S&L
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GREENHILL PARK RESIDENTIAL SUBDIVISION

STAGE 13

INFRASTRUCTURE DEVELOPMENT COMPLETION REPORT

WEBB DRIVE & CARRS ROAD, GREENHILL PARK

CHEDWORTH PROPERTIES LTD

Our reference: 19-30378-03

Prepared for Chedworth Properties Limited

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This report has been prepared specifically for Chedworth Properties Ltd and supplied to Hamilton City Council for works clearance for Greenhill Park Subdivision and no responsibility is accepted by S&L Consultants Ltd for the use of any part of this report in other contexts without written approval.

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REVISION	Issued for Application	**DATE**	12 March 2021

Quality Assurance Statement		
Task	**Responsibility**	**Signature/Approval**
Written by:	Barry Pearson Engineer	
Reviewed by:	Nic Fu Client Principal	

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Table of Contents

Appendices

1.0 BACKGROUND

1.1 Introduction

This application relates to Greenhill Park Subdivision Stage 13 located along the northern side of Carrs Road, including Carrs Road and Webb Drive.

Works included the following:

- Stage 13 subdivision roading (including Carrs Road and Webb Drive)
- Wastewater reticulation and lot connections
- Stormwater reticulation for roading and lot connections
- Watermain and lot connections
- Associated Streetlights
- Electrical reticulation for subdivision lots and street lighting
- Ultrafast Broadband reticulation
- Gas supply for subdivision development
- Concrete footpath construction
- Landscape planting

On the north side of Carrs Road, Stage 13 development works for 18 residential lots have been carried out under Hamilton City Council Subdivision Resource Consent 011.2018.6632, granted 05 September 2018.

This application is made on behalf of Chedworth Properties Ltd for Works Clearance from Hamilton City Council. Works clearance is sought in order to obtain certification pursuant to Section 224(c) of the Resource Management Act 1991 for Greenhill Park subdivision, Stage 13, LT 558430 A copy of the land transfer plan is included in Appendix 8.

This report addresses the key details associated with the Infrastructure provided.

1.2 Entities Involved with Development

The following companies have been involved with the construction of the Subdivision;

• Developer:	Chedworth Properties Ltd
• Consultant Design Engineers:	Beca Consultants
• Consultant Engineers and Surveyors:	S&L
• Geotech Engineer	DBCon Engineers
• Landscape Design	Boffa Miskell
• Landscape Planting	Native Awa
• Head Contractor:	Online Contractors 2016 Ltd (OLC)
• Subcontractors & Suppliers:	
Civil Materials Supply	Hynds
Stormwater and Wastewater Drainage	West Construction Ltd (WC)

Geotechnical Testing	Opus/WSP
Concrete Supply	Bowers Bros Concrete
Concrete kerbs	Waikato Construction
Carparks	Purrfect Paving
Footpaths	Purrfect Paving
Concrete Cutting	Ironman Concrete Cutting
Streetlights	Ibex Lighting
Power Reticulation	WEL Networks – (Subcontractors: Northpower and Bayonne)
Road Materials Supplier	Stevenson Resources, Gleeson Quarry – Huntly
Road Surfacing Contractor	Higgins Contractors
Road Signs	Directionz Ltd
Road Line Marking	Linemark
Gas	First Gas
Telecommunication	Ultrafast Fibre – (Subcontractor: Civtec)

1.3 Observation of Works

S&L undertook regular inspections of the works as the project progressed and reviewed the contractor's quality assurance measures including test results. The progress of the construction was reviewed formally at weekly site meetings as well as discussions on site with the contractor.

The observation and supervision activities by S&L were undertaken to a level of CM3 (weekly site visits) as described in the IPENZ document "Guidelines on the Briefing and Engagement of Consulting Engineering Services" with additional inspections when required by the nature of the works under construction.

1.4 As-Built Data

A full set of as-built drawings and excel spreadsheets have been appended to this document in Appendix 9 and 10. These include the as built and asset value information required in accordance with the RITS. The as built data has also been included in this application in electronic format and a copy enclosed in final works clearance report for reference.

1.5 CCTV

CCTV inspections have been completed for the wastewater and stormwater lines. The footage has been provided to Hamilton City Council separately.

1.6 Design and Hamilton City Council Development Unit Design Acceptance

The following Approvals have been gained from the HCC Development Unit:

- Greenhill Park Stage 13 was designed by Beca Consultants and approved by HCC Development Unit.

1.7 Amendments to approved plans

Amendments from the approved plans have been made during construction as follows:

Constructed pavements type 'A' and 'Webb Drive Pavement' as per design in Stage 13. No amendments have been made.

2.0 EARTHWORKS

Earthworks have been carried out onsite under the supervision of S&L and DBCon Engineers. DBCon Engineers were engaged as the geotechnical engineer. The DBCon report of stage 13 subdivision earthworks and recommendations for building development is included in Appendix 1, detailing earthworks compliance with HCC RITS and NZ Standards.

3.0 ROADING INFRASTRUCTURE

3.1 Road Construction

Roads have been constructed in general accordance with the pavement shown on the approved engineering plans.

Review of the road construction is as follows:

3.2 Subgrade

The underlying natural soils comprise sandy silts of varying strengths. Significant subgrade improvement works have been carried out as follows:

- Much of the Stage 13 subgrade consists of imported hardfill for the backfill of the stormwater and sanitary sewer underground lines beneath.

- All areas in the road carriageway that have not been backfilled with hard brown rock have been undercut to a minimum depth of 0.5m below subgrade level and replaced with a subgrade improvement layer of compacted hard brown rock.

- Subsoil drains have been laid beneath kerbs discharging into catchpits

Testing of the subgrade improvement layer included proof rolling with no visible weave, stringing by way of GPS survey, and Clegg hammer testing to confirm that a CIV>15 (CBR>15) had been achieved for all roads in Stage 13. Results of the Clegg hammer testing are included in Appendix 2(a).

A GPS survey was undertaken throughout Stage 13 and checked against the design surface. Results are included in Appendices 2(a, b & c), confirming that design pavements depths have generally been achieved to ITS tolerances.

All road subgrades have been tested using clegg hammers, showing that CBR values over 15 have been consistently achieved on all roads. The results from the Subgrade Clegg Hammer testing are summarised below:

Subgrade Clegg Hammer Results Summary

Carrs Road CH 330 - 580	Range CIV 21 - 65 Mean CIV 37	Min Inferred CBR 31*
Webb Drive East Lane CH 590 - 770	Range CIV 21 - 62 Mean CIV 33	Min Inferred CBR 31*
Webb Drive West Lane CH 530 - 780	Range CIV 28 – 65 Mean CIV 44	Min Inferred CBR 55*
Webb Drive West lane CH 790 - 850	Range CIV 28 - 41 Mean CIV 33	Min Inferred CBR 55*

*****Note: CBR = $0.07(CIV)^2$ formula applied in accordance with RITS

3.3 Subbase

Subdivision roading comprises of the following subbase types:

Webb Drive (Webb Drive Pavement)	170mm GAP 65 ex Gleeson Quarry Huntly
Carrs Road (Type 'A' Pavement)	200mm GAP 65 ex Gleeson Quarry Huntly

QA Supplied for the subbase included in Appendix 2(b) includes the following:

- Material testing sheets
- Stringing
- Compaction testing of the basecourse with Nuclear Densometer
- Clegg Hammer tests

3.4 Basecourse

Subdivision roading comprises of the following basecourse types:

Webb Drive	180mm M4 AP40 Stevensons Tauhei modified with 2% cement
Carrs Road (Type 'A' Pavement)	150mm NZTA M/4 AP40 Stevensons Tauhei

QA Supplied for the basecourse included in Appendix 2(c) includes the following:

- Material testing sheets
- Stringing
- Compaction testing of the basecourse with Nuclear Densometer
- Clegg Hammer tests
- Benkelman Beam testing

Stringing

Stringing of the basecourse was carried out from kerbs prior to sealing. Results are included in Appendix 2(c) confirming that design pavements depths have generally been achieved to ITS tolerances.

Clegg Hammer

Clegg hammer testing has been undertaken on the subdivision roading basecourse showing compliance with RITS.

Nuclear Densometer

Nuclear densometer testing was carried out by Opus in order to confirm density.

Nuclear Densometer testing has been undertaken in accordance with RITS Section 3.8.2.5 & 3.8.3.4, Table 3-22. Results are included in Appendix 2(c).

The Target MDD for the TNZ M/4 AP40 pavement is 2.18t/m3 as per Opus MDD report (project number: 2-68015.00, lab reference: HA 6290/1_VHMDD).

Results are summarised below:

Basecourse NDM Results Summary

Webb Dr, southbound lane CH 520 - 790	Min 93% of MDD (Target MDD 2.18t/m3)	Mean 98% of MDD
Webb Dr, northbound lane CH 520 - 790	Min 94% of MDD (Target MDD 2.18t/m3)	Mean 98% of MDD
Carrs Rd, CH 10 - 260	Min 96% of MDD (Target MDD 2.18t/m3)	Mean 100% of MDD
Carrs Rd roundabout	Min 96% of MDD (Target MDD 2.18t/m3)	Mean 100% of MDD

3.5 Benkelman Beam Results

Benkelman beam tests were carried out by Opus on the basecourse surface following surfacing. Results are summarised below:

Basecourse Benkelman Beam Results Summary

	Deflection (mm)			
	Maximum (mm)	**Minimum (mm)**	**%age over 1.8mm (A2)**	**Average (mm)**
Webb Dr southbound lane CH 520 - 800	0.44	0.04	0	0.27
Webb Dr northbound lane CH 520 - 800	0.59	0.16	0	0.33
Carrs Rod CH 10 - 260	0.9	0.44	0	0.65
Carrs Rd roundabout	0.86	0.44	0	0.58
Carrs Rd roundabout stub road right	0,84	0.70	0	0.77

Results conform to the maximum and average deflection requirements of Section 3.8.3.5, Table 3-23 of the RITS for A3 (between 10^5 and 10^6 EDA) roads.

3.6 Road Surfacing

A summary of road surfacing details laid by Higgins is listed below:

Road Surfacing Summary

Road	Membrane Seal	Surface
Pavement Type A (Carrs Rd)	Grade four water proofing seal coat Residual Application Rate: 1.0L/m^2	40mm DG10 (Ave thickness 46mm)
Webb Drive Pavement including roundabout	Grade 4 racked in water proofing seal coat Residual rate 2.0 L/ m^2	50mm AC 14

4.0 WATER INFRASTRUCTURE

4.1 Installation

The water supply reticulation completed by Online Contractors includes the following components:

- 150mm mPVC PN12RRJ principal main
- 63mm PE80 PN12.5 ridermain
- Associated fittings, valves and hydrants
- Residential connections to all lots

Quantities and installation locations are shown on as-built records appended to this document.

4.2 Testing and Disinfection

Online Contractors Ltd carried out all aspects of pressure testing of the supply lines and disinfection prior to livening, in accordance with the ITS and in the presence of HCC.

Testing included the following items:

- Water supply pressure test result
- Water Supply disinfection
- Water Supply E Coli test

The pressure test and the observation of FAC (Free Available Chlorine) was witnessed by HCC's testing officer. The E Coli test samples were collected as part of the testing and the samples have been reviewed by HCC Officer, L. Parkes and passed.

Pressure testing results, pipe laying checklists and Bacto Test results are included in Appendix 3.

5.0 WASTEWATER INFRASTRUCTURE

Supporting quality assurance documentation for Wastewater Infrastructure supplied by the contractor and reviewed by S&L is attached in Appendix 4.

The gravity sewerage system comprises installation of the following components:

- 150mm dia uPVC SN16 wastewater main
- 100mm dia uPVC SN16 sewer laterals and lot connections
- Associated manholes.

Testing and inspection includes the following:

- CCTV inspection which has been supplied separately to Council
- Inspection of Manhole Structures
- Pressure testing of Manhole Structures by West Construction observed by HCC
- Pressure testing of 150mm dia wastewater main by West Construction observed by HCC
- As-builting by West Construction and S&L with final as-builts compiled by S&L.

6.0 STORMWATER INFRASTRUCTURE

6.1 Installation

In accordance with the approved design, stormwater from Stage 13 pipelines discharge into the Area M and L, K & U swales for treatment and conveyance:

- Swale 3B is located on the south side of Popham Rd and flows west.
- Swale 1D is located on the south side of Carrs Road and flows west

The primary system comprises of:

- UPVC & RCRRJ stormwater mains and headwalls
- UPVC laterals and lot connections
- Road catchpits and leads
- Manholes

Observation of the works was undertaken by S&L and includes:

- CCTV inspection which has been supplied separately to Council
- Inspection of all manhole structures, catch pits, outlets and inlets
- As-builting by Online Contractors and S&L Consultants with final as-builts compiled by S&L.

QA and checklists provided by the contractor and reviewed by S&L are included in Appendix 5.

6.2 Secondary flow paths

In accordance with the approved design, the stormwater pipelines from Stage 13 discharges into swale 3B and 1D for treatment and conveyance.

A piped drainage network has been designed to collect runoff from the road and lots with standard sumps. The pipes are designed to convey (without significant surcharge) the 50% AEP flows to the network of swales downstream. Each individual lot is provided with a piped connection to the main drainage system in case on-lot soakage is not appropriate.

In events larger than a 50% AEP, secondary stormwater flows for Stage 13 will flow as described below.
Flow down the western side of Webb Drive shoulders to a low point at road 20/25 intersection, then south across the road berm to spill into Swale 3B that runs along the southern side of Popham Road and flows west.

The eastern side of Webb Drive flows down the road shoulder to the southern side of Pardoa Rd intersection. The overland flow path is over the road berm to the existing open drain and future swale to the east.

The Carrs Road secondary flow path is west down the road shoulder, across the intersection of Carrs Rd/Athier Ave and into swale 1 via the berm overland flow path.

See attached as-built drawing 21879-M-13-SW1 Rev AB in appendix 9 showing the location and direction of stormwater overland flow.

7.0 STREET LIGHTING, STREET MARKING AND SIGNAGE

Streetlights have been designed, supplied and installed by Ibex Lighting Ltd. All quality assurance documentation for the street lights is included in Appendix 7.

Signage has been installed by OLC subcontractor Directionz Ltd in accordance with approved drawings and RITS requirements.

Carriageway paint marking has been completed by OLC subcontractor Linemark Ltd and is in accordance with approved drawings and RITS requirements.

8.0 LANDSCAPING

8.1 Hard Landscaping

There are no hard landscaping works included in stage 13.

8.2 Soft Landscaping

The landscape planting within the road reserves and the stormwater swales has been completed. An inspection by HCC Parks and Open Spaces has been completed.

9.0 NETWORK UTILITIES

Network utilities have been provided as follows.

9.1 Power

Electrical reticulation has been installed by WEL Networks for both street lighting and residential supply.

A WEL Networks works clearance statement is attached in Appendix 7.

9.2 Gas

First Gas has installed reticulation to enable future connection by individual lot owners. A completion Certificate is included in Appendix 7.

9.3 Telecommunications

Ultrafast Fibre has installed reticulation to individual lots. An acceptance letter is included in Appendix 7.

10.0 FINAL INSPECTION

A final inspection has been undertaken and was attended by Hamilton City Council's Development Engineers and associated staff from S&L and Online Contractors.

A separate inspection by Parks and Open Spaces has also been completed.

APPENDIX 1

Earthworks QA Documentation

- DBCon Engineers Report on Subdivision Earthworks & Recommendations for Building Development

GREENHILL PARK RESIDENTIAL SUBDIVISION

STAGE 13
Area M, Greenhill Park

HAMILTON

REPORT ON SUBDIVISION EARTHWORKS AND RECOMMENDATIONS FOR BUILDING DEVELOPMENT

Our Ref: DB 171738-AREA-M-S13-01

Prepared for: Chedworth Properties Limited

Date: February 2021

Contents

Appendices

Appendix I *Reference Drawings*
Subdivision plan
21879-01-M13-EW1
Site Levels Plan

Appendix II *Geotechnical Completion Forms*
Checklist 2.2 - Statement of Professional Opinion
Summary of Geotechnical Data for Individual Lots

Appendix III *Pre-Construction Test Results*
BECA Area M Liquefaction Assessment
Summary Plan

Appendix lV *Post Construction Test Results* Tests by DBCE

Appendix V *Stormwater Management*
On-lot Water Efficiency Measures Lot Levels (Minimum Lot Levels)

1.0 Subdivision Development Earthworks

1.1 Introduction

Stage 13 of Greenhill Park is currently accessed from Pardoa Boulevard. Stage 13 comprises 18 residential lots (numbered 357 to 374). The locations of these lots are shown on attached Cut/Fill Plan, drawing 21879-01-M13-EW1 included in Appendix I.

Bulk earthworks have been completed to re- contour the previously agricultural landscape for Stage 13 of the Greenhill Park Residential Subdivision in Hamilton. Works have been carried out in accordance with Hamilton City Council's (HCC) Subdivision Resource Consent: 011.2018.6632.001 dated: 05/09/2018. Prior to commencement of earthworks, geotechnical investigations were carried out by Beca Ltd (Beca) in 2016 [1].

HCC's Infrastructure Technical Specifications (ITS) set out the minimum standards for design and construction of public infrastructure within Hamilton City. Section 2.1.5 of the *Earthworks and Geotechnical Requirements* of the ITS states that the developer shall appoint a geo-professional to carry out functions as described in NZS 4404[5] Section 2.2.4. ITS Section 2.3.3.1 states that a geotechnical completion report shall be submitted as per NZS 4404 Section 2.6 including a statement of professional opinion on the suitability of land for building construction [4]. The developer has appointed DB Consulting Engineers (DBCE) Ltd as the geo-professional.

To satisfy the requirements of HCC's Resource Consent, the ITS and NZS 4404, this report summarizes the observations and testing undertaken during the development of the stage, discusses the suitability of the ground for the support of the proposed residential buildings and contains recommendations for the disposal of stormwater runoff generated on individual sites.

Included in Appendix I of this report is the proposed subdivision plan comprising the original Lot 605 DP 516275 and the proposed new lots 357-374 for Area M Stage 13. The included earthworks plan shows the cut/fill extent of the earthworks undertaken, test positions, and road and lot locations.

1.2 Earthworks in the Subdivision

The earthworks for Stage 13 of the subdivision development were undertaken between October 2020 and December 2020.

These earthworks comprised:

1. The stripping of surface topsoil to expose underlying natural soils
2. The placement of filling within lots 357, 358, 359, 360, 367, 368,369,370, 371 and 374.
3. Backfilling and raising the ground level with new fill to create uniform fill platforms.
4. The reinstatement of the surface topsoil cover and subsequent grassing.

The soils encountered during the formation of the site and road subgrades were a mixture of silts, sands and pumiceous gravels, typical of Hinuera formation deposits in this area of Hamilton. These soils were those that had been identified in pre-construction site investigations by the Beca Report.

The filling work was undertaken using these site soils gained from areas of cut on other stages from within the larger Greenhill Subdivision. Filling was undertaken during spring 2020 when drying back of the soils was possible close to optimum moisture contents to achieve near maximum compaction densities.

Upon completion of the earthworks, approximately 200 to 300 mm of topsoil was placed across the sites and the finished surfaces were grassed in accordance with Conditions of the Resource Consent. Areas where an initial grass strike did not take place were re-grassed. While the target topsoil depths after the earthworks were to be around 300 mm, no guarantee is implied or given that the topsoil on any part of any lot is 300 mm or less and it is recommended that future owners or designers or builders check topsoil depths when preparing site development plans and cost schedules.

1.3 Earthworks Standards

The earthworks in filling were undertaken using in situ Silty clay, and sandy silts mixtures gained from areas of cut across the larger subdivision and already used for the earlier stages of the development. The standards for the placement of filling, as stated in the earthworks contract documents, were to comply with NZS 4431:1989 “Code of Practice for Earth fill for Residential Development” and the Council ITS. Filling placed to these standards may be considered as good ground in terms of NZS 3604:2011 “Timber Framed Structures.”

The compaction of the filling placed was monitored and tested for compaction density using a hand-held shear vane in finer grained silts and Silty CLAY. Adequate strengths would be achieved when an undrained shear strength of 100 kPa or more had been developed in silts and clays. Scala testing was used on non-cohesive sites.

Materials used where the same basic strata as being used for the previous Stages of works, with a high level of consistency based on previous test results.

1.4 Filled Ground

During the placement of filling on the road subgrades and on areas intended for residential development, the contractor, OLC, stripped and removed all topsoil and other surface organic soils. Post construction testing was carried out to confirm the interface between the cut and fill. Filling was placed in discrete layers with compaction applied through sheepsfoot drum rollers and smooth drum rollers.

As most of the filling placed comprised the Silty CLAY and silts identified in the pre subdivision boreholes, testing of the compaction achieved was mostly undertaken

using a handheld shear vane and NDM testing (Nuclear Density Meter).

The results indicate that the construction filling standards have been met. Foundations may therefore be detailed to NZS 3604:2011 where a timber framed subfloor containing shallow piles, bearers and joists is contemplated. Concrete floors designed to NZS3604 can be used on most lots where they are not immediately adjacent to a stormwater swale.

1.5 Areas of Cut

Areas developed in cut are shown on 21879-01-M13-EW1 (Appendix I). In these areas, the ground at formation levels was observed to comprise the same silts and sands that had been used for filling elsewhere and as identified by pre subdivision tests.

1.6 Test Results In Filling Placed

A summary of the tests undertaken by DBCE is present in Appendix IV. The test positions are shown on 21879-01-M13-EW1 and the test results are in Appendix IV.

The shear vane test results show that acceptable soil strengths had been developed in all fill areas tested.

1.7 Test Results in Areas of Cut and Natural Ground

The natural ground at the finished ground surface or under the filling comprised silty sands and sands as had been identified in the pre-subdivision investigation boreholes.

The results of the tests undertaken indicate that “good ground” as defined in NZS3604:2011 is present. No areas that were tested will require any future ground improvement work for buildings supported

1.8 Land Hazards

1.8.1 Land Stability

There are no landform stability issues within Stage 13 of the Greenhill Park Subdivision. The specification from the developer for the site earthworks was that the lots were to be graded as flat as possible with a desirable gradient of 0.5%.

1.8.2 Flooding

The final lot levels have been set based on infrastructure requirements and freeboard from flood levels developed as part of the stormwater design for the larger subdivision. The means of disposal of stormwater runoff from lots in this stage of the subdivision are described in the catchment and overland flow assessments by Beca (interpretive Report Lot Levels Area M). In the report for area M, a 1% AEP flood event is identified for each swale system. The two relevant swales for Stage 13 are Swale 1D (R.L. 38 1% Flood level). A flood level of 38.00 R.L. has been used in assessing the flood risk in stage 13. This equates to minimum lot levels of 38.500m to 40.120m R.L. across the stage (with low being the north end and high being the south end). A list of Lot Levels for Stage 13 is included in Appendix V.

Site grading during house construction must not lower finished levels below the minimum finished ground levels provided without further review of the impacts on flooding. Earthworks must not direct stormwater runoff to adjacent properties, or towards buildings, or create areas of localized ponding. All overland flow is to be towards the road frontage on each section, where falls will direct surface flow towards the north and Swale 1D.

It is the responsibility of the building design professional to ensure that the requirements for mitigation for the hazard of flooding are met by the design prior to submitting to Council for consent. Confirmation of the swale construction and flood levels are excluded from the scope of this report and are to be covered separately with sign-off of infrastructure works.

1.8.3 Liquefaction

The potential for the hazard of liquefaction for Area M of the Greenhill Park Subdivision is discussed in "Greenhill Park Geotechnical Interpretation and Design - Area M" by Beca and dated 13 July 2018. Foundations within 5m of the top of the swales are classed as TC2 like foundations. The liquefaction summary plan is appended to this Completion report. Specifically, the requirements are:

- 0m – 1.5m no habitable dwellings to be built within 1.5 m of the swale crest.
- 1.5 – 5m adopt an enhanced TC2 _like foundation
- Beyond 5m of swale crest no specific requirements to mitigate liquefaction effects.

The Beca report refers to zones adjacent to the swales being in a TC2 type area as is defined in guidelines published by the Ministry of Business, Innovation and Employment (MBIE). MBIE recommends that TC2 type foundations should typically include 'an enhanced foundation slab' as is currently being installed for new houses in Christchurch. Alternatively, MBIE advises that houses may be supported on timber piles and a timber framed subfloor as detailed in NZS 3604 to meet a Type A construction as described in their guidelines. For Stage 13 none of the lots are affected by swale so no specific requirements are needed to mitigate liquefaction.

1.8.4 Expansive Soils

The underlying soil conditions are primarily non-expansive sand strata and shallow slightly expansive silt layers. Zones of fill are encountered across the sites, with deeper fill located in lots 369-371 (backfilling of old drainage ditches). The backfill is typically silty sand and not considered expansive. Overall, Stage 13 is underlain by non or slightly expansive soils. Any soils with a higher expansivity are expected to be limited in extent, and unlikely to result in changing the soil class.

For the purpose of foundation recommendations, Lots 369-371 can be treated as M Class sites. This is indicative of the greater depth of fill under these sites and therefore greater variability in the ground conditions. This is not to say the strata is moderately expansive, but that it may perform with comparable movement.

2.0 Disposal of Stormwater

Greenhill Park has been designed with a swale network to limit peak flows from the subdivision to 80 % of the 1 % AEP pre-development rate, and 90 % of the 10 % and 50 % AEP pre-development rates (Beca Ltd. [2016] Greenhill Park - Stormwater Design, for Chedworth Properties Ltd, 29 June 2016). Area M has been designed to include roadside swales flowing in an approximately east to west direction. Stage 13 includes of swale 1D. The depth of the swales has been designed to accommodate the fall and cover depth required of the piped drainage system. The piped drainage network has been designed to convey the 50 % AEP flows from roads and lots to the swale network, with each lot to be provided with a piped service connection. The stormwater plan is presented in the S&L Drawing 'Stormwater as Built DWGs reported separately.

All lots will require on-site stormwater efficiency measures as per the District Plan requirements (Rule 25.13.4.5 Water Efficiency Measures). These include:

1. Detention of stormwater to 80% of pre-development runoff by an appropriate means. This has largely been achieved by the swale network for events greater than the 50 % AEP storm. For the 50 % AEP and smaller events, the stormwater efficiency measures are expected to provide sufficient additional mitigation to achieve this requirement.
2. Permeable surfaces protected to achieve at least 20% above the minimum standard of the zone (i.e., 40 % site permeability).
    a. Sites within the Ruakura Medium Density Residential Zone require a minimum permeability of 20 % (Rule 4.6.5) and are limited to 50 % site coverage (Rule 4.6.6).
3. Rainwater tank for non-potable reuse system
4. Other equivalent features

Stormwater management must ensure that the rate of stormwater discharge offsite is at or below pre-development rates. Stormwater management measures shall be implemented, as appropriate, in accordance with the following drainage hierarchy:

1. Retention for reuse
2. Soakage techniques
3. Detention and gradual release to a watercourse
4. Detention and gradual release to stormwater reticulation.

Section 42 of the Subdivision Resource Consent (SRC) relating to Stages 9-15 state that "Each residential lot shall be provided with a means for disposal of stormwater, with no private stormwater pipes or soakage systems crossing from one lot to another except where covered by an easement"

Section 43 of the SRC states that water efficiency measures for the individual residential lots are to be detailed for each subdivision stage. "Where retention for reuse tanks is proposed they shall be a minimum of 5,000L to ensure they are effective or where the lot is less than 300m2 should be appropriately designed considering the specific site constraints. The required stormwater efficiency measure is to be implemented at the building consent stage and maintained on an on-going basis at the owners' expense".

Section 44 of the SRC requires a consent notice on each title advising of the required water efficiency measures to be implemented and maintained on an ongoing basis.

Section 55 of the SRC states the requirement for lot development to be undertaken in general accordance with the recommendations in the report: Greenhill Park Geotechnical Interpretation and Design – Area M, prepared by Beca Ltd., 13 July 2018.

In the Stage 13 development area, each site is to be tested for soakage capability by the property owners. For those sites that have a sufficient soakage capability, disposal of stormwater is to be undertaken onsite using soakage and/or bioretention systems with overflow to the lot stormwater service connection. Those sites that are not soakage viable are to retain stormwater for reuse by way of a Slimline Rain Tank or other similar type water tank. The size of the tank is to be 5000 litres and the tank is to be plumbed into the house for use as a non-potable water supply including for garden irrigation and in general accordance with the HCC guidelines for the Implementation of Water Efficiency Measures. The Slimline rain tank system is described in Appendix V. This requirement will be advised to purchasers and will be implemented through the building consent process by HCC. A consent notice is to be registered on the certificates of titles for each lot which describes these investigation and design requirements.

Details of the required stormwater measures are included in Appendix V, sourced from the Greenhill Park Design Guidelines.

3.0 Retaining Walls

There are no retaining walls that were constructed by the developer within stage 13.

4.0 Professional Opinion

It has been demonstrated in this Geotechnical Completion Report, that earthworks have been completed and building platforms have been constructed to comply with Council's ITS specifications and the New Zealand Building Code. Recommendations have been provided within the report for the disposal of stormwater from individual lots, for the ongoing development of the lots and for the mitigation of liquefaction risk where applicable.

In accordance with ITS Section 2.3.3.1, a statement of professional opinion is enclosed in Appendix II of this document. This statement is presented in the form of Checklist 2.2 of Council's Development Manual, Volume 4: Quality Systems for Land Development, and is accompanied by a *Summary of Geotechnical Data for Individual Lots* which summarizes the information and recommendations contained in this report.

5.0 Applicability

Recommendations contained in this document are based on data from observations of site earthworks, boreholes, and test results. Inferences about the nature and continuity of subsoils away from these locations are made but cannot be guaranteed.

In all circumstances, if variations in the subsoils occur which differ from those described or are assumed to exist, the site should be inspected by an engineer suitably qualified to make an informed judgement and provide advice on appropriate improvement measures.

This report has been prepared specifically for Stage 13 as shown for Lots: 357-374 DP543207 of Area M Stage 13 within the Greenhill Park Residential Subdivision. No responsibility is accepted by DB Consulting Engineers Ltd for the use of any part of this report for other development sites without their written approval.

DB Consulting Engineers Ltd

Report prepared by Ranjan Ghiloria

Report reviewed by Michael Richardson
CPEng 1005467 Geotechnical Engineer

February 2021

References

[1] Ruakura Land Development - LDP Geotechnical Factual Report by Beca, 15 April 2016.

[2] C. Hughes and K. Read, “Ruakura Development - Stage 1 Geotechnical Investigation – Liquefaction Potential Detailed Assessment,” Opus International Consultants, Ltd., Hamilton, New Zealand, 2014.

[3] M. Hughes and L. Shuler, “Report on Preliminary Geotechnical Investigation, Ruakura Development, Hamilton,” S&L Consultants, Ltd., Tauranga, New Zealand, 2015.

[4] “Section 2 Earthworks and Geotechnical Requirements,” in *Infrastructure Technical Specifications*, Hamilton, New Zealand, Hamilton City Council, 2013.

[5] “NZS 4404 Land Development and Subdivision Infrastructure,” in *New Zealand Standards*, Wellington, New Zealand, Standards New Zealand, 2010.

[6] “Greenhill Park - Geotechnical Interpretation and Design-Area 1" by Beca 28 October 2016.

[7] “Part 5: Earthquake Actions - New Zealand,” in *NZS 1170.5:2004 Structural Design Actions*, Standards New Zealand, 2004.

[8] "Greenhill Park Design Report - Area I (Stage 5, 6, 7 & 8) by Beca 20 December 2016

[9] “Clause B1: Structure,” in *Acceptable Solutions and Verification Methods For New Zealand Building Code*, Wellington, Ministry of Business, Innovation and Employment, 2014.

[10] “Part A: Technical Guidance,” in *Repairing and rebuilding houses affected by the Canterbury earthquakes*, Wellington, Ministry of Business, Innovation and Employment, 2012.

[11] “Clause E1: Surface Water,” in *Acceptable Solutions and Verification Methods For New Zealand Building Code*, Wellington, Ministry of Business, Innovation and Employment, 2014.

[12] “Section 4 Stormwater,” in *Infrastructure Technical Specifications*, Hamilton, New Zealand, Hamilton City Council, 2015.

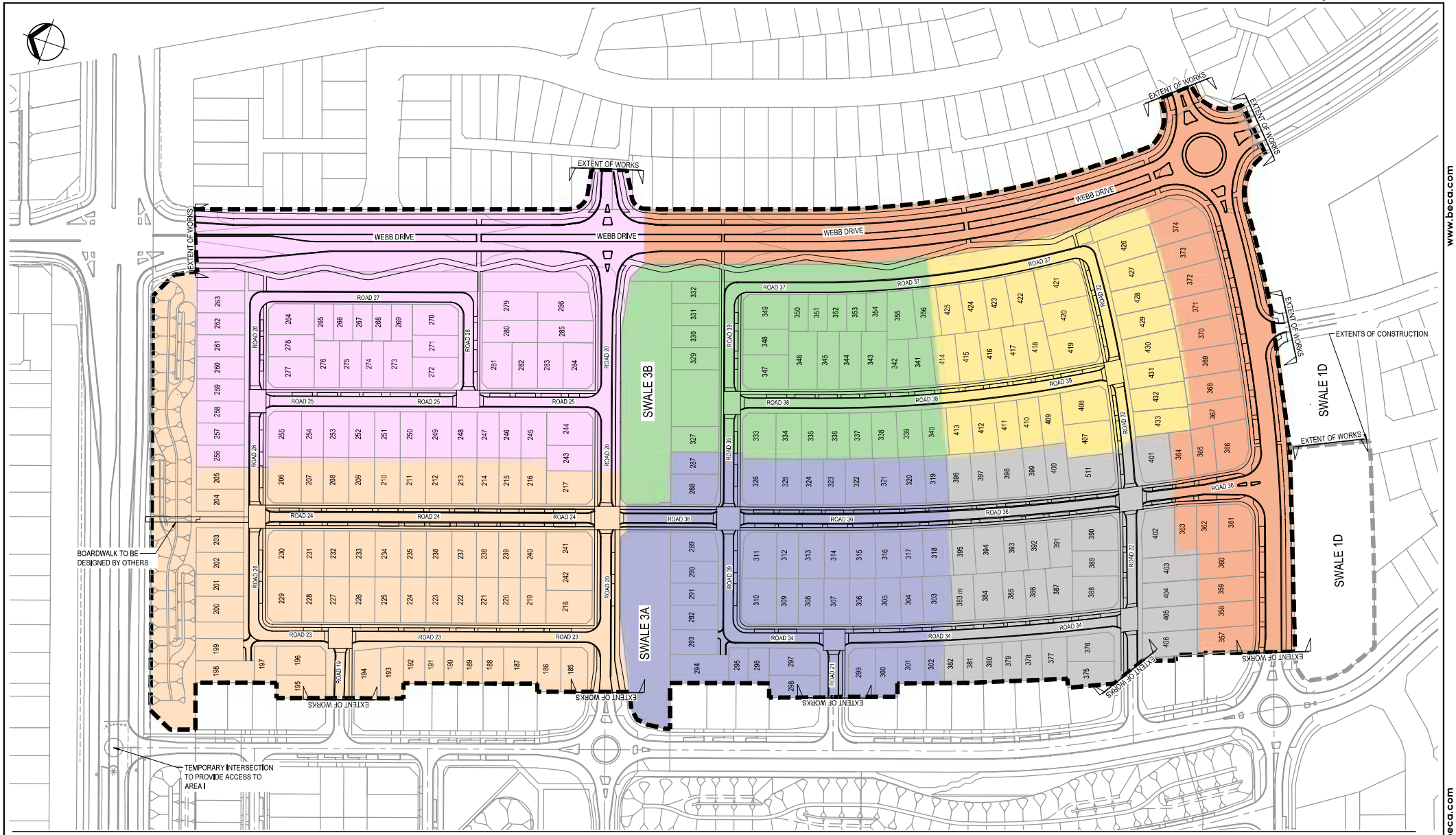
Appendix I *Reference Drawings*

Subdivision Plan

Cut/Fill Plan 21879-01-

M13-EW1 Site Levels Plan

Drawing Plotted: 08 Oct 2018 9:57 a.m.



LEGEND:

- AREA M EXTENTS
- STORMWATER CULVERT
- BASIN LOW FLOW CHANNEL
- AREA M - STAGE 9
- AREA M - STAGE 10
- AREA M - STAGE 11
- AREA M - STAGE 12
- AREA M - STAGE 13
- AREA M - STAGE 14
- AREA M - STAGE 15

NOTES:

1. EXTENT OF WORKS IS DEFINED AS THE "AREA M EXTENTS" AS SHOWN ON THE PLANS.
2. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH HAMILTON CITY COUNCIL INFRASTRUCTURE TECHNICAL SPECIFICATIONS (UNLESS OTHERWISE SPECIFIED).
3. DETAILS OF INTERFACING WITH OTHER PROJECT STAGES TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
1	FOR CONSTRUCTION	SM	PP	AJ	21.09.18

Drawing Originator: Beca

Original Scale (A1) 1:1000	Design	REMK	17.08.18
	Drawn	SM	17.08.18
Reduced Scale (A3) 1:2000	Dsg Verifier	GJC	17.08.18
	Dwg Check	GDC	17.08.18

Approved For Construction* AJ Date 21.09.18

* Refer to Revision 1 for Original Signature

Client: Chedworth Properties Limited

Project: AREA M

Title: ROADING AND EARTHWORKS GENERAL ARRANGEMENT

Discipline: CIVIL ENGINEERING

Drawing No. 3411915-CA-2010 Rev. 1

Document No. 3411915-CA-2010.DWG

DO NOT SCALE

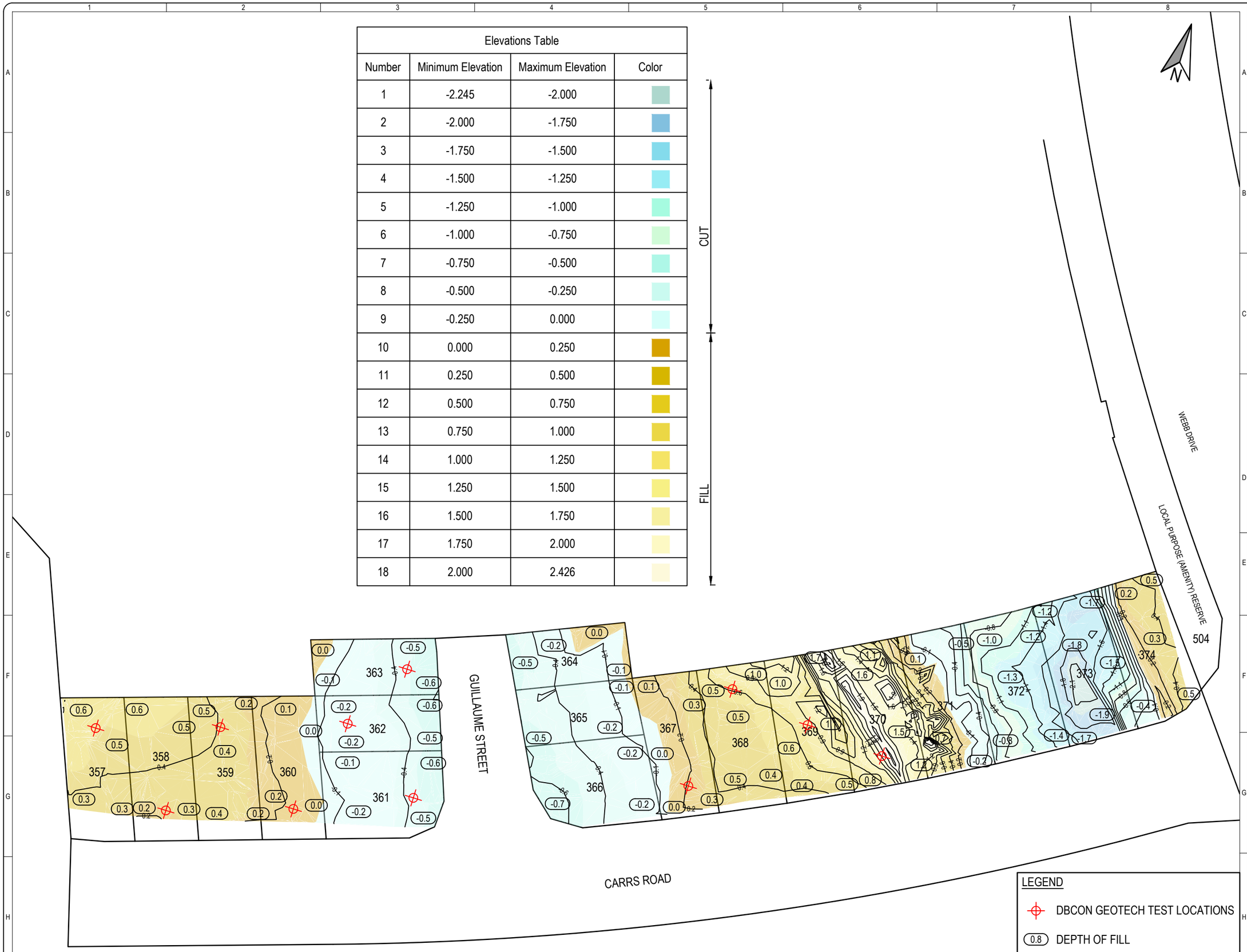
IF IN DOUBT ASK.

www.beca.com

Elevations Table			
Number	Minimum Elevation	Maximum Elevation	Color
1	-2.245	-2.000	
2	-2.000	-1.750	
3	-1.750	-1.500	
4	-1.500	-1.250	
5	-1.250	-1.000	
6	-1.000	-0.750	
7	-0.750	-0.500	
8	-0.500	-0.250	
9	-0.250	0.000	
10	0.000	0.250	
11	0.250	0.500	
12	0.500	0.750	
13	0.750	1.000	
14	1.000	1.250	
15	1.250	1.500	
16	1.500	1.750	
17	1.750	2.000	
18	2.000	2.426	

CUT

FILL



LEGEND

DBCON GEOTECH TEST LOCATIONS

(0.8) DEPTH OF FILL

CUT/FILL CONTOUR INTERVAL: 0.25M

SHRIMPTON & LIPINSKI

LAND DEVELOPMENT & DESIGN SPECIALISTS

Ph. 07 577 6069
Email: info@sltga.co.nz
P.O. Box 231, Tauranga 3140

www.sltga.co.nz

Rev	DESCRIPTION	DRN	CKD	APP	DATE
AB	AS-BUILT	NP	SC	SC	02/21

	NAME	DATE		NAME	DATE
SURVEYED	SRC		DESIGNED		

COORDINATE SYSTEM: MT EDEN 2000 CIRCUIT
ORIGIN OF COORDINATES: ALP3 DP 534481
HEIGHT DATUM: MOTURIKI DATUM
ORIGIN OF HEIGHT: SS 507 SO 42451 RL = 44.04

TITLE

CHEDWORTH PROPERTIES LTD GREENHILL PARK STG 13 CUT/FILL

PREPARED FOR

Chedworth Properties Limited — Greenhill

ORIGINAL SCALES @ A3	STATUS
1:750 DO NOT SCALE DIMENSIONS	AS-BUILT

DRAWING NO	REVISION
21879-01-M13-EW1	AB

LEGEND

FLOW ARROW

(39.2) SPOT HEIGHT (GROUND LEVEL)

LEVELS ARE TAKEN ON REPLACED TOPSOIL.
THIS PLAN IS NOT TO BE USED FOR DESIGN PURPOSES

SHRIMPTON & LIPINSKI
LAND DEVELOPMENT & DESIGN SPECIALISTS
Ph. 07 577 6069
Email: info@sltga.co.nz
P.O. Box 231, Tauranga 3140
www.sltga.co.nz

Rev	DESCRIPTION	DRN	CKD	APP	DATE
AB	AS-BUILT	NP	SC	SC	02/21

	NAME	DATE		NAME	DATE
SURVEYED	SRC	26/1/21	DESIGNED		

COORDINATE SYSTEM: MT EDEN 2000 CIRCUIT
ORIGIN OF COORDINATES: ALP3 DP 534481
HEIGHT DATUM: MOTURIKI DATUM
ORIGIN OF HEIGHT: SS 507 SO 42451 RL = 44.04

TITLE

SECTION LEVELS & FLOW GEOTECHNICAL REQUIREMENT STAGE 13 AREA M

PREPARED FOR

Chedworth Properties Limited
GREENHILL

ORIGINAL SCALES @ A3	STATUS
1:750 DO NOT SCALE DIMENSIONS	AS-BUILT
DRAWING NO	REVISION
21879-01-M13-G1	AB

Appendix II *Geotechnical Completion Forms*

Checklist 2.2 - Statement of Professional Opinion Summary of Geotechnical Data for Individual Lots
Summary of Geotechnical Data for individual Lots

NZS 4404: 2010 SCHEDULE2A (Checklist 2.2)

STATEMENT OF PROFESSIONAL OPINION AS TO SUITABILITY OF LAND FOR BUILDING CONSTRUCTION

Development: Greenhill Park Stage 13 **Developer:** Chedworth Properties Limited

At Pardoa Boulevard, Chartwell, Hamilton

I, Michael Richardson of DB Consulting Engineers, PO Box 1123, Taupo

Hereby confirm that:

1.0 I am a geo-professional as defined in clause 1.2.2 of NZS 4404:2010 and was retained by the developer as the geo- professional on the above development.

2.0 The extent of my inspections during construction, and the results of all tests carried out are described in my geotechnical completion report for Greenhill Park Area M Stage 13 dated November 2020 (reference 171738-AREA-M-S13-01)

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

a. The completed works give due regard to land slope and foundation stability considerations.

b. The site ground affected by engineered certified filling is suitable for the erection thereon of buildings designed according to the report recommendations provided that:

i. Lots 369-371 are subject to engineering review of foundations and specific design as required to address the deeper engineered fill in this location. An M Class Waffle slab or similar is expected as an appropriate foundation type for this area.

ii. All lots are subject to an engineering inspection during foundation excavations unless of further soils testing is carried out for building consent. Previous stages have not required further soils testing, but Council requirements are in the process of changing. Clarification should be sought from Council as to the the need for site specific soil testing. If in doubt, then 4 additional soils tests per lots should be carried out. We recommend construction supervision from an engineer should be carried out to confirm the shallow ground conditions are in accordance with this report and suitable for NZS3604 foundations for bearing strength.

4.0 This professional opinion is furnished to Hamilton City Council and the developer for their purposes alone on the express condition that it will not be relied upon by any other person and does not remove the necessity for the normal inspection of foundation conditions at the time of erection of any dwelling.

5.0 This certificate shall be read in conjunction with my geotechnical completion report referred to in clause 2 above and shall not be copied or reproduced except in conjunction with the full geotechnical completion report.

Signed **……** **Date: 26 February 2021**

Michael Richardson

Chartered Professional Engineer (Geotechnical)

CPEng 1005467

Summary of Geotechnical Data for Individual Lots

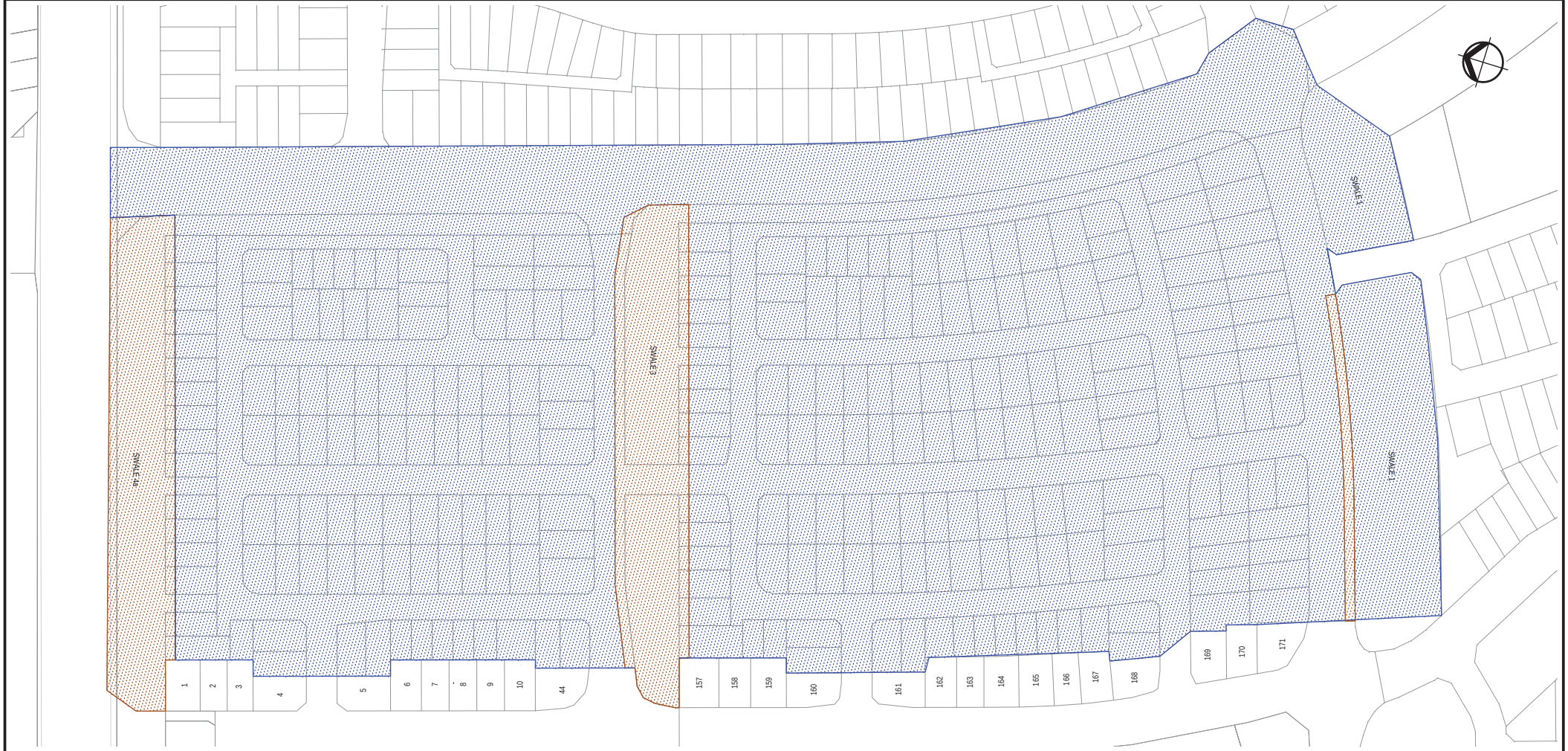
DP No:	TBC	Property Address	Greenhill Park, Stage 13, Hamilton	RC No:	11/2018/6632

Lot No:	Area (m^2)	Subsurface Data						Foundations		Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Reticulated	Designated Building Platform	Minimum Building Platform	Compressible Soils	On-site Effluent Disposal	Consent Notice	Comment
		Shear Strength (kPa)	Subdivision Filling		Natural Topography Unworked	Natural Topography Earthworked		Conventional Shallow Foundation to NZS 3604:2011	Specific Design										
			Y/N	Depth (m)	Y/N	Y/N	Depth (mm)	Y/N/NA	Y/N/NA										
357	500	Note 1	Y	0.3-0.4[2]	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
358	360	Note 1	Y	0.3-0.4[2]	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
359	360	Note 1	Y	0.4-0.5[2]	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
360	500	Note 1	Y	0.1-0.2[2]	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
361	450	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
362	300	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
363	300	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
364	305	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
365	305	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
366	450	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
367	400	Note 1	Y	0.2-0.4[2]	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
368	450	Note 1	Y	0.5-0.6[2]	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
369	450	Note 1	Y	0.9-1.2[2]	N	Y	200[2]	N	Y	N	Y	Y[4]	N	N	N	N	N	Y	
370	450	Note 1	Y	1.1-1.9[2]	N	Y	200[2]	N	Y	N	Y	Y[4]	N	N	N	N	N	Y	
371	435	Note 1	Y	0.1-0.7[2]	N	Y	200[2]	N	Y	N	Y	Y[4]	N	N	N	N	N	Y	
372	470	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
373	440	Note 1	N	-	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	
374	425	Note 1	Y	0.2-0.5[2]	N	Y	200[2]	Y	N	N	Y	Y[4]	N	N	N	N	N	Y	

NOTES:
1) Testing undertaken with Shera vane and NDM (Nuclear Density Meter)
2) This considers approximately 200mm of topsoil removal across all lots prior to subdivision filling.
3) Setback required for properties adjacent swales. TC2 type foundation to be adopted within 1.5m-5m from top of slope, no foundations to be constructed <1.5m from top of slope, No specific engineer design required >5m from top of slope
4) Soakage testing required on individual lots. Ground soakage and stormwater storage devices required

Appendix III *Pre-Construction Assessment (exerts)*
BECA Area M Liquefaction Assessment Summary Plan

Drawing Plotted: 14 Mar 2018 2:49 p.m.



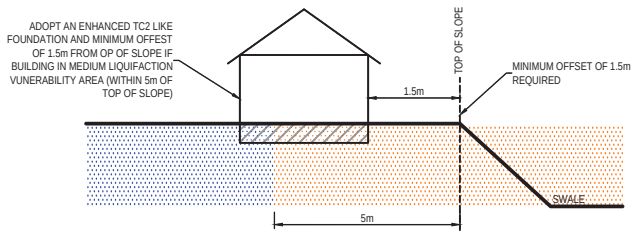
KEY

EXTENT OF AREA M

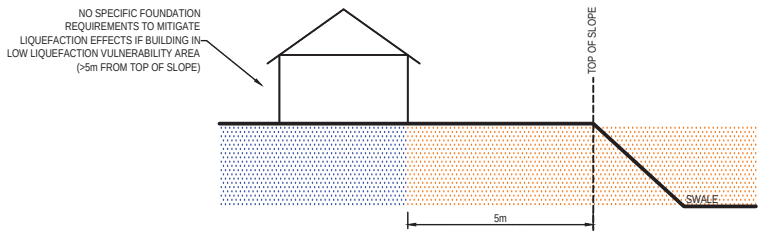
MEDIUM LIQUEFACTION VULNERABILITY
- MINOR TO MODERATE LIQUEFACTION-INDUCED GROUND DAMAGE IN 500 YEAR EARTHQUAKE
- TO MITIGATE LIQUEFACTION AND SEISMIC SLOPE INSTABILITY EFFECTS ADOPT LIQUEFACTION MITIGATION OPTION 1 OR 2.

LOW LIQUEFACTION VULNERABILITY
- NONE TO MINOR LIQUEFACTION-INDUCED GROUND DAMAGE IN 500 YEAR EARTHQUAKE.
- NO SPECIFIC REQUIREMENTS TO MITIGATE LIQUEFACTION EFFECTS.

LIQUEFACTION MITIGATION OPTION 1:



LIQUEFACTION MITIGATION OPTION 2:



FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
A	FOR INFORMATION	SM	MP	PR	12.03.18

Drawing Originator:

Original Scale (A1) 1:3000
Reduced Scale (A3) 1:6000

Design	MLP	27.09.16	Approved For Construction*
Drawn	SM	12.03.18	
Dsg Verifier	EAR	12.03.18	
Dwg Check			Date

* Refer to Revision 1 for Original Signature

Client: Chedworth

Project:

Title: AREA M LIQUEFACTION ASSESMENT SUMMARY PLAN

Discipline: GEOTECHNICAL
Drawing No.: 3411915-GC-K068
Rev.: A

Document No.: 3411915-GC-K068.DWG

DO NOT SCALE

IF IN DOUBT ASK.

Appendix IV *Post-Construction Test Results*

Completion Testing by DCBE Ltd

SHRIMPTON & LIPINSKI
LAND DEVELOPMENT & DESIGN SPECIALISTS
PH 07 577 8069
EMAIL info@sandl.co.nz
P.O. BOX 231, TAURANGA 3140
www.sandl.co.nz

CUT

FILL

WEBB DRIVE

LOCAL PURPOSE (AMENITY) RESERVE

GUILLAUME STREET

CARRS ROAD

357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 504

LEGEND

DBCON GEOTECH TEST LOCATIONS

(0.8) DEPTH OF FILL

CUT/FILL CONTOUR INTERVAL: 0.25M

Rev	DESCRIPTION	DRN	CKD	APP	DATE
AB	AS-BUILT	MP	SC	SC	02/21

	NAME	DATE		NAME	DATE
SURVEYED	BRC		DESIGNED		

COORDINATE SYSTEM: MT EDEN 2000 CIRCUIT
ORIGIN OF COORDINATES: ALP3 DP 534481
HEIGHT DATUM: MOTURIKI DATUM
ORIGIN OF HEIGHT: SS 507 SO 32451 RL = 44.04

TITLE

CHEDWORTH PROPERTIES LTD GREENHILL PARK STG 13 CUT/FILL

PREPARED FOR

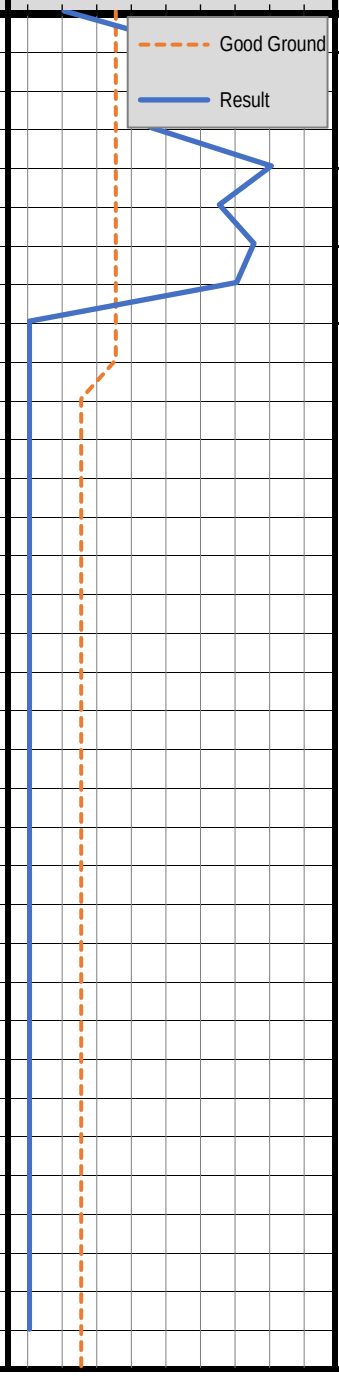
ORIGINAL SCALES @ A3: 1:750 — DO NOT SCALE DIMENSIONS
STATUS: AS-BUILT

DRAWING NO: 21879-01-M13-EW1
REVISION: AB

C:\Users\m.storey\AppData\Local\Temp\Temp1_21879-01 - CADM - Stage 13 Cut Fill and Geotech Plans - Autocad.zip\21879-01 - CADM - Stage 13 Cut Fill and Geotech Plans.dwg - Plotted: 26/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	1	Lot 357

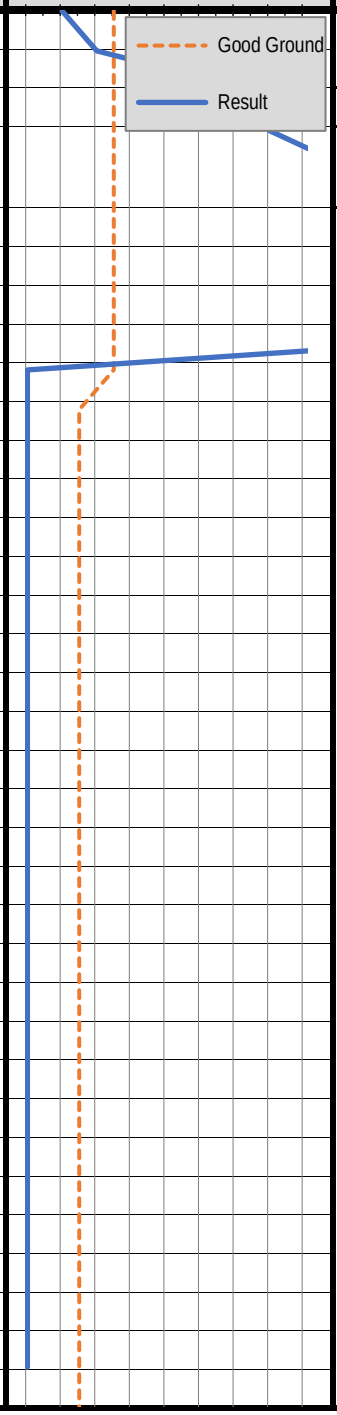
Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		2		Topsoil	
200		10		SILT with gravels and sand, light greyish brown, medium dense, moist.	
300		7			
400		7			
500		14		Sand with minor silt, coarse gravels, brown, dense to very dense, moist.	
600		11			
700		13		EOB at 0.7m Unable to pentrate due to coarse gravel.	
800		12			
900					
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	28/01/2021	**2**	Lot 358

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		2		Topsoil	
200		4			
300		13		Silt with gravel and sand, brown	
400		14		EOB @ 0.4m Unable to penetrate due to coarse gravel	
500		19			
600		25			
700		32			
800		27			
900		34			
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					
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2000					
2100					
2200					
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2400					
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2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

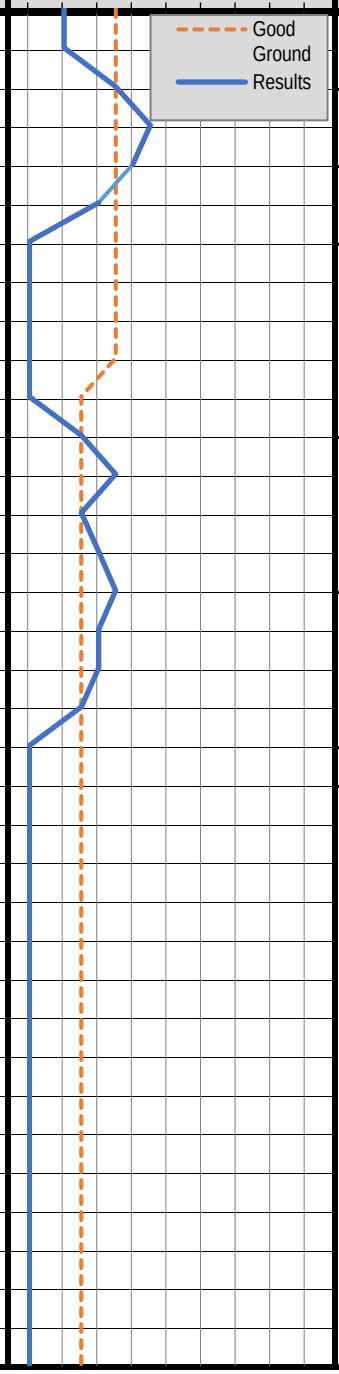
Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	**3**	Lot 359

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Soil Description	Water Table
100		2	Topsoil	
200		2		
300		5	Silty SAND, gravels, brown, dense, moist.	
400		7		
500		6	SAND, with trace gravels, dense, moist.	
600		4		
700	128/28		Clayey SILT, trace sand, yellowish brown, very stiff, moist.	
800				
900	117/21			
1000				
1100				
1200		3	SAND, trace silt, brown, medium dense, moist.	
1300		5		
1400		3		
1500		4		
1600		5	SAND, medium to coarse, medium dense, moist.	
1700		4		
1800		4		
1900		3		
2000			EOB at 2.0m	
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				

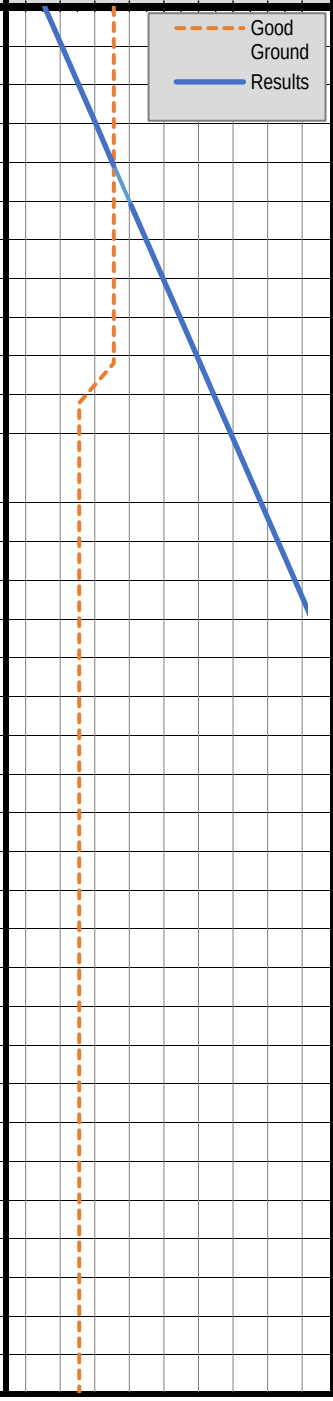


Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1. Weather leading up to test was:
2. Ground water was not encountered during testing
3. Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4. Shear Vane records include Re-moulded values where possible
5. Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	28/01/2021	4	Lot 360

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		1		Topsoil	
200		3			
300		9		Sand, some silt, dense, light brown	
400		21+			
500		Refusal			
600					
700				Sand, light brown, gravel	
800					
900				Sand, minor clay, light brown	
1000					
1100					
1200				EOB @ 1.2m unable to penetrate due to coarse gravel	
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

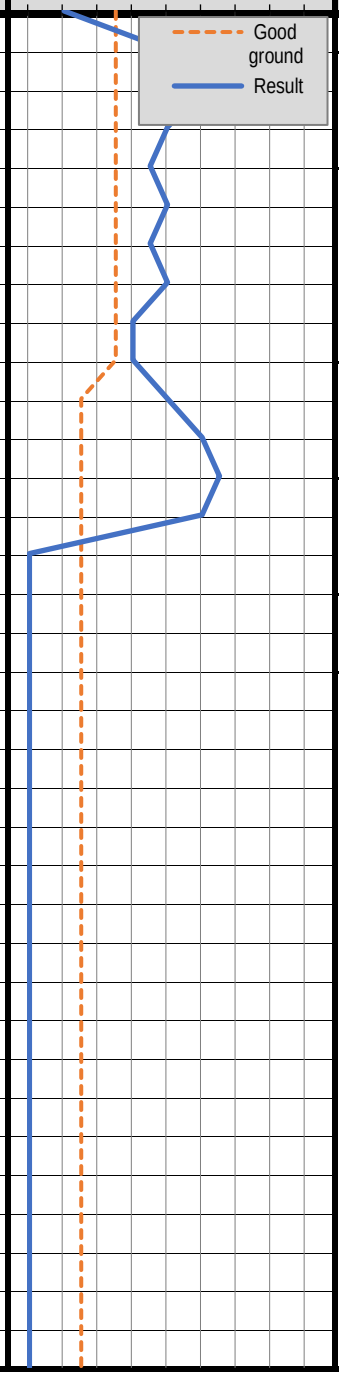
Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	**5**	Lot 361

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Soil Description	Water Table
100		2	Topsoil	
200		8	Silty SAND, light brown, dense, moist.	
300		10		
400		8		
500		7	SAND, trace silt, yellowish brown, dense, moist.	
600		8		
700		7		
800		8		
900		6		
1000		6	Silkty SAND, brown, medium dense to dense, moist	
1100		8		
1200		10		
1300		11	SAND, with gravels, brownish orange, dense to very dense, moist.	
1400		10		
1500		Refusal		
1600			EOB at 1.6m Unable to penetrate due to coarse gravels.	
1700				
1800				
1900				
2000				
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				

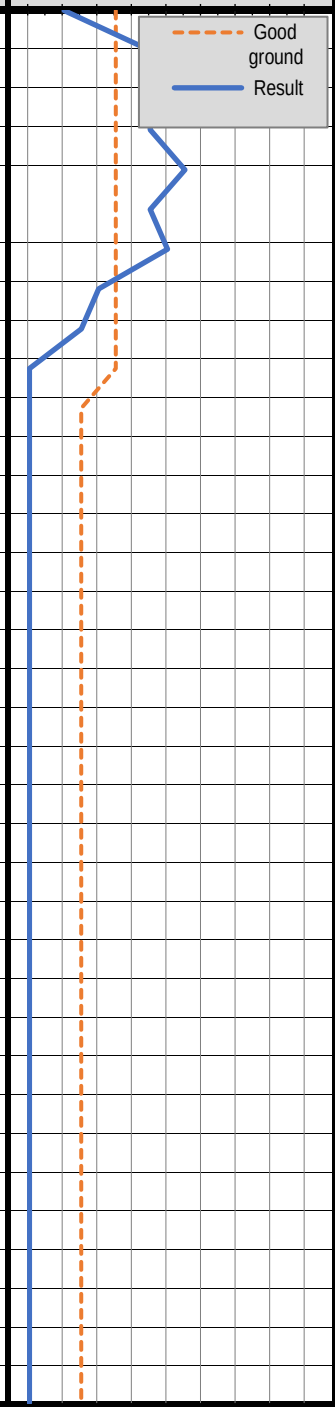


Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	28/01/2021	**6**	Lot 362

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		2		Topsoil	
200		7			
300		7		Silty SAND, brown	
400		7			
500		9		EOB @ 0.5m unable to penetrate due to coarse gravel	
600		7			
700		8			
800		4			
900		3			
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
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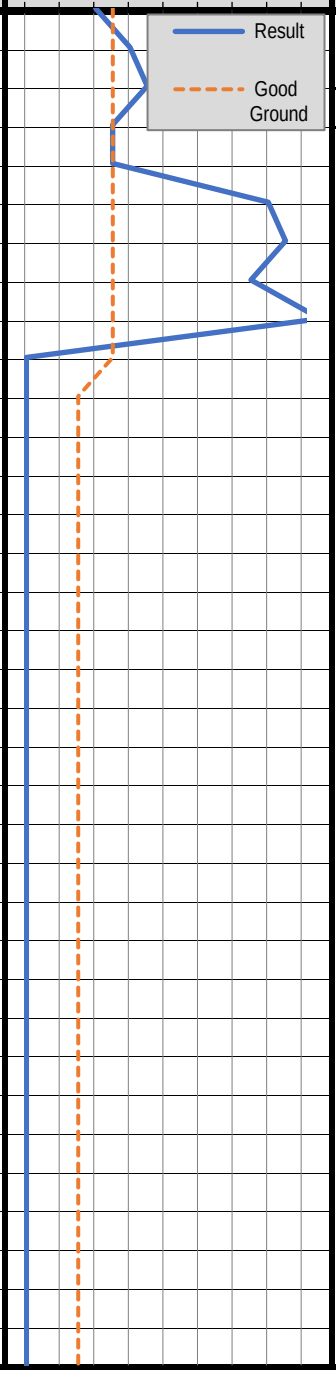
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	28/01/2021	7	Lot 363

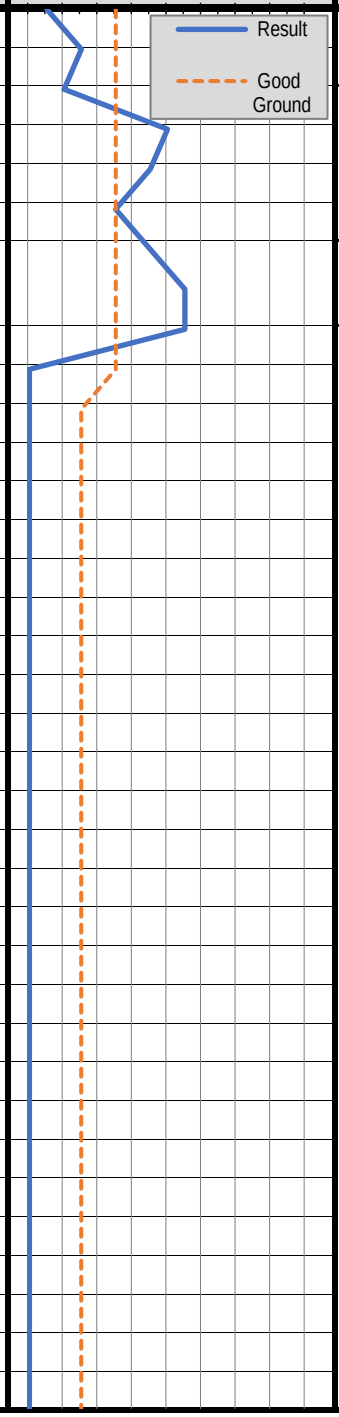
Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		4		Topsoil	
200		6			
300		7		UTP @ 0.3m due to coarse gravel	
400		5			
500		5			
600		14			
700		15			
800		13			
900		17			
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	**Date**	**Sheet No.**	**Test Site**
Jessel Lawda	28/01/2021	**8**	Lot 364

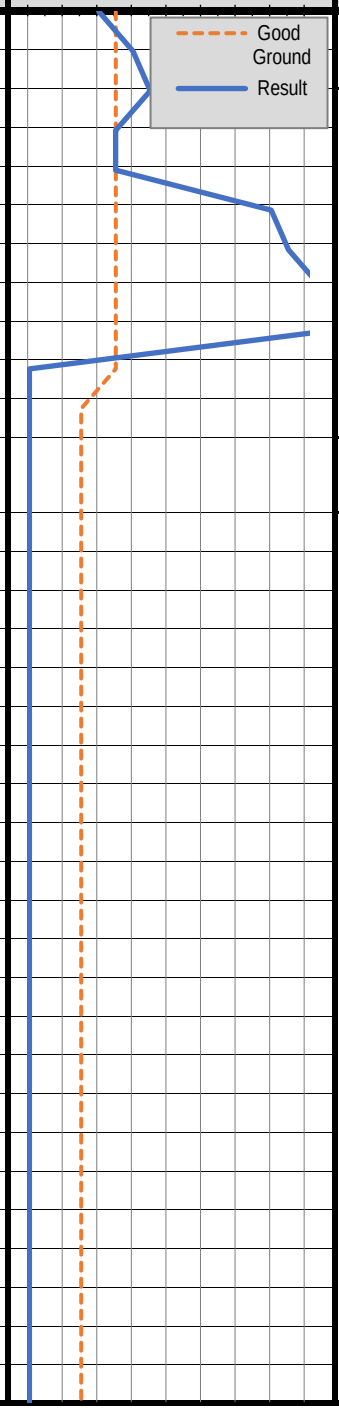
Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		1		Topsoil	
200		3			
300		2		Sand, minor silt, light/dark brown	
400		8			
500		7			
600		5			
700		7		EOB @ 0.7m unable to penetrate due to coarse gravel	
800		9			
900		9			
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	28/01/2021	9	Lot 365

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		4		Topsoil	
200		6			
300		7		Sand, some siltt loose, light brown	
400		5			
500		5			
600		14			
700		15			
800		17			
900		18			
1000					
1100					
1200				EOB at 1.2m, unable to penetrate due to coarse gravel	
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	**10**	Lot 366

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		3	Good Ground / Result	Topsoil	
200		3			
300		2		Sity SAND, light greyish brown, medium desne, moist.	
400		6			
500		13			
600		15		SAND, greyish brown, dense, moist.	
700		10			
800		6			
900		6			
1000		6			
1100		13			
1200		15		EOB at 1.2m Unable to penetrate due to coarse gravel.	
1300		10			
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	28/01/2021	11	Lot 367

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		5	Good Ground / Result	Topsoil	
200		2			
300		5		EOB @ 0.3m due to coarse gravel	
400		8			
500		9			
600		9			
700		4			
800		3			
900		3			
1000					
1100					
1200		6			
1300		7			
1400		6			
1500		5			
1600		7			
1700		6			
1800		6			
1900		7			
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

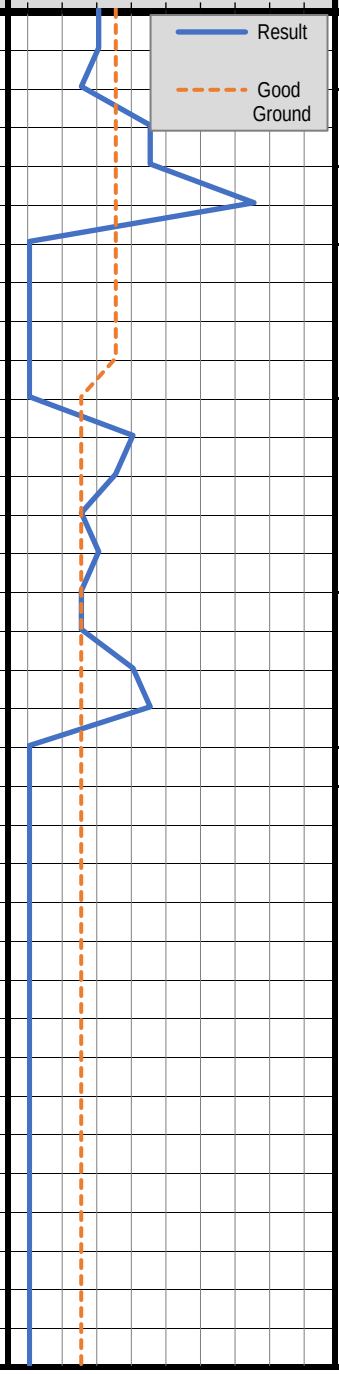
Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	**12**	Lot 368

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Soil Description	Water Table
100		4	Topsoil with silt and gravels.	
200		4		
300		3	SILT, some sand, brown, medium desne, moist.	
400		7		
500	180+/	7	Clayey SILT, trace sand, brown, very stiff, moist.	
600		13		
700	153/43		trace garvels	
800				
900				
1000				
1100			Silty SAND, brown, medium dense, moist.	
1200		6		
1300		5		
1400		3		
1500		4		
1600		3	Silty CLAY, trace sand, brownish orange, moist.	
1700		3		
1800		6		
1900		7		
2000			EOB AT 2..0m	
2100				
2200				
2300				
2400				
2500				
2600				
2700				
2800				
2900				
3000				
3100				
3200				
3300				
3400				
3500				



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1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	28/01/2021	**13**	Lot 369

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Result / Good Ground	Topsoil	
200					
300				Sand, loose, brown	
400					
500	120+				
600				Silty clay, brown streaked orange	
700	154/55				
800					
900	124/47				
1000				UTP @ 1m due to coarse gravel	
1100					
1200					
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13 Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
Jessel Lawda	18/02/2021	**19**	Lot 369a

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Good Ground / Result	Topsoil with silt, greiysh brown, dry	
200					
300				Clay, some silt, brownish orange, moist (FILL)	
400					
500	165/45				
600				Silty CLAY, brownish orange, (FILL)	
700					
800	180+/				
900					
1000					
1100					
1200		5		Silty SAND, brown with trace gravel (NATURAL)	
1300		9			
1400		5			
1500		8			
1600		7		Sand trace silt brown moist (NATURAL)	
1700		8			
1800		5			
1900		5			
2000				EOB @ 2m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	**14**	Lot 370

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Good Ground / Result	Topsoil with silt.	
200					
300	180+/			CLAY, some silt, brownish orange, very stiff, moist.	
400					
500					
600	180+/			Silty CLAY, brownish orange, very stiff, moist.	
700					
800					
900	138/57				
1000					
1100					
1200				CLAY, some silt, brownish orange, very stiff, moist.	
1300					
1400					
1500	153/50				
1600				Silty CLAY, minor sand, brownish orange, very stiff, moist.	
1700					
1800					
1900	128/43				
2000				EOB at 2.0m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

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1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13 Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	**Date**	**Sheet No.**	**Test Site**
Jessel Lawda	18/02/2021	20	Lot 370a

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Good Ground / Results	Topsoil	
200				Silty SAND, gravel, light greyish brown (FILL)	
300					
400					
500				Silty SAND, trace gravel (FILL)	
600	180+/			Silty CLAY, greyish brown, streaked white, moist, (FILL)	
700					
800					
900					
1000					
1100					
1200	180+/45				
1300					
1400					
1500	160/60			Clay, some silt, brownish orange, moist (NATURAL)	
1600					
1700					
1800					
1900	128/43				
2000				EOB @ 2m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
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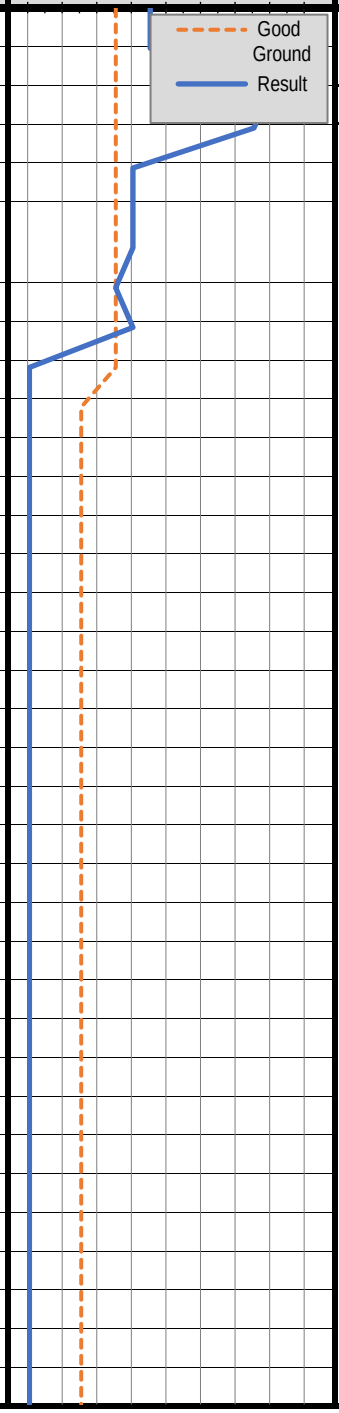
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	**Date**	**Sheet No.**	**Test Site**
Jessel Lawda	28/01/2021	**15**	Lot 371

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		7		Topsoil	
200		7			
300		14		UTP @ 0.3m due to coarse gravel	
400		13			
500		6			
600		6			
700		6			
800		5			
900		6			
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					
1800					
1900					
2000					
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

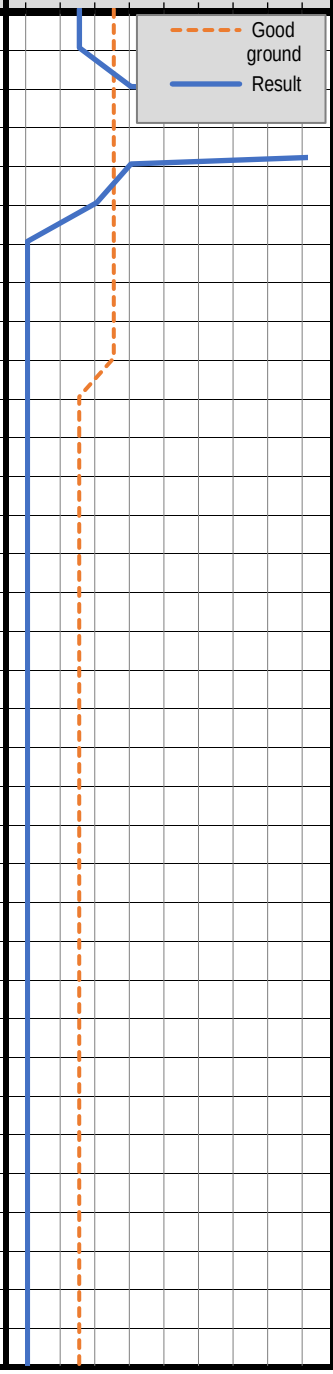


Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13 Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	**Date**	**Sheet No.**	**Test Site**
Jessel Lawda	18/02/2021	**21**	Lot 371a

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100		3		Topsoil, silt	
200		3		Silt, greyish brown, moist (FILL)	
300		6			
400		67			
500		6			
600		4			
700	180+/			Silty CLAY, brownish orange, moist (NATURAL)	
800					
900	180+/				
1000				Clay, trace silt, brownish orange, moist (NATURAL)	
1100					
1200	115/65				
1300					
1400					
1500	87/43				
1600					
1700					
1800					
1900					
2000				EOB @ 2m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

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2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	**16**	Lot 372

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Good Ground / Result	Topsoil with silt.	
200					
300	180+/			CLAY, some silt, brownish orange, very stiff, moist.	
400					
500					
600	180+/				
700				CLAY, trace silt, brownish orange, very stiff, moist.	
800					
900	180+/				
1000					
1100					
1200				CLAY, some silt, brownish orange, streaked white, very stiff, moist.	
1300	180+/				
1400					
1500					
1600	180+/			Silty CLAY, light brown, moist, streaked white, trace mica, very stiff, moist.	
1700					
1800					
1900	140/50				
2000				EOB at 2.0m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	Date	Sheet No.	Test Site
RG	28/01/2021	**17**	Lot 373

Depth (mm)	Undrained Shear (kPa)	No of blows /100mm	Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Result / Good Ground	Topsoil	
200					
300	180+/			CLAY, some silt, brownish orange, very stiff, moist.	
400					
500					
600	180+/				
700					
800				CLAY, trcae silt, trace sand, trace mica, brownish orange, dry.	
900	UTP				
1000					
1100					
1200	180+/			CLAY, some silt, brownish orange, very stiff, moist.	
1300					
1400					
1500					
1600	130/28			Silty CLAY, brownish orange, very stiff, moist.	
1700					
1800					
1900	121/31				
2000				EOB at 2.0m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: 2641 Exp. Date: 02/06/2021

DB CONSULTING ENGINEERS

Project Name		Job Ref.	
Area M, Stage 13, Greenhill Park, Hamilton		171738-AREA-M-S13-01	
Tested by	**Date**	**Sheet No.**	**Test Site**
Jessel Lawda	28/01/2021	**18**	Lot 374

Depth (mm)	Undrained Shear (kPa)		Scala Penetrometer (Blows/100mm) 0 2 4 6 8 10 12 14 16	Soil Description	Water Table
100			Good Ground / Result	Topsoil	
200					
300	120+			Silty CLAY, minor sand, light brown	
400					
500					
600	120+			Silty CLAY, light brown	
700					
800				Clayey SILT, trace sand, dark brown streaked white	
900	139/49				
1000					
1100					
1200	120+				
1300					
1400					
1500	120+			Clayey SILT, light brown, very stiff, low plasticity,	
1600					
1700					
1800					
1900	120+				
2000				EOB @ 2m	
2100					
2200					
2300					
2400					
2500					
2600					
2700					
2800					
2900					
3000					
3100					
3200					
3300					
3400					
3500					

Notes: EOB = End Of Borehole UTP = Unable To Penetrate UTE = Unable To Extract

1 Weather leading up to test was:
2 Ground water was not encountered during testing
3 Shear Vane readings are converted readings, as per calibration Certificate. (Values are undrained shear strength)
4 Shear Vane records include Re-moulded values where possible
5 Shear Vane Serial No.: C365 Exp. Date: 04/02/2021

Appendix V *Stormwater Management*
On-lot Water Efficiency Measures
Lot Levels (Minimum Lot Levels)

ON-LOT WATER EFFICIENCY MEASURES

WATER SUPPLY AND WASTEWATER DISPOSAL

The efficiency of taps, showers and toilets contribute to how much water we use. A reduction in the use of potable water by each house directly relates to the amount of wastewater generated (i.e. reduced water use results in reduced wastewater generation). To reduce potable water demand and the amount of wastewater generated, as a minimum, each house is required to install low demand fittings for kitchen, bathroom and laundry facilities.

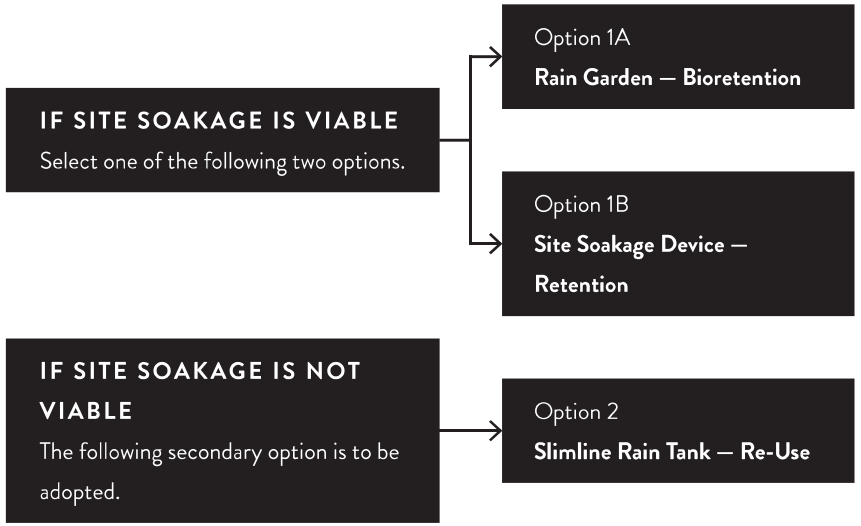
All household fittings are required to have a minimum 3 Star Rating.

STORMWATER DISPOSAL

Each lot is required to adopt an on-lot stormwater efficiency measure to ensure that surface water runoff is appropriately managed.

First, the suitability of the site for soakage needs to be assessed. Soakage is the process of helping stormwater soak into the ground using specially designed soakage devices. Soakage allows for the infiltration of stormwater into the soil which recharges the groundwater table below.

A site infiltration test is mandatory for all lots to confirm the in-situ soils are capable of achieving the minimum percolation rates. Refer to Hamilton City Council 'Three Waters Practice Note HCC 03: Soakage' for guidance on soil testing.



* Other alternative stormwater efficiency options will also be considered subject to approval by Greenhill Park and Hamilton City Council.

The selected option is to be designed by a suitably qualified Engineer and approved by the Hamilton City Council Building Control Unit. Refer to page 33 to 36 of these guidelines for further information of the design requirements for Options 1A, 1B & 2.

Hamilton City Council also encourages the installation of multiple stormwater efficiency options within a property, where practical.

Option 1A

RAIN GARDEN — BIORETENTION

Design to provide minimum 'live storage' retention for runoff from a 10mm rainfall event for trafficked hardstand areas.

The following table outlines indicative storage volumes and estimated rain garden areas for a range of lot sizes.

Lot Area (m^2)	**Live Storage Volume** (m^3)	**Rain Garden Area** (m^2)
300	0.8	4.1
350	0.9	4.7
400	1.1	5.4
450	1.2	6.1
500	1.4	6.8
550	1.5	7.4

Based on hardstand coverage equal to 30% of total lot area

KEY REQUIREMENTS

- Rain garden to be located to capture runoff from main hardstand areas within the lot (as much as practical).
- Maximum live storage depth to be 300mm (safety requirements to be considered when device is at maximum storage capacity).
- A channel and grate to be installed across vehicle entrance to capture hardstand run off and direct it to rain garden.
- Rain garden to be integrated with garden design (refer to page 34 for details).
- Overflow to be connected to stormwater connection provided.

FOR MORE INFORMATION

Refer to Hamilton City Council 'Three Waters Practice Note — HCC04 — Bio-retention (Rain Gardens)' for information on typical design requirements.

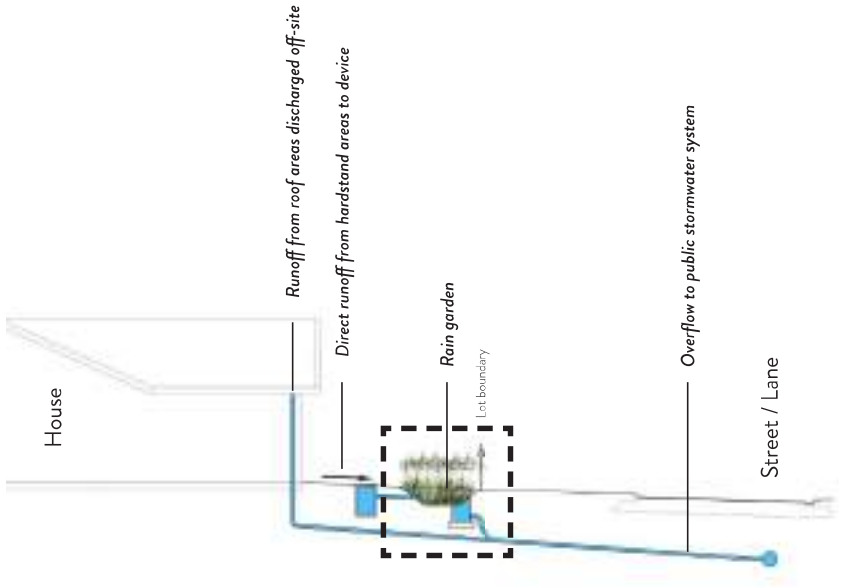


DIAGRAM — **7**
Rain Garden — Bioretention

GREENHILL PARK RAIN GARDEN PLANT LIST

Native plants are encouraged, but other exotic plant species which complement your front yard planting design could be used. Deciduous plants should not be used as their leaf-fall can block the outflow.

The plants selected need to —

- Be able to tolerate short periods of inundation and longer dry periods
- Be perennial rather than annual
- Have deep fibrous root systems and a spreading growth form
- Form a dense, weed-suppressing cover

Botanical Name	Common Name
Apodasmia similis	oioi
Blechnum penna-marina	alpine hard fern
Libertia ixioides	mikoikoi
Carex dipsacea	teasel sedge
Carex secta	purei
Carex virgata	pukio
Dianella nigra	turutu
Libertia grandiflora	mikoikoi
Lobelia angulata	panakenake
Pimelea prostrata	pinatoro

All rain garden plants to be a minimum grade of Pb 8 at the time of planting. * Other plant species can be approved at the discretion of the Design Review Panel.

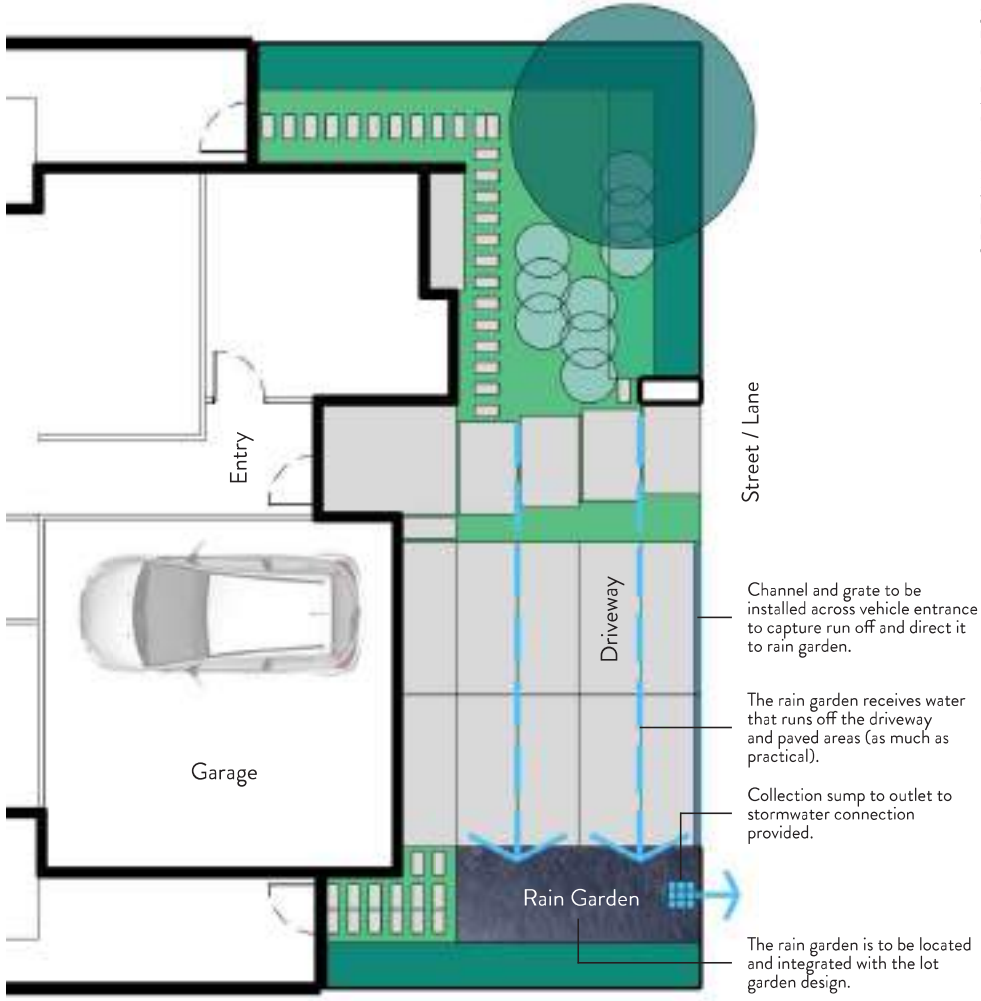


DIAGRAM — **8**

Rain Garden Typical Location

Option 1B

SITE SOAKAGE DEVICE – RETENTION

Design to provide minimum 'live storage' retention for runoff from a 10mm rainfall event for roof and trafficked hardstand areas.

The following table outlines indicative storage volumes for a range of lot sizes.

Lot Area (m^2)	**Live Storage Volume** (m^3)
300	2.2
350	2.6
400	3.0
450	3.4
500	3.7
550	4.1

Based on 80% site coverage (roof and hardstand areas)

KEY REQUIREMENTS

- Soakage device(s) to be located to capture runoff from roof downpipes and hardstand areas (as much as practical).
- A channel and grate to be installed across vehicle entrance to capture hardstand run off and direct it to soakage device.
- Soakage device to be integrated with garden design.
- Overflow to be connected to stormwater connection provided.

FOR MORE INFORMATION

Refer to Hamilton City Council 'Three Waters Practice Note HCC 03: Soakage' for information on typical design requirements.

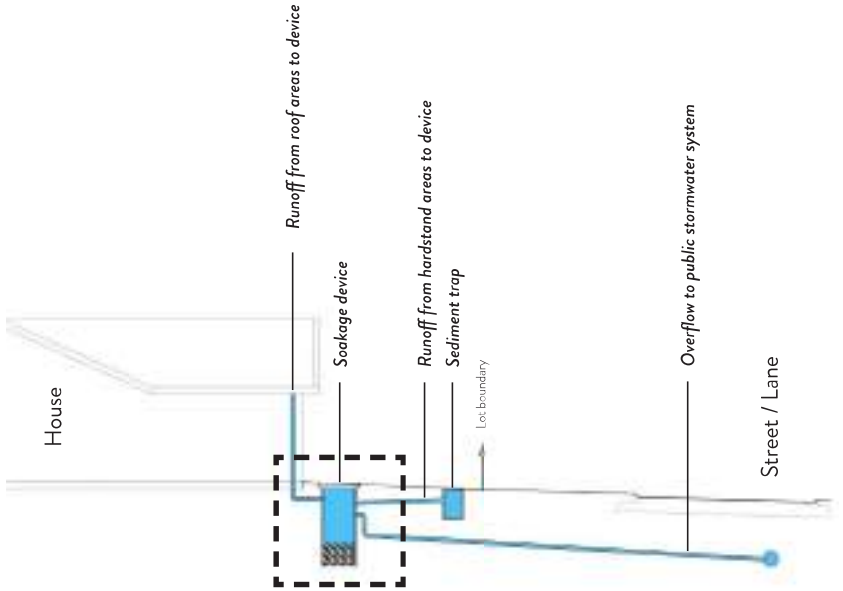


DIAGRAM – **9**

Site Soakage Device – Retention

Option 2

SLIMLINE RAIN TANK — RE-USE

The slimline rain tank is to be connected to a separate grey-water household re-use system with a minimum capacity of 5,000L.

KEY REQUIREMENTS

- Rain tank to be connected into a fully integrated grey-water re-use system within the main dwelling with connections to toilets, laundry and irrigation systems.
- All roof run-off is to be captured by rain tanks and available for re-use. Run-off from hardstand areas (driveways and paving) can be discharged directly into stormwater connection provided.
- A maximum of two (2) tanks may be used to achieve the required storage and align with downpipe locations.
- Overflow to be connected to stormwater connection provided.

LOCATION AND INSTALLATION

Slimline rain tanks should be placed in the rear or side yard of the lot as unobtrusively as possible. Care should be taken, where tanks are placed next to the house, to ensure they are placed adjacent to a blank wall and not infront of a window.

COLOUR

The colour of all rain tanks should match the colour of the homes exterior wall cladding adjacent to the tank.

* Colours that do not match but are complementary to the design and materials of the house can be approved at the discretion of the Design Review Panel.

FOR MORE INFORMATION

Refer to Hamilton City Council 'Three Waters Practice Note — HCC02 —Rainwater Re-use Systems (Rain Tanks)' for information on design requirements.

APPROVED RAIN TANK PRODUCTS

Tanksalot® Slimline Tank www.tanksalot.co.nz

ThinTanks™ NZ Slimline Rainwater Poly Tank www.thintanks.co.nz

* Other rain tank products will also be considered subject to approval by Greenhill Park.

Note below ground tanks (sealed tanks only) are also considered an appropriate design option and are pre-approved for use on this subdivision.

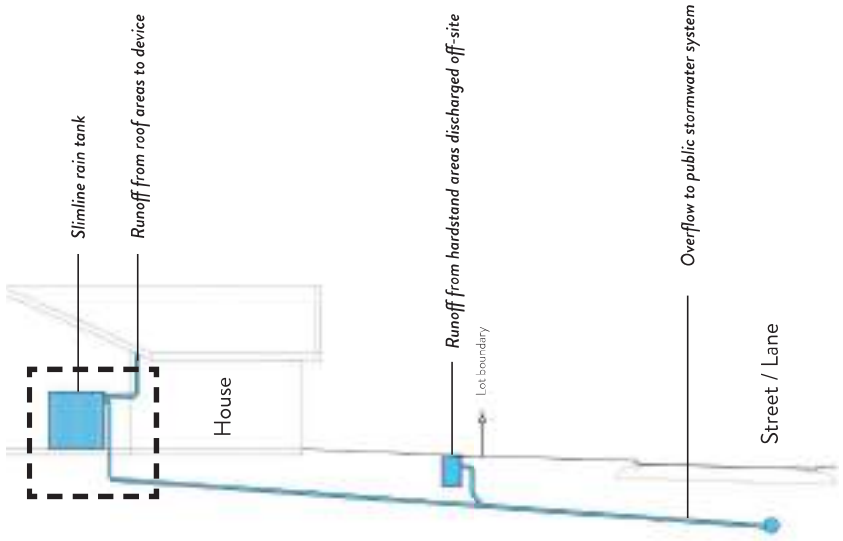


DIAGRAM — **10**

Slimline Rain Tank — Re-use

Lot	Stage	Minimum Lot Level (mRL)	1% AEP Flood Level (mRL)	Flood Level Reference	Calculated Freeboard (to Lot Level - m)
347	12	38.703	36.46	Swale 3B	2.243
348	12	38.700	36.46	Swale 3B	2.240
349	12	38.751	36.46	Swale 3B	2.291
350	12	39.039	36.46	Swale 3B	2.579
351	12	39.109	36.46	Swale 3B	2.649
352	12	39.179	36.46	Swale 3B	2.719
353	12	39.248	36.46	Swale 3B	2.788
354	12	39.317	36.46	Swale 3B	2.857
355	12	39.393	36.46	Swale 3B	2.933
356	12	39.486	36.46	Swale 3B	3.026
357	13	38.500 [a]	38.00	Swale 1D	0.500
358	13	38.500 [a]	38.00	Swale 1D	0.500
359	13	38.500 [a]	38.00	Swale 1D	0.500
360	13	38.500 [a]	38.00	Swale 1D	0.500
361	13	38.670	38.00	Swale 1D	0.670
362	13	38.696	38.00	Swale 1D	0.696
363	13	38.925	38.00	Swale 1D	0.925
364	13	38.802	38.00	Swale 1D	0.802
365	13	38.681	38.00	Swale 1D	0.681
366	13	38.610	38.00	Swale 1D	0.610
367	13	39.145	38.00	Swale 1D	1.145
368	13	39.300	38.00	Swale 1D	1.300
369	13	39.448	38.00	Swale 1D	1.448
370	13	39.571	38.00	Swale 1D	1.571
371	13	39.713	38.00	Swale 1D	1.713
372	13	39.845	38.00	Swale 1D	1.845
373	13	39.987	38.00	Swale 1D	1.987
374	13	40.120	36.46	Swale 3B	3.660
375	14	39.017	37.24	Swale 1	1.777
376	14	39.095	37.24	Swale 1	1.855
377	14	39.170	36.40	Swale 3A	2.770
378	14	39.226	36.40	Swale 3A	2.826
379	14	39.174	36.40	Swale 3A	2.774
380	14	39.122	36.40	Swale 3A	2.722
381	14	39.069	36.40	Swale 3A	2.669
382	14	39.016	36.40	Swale 3A	2.616
383	14	39.162	36.40	Swale 3A	2.762
384	14	39.223	36.40	Swale 3A	2.823
385	14	39.305	36.40	Swale 3A	2.905
386	14	39.366	36.40	Swale 3A	2.966
387	14	39.427	36.40	Swale 3A	3.027

[a] Lots 357-360 edited by DBCE to provide 0.5m minimum freeboard.

APPENDIX 2

Roading QA Documentation

Road Subgrade – 2(a)

- Drawing 21879-M-R3-AB Webb Dr (in lieu of strings)
- Drawing 21879-M-R4-AB Webb Dr (in lieu of strings)
- Drawing 21879-M-R7-AB Carrs Rd (in lieu of strings)
- Clegg Hammer Tests

Road Sub-Base 2(b)

- Sub- Base Strings
- Nuclear Densometer Results
- Benkelman Beam Test Results
- Sub-Base Clegg Hammer Tests
- GAP65 Material Tests

Road Basecourse 2(c)

- Basecourse strings
- Nuclear Densometer Results
- Benkelman Beam Test Results
- TNZ M/4 AP40 Material Tests

Surfacing & RAMM Data 2(d)

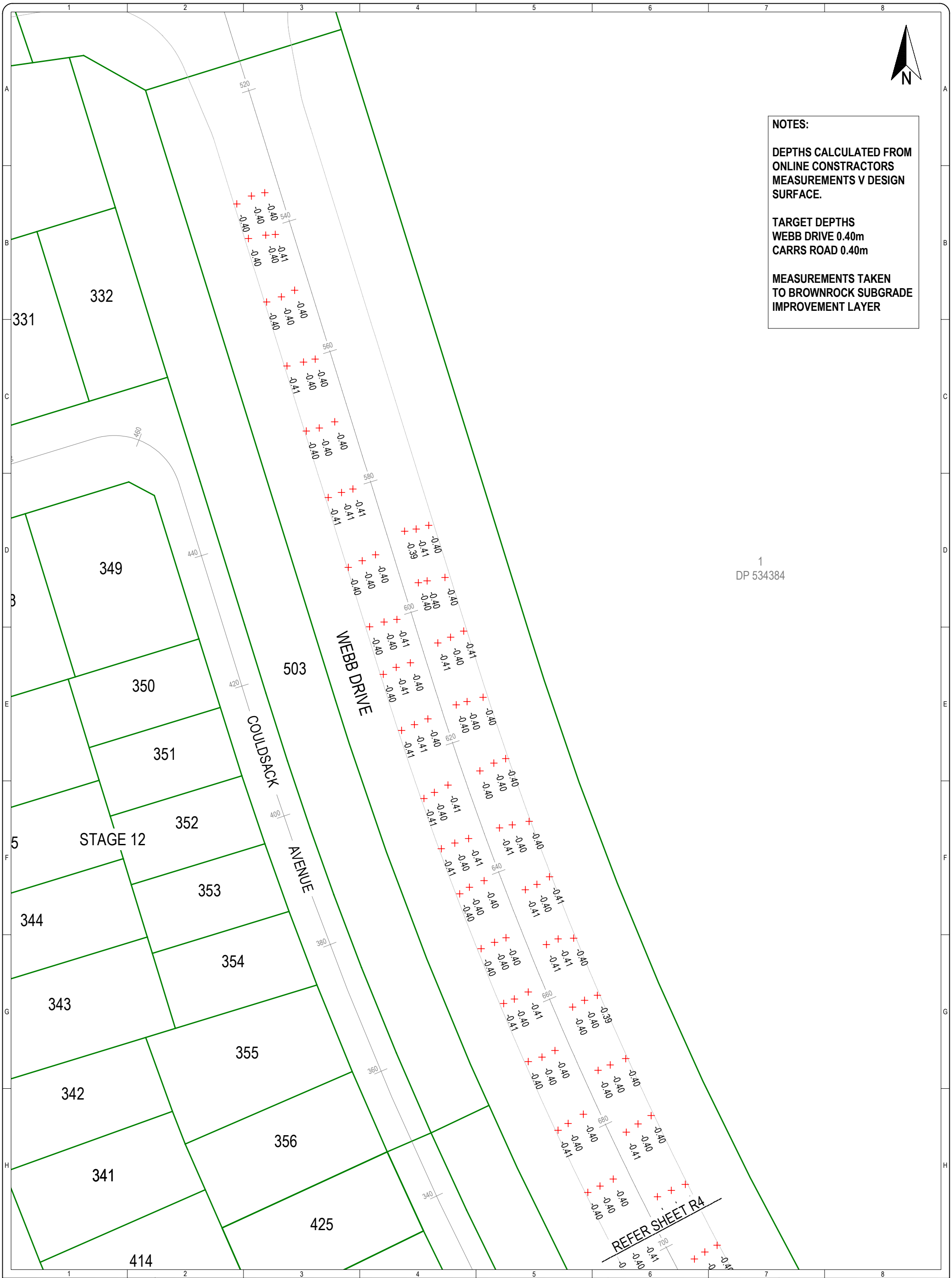
- HCC pavement RAMM data
- Surfacing RAMM data

APPENDIX 2(a)

Roading QA Documentation

Road Subgrade – 2(a)

- Drawing 21879-M-R3-AB Webb Dr (in lieu of strings)
- Drawing 21879-M-R4-AB Webb Dr (in lieu of strings)
- Drawing 21879-M-R7-AB Carrs Rd (in lieu of strings)
- Clegg Hammer Tests



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36 Kereiti Street, Mt Maunganui, Tauranga 3116
P.O. Box 231, Tauranga 3140
www.sltga.co.nz

Title

QUALITY ASSURANCE
COMPARISON OF BROWNROCK V DESIGN
ROADING LAYOUT
WEBB DRIVE AREA M

Rev	Description	Drn	Ckd	App	Date
AB	ISSUE TO HCC	SRC	KU	NF	11/20
0	INTERNAL REVIEW	SRC	KU	NF	11/20

	Name	Date		Name	Date
Surveyed	Online	2020	Designed		

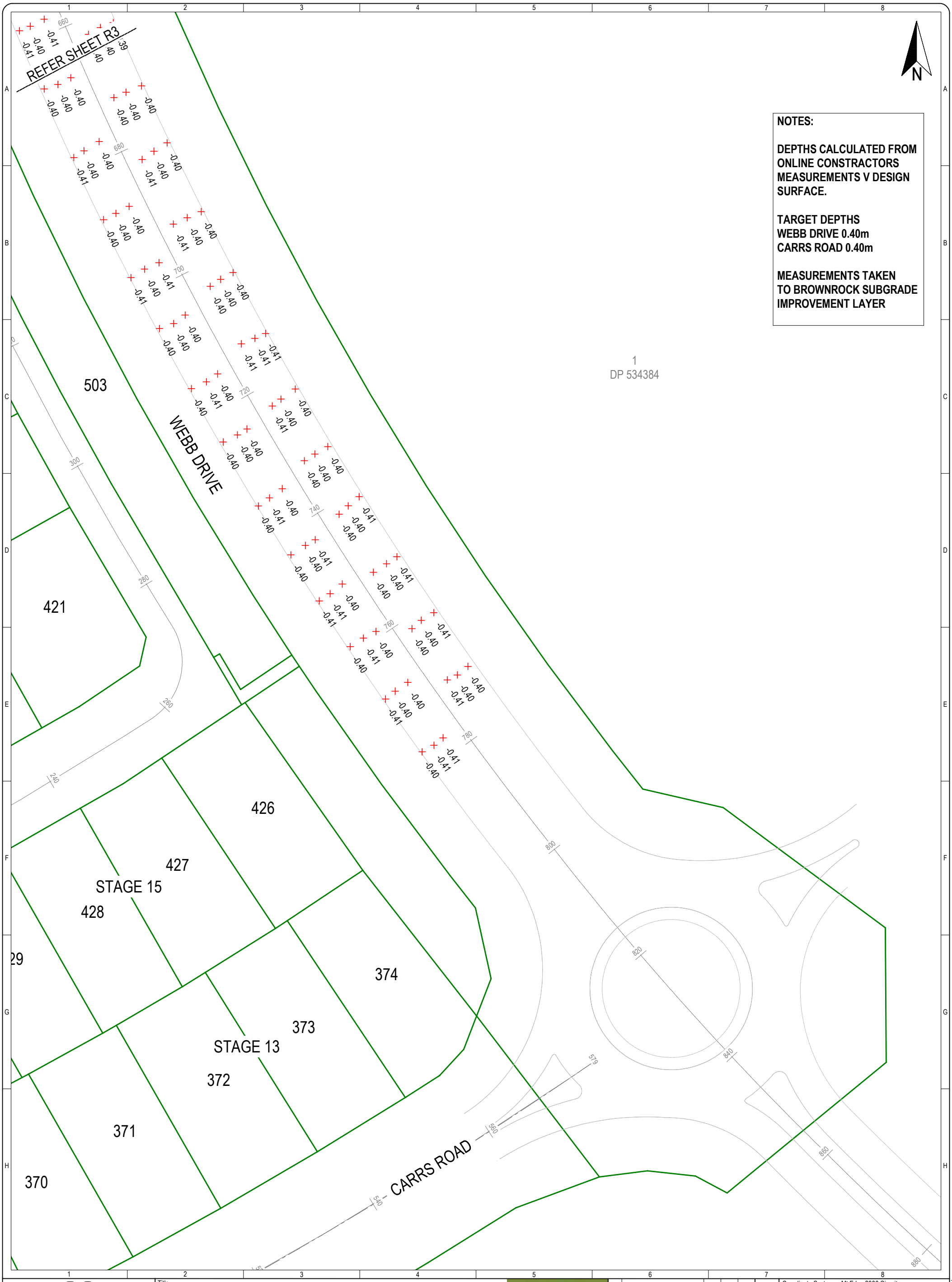
Coordinate System: Mt Eden 2000 Circuit
Origin of Coordinates: ALP 3 DP 534481
Height Datum: Moturiki Vertical Datum 1953
Origin of Height: SS 507 SO 42451 RL = 44.04m

Original Scales @ A3: 1:500
Do Not Scale Dimensions

Status: AS-BUILT

Drawing No: 21879-M-R3

Revision: AB



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Title

QUALITY ASSURANCE
COMPARISON OF BROWNROCK V DESIGN
ROADING LAYOUT
WEBB DRIVE AREA M

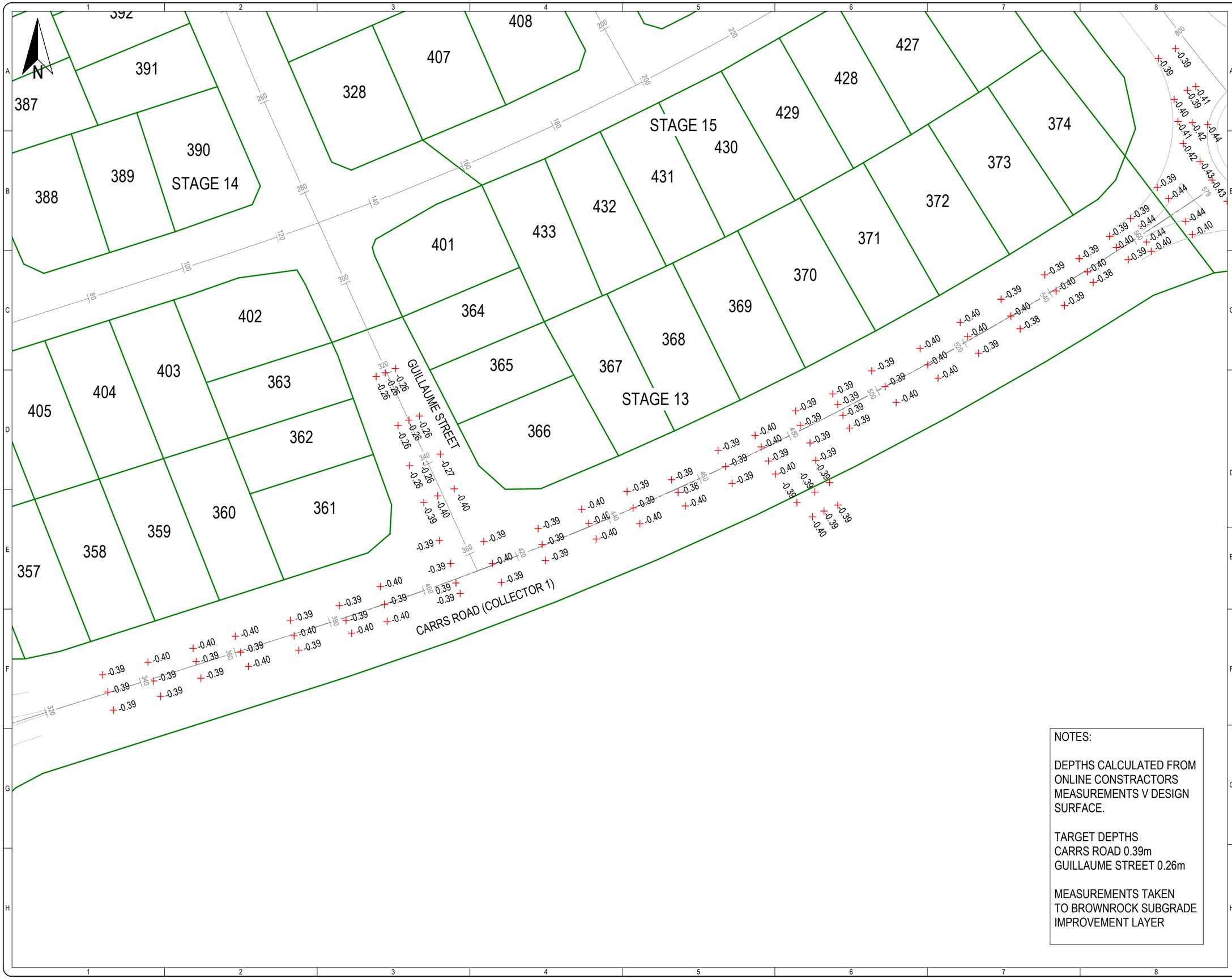
Rev	Description	Drn	Ckd	App	Date
AB	ISSUE TO HCC	SRC	KU	NF	11/20
0	INTERNAL REVIEW	SRC	KU	NF	11/20

	Name	Date		Name	Date
Surveyed	Online	2020	Designed		

Coordinate System: Mt Eden 2000 Circuit
Origin of Coordinates: ALP 3 DP 534481
Height Datum: Moturiki Vertical Datum 1953
Origin of Height: SS 507 SO 42451 RL = 44.04m

Original Scales @ A3: 1:500
Do Not Scale Dimensions
Status: AS-BUILT

Drawing No: 21879-M-R4
Revision: AB



NOTES:

DEPTHS CALCULATED FROM ONLINE CONSTRACTORS MEASUREMENTS V DESIGN SURFACE.

TARGET DEPTHS
CARRS ROAD 0.39m
GUILLAUME STREET 0.26m

MEASUREMENTS TAKEN TO BROWNROCK SUBGRADE IMPROVEMENT LAYER

Rev	Description	Drn	Ckd	App	Date
AB	ISSUE TO HCC	SRC	KU	NF	12/2020
0	INTERNAL REVIEW	SRC	KU	NF	12/2020

	Name	Date		Name	Date
Surveyed	ONLINE	12/2020	Designed		

Coordinate System: MT EDEN 2000 CIRCUIT
Origin of Coordinates: ALP 3 DP 534481
Height Datum: MOTURIKI DATUM 1953
Origin of Height: SS 507 SO 42451 RL = 44.04m

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Title

QUALITY ASSURANCE COMPARISON OF BROWNROCK V DESIGN ROADING LAYOUT STAGE 13 AREA M

Prepared For

Chedworth Properties Limited

GREENHILL

Original Scales @ A3	Status
1:700	AS-BUILT
Do Not Scale Dimensions	

Drawing No	Revision
21879-M-R7	AB

ONLINE CONTRACTORS

P O Box 21187, Rototuna
Hamilton, 3256
Email: Todd@onlinecontractors.co.nz
Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	**GHP**	**Job No.**	
Site/Chainage	**Stage 13 Carrs road**	**Date**	**1/12/2020**
		Recorded by	**Emil Karlsson**
Material	**Brown rock SIL**		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
330		**35**		
340			**28**	
350	**26**			
360		**38**		
370			**24**	
380	**24**			
390		**29**		
400			**28**	
410	**26**			
420		**43**		
430			**24**	
440	**41**			
450		**54**		
460			**37**	
470	**21**			
480		**52**		
490			**35**	
500	**53**			
510		**65**		
520			**33**	
530	**46**			
540		**30**		
550			**32**	
560	**45**			
570		**25**		
580			**31**	

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

Remarks

ONLINE CONTRACTORS

P O Box 21187, Rototuna
Hamilton, 3256
Email: Todd@onlinecontractors.co.nz
Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	**GHP Stage 12**	**Job No.**	
Site/Chainage	**Webb D East Lane**	**Date**	**5/11/2020**
		Recorded by	**Emil Karlsson**
Material	**Brown rock SIL**		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
590	**62**			
600			**34**	
610	**35**			
620			**48**	
630	**28**			
640			**26**	
650	**36**			
660			**21**	
670	**28**			
680			**18**	
690	**26**			
700			**32**	
710	**28**			
720			**44**	
730	**32**			
740			**29**	
750	**33**			
760			**36**	
770	**24**			

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

Remarks

ONLINE CONTRACTORS

P O Box 21187, Rototuna
Hamilton, 3256
Email: Todd@onlinecontractors.co.nz
Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	**Stage 12 GHP**	**Job No.**	
Site/Chainage	**Webb Dr West Lane**	**Date**	**3/11/2020**
		Recorded by	**Tyler Mahi**
Material	**Brown rock SIL**		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
530	**65**			
540			**30**	
550	**57**			
560			**28**	
570	**41**			
580			**38**	
590	**30**			
600			**56**	
610	**40**			
620			**32**	
630	**58**			
640			**44**	
650	**45**			
660			**56**	
670	**36**			
680			**60**	
690	**68**			
700			**42**	
710	**58**			
720			**34**	
730	**32**			
740			**30**	
750	**37**			
760			**40**	
770	**43**			
780			**41**	

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

Remarks

ONLINE CONTRACTORS

P O Box 21187, Rototuna
Hamilton, 3256
Email: Todd@onlinecontractors.co.nz
Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	**GHP Stage 13**	**Job No.**	
Site/Chainage	**Webb Dr West Lane**	**Date**	**1/12/2020**
		Recorded by	**Emil Karlsson**
Material	**Brownrock SIL**		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
790	**39**			
800			**32**	
810	**41**			
820			**32**	
830	**28**			
840			**31**	
850	**29**			

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

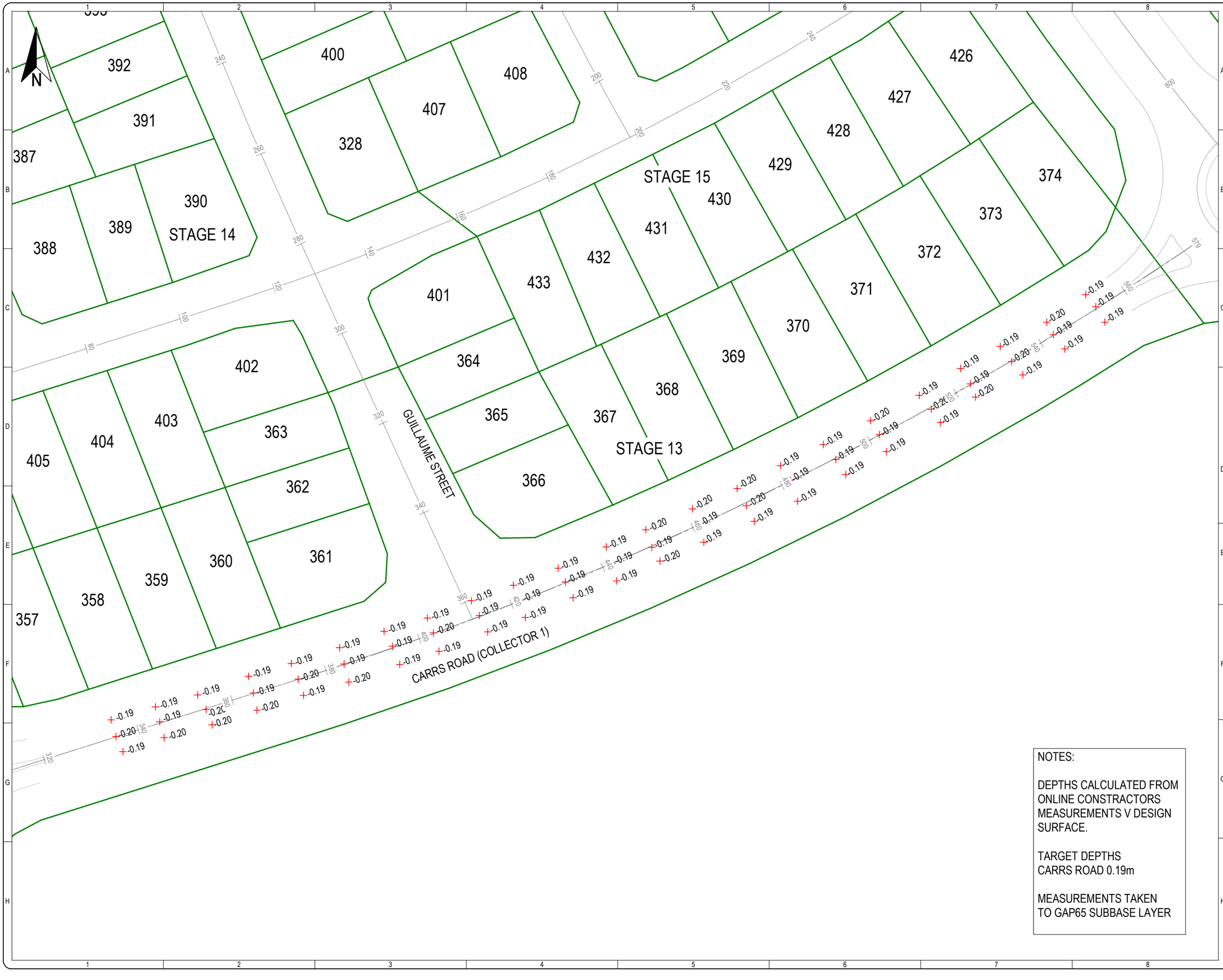
Remarks

APPENDIX 2(b)

Roading QA Documentation

Road Sub-Base 2(b)

- Sub- Base Strings
- Nuclear Densometer Results
- Benkelman Beam Test Results
- Sub-Base Clegg Hammer Tests
- GAP65 Material Tests



NOTES:

DEPTHS CALCULATED FROM ONLINE CONSTRACTORS MEASUREMENTS V DESIGN SURFACE.

TARGET DEPTHS
CARRS ROAD 0.19m

MEASUREMENTS TAKEN TO GAP65 SUBBASE LAYER

Rev	Description	Drn	Ckd	App	Date
AB	ISSUE TO HCC	SRC	KU	NF	12/2020
0	INTERNAL REVIEW	SRC	KU	NF	12/2020

	Name	Date		Name	Date
Surveyed	ONLINE	12/2020	Designed		

Coordinate System: MT EDEN 2000 CIRCUIT
Origin of Coordinates: ALP 3 DP 534481
Height Datum: MOTURIKI DATUM 1953
Origin of Height: SS 507 SO 42451 RL = 44.04m

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Title

QUALITY ASSURANCE COMPARISON OF GAP65 V DESIGN ROADING LAYOUT STAGE 13 AREA M

Prepared For

Chedworth Properties Limited

GREENHILL

Original Scales @ A3	Status
1:700	AS-BUILT
Do Not Scale Dimensions	

Drawing No	Revision
21879-M-R8	AB

ONLINE CONTRACTORS

P O Box 21187, Rototuna
Hamilton, 3256
Email: Todd@onlinecontractors.co.nz
Ph: 07 853 9422

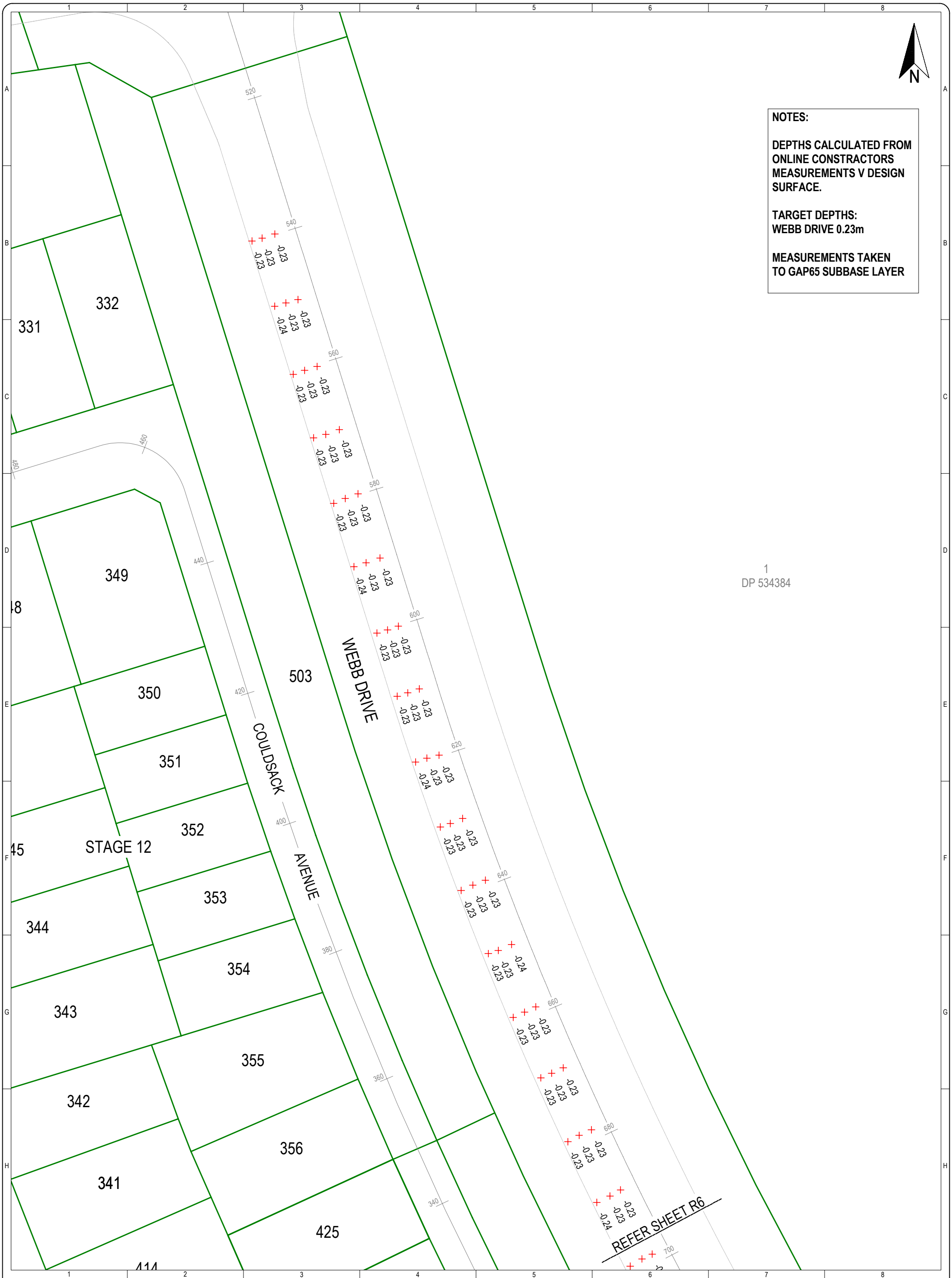
COMPACTION - CLEGG TESTS

Contract	**GHP Stage 13**	**Job No.**	
Site/Chainage	**Carrs Road**	**Date**	**4/12/2020**
		Recorded by	**Emil Karlsson**
Material	**GAP 65 Subbase**		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
330			**38**	
340		**43**		
350	**34**			
360			**45**	
370		**38**		
380	**44**			
390			**44**	
400		**46**	**53**	
410	**47**			
420			**61**	
430		**51**		
440	**55**			
450			**32**	
460		**29**		
470	**44**			
480			**52**	
490		**28**		
500	**31**			
510			**53**	
520		**44**		
530	**50**			
540			**50**	
550		**31**		
560	**34**			
570			**36**	
580		**52**		

Source of conversion: Inferred CBR%=0.07(Impact Value) ^{2} */100*

Remarks



S&L
Land Development
and Design Specialists
Ph. 07 577 6069
Email: info@sltga.co.nz
36 Kereiti Street, Mt Maunganui, Tauranga 3116
P.O. Box 231, Tauranga 3140
www.sltga.co.nz

Title

QUALITY ASSURANCE
COMPARISON OF GAP65 V DESIGN
ROADING LAYOUT
WEBB DRIVE AREA M

Rev	Description	Drn	Ckd	App	Date
AB	ISSUE TO HCC	SRC	KU	NF	11/20
0	INTERNAL REVIEW	SRC	KU	NF	11/20

	Name	Date		Name	Date
Surveyed	Online	2020	Designed		

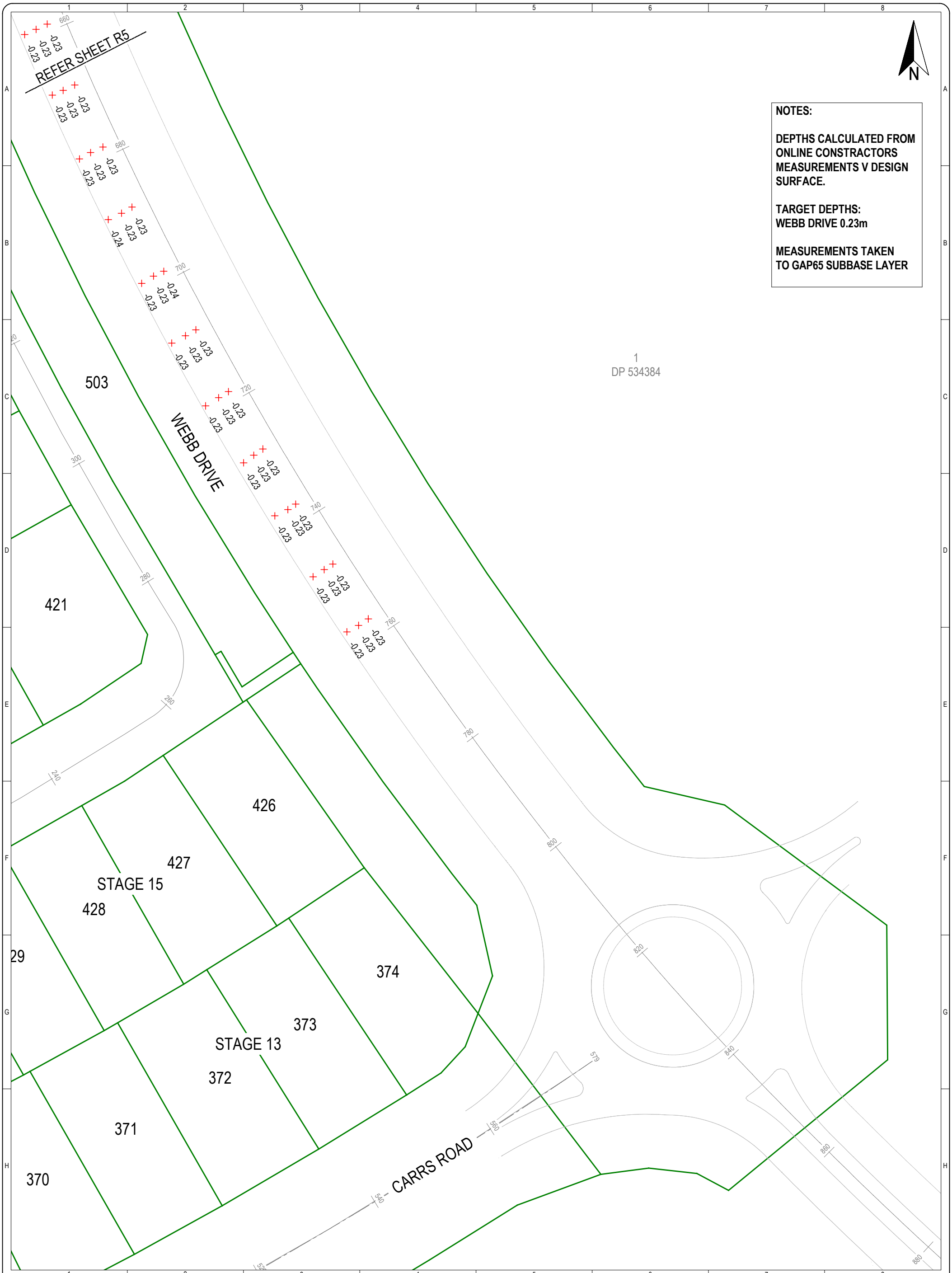
Coordinate System: Mt Eden 2000 Circuit
Origin of Coordinates: ALP 3 DP 534481
Height Datum: Moturiki Vertical Datum 1953
Origin of Height: SS 507 SO 42451 RL = 44.04m

Original Scales @ A3: 1:500
Do Not Scale Dimensions

Status: AS-BUILT

Drawing No: 21879-M-R5

Revision: AB



NOTES:

DEPTHS CALCULATED FROM ONLINE CONSTRACTORS MEASUREMENTS V DESIGN SURFACE.

TARGET DEPTHS:
WEBB DRIVE 0.23m

MEASUREMENTS TAKEN TO GAP65 SUBBASE LAYER

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Title

QUALITY ASSURANCE
COMPARISON OF GAP65 V DESIGN
ROADING LAYOUT
WEBB DRIVE AREA M

Rev	Description	Drn	Ckd	App	Date
AB	ISSUE TO HCC	SRC	KU	NF	11/20
0	INTERNAL REVIEW	SRC	KU	NF	11/20

	Name	Date		Name	Date
Surveyed	Online	2020	Designed		

Coordinate System: Mt Eden 2000 Circuit
Origin of Coordinates: ALP 3 DP 534481
Height Datum: Moturiki Vertical Datum 1953
Origin of Height: SS 507 SO 42451 RL = 44.04m

Original Scales @ A3: 1:500
Do Not Scale Dimensions

Status: AS-BUILT

Drawing No: 21879-M-R6

Revision: AB

ONLINE CONTRACTORS

P O Box 21187, Rototuna
Hamilton, 3256
Email: Todd@onlinecontractors.co.nz
Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	**GHP Stage 13**	**Job No.**	
Site/Chainage	**Webb Dr West Lane CH 540-760**	**Date**	**10/11/2020**
		Recorded by	**Emil Karlsson**
Material	**GAP 65**		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
540	**46**			
550			**44**	
560	**32**			
570			**50**	
580	**50**			
590			**45**	
600	**54**			
610			**51**	
620	**58**			
630			**51**	
640	**59**			
650			**60**	
660	**47**			
670			**54**	
680	**45**			
690			**48**	
700	**52**			
710			**55**	
720	**52**			
730			**48**	
740	**59**			
750			**46**	
760	**46**			

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

Remarks

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Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	**GHP Stage 13**	**Job No.**	
Site/Chainage	**Webb Dr West Lane**	**Date**	**4/12/2020**
		Recorded by	**Emil Karlsson**
Material	**GAP 65**		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
770			**45**	
780		**45**		
790	**41**			
800			**35**	
810		**36**		
820	**39**			
830			**32**	
840		**52**		
850	**44**			

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

Remarks

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Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	GHP Stage 13	**Job No.**	
Site/Chainage	Webb Dr West Lane CH 540-760	**Date**	10/11/2020
		Recorded by	Emil Karlsson
Material	GAP 65		

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
540	**46**			
550			**44**	
560	**32**			
570			**50**	
580	**50**			
590			**45**	
600	**54**			
610			**51**	
620	**58**			
630			**51**	
640	**59**			
650			**60**	
660	**47**			
670			**54**	
680	**45**			
690			**48**	
700	**52**			
710			**55**	
720	**52**			
730			**48**	
740	**59**			
750			**46**	
760	**46**			

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

Remarks

BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill - Stage 13	Sample description :	GAP65 (ex Gleeson Quarry, Huntly)		
Location :	Webb Drive (Northbound Lane)	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Limited	Solid density (tested) :	2.66	t/m³	
Contractor :	Online Contractors (2016) Limited	Max dry density (tested) :	2.10	t/m³	
Tested by :	J. Waru-Savage	Opt. water content (tested) :	5.0	%	
Date tested :	10/11/20				

Project No :	2-68015.00
Lab Ref No :	HA6559_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Test Position	CH540	CH550	CH560	CH570	CH580	CH590	CH600	CH610	CH620	CH630	CH640	CH650	CH660	CH670
Offset	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S
Wet Density (t/m³)	2.32	2.24	2.27	2.14	2.33	2.20	2.32	2.28	2.28	2.28	2.27	2.32	2.25	2.24
Dry Density (t/m³)	2.21	2.13	2.17	2.05	2.23	2.10	2.19	2.17	2.16	2.16	2.14	2.20	2.13	2.13
Water Content (%)	5.1	5.2	4.6	4.4	4.6	4.5	5.6	4.8	5.5	5.4	5.9	5.1	5.6	4.9
% of MDD	105	101	103	98	106	100	104	104	103	103	102	105	102	102
% Saturation	67	55	54	40	63	45	70	57	64	62	65	65	60	53

Oven Corrected Test Results

Dry Density (t/m³)					NOT TESTED									
Water Content (%)														
% of MDD														
% Saturation														

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode	MDD from WSP, Hamilton Lab Report No. HA6290/2_VHMDD (30/09/20) Offsets based off increasing chainage.

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date reported : 11/11/20

Date : 11/11/20

ACCREDITED IANZ TESTING LABORATORY

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

WSP
Hamilton (Fox St)
Quality Management Systems Certified to ISO 9001

4 Fox Street
Private Bag 3057, Waikato Mail Centre, 3240,
Hamilton, New Zealand

Telephone +64 7 856 2870
Website www.wsp.com/nz

BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill - Stage 13	Sample description :	GAP65 (ex Gleeson Quarry, Huntly)		
Location :	Webb Drive (Northbound Lane)	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Limited	Solid density (tested) :	2.66	t/m³	
Contractor :	Online Contractors (2016) Limited	Max dry density (tested) :	2.10	t/m³	
Tested by :	J. Waru-Savage	Opt. water content (tested) :	5.0	%	
Date tested :	10/11/20				

Project No :	2-68015.00
Lab Ref No :	HA6559_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	15	16	17	18	19	20	21	22	23					
Test Position	CH680	CH690	CH700	CH710	CH720	CH730	CH740	CH750	CH760					
Offset	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT					
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S					
Wet Density (t/m³)	2.28	2.34	2.31	2.26	2.25	2.26	2.20	2.13	2.22					
Dry Density (t/m³)	2.16	2.22	2.19	2.15	2.15	2.15	2.10	2.02	2.12					
Water Content (%)	5.4	5.4	5.7	4.8	4.9	5.0	5.0	5.2	4.9					
% of MDD	103	106	104	102	102	102	100	96	101					
% Saturation	62	72	70	54	55	56	50	44	51					

Oven Corrected Test Results

Dry Density (t/m³)					NOT TESTED									
Water Content (%)														
% of MDD														
% Saturation														

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode	MDD from WSP, Hamilton Lab: Report No. HA6290/2_VHMDD (30/09/20) Offsets based off increasing chainage.

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date : 11/11/20

Date reported : 11/11/20

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Website www.wsp.com/nz

GAP65
TEST REPORT

Project :	Quality Assurance
Location :	Stockpile
Client :	Online Contractors (2016) Limited
Contractor :	-
Sampled by :	C. Robertson (WSP Hamilton Lab)
Date sampled :	10/09/2020 @ 10:00am
Sampling method :	NZS 4407:2015:2.4.6.3.2
Sample description :	GAP65
Sample condition :	Moist
Source :	Gleeson Quarry Huntly

Project No :	2-68015.00
Lab Ref No :	HA6290/2_SA
Client Ref No :	-

Particle Size Distribution

Sieve Size (mm)	Percentage Passing		
	Sample	Lower Limit - Coarse	Upper Limit - Fine
63.0	97	100	100
37.5	62	-	-
19.0	40	40	65
9.5	30	-	-
4.75	19	-	-
2.36	12	-	-
1.18	9	-	-
0.600	6	-	-
0.300	5	0	10
0.150	4	-	-
0.075	3	-	-

% passing the finest sieve is obtained by difference

Crushing Resistance

% Fines @ Spec. Load	2.4	%
Specification	<10	%
Crushing Resistance	>130	kN
Nom Aggregate Size	13.2 - 9.5	mm
Specified Load	100	kN

Broken Faces Content of Aggregate

Fraction (mm)	Percentage by Weight	
	Sample	Lower Limit
65.0 - 37.5	-	-
37.5 - 19.0	-	-
19.0 - 9.5	-	-
9.5 - 4.75	-	-

Plasticity Index

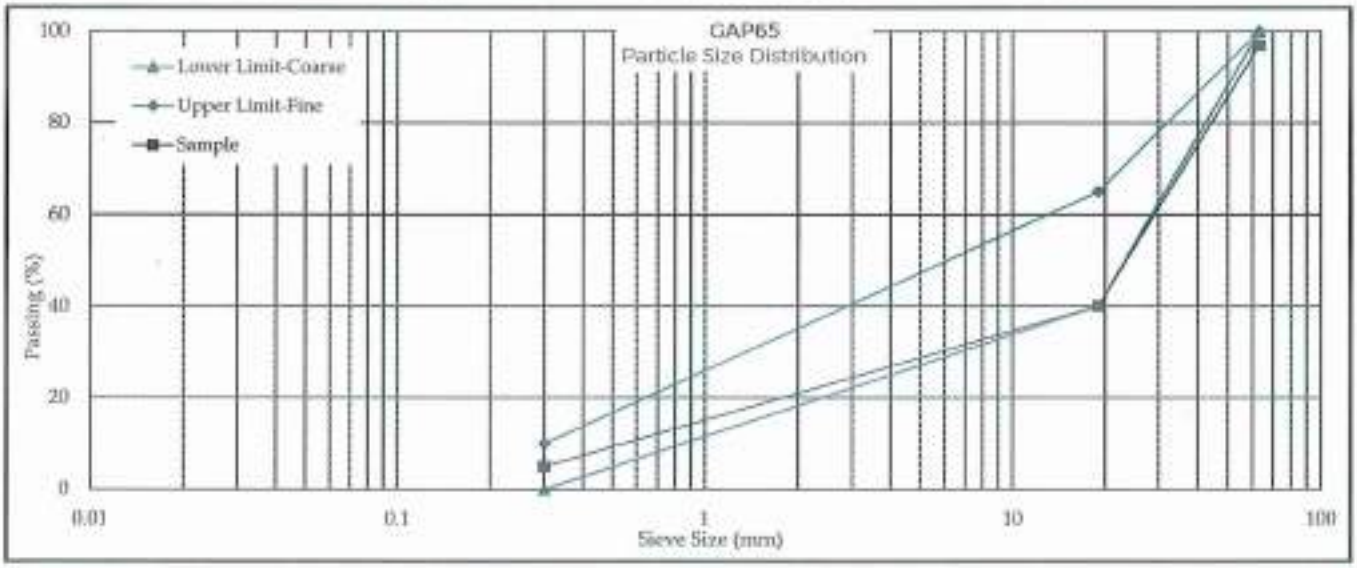
Sample CPL	-
Sample PI	-

Clay Index

Sample CI	-
Specification	-

Sand Equivalent (Washed, Mechanical Shaking)

Sample SE	30
Specified	>= 25



Test Methods

Particle Size Distribution	NZS 4407 : 2015 : Test 3.8.1	
Sand Equivalent	NZS 4407 : 2015 : Test 3.6	
Crushing Resistance	NZS 4407 : 2015 : Test 3.10	
		Grading envelope from Waikato Local Authority RITS (2018)

Date tested : 14-28/09/20

Date reported : 30/09/20

Sampling is covered by IANZ Accreditation

This report may only be reproduced in full

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date : 30/09/20

ACCREDITED IANZ TESTING LABORATORY

All tests reported herein have been performed in accordance with the laboratory's scope of accreditation

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Hamilton (Fox St)
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4 Fox Street
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Website www.wsp.com/nz

SOLID DENSITY OF AGGREGATE PARTICLES TEST REPORT

Project :	Quality Assurance
Location :	Gleeson Quarries, Huntly GAP65 Stockpile
Client :	Online Contractors (2016) Limited
Contractor :	-
Sampled by :	C Robertson (WSP)
Date sampled :	10/09/2020 @ 10:00am
Sampling method :	NZS 4407:2015:2.4.6.3.2
Sample description :	GAP65
Sample condition :	Moist
Source :	Gleeson Quarries, Huntly

Project No :	2-68015.00
Lab Ref No :	HA6290/2_SD
Client Ref No :	-

Test Results

Sample Solid Density : 2.66 t/m^3

Test Method	Notes
NZS 4407: 2015 Test 3.7.2	Material tested : Retained on 4.75mm sieve

Date tested : 15/09/20
Date reported : 16/09/20

Sampling is covered by IANZ Accreditation
This report may only be reproduced in full
All information supplied by Client

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*
Date : 16/09/20

ACCREDITED IANZ TESTING LABORATORY

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Hamilton (Fox St)
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Website www.wsp.com/nz

DRY DENSITY / WATER CONTENT RELATIONSHIP
VIBRATING COMPACTION

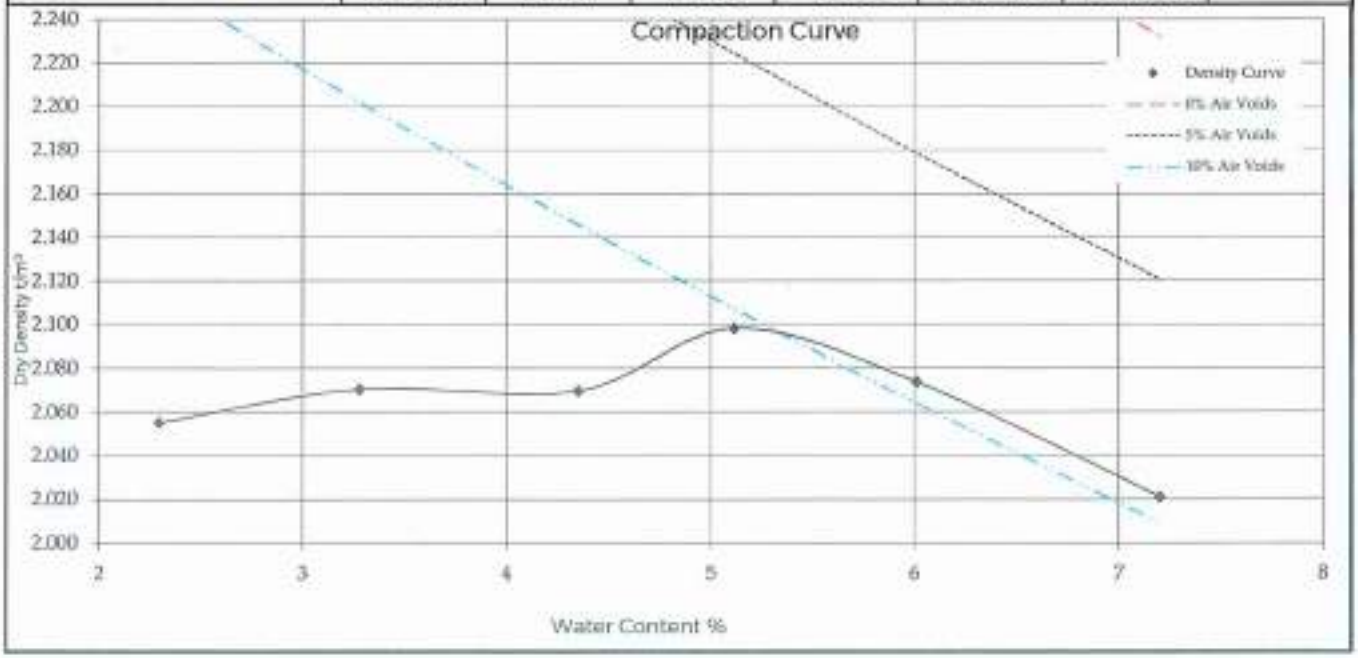
Project :	Quality Assurance
Location :	Stockpile
Client :	Online Contractors (2016) Limited
Contractor :	-
Sampled by :	C. Robertson (WSP Hamilton Lab)
Date sampled :	10/09/2020 @ 10:00am
Sampling method :	NZS 4407:2015:2.4.6.3.2
Sample description :	GAP65
Sample condition :	Moist
Solid density :	2.66 t/m³ (Tested)
Source :	Gleeson Quarry, Huntly

Project No :	2-68015.00
Lab Ref No :	HA6290/2_VHMDD
Client Ref No :	-

Test Results

Maximum dry density	2.10	t/m³	Natural water content	4.3 %
Optimum water content	5	%	Fraction tested	<37.5mm

Sample ID		-134	-67	Nat	67	133	200	
Bulk density	t/m³	2.102	2.158	2.160	2.206	2.198	2.167	
Water content	%	2.3	3.3	4.3	5.1	6.0	7.2	
Dry density	t/m³	2.055	2.070	2.070	2.098	2.074	2.021	
Sample condition		Dry/Moist M Dense	Moist Dense	Moist Dense	Wet Dense	Wet/Saturate M Dense	Saturated M Dense	



Test Methods		Notes
Compaction	NZS 4402 : 1986 : Test 4.1.3	Solid density from report HA6290/2_SD

Date tested : 24/09/20
Date reported : 30/09/20

Sampling is covered by IANZ Accreditation
This report may only be reproduced in full

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*
Date : 30/09/20

ACCREDITED IANZ TESTING LABORATORY

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Hamilton (Fox St)
Quality Management Systems Certified to ISO 9001

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Website www.wsp.com/nz

WEATHERING QUALITY OF COARSE AGGREGATE TEST REPORT

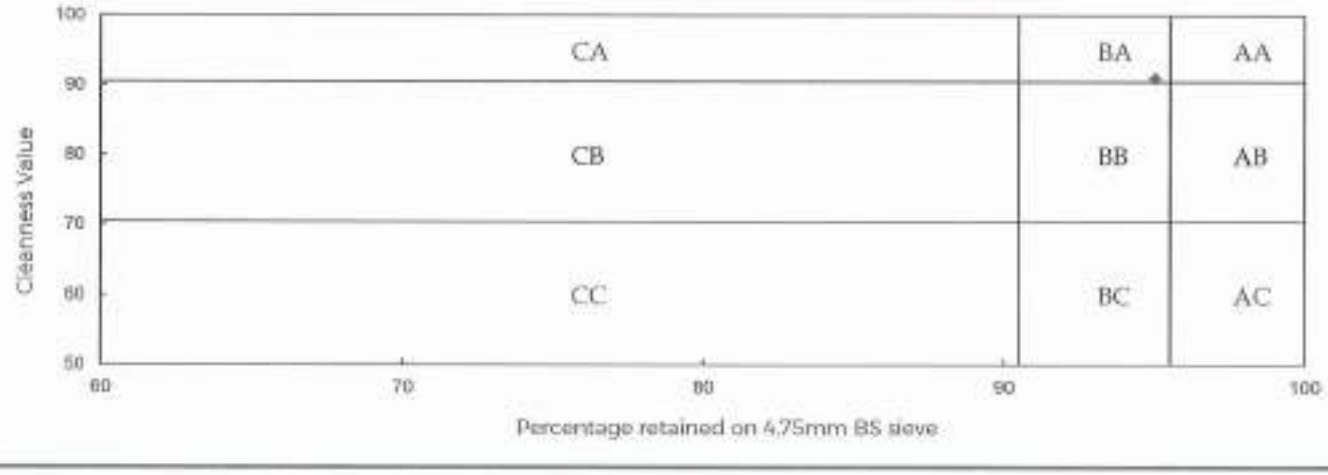
Project :	Quality Assurance
Location :	Stockpile
Client :	Online Contractors (2016) Ltd
Contractor :	-
Sampled by :	C Robertson (WSP Hamilton Lab)
Date sampled :	10/09/20 @ 10:00am
Sampling method :	NZS 4407:2015:2.4.6.3.2
Sample description :	GAP65
Sample condition :	Moist
Source :	Gleeson Quarry, Huntly

Project No :	2-68015.00
Lab Ref No :	HA6290/2_WQI
Client Ref No :	-

Test Results

Percentage Retained on 4.75mm BS Sieve After 10 Cycles	: 95
Cleanness Value After 10 Cycles	: 91
Weathering Quality Index (see table below)	: BA

Cleanness Value	Percentage Retained on 4.75mm Sieve			Specified
	96 - 100	91 - 95	up to 90	
91 - 100	AA	BA	CA	AA, AB, AC BA, BB, CA or CB
71 - 90	AB	BB	CB	
up to 70	AC	BC	CC	



Test Method	Notes
Weathering Quality Index, NZS 4407:2015, Test 3.11	♦ Is graphed value of Weathering Quality Index Specification from RITS March 2018

Date tested : 30/09/2020
Date reported : 2/10/20

Sampling is covered by IANZ Accreditation
This report may only be reproduced in full

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*
Date : 2/10/20

ACCREDITED IANZ TESTING LABORATORY

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Website www.wsp.com/nz

APPENDIX 2(c)

Roading QA Documentation

Road Basecourse 2(c)

- Basecourse strings
- Nuclear Densometer Results
- Benkelman Beam Test Results
- TNZ M/4 AP40 Material Tests

ONLINE CONTRACTORS

Online Contractors 2016 Ltd PO
Box 21187, Rototuna
HAMILTON 3256

STRING TEST

Contract: Greenhill Stage 13 — Job No.: 19-30378-03

Site: Webb Drive — Date: 11/02/2021

Chainage: 520 to 800 (Road 20 to Carra Road roundabout) — Recorded by: B. Pearson and Online

Material: Basecourse Pre-seal — Murray Giles and Daniel of HCC present: _____ _____

String target IR 200mm, Tolerance TNZ B/2 -5mm +15mm

Chn	Southbound lane of dual carriageway left	centre	right			Northbound lane of dual carriageway left	centre	right
520	210	210	200			200	200	200
540	220	210	200			210	200	200
560	205	200	205			210	210	205
580	200	200	205			210	220	220
600	205	200	205			205	200	205
620	210	205	210			200	205	210
640	205	200	200			205	200	200
660	205	200	210			210	200	200
680	210	200	205			210	205	205
700	200	200	205			210	210	210
720	205	200	200			200	205	210
740	200	200	200			205	200	200
760	210	210	205			200	200	200
780	205	200	200			210	205	210
800	200	200	210			200	200	205

Acceptance confirmed by HCC Staff on the day to allow seal coat to be applied as Programmed.

B. J. Pearson
S&L Consultants

ONLINE
CONTRACTORS

Online Contractors 2016 Ltd PO
Box 21187, Rotokura
HAMILTON 3256

CONSTRUCTION DIMENSIONS

Contract: GHP
Job No.:
Site: Carrs Road
Date: 17/02/021
Stage: Stage 13
Recorded by: Bilal Baniya
Material: TNZ 40
Subgrade TNZ F/1 tolerance: -20 mm 0 mm
Subbase TNZ B/2 tolerance: -25 mm 5 mm
String lift: 200 mm
Basecourse TNZ B/2 tol: -5 mm 15 mm

	Depth below stringline level							
	Left			Centre		Right		
Chn.	Edge 6m	4m	2m	Left 0m	Right 0m	2m	4m	Edge 6m
570	255			250	245			245
550	245			240	235			240
530	245			245	235			240
510	240			235	235			240
480	245			240	235			235
460	240			240	240			240
440	245			250	240			245
410	240			240	235			245
380	245			235	240			240
360	240			240	235			245
340	240			235	235			245
320	240			235	240			240

ONLINE CONTRACTORS

Online Contractors 2016 Ltd PO
Box 21187, Rotoburu
HAMILTON 3256

CONSTRUCTION DIMENSIONS

Contract: GHP
Job No.:
Site: Webb Drive Round About
Date: 17/02/2021
Stage: Stage 13/ Webb Drive
Recorded by: Bikal Baniya
Material: TNZ 40
Subgrade TNZ F/1 tolerance: -20 mm 0 mm
Subbase TNZ B/2 tolerance: -25 mm 5 mm
String lift: 200 mm
Basecourse TNZ B/2 tol.: -5 mm 15 mm

	Depth below stringline level							
	Left			Centre		Right		
Chn.	Edge 6m	4m	2m	Left 0m	Right 0m	2m	4m	Edge 6m
SW Cnr	250				245			255
SE Cnr	250			240				245
NE Cnr	260				245			245
NW Cnr	265			250				245

ONLINE
CONTRACTORS

P O Box 21187, Rototuna
Hamilton, 3256
Email: Todd@onlinecontractors.co.nz
Ph: 07 853 9422

COMPACTION - CLEGG TESTS

Contract	GHP	Job No.	
Site/Chainage	Stage 13 Carrs Road	Date	18/02/021
Material	TNZ 40	Recorded by	Bikal Baniya

Chn	1m from kerb - Left	Centre Line	1m from kerb - Right	Notes
320			60	
330		64		
340	67			
350			67	
360		60		
370	83			
380			71	
390		69		
400	71			
410			77	
420		75		
430	80			
440			71	
450		86		
460	81			
470			77	
480		69		
490	79			
500			75	
510		71		
520	80			
530			73	
540		69		
550	78			
560			63	
570		75		

Source of conversion: Inferred CBR%=0.07(Impact Value)^2/100

Remarks

COMPACTION CONTROL
PLATEAU DENSITY TEST RESULTS

Project :	Greenhill - Stage 13	Sample description :	Cement (2%) Stabilised Basecourse		
Location :	Webb Drive (South of Popham)	Sample condition :	Wet, compacted		
Position :	Southbound, Run 1	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Plateau dry density (corrected):	2.18	t/m³	
Tested by :	G Tait & C Brown	* Maximum dry density report :	2.18	t/m³	
Date tested :	04/02/21	* Optimum water content :	7.0	%	

Project No :	2-68015.00
Lab Ref No :	HA6868_PD
Client Ref No :	

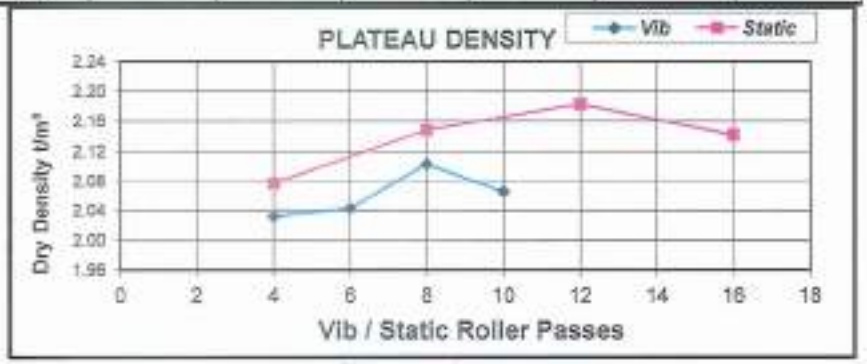
Nuclear Densometer Test Results

Roller Passes	4	6	8	10	4	8	12	16						
Compaction Type	Vib	Vib	Vib	Vib	Static	Static	Static	Static						
Wet Density (t/m³)	2.17	2.18	2.24	2.20	2.22	2.29	2.32	2.29						
Dry Density (t/m³)	1.99	2.01	2.06	2.03	2.04	2.11	2.14	2.10						
Water Content (%)	8.8	8.7	8.5	8.5	8.9	8.6	8.3	8.9						
% of MDD target	91	92	95	93	94	97	98	96						

Oven Corrected Test Results

Dry Density (t/m³)	2.03	2.04	2.10	2.07	2.08	2.15	2.18	2.14						
Water Content (%)	6.8	6.7	6.5	6.5	6.9	6.6	6.3	6.9						
% of MDD target	93	94	96	95	95	99	100	98						

Test Methods	Notes
Insitu Density : NZS 4407 : 2015: Test 4.3 for Backscatter Mode	*One forward / back motion = 2 roller passes*
Oven Water Content : NZS 4407 : 2015: Test 3.1	*After Sheepfoot roller a twin*
Rollers used for compaction	*Drum roller used.*
Sheepsfoot Single Drum Roller (Prior to testing)	* MDD report from: HA6290/1
7T Twin Steel Drum Roller used for Vibratory & Static passes	
NDM vs Oven Moisture correction from report : HA6868_WC	NDM Vs Oven correction factor (%) : 2.0



IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date : 09/02/21

Date reported : 09/02/21

LHF 2162b (12/20)

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WATER CONTENT TEST REPORT

Project :	Greenhill - Stage 13
Location :	Webb Drive (South of Popham)
Position :	Southbound, Run 1
Client :	Online Contractors (2016) Ltd
Sampled by :	G Tait & C Brown
Date sampled :	04/02/21
Sampling method :	As received
Sample description :	Cement (2%) Stabilised Basecourse
Sample condition :	Moist
Sample source :	Run 1, Southbound

Project No :	2-68015.00
Lab Ref No :	HA6868_WC
Client Ref No :	

Test Results

Sample No.	NDM Water Content (%)	Oven Water Content (%)	Difference (%)
1	8.6	7.1	1.5
2	8.3	6.5	1.8
3	9.5	7.4	2.1
4	8.7	6.3	2.4
5	8.8	6.6	2.2
		Average	2.0

Test Methods	Notes
NZS 4407: 2015, Test 3.1 Insitu Density : NZS 4407 : 2015: Test 4.3 for Backscatter Mode	NDM's taken at start of compaction, with samples taken at each position.

Date tested : 04/02/21
Date reported : 09/02/21

Sampling is not covered by IANZ Accreditation. Results apply only to sample tested.
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Designation : Senior Civil Engineering Technician
Date : 09/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill Stage 13	Sample description :	Stabilised TNZ40		
Location :	Webb Drive, Southbound Lane	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³	
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³	
Tested by :	C.Brown, G.Tait	Opt. water content (tested) :	5.5	%	
Date tested :	09/02/21				

Project No :	2-66015.00
Lab Ref No :	HA6883a_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Test Position	CH520	CH530	CH540	CH550	CH560	CH570	CH580	CH590	CH600	CH610	CH620	CH630	CH640	CH650
Offset	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S
Wet Density (t/m³)	2.22	2.26	2.21	2.23	2.27	2.25	2.24	2.22	2.23	2.15	2.36	2.20	2.24	2.29
Dry Density (t/m³)	2.10	2.11	2.08	2.08	2.13	2.12	2.11	2.06	2.09	2.02	2.22	2.08	2.12	2.16
Water Content (%)	5.7	6.8	6.3	7.5	6.3	6.1	6.4	7.5	6.3	6.1	6.1	5.9	5.9	6.1
% of MDD	97	97	96	95	98	97	97	95	96	93	102	95	97	99
% Saturation	53	64	56	66	62	58	60	64	57	48	74	52	56	63

Oven Corrected Test Results

Dry Density (t/m³)	2.14	2.15	2.12	2.12	2.17	2.16	2.15	2.10	2.13	2.06	2.26	2.12	2.16	2.20
Water Content (%)	3.7	4.8	4.3	5.5	4.3	4.1	4.4	5.5	4.3	4.1	4.1	3.9	3.9	4.1
% of MDD	98	99	97	97	100	99	99	96	98	95	104	97	99	101
% Saturation	38	50	42	52	47	43	45	51	43	35	55	38	41	47

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode Water Content: NZS 4407: 2015, Test 3.1 for aggregates	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMDD AUG20 Water Content from report HA6868_WC FEB21

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date reported : 10/02/21 Date : 10/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill Stage 13	Sample description :	Stabilised TNZ40		
Location :	Webb Drive, Southbound Lane	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³	
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³	
Tested by :	C.Brown, G.Tait	Opt. water content (tested) :	5.5	%	
Date tested :	09/02/21				

Project No :	2-68015.00
Lab Ref No :	HA6883s_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Test Position	CH660	CH670	CH680	CH690	CH700	CH710	CH720	CH730	CH740	CH750	CH760	CH770	CH780	CH790
Offset	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S
Wet Density (t/m³)	2.31	2.32	2.16	2.22	2.30	2.25	2.21	2.30	2.32	2.27	2.33	2.31	2.26	2.30
Dry Density (t/m³)	2.19	2.17	2.05	2.09	2.16	2.11	2.10	2.16	2.20	2.14	2.19	2.17	2.13	2.16
Water Content (%)	5.7	6.9	5.1	6.2	6.6	6.4	5.0	6.1	5.4	6.1	6.2	6.5	6.2	6.2
% of MDD	100	99	94	96	99	97	96	99	101	98	101	99	98	99
% Saturation	64	74	43	56	69	61	46	64	62	61	70	70	60	66

Oven Corrected Test Results

Dry Density (t/m³)	2.23	2.22	2.09	2.13	2.20	2.15	2.14	2.20	2.24	2.18	2.24	2.21	2.17	2.21
Water Content (%)	3.7	4.6	3.1	4.2	4.6	4.4	3.0	4.1	3.4	4.1	4.2	4.5	4.2	4.2
% of MDD	102	102	96	98	101	99	98	101	103	100	103	101	99	101
% Saturation	46	55	28	41	53	45	30	48	44	45	53	53	45	49

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMDD AUC20
Water Content: NZS 4407: 2015, Test 3.1 for aggregates	Water Content from report HA6868_WC: FEB21

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Designation : *Senior Civil Engineering Technician*

Date reported : 10/02/21 Date : 10/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill Stage 13	Sample description :	Stabilised TNZ40	
Location :	Webb Drive, Southbound Lane	Nuclear densometer no :	33576	
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³
Tested by :	C.Brown, G.Tait	Opt. water content (tested) :	5.5	%
Date tested :	09/02/21			

Project No :	2-68015.00
Lab Ref No :	HA6883a_NDM
Client Ref No :	

Nuclear Densometer Test Results														
Test Number	29													
Test Position	CH800													
Offset	RWT													
Probe Depth (mm)	B/S													
Wet Density (t/m³)	2.25													
Dry Density (t/m³)	2.13													
Water Content (%)	5.5													
% of MDD	98													
% Saturation	54													

Oven Corrected Test Results														
Dry Density (t/m³)	2.17													
Water Content (%)	3.5													
% of MDD	100													
% Saturation	38													

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode Water Content: NZS 4407: 2015, Test 3.1 for aggregates	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMDD AUC20 Water Content from report HA6868_WC. FEB21

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date : 10/02/21

Date reported : 10/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill Stage 13	Sample description :	Stabilised TNZ40		
Location :	Webb Drive Northbound Lane	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³	
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³	
Tested by :	C.Brown	Opt. water content (tested) :	5.5	%	
Date tested :	11/02/21				

Project No :	2-68015.00
Lab Ref No :	HA6899_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Test Position	CH520	CH530	CH540	CH550	CH560	CH570	CH580	CH590	CH600	CH610	CH620	CH630	CH640	CH650
Offset	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S
Wet Density (t/m³)	2.26	2.27	2.31	2.30	2.26	2.50	2.32	2.26	2.34	2.20	2.32	2.24	2.24	2.30
Dry Density (t/m³)	2.11	2.11	2.16	2.15	2.10	2.33	2.17	2.10	2.21	2.06	2.17	2.09	2.07	2.16
Water Content (%)	7.2	7.4	7.1	7.1	8.0	7.0	7.0	7.3	6.1	6.6	7.0	7.2	8.1	6.7
% of MDD	97	97	99	99	96	107	99	97	101	94	99	96	95	99
% Saturation	68	70	74	73	73	115	75	68	72	56	74	65	70	70

Oven Corrected Test Results

Dry Density (t/m³)	2.15	2.15	2.20	2.19	2.14	2.38	2.21	2.14	2.25	2.10	2.21	2.13	2.11	2.16
Water Content (%)	5.2	5.4	5.1	5.1	6.0	5.0	5.0	5.3	4.1	4.6	5.0	5.2	6.1	6.7
% of MDD	99	99	101	100	98	109	101	98	103	96	101	98	97	99
% Saturation	53	56	59	57	60	94	59	54	54	42	58	51	57	70

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode Water Content: NZS 4407: 2015, Test 3.1 for aggregates	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMDO SEP20 Water Content from report HA6868_WC. FEB21

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Designation : *Senior Civil Engineering Technician*

Date reported : 11/02/21 Date : 11/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill Stage 13	Sample description :	Stabilised TNZ40		
Location :	Webb Drive Northbound Lane	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³	
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³	
Tested by :	C.Brown	Opt. water content (tested) :	5.5	%	
Date tested :	11/02/21				

Project No :	2-68015.00
Lab Ref No :	HA6899_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Test Position	CH660	CH670	CH680	CH690	CH700	CH710	CH720	CH730	CH740	CH750	CH760	CH770	CH780	CH790
Offset	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT	LWT
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S
Wet Density (t/m³)	2.22	2.28	2.24	2.22	2.29	2.20	2.36	2.30	2.31	2.35	2.28	2.28	2.34	2.31
Dry Density (t/m³)	2.07	2.12	2.09	2.06	2.13	2.06	2.22	2.15	2.15	2.19	2.13	2.10	2.18	2.13
Water Content (%)	7.2	7.3	7.2	7.6	7.3	6.9	6.6	7.1	7.5	7.1	6.9	8.3	7.4	8.0
% of MDD	95	97	96	95	98	94	102	99	99	100	98	96	100	98
% Saturation	62	71	65	65	72	59	79	73	77	80	68	77	81	79

Oven Corrected Test Results

Dry Density (t/m³)	2.11	2.16	2.13	2.10	2.17	2.10	2.26	2.19	2.19	2.23	2.18	2.14	2.22	2.17
Water Content (%)	5.2	5.3	5.2	5.6	5.3	4.9	4.6	5.1	5.5	5.1	4.9	6.3	5.4	6.0
% of MDD	97	99	98	96	100	96	104	100	100	102	100	98	102	100
% Saturation	49	56	51	52	57	45	61	57	62	63	53	63	65	65

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode Water Content: NZS 4407: 2015, Test 3.1 for aggregates	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMOD SEP20 Water Content from report HA6868_WC. FEB21

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Designation : *Senior Civil Engineering Technician*

Date reported : 11/02/21 Date : 11/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill Stage 13	Sample description :	Stabilised TNZ40	
Location :	Webb Drive Northbound Lane	Nuclear densometer no :	33576	
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³
Tested by :	C.Brown	Opt. water content (tested) :	5.5	%
Date tested :	11/02/21			

Project No :	2-68015.00
Lab Ref No :	HA6899_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	29													
Test Position	CH600													
Offset	RWT													
Probe Depth (mm)	B/S													
Wet Density (t/m³)	2.28													
Dry Density (t/m³)	2.11													
Water Content (%)	8.1													
% of MDD	97													
% Saturation	76													

Oven Corrected Test Results

Dry Density (t/m³)	2.15													
Water Content (%)	6.1													
% of MDD	98													
% Saturation	62													

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode Water Content: NZS 4407: 2015, Test 3.1 for aggregates	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMDD SEP20 Water Content from report HA6868_WC. FEB21

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date : 11/02/21

Date reported : 11/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill stage 13	Sample description :	Basecourse (TNZ40)		
Location :	Carrs Road	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³	
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³	
Tested by :	C.Brown	Opt. water content (tested) :	5.5	%	
Date tested :	14/02/21				

Project No :	2-68015.00
Lab Ref No :	HA6913a_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Test Position	CH10	CH20	CH30	CH40	CH50	CH60	CH70	CH80	CH90	CH100	CH110	CH120	CH130	CH140
Offset	RWT	LWT	CL	CL	LWT	CL	RWT	LWT	CL	RWT	LWT	CL	RWT	LWT
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S
Wet Density (t/m³)	2.28	2.30	2.25	2.29	2.29	2.29	2.34	2.26	2.21	2.27	2.31	2.25	2.30	2.31
Dry Density (t/m³)	2.18	2.20	2.16	2.19	2.18	2.19	2.25	2.17	2.12	2.18	2.20	2.16	2.20	2.21
Water Content (%)	4.7	4.3	4.4	4.6	5.0	4.4	4.2	4.3	4.4	4.3	4.7	4.5	4.6	4.8
% of MDD	100	101	99	100	100	101	103	99	97	100	101	99	101	101
% Saturation	52	50	46	51	55	50	54	46	42	47	55	47	53	56

Oven Corrected Test Results

Dry Density (t/m³)					NOT TESTED								
Water Content (%)													
% of MDD													
% Saturation													

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode	Max dry density from : WSP Hamilton Lab. Report ID: HA6269/1_VHMOD SEP20 CH0 = Edge of Asphalt on existing Carrs Rd

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Designation : *Senior Civil Engineering Technician*

Date reported : 14/02/21 Date : 14/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill stage 13	Sample description :	Basecourse (TNZ40)		
Location :	Carrs Road	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³	
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³	
Tested by :	C.Brown	Opt. water content (tested) :	5.5	%	
Date tested :	14/02/21				

Project No :	2-68015.00
Lab Ref No :	HA6913a_NDM
Client Ref No :	

Nuclear Densometer Test Results

Test Number	15	16	17	18	19	20	21	22	23	24	25	26		
Test Position	CH150	CH160	CH170	CH180	CH190	CH200	CH210	CH220	CH230	CH240	CH250	CH260		
Offset	CL	RWT	LWT	CL	RWT	LWT	CL	RWT	LWT	CL	RWT	LWT		
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S		
Wet Density (t/m³)	2.27	2.27	2.29	2.23	2.33	2.36	2.21	2.25	2.29	2.27	2.38	2.25		
Dry Density (t/m³)	2.18	2.17	2.20	2.15	2.22	2.26	2.11	2.14	2.19	2.16	2.24	2.11		
Water Content (%)	4.4	4.2	4.1	3.6	4.7	4.2	4.5	4.9	4.8	5.0	6.0	6.7		
% of MDD	100	100	101	99	102	104	97	98	100	99	103	97		
% Saturation	48	45	47	37	57	57	42	50	53	52	76	63		

Oven Corrected Test Results

Dry Density (t/m³)					NOT TESTED							
Water Content (%)												
% of MDD												
% Saturation												

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMOD SEP20 CH0 = Edge of Asphalt on existing Carrs Rd

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date : 14/02/21

Date reported : 14/02/21

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BASECOURSE COMPACTION CONTROL
TNZ - B2 TEST RESULTS

Project :	Greenhill stage 13	Sample description :	Stabilised TNZ40		
Location :	Carrs Road, Roundabout	Nuclear densometer no :	33576		
Client :	Online Contractors (2016) Ltd	Solid density (tested) :	2.72	t/m³	
Contractor :	Online Contractors (2016) Ltd	Max dry density (tested) :	2.18	t/m³	
Tested by :	C.Brown	Opt. water content (tested) :	5.5	%	
Date tested :	14/02/21				

Project No :	2-68015.00
Lab Ref No :	HA6913b_NDM_R
Client Ref No :	

Nuclear Densometer Test Results

Test Number	1	2	3	4	5	6	7	8						
Test Position	CH0	CH10	CH20	CH30	CH40	CH50	CH60	CH70						
Offset	LWT	RWT	LWT	RWT	LWT	RWT	LWT	RWT						
Probe Depth (mm)	B/S	B/S	B/S	B/S	B/S	B/S	B/S	B/S						
Wet Density (t/m³)	2.29	2.28	2.25	2.28	2.25	2.29	2.35	2.31						
Dry Density (t/m³)	2.15	2.14	2.10	2.15	2.14	2.14	2.22	2.17						
Water Content (%)	6.2	6.2	7.0	6.0	5.4	6.6	5.8	6.8						
% of MDD	99	98	96	99	98	98	102	99						
% Saturation	64	63	64	62	54	67	70	72						

Oven Corrected Test Results

Dry Density (t/m³)	2.20	2.18	2.14	2.20	2.18	2.19	2.26	2.21						
Water Content (%)	4.2	4.2	5.0	4.0	3.4	4.6	3.8	4.8						
% of MDD	101	100	98	101	100	100	104	101						
% Saturation	48	46	50	46	37	51	51	56						

Test Methods	Notes
Insitu Density : NZS 4407 : 2015, Test 4.3 for Backscatter Mode	Max dry density from : WSP Hamilton Lab. Report ID: HA6289/1_VHMDD SEP20
Water Content: NZS 4407: 2015, Test 3.1 for aggregates	Water Content from report HA6868_WC. FEB21
	CH0 = Centreline of Carrs Road, tested clockwise
	This report replaces report HA6913b_NDM, dated 14/2/21

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*

Date : 15/02/21

Date reported : 15/02/21

ACCREDITED IANZ TESTING LABORATORY

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BENKELMAN BEAM
TEST REPORT

Project :	Greenhill Stage 13
Location :	Carrs Road
Client :	Online Contractors (2016) Ltd
Contractor :	Online Contractors (2016) Ltd
Test method :	TNZ T/1 1977
Pavement type :	Basecourse (TNZ 40)
Pavement temp °C :	-
Weight on rear axle:	8.3 tonnes
Tested by :	C.Brown, G.Tait

Project No :	2-68015.00
Lab Ref No :	HA6913a
Client Ref :	

Test Results

Location	Deflections (mm)				Comments
Metres	Left Outer	Centre	Right Outer		
10			0.64		CH0 = Edge of Asphalt on existing Carrs Rd
20	0.76				
30		0.60			
40		0.66			Plant in the way
50	0.56				
60		0.90			
70			0.60		
80	0.70				
90		0.66			
100			0.58		
110	0.58				
120		*0.87*			
130			0.54		
140	0.64				
150		0.60			
160			0.72		
170	0.64				
180		0.76			
190			0.70		
200	0.56				
210		0.70			
220			0.64		
230	0.64				
240		0.64			
250			0.44		
260	0.50				
	0.76				90 Percentile calculated for all data in columns 1 to 4.

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 0.90	Minimum (mm) : 0.44	Average (mm): 0.65

Note: Results in italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/1 1977).

Date tested : 14/02/2021
Date reported : 14/02/2021

IANZ Approved Signatory

Designation : Senior Civil Engineering Technician
Date : 14/02/2021

ACCREDITED IANZ TESTING LABORATORY

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BENKELMAN BEAM
TEST REPORT

wsp

Project :	Greenhill Stage 13
Location :	Carrs Road, Roundabout
Client :	Online Contractors (2016) Ltd
Contractor :	Online Contractors (2016) Ltd
Test method :	TNZ T/1 1977
Pavement type :	Stabilised (TNZ 40)
Pavement temp °C :	-
Weight on rear axle:	8.3 tonnes
Tested by :	C.Brown, G.Tait

Project No :	2-68015.00
Lab Ref No :	HA6913b_R
Client Ref :	

Test Results

Location Metres	Deflections (mm) Left Outer	Right Outer			Comments
0	0.50				CH0 = Centreline of Carrs Rd, tested clockwise
10		0.50			
20	0.56				
30		0.60			
40	0.86				
50		0.64			
60	0.50				
70		0.44			
	0.71				90 Percentile calculated for all data in columns 1 to 2.

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 0.86	Minimum (mm): 0.44	Average (mm): 0.58

Note: Results in italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/1 1977)

This report replaces report HA6913b_NDM, dated 14/2/21

Date tested : 14/02/2021
Date reported : 14/02/2021

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*
Date : 15/02/2021

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BENKELMAN BEAM
TEST REPORT

Project :	Greenhill Stage 13
Location :	Side stub (RHS)
Client :	Online Contractors (2016) Ltd
Contractor :	Online Contractors (2016) Ltd
Test method :	TNZ T/1 1977
Pavement type :	Basecourse (TNZ 40)
Pavement temp °C :	-
Weight on rear axle:	8.3 tonnes
Tested by :	C.Brown, G.Tait

Project No :	2-68015.00
Lab Ref No :	HA6913c
Client Ref :	

Test Results

Location Metres	Deflections (mm) Left Outer	Right Outer			Comments
10	0.84				CH0 = Centreline of Carrs Rd
20		0.70			
	0.83				90 Percentile calculated for all data in columns 1 to 4.

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 0.84 Minimum (mm) : 0.70 Average (mm): 0.77

Note: Results in italics have a difference between Intermediate and Final readings that are greater than 3 (refer TNZ T/1 1977).

Date tested : 14/02/2021
Date reported : 14/02/2021

IANZ Approved Signatory

Designation : Senior Civil Engineering Technician
Date : 14/02/2021

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BENKELMAN BEAM
TEST REPORT

Project :	Greenhill, Stage 13
Location :	Webb Drive, Southbound Lane
Client :	Online Contractors (2016) Limited
Contractor :	Online Contractors (2016) Limited
Test method :	TNZ T/1 1977
Pavement type :	Stabilised TNZ40
Pavement temp °C :	-
Weight on rear axle:	8.3 tonnes
Tested by :	C.Brown, G.Tait

Project No :	Z-68015.00
Lab Ref No :	HA6883a
Client Ref :	

Test Results

Location Metres	Deflections (mm) Left WT	Right WT			Comments
520	0.32				
530		0.10			
540	0.40				
550		0.30			
560	0.04				
570		0.30			
580	0.10				
590		0.36			
600	0.10				
610		0.36			
620	0.44				
630		0.30			
640	0.10				
650		0.32			
660	0.32				
670		0.32			
680	0.16				
690		0.30			
700	0.28				
710		0.40			
720	0.30				
730		0.40			
740	0.20				
750		0.26			
760	0.30				
770		0.34			
780	0.20				
790		0.20			
800	0.20				
	0.4				90 Percentile calculated for all data in columns 1 to 2

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 0.44	Minimum (mm) : 0.04	Average (mm): 0.27

Note: Results in italics have a difference between intermediate and Final readings that are greater than 3 (refer TNZ T/1 1977).

Date tested : 9/02/2021
Date reported : 10/02/2021

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*
Date : 10/02/2021

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BENKELMAN BEAM
TEST REPORT

Project :	Greenhill, Stage 13
Location :	Webb Drive, Northbound Lane
Client :	Online Contractors (2016) Limited
Contractor :	Online Contractors (2016) Limited
Test method :	TNZ T/1 1977
Pavement type :	Stabilised TNZ40
Pavement temp °C :	-
Weight on rear axle:	8.3 tonnes
Tested by :	C.Brown, G.Tait

Project No :	2-68015.00
Lab Ref No :	HA6883b_R
Client Ref :	

Test Results

Location Metres	Deflections (mm) Left WT	Right WT			Comments
540	0.24				
550		0.44			
560	0.40				
570		0.48			
580	0.36				
590		0.44			
600	0.32				
610		0.20			
620	0.30				
630		0.22			
640	0.44				
650		0.30			
660	0.44				
670		0.30			
680	0.40				
690		0.16			
700	0.40				
710		0.34			
720	0.30				
730		0.16			
740	0.59				
750		0.20			
760	0.16				
	0.44		90 Percentile calculated for all data in columns 1 to 2.		

Deflection Statistical Analysis (for all deflections)

Maximum (mm): 0.59	Minimum (mm) : 0.16	Average (mm): 0.33

Note: Results in italics have a difference between Intermediate and Final readings that are greater than 5 (refer TNZ T/1 1977).

Note: This report replaces report HA6883b dated 10/2/21.

Date tested : 9/02/2021
Date reported : 10/02/2021

IANZ Approved Signatory

Designation : *Senior Civil Engineering Technician*
Date : 10/02/2021

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Surfacing & RAMM Data 2(d)

- HCC pavement RAMM data
- Surfacing RAMM data

F3.7 RAMM ASPHALT DATA

(to be completed for each seal layer on each road section)

Subdivision	Greenhill Park Stage 13		
Road No / Name	Carrs Rd		
Start m	CH320	Start Description	end of seal
End m	CH560	End Description	prior to roundabout
Width	9m		

Contractor	Online Contractors 2016 Ltd
Date of Work	
Asphalt Type (circle one)	AC / OGPA / SMA / Other
Grading (e.g. M/10 DG10)	DG 10
Area Surfaced (m²)	2400
Average thickness (mm)	46 mm
Laying Temperature (°C)	149°C
Tack Coat Residual Application Rate (L/m²)	1.0 L/m²
Additional Notes (e.g. Weather, Temp, Polymer Modification)	Dry.

F3.8 RAMM CHIPSEAL DATA

(to be completed for each seal layer on each road section)

Subdivision	Greenhill Park Stage 13		
Road No / Name	Carrs Rd		
Start m	CH320	Start Description	end of seal
End m	CH560	End Description	prior to roundabout
Width	9m		

Contractor	Online Contractors 2016 Ltd
Date of Work	
Seal Type (circle one)	1 Coat / Racked in Chipseal / 2 Coat / Other:
Seal Reason	Waterproofing First Coat / Second Coat / Asphalt Membrane
Area Sealed (m²)	2400
Chip Grading (e.g. 3/5)	Grade 4
Binder Type (e.g. B180/200)	CRS2 - Emulsion.
Chip Source Company	J. Swap.
Chip Source Quarry	Tauhara Road.
Total Volume of Binder Used (Hot) (Litres)	3360
Temperature of Binder (°C)	80° C
Residual Binder Rate (L/m²)	1.0 L/m²
Cutter (e.g. 3 pph Kero)	–
Other Additives with concentrations (e.g. Polymer modification RS1, 3%)	
Sealing Notes (e.g. Weather, Temp)	–

Surfacing Chip PSV testing form attached ☐

F3.7 RAMM ASPHALT DATA

(to be completed for each seal layer on each road section)

Subdivision	Greenhill Park Stage 13		
Road No / Name	Webb Dr Including Roundabout		
Start m	CH520	Start Description	end of seal
End m	CH860	End Description	to roundabout south side
Width	5.3m each lane		

Contractor	Online Contractors 2016 Ltd
Date of Work	06-03-21
Asphalt Type (circle one)	(AC) OGPA / SMA / Other
Grading (e.g. M/10 DG10)	AC 14
Area Surfaced (m^2)	4107
Average thickness (mm)	50 mm
Laying Temperature (°C)	149°C
Tack Coat Residual Application Rate (L/m^2)	1.0 L/m^2
Additional Notes (e.g. Weather, Temp, Polymer Modification)	Dry.

F3.8 RAMM CHIPSEAL DATA

(to be completed for each seal layer on each road section)

Subdivision	Greenhill Park Stage 13		
Road No / Name	Webb Dr		
Start m	CH520	Start Description	end of seal
End m	CH660	End Description	to roundabout southside
Width	5.3m each lane		

Contractor	Online Contractors 2016 Ltd
Date of Work	
Seal Type (circle one)	1 Coat / Racked in Chipseal / 2 Coat / Other:
Seal Reason	Waterproofing First Coat / Second Coat / Asphalt Membrane
Area Sealed (m^2)	4107 m^2
Chip Grading (e.g. 3/5)	Grade 4
Binder Type (e.g. B180/200)	CRS2 Emulsion
Chip Source Company	J. Swap.
Chip Source Quarry	Tauhara
Total Volume of Binder Used (Hot) (Litres)	8624.7
Temperature of Binder (°C)	80°C.
Residual Binder Rate (L/m^2)	2.0 L/m^2
Cutter (e.g. 3 pph Kero)	
Other Additives with concentrations (e.g. Polymer modification RS1, 3%)	—
Sealing Notes (e.g. Weather, Temp)	

Surfacing Chip PSV testing form attached ☐

F3.9 RAMM PAVEMENT DATA

(to be completed for each road section)

Subdivision: GREENHILL PARK - STAGE 13

Road No / Name: CARRS ROAD

Start m: 330 Start Description: ATHIER AVENUE

End m: 580 End Description: WEBB DRIVE ROUNDABOUT

Width: 9m

Basecourse

Date Completed: 18-2-21

Thickness: 150mm

Grading: TNZ M/4 AP40

Quarry: STEVENSONS TAUHEI

Sub-Base

Date Completed: 4-12-2020

Thickness: 200mm

Grading: GAP65

Quarry: GLEESON (HUNTLY)

Undercut / Imported Subgrade (If Required)

Whole Site: (Yes) / No

Length: 250m

Width: 9.5m

Depth: 0.5m

Backfill Material: HARD BROWN ROCK

Subgrade

CBR Without Stabilisation: 15

Material:

Stabilised? No / Cement / Lime

% Stabilising Agent:

Stabilised Depth:

Stabilised CBR:

F3.9 RAMM PAVEMENT DATA

(to be completed for each road section)

Subdivision	GREENHILL PARK – STAGE 13
Road No / Name	WEBB DRIVE
Start m	540 Start Description ROAD 20
End m	850 End Description CARRS ROAD ROUNDABOUT
Width	5m SOUTHBOUND & 5m NORTHBOUND

Basecourse

Date Completed	11-2-2021
Thickness	180mm 2% CEMENT
Grading	TNZ M/4 AP40
Quarry	STEVENSONS TAUHEI

Sub-Base

Date Completed	10-11-2020
Thickness	170mm
Grading	GAP 65
Quarry	GLEESON (HUNTLY)

Undercut / Imported Subgrade (If Required)

Whole Site	(Yes) / No
Length	310 m
Width	5.5m SOUTHBOUND & 5.5m NORTHBOUND
Depth	0.5m
Backfill Material	HARD BROWN ROCK

Subgrade

CBR Without Stabilisation	15
Material	
Stabilised?	No * Cement Lime
% Stabilising Agent	
Stabilised Depth	
Stabilised CBR	

APPENDIX 3

Water Construction QA Documentation

- Pipe Laying Checklists F6.2
- Final Inspection Checklist F6.3
- Laboratory Water Test Results
- Pressure Test Results

Waikato Local Authority
SHARED SERVICES

WATER SUPPLY PIPE LAYING CHECKLIST

SITE ADDRESS: GREENHILL PARK STAGE 13

NAME OF ~~DEVELOPER~~ CONTRACTORS: ONLINE CONTRACTORS

NAME OF QUALIFIED WATER SERVICE PERSON: TC RUKI SHEEHAN

Location: Pipe length *(Intersection to Intersection and side)*	FROM	WEST EOS WEB3 DR	EAST ED3 WEB6 DR		
	TO	RNABOUT RNABOUT			
		Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory
Pipe size, pressure rating, material, acceptable products checked *(attach photo of manufacturer's stamp on pipe)*		250	150			
Foundation support attached		N/A	N/A			
Dynamic cone penetrometer (DCP) results available		N/A	N/A			
If under-cutting required, note metreage and DCP:		N/A	N/A			
Bedding type and backfill material *(DCP results for road crossings and driveways attached?)* YES ☐ NO ☑		SAND	SAND			
Valves and hydrants not in carriageway		✓	✓			
Alignment and cover		✓	✓			
All service connections in place *(Table of water meter and backflow preventor numbers with corresponding lot numbers attached?)* YES ☐ NO ☐		N/A	N/A			
Connections and Toby Box correctly located horizontally and vertically *(as per standard drawings)*		✓	✓			
Hydrants and valves positioned correctly *(as per standard drawings)*		✓	✓			
Thrust blocks installed		✓	✓			
Pipelines flushed		✓	✓			
As-built measurements taken prior to backfill		✓	✓			
Pressure test witnessed and passed by Council representative		✓	✓			

	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory
Bacto sample taken and passed by Council representative PRIOR to connection to the live Council main	✓	✓			
Connection to live main by Council *(unless specifically approved)*	✓	✓			

Main left charged at FAC level of _____ ppm

DAN HOPPER		11-03-21
~~Developer~~/Contractor's name *(please print)*	~~Developer~~/Contractor's signature	Date signed
Council Representative's name *(please print)*	**Council Representative's signature**	**Date signed**

Waikato Local Authority SHARED SERVICES

WATER SUPPLY PIPE LAYING CHECKLIST

SITE ADDRESS: GREENHILL PARK STAGE 13

NAME OF ~~DEVELOPER~~ CONTRACTOR: ONLINE CONTRACTORS

NAME OF QUALIFIED WATER SERVICE PERSON: TE RAKI, STEEHAN

Location: Pipe length (Intersection to Intersection and side)		NTH 863 CARRS	9TH 895 CARRS			
	FROM					
	TO	WORK RUNOUT	WORK RUNOUT			
		Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory
Pipe size, pressure rating, material, acceptable products checked *(attach photo of manufacturer's stamp on pipe)*		150	250			
Foundation support attached		N/A	NA			
Dynamic cone penetrometer (DCP) results available		N/A	NA			
If under-cutting required, note metreage and DCP:		NA	N/A			
Bedding type and backfill material *(DCP results for road crossings and driveways attached?)* YES ☐ NO ☑		SAND	SAND			
Valves and hydrants not in carriageway		✓	✓			
Alignment and cover		✓	✓			
All service connections in place *(Table of water meter and backflow preventor numbers with corresponding lot numbers attached?)* YES ☑ NO ☐		✓	✓			
Connections and Toby Box correctly located horizontally and vertically *(as per standard drawings)*		✓	✓			
Hydrants and valves positioned correctly *(as per standard drawings)*		✓	✓			
Thrust blocks installed		✓	✓			
Pipelines flushed		✓	✓			
As-built measurements taken prior to backfill		✓	✓			
Pressure test witnessed and passed by Council representative		✓	✓			

	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory	Tick if satisfactory
Bacto sample taken and passed by Council representative PRIOR to connection to the live Council main	✓	✓			
Connection to live main by Council *(unless specifically approved)*	✓	✓			

Main left charged at FAC level of _____ ppm

DAN HOPER		11-03-21
~~Developer~~/Contractor's name *(please print)*	~~Developer~~/Contractor's signature	Date signed
Council Representative's name *(please print)*	**Council Representative's signature**	**Date signed**

Waikato Local Authority
SHARED SERVICES

WATER SUPPLY FINAL INSPECTION CHECKLIST

DEVELOPER/CONTRACTOR ONLINE CONTRACTORS LTD

SITE/LOCATION GREENHILL PARK STAGE 13

SUB _____ / _____ **CONTRACT NO**

Developer to verify checklist prior to meeting	**Developer Check**	**Council Rep Check**
1. All lines flushed out	✓	
2. All backfilling complete and reinstated	✓	
3. Water Supply Design Confirmation form completed	✓	
4. Water Supply Pipe Laying Checklist completed	✓	
5. Final as-built plans attached for site inspection	✓	
6. Connected to existing supply by Council *(refer* Water Supply Pipe Laying Checklist*)*	✓	
Site Meeting:		
1. Valves and hydrants correctly marked *(Refer standard drawings for indicator posts)*	✓	
2. FH pavement markers in place	✓	
3. Fire hydrant lids painted	✓	
4. Valve and FH boxes installed correctly *(Refer standard drawings)*	✓	
5. All valves checked on/~~off~~	✓	
6. Remedial work required? Yes *(please list)* No		

DAN HOPPER
~~Developer~~/Contractor's name *(please print)*

~~Developer~~/Contractor's signature

11-03-21
Date signed

Council Representative's name *(please print)*

Council Representative's signature

Date signed

Sample ID	Sample Type	Site	Date Sampled	Date Received	Parameter Name	Result	Units	Lab	Status
2021000845	Hamilton Reticulation Maintenance	150 Greenhill west	16/02/2021	16/02/2021	Heterotrophic Plate Count 35ºC	<1	cfu/mL	HCC Laboratory	e
2021000845	Hamilton Reticulation Maintenance	150 Greenhill west	16/02/2021	16/02/2021	Temperature On Arrival	17.1	ºC	HCC Laboratory	e
2021000845	Hamilton Reticulation Maintenance	150 Greenhill west	16/02/2021	16/02/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	e
2021000845	Hamilton Reticulation Maintenance	150 Greenhill west	16/02/2021	16/02/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	e
2021000845	Hamilton Reticulation Maintenance	150 Greenhill west	16/02/2021	16/02/2021	Time Sampled (client)	06:30		Client	e
2021000845	Hamilton Reticulation Maintenance	150 Greenhill west	16/02/2021	16/02/2021	Sampler (client)	Lance Parkes		Client	e
2021000846	Hamilton Reticulation Maintenance	150 Greenhill North	16/02/2021	16/02/2021	Heterotrophic Plate Count 35ºC	5	cfu/mL	HCC Laboratory	e
2021000846	Hamilton Reticulation Maintenance	150 Greenhill North	16/02/2021	16/02/2021	Temperature On Arrival	16.8	ºC	HCC Laboratory	e
2021000846	Hamilton Reticulation Maintenance	150 Greenhill North	16/02/2021	16/02/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	e
2021000846	Hamilton Reticulation Maintenance	150 Greenhill North	16/02/2021	16/02/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	e
2021000846	Hamilton Reticulation Maintenance	150 Greenhill North	16/02/2021	16/02/2021	Time Sampled (client)	06:35		Client	e
2021000846	Hamilton Reticulation Maintenance	150 Greenhill North	16/02/2021	16/02/2021	Sampler (client)	Lance Parkes		Client	e
2021000847	Hamilton Reticulation Maintenance	150 Greenhill East	16/02/2021	16/02/2021	Heterotrophic Plate Count 35ºC	<1	cfu/mL	HCC Laboratory	e
2021000847	Hamilton Reticulation Maintenance	150 Greenhill East	16/02/2021	16/02/2021	Temperature On Arrival	17.7	ºC	HCC Laboratory	e
2021000847	Hamilton Reticulation Maintenance	150 Greenhill East	16/02/2021	16/02/2021	E.coli Enumerated	<1	MPN/100mL	HCC Laboratory	e
2021000847	Hamilton Reticulation Maintenance	150 Greenhill East	16/02/2021	16/02/2021	Total Coliforms Enumerated	<1	MPN/100mL	HCC Laboratory	e
2021000847	Hamilton Reticulation Maintenance	150 Greenhill East	16/02/2021	16/02/2021	Time Sampled (client)	06:45		Client	e
2021000847	Hamilton Reticulation Maintenance	150 Greenhill East	16/02/2021	16/02/2021	Sampler (client)	Lance Parkes		Client	e

Test Certificate

Date	4 Feb 2021
Project Name	Greenhill
Plan No.	Stage 15, 14 & 13
Contractor	Online
Contractors Rep	Tyler Maihi
HCC Officer	M. Gibbs

Water Reticulation

Pressure Test – Water 171-PSI [✓] or 1200kPa [ ] for 15mins

Test Name	PN Rating	Pipe Size	Start	Finish	Length	Result
PT	16	150m 63mm	10.45	11.00	600m	Pass

Signature HCC Test Official	
Signature Contractor Representative	

Hamilton City Council
Te Kaunihera o Kirikiriroa

APPENDIX 4

Wastewater Construction and QA Records

- Wastewater Pipe Laying Checklist F5.2
- Wastewater Manhole Checklist F5.3
- Wastewater trench Backfill Summary Checklist F5.4
- Wastewater Final Inspection Checklist F5.6
- Pressure Test Results
- CCTV submission email

F5.2 WASTEWATER PIPE LAYING CHECKLIST

Engineering plan number(s): 21879-M-13-S01					
Name of certified drainlayer: Zane Millar					
Location: Pipe length (MH To MH)	FEH to 18.5	18.5 to 18.4	18.4 to 18.3	18.3 to 18.1	18.3 to 18.2

Pipe Laying Checks

Trench Safety (d) Shield (e) Batter (f) Other	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐
Pipe size, quality, manufacturer, on acceptable products list	☑	☑	☑	☑	☑
Set out – Surveyors name Online – Set out checked	☑ ☐	☑ ☑	☑ ☑	☑ ☑	☑ ☑
Foundation support attached – Dynamic cone penetrometer (DCP) results – if under cutting required, note metreage and DCP results.	☑ ☑	☑ ☑	☑ ☑	☑ ☑	☑ ☑
Record daily level check and confirm on grade	☑	☑	☑	☑	☑
Bedding type and surround material: 40/20 – Pitgravel	☑	☑	☑	☑	☑
Bulk Backfill material: Brown Rock	☑	☑	☑	☑	☑
Bulk backfill compaction (DCP results from pipe to ground level attached)	☑	☑	☑	☑	☑
Alignment – control points identified	☑	☑	☑	☑	☑
Pressure test witnessed and passed by Council representative.	☑	☑	☑	☑	☑

Service connections

All service connections in place, taped, and staked	☑	☑	☑	☑	☑
As-built measurements taken, GPS located	☑	☑	☑	☑	☑
CCTV pipe inspection data and comments supplied	☑	☑	☑	☑	☑

West Construction — **Developer/Contractor**

16/12/20 — **Date**

F5.2 WASTEWATER PIPE LAYING CHECKLIST

Engineering plan number(s): 21879-M-13-501					
Name of certified drainlayer: Zane Millar					
Location: Pipe length (MH To MH)	18.2 to 18.1	18.2 to 19.2	19.2 to 19.1	19.2 to 19.41	18.2 to 20.2

Pipe Laying Checks

Trench Safety (d) Shield (e) Batter (f) Other	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐
Pipe size, quality, manufacturer, on acceptable products list	☑	☑	☑	☑	☑
Set out – Surveyors name Online – Set out checked	☑ ☑	☑ ☑	☑ ☑	☑ ☑	☑ ☑
Foundation support attached – Dynamic cone penetrometer (DCP) results – if under cutting required, note metreage and DCP results.	☑ ☐	☑ ☐	☑ ☑	☑ ☑	☑ ☐
Record daily level check and confirm on grade	☑	☑	☑	☑	☑
Bedding type and surround material: 40/20 – AP Sand	☑	☐	☑	☑	☐
Bulk Backfill material: Brown Rock	☑	☑	☑	☑	☑
Bulk backfill compaction (DCP results from pipe to ground level attached)	☑	☑	☑	☑	☑
Alignment – control points identified	☑	☑	☑	☑	☑
Pressure test witnessed and passed by Council representative.	☑	☑	☑	☑	☑

Service connections

All service connections in place, taped, and staked	☑	☑	☑	☑	☑
As-built measurements taken, GPS located	☑	☑	☑	☐	☑
CCTV pipe inspection data and comments supplied	☑	☑	☑	☑	☑

West Construction — 16/12/20

Developer/Contractor **Date**

F5.2 WASTEWATER PIPE LAYING CHECKLIST

Engineering plan number(s): 21879-M-13-501						
Name of certified drainlayer: Zane Miller						
Location: Pipe length (MH To MH)	20.2 to 20.1	20.2 to 21.3	21.3 to 21.2	21.2 to 21.1	22.2 to 22.1	

Pipe Laying Checks

Trench Safety (d) Shield (e) Batter (f) Other	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐
Pipe size, quality, manufacturer, on acceptable products list	☑	☑	☑	☑	☑
Set out – Surveyors name Online – Set out checked	☑ ☑	☑ ☑	☑ ☑	☑ ☑	☑ ☑
Foundation support attached – Dynamic cone penetrometer (DCP) results – if under cutting required, note metreage and DCP results.	☑ ☑	☑ ☑	☑ ☑	☑ ☑	☑ ☑
Record daily level check and confirm on grade	☑	☑	☑	☑	☑
Bedding type and surround material: 40/20 – PitSand	☑	☑	☑	☑	☑
Bulk Backfill material: Brown Rock	☑	☑	☑	☑	☑
Bulk backfill compaction (DCP results from pipe to ground level attached)	☑	☑	☑	☑	☑
Alignment – control points identified	☑	☑	☑	☑	☑
Pressure test witnessed and passed by Council representative.	☑	☑	☑	☑	☑

Service connections

All service connections in place, taped, and staked	☑	☑	☑	☑	☑
As-built measurements taken, GPS located	☑	☑	☑	☑	☑
CCTV pipe inspection data and comments supplied	☑	☑	☑	☑	☑

WAST Construction — 16/12/20

Developer/Contractor **Date**

F5.3 WASTEWATER MANHOLE CHECKLIST

Engineering Plan Number(s) 21879-M-13-S01					
Name of certified drainlayer: Zane Miller					
Location: Pipe length (MH To MH)	18.5	18.4	18.3	18A1	18.2
Manhole Construction Checklist	**MH number**				
Manhole size, quality, manufacturer on acceptable materials list	☑	☑	☑	☑	☑
Set out /orientation	☑	☑	☑	☑	☑
Sealing strip between risers	☑	☑	☑	☑	☑
Benching					
• Height	☑	☑	☑	☑	☑
• Alignment and cross section	☑	☑	☑	☑	☑
• Half pipe lining (wastewater only)	☑	☑	☑	☑	☑
• Step recesses (if applicable)	☐	☐	☐	☐	☐
Flexible joints	☑	☐	☐	☐	☐
Cutting and plastering of connections	☑	☑	☑	☑	☑
Access details per drawings (e.g. manhole cover sited over steps).	☑	☑	☑	☑	☑
Step irons including epoxy to outside recesses	☑	☑	☑	☑	☑
Bedding type and surround	☑	☑	☑	☑	☑
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	☑	☑	☑	☑	☑
No debris in pipelines	☑	☑	☑	☑	☑
Pipe invert fall through manhole	☑	☑	☑	☑	☑
Pressure test witnessed and passed by Council representative.	☑	☑	☑	☑	☑

West Construction — 16/12/20

Developer/Contractor **Date**

F5.3 WASTEWATER MANHOLE CHECKLIST

Engineering Plan Number(s)	21879-M-13-SO1				
Name of certified drainlayer:	Zane Mathieson				
Location: Pipe length (MH To MH)	18.1	19.2	19.1	19A1	20.2
Manhole Construction Checklist	**MH number**				
Manhole size, quality, manufacturer on acceptable materials list	☑	☑	☑	☑	☑
Set out /orientation	☑	☑	☑	☑	☑
Sealing strip between risers	☑	☑	☑	☑	☑
Benching					
• Height	☑	☑	☑	☑	☑
• Alignment and cross section	☑	☑	☑	☑	☑
• Half pipe lining (wastewater only)	☑	☑	☑	☑	☑
• Step recesses (if applicable)	☐	☐	☐	☐	☐
Flexible joints	☑	☑	☑	☑	☑
Cutting and plastering of connections	☑	☑	☑	☑	☑
Access details per drawings (e.g. manhole cover sited over steps).	☑	☑	☑	☑	☑
Step irons including epoxy to outside recesses	☑	☑	☑	☑	☑
Bedding type and surround	☑	☑	☑	☑	☑
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	☑	☑	☑	☑	☐
No debris in pipelines	☑	☑	☑	☑	☑
Pipe invert fall through manhole	☑	☑	☑	☑	☑
Pressure test witnessed and passed by Council representative.	☑	☑	☑	☑	☑

WaST Construction — **Developer/Contractor**

16/12/20 — **Date**

F5.3 WASTEWATER MANHOLE CHECKLIST

Engineering Plan Number(s) 21879-M-13-SO1						
Name of certified drainlayer: Zane Milliken						
Location: Pipe length (MH To MH)	20.1	21.3	21.2	21.1	22.2	22.1
Manhole Construction Checklist	**MH number**					
Manhole size, quality, manufacturer on acceptable materials list	☑	☑	☑	☑	☑	✓
Set out /orientation	☑	☑	☑	☑	☑	✓
Sealing strip between risers	☑	☑	☑	☑	☑	✓
Benching						
• Height	☑	☑	☑	☑	☑	✓
• Alignment and cross section	☑	☑	☑	☑	☑	✓
• Half pipe lining (wastewater only)	☑	☑	☑	☑	☑	✓
• Step recesses (if applicable)	☐	☐	☐	☐	☐	
Flexible joints	☑	☑	☑	☑	☑	✓
Cutting and plastering of connections	☑	☑	☑	☑	☑	✓
Access details per drawings (e.g. manhole cover sited over steps).	☑	☑	☑	☑	☑	✓
Step irons including epoxy to outside recesses	☑	☑	☑	☑	☑	✓
Bedding type and surround	☑	☑	☑	☑	☑	✓
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	☑	☑	☑	☑	☑	✓
No debris in pipelines	☑	☑	☑	☑	☑	✓
Pipe invert fall through manhole	☑	☑	☑	☑	☑	✓
Pressure test witnessed and passed by Council representative.	☑	☑	☑	☑	☑	✓

WSP Construction — 16/12/20

Developer/Contractor **Date**

F5.4 WASTEWATER TRENCH BACKFILL COMPACTION TEST SUMMARY (ATTACH INDIVIDUAL TEST REPORTS)

Technician Carrying out Tests:	West Construction
Location:	Greenhill Park 13,14,15
Plan No(s):	21872-M-13-Sor
From MH	22.2 - 22.1
Acceptance Criteria:	
Tests by:	West Construction

(attached)

Analysis of Results

☑ Trench backfill completed satisfactorily

or

☐ Trench backfill requires remedial work as follows:

•

West Construction — 16/12/20

Developer/Contractor **Date**

F5.4 WASTEWATER TRENCH BACKFILL COMPACTION TEST SUMMARY (ATTACH INDIVIDUAL TEST REPORTS)

Technician Carrying out Tests:	West Construction
Location:	Greenhill Park 13,14,15
Plan No(s):	21879-M-13-Sq1
From MH	19.2-20.2- 21.3-21.2-21.1-20.1
Acceptance Criteria:	CBR>16
Tests by:	West Construction

(attached)

Analysis of Results

☑ Trench backfill completed satisfactorily

or

☐ Trench backfill requires remedial work as follows:

•

West Construction — 16/12/20

Developer/Contractor **Date**

F5.4 WASTEWATER TRENCH BACKFILL COMPACTION TEST SUMMARY (ATTACH INDIVIDUAL TEST REPORTS)

Technician Carrying out Tests:	West Construction
Location:	Greenhill Park 13,14,15
Plan No(s):	21879-M-13-SOA
From MH	FEI, 18.5, 18.4, 18.3, 18.2, 18.1, 18A1
Acceptance Criteria:	CBR > 16
Tests by:	West Construction

(attached)

Analysis of Results

☑ Trench backfill completed satisfactorily

or

☐ Trench backfill requires remedial work as follows:

•

West Construction — 16/12/20

Developer/Contractor **Date**

F5.4 WASTEWATER TRENCH BACKFILL COMPACTION TEST SUMMARY (ATTACH INDIVIDUAL TEST REPORTS)

Technician Carrying out Tests:	West Construction
Location:	Greenhill 13,14,15
Plan No(s):	21879-M-13-501
From MH	18.2-19.2, 19A1-19.1
Acceptance Criteria:	CBR > 16
Tests by:	West Construction (attached)

Analysis of Results

☑ Trench backfill completed satisfactorily

or

☐ Trench backfill requires remedial work as follows:

•

West Construction — 16/12/20

Developer/Contractor **Date**

F4.6 STORMWATER PIPE NETWORK - FINAL INSPECTION CHECKLIST

Site/Location: Greenhill Park Stages 13, 14, 15	
Developer/Contractor: West Construction	
SUB _____ / _____	**Contract No:**

PRE-MEETING TASKS

Developer to verify checklist prior to meeting:	Developer Check	Council Rep Check
1. All relevant stormwater checklists completed	☑	☐
2. All lines flushed out	☑	☐
3. All required CCTV inspections carried out, reviewed and any re-work completed.	☑	☐
4. All manholes checked (eg.infiltration, plastering)	☑	☐
5. All backfilling complete and tidied up	☑	☐
6. Final as-built and operational plans attached for site inspection	☐	☐
SITE MEETING		
1. Inspect all lines	☐	☐
2. Inspect all manholes and catchpits	☐	☐
3. Works on third party land completed to satisfaction of owner	☐	☐
4. Overland flow to and from adjoining properties not affected	☐	☐
5. Remedial work required? ☐ Yes (please list) ☐ No		

West Construction
.....
Developer

Date 9/3/21

.....
Council

Date.....

F5.6 WASTEWATER PIPE NETWORK - FINAL INSPECTION CHECKLIST

Site/Location: Greenhill Park Stages 13, 14, 15		
Developer/Contractor: West Construction		
SUB _____ / _____ **Contract No:**		
Developer to verify checklist prior to meeting:	**Developer Check**	**Council Rep Check**
6. All checklists completed (add form numbers)	☑	☐
7. All lines flushed out	☑	☐
8. All required CCTV inspections carried out, reviewed and any re-work completed.	☑	☐
9. All manholes checked (eg.infiltration, plastering)	☑	☐
10. All backfilling complete and tidied up	☑	☐
11. Pressure test completed and witnessed	☑	☐
12. Final as-built and operational plans attached for site inspection	☐	☐

Site Meeting		
13. Inspect all lines	☐	☐
14. Inspect all manholes and catchpits	☐	☐
15. Inspect SW inlet and outlet structures	☐	☐
16. Secondary flowpaths and detention ponds	☐	☐
17. Works on third party land completed to satisfaction of owner	☐	☐
18. Wastewater pumping station data complete and test results (Form F5.7) attached	☐	☐
19. Overland flow to and from adjoining properties not affected	☐	☐
20. Remedial work required? ☐ Yes (please list) ☐ No		

_____ West Construction 9/3/21

Council **Developer**

BACKFILL RESULT SHEET

TESTED BY: West Construction

PROJECT NAME : Greenhill Park Stages 13,14,15

Sewer Chainage	C/L Trench(CIV VALUES)		Remarks
FEI WWMH1.9	**1ST LIFT**	**SECOND LIFT**	
10	24	21	BROWN ROCK 1M TESTS
20	26	19	BROWN ROCK 1M TESTS
SSMH18.5			
10	21	17	BROWN ROCK 1M TESTS
20	23	22	BROWN ROCK 1M TESTS
30	27	29	BROWN ROCK 1M TESTS
40	29	24	BROWN ROCK 1M TESTS
50	22	21	BROWN ROCK 1M TESTS
60	24	27	BROWN ROCK 1M TESTS
70	28	20	BROWN ROCK 1M TESTS
80	26	23	BROWN ROCK 1M TESTS
SSMH18.4			
10	27	24	BROWN ROCK 1M TESTS
20	21	25	BROWN ROCK 1M TESTS
30	24	20	BROWN ROCK 1M TESTS
40	21	18	BROWN ROCK 1M TESTS
50	27	24	BROWN ROCK 1M TESTS
60	20	22	BROWN ROCK 1M TESTS
SSMH18.3			
10	22	18	BROWN ROCK 1M TESTS
20	21	22	BROWN ROCK 1M TESTS
30	27	20	BROWN ROCK 1M TESTS
40	25	27	BROWN ROCK 1M TESTS
50	29	23	BROWN ROCK 1M TESTS
60	19	22	BROWN ROCK 1M TESTS
70	21	26	BROWN ROCK 1M TESTS
SSMH18.2			
10	20	24	BROWN ROCK 1M TESTS
20	22	19	BROWN ROCK 1M TESTS
30	24	29	BROWN ROCK 1M TESTS
40	21	26	BROWN ROCK 1M TESTS
50	21		BROWN ROCK 1M TESTS
60	23		BROWN ROCK 1M TESTS
70	25		BROWN ROCK 1M TESTS
80	21		BROWN ROCK 1M TESTS
SSMH18.1			
SSMH18.3			
10	23	21	BROWN ROCK 1M TESTS
20	27	26	BROWN ROCK 1M TESTS
30	21	25	BROWN ROCK 1M TESTS
40	24		BROWN ROCK 1M TESTS
50	29		BROWN ROCK 1M TESTS
60	24		BROWN ROCK 1M TESTS
SSMH18.A1			
SSMH18.2			
10	22	19	BROWN ROCK 1M TESTS
20	24	22	BROWN ROCK 1M TESTS

TESTED BY:	West Construction		
PROJECT NAME :	Greenhill Park Stages 13,14,15		
30	21	24	BROWN ROCK 1M TESTS
40	29	26	BROWN ROCK 1M TESTS
50	24	25	BROWN ROCK 1M TESTS
60	27	30	BROWN ROCK 1M TESTS
SSMH19.2			
10	29	22	BROWN ROCK 1M TESTS
20	24	26	BROWN ROCK 1M TESTS
30	25	23	BROWN ROCK 1M TESTS
40	26	24	BROWN ROCK 1M TESTS
50	24		BROWN ROCK 1M TESTS
60	21		BROWN ROCK 1M TESTS
70	26		BROWN ROCK 1M TESTS
80	28		BROWN ROCK 1M TESTS
90	24		BROWN ROCK 1M TESTS
SSMH19.1			
SSMH19.2			
10	22		BROWN ROCK 1M TESTS
SSMH19.A1			
SSMH18.2			
10	21	26	BROWN ROCK 1M TESTS
20	23	22	BROWN ROCK 1M TESTS
30	24	24	BROWN ROCK 1M TESTS
40	27	36	BROWN ROCK 1M TESTS
50	19	25	BROWN ROCK 1M TESTS
60	21	24	BROWN ROCK 1M TESTS
SSMH20.2			
10	19	23	BROWN ROCK 1M TESTS
20	20	24	BROWN ROCK 1M TESTS
30	24	21	BROWN ROCK 1M TESTS
40	26	22	BROWN ROCK 1M TESTS
50	22		BROWN ROCK 1M TESTS
60	23		BROWN ROCK 1M TESTS
70	20		BROWN ROCK 1M TESTS
80	21		BROWN ROCK 1M TESTS
SSMH20.1			
SSMH20.2			
10	25	19	BROWN ROCK 1M TESTS
20	24	18	BROWN ROCK 1M TESTS
30	23	26	BROWN ROCK 1M TESTS
40	26	21	BROWN ROCK 1M TESTS
SSMH21.3			
10	20	25	BROWN ROCK 1M TESTS
20	24	23	BROWN ROCK 1M TESTS
SSMH21.2			
10	24	21	BROWN ROCK 1M TESTS
20	25	23	BROWN ROCK 1M TESTS
30	28	25	BROWN ROCK 1M TESTS
40	23	22	BROWN ROCK 1M TESTS
50	29		BROWN ROCK 1M TESTS
60	21		BROWN ROCK 1M TESTS

TESTED BY:	West Construction
PROJECT NAME :	Greenhill Park Stages 13,14,15

70	25		BROWN ROCK 1M TESTS
SSMH21.1			

HCC WW testing Report

HCC WW testing Report

Complete

Score	0%	Failed items	0	Actions	0

Location	Greenhill area M Stages 13, 14, 15, Chartwell, Hamilton 3281, New Zealand (-37.7490854, 175.2960279)
Conducted on	16th Nov, 2020 11:22 AM NZDT
Test type	Wastewater pressure test MH pressure test -
Pipe type	100mm - SN16 - uPVC 150mm - SN16 - uPVC
MH # tested	WWMH's 19.1, 19a.1, 19.2, 18a.1, 18.1, 18.2, 18.3, 18.4, 18.5, 20.1, 20.2, 21.1, 21.2, 21.3.
MH # to MH #	WWMH's 19a.1 to 19.2 to 19.1, 19.2 to 18.2 to 18.1, 18.2 to 18.3 to 18a.1, 18.2 to 20.2 to 20.1, 20.2 to 21.3 to 21.2 to 21.1, 18.3 to 18.4 to 18.5 to interceptor.
Tested by	
Matt from Wests Construction 16th Nov, 2020 11:52 AM NZDT	
Inspector/Auditor	Lance Parkes

Comments

WWMH's tested - WWMH's 19.1, 19a.1, 19.2, 18a.1, 18.1, 18.2, 18.3, 18.4, 18.5, 20.1, 20.2, 21.1, 21.2, 21.3.
WW main tested - WWMH's 19a.1 to 19.2 to 19.1, 19.2 to 18.2 to 18.1, 18.2 to 18.3 to 18a.1, 18.2 to 20.2 to 20.1, 20.2 to 21.3 to 21.2 to 21.1, 18.3 to 18.4 to 18.5 to interceptor.

Photos

Pass/Fail	Pass

Barry Pearson

From:	Barry Pearson (Shrimpton and Lipinski Limited Partnership (HQ - Tauranga)) <bpearson@sltga.co.nz>
Sent:	Wednesday, 10 March 2021 4:36 PM
To:	Lance Parkes (Hamilton City Council (Hamilton))
Subject:	Document Issue No. 7 - 19-30378-03 - Greenhill Park - Area M Stage 13, 14 and 15
Attachments:	19-30378-03 - Greenhill Park - Area M Stage 13, 14 and 15 - Issue 7.pdf

19-30378-03 - Greenhill Park - Area M Stage 13, 14 and 15 Issue 7

Issued by: Barry Pearson (Shrimpton and Lipinski Limited Partnership)
On: 10 Mar 2021

Good afternoon

See attached Greenhill Park Stage 13 stormwater (SW) and wastewater (SS and WW) CCTV for review

Note that we intent to submit our Greenhill Park stage 13 engineering completion report to HCC approx. 12th March 2021.

Access has already been given to Martyn Smith and Murray Giles of Hamilton City Council.

Regards

Access the documents for this issue

Recipients:

Lance Parkes (Hamilton City Council (Hamilton))

BARRY PEARSON

S&L
Land Development and Design Specialists

36 Kereiti Street, Tauranga 3110
PO Box 231, Tauranga 3140
07 577 6069 bpearson@sltga.co.nz
www.sltga.co.nz

APPENDIX 5

Stormwater Construction and QA Records

- Stormwater Pipe Laying Checklist F4.11 F5.2
- Stormwater Manhole Checklist F4.12 F5.3
- Trench Backfill Compaction Test Summary F4.13
- Stormwater Backfill Compaction Test Results
- Stormwater Catchpit Checklist F4.14
- Stormwater Final Inspection Checklist F4.6
- CCTV submission email

F4.2 STORMWATER PIPE LAYING CHECKLIST

Engineering plan number(s):									
Name of certified drainlayer:	Swan 15								
Location: Pipe length (MH To MH)		to 19.5	19.5	to 19.4	19.4	to 19.1	19.1	to 20.1	19.1	to 21.2

Pipe Laying Checks

Trench Safety (a) Shield (b) Batter (c) Other	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐
Pipe size, quality, manufacturer, on acceptable products list	☑	☑	☑	☑	☑
Set out – Surveyors name Online – Set out checked	☑ ☑	☑ ☑	☑ ☑	☐ ☐	☐ ☐
Foundation support attached – Dynamic cone penetrometer (DCP) results – if under cutting required, note metreage and DCP results.	☑ ☑	☑ ☐	☑ ☐	☑ ☐	☑ ☐
Record daily level check and confirm on grade	☑	☑	☑	☑	☑
Bedding type and surround material: 40/20 – Sand	☑	☑	☑	☑	☑
Bulk Backfill material: Brown Rock	☐	☐	☐	☐	☐
Bulk backfill compaction (DCP results from pipe to ground level attached)	☑	☑	☐	☐	☐
Alignment – control points identified	☑	☑	☑	☐	☑
Pressure test witnessed and passed by Council representative.	☐	☐	☐	☐	☐

Service connections

All service connections in place, taped, and staked	☑	☑	☑	☑	☑
As-built measurements taken, GPS located	☑	☑	☑	☑	☑
CCTV pipe inspection data and comments supplied	☑	☑	☑	☑	☑

West Construction — 14/12/20

Developer/Contractor **Date**

F4.2 STORMWATER PIPE LAYING CHECKLIST

Engineering plan number(s):					
Name of certified drainlayer:					
Location: Pipe length (MH To MH)	21.2 to 21.1	15.2 to 15.1	19.4 to 22.2	22.2 to 22.1	to

Pipe Laying Checks

Trench Safety (a) Shield (b) Batter (c) Other	☑ ☑ ☐	☑ ☑ ☐	☑ ☑ ☐	☑ ☐ ☐	☐ ☐ ☐
Pipe size, quality, manufacturer, on acceptable products list	☑	☑	☑	☑	☐
Set out – Surveyors name Online – Set out checked	☑ ☑	☑ ☐	☑ ☑	☑ ☑	☐ ☐
Foundation support attached – Dynamic cone penetrometer (DCP) results – if under cutting required, note metreage and DCP results.	☑ ☑	☑ ☐	☑ ☐	☑ ☐	☐ ☐
Record daily level check and confirm on grade	☑	☑	☑	☑	☐
Bedding type and surround material: 40/20 – Sand	☑	☑	☑	☑	☐
Bulk Backfill material: Brown Rock	☑	☑	☑	☑	☐
Bulk backfill compaction (DCP results from pipe to ground level attached)	☑	☑	☑	☑	☐
Alignment – control points identified	☑	☑	☑	☑	☐
Pressure test witnessed and passed by Council representative.	☐	☐	☐	☐	☐

Service connections

All service connections in place, taped, and staked	☑	☑	☑	☑	☐
As-built measurements taken, GPS located	☑	☑	☑	☑	☐
CCTV pipe inspection data and comments supplied	☑	☑	☑	☑	☐

West Construction — 14/12/20

Developer/Contractor **Date**

F4.3 STORMWATER MANHOLE CHECKLIST

Engineering Plan Number(s)					
Name of certified drainlayer:					
Location: Pipe length (MH To MH)	Outlet 15	19.5	19.4	19.1	20.1
Manhole Construction Checklist	**MH number**				
Manhole size, quality, manufacturer on acceptable materials list	☑	☑	☑	☑	☑
Set out /orientation	☑	☑	☑	☑	☑
Sealing strip between risers	☑	☑	☑	☑	☑
Benching – Height – alignment and cross section – half pipe lining (wastewater only) – Step recesses (if applicable)	☑☑☑☑	☑☑☑☑	☑☑☑☑	☑☑☑☑	☑☑☑☑
Flexible joints	☑	☑	☑	☑	☑
Cutting and plastering of connections	☑	☑	☑	☑	☑
Access details per drawings (e.g. manhole cover sited over steps).	☑	☑	☑	☑	☑
Step irons including epoxy to outside recesses	☑	☑	☑	☑	☑
Bedding type and surround	☑	☑	☑	☑	☑
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	☑	☑	☑	☑	☑
No debris in pipelines	☑	☑	☑	☑	☑
Pipe invert fall through manhole	☑	☑	☑	☑	☑

West Construction — **Developer/Contractor**

14/12/20. — **Date**

F4.3 STORMWATER MANHOLE CHECKLIST

Engineering Plan Number(s)					
Name of certified drainlayer:					
Location: Pipe length (MH To MH)	15.1	21.2	21.1	22.2	22.1
	MH number				

Manhole Construction Checklist

Manhole size, quality, manufacturer on acceptable materials list	☑	☑	☑	☑	☑
Set out /orientation	☑	☑	☑	☑	☑
Sealing strip between risers	☑	☑	☑	☑	☑
Benching – Height – alignment and cross section – half pipe lining (wastewater only) – Step recesses (if applicable)	☑☑☑☑	☑☑☑☑	☑☑☑☑	☑☑☑☑	☑☑☑☑
Flexible joints	☑	☑	☑	☑	☑
Cutting and plastering of connections	☑	☑	☑	☑	☑
Access details per drawings (e.g. manhole cover sited over steps).	☑	☑	☑	☑	☑
Step irons including epoxy to outside recesses	☑	☑	☑	☑	☑
Bedding type and surround	☑	☑	☑	☑	☑
Bulk backfill compaction - Dynamic Cone Penetrometer (DCP) results attached	☑	☑	☑	☑	☑
No debris in pipelines	☑	☑	☑	☑	☑
Pipe invert fall through manhole	☑	☑	☑	☑	☐

Watt Construction — 14/12/20

Developer/Contractor **Date**

F4.4 STORMWATER TRENCH BACKFILL COMPACTION TEST SUMMARY

(attach individual test reports)

Technician Carrying out Tests
West Construction

Location: Greenhill Park Stage 13, 14, 15

Plan No(s): 21879-M-13-501

From MH 19.4 – 22.2 – 22.1 to MH

Acceptance Criteria: CBR > 16

Tests by: West Construction (attached)

Analysis of Results

☑ Trench backfill completed satisfactorily or ☐ Trench backfill requires remedial work as follows:

West Construction

Developer/Contractor **Date** 14/12/20

F4.4 STORMWATER TRENCH BACKFILL COMPACTION TEST SUMMARY

(attach individual test reports)

Technician Carrying out Tests
West Construction

Location: Greenhill Park Stage 13-14-15

Plan No(s): 21879-M-13-501

From MH 15.2-15.1 to MH

Acceptance Criteria: CBR > 15

Tests by: West Construction (attached)

Analysis of Results

☑ Trench backfill completed satisfactorily or ☐ Trench backfill requires remedial work as follows:

West Construction

Developer/Contractor **Date** 14/12/20

F4.4 STORMWATER TRENCH BACKFILL COMPACTION TEST SUMMARY

(attach individual test reports)

Technician Carrying out Tests
West Construction 2011

Location: Greenhill Park Stage 13, 14, 15

Plan No(s): 21879 - M - 13 - 501

From MH 19.1-21.2-21.1 to MH

Acceptance Criteria: CBR > 16

Tests by: West Construction (attached)

Analysis of Results

☑ Trench backfill completed satisfactorily or ☐ Trench backfill requires remedial work as follows:

West Construction

Developer/Contractor **Date** 14/12/20

F4.4 STORMWATER TRENCH BACKFILL COMPACTION TEST SUMMARY

(attach individual test reports)

Technician Carrying out Tests

West Construction 2011

Location: Greenhill Park Stage 13, 14, 15

Plan No(s): 21877-M-13-501

From MH 19.4–19.1–20.1 to MH

Acceptance Criteria: CBR > 16

Tests by: West Construction (attached)

Analysis of Results

☑ Trench backfill completed satisfactorily or ☐ Trench backfill requires remedial work as follows:

West Construction

Developer/Contractor **Date** 14/12/20

F4.5 STORMWATER CATCHPIT CHECKLIST

Location:	117	118	119	114	115
	Catchpit Number				

Catchpit Construction Checklist

Catchpit , type, size, quality, accepted material checked	☑	☑	☑	☑	☐
Set out /orientation	☑	☑	☑	☐	☐
Location checked	☑	☑	☑	☐	☐
Depth of sump below outlet correct	☑	☑	☑	☐	☑
Cutting and plastering of outlet connection	☑	☑	☑	☑	☑
Floating debris baffle installed correctly	☑	☑	☑	☑	☐
Backfill compaction around pit checked	☑	☑	☑	☑	☑
Seating and plastering of surround and grate to sump barrel	☑	☑	☑	☑	☑
All silt and debris removed from sump	☑	☑	☑	☑	☑

West Construction — Developer/Contractor

14/12/20 — Date

F4.5 STORMWATER CATCHPIT CHECKLIST

Location:	107	108	087	101	109

Catchpit Number

Catchpit Construction Checklist

Catchpit , type, size, quality, accepted material checked	☑	☑	☑	☑	☑
Set out /orientation	☑	☑	☑	☑	☑
Location checked	☑	☑	☑	☑	☑
Depth of sump below outlet correct	☑	☑	☑	☑	☑
Cutting and plastering of outlet connection	☑	☑	☑	☑	☑
Floating debris baffle installed correctly	☑	☑	☑	☑	☑
Backfill compaction around pit checked	☑	☑	☑	☑	☑
Seating and plastering of surround and grate to sump barrel	☑	☑	☑	☑	☑
All silt and debris removed from sump	☑	☑	☑	☑	☑

West Construction — 14/12/20

Developer/Contractor — Date

F4.5 STORMWATER CATCHPIT CHECKLIST

Location:	116	112	113	111	110
	Catchpit Number				

Catchpit Construction Checklist

Catchpit , type, size, quality, accepted material checked	☑	☑	☑	☑	☑
Set out /orientation	☑	☑	☑	☑	☑
Location checked	☑	☑	☑	☑	☑
Depth of sump below outlet correct	☑	☑	☑	☑	☑
Cutting and plastering of outlet connection	☑	☑	☑	☑	☑
Floating debris baffle installed correctly	☑	☑	☑	☑	☑
Backfill compaction around pit checked	☑	☑	☑	☑	☑
Seating and plastering of surround and grate to sump barrel	☑	☑	☑	☑	☑
All silt and debris removed from sump	☑	☑	☑	☑	☑

West Construction — Developer/Contractor

14/12/20 — Date

BACKFILL RESULT SHEET

TESTED BY: West Construction

PROJECT NAME : Greenhill Park Stages 13,14,15

Chainage	C/L Trench(CIV VALUES)	Remarks
SWMH 19.5	**1ST LIFT**	
10	NA	BERM
20	NA	BERM
30	21	BROWN ROCK 1M TESTS
40	23	BROWN ROCK 1M TESTS
SWMH 19.4		
10	19	BROWN ROCK 1M TESTS
20	23	BROWN ROCK 1M TESTS
30	21	BROWN ROCK 1M TESTS
40	25	BROWN ROCK 1M TESTS
50	26	BROWN ROCK 1M TESTS
60	24	BROWN ROCK 1M TESTS
70	21	BROWN ROCK 1M TESTS
SWMH 22.2		
10	25	BROWN ROCK 1M TESTS
20	26	BROWN ROCK 1M TESTS
30	24	BROWN ROCK 1M TESTS
40	17	BROWN ROCK 1M TESTS
50	24	BROWN ROCK 1M TESTS
SWMH 22.1		
SWMH 19.4		
10	19	BROWN ROCK 1M TESTS
20	20	BROWN ROCK 1M TESTS
30	23	BROWN ROCK 1M TESTS
40	24	BROWN ROCK 1M TESTS
50	29	BROWN ROCK 1M TESTS
60	27	BROWN ROCK 1M TESTS
70	23	BROWN ROCK 1M TESTS
SWMH 19.1		
10	24	BROWN ROCK 1M TESTS
20	29	BROWN ROCK 1M TESTS
30	27	BROWN ROCK 1M TESTS
40	23	BROWN ROCK 1M TESTS
50	24	BROWN ROCK 1M TESTS
60	28	BROWN ROCK 1M TESTS
70	21	BROWN ROCK 1M TESTS
SWMH 21.2		
10	30	BROWN ROCK 1M TESTS
20	25	BROWN ROCK 1M TESTS
30	26	BROWN ROCK 1M TESTS
40	22	BROWN ROCK 1M TESTS
SWMH 21.1		
SWMH 19.1		
10	27	BROWN ROCK 1M TESTS
20	29	BROWN ROCK 1M TESTS
30	19	BROWN ROCK 1M TESTS
40	24	BROWN ROCK 1M TESTS
50	23	BROWN ROCK 1M TESTS
60	24	BROWN ROCK 1M TESTS
70	22	BROWN ROCK 1M TESTS
80	24	BROWN ROCK 1M TESTS
SWMH20.1		
SWMH15.2EX		
20	21	BROWN ROCK 1M TESTS
30	23	BROWN ROCK 1M TESTS
40	24	BROWN ROCK 1M TESTS
50	21	BROWN ROCK 1M TESTS
SWMH15.1		

F4.6 STORMWATER PIPE NETWORK - FINAL INSPECTION CHECKLIST

Site/Location: Greenhill Park Stages 13, 14, 15	
Developer/Contractor: West Construction	
SUB _____ / _____	**Contract No:**

PRE-MEETING TASKS

Developer to verify checklist prior to meeting:	Developer Check	Council Rep Check
1. All relevant stormwater checklists completed	☑	☐
2. All lines flushed out	☑	☐
3. All required CCTV inspections carried out, reviewed and any re-work completed.	☑	☐
4. All manholes checked (eg.infiltration, plastering)	☑	☐
5. All backfilling complete and tidied up	☑	☐
6. Final as-built and operational plans attached for site inspection	☐	☐
SITE MEETING		
1. Inspect all lines	☐	☐
2. Inspect all manholes and catchpits	☐	☐
3. Works on third party land completed to satisfaction of owner	☐	☐
4. Overland flow to and from adjoining properties not affected	☐	☐
5. Remedial work required? ☐ Yes (please list) ☐ No		

West Construction
.....
Developer

Date 9/3/21

.....
Council

Date.....

F5.6 WASTEWATER PIPE NETWORK - FINAL INSPECTION CHECKLIST

Site/Location: Greenhill Park Stages 13, 14, 15		
Developer/Contractor: West Construction		
SUB _____ / _____ **Contract No:**		
Developer to verify checklist prior to meeting:	**Developer Check**	**Council Rep Check**
6. All checklists completed (add form numbers)	☑	☐
7. All lines flushed out	☑	☐
8. All required CCTV inspections carried out, reviewed and any re-work completed.	☑	☐
9. All manholes checked (eg.infiltration, plastering)	☑	☐
10. All backfilling complete and tidied up	☑	☐
11. Pressure test completed and witnessed	☑	☐
12. Final as-built and operational plans attached for site inspection	☐	☐

Site Meeting		
13. Inspect all lines	☐	☐
14. Inspect all manholes and catchpits	☐	☐
15. Inspect SW inlet and outlet structures	☐	☐
16. Secondary flowpaths and detention ponds	☐	☐
17. Works on third party land completed to satisfaction of owner	☐	☐
18. Wastewater pumping station data complete and test results (Form F5.7) attached	☐	☐
19. Overland flow to and from adjoining properties not affected	☐	☐
20. Remedial work required? ☐ Yes (please list) ☐ No		

_____ West Construction 9/3/21

Council **Developer**

APPENDIX 6

Landscaping Certifications

- Landscaping final inspection form requested from HCC

APPENDIX 7

Network Utilities Certifications

- Ultrafast Fibre Completion Letter
- First Gas Completion Letter
- Street Light Product Warranty
- WEL Completion Letter
- Street light Suppliers Declaration of Conformity
- Streetlight Producer Statement
- Streetlight COC & ROI Certificates
- HCC Form Street Light RAMM Data

Ref: S&L Consultants, Surveyors & Engineers – 20413-S13
ID: HN-086-16

0800 342 735
info@ultrafast.co.nz
ultrafastfibre.co.nz

8th of March 2021

ACCEPTANCE BY ULTRAFAST FIBRE LIMITED AS TELECOMMUNICATIONS OPERATOR

Subdivision: Greenhill Park Ruakura Residential Stage 13 (18 Lots), Lot 702, DP 534481, Chartwell, Hamilton.

1. Ultrafast Fibre Limited (UFF) confirms that UFF will be the telecommunications operator of the telecommunications reticulation in the proposed public roads for the Ruakura Residential Stage 13 [Greenhill Park] Hamilton, Subdivision by Chedworth Properties Ltd. (the "**Subdivision**") Lot 702, DP 534481, to provide network connections to Lot 357 through to Lot 374, in the Subdivision (the "**Reticulation**").

2. The Reticulation is now installed in accordance with:

   (a) the requirements and standards set by the Hamilton City Council and advised to UFF via the Council's website; and

   (b) the requirements of the Telecommunications Act 2001 and all other applicable laws, regulations and codes (as amended).

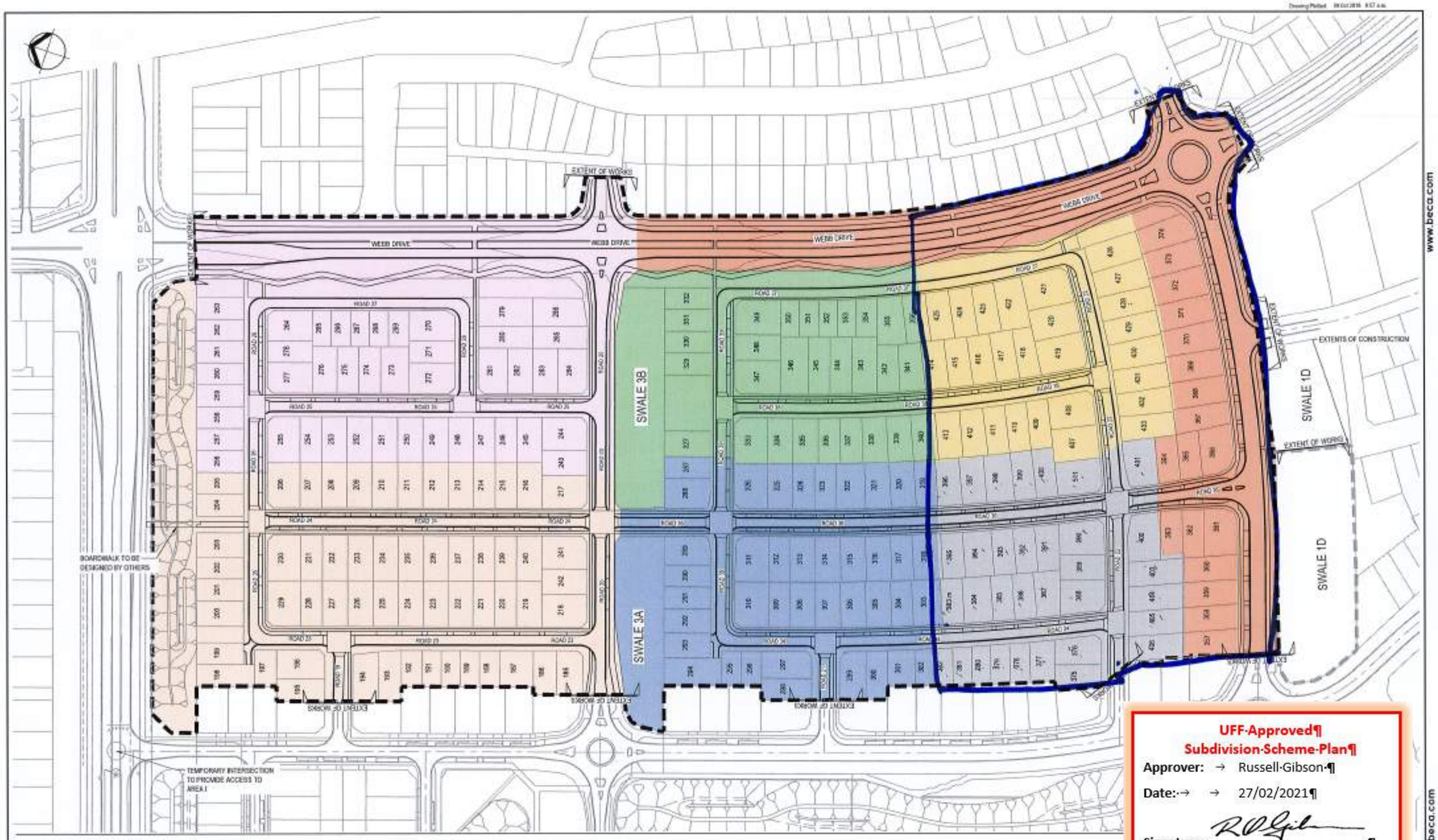
3. The Reticulation has been installed by Broadspectrum Limited to UFF's satisfaction, for the specific subdivision lots detailed on the "final" Scheme Plan as attached, with UFF remaining the owner, operator and maintainer of the Reticulation.
4. The attached "final" Scheme Plan must match your submission to the Hamilton City Council and must have the UFF stamp of 'Approval' accompanied by sign-off. Any additional lots created after initial deployment of multi-duct/fibre infrastructure will be chargeable.
5. One or more retail service providers will be available to supply telecommunications services over the completed Reticulation when service is available, provided that UFF shall not be responsible if the retail service provider's offer to supply such telecommunications services or the number of such providers varies from time to time.

SIGNED for and on behalf of
ULTRAFAST FIBRE LIMITED by:

Signature:

Name: Russell Gibson

Date: 8th of March 2021



LEGEND:

- AREA M EXTENTS
- STORMWATER CULVERT
- BASIN LOW FLOW CHANNEL
- AREA M - STAGE 9
- AREA M - STAGE 10
- AREA M - STAGE 11
- AREA M - STAGE 12
- AREA M - STAGE 13 — 18 lots
- AREA M - STAGE 14 — 33 lots
- AREA M - STAGE 15 — 27 lots

NOTES:

1. EXTENT OF WORKS IS DEFINED AS THE "AREA M EXTENTS" AS SHOWN ON THE PLANS.
2. ALL WORKS TO BE CONSTRUCTED IN ACCORDANCE WITH HAMILTON CITY COUNCIL INFRASTRUCTURE TECHNICAL SPECIFICATIONS (UNLESS OTHERWISE SPECIFIED).
3. DETAILS OF INTERFACING WITH OTHER PROJECT STAGES TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION

UFF-Approved¶
Subdivision-Scheme-Plan¶
Approver: → Russell-Gibson-¶
Date:-→ → 27/02/2021¶
Signature:- ¶

ORIGINAL DRAWING IN COLOUR

FOR CONSTRUCTION

1	FOR CONSTRUCTION	SM	PP	AJ	21.05.18

Beca

Chedworth Properties Limited

GREENHILL

AREA M

ROADING AND EARTHWORKS GENERAL ARRANGEMENT

CIVIL ENGINEERING

3411915-CA-2010

1

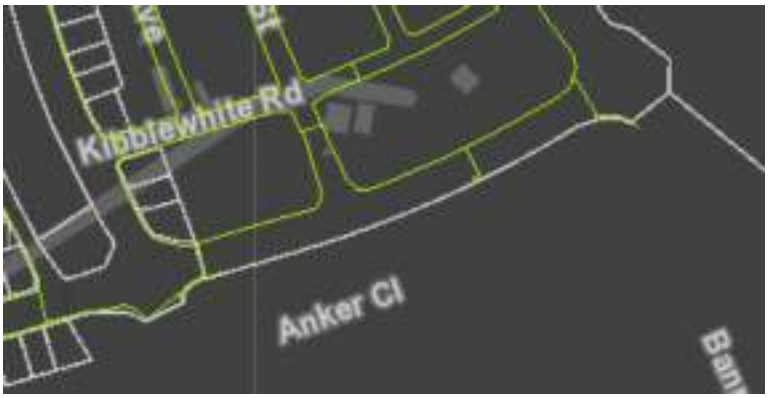
www.beca.com

Completion Certificate

To:	Chedworth Properties Limited
From:	Paul Bird
Cc:	Barry Pearson
Date:	4 March 2021

SUBJECT: Greenhill Park Subdivision – Stage 13

(First Gas Distribution Network)



MESSAGE:

This Completion Certificate confirms that the First Gas Distribution Network installed at the above-mentioned development, has been laid, tested and commissioned in accordance with First Gas Technical Standards and relevant Gas Regulations.

Regards

Paul Bird
Distribution Accounts Manager - New Developments
Firstgas
First Gas | Level 6, Resimac House| 45 Johnston St | Wellington | 6011
DDI 04 979 5367 | **M** 027 531 0060 | firstgas.co.nz

IBEX 10 Year Limited Warranty – Project Warranty

Date: 04-03-2021

Project: Greenhill Park, Stage 13 Ref: 7137-01

Issued To: Chedworth Properties Limited

Transfer Provision: Hamilton City Council

a) This limited warranty is provided by Ibex International limited ("Ibex") in relation to the following products;

Luminaire – Vizulo Mini Stork Optic 20 (5 year warranty)

Column - 8m Tapered column with 'Milford' Outreach (10yr Warranty Black paint Finish)

10m Octagonal column with 2m curved Outreach (10yr Warranty Black paint Finish)

b) Ibex warrants to the purchaser that it will deliver the product in new condition in the product's factory packaging. Further, the product will be free of defects in materials and/or workmanship for the warranty period stated.
c) Ibex has sole discretion as to whether any warranty claim shall be valid considering all factors including (without limitation) the operating conditions the product has endured and the overall performance of the product. this warranty is only valid when proof of purchase can be provided and if the product has been operating within New Zealand
d) The warranty period commences from the date of Ibex's invoice or the product's delivery date whichever is the earlier.
e) If Ibex determines that a warranty claim is valid, Ibex will at its sole discretion either refund the purchase price of the product, refund the current market cost of an alternative product, repair the product or replace the product. In case of the repair or replacement the replacement product may not necessary be an identical product but an improved version due to ongoing technological developments and/or supply of original components currently available.
f) Ibex reserve the right to recondition/refurbish any article that is subject to a warranty claim or replace parts with new or used parts in satisfaction of this warranty.

2 - Warranty Exclusions
a) This warranty excludes any costs incurred by the purchaser including (without limitation) equipment hire, labour charges, accommodation charges, transport charges and travel charges.
b) This warranty does not apply to loss or damages to the product caused by one or more of the following:
• Negligence and/or incorrect handling of the product by the buyer, installer, service agent or any other party acting on behalf or for the buyer;
• Improper installation;
• Improper handling;
• the product not being installed or maintained as set out in the installation instruction guide for the product;
• Acts of nature , fire , vandalism;
• Civil disturbances;
• Damages caused by fall or collision
• Installation or operation under environmental conditions beyond the manufacturer's recommendations;
• Power surges;
• Electrical supply fluctuations or faults;

• Mechanical failures as a result of actions not considered by Ibex to be within the normal operating conditions of the product;

Improper service and/or maintenance work carried out by someone not considered by the Ibex as an approved service agent/facilitator; and/or
• any other situation and/or event or circumstance deemed by Ibex as sufficient to render this warranty void.
c) Notwithstanding any other provision of this warranty or any statute or rule of law, to the greatest extent possible Ibex shall have no liability for any costs, damages or other losses directly or indirectly attributable to failure of the product. Further, Ibex shall have no liability for any costs incurred by any party for any maintenance or remedial work.

3 - Product performance
a) Ibex retains the sole discretion to determine whether a product is defective.
b) This warranty shall apply only to the malfunction of products due to defects in material and or workmanship exceeding nominal failure rates. Unless otherwise stipulated in the product and application specifications provided by Ibex, the nominal failure rate for electronic operating devices and components such as LED's shall be set at 0.2% per 1000 operating hours. Furthermore a decrease in luminous flux of up to 0.6% per 1,000 operating hours and colour shift as per the LED Module /chip suppliers technical data information shall be considered normal and is not covered by this warranty.
c) In the event that LED modules/Chips are replaced, lighting properties may vary from the original product.

4 - Warranty Transfers
this warranty may not be transferred to any entity without either the express written consent of Ibex or this being explicitly stated in the cover notes of this document. Ibex may withhold such consent at its sole and absolute discretion.

5 - Warranty Terms and Conditions
a) In the event where a warranty is claimed on a product which is not faulty, Ibex reserves the right to seek compensation from the entity claiming on the warranty for all costs that have been incurred by Ibex including (without limitation) travel, accommodation, costs of access equipment, and third party service agents' costs.
b) The warranty terms are those specified in wiring in this warranty document only.
c) Ibex's warranty is a back-to-base warranty. Ibex shall bear no responsibility of any charges incurred by any entity for transport of the product to Ibex and/or from Ibex to the warranty claimant.
d) Labour and Service charge incurred by Ibex in repairing / refurbishing any product are not covered in this warranty.
e) The warranty shall be void if the product has been tampered with or parts replaced by personnel that have not be previously authorised by Ibex in writing.
Ibex reserves the right to modify this warranty at any time without prior notification and the new warranty terms shall be valid for all orders placed with the Ibex on or after the new issue date, from the date that the new warranty terms are posted on Ibex's website.

Supplier's Declaration of Conformity (in accordance with ISO/IEC 17050-1)

Number:	2692777035194
Issuer's Name:	Ibex International Ltd.
Issuer's Address:	PO BOX 9077 Greerton Tauranga 3142

Object of the Declaration: We declare that the items described are Electrically Safe as required in the Electricity (Safety) Regulations 2010 Regulation 80.

MINI STORK (V) 13.8KLM 20LED OPTIC20 3000K S-CAP BLACK

The Object of the Declaration described above is in conformity with the requirements of the following documents:

Document Number:	Title	Edition / Date of Issue
AS/NZS 3820	Essential Safety Requirements For Electrical Equipment	2009/AMD 1

Additional information

Signed for and on behalf of: Ibex International Ltd.
Tauranga

Date: 4/03/2021

Kingsley Holt Supply Chain & Innovation Manager

Supplier's Declaration of Conformity (in accordance with ISO/IEC 17050-1)

Number:	2692777036320
Issuer's Name:	Ibex International Ltd.
Issuer's Address:	PO BOX 9077 Greerton Tauranga 3142

Object of the Declaration: We declare that the items described are Electrically Safe as required in the Electricity (Safety) Regulations 2010 Regulation 80.

MINI STORK (V) - 7.8KLM 9LED OPTIC20 3000K S-CAP BLACK

The Object of the Declaration described above is in conformity with the requirements of the following documents:

Document Number:	Title	Edition / Date of Issue
AS/NZS 3820	Essential Safety Requirements For Electrical Equipment	2009/AMD 1

Additional information

Signed for and on behalf of: Ibex International Ltd.
Tauranga

Date: 4/03/2021

Kingsley Holt

Kingsley Holt Supply Chain & Innovation Manager

Supplier's Declaration of Conformity (in accordance with ISO/IEC 17050-1)

Number:	2692777036368
Issuer's Name:	Ibex International Ltd.
Issuer's Address:	PO BOX 9077 Greerton Tauranga 3142

Object of the Declaration: We declare that the items described are Electrically Safe as required in the Electricity (Safety) Regulations 2010 Regulation 80.

MINI STORK (V) - 9350LM 20LED OPTIC20 77W 3000K S-CAP BLACK

The Object of the Declaration described above is in conformity with the requirements of the following documents:

Document Number:	Title	Edition / Date of Issue
AS/NZS 3820	Essential Safety Requirements For Electrical Equipment	2009/AMD 1

Additional information

Signed for and on behalf of: Ibex International Ltd.
Tauranga

Date: 4/03/2021

Kingsley Holt

Kingsley Holt Supply Chain & Innovation Manager

6 October 2020 Ref: 7137

PRODUCER STATEMENT FOR STREET LIGHTING

Project: Greenhill Park Area M Stage 13

Location: Carrs Road Hamilton

The lighting for this Project has been designed to comply with the New Zealand standard AS/NZS1158.3.1.2020 for PR4 and PR5 using Perfectlite and AGI32 lighting design software and in conjunction with the Hamilton City Council and RITS Code of Practice requirements

Product The P Category luminaires are Mini Stork 4 LED Optic P, 3000K, and the lighting columns and outreach arms are manufactured from steel which is hot dipped galvanised after fabrication and then coated with a 10 year warranty paint finish

The V Category luminaires are Mini Stork 9 LED Optic 20, 3000K and Mini Stork 20 LED Optic 20, 3000k, and the lighting columns and outreach arms are manufactured from steel which is hot dipped galvanised after fabrication and then coated with a 10 year warranty paint finish.

Lifetime The luminaire have an economic life of 15-20 years where normal maintenance is carried out. The pole and outreach have an economic life of 40 years.

Yours Faithfully
IBEX INTERNATIONAL LIMITED

MERRITT STRICKETT
Account Manager - Roadway
M +64 21 220 1291 T +64 9 915 1083
merritts@ibexlighting.com
IBEXLIGHTING.COM

DESIGN CERTIFICATE

INFRASTRUCTURE/ LAND DEVELOPMENT

ISSUED BY: Merritt C Strickett.

TO: Chedworth Properties Ltd

TO BE SUPPLIED TO: Hamilton City Council

IN RESPECT OF: Greenhill Park Stage 13, Hamilton

AT: Carrs Road, Hamilton

Merritt C Strickett has been engaged by Chedworth Properties Ltd

To provide Street Lighting Design to AS/NZS1158 Standard and to Hamilton City Councils Code of Practice and RITS code of practice.

in respect of the infrastructure/land development described above.

Drawing references - REF 7137

I **Merritt C Strickett** have the qualifications and experience relevant to this project as set out herein and have designed the subject works and confirm that the design is to current good engineering practice, and that it satisfies all relevant Resource Consent conditions, relevant TA requirements, and applicable codes and standards. My company holds professional indemnity insurance in the sum of $5,000,000.00

Qualifications and experience

NZIHT Workshop, 32 years' experience in Street lighting design.

Efficient Road Lighting Resource Workshop.

ae

Date: 6 October 2020

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No.: NWELCOC1579 /

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #107

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stark Little Brother LED street luminaire, 2005/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No.: NWELCOC15792

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #109

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stark Little Brother LED street luminaire. 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC1579 3

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton # 110

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stark Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No.: NWELCOC1579 4

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton # ///

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/03/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing.
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004.

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No.: NWELCOC1579 5

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #12

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing.
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC15796

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #113

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached: VICLU Stork Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached: Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop Impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004.

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC1579 ~~714~~

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the specified system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #1/4

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ☒ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VICSLU Stark Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ☒ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC1579

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #115

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VICLU Stork Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing.
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop Impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004.

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No.: NWELCOC1579 9

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton # 116

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn **Registration/Practising licence number:** E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stark Little Brother LED street luminaire. 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing.
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name: **Registration/Practising licence number:**

Certifier's signature: **Certificate Issue Date:** **Connection Date:**

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004.

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC1579/O

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #117

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify)

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC1579 ff

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the specified system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #/

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify)

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached: VIOLU Stork Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached: Roadway Lighting Plan drawing.
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC1579 / 2

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #119

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ☒ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ☒ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ☒ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ☒ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ☒ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ☒ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ☒ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

REFERENCE/CERTIFICATE ID NO.: NWELCOC1579 13

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #121

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn **Registration/Practising licence number:** E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stonk Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name: **Registration/Practising licence number:**

Certifier's signature: **Certificate Issue Date:** **Connection Date:**

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(b) of the Building Act 2004

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No.: NWELCOC1579/4

This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under **Part 1 or Part 2 of AS/NZS 3000** are safe to be connected to the **specified** system of electrical supply.

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton #122

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: yetimartyn@hotmail.com

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ■ New work

The prescribed electrical work is: ☐ Low risk ☐ General ■ High-risk (Specify):

Means of compliance: ☐ Part 1 of AS/NZS 3000 ■ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ■ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: 20/02/2021

Contains fittings that are safe to connect to a power supply? ■ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ■ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

■ All ☐ Parts (specify)

The work relies on manufacturers instructions: ■ Yes ☐ No

If yes – identify the instruction manual including name, date and version. Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Manufacturer's instructions attached. VIOLU Stork Little Brother LED street luminaire, 20/05/2019
Link:

The work has been done in accordance with a certified design: ■ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: Certified design attached. Roadway Lighting Plan drawing
Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ■ Yes ☐ No

If yes - identify the SDoC including name, date and version OR EESS registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg Internet link.)

Identify: SDoC attached
Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ■ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others.

Test Results (provide values)		
Polarity (Independent earth):		
Insulation resistance:	200+ M	Ohms
Earth Continuity:	0.1	Ohms
Bonding:	0.1	Ohms
Fault Loop impedance		Ohms
Other (specify):		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] **Date:** 20/02/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

This Electrical Safety Certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(a) of the Building Act 2004.

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No.: NWELCOC 583,59

[illegible fine print] Part 1 or Part 2 of AS/NZS 3000 [illegible]

Location Details: Subdivision Area M Stage 9 to 15 Greenhill Park Hamilton # [illegible]

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: [illegible]

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ☒ New work

The prescribed electrical work is: ☐ Low risk ☐ General ☒ High risk (specify)

Means of compliance: ☐ Part 1 of AS/NZS 3000 ☒ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ☒ No ☐ Yes (specify):

Date or range of dates that prescribed electrical work undertaken: [illegible]

Contains fittings that are safe to connect to a power supply? ☒ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ☒ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

☒ All ☐ Parts (specify)

The work relies on manufacturers instructions: ☒ Yes ☐ No

If yes – identify the instructions (including name, date, and version). Also attach a copy of manufacturer's instructions to this certificate.
(Or provide reference to readily accessible electronic format, eg internet link.)

- Identify: [illegible]
- Link:

The work has been done in accordance with a certified design: ☒ Yes ☐ No

If yes – identify the certified design including name, date and version. Also attach a copy of the certified design to this certificate.
(Or provide reference to readily accessible electronic format, eg internet link.)

- Identify: [illegible]
- Link:

The work relies on a Supplier Declaration of Conformity (SDoC): ☒ Yes ☐ No

If yes – identify the SDoC including name, date and version or SDoC registration. Also attach a copy of the SDoC to this certificate.
(Or provide reference to readily accessible electronic format, eg internet link.)

- Identify: [illegible]
- Link:

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ☒ Yes

Description of Work:	Test Results (provide values)	
Install New Street Column with LED Head Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk Mains Cable. Mains installation by others Livened by others.	Polarity	
	Independent earth / insulation resistance	200+ M Ohms
	Earth Continuity	0.[illegible] Ohms
	Bonding	0.[illegible] Ohms
	Fault Loop Impedance	Ohms
	Other (specify)	

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] Date: 09/03/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name: Registration/Practising licence number:

Certifier's signature: Certificate Issue Date: Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

[illegible]

Electrical Certificate of Compliance & Electrical Safety Certificate

Reference/Certificate ID No: NWEL2002583-7

Location Details: Subdivision Area M - Stage 3 to 15 Greenhill Park Hamilton # 120

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email:

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ☒ New work

The prescribed electrical work is: ☐ Low risk ☐ General ☒ Other (specify)

Means of compliance: ☐ Part 1 of AS/NZS 3000 ☒ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ☒ No ☐ Yes (specify)

Date or range of dates that prescribed electrical work undertaken:

Contains fittings that are safe to connect to a power supply? ☒ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ☒ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

☒ All ☐ Parts (specify)

The work relies on manufacturers instructions: ☒ Yes ☐ No

The work has been done in accordance with a certified design: ☒ Yes ☐ No

The work relies on a Supplier Declaration of Conformity (SDoC): ☒ Yes ☐ No

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ☒ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains installation by others.
Livened by others.

Test Results (provide values)	
Polarity	
Independent earth / Insulation resistance	200+ M Ohms
Earth Continuity	0.1 Ohms
Bonding	0.1 Ohms
Fault loop impedance	Ohms
Other (specify)	

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Cert Ref's signature: Date: 09/03/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

ELECTRICAL CERTIFICATE OF COMPLIANCE & ELECTRICAL SAFETY CERTIFICATE

Reference/Certificate ID No.: NWELCOC1683/C

[illegible]

Location Details: Subdivision Area M - Stage 9 to 15 Greenhill Park Hamilton # / D 8

Contact Details: (Name and address)

Name of Electrical worker: Yeti Martyn

Registration/Practising licence number: E257490

Phone & email: [illegible]

Name and registration number of person(s) supervised:

Certificate of Compliance

Type of work: ☐ Addition ☐ Alteration ☒ New work

The prescribed electrical work is: ☐ Low risk ☐ General ☒ High-risk (specify)

Means of compliance: ☐ Part 1 of AS/NZS 3000 ☒ Part 2 of AS/NZS 3000

Additional Standards or electrical code of practice were required: ☒ No ☐ Yes (specify)

Date or range of dates that prescribed electrical work undertaken:

Contains fittings that are safe to connect to a power supply? ☒ Yes ☐ No

Specify type of supply system: 230V Mains MEN

The installation has an earthing system that is correctly rated (where applicable) ☒ Yes ☐ No

Parts of the installation to which this certificate relates that are safe to connect to a power supply?

☒ All ☐ Parts (specify)

The work relies on manufacturers instructions: ☒ Yes ☐ No

[illegible]

The work has been done in accordance with a certified design: ☒ Yes ☐ No

[illegible]

The work relies on a Supplier Declaration of Conformity (SDoC): ☒ Yes ☐ No

[illegible]

The installation has been satisfactorily tested in accordance with the Electricity (Safety) Regulations 2010 ☐ No ☒ Yes

Description of Work:

Install New Street Column with LED Head
Install MEN Board, Main Earth and Earth Stake, Cad Welded Connection - Light Risk
Mains Cable, Mains Installation by others.
Livened by others

Test Results (provide values)		
Polarity (independent earth)		
Insulation resistance	2000 M	Ohms
Earth Continuity	0.1	Ohms
Bonding	0.1	Ohms
Fault loop impedance		Ohms
Other (specify)		

By signing this document I certify that the completed prescribed electrical work to which this Certificate of Compliance applies has been done lawfully and safely, and the information in the certificate is correct.

Certifier's signature: [signature] Date: 20/03/2021

Electrical Safety Certificate

By signing this document I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.

Certifier's name:

Registration/Practising licence number:

Certifier's signature:

Certificate Issue Date:

Connection Date:

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS

[illegible]

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of inspector: Gavin Bodey | Registration #: I250728

Email Address: gavin@bodeyspark.co.nz | Telephone: 021 426 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 133, stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yati Martyn | Registration #: L257490

EW171000

CoC details: Nationwired 19931 ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection. New Main Earthing System.Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,

polarity

M.E.C. Imp < 5 Ohm

M.E.N. intc. HRPA #00583002 3M

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i)
☐ Photovoltaic system – 6A(2)(a)(iv)
☐ Electrical medical area – 6A(2)(b)(v)
☐ High voltage installation – 6A(2)(a)(ii)
☐ Hazardous area – 6A(2)(a)(v)
☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii)
☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in ~~/~~ accordance with the regulations, and the installation / part installation on which the work has been done is, and will be / not be, when enlivened, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] Date: 10/03/21

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey | Registration #: I250728

Email Address: gavin@bodeyspark.co.nz | Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 134 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeti Martyn | Registration #: E257400 EW121000

CoC details: Nationwired 16632 ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was Inspected:

New Installation, New Streetlight with M.E.N. board. New Main Neutral bar and circuit protection, New Main Earthing System.Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection

Earthing and bonding visual ok

polarity

M.E.C. imp < 5 Ohm

M.E.N. link. HRPA #00583041I5G

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i)
☐ Photovoltaic system – 6A(2)(a)(iv)
☐ Electrical medical area – 6A(2)(a)(v)
☐ High voltage installation – 6A(2)(a)(ii)
☐ Hazardous area – 6A(2)(a)(v)
☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii)
☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~ when energised, electrically safe

(Note: Strike out or delete the inappropriate words as highlighted in red above.)

Signature: | Date: 10/03/21

EWRB130 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector:	Gavan Bodey	Registration #:	I250728
Email Address:	gavin@boddyspark.co.nz	Telephone:	021 428 920

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 135, stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial
☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yeri Martyn	Registration #:	E257490
			EW121000
CoC details:	Nationwired 15833		☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection. New Main Earthing System. Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.C. impedance 0.5 Ohm
M.E.N. link. TIRPA #0058306ZCV

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(ii) ☐ Electrical pool or area – 6A(2)(b)(i)
☐ High voltage installation – 6A(2)(b)(ii) ☐ Hazardous area – 6A(2)(c)(v) ☑ Mains work – 6A(2)(h)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in ~~part~~ accordance with the regulations; and the ~~installation~~/part installation on which the work has been done is, and will be/~~was~~ when energised, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] Date: 10/03/21

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greens II

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey | Registration #: I260728

Email Address: gavin@bodeyspark.co.nz | Telephone: 021 428 620

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 130, stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeli Martyn | Registration #: E257490

EW121000

CoC details: Nationwired 15634 | ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New installation, New Streetlight with M.E.N. board. New Main Neutral bar and circuit protection. New Main Earthing System Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection.

AS/NZS3000 part 2

What are the results of the inspection

Earthing and bonding visual ok

polarity

M.E.C. ino < 5 Ohm

M.E.N. link.. HRPA #0058307K6D

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i)
☐ High voltage installation – 6A(2)(a)(iii)
☐ Mains parallel generation – 6A(2)(a)(ii)
☐ Other – please describe.
☐ Photovoltaic system – 6A(2)(a)(iv)
☐ Hazardous area – 6A(2)(a)(v)
☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Electrical medical area – 6A(2)(a)(vi)
☑ Mains work – 6A(2)(b)

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations; and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when connected, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] | Date: 10/03/21

EWRB 132 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (inspector) details:

Name of Inspector:	Gavin Bodey	Registration #:	250728
Email Address:	gavin@bodeyspark.co.nz	Telephone:	021 426 620

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 137, stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial
☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yeji Martyn	Registration #:	E257490
			EW121000
CoC details:	Nationwired 15835		☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N. board New Main Neutral bar and circuit protection, New Main Earthing System. Bonding of Pole and cabinet door

Specify the regulation(s) and compliance standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok.
polarity
M.E.C. imp < 5 Ohm
M.E.N. link IIRPA #0059311V28

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(b)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(b)(ii) ☐ Annual scanning or meter monitoring – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in accordance with the regulations and the ~~installation~~/part installation on which the work has been done is, and will be ~~/ is not~~, when energised, electrically safe.

(Note: Strike out or delete the negative/positive option highlighted in red above.)

Signature: Date: 10/03/21

MBIE1132 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector	Gavin Bodey	Registration #:	I250729
Email Address:	gavin@bodeyspark.co.nz	Telephone	021 423 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 138, stage 9-16

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yeli Martyn	Registration #:	E257490 EW121000
CoC details:	Nationwired 15835		☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected

New installation: New Streetlight with M.E.N. board. New Main Neutral bar and circuit protection. New Main Earthing System. Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection

AS/NZS 3000 part 2

What are the results of the inspection

Earthing and bonding visual ok
polarity
M.E.C. imp < 5 Ohm
M.E.N. link HRPA #00583?0M2O

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(v)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(vi) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~part in~~ accordance with the regulations, and the installation / part installation on which the work has been done is, and will be / ~~not be~~, when enlivened, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature [signature] Date: 10/03/21

AUD-F-12 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

Pursuant to the Electricity (Safety) Regulations 2010

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details

Name of Inspector	Gavin Bodey	Registration #:	1250728
Email Address:	gavin@bodeyspark.co.nz	Telephone:	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 139, stage 3-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yeti Martyn	Registration #:	E257490 EW121000
CoC details:	Nationwired 15837		☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New installation New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection. New Main Earthing System Bonding of Pole and cabinet door

Specify the regulation(s) and comparison standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.N. imp < 5 Ohm
M.E.N. link : RPA #2038315F7X

High Risk Category:

☐ Not to AS/NZS 3000 Part 7 – 6A(2)(e)(v)
☐ High voltage installation – 6A(2)(b)(ii)
☐ Mains parallel generation – 6A(2)(e)(ii)
☐ Other – please describe
☐ Photovoltaic system – 6A(2)(a)(v)
☐ Hazardous area – 6A(2)(b)(v)
☐ Animal scaring or ozone conditioning – 6A(2)(c)
☐ Electrical medical area – 6A(2)(b)(vi)
☑ Mains work – 6A(2)(a)

Declaration

I hereby confirm that the work described above has been done in accordance with the regulations; and the installation/part installation on which the work has been done is, and will be / ~~not be~~, when energised, electrically safe

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] Date: 10/03/21

3111-1132 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey — Registration #: I250728

Email Address: gavin@bodeyspark.co.nz — Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M. Streetlight 109stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yedi Marlyn — Registration #: E257490, EW121000

CoC details: Nationwired 15792 Streetlight 109 — ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N board, New Main Neutral bar and circuit protection, New Main Earthing System.Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.C imp <5 Ohm
M.E.N link. ERPA #0058367 K4L

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(v) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~partly in~~ accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when connected, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] — Date: 10/03/21

ROI 1.0 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details

Name of Inspector:	Gavin Bodey	Registration #:	1250728
Email Address:	gavin@bodeyspark.co.nz	Telephone:	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 110stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Heathcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yeti Martyn	Registration #:	E257490
			EW121060
CoC details:	Nationwired 157923 Streetlight 110	☐ CoC(s) attached	

Certifying Electrical Work and CoC details:

What was inspected:

New installation, New Streetlight with M.E.N board, New Main Neutral bar and circuit protection, New Main Earthing System Bonding of Pole and control door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok.
polarity
M.E.C imp < 5 Ohm
M.E.N link HRPA V0058367KAL

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in ~~part~~ accordance with the regulations; and the ~~installation~~ part installation on which the work has been done is, and will be ~~part~~, when energised, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] Date: 10/03/21

M3161.02 01/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector:	Gavin Bodey	Registration #	I250728
Email Address:	gavin@bodeyspark.co.nz	Telephone	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 111 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yeli Martyn	Registration #.	E257490
			EW121000
CoC details:	Nationwired 16794 Streetlight 111		☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected

New installation, New Streetlight with M E N board, New Main Neutral bar and circuit protection. New Main Earthing System Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection.

Earthing and bonding visual ok
polarity
M E C. lino < 5 Ohm
M E N. link HRPA #0058572015

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when enlivened, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature [signature] Date 10/03/21

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector:	Gavin Bocey	Registration #:	I250728
Email Address:	gavin@300eyspark.co.nz	Telephone:	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 112 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s)	Yeti Martyn	Registration #:	L257490
			EW121000
CoC details:	Nationwired 15795 Streetlight 112		☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected.

New Installation , New Streetlight with M.E.N board, New Main Neutral bar and circuit protection, New Main Earthing System Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s) or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection

Earthing and bonding visually,
polarity
M.E.C imp < 0 Ohm
M.E.N link. HRPA #005837301C

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Restricted medical area – 6A(2)(a)(vi)
☐ High voltage installation 6A(2)(a)(v) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning 6A(2)(c)
☐ Other – please describe

Declaration

I hereby confirm that the work described above has been done in accordance with the regulations; and the ~~installation~~/part installation on which the work has been done is, and will be/~~not be~~, when energised, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: Date: 10/03/21

MBI 132 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector:	Gavin Bodey	Registration #	I250728
Email Address:	gavin@bodeyspark.co.nz	Telephone:	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 113 stage 9-15

Location type: ☐ Domestic ☐ Non Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yell Marlyn

Registration #: E257490, EW121000

CoC details: Nationwired 15796 Streetlight 113

☐ CoC (s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New installation, New Streetlight with M.E.N. board. New Main Neutral bar and circuit protection, New Main Earthing System Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok
polarity
M.E.C. imp < 5 Ohm
M.E.N. link .   HRPA #00583774VAS

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i)
☐ Photovoltaic system – 6A(2)(a)(iv)
☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii)
☐ Hazardous area – 6A(2)(a)(v)
☑ Mains work – 6A(2)(c)
☐ Mains parallel generation – 6A(2)(a)(iii)
☐ Animal stunning or meat conditioning – 6A(2)(b)
☐ Other – please describe.

Declaration

I hereby confirm that the work described above has been done in ~~/ part in~~ accordance with the regulations and the ~~installation~~ / part installation on which the work has been done is and will be ~~/ not be~~, when energised, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature:

Date: 10/03/21

2018.10.30 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey — Registration #: 250728

Email Address: gavin@bodeyspark.co.nz — Telephone: 021 426 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 114 stage 9-15

Location type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeli Marlyn — Registration #: E257490 EW121030

CoC details: Nationwired 16797 Streetlight 114 — ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation. New Streetlight with M.E.N. fuses, New Main Neutral bar and circuit protection, New Main Earthing System. Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.C. Imp <.5 Ohm
M.E.N. ok.. HRPA #00593/5X45

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(v) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(iv) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~is~~ in accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~is~~ when enlivened, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: — Date: 10/03/21

EWRB-032 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwide greenhill

Issuer (Inspector) details

Name of Inspector: Gavin Bodey — Registration #: I250728

Email Address: gavin@bodeyspark.co.nz — Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 107stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeti Martyn — Registration #: E257490

EW121000

CoC details: Nationwide 15791 Streetlight 107 — ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New installation, New Streetlight with M.E.N. board. New Main Neutral bar and circuit protection. New Main Earthing System.Bonding of Pole and cabinet door

Specify the regulation(s) and comparison standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok.
polarity
M.E.C. imp <.6 Ohm
M.E.N. link — HRPA #005635387H

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(v)
☐ Photovoltaic system – 6A(2)(a)(iv)
☐ Electrical medical area – 6A(2)(a)(v)
☐ High voltage installation – 6A(2)(a)(ii)
☐ Hazardous area – 6A(2)(a)(i)
☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii)
☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations; and the ~~installation~~ / part installation on which the work has been done is and will be / ~~not be~~, when energised, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] — Date: 19/03/21

AGI-1132 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey

Registration #: 1250728

Email Address: gavin@bodeyspark.co.nz

Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 43 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeti Martyn

Registration #: E257450

EW121000

CoC details: Nationwired 15838

; CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected

New Installation New Streetlight with M E N. board, New Main Neutral bar and circuit protection. New Vein Earthing System Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection

Earthing and bonding visual ok,
polarity
M E C Imp < 5 Ohm
M.C.N link HRPA #0053343U13

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 5A(2)(a)(i) ☐ Photovoltaic system – 5A(2)(a)(iv) ☐ Electrical medical area – 5A(2)(a)(v)
☐ High voltage installation – 5A(2)(a)(x) ☐ Hazardous area – 5A(2)(a)(vi) ☑ Mains work – 5A(2)(b)
☐ Mains parallel generation – 5A(2)(a)(ii) ☐ Animal stunning or meat conditioning – 5A(2)(c)
☐ Other – please describe

Declaration

I hereby confirm that the work described above has been done in ~~/ compliance~~ accordance with the regulations; and the ~~installation~~ / part installation on which the work has been done is ~~and will be / safe to~~, when energised, electrically safe.

(Note: Strikeout or delete the inapplicable words highlighted in red above.)

Signature:

Date: 10/03/21

MBIE 1157 04/19

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey — Registration #: 1250728

Email Address: gavin@bodeyspark.co.nz — Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 120 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial
☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeti Marlyn — Registration #: E257490 EW121000

CoC details: Nationwired 15839 — ☐ CoC(s) attached

Certifying Electrical Work and CoC details.

What was inspected:

New Installation, New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection. New Main Earthing System.Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection

AS/NZS3000 part 2

What are the results of the inspection;

Earthing and bonding visual ok,
polarity
M.E.C. imp < 5 Ohm
M.E.N. link.. HRPA #0058356FEZ

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations; and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when enlivened, electrically safe

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] Date: 10/03/21

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details

Name of Inspector:	Gavin Bodey	Registration #	I250728
Email Address:	gavin@bodeyspark.co.nz	Telephone:	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight108 stage 9-15

Location Type:

- [ ] Domestic
- [ ] Non-Domestic Accommodation
- [ ] Industrial
- [ ] Commercial
- [ ] Educational
- [ ] Healthcare
- [x] Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yeti Martyn	Registration #	E257480
			EW121000
CoC details:	Nationwired 158310		[ ] CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection, New Main Earthing System Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok.
polarity
M.E.C. imp < 5 Ohm
M.E.N. link.   ERPA V006805GB7T

High Risk Category:

- [ ] Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i)
- [ ] High voltage installation – 6A(2)(a)(ii)
- [ ] Mains parallel generation – 6A(2)(a)(iii)
- [ ] Photovoltaic system – 6A(2)(a)(v)
- [ ] Hazardous area – 6A(2)(a)(vi)
- [ ] Animal stunning or meat conditioning – 6A(2)(c)
- [ ] Electrical medical area – 6A(2)(a)(iv)
- [x] Mains work – 6A(2)(b)
- [ ] Other – please describe

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when connected, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature]   Date: 10/03/21

MBIE 1132 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey | Registration #: 250728

Email Address: gavin@bodeyspark.co.nz | Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision Area M, Streetlight 121 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeh Martyn | Registration #: G257490 EW121000

CoC details: Nationwired 167913 Streetlight 121 ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New installation, New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection. New Main Earthing System. Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.C. imp < 5 Ohm
M.E.N. link. RRPA #0059328Y7Y

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 - 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in ~~/ not in~~ accordance with the regulations and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when livened, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature] | Date: 10/03/21

MDD 1.0 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector:	Gavin Bodey	Registration #:	I260728
Email Address:	gavin@bodeyapark.co.nz	Telephone	021 429 820

Location of Installation:

Location details: GreenHill park subdivision, Area M, Streetlight 122 stage 9-15

Location type: ☐ Domestic ☐ Non Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s)	Yeti Marlyn	Registration #:	E257490 EW121000
CoC details:	Nationwired 167314 Streetlight 122		☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N board. New Main Neutral bar and circuit protection, New Main Earthing System. Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.C. imp < 5 Ohm
M.E.N. ok.. HRPA #006839072?C

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when connected, electrically safe.

(Note: Strike out or delete the inappropriate words highlighted in red above.)

Signature: [signature] Date: 10/03/21

EWRB 1132 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:
Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector: Gavin Bodey
Registration #: I250720
Email Address: gavin@bodeyspark.co.nz
Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 115 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeb Marlyn
Registration #: E257490
EW121000

CoC details: Nationwired 15798 Streetlight 115
☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:
New Installation, New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection, New Main Earthing System Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:
AS/NZS3000 part 2

What are the results of the inspection:
Earthing and bonding visual ok,
polarity
M.E.C. imp <5 Ohm
M.E.N. link HRPA #0059370Z4X

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i)
☐ Photovoltaic system – 6A(2)(a)(v)
☐ Electrical medical area – 6A(2)(a)(vi)
☐ High voltage installation – 6A(2)(b)(n)
☐ Hazardous area – 6A(2)(a)(iv)
☑ Mains work – 6A(2)(h)
☐ Mains parallel generation – 6A(2)(a)(iii)
☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations; and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when enlivened, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature]

Date: 10/03/21

EWRB ROI 04/17

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details

Name of Inspector: Gavin Bodey | Registration #: I250728

Email Address: gavin@bodeyspark.co.nz | Telephone: 021 428 820

Location of Installation:

Location details: Greenhill park subdivision. Area M, Streetlight 116 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeji Martyn | Registration #: E257490 EW121000

CoC details: Nationwired 15799 Streetlight 116 | ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N. board New Main Neutral bar and circuit protection. New Main Earthing System.Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS 3000 part 2

What are the results of the inspection:

Earthing and Bonding visual ok.
polarity
M.E.C. ins < 5 Ohm
M.E.N. link HRPA #005937726K

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(b)(iv)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(a)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe.

Declaration

I hereby confirm that the work described above has been done in / ~~part in~~ accordance with the regulations; and the ~~installation~~ / part installation on which the work has been done is, and will be / ~~not be~~, when enlivened, electrically safe.

(Note: Strike out or delete the inapplicable selections highlighted in red above.)

Signature: | Date: 10/03/21

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector:	Gavin Bodey	Registration #:	250726
Email Address	gavin@bodeyspark.co.nz	Telephone:	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 117 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s):	Yori Martyn	Registration #:	F257490
			EW121000
CoC details:	Nationwired 16799 Streetlight 117	☐ CoC(s) attached	

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection. New Main Earthing System Bonding of Pole and cabinet door.

Specify the regulation(s) and comparison standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.C. imp <.5 Ohm
M.E.N. link HRPA #0058379H8C

High Risk Category:

☐ Not in AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(b)(vi)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(b)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Amenity, stunning or meat: conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above ~~has been~~ was done *in accordance* with the regulations; and the ~~installation~~ part installation on which the work has been done is, and ~~will be~~ *was*, when energised, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: Date: 10/03/21

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details

Name of Inspector:	Gavin Bodey	Registration #:	I250728
Email Address:	gavin@bodeyspark.co.nz	Telephone:	021 428 820

Location of Installation:

Location details: Greenhill park sub-division, Area M, Streetlight 113 stage 8-15

Location Type:
- [ ] Domestic
- [ ] Non-Domestic Accommodation
- [ ] Industrial
- [ ] Commercial
- [ ] Educational
- [ ] Healthcare
- [x] Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeli Martyn

Registration #: E257490, EW121000

CoC details: Nationwired 157910 Streetlight 116

- [ ] CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected

New Installation: New Streetlight with M.E.N. board, New Main Neutral bar and circuit protection, New Main Earthing System Bonding of Pole and cabinet door

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ok,
polarity
M.E.C. imp <.6 Ohm
M.E.N. link   I-RPA 40065382F4F

High Risk Category:

- [ ] Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i)
- [ ] Photovoltaic system – 6A(2)(a)(iv)
- [ ] Electrical medical area – 6A(2)(a)(v)
- [ ] High voltage installation – 6A(2)(a)(ii)
- [ ] Hazardous area – 6A(2)(a)(iii)
- [x] Mains work – 6A(2)(b)
- [ ] Mains parallel generation – 6A(2)(a)(vi)
- [ ] Animal stunning or meat conditioning – 6A(2)(c)
- [ ] Other – please describe:

Declaration

I hereby confirm that the work described above has been done in ~~/ not in~~ accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is, and will be ~~/ not be~~, when connected, electrically safe.

(Note: Strike out or delete the inapplicable words highlighted in red above.)

Signature: [signature]   Date: 10/00/21

Electrical Workers Registration Board

Record of Inspection (ROI) of High-Risk Prescribed Electrical Work

(Pursuant to the Electricity (Safety) Regulations 2010)

Reference/Record Number:

Nationwired greenhill

Issuer (Inspector) details:

Name of Inspector	Gavin Bodey	Registration #:	I250726
Email Address	gavin@bodeyspark.co.nz	Telephone	021 428 820

Location of Installation:

Location details: Greenhill park subdivision, Area M, Streetlight 119 stage 9-15

Location Type: ☐ Domestic ☐ Non-Domestic Accommodation ☐ Industrial ☐ Commercial ☐ Educational ☐ Healthcare ☑ Miscellaneous (other)

Certifying Electrical Work and Certificate of Compliance (CoC) details:

Name of Electrical worker(s): Yeli Martyn — Registration #: E257460, EW121000

CoC details: Nationwired 167912 Streetlight 119 — ☐ CoC(s) attached

Certifying Electrical Work and CoC details:

What was inspected:

New Installation, New Streetlight with M E N board, New Main Neutral bar and circuit protection, New Main Earthing System. Bonding of Pole and cabinet door.

Specify the regulation(s) and companion standard(s), or identify the certified design, followed when carrying out the inspection:

AS/NZS3000 part 2

What are the results of the inspection:

Earthing and bonding visual ck,
polarity
M.E.C. imp <.5 Ohm
M.E.N. link. FHPA #0050385XCN

High Risk Category:

☐ Not to AS/NZS 3000 Part 2 – 6A(2)(a)(i) ☐ Photovoltaic system – 6A(2)(a)(iv) ☐ Electrical medical area – 6A(2)(a)(v)
☐ High voltage installation – 6A(2)(a)(ii) ☐ Hazardous area – 6A(2)(a)(v) ☑ Mains work – 6A(2)(b)
☐ Mains parallel generation – 6A(2)(a)(iii) ☐ Animal stunning or meat conditioning – 6A(2)(c)
☐ Other – please describe:

Declaration

I hereby confirm that the work described above has been done in / ~~not in~~ accordance with the regulations, and the ~~installation~~ / part installation on which the work has been done is and will be / ~~not be~~, when connected, electrically safe.

(Note: Strike out or delete the words (or words) highlighted in red above.)

Signature: [signature] Date: 10/03/21

F3.10 RAMM STREETLIGHT DATA

(to be completed for each change in streetlight type)

Subdivision and stage/Contract: GREENHILL PARK AREA M STAGE 13

Number of street lights of this type: 6

General

Date Installed: 10/3/21

Control Type: (Network Streetlight Feed) / Photocell / Other:

Origin of Power Supply: (Streetlight Circuit) / Metered Power Supply

Light

Manufacturer: VIZULO

Model: MINI STORK

Total Power Consumption (W): 2 x 58.1 = 116.2W

Light Height (m): 10

Tilt Angle (° Degrees): 0°

Outreach

Outreach Type: (Curved) / Mitre / Other Decorative:

Outreach Distance (m): 2m

Pole

Manufacturer: CSP

Type: (Octagonal) / Circular / Power / Other Decorative:

Pole Height (m): 10m

Material: (Galvanised Steel) / Steel / Other:

Coating: N/A / (Painted) / Powder Coated

Colour (if coated): BLACK

Mounting: (Frangible ground plant) / Shear Base

- ☐ Manufacturer's Warranty documents for Poles, Lights and Coatings attached.
- ☐ Shown on as-built drawings.

F3.10 RAMM STREETLIGHT DATA

(to be completed for each change in streetlight type)

Subdivision and stage/Contract: GREENHILL PARK AREA M STAGE 13

Number of street lights of this type: 4

General

Date Installed: 10/3/21

Control Type: (Network Streetlight Feed) / Photocell / Other:

Origin of Power Supply: (Streetlight Circuit) / Metered Power Supply

Light

Manufacturer: VIZILO

Model: MINI STORK

Total Power Consumption (W): 84 W

Light Height (m): 10m

Tilt Angle (° Degrees): 0°

Outreach

Outreach Type: (Curved) / Mitre / Other Decorative:

Outreach Distance (m): 2m

Pole

Manufacturer: CSP

Type: (Octagonal) / Circular / Power / Other Decorative:

Pole Height (m): 10m

Material: (Galvanised Steel) / Steel / Other:

Coating: N/A / (Painted) / Powder Coated

Colour (if coated): BLACK

Mounting: (Frangible ground plant) / Shear Base

☐ Manufacturer's Warranty documents for Poles, Lights and Coatings attached.

☐ Shown on as-built drawings.

F3.10 RAMM STREETLIGHT DATA

(to be completed for each change in streetlight type)

Subdivision and stage/Contract: GREENHILL PARK AREA M STAGE 13

Number of street lights of this type: 4

General

Date Installed: 10/3/21

Control Type: (Network Streetlight Feed) / Photocell / Other:

Origin of Power Supply: (Streetlight Circuit) / Metered Power Supply

Light

Manufacturer: VIZULO

Model: MINI STORK

Total Power Consumption (W): 77.5W

Light Height (m): 10

Tilt Angle (° Degrees): 0°

Outreach

Outreach Type: (Curved) / Mitre / Other Decorative:

Outreach Distance (m): 2m

Pole

Manufacturer: CSP

Type: (Octagonal) / Circular / Power / Other Decorative:

Pole Height (m): 10m

Material: (Galvanised Steel) / Steel / Other:

Coating: N/A / (Painted) / Powder Coated

Colour (if coated): BLACK

Mounting: (Frangible ground plant) / Shear Base

☐ Manufacturer's Warranty documents for Poles, Lights and Coatings attached.

☐ Shown on as-built drawings.

F3.10 RAMM STREETLIGHT DATA

(to be completed for each change in streetlight type)

Subdivision and stage/Contract: GREENHILL PARK AREA M STAGE 13

Number of street lights of this type: 2

General

Date Installed: 10 / 3 / 21

Control Type: (Network Streetlight Feed) / Photocell / Other:

Origin of Power Supply: (Streetlight Circuit) / Metered Power Supply

Light

Manufacturer: VIZULO

Model: MINI STORK

Total Power Consumption (W): 131.7 x 2 = 263.4 W

Light Height (m): 10m

Tilt Angle (° Degrees): 0°

Outreach

Outreach Type: (Curved) / Mitre / Other Decorative:

Outreach Distance (m): 2m

Pole

Manufacturer: CSP

Type: (Octagonal) / Circular / Power / Other Decorative:

Pole Height (m): 10m

Material: (Galvanised Steel) / Steel / Other:

Coating: N/A / (Painted) / Powder Coated

Colour (if coated): BLACK

Mounting: (Frangible ground plant) / Shear Base

- ☐ Manufacturer's Warranty documents for Poles, Lights and Coatings attached.
- ☐ Shown on as-built drawings.

F3.10 RAMM STREETLIGHT DATA

(to be completed for each change in streetlight type)

Subdivision and stage/Contract: GREENHILL PARK AREA M STAGE 13

Number of street lights of this type: 21

General

Date Installed: 10/3/21

Control Type: (Network Streetlight Feed) / Photocell / Other:

Origin of Power Supply: (Streetlight Circuit) / Metered Power Supply

Light

Manufacturer: VIZULO

Model: MINI STORK

Total Power Consumption (W): 77.2W

Light Height (m): 8m

Tilt Angle (° Degrees): 0°

Outreach

Outreach Type: Curved / Mitre / Other Decorative: MILFORD

Outreach Distance (m): 1m

Pole

Manufacturer: IBEX LIGHTING

Type: Octagonal (Circular) Power / Other Decorative

Pole Height (m): 8m

Material: (Galvanised Steel) Steel / Other:

Coating: N/A (Painted) Powder Coated

Colour (if coated): BLACK

Mounting: (Frangible ground plant) / Shear Base

- ☐ Manufacturer's Warranty documents for Poles, Lights and Coatings attached
- ☐ Shown on as-built drawings

APPENDIX 8

Miscellaneous Check Lists and Producer Statements

- Subdivision Works Clearance Application Form
- Subdivision Certification Application Form
- Contractor Producer Statement Form
- Land Transfer Plan LT 558430
- Schedule of Engineering Value
- Developers Tax Invoice
- Consultant Certification Statement Form
- Asbuilt Statement Form

Hamilton City Council
Te kaunihera o Kirikiriroa

Subdivision Works Clearance Application Form

Agent details (where an agent is applying on behalf of the consent holder)

Agent name:	Barry Pearson
Agent company:	S & L
Postal address:	P. O. Box 231, Tauranga, 3140
Telephone:	022 320 9229
Email:	bpearson@sltga.co.nz

Subject Site

Site address:	Popham Road, Greenhill Park, Hamilton		
Legal description:	LT 558430		
Resource consent number:	011.2018.6632	Date consent issued:	05/09/2018
Stage (if applicable):	13	No. of lots (excluding roads/reserves):	18

Clearances required

Certification required: (●) Engineering ( ) Landscaping ( ) Other (please specify)

Works Clearance

Fees and payment

You will be charged for the time spent by staff in preparing for and undertaking engineering works clearance site visits. Refer to Fees and Charges, as set out on our website at www.hamilton.govt.nz for costs.

Payment of fees is due upon invoice which will be issued at s224c subdivision certification stage.

Agent declaration

As a registered professional surveyor/planner, I confirm that:

(●) I am satisfied that the engineering and landscaping physical works have been completed in accordance with the Resource Consent

( ) I accept that my application may be returned if there are outstanding agreements relating to development contribution remissions or valuation of land, or if all information required for works clearance is not submitted

Send

Send applications to subdivision@hcc.govt.nz, drop off via the duty planner at the Municipal Building Garden Place, between 8am – 4.45pm, Monday to Friday or post to Planning Guidance Subdivisions, Hamilton City Council, Private Bag 3010, Hamilton 3240.

Documentation to provide:

- ◯ The attached checklist
- ◯ All required information listed in the checklist

OFFICE USE ONLY ◯ Documentation saved to TRIM ◯ Authority updated ◯ Acknowledgement sent

Works Clearance Checklist

PART A - QA DOCUMENTATION:

a. General

	Received	Date
Easements required		
Consent notices required		
Power, telecommunication, gas connections certification		
Contractor Certificate		
Producer Statement		

b. Parks

◯ Landscaping Plans Accepted Date:

	Approved by	Date
Final Inspection Checklist		

c. Roading

◯ Engineering Plans Accepted Date:

	Approved by	Date
Subgrade Compaction/Relative Height		
Subbase Compaction/Relative Height		
Basecourse Compaction/Relative Height		
Penetrometer Results		
Clegg Hammer Results		
Benkelman Beam Results		

d. Stormwater

◯ Engineering Plans Accepted Date:

	Approved By	Date
Wetlands and Ponds Management Checklist		
Wetlands and Ponds Inspection Checklist		
Pipe Laying Checklist		
Manhole Checklist		
Trench Backfill Compaction Test		
Catchpit Checklist		
Final Inspection Checklist		
Stormwater device Operations and Maintenance Manual supplied		

e. Wastewater

◯ Engineering Plans Accepted Date:

	Approved By	Date
Pipe Laying Checklist		
Manhole Checklist		
Trench Backfill Compaction Test		
Final Inspection Pipe Network		
Pumping Station Check Forms		
Pressure Test Results		

f. Water

◯ Engineering Plans Accepted Date:

Form/Process	Approved By	Date
Pipe Laying Checklist		
Final Inspection Checklist		
Pressure Test Results		
Bacteriological Test Results		

PART B - ASBUILT DATA:

a. Roading

Data	Received	Checked
RAMM data		
Streetlight Data		
Asbuilt Plans		
DXF Files		

b. Stormwater

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

c. Wastewater

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

d. Water

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

e. Parks

Data	Received	Checked
Datasheets		
Asbuilt Plans		
DXF Files		

f. Finance

Data	Received	Checked
GST Values		
Land Values		
Asset Quantities		

PART C – CONDITIONS/BONDS:

Documentation	Received	Checked
Engineering conditions attached and completed		
Bond requested and quote attached		

Hamilton City Council
Te kaunihera o Kirikiriroa

Subdivision Certification Application Form

Agent details (where an agent is applying on behalf of the consent holder)

Agent name:	Barry Pearson
Agent company:	S & L
Postal address:	P. O. Box 231, Tauranga, 3140
Telephone:	022 320 9229
Email:	bpearson@sltga.co.nz

Preferred means of contact: ◯ Mail ◯ Email ◉ Phone

Consent holder name

Consent holder name:	Chedworth Properties Limited
Postal address:	P. O. Box 132, Waikato Mail Centre, 3240
Telephone:	07 838 0659
Email:	jon.webb@jonwebb.co.nz

Debtor details (for invoicing)

Debtor is: ◯ Agent ◉ Owner ◯ Other (please specify) Works Clearance

Debtor's Name:	Chedworth Properties Limited
Postal address:	C/- S & L, P. O. Box 231, Tauranga

Subject Site

Site address:	Popham Road, Greenhill Park, Hamilton
Legal description:	DP 558430
Resource consent number:	011.2018.6632
Stage Number:	13

Certification required

Certification required: ◯ s223 ◯ s224(c) ◯ s224(f) ◯ s32(2)(a)

◉ Other (please specify) Work Clearance

Condition(s) of consent requirements

As a registered professional surveyor/planner, I confirm that:

1. For larger/complex consents, I have attended a pre-application meeting with Hamilton City Council staff to review my draft s224c application.
2. I hereby attach all information required to satisfy Hamilton City Council that all conditions specified in the subdivision consent referenced above (in terms of certification required) have been met.
3. I accept that where it is found that not all information required under clause 2 above is provided, this application shall be returned to the address for re-lodgement.
4. Where an engineering or similar professionally prepared plan and supporting information (such as landscaping or ecological plan) has to be approved by council, I have attached written evidence of such approval.
5. Where evidence of completion and approval of all physical works is required (e.g. construction of services, landscape planting). I have attached written evidence of such approval.
6. The required Landonline electronic certification documentation have been prepared and submitted to Hamilton City Council for approval.

Acceptance

☑ I confirm that all of the above have been satisfied.

Name: Barry Pearson Date: 5/3/2021

Send

Send applications to subdivision@hcc.govt.nz, drop off via the duty planner at the Municipal Building Garden Place, between 8am – 4.45pm, Monday to Friday or post to **Planning Guidance Subdivisions, Hamilton City Council, Private Bag 3010, Hamilton 3240**.

Remember to attach:

☐ Conditions of subdivision consent documentation
☐ Works clearance certificate

NZS 3910:2013 Conditions of contract for building and civil engineering construction

SCHEDULE 6 – FORM OF PRODUCER STATEMENT - CONSTRUCTION

ISSUED BY	ONLINE CONTRACTORS 2016 LTD
TO	CHEDWORTH PROPERTIES LTD
IN RESPECT OF	GREENHILL PARK STAGE 13 INCLUDING: SUBDIVISION CIVIL WORKS, ROADING AND EARTHWORKS
AT	GREENHILL PARK, HAMILTON

ONLINE CONTRACTORS 2016 LTD has contracted to *CHEDWORTH PROPERTIES LTD* to carry out and complete certain building works in accordance with a Contract titled *GREENHILL PARK STAGE 13.*

I Daniel Hopper a duly authorised representative of *ONLINE CONTRACTORS 2016 LTD* believe on reasonable grounds that *ONLINE CONTRACTORS 2016 LTD* as carried out and completed:

☑ All

☐ Part only as specified in the attached particulars of the contract works in accordance with the Contract.

Dan Hopper — 8th March 2021

Signature of Authorised Agent on behalf of — *Date*

ONLINE CONTRACTORS 2016 LTD
PO BOX 21187
ROTOTUNA
HAMILTON 3256

APPENDIX 4 ii)

PRODUCER STATEMENT — CONSTRUCTION

CONTRACTOR'S CERTIFICATE UPON COMPLETION OF SUBDIVISIONAL WORK

ISSUED BY : Online Contractors 2016 Ltd
(Contractor)

TO : Chedworth Properties Ltd
(Principal)

TO BE SUPPLIED TO: Hamilton City Council
(Territorial Authority)

IN RESPECT OF : Greenhill Park Stage 13
(Description of subdivisional work)

AT : Gosset Ave and Couldsack Ave, Greenhill Park
(Address)

Online Contractors 2016 Ltd has contracted to Chedworth Properties Ltd
(Contractor) *(Principal)*

to carry out and complete certain subdivisional work in accordance with a contract, titled Contract No. ……
for Earthworks and subdivision civil works ("the contract")

I Dan Hopper a duly authorised representative of Online Contractors 2016 Ltd
(Duly Authorised Agent) *(Contractor)*

hereby certify that Onlne Contractors 2016 Ltd

has carried out and completed the subdivisional works, other than those outstanding works listed below, in accordance with the contract.

Dan Hopper Date 8th March 2021
(Signature of Authorised Agent on behalf of)

Online Contractors 2016 Ltd
(Contractor)

PO Box 21187, Rototuna, Hamilton

(Address)

Outstanding Works

road signs installation at the Webb Drive/Carrs Rd roundabout

Tactile paver installation

Title Plan - LT 558430

Survey Number	LT 558430
Surveyor Reference	21539 Greenhill Park Stage 13
Surveyor	Scott Rodney Cutley
Survey Firm	Shortland and Lipinski Limited Partnership
Surveyor Declaration	

Survey Details

Dataset Description	Lots 357-374, 501, 602, 603 and 700 Being a Subdivision of Lot 705 DP 548058		
Status	Initiated		
Land District	South Auckland	**Survey Class**	Class A
Submitted Date		**Survey Approval Date**	
		Deposit Date	

Territorial Authorities

Hamilton City

Comprised In

RT 940132

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Lot 357 Deposited Plan 558430	Fee Simple Title	0.0416 Ha	980784
Lot 358 Deposited Plan 558430	Fee Simple Title	0.0418 Ha	980785
Lot 359 Deposited Plan 558430	Fee Simple Title	0.0417 Ha	980786
Lot 360 Deposited Plan 558430	Fee Simple Title	0.0417 Ha	980787
Lot 361 Deposited Plan 558430	Fee Simple Title	0.0161 Ha	980788
Lot 362 Deposited Plan 558430	Fee Simple Title	0.0315 Ha	980789
Lot 363 Deposited Plan 558430	Fee Simple Title	0.0317 Ha	980790
Lot 364 Deposited Plan 558430	Fee Simple Title	0.0360 Ha	980791
Lot 365 Deposited Plan 558430	Fee Simple Title	0.0308 Ha	980792
Lot 366 Deposited Plan 558430	Fee Simple Title	0.0453 Ha	980793
Lot 367 Deposited Plan 558430	Fee Simple Title	0.0402 Ha	980794
Lot 368 Deposited Plan 558430	Fee Simple Title	0.0450 Ha	980795
Lot 369 Deposited Plan 558430	Fee Simple Title	0.0450 Ha	980796
Lot 370 Deposited Plan 558430	Fee Simple Title	0.0162 Ha	980797
Lot 371 Deposited Plan 558430	Fee Simple Title	0.0452 Ha	980798
Lot 372 Deposited Plan 558430	Fee Simple Title	0.0186 Ha	980799
Lot 373 Deposited Plan 558430	Fee Simple Title	0.0454 Ha	980800
Lot 374 Deposited Plan 558430	Fee Simple Title	0.0435 Ha	980801
Lot 501 Deposited Plan 558430	Vesting on Deposit for Local Purpose Reserve	0.1341 Ha	980802
Lot 602 Deposited Plan 558430	Vesting on Deposit for Road	1.1086 Ha	
Lot 603 Deposited Plan 558430	Vesting on Deposit for Road	0.6422 Ha	

Title Plan - LT 558430

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Lot 706 Deposited Plan 558430	Fee Simple Title	2.9730 Ha	980815
Area A Deposited Plan 558430	Easement		
Total Area		5.5961 Ha	

S&L
Land Development
and Design Specialists

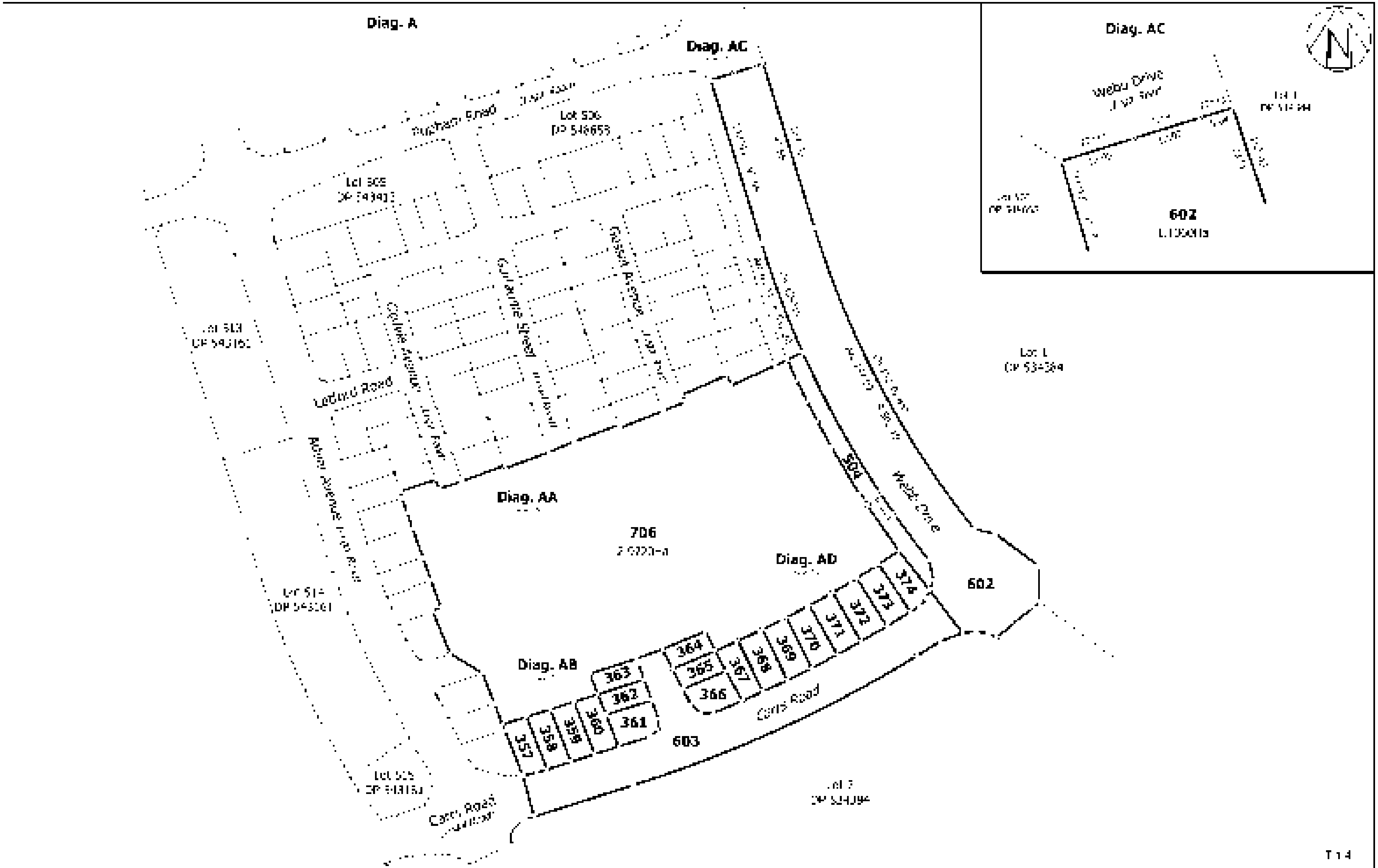
S&L File 2207 Stage 13

Land Registration District
South Auckland

Plan Number
DP 558430

Territorial Authority (the Council)
Hamilton City Council

Memorandum of Easements in Gross			
Purpose	**Shown**	**Burdened Land**	**Grantee**
Right to Convey Electricity Telecommunications	A	Lot 504	WEL Network Limited

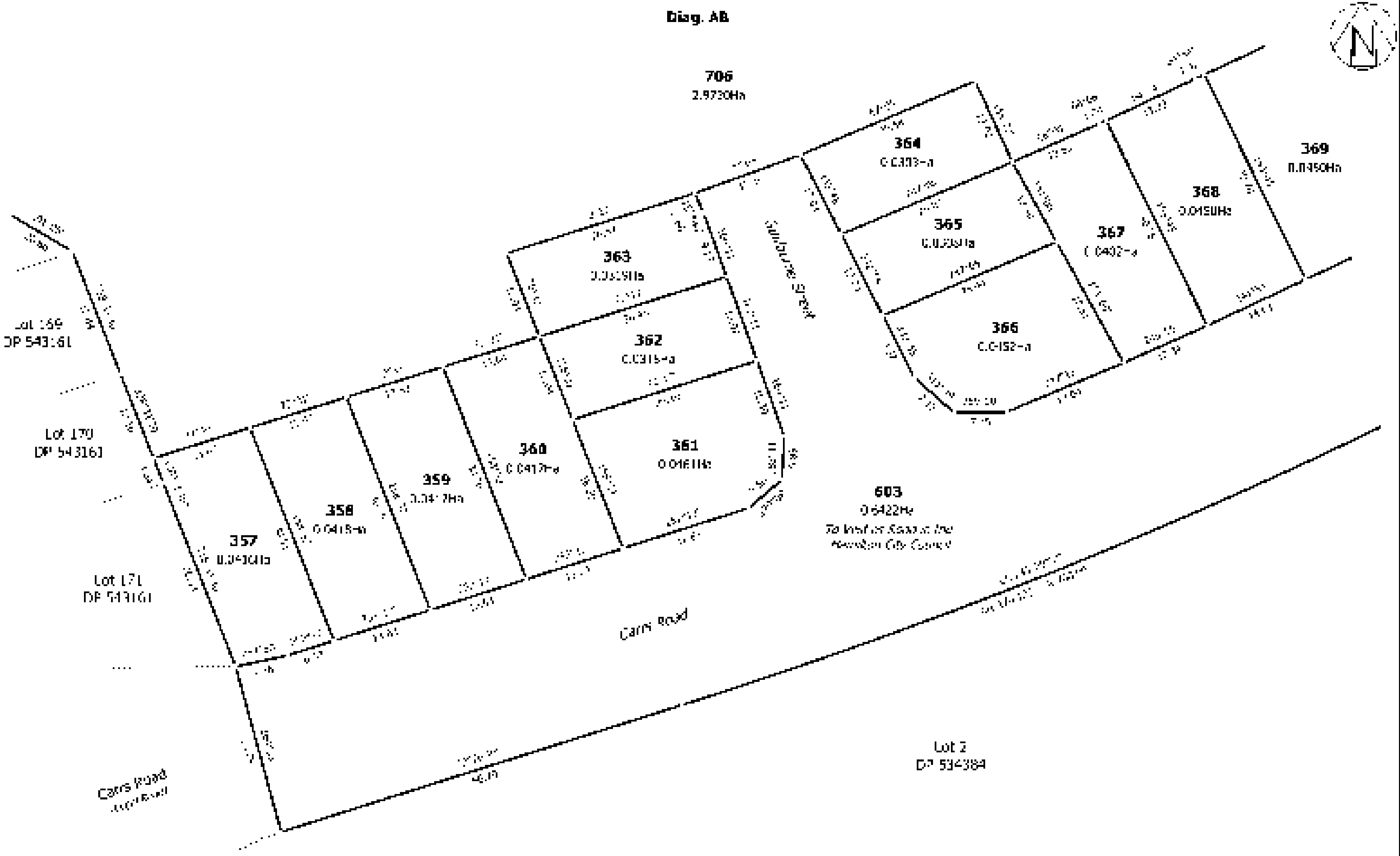


Land District South Auckland

Digitally Generated Plan

Lots 357-374, 504, 602, 603 and 706 Being a Subdivision of Lot 705 DP 548658

Title Plan
LT 558430
DRAFT



T2-4

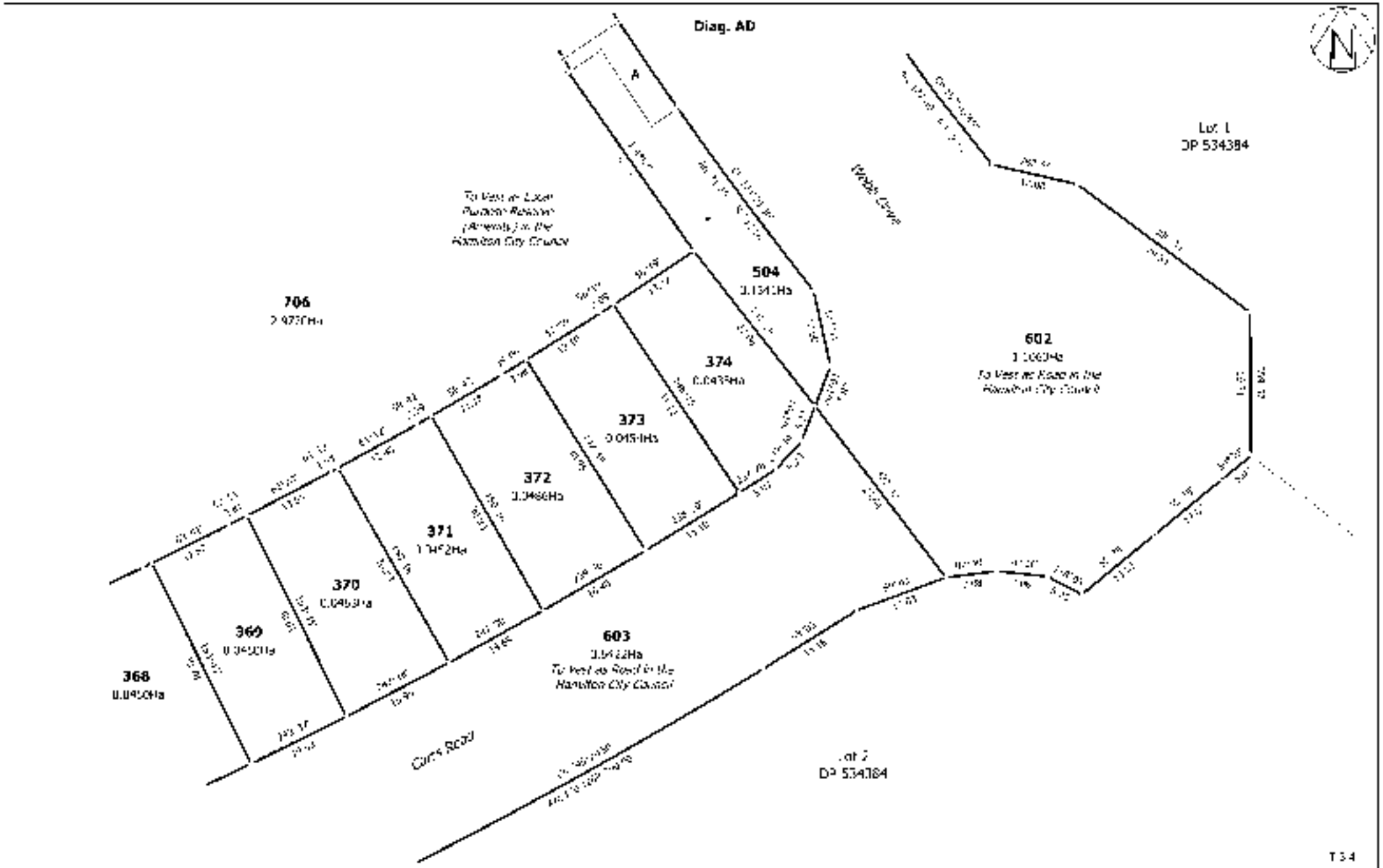
Land District South Auckland

Digitally Generated Plan

Lots 357-374, 504, 602, 603 and 706 Being a Subdivision of Lot 705 DP 548658

Surveyor Scott Rodney Cailey

Title Plan
LT 558430
DRAFT



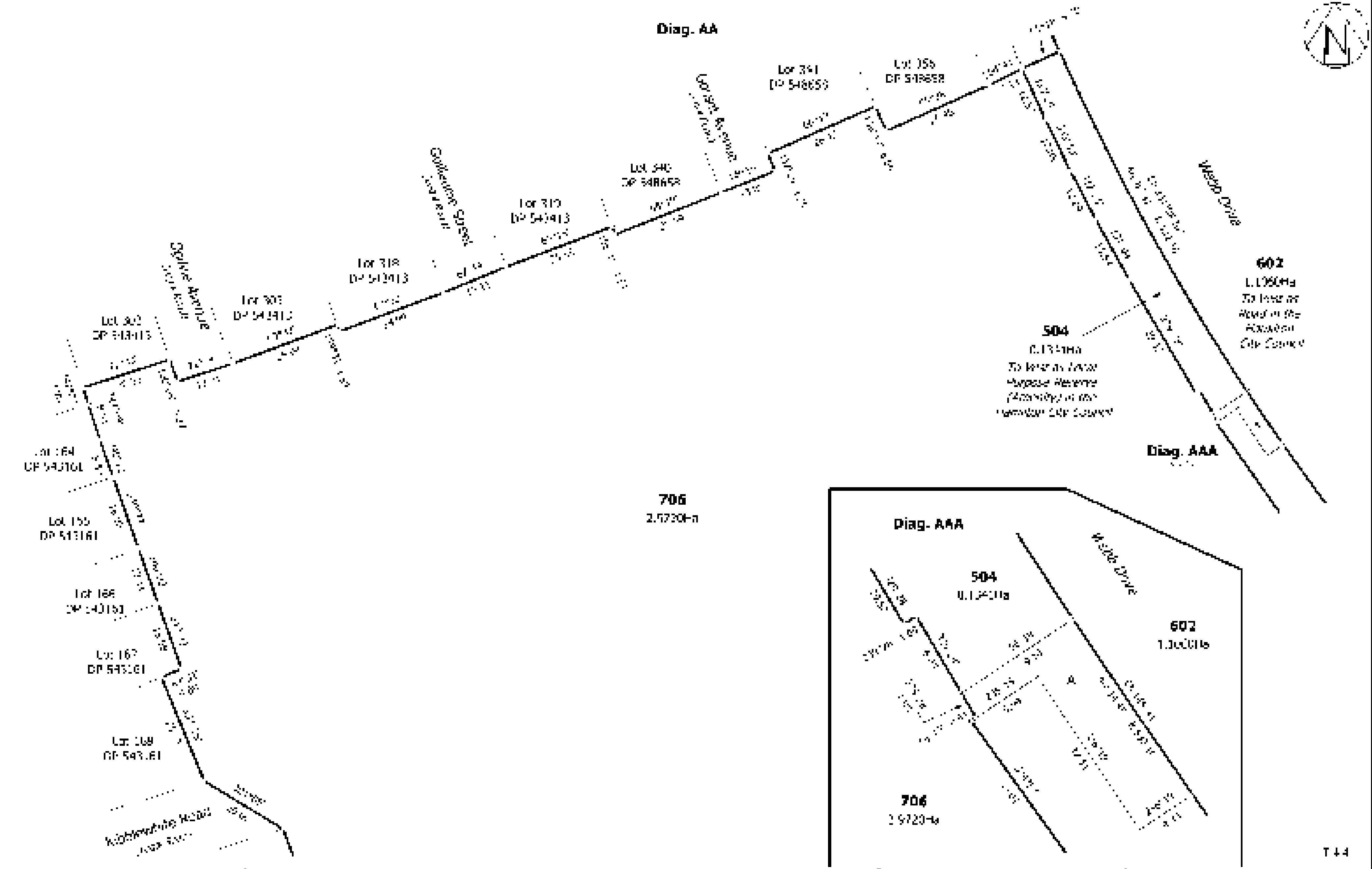
Land District: South Auckland

Digitally Generated Plan

Lots 357-374, 504, 602, 603 and 706 Being a Subdivision of Lot 705 DP 548658

Surveyor: Scott Rodney Caley
Firm: Thompson and Associates Limited Partnership

Title Plan
LT 558430
DRAFT



Land District: South Auckland

Digitally Generated Plan

Lots 357-374, 504, 602, 603 and 706 Being a Subdivision of Lot 705 DP 548658

Surveyor: Scott Rodney Caley

Title Plan
LT 568430
DRAFT

SCHEDULE OF LAND AND ASSETS TO VEST IN COUNCIL

Hamilton City Council will use these values to record the assets once ownership has transferred following approval of s224c certification.

GENERAL DETAILS

Subdivision name: Greenhill Park - Stage 13

Site address: Carrs Road, Greenhill Park, Hamilton

HCC application number: 011.2018.6632

DPS number(s): DP 558430

Developer name: Chedworth Properties Limited

Postal address: P. O. Box 132

Suburb: Waikato Mail Centre

City: Hamilton Postal code: 3240

This information is certified as being true and correct

Completed by: ☐ Land owner ☑ Agent ☐ Other (please specify) _____

Name: Barry Pearson

Signature: *Barry Pearson* Date signed: 12-3-2021

SEND

Email this to subdivision@hcc.govt.nz. Alternatively, if you are attending a works clearance pre-application meeting, please bring this completed form with you.

SUMMARY OF LAND AND ASSETS TO VEST IN COUNCIL (excluding GST)

ASSET TYPE		COST/VALUE	REMOVE COUNCIL'S CONTRIBUTION	TOTAL VESTED
Land	(A)			$3,953,040
Water supply	(B)			$152,005
Wastewater	(C)			$182,379
Stormwater	(D)			$253,152
Roading	(E)			
Parks	(F)			
Other	(G)			
TOTAL (excluding GST)				

PLANNING GUIDANCE

For general planning guidance enquiries, contact the duty planner weekdays 8am - 4.45pm.
Email: planning.guidance@hcc.govt.nz **Phone:** 07 838 6699

Hamilton City Council
Te kaunihera o Kirikiriroa

SCHEDULE OF LAND AND ASSETS TO VEST IN COUNCIL

LAND, WATER SUPPLY, WASTEWATER AND STORMWATER (All values are to be exclusive of GST)

LAND (A)	DPS	MEASURE (AREA M2)	COST/VALUE	COUNCIL'S CONTRIBUTION
Roading	558430	17483	$3,671,430	
Recreation reserve	558430		$0.0	
Local purpose reserve	558430	1341	$281610	
Other - please specify				
		TOTAL	$3,953,040	
		TOTAL VESTED		

WATER SUPPLY (B)	MEASURE		COST/VALUE	COUNCIL'S CONTRIBUTION
Mains	Metres	1269.3	$85,735	
Ridermains	Metres	0		
Services	No.	14	$9,870	
Hydrants	No.	6	$16,500	
Sluice and peat values	No.	15	$39,900	
Other - please specify				
	TOTAL		$152,005	
	TOTAL VESTED			

WASTEWATER (C)	MEASURE		COST/VALUE	COUNCIL'S CONTRIBUTION
Mains	Metres	316.1	$123,283	
Manholes	No.	5	$47,291	
Connections	No.	18	$11,805	
Other - please specify				
	TOTAL		$182,379	
	TOTAL VESTED			

STORMWATER (D)	MEASURE		COST/VALUE	COUNCIL'S CONTRIBUTION
Mains	Metres	544.8	$187,034	
Manholes	No.	11	$48,235	
Connections	No.	18	$15,792	
Outfalls (inlet/outlet structures)	No.	1	$2091	
Wetland/rain garden planting	Area (m^2)			
Other - please specify				
	TOTAL		$253, 152	
	TOTAL VESTED			

PLANNING GUIDANCE

For general planning guidance enquiries, contact the duty planner weekdays 8am - 4.45pm.
Email: planning.guidance@hcc.govt.nz **Phone:** 07 838 6699

Hamilton City Council
Te kaunihera o Kirikiriroa

SCHEDULE OF LAND AND ASSETS TO VEST IN COUNCIL

ROADING, PARKS AND OTHER (All values are to be exclusive of GST)

ROADING (E)	MEASURE		COST/VALUE	COUNCIL'S CONTRIBUTION
Pavement	Area (m^2)	8212	$352,332.68	
Surfacing	Area (m^2)	6991	$322,568.08	
Kerb and channel (full height)	Metres	2076.2	$94,678.30	
Berms	Area (m^2)	18630	$31,130.50	
Footpaths (inc. walkways & cycleways)	Area (m^2)	3200	$220,800	
Vehicle crossings (excl. residential)	Area (m^2)	192	$19,200	
Road drainage (catchpits & leads)	No.	18	$72,951	
Street lighting	No.	17	$72,956	
Signage	No.	25	$4,374.25	
Subsoil drains	Metres	1554.6	$79,377	
Tactile pavers	No.	40m2	$18,170	
Parking and bus bays	Area (m^2)	58.4	$5,840	
Sundries (bridges/culverts/walls/etc)	No.	0		
Other - please specify				
	TOTAL		$1,294,377.81	
	TOTAL VESTED			

PARKS (F)	MEASURE		COST/VALUE	COUNCIL'S CONTRIBUTION
Bollards	No.	0		
Landscaping (trees, shrubs)	Area (m^2)	3085	$92,550	
Paths	Area (m^2)	0		
Fencing	Metres	0		
Play equipment	No.	2	$9,116.40	
Seats/benches/tables	No.	0		
Other - please specify				
	TOTAL		$101,666.40	
	TOTAL VESTED			

OTHER (G)	MEASURE		COST/VALUE	COUNCIL'S CONTRIBUTION
Buildings	No.	0	$0.0	
Other - please specify				
	TOTAL		$0.0	
	TOTAL VESTED			

PLANNING GUIDANCE

For general planning guidance enquiries, contact the duty planner weekdays 8am - 4.45pm.
Email: planning.guidance@hcc.govt.nz **Phone:** 07 838 6699

Hamilton City Council
Te kaunihera o Kirikiriroa

APPENDIX 4 i)

CERTIFICATION UPON COMPLETION OF ROADS, PIPELINES AND OTHER SERVICES

ISSUED BY: Barry Pearson
(suitably qualified professional)

TO: Chedworth Properties Limited
(Development Owner)

TO BE SUPPLIED TO: Hamilton City Council
(Territorial Authority)

IN RESPECT OF: Greenhill Park - Stage 13
(Description of Development Project)

AT: Popham Road, Greenhill Park, Hamilton, New Zealand

(Address)

S & L *(Survey Firm)* has been engaged by Chedworth Properties limited *(Development Owner)*

to provide construction observation, review and certification services in respect of the above development which is described in the specification and shown on the drawings numbered 3411915-CA-2000 to 3411915-CA-2516 approved by Hamilton City Council
(Territorial Authority)

I have sighted the Hamilton City Council *(Territorial Authority)* consent and conditions of consent to the Development and the approved specification and drawings.

As an independent professional, I or personnel under my control, have carried out periodic reviews of the works appropriate to the engagement and based upon these reviews, information supplied by the contractor during the course of the works and the contractor's certification upon completion of the works (copy attached) I **BELIEVE ON REASONABLE GROUNDS** that the works, other than those outstanding works listed below, have been completed in accordance with the above consent and sound engineering practice.

B. J. Pearson Date 5/3/2021
(Signature suitably qualified Professional)

CMEngNZ, CPEng Member CSNZ ☐ NZIS ☐
(Professional Qualifications)

36 Kereiti Street, Mount Maunganui ACENZ ☐ IPENZ ☐
(Address)

CPEng ☒

Outstanding Works

Road signs installation for the Webb Drive/Carrs Road roundabout (supply delay)

Tactile paver installation

APPENDIX 4 iii)

HAMILTON CITY COUNCIL

CERTIFICATE FOR AS-BUILT DRAWINGS

Greenhill Park - Stage 13 ..... **DEVELOPMENT**

I, Barry Pearson, Chartered Professional Engineer/Surveyor, hereby certify that all of the information shown on the "as built" drawings and spreadsheets is correct as to location (x, y and z co-ordinates), size, materials. This applies to the following "as built" drawings:

Drawing No.	**Title**
21879-M-13-WW1-Rev AB	Stage 13 Wastewater Asbuilt Plan
21879-M-13-W1 Rev AB	Stage 13 Water Reticulation Asbuilt Plan
21879-M-13-SW1 Rev AB	Stage 13 Stormwater Asbuilt Plan
21879-M-13-RD1-Rev AB	Stage 13 Roading Asbuilt Plan
.....	.....
.....	.....

Barry Pearson

Chartered Professional Engineer/Surveyor

12/3/2021

Date

Strategic Development Unit
Works Clearance Checklist

Note: Please refer to the Regional Infrastructure Technical Specifications for testing requirements and guidelines.

Consent Ref: 11.2018.6632 **Site Address: Webb Drive, Greenhill Park**

New Street Name: Stage 13 – Greenhill Park **Development Engineer:**

Documentation	Completed	Date	Notes
General			
GST register for all vested asset (PG L4 and PG L5)			
Upsize contribution documentation	N/A		
WEL completion certificate	Y	Not received	To be provided
Gas completion certificate (where necessary)	Y	4/3/2021	Attached
UFF completion certificate	Y	8/3/2021	Attached
Roading			
Completion Certificate (PS4 or similar)	Y	Various	Similar Attached
Subgrade			
- Stringing (relative shape and height)	Y	1/12/2020	Attached
- Compaction (natural subgrade – Scala, SIL sand-Scala, SIL brown rock – Clegg)	Y	4/1/2020	Attached
Subbase			
- Stringing (relative shape and height)	Y	4/12/20 Carrs Rd. 10/11/20 Webb Dr	Attached
- Compaction (clegg)	Y	4/12/20 Carrs Rd. 10/11/20 Webb Dr	Attached
- Nuclear densometer (NDMS)	Y	4/12/20 Carrs Rd. 10/11/20 Webb Dr	Attached

Basecourse			
- Stringing (relative shape and height)	Y	17-2-21 Carrs Rd 11/2/2021 Webb Dr	Attached
- Compaction (clegg)	Y	Carrs Rd 18-2-21	Attached
- Nuclear densometer (NDMS)	Y	14/2/21 Carrs Rd. 10/2/21 Webb Dr	Attached
- Benkelman beam test	Y	14/2/2021 Carrs Rd. 9/2/21 Webb Dr	Attached
RAMM Pavement	Y	11/2/2021 Webb Dr 18-2-2021 Carrs Rd	Attached
RAMM Surfacing	Y	6/3/2021	Attached
Streetlight			
Asbuilt Plan		12/3/2021	Attached
RAMM Streetlight	Y	12/3/2021	Attached
Copy of approved application for new connection	Y	Not received	To be provided
Producer Statement	Y	12/3/2021	Attached
CoC or ESC signed by authorised person	Y	20-2-2021 & 9/3/2021	Attached
Asbuilt in format approved by WEL	Y	Not received	To be provided
Confirmation of practical completion or 224c sign off	Y	Not received	To be provided
WEL Networks approval sheet (Written confirmation from WEL for the acceptance of all underground cabling and circuitry)	Y	Not received	To be provided
Manufacturer's Warranty Documents	Y	4/3/2020	Attached
Road Drainage			
Asbuilt plan (subsoil/catchpit/leads	Y	12/3/2021	Attached
Secondary flow path	Y	12/3/2021	Attached

Signage and Marking Asbuilt Plan	Y	12/3/2021	Attached
Water			
Water as-built plan	Y	12/3/2021	Attached
Data Sheet	Y	12/3/2021	Attached
Pressure test certificate	Y	4/2/2021	Attached
DXF (if >2 lots)	N/A		
Bacteriological test result	Y	18/2/2021	Attached
Hydrant test (where necessary)	N/A		
RITS checklists			
- F6.1 Water reticulation design confirmation,	N/A		Beca design
- F6.2 Water reticulation pipe laying checklist,	Y	11/3/2021	Attached
- F6.3 Water reticulation final inspection checklist	Y	11/3/2021	Attached
Wastewater			
Wastewater as-built plan	Y		Attached
Data sheet	Y	12/3/21	Attached
DXF (if >2 lots)	Y	06/11/2020	Attached
CCTV investigation	Y	10/3/2021	Submission email attached
Pipe Pressure test	Y	16/10/2020	Attached
Manhole pressure test	Y	16/10/2020	Attached
Trench backfill	Y	9/3/2021	Attached
RITS checklist			
- F5.1 wastewater design confirmation,	N/A		Beca design
- F5.2 Wastewater pipe laying checklist,	Y	16/12/2020	Attached
- F5.3 Wastewater manhole checklist,	Y	16/12/2020	Attached
- F5.4 Wastewater trench backfill test summary,	Y	16/12/2020	Attached

- F5.6 Wastewater pipe network- final inspection checklist,	Y	9/3/2021	Attached
- F5.7 Pump station control programming checklist	N/A		
Stormwater			
Stormwater as-built plan	Y	06/11/2020	Attached
Data sheet	Y	06/11/2020	Attached
DXF (if >2 lots)	Y	06/11/2020	Attached
Wetland as-built plan (see RITS for minimum details required)	N/A		
Completed planting plan (confirmation that plants are in accordance with the accepted plan)	Y	06/11/2020	Attached
Proprietary device completion certificate	N/A		
Final operation and maintenance manual	N/A		
CCTV investigation	Y	10/3/2021	Submission email attached.
Trench backfill	Y	9/3/2021	Attached
RITS checklist			
- F4.1 Stormwater design checklist,	N/A		Beca design
- F4.2 Stormwater pipe laying checklist,	Y	14/12/2020	Attached
- F4.3 Stormwater manhole checklist,	Y	14/12/2020	Attached
- F4.4 Stormwater trench backfill compaction test summary,	Y	14/12/2020	Attached
- F4.5 Stormwater catchpit checklist,	Y	14/12/2020	Attached
- F4.6 Stormwater pipe network final inspection checklist,	Y	9/3/0221	Attached

- F4.7 Wetland construction inspection checklist,	N/A		
- F4.8 Wetland and inspection/Sign off checklist	N/A		
- Final Operation and Maintenance Manual	N/A		
- Final Water Impact Assessment	N/A		
Parks and Open Spaces Street trees/planting sign off	As Built plan	12-3-2021	Sign off to be supplied from HCC
Bond			
Quote	N/A		
Signed bond form			To be supplied from HCC
Other:	N/A		

APPENDIX 9

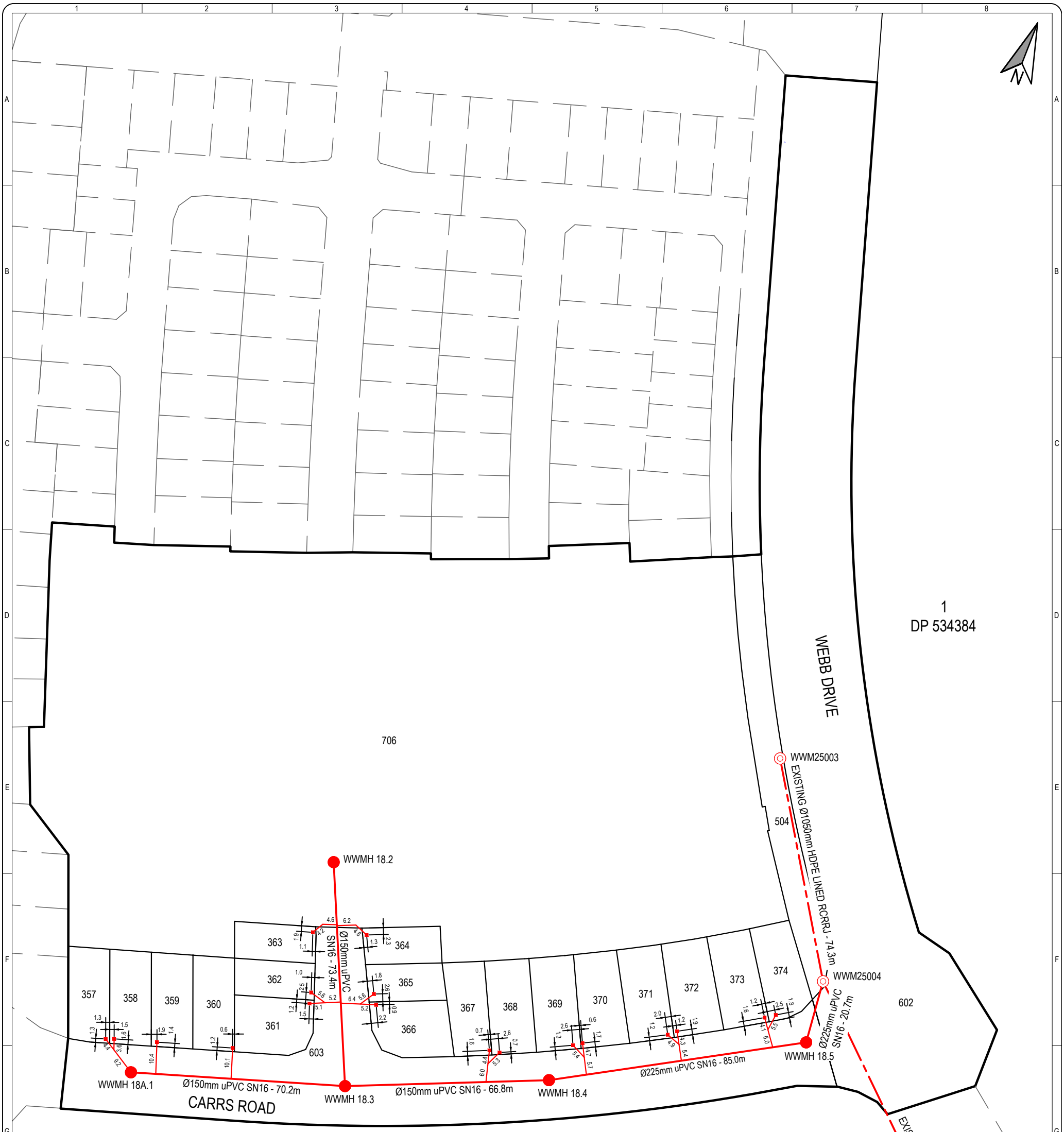
As Built Drawings

- 21879-M-13-WW1-Rev AB – Stage 13 Wastewater Asbuilt Plan
- 21879-M-13-W1 Rev AB – Stage 13 Water Reticulation Asbuilt Plan
- 21879-M-13-SW1 Rev AB – Stage 13 Stormwater Asbuilt Plan
- 21879-M-13-RD1-Rev AB – Stage 13 Roading Asbuilt Plan
- H18006_130 to H18006_ 600 Lanscape As Built drawings by Boffa Miskell – stage 13

APPENDIX 10

Asset Spreadsheets – Hard copy

- Water asset sheets
- Wastewater asset sheets
- Stormwater asset sheets



WASTE WATER MANHOLES COORDINATES

MH ID	DIAMETER	EASTING	NORTHING	LID LEVEL	INVERT OUT	INVERT IN	INVERT IN	INVERT IN
WWMH 18.2	1050	447305.55	702830.11	TBC	35.39			
WWMH 18.3	1050	447335.94	702763.33	38.74	34.96	35.01	35.02	
WWMH 18.4	1050	447397.28	702789.67	39.30	34.10	34.13	34.13	
WWMH 18.5	1200	447470.97	702832.10	40.17	33.63	33.66		
WWM25004	1800	447468.77	702852.69	40.67	32.25	33.15	32.26	33.08
WWMH 18A.1	1050	447269.16	702741.78	37.79	36.39	36.58		

WASTE WATER PIPELINES

UPSTREAM MH	DOWNSTREAM MH	PIPE DIA	MATERIAL	CLASS	PIPE LENGTH	PIPE GRADE	UPSTREAM IL	DOWNSTREAM IL
WWMH 18.5	WWM25004	225	uPVC	SN16	20.7	1:38	33.63	33.08
WWMH 18.4	WWMH 18.5	225	uPVC	SN16	85.0	1:193	34.10	33.66
WWMH 18.3	WWMH 18.4	150	uPVC	SN16	66.8	1:80	34.96	34.13
WWMH 18.2	WWMH 18.3	150	uPVC	SN16	73.4	1:198	35.39	35.02
WWMH 18A.1	WWMH 18.3	150	uPVC	SN16	70.2	1:51	36.39	35.01

LEGEND:

- ABUTTAL
- BOUNDARY
- STAGE PERIMETER
- WASTEWATER MAIN - NEW
- WASTEWATER CONNECTION
- WASTEWATER - EXISTING
- WW MANHOLE - NEW
- WW MANHOLE - EXISTING
- WASTEWATER CONNECTION

NOTES:

1. HCC REF: 011.2018.00006632.001
2. LOT CONNECTIONS AND LATERAL LINES PLOTTED FROM DATA SUPPLIED BY WEST CONSTRUCTION
3. LOT CONNECTIONS ARE Ø100 uPVC SN16 RR UNLESS SHOWN OTHERWISE

SHRIMPTON & LIPINSKI
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Chedworth Properties Limited
GREENHILL PARK

STAGE 13 WASTEWATER AS-BUILT PLAN

Rev	Description	Drn	Ckd	App	Date
AB	AS-BUILT	NP	SRC	NF	03/21
0	PRELIMINARY	NP	SRC	NF	02/21

	Name	Date		Name	Date
Surveyed	HNC	02/21	Designed		

Coordinate System: NZGD 2000 MT EDEN CIRCUIT
Origin of Coordinates: ALP 4 DP 534481
Height Datum: MOTURIKI DATUM 1953
Origin of Height: SS 507 SO 42451 RL 44.04m

Original Scales @ A3: 1:1250
Do Not Scale Dimensions
Status: AS-BUILT
Drawing No: 21879-M-13-WW1
Revision: AB

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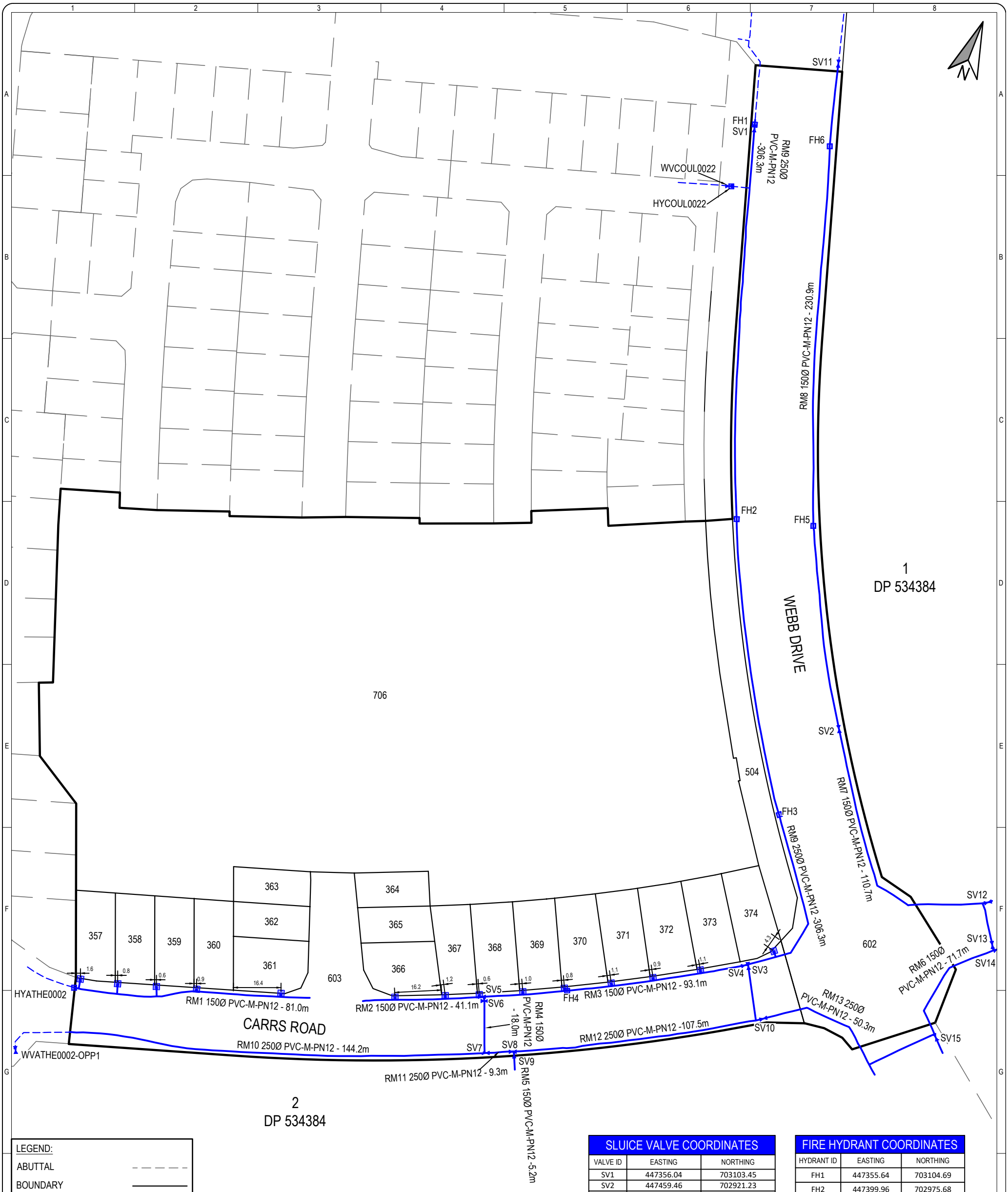

LEGEND:

- ABUTTAL
- BOUNDARY
- STAGE PERIMETER
- WATER MAIN
- EXISTING WATER MAIN
- RIDERMAIN
- WATER METER
- VALVE - NEW
- VALVE - EXISTING
- FIRE HYDRANT - NEW

NOTES:

1. HCC REF: 011.2018.00006632.001
2. WATERMAINS PLOTTED FROM DATA SUPPLIED BY ONLINE CONTRACTORS

SLUICE VALVE COORDINATES

VALVE ID	EASTING	NORTHING
SV1	447356.04	703103.45
SV2	447459.46	702921.23
SV3	447460.40	702833.61
SV4	447459.27	702833.43
SV5	447378.79	702789.89
SV6	447380.15	702788.87
SV7	447387.15	702772.34
SV8	447395.67	702776.15
SV9	447396.45	702775.43
SV10	447471.96	702818.60
SV11	447374.78	703134.89
SV12	447529.31	702884.47
SV13	447536.12	702871.33
SV14	447538.23	702870.49
SV15	447529.64	702834.50

FIRE HYDRANT COORDINATES

HYDRANT ID	EASTING	NORTHING
FH1	447355.64	703104.69
FH2	447399.96	702975.68
FH3	447451.13	702886.15
FH4	447405.39	702802.63
FH5	447425.41	702983.23
FH6	447382.49	703107.23

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Chedworth Properties Limited

GREENHILL

STAGE 13
WATER RETICULATION
AS-BUILT PLAN

Rev	Description	Drn	Ckd	App	Date
AB	AS-BUILT	NP	SRC	NF	03/21
0	PRELIMINARY	NP	SRC	NF	02/21

	Name	Date		Name	Date
Surveyed	HNC	02/21	Designed		

Coordinate System: NZGD 2000 MT EDEN CIRCUIT
Origin of Coordinates: ALP 4 DP 534481
Height Datum: MOTURIKI DATUM 1953
Origin of Height: SS 507 SO 42451 RL 44.04m

Original Scales @ A3: 1:1250
Do Not Scale Dimensions

Status: AS-BUILT

Drawing No: 21879-M-13-W1

Revision: AB

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STORM WATER PIPELINES

UPSTREAM MH	DOWNSTREAM MH	PIPE DIA	MATERIAL	CLASS	PIPE LENGTH	PIPE GRADE	UPSTREAM IL	DOWNSTREAM IL
SWMH 19.5	SWOUT 15	675	RCRRJ	4	4.5	1:38	35.41	35.29
SWMH 19.4	SWMH 19.5	675	RCRRJ	4	40.2	1:35	36.57	35.41
SWMH 19.1	SWMH 19.4	600	RCRRJ	4	81.0	1:127	37.27	36.63
SWMH 22.2	SWMH 19.4	375	RCRRJ	4	72.9	1:89	37.71	36.89
SWMH 22.1	SWMH 22.2	300	uPVC	SN16	57.4	1:88	38.39	37.74
SWMH SP 4.2	SWM25005	300	uPVC	SN16	41.4	1:103	38.59	38.19
SWMH SP 3.4	SWM25001	375	RCRRJ	4	37.5	1:218	37.50	37.25
SWMH SP 3.3	SWMH SP 3.4	300	uPVC	SN16	54.5	1:188	37.81	37.52
SWMH SP 3.2	SWMH SP 3.3	300	uPVC	SN16	56.1	1:160	38.26	37.91
SWMH SP 3.1	SWMH SP 3.2	300	uPVC	SN16	54.6	1:152	38.69	38.33
SWMH 9.5	SWN24075	300	uPVC	SN16	44.7	1:172	36.91	36.65

STORM WATER MANHOLES COORDINATES

MH ID	DIA	EASTING	NORTHING	LID LEVEL	INVERT OUT	INVERT IN	INVERT IN	INVERT IN	INVERT IN
SWMH 9.5	1050	447278.58	702740.86	37.93	36.91	36.96	37.02	36.94	
SWMH 19.1	1200	447305.16	702835.08	TBC	37.27				
SWMH 19.4	1500	447339.00	702761.45	38.76	36.57	36.63	37.52	36.89	37.30
SWMH 19.5	1050	447314.32	702729.71	36.56	35.41	35.41			
SWMH 22.1	1050	447455.90	702818.80	39.91	38.39	38.80	38.93	38.65	
SWMH 22.2	1050	447405.31	702791.67	39.41	37.71	38.05	37.74	38.06	
SWMH SP 3.1	1050	447446.83	702932.16	39.95	38.69	38.70			
SWMH SP 3.2	1050	447421.79	702980.63	39.56	38.26	38.33	38.50		
SWMH SP 3.3	1050	447400.98	703032.69	39.18	37.81	37.91	38.12		
SWMH SP 3.4	1050	447384.80	703084.71	38.79	37.50	37.52	37.62		
SWM25001	1050	447373.87	703120.54	38.66	37.21	37.25			
SWMH SP 4.2	1050	447428.70	702911.14	40.15	38.59	38.71			
SWM25005	1050	447407.60	702946.78	39.75	38.13	38.36	38.19	38.47	
SWM25006	1050	447381.34	703000.72	39.37	37.52	37.89	37.53	37.78	
SWM25007	1050	447368.36	703046.36	38.94	37.00	37.33	37.06	37.59	
SWM25008	1050	447357.90	703079.80	38.60	36.65	36.66	37.02		
SWM25004	1050	447342.00	703122.13	38.40	36.21	36.34	36.22		
SWN24075	1050	447235.21	702729.92	37.88	36.55	36.60	36.65	36.63	

STORM WATER OUTLETS COORDINATES

OUTLET ID	DIA	EASTING	NORTHING	TOP OUTLET	INVERT OUT
SWOUT 15	675	447310.10	702728.11	36.28	35.29

SWM25004 OUT
Ø450mm RCRRJ CLASS 4 - 62.4m - EXISTING
SWM25004
SWM25002
DCP
DCP SP 21
SWM25001
Ø450mm RCRRJ CLASS 4 - 45.2m - EXISTING
Ø375mm RCRRJ CLASS 4 - 37.5m
SWM25008
CP SP 11
SWMH SP 3.4
Ø450mm RCRRJ CLASS 4 - 35.0m - EXISTING
Ø300mm uPVC SN16 - 54.5m
SWM25007
CP SP 20
CP SP 10
SWMH SP 3.3
Ø375mm RCRRJ CLASS 4 - 47.4m - EXISTING
SWM25006
CP SP 19
Ø300mm uPVC SN16 - 56.1m
CP SP 09
SWMH SP 3.2
Ø375mm RCRRJ CLASS 4 - 60.0m - EXISTING
Ø300mm uPVC SN16 - 54.6m
SWM25005
CP SP 18
WEBB DRIVE
Ø300mm uPVC SN16 - 44.1m
SWMH SP 3.1
DCP SP 08
SWMH SP 4.2
DCP SP 17
1
DP 534384
504
602
706
SWMH 19.1
Ø600mm RCRRJ CLASS 4 - 8.0m
DCP 113
363
364
362
365
361
366
357
358
359
360
367
368
369
370
371
372
373
374
DCP 054
SWN24075
DCP 053
CP 058
CP 057
SWMH 9.5
Ø300mm uPVC SN16 - 44.7m
CARRS ROAD
603
SWMH 19.4
CP 118
CP 119
Ø375mm RCRRJ CLASS 4 - 72.9m
SWMH 22.2
CP 116
CP 117
Ø300mm uPVC SN16 - 57.4m
SWMH 22.1
CP 114
CP 115
SWOUT 15
Ø675mm RCRRJ CLASS 4 - 40.2m
SWMH 19.5
Ø675mm RCRRJ CLASS 4 - 4.5m
2
DP 534384

LEGEND:
- ABUTTAL
- BOUNDARY
- STAGE PERIMETER
- OVERLAND FLOW PATH
- STORMWATER MAIN
- STORMWATER CONNECTION
- STORMWATER EXISTING
- SW MANHOLE NEW
- SW MANHOLE EXISTING
- SW CONNECTION
- OUTLET
- DOUBLE CATCHPIT
- CATCHPIT

NOTES:
1. HCC REF: 011.2018.00006632.001
2. DCP'S CONNECTED TO MANHOLES BY Ø300 uPVC SN16 UNLESS OTHERWISE STATED
3. CP'S CONNECTED TO MANHOLES BY Ø225 DIA uPVC SN16 UNLESS OTHERWISE STATED
4. LOT CONNECTIONS ARE Ø100 FOR SINGLE AND Ø150 FOR DOUBLE UNLESS OTHERWISE STATED
5. LOT CONNECTIONS AND LATERALS LINE PLOTTED FROM DATA SUPPLIED BY WEST CONSTRUCTION & ONLINE CONTRACTORS

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Chedworth Properties Limited
GREENHILL

STAGE 13 STORMWATER AS-BUILT PLAN

Rev	Description	Drn	Ckd	App	Date
AB	AS-BUILT	NP	SRC	NF	03/21
0	PRELIMINARY	NP	SRC	NF	02/21

	Name	Date		Name	Date
Surveyed	HNC	02/21	Designed		

Coordinate System: NZGD 2000 MT EDEN CIRCUIT
Origin of Coordinates: ALP 4 DP 534481
Height Datum: MOTURIKI DATUM 1953
Origin of Height: SS 507 SO 42451 RL 44.04m
Original Scales @ A3: 1:1250 (Do Not Scale Dimensions)
Status: AS-BUILT
Drawing No: 21879-M-13-SW1
Revision: AB

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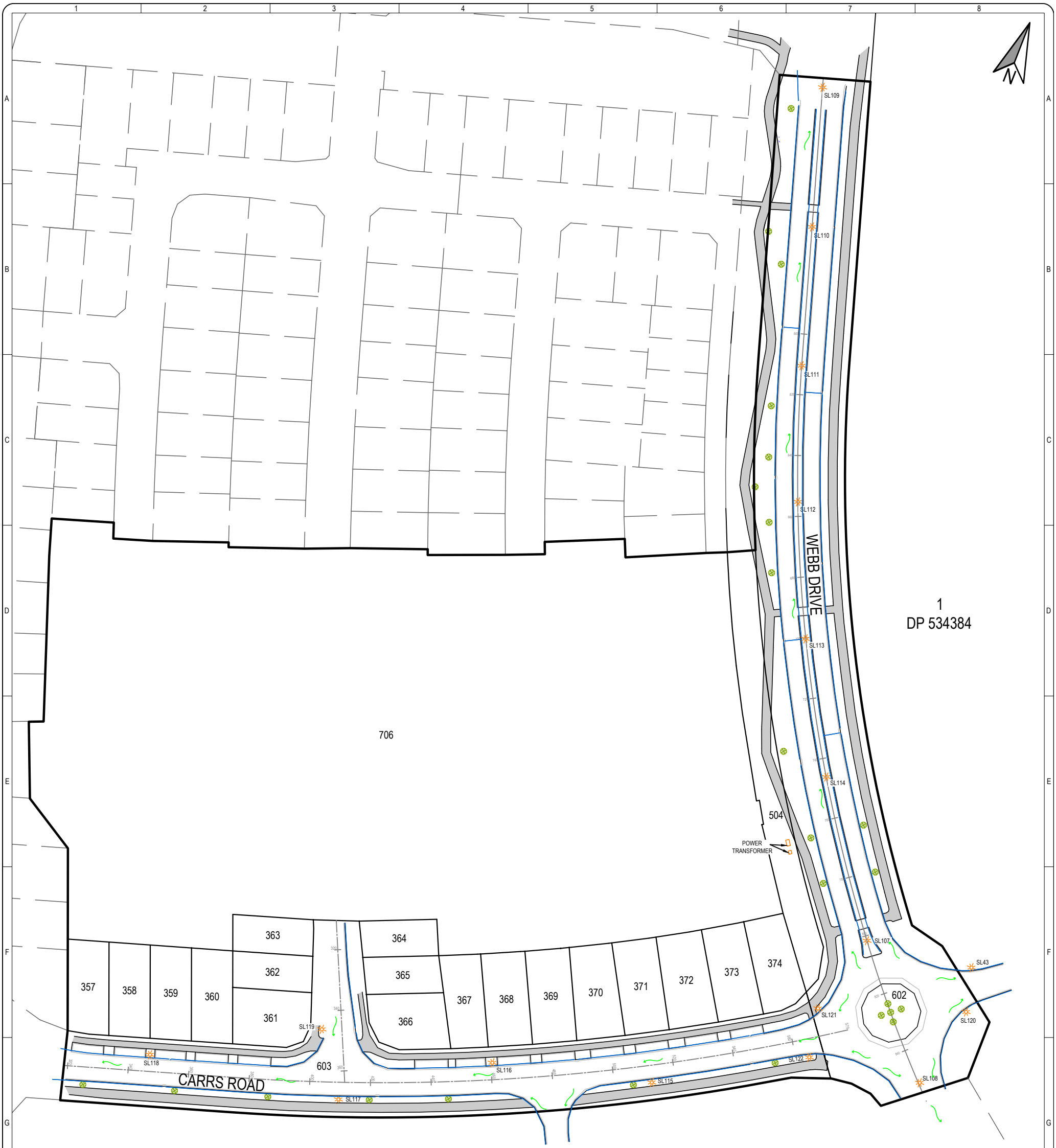

NOTES:

1. HCC REF: 011.2018.00006632.001

LEGEND:

- ABUTTAL
- BOUNDARY
- EDGE OF SEAL
- VERTICAL KERB
- MOUNTABLE KERB
- STAGE PERIMETER
- SUBSOIL DRAINS
- FOOTPATH
- STREETLIGHT
- TREE
- OVERLAND FLOW PATH

STREETLIGHT COORDINATES		
NAME	EASTING	NORTHING
SL107	447480.10	702868.97
SL108	447513.48	702831.79
SL109	447363.06	703125.23
SL110	447376.75	703081.17
SL111	447390.37	703037.34
SL112	447405.77	702995.15
SL113	447424.69	702954.07
SL114	447447.81	702914.25
SL115	447431.33	702799.43
SL116	447380.06	702786.14
SL117	447337.35	702756.26
SL118	447274.16	702747.13
SL119	447323.75	702775.74
SL120	447519.11	702859.13
SL121	447473.31	702842.25
SL122	447476.55	702826.24
SL43	447515.39	702873.38

SHRIMPTON & LIPINSKI
LAND DEVELOPMENT & DESIGN SPECIALISTS
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P.O. Box 231, Tauranga 3140
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Chedworth Properties Limited

GREENHILL

STAGE 13
ROADING
AS-BUILT PLAN

Rev	Description	Drn	Ckd	App	Date
AB	AS-BUILT	NP	SRC	NF	03/21
0	PRELIMINARY	NP	SRC	NF	02/21

	Name	Date		Name	Date
Surveyed	HNC	02/21	Designed		

Coordinate System: NZGD 2000 MT EDEN CIRCUIT
Origin of Coordinates: ALP 4 DP 534481
Height Datum: MOTURIKI DATUM 1953
Origin of Height: SS 507 SO 42451 RL 44.04m

Original Scales @ A3: 1:1250
Do Not Scale Dimensions

Status: AS-BUILT

Drawing No: 21879-M-13-R1

Revision: AB

H:\0000 - H Drive\nparkinson\Autocad\21879-M-13 - CADM - Stage 13 As-builts - Autocad\21879-M-13 - CADM - Stage 13 As-builts.dwg - Plotted: 12/03/2021

GENERAL NOTES

ALL SET OUT MUST BE CHECKED AND APPROVED BY THE LANDSCAPE ARCHITECT ON SITE.

THE CONTRACTOR SHALL REQUEST, AND HAVE UNDERTAKEN, AN INSPECTION OF ALL SET OUT PRIOR TO ANY CONCRETE BEING PLACED OR PAVING LAID.

THE CONTRACTOR SHALL REQUEST, AND HAVE UNDERTAKEN, AN INSPECTION OF THE SET OUT OF ALL CONTROL JOINTS PRIOR TO COMMENCING SAW CUTTING.

All drawings shall be read in conjunction with the landscape specifications.

Drawings not to be scaled, use dimensioned measurements only.

SITE FURNITURE NOTES

All timber to have a graffiti guard applied in accordance with the manufacturers specifications.

SOFT LANDSCAPE NOTES

All grass areas to be finished 25mm higher than adjoining surface to allow for settlement.

All trees to be inspected and approved by the Landscape Architect prior to delivery to site.

Planting numbers are indicative. Contractor to ensure sufficient stock to achieve the specified planting densities.

All areas of open space planting, amenity planting and berm planting to be mulched in accordance with the specifications and drawings.

Refer to specifications for requirements on the preparation of planting and grass areas.

PLANTING

PLANT LAYOUT

PLANT SPECIES UP TO 0.5M HIGH AT MATURITY
The Contractor shall ensure the planting pit is setback 0.6m (minimum) from the edge of all footpaths and road edges.

PLANT SPECIES 0.5M HIGH OR GREATER AT MATURITY
The Contractor shall ensure the planting pit is setback 1m (minimum) from the edge of all footpaths and road edges.

PAVING

P01 TIMBER DECK
Surface finish: Pinus radiata (H5) timber decking. All timber decking shall be butt-jointed.
Surface fixing: Securely fix decking at each joist with 2 x 304 (or better) stainless steel countersunk timber screws. Ensure all screws are aligned straight.
Finish: Resene Furniture and Decking Oil or equal. Refer Data Sheet D503.
Compaction of subbase to be inspected by Engineer prior to commencement of decking.

P03 INSITU CONCRETE PAVING
Surface finish: U5 soft bristled broom finish in general accordance with NZS 3114, ensure the aggregate is not exposed.
Aggregate: 13mm Greywacke.
Oxide: 8% Black 330 Oxide.
All concrete finishes shall be in accordance with NZS 3114:1987.
Control joints: 5mm wide, formed by sawcutting in accordance with the drawings and specifications.
All insitu concrete paving to include control joints, construction joints and expansion joints in accordance with the drawings and specifications to Engineer's approval.
Compaction of subbase to be inspected by Engineer prior to commencement of paving.

P04 INSITU CONCRETE MOWING STRIP
Note width varies.
Surface finish: U5 soft bristled broom finish in general accordance with NZS 3114, ensure the aggregate is not exposed.
Aggregate: 13mm Greywacke.
Oxide: 8% Black 330 Oxide.
All concrete finishes shall be in accordance with NZS 3114:1987.
Control joints: 5mm wide, formed by sawcutting in accordance with the drawings and specifications.
All insitu concrete paving to include control joints, construction joints and expansion joints in accordance with the drawings and specifications to Engineer's approval.
Compaction of subbase to be inspected by Engineer prior to commencement of paving.

SITE FURNITURE, SPECIAL FEATURES AND STRUCTURES

S01 SEAT
Type: Santa & Cole Trapecio Seat.
Manufacturer: Fel Group Street Furniture NZ.
Contact: Jordan Manfield <jordan@felgroup.co.nz>
Size: L 4000mm with back.
Material: Laminated pine, galvanised mild steel frame.
Finish: Resene Furniture and Decking Oil or equal. Refer Data Sheet D503.
Graffiti guard: Graffiti-Guard™ Shearcote Plus.
Fixing: Surface mount to timber decking.
Sub surface mount into concrete paving.
Installation: In accordance with manufacturer's instructions.
Mowing strip: P04 insitu concrete mowing strip 6100 x 1510mm (minimum 350mm concrete all round seat).
Maintenance: Reapply Resene Furniture and Decking Oil and Graffiti-Guard™ Shearcote Plus every 2 years in accordance with the manufacturer's instructions.

S02 LITTER BIN
Type: Milford Bin.
Manufacturer: Fel Group Street Furniture NZ.
Contact: Jordan Manfield <jordan@felgroup.co.nz>
Size: 100 Litre.
Material: Eucalyptus saligna timber slats with brass fixings, polished stainless steel lid and lock.
Finish: Resene Furniture and Decking Oil or equal. Refer Data Sheet D503.
Graffiti guard: Graffiti-Guard™ Shearcote Plus.
Fixing: Plant mounted.
Installation: In accordance with manufacturer's instructions.

S03 BOLLARD
Type: HCC RITS D7.7 Timber Bollard.
Installed at 1.5m centres maximum. No chain.

S04 REMOVABLE LOCKABLE BOLLARD
Type: Removable lockable bollard to match HCC RITS D7.7 Timber Bollard.
Installed at 1.5m centres maximum. No chain.

FITNESS TRAIL

STATION 6 EQUIPMENT

FT12 HORIZONTAL LADDER
Type: Proludic Wooden Trim Trail
JPS21S Horizontal Ladder
Supplied and installed by: Playco Equipment Limited.
Contact: David Morrison
<david@playco.co.nz>

FT13 CLIMBING LADDER
Type: Proludic Wooden Trim Trail
JPS22 Climbing Ladder
Supplied and installed by: Playco Equipment Limited.
Contact: David Morrison
<david@playco.co.nz>

SURFACES

PL01 ARTIFICIAL TURF
Type: Urban Windsor.
15mm sand infill.
Supplied and installed by: Lawn & Turf Contracting Limited.
Contact: Mike Glasson
<office@lawnandturf.co.nz>

PL02 BASE COURSE PREPARATION
Type: 100mm GAP20.
Hidden H5 Pinus radiata edge board for fixing of artificial turf.
Supplied and installed by: Lawn & Turf Contracting Limited.
Contact: Mike Glasson
<office@lawnandturf.co.nz>

PL03 SUB SURFACE DRAINAGE
Type: Ø110mm perforated HDPE coil drain with filter sock.
Trench: 300 x 300mm, backfill with 20/40 drainage chip.
Allow to connect the coil drain to the stormwater system.
All works shall comply with the NZ Building Code, NZ Drainage and Plumbing Act 1978 and all relevant Local Authority by-laws and regulations.
All plumbing and drainage work shall be undertaken by a plumber or drain layer, registered under the Building Act 2003.

PL04 PROPLAY PAD
Type: 25mm thickness for a fall height up to 1.6m.
Supplied and installed by: Lawn & Turf Contracting Limited.
Contact: Mike Glasson
<office@lawnandturf.co.nz>

PL09 INSITU CONCRETE EDGE RESTRAINT
200mm wide x 200mm deep 20MPa edge restraint.
Surface finish: U5 soft bristled broom finish in general accordance with NZS 3114, ensure the aggregate is not exposed.
Aggregate: 13mm Greywacke.
Oxide: 8% Black 330 Oxide.
All concrete finishes shall be in accordance with NZS 3114:1987.
Lay edging true and straight to grade, alignment and level.
Edge restraint shall be finished flush with the adjacent lawn surface.

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NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL UNDERGROUND SERVICES ON SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

GENERAL ARRANGEMENT
KEY SHEET AND NOTES

Design	ARo	Scale	NTS
Drawn	ARo	Date	02.07.19
Check	MHu		
Appv'd			

DRAWING NO. H18006_130

REVISION 1

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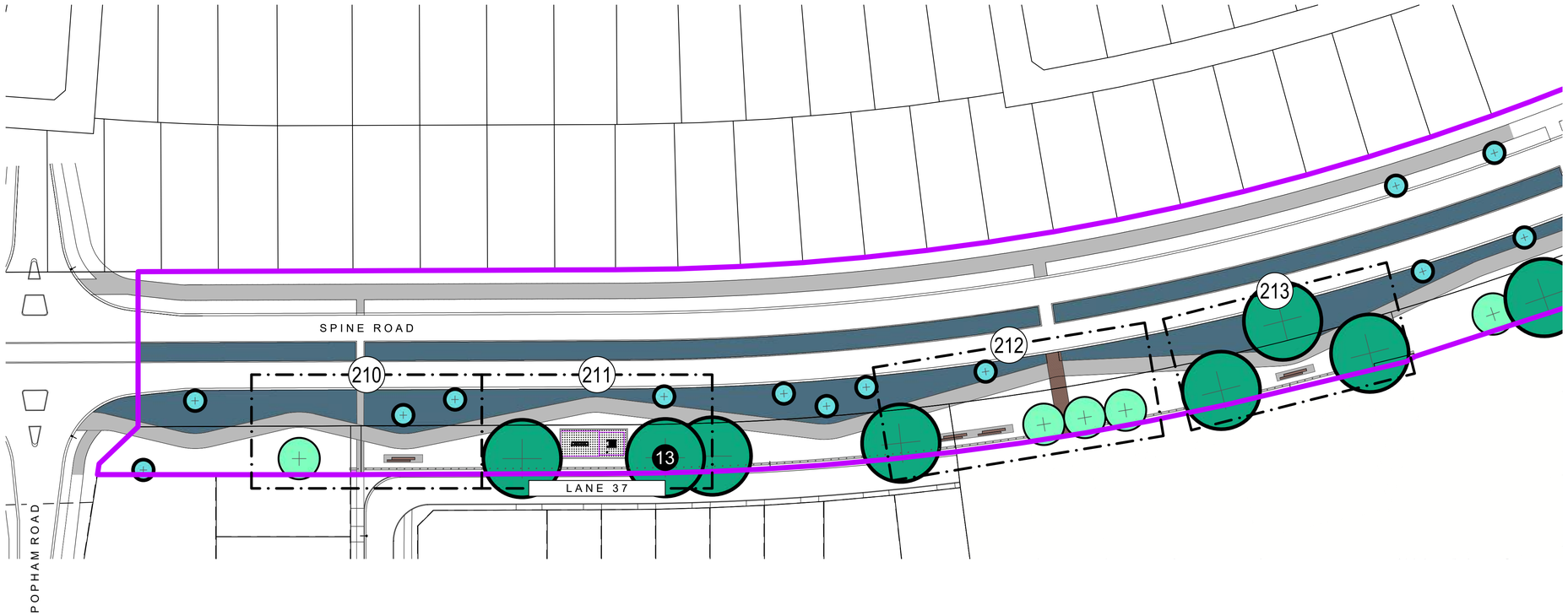

Boffa Miskell

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NOTES

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KEY

REFER TO DRAWING NUMBER H18006_130 GENERAL ARRANGEMENT KEY SHEET AND NOTES

- STAGE 13
- PLANTING
- LAWN

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
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AS BUILT

GREENHILL PARK
AREA M
STAGE 13

GENERAL ARRANGEMENT
SHEET LOCATIONS

Design	ARo	Scale	Date
Drawn	ARo	1:500 @ A1	02.07.19
Check	MHu	1:1000 @ A3	
Appv'd			

DRAWING NO. H18006_200

REVISION 2

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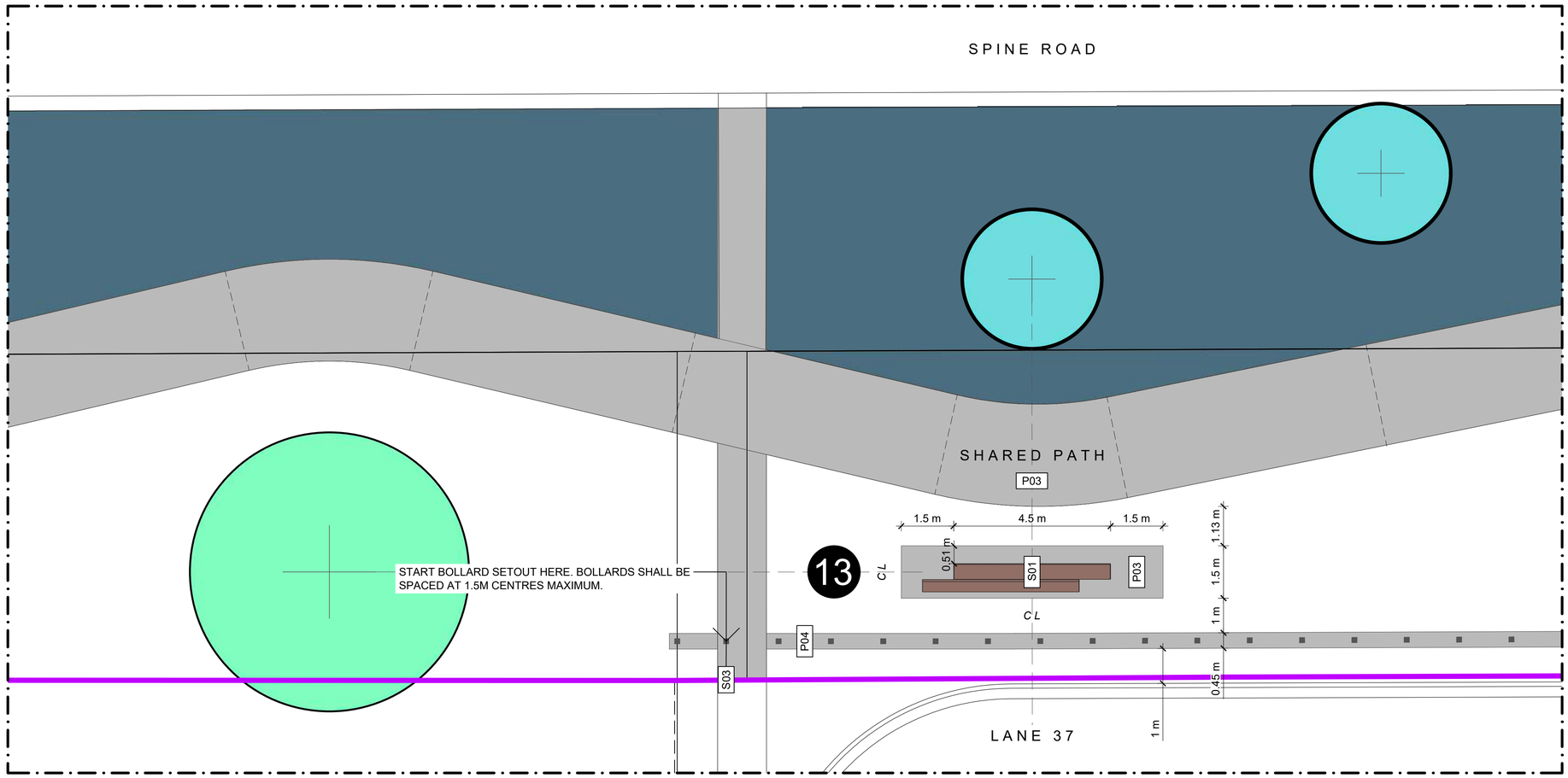

NOTES

ALL SET OUT MUST BE CHECKED AND APPROVED BY THE LANDSCAPE ARCHITECT ON SITE.

THE CONTRACTOR SHALL REQUEST, AND HAVE UNDERTAKEN, AN INSPECTION OF ALL SET OUT PRIOR TO ANY CONCRETE BEING PLACED OR PAVING LAID.

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NOTES

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KEY

REFER TO DRAWING NUMBER H18006_130 GENERAL ARRANGEMENT KEY SHEET AND NOTES

13 PARK 13

CONCRETE CONTROL JOINTS

PLANTING

LAWN

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
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Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

GENERAL ARRANGEMENT
SHEET 01 OF 04

Design	ARo	Scale	Date
Drawn	ARo	1:75 @ A1	02.07.19
Check	MHu	1:150 @ A3	
Appv'd			

DRAWING NO. H18006_210

REVISION 1

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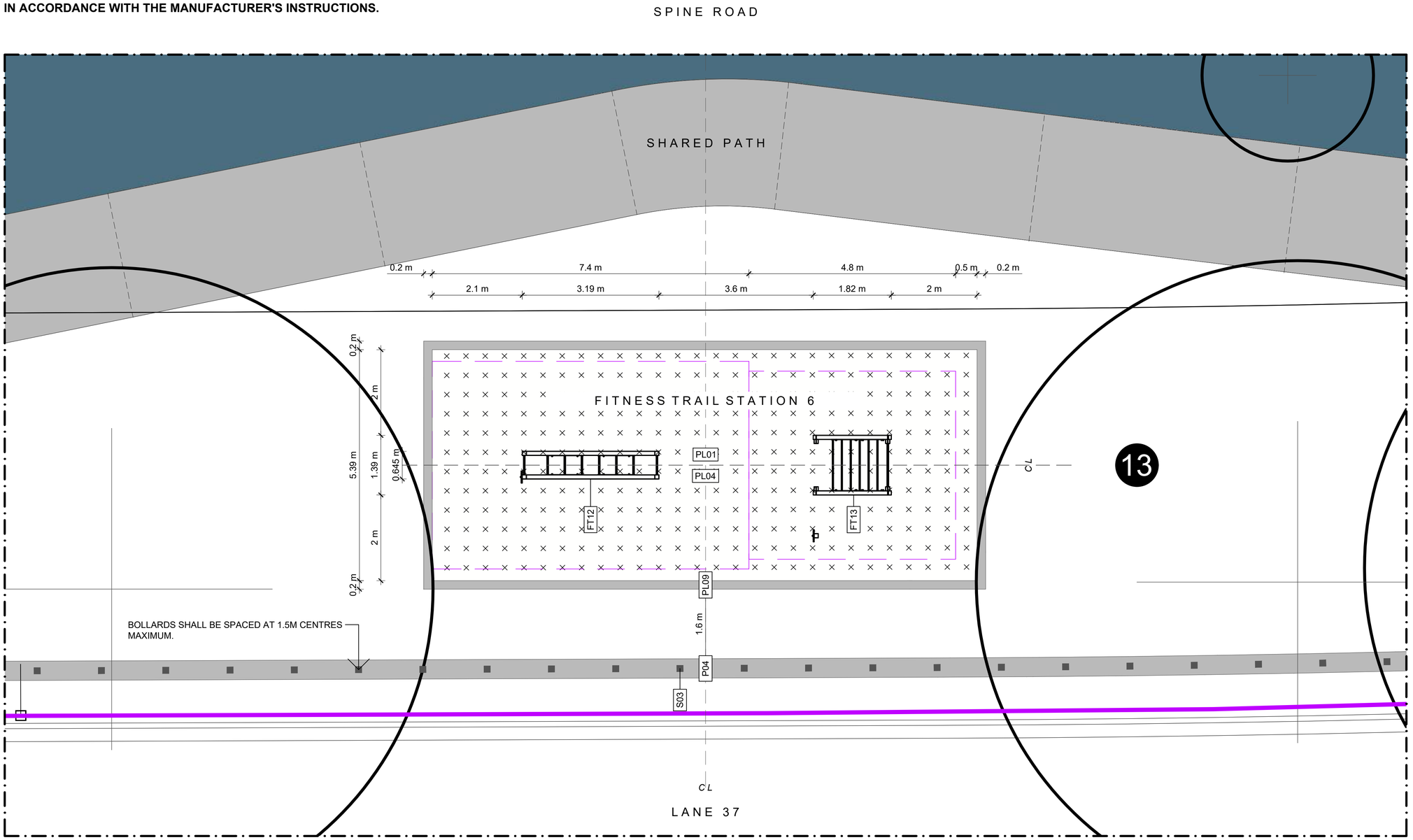
NOTES

ALL SET OUT MUST BE CHECKED AND APPROVED BY THE LANDSCAPE ARCHITECT ON SITE PRIOR TO ANY CONCRETE BEING PLACED. ALL FITNESS EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.



01 / 211 DETAIL | GENERAL ARRANGEMENT | FITNESS STATION 6

Scale: 1:50 @ A1 1:100 @ A3

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NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER H18006_130 GENERAL ARRANGEMENT KEY SHEET AND NOTES

13 PARK 13

CONCRETE CONTROL JOINTS

PLANTING

LAWN

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

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Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

GENERAL ARRANGEMENT
SHEET 02 OF 04

Design	ARo	Scale	Date
Drawn	ARo	As shown	02.07.19
Check	MHu		
App'd			

DRAWING NO. H18006_211

REVISION 1

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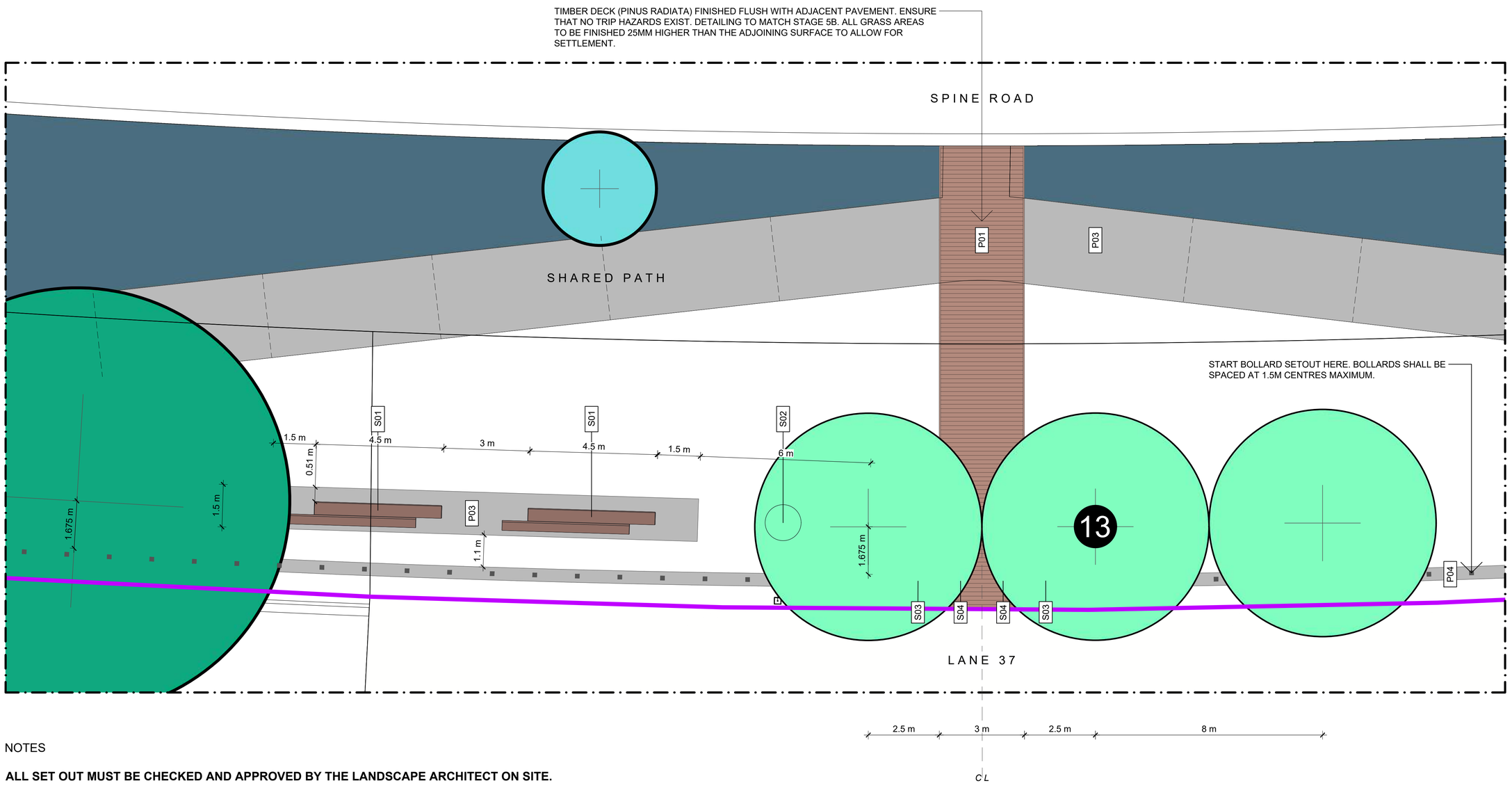

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NOTES

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KEY

REFER TO DRAWING NUMBER H18006_130 GENERAL ARRANGEMENT KEY SHEET AND NOTES

13 PARK 13

CONCRETE CONTROL JOINTS

PLANTING

LAWN

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
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AS BUILT

GREENHILL PARK
AREA M
STAGE 13

GENERAL ARRANGEMENT
SHEET 03 OF 04

Design	ARo	Scale	Date
Drawn	ARo	1:75 @ A1	02.07.19
Check	MHu	1:150 @ A3	
Appv'd			

DRAWING NO. H18006_212

REVISION 1

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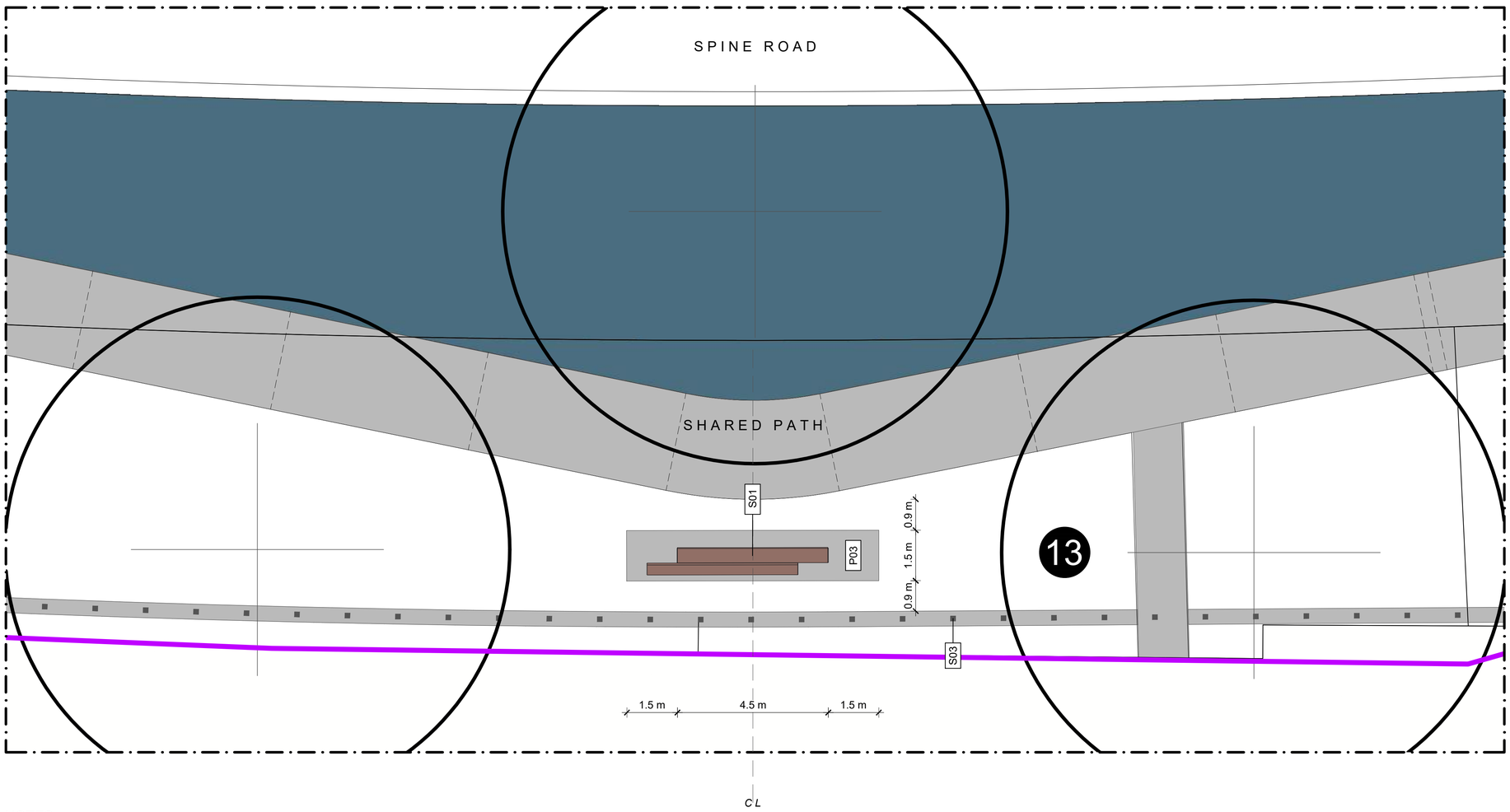

NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER H18006_130 GENERAL ARRANGEMENT KEY SHEET AND NOTES

13 PARK 13
CONCRETE CONTROL JOINTS
PLANTING
LAWN

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	12.03.21	AS BUILT

CLIENT
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AS BUILT

GREENHILL PARK
AREA M
STAGE 13

GENERAL ARRANGEMENT
SHEET 04 OF 04

Design	ARo	Scale	Date
Drawn	ARo	1:75 @ A1	02.07.19
Check	MHu	1:150 @ A3	
Appv'd			

DRAWING NO. H18006_213

REVISION 1

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GENERAL NOTES

All drawings shall be read in conjunction with the landscape specifications.

Drawings not to be scaled, use dimensioned measurements only.

Setout to be checked and approved by the Landscape Architect on site.

SOFT LANDSCAPE NOTES

All trees to be inspected and approved by the Landscape Architect prior to delivery to site.

Planting numbers are indicative. Contractor to ensure sufficient stock to achieve the specified planting densities.

All areas of amenity planting and berm planting to be mulched in accordance with the specifications and drawings.

Refer to specifications for requirements on the preparation of planting and grass areas.

PLANT LAYOUT

PLANT SPECIES UP TO 0.5M HIGH AT MATURITY

The Contractor shall ensure the planting pit is setback 0.45m (minimum) from the edge of all footpaths and road edges.

PLANT SPECIES 0.5M HIGH OR GREATER AT MATURITY

The Contractor shall ensure the planting pit is setback 1m (minimum) from the edge of all footpaths and road edges.

Planting Schedule

Spine Road

Botanical Name	Common Name	Size	Centres (m)	Quantity
Specimen Trees				
Fagus sylvatica	european beech	100-180L	As shown	1
Knightia excelsa	rewarewa	100-180L	As shown	17
Berm Planting				
Carex dipsacea	teasel sedge	1L	0.5	1,930
Carex testacea	orange sedge	1L	0.5	586
Liberta grandiflora	mikoikoi, New Zealand iris	1L	0.5	2,108
Liberta ixioides	mikoikoi, New Zealand iris	1L	0.5	635
Lomandra tanika	tanika	1L	0.75	697
Phormium 'Pepe'	flax cultivar	1L	0.5	266
Planting Area				2,810 m2
Mulch				281 m3

Collector Road

Botanical Name	Common Name	Size	Centres (m)	Quantity
Specimen Trees				
Fagus sylvatica	european beech	100-180L	As shown	2
Quercus robur	english oak	100-180L	As shown	5
Berm Planting				
Carex dipsacea	teasel sedge	1L	0.5	385
Phormium 'Pepe'	flax cultivar	1L	0.5	137
Planting Area				275 m2
Mulch				27.5 m3

Recreation Reserve

Botanical Name	Common Name	Size	Centres (m)	Quantity
Specimen Trees				
Fagus sylvatica	european beech	100-180L	As shown	8
Magnolia soulangeana x liliflora 'Genre'	magnolia	100-180L	As shown	1
Prunus yedoensis 'Awanui'	flowering cherry	100-180L	As shown	5

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NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING SCHEDULE
GENERAL ARRANGEMENT NOTES

Design	ARo	Scale	Date
Drawn	ARo	NTS	02.07.19
Check	MHu		
Appv'd			

DRAWING NO. H18006_500

REVISION 2

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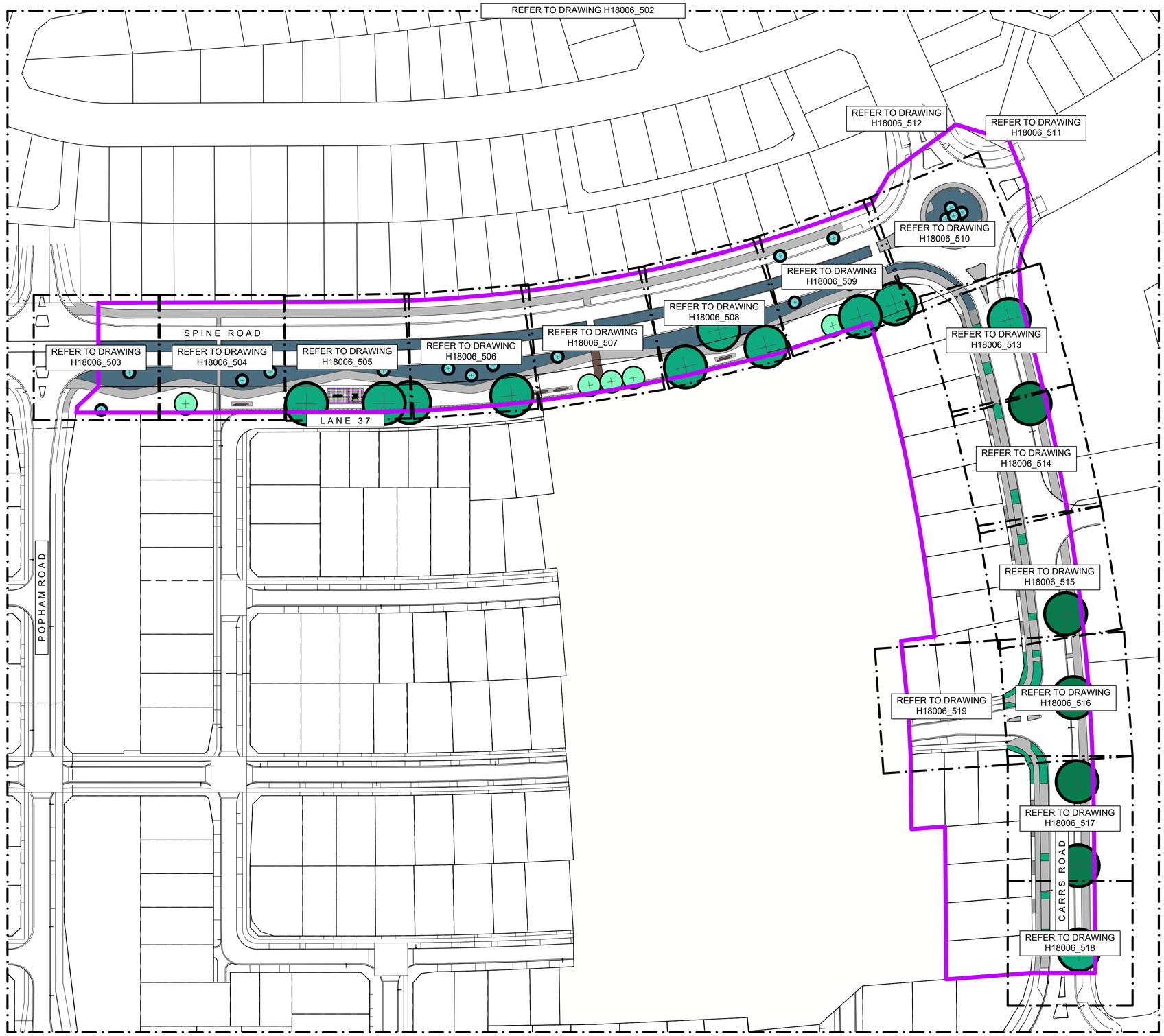

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NOTES

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CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL UNDERGROUND SERVICES ON SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER H18006_130
GENERAL ARRANGEMENT KEY SHEET AND NOTES

STAGE 13
PLANTING
LAWN

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET LOCATIONS

Design	ARo	Scale	Date
Drawn	ARo	1:750 @ A1	02.07.19
Check	MHu	1:1500 @ A3	
Appv'd			

DRAWING NO. H18006_501

REVISION 2

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Key

SPINE ROAD

Fagus sylvatica (european beech)

Knightia excelsa (rewarewa)

Berm Planting

Lawn

COLLECTOR ROAD (CARRS ROAD)

Fagus sylvatica (european beech)

Quercus robur (english oak)

Berm Planting

Lawn

RECREATION RESERVE

Fagus sylvatica (european beech)

Knightia excelsa (rewarewa)

Prunus yedoensis 'Awanui (flowering cherry)

Lawn

Boffa Miskell

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NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER H18006_130 GENERAL ARRANGEMENT KEY SHEET AND NOTES

STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
GENERAL ARRANGEMENT

Design	ARo	Scale	1:750 @ A1 1:1500 @ A3	Date	02.07.19
Drawn	ARo				
Check	MHu				
Appv'd					

DRAWING NO. H18006_502

REVISION 2

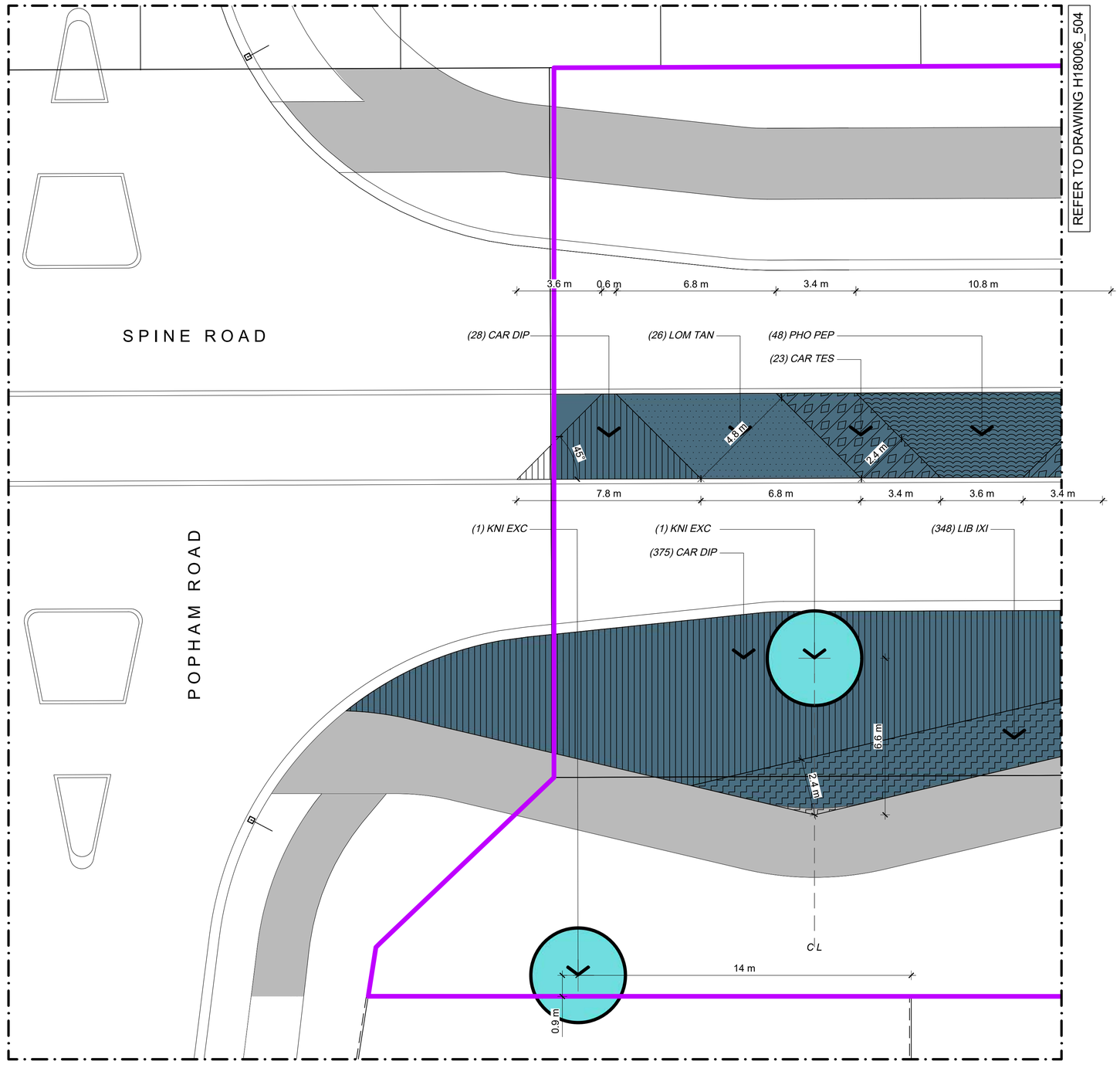
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Spine Road Berm Planting

Lawn



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KEY

STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 01 OF 17

Design	ARo	Scale		Date
Drawn	ARo	1:100 @ A1		02.07.19
Check	MHu	1:200 @ A3		
Appv'd				

DRAWING NO. H18006_503

REVISION 2

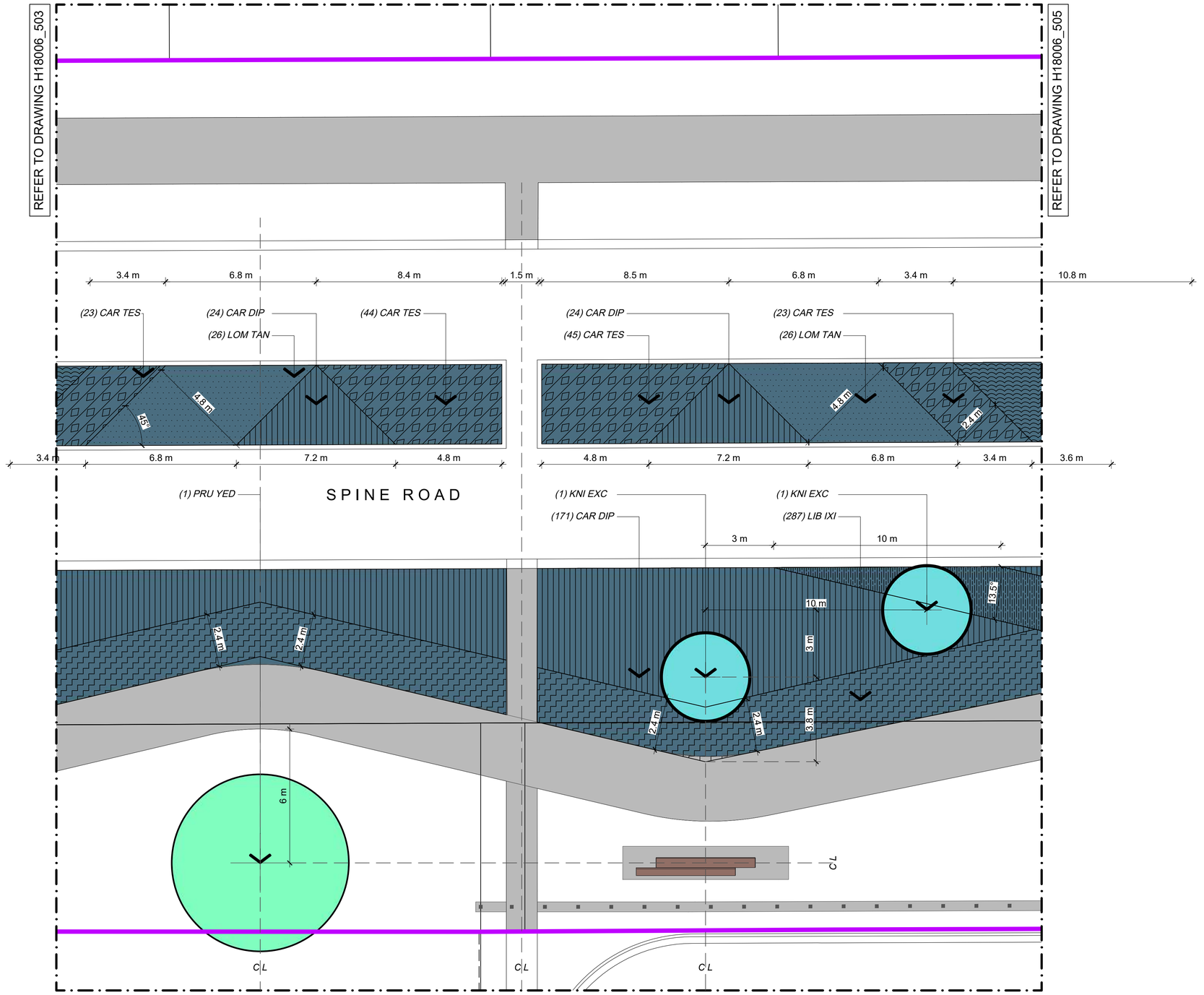
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Spine Road Berm Planting

Lawn



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KEY

STAGE 13

REV	DATE	DESCRIPTION
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1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 02 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_504

REVISION 2

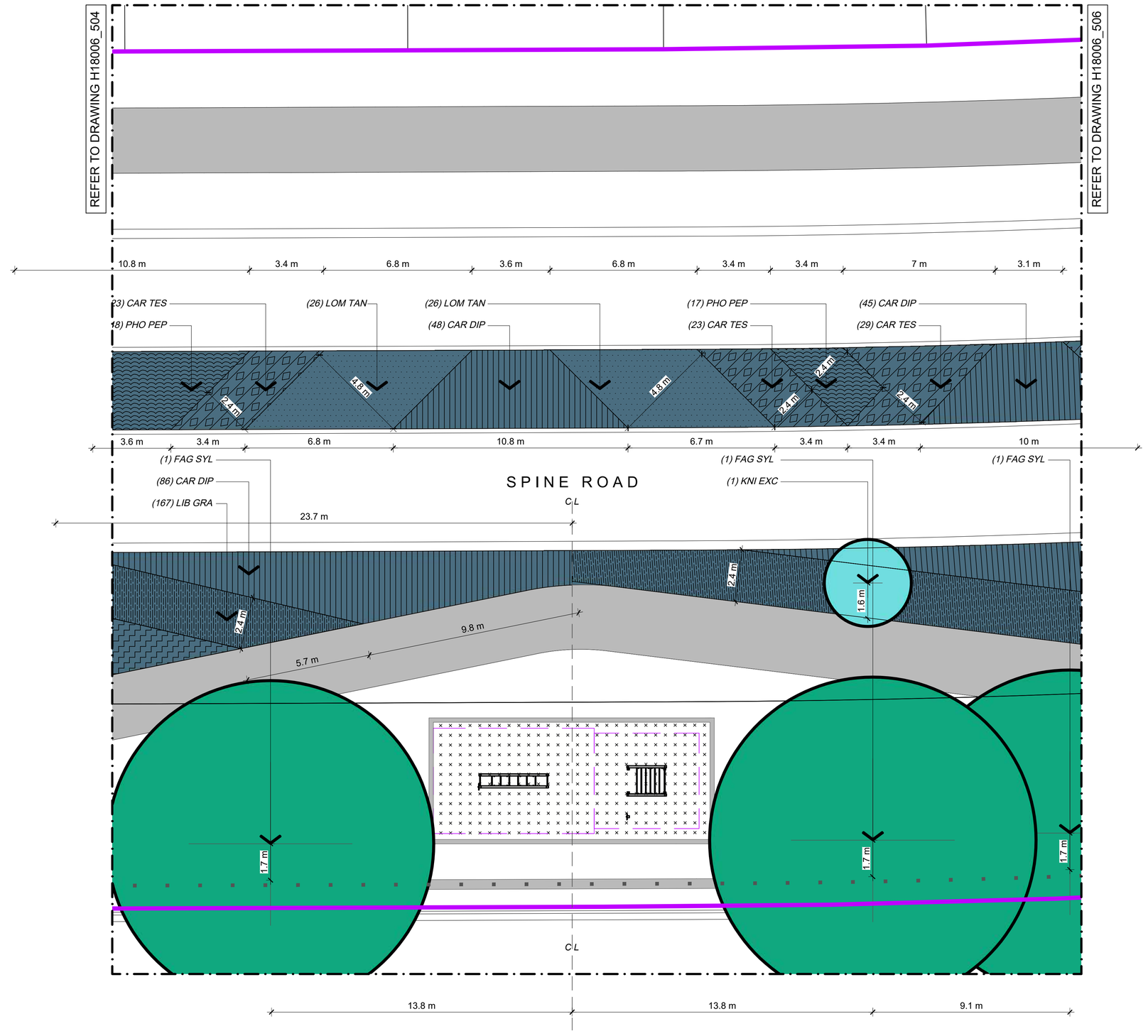
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Spine Road Berm Planting

Lawn



NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

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STAGE 13

REV	DATE	DESCRIPTION
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1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

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Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 03 OF 17

Design	ARo	Scale		Date
Drawn	ARo	1:100 @ A1		02.07.19
Check	MHu	1:200 @ A3		
Appv'd				

DRAWING NO. H18006_505

REVISION 2

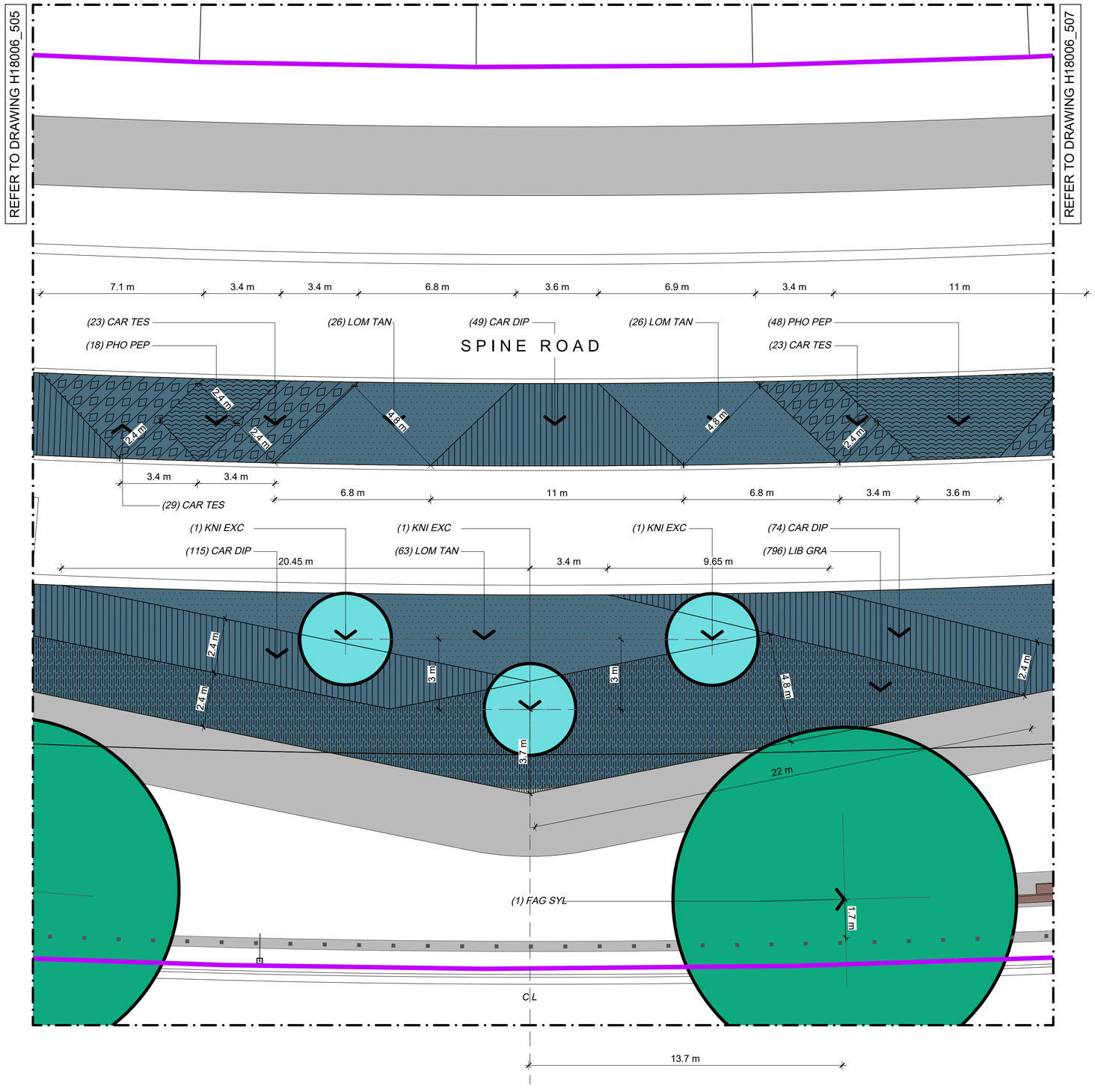
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Spine Road Berm Planting

Lawn



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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

STAGE 13

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1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
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Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 04 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_506

REVISION 2

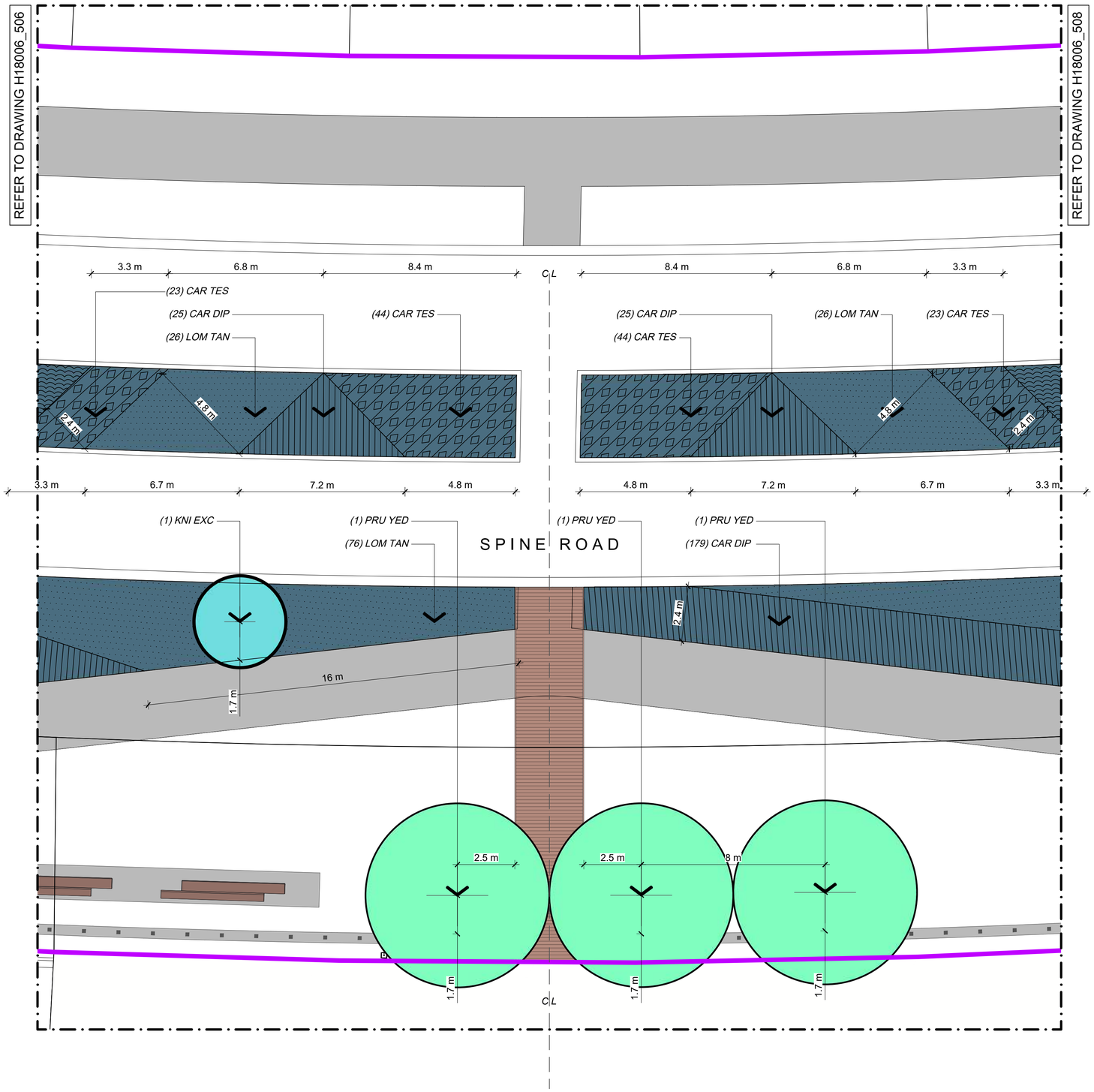
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Spine Road Berm Planting

Lawn



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STAGE 13

REV	DATE	DESCRIPTION
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2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
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Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 05 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1 1:200 @ A3	02.07.19
Check	MHu		
Appv'd			

DRAWING NO. H18006_507

REVISION 2

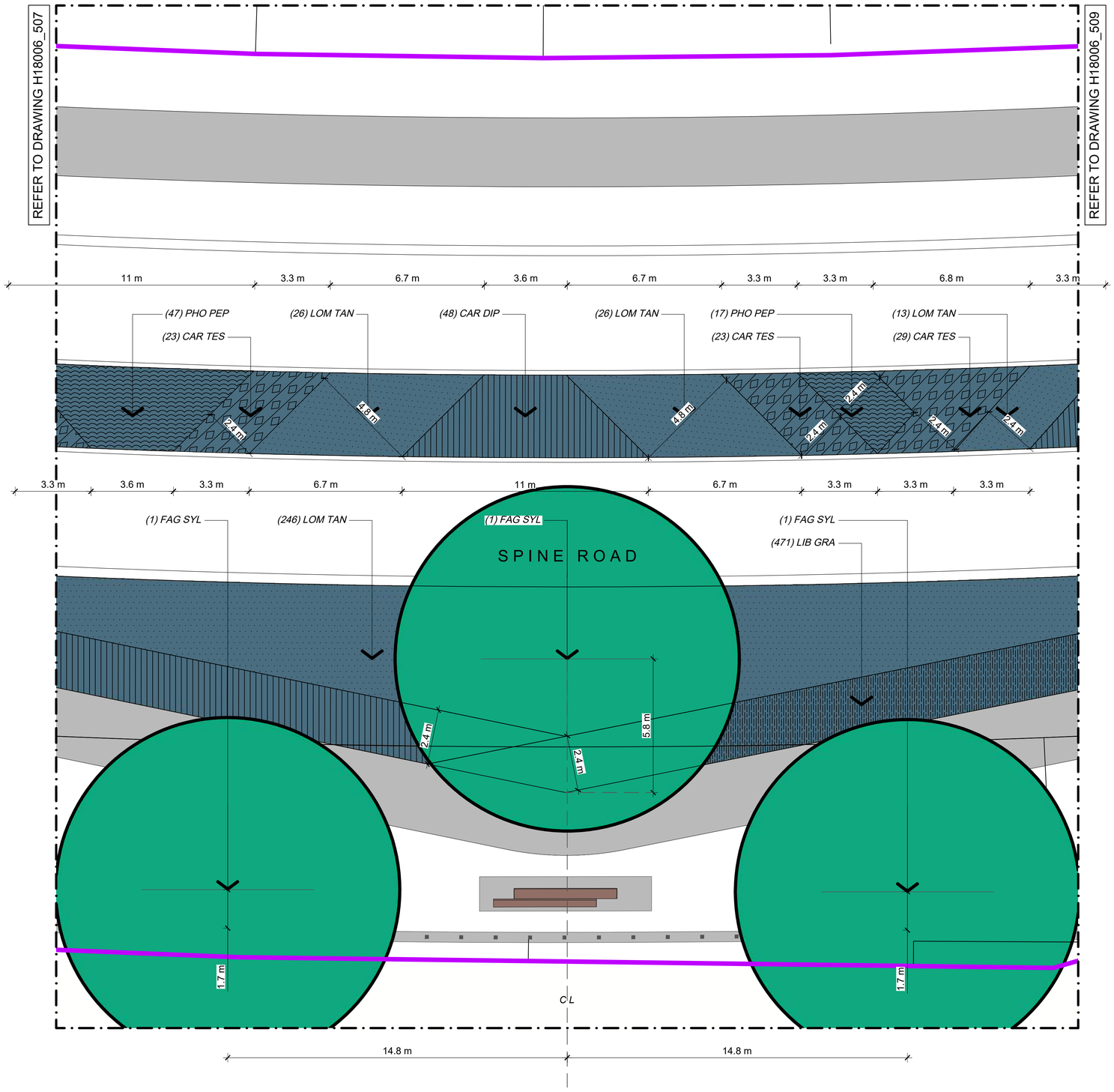
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Spine Road Berm Planting

Lawn



NOTES

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STAGE 13

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2	12.03.21	AS BUILT

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AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 06 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_508

REVISION 2

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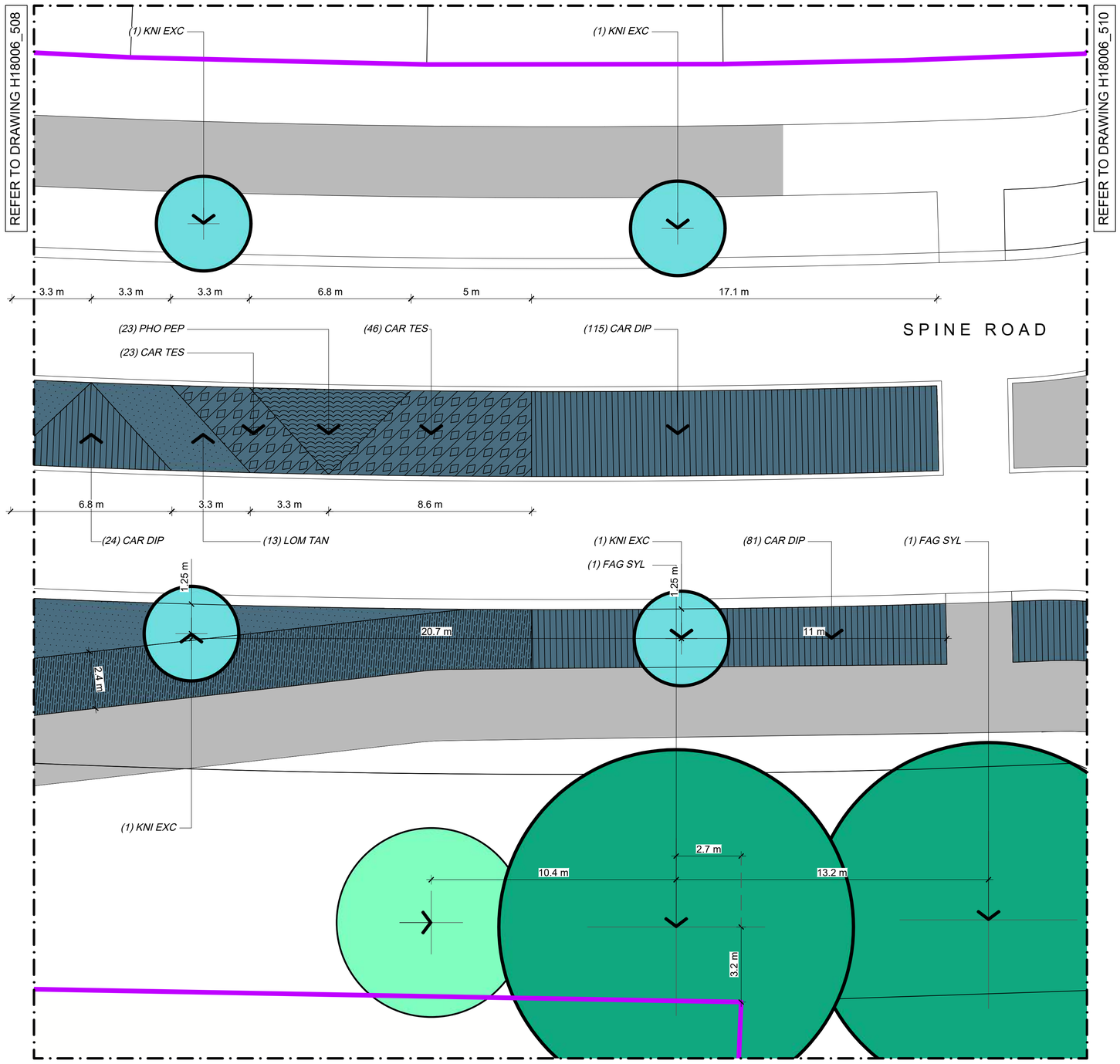
Key

Tree

Spine Road Berm Planting

Lawn



NOTES

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STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

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Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 07 OF 17

Design	ARo	Scale		Date
Drawn	ARo	1:100 @ A1		02.07.19
Check	MHu	1:200 @ A3		
Appv'd				

DRAWING NO. H18006_509

REVISION 2

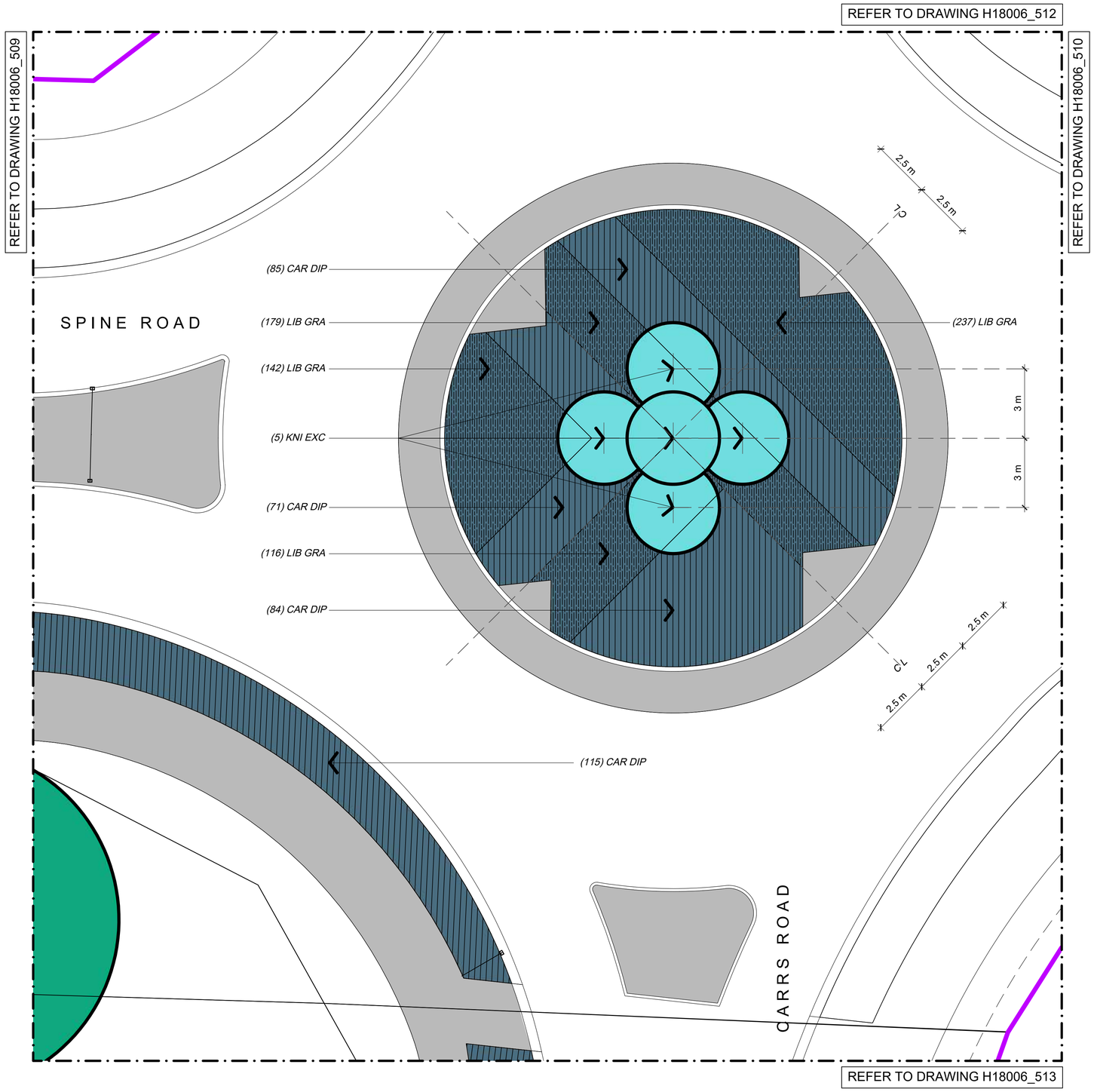
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Spine Road Berm Planting

Lawn



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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
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Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 08 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_510

REVISION 2

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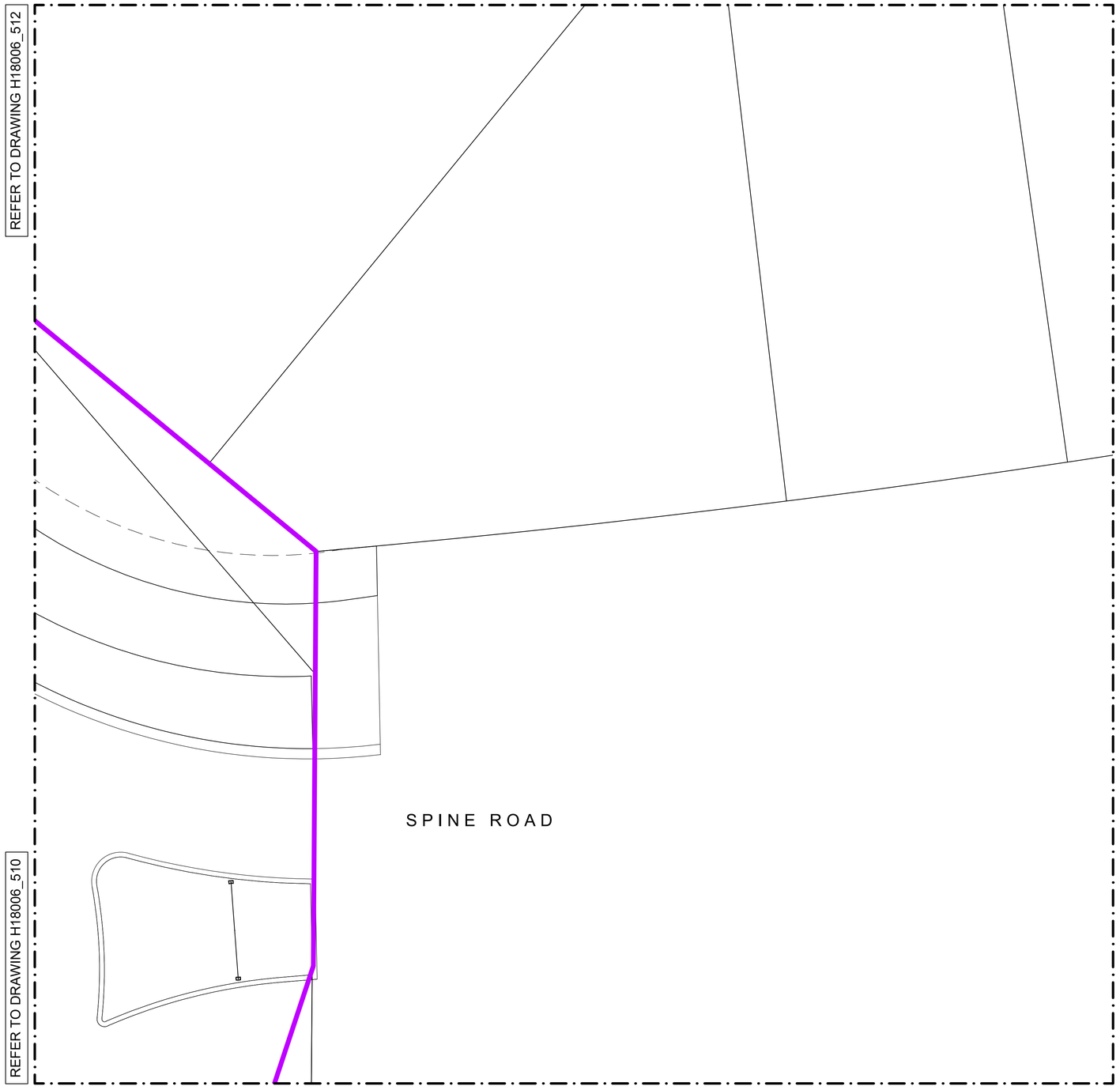

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STAGE 13

REV	DATE	DESCRIPTION
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2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 09 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_511

REVISION 2

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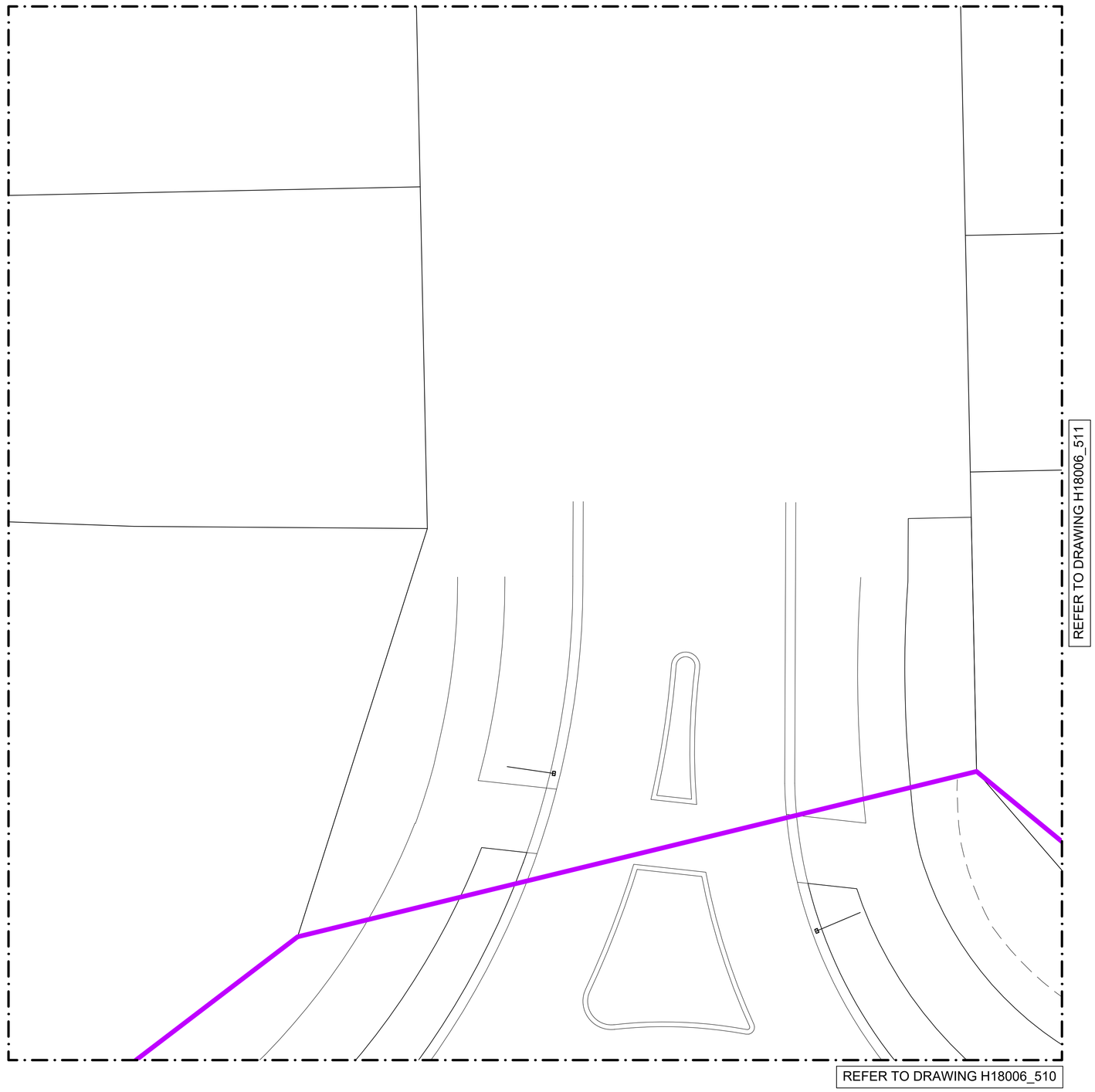

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2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 10 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

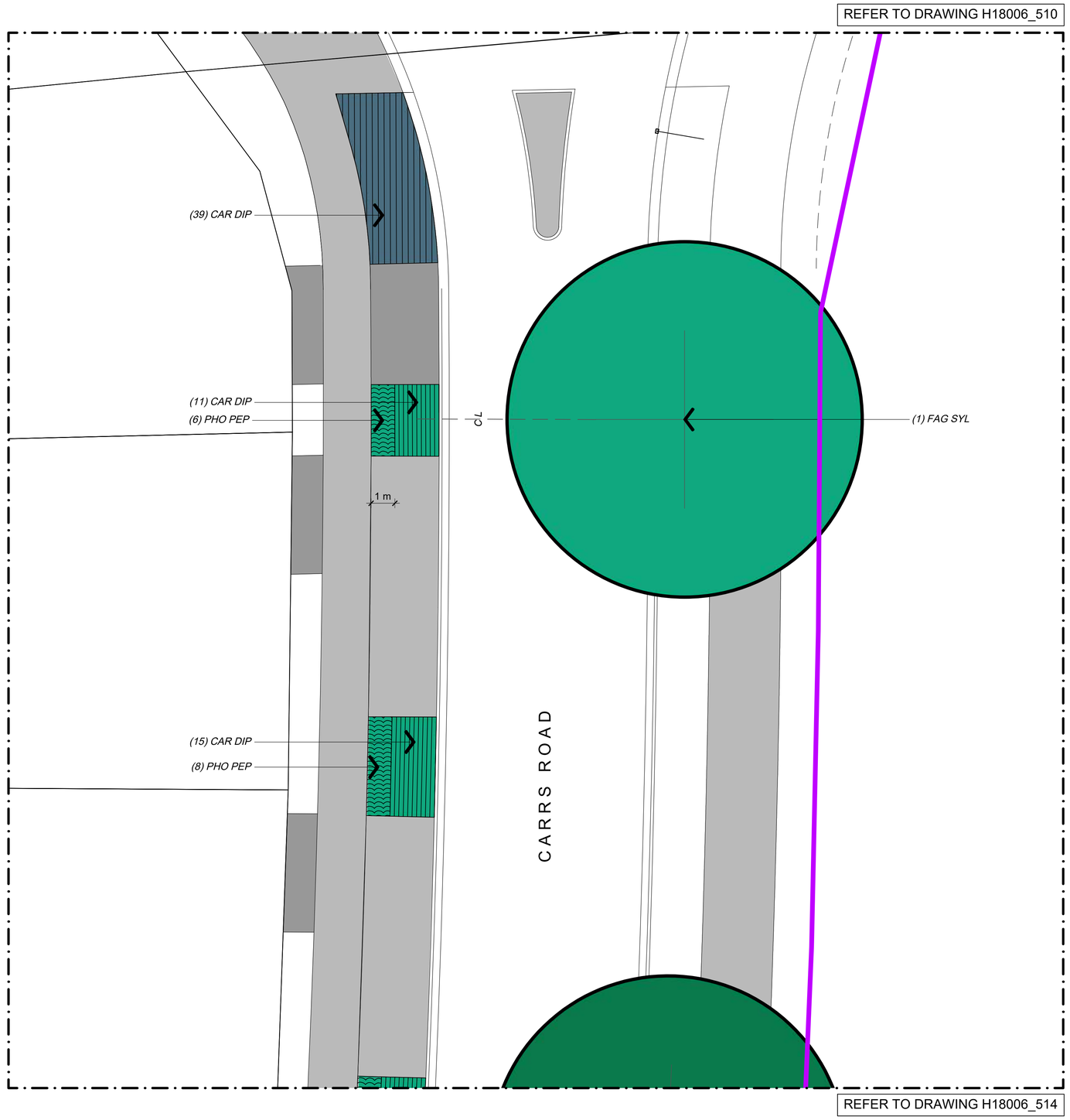
DRAWING NO. H18006_512

REVISION 2

U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

- Tree
- Spine Road Berm Planting
- Collector Road Berm Planting
- Lawn



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STAGE 13

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2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 11 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_513

REVISION 2

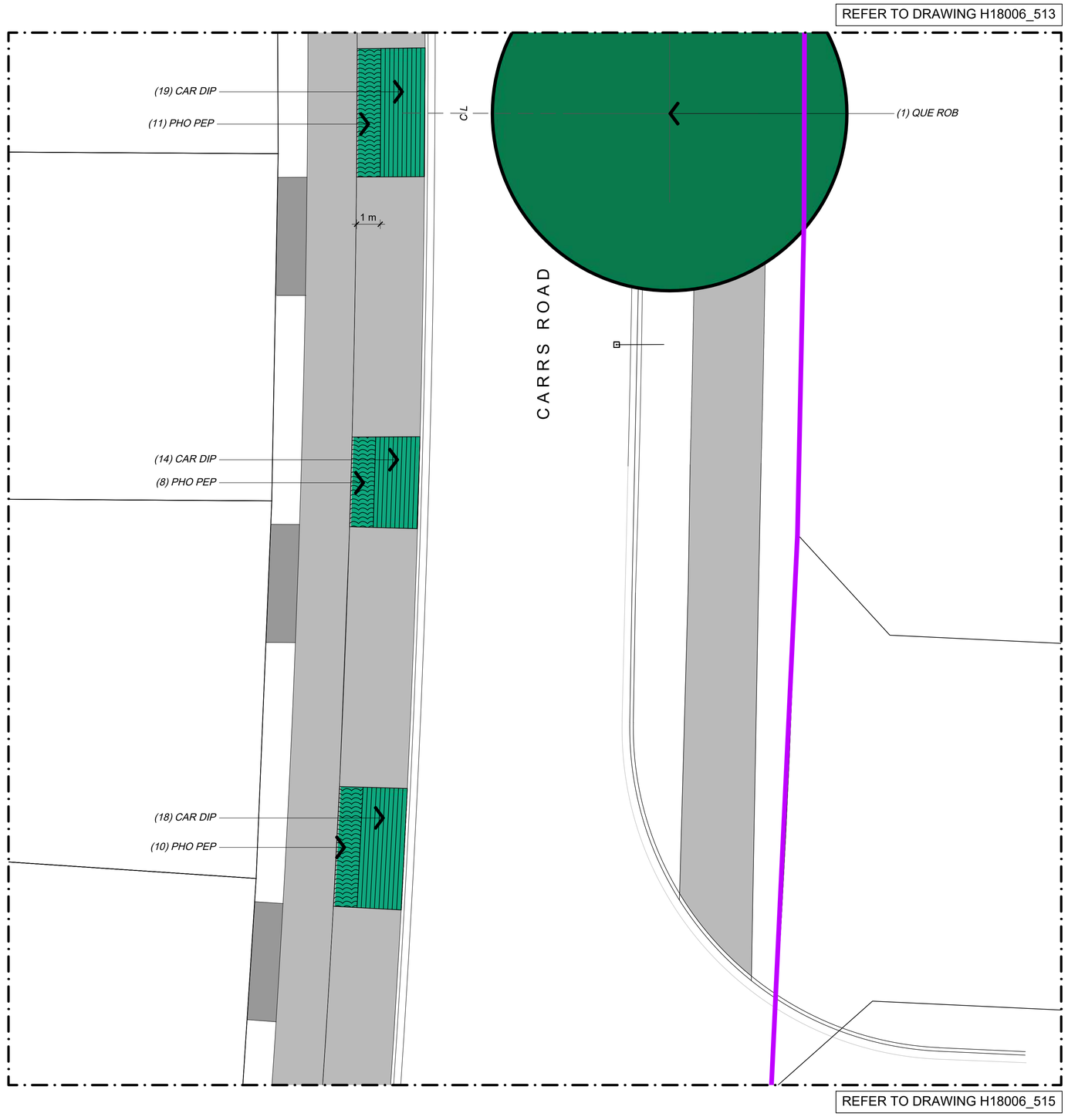
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Collector Road Berm Planting

Lawn



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CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 12 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_514

REVISION 2

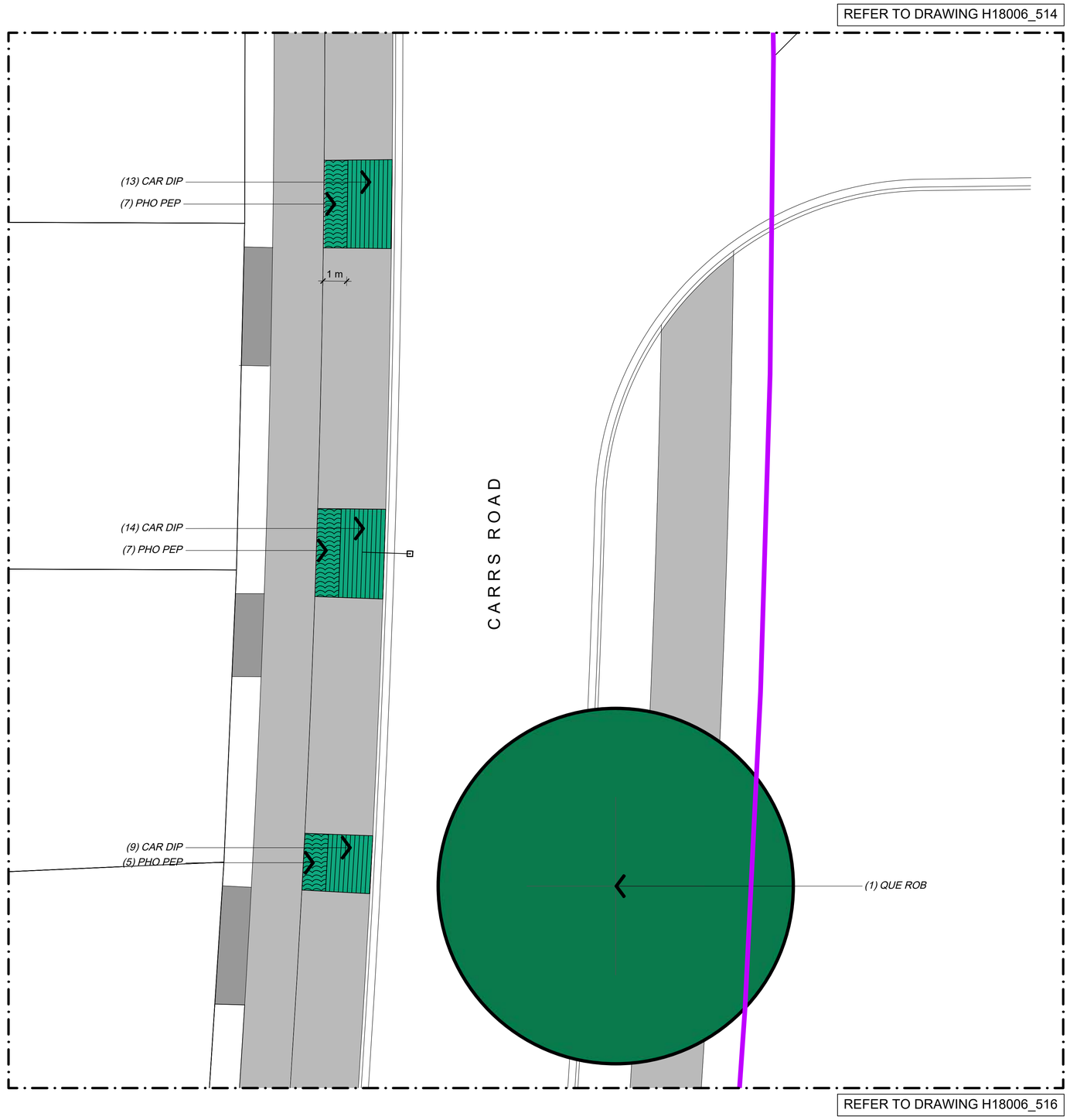
U:\2018\H18006_ARo_Greenhill_Park_Area_M_Detailed_Design\CAD\As_Built_Drawings\Stage_13\H18006_as_built_stage_13_txt_500.dwg

Key

Tree

Collector Road Berm Planting

Lawn



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NOTES

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STAGE 13

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2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 13 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_515

REVISION 2

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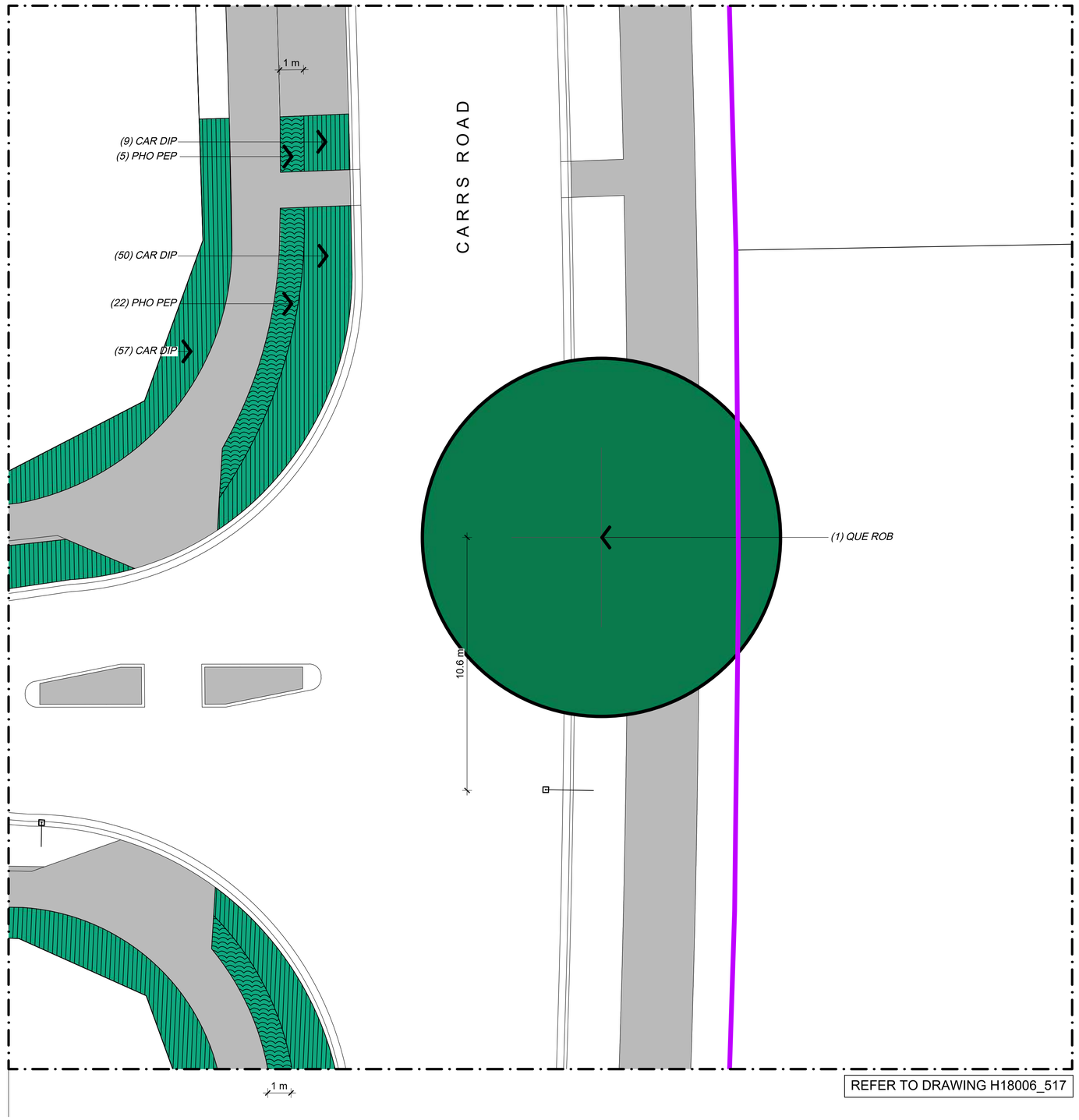
REFER TO DRAWING H18006_515

Key

Tree

Collector Road Berm Planting

Lawn



REFER TO DRAWING H18006_517

Boffa Miskell

Boffa Miskell Limited
Level 3, SouthBloc
19 Knox Street
PO Box 1094, Hamilton 3240, New Zealand
Tel: +64 7 960 0006
www.boffamiskell.co.nz

Printed 12/03/2021 1:45:55 pm

NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL UNDERGROUND SERVICES ON SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 14 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_516

REVISION 2

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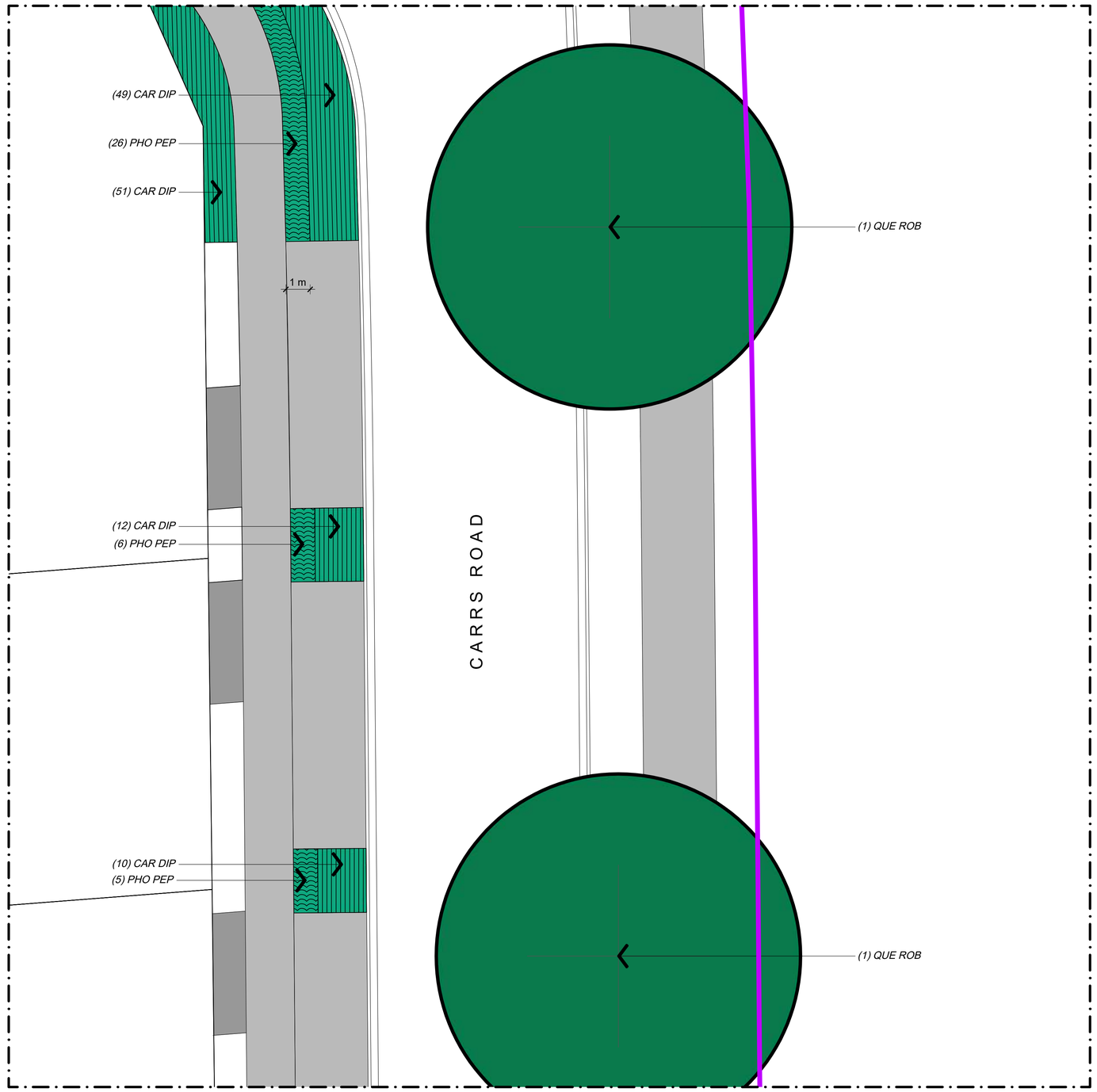
REFER TO DRAWING H18006_516

Key

Tree

Collector Road Berm Planting

Lawn



REFER TO DRAWING H18006_518

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19 Knox Street
PO Box 1094, Hamilton 3240, New Zealand
Tel: +64 7 960 0006
www.boffamiskell.co.nz

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NOTES

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KEY

STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 15 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_517

REVISION 2

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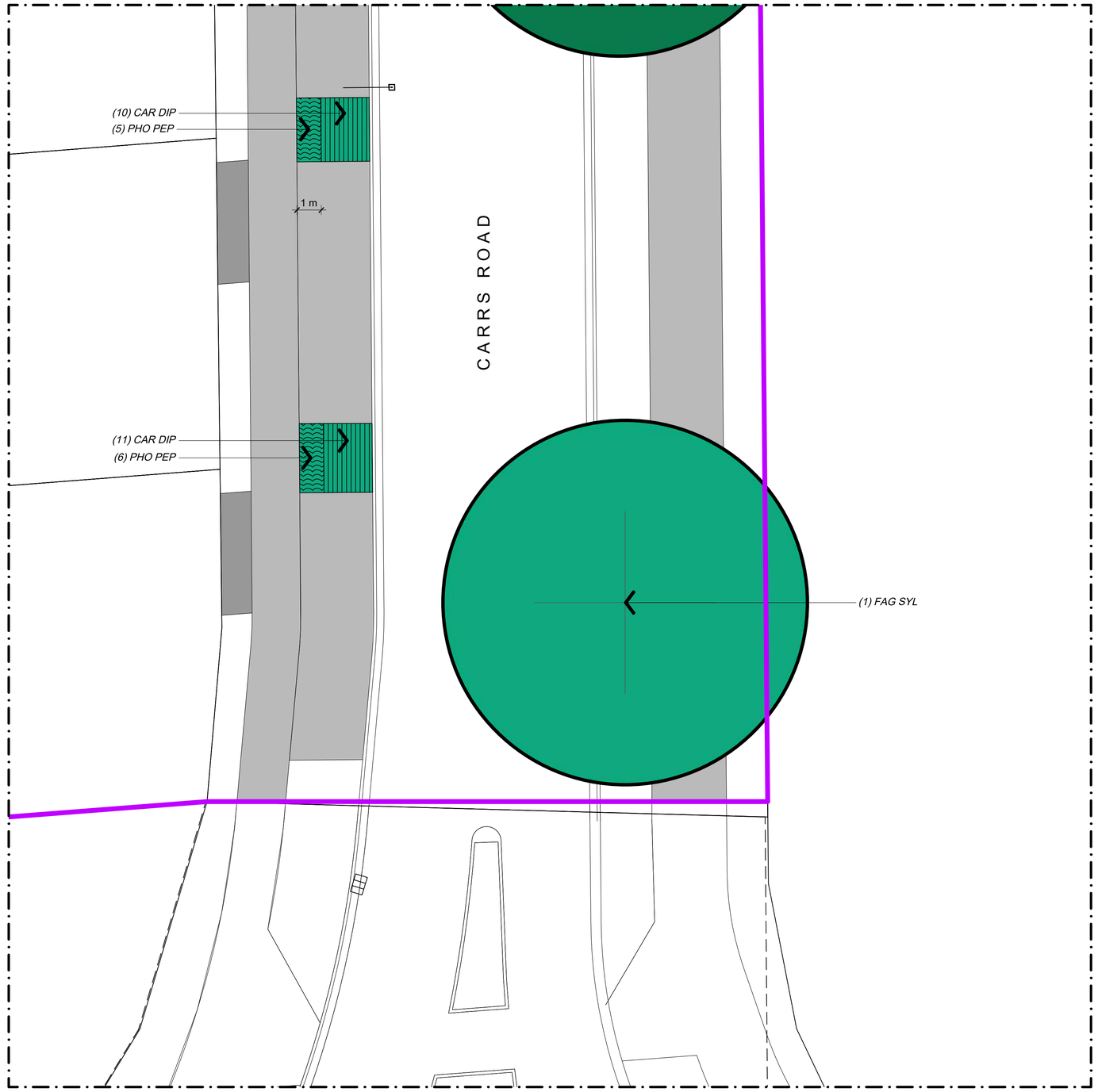
REFER TO DRAWING H18006_517

Key

Tree

Collector Road Berm Planting

Lawn



Boffa Miskell

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KEY

STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 16 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_518

REVISION 2

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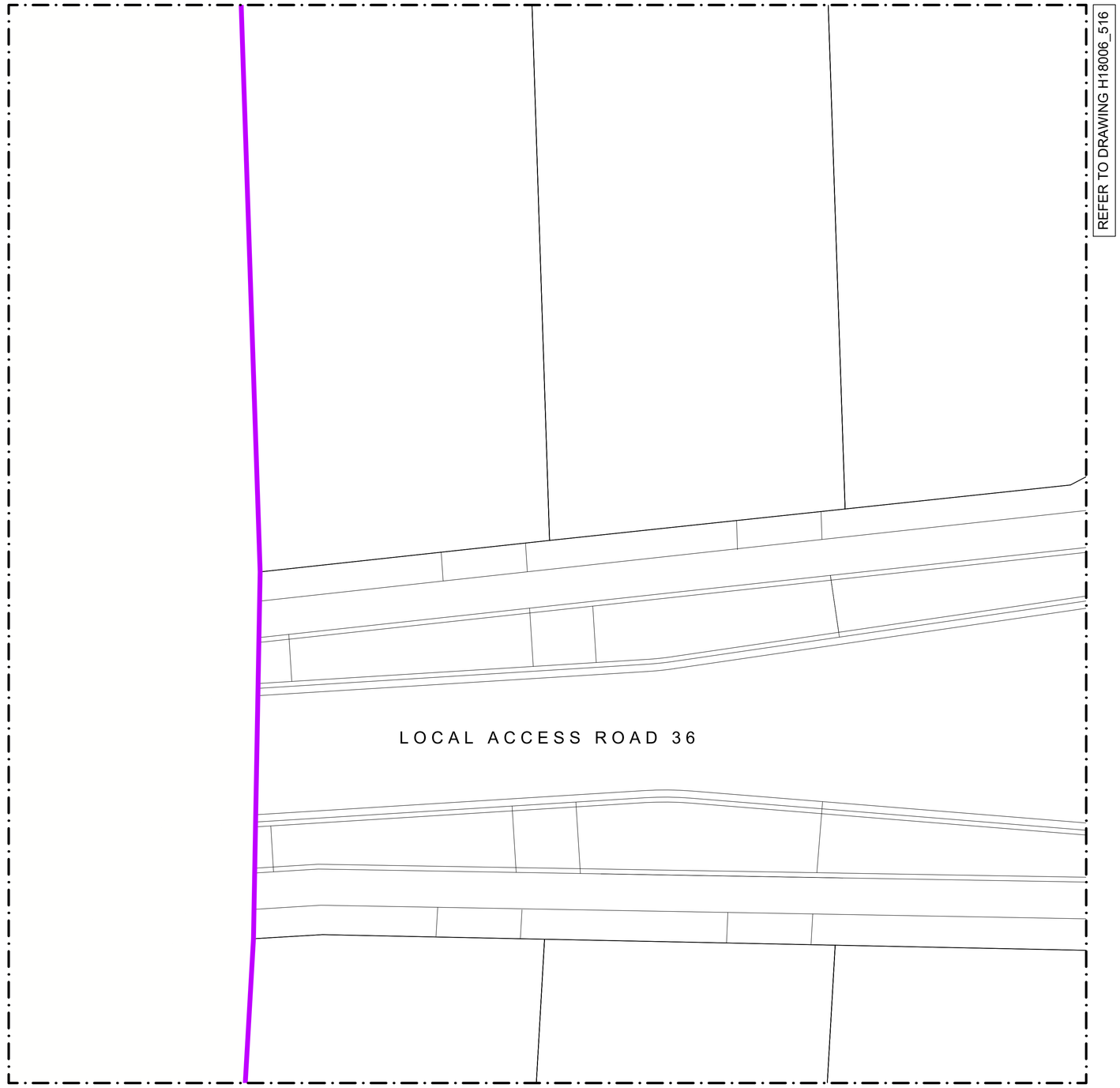

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19 Knox Street
PO Box 1094, Hamilton 3240, New Zealand
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www.boffamiskell.co.nz

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NOTES

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FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

STAGE 13

REV	DATE	DESCRIPTION
0	02.07.19	ISSUED FOR CONSTRUCTION
1	31.07.20	PLANTING SUBSTITUTIONS, BACK BERM PLANTING AREAS SUBSTITUTED WITH LAWN
2	12.03.21	AS BUILT

CLIENT
Chedworth Properties Ltd

CONSULTANTS
S & L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK
AREA M
STAGE 13

PLANTING PLAN
SHEET 17 OF 17

Design	ARo	Scale	Date
Drawn	ARo	1:100 @ A1	02.07.19
Check	MHu	1:200 @ A3	
Appv'd			

DRAWING NO. H18006_519

REVISION 2

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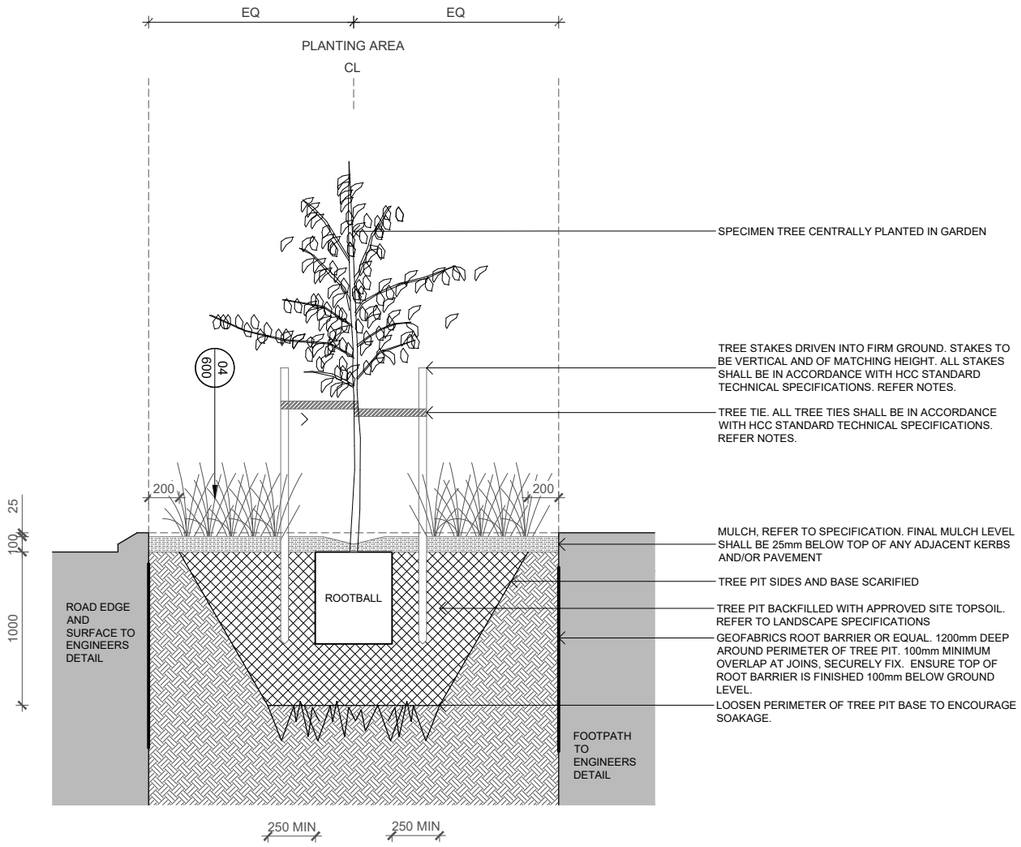
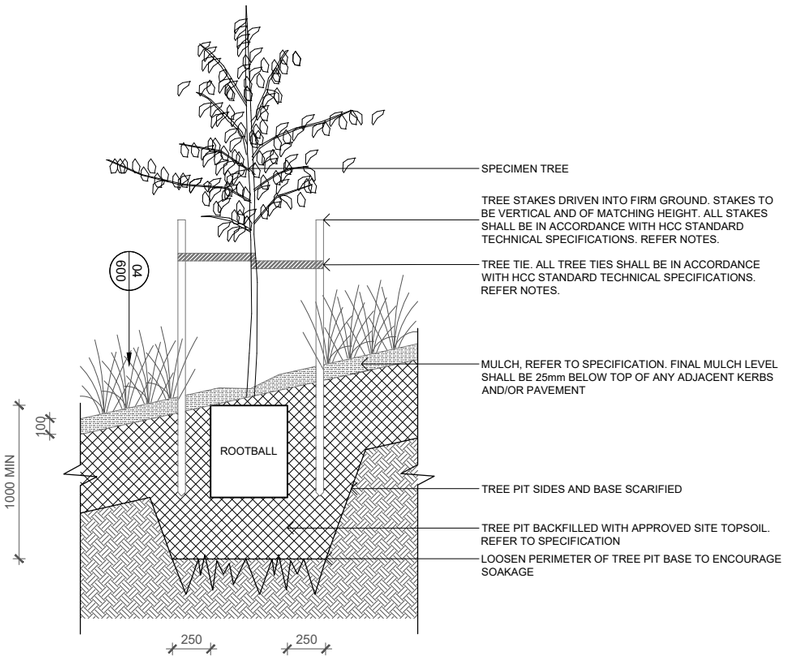


01 600 DETAIL | PROPOSED STREET TREE
Scale: 1:20 @ A1 1:40 @ A3

NOTES:
PLANT GRAPHICS AND SIZE ARE INDICATIVE ONLY
ENSURE TREE PIT IS FREE DRAINING THROUGH HOSE TESTING



02 600 DETAIL | TREE PIT IN STORMWATER PARK
Scale: 1:20 @ A1 1:40 @ A3

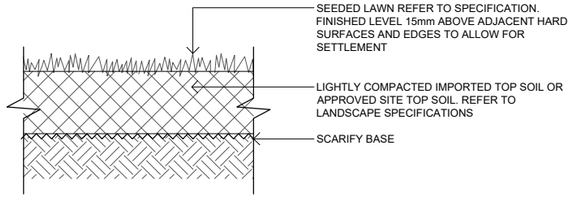
NOTES

PLANT GRAPHICS AND SIZE ARE INDICATIVE ONLY
ENSURE TREE PIT IS FREE DRAINING THROUGH HOSE TESTING

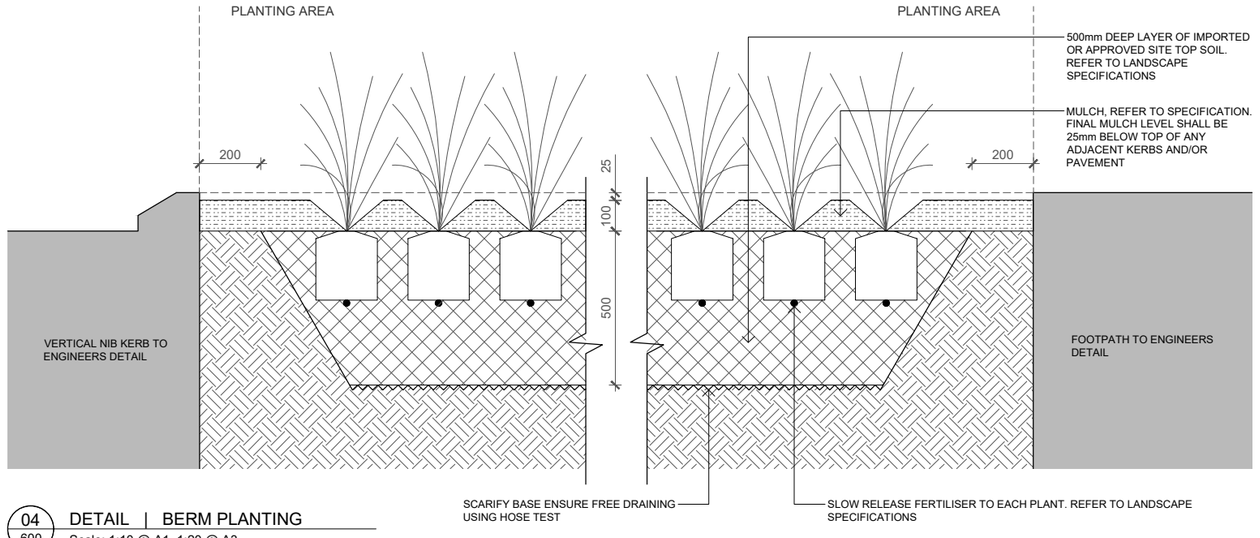
TREE STAKES AND TIES

ALL TREE STAKES AND TIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING HAMILTON CITY COUNCIL STANDARD TECHNICAL SPECIFICATIONS:

TWO NO. 50MM X 50MM X 1.8M HIGH ROUGH SAWN H4 PINUS RADIATA STAKES WITH AT LEAST ONE-THIRD OF THEIR LENGTH (600MM) IN THE GROUND AND AT LEAST 1M ABOVE GROUND LEVEL.
ALL STAKES SHALL BE INSERTED TO AVOID HITTING THE ROOT BALL.
STAKES SHALL BE OFFSET AT LEAST 400MM FROM THE TREE TRUNK AND NO MORE THAN 500MM.
THE FLEXIBLE TREE TIES SHALL BE MADE OF BIO DEGRADABLE HESSIAN AND SHALL BE FIXED TO THE STAKES ON THE OUTER FACE WITH A MINIMUM OF FOUR STAPLES IN A SQUARE PATTERN.
ALL TREE TIES SHALL BE POSITIONED ONE-THIRD OF THE HEIGHT OF THE TREE.
ALL NURSERY BAMBOO STAKES SHALL BE REMOVED FROM ALL TREES AND ASSOCIATED PLASTIC TIES ALSO REMOVED.



03 600 DETAIL | LAWN - SEEDED
Scale: 1:10 @ A1 1:20 @ A3



04 600 DETAIL | BERM PLANTING
Scale: 1:10 @ A1 1:20 @ A3

Boffa Miskell

Printed 31/05/2019 11:11:32 AM

NOTES

CONTRACTORS TO VERIFY ALL DIMENSIONS ON SITE PRIOR TO COMMENCING WORK;

CONTRACTORS ARE RESPONSIBLE FOR CONFIRMING THE LOCATION OF ALL UNDERGROUND SERVICES ON SITE PRIOR TO COMMENCING WORK;

FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED DIMENSIONS.

KEY

REFER TO DRAWING NUMBER H18006_130
GENERAL ARRANGEMENT KEY SHEET AND NOTES

REV	DATE	DESCRIPTION
0	08.08.18	ISSUED FOR CONSTRUCTION
1	31.05.19	AS BUILT

CLIENT
Chedworth Properties

CONSULTANTS
S&L Consultants
Beca
Kendelier Lighting

AS BUILT

GREENHILL PARK AREA M

PLANTING DETAILS - SHEET 01

Design	ARo	Scale	As shown
Drawn	ARo	Date	08.08.18
Check	MHu		
Appv'd			

DRAWING NO. H18006_600
REVISION 1

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APPENDIX 10

Asset Spreadsheets

- Water asset sheets
- Wastewater asset sheets
- Stormwater asset sheets

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

STORMWATER MANHOLES

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

(North Rim) (Centre) (Centre)

Plan ID	Manhole ID	Property ID (Lot No. or Address)	Street Name	Street Type	Lid Level (m)	Invert Level (m)	MH Width/Diam (mm)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
21879-M-13-SW1	SWMH 9.5	LOT 359	CARRS	ROAD	37.93	36.91	1050	447278.58	702740.86	N	Dec-20	$4,301	
21879-M-13-SW1	SWMH 19.1	LOT 706	N/A	N/A	TBC	37.27	1200	447305.16	702835.08	N	Dec-20	$4,601	LID LEVEL TO BE PROVIDED IN STAGE 14 AREA M
21879-M-13-SW1	SWMH 19.4	LOT 366	CARRS	ROAD	38.76	36.57	1500	447339.00	702761.45	N	Dec-20	$5,101	
21879-M-13-SW1	SWMH 19.5	LOT 2 DP 534384	N/A	N/A	36.56	35.41	1050	447314.32	702729.71	N	Dec-20	$4,125	
21879-M-13-SW1	SWMH 22.1	LOT 373	CARRS	ROAD	39.91	38.39	1050	447455.90	702818.80	N	Dec-20	$4,301	
21879-M-13-SW1	SWMH 22.2	LOT 369	CARRS	ROAD	39.41	37.71	1050	447405.31	702791.67	N	Dec-20	$4,301	
21879-M-13-SW1	SWMH SP 3.1	LOT 602	WEBB	DRIVE	39.95	38.69	1050	447446.83	702932.16	N	Dec-20	$4,301	
21879-M-13-SW1	SWMH SP 3.2	LOT 602	WEBB	DRIVE	39.56	38.26	1050	447421.79	702980.63	N	Dec-20	$4,301	
21879-M-13-SW1	SWMH SP 3.3	LOT 602	WEBB	DRIVE	39.18	37.81	1050	447400.98	703032.69	N	Dec-20	$4,301	
21879-M-13-SW1	SWMH SP 3.4	LOT 602	WEBB	DRIVE	38.79	37.50	1050	447384.80	703084.71	N	Dec-20	$4,301	
21879-M-13-SW1	SWM25001	LOT 602	WEBB	DRIVE	38.66	37.21	1050	447373.87	703120.54	E	Dec-19	N/A	EXISTING MH FROM STAGE 10 (S&L Ref SWMH SP 3.5)
21879-M-13-SW1	SWMH SP 4.2	LOT 504	WEBB	DRIVE	40.15	38.59	1050	447428.70	702911.14	N	Dec-20	$4,301	
21879-M-13-SW1	SWM25005	LOT 504	WEBB	DRIVE	39.75	38.13	1050	447407.60	702946.78	E	Aug-20	N/A	EXISTING MH FROM STAGE 12 (S&L Ref SWMH SP 4.3)
21879-M-13-SW1	SWM25006	LOT 503 DP 548658	WEBB	DRIVE	39.37	37.52	1050	447381.34	703000.72	E	Aug-20	N/A	EXISTING MH FROM STAGE 12 (S&L Ref SWMH SP 4.5)
21879-M-13-SW1	SWM25007	LOT 503 DP 548658	WEBB	DRIVE	38.94	37.00	1050	447368.36	703046.36	E	Aug-20	N/A	EXISTING MH FROM STAGE 12 (S&L Ref SWMH SP 4.6)
21879-M-13-SW1	SWM25008	LOT 503 DP 548658	WEBB	DRIVE	38.60	36.65	1050	447357.90	703079.80	E	Aug-20	N/A	EXISTING MH FROM STAGE 12 (S&L Ref SWMH SP 4.7)
21879-M-13-SW1	SWM25004	LOT 503 DP 548658	WEBB	DRIVE	38.40	36.21	1050	447342.00	703122.13	E	Dec-19	N/A	EXISTING MH FROM STAGE 10 (S&L Ref SWMH SP 4.8)
21879-M-13-SW1	SWN24075	LOT 171 DP 543161	CARRS	ROAD	37.88	36.55	1050	447235.21	702729.92	E	Dec-19	N/A	EXISTING MH FROM STAGE 8B (S&L Ref SWMH 9.4)

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

STORMWATER PIPELINES

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Street Name	Street Type	Physical Location (where necessary)	Pipe Diameter (mm)	Pipe Length (m)	Pipe Material	Joint Type	Invert Level Upstr (m)	Invert Level Dwnstr (m)	Service Status	Install Date	Asset Value	Comments
21879-M-13-SW1	SWMH 19.5	SWOUT 15	N/A	N/A	RESERVE	675	4.5	RC	RR	35.41	35.29	N	Dec-20	$2,121	
21879-M-13-SW1	SWMH 19.4	SWMH 19.5	CARRS	ROAD	RESERVE/ROADWAY	675	40.2	RC	RR	36.57	35.41	N	Dec-20	$18,948	
21879-M-13-SW1	SWMH 19.1	SWMH 19.4	GUILLAUME	STREET	ROADWAY	600	81.0	RC	RR	37.27	36.63	N	Dec-20	$34,795	
21879-M-13-SW1	SWMH 22.2	SWMH 19.4	CARRS	ROAD	ROADWAY	375	72.9	RC	RR	37.71	36.89	N	Dec-20	$23,471	
21879-M-13-SW1	SWMH 22.1	SWMH 22.2	CARRS	ROAD	ROADWAY	300	57.4	uPVC	SN16	38.39	37.74	N	Dec-20	$17,780	
21879-M-13-SW1	SWMH SP 4.2	SWM25005	N/A	N/A	RESERVE	300	41.4	uPVC	SN16	38.59	38.19	N	Dec-20	$12,825	
21879-M-13-SW1	SWMH SP 3.4	SWM25001	WEBB	DRIVE	BERM	375	37.5	RC	RR	37.50	37.25	N	Dec-20	$12,074	
21879-M-13-SW1	SWMH SP 3.3	SWMH SP 3.4	WEBB	DRIVE	BERM	300	54.5	uPVC	SN16	37.81	37.52	N	Dec-20	$16,882	
21879-M-13-SW1	SWMH SP 3.2	SWMH SP 3.3	WEBB	DRIVE	BERM	300	56.1	uPVC	SN16	38.26	37.91	N	Dec-20	$17,378	
21879-M-13-SW1	SWMH SP 3.1	SWMH SP 3.2	WEBB	DRIVE	BERM	300	54.6	uPVC	SN16	38.69	38.33	N	Dec-20	$16,913	
21879-M-13-SW1	SWMH 9.5	SWN24075	CARRS	ROAD	ROADWAY	300	44.7	uPVC	SN16	36.91	36.65	N	Dec-20	$13,847	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

STORMWATER CONNECTION/SERVICE LINE **Form Version 1 - July 2017**

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Invert Level At Private End (m) OR Depth (m)	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Distance from front (FB) or back (BB) boundary (m)	Service Status	Install Date	Asset Value	Comments
21879-M-13-SW1	SWMH 9.5	SWN24075	LOT 357	CARRS	ROAD	BERM	100	13.2	uPVC SN16	1.2	447254.90	702748.26	3.9RB	1.5FB	N	Dec-20	$1,040	
21879-M-13-SW1	SWMH 9.5	SWN24075	LOT 358	CARRS	ROAD	BERM	100	13.4	uPVC SN16	1.2	447268.63	702751.92	3.4RB	0.8FB	N	Dec-20	$1,054	
21879-M-13-SW1	-	SWMH 9.5	LOT 359	CARRS	ROAD	BERM	100	5.5	uPVC SN16	1.2	447283.21	702757.18	1.5RB	1.4FB	N	Dec-20	$515	
21879-M-13-SW1	-	SWMH 9.5	LOT 360	CARRS	ROAD	BERM	100/150	20.9	uPVC SN16	1.2	447289.14	702758.98	4.7LB	1.3FB	N	Dec-20	$1,671	PIPE SIZE: 8.1m = 100mm; 12.8m = 150mm
21879-M-13-SW1	SWMH 19.1	SWMH 19.4	LOT 361	GUILLAUME	STREET	BERM	100	12.5	uPVC SN16	1.2	447317.27	702778.95	6.8RB	1.3FB	N	Dec-20	$993	
21879-M-13-SW1	SWMH 19.1	SWMH 19.4	LOT 362	GUILLAUME	STREET	BERM	100/150	11.3	uPVC SN16	1.2	447310.92	702795.69	0.9RB	1.6FB	N	Dec-20	$968	PIPE SIZE: 5.5m = 100mm; 5.8m = 150mm
21879-M-13-SW1	SWMH 19.1	SWMH 19.4	LOT 363	GUILLAUME	STREET	BERM	100	5.5	uPVC SN16	1.2	447310.86	702798.74	2.0LB	0.6FB	N	Dec-20	$515	
21879-M-13-SW1	SWMH 19.1	SWMH 19.4	LOT 364	GUILLAUME	STREET	BERM	100	4.6	uPVC SN16	1.2	447327.58	702805.04	2.1RB	1.0FB	N	Dec-20	$454	
21879-M-13-SW1	SWMH 19.1	SWMH 19.4	LOT 365	GUILLAUME	STREET	BERM	100/150	9.6	uPVC SN16	1.2	447329.47	702802.39	1.1LB	1.5FB	N	Dec-20	$843	PIPE SIZE: 3.7m = 100mm; 5.9m = 150mm
21879-M-13-SW1	SWMH 22.2	SWMH 19.4	LOT 366	CARRS	ROAD	BERM	100/150	11.9	uPVC SN16	1.2	447363.66	702785.79	1.6RB	1.1FB	N	Dec-20	$1,012	PIPE SIZE: 4.7m = 100mm; 7.2m = 150mm
21879-M-13-SW1	SWMH 22.2	SWMH 19.4	LOT 367	CARRS	ROAD	BERM	100	7.5	uPVC SN16	1.2	447368.82	702787.95	4.0LB	1.0FB	N	Dec-20	$652	
21879-M-13-SW1	SWMH 22.2	SWMH 19.4	LOT 368	CARRS	ROAD	BERM	100/150	12.1	uPVC SN16	1.2	447388.30	702797.20	1.4RB	1.3FB	N	Dec-20	$1,026	PIPE SIZE: 4.5m = 100mm; 7.6m = 150mm
21879-M-13-SW1	SWMH 22.2	SWMH 19.4	LOT 369	CARRS	ROAD	BERM	100	6.1	uPVC SN16	1.2	447392.22	702798.71	2.7LB	0.9FB	N	Dec-20	$556	
21879-M-13-SW1	SWMH 22.1	SWMH 22.2	LOT 370	CARRS	ROAD	BERM	100/150	12.6	uPVC SN16	1.2	447415.51	702811.37	1.3RB	1.6FB	N	Dec-20	$1,063	PIPE SIZE: 4.2m = 100mm; 8.4m = 150mm
21879-M-13-SW1	SWMH 22.1	SWMH 22.2	LOT 371	CARRS	ROAD	BERM	100	5.3	uPVC SN16	1.2	447418.78	702812.82	2.3LB	1.3FB	N	Dec-20	$501	
21879-M-13-SW1	SWMH 22.1	SWMH 22.2	LOT 372	CARRS	ROAD	BERM	100/150	13.3	uPVC SN16	1.2	447442.25	702826.44	1.6RB	1.5FB	N	Dec-20	$1,114	PIPE SIZE: 4.5m = 100mm; 8.8m = 150mm
21879-M-13-SW1	SWMH 22.1	SWMH 22.2	LOT 373	CARRS	ROAD	BERM	100	5.0	uPVC SN16	1.2	447445.14	702827.70	1.5LB	1.1FB	N	Dec-20	$481	
21879-M-13-SW1	-	SWMH 22.1	LOT 374	CARRS	ROAD	BERM	100	17.5	uPVC SN16	1.2	447459.62	702835.93	3.1LB	0.4FB	N	Dec-20	$1,334	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

STORMWATER CATCHPITS

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

Plan ID	Catchpit ID	Property ID (Lot No. or Address)	Street Name	Street Type	Catchpit Type	Grate Level (m)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
21879-M-13-SW1	CP 057	LOT 359	CARRS	ROAD	SINGLE SUMP	37.86	447282.29	702739.44	N	Dec-20	$2,071	
21879-M-13-SW1	CP 058	LOT 359	CARRS	ROAD	SINGLE SUMP	37.89	447280.92	702747.97	N	Dec-20	$2,071	
21879-M-13-SW1	CP 114	LOT 373	CARRS	ROAD	SINGLE SUMP	39.83	447455.97	702825.50	N	Dec-20	$2,071	
21879-M-13-SW1	CP 115	LOT 373	CARRS	ROAD	SINGLE SUMP	39.79	447459.57	702817.62	N	Dec-20	$2,071	
21879-M-13-SW1	CP 116	LOT 370	CARRS	ROAD	SINGLE SUMP	39.31	447405.81	702797.04	N	Dec-20	$2,071	
21879-M-13-SW1	CP 117	LOT 370	CARRS	ROAD	SINGLE SUMP	39.30	447411.93	702789.02	N	Dec-20	$2,071	
21879-M-13-SW1	CP 118	LOT 366	CARRS	ROAD	SINGLE SUMP	38.80	447348.77	702771.49	N	Dec-20	$2,071	
21879-M-13-SW1	CP 119	LOT 366	CARRS	ROAD	SINGLE SUMP	38.75	447348.80	702762.23	N	Dec-20	$2,071	
21879-M-13-SW1	CP SP 09	LOT 602	WEBB	DRIVE	SINGLE SUMP	39.53	447420.55	702979.06	N	Dec-20	$2,071	
21879-M-13-SW1	CP SP 10	LOT 602	WEBB	DRIVE	SINGLE SUMP	39.13	447399.69	703031.37	N	Dec-20	$2,071	
21879-M-13-SW1	CP SP 11	LOT 602	WEBB	DRIVE	SINGLE SUMP	38.75	447383.53	703083.47	N	Dec-20	$2,071	
21879-M-13-SW1	CP SP 18	LOT 602	WEBB	DRIVE	SINGLE SUMP	39.72	447418.53	702950.90	N	Dec-20	$2,071	
21879-M-13-SW1	CP SP 19	LOT 602	WEBB	DRIVE	SINGLE SUMP	39.33	447396.15	702999.97	N	Dec-20	$2,071	
21879-M-13-SW1	CP SP 20	LOT 602	WEBB	DRIVE	SINGLE SUMP	38.99	447380.10	703046.89	N	Dec-20	$2,071	
21879-M-13-SW1	DCP 113	LOT 366	GUILLAUME	STREET	DOUBLE SUMP	38.30	447333.83	702779.46	N	Dec-20	$2,848	
21879-M-13-SW1	DCP SP 08	LOT 602	WEBB	DRIVE	DOUBLE SUMP	39.94	447446.31	702929.80	N	Dec-20	$2,848	
21879-M-13-SW1	DCP SP 17	LOT 602	WEBB	DRIVE	DOUBLE SUMP	39.94	447438.45	702915.71	N	Dec-20	$2,848	
21879-M-13-SW1	DCP SP 21	LOT 602	WEBB	DRIVE	DOUBLE SUMP	38.45	447357.97	703117.66	N	Dec-20	$2,848	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

STORMWATER CATCHPIT LEADS

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors
Development/Subdivision/Job: Greenhill Park
Stage: Stage 13
Prepared by: S & L
Date: Mar-21

Plan ID	Catchpit ID	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Catchpit Lead Pipe Diam (mm)	Catchpit Lead Pipe Length (m)	Catchpit Lead Pipe Material	Invert Level at Dwnstrm end	Service Status	Install Date	Asset Value	Comments
21879-M-13-SW1	CP 057	SWMH 9.5	LOT 359	CARRS	ROAD	ROADWAY	225	4.0	uPVC SN16	36.96	N	Dec-20	$930	
21879-M-13-SW1	CP 058	SWMH 9.5	LOT 359	CARRS	ROAD	ROADWAY	225	7.5	uPVC SN16	36.94	N	Dec-20	$1,744	
21879-M-13-SW1	CP 114	SWMH 22.1	LOT 373	CARRS	ROAD	ROADWAY	225	6.7	uPVC SN16	38.80	N	Dec-20	$1,558	
21879-M-13-SW1	CP 115	SWMH 22.1	LOT 373	CARRS	ROAD	ROADWAY	225	3.9	uPVC SN16	38.65	N	Dec-20	$907	
21879-M-13-SW1	CP 116	SWMH 22.2	LOT 370	CARRS	ROAD	ROADWAY	225	5.4	uPVC SN16	38.05	N	Dec-20	$1,256	
21879-M-13-SW1	CP 117	SWMH 22.2	LOT 370	CARRS	ROAD	ROADWAY	225	7.1	uPVC SN16	38.06	N	Dec-20	$1,651	
21879-M-13-SW1	CP 118	SWMH 19.4	LOT 366	CARRS	ROAD	ROADWAY	225	14.0	uPVC SN16	37.52	N	Dec-20	$3,256	
21879-M-13-SW1	CP 119	SWMH 19.4	LOT 366	CARRS	ROAD	ROADWAY	225	9.8	uPVC SN16	37.30	N	Dec-20	$2,279	
21879-M-13-SW1	CP SP 09	SWMH SP 3.2	LOT 602	WEBB	DRIVE	BERM	225	2.0	uPVC SN16	38.50	N	Dec-20	$465	
21879-M-13-SW1	CP SP 10	SWMH SP 3.3	LOT 602	WEBB	DRIVE	BERM	225	1.8	uPVC SN16	38.12	N	Dec-20	$419	
21879-M-13-SW1	CP SP 11	SWMH SP 3.4	LOT 602	WEBB	DRIVE	BERM	225	1.8	uPVC SN16	37.62	N	Dec-20	$419	
21879-M-13-SW1	CP SP 18	SWM25005	LOT 602	WEBB	DRIVE	BERM	225	11.7	uPVC SN16	38.36	N	Dec-20	$2,721	
21879-M-13-SW1	CP SP 19	SWM25006	LOT 602	WEBB	DRIVE	BERM	225	14.8	uPVC SN16	37.89	N	Dec-20	$3,442	
21879-M-13-SW1	CP SP 20	SWM25007	LOT 602	WEBB	DRIVE	BERM	225	11.7	uPVC SN16	37.33	N	Dec-20	$2,721	
21879-M-13-SW1	DCP 113	SWMH 19.4	LOT 366	GUILLAUME	STREET	ROADWAY	300	3.7	uPVC SN16	36.63	N	Dec-20	$972	
21879-M-13-SW1	DCP SP 08	SWMH SP 3.1	LOT 602	WEBB	DRIVE	BERM	300	2.4	uPVC SN16	38.70	N	Dec-20	$630	
21879-M-13-SW1	DCP SP 17	SWMH SP 4.2	LOT 602	WEBB	DRIVE	BERM	300	10.8	uPVC SN16	38.71	N	Dec-20	$2,836	
21879-M-13-SW1	DCP SP 21	SWM25004	LOT 602	WEBB	DRIVE	BERM	300	16.6	uPVC SN16	36.34	N	Dec-20	$4,359	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

STORMWATER OUTLETS

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 12

Plan ID	Outlet ID	Upstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Structure Type	Structure Material	Discharges To	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
21879-M-13-SW1	SWOUT15	SWMH 19.5	LOT 2 DP 534384	N/A	N/A	WINGWALL	RC	SWALE DRAIN	447310.10	702728.11	N	Dec-20	$2,091	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

STORMWATER SUBSOIL DRAIN

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors
Development/Subdivision/Job: Greenhill Park
Stage: Stage 13
Prepared by: S & L
Date: Mar-21

Plan ID	Dwnstr Asset ID	Street Name	Street Type	Physical Location (where necessary)	Pipe Diameter (mm)	Pipe Length (m)	Pipe Material	Invert Level Upstr (m)	Invert Level Dwnstr (m)	Easting Coordinate Inlet	Northing Coordinate Inlet	Easting Coordinate Outlet	Northing Coordinate Outlet	Service Status	Install Date	Asset Value	Comments
21879-M-13-SW1	DCP 053	CARRS	ROAD	BERM	100	36.9	NOVA	37.13	36.77					N	Dec-20	$1,884	EXISTING CATCHPIT
21879-M-13-SW1	DCP 054	CARRS	ROAD	BERM	100	36.4	NOVA	37.14	36.77					N	Dec-20	$1,859	EXISTING CATCHPIT
21879-M-13-SW1	CP 057	CARRS	ROAD	BERM	100	69.4	NOVA	38.02	37.11					N	Dec-20	$3,544	
21879-M-13-SW1	CP 058	CARRS	ROAD	BERM	100	54.7	NOVA	37.57	37.14					N	Dec-20	$2,793	
21879-M-13-SW1	CP 114	CARRS	ROAD	BERM	100	37.1	NOVA	39.78	39.08					N	Dec-20	$1,894	
21879-M-13-SW1	CP 115	CARRS	ROAD	BERM	100	40.8	NOVA	39.68	39.04					N	Dec-20	$2,083	
21879-M-13-SW1	CP 116	CARRS	ROAD	BERM	100	57.1	NOVA	39.08	38.56					N	Dec-20	$2,916	
21879-M-13-SW1	CP 117	CARRS	ROAD	BERM	100	54.7	NOVA	39.06	38.55					N	Dec-20	$2,793	
21879-M-13-SW1	CP 118	CARRS	ROAD	BERM	100	61.4	NOVA	38.57	38.05					N	Dec-20	$3,135	
21879-M-13-SW1	CP 119	CARRS	ROAD	BERM	100	59.8	NOVA	38.44	38.00					N	Dec-20	$3,053	
21879-M-13-SW1	CP SP 09	WEBB	DRIVE	BERM	100	54.3	NOVA	39.20	38.78					N	Dec-20	$2,773	
21879-M-13-SW1	CP SP 10	WEBB	DRIVE	BERM	100	174.7	NOVA	39.35	38.38					N	Dec-20	$8,920	
21879-M-13-SW1	CP SP 11	WEBB	DRIVE	BERM	100	53.7	NOVA	38.42	38.00					N	Dec-20	$2,742	
21879-M-13-SW1	CP SP 18	WEBB	DRIVE	BERM	100	150.9	NOVA	39.85	38.97					N	Dec-20	$7,705	
21879-M-13-SW1	CP SP 19	WEBB	DRIVE	BERM	100	53.1	NOVA	38.98	38.58					N	Dec-20	$2,711	
21879-M-13-SW1	CP SP 20	WEBB	DRIVE	BERM	100	156.8	NOVA	39.13	38.24					N	Dec-20	$8,006	
21879-M-13-SW1	DCP 113	GUILLAUME	STREET	BERM	100	51.2	NOVA	38.03	37.55					N	Dec-20	$2,614	
21879-M-13-SW1	DCP SP 08	WEBB	DRIVE	BERM	100	161.4	NOVA	39.87	39.19					N	Dec-20	$8,241	
21879-M-13-SW1	DCP SP 17	WEBB	DRIVE	BERM	100	72.7	NOVA	39.78	39.19					N	Dec-20	$3,712	
21879-M-13-SW1	DCP SP 21	WEBB	DRIVE	BERM	100	72.8	NOVA	38.26	37.70					N	Dec-20	$3,717	
21879-M-13-SW1	DCP SP 12	WEBB	DRIVE	BERM	100	44.7	NOVA	37.97	37.61					N	Dec-20	$2,282	EXISTING CATCHPIT

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

WASTEWATER MANHOLES

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

(North Rim) (Centre) (Centre)

Plan ID	Manhole ID	Property ID (Lot No. or Address)	Street Name	Street Type	Lid Level (m)	Invert Level (m)	MH Width/Diam (mm)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
21879-M-13-WW1	WWMH 18.2	LOT 706	N/A	N/A	TBC	35.39	1050	447305.55	702830.11	N	Nov-20	$6,281	Lid Level to be provided in Stage 14 Area M
21879-M-13-WW1	WWMH 18.3	LOT 361	CARRS	ROAD	38.74	34.96	1050	447335.94	702763.33	N	Nov-20	$7,194	
21879-M-13-WW1	WWMH 18.4	LOT 369	CARRS	ROAD	39.30	34.10	1050	447397.28	702789.67	N	Nov-20	$11,949	
21879-M-13-WW1	WWMH 18.5	LOT 374	CARRS	ROAD	40.17	33.63	1200	447470.97	702832.10	N	Nov-20	$17,219	
21879-M-13-WW1	WWMH 18A.1	LOT 358	CARRS	ROAD	37.79	36.39	1050	447269.16	702741.78	N	Nov-20	$4,648	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

WASTEWATER PIPELINES

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors
Development/Subdivision/Job: Greenhill Park
Stage: Stage 13
Prepared by: S & L
Date: Mar-21

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Street Name	Street Type	Physical Location (where necessary)	Pipe Diameter (mm)	Pipe Length (m)	Pipe Material	Joint Type	Invert Level Upstr (m)	Invert Level Dwnstr (m)	Service Status	Install Date	Asset Value	Comments
21879-M-13-WW1	WWMH 18.5	WWM25004	CARRS	ROAD	ROADWAY	225	20.7	uPVC SN16	RR	33.63	33.08	N	Nov-20	$14,535	
21879-M-13-WW1	WWMH 18.4	WWMH 18.5	CARRS	ROAD	ROADWAY	225	85.0	uPVC SN16	RR	34.10	33.66	N	Nov-20	$50,150	
21879-M-13-WW1	WWMH 18.3	WWMH 18.4	CARRS	ROAD	ROADWAY	150	66.8	uPVC SN16	RR	34.96	34.13	N	Nov-20	$24,426	
21879-M-13-WW1	WWMH 18.2	WWMH 18.3	GUILLAUME	STREET	ROADWAY/PRIVATE PROPERTY	150	73.4	uPVC SN16	RR	35.39	35.02	N	Nov-20	$19,438	
21879-M-13-WW1	WWMH 18A.1	WWMH 18.3	CARRS	ROAD	ROADWAY	150	70.2	uPVC SN16	RR	36.39	35.01	N	Nov-20	$14,734	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

WASTEWATER CONNECTION/SERVICE LINE

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

Plan ID	Upstr MH/ Asset ID	Dwnstr MH/ Asset ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Invert Level At Private End (m) OR Depth (m)	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Distance from front (FB) or back (BB) boundary (m)	Service Status	Install Date	Asset Value	Comments
21879-M-13-WW1	-	WWMH 18A.1	LOT 357	CARRS	ROAD	BERM	100	13.6	uPVC SN16	1.2	447257.47	702748.87	1.3RB	1.3FB	N	Nov-20	$1,054	
21879-M-13-WW1	-	WWMH 18A.1	LOT 358	CARRS	ROAD	BERM	100	3.6	uPVC SN16	1.2	447260.02	702749.95	1.5LB	1.6FB	N	Nov-20	$279	
21879-M-13-WW1	WWMH 18A.1	WWMH 18.3	LOT 359	CARRS	ROAD	BERM	100	10.4	uPVC SN16	1.2	447273.45	702754.09	1.9LB	1.4FB	N	Nov-20	$806	
21879-M-13-WW1	WWMH 18A.1	WWMH 18.3	LOT 360	CARRS	ROAD	BERM	100	10.1	uPVC SN16	1.2	447297.13	702761.45	0.6RB	1.2FB	N	Nov-20	$783	
21879-M-13-WW1	WWMH 18.2	WWMH 18.3	LOT 361	GUILLAUME	STREET	BERM	100	10.3	uPVC SN16	1.2	447315.20	702784.20	1.2RB	1.5FB	N	Nov-20	$799	
21879-M-13-WW1	WWMH 18.2	WWMH 18.3	LOT 362	GUILLAUME	STREET	BERM	100	5.6	uPVC SN16	1.2	447314.38	702787.75	2.5LB	1.0FB	N	Nov-20	$434	
21879-M-13-WW1	WWMH 18.2	WWMH 18.3	LOT 363	GUILLAUME	STREET	BERM	100	8.8	uPVC SN16	1.2	447307.66	702806.26	1.9RB	1.0FB	N	Nov-20	$682	
21879-M-13-WW1	WWMH 18.2	WWMH 18.3	LOT 364	GUILLAUME	STREET	BERM	100	11.0	uPVC SN16	1.2	447324.32	702811.91	2.3LB	1.3FB	N	Nov-20	$852	
21879-M-13-WW1	WWMH 18.2	WWMH 18.3	LOT 365	GUILLAUME	STREET	BERM	100	5.6	uPVC SN16	1.2	447333.64	702794.84	2.6RB	1.8FB	N	Nov-20	$434	
21879-M-13-WW1	WWMH 18.2	WWMH 18.3	LOT 366	GUILLAUME	STREET	BERM	100	11.6	uPVC SN16	1.2	447335.61	702791.82	0.9LB	2.2FB	N	Nov-20	$899	
21879-M-13-WW1	WWMH 18.3	WWMH 18.4	LOT 367	CARRS	ROAD	BERM	100	10.4	uPVC SN16	1.2	447375.57	702791.57	0.7RB	1.6FB	N	Nov-20	$806	
21879-M-13-WW1	WWMH 18.3	WWMH 18.4	LOT 368	CARRS	ROAD	BERM	100	5.3	uPVC SN16	1.2	447378.92	702792.15	2.6LB	0.7FB	N	Nov-20	$411	
21879-M-13-WW1	WWMH 18.4	WWMH 18.5	LOT 369	CARRS	ROAD	BERM	100	5.4	uPVC SN16	1.2	447400.40	702803.19	2.6RB	1.3FB	N	Nov-20	$419	
21879-M-13-WW1	WWMH 18.4	WWMH 18.5	LOT 370	CARRS	ROAD	BERM	100	10.4	uPVC SN16	1.2	447403.00	702804.99	0.6LB	1.7FB	N	Nov-20	$806	
21879-M-13-WW1	WWMH 18.4	WWMH 18.5	LOT 371	CARRS	ROAD	BERM	100	4.9	uPVC SN16	1.2	447427.94	702817.79	2.0RB	1.2FB	N	Nov-20	$380	
21879-M-13-WW1	WWMH 18.4	WWMH 18.5	LOT 372	CARRS	ROAD	BERM	100	9.7	uPVC SN16	1.2	447430.38	702819.94	1.2LB	1.9FB	N	Nov-20	$752	
21879-M-13-WW1	WWMH 18.4	WWMH 18.5	LOT 373	CARRS	ROAD	BERM	100	10.1	uPVC SN16	1.2	447455.34	702834.66	1.2RB	1.6FB	N	Nov-20	$783	
21879-M-13-WW1	WWMH 18.4	WWMH 18.5	LOT 374	CARRS	ROAD	BERM	100	5.5	uPVC SN16	1.2	447458.44	702836.78	2.5LB	1.8FB	N	Nov-20	$426	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

WATER HYDRANTS

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

Plan ID	Hydrant ID	Pipe ID	Property ID (Lot No. or Address)	Street Name	Street Type	Hydrant Size (mm)	Physical Location (where necessary)	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
21879-M-13-W1	FH1	RM9	LOT 602	WEBB	DRIVE	250	BERM	447355.64	703104.69	N	Jan-21	$2,750	
21879-M-13-W1	FH2	RM9	LOT 602	WEBB	DRIVE	250	FOOTPATH	447399.96	702975.68	N	Jan-21	$2,750	
21879-M-13-W1	FH3	RM9	LOT 602	WEBB	DRIVE	250	FOOTPATH	447451.13	702886.15	N	Jan-21	$2,750	
21879-M-13-W1	FH4	RM3	LOT 370	CARRS	ROAD	150	FOOTPATH	447405.39	702802.63	N	Jan-21	$2,750	
21879-M-13-W1	FH5	RM8	LOT 602	WEBB	DRIVE	150	BERM	447425.41	702983.23	N	Jan-21	$2,750	
21879-M-13-W1	FH6	RM8	LOT 602	WEBB	DRIVE	150	BERM	447382.49	703107.23	N	Jan-21	$2,750	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

WATER PIPELINES

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors

Development/Subdivision/Job: Greenhill Park

Stage: Stage 13

Prepared by: S & L

Date: Mar-21

Plan ID	Pipe ID	Pipe Diameter (mm)	Pipe Length (m)	Laying Depth (m)	Pipe Material	Joint Type	Service Status	Install Date	Asset Value	Comments
21879-M-13-W1	RM1	150	81.0	1.2	PVC-M PN12	RRJ	N	Jan-21	$4,131	
21879-M-13-W1	RM2	150	41.1	1.2	PVC-M PN12	RRJ	N	Jan-21	$2,096	
21879-M-13-W1	RM3	150	93.1	1.2	PVC-M PN12	RRJ	N	Jan-21	$4,748	
21879-M-13-W1	RM4	150	18.0	1.2	PVC-M PN12	RRJ	N	Jan-21	$918	
21879-M-13-W1	RM5	150	5.2	1.2	PVC-M PN12	RRJ	N	Jan-21	$265	
21879-M-13-W1	RM6	150	71.7	1.2	PVC-M PN12	RRJ	N	Jan-21	$3,657	
21879-M-13-W1	RM7	150	110.7	1.2	PVC-M PN12	RRJ	N	Jan-21	$5,646	
21879-M-13-W1	RM8	150	230.9	1.2	PVC-M PN12	RRJ	N	Jan-21	$11,776	
21879-M-13-W1	RM9	250	306.3	1.2	PVC-M PN12	RRJ	N	Jan-21	$26,036	
21879-M-13-W1	RM10	250	144.2	1.2	PVC-M PN12	RRJ	N	Jan-21	$12,257	
21879-M-13-W1	RM11	250	9.3	1.2	PVC-M PN12	RRJ	N	Jan-21	$791	
21879-M-13-W1	RM12	250	107.5	1.2	PVC-M PN12	RRJ	N	Jan-21	$9,138	
21879-M-13-W1	RM13	250	50.3	1.2	PVC-M PN12	RRJ	N	Jan-21	$4,276	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

WATER CONNECTION/SERVICE LINE

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors

Development/Subdivision/Job: Greenhill Park

Stage: Stage 13

Prepared by: S & L

Date: Mar-21

Plan ID	Pipe ID	Property ID (Lot No. or Address)	Street Name	Street Type	Physical Location (where necessary)	Service Pipe Diam (mm)	Service Pipe Length (m)	Service Pipe Material	Easting Coordinate	Northing Coordinate	Distance from left (LB) or right (RB) boundary (m)	Meter Installed (Y/N)	Service Status	Install Date	Asset Value	Comments
21879-M-13-W1	RM1	LOT 357	CARRS	ROAD	BERM	25	3.4	MDPE	447247.62	702744.64	1.6LB	N	N	Jan-21	$705	
21879-M-13-W1	RM1	LOT 358	CARRS	ROAD	BERM	25	3.5	MDPE	447260.17	702747.85	0.8LB	N	N	Jan-21	$705	
21879-M-13-W1	RM1	LOT 359	CARRS	ROAD	BERM	25	3.4	MDPE	447272.98	702751.88	0.6LB	N	N	Jan-21	$705	
21879-M-13-W1	RM1	LOT 360	CARRS	ROAD	BERM	25	0.8	MDPE	447286.21	702756.13	0.9LB	N	N	Jan-21	$705	
21879-M-13-W1	RM1	LOT 361	CARRS	ROAD	BERM	25	1.2	MDPE	447313.84	702765.52	16.4LB	N	N	Jan-21	$705	
		LOT 362														TO BE PROVIDED WITH STAGE 14 ASBUILTS
		LOT 363														TO BE PROVIDED WITH STAGE 14 ASBUILTS
		LOT 364														TO BE PROVIDED WITH STAGE 14 ASBUILTS
		LOT 365														TO BE PROVIDED WITH STAGE 14 ASBUILTS
21879-M-13-W1	RM2	LOT 366	CARRS	ROAD	BERM	25	0.9	MDPE	447350.92	702778.73	16.2RB	N	N	Jan-21	$705	
21879-M-13-W1	RM2	LOT 367	CARRS	ROAD	BERM	25	1.1	MDPE	447366.88	702785.60	1.2LB	N	N	Jan-21	$705	
21879-M-13-W1	RM2	LOT 368	CARRS	ROAD	BERM	25	0.8	MDPE	447377.70	702790.24	0.6LB	N	N	Jan-21	$705	
21879-M-13-W1	RM3	LOT 369	CARRS	ROAD	BERM	25	1.0	MDPE	447391.30	702796.71	1.0LB	N	N	Jan-21	$705	
21879-M-13-W1	RM3	LOT 370	CARRS	ROAD	BERM	25	0.9	MDPE	447404.23	702803.11	0.8LB	N	N	Jan-21	$705	
21879-M-13-W1	RM3	LOT 371	CARRS	ROAD	BERM	25	1.0	MDPE	447418.61	702810.67	1.1LB	N	N	Jan-21	$705	
21879-M-13-W1	RM3	LOT 372	CARRS	ROAD	BERM	25	1.0	MDPE	447431.32	702817.75	0.9LB	N	N	Jan-21	$705	
21879-M-13-W1	RM3	LOT 373	CARRS	ROAD	BERM	25	1.1	MDPE	447445.59	702826.20	1.1LB	N	N	Jan-21	$705	
21879-M-13-W1	RM9	LOT 374	CARRS	ROAD	BERM	25	2.2	MDPE	447466.70	702841.66	4.3RB	N	N	Jan-21	$705	

As Built Datasheet (to accompany As Built Plans) **Waikato Regional ITS**

WATER VALVES

Form Version 1 - July 2017

Developer/Contractor: Chedworth Properties Ltd / Online Contractors **Prepared by:** S & L

Development/Subdivision/Job: Greenhill Park **Date:** Mar-21

Stage: Stage 13

Plan ID	Valve ID	Pipe ID	Property ID (Lot No. or Address)	Street Name	Street Type	Valve Size (mm)	Valve Manufacturer	Easting Coordinate	Northing Coordinate	Service Status	Install Date	Asset Value	Comments
21879-M-13-W1	SV1	RM9	LOT 602	WEBB	DRIVE	250	HAWLE	447356.04	703103.45	N	Jan-21	$3,350	
21879-M-13-W1	SV2	RM8	LOT 602	WEBB	DRIVE	150	HAWLE	447459.46	702921.23	N	Jan-21	$2,200	
21879-M-13-W1	SV3	RM12	LOT 374	CARRS	ROAD	250	HAWLE	447460.40	702833.61	N	Jan-21	$3,350	
21879-M-13-W1	SV4	RM9	LOT 374	CARRS	ROAD	250	HAWLE	447459.27	702833.43	N	Jan-21	$3,350	
21879-M-13-W1	SV5	RM2	LOT 368	CARRS	ROAD	150	HAWLE	447378.79	702789.89	N	Jan-21	$2,200	
21879-M-13-W1	SV6	RM3	LOT 368	CARRS	ROAD	150	HAWLE	447380.15	702788.87	N	Jan-21	$2,200	
21879-M-13-W1	SV7	RM10	LOT 603	CARRS	ROAD	250	HAWLE	447387.15	702772.34	N	Jan-21	$3,350	
21879-M-13-W1	SV8	RM11	LOT 603	CARRS	ROAD	250	HAWLE	447395.67	702776.15	N	Jan-21	$3,350	
21879-M-13-W1	SV9	RM5	LOT 603	CARRS	ROAD	150	HAWLE	447396.45	702775.43	N	Jan-21	$2,200	
21879-M-13-W1	SV10	RM12	LOT 603	CARRS	ROAD	250	HAWLE	447471.96	702818.60	N	Jan-21	$3,350	
21879-M-13-W1	SV11	RM8	LOT 602	WEBB	DRIVE	150	HAWLE	447374.78	703134.89	N	Jan-21	$2,200	
21879-M-13-W1	SV12	RM7	LOT 602	N/A	N/A	150	HAWLE	447529.31	702884.47	N	Jan-21	$2,200	
21879-M-13-W1	SV13	RM7	LOT 1 DP 534384	N/A	N/A	150	HAWLE	447536.12	702871.33	N	Jan-21	$2,200	
21879-M-13-W1	SV14	RM6	LOT 1 DP 534384	N/A	N/A	150	HAWLE	447538.23	702870.49	N	Jan-21	$2,200	
21879-M-13-W1	SV15	RM6	LOT 1 DP 534384	N/A	N/A	150	HAWLE	447529.64	702834.50	N	Jan-21	$2,200	