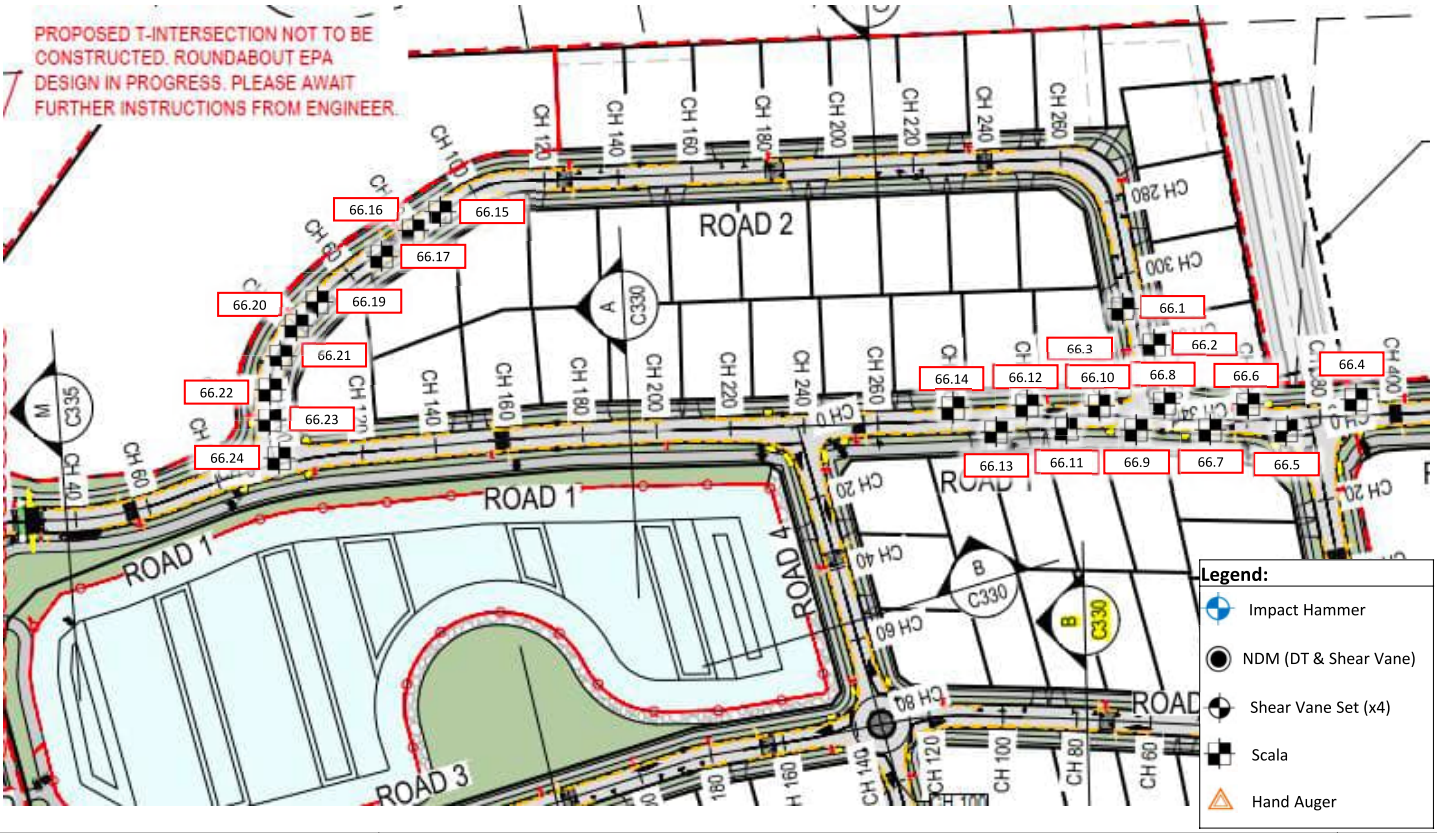

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w. www.geotechnics.co.nz

Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	27/03/2024
Location:	Road 1 and 2	Job No.:	2021000.1080.0.0/Rep1	URN:	66	Date:	27/03/2024
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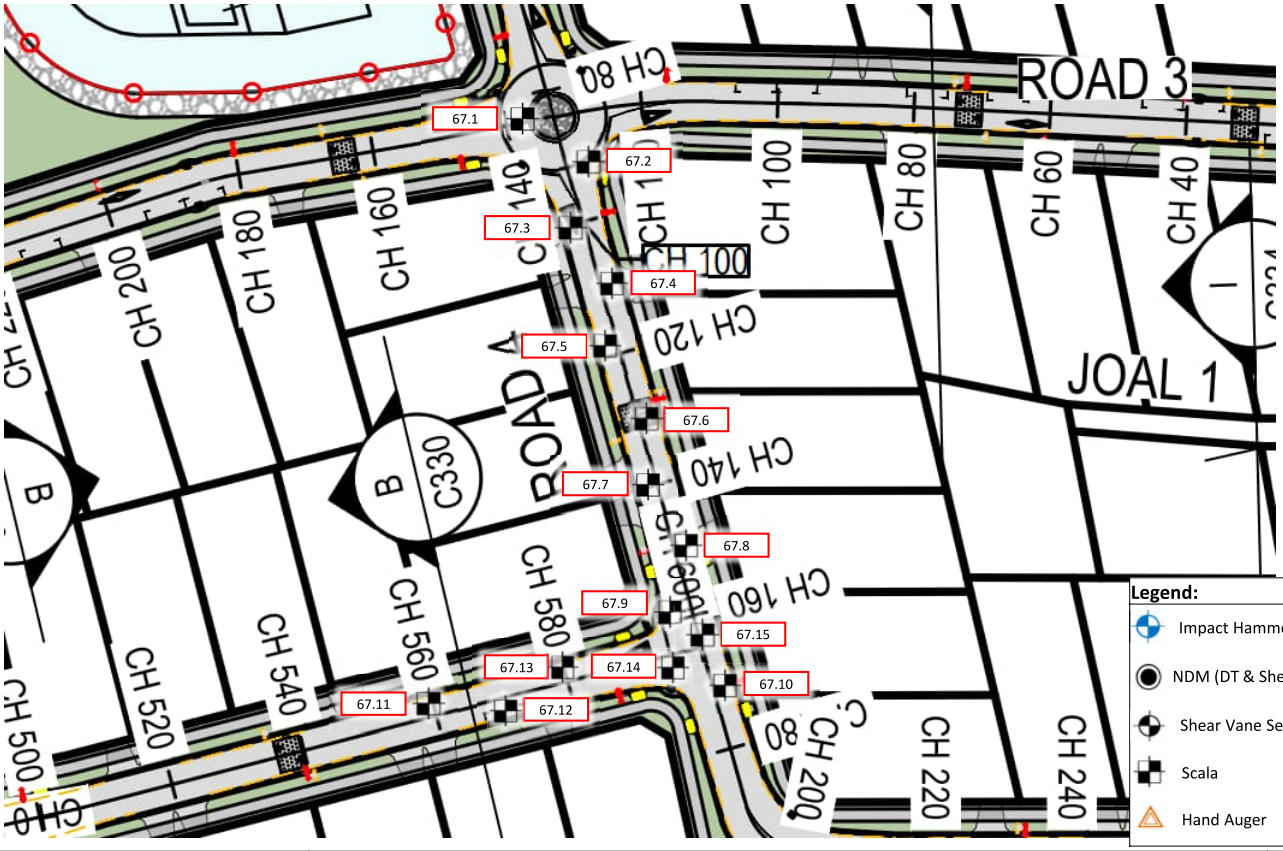

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR	Date:	28/03/2024
Location:	Road 3 and 4	Job No.:	2021000.1080.0.0/Rep1	URN:	67	Date:	28/03/2024
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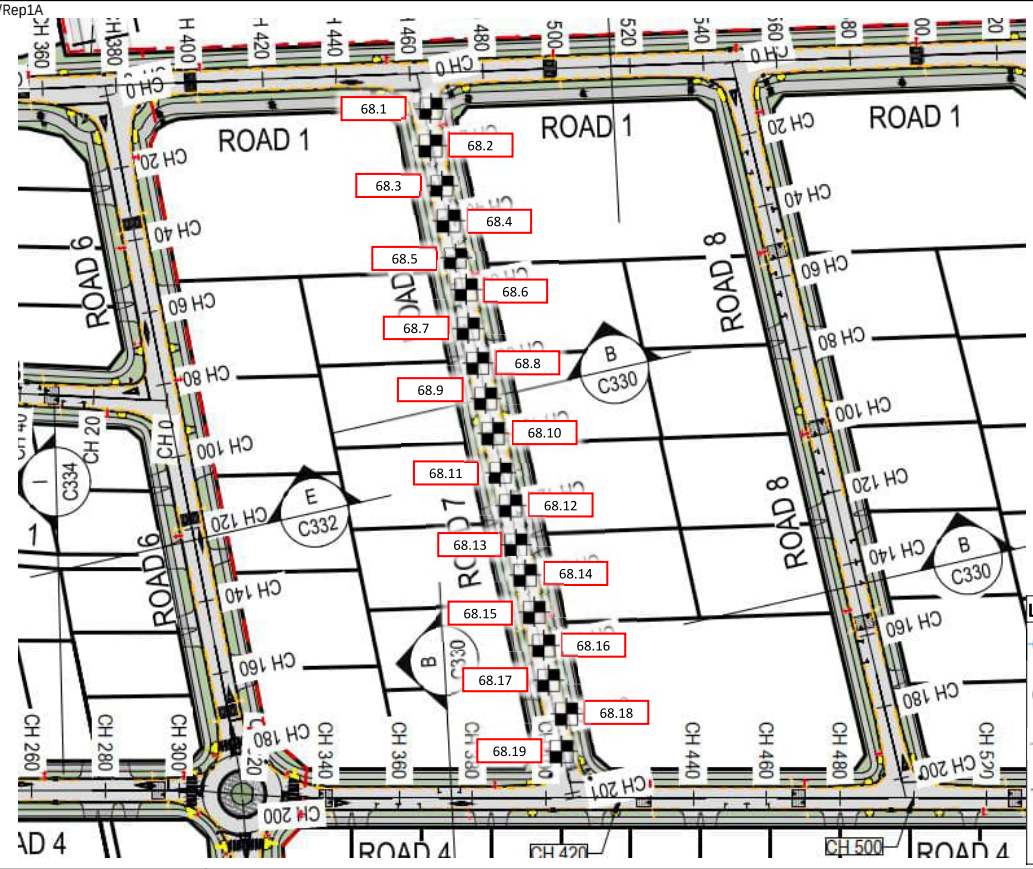

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Road 7	Job No.:	2021000.1080.0.0/Rep1	URN:	68	Date:	04/04/2024
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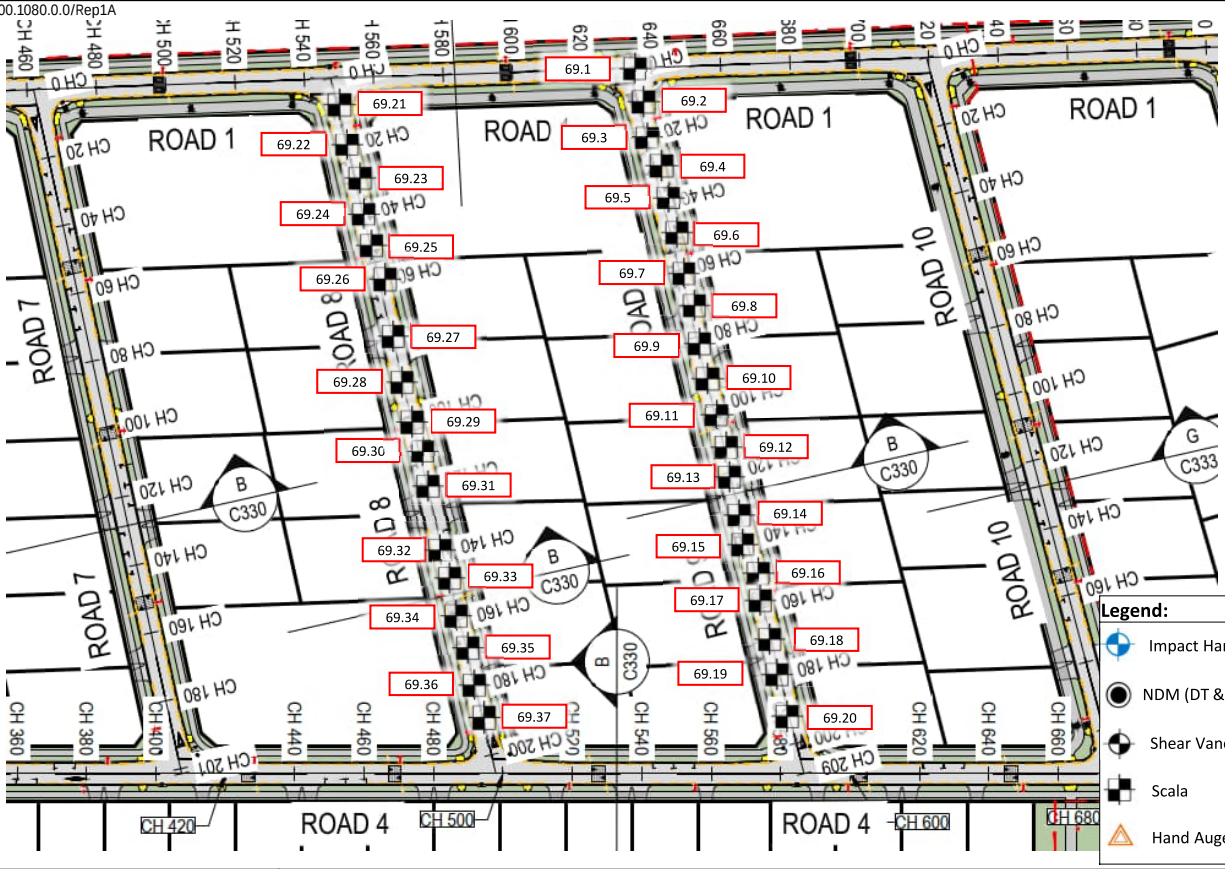

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Road 8 and Road 9	Job No.:	2021000.1080.0.0/Rep1	URN:	69	Date:	05/04/2024
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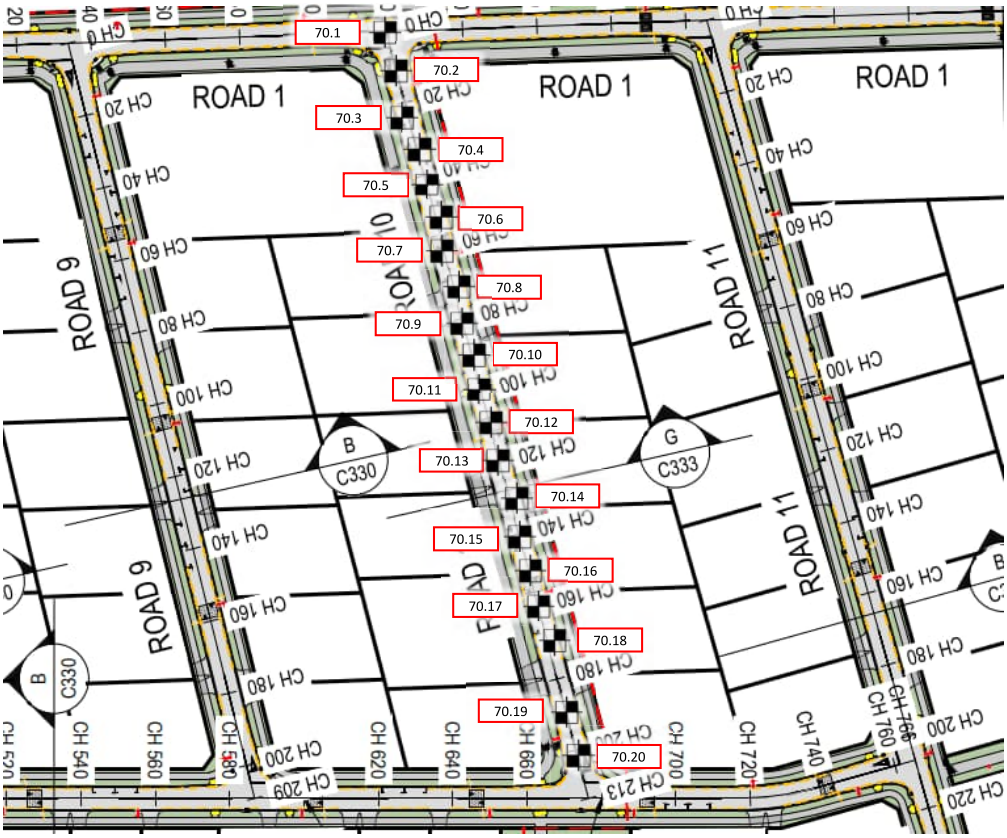

Legend:

- Impact Hammer
- NDM (DT & Shear Vane)
- Shear Vane Set (x4)
- Scala
- Hand Auger

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Road 10	Job No.:	2021000.1080.0.0/Rep1	URN:	70	Date:	08/04/2024
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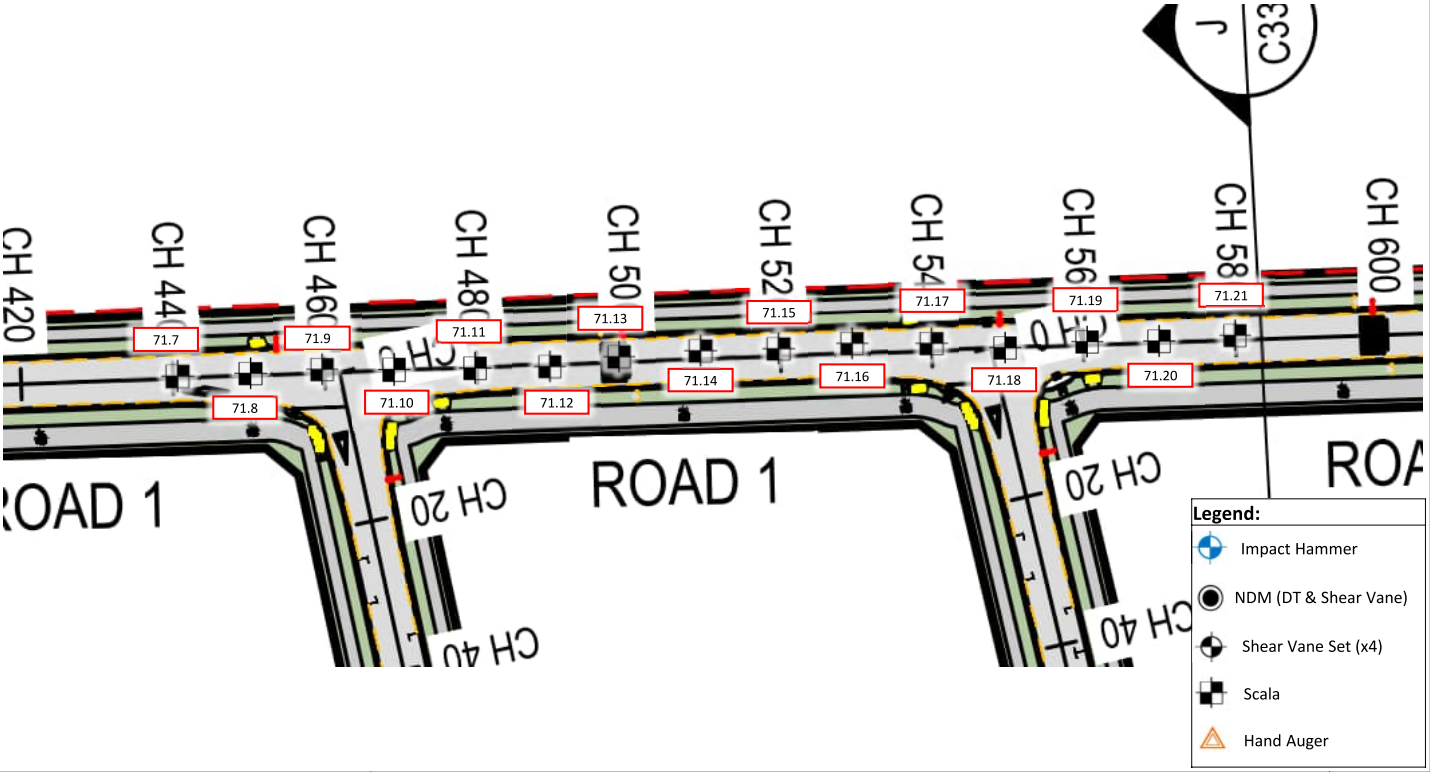

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Road 1	Job No.:	2021000.1080.0.0/Rep1	URN:	71 (Page 2 of 2)	Date:	09/04/2024
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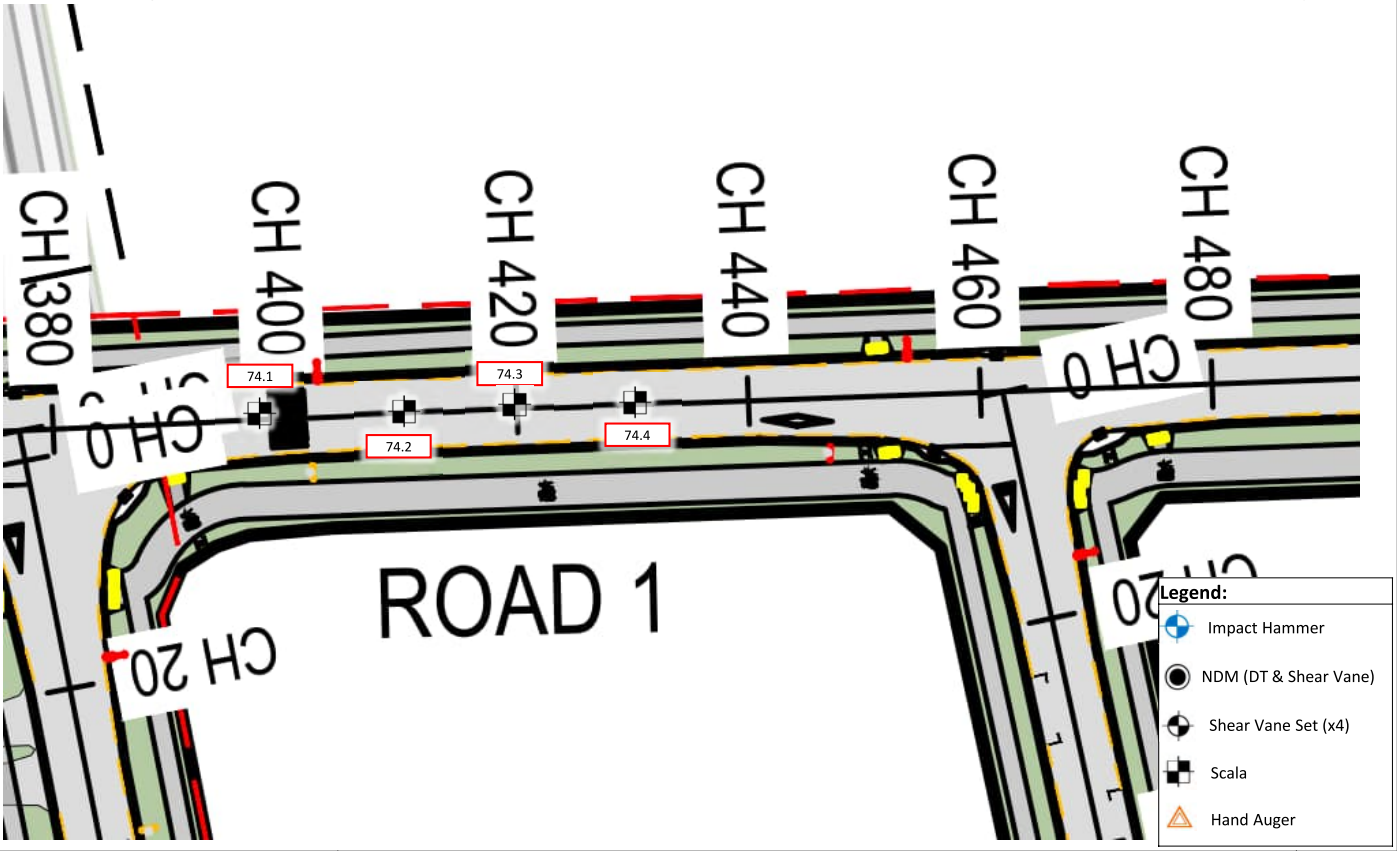

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Road 1	Job No.:	2021000.1080.0.0/Rep1	URN:	74 (Page 1 of 3)	Date:	17/04/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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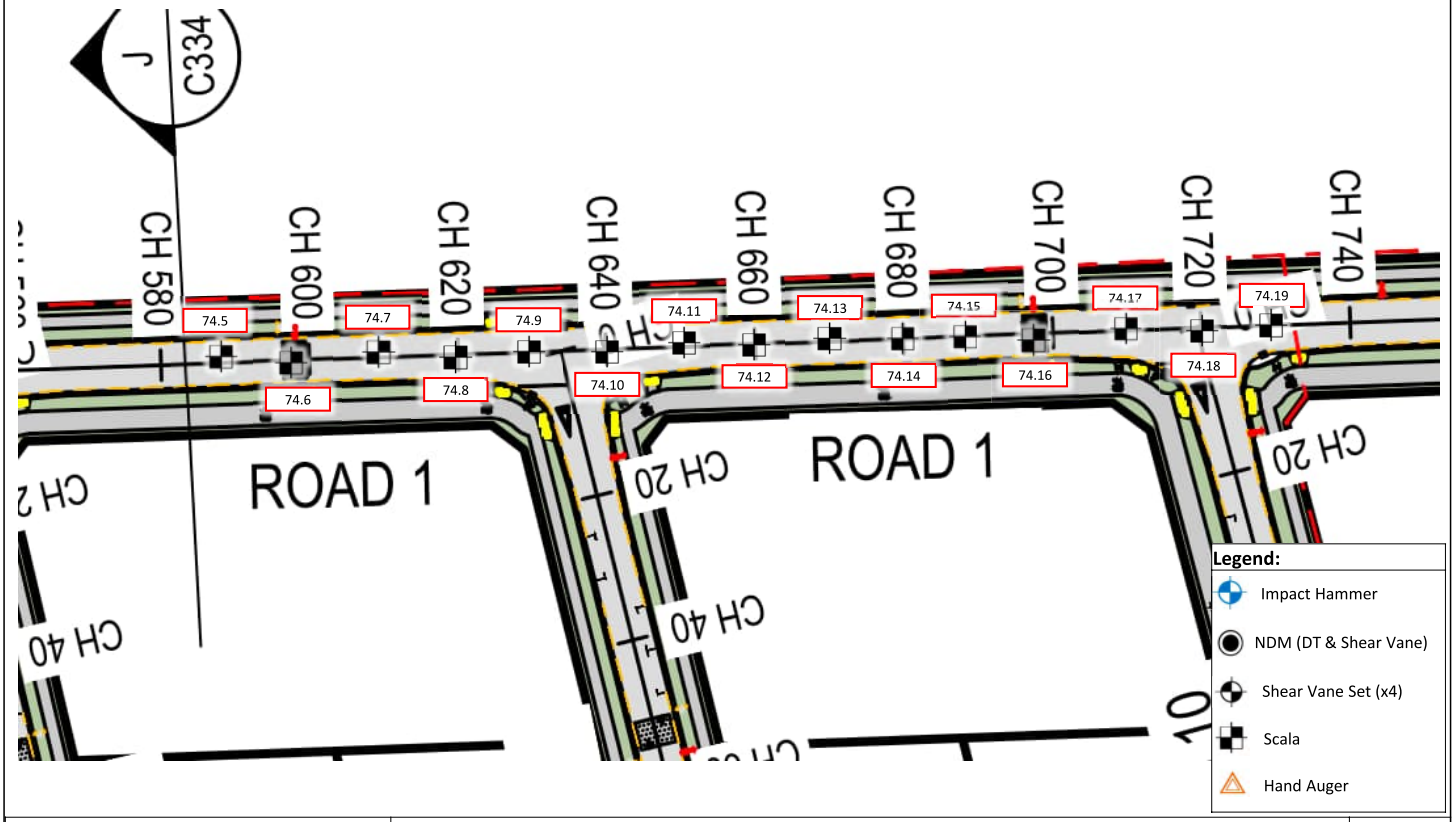

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Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Road 1	Job No.:	2021000.1080.0.0/Rep1	URN:	74 (Page 2 of 3)	Date:	17/04/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

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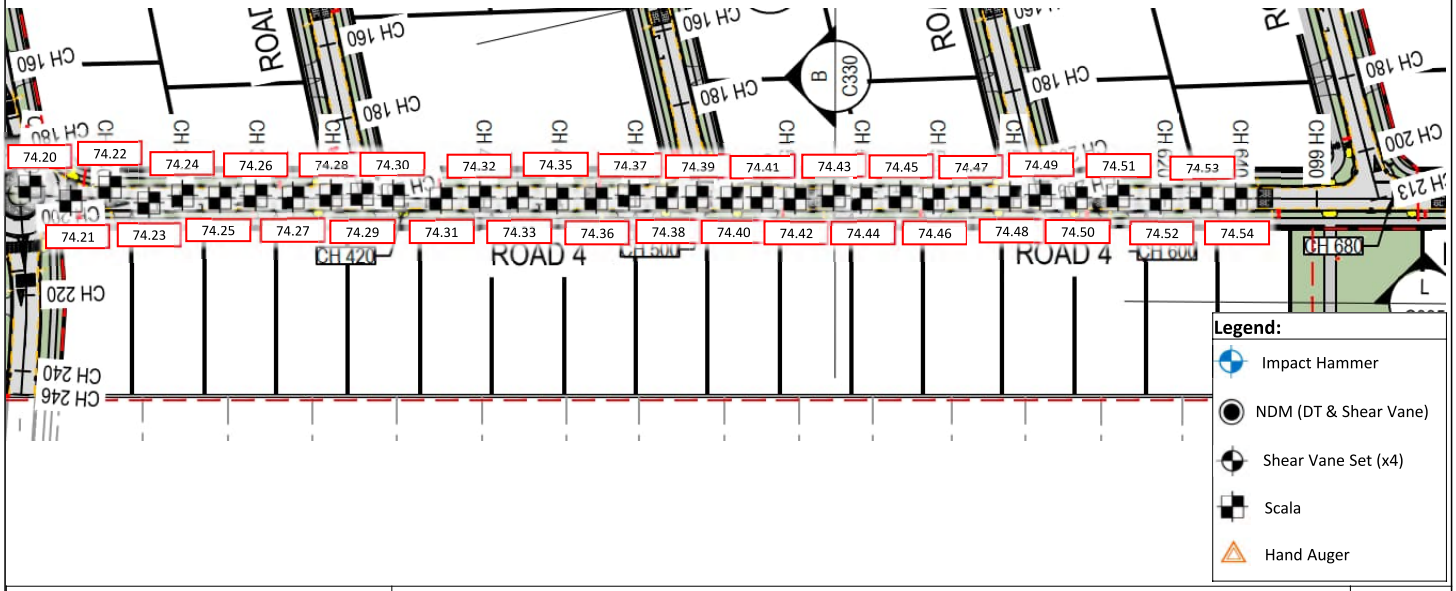

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w. www.geotechnics.co.nz

Test Location Plan

Site:	62-80 Papakura Clevedon Road	Job Name:	62-80 Papakura-Clevedon Road	Drawn:	MIBR		
Location:	Road 4	Job No.:	2021000.1080.0.0/Rep1	URN:	74 (Page 3 of 3)	Date:	17/04/2024
		Lab Ref:	- N/A	Scale:	Not to Scale	Rev.:	1

N

APPENDIX C

SOIL CLASSIFICATION TEST RESULTS

5 September 2024
Our Ref: 1009479.1218.0.0/Rep1
Customer Ref: J00721

Land Development & Engineering Ltd
Level 1, Wilson James Centre
77 Peel Street
Gisborne 4040

Attention: Kyle Meffan

Dear Kyle

62-80 Papakura-Clevedon Road

Laboratory Test Report

Samples from the above-mentioned site have been tested as received according to your instructions and the results are included in this report. Results apply only to the sample(s) tested.

Descriptions are enclosed for your information but are not covered under the IANZ endorsement of this report .

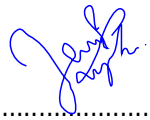
This report has been prepared for the benefit of Land Development & Engineering Ltd, with respect to the particular brief given to us and it cannot be relied upon in other contexts or for any other purpose without our prior review and agreement.

This report may be reproduced only in full.

Samples not destroyed during testing will be retained for one month from the date of this report before being discarded. If we can be of any further assistance, feel free to get in touch. Contact details are provided at the bottom of this page.

GEOTECHNICS LTD

Report approved by:



.....

Jack Singh
Senior Technician
Key Technical Person

Authorised for Geotechnics by:



.....

Vic O'Connor
Project Director

ACCREDITED IANZ TESTING LABORATORY

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

5-Sep-24
\\ttgroup.local\corporate\geotechnicsgroup\projects\1009479\1009479.1218\workingmaterial\20240905.jasi.1009479.1218.0.0.rep1.docx

GEOTECHNICS

45A Parkhouse Road
Wigram
Christchurch 8042
New Zealand

p. +64 3 361 0300

Geotechnics Project ID 1009479.1218.0.0

Customer Project ID J00721

Determination of the Shrink - Swell Index - AS 1289 Test 7.1.1 - 2003

TEST DETAILS

LOCATION	ID	62 - 80 Papakura Clevedon		
	Description	62 - 80 Papakura Clevedon		
SAMPLE	Geotechnics ID	CHCH202422-01	Top Depth	0.5m
	Reference	Lot 94	Bottom Depth	1.0m
	Description	SILT with minor clay and trace sand, greyish brown mixed with black. Moist.		
SPECIMEN	Reference	N/A	Depth	N/A
	Description	N/A		

TEST RESULTS

Applied pressure	25 kPa

Swell Test

Initial water content	24.3 %
Bulk density	1.88 t/m³
Dry density	1.51 t/m³
Final water content	26.5 %
Swelling strain	0.04 %

Shrinkage Test

Initial water content	28.0 %
Shrinkage strain	4.8 %
Inert material estimate in the soil specimen	N/A %
Soil crumbling during shrinkage	Moderate
Cracking of the shrinkage specimen	Major

Shrink - Swell Index	2.7 %

TEST REMARKS

- The material used for testing was natural

Date tested: 29/08/2024

This test result is IANZ accredited.

Approved by KTP	JASI	Date	4/09/2024

GEOTECHNICS

45A Parkhouse Road
Wigram
Christchurch 8042
New Zealand

p. +64 3 361 0300

Geotechnics Project ID 1009479.1218.0.0

Customer Project ID J00721

Determination of the Shrink - Swell Index - AS 1289 Test 7.1.1 - 2003

TEST DETAILS

LOCATION	ID	62 - 80 Papakura Clevedon		
	Description	62 - 80 Papakura Clevedon		
SAMPLE	Geotechnics ID	CHCH202422-02	Top Depth	0.5m
	Reference	Lot 215	Bottom Depth	1.0m
	Description	SILT with some clay and trace sand, greyish brown. Moist.		
SPECIMEN	Reference	N/A	Depth	N/A
	Description	N/A		

TEST RESULTS

Applied pressure	25 kPa

Swell Test

Initial water content	32.5 %
Bulk density	1.80 t/m³
Dry density	1.36 t/m³
Final water content	34.5 %
Swelling strain	0.16 %

Shrinkage Test

Initial water content	30.8 %
Shrinkage strain	5.2 %
Inert material estimate in the soil specimen	None %
Soil crumbling during shrinkage	Moderate
Cracking of the shrinkage specimen	Moderate

Shrink - Swell Index	2.9 %

TEST REMARKS

- The material used for testing was natural

Date tested: 29/08/2024

This test result is IANZ accredited.

Approved by KTP JASI Date 4/09/2024

GEOTECHNICS

45A Parkhouse Road
Wigram
Christchurch 8042
New Zealand

p. +64 3 361 0300

Geotechnics Project ID 1009479.1218.0.0

Customer Project ID J00721

Determination of the Shrink - Swell Index - AS 1289 Test 7.1.1 - 2003

TEST DETAILS

LOCATION	ID	62 - 80 Papakura Clevedon		
	Description	62 - 80 Papakura Clevedon		
SAMPLE	Geotechnics ID	CHCH202422-03	Top Depth	0.5m
	Reference	Lot 123	Bottom Depth	1.0m
	Description	SILT with some sand and trace clay, yellowish grey brown. Moist.		
SPECIMEN	Reference	N/A	Depth	N/A
	Description	N/A		

TEST RESULTS

Applied pressure	25 kPa

Swell Test

Initial water content	23.0 %
Bulk density	1.83 t/m³
Dry density	1.48 t/m³
Final water content	24.6 %
Swelling strain	-0.16 %

Shrinkage Test

Initial water content	28.9 %
Shrinkage strain	4.8 %
Inert material estimate in the soil specimen	None %
Soil crumbling during shrinkage	Moderate
Cracking of the shrinkage specimen	Major

Shrink - Swell Index	2.7 %

TEST REMARKS

- The material used for testing was natural

Date tested: 29/08/2024

This test result is IANZ accredited.

Approved by KTP	JASI	Date	4/09/2024

1 October 2024
Our Ref: 2021000.1080.2.0/Rep2
Customer Ref: J00721

Land Development & Engineering Ltd
Level 1, Wilson James Centre
77 Peel Street
Gisborne 4040

Attention: Kyle Meffan

Dear Kyle

62-80 Papakura-Clevedon Road

Laboratory Test Report

Samples from the above-mentioned site have been tested as received according to your instructions and the results are included in this report. Results apply only to the sample(s) tested.

Descriptions are enclosed for your information but are not covered under the IANZ endorsement of this report.

This report has been prepared for the benefit of Land Development & Engineering Ltd, with respect to the particular brief given to us and it cannot be relied upon in other contexts or for any other purpose without our prior review and agreement.

This report may be reproduced only in full.

Samples not destroyed during testing will be retained for one month from the date of this report before being discarded. If we can be of any further assistance, feel free to get in touch. Contact details are provided at the bottom of this page.

GEOTECHNICS LTD

Report approved by:



.....

Kelsey Sanderson
Laboratory Technician
Key Technical Person

Authorised for Geotechnics by:



Digitally signed by Corey Papu-Gread
DN: cn=Corey Papu-Gread, c=NZ, o=Geotechnics , email=cpapu-gread@geotechnics.co.nz
Date: 2024.10.01 09:55:15 +13'00'

.....

Corey Papu-Gread
Project Director

ACCREDITED
IANZ
TESTING LABORATORY

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

1-Oct-24
T:\GeotechnicsGroup\Projects\2021000\2021000.1080 - 62-80 Papakura-Clevedon Road, Clevedon\IssuedDocuments\Report 2 - lab testing

GEOTECHNICS
1 Hill Street
Onehunga
Auckland
New Zealand
p. +64 9 356 3510

Geotechnics Project ID 2021000.1080.2.0
Customer Project ID J00721

Determination of Liquid & Plastic Limit, Plasticity Index - NZS 4402: 1986 Tests 2.2 (4 Point), 2.3 & 2.4

Determination of the Water Content - NZS 4402:1986 Test 2.1

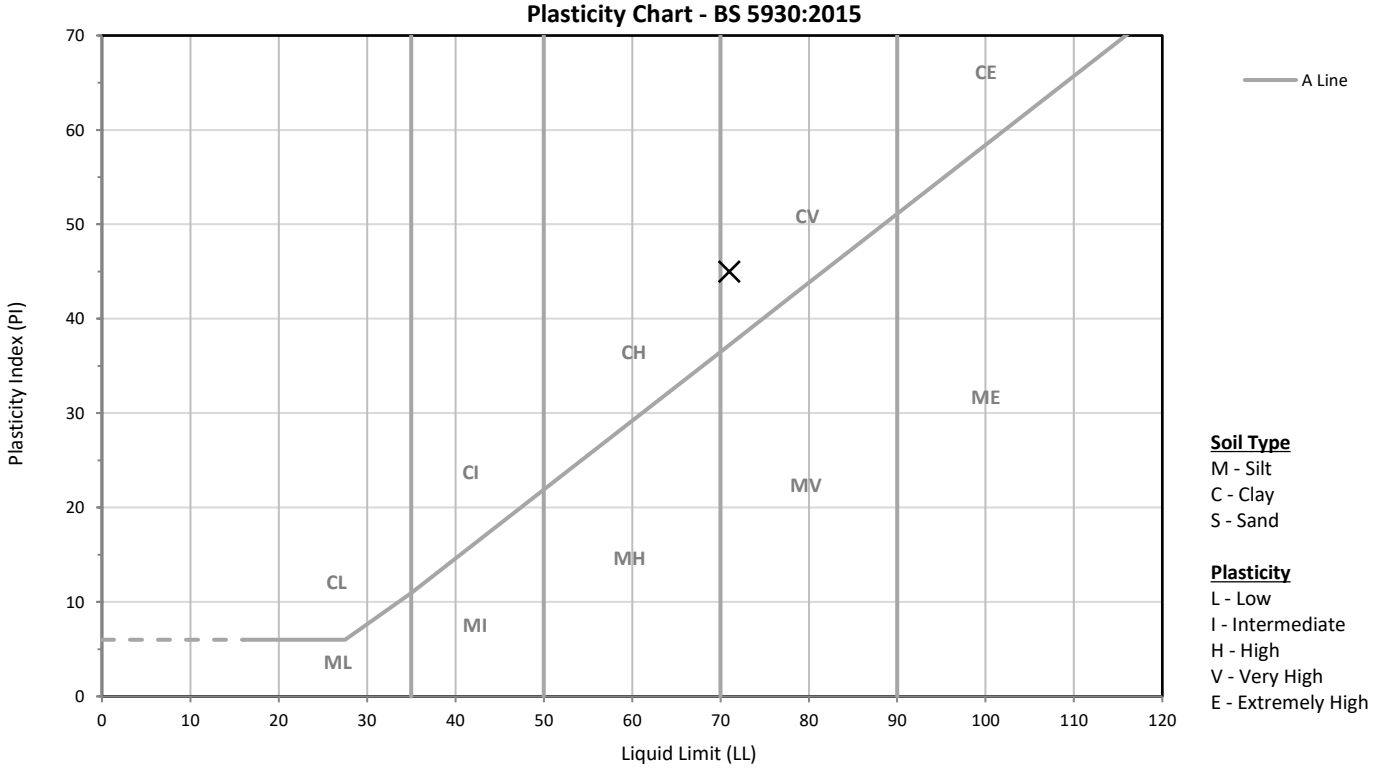
TEST DETAILS

LOCATION	**ID**	Lot 15		
	Description	62-80 Papakura-Clevedon Road		
	Data	N/A		
SAMPLE	**Geotechnics ID**	AKL1019.1		
	Reference	-	**Depth**	0.5-1.0 m
	Description	Silty CLAY; orange with dark brown and light yellowish grey. Soft, moist, high plasticity.		
SPECIMEN	**Reference**	-	**Depth**	-
	Description	-		

TEST RESULTS

Liquid Limit	**71**
Plastic Limit	**26**
Plasticity Index	**45**
Natural Water Content	**37.8 %**

Plasticity Chart - BS 5930:2015



The plasticity chart is provided for your inference only and is not covered under our scope of IANZ accreditation. Due to the nature of classifications it is possible to have discrepancies between observational behaviour descriptions and measured parameters

TEST REMARKS

• The material used for testing was natural, fraction passing a 425um sieve.

Date Tested: 27/09/2024

This test result is IANZ accredited.

Approved by KTP KESA **Date** 1/10/2024

GEOTECHNICS
1 Hill Street
Onehunga
Auckland 1061
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Geotechnics Project ID 2021000.1080.2.0
Customer Project ID J00721

Determination of Linear Shrinkage - Determination of the Linear Shrinkage - NZS 4402:1986 Test 2.6

TEST DETAILS

LOCATION	**ID**	Lot 15		
	Description	62-80 Papakura-Clevedon Road		
	Data	N/A		
SAMPLE	**Geotechnics ID**	AKL1019.1		
	Reference	-	**Depth**	0.5-1.0 m
	Description	Silty CLAY; orange with dark brown and light yellowish grey. Soft, moist, high plasticity.		
SPECIMEN	**Reference**	-	**Depth**	-
	Description	-		

TEST RESULT

Linear Shrinkage **17%**

TEST REMARKS

• The material used for testing was natural, fraction passing a 425um sieve. • Date tested 27/09/2024

This test result is IANZ accredited.

Approved by KTP KESA **Date** 1/10/2024

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1 Hill Street
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New Zealand
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Geotechnics Project ID 2021000.1080.2.0
Customer Project ID J00721

Determination of Liquid & Plastic Limit, Plasticity Index - NZS 4402: 1986 Tests 2.2 (4 Point), 2.3 & 2.4

Determination of the Water Content - NZS 4402:1986 Test 2.1

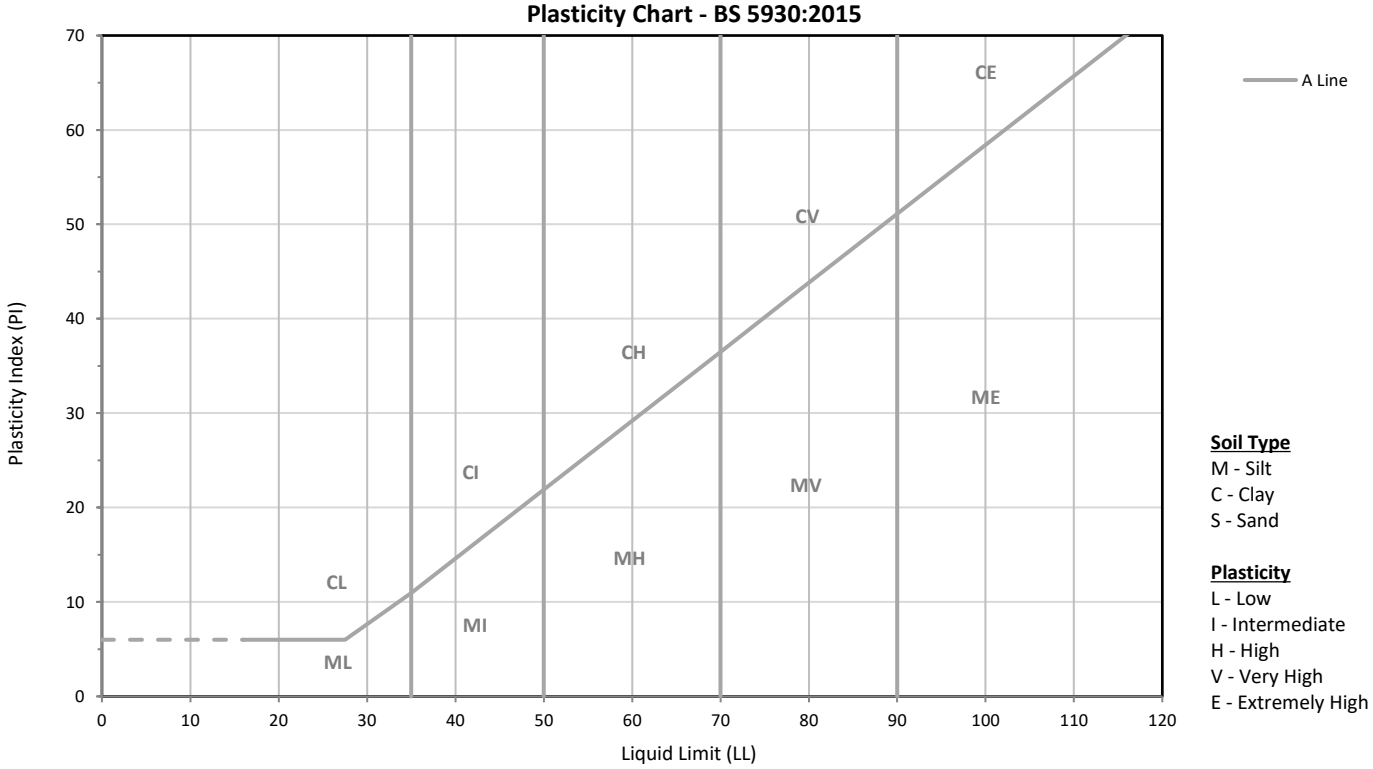
TEST DETAILS

LOCATION	**ID**	Lot 116		
	Description	62-80 Papakura-Clevedon Road		
	Data	N/A		
SAMPLE	**Geotechnics ID**	AKL1019.2		
	Reference	-	**Depth**	0.5-1.0 m
	Description	Silty CLAY; light brownish grey with dark brown and orange. Soft, moist, high plasticity.		
SPECIMEN	**Reference**	-	**Depth**	-
	Description	-		

TEST RESULTS

Liquid Limit	**120**
Plastic Limit	**41**
Plasticity Index	**80**
Natural Water Content	**52.7 %**

Plasticity Chart - BS 5930:2015



Note: The Plasticity Index and/or the Liquid Limit results lie outside of the parameters of the chart and can therefore not be displayed.

The plasticity chart is provided for your inference only and is not covered under our scope of IANZ accreditation. Due to the nature of classifications it is possible to have discrepancies between observational behaviour descriptions and measured parameters

TEST REMARKS

• The material used for testing was natural, fraction passing a 425um sieve.

Date Tested: 27/09/2024

This test result is IANZ accredited.

Approved by KTP KESA **Date** 1/10/2024

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Onehunga
Auckland 1061
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Geotechnics Project ID 2021000.1080.2.0

Customer Project ID J00721

Determination of Linear Shrinkage - Determination of the Linear Shrinkage - NZS 4402:1986 Test 2.6

TEST DETAILS

LOCATION	**ID**	Lot 116		
	Description	62-80 Papakura-Clevedon Road		
	Data	N/A		
SAMPLE	**Geotechnics ID**	AKL1019.2		
	Reference	-	**Depth**	0.5-1.0 m
	Description	Silty CLAY; light brownish grey with dark brown and orange. Soft, moist, high plasticity.		
SPECIMEN	**Reference**	-	**Depth**	-
	Description	-		

TEST RESULT

Linear Shrinkage **19%**

TEST REMARKS

• The material used for testing was natural, fraction passing a 425um sieve. • Date tested 27/09/2024

This test result is IANZ accredited.

Approved by KTP KESA **Date** 1/10/2024

APPENDIX D

POST-CONSTRUCTION BOREHOLE RECORDS

Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 120**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	BS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	307

Depth (m)	Material Description	Geology
0.5	Clayey TOSPOIL.	Topsoil
1.0	Silty CLAY, with trace sand; light brown mottled orange. Hard; moist; high plasticity; sand, fine.	Engineered Fill
	1.0m: becoming grey and orange mottled light brown; with trace fine gravel inclusions	
	1.2m: becoming grey speckled blue/grey and light grey mottled orange	
1.5	1.5m: becoming blue/grey and light grey mottled orange; without gravel inclusions	
2.0	Silty CLAY; orange mottled light brown. Very stiff; moist to wet; high plasticity; moderately sensitive.	Puketoka Formation
2.5		

Water: Groundwater Not Encountered

In-situ Testing

Dynamic Cone Penetrometer (blows / 50mm): 2, 4, 6, 8

Shear Vane, Su (kPa): 50, 100, 150, 200

Depth (m)	Test Values (peak / remoulded (sensitivity))
0.5	213+
1.0	UTP
1.5	UTP
2.0	137 / 68 (2)



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 128**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	BS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	307

Depth (m)	Material Description	Geology
0.0	Clayey TOPSOIL.	Topsoil
0.5	Silty CLAY, with trace sand; brown and grey mottled orange. Very stiff; moist; high plasticity; sand, fine.	Engineered Fill
	0.8m: becoming blue/grey and brown mottled orange	
1.0	Silty CLAY, with trace sand; brown mottled orange. Very stiff; moist to wet; high plasticity; sand, fine; insensitive.	Puketoka Formation
	1.3m: becoming light brown/grey mottled orange	
1.5	1.5m: becoming hard	
	1.7m: becoming dark brown speckled and orange streaked light brown	
2.0	2.0m: becoming very stiff	
2.5		

Water: Groundwater Not Encountered

In-situ Testing

Dynamic Cone Penetrometer (blows / 50mm): 2, 4, 6, 8

Shear Vane, Su (kPa): 50, 100, 150, 200

Test Values (peak / remoulded (sensitivity))	Depth (m)
147 / 73 (2)	0.5
158 / 143 (1.1)	1.0
213+ -	1.5
123 / 73 (1.7)	2.0



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 135**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	BS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	307

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm) 2 4 6 8 / Shear Vane, Su (kPa) 50 100 150 200	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL.	Topsoil				
	Silty CLAY, with trace sand; brown/orange mottled brown. Very stiff; moist; high plasticity; sand, fine; insensitive.	Engineered Fill				
	0.2m: becoming dark brown speckled light brown; with trace woody inclusions					
	0.4m: becoming dark grey streaked dark brown and brown/grey mottled orange					
0.5	0.5m: becoming dark grey streaked light brown and blue/grey mottled orange; with trace fine gravel inclusions				140 / 74 (1.9)	
	0.8m: becoming dark brown/orange and light brown mottled orange; without gravel inclusions					
1.0	1.0m: becoming light brown mottled orange; hard		Groundwater Not Encountered		213+	-1.0
	1.4m: becoming dark brown and blue/grey mottled orange; with trace fine gravel inclusions					
1.5	1.5m: becoming light brown mottled orange				213+	
	Silty CLAY, with trace sand; orange mottled light brown. Very stiff; moist; high plasticity; sand, fine; insensitive.	Puketoka Formation				
2.0					134 / 87 (1.5)	-2.0
2.5						



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 138**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	MK
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	2396

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm)	In-situ Testing: Shear Vane, Su (kPa)	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL.	Topsoil	Groundwater Not Encountered	2 4 6 8	50 100 150 200		0.0
	Silty CLAY; grey streaked light brown/orange. Hard; moist; high plasticity.	Engineered Fill				215+	
1.0	1.1m: becoming light grey mottled light brown/orange					215+	-1.0
1.5	Clayey SILT; orange and light grey mottled grey. Hard; moist; medium plasticity.	Puketoka Formation				215+	
2.0						215+	-2.0
2.5							



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID: Lot 144
Project ID: J00721
Sheet: 1 of 1

Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	MK
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	2396

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm)	In-situ Testing: Shear Vane, Su (kPa)	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL.	Topsoil	Groundwater Not Encountered	2 4 6 8	50 100 150 200		
0.5	Silty CLAY, with trace gravel; orange and grey streaked light brown. Hard; moist; medium plasticity; gravel, fine.	Engineered Fill				215+	
1.0	Silty CLAY; orange and grey mottled light brown/orange. Hard; moist; high plasticity. 1.1m: with organic staining	Puketoka Formation				215+	-1.0
1.5	Clayey SILT; grey/brown mottled light brown/orange. Hard; moist; low plasticity.					215+	
2.0						215+	-2.0
2.5							



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

Generated with CORE-GS by Geroc - HATP Log with Photo v8.1 - 3/12/2024 10:12:59 am

Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID: Lot 150
Project ID: J00721
Sheet: 1 of 1

Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	MK
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	2396

Depth (m)	Material Description	Geology
	TOPSOIL.	Topsoil
0.5	Silty CLAY; grey streaked light brown/orange. Hard; moist; high plasticity.	Engineered Fill
1.0		
	1.3m: becoming blue mottled light brown/orange	
	1.4m: becoming orange streaked blue	
1.5	1.5m: becoming blue mottled light brown/orange	
	Clayey SILT; grey/brown mottled light brown. Hard; moist; low plasticity.	Puketoka Formation
2.0		
2.5		

Water: Groundwater Not Encountered

In-situ Testing
Dynamic Cone Penetrometer (blows / 50mm) 2 4 6 8
Shear Vane, Su (kPa) 50 100 150 200

Test Values
peak / remoulded (sensitivity)

Depth (m)	Test Values
0.5	215+
1.0	215+
1.5	215+
2.0	215+

-1.0
-2.0



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 156**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	MK
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	2396

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm)	In-situ Testing: Shear Vane, Su (kPa)	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL.	Topsoil	Groundwater Not Encountered	2 4 6 8	50 100 150 200		0.0
0.5	Silty CLAY; grey streaked light brown/orange. Very stiff; moist; high plasticity; insensitive.	Engineered Fill				169 / 123 (1.4)	
1.0	Clayey SILT, with trace sand; grey/brown mottled light brown. Hard; moist; low plasticity; sand, fine. 1.0m: becoming hard	Puketoka Formation				215+	-1.0
1.5						215+	
2.0						215+	-2.0
2.5							



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID: Lot 218
Project ID: J00721
Sheet: 1 of 1

Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	09/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	ZS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	AH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	835

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm)	In-situ Testing: Shear Vane, Su (kPa)	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL.	Topsoil	Groundwater Not Encountered	2 4 6 8	50 100 150 200		0.0
0.5	Clayey SILT; white streaked orange/brown. Hard; moist; medium plasticity; insensitive 0.4m: becoming blue 0.6m: becoming white streaked orange	Engineered Fill				210 / 112 (1.9)	-0.5
1.0	Silty CLAY; orange streaked light brown. Hard; moist; high plasticity; insensitive. 1.0m: light grey streaked light brown 1.4m: becoming orange streaked light brown 1.6m: light orange streaked white/light grey	Puketoka Formation				213 / 108 (2)	-1.0
1.5						210 / 159 (1.3)	-1.5
2.0						220 / 121 (1.8)	-2.0
2.5							-2.5



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 221**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	09/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	ZS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	835

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm)	In-situ Testing: Shear Vane, Su (kPa)	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL.	Topsoil	Groundwater Not Encountered	2 4 6 8	50 100 150 200		0.0
0.5	Clayey SILT, with trace sand; grey and orange mottled light brown. Very stiff; moist; medium plasticity; sand, fine; insensitive 0.4m: becoming orange mottled grey/blue 0.7m: becoming orange and grey mottled light brown	Engineered Fill				143 / 83 (1.7)	
1.0	1.0m: becoming light brown; hard					213 / 121 (1.8)	-1.0
	Clayey SILT; orange streaked grey. Hard; moist; medium plasticity.	Puketoka Formation					
1.5	Silty CLAY; orange streaked light grey/white. Hard; moist; high plasticity.					223+	
2.0	2.0m: becoming very stiff; insensitive					188 / 112 (1.7)	-2.0
2.5							



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 225/22**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	09/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	ZS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	835

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm) 2 4 6 8 / Shear Vane, Su (kPa) 50 100 150 200	Test Values: peak / remoulded (sensitivity)	Depth (m)
	TOPSOIL.	Topsoil				
0.5	Clayey SILT; orange mottled light brown. Very stiff; moist; medium plasticity; insensitive. 0.5m: becoming orange mottled blue/grey 0.7m: becoming orange/white streaked blue/grey	Engineered Fill			172 / 99 (1.7)	
1.0	Silty CLAY; orange mottled light brown. Hard; moist; high plasticity; insensitive. 1.3m: becoming orange streaked light grey	Puketoka Formation			210 / 115 (1.8)	-1.0
1.5	1.5m: becoming moderately sensitive 1.7m: with some wood inclusions to 1.85m				217 / 73 (3)	
2.0	1.9m: becoming saturated 2.0m: becoming very stiff; insensitive		▼		140 / 86 (1.6)	-2.0
2.5						



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- ● Vane peak
- ○ Vane residual
- ◆ Vane UTP
- ▼ Standing water level
- ◁ Groundwater inflow
- ▷ Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID:	**Lot 1002**				
Project ID:	J00721				
Sheet:	1 of 1				
Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	BS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	307

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm) 2 4 6 8 / Shear Vane, Su (kPa) 50 100 150 200	Test Values: peak / remoulded (sensitivity)	Depth (m)
	Silty CLAY, with trace sand; orange mottled brown. Very stiff; moist; medium plasticity; sand, fine.	Topsoil	Groundwater Not Encountered			
	Clayey TOPSOIL.					
0.5	Silty CLAY, with trace sand; light brown and grey mottled orange. Hard; moist; high plasticity; sand, fine.	Engineered Fill			213+	
	0.6m: becoming brown and grey mottled orange					
1.0					213+	-1.0
1.5	Silty CLAY, with trace sand; brown mottled orange. Very stiff; moist; high plasticity; sand, fine; insensitive.	Puketoka Formation			170 / 149 (1.1)	
	1.6m: becoming light brown/grey mottled orange					
2.0					134 / 118 (1.1)	-2.0
2.5						



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID: Lot 1003
Project ID: J00721
Sheet: 1 of 1

Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	MK
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	2396

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm)	In-situ Testing: Shear Vane, Su (kPa)	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL.	Topsoil	Groundwater Not Encountered	2 4 6 8	50 100 150 200		
	Silty CLAY; grey mottled light brown. Hard; moist; high plasticity.	Engineered Fill				215+	
0.5							
	Clayey SILT, with trace sand and gravel; orange and grey mottled light brown. Hard; moist; low plasticity; sand, fine, gravel, fine.						
1.0						215+	-1.0
	Silty CLAY; grey streaked light brown/orange. Hard; moist; high plasticity.	Puketoka Formation					
1.5	1.5m: becoming very stiff; insensitive					169 / 123 (1.4)	
	2.0m: becoming hard						
2.0						215+	-2.0
2.5							



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

Generated with CORE-GS by Geroc - HATP Log with Photo v8.1 - 3/12/2024 10:12:57 am

Hand Auger Borehole Log

Method: 50mm Hand Auger

Test ID: Lot 1004
Project ID: J00721
Sheet: 1 of 1

Client:	Clevedon Properties	**Coordinates:**		**Test Date:**	11/09/2024
Project:	Geotechnical investigation	**System:**	NZTM	**Logged By:**	ZS
Location:	Clevedon Meadows, 62-80 Papakura-Clevedon Road,	**Elevation:**	Ground	**Checked By:**	MH
Test Site:	Refer to site plan	**Located By:**	Site plan/map	**Vane ID:**	835

Depth (m)	Material Description	Geology	Water	In-situ Testing: Dynamic Cone Penetrometer (blows / 50mm)	In-situ Testing: Shear Vane, Su (kPa)	Test Values: peak / remoulded (sensitivity)	Depth (m)
0.0	TOPSOIL	Topsoil	Groundwater Not Encountered	2 4 6 8	50 100 150 200		
0.5	Clayey SILT, with trace sand; light grey streaked orange. Hard; moist; medium plasticity; sand, fine. 0.6m: becoming grey/brown; with trace rootlets	Engineered Fill				UTP	
1.0	Silty CLAY; orange mottled brown. Hard; moist; high plasticity. 1.4m: becoming white streaked light brown/orange	Puketoka Formation				223+	-1.0
1.5						223+	
2.0						223+	-2.0
2.5							



Hole Depth: 2.00m

Termination: Reached target depth

Remarks:

Materials described in general accordance with NZGS Field Description of Soil and Rock (2005) . No correlation is implied between shear vane and DCP values.

- Vane peak
- Vane residual
- Vane UTP
- Standing water level
- Groundwater inflow
- Groundwater outflow

UTP = Unable to Penetrate

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APPENDIX E

CONSTRUCTION OBSERVATIONS RECORDS

Site Inspection Record

Date:	18/01/2023	**Time:**	9AM
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Sun		
Contactor:	Dempsey Wood		

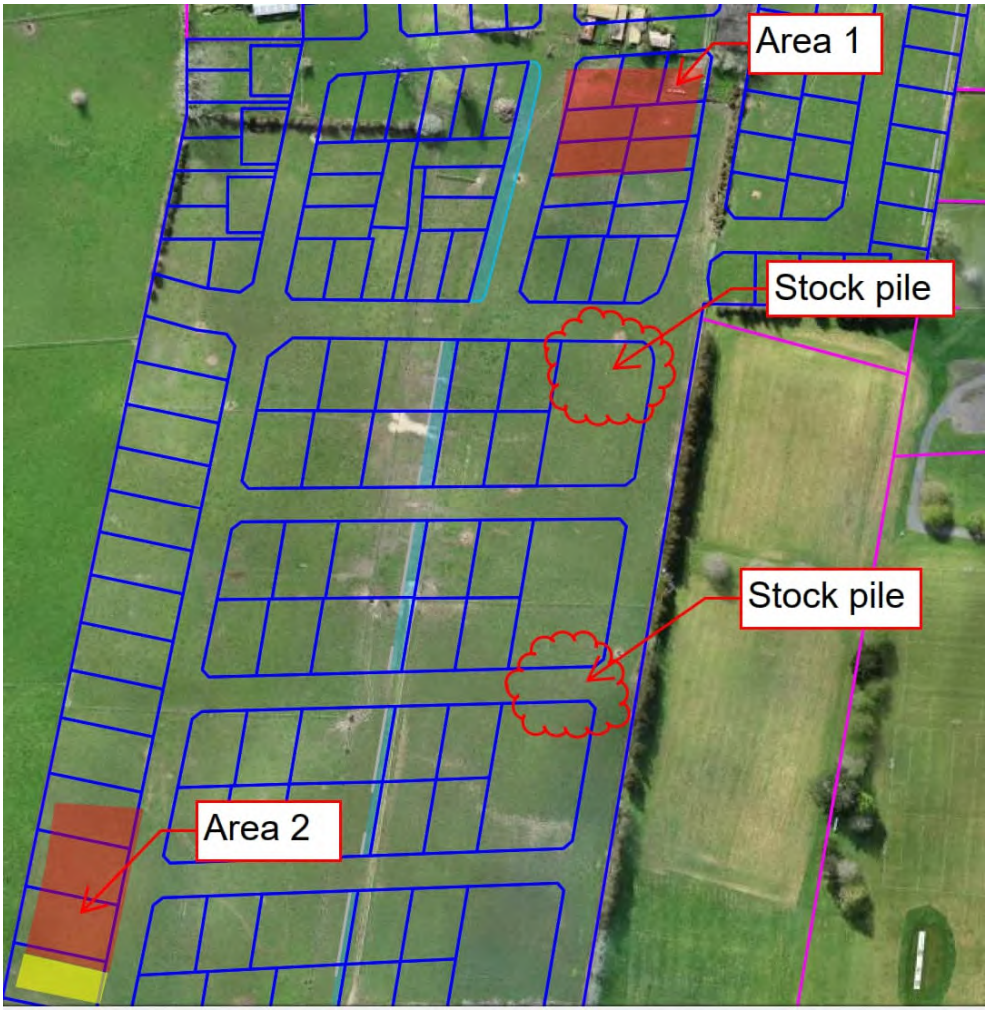
Inspection Notes:

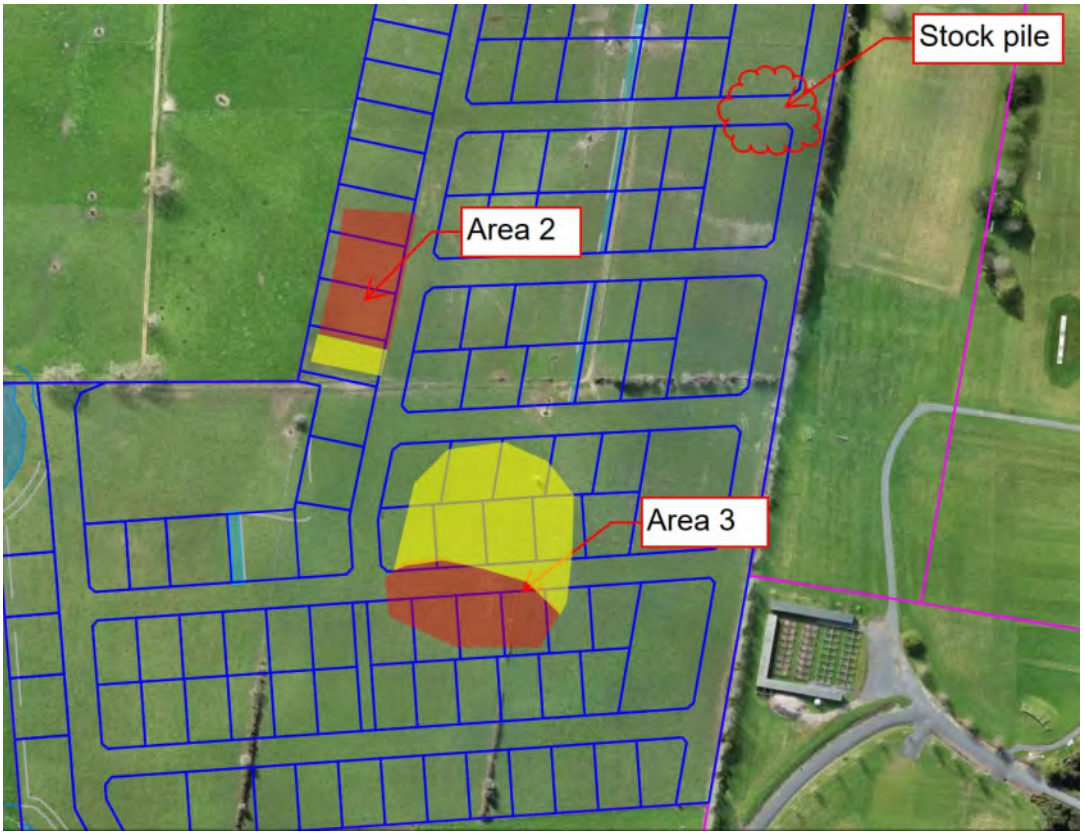
Inspected 3 areas of topsoil stripping at the above site (highlighted on the plan below in red).

- Area 1
  - Several silt ponds had been formed in this area (adjacent to the current site office).
  - The subgrade revealed inorganic, natural, and very stiff brown/grey clayey silts (i.e. greater than 110kPa). Contractor noted this area require another 200-300mm cut to reach proposed level. Discussed with the contractor that we will need to inspect the stripped surface once final grade has been achieved.
- Area 2
  - Two silt retention ponds had been formed in this area.
  - During our inspection of this area wet and saturated soils were observed.
  - Further investigation via a shallow trial pit confirmed these materials were present up to approximately 300mm depth, with the underlying soils comprising inorganic, natural, and stiff orange/brown clayey silts (i.e. greater than 68kPa).
  - Contractor advised that this area will involve fill up to 800mm from the current subgrade level.
- Area 3
  - During our inspection of this area wet and saturated soils were observed, resulting in rutting of the subgrade beneath the route of moxy dumptrucks and scrapers. We also observed weaving of the subgrade during plant operation at the time of inspection.
  - Further investigation via shallow trial pit confirmed these materials were present to approximately 300mm depth and were underlain by moist soils deemed suitable to place fill upon (the contractor advised 200mm-400mm of fill was to be placed).

CAN 01 to follow with recommendations in areas 2 and 3.

Several topsoil stockpiles were also noted across the site as indicated on the plans below.





Area 1







Area 2







Area 3


LEVIEN
LEVIEN




LEVIEN

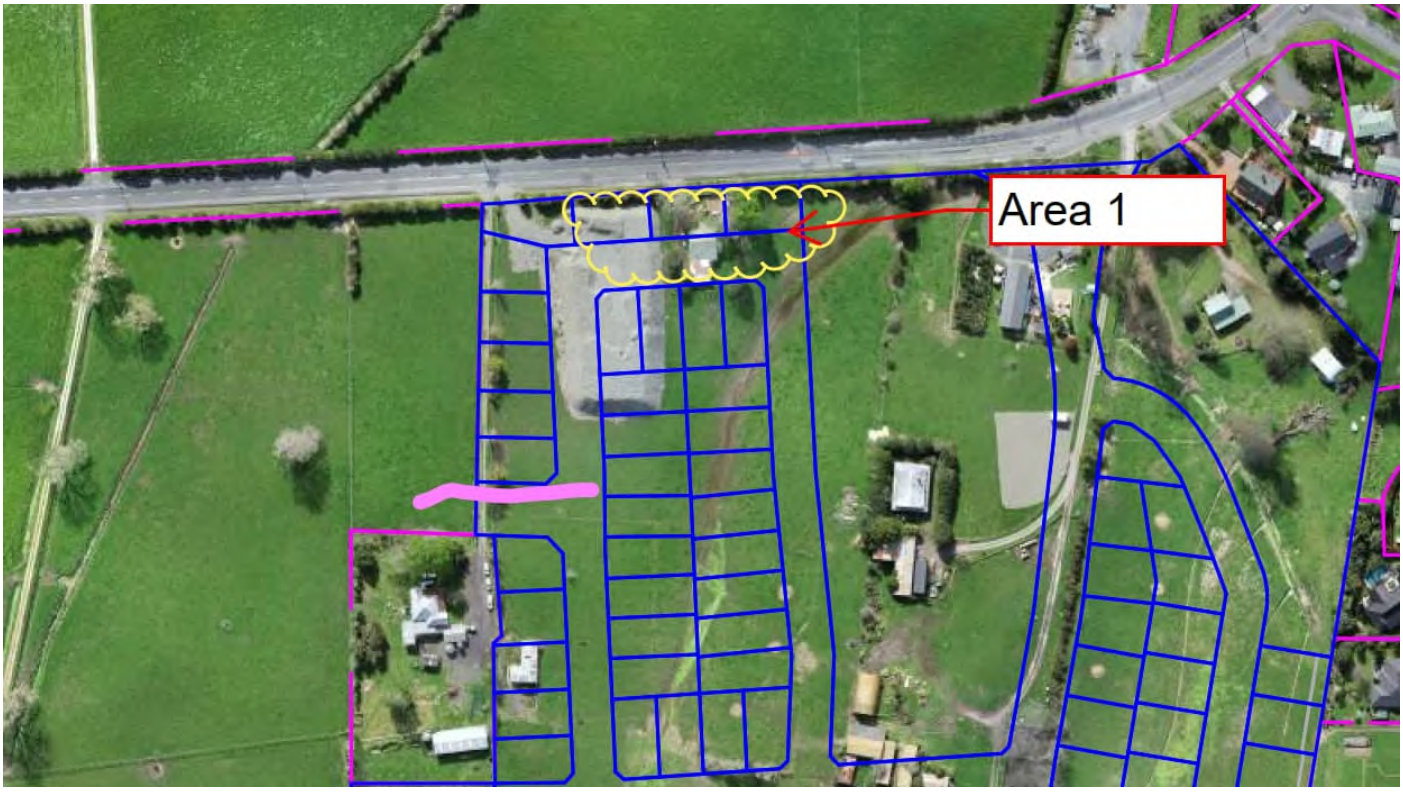
Site Inspection Record

Date:	23/01/23	**Time:**	14.00
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected 3 areas of topsoil stripping at the above site (circled on the plan below in yellow)

- Area 1
  - Few shallow pits were conducted to remove the dried up crust layer. The subgrade revealed inorganic, natural and stiff brown/grey clayey silts (i.e. greater than 78kPa). 1 shallow hand auger was also conducted to inspect ground conditions. Discussed with the contractor that we will need to inspect the stripped surface once final grade has been achieved.
- Area 2
  - Few shallow pits were conducted to remove the dried-up crust layer. The subgrade revealed inorganic, natural and stiff brown/grey clayey silts (i.e. greater than 65kPa). No topsoil encountered during our visit.
  - Wet and sensitive clayey silts were encountered similar to the area inspected dated 18/01/23. The area demonstrates pumping and weaving from plant trafficking.
  - Competent natural soils were present at approximately 0.3m to 0.4m below current ground level.
- Area 3
  - Inspected ground conditions adject to the two silt retention ponds.
  - Wet and firm soils were encountered in an isolate area (refer to area circled in red on the plan below). Ground can be easily punched through by the shear vane.
  - Remaining section of Area 3 revealed inorganic, natural, and very stiff soil (i.e. greater than 105kPa).
  - We will return to site and inspect this isolated area in more detail.





Area 1





Area 2







Area 3







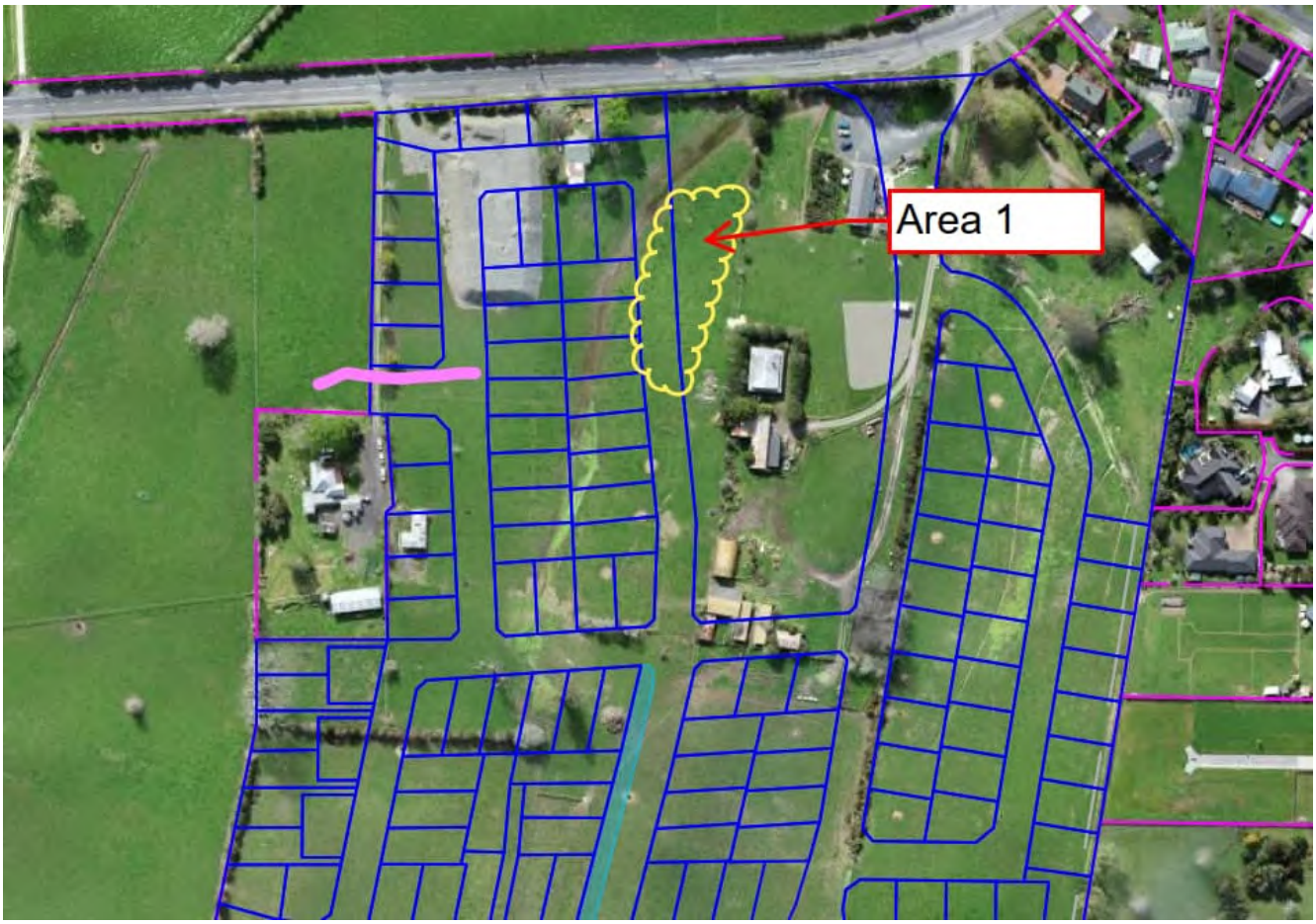
Site Inspection Record

Date:	24/01/23	**Time:**	08.00 am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected 3 areas of topsoil stripping at the above site (circled on the plan below in yellow)

- Area 1
  - Inspected the topsoil stripping along the stream. The subgrade revealed inorganic, natural, and stiff brown/grey clayey silts (i.e. greater than 82kPa). Some water pooling are encountered, contractor noted they will wait for it to dry up till further earthwork happens
  - Discussed with contractor regarding the removal of the gully/stream. We will return and inspect when the unsuitables are removed.
- Area 2
  - Returned and inspected the isolate wet spot adjacent to the pond. Shallow pit was conducted to remove soft/unsuitable ground, competent ground was encountered 600mm below the current level.
  - Contractor noted they will wait for the area to dry up a bit more and begin to fill when it becomes suitable.
- Area 3
  - Few shallow pits were conducted to remove the dried-up crust layer. The subgrade revealed inorganic, natural and stiff brown/grey clayey silts (i.e. greater than 72kPa). No topsoil encountered during our visit.
  - Wet and sensitive clayey silts were encountered similar to the area inspected dated 18/01/23. The area demonstrates pumping and weaving from moxy and high traffic area.
  - Competent natural soils were present at approximately 0.3m to 0.4m below current ground level. Discussed with Maven who advised the contractor to leave earthworks in this area as it is not on critical path.


Area 1


Area 2
Area 3

Area 1







Area 2





3



Area 3






EMPSEY WOOD

Site Inspection Record

Date:	25/01/2023	**Time:**	8.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Return and inspected topsoil strip area at the above site (circled on the plan below in yellow)

- The northern portion is currently covered in metal for the driveway and a pre-existing stockpile which has now been removed.
- Most of the area circled has not been disturbed yet.
- Several trial pits were conducted to investigate the ground condition and provide the depth of the topsoil for contractors to remove. Inorganic, natural and stiff clayey silts are revealed (i.e. greater than 84kPa).
- We will return and inspect when the area is stripped.



Northern portion of the inspected area (currently a temporary driveway)



Western side of the stream











Site Inspection Record

Date:	26/01/23	**Time:**	8.00 am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Return and inspected topsoil strip in 2 areas (circled in yellow on below site plan) at the site above.

- Area 1
  - Few shallow pits conducted along the temporary driveway section to checked ground conditions.
  - Topsoil is removed and inorganic, natural and stiff grey/orange clayey silt is revealed (i.e. greater than 95kPa).
- Area 2
  - Returned to the strip area from yesterday (25 Jan 23). Majority of the topsoil is stripped and revealed inorganic, natural and stiff clayey silts. Some traces of topsoil remain on the ground surface, instructed contractor to remove these isolated spots and clean up to reveal orange/grey natural ground.
  - We will return and inspect the remaining area when it is ready.



Area 1







Area 2





Site Inspection Record

Date:	17/02/2023	**Time:**	12PM
LDE Project Ref:	J00721	**Inspected by:**	Alex Tanner
Project:	J00721 – Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		

Inspection Notes:
Attended site to observe an area of stripping as highlighted on the site plan below. - Stripped surface comprised very stiff, inorganic, natural materials with a minimum recorded shear strength of 140kPa. - A test pit was dug in the base of a future temporary silt pond, this exposed competent natural materials.

Recommendations to Contractor:
Stripped surface satisfactory for fill placement.









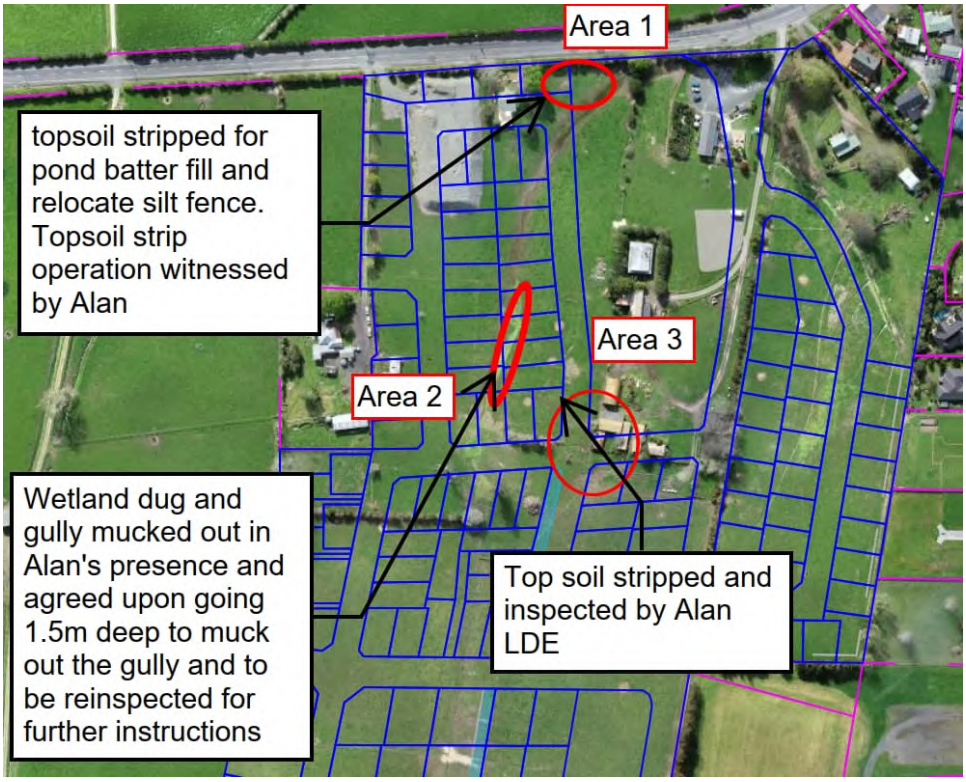
Site Inspection Record

Date:	20/2/23	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected gully muckout and topsoil stripping at above site (refer inspected areas to site plan below)

- Area 1 (Gully muckout)
  - During our inspection of this area, wet and saturated ground was observed.
  - Two trail pits were conducted in this area. Organic and/or soft soils were encountered to depths of between 1.0m to 1.5m below existing ground level. Significant water seepages into the gully were observed.
  - The ground below organic/soft soils revealed inorganic, natural, and firm to stiff light blue/grey silty clays (i.e. average shear strengths of 45-60kPa).
  - Advised the contractor to remove all organic/unsuitables and chase out the light blue/grey ground. We will return and inspect the ground when it is completed.
- Area 2 (Gully muckout)
  - During our inspection of this area, wet and saturated ground was observed.
  - Four trail pits were conducted in this area. Organic, pre-existing fill and mullock were encountered to depths of between 1.5m to 1.8m below existing ground level. Significant water seepages into the gully were observed in the northern portion of the gully.
  - The ground below organic/unsuitables revealed inorganic, natural, and firm to stiff light blue/grey silty clays (i.e. average shear strengths of 45-60kPa)
  - Advised the contractor to remove all organic/unsuitables and chase out the light blue/grey ground. We will return and inspect the ground when it is completed.
- Area 3 (Topsoil strip)
  - Topsoil is removed and inorganic, natural and stiff grey/orange clayey silts is revealed (i.e. greater than 66kPa).
  - There is currently a topsoil stockpile in the central portion of the area. Clay fill can be placed once the stockpile is fully removed.



Area 1








ELITE
TWINLOCK

Area 2









Area 3







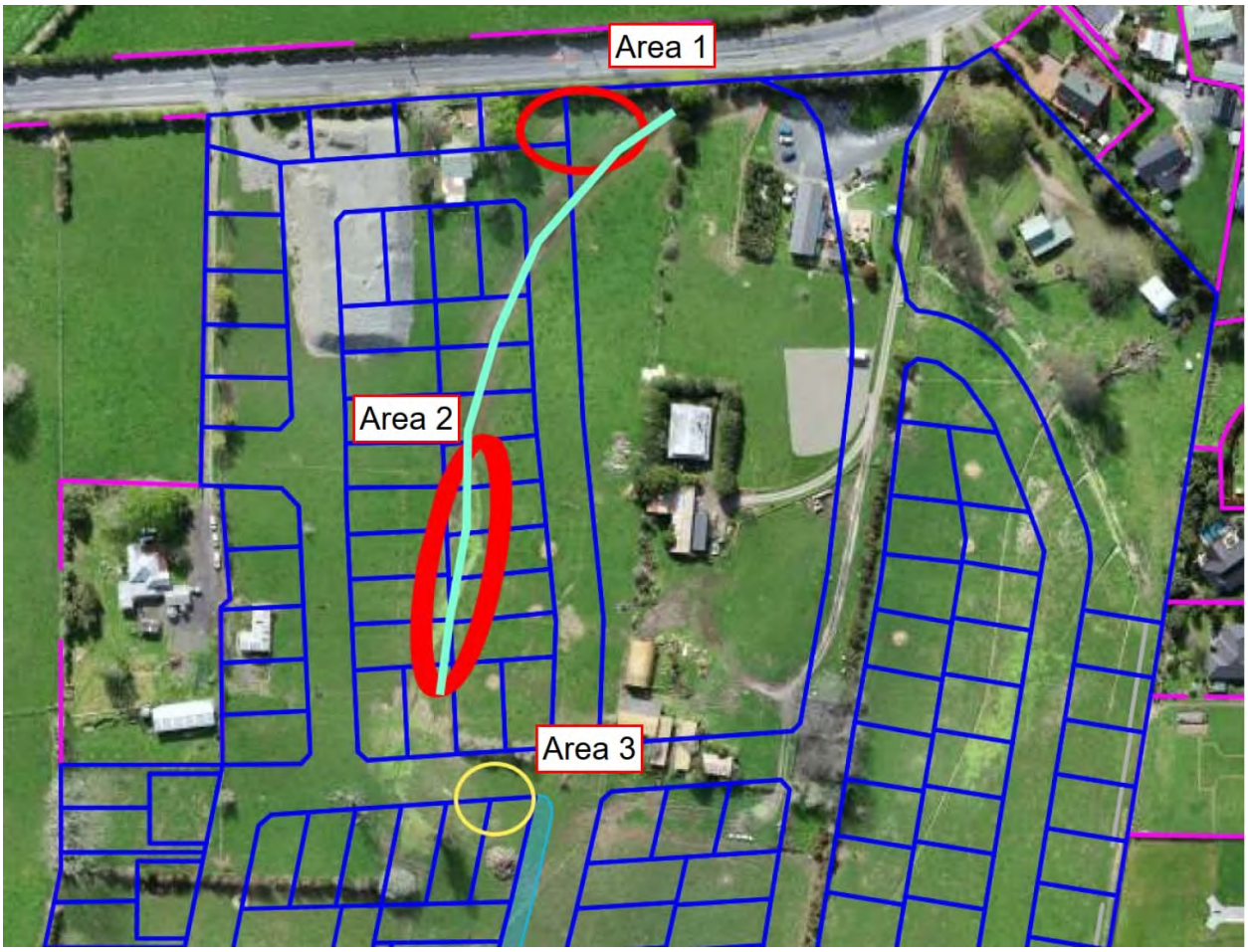
Site Inspection Record

Date:	21/02/23	**Time:**	9.00 am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang/Kyle Meffan
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Return and inspected the gully muckout at above site with Kyle Meffan

- Area 1
  - Organic and soft soils have been removed up to 1.5m, revealing inorganic, natural and stiff light grey/blue silty clays.
  - Significant water seepages into the gully have been observed.
- Area 2
  - Organic and soft soils have been removed up to 1.8m, revealing inorganic, natural and stiff light grey/blue silty clays.
  - Significant water seepages into the gully have been observed.
  - Discussed with the contractor regarding installing underfill drain along the invert of the gully and connect it to Area 1
  - Refer to CAN 02 for detailed recommendation about the specification for the underfill drain and gully backfill. (refer light blue line on site plan below for approximate extent of drainage required)
- Area 3
  - Encountered abandoned tile stormwater drain out letting significant amount of water, we do not know the extent of this drainage network at this stage, however, the extent identified during this inspection is outlined in yellow on the plan below.
  - Refer to CAN 02 for detailed recommendation about the removal of these drainage lines.



Area 1



Area 2







Area 3



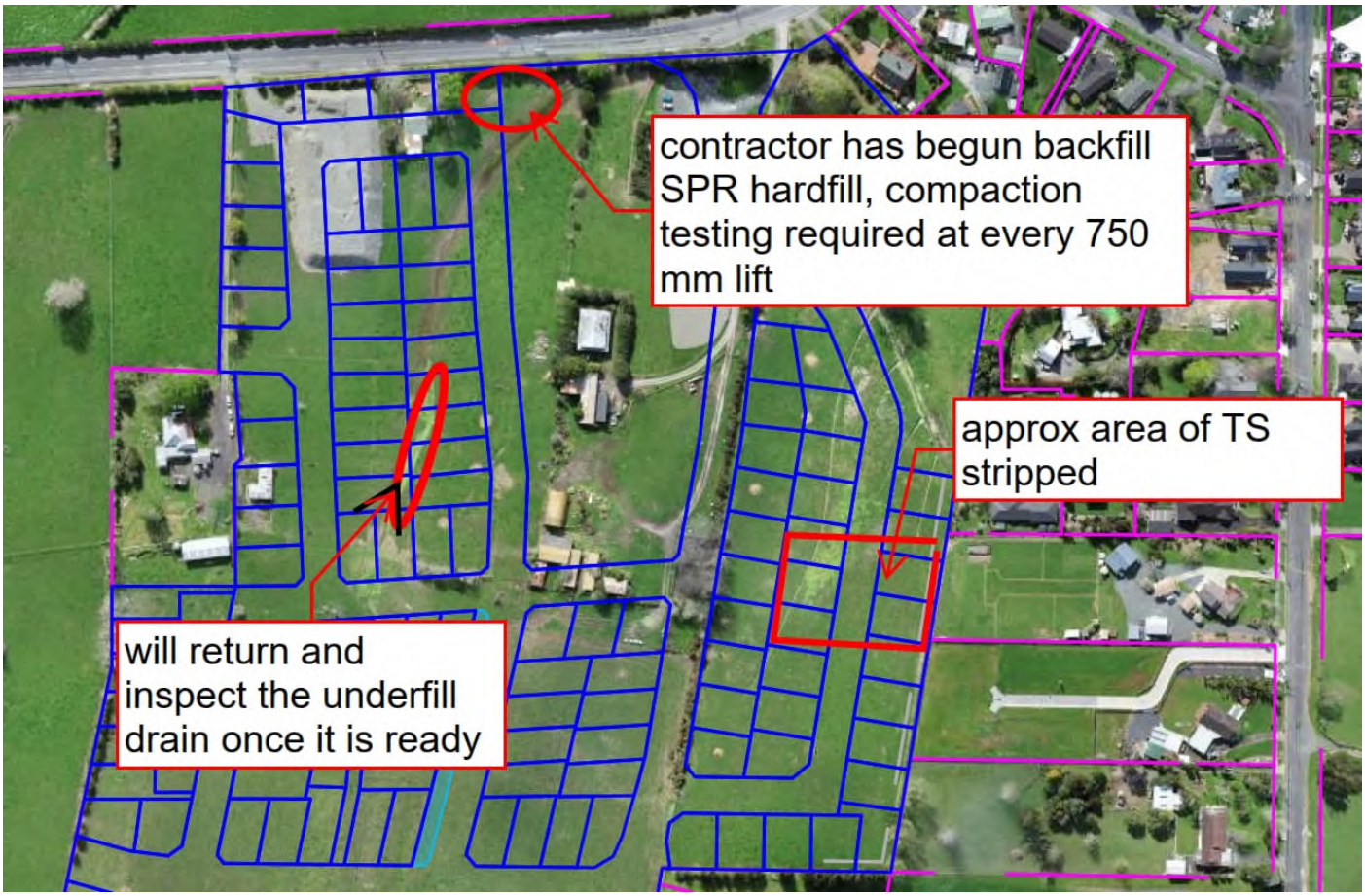
Site Inspection Record

Date:	23/02/23	**Time:**	8.30am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Returned and inspected gully muckout and topsoil stripping at above site, areas identified on plan below.

- Some hardfill has been placed the in the undercut gully area, reminded contractor to contact geotechnics when testing is required at every 750mm lift of proposed hardfill and clay fill.
- Underfill drain is yet to be placed, we will return and inspect the drain when ready.
- Topsoil has been fully stripped and revealed inorganic, natural, and stiff grey/brown clayey silts (shear strengths greater than 89kPa). Area is suitable for placement of clay fills.











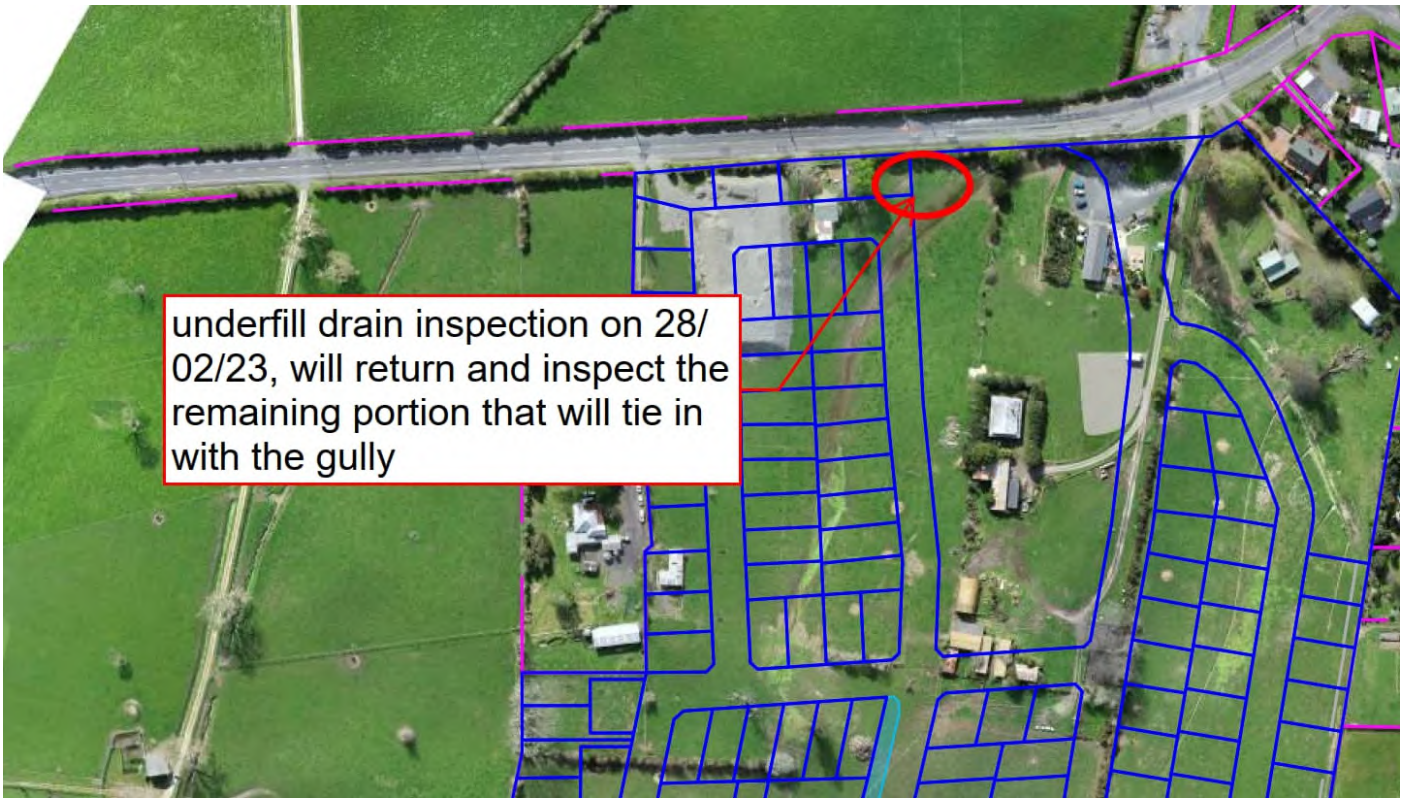
Site Inspection Record

Date:	28/02/23	**Time:**	7.30am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Returned and inspected underfill drain install at above site.

- The drainage has already been installed and back filled with SPR by the time of our inspection, however, we sighted either end of the drain.
- The drain appears to have been installed to the design requirements according to CAN 02, including geotextile cloth, one 150mm heavy duty drain coil, and drainage metal.
- We will return and inspect the remaining section of the underfill drain installation.




Fix lighting





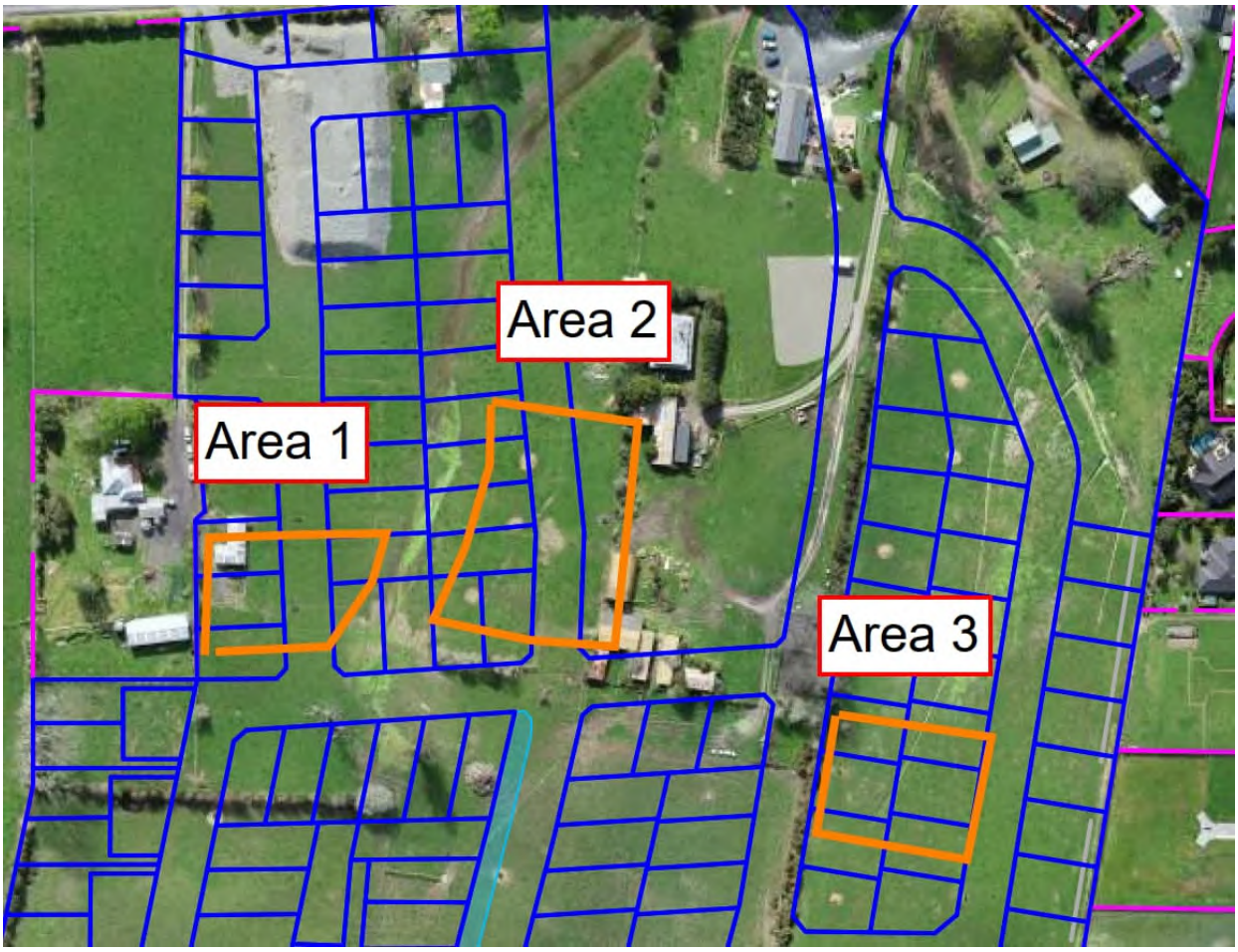
Site Inspection Record

Date:	01/03/23	**Time:**	7.30am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected topsoil strip at above site, refer to plan below for inspected area.

- Area 1
  - Minor water pooling observed on the stripped surface.
  - Topsoil has been fully stripped, revealing inorganic, natural and stiff brown/grey clayey silts (shear strengths greater than 88kPa).
  - Area is suitable for placement of clay fills when the area dries out.
- Area 2
  - Minor water pooling observed on the stripped surface, resulting in minor rutting of the subgrade beneath the route of moxy dump trucks and scrapers.
  - Topsoil has been fully stripped, revealing inorganic, natural and stiff brown/grey clayey silts (shear strengths greater than 73kPa).
  - Area is suitable for placement of clay fills when the area dries out. Contractor noted they will lime stabilise this area prior to filling.
- Area 3
  - Minor water pooling observed on the stripped surface.
  - Topsoil has been fully stripped, revealing inorganic, natural and very stiff brown/grey clayey silts (shear strength greater than 103kPa).
  - Area is suitable for placement of clay fills when the area dries out.



Area 1







Area 2







Area 3







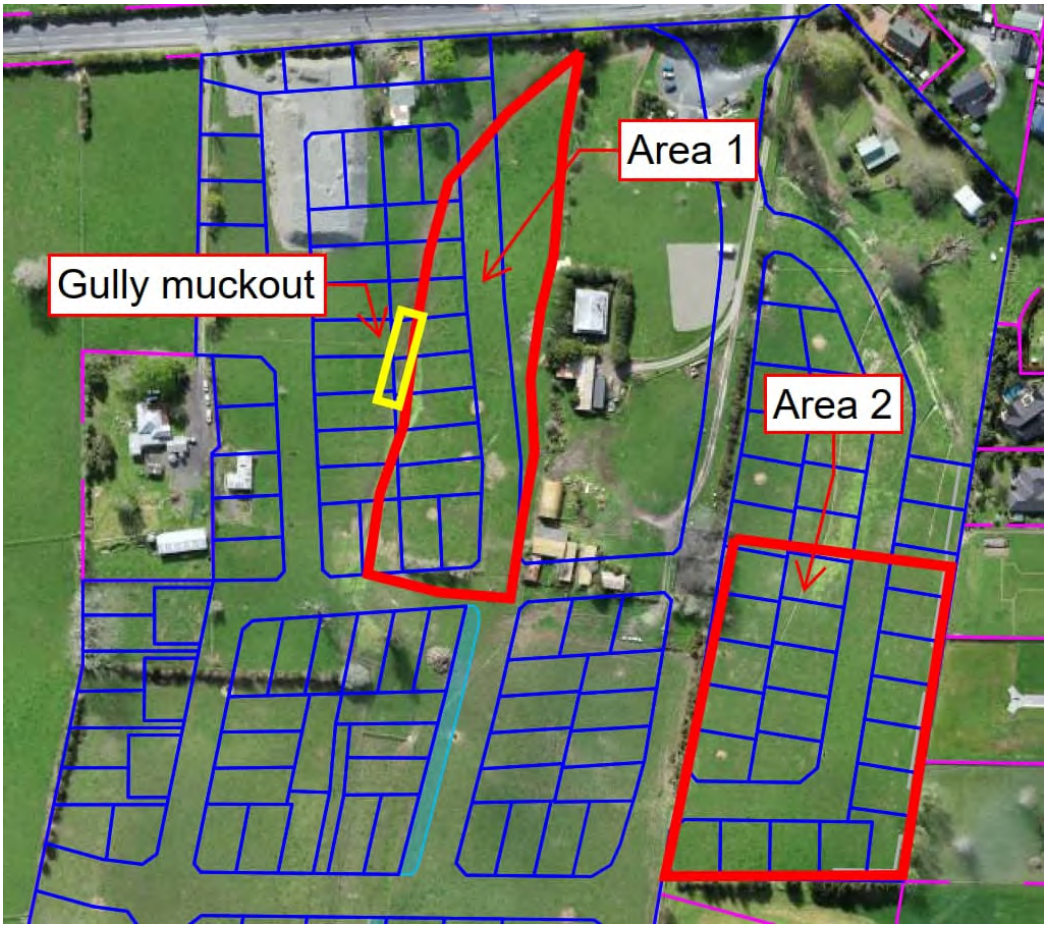
Site Inspection Record

Date:	03/03/23	**Time:**	7.30am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected topsoil strip and gully muckout at above site

- Gully muckout
  - Unsuitables, organics, and soft soils have been undercut revealing inorganic, natural, stiff light blue/grey silty clays (shear strength greater than 71kPa).
  - Minor water seepages into the gully have been observed
  - We will return and inspect the remaining section of the gully muckout and underfill drain install.
- Area 1
  - Topsoil has been fully stripped and revealed inorganic, natural and stiff grey/brown clayey silts (shear strengths greater than 82kPa). Area is suitable for placement of clay fills.
- Area 2
  - Topsoil has been fully stripped and revealed inorganic, natural and stiff grey/brown clayey silts (shear strengths greater than 82kPa). Area is suitable for placement of clay fills.



Gully muckout



Area 1





Area 2





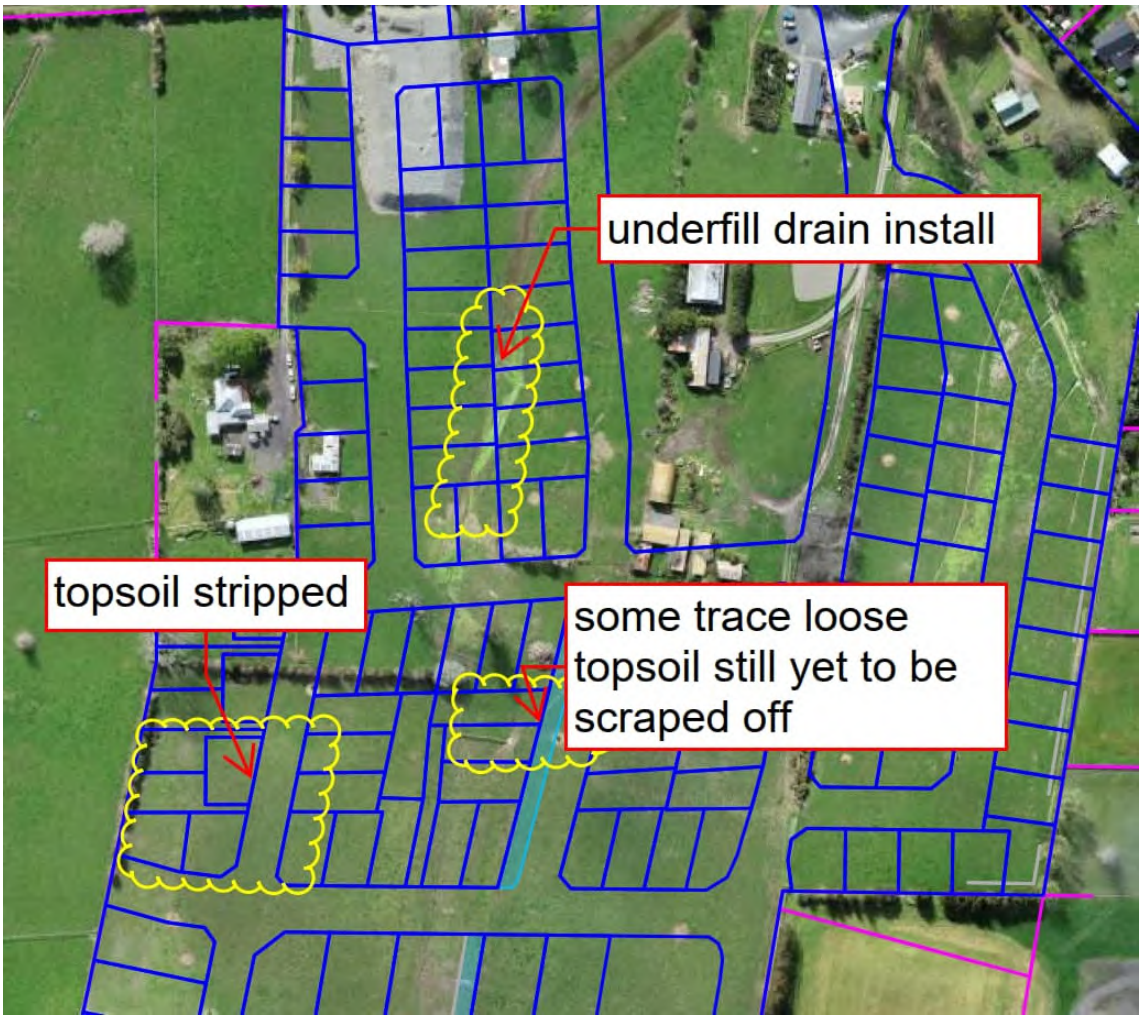
Site Inspection Record

Date:	7/03/23	**Time:**	12.00pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected underfill drain install and topsoil stripping at above site.

- Underfill drainage has been laid in the gully. Contractor has installed geotextile cloth, one 160mm drain coil, and drainage metal. The drain appears to have been installed to the design requirements.
- The gully will be backfilled with SPR and clay fill. Contractor will continue to work on gully muckout in the northern section and connect the drains once done.
- Topsoil has been fully stripped revealing inorganic, natural, very stiff orange/grey clayey silts (shear strength greater than 112kPa)
- Some topsoil was still observed upon the stripped surface in the area outlined below and we have recommended this be removed prior to filling encountered in the area circled below. we will return and inspect when the topsoil is fully stripped.















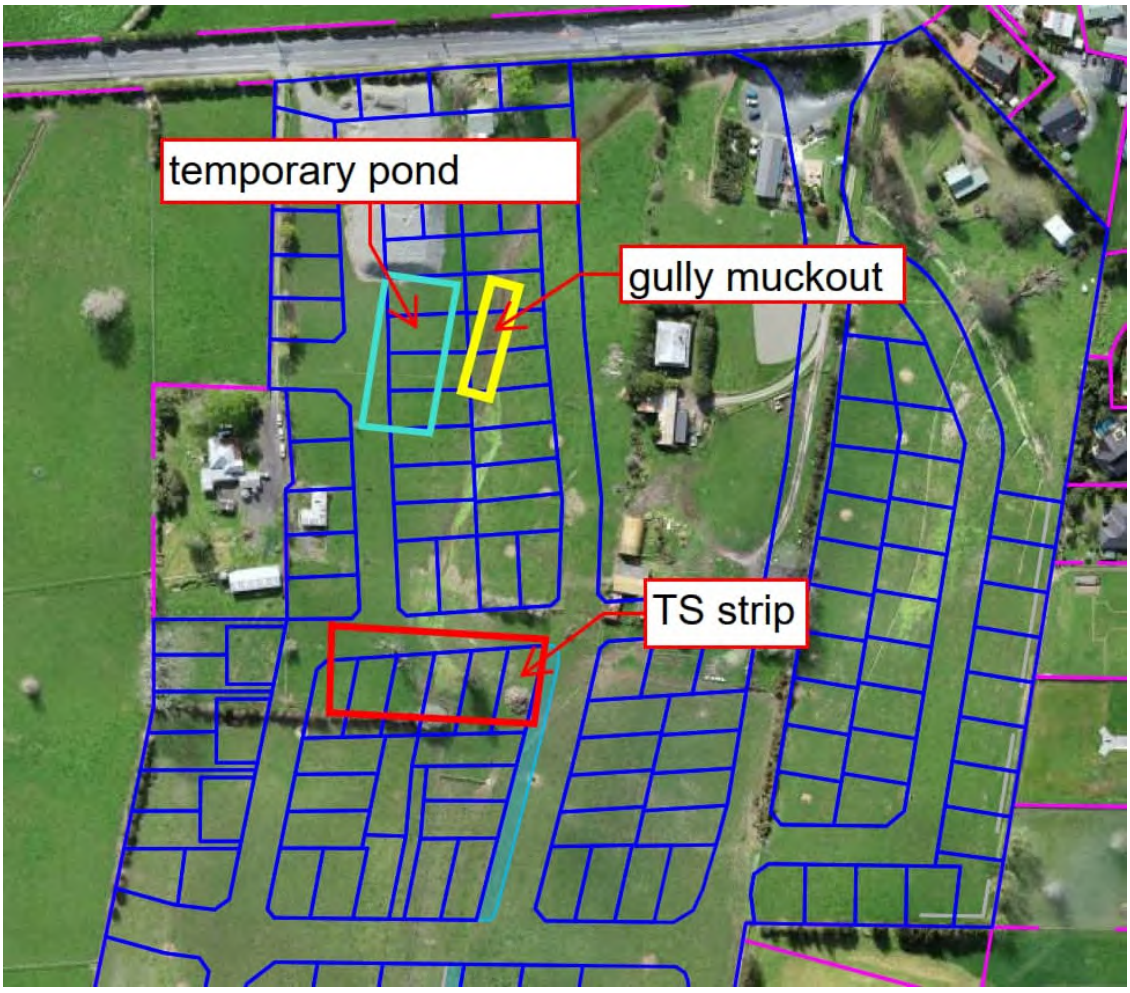
Site Inspection Record

Date:	09/03/23	**Time:**	9.00
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Return and inspected gully muckout and topsoil stripping at above site.

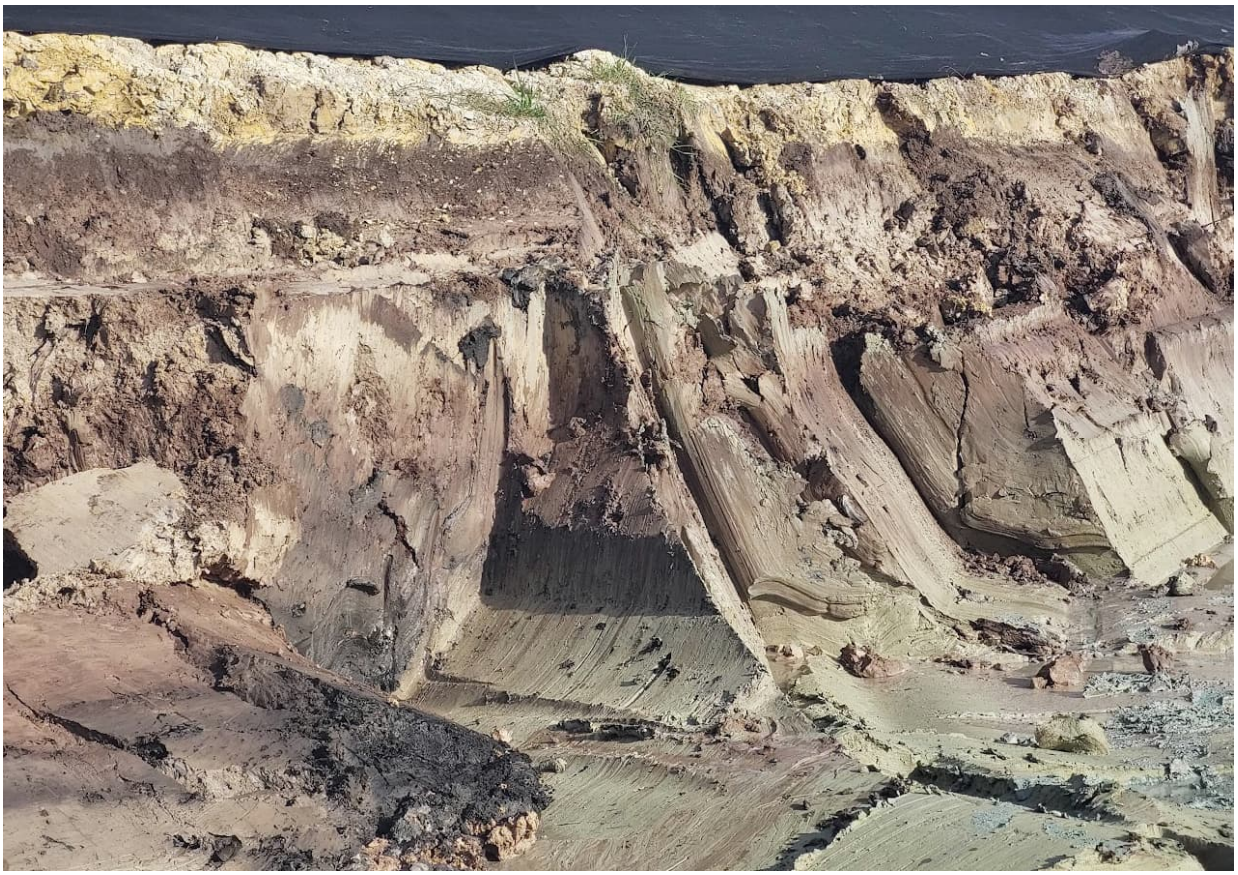
- Organics and unsuitables in the gully have been chased down to natural light blue/grey silty clay. Shear strength in the natural ground is greater than 64kPa.
- We will return and inspect the remaining section of the gully muckout along with underfill drain install.
- Some buried topsoil and organics was noted between the pond and the muckout. Contractor mentioned this will be removed during the backfill of the pond as they cannot dig further to the west. We will need to inspect the area when this is ready.
- Topsoil has been fully stripped in the area noted below on plan, revealing natural, inorganic and very stiff clayey silts (shear strength greater than 111kPa).




LEVIEN


LEVIEN

Buried topsoil and organics







Site Inspection Record

Date:	13/03/23	**Time:**	2.00pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected pond cut at above site.

- A pocket of peat (up to 300mm thick) was encountered in wetland A, very close to subgrade level (area circled in orange on the below plan).
- Contractor advised that the material cut from this pond will be used as fill across the remainder of the site. The contractor is currently mixing the fill with lime in-situ, however, the peat is being removed and any clay fill that has mixed with the organic soils is being discarded and treated by the contractor as unsuitable..
- Only a minor section of the peat was exposed during out visit. We will return and inspect the ground once the pond is cut to its proposed level for a better understanding of the extent of the peat.











Site Inspection Record

Date:	15/03/23	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang/Kyle Meffan
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

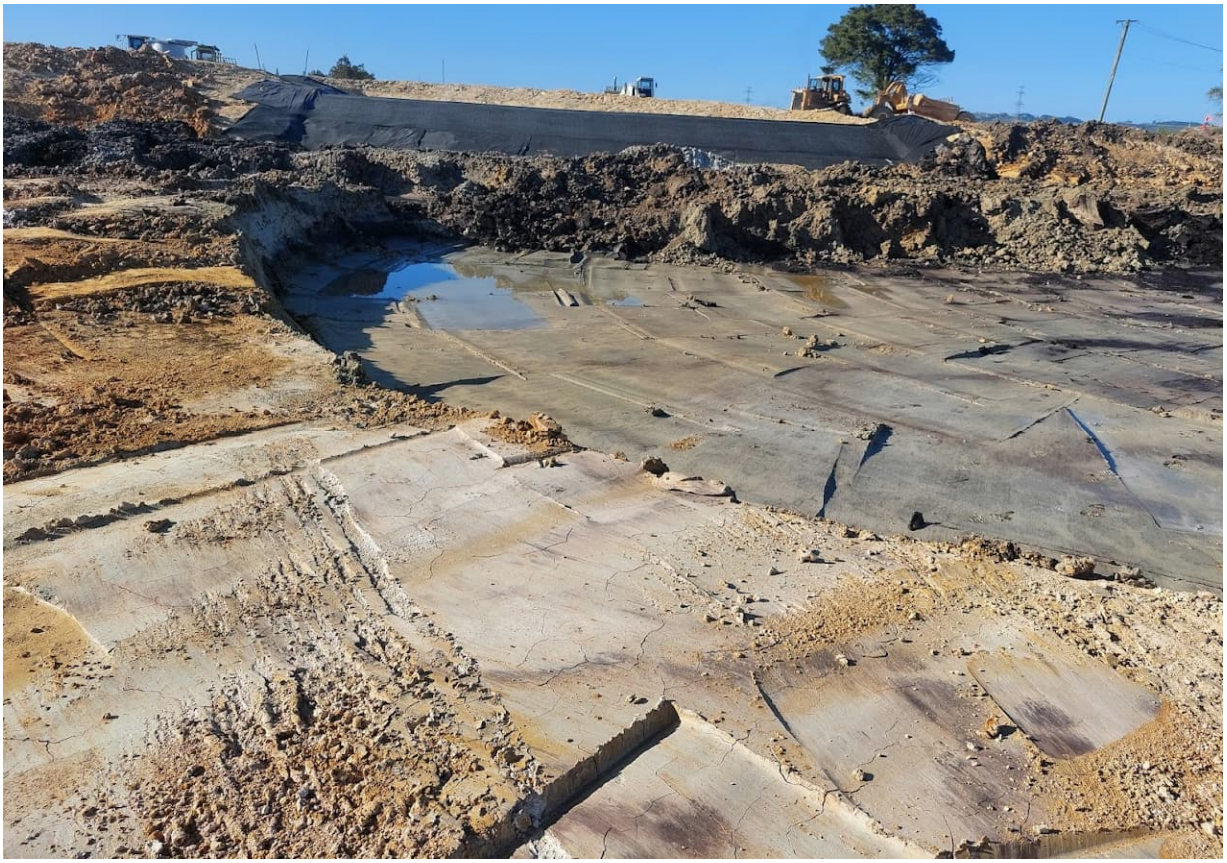
Returned and inspected peat encountered in the pond.

- The fill is now removed and showing the pond at subgrade level.
- A layer of peat (up to 300mm) is encountered at or near the base. It is currently not a problem as it is only encountered at the base. We will pay close attention to the extend of the pond as it may cause the batter stability issue. Contractor to continue to cut the pond to its subgrade level.











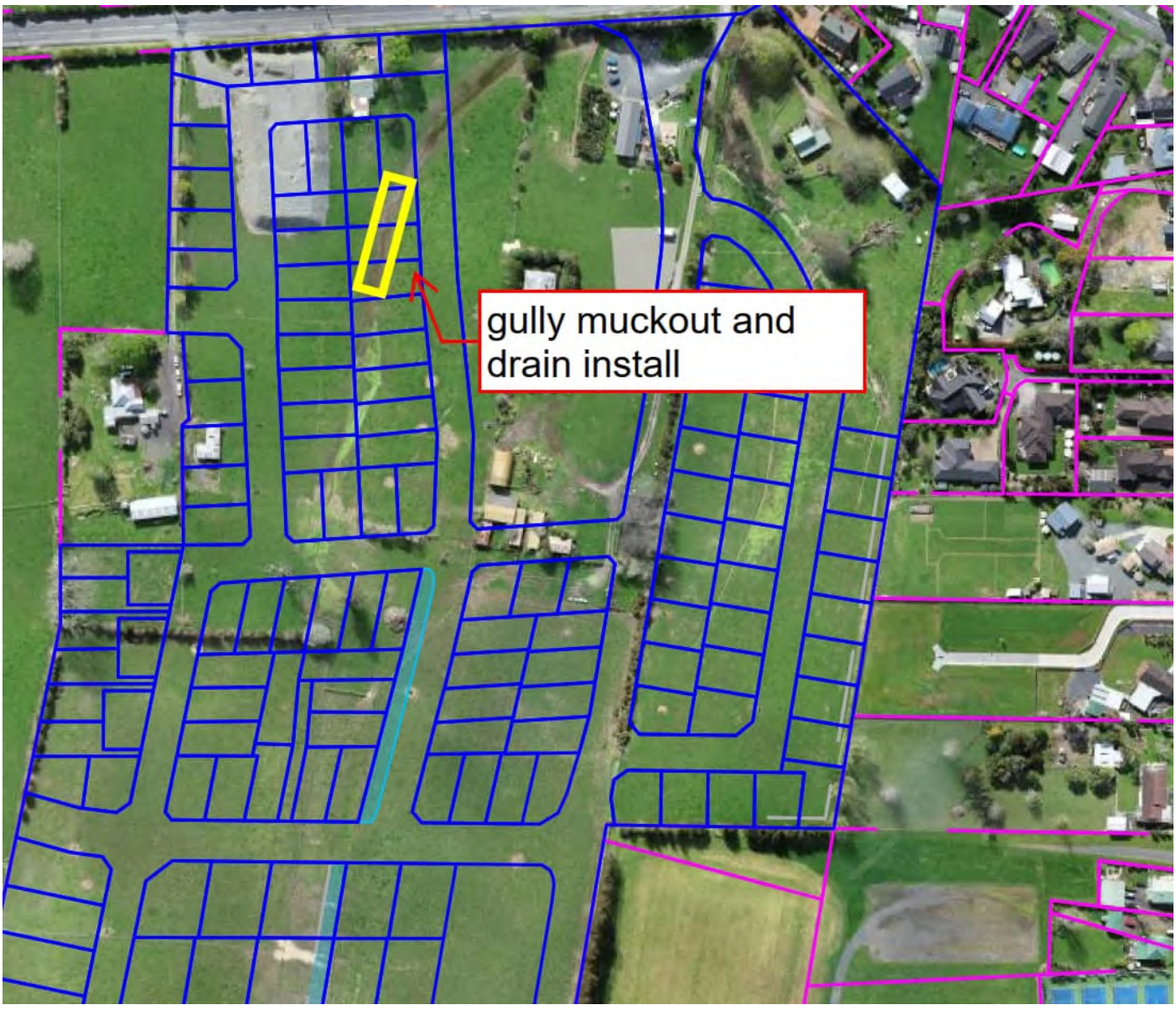
Site Inspection Record

Date:	16/03/23	**Time:**	10.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

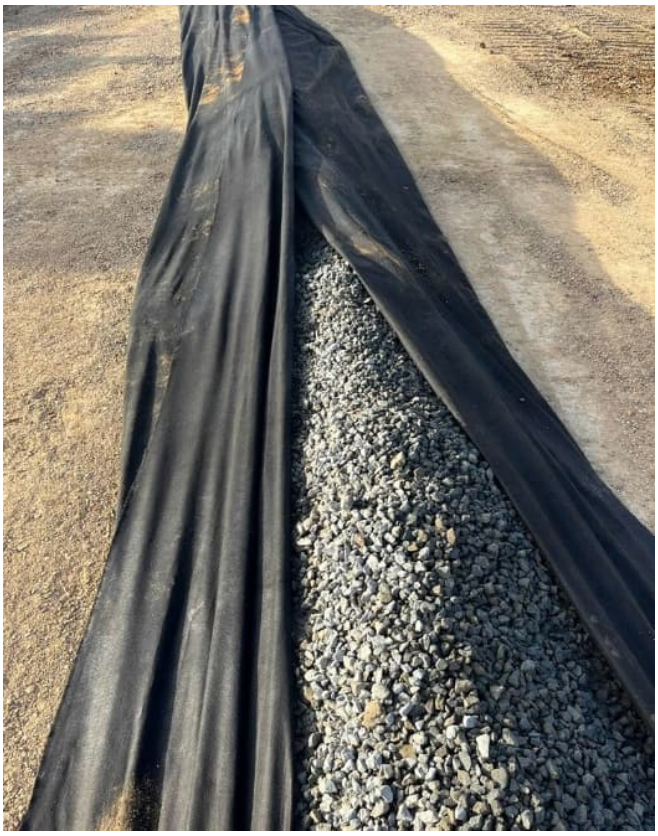
Returned and inspected gully muckout and underfill drain installion

- Organic and unsuitables has been undercut to inorganic, natural and light blue/grey silty clay.
- Underfill drainage has been laid in the gully invert. Contractor installed geotextile cloth, one 160mm heavy duty perforated drain coil, and drainage metal. The drain appears to have been installed to the design requirements.
- The gully will be backfilled with SPR and clay fill. Contractor will continue to work on gully muckout in the northern section and connect the drains once done.









Site Inspection Record

Date:	20/03/2023	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected gully muckout at above site (refer attached plan below)

- Organic and unsuitables has been undercut to inorganic, natural and light blue/grey silty clay. Minor thin rootlets were encountered. Advised contractor to rip out any large diameter roots or tree stumps if encountered.
- Contractor noted they will continue to chase out the organic material around the edges, and provide photos after.
- Minor water seepages into the gully have been noted.
- We will return and inspect the remaining section of the gully muckout and underfill drain install.







Site Inspection Record

Date:	22/03/23	**Time:**	8.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Rain overnight		
Contactor:	Dempsey Wood		

Inspection Notes:

Returned to site to discuss abandoned tile stormwater encounter.

- Encountered abandoned tile stormwater drain out letting significant amount of water, we do not know the extent of this drainage network at the stage, however the extent identified during this inspection is outlined in blue on the plan below
- Advised the contractor to chase out the extend of the drain. Refer to CAN02 for detailed recommendation about the removal of these drainage lines.







Site Inspection Record

Date:	23/03/23	**Time:**	8.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

- Returned to site to discuss abandoned tile stormwater drain encounter. A Y junction splits up the drains to different portion of the site (refer to attached plan below).
- Contractor has chased out one section to the southern boundary, it appears the water has stopped outletting from the source. Advised contractor to backfill and As-built for inclusion in the GCR. The excavated depth is up to 750mm, fill compaction testing will be required along the filled ground.
- Contractor has chased the other section up to the topsoil stockpile. We will monitor the extent of the drain when the stockpile is removed. Advised contractor to install temporary perforated drain coil to divert the water into the existing pond or gully underfill drain so they can maintain a dry workable area for bulk earthworks.









Site Inspection Record

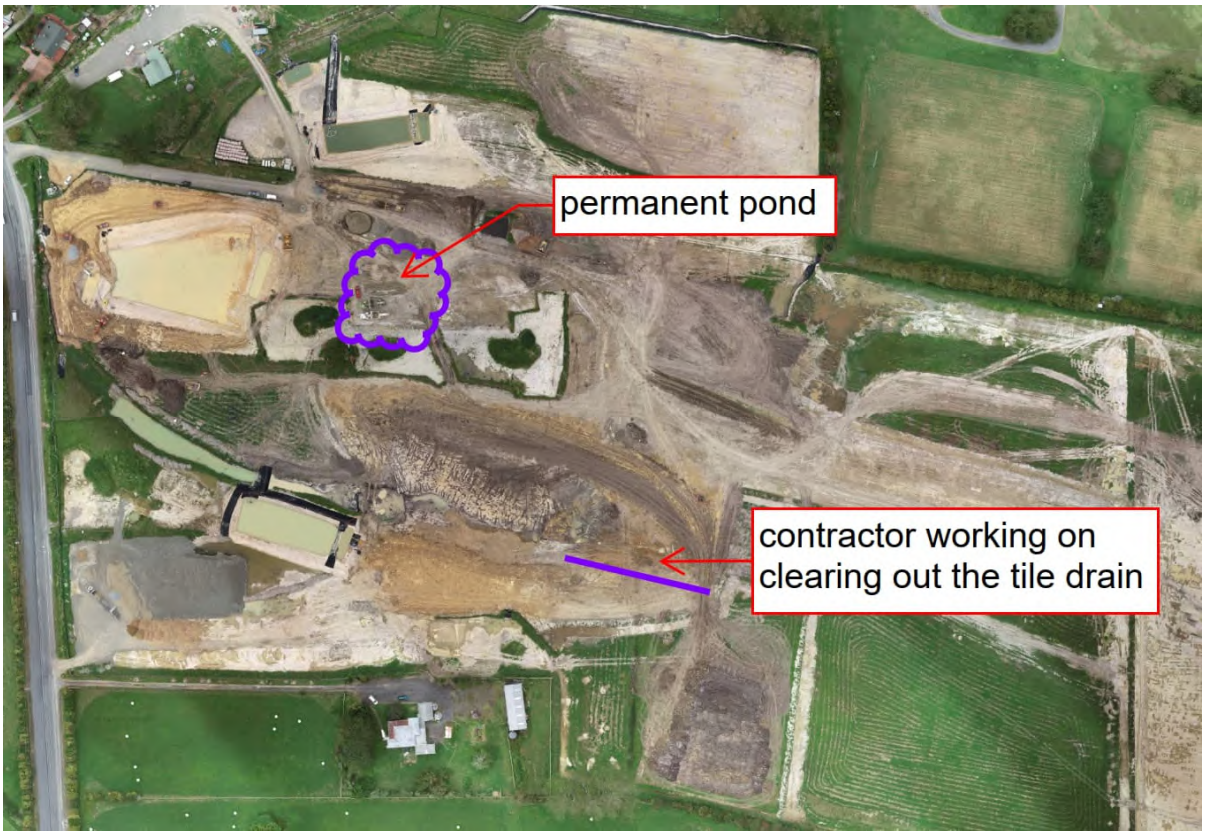
Date:	18/01/2023	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site to inspect pond excavation, tile drain and manhole removal.

- Pond excavation
  - Layer of peat (ranges from 0.5m to 1.0m thick) was encountered very close to the subgrade level of the proposed permanent pond (area circled in purple on the below plan).
  - Shear vane readings at the current ground level ranged from 45kPa to 60kPa.
  - Due to organic material in close proximity to the subgrade level and the toe of the batter, slope stability analysis might be required for long term batter stability.
- Tiled drain
  - Contractor has chased out one section to the southern boundary, it appears the water has stopped out letting from the source. Advised contractor to backfill and As-built for inclusion in the GCR. The excavated depth is up to 750mm, fill compaction testing will be required along the filled ground.
- Existing manhole
  - Contractor pulled out an existing manhole. Ground condition at the base revealed natural, inorganic, and stiff clayey silts, shear strength greater than 77kPa.
  - The excavated depth is up to 1.5m, fill compaction testing will be required in the filled ground.

Update on slope stability:
Slope stability on all scenarios found satisfactory factors of safety. Refer to below outputs.










DEMPSEY WOOD
ZAXIS
DW

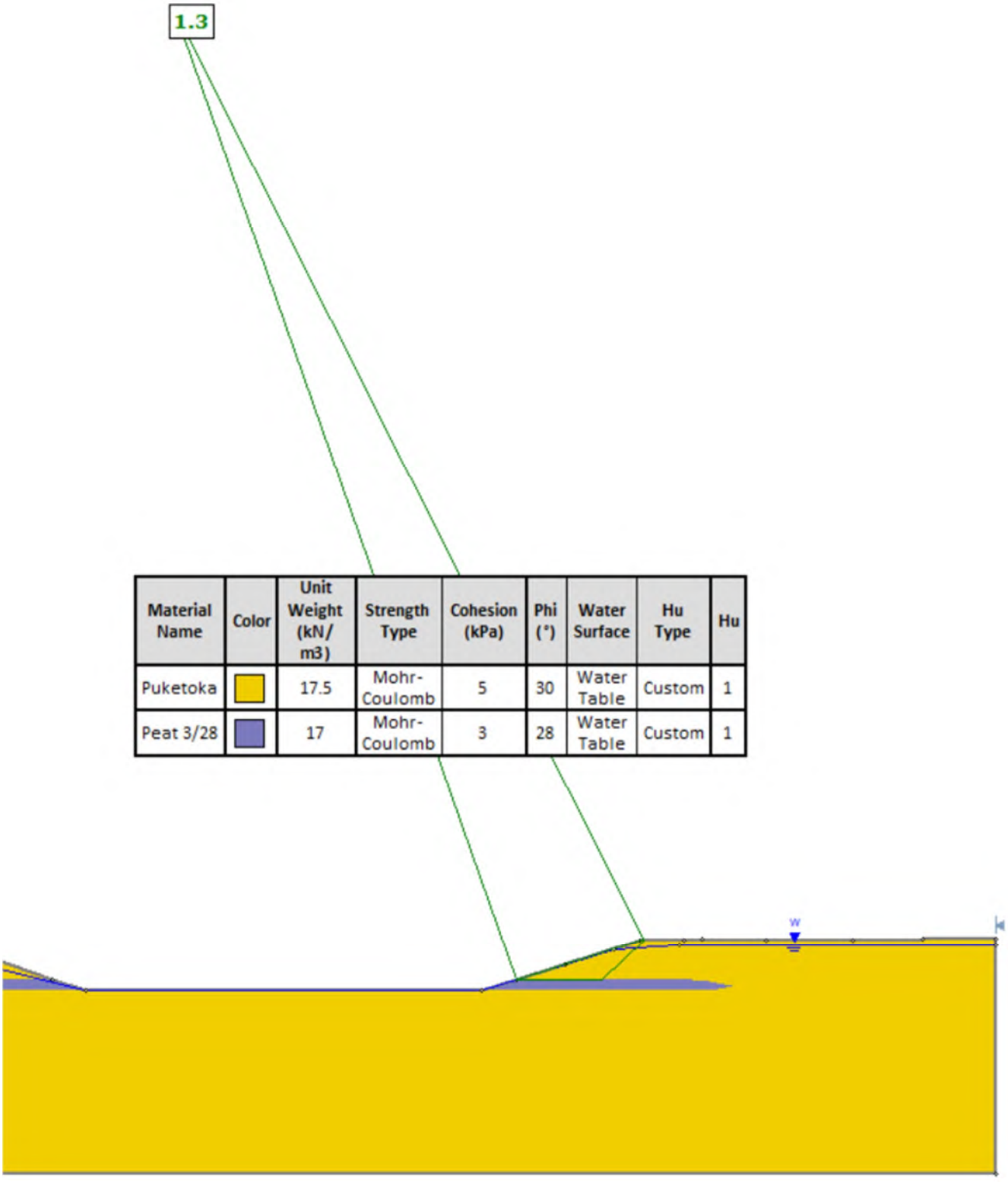
Tile drain



Existing manhole



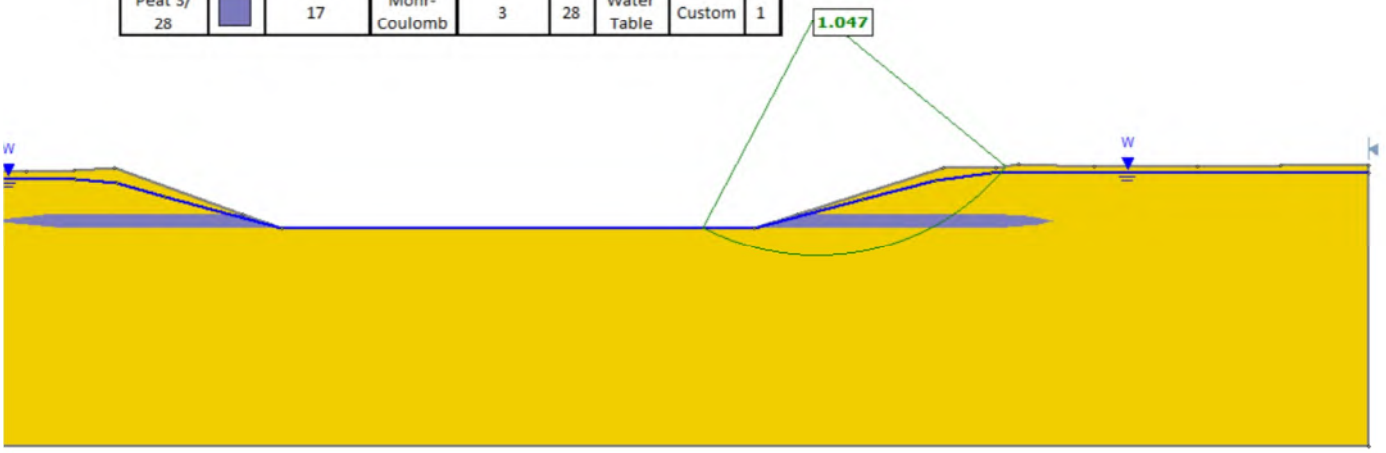
High groundwater with cuckoo search



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu
Puketoka		17.5	Mohr-Coulomb	5	30	Water Table	Custom	1
Peat 3/28		17	Mohr-Coulomb	3	28	Water Table	Custom	1

Seismic case

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu
Puketoka		17.5	Mohr-Coulomb	5	30	Water Table	Custom	1
Peat 3/28		17	Mohr-Coulomb	3	28	Water Table	Custom	1



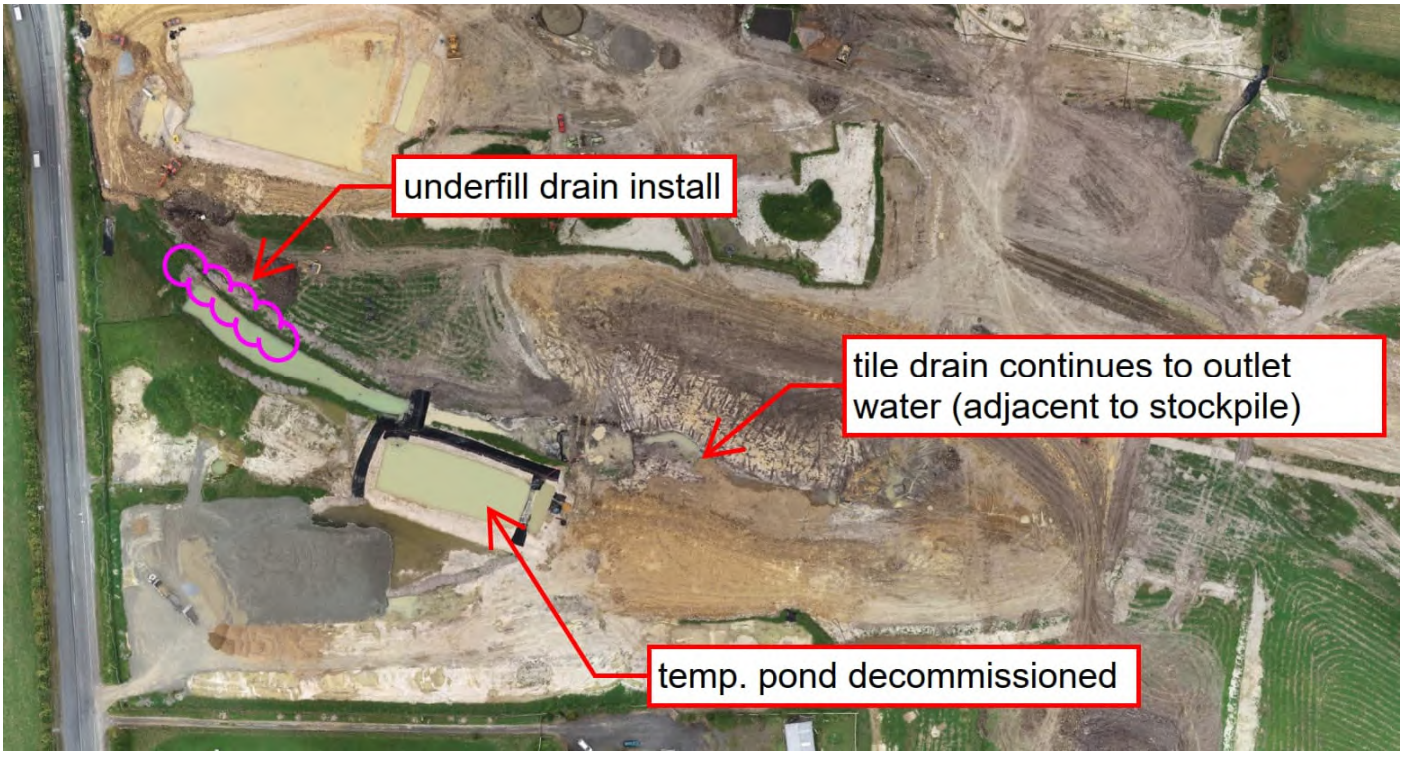
Site Inspection Record

Wate:	26/04/2023	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Returned to site and discussed with contractor at above site for

- Underfill drain
  - Underfill drain has been laid in the gully. Contractor has installed geotextile cloth, one 160mm drain coil, and drainage metal. The drain appears to have been installed to the design requirements.
- Water outlet from tiled drains
  - Tiled drain (one adjacent to stockpile) continues to outlet water. Discussed with contractor to form a shallow trench with drain coiled installed and divert the water to the nearest pond.
  - Contractor will chase the drain once the stockpile has been removed.
- Covering unpunched drains with fills
  - The temporary pond is now being decommissioned. Unpunched drains previously installed to divert the water into a temporary pond can remain in place. Contractor noted at least 1.5m of fill will be placed in this area to achieve proposed subgrade level.



Underfill drain install





Previously installed drain coil (black coil) to remain in place



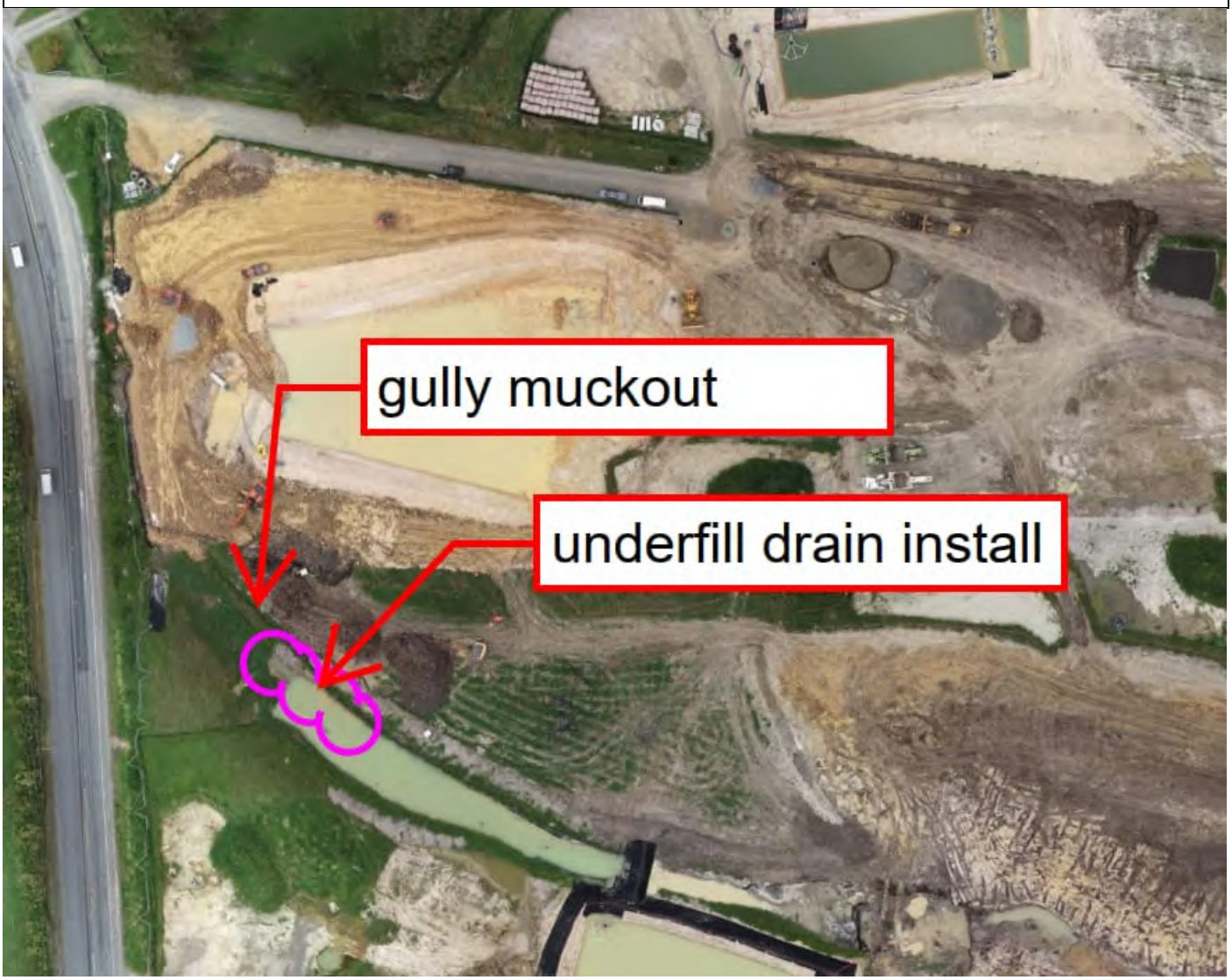
Site Inspection Record

Date:	28/04/2023	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Returned to site to inspect gully muckout and underfill drain install

- Gully muckout
  - Unsuitables, organics, and soft soils have been undercut revealing inorganic, natural, stiff and blue/grey silty clays
  - Minor water seepages into the gully have been observed
  - Contractor noted they will clean up the organic deposits on the batter
  - We will return and inspect the remaining section of the gully muckout. Contractor noted more than 2m of fill will be placed in this area
- Underfill drain install
  - Underfill drain has been laid in the gully. Contractor has installed geotextile cloth, one 160mm drain coil, and drainage metal. The drain appears to have been installed to the design requirements.









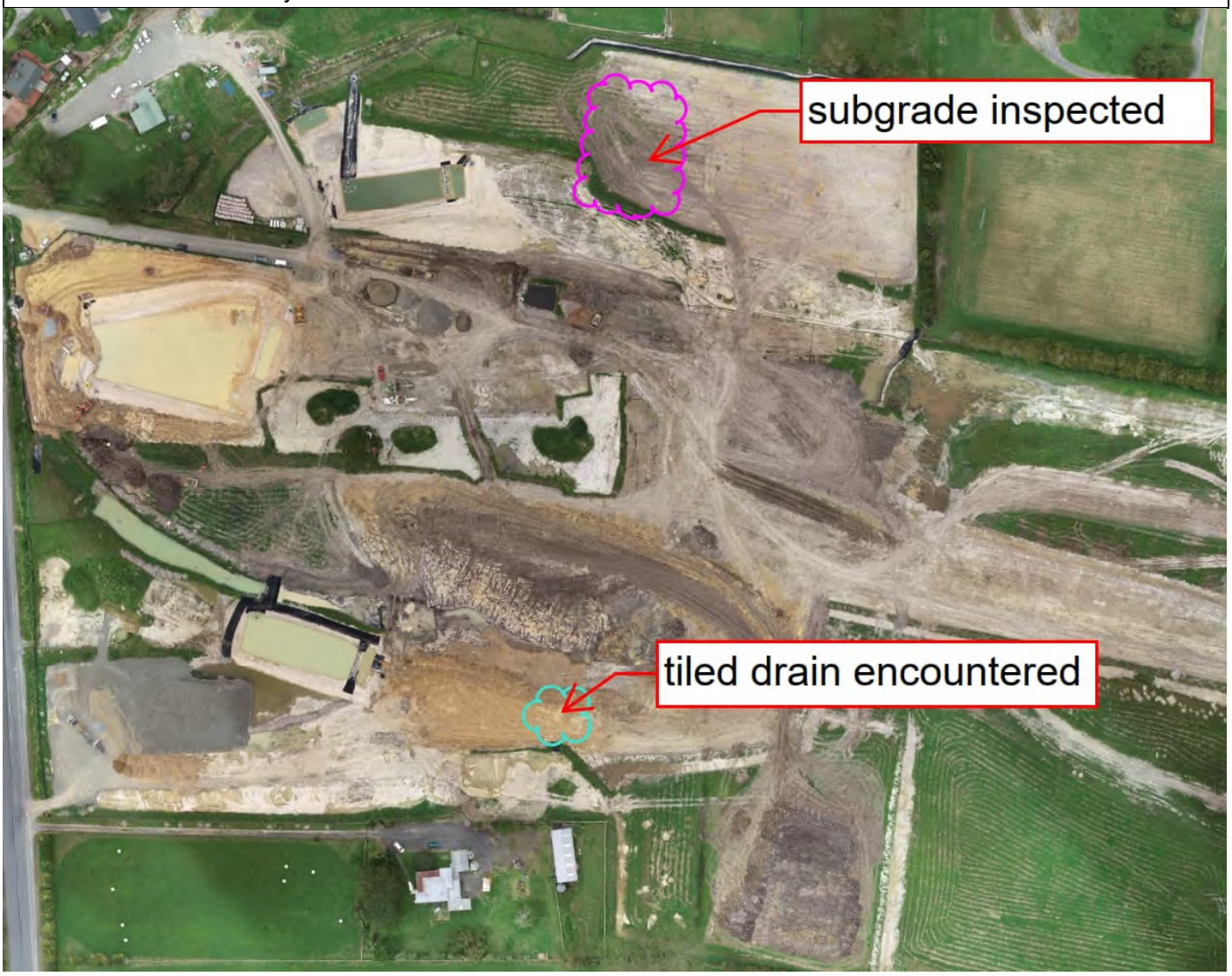
Site Inspection Record

Date:	28/05/2023	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang/Kyle Meffan
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Returned to site and discussed with contractor at above site for:

- Water outlet from tiled drains
  - Encountered abandoned tile stormwater drain out letting significant amount of water, we do not know the extent of this drainage network at the stage, however the extent identified during this inspection is outlined in blue on the plan below.
  - Contractor noted that an option to reduce/stop the water inflow is to fill the drainage system with grout and potentially block off the water. We will come back to this option with a more detailed recommendation.
- Subgrade inspection
  - Subgrade inspected circled in pink on below plan.
  - Ground revealed inorganic and natural clayey silt
  - Some water pooling on the surface was noted, however no ground softening was observed during our site visit.
  - Advised the contractor the area is ok to be topsoiled when the surface can be tracked over with plants and machinery.



Tiled drain encountered – outletting significant water





Subgrade inspection









Site Inspection Record

Date:	13/06/2023	**Time:**	3.00pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		

Inspection Notes:

Inspected subgrade ground condition at above site (refer to area circled in purple on below plan)

- Contractor noted the subgrade is ready for topsoiling. LDE to confirm ground condition prior to topsoil.
- Subgrade revealed inorganic, natural and stiff clayey silts. Shear strength readings are in excess of 60kPa.
- Contractor noted some sections have been lime stabilised to enable them to work around during winter season. The thickness of the lime mixed clay is up to 300mm.
- Several pads scrapped by the digger to check for ground condition within the lime stabilised area.
- The ground condition is in accordance with our GIR recommendation. Topsoil is OK to go on subgrade.




LEVIEN





Some shallow pads formed to check final subgrade condition





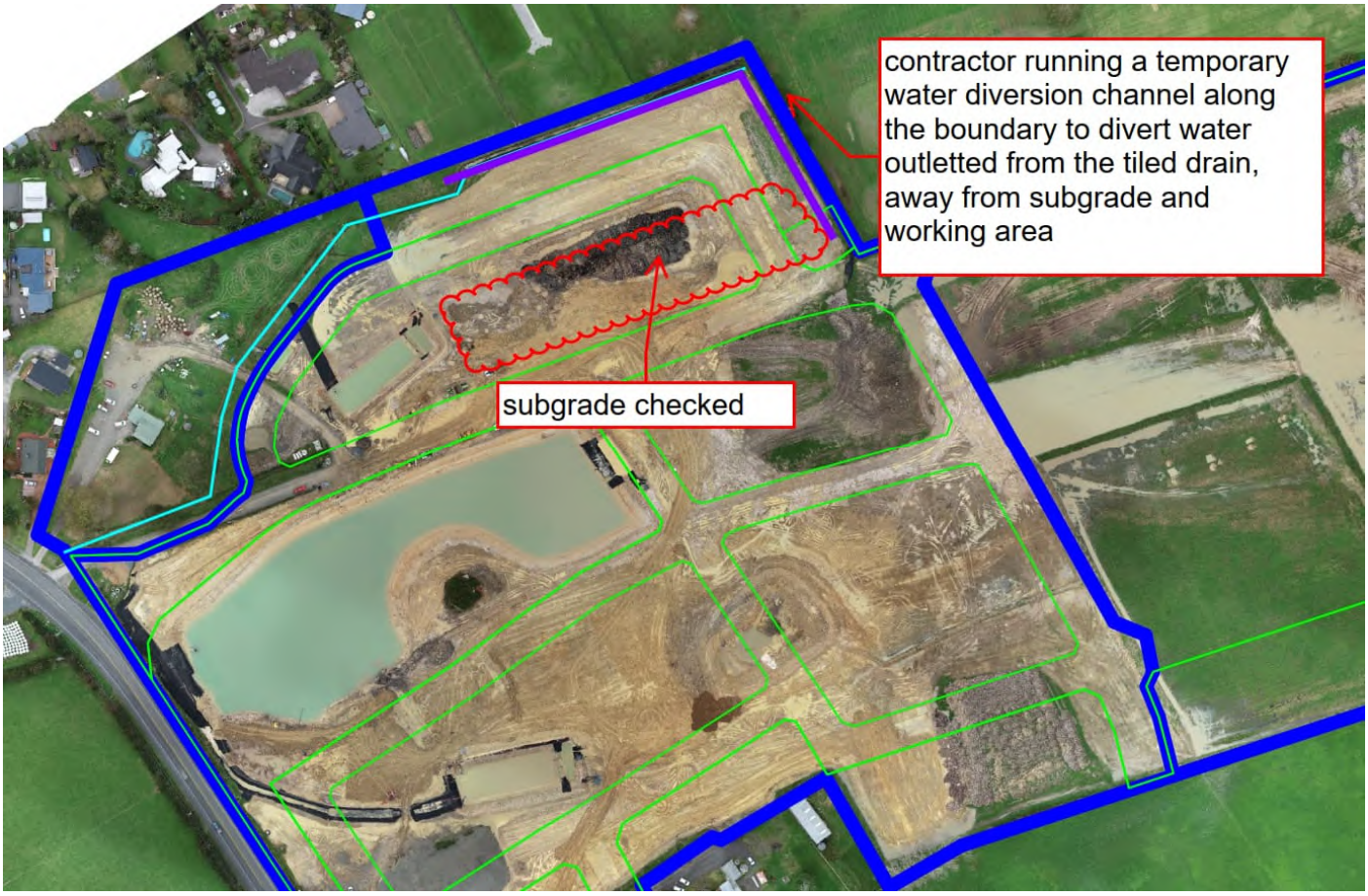
Site Inspection Record

Date:	14/06/2023	**Time:**	2pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected subgrade at above site (refer to area circled in red on below plan)

- Contractor noted the subgrade is ready for topsoiling. LDE to confirm ground condition prior to topsoil.
- Subgrade revealed inorganic, natural and stiff clayey silts. Shear strength readings are in excess of 60kPa.
- Contractor noted some sections have been lime stabilised to enable them to work around during winter season. The thickness of the lime mixed clay is up to 300mm.
- A final trimming will commence prior to topsoil placement.
- Contractor is running a temporary water diversion channel along the boundary to divert water outletted from the tiled drains, away from subgrade and working area (outlined in purple)
- Ground condition is in accordance with our GIR recommendations, the area is suitable for topsoil placement.













Site Inspection Record

Date:	15/06/2023	**Time:**	3.00pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected subgrade at above site (refer to area circled in red on below plan)

- Contractor noted the subgrade is ready for topsoiling.
- Subgrade revealed inorganic, engineer certified very stiff clayey silts. Shear strength readings are in excess of 150kPa.
- A final trimming will commence prior to topsoil placement, contractor to provide photos of the final subgrade.
- Ground condition is in accordance with our GIR recommendations, the area is suitable for topsoil placement









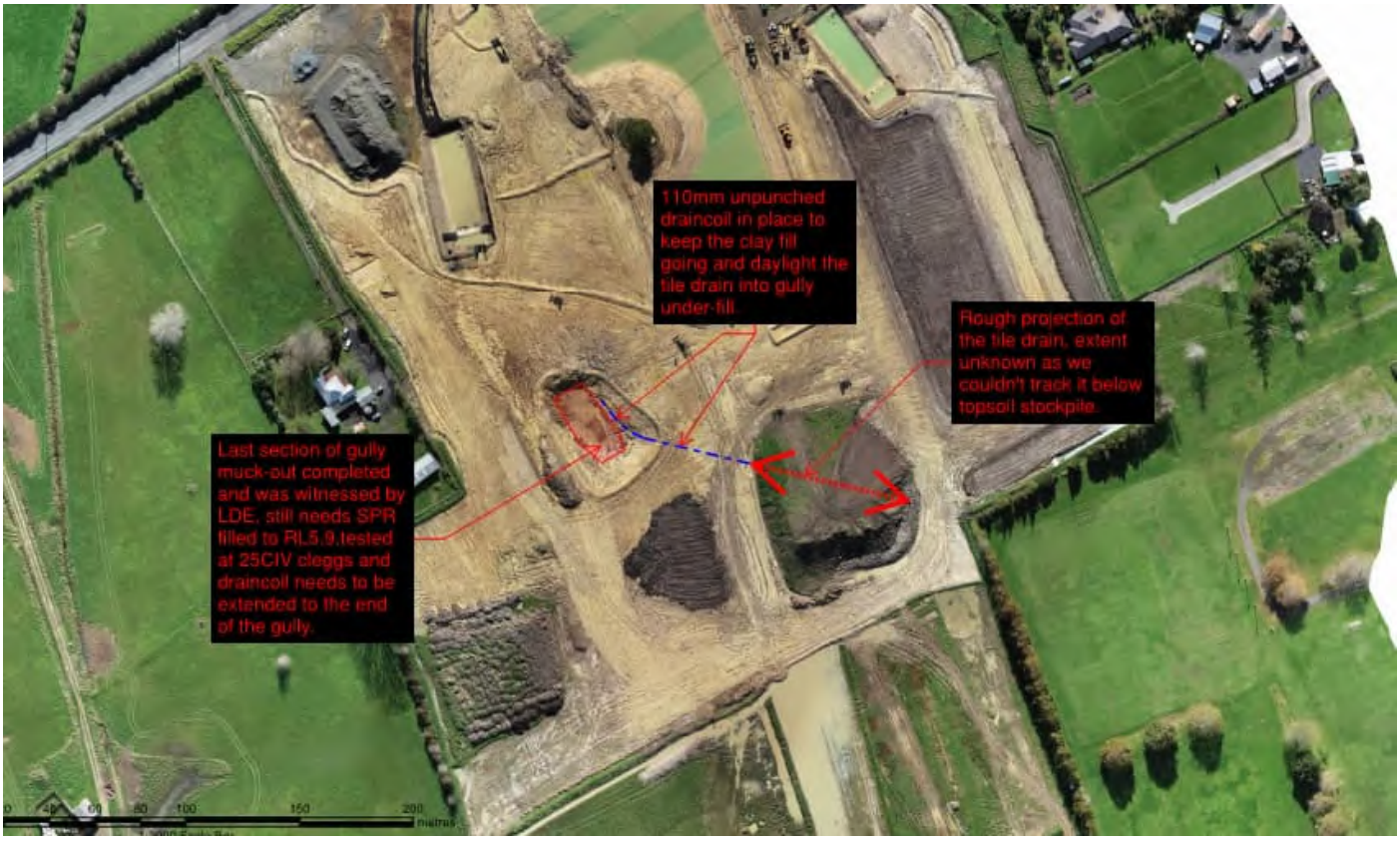
Site Inspection Record

Date:	8/11/2023	**Time:**	9.30am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site to inspect the last bit gully muckout

- Significant water is pooling within the gully. Contractor is aware the SPR previously placed in the gully did not achieve required compaction spec (i.e. equal or greater than 25 CIV).
- The previously encountered tiled drain continue to outlet water. Contractor noted they will divert the water to the existing pond or closet drainage system.
- We will return and inspect the ground conditions once the water is fully pumped out.







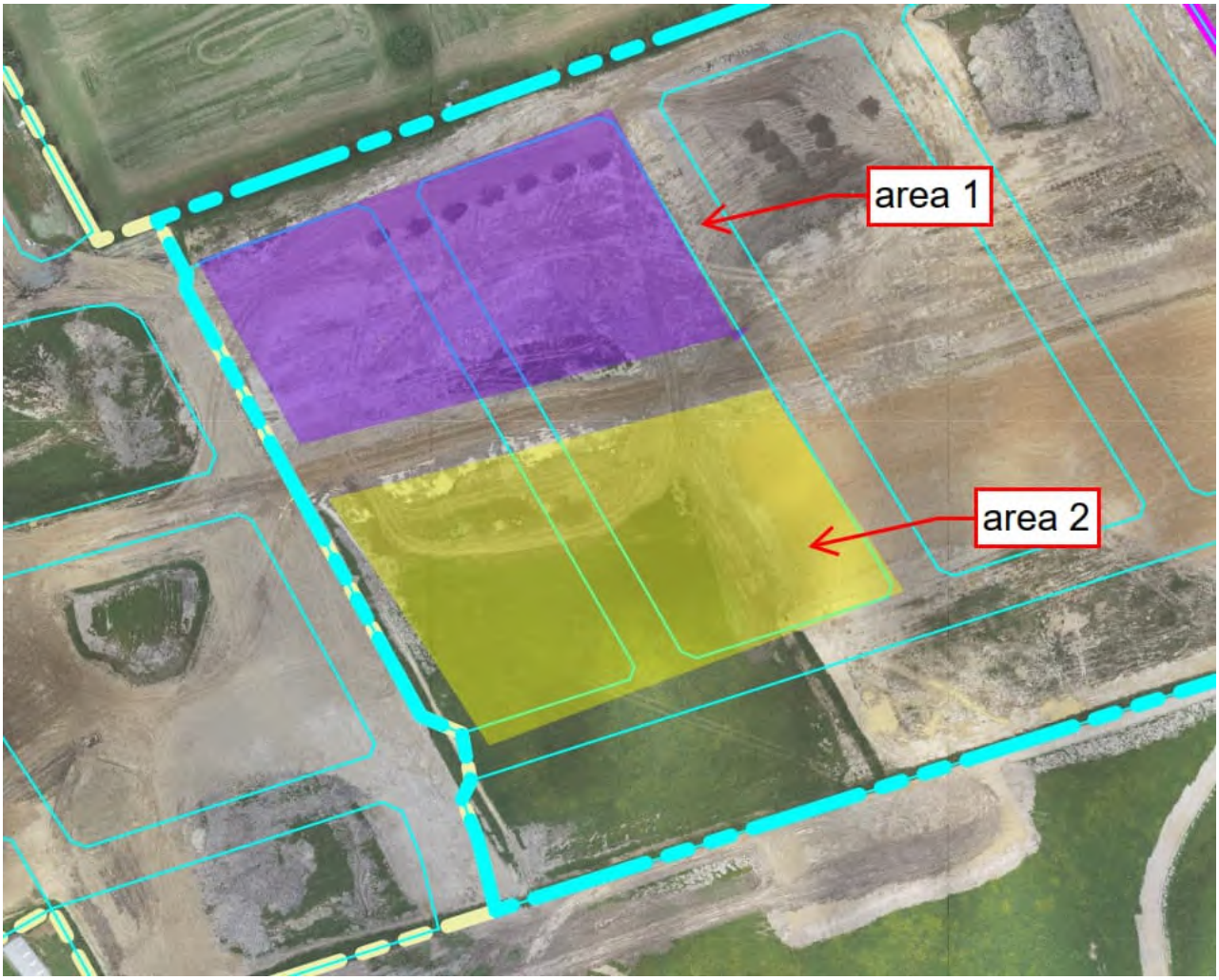
Site Inspection Record

Date:	27/11/2023	**Time:**	2pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site to inspect topsoil stripping and subgrade ground conditions.

- Area 1
  - Subgrade revealed inorganic, natural, and stiff clayey silts. Shear strength readings were between 80kPa to 120kPa.
  - Ground conditions suitable to placed engineered fills upon. Contractor to contact Geotechnics for fill compaction testing.
- Area 2
  - Subgrade revealed inorganic, natural, and stiff clayey silts. Shear strength readings were between 80kPa to 120kPa. However, several patches of topsoil were observed. Recommend that this area requires further stripping. We will return and reinspect the area.



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Area 1









Area 2







Site Inspection Record

Date:	11/12/2023	**Time:**	9am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site to inspect ground conditions of a decommissioned pond.

- Ground at the base and the sides revealed inorganic, natural, and stiff clayey silts. Shear strength readings ranged between 80kPa to 130kPa. Recommended the contractor to tidy up one of the batter and remove loose soils.
- Minor thin rootlets were encountered, we consider it is suitable to remain in place. Fill placement is suitable for the area.
- Contractor to engage Geotechnics for fill compaction testing.









Site Inspection Record

Date:	12/12/2023	**Time:**	2.30pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspected subgrade ground conditions.

- Ground revealed inorganic, natural and very stiff clayey silts. Shear strength readings ranged between 90kPa to 150kPa.
- Contractor noted there were some pre-existing fill next to the stream, they have already chased it out prior to our inspection.
- A tiled drain was encountered and daylighted at subgrade. Recommended the contractor to chase it down to natural ground.












DEMPSEY WOOD

Site Inspection Record

Date:	9/01/2024	**Time:**	9am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Inspected subgrade ground conditions at above site:

- Area 1
  - Contractor noted the majority of this section is in cut. Ground revealed inorganic, natural, and very stiff clayey silts. Shear strength readings were in excess of 140kPa.
  - The area has reached final proposed subgrade level. The subgrade is suitable for topsoil placement.
- Area 2
  - Topsoil has been stripped and ground revealed inorganic, natural, and very stiff clayey silts. Shear strength readings were in excess of 100kPa.
  - The subgrade is suitable for fill placement. Contractor to engage geotechnics for fill compaction testing.
- Contractor is also working on the pond decommission, it is currently underwater and we will return when the pond is cleaned up and ready for inspection.



Area 1







Area 2







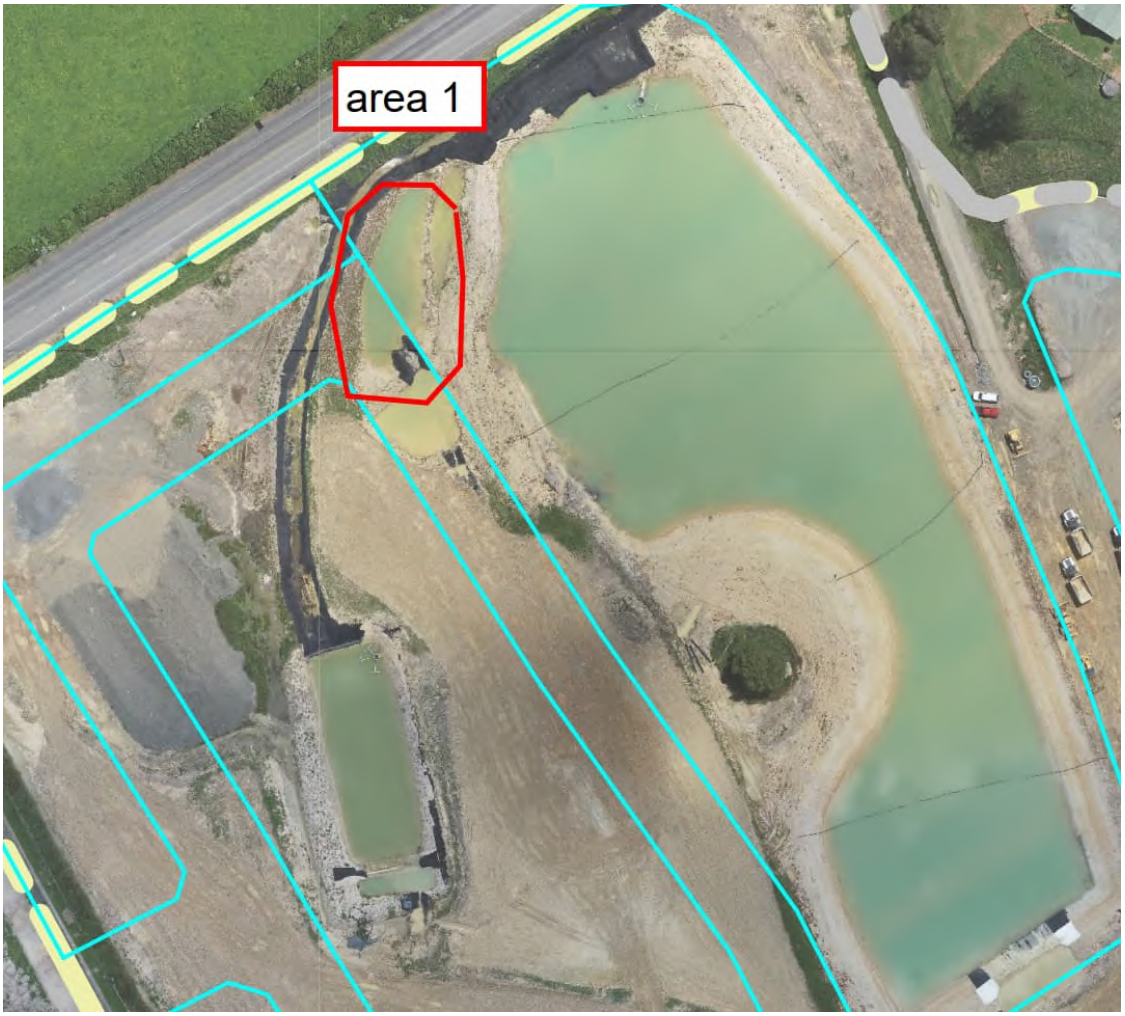
Site Inspection Record

Date:	10/01/2024	**Time:**	9am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspected two areas.

- Area 1
  - Contractor has decommissioned the pond which a portion of it was previously a gully backfill.
  - Ground revealed engineered certified SPR and inorganic, natural and stiff clayey silts. Shear strength readings in the natural ground ranged between 70kPa to 110kPa.
  - Recommended the contractor to trim off the vegetation on the batter prior to backfilling.
  - Contractor noted the excess water pooling at base will be pumped into the permanent pond.
- Area 2 (Stage 3)
  - Contractor noted the majority of the area is in cut. Ground revealed inorganic, natural and very stiff clayey silts. Shear strength readings ranged between 120kPa to 180kPa.
  - The area has reached the final subgrade height and is suitable for topsoil placement.





Area 1 – pond decommission











Area 2 – subgrade inspection











Site Inspection Record

Date:	12/02/2024	**Time:**	9 30am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:
Visited site and inspect subgrade ground conditions prior to topsoil • Both areas revealed inorganic natural very stiff clayey silts and engineered clay fill. • We consider the ground conditions are suitable for topsoil placement.



Area 1









Area 2









Site Inspection Record

Date:	18/02/2024	**Time:**	10am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspected DEB cleanout and subgrade ground conditions prior to topsoiling

- Stage 3 subgrade (area highlighted in purple on below plan)
  - The ground has been cut to proposed subgrade level. Ground revealed inorganic, natural and very stiff clayey silts. Shear vane readings were in excess of 160kPa.
  - Ground condition is suitable for topsoil placement.
- Stage 3 DEB
  - DEB is fully cleaned out. Ground revealed inorganic, natural and very stiff clayey silts.
  - DEB is suitable to be backfilled.
- Stage 1 DEB
  - Some organic soils are encountered at the base and sides of the DEB (appeared to be up to 500mm thick). Inorganic, natural and blue/grey clayey silts daylighted at the base below the organic soils. The ground hasn't been fully cleaned out during our site visit.
  - Contractor noted this area is within cut and the organic soil and the sides will be taken out as part of the road construction.
  - We will return and inspect the base ground conditions.





Stage 3 subgrade







DEB cleanout – suitable for backfill





DEB – require revisit



Site Inspection Record

Date:	11/03/2024	**Time:**	11am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	overcast		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect subgrade ground conditions

- Contractor has placed fill up to the proposed final subgrade level.
- Ground revealed engineered clayfill. Shear vane was not able to penetrate the ground.
- Several moxy passed through the subgrade, no ground deviation was noted.
- Ground is suitable for topsoil placement.











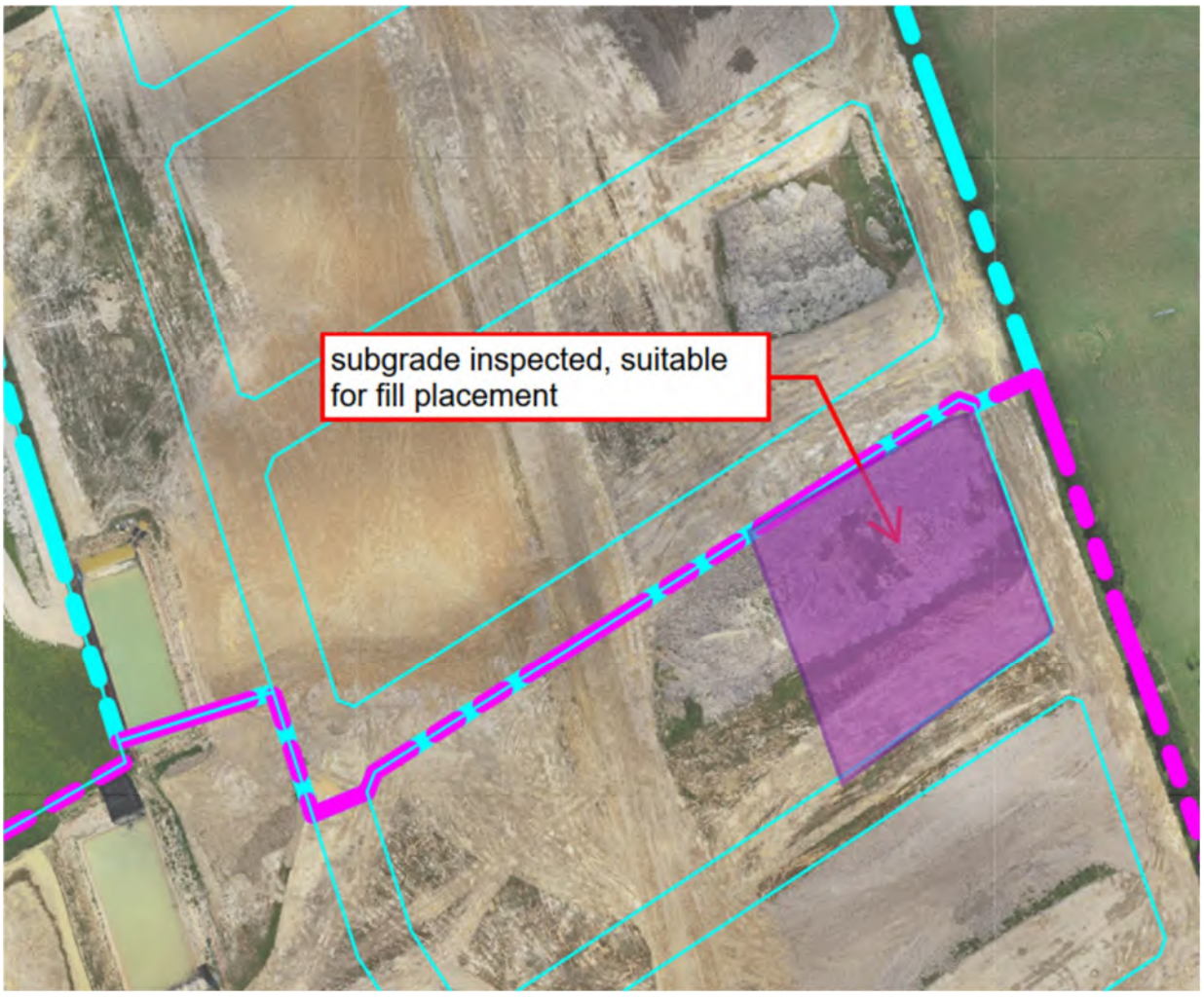
Site Inspection Record

Date:	18/03/2024	**Time:**	9am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site to inspect subgrade ground conditions

- Contractor noted the area was previously used as unsuitable stockpile. The stockpile has now been removed.
- Ground revealed inorganic, natural and very stiff clayey silts. Shear vane readings were in excess of 110kPa.
- Approximately 1m of fill will be placed in the area.
- Minor water pooling observed in some area, contractor noted they will prep the area prior to clay fill operations.
- Ground conditions are suitable for fill placement. Contractor to arrange fill testing with geotechnics.













Site Inspection Record

Date:	21/03/2024	**Time:**	1pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Pond is decommissioned, inspect ground conditions

- Ground revealed inorganic, natural and stiff silty clay. Shear vane readings were in excess of 90kPa.
- One isolated patch of organic soil encountered, shallow trial pit conducted and reveal inorganic natural ground below.
- Recommended the contractor to clear out vegetation on the crest of the batter.
- Ground conditions are suitable for clay fill back fill.









Isolated patch of organic soil encountered. Ground below revealed inorganic soil.



Site Inspection Record

Date:	25/03/2024	**Time:**	9am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:
LDE visited site on 25 March to inspect the suitability of stockpiles to be used as engineered filling as part of bulk earthworks operations at Clevedon Meadows. We understand the clay fill material is sourced directly from cut fill operation at 241 Park Estate Road. Material consisted of inorganic, natural and moist clayey silts with trace fine sand. Refer to CAN09 for detailed recommendations.













Site Inspection Record

Date:	26/03/2024	**Time:**	1pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

LDE visited site to inspect the suitability of stockpiles at 241 Park Estate Road to be used as engineered filling as part of bulk earthworks operations for Clevedon Meadows.

- We understand the clay fill material is sourced directly from cut fill operation at 241 Park Estate Road.
- The stockpile material consisted of inorganic, natural and moist clayey silts with trace fine sand.
- Materials sighted were consistent with the stockpile at Clevedon Meadows.
- Refer to CAN09 for detailed recommendations.




















DEMPSEY WOOD

Site Inspection Record

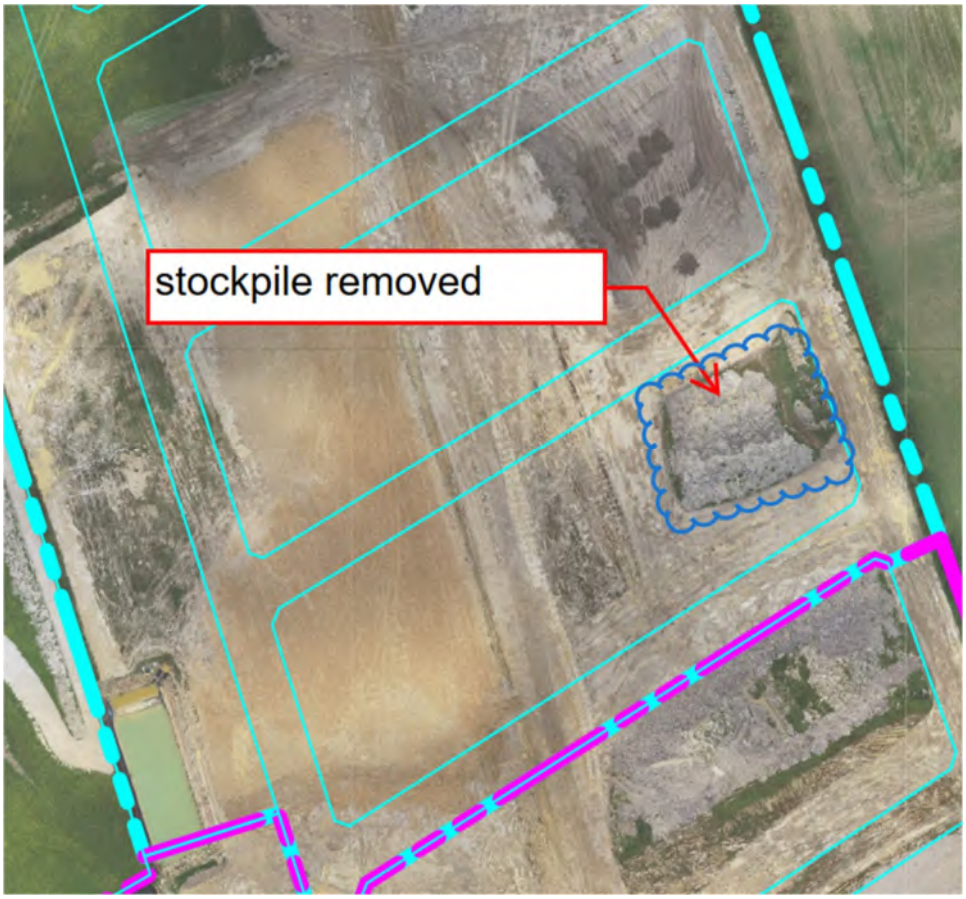
Date:	3/04/2024	**Time:**	3pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visit site and inspect ground conditions for the subgrade after unsuitable stockpile removal and temporary pond decommission:

- Unsuitable stockpile removal
  - Unsuitable had been removed, however traces of unsuitables (i.e. organic soils/topsoil) were still present upon subgrade.
  - Shallow trial pits were conducted, competent natural ground was exposed 50 to 100mm below the current ground.
  - Recommended the contractor to trim off the surface prior to clay fill backfill.
- Temporary pond decommission.
  - Contractor is working on decommissioning the pond, however it is currently not ready for inspection. We will return next morning, along with inspecting subgrade conditions for the unsuitable stockpile.





Stockpile removal






ZAXIS
210LC



Pond decommission





Site Inspection Record

Date:	18/01/2023	**Time:**	10am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect ground conditions within silt pond decommission and subgrade prior to filling.

- Pond decommission
  - Ground revealed inorganic, natural, stiff clayey silts on the batter and the base of the pond. A corner (roughly 1/3 of the pond) revealed organic soil/peat.
  - Our recommendations and correspondence with Maven are shown in the email screenshot below.
- Stockpile removal subgrade
  - Contractor has removed most of the area that was below the unsuitable stockpile. Ground below revealed inorganic, natural and very stiff clayey silts.
  - Minor portion of the area still require trimming, area circled in red on below images. We understand contractor is already working on this during our site visit.

Once the remaining stockpile materials are cleared and chased to natural ground, ground conditions are suitable for clay fill backfill.

RE: Clevedon Meadows - organic soils encountered at the base of pond

ML Michael Li <MichaelLi@maven.co.nz>
To Alan Huang
Cc Kyle Meffan; Grant King; Poini Palu; Krishniel Prasad; Team Clevedon

Reply | Reply All | Forward | Thu 4/04/2024 11:06 am

Hi Alan,

Thanks for your call.

We are happy to proceed with the clay backfill as long as LDE is satisfied with the final ground conditions while meeting council requirements.

Kind regards,

Michael Li
ENGINEER
BE (Hons)

MAVEN ASSOCIATES LIMITED
09 242 2763 | 027 295 8980
MichaelLi@maven.co.nz
www.maven.co.nz
Level 1, 5 Owens Road, Epsom

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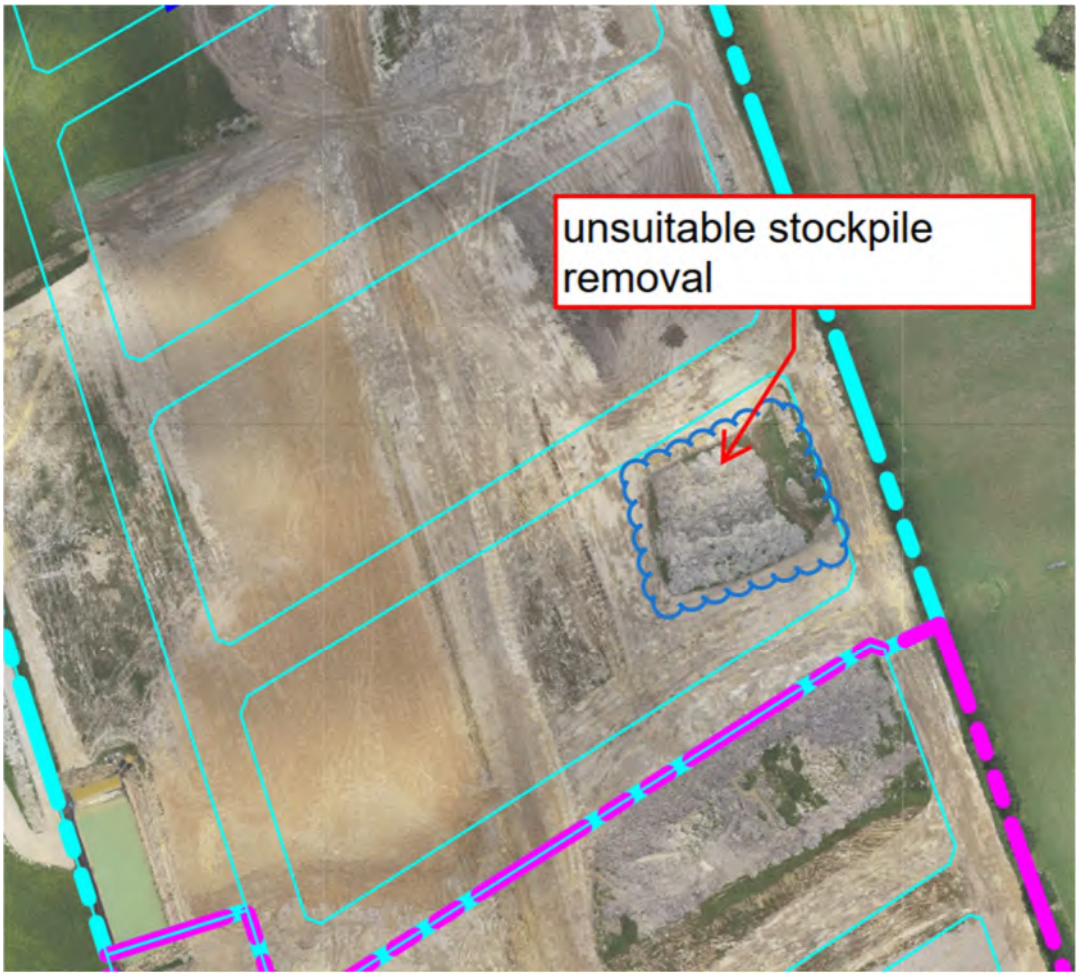
From: Alan Huang <a.huang@lde.co.nz>
Sent: Thursday, April 4, 2024 10:29 AM
To: Michael Li <MichaelLi@maven.co.nz>
Cc: Kyle Meffan <k.meffan@lde.co.nz>; Grant King <grant.king@dempseywood.co.nz>; Poini Palu <poini.palu@dempseywood.co.nz>; Krishniel Prasad <Krishniel.Prasad@Dempseywood.co.nz>; Team Clevedon <clevedon@dempseywood.co.nz>
Subject: Clevedon Meadows - organic soils encountered at the base of pond

Hi Michael

Thank you for the call earlier.
As discussed, organic soil was observed at the base and the side of the temporary pond. The contractor is currently decommissioning the pond and planning to backfill with clay fill. Based on our discussion with the contractor, we understand the level difference of the organic soil and the finished level is between 2m to 2.5m (i.e. 2m to 2.5m of clay fill is to be backfilled back into the pond). From geotechnical perspective, we consider the pond ground condition is suitable to be backfilled, knowing there is at least 2m of clayfill within the foundation influence zone. However, there is the risk of settlement; but potentially low.
Would you be alright with the organic soil left in place and back fill as standard or would you like us to provide recommendations for the soil removal?

Any questions, let me know. Thanks!


temp pond
decommission


unsuitable stockpile
removal

Pond decommissioning













Unsuitable stockpile removal









Site Inspection Record

Date:	8/04/2024	**Time:**	11am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey wood		

Inspection Notes:
Visited site and inspect ground conditioned for the subgrade at final level. • Ground revealed engineered clay fill. shear vane was not able to penetrate in most cases. Shear strength were in excess of 180kPa where ground can be penetrated. • Ground conditions are suitable for topsoil placement.















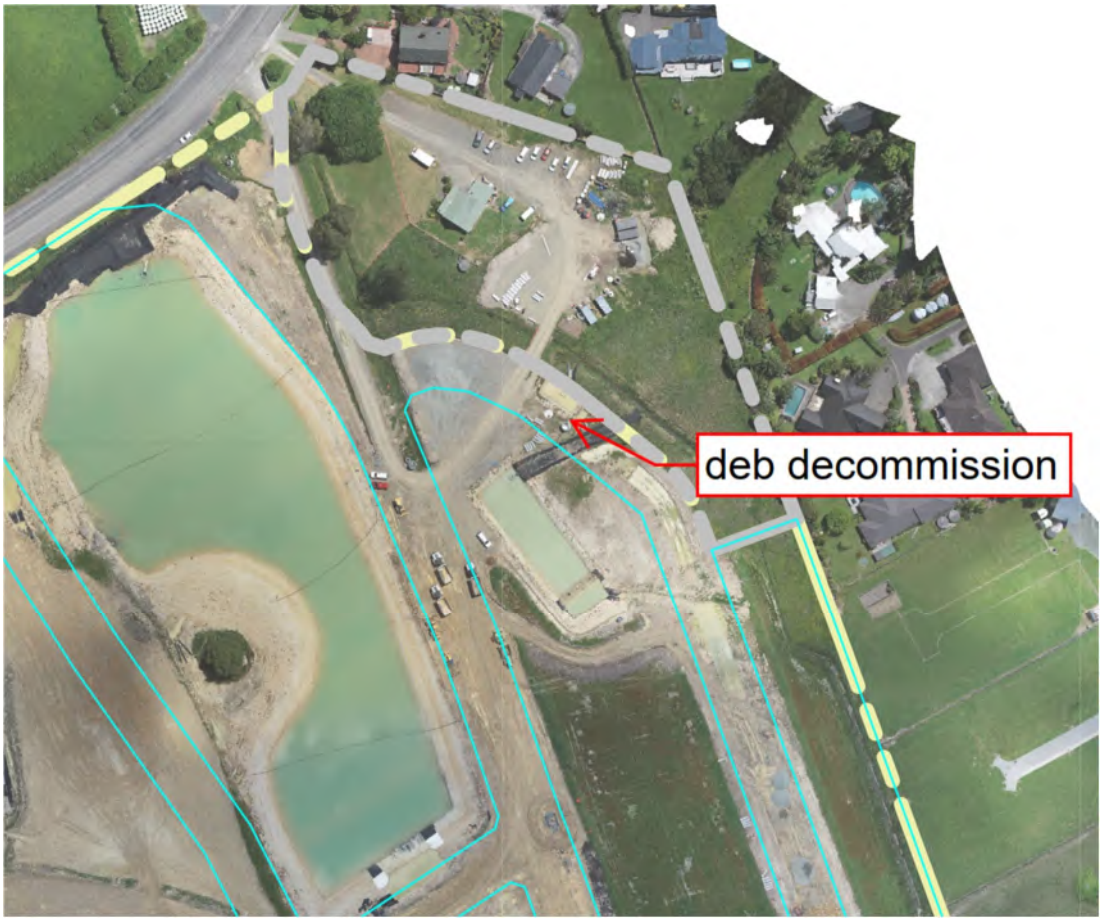
Site Inspection Record

Date:	9/04/2024	**Time:**	11am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		

Inspection Notes:

Visit site and inspect DEB decommissioning.

- Organic stained clay with some organic inclusions were observed on the side and the base of the DEB.
- The ground observed was similar to the soil encountered in the near by temporary pond.
- Contractor noted there will be minimum of 2m of fill to be placed from the organic soil level.
- Shear vane readings at the base and the sides were in excess of 80kPa.
- Ground conditions are suitable for clay fill backfill. We will check the area during GCR investigation stage











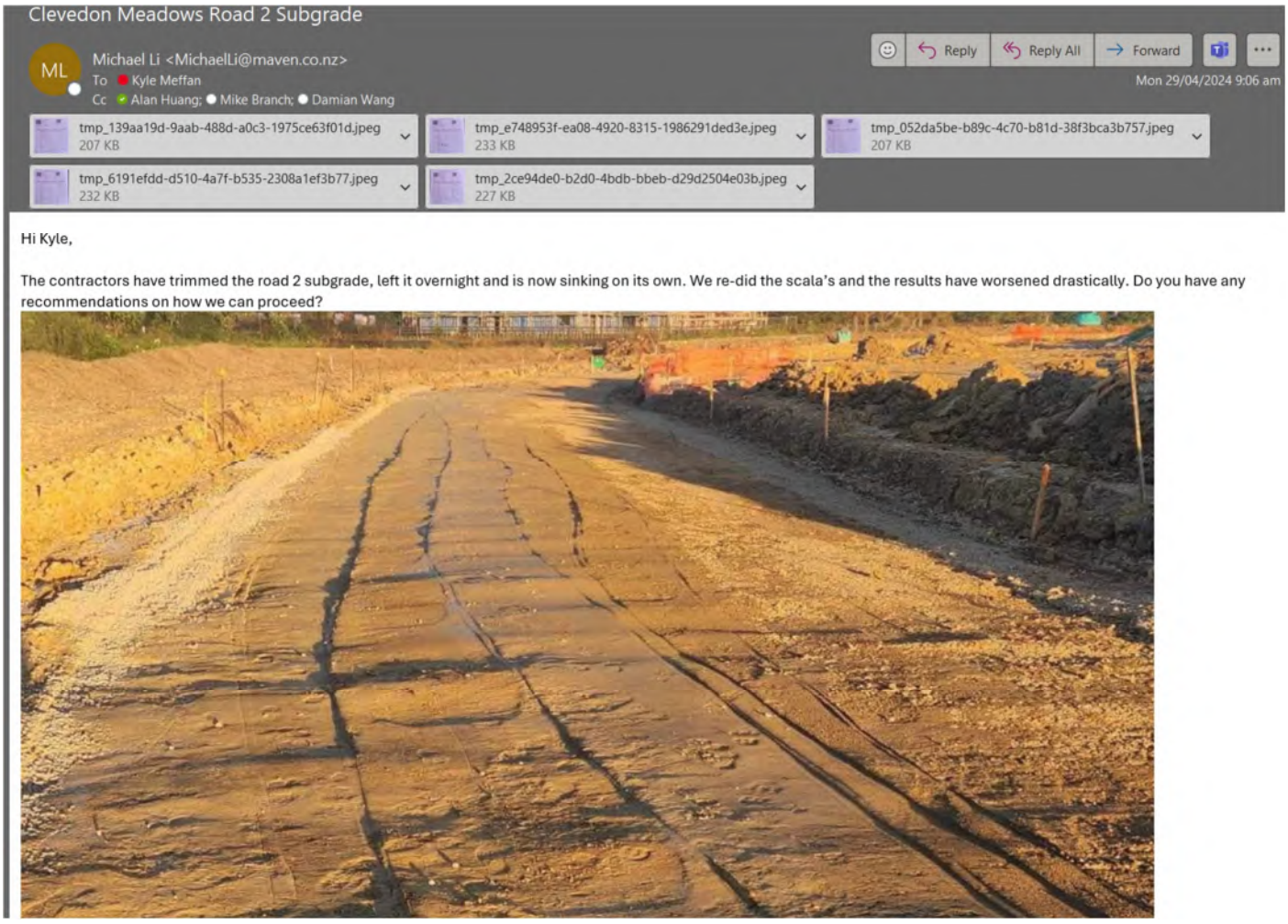
Site Inspection Record

Date:	29/04/2024	**Time:**	11am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect Road 2 ground conditions as Michael (Maven) noted the road is sinking/weakened.

- Several hand auger boreholes were conducted along Road 2, refer to area highlighted in green on below plan.
- The soil within the top 400-500mm (from the subgrade) depth consisted of inorganic, very stiff, natural, orange/brown silty clays. Shear vane readings were between 110kPa to 160kPa.
- The soil below the inorganic natural ground consisted of organic stained clay intermixed with woody/organic inclusions (refer to below images) and generally wet. Shear vane readings ranged between 40kPa to 70kPa, indicating firm to stiff soils.
- During our site visit, we have only observed excavator tracks through the subgrade. No significant deviation or weaving was noted.
- We understand Maven is working on the redesign of the road which will be informed by a series of updated scalas.




inspect Road 2 subgrade
ground conditions















Site Inspection Record

Date:	18/01/2023	**Time:**	9.00am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Light rain		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect ground conditions within the wetland and around the proposed manhole.

- Ground revealed inorganic, natural, light blue/grey, high plasticity silty CLAY.
- We consider the material encountered to be cohesive soil.
- We understand the contractor will clean up the saturated spoil and reveal competent material below.









Site Inspection Record

Date:	15/05/2024	**Time:**	10am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	Light rain		
Contactor:	Dempsey Wood		

Inspection Notes:
LDE visited site to inspect the excess material from Wetland A. The material consisted of wet organic deposits (including topsoil, rootlets, and peat) intermixed with minor inorganic silty clays. We consider these materials will not be appropriate to be used as engineered clay fill on account of their potential for settlement beneath future subdivisional loadings. Wetland A spoils are cleared and has now been topsoiled. Refer to CAN11 for detailed recommendations.




DW
ZAXIS
360LC



Wetland A condition









Site Inspection Record

Date:	23/05/2024	**Time:**	1pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect the gully undercut and asbestos pipe removal.

- The unsuitable materials are now removed. Ground revealed inorganic, natural and stiff silty clay. Shear vane readings were in excess of 75kPa.
- Significant water pooling was observed. We understand this is most likely below the groundwater level.
- We understand an existing underfill drain was previously installed along the existing gully. Our on-site recommendations were to connect up with the existing drain and outlet all towards the nearest manhole.
- Refer to CAN12 for detailed remediation.













Site Inspection Record

Date:	21/06/2024	**Time:**	3pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect ground conditions of the area stripped, refer to area highlighted in yellow on below plan.

- Contractor noted a section of the existing haul road, and temporary hardfill metal stockpile are getting removed. Contractor has begun working on the material removal.
- Ground revealed inorganic, natural and stiff clayey silts. Shear vane readings were in excess of 80kPa.
- We will return and inspect the next portion of the material stripping.
- The checked subgrade ground conditions are in accordance with our recommendations.















Site Inspection Record

Date:	18/01/2023	**Time:**	3 30pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Contactor:	Dempsey wood		

Inspection Notes:

Visited site and inspect ground conditions of the area stripped, refer to area highlighted in yellow on below plan.

- Contractor noted they have stripped another section of the existing haul road, and temporary hardfill metal stockpile are getting removed. Contractor has begun working on the material removal.
- Ground revealed inorganic, natural and stiff clayey silts. Shear vane readings were in excess of 80kPa.
- Ground water pooling was noted along the surface, recommended the contractor to remove the water and any potential softened clay prior to filling.

The checked subgrade ground conditions are in accordance with our recommendations.













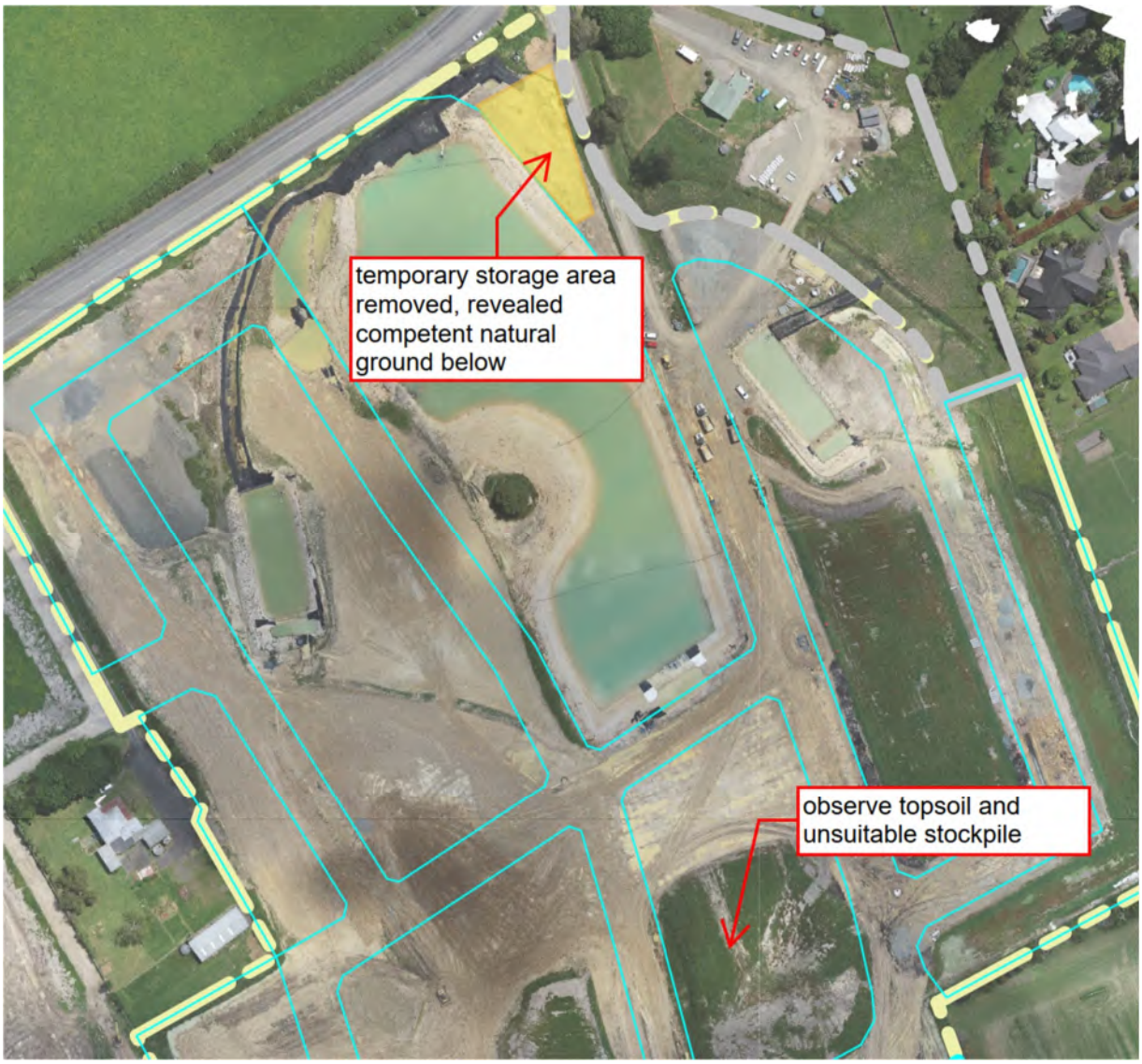
Site Inspection Record

Date:	4/07/2024	**Time:**	2.30pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect subgrade trimming prior to topsoil placement and topsoil and unsuitable stockpile for carting.

- Subgrade (highlighted in yellow on below plan)
  - Subgrade revealed inorganic, natural and very stiff clayey silts. Shear vane readings were in excess of 100kPa.
  - Water pooling and spoils were noted, recommended the contractor to clear these out.
  - Once these are cleared, the subgrade is suitable for topsoil placement.
- Topsoil and unsuitable stockpiles
  - The stockpiles revealed both topsoil and unsuitables.
  - The unsuitables consisted of clay, organic deposits, and topsoil intermixed. Contractor advised the unsuitable mostly came from gully muckouts and pond excavations.
  - Contractor noted they plan to export this material to Conmara Farm as their topsoil. We consider the materials are suitable for topsoil respread.



Subgrade











Topsoil and unsuitable Stockpiles









Site Inspection Record

Date:	15/08/2024	**Time:**	2pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site to inspect the permanent pond within Stage 3 and walkover of the overall site

- The pond is now formed. The ground revealed inorganic, natural and stiff silty clay. Shear vane readings were in excess of 70kPa. Water pooling noted along subgrade. Recommended the contractor to clear out water prior to topsoil placement. Otherwise, the ground conditions are suitable for topsoil placement.
- Stage 1: roads are finished and the lots are at finished level with topsoil placed. Two topsoil stockpiles still remain, refer to plan below. Conditions are suitable for GCR borehole testing.
- Stage 2: Lots are mostly at finished level, with serval areas to topsoil. Services are not completed yet.
- Stage 3: Bulk earthwork to commence in the upcoming season.

Stage 1 progress



Roads finished and lots topsoiled (mostly). Two topsoil stockpiles located in the south eastern portion of Stage 1

















Stage 2 – drainage work continues, lots are mostly topsoiled/at subgrade level. Finished roads not formed yet.









Stage 3 pond and earthwork: The mass undercut in the southern portion of the site requires backfilling with engineered clayfill. Pond subgrade formed and ground conditions suitable for topsoil placement. Bulk earthworks, roading and services (Civil) are not completed yet.













Site Inspection Record

Date:	19/08/2024	**Time:**	2pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	wet		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect the last portion of Stage 2 earthwork.

- Contractor noted bulk earthwork for Stage 2 is now complete. The subgrade is now at finished level and ready to topsoil. The finished subgrade revealed engineered clay fill. Shear vane readings were in excess of 170kPa. Water pooling was noted from the heavy rain over the weekend.
- Recommended the contractor to clear the water, otherwise the ground conditions are suitable for topsoil placement.
- Contractor noted that the Stage 1 and Stage 2 are ready for GCR borehole testing. We will arrange the timing with our field team and conduct the testing.





Stage 1 civil work





Reserve area to be topsoiled



Site Inspection Record

Date:	6/09/2024	**Time:**	1pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:
Visited site and confirm the topsoil depths. Topsoil consisted of clay intermixed organic soil/topsoil. We consider these as unsuitables and classified as topsoil. These materials are up to 450mm. Ground below revealed inorganic natural ground or engineered clay fill.











Site Inspection Record

Date:	15/09/2024	**Time:**	4pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:			
Contactor:	Dempsey Wood		

Inspection Notes:

Returned to site in the afternoon to inspect the removal of tree stumps and thick rootlets.

- The tree stumps and associated tree roots encountered (from lots 89 to 93) has now been removed and/or the total root mass comprises less than 5% of the soil volume.
- A shallow trench comprised of topsoil runs through the lots. This material was removed during our inspection.
- Ground revealed inorganic, natural and stiff silty clays. The ground conditions are suitable for bulk fill placement.
- Contractor noted this area will be backfilled with SPR hardfill. We consider the material choice is appropriate.



Site Inspection Record

Date:	16/09/2024	**Time:**	8 30 am
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	overcast		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site to inspect the subgrade ground conditions for the area highlighted on below plan.

- Observe topsoil stripping operations prior to bulk fills commencing. We encountered few tree stumps and associated thick rootlets (diameter between 20mm to 50mm).
- Further investigation via trial pits revealed that competent inorganic natural soils were present approximately 1m below current ground level. A total of six to seven tree stumps were observed, with each affected area of approximately 3m by 3m.
- Discussed the issue with Michael (Maven) and provided our recommendations.
- We consider that it would appropriate to undercut these materials to a depth of approximately 1m below original ground level, so that the total root mass comprises less than 5% of the soil volume.
- Refer to CAN17 for detailed recommendations.
- We will return and inspect the stump and rootlets removal.










DEMPSEY WOOD
















ZAXIS
DW



Topsoil trench



Site Inspection Record

Date:	23/09/2024	**Time:**	2pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:

Visited site and inspect stripped area as per CAN18

LDE visited site on 25 September 2024 to observe topsoil stripping operations within the area outlined in red prior to bulk fills recommencing (refer inset right).



During our inspection, we observed that the topsoil had been fully stripped and the underlying ground revealed engineered clay fill. We understand the finished level is to be raised by 100mm and the backfill will comprise of SPR (run of pit). We consider the material choice is appropriate from a geotechnical perspective. Quality control testing (i.e. density testing) will not be required as per NZS3604 due to the fills being less than 600mm high.







Area that was previously affected by stumps – as per CAN17. Ground is backfilled with SPR, and subject to fill compaction testing



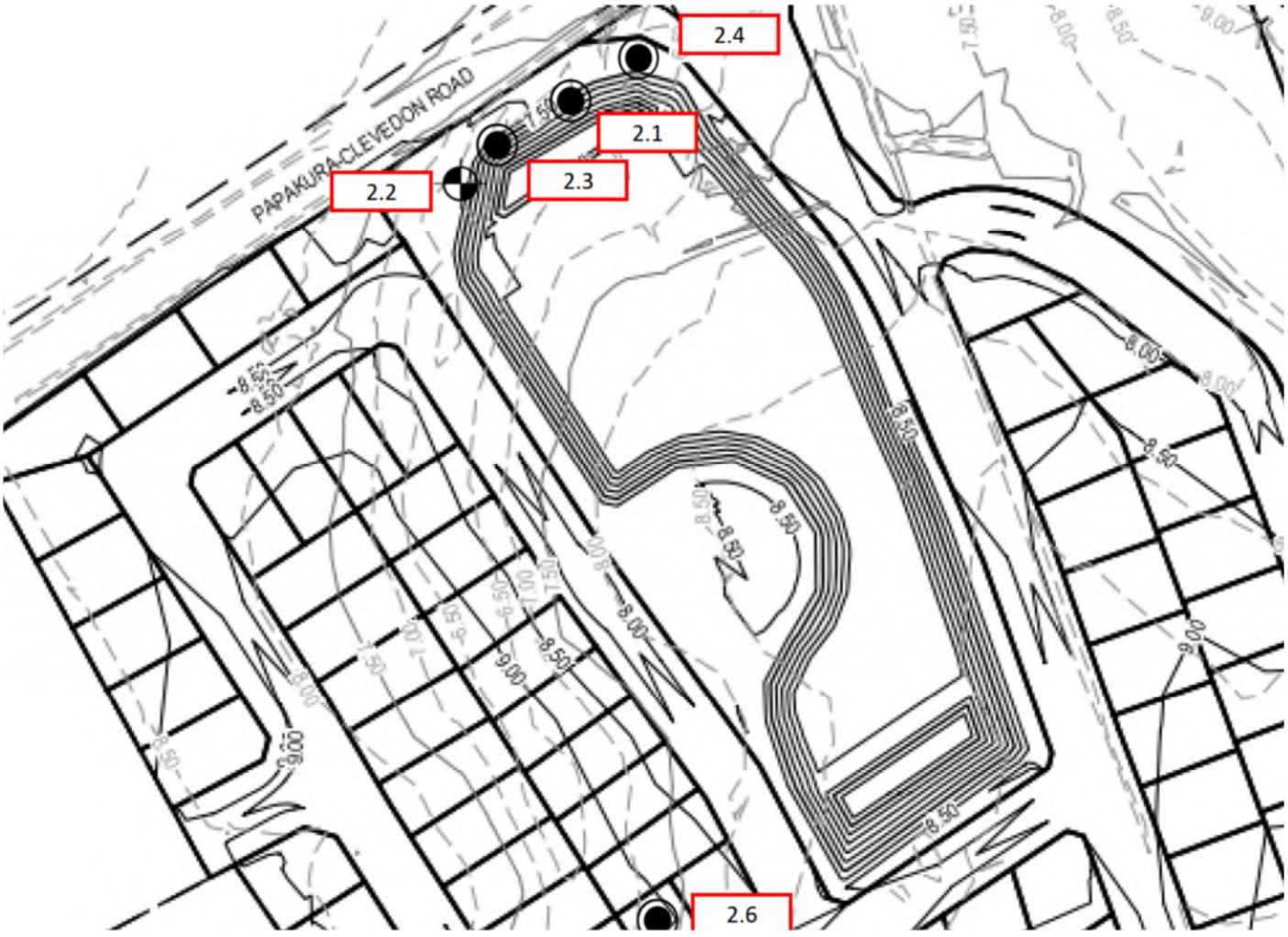


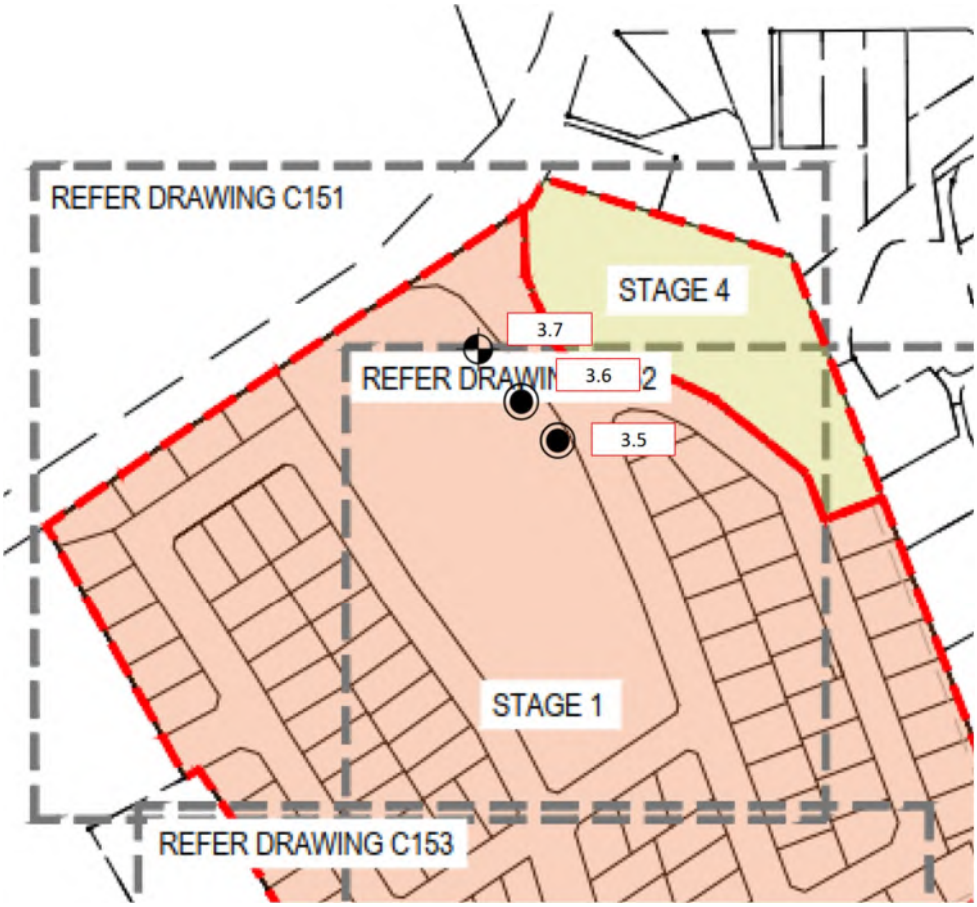


Site Inspection Record

Date:	18/10/2024	**Time:**	3pm
LDE Project Ref:	J00721	**Inspected by:**	Alan Huang
Project:	J00721 - Clevedon Meadows, 62-80 Papakura-Clevedon Road, Clevedon		
Weather:	fine		
Contactor:	Dempsey Wood		

Inspection Notes:
Returned to site and conducted several hand auger boreholes to confirm the ground conditions due to failed fill testing at URN 2.2, 3.7, and 43.1. The hand auger boreholes encountered engineered clay fill - clayey silts, grey streaked orange/brown and very stiff soil. Shear vane readings were in excess of 160kPa to 200kPa. We consider the materials encountered as engineered clay fill and is in accordance with project specification. The fill is suitable to remain.

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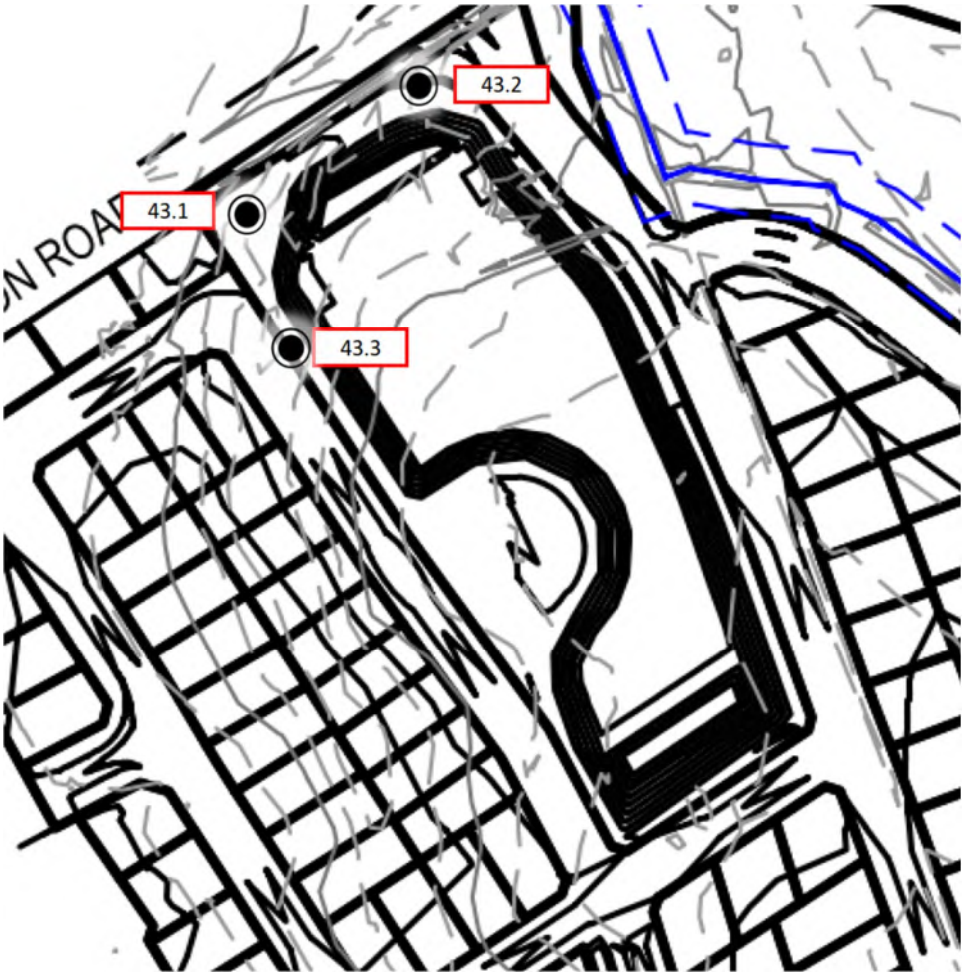
43.2
43.1
43.3







Also inspected the burrowed pit muckout. We will return and inspect the cleaned out pond/pit.



